City of Poway
Sanitary Sewer Management Plan
Updated 2019
CITY OF POWAY

GOALS
Sanitary Sewer Management Plan (SSMP)
Section 1.0 Goals

The goals of the City of Poway’s SSMP are to:

1. Properly manage, operate, and maintain all portions of the City of Poway’s wastewater collection system to minimize Sanitary Sewer Overflows (SSOs);

2. Provide adequate capacity to convey peak wastewater flows;

3. Minimize the frequency of SSOs;

4. Mitigate the impacts that are associated with any SSOs that may occur; and

5. Meet all applicable regulatory notification and reporting requirements.
Name of the responsible or authorized representatives:
1. Rudy Guzman, Assistant Director of Public Works for Utilities
   a. (858) 668-4750
   b. rguzman@poway.org
2. Terry Zaragoza, Wastewater Utilities Supervisor
   a. (858) 668-4719
   b. tzaragoza@poway.org

See Public Works Wastewater Collection Organization Chart, Exhibit 1.

NOTIFICATION

During regular working hours, the Wastewater Collection staff is notified of overflows by the public or a City staff member. Reports called in to the Public Works Administration Office are immediately reported to the Wastewater Utilities Supervisor. During off-duty hours, reports of overflows are called in to the City of Poway’s Lester J. Berglund Water Treatment Plant (Water Treatment Plant). The staff at the Water Treatment Plant immediately contact and dispatch the on-call Emergency Response Technician (ERT) and Wastewater Utilities Supervisor is notified.

IMMEDIATE ACTION

During regular work hours, Wastewater Collection staff and a Vactor truck are immediately dispatched to the scene to contain the Sanitary Sewer Overflow (SSO) and clear the blockage. Additional recovery crews are dispatched as needed. During off-duty hours, the standby employee responds and calls out crews as needed. The Wastewater Utilities Supervisor is called as soon as possible. An additional Vactor is dispatched for containment as needed.

GUIDELINES

The City of Poway implements all remedial actions to the extent that they are applicable to the discharge, including the following:

- Interception and rerouting of sewage flows around the sewage line failure;
- Vactor truck containment/recovery of sanitary sewer overflows and wash down water;
- Use of portable aerators where complete recovery of the SSO is not practicable and where severe oxygen depletion in existing surface waters is expected; and
- Cleanup of debris of sewage origin at the overflow site.
Removal of the blockage is the first priority, followed by efforts to contain and recover the overflow. The affected area is disinfected and receives a wash down. All wash downs are contained and recovered by a Vactor. All line segments involved in the overflow are inspected by the division’s Closed Circuit Televised Video (CCTV) crew. Bilingual warning signs may be posted depending upon the boundaries of the spill. Notification is performed immediately after clearing the blockage and posting the affected areas. Notification is conducted in accordance with the attached procedures and overflow report form (Exhibits 2, 3).
City of Poway Public Works Wastewater Division

Sewer Overflow Prevention Plan

Organization Chart SSMP Roles

**Director of Public Works:** Oversees, directs, and participates in all activities of the Public Works Department, including short- and long-term planning development and administration.

**Assistant Director of Public Works for Utilities:** Manages the operations, maintenance, repair and regulatory compliance of the City’s wastewater collections and related facilities.

**City Engineer:** Oversees, directs, and participates in all engineering activities and programs of the Development Services Department, including Capital Improvement Program design, construction, and inspection of wastewater related facilities.

**Wastewater Utilities Supervisor:** Supervision, planning, organizing, reviewing, and evaluating work of wastewater utilities collection system maintenance division maintenance and operations. Oversees emergency response, investigates and reports SSO’s and trains field staff. This position also serves as a Legally Responsible Official (LRO).

**Wastewater Utilities Crew Leader:** Advanced journey-level staff leading field crews and participating in the most complex duties during maintenance, operations, and emergency response activities. Responsible for performing SSO spill volume investigations and reporting. This position also serves as a Legally Responsible Official (LRO).

**Wastewater Utilities Worker I/II:** Entry and journey-level respectively performing routine preventative maintenance activities, mobilizing and responding to blockages and SSO’s.

**Utility Systems Supervisor:** Supervision, planning, organizing, reviewing, and evaluating work of utilities systems sewer lift station maintenance division maintenance and operations. Oversees emergency response and investigates SSO’s.

**Sr. Utility Systems Technician:** Performs electrical, electronic, PLC programming, Spread spectrum radio communications and a SCADA monitoring/maintenance as they relate to sewer lift stations. Responds to and investigates emergency related issues.

**Utility Systems Mechanic:** Performs operation, maintenance, and repair activities related to the sewer lift stations. Responds to and investigates emergency related issues.
Regulatory Reporting Guide

Detailed information on each SSO is submitted by enrollees in the SSO report. Enrollees are required to report all SSOs that result from a failure or flow condition in any portion of a sanitary sewer system under their ownership or management. For the purposes of reporting, SSOs fall into one of the three categories: Category 1, Category 2, and Category 3. The definitions for each Category are listed in Table 1, below.

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>DEFINITIONS</th>
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<tbody>
<tr>
<td>Category 1</td>
<td>Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that:</td>
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<tr>
<td></td>
<td>Reach surface water and/or reach a drainage channel tributary to a surface water; or</td>
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<td></td>
<td>Reach a municipal separate storm sewer system and not fully captures and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the municipal separate storm sewer system is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or ground water infiltration basin (e.g., infiltration pit, percolation pond).</td>
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<tr>
<td>Category 2</td>
<td>Discharges of untreated or partially treated wastewater of 1,000 gallons or greater resulting from an enrollee’s sanitary sewer system failure or flow condition that do not reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharge to the storm drain system is fully recovered and disposed of properly</td>
</tr>
<tr>
<td>Category 3</td>
<td>All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.</td>
</tr>
<tr>
<td>Private Lateral</td>
<td>Discharge of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee’s sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the SSO Database.</td>
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<tr>
<td>Lateral Sewage Discharge</td>
<td>(PLSD)</td>
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<td>(PLSD)</td>
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Table 1 – Spill Categories and Definitions

The reporting deadline for submittal of a SSO report depends on the classification of the spill as shown in Table 2. For Category 1 and 2 SSOs, the enrollee must submit an initial draft report of the SSO as soon as possible but no later than 3 business days after becoming aware of the SSO. The final, certified report for Category 1 and 2 SSOs must be submitted within 15 calendar days of the SSO end date. For Category 3 SSOs, the enrollee must submit a final, certified report (no initial draft report required) within 30 calendar days after the end of the calendar month in which the SSO occurred. For instance, if the SSO occurred on February 1st, the enrollee must certify the Category 3 SSO before March 30th.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>REQUIREMENT</th>
<th>METHOD</th>
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<tbody>
<tr>
<td>Notification</td>
<td>Within 2 hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.</td>
<td>Call Cal OES at: (800) 852-7550</td>
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<tr>
<td>Reporting</td>
<td><strong>Category 1 SSO:</strong> Submit Draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</td>
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<tr>
<td></td>
<td><strong>Category 2 SSO:</strong> Submit Draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</td>
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<td></td>
<td><strong>Category 3 SSO:</strong> Submit Certified report within 30 calendar days of the end of month in which SSO occurred.</td>
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<td></td>
<td><strong>“No Spill” Monthly Certification:</strong> Certify that no SSOs occurred within 30 calendar days of the end of the month in which no SSOs occurred.</td>
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<td><strong>Collection System Questionnaire:</strong> Update and Certify every 12 months.</td>
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<td></td>
<td>Enter data into the California Integrated Water Quality System (CIWQS) Online SSO Database (<a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a>), certified by enrollee’s Legally Responsible Official(s).</td>
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Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements

Notification of Cal OES is required within two hours of becoming aware of a Category 1 SSO greater than or equal to 1,000 gallons that results or may result in a discharge to surface waters. Specifically, the enrollee shall, as soon as possible, but no later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.

With the exception of enrollees in the San Diego region, Private Lateral Sewage Discharges (PLSDs) are not required to be reported, but they can be voluntarily reported to the database. The State Water Board encourages enrollees to Notify Cal OES for PLSDs greater than or equal to 1,000 gallons that result or may result in a discharge to surface waters.

No-spill Certifications are required within 30 days after the end of each calendar month if there are no SSOs during the calendar month. If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee must still file a “No Spill” certification statement for that month.
Sanitary Sewer Overflow (SSO) Reporting Flow Chart

Did SSO occur? (See SSO Response Flowchart)

Was the spill caused by a problem in the public sewer or on private property?

PRIVATE

PUBLIC

Did the spill equal or exceed 1,000 gallons AND discharge to a surface water or in location where it may discharge to a surface water?

YES

Notify Cal OES (800) 852-7550

NO

Within 2 hours**, report spill by phone (800) 852-7550 to the California Office of Emergency Services (Cal OES) and obtain notification control number.***

Did the spill equal or exceed 1,000 gallons?

YES

NO

Within 48 hours after initial SSO notification, conduct water quality sampling. Upload water quality results into CIWQS.

Did the spill equal or exceed 50,000 gallons?

YES

Submit draft report using CIWQS**** within 3 business days of becoming aware of SSO. Certify report within 15 calendar days of SSO end date.

NO

Call RWQCB within 24 hours**

Submit draft report using CIWQS**** within 3 business days of becoming aware of SSO. Certify report within 15 calendar days of SSO end date.

Within 24 hours**, report spill by phone (800) 852-7550 to the California Office of Emergency Services (Cal OES) and obtain notification control number.***

Did the spill equal or exceed 1,000 gallons?

YES

NO

Within 2 hours**, report spill by phone (800) 852-7550 to the California Office of Emergency Services (Cal OES) and obtain notification control number.***

If considered a health hazard, report to applicable agencies.

If no SSOs occurred during the calendar month, submit “No Spill” Certification to CIWQS within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.* END

NOTES

*Per Order 2013-0058-EXEC, if there are no SSOs during a calendar month but a PLSD was reported, a “No Spill” certification statement for that month should still be submitted.

**After the Sewage Collection Agency becomes aware of the SSO, notification is possible, and notification can be provided without substantial impeding cleanup or other emergency measures.

***If applicable, update Cal OES regarding substantial changes to the estimated volume of the spill and any substantial changes to known impact(s) after initial notification and before SSO report is certified.

****If CIWQS is not available for any reason, information must be faxed or emailed to the San Diego RWQCB according to the time frame.
Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

(a) Prevent illicit discharges into its sanitary sewer system. Reference Poway Municipal Code Chapters 13.04.170 and 13.05.270.

(b) Require that sewers and connections be properly designed and constructed. Greenbook and City of Poway Engineering Standards.

(c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City of Poway. Reference Poway Municipal Code Chapters 13.04.160 and 13.05.100.

(d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages. Reference Poway Municipal Code Chapters 13.04.140 and 13.05.270.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Code Reference</th>
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<tr>
<td><strong>Public Sewers</strong></td>
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</table>
| Ability to prevent illicit discharges into the wastewater collection system. | Chapter 13.04 *Sewer Regulations*  
|                                                                           | 13.04.170 Unlawful to make sewer connection without payment of fee             |
|                                                                           | Chapter 13.05 *Industrial Wastewater Pretreatment Program*                     |
|                                                                           | 13.05.270 Prohibited discharges.                                               |
| Ability to require that sewers and connections be properly designed and constructed. | Chapter 13.04 *Sewer Regulations*  
|                                                                           | 13.04.050 Sewer service and connection conditions                            |
|                                                                           | 13.04.190 Construction of sewer lateral                                         |
| **Laterals**                                                              |                                                                                |
| Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by Enrollee. | Chapter 13.04 *Sewer Regulations*  
|                                                                           | 13.04.060 Right to inspect                                                    |
|                                                                           | Chapter 13.05 *Industrial Wastewater Pretreatment Program*                  |
|                                                                           | 13.05.100                                                                     |
| **FOG Source Control**                                                    |                                                                                |
| Requirements for the installation of GRD’s.                               | Chapter 13.04 *Sewer Regulations*  
|                                                                           | 13.04.140 Use of plumbing interceptors                                        |
|                                                                           | Chapter 13.05 *Industrial Wastewater Pretreatment Program*                  |
|                                                                           | 13.05.270 Prohibited discharges.                                              |
| Authority to inspect grease producing facilities.                         | Chapter 13.05 *Industrial Wastewater Pretreatment Program*                  |
|                                                                           | 13.05.100                                                                    |
| Ability to limit the discharge of FOG and other debris that may cause blockages. | Chapter 13.04 *Sewer Regulations*  
|                                                                           | 13.04.140 Use of plumbing interceptors                                        |
|                                                                           | Chapter 13.05 *Industrial Wastewater Pretreatment Program*                  |
|                                                                           | 13.05.270 Prohibited discharges.                                              |
| **Enforcement**                                                           |                                                                                |
| Ability to enforce any violation of Enrollee’s sewer ordinance.           | Chapter 13.04 *Sewer Regulations*  
|                                                                           | 13.04.240 Violation – Penalty                                                  |
Chapter 13.04

SEWER REGULATIONS

Sections:
13.04.010 Title.
13.04.020 Purpose of rules and regulations.
13.04.030 Grammatical interpretation.
13.04.040 Sewer system.
13.04.050 Sewer service and connection conditions.
13.04.060 Tampering with City property.
13.04.080 Definitions.
13.04.090 Notice to customers.
13.04.100 Application for sewer connections and/or monthly sewer service – Applicant responsibilities.
13.04.140 Use of plumbing interceptors.
13.04.150 Water conservation devices.
13.04.160 Right to inspect.
13.04.170 Unlawful to make sewer connection without payment of fee.
13.04.180 Enforcement measures in case of delinquency.
13.04.190 Construction of sewer lateral.
13.04.195 Sewer extension line charge.
13.04.200 Payment of sewer service charges.
13.04.205 Alternative method of collecting sewer connection fees for high volume sewer users.
13.04.210 Payment of sewer service charges.
13.04.220 Responsible party for payment of sewer service charge.
13.04.230 Changes in use resulting in increased rates, sewer service charges and/or connection fees.

13.04.010 Title.
This chapter shall be known as “the City of Poway sewer ordinance.” (Ord. 107 § 3.1, 1983)

13.04.020 Purpose of rules and regulations.
The purpose of these rules and regulations is to set forth the terms and conditions under which the City will authorize connections and provide sewer service to customers. (Ord. 107 § 2, 1983)

13.04.030 Grammatical interpretation.
For the purpose of this chapter:

A. All words used in the present tense shall include the future;

B. All words in the plural number shall include the singular number; and

C. All words in the singular number shall include the plural number. (Ord. 107 § 3.2, 1983)

13.04.040 Sewer system.
The City will furnish a system, works and undertakings used for and useful for collection of domestic and industrial sewage, including all parts of the enterprises, all appurtenances to it, and lands, easements, rights in land, contract rights, franchises and other sewage collection facilities and equipment. (Ord. 107 § 3.3, 1983)

13.04.050 Sewer service and connection conditions.
All applicants for sewer service or sewer connections shall be required to accept such conditions of connection and service as may be provided by the City. (Ord. 107 § 3.5, 1983)

The Poway Municipal Code is current through Ordinance 827, passed April 2, 2019.
13.04.060 Tampering with City property.
No one except an employee or representative of the City shall at any time in any manner operate the valves, motors, gates, machinery, sewage treatment plant, sewer manholes, or siphons of the City system or interfere with sewer lines or other parts of the sewer system. (Ord. 107 § 3.6, 1983)

13.04.080 Definitions.
For the purposes of this chapter, the words set out in this section shall have the following meanings:

A. “Applicant” means any person or group of persons who applies for sewer service.

B. “City service lateral” means the pipe between the City’s main or collection line and the customer’s service connection at the edge of the street, easement or property line.

C. “Collector line” means the City’s pipeline to which the City’s service laterals are connected.

D. “Cost” means the cost of labor, material, transportation, supervision, engineering and all other necessary overhead expenses.

E. “Customer” means any person, firm, association, corporation or government agency served or entitled to be served sewer service by the City for compensation.

F. “Developer” means any person or group of persons, including corporations or public entities, who request the City to extend its sewer facilities.

G. “High volume sewer and users” means any applicant that generates more than 25,000 gallons per day ADF (average daily flow).

H. “Owner” means the person owning the fee, or the person in whose name the legal title to the property appears, by deed duly recorded in the County Recorder’s office, or the person in possession of the property or buildings under claims of, or exercising acts of ownership over same for himself, or as executor, administrator, guardian or trustee of owner.

I. “Regular sewer service” means sewer service and facilities rendered for normal domestic and industrial or commercial purposes on a permanent basis and the sewer system available therefor.

J. “Sewer connection” means the connection of any domestic, commercial or industrial sewer lines to the City’s system after the payment of established fees and charges and City’s approval.

K. “Sewer Department” means the administrative and operations facilities of the City performing functions to the City’s sewer service, together with the City Manager, City Attorney, City Engineer and other duly authorized City representatives.

L. “Trunk line” means a main sewer line to which many collection lines are connected and which serves the primary purpose of transporting sewage from collection lines to the disposal. (Ord. 473, 1997; Ord. 107 § 4, 1983)

13.04.090 Notice to customers.
Notices from the City to a customer will normally be given in writing and either delivered or mailed to the customer at the customer’s last known address. However, in emergencies the City may notify the customer either by telephone or messenger. Notice from the customer to the City may be given by the customer, or the customer’s authorized representative in writing to the City Clerk. (Ord. 107 § 5, 1983)

13.04.100 Application for sewer connections and/or monthly sewer service – Applicant responsibilities.
A. Applications. Applications for sewer connections and/or sewer service may be made at the City Hall on prescribed forms provided by the City.

B. Undertaking of Applicant. Application approved for sewer service and/or sewer connections will signify the applicant’s willingness and intention to comply with all ordinances and regulations relating to sewer service and/or
connections and to make payment for such sewer service fees, connection fees and inspection fees, as well as other pertinent contingent fees set forth by resolution and by other applicable rules and regulations. (Ord. 107 § 6, 1983)

13.04.140 Use of plumbing interceptors.
Except in the case of private dwelling units, the City may order any person connecting to the sewer system to install interceptors for grease, oil, sand or other harmful ingredients. All interceptors shall be of a type and capacity approved by the City and shall be located so as to be easily accessible for cleaning and inspection. Such interceptors shall be installed and maintained by the owner at his expense and shall be kept in good and continuous operation at all times. (Ord. 107 § 10, 1983)

13.04.150 Water conservation devices.
It is the intent of this chapter to promote and facilitate a policy of water conservation and reclamation. New construction units, residential or commercial will not be permitted to connect to the sewer system unless water saver type toilet fixtures are utilized in the dwelling or commercial buildings. Water saver toilets are defined as those specifically designed and manufactured so as to utilize no more than three and three-quarters gallons of water per flush. In addition, installation of water saver faucets and shower heads is required. (Ord. 107 § 11, 1983)

13.04.160 Right to inspect.
The officers, employees and agents of the City shall have the right to enter upon any premises within the City to inspect and determine if this chapter is being complied with. (Ord. 107 § 12, 1983)

13.04.170 Unlawful to make sewer connection without payment of fee.
A. No person shall connect to the City’s sewer system without first executing an application for sewer connection and obtaining the approval of the City Manager authorizing such connection. Approval of the application shall be based on the applicant’s ability to deliver sewage to points and elevations designated by the City and payment of all fees and charges. All applicants for new connections must provide evidence that the property or properties to be served are within the boundaries of the City or shall have submitted a request and “Consent to Annexation” to the City and paid the prescribed fees and charges for such annexation prior to approval of such annexation and complied with all local and State laws related to annexations.

B. No person shall discharge or allow the discharge of or dump sewage or other waste matter into the City’s sewer system except in compliance with the terms of this chapter and payment of the fees and charges established by resolution pursuant to this chapter. (Ord. 107 § 13, 1983)

13.04.180 Enforcement measures in case of delinquency.
When any fee or charge imposed by this chapter becomes delinquent, the enforcement agents are authorized to take any or all of the following actions:

A. Any steps authorized by law to collect fees and charges;

B. Disconnect the premises from the City’s sewer system; prior to such disconnection, notice of such delinquency shall be given to the occupant of the premises by United States mail with return receipt, or by posting such notice on the premises; the occupant will be given the opportunity for informal hearing with the City Manager prior to said disconnection, and if requested, within five days thereafter appeal to the City Council; concurrently with the disconnect, a copy of the City’s notice to occupant will be furnished to the regional office of the County Health Department. When a premises has been disconnected, it shall not be reconnected until all delinquent fees and charges have been paid, together with a charge for such disconnection and reconnection, as established by resolution of the City Council;

C. Discontinuance of water services. (Ord. 107 § 14, 1983)

13.04.190 Construction of sewer lateral.
A. Obligation of Applicant. The expense of construction of the applicant’s sewer line and the City’s lateral from the property line to the City main or collection system, including, but not limited to, City permits, excavation, pipe, wyes, tees, backfill, surface restoration and construction of No. 3 cleanout box and property line cleanout, is the responsibility of and shall be borne entirely by the applicant.
B. General Rule. Sewer laterals shall be installed on a main fronting the parcel to be served. In the case of a parcel not fronting an existing main, the sewer lateral may be installed on an existing main that does not front the parcel if the City Engineer determines that the nonfronting main is the main from which the parcel should ultimately receive regular service; and provided, that all necessary easements have been acquired.

C. Temporary Service. In the case of a parcel not fronting an existing main, where the City Engineer has determined that the main from which the parcel should ultimately receive regular service does not currently exist but could be built in the future, an application for temporary service from an existing main not fronting the parcel may be approved at the discretion of the Director of Development Services.

As a condition of receiving temporary service from a main not fronting the parcel, the owner of the parcel, in addition to payment of all fees and charges applicable to regular service, shall pay all fees associated with temporary service, and shall execute and acknowledge a recorded agreement providing for:

1. Installation and maintenance of a pipeline and other required facilities from the temporary lateral connection to the owner’s parcel and acquisition of any required easements, all at owner’s expense;

2. Discontinuance of temporary service and application for regular service at an appropriate point closer to the owner’s parcel upon installation of a main that the City Engineer determines is the main from which the parcel should ultimately receive regular service;

3. Payment by the owner of the entire cost of relocation and any applicable connection charges, including a pro rata share of the cost of installation of such main and any service area charge, the total of which shall not be less than the City’s then-established connection fee and service area charge to others for such regular service; and

4. Such other matters as the City may reasonably require. (Ord. 772 § 3, 2014)

13.04.195 Sewer extension line charge.
At the time of application for connection to a sewer main installed by the City and funded by the sewer fund after the date of adoption of the ordinance codified in this section, the applicant shall pay a sewer extension line charge. The line charge shall be $5,600 per parcel subject to revision from time to time by resolution of the City Council as necessary to reflect current construction cost. The charge is separate and above all other connection charges. Connections subject to the sewer extension line charge are exempt from the sewer line charge. The charge shall be collected at building permit issuance for new construction or application to construct a sewer lateral for existing dwellings. (Ord. 428 § 1, 1994)

13.04.200 Payment of sewer connection fees.
Connection fees and inspection fees are due and payable at the time of application for connection. The applicants for connection to an established home may pay the connection fee on an installment plan of 25 percent down at the time of application with the balance in monthly installments calculated to pay the balance in full within 12 months. This provision is intended for hardship cases when converting from septic system to public sewer. Evidence of the payment and approval of connection to a public sewer must be presented before issuing a building permit. The City will provide a copy of the approved sewer connection application for this purpose when all fees and charges have been paid. (Ord. 107 § 16, 1983)

13.04.205 Alternative method of collecting sewer connection fees for high volume sewer users.
A. Once an applicant is declared a “high volume sewer user” by generating more than 25,000 gallons per day, then they will be eligible to lease their required sewer capacity. The lease payments will be collected on their bimonthly sewer bill based on the average daily flow calculated for the bimonthly period.

An applicant will have the option of either paying all of their connection fees prior to building permit issuance or participating in the lease rate. Participating in the lease program will provide sewer capacity as needed; however, the property owner would obtain no ownership in sewer capacity and could not be transferred in the future other than the minimum purchased capacity.
B. A high volume user applicant will be required to construct a sewer discharge metering facility upon which their bimonthly sewer rate and connection fee lease rate will be based.

If any portion of this section should be determined to be unconstitutional or otherwise unenforceable by a court of competent jurisdiction, the remaining portions of this section shall continue in full force and effect. (Ord. 473, 1997)

13.04.210 Payment of sewer service charges.
A. The sewer service charges shall be set by resolution of the City Council and, except for schools, will be collected on the bimonthly water bill if water service is provided. Schools and those customers not receiving water service will be billed annually in advance during the month of July for the entire year.

B. Bills for periods of service for 30 days or less shall be one-half of the bimonthly charge. For periods greater than 30 days, the bill shall be equal to the full bimonthly charge.

C. Bills are due and payable on presentation and are delinquent if unpaid within 30 days of the date mailed. A delinquency charge shall be added to the service charge for all payments not received within 30 days of the date the bill was mailed to the customer. The amount or rate of the delinquency charge shall be set by resolution of the City Council.

D. The City may discontinue service as provided in PMC 13.04.180 for failure to pay the service charge or delinquency charge. (Ord. 107 § 17, 1983)

13.04.220 Responsible party for payment of sewer service charge.
A. Bimonthly Service Charge. The party responsible for payment of the bimonthly service charge shall be the party who is being billed for water service. However, the record owner of the property shall ultimately be responsible for payments of the sewer service charges. Any agreement between landlords and tenants to the contrary will not relieve the landlord or record owner of the property of the responsibility for payment of the sewer service charges to the City.

B. Annual Service Charge. The record owner of the property shall be responsible for payment of the annual service charge. Any agreement between landlords and tenants to the contrary will not relieve the landlord or record owner of the property of the responsibility for payment of the sewer service charges to the City. (Ord. 107 § 18, 1983)

13.04.230 Changes in use resulting in increased rates, sewer service charges and/or connection fees.
Whenever the use of any premises previously connected to the City’s system is changed so that there is a fee applicable to such premises different from that which existed at time original application was made, there shall immediately become due, owing and payable to the City the increase in fees applicable, and in addition thereto the increased rate for sewer service charges applicable to the premises for the remainder of the month in which the change is made, and all past sewer service charges shall be paid to the current time of the next billing period or July 1st following. The charges imposed by this regulation shall become delinquent 60 days following the date it becomes due. (Ord. 107 § 19, 1983)

For the failure of a customer to comply with all or any part of this chapter and any ordinance, resolution or order of the City pertaining to the delivery of public services in addition to any other penalty or remedy provided by law, the City may discontinue sewer service. (Ord. 107 § 3.7, 1983)
ORDINANCE NO. 107

AN ORDINANCE OF THE CITY OF POWAY, CALIFORNIA
PRESCRIBING RULES AND REGULATIONS FOR SEWER SERVICE,
AND REPEALING ORDINANCES AND RESOLUTIONS IN CONFLICT HEREWITH

THE CITY COUNCIL OF THE CITY OF POWAY DOES ORDAIN AS FOLLOWS:

Section 1.

Ordinance Nos. 59, 67, 71, 75 and 76 of the Pomerado County Water District are hereby repealed.

Section 2. Purpose of Rules and Regulations.

The purpose of these rules and regulations is to set forth the terms and conditions under which the City will authorize connections and provide sewer service to customers.


3.1 Short Title. This ordinance shall be known as "The City of Poway Sewer Ordinance."

3.2 Words and Phrases. For the purpose of this ordinance, all words used herein in the present tense shall include the future; all words in the plural number shall include the singular number; and all words in the singular number shall include the plural number.

3.3 Sewer System. The City will furnish a system, works and undertakings used for and useful for collection of domestic and industrial sewage, including all parts of the enterprise, all appurtenances to it, and lands, easements, rights in land, contract rights, franchises and other sewage collection facilities and equipment.

3.4 Severability. If a section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be unenforceable and is severable, such decision shall not affect the validity of the remaining portions of this ordinance.

3.5 Sewer Service and Connection Conditions. All applicants for sewer service or sewer connections shall be required to accept such conditions of connection and service as may be provided by the City.

3.6 Tampering With City Property. No one except an employee or representative of the City shall at any time in any manner operate the valves, motors, gates, machinery, sewage treatment plant, sewer manholes, or siphons of the City system or interfere with sewer lines or other parts of the sewer system.
3.7 **Penalty For Violation.** For the failure of a customer to comply with all or any part of this ordinance and any ordinance, resolution or order of the City pertaining to the delivery of public services in addition to any other penalty or remedy provided by law, the City may discontinue sewer service.

3.8 **Rulings Final.** All rulings of the City Manager shall be final unless appealed in writing to the City Council within five (5) working days. When appealed, the Council's ruling shall be final.

**Section 4. Definitions.**

4.1 **Applicant** - means any person or group of persons who applies for sewer service.

4.2 **City Service Lateral** - means the pipe between the City's main or collection line and the customer's service connection at the edge of the street, easement or property line.

4.3 **Collector Line** - means the City's pipeline to which the City's service laterals are connected.

4.4 **Cost** - means the cost of labor, material, transportation, supervision, engineering and all other necessary overhead expenses.

4.5 **Council** - means the City Council of the City of Poway.

4.6 **Customer** - means any person, firm, association, corporation or government agency served or entitled to be served sewer service by the City for compensation.

4.7 **Developer** - means any person or group of persons, including corporations or public entities, who request the City to extend its sewer facilities.

4.8 **Owner** - means the person owning the fee, or the person in whose name the legal title to the property appears, by deed duly recorded in the County Recorder's Office, or the person in possession of the property or buildings under claims of, or exercising acts of ownership over same for himself, or as executor, administrator, guardian or trustee of owner.

4.9 **Regular Sewer Service** - means sewer service and facilities rendered for normal domestic and industrial or commercial purposes on a permanent basis and the sewer system available therefor.
4.10 **Sewer Connection** - means the connection of any domestic, commercial or industrial sewer lines to the City's system after payment of established fees and charges and City's approval.

4.11 **Sewer Department** - means the administrative and operations facilities of the City performing functions related to the City's sewer service, together with the City Manager, Legal Counsel, City Engineer and other duly authorized City representatives.

4.12 **Trunk Line** - means a main sewer line to which many collection lines are connected and which serves the primary purpose of transporting sewage from collection lines to the disposal.

Section 5. **Notices**.

**Notice to Customers** - Notices from the City to a customer will normally be given in writing and either delivered or mailed to the customer at the customer's last known address. However, in emergencies the City may notify the customer either by telephone or messenger. Notice from the customer to the City may be given by the customer, or the customer's authorized representative in writing to the City Clerk.

Section 6. **Application For Sewer Connections And/Or Monthly Sewer Service**.

6.1 Applications for sewer connections and/or sewer service may be made at the City Hall on prescribed forms provided by the City.

6.2 **Undertaking Of Applicant**.

Application approved for sewer service and/or sewer connections will signify the applicant's willingness and intention to comply with all ordinances and regulations relating to sewer service and/or connections and to make payment for such sewer service fees, connection fees and inspection fees, as well as other pertinent contingent fees set forth by resolution and by other applicable rules and regulations.

Section 7. **Prohibited Use Of Sewage Facilities**

7.1 **Discharge of Objectionable Matter Into Sewage System Prohibited**.

No person shall place, deposit or throw into any vessel, pipe or receptacle connected with the sewer any materials or matter of whatever kind, class or description which will clog, obstruct, fill or prevent the effective use of and/or necessitate the frequent repairing, cleaning out or flushing of such sewer, including but not limited to the following specific material or matter:
7.1.1 Any waters or waste containing more than 200 parts per million of fat, oil or grease.

7.1.2 Any liquid or vapor having a temperature higher than 150 degrees Fahrenheit.

7.1.3 Any waters or waste having an acidity of a pH of 6.0 or lower, or an alkalinity of a pH of 9.0 or higher.

7.1.4 Any gasoline, benzine, naptha, fuel, oil, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, weeds, grass, tar, plastics, wood, improperly shredded garbage or any inflammable or volatile liquid.

7.1.5 Any waters or waste containing a toxic or poisonous substance which would constitute a hazard to animals or humans.

7.1.6 Any solids which will not pass through a screen with opening one (1) inch square.

7.1.7 Any liquid containing dissolved sulfides or compounds of intense odor which might cause odor nuisances from manholes.

7.1.8 Any water or waste containing suspended solids of such a character and/or quantity that would endanger, injure or interfere with a normal and usual process of sewage treatment, and in no case shall any water or waste deposited in or disposed through the sewers contain more than 350 parts per million by weight of suspended solids or have a five (5) day biochemical demand greater than 400 parts per million by weight.

Section 8. Waters Not To Be Discharged Into Sewer.

It shall not be permitted to discharge in or through the sewer systems such water which may lawfully be disposed of by means other than through the sewer system, including but not limited to storm waters, surface waters, roof run-off, cooling waters, unpolluted industrial wastes and swimming pool waters. In addition, discharge of residual brine from commercial or domestic water softening devices is not permitted.
Section 9. Industrial Wastes.

9.1 The introduction into the sanitary sewer system of the City of any industrial wastes shall be subject to the control and supervision of the City Manager. The City Manager may require, subject to the approval of the City Council, and as a condition to the use or continued use of the sanitary sewer system of the City, that any person:

9.1.1 Provide at his own expense such preliminary treatment of industrial wastes as may be necessary to make the same comply with the provisions of this regulation.

9.1.2 Control such quantities and rates of discharge of such industrial wastes into the sanitary sewer system of the City.

9.1.3 Install and provide at his own expense suitable control facilities to permit observation, sampling and measurement of industrial wastes.

9.1.4 Furnish at his own expense such true and accurate reports in writing as may be required by the City Manager of the City to determine whether or not the discharge of industrial wastes into the sanitary system complies with the provisions of this regulation.

9.1.5 Comply with all requirements published by the Environmental Protection Agency (EPA) and all subordinate agencies.

Section 10. Use Of Plumbing Interceptors.

Except in the case of private dwelling units, the City may order any person connecting to the sewer system to install interceptors for grease, oil, sand or other harmful ingredients. All interceptors shall be of a type and capacity approved by the City and shall be located so as to be easily accessible for cleaning and inspection. Such interceptors shall be installed and maintained by the owner at his expense and shall be kept in good and continuous operation at all times.

Section 11. Water Conservation Devices.

It is the intent of this ordinance to promote and facilitate a policy of water conservation and reclamation. New construction units, residential or commercial will not be permitted to connect to the sewer system unless water saver type toilet fixtures are utilized in the dwelling or commercial buildings. Water
saver toilets are defined as those specifically designed and manufactured so as to utilize no more than 3.75 gallons of water per flush. In addition, installation of water saver faucets and shower heads is required.

Section 12. Right To Inspect.

The officers, employees and agents of the City shall have the right to enter upon any premises within the City to inspect and determine if this ordinance is being complied with.

Section 13. Unlawful To Make Sewer Connection Without Payment Of Fee.

13.1 No person shall connect to the City's sewer system without first executing an application for sewer connection and obtaining the approval of the City Manager authorizing such connection. Approval of application shall be based on the applicant's ability to deliver sewage to points and elevations designated by the City and payment of all fees and charges. All applicants for new connections must provide evidence that the property or properties to be served are within the boundaries of the City of Poway or shall have submitted a request and "Consent to Annexation" to the City of Poway and paid the prescribed fees and charges for such annexation prior to approval of such annexation and complied with all local and State laws related to annexations.

13.2 No person shall discharge or allow the discharge of or dump sewage or other waste matter into the City's sewer system except in compliance with the terms of this ordinance and payment of the fees and charges established by resolution pursuant to this ordinance.

Section 14. Enforcement Measures In Case of Delinquency.

14.1 When any fee or charge imposed by this ordinance becomes delinquent, the enforcement agents are authorized to take any or all of the following actions:

14.2.1 Any steps authorized by law to collect such fees and charges.

14.2.2 Disconnect the premise from the City's sewer system. Prior to such disconnection, notice of such delinquency shall be given to the occupant of the premise by United States mail with return receipt, or by posting such notice on the premises. The occupant will be given the opportunity for informal hearing with the City Manager prior to said disconnection, and if requested, within five (5) days thereafter appeal to the City Council. Concurrently with the disconnect, a copy
of City's notice to occupant will be furnished to the regional office of the County Health Department. When a premise has been disconnected, it shall not be reconnected until all delinquent fees and charges have been paid, together with a charge for such disconnection and reconnection, as established by resolution of the City Council.

14.2.3 Discontinue water services.

Section 15. Construction Of Sewer Lateral.

The expense of construction of applicant's sewer line and City's lateral from property line to City main or collection system, including but not limited to, City Permits, excavation, pipe, wyes, tees, backfill, surface restoration and construction of No. 3 cleanout box and property line cleanout is the responsibility of and shall be borne entirely by the applicant.

Section 16. Payment Of Sewer Connection Fees.

Connection Fees and Inspection Fees are due and payable at time of application for connection. Applicants for connection to an established home may pay the connection fee on an installment plan of twenty-five percent (25%) down at the time of application with the balance in monthly installments calculated to pay the balance in full within twelve (12) months. This provision is intended for hardship cases when converting from septic system to public sewer. Evidence of the payment and approval of connection to a public sewer must be presented before issuing a Building Permit. The City will provide a copy of the approved Sewer Connection Application for this purpose when all fees and charges have been paid. Poway Building Code §303 is hereby amended accordingly.

Section 17. Payment Of Sewer Service Charges.

The sewer service charges shall be set by resolution of the Poway City Council and, except for schools, will be collected on the bimonthly water bill if water service is provided. Schools and those customers not receiving water service will be billed annually in advance during the month of July for the entire year.

Bills for periods of service for thirty (30) days or less shall be one half (½) of the bimonthly charge. For periods greater than thirty (30) days, the bill shall be equal to the full bimonthly charge.
Bills are due and payable on presentation and are delinquent if unpaid within thirty (30) days of the date mailed. A delinquency charge shall be added to the service charge for all payments not received within thirty (30) days of the date the bill was mailed to the customer. The amount or rate of the delinquency charge shall be set by resolution of the City Council.

The City may discontinue service as provided in Section 14 for failure to pay the service charge or delinquency charge.

Section 18. Responsible Party For Payment Of Sewer Service Charge.

18.1 Bimonthly Service Charge.

The party responsible for payment of the bimonthly service charge shall be the party who is being billed for water service. However, the record owner of the property shall ultimately be responsible for payments of the sewer service charges. Any agreement between landlords and tenants to the contrary will not relieve the landlord or record owner of the property of the responsibility for payment of the sewer service charges to the City of Poway.

18.2 Annual Service Charge.

The record owner of the property shall be responsible for payment of the annual service charge. Any agreement between landlords and tenants to the contrary will not relieve the landlord or record owner of the property of the responsibility for payment of the sewer service charges to the City of Poway.

Section 19. Changes In Use Resulting In Increased Rates, Sewer Service Charges And/Or Connection Fees.

Whenever the use of any premises previously connected to the City's system is changed so that there is a fee applicable to such premises different from that which existed at time original application was made, there shall immediately become due, owing and payable to the City the increase in fees applicable, and in addition thereto the increased rate for sewer service charges applicable to the premises for the remainder of the month in which the change is made, and all past sewer service charges shall be paid to the current time of the next billing period or July 1st following. The charges imposed by this regulation shall become delinquent sixty (60) days following the date it becomes due.
Section 20.

If any portion of this ordinance should be determined to be unconstitutional or otherwise unenforceable by a court of competent jurisdiction, the remaining portions of this ordinance shall continue in full force and effect.

Section 21.

This ordinance shall take effect and be in force thirty (30) days after the date of its passage; and before the expiration of fifteen (15) days after its passage, it shall be published once with the names and members voting for and against the same in the Poway News Chieftain, a newspaper of general circulation published in the City of Poway.

Introduced and first read at a regular meeting of the City Council of the City of Poway held the 28th day of June, 1983, and thereafter PASSED AND ADOPTED at a regular meeting of said City Council held the 12th day of July, 1983, by the following roll call vote:

AYES:    COUNCILMEMBERS:  EMERY, KRUSE, SHEPARDSON, TARZY, ORAVEC
NOES:    COUNCILMEMBERS:  NONE
ABSENT:  COUNCILMEMBERS:  NONE

\[Signature\]
Linda Oravec, Mayor

\[Signature\]
Marjorie K. Wahlsten, City Clerk
Ordinance No. 440

AN ORDINANCE OF THE CITY OF POWAY, CALIFORNIA
ADDING CHAPTER 13.05 TO THE POWAY MUNICIPAL CODE
TO ESTABLISH AN INDUSTRIAL WASTEWATER PRETREATMENT PROGRAM
AND REPEALING SECTIONS 13.04.110 THROUGH 13.04.130
OF THE POWAY MUNICIPAL CODE

Whereas, the General Pretreatment Regulations (40 CFR 403) as amended
October 1, 1988 require publicly-owned treatment works (POTW’s) to have the
legal authority to apply and enforce the requirements of Section 307(b) and
(c) and 402(b)(8) of the Clean Water Act and any regulations implementing
those sections; and

Whereas, at a minimum, this legal authority must meet the requirements of
40 CFR Section 403.8(f)(1)(i-vii); and

Whereas, the Environmental Protection Agency (EPA) and the California
Water Quality Control Board, San Diego Region issued NPDES (National Pollutant
Discharge Elimination System) Permit No. CA 0107409 to the City of San Diego,
requiring the development and implementation of an industrial pretreatment
program; and

Whereas, the EPA has required that all member agencies within the
Metropolitan Sewerage System discharging to the City of San Diego’s Point Loma
facility, must also establish an industrial pretreatment program; and

Whereas, the City of Poway seeks to comply with all provisions of State
and Federal law; and

Whereas, in order to implement the federal regulatory requirements and
California Regional Water Quality Control Board, San Diego Region NPDES Permit
No. CA 0107409, the City of Poway has entered into an Industrial Wastewater
Interjurisdictional Pretreatment Agreement dated July 24, 1990; and

Whereas, a properly noticed public hearing was conducted in accordance
with Section 65853 et. seq. of the California Government Code and the
California Environmental Quality Act to consider implementation of the
Industrial Wastewater Pretreatment Program ordinance; and

Whereas, the City Council finds that the proposed ordinance will not have
a significant impact on the environment and hereby issues a Negative
Declaration; and

Whereas, the City of Poway has conducted legally noticed public hearings
and has provided all interested parties an opportunity to be heard on these
issues; and

Whereas, the City of Poway has carefully considered the proposed
Industrial Wastewater Pretreatment Ordinance and finds that said proposed
Industrial Wastewater Pretreatment Ordinance complies with the requirements of
applicable Federal and state law, and further said Ordinance contributes to
the comprehensiveness of the City of Poway General Plan and provides for the
protection of the wastewater system within the City of Poway and the
protection of health, safety, and general welfare of its citizens.
NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF POWAY DOES ORDAIN AS FOLLOWS:

Section 1.

Chapter 13.05, entitled "Industrial Wastewater Pretreatment Program," is hereby adopted and added to the Poway Municipal Code to read as follows:

13.05.010 Title. This chapter shall be known as the "City of Poway Industrial Wastewater Pretreatment Ordinance."

13.05.020 Purpose. The purpose of this chapter is to provide for the maximum beneficial public use of the City's wastewater system through adequate regulation of sewer construction, sewer use, and industrial wastewater discharge, to provide for equitable distribution of the City's costs, and to provide procedures for complying with wastewater discharge requirements placed upon the City by other regulatory bodies.

13.05.030 Scope. This chapter shall be interpreted in accordance with the definitions set forth herein and the provisions of this chapter shall apply to the direct or indirect discharge of all waste into the City's wastewater system.

This chapter provides for the regulation of sewer construction in areas within the City's boundaries, the quantity and quality of discharged wastes, the degree of waste pretreatment required, the setting of waste discharge fees to provide for equitable distribution of costs, the issuance of Permits for Industrial Wastewater Discharge and of other miscellaneous permits, and the establishment of penalties for violation of this ordinance.

13.05.040 Liquid Waste Disposal Policy. The City builds and operates public sewers and wastewater facilities serving homes, industries, and commercial establishments. The following policies apply to wastewater discharges within the City's boundaries and to other discharges that are tributary to the City's wastewater facilities.

Generally, wastewater originating within the City's boundaries will be removed by the City's wastewater system provided the wastewater will not (1) damage structures, (2) create nuisances such as odors, (3) menace public health, (4) impose unreasonable collection, treatment, or disposal costs on the City, (5) interfere with wastewater treatment processes, (6) exceed quality requirements set by regulatory government agencies, or (7) detrimentally affect the local environment.

The City is committed to a policy of wastewater renovation and reuse in order to provide an alternate source of water supply and to reduce overall costs of wastewater treatment and disposal. The renovation of wastewater through secondary and tertiary wastewater treatment processes may necessitate more stringent quality requirements on industrial wastewater dischargers than those required by other regulatory agencies.
To comply with stated policies of the Federal government and to permit the City to meet increasingly higher standards, provisions are made in this chapter for the regulation of industrial wastewater discharges. This chapter establishes quantity and quality limitations on industrial wastewater discharges. Methods of cost recovery from industrial wastewater dischargers where the discharges impose inequitable collection, treatment, or disposal costs on the City will be established by a resolution of the City Council.

Recovery and reuse procedures established by industrial wastewater dischargers themselves to meet the limitations set on their discharges will be preferred by the City over those procedures designed solely to meet wastewater discharge limitations. Methods providing for beneficial reuse of otherwise wasted resources shall be the approved method of industrial wastewater treatment wherever feasible.

Optimum use of the City’s wastewater facilities may require that certain industrial wastewaters be discharged during periods of low flow in the City’s wastewater system.

13.05.050 Definitions. For the purposes of this chapter, the terms relating to water and wastewater shall be as adopted in the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation.

The meaning of other various terms as used in this chapter shall be as follows:

a. "Applicant" means a person, or group of persons who applies for sewer service.

b. "Director of Public Services" means the department head of the Public Services Department of the City of Poway or his/her designee.

c. "Discharger" means any person that discharges or causes a discharge of wastewater directly or indirectly to a public sewer.

d. "Domestic Wastewater" means the liquid and waterborne wastes derived from the ordinary living processes in a dwelling unit, said wastes being of such character as to permit satisfactory disposal, without special treatment, into a public sewer or by means of a private disposal system.

e. "Industrial Wastewater" means all wastewater, excluding domestic wastewater, and shall include all wastewater from any producing, manufacturing, processing, institutional, commercial, service, agricultural, or other operation. These may also include wastes of human origin similar to domestic wastewater.
f. "Mass Emission Rate" means the weight of material discharged to a public sewer during a given time interval.

g. "Person" means any individual, partnership, entity, firm, association, corporation, or public agency including the State of California and the United States of America.

h. "Public Sewer" means a sewer owned and operated by the City of Poway.

i. "Standard Methods" means procedures described in the current edition of Standard Methods For the Examination of Water and Wastewater, as published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation.

j. "Suspended Solids" means any insoluble material contained as a component of wastewater and capable of separation from the liquid portion of said wastewater by laboratory filtration as determined by the appropriate testing procedure and Standard Methods.

k. "Treatment Facilities" means treatment works actually used in the treatment of wastewater or for the reclamation of wastewater.

l. "Waste" means wastewater and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature, including such wastes placed within containers of whatever nature, prior to and for the purpose of disposal.

m. "Wastewater" means waste and water, whether treated or untreated, discharged into or permitted to enter a public sewer.

n. "Wastewater Constituents and Characteristics" means the individual chemical, physical, bacteriological, or radiological parameters, including volume, flow rate, and such other parameters that define, classify, or measure the quality and quantity of wastewater.

o. "Wastewater System or Facilities" means any and all facilities used for collecting, conveying, pumping, treating, and disposing of wastewater.

13.05.060 Responsibility for Administration. The Director of Public Services shall administer, implement, and enforce the provisions of this chapter. Any powers granted to or duties imposed upon the Director of Public Services may be delegated by the Director of Public Services to persons in the employ of the City of Poway or any other duly authorized representative, agent, or agency.
The Director of Public Services shall make and enforce regulations necessary to the administration of this chapter. The Director may amend such regulations from time to time as conditions require. These regulations shall be consistent with the general policy established herein by the City Council.

13.05.070 Penalty for Violations. a. Public Nuisance. Discharge of wastewater in any manner in violation of this chapter or of any order issued by the Director of Public Services, as authorized by this chapter, is hereby declared a public nuisance and shall be corrected or abated as directed by the Director of Public Services. Any person creating such a public nuisance is guilty of a misdemeanor.

b. Injunction. Whenever a discharge of wastewater is in violation of the provisions of this chapter or otherwise causes or threatens to cause a condition of contamination, pollution, or nuisance, the Director of Public Services may cause the City to seek a petition to the Superior Court for the issuance of a preliminary or permanent injunction or both, as may be appropriate in restraining the continuance of such discharge.

c. Costs of Damage. Any person violating any of the provisions of this chapter or who has a discharge which causes a deposit, obstruction, damage, or any other impairment to the City's facilities shall become liable to the City for all expense, loss, or damage occasioned the City by reason of such violation or discharge.

d. Falsifying of Information. Any person who knowingly makes any false statements, representation, record, report, plan, or other document filed with the Director of Public Services or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this chapter, shall be guilty of a misdemeanor.

e. Termination of Service. The City may revoke any Industrial Wastewater Discharge Permit issued pursuant to Section 13.05.160 hereof or terminate or cause to be terminated any wastewater service to any premise if a violation of any provision of this chapter is found to exist or if a discharge of wastewater causes or threatens to cause a condition of contamination, pollution, or nuisance. This provision is in addition to other statutes or rules authorizing termination of service for delinquency in payment.

When deemed necessary by the Director of Public Services, for the continuing preservation of public health or safety or for the protection of public or private property, the Director may suspend sewer service to any person or persons using the wastewater system in a manner or way to endanger the public health or safety of public or private property. In suspending service, the Director may sever all pertinent connections to the public sewer. If such endangerment shall be imminent, then the Director of Public Services may act immediately to suspend sewer service without notice or warning to said person or persons.
f. Civil Penalties. Any person who violates any provision of this chapter or permit condition, or who discharges wastewater which causes pollution, or who violates any cease and desist order, prohibition, effluent limitation or national pretreatment standard, shall be liable civilly for a penalty not to exceed $300 for each day in which such violation occurs.

g. Criminal Penalties. Any person who intentionally violates any provision of this chapter or permit condition or who discharges wastewater which causes pollution or who violates any cease and desist order, prohibition, effluent limitation or national pretreatment standard shall be liable, upon conviction, for a sum not to exceed $10,000 for each day in which such violation occurs, or for imprisonment for not more than one (1) year or both.

13.05.080 Notice and Appeal Procedures. Unless otherwise provided herein, any notice required to be given by the Director of Public Services under this chapter shall be in writing and served in person or by registered or certified mail. If served by mail, the notice shall be sent to the last address known to the Director of Public Services. Where the address is unknown, service may be made upon the owner of record of the property involved.

Notice shall be deemed to have been given at the time of deposit, postage prepaid, in a facility regularly serviced by the United States Postal Service.

Any person found to be violating any provision of the chapter shall be served by the Director of Public Services with written notice stating the nature of the violation. Within 30 days after the date of the notice, unless a shorter time is necessary due to the nature of the violation, a plan for the satisfactory correction thereof shall be submitted to the Director of Public Services. If the violation is not corrected by timely compliance, or a satisfactory correction plan submitted within the specified time, the Director of Public Services may order any person to show cause before the Director of Public Services why enforcement action should not be taken. A written notice shall be served on the person specifying the time and place of a hearing, the reason why the action is to be taken, and the proposed enforcement action. The Director of Public Services may propose any enforcement action reasonably necessary to abate the violation. Based upon the evidence presented at the hearing, the Director of Public Services shall determine the appropriate enforcement action which should be taken, if any.

13.05.090 Time Limits. Any time limit provided in any written notice or in any provision of this chapter may be extended only by a written directive of the Director of Public Services.

13.05.100 Inspection and Sampling. Adequate identification shall be provided by the Director of Public Services for all inspectors and other authorized personnel and those persons shall identify themselves when entering any property for inspection purposes or when inspecting the work of any contractor.
Inspection and sampling of every facility that is involved directly or indirectly with the discharge of wastewater to the City's wastewater system may be made by the Director of Public Services as he deems necessary. These facilities shall include but not be limited to sewers, wastewater pumping stations, pollution control plants, all industrial processes, food establishment facilities or other facilities which discharge grease and oil at levels which cause blockages to the sewer, industrial wastewater generation, conveyance and pretreatment facilities, and all similar wastewater facilities. Inspections may be made to determine that such facilities are maintained and operated properly and are adequate to meet the provisions of this chapter.

Access to all of the above facilities or to other facilities directly or indirectly connected to the City's wastewater system shall be given to authorized personnel of the City at all reasonable times including those occasioned by emergency conditions. Any permanent or temporary obstruction to easy access to the wastewater facility to be inspected shall promptly be removed by the facility user or owner at the written or verbal request of the Director of Public Services and shall not be replaced.

No person shall interfere with, delay, resist, or refuse entrance to an authorized City inspector attempting to inspect any wastewater generation, conveyance, or treatment facility connected directly or indirectly to the City's wastewater system.

The City, through its representative or inspectors, shall have the right to inspect and copy pertinent records relating to a permittee's wastewater discharge or pretreatment operations including inventories, chemical usage, materials sources, hazardous materials manifests and disposal records, treatment and operations log books and materials invoices.

13.05.110 Recording of Fees and Charges. The Director of Public Services shall keep a permanent and accurate account of all fees and charges received under this chapter, giving the names and addresses of the persons on whose account the fees and charges were paid, the date and amount thereof, and the purpose for which charges were paid.

13.05.120 Estimated Quantities and Values. Unless otherwise provided herein, whenever the fees and charges required by this chapter are based on estimated values or estimated quantities, the Director of Public Services shall make such determinations in accordance with established estimating practices.

13.05.130 Approval of Plans and Issuance of Permits. The Director of Public Services will approve plans for wastewater facilities construction, approve issuance of a Permit for Industrial Wastewater Discharge or any other permit under this ordinance only if it appears to the Director of Public Services that the wastewater facilities construction, sewer connection, industrial wastewater discharge, or other procedure conforms to the requirements of this chapter.
All required fees and charges shall be paid before approval of plans or issuance of a permit.

The approval of plans or the issuance of a permit shall not relieve the discharger of any duty imposed upon him pursuant to this chapter.

13.05.140 Malicious Damage to City's Facilities. Any unauthorized entering, breaking, damaging, destroying, uncovering, defacing or tampering with any structure, equipment, or appurtenance which is a part of the City's wastewater system shall be a violation of this chapter.

13.05.150 Waste Disposal - Permit Required. Any person, municipality, sanitation district, or governmental agency desiring to discharge industrial waste into a public sewer shall obtain a permit to discharge said wastes into said system from the Director of Public Services known as a Permit for Industrial Wastewater Discharge.

13.05.160 Permit for Industrial Wastewater Discharge. The Permit for Industrial Wastewater Discharge may require pretreatment of industrial wastewaters before discharge, restriction of peak flow discharge, discharge of certain wastewaters only to specified sewers of the City, relocation of point of discharge, prohibition of discharge of certain wastewater components, restriction of discharge to certain hours of the day, payment of additional charges to defray increased costs of the City of Poway created by the wastewater discharge, and such other conditions as may be required to effectuate the purpose of this chapter.

No person shall discharge industrial wastewaters in excess of the quantity or quality limitations set by the Permit for Industrial Wastewater Discharge. Any person desiring to discharge wastewaters or use facilities which are not in conformance with the Industrial Wastewater Permit should apply to the City of Poway Public Services Department for an amended Permit.

13.05.170 Discharge Reports. The City may require that any person discharging or proposing to discharge wastewater into a public sewer file a periodic discharge report. The discharge report may include, but not be limited to, nature of process, volume, rates of flow, mass emission rate, production quantities, hours of operation, or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also include the chemical constituents and quantity of liquid or gaseous materials stored on site even though they may not normally be discharged. In addition to discharge reports, the City may require information in the form of Industrial Wastewater Discharge Permit applications and self-monitoring reports.

In addition to the foregoing, the City may also require permittees to provide baseline monitoring reports, compliance schedule reports and final compliance reports.
13.05.180 Permit Application. Persons seeking an Industrial Wastewater Discharge Permit shall complete and file with the Director of Public Services, an application in the form prescribed by the Director of Public Services, and accompanied by the applicable fees. The applicant may be required to submit, in units and terms appropriate for evaluation, the following information:

1. Name, address and Standard Industrial Classification number of applicant;

2. Volume of wastewater to be discharged;

3. Wastewater constituents and characteristics including but not necessarily limited to those mentioned in Section 13.06.270 as determined by a laboratory approved by the City;

4. Time and duration of discharge;

5. Average and 30 minute peak wastewater flow rates, including daily, monthly, and seasonal variations if any;

6. Description of activities, facilities, and plant process on the premises including all materials, processes, and types of materials which are or could be discharged; and

7. Any other information as may be deemed by the Director of Public Services to be necessary to evaluate the permit application.

The Director of Public Services will evaluate the data furnished by the applicant and may require additional information. After evaluation and acceptance of the data furnished, an on-site inspection of the waste discharge system, treatment systems, or other systems relating to the waste discharge may be required. The Director of Public Services may then issue an Industrial Wastewater Discharge Permit subject to terms and conditions provided herein.

13.05.190 Permit Conditions. Industrial Wastewater Discharge Permits shall be subject to all provisions of this chapter and all other regulations, user charges, and fees established from time to time by resolution of the City Council. The conditions of Industrial Wastewater Discharge Permits shall be uniformly enforced by the Director of Public Services in accordance with this chapter, and applicable local, State, and Federal regulations.

13.05.200 Duration of Industrial Wastewater Discharge Permits. Permits shall be issued for a specified time period, not to exceed five (5) years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. If the permittee is not notified by the Director of Public Services 30 days prior to the expiration of the permit, the permit shall be extended one additional year. The terms and conditions of the permit may be subject to modification and change by the City of Poway during the life of the permit as limitations or requirements as identified in Section 13.05.270 are modified and changed. The permittee shall be informed of any
proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

13.05.210 Transfer of an Industrial Wastewater Discharge Permit or Changed Use. Industrial Wastewater Discharge Permits shall be issued only for specific use for a specific operation. Any sale, lease transfer or assignment of the premises or operation for which the permit was issued shall require a new permit to be issued. Any new or changed conditions of operation shall require a new permit to be issued.

13.05.220 Revocation of Industrial Wastewater Discharge Permit. The Director of Public Services may revoke the permit of any permittee who is found to be in violation of this chapter or applicable local, State, or Federal regulations or who:

a. Fails to factually report the wastewater constituents and characteristics of its discharge;

b. Fails to report significant changes in operations, or wastewater constituents and characteristics;

c. Refuses reasonable access to the permittee’s premises for the purpose of inspection or monitoring; or

d. Violates conditions of the permit.

13.05.230 Industrial Wastewater Discharge Permit Fee. An Industrial Wastewater Discharge Permit fee will be collected annually from all permittees. The permit fee will be established periodically by a resolution of the City Council; provided, however, that prior to considering any change in said permit fee by resolution as aforesaid, a notice of the proposed change shall be posted by the City Clerk at least ten (10) days prior to consideration of such a resolution by the City Council.

13.05.235 Collection of Monitoring Fees. Where monitoring services are provided by either the City of Poway or an outside agency on the City’s behalf, the City of Poway shall assess the individual discharge permit holder the actual costs incurred by the City of Poway in conjunction with the monitoring and the administrative overhead for the management of the pretreatment program.

13.05.240 Sampling, Self-Monitoring, and Flows. The Director of Public Services shall require the permittee to provide results of periodic measurements of its discharge which is to include chemical analyses and flow. The Director of Public Services may require a monitoring facility to be furnished and operated at permittee’s expense. All permittees making periodic measurements shall furnish and install at an appropriate location, a calibrated flume, weir, flow meter, or similar device suitable to measure flow rate and total volume approved by the Director of Public Services. In lieu of
wastewater flow measurement, the Director of Public Services may accept records of water usage and adjust the flow volume by suitable factors to determine peak and average flow rates for the specific industrial wastewater discharge. The monitoring facility should normally be situated on the permittee’s premises, but the Director of Public Services may, when such a location would be impractical or cause undue hardship on the user, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles. Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the Director of Public Services requirements and shall be completed within ninety (90) days following written notification by the Director of Public Services, unless a time extension is granted by the Director of Public Services. Those permittees required by the Director of Public Services to make periodic measurements of industrial wastewater flows and constituents shall annually make the minimum number of such measurements as required in the permit. When required by the Director of Public Services, permittees shall install and maintain in proper order automatic flow-proportional sampling equipment and/or automatic analysis and recording equipment. Permittees shall allow the City or its representative ready access at all reasonable times to all parts of the premises for purposes of sampling or in the performance of any of their duties. The Director of Public Services shall have the right to set up on the permittee’s property such devices as are necessary to conduct sampling or metering operation. Where a permittee has security measures in force, the permittee shall make the necessary arrangements with their security guards so that upon presentation of suitable identification, personnel of the City shall be permitted to enter without delay.

All sampling, analysis and flow measurement procedures, equipment, results, and records shall be subject at any time to inspection by the Director of Public Services.

13.05.250 Pretreatment. Permittees shall make wastewater acceptable under the limitations established herein before discharging to any public sewer. Any facilities required to pretreat wastewater to a level acceptable to the Director of Public Services shall be provided and maintained at the permittee’s sole expense. Detailed plans, compliance schedules, and operating procedures shall be submitted to the Director of Public Services for review and shall be approved by the Director of Public Services before construction of the facility. The review of such plans and operating procedures will in no way relieve the permittee from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the Director of Public Services under the provisions of this chapter. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be approved by the Director of Public Services. No permittee shall increase the use of processed water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with any local, State, or Federal discharge standard.
The Director of Public Services shall have the authority in negotiation with any industrial permittee, to impose compliance schedules relating to installation of specific pretreatment equipment, filing of reports, and achievement of specific discharge conditions including target parameter concentrations.

13.05.260 Protection from Accidental Discharge. a. Each permittee shall provide protection from accidental discharge of prohibited materials or from other substances regulated by this chapter. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the permittee’s own cost and expense.

b. In the case of an accidental discharge, it is the responsibility of the permittee to immediately notify both the Director of Public Services of the City of Poway and the City Manager of the City of San Diego of the incident. The notification shall include location of discharge, type of waste, concentration and volume, and corrective actions. Within five (5) days following an accidental discharge, the permittee shall submit to the Director of Public Services a detailed written report describing the cause of the discharge and the measures to be taken by the permittee to prevent similar future occurrences. Such notification shall not relieve the permittee of any expense, loss, damages, or other liability which may be incurred as a result of damage to the wastewater systems, fish kills, or any other damage to persons or property; nor shall such notification relieve the permittee of any fines, civil penalties, or other liability which may be imposed by this chapter or other applicable law. A notice shall be permanently posted on the permittee’s bulletin board or other prominent place advising employees who to call in the event of an accidental discharge. Permittees shall insure that all employees who may cause, allow, or observe such an accidental discharge to occur are advised of the emergency notification procedures.

13.05.270 Prohibited Discharges. In most cases, the concentration or amount of any particular constituent which will be judged to be excessive or unreasonable cannot be foreseen but will depend on the results of technical determinations and the actions of regulatory agencies. The list of constituents which may be regulated provides specific limits only where they are not reasonably well established. The other constituents in the list are presented with the objective of enumerating the types of wastes which will be regulated from time to time. No person shall discharge or cause to be discharged to a public sewer, which directly or indirectly connects to the City’s wastewater system, the following:

a. Any gasoline, benzene, naphtha, solvent, fuel oil, or any liquid, solid or gas that would cause or tend to cause flammable or explosive conditions to result in the wastewater system.
b. Any matter containing toxic or poisonous solids, liquids, or gases in such quantities that, alone or in combination with other substances, may create a health hazard for humans, animals, or the local environment, interfere detrimentally with wastewater treatment processes, cause a public nuisance, or cause any hazardous condition to occur in the wastewater system.

c. Any matter having a pH lower than 5.0 or having any corrosive or detrimental characteristic that may cause injury to wastewater treatment or maintenance personnel or may cause damage to structures, equipment, or other physical facilities of the wastewater system.

d. Any solids or viscous substances or other matter of such quality, size, or quantity that they may cause obstruction to flow in the sewer or be detrimental to proper wastewater treatment plant operations. These objectionable substances include, but are not limited to, asphalt, dead animals, offal, ashes, sand, mud, straw, industrial process shavings, metal, glass, rags, feathers, tar, wood, whole blood, manure, bones, hair and fleshings, entrails, fatty acids, grease and oil, paper dishes, paper cups, milk containers, or other similar paper products, either whole or ground.

e. Any rainwater, storm water, groundwater, street drainage, subsurface drainage, roof drainage, yard drainage, water from yard fountains, ponds, or lawn sprays, or any other uncontaminated water.

f. Any matter having a temperature higher than 150 degrees Fahrenheit (65 degrees Celsius) or at a temperature which causes the influent to the waste treatment plant to exceed 104 degrees Fahrenheit (26 degrees Celsius).

g. Any matter containing more than 500 mg/l of oil or grease.

h. Any strongly odorous matter or matter tending to create odors.

i. Any matter containing over 1.0 mg/l of dissolved sulfides.

j. Any matter with a pH high enough to cause alkaline incrustations on sewer walls.

k. Any matter promoting or causing the promotion of toxic gases.

l. Any matter requiring an excessive quantity of chlorine or other chemical compound used for disinfection purposes.

m. Any excessive amounts of deionized water, steam condensate, distilled water, or single pass cooling water.

n. Any radioactive matter, except:

   l. When the person is authorized to use radioactive materials by the State Department of Health or other governmental agency empowered to regulate the use of radioactive materials; and
2. When the matter is discharged in strict conformity with current California Radiation Control Regulations (California Administrative Code, Title 17), and the Nuclear Regulatory Commission regulations and recommendations for safe disposal; and

3. When the person is in compliance with all rules and regulations of all other applicable regulatory agencies.

o. Any matter producing excessive discoloration of the wastewater treatment plant effluent.

p. Any toxic materials including, but not limited to, all heavy metals, cyanide, phenols, chlorinated hydrocarbons, and other organic compounds unless limited to that concentration which complies with all local, State, and Federal discharge limitations, and which does not interfere with the operation of the wastewater facilities.

13.05.280 Limitations on the Use of Garbage Grinders. Matter from garbage grinders shall not be discharged into a public sewer except matter generated in preparation of food normally consumed on the premises, or where the permittee has obtained a permit for that specific use from the Director of Public Services, and agrees to undertake whatever self-monitoring is required to enable the Director of Public Services to equitably determine the sewer service charges based on the waste constituents and characteristics. Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the public sewer. Garbage grinders shall not be used for grinding plastic, paper products, inert materials, or garden refuse.

13.05.290 Discharge of Water Softener Brines Prohibited. No person shall discharge into the public sewers any residual brine from commercial or domestic water softening or purifying devices.

13.05.300 Limitations on Point of Discharge. No person shall discharge any substances directly into a manhole or other opening in a public sewer other than through an approved sewer connection unless upon written application and payment of the applicable charges and fees and the Director of Public Services approves the issuance of a permit for such direct discharges.

13.05.310 Availability of the City's Wastewater Facilities. If wastewater facilities capacity is not available, the Director of Public Services may require the industrial waste discharger to restrict his discharge until sufficient capacity can be made available. When requested, the Director of Public Services will advise persons desiring to locate new facilities as to the areas where industrial wastewater of their proposed quantity and quality can be received by available wastewater facilities. The Director of Public Services may refuse service to persons locating facilities in areas where their proposed quantity or quality of industrial wastewater is unacceptable in the available treatment facility.
13.05.320 Discrepancies Between Actual and Reported Industrial Wastewater Discharge Permit Quantities. Should measurements or other investigations reveal that the permittee is discharging a flow rate or a quantity of flow, chemical oxygen demand, or suspended solids significantly in excess of that stated on the permit or in excess of the quantities reported to the Director of Public Services by the permittee and upon which the sewer service charge is based, the permittee shall apply for an amended permit and shall be assessed for all delinquent charges together with penalty and interest. Before these charges shall be assessed at least two additional 24-hour samples and flow measurements shall be obtained by the Director of Public Services with all costs of sampling and analyses to be paid by the permittee.

For the purpose of establishing the correct sewer service charge, the data obtained in these samplings along with any other relevant information obtained by the Director of Public Services or presented by the permittee shall be used by the Director of Public Services in determining the quantity parameters for use in determining the sewer service charge. A permittee who violates this Section shall, in the absence of other evidence, be presumed to have been discharging at the determined parameter values over the preceding three years or since the Director of Public Services previous verification of quantity parameters, whichever period is shorter.

13.05.330 Records Retention. All permittees subject to this division of this chapter shall retain and preserve for not less than three (3) years, any records, books, documents, memoranda, reports, correspondence, and any and all summaries thereof relating to monitoring, sampling, and chemical analyses made by or on behalf of a permittee in connection with its discharge. All records which pertain to matters which are the subject of administrative action or any other enforcement or litigation activities brought by the City shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

13.05.340 Validity. If any provision of this chapter or the application thereof to any person or circumstance is held invalid, the remaining portions of the chapter and the application of such provisions to other persons or circumstances are to be considered valid.

Section 2.

Sections 13.04.110 through 13.04.130 are hereby rescinded.

EFFECTIVE DATE: This ordinance shall take effect and be in force thirty (30) days after the date of its passage; and the City Clerk of the City of Poway is hereby authorized to use summary publication procedures pursuant to Government Code Section 36933 utilizing the Poway News Chieftain, a newspaper of general circulation published in the City of Poway.
Introduced and first read at a regular meeting of the City Council of the City of Poway held the 13th day of December, 1994, and thereafter PASSED AND ADOPTED at a regular meeting of said City Council held the 3rd day of January, 1995, by the following roll call vote:

AYES: CAFAGNA, CALLERY, EMERY, REXFORD, HIGGINSON

NOES: NONE

ABSENT: NONE

Don Higginson, Mayor

ATTEST

Marjorie K. Wahlsten, City Clerk
Chapter 13.05
INDUSTRIAL WASTEWATER PRETREATMENT PROGRAM

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13.05.010 Title.
This chapter shall be known as the “City of Poway Industrial Wastewater Pretreatment Ordinance.” (Ord. 440 § 1, 1995)

13.05.020 Purpose.
The purpose of this chapter is to provide for the maximum beneficial public use of the City's wastewater system through adequate regulation of sewer construction, sewer use, and industrial wastewater discharge, to provide for equitable distribution of the City's costs, and to provide procedures for complying with wastewater discharge requirements placed upon the City by other regulatory bodies. (Ord. 440 § 1, 1995)

13.05.030 Scope.
This chapter shall be interpreted in accordance with the definitions set forth herein and the provisions of this chapter shall apply to the direct or indirect discharge of all waste into the City's wastewater system.

This chapter provides for the regulation of sewer construction in areas within the City's boundaries, the quantity and quality of discharged wastes, the degree of waste pretreatment required, the setting of waste discharge fees to provide for equitable distribution of costs, the issuance of permits for industrial wastewater discharge and of other miscellaneous permits, and the establishment of penalties for violation of the ordinance codified in this chapter. (Ord. 440 § 1, 1995)

13.05.040 Liquid waste disposal policy.
The City builds and operates public sewers and wastewater facilities serving homes, industries, and commercial establishments. The following policies apply to wastewater discharges within the City's boundaries and to other discharges that are tributary to the City's wastewater facilities.

Generally, wastewater originating within the City's boundaries will be removed by the City's wastewater system provided the wastewater will not (1) damage structures, (2) create nuisances such as odors, (3) menace public health, (4) impose unreasonable collection, treatment, or disposal costs on the City, (5) interfere with wastewater treatment processes, (6) exceed quality requirements set by regulatory government agencies, or (7) detrimentally affect the local environment.

The City is committed to a policy of wastewater renovation and reuse in order to provide an alternate source of water supply and to reduce overall costs of wastewater treatment and disposal. The renovation of wastewater through secondary and tertiary wastewater treatment processes may necessitate more stringent quality requirements on industrial wastewater dischargers than those required by other regulatory agencies.

To comply with stated policies of the Federal government and to permit the City to meet increasingly higher standards, provisions are made in this chapter for the regulation of industrial wastewater discharges. This chapter establishes quantity and quality limitations on industrial wastewater discharges. Methods of cost recovery from industrial wastewater dischargers where the discharges impose inequitable collection, treatment, or disposal costs on the City will be established by a resolution of the City Council.

Recovery and reuse procedures established by industrial wastewater dischargers themselves to meet the limitations set on their discharges will be preferred by the City over those procedures designed solely to meet wastewater discharge limitations.
Methods providing for beneficial reuse of otherwise wasted resources shall be the approved method of industrial wastewater treatment wherever feasible.

Optimum use of the City's wastewater facilities may require that certain industrial wastewaters be discharged during periods of low flow in the City's wastewater system. (Ord. 440 § 1, 1995)

13.05.050 Definitions.
For the purposes of this chapter, the terms relating to water and wastewater shall be as adopted in the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation.

The meaning of other various terms as used in this chapter shall be as follows:

A. "Applicant" means a person, or group of persons, who applies for sewer service.

B. "Director of Public Services" means the department head of the Public Services Department of the City of Poway or his/her designee.

C. "Discharger" means any person that discharges or causes a discharge of wastewater directly or indirectly to a public sewer.

D. "Domestic wastewater" means the liquid and waterborne wastes derived from the ordinary living processes in a dwelling unit, said wastes being of such character as to permit satisfactory disposal, without special treatment, into a public sewer or by means of a private disposal system.

E. "Industrial wastewater" means all wastewater, excluding domestic wastewater, and shall include all wastewater from any producing, manufacturing, processing, institutional, commercial, service, agricultural, or other operation. These may also include wastes of human origin similar to domestic wastewater.

F. "Mass emission rate" means the weight of material discharged to a public sewer during a given time interval.

G. "Person" means any individual, partnership, entity, firm, association, corporation, or public agency including the State of California and the United States of America.

H. "Public sewer" means a sewer owned and operated by the City of Poway.

I. "Standard methods" means procedures described in the current edition of Standard Methods for the Examination of Water and Wastewater, as published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation.

J. "Suspended solids" means any insoluble material contained as a component of wastewater and capable of separation from the liquid portion of said wastewater by laboratory filtration as determined by the appropriate testing procedure and standard methods.
K. “Treatment facilities” means treatment works actually used in the treatment of wastewater or for the reclamation of wastewater.

L. “Waste” means wastewater and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature, including such wastes placed within containers of whatever nature, prior to and for the purpose of disposal.

M. “Wastewater” means waste and water, whether treated or untreated, discharged into or permitted to enter a public sewer.

N. “Wastewater constituents and characteristics” means the individual chemical, physical, bacteriological, or radiological parameters, including volume, flow rate, and such other parameters that define, classify, or measure the quality and quantity of wastewater.

O. “Wastewater system or facilities” means any and all facilities used for collecting, conveying, pumping, treating, and disposing of wastewater. (Ord. 440 § 1, 1995)

13.05.060 Responsibility for administration.
The Director of Public Services shall administer, implement, and enforce the provisions of this chapter. Any powers granted to or duties imposed upon the Director of Public Services may be delegated by the Director of Public Services to persons in the employ of the City of Poway or any other duly authorized representative, agent, or agency.

The Director of Public Services shall make and enforce regulations necessary to the administration of this chapter. The Director may amend such regulations from time to time as conditions require. These regulations shall be consistent with the general policy established herein by the City Council. (Ord. 440 § 1, 1995)

13.05.070 Penalty for violations.
A. Public Nuisance. Discharge of wastewater in any manner in violation of this chapter or of any order issued by the Director of Public Services, as authorized by this chapter, is hereby declared a public nuisance and shall be corrected or abated as directed by the Director of Public Services. Any person creating such a public nuisance is guilty of a misdemeanor.

B. Injunction. Whenever a discharge of wastewater is in violation of the provisions of this chapter or otherwise causes or threatens to cause a condition of contamination, pollution, or nuisance, the Director of Public Services may cause the City to seek a petition to the Superior Court for the issuance of a preliminary or permanent injunction or both, as may be appropriate in restraining the continuance of such discharge.

C. Costs of Damage. Any person violating any of the provisions of this chapter or who has a discharge which causes a deposit, obstruction, damage, or any other impairment to the City's facilities shall become liable to the City for all expense, loss, or damage occasioned the City by reason of such violation or discharge.
D. Falsifying of Information. Any person who knowingly makes any false statements, representation, record, report, plan, or other document filed with the Director of Public Services or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this chapter, shall be guilty of a misdemeanor.

E. Termination of Service. The City may revoke any industrial wastewater discharge permit issued pursuant to PMC 13.05.160 or terminate or cause to be terminated any wastewater service to any premises if a violation of any provision of this chapter is found to exist or if a discharge of wastewater causes or threatens to cause a condition of contamination, pollution, or nuisance. This provision is in addition to other statutes or rules authorizing termination of service for delinquency in payment.

When deemed necessary by the Director of Public Services, for the continuing preservation of public health or safety or for the protection of public or private property, the Director may suspend sewer service to any person or persons using the wastewater system in a manner or way to endanger the public health or safety of public or private property. In suspending service, the Director may sever all pertinent connections to the public sewer. If such endangerment shall be imminent, then the Director of Public Services may act immediately to suspend sewer service without notice or warning to said person or persons.

F. Civil Penalties. Any person who violates any provision of this chapter or permit condition, or who discharges wastewater which causes pollution, or who violates any cease and desist order, prohibition, effluent limitation or national pretreatment standard, shall be liable civilly for a penalty not to exceed $300.00 for each day in which such violation occurs.

G. Criminal Penalties. Any person who intentionally violates any provision of this chapter or permit condition or who discharges wastewater which causes pollution or who violates any cease and desist order, prohibition, effluent limitation or national pretreatment standard shall be liable, upon conviction, for a sum not to exceed $10,000 for each day in which such violation occurs, or for imprisonment for not more than one year or both. (Ord. 440 § 1, 1995)

13.05.080 Notice and appeal procedures.
Unless otherwise provided herein, any notice required to be given by the Director of Public Services under this chapter shall be in writing and served in person or by registered or certified mail. If served by mail, the notice shall be sent to the last address known to the Director of Public Services. Where the address is unknown, service may be made upon the owner of record of the property involved.

Notice shall be deemed to have been given at the time of deposit, postage prepaid, in a facility regularly serviced by the United States Postal Service.

Any person found to be violating any provision of the chapter shall be served by the Director of Public Services with written notice stating the nature of the violation. Within 30 days after the date of the notice, unless a shorter time is necessary due to the nature of the violation, a plan for the satisfactory correction thereof shall be
submitted to the Director of Public Services. If the violation is not corrected by timely compliance, or a satisfactory correction plan submitted within the specified time, the Director of Public Services may order any person to show cause before the Director of Public Services why enforcement action should not be taken. A written notice shall be served on the person specifying the time and place of a hearing, the reason why the action is to be taken, and the proposed enforcement action. The Director of Public Services may propose any enforcement action reasonably necessary to abate the violation. Based upon the evidence presented at the hearing, the Director of Public Services shall determine the appropriate enforcement action which should be taken, if any. (Ord. 440 § 1, 1995)

13.05.090 Time limits.
Any time limit provided in any written notice or in any provision of this chapter may be extended only by a written directive of the Director of Public Services. (Ord. 440 § 1, 1995)

13.05.100 Inspection and sampling.
Adequate identification shall be provided by the Director of Public Services for all inspectors and other authorized personnel and those persons shall identify themselves when entering any property for inspection purposes or when inspecting the work of any contractor.

Inspection and sampling of every facility that is involved directly or indirectly with the discharge of wastewater to the City's wastewater system may be made by the Director of Public Services as he deems necessary. These facilities shall include but not be limited to sewers, wastewater pumping stations, pollution control plants, all industrial processes, food establishment facilities or other facilities which discharge grease and oil at levels which cause blockages to the sewer, industrial wastewater generation, conveyance and pretreatment facilities, and all similar wastewater facilities. Inspections may be made to determine that such facilities are maintained and operated properly and are adequate to meet the provisions of this chapter.

Access to all of the above facilities or to other facilities directly or indirectly connected to the City's wastewater system shall be given to authorized personnel of the City at all reasonable times including those occasioned by emergency conditions. Any permanent or temporary obstruction to easy access to the wastewater facility to be inspected shall promptly be removed by the facility user or owner at the written or verbal request of the Director of Public Services and shall not be replaced.

No person shall interfere with, delay, resist, or refuse entrance to an authorized City inspector attempting to inspect any wastewater generation, conveyance, or treatment facility connected directly or indirectly to the City's wastewater system.

The City, through its representative or inspectors, shall have the right to inspect and copy pertinent records relating to a permittee's wastewater discharge or pretreatment operations including inventories, chemical usage, materials sources, hazardous materials manifests and disposal records, treatment and operations log books and materials invoices. (Ord. 440 § 1, 1995)
13.05.110 Recording of fees and charges.
The Director of Public Services shall keep a permanent and accurate account of all fees and charges received under this chapter, giving the names and addresses of the persons on whose account the fees and charges were paid, the date and amount thereof, and the purpose for which charges were paid. (Ord. 440 § 1, 1995)

13.05.120 Estimated quantities and values.
Unless otherwise provided herein, whenever the fees and charges required by this chapter are based on estimated values or estimated quantities, the Director of Public Services shall make such determinations in accordance with established estimating practices. (Ord. 440 § 1, 1995)

13.05.130 Approval of plans and issuance of permits.
The Director of Public Services will approve plans for wastewater facilities construction, approve issuance of a permit for industrial wastewater discharge or any other permit under the ordinance codified in this chapter only if it appears to the Director of Public Services that the wastewater facilities construction, sewer connection, industrial wastewater discharge, or other procedure conforms to the requirements of this chapter.

All required fees and charges shall be paid before approval of plans or issuance of a permit.

The approval of plans or the issuance of a permit shall not relieve the discharger of any duty imposed upon him pursuant to this chapter. (Ord. 440 § 1, 1995)

13.05.140 Malicious damage to City's facilities.
Any unauthorized entering, breaking, damaging, destroying, uncovering, defacing or tampering with any structure, equipment, or appurtenance which is a part of the City's wastewater system shall be a violation of this chapter. (Ord. 440 § 1, 1995)

13.05.150 Waste disposal – Permit required.
Any person, municipality, sanitation district, or governmental agency desiring to discharge industrial waste into a public sewer shall obtain a permit to discharge said wastes into said system from the Director of Public Services known as a permit for industrial wastewater discharge. (Ord. 440 § 1, 1995)

13.05.160 Permit for industrial wastewater discharge.
The permit for industrial wastewater discharge may require pretreatment of industrial wastewaters before discharge, restriction of peak flow discharges, discharge of certain wastewaters only to specified sewers of the City, relocation of point of discharge, prohibition of discharge of certain wastewater components, restriction of discharge to certain hours of the day, payment of additional charges to defray increased costs of the City of Poway created by the wastewater discharge, and such other conditions as may be required to effectuate the purpose of this chapter.

No person shall discharge industrial wastewaters in excess of the quantity or quality limitations set by the permit for industrial wastewater discharge. Any person desiring to discharge wastewaters or use facilities which are not in conformance with the
industrial wastewater permit should apply to the City of Poway Public Services Department for an amended permit. (Ord. 440 § 1, 1995)

13.05.170 Discharge reports.
The City may require that any person discharging or proposing to discharge wastewater into a public sewer file a periodic discharge report. The discharge report may include, but not be limited to, nature of process, volume, rates of flow, mass emission rate, production quantities, hours of operation, or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also include the chemical constituents and quantity of liquid or gaseous materials stored on site even though they may not normally be discharged. In addition to discharge reports, the City may require information in the form of industrial wastewater discharge permit applications and self-monitoring reports.

In addition to the foregoing, the City may also require permittees to provide baseline monitoring reports, compliance schedule reports and final compliance reports. (Ord. 440 § 1, 1995)

13.05.180 Permit application.
A. Persons seeking an industrial wastewater discharge permit shall complete and file with the Director of Public Services, an application in the form prescribed by the Director of Public Services, and accompanied by the applicable fees. The applicant may be required to submit, in units and terms appropriate for evaluation, the following information:

1. Name, address and standard industrial classification number of applicant;

2. Volume of wastewater to be discharged;

3. Wastewater constituents and characteristics including but not necessarily limited to those mentioned in PMC 13.06.270 as determined by a laboratory approved by the City;

4. Time and duration of discharge;

5. Average and 30-minute peak wastewater flow rates, including daily, monthly, and seasonal variations if any;

6. Description of activities, facilities, and plant process on the premises including all materials, processes, and types of materials which are or could be discharged; and

7. Any other information as may be deemed by the Director of Public Services to be necessary to evaluate the permit application.

B. The Director of Public Services will evaluate the data furnished by the applicant and may require additional information. After evaluation and acceptance of the data furnished, an on-site inspection of the waste discharge system, treatment systems, or other systems relating to the waste discharge may be required. The Director of Public
Services may then issue an industrial wastewater discharge permit subject to terms and conditions provided herein. (Ord. 440 § 1, 1995)

13.05.190 Permit conditions.  
Industrial wastewater discharge permits shall be subject to all provisions of this chapter and all other regulations, user charges, and fees established from time to time by resolution of the City Council. The conditions of industrial wastewater discharge permits shall be uniformly enforced by the Director of Public Services in accordance with this chapter, and applicable local, State, and Federal regulations. (Ord. 440 § 1, 1995)

13.05.200 Duration of industrial wastewater discharge permits.  
Permits shall be issued for a specified time period, not to exceed five years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. If the permittee is not notified by the Director of Public Services 30 days prior to the expiration of the permit, the permit shall be extended one additional year. The terms and conditions of the permit may be subject to modification and change by the City of Poway during the life of the permit as limitations or requirements as identified in PMC 13.05.270 are modified and changed. The permittee shall be informed of any proposed changes in his permit at least 30 days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance. (Ord. 440 § 1, 1995)

13.05.210 Transfer of an industrial wastewater discharge permit or changed use.  
Industrial wastewater discharge permits shall be issued only for specific use for a specific operation. Any sale, lease transfer or assignment of the premises or operation for which the permit was issued shall require a new permit to be issued. Any new or changed conditions of operation shall require a new permit to be issued. (Ord. 440 § 1, 1995)

13.05.220 Revocation of industrial wastewater discharge permit.  
The Director of Public Services may revoke the permit of any permittee who is found to be in violation of this chapter or applicable local, State, or Federal regulations or who:

A. Fails to factually report the wastewater constituents and characteristics of its discharge;

B. Fails to report significant changes in operations, or wastewater constituents and characteristics;

C. Refuses reasonable access to the permittee's premises for the purpose of inspection or monitoring; or

D. Violates conditions of the permit. (Ord. 440 § 1, 1995)

13.05.230 Industrial wastewater discharge permit fee.  
An industrial wastewater discharge permit fee will be collected annually from all permittees. The permit fee will be established periodically by a resolution of the City Council; provided, however, that prior to considering any change in said permit fee by
resolution as aforesaid, a notice of the proposed change shall be posted by the City Clerk at least 10 days prior to consideration of such a resolution by the City Council. (Ord. 440 § 1, 1995)

13.05.235 Collection of monitoring fees.
Where monitoring services are provided by either the City of Poway or an outside agency on the City’s behalf, the City of Poway shall assess the individual discharge permit holder the actual costs incurred by the City of Poway in conjunction with the monitoring and the administrative overhead for the management of the pretreatment program. (Ord. 440 § 1, 1995)

13.05.240 Sampling, self-monitoring, and flows.
The Director of Public Services shall require the permittee to provide results of periodic measurements of its discharge which is to include chemical analyses and flow. The Director of Public Services may require a monitoring facility to be furnished and operated at permittee’s expense. All permittees making periodic measurements shall furnish and install at an appropriate location, a calibrated flume, weir, flow meter, or similar device suitable to measure flow rate and total volume approved by the Director of Public Services. In lieu of wastewater flow measurement, the Director of Public Services may accept records of water usage and adjust the flow volume by suitable factors to determine peak and average flow rates for the specific industrial wastewater discharge. The monitoring facility should normally be situated on the permittee’s premises, but the Director of Public Services may, when such a location would be impractical or cause undue hardship on the user, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles. Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the Director of Public Services requirements and shall be completed within 90 days following written notification by the Director of Public Services, unless a time extension is granted by the Director of Public Services. Those permittees required by the Director of Public Services to make periodic measurements of industrial wastewater flows and constituents shall annually make the minimum number of such measurements as required in the permit. When required by the Director of Public Services, permittees shall install and maintain in proper order automatic flow-proportional sampling equipment and/or automatic analysis and recording equipment. Permittees shall allow the City or its representative ready access at all reasonable times to all parts of the premises for purposes of sampling or in the performance of any of their duties. The Director of Public Services shall have the right to set up on the permittee’s property such devices as are necessary to conduct sampling or metering operation. Where a permittee has security measures in force, the permittee shall make the necessary arrangements with their security guards so that upon presentation of suitable identification, personnel of the City shall be permitted to enter without delay.

All sampling, analysis and flow measurement procedures, equipment, results, and records shall be subject at any time to inspection by the Director of Public Services. (Ord. 440 § 1, 1995)
13.05.250 Pretreatment.
Permittees shall make wastewater acceptable under the limitations established herein before discharging to any public sewer. Any facilities required to pretreat wastewater to a level acceptable to the Director of Public Services shall be provided and maintained at the permittee’s sole expense. Detailed plans, compliance schedules, and operating procedures shall be submitted to the Director of Public Services for review and shall be approved by the Director of Public Services before construction of the facility. The review of such plans and operating procedures will in no way relieve the permittee from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the Director of Public Services under the provisions of this chapter. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be approved by the Director of Public Services. No permittee shall increase the use of processed water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with any local, State, or Federal discharge standard.

The Director of Public Services shall have the authority in negotiation with any industrial permittee, to impose compliance schedules relating to installation of specific pretreatment equipment, filing of reports, and achievement of specific discharge conditions including target parameter concentrations. (Ord. 440 § 1, 1995)

13.05.260 Protection from accidental discharge.
A. Each permittee shall provide protection from accidental discharge of prohibited materials or from other substances regulated by this chapter. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the permittee’s own cost and expense.

B. In the case of an accidental discharge, it is the responsibility of the permittee to immediately notify both the Director of Public Services of the City of Poway and the City Manager of the City of San Diego of the incident. The notification shall include location of discharge, type of waste, concentration and volume, and corrective actions. Within five days following an accidental discharge, the permittee shall submit to the Director of Public Services a detailed written report describing the cause of the discharge and the measures to be taken by the permittee to prevent similar future occurrences. Such notification shall not relieve the permittee of any expense, loss, damages, or other liability which may be incurred as a result of damage to the wastewater systems, fish kills, or any other damage to persons or property; nor shall such notification relieve the permittee of any fines, civil penalties, or other liability which may be imposed by this chapter or other applicable law. A notice shall be permanently posted on the permittee’s bulletin board or other prominent place advising employees who to call in the event of an accidental discharge. Permittees shall ensure that all employees who may cause, allow, or observe such an accidental discharge to occur are advised of the emergency notification procedures. (Ord. 440 § 1, 1995)

13.05.270 Prohibited discharges.
In most cases, the concentration or amount of any particular constituent which will be judged to be excessive or unreasonable cannot be foreseen but will depend on the
results of technical determinations and the actions of regulatory agencies. The list of constituents which may be regulated provides specific limits only where they are not reasonably well established. The other constituents in the list are presented with the objective of enumerating the types of wastes which will be regulated from time to time. No person shall discharge or cause to be discharged to a public sewer, which directly or indirectly connects to the City’s wastewater system, the following:

A. Any gasoline, benzene, naphtha, solvent, fuel oil, or any liquid, solid or gas that would cause or tend to cause flammable or explosive conditions to result in the wastewater system;

B. Any matter containing toxic or poisonous solids, liquids, or gases in such quantities that, alone or in combination with other substances, may create a health hazard for humans, animals, or the local environment, interfere detrimentally with wastewater treatment processes, cause a public nuisance, or cause any hazardous condition to occur in the wastewater system;

C. Any matter having a pH lower than 5.0 or having any corrosive or detrimental characteristic that may cause injury to wastewater treatment or maintenance personnel or may cause damage to structures, equipment, or other physical facilities of the wastewater system;

D. Any solids or viscous substances or other matter of such quality, size, or quantity that they may cause obstruction to flow in the sewer or be detrimental to proper wastewater treatment plant operations. These objectionable substances include, but are not limited to, asphalt, dead animals, offal, ashes, sand, mud, straw, industrial process shavings, metal, glass, rags, feathers, tar, wood, whole blood, manure, bones, hair and fleshings, entrails, fatty acids, grease and oil, paper dishes, paper cups, milk containers, or other similar paper products, either whole or ground;

E. Any rainwater, stormwater, groundwater, street drainage, subsurface drainage, roof drainage, yard drainage, water from yard fountains, ponds, or lawn sprays, or any other uncontaminated water;

F. Any matter having a temperature higher than 150 degrees Fahrenheit (65 degrees Celsius) or at a temperature which causes the influent to the waste treatment plant to exceed 104 degrees Fahrenheit (26 degrees Celsius);

G. Any matter containing more than 500 mg/l of oil or grease;

H. Any strongly odoriferous matter or matter tending to create odors;

I. Any matter containing over 1.0 mg/l of dissolved sulfides;

J. Any matter with a pH high enough to cause alkaline incrustations on sewer walls;

K. Any matter promoting or causing the promotion of toxic gases;

L. Any matter requiring an excessive quantity of chlorine or other chemical compound used for disinfection purposes;
M. Any excessive amounts of deionized water, steam condensate, distilled water, or single-pass cooling water;

N. Any radioactive matter, except:

1. When the person is authorized to use radioactive materials by the State Department of Health or other governmental agency empowered to regulate the use of radioactive materials, and

2. When the matter is discharged in strict conformity with current California Radiation Control Regulations (California Administrative Code, Title 17), and the Nuclear Regulatory Commission regulations and recommendations for safe disposal, and

3. When the person is in compliance with all rules and regulations of all other applicable regulatory agencies;

O. Any matter producing excessive discoloration of the wastewater treatment plant effluent;

P. Any toxic materials including, but not limited to, all heavy metals, cyanide, phenols, chlorinated hydrocarbons, and other organic compounds unless limited to that concentration which complies with all local, State, and Federal discharge limitations, and which does not interfere with the operation of the wastewater facilities. (Ord. 440 § 1, 1995)

13.05.280 Limitations on the use of garbage grinders.
Matter from garbage grinders shall not be discharged into a public sewer except matter generated in preparation of food normally consumed on the premises, or where the permittee has obtained a permit for that specific use from the Director of Public Services, and agrees to undertake whatever self-monitoring is required to enable the Director of Public Services to equitably determine the sewer service charges based on the waste constituents and characteristics. Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the public sewer. Garbage grinders shall not be used for grinding plastic, paper products, inert materials, or garden refuse. (Ord. 440 § 1, 1995)

13.05.300 Limitations on point of discharge.
No person shall discharge any substances directly into a manhole or other opening in a public sewer other than through an approved sewer connection unless upon written application and payment of the applicable charges and fees and the Director of Public Services approves the issuance of a permit for such direct discharges. (Ord. 440 § 1, 1995)

13.05.310 Availability of the City's wastewater facilities.
If wastewater facilities capacity is not available, the Director of Public Services may require the industrial waste discharger to restrict his discharge until sufficient capacity can be made available. When requested, the Director of Public Services will advise persons desiring to locate new facilities as to the areas where industrial wastewater of
their proposed quantity and quality can be received by available wastewater facilities. The Director of Public Services may refuse service to persons locating facilities in areas where their proposed quantity or quality of industrial wastewater is unacceptable in the available treatment facility. (Ord. 440 § 1, 1995)

13.05.320 Discrepancies between actual and reported industrial wastewater discharge permit quantities.
Should measurements or other investigations reveal that the permittee is discharging a flow rate or a quantity of flow, chemical oxygen demand, or suspended solids significantly in excess of that stated on the permit or in excess of the quantities reported to the Director of Public Services by the permittee and upon which the sewer service charge is based, the permittee shall apply for an amended permit and shall be assessed for all delinquent charges together with penalty and interest. Before these charges shall be assessed at least two additional 24-hour samples and flow measurements shall be obtained by the Director of Public Services with all costs of sampling and analyses to be paid by the permittee.

For the purpose of establishing the correct sewer service charge, the data obtained in these samplings along with any other relevant information obtained by the Director of Public Services or presented by the permittee shall be used by the Director of Public Services in determining the quantity parameters for use in determining the sewer service charge. A permittee who violates this section shall, in the absence of other evidence, be presumed to have been discharging at the determined parameter values over the preceding three years or since the Director of Public Services previous verification of quantity parameters, whichever period is shorter. (Ord. 440 § 1, 1995)

13.05.330 Records retention.
All permittees subject to this chapter shall retain and preserve for not less than three years, any records, books, documents, memoranda, reports, correspondence, and any and all summaries thereof relating to monitoring, sampling, and chemical analyses made by or on behalf of a permittee in connection with its discharge. All records which pertain to matters which are the subject of administrative action or any other enforcement or litigation activities brought by the City shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired. (Ord. 440 § 1, 1995)

13.05.340 Validity.
If any provision of this chapter or the application thereof to any person or circumstance is held invalid, the remaining portions of the chapter and the application of such provisions to other persons or circumstances are to be considered valid. (Ord. 440 § 1, 1995)
REPORT SUMMARY

TO: Honorable Mayor and Members of the City Council

FROM: Rod Gould, City Manager

INITIATED BY: Kevin Haupt, Director of Public Works

DATE: October 16, 2007

SUBJECT: Approval of Development Plan and Schedule for a Sewer System Management Plan (SSMP)

ABSTRACT
On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted a General Waste Discharge Requirement (WDR) for all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipe. The goal of the WDR is to provide a consistent statewide approach for reducing sanitary sewer overflows (SSOs). The final part of the WDR is that a Sewer System Management Plan (SSMP) with all the mandatory elements must be developed and approved by the collection system's governing body. The first step in the SSMP requires that the development schedule be approved by the City Council. This includes approval of the development of a schedule for completing all the elements of the SSMP within the required timelines, determining the persons responsible for those elements, and monitoring the progress of the SSMP development. There are eleven required elements for the SSMP. The SSMP must be delivered in sections to the Regional Water Quality Control Board, beginning with the Development Plan and Schedule in November 2007, and ending with the finalized SSMP in August 2009.

ENVIRONMENTAL REVIEW
This action is not subject to CEQA review.

FISCAL IMPACT
None.

PUBLIC NOTIFICATION AND CORRESPONDENCE
None.

RECOMMENDATION
It is recommended that the City Council approve the Development Plan and Schedule for a Sewer System Management Plan.

ACTION
Approved staff recommendation, 5-0.

L. Diane Shea, City Clerk

October 16, 2007, Item #5
TO: Honorable Mayor and Members of the City Council

FROM: Rod Gould, City Manager

INITIATED BY: Kevin Haupt, Director of Public Works
Tom Howard, Public Works Utilities Manager
Brad Voorhees, Wastewater Utilities Supervisor
Robin Miller, Management Analyst

DATE: October 16, 2007

SUBJECT: Approval of Development Plan and Schedule for a Sewer System Management Plan (SSMP)

BACKGROUND

On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted a General Waste Discharge Requirement (WDR) for all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipe. The goal of the WDR is to provide a consistent statewide approach for reducing sanitary sewer overflows (SSOs). The WDR requires that in the event of an SSO, all feasible steps be taken to control the released volume and prevent untreated wastewater from entering storm drains, creeks, etc. If an SSO occurs, it must be reported to the SWRCB using an online reporting system (developed by the SWRCB) called the CIWQS or California Integrated Water Quality System. The final part of the WDR is that a Sewer System Management Plan (SSMP) with all the mandatory elements must be developed and approved by the collection system's governing body.

The first step in the SSMP requires that the development schedule be approved by the City Council. This includes approval of the development of a schedule for completing all the elements of the SSMP within the required timelines, determining the persons responsible for those elements, and monitoring the progress of the SSMP development.

Responsible staff members for the development and completion of the SSMP within the required timelines include Tom Howard, Public Works Utilities Manager, and Brad Voorhees, Wastewater Utilities Supervisor.
FINDINGS

There are eleven required elements for the SSMP:

1. **Goals**: The collection system agency must develop goals to properly manage, operate, and maintain all parts of its wastewater collection system in order to reduce and prevent sanitary sewer overflows (SSOs), as well as to mitigate any SSOs that occur.

   The standards for the operation and maintenance of a wastewater collection system are to properly operate and maintain all portions of the collection system, to report overflows, and to respond effectively to any overflows that may occur. The collection system goals should be at a level that meets the standards.

2. **Organization**: The collection system agency's SSMP must identify the following:
   a. The name of the responsible or authorized representative;
   b. The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. This includes lines of authority as shown in an organization chart or similar document with a narrative explanation; and
   c. The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the SWRCB and the Regional Water Quality Control Board (RWQCB), and other agencies if applicable.

3. **Legal Authority**: The collection system must demonstrate, through collection system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:
   a. Prevent illicit discharges into its wastewater collection system;
   b. Require that sewers and connections are properly designed and constructed;
   c. Ensure access for the maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
   d. Limit the discharges of fats, oils, and grease and other debris that may cause blockages; and
   e. Enforce any violation of its sewer ordinances.

4. **Operations and Maintenance Program**: The SSMP must include those elements listed below that are appropriate and applicable to the collection system agency's system:
   a. Maintain an up-to-date map of the sanitary sewer system;
   b. Describe routine prevention operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas;
   c. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency;
d. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
e. Provide equipment and replacement parts inventories, including the identification of critical replacement parts.

5. **Design and Performance Provisions:**
a. Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances, and for the rehabilitation and repair of existing sanitary sewer systems; and
b. Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances, and for rehabilitation and repair projects.

6. **Overflow Emergency Response Plan:** The collection system agency shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment.

7. **Fats, Oils, and Grease (FOG) Control Program:** The collection agency shall evaluate its service to determine whether a FOG control program is needed. If fats, oils, and grease are found to be a problem, the collection system agency must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system.

8. **System Evaluation and Capacity Assurance Plan:** The collection system agency shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event.

9. **Monitoring, Measurements, and Plan Modifications:** The collection system’s agency shall:
a. Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
b. Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
c. Assess the success of the preventative maintenance program;
d. Update program elements, as appropriate, based on monitoring or performance evaluations; and
e. Identify and illustrate SSO trends, including frequency, location, and volume.

10. **SSMP Program Audits:** The collection system agency shall conduct periodic internal audits, appropriate to the size of the system and the number of the SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file.

11. **Communication Program:** The collection system agency shall communicate on a regular basis with the public on the development, implementation, and performance of
its SSMP. The communication system shall provide the public the opportunity to provide input to the collection system agency as the program is developed and implemented. The collection system agency shall also create a plan of communication with systems that are tributary and/or satellite to the collection system agency's sanitary sewer system.

The SSMP must be delivered in sections to the RWQCB, with the final sections due in 2009.

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**ENVIRONMENTAL REVIEW**

This action is not subject to CEQA review.

**FISCAL IMPACT**

None.

**PUBLIC NOTIFICATION AND CORRESPONDENCE**

None.

**RECOMMENDATION**

It is recommended that the City Council approve the Development Plan and Schedule for a Sewer System Management Plan.
CITY OF POWAY

OPERATION AND MAINTENANCE PROGRAM
(a) The following figures are up-to-date (GIS) maps of the sanitary sewer system showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance systems.

Sewer Maintenance Books: Section 4a-1 (GIS Map)
Lift stations and force mains: Section 4a-2 (GIS Map)
Stormwater conveyance systems: Section 4a-3 (GIS Map)

(b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.

Description of scheduled maintenance
The Wastewater Collection Division’s scheduled operations and maintenance programs are based on related core functions: Vactor Jet-rodutting program including monthly and quarterly High Frequency Flushing locations; CCTV mainline segment inspection; annual lateral inspections; annual manhole inspections; traffic control; crowd control; and chemical treating of mainlines with root infiltration and easement maintenance. These functions are scheduled daily, weekly, monthly, quarterly, and annually depending on the function and frequency required to ensure WDR compliance.

List of high frequency cleaning areas
The Wastewater Collection Division performs monthly maintenance on forty-two (42) High Frequency Flushing locations (Section 4b-1), cleaning 10,262 lineal feet of collection system pipeline, and quarterly maintenance on forty-four (44) High Frequency Flushing locations (Section 4b-2), cleaning 11,379 lineal feet of collection system pipeline.

CartéGraph Asset Management Software
The City of Poway Public Works Department utilizes the CartéGraph Operation Management Software Program to respond to requests, schedule tasks and work orders associated with performing the work performed by the wastewater division. The program is also used to inventory, plan, execute, and record the history of
maintenance performed on collection system assets for further analyzing, aiding with future Capital Improvement Projects.

**Vactor Operations Trunk and Collector Line Maintenance (described)**

**VACTOR JET-RODDING** is the function of performing routine scheduled maintenance on the collection system utilizing high-pressure water equipment.

This core function is performed daily by a two-man crew ensuring the collection system is clean of debris (i.e., rocks, roots, silt, grease, foreign objects) and free flowing to prevent potential sanitary sewer overflows. Jet-rodding is performed by inserting a high-pressure water nozzle from the accessed manhole to the upstream manhole and pulling the nozzle head back with the flow to the accessed manhole while maintaining a visual on the liquids and debris being pulled back. This process is continued until a visual indicates a free-flow and clean pipe.

Two methods of collecting debris are either the use of a steel cage or the suction function of the equipment. The steel cage is used frequently to catch debris during the operation. Debris is caught in the cage and removed to the surface area and scooped up into trash bags for disposal. Caution is exercised for sharp objects during this operation. The suction function of the Vactor is the preferred method to use since a higher percentage of debris is captured in the spoils tank. This method is a little more time consuming and requires decanting of the liquids from the spoils tank to stay compliant with vehicle weight limitations. However, this is a safer way of capturing debris without handling it. Liquids are decanted and solids are transported to the Crosthwaite Materials Handling Yard and disposed of in the wastewater collection basin.

The wastewater collection system has been reorganized and divided into three basins: north, central, and south. Each basin consists of collection systems within the main system. Each system has a starting point and termination manhole before flowing into another system. The Vactor suction function is incorporated at each termination manhole. Special care is taken in systems related to any of the five sewer lift stations. Treatment plant staff is notified when working on the system immediately impacts flows for a lift station and extra attention to the removal of debris at termination manhole.

**Vactor Response Protocol for Trunk and Collector Line Blockages**

**PROTOCOL:** The Vactor truck immediately responds to main line blockages detected during regular business hours by CCTV staff or other wastewater utilities staff performing work on the collection system. Mitigation of a blockage is first
priority to prevent a potential SSO. Vactor truck staff documents footage location of blockage from downstream manhole and uses a cage in the manhole to collect cause of blockage. After a blockage is mitigated, the impacted main line is video inspected by CCTV staff to ensure a free-flowing system before the Vactor truck is released from the jobsite.

**Vactor Response Protocol for Trunk and Collector Line Partial blockages**

**PROTOCOL:** The Vactor truck immediately responds to partial main line blockages detected during regular business hours by CCTV staff or other wastewater utilities staff performing work on the collection system. Mitigation of a partial blockage is first priority to prevent a potential SSO. Vactor truck staff documents footage location of a blockage from the downstream manhole and uses a cage in the manhole to collect cause of blockage. After a partial blockage is mitigated, the impacted main line is video inspected by CCTV staff to ensure a free-flowing system before the Vactor truck is released from the jobsite.

**Vactor Response Protocol for Trunk and Collector Line SSO**

**IMMEDIATE ACTION:** During regular working hours, staff and a Vactor truck are immediately dispatched to the scene to clear a mainline blockage causing an SSO event. Containment and recovery crews are dispatched as needed. During off-duty hours, the standby employee responds and calls out crews as needed. A supervisor is notified as soon as possible. An additional Vactor is dispatched for containment as needed.

**PROTOCOL:** Mitigation of a blockage is the first priority, followed by containment efforts and 100% recovery of an SSO. Debris and liquids are recovered from the affected area and returned to the sewer system. Wash downs of the affected area are contained and recovered by a Vactor. All line segments involved in the overflow are inspected by the division’s CCTV crew. Bilingual warning signs may be posted depending upon the boundaries of the spill. Notification is performed immediately after clearing the blockage and posting the affected areas. Notification is conducted in accordance with the State Water Resources Control Board’s guide for Sanitary Sewer Overflow Reduction Program, Cal OES, and the San Diego County Health Department.

**CCTV Operations Trunk and Collector Line Maintenance (described)**
**VIDEO INSPECTION (CCTV)** is the function of performing scheduled routine video inspection of the wastewater collection system utilizing mainline video inspection equipment.

This core function is performed daily by a two-man crew validating the efficiency and effectiveness of the jet-rodding program identifying pipe defects, grease, roots, and infiltration of groundwater into the system. The City utilizes the Cues GraniteNet Asset Inspection/Decision Support Software program and equipment to provide recorded video inspections, still pictures, and reports related to the collection system.

The video equipment has the ability to perform inspections from upstream manholes to downstream manholes and perform multiple inspections from one location. The primary operator is stationed in the vehicle operating the equipment and software program performing a visual inspection and condition of pipe, noting the findings on the recorded video. The secondary operator is located in the rear of the vehicle at the accessed manhole. He will lower the camera into position in the mainline and communicate with the primary operator during operation. After the video inspection is completed, the secondary operator will safely remove the camera from the manhole using a series of extension poles with a hook attached to the end, clean the camera, and secure it in the vehicle for transport. Due to the depth of manholes and the weight of the video equipment, proper lifting techniques shall be followed to protect employees.

The video inspection performed for the day is loaded onto the City server at the end of each shift. The stored information shall be categorized in a manner to be easily accessed by City staff for review and potential CIP projects.

**CCTV Response Protocol for Trunk and Collector Line Blockages**

**PROTOCOL:** During the course of routine collection system CCTV inspection, staff can detect trunk or collector line blockages. The Wastewater Utilities Supervisor and necessary response staff are contacted for blockage mitigation, the Vactor truck and other wastewater staff. Mitigation of a blockage is first priority to prevent a potential SSO. Once the appropriate staff has mitigated the main line blockage, CCTV staff performs a comprehensive inspection of the impacted main line segment ensuring a free-flowing system. Documentation shall include identifying the cause of the SSO, i.e., roots, debris, silt, grease or defect.

**CCTV Response Protocol for Trunk and Collector Line Partial Blockages**
**PROTOCOL:** During the course of routine collection system CCTV inspection, staff can detect trunk or collector line partial blockages. The Wastewater Utilities Supervisor and necessary response staff are contacted for blockage mitigation, Vactor truck and other wastewater staff. Mitigation of a blockage is first priority to prevent a potential SSO. Once the appropriate staff has mitigated the main line blockage, CCTV staff performs a comprehensive inspection of the impacted main line segment ensuring a free-flowing system. Documentation shall include identifying the cause of the SSO, i.e., roots, debris, silt, grease or defect.

**CCTV Response Protocol for identifying lateral blockages during routine mainline inspections.**

**PROTOCOL:** CCTV staff identifying a lateral connection blockage during routine mainline segment video inspections will identify the location of the lateral in the street or easement associate the lateral with a structure and try to locate the property line cleanout. Once the property line cleanout is located, an email including a photo of the issue is sent to the Wastewater Utilities Supervisor for review and coordination with Utility staff to respond and mitigate the issue. If no property line cleanout is found CCTV staff try and contact occupant of the structure or leave the Wastewater Utilities Supervisor’s business card, boiler plate letter explaining their findings and public outreach pamphlet explaining the City policy regarding lateral maintenance. In addition, an email and attached photo are sent to the Wastewater Utilities Supervisor to document and to use in discussion with property owner if they contact the city for further information.

**CCTV Response Protocol for Trunk and Collector Line SSO**

**PROTOCOL:** CCTV staff is called out to all SSO’s to perform comprehensive video documentation of the impacted mainline segments and to ensure a free-flowing system. Documentation shall include identifying the cause of the SSO, i.e., roots, debris, silt, grease or defect.

**Utility Work, Annual Lateral Assessments, Annual Manhole Inspections, Easements, and Customer Care**

**UTILITY CREW** is a two-man function performing multiple scheduled and unscheduled core functions:

- **Annual Lateral Assessment:** Staff is assigned lateral assessments each month based on lateral documentation from CaretGraph from the previous year. An assessment is performed to determine condition of the lateral and if additional
action is required. If action is required, the lateral is either cable or jet-rodled and an inspection is performed. If the lateral inspection identifies a rating of 40 or less it is schedule on an annual basis to verify condition and determine any additional course of action; root foaming, excavation repair, or lining.

- **Annual Manhole Inspections:** Staff is assigned manhole inspection each month based on manhole documentation from CarteGraph from the previous year. An inspection is performed to determine condition of the manhole and if additional action is required. If action is required and manhole inspection identifies a rating of 40 or less it is scheduled on an annual basis to verify condition and determine any additional course of action; manhole lining.

- **Customer Care:** Staff responds to and investigates and mitigates customer inquiries, complaints and concerns related to property-line cleanouts, operational procedures, policies and odor complaints.

- **Lateral Blockage:** Staff responds to and investigates and mitigates possible lateral blockages reported by customers. Staff verifies the location of an existing property-line cleanout and determines whether the issue is City of Poway or private property owner responsibility.

- **Smoke Testing:** Staff performs testing of the infrastructure by introducing smoke into the collection system via manholes to detect inflow, infiltration, and to verify legal and non-legal connections.

- **Raising Manholes:** Staff raises manholes to grade in roadways and on easements to ensure compliance with Street and Highway Standards and access for general maintenance.

- **Easement Maintenance:** Staff verifies location and width of easement utilizing available resources. Staff locates manholes, dead-end cleanouts, and performs vegetation trimming and clearance as necessary to ensure equipment access for maintenance.

- **Installing Property-Line Cleanouts:** Staff will perform visual inspection and install the new No. 3 cleanout box, lid, plug and adaptor on new connections.

- **Traffic Control:** Staff sets up and maintains approved traffic control for various projects including Monthly and Quarterly High Frequency Flushing locations.

- **Emergency Responders:** Wastewater staff are the initial responders to all emergency calls, lateral blockages, and Sanitary Sewer Overflows (SSO’s).
SEWAGE LIFT STATIONS

The City of Poway has five sewer lift stations for sewage pumping:

- St. Andrews Lift Station (LS-2) completed:

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<tr>
<th>HP</th>
<th>Pump GPM</th>
<th># of Pumps</th>
<th>Force Main Diameter</th>
<th>Force Main Length</th>
<th>Force Main Material</th>
<th>Pump Manufacturer</th>
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- Highlands Ranch Lift Station (LS-4) completed:

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- Camino Del Valle Lift Station (LS-3) completed:

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- Old Coach Lift Station (LS-1):

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- Heritage Lift Station (LS-5):

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<td>3,694 feet</td>
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Lift Station Preventive Maintenance Activities

- Daily Physical Checks: All five lift stations are inspected as per a guide list provided for each station (daily checks are accomplished Monday through Friday) as described below:

**Daily / Weekly**
1. Visually inspect station for vandalism.
2. Listen for noise, feel for vibration, and detect any odors.
3. Clean up any trash or debris.
4. View pump hours for each pump.
5. Run each pump by hand / MANUAL control and watch level control go up and down to ensure pumps are operating properly.
6. Check sump pumps operation.
7. Inspect the pumps to see if they are going backwards; if so, clean check valves.
8. Place pump controls back in AUTO position prior to leaving station.
9. Visually inspect emergency generator (if equipped) for fuel and ability to operate properly.
10. Test all panel lights and change as needed to ensure proper operation.
11. Report all problems with the lift station in CartéGraph.
12. Lock up station, including exterior power panels if required, prior to leaving.

**Monthly**
1. Open up wet well and visually inspect the pumping of each pump.
2. Completely pump down wet well to lowest point; make a visual inspection.
3. Hose the wet well down during the pump down process.
4. Inspect wet well for excessive grease buildup on surface; clean when needed.
5. Check wet well floats for rag buildup; clean as needed.
6. Visually check pumps and piping for defects.
7. Power backup generator and check fuel level, battery and general condition; check transfer switch.
8. Perform end-of-month reads.
Quarterly
1. Clean the wet wells.
2. Clean Grinders (if equipped)

Summary
- **Electronic Monitoring:** Stations are real-time monitored (SCADA) via telemetry or radio lines. All stations are equipped with a HIGH wet well, PUMP FAILURE, and DRY well flooding alarms. In addition, all stations are equipped with override controls. Sewer lift stations are currently undergoing improvements adding auxiliary power via generators to mitigate power failure.

- **Weekly Physical Checks:** Detailed dry and wet well inspection.

- **Monthly Physical Checks:** Test all components (pumps, valves, alarms, bubblers) and verify all alarm system set points.

- **Record Efforts:** Document discrepancies using CartéGraph maintenance software.

- **Staff Monitoring:** Water Treatment Plant staff monitors lift stations around the clock through real-time SCADA displays maintained at the water treatment plant.

REHABILITATION AND REPLACEMENT PROGRAM

(c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short- and long-term rehabilitation actions to address each deficiency. The program should include regular visual and CTTV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.

The City plans to budget for $250,000 per fiscal year over the next 5-years for rehabilitation and replacement of wastewater system deficiencies. The Development Services Department manages the design and construction of the program. Funding is allocated annually based upon program needs and available...
funds. The Public Works Department systematically completes CCTV of a portion of the City’s sewer pipes each year. As deficiencies are found, the information is provided to the Development Services Department, a priority is attached to the deficiency, and it is added to the list as either a short-term immediate project or long-term future project. Each year, the two departments coordinate to determine the project scope for that year.

The City continues in its effort to mitigate infiltration by identifying manholes requiring rehabilitation. Fiscal year 17/18 Manhole Rehabilitation project consisted of rehabilitation (99) manholes for a sum of $211,960. Sewer Manhole Rehabilitation CIP funding is identified as SWR0002 with a current available balance of $183,961 for future manhole rehabilitation.

(d) Staff is provided Sewer System Operations and Maintenance, SSMP AND OERP training various times throughout the year. All training is documented in the CarteGraph OMS program. Contractors are provided mandatory SSMP/OERP training during pre-construction meetings prior to start of project to verify and acknowledge that they have read and understand the documents, contact information, and reporting procedures. Pre-construction training notes are stored in project files at Development Services.

(e) Provide equipment and replacement parts inventories, including identification of critical replacement parts. Vactor, CTTV, lift stations, etc. (Section 4e-1)
a. Collection System Map

The City of Poway’s GIS application currently has sewer pipes and manholes. They were converted into the GIS files and we currently use them on our internal GIS Web Application (PowayGIS). The City released an RFP in 2009 to have its sewer facilities converted from the original engineering as-built drawings. This project was completed in 2010 and includes the scanning of these documents. The RFP included a tool to allow City staff to create field maps for use by the crews, as well as a maintenance application that allows City staff to keep the data current.

b. Resources and Budget

Enterprise Fund Financing:

The City of Poway utilizes an enterprise fund for financing its sewer utility operations. The primary source of revenue for the sewer enterprise fund is generated from user fees, which are adjusted annually under a Proposition 218 compliant process. The City utilizes a comprehensive rate model to determine the revenue requirement for sewer operations, and derive user rates that are sufficient to recover fixed and variable costs and apportion these costs equitably among sewer system users. Rate-based user fees are also the primary source for financing sewer system capital improvements (see CIP Information) and infrastructure rehabilitation. The sewer enterprise fund is included in the City of Poway annual audit, performed by an independent certified firm, to ensure adherence to GAAP and GASB standards as well as the City’s formally adopted Financial Principles.

Operating Budget and Expenditure Plan:

Each year, a Comprehensive Financial Program is adopted by public hearing of the City Council of the City of Poway. The adopted Financial Program authorizes the appropriation of funds for all City operating budgets, including the general, enterprise, and special funds. The sewer enterprise fund includes two cost centers for sewer operations, comprised of Wastewater Pumping and Disposal, and Wastewater Collection Maintenance. The budget expenditure activity detail for these costs centers is included with this submittal.

The Financial Program also establishes the basis for the allocation of administrative and indirect costs, which are included in the appropriation of sewer funds. The adopted cost allocation, or Budget by Fund (pages xviii – xix of the Financial Program), is also included with this submittal.
Capital Improvement Plan Requirement:

The City of Poway manages public infrastructure and facilities under a formal multi-year Capital Improvement Program. Major updates to the program are completed every 5 years, and program adjustments are adopted annually as needed. General oversight of the Program is provided by the City Manager, and CIP Administration is managed under the City’s Capital Improvement Administration division, comprised of project management, engineering and administrative staff. Technical assistance and financial administration is provided by Administrative Services.

The current group of capital improvements for the sewer system is based on the findings of a comprehensive sewer system master plan. The plan identified improvements necessary to meet ultimate capacity requirements based on the City of Poway General Plan. Funds are also appropriated each year for as-needed rehabilitation projects.
This map provided without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. This map has been prepared for descriptive purposes only and its accuracy cannot be guaranteed.
This map provided without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. This map has been prepared for descriptive purposes only and its accuracy cannot be guaranteed.
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| 42     | Segment Total Count | 10262 | Footage Total |

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| 44 Segment Total Count | 11379.01 Footage Total |

SECTION 4b-2
## 2019/2020 CIP SEWER PROJECTS 5 YEAR PLAN WORKSHEET

### 18/19 Ongoing Projects
- **Sewer Line Repair Replace 14/15 (Pomerado at Stone Canyon)**: $745,000 (previously funded)
- **Martincott Road Sewer Upsize (MP CAP-01)**: $2,300,000 (previously funded)
- **Sewer Line Repair Replace 16/17 (Exposed Sewer east of Martincott)**: $300,000 (design previously funded)
- **Butterfield Trail Sewer Upsize (MP CAP-02)**: $1,300,000 (previously funded; delayed to 2020)

### Year Proposed Projects

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<td>22/23</td>
<td>Camino Del Valle Lift Station Upgrades (MP CAP-11)</td>
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<tr>
<td>23/24</td>
<td>Manhole Rehabilitation 23/24</td>
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<tr>
<td>23/24</td>
<td>Sewer Line Repair Replace 23/24</td>
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<tr>
<td>23/24</td>
<td>Old Coach Lift Station Capacity Upgrade (MP CAP-10)</td>
<td>$660,000</td>
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<tr>
<td>23/24</td>
<td>Replace generator at Old Coach Lift Station</td>
<td>$125,000</td>
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### 5 Year Total
- **Annual Appropriation**: $1,185,000
- **Average/year**: $237,000

### Long Term
- **Annual Sewer Line Repair Replace Project**: $250,000 per year
- **Annual Manhole Rehabilitation**: $150,000 per year
- **Lake Poway Road/Espola Road Sewer Main Replace/Upgrade**: $340,000
- **Powers Road Sewer Upsize-Pomerado to Oak Knoll (MP CAP-03)**: $970,000
- **Rios Road Sewer Replacement (MP CAP-05)**: $1,403,000
- **Powers Road Sewer Replacement (MP CAP-06)**: $452,000
- **Bowron Road Sewer Replacement (MP CAP-07)**: $382,000
- **Community Road Sewer Replacement (MP CAP-08)**: $878,000
- **Neddick Avenue Sewer Replacement (MP CAP-09)**: $85,000
- **Install Scrubber Systems at Various Lift Stations**: $100,000
- **5 Lift Stations Rehab/Replace**: tbd
- **HAARF Capacity Relief Project**: tbd
- **Ductile Iron Pomerado Sewer Replacement**: tbd
# Wastewater Division Critical Parts List

*Updated May 2019*

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Spare Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jet Rodder</td>
<td>2012 International Vactor Jet Rodder 600' of hose</td>
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<tr>
<td></td>
<td>2019 Detroit Diesel GAPVAX Jet Rodder 600' of hose, extra 600' of hose on spool in warehouse.</td>
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<tr>
<td>Cable Rodder</td>
<td>1065 Spartin Rodder 75' of cable</td>
</tr>
<tr>
<td></td>
<td>2001 Spartin Rodder 75' of cable, Two extra 75' spools of cable in storage garage.</td>
</tr>
<tr>
<td>Generator</td>
<td>EU3000is Honda Generator</td>
</tr>
<tr>
<td></td>
<td>Backup 2000 Honda Generator</td>
</tr>
<tr>
<td>Pump</td>
<td>2001 Wacker PT3A Pump</td>
</tr>
<tr>
<td></td>
<td>Backup 2001 Wacker PT3A Pump</td>
</tr>
<tr>
<td>Pump</td>
<td>ML23P Pump</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Trailer Jetter</td>
<td>2007 U.S. Jetting Trailer Jetter</td>
</tr>
<tr>
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</tr>
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<td>Easement Crawler</td>
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<tr>
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<td>Parts available through Plumbers Depot</td>
</tr>
<tr>
<td>Station</td>
<td>Spare Parts</td>
</tr>
<tr>
<td>---------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>LS-1</td>
<td>Spare pump and motor</td>
</tr>
<tr>
<td>LS-2</td>
<td>Spare pump/motor budgeted for FY 19/20 purchase</td>
</tr>
<tr>
<td>LS-3</td>
<td>Spare pump and motor</td>
</tr>
<tr>
<td>LS-4</td>
<td>Spare pump and motor</td>
</tr>
<tr>
<td>LS-5</td>
<td>Spare pump and motor</td>
</tr>
<tr>
<td>Equipment</td>
<td>Spare Parts</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Jet Rodder</td>
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<tr>
<td></td>
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<td></td>
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<tr>
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<td>Backup 2001 Wacker PT3A Pump</td>
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<td>MI23P Pump</td>
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<tr>
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<tr>
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<tr>
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<td>-------------------------------------------------</td>
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<tr>
<td>LS-1</td>
<td>Spare pump and motor</td>
</tr>
<tr>
<td>LS-2</td>
<td>Spare pump/motor budgeted for FY 19/20 purchase</td>
</tr>
<tr>
<td>LS-3</td>
<td>Spare pump and motor</td>
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<td>LS-4</td>
<td>Spare pump and motor</td>
</tr>
<tr>
<td>LS-5</td>
<td>Spare pump and motor</td>
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MATERIALS OF CONSTRUCTION

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QTY</th>
<th>D.I.</th>
<th>S.S.</th>
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</thead>
<tbody>
<tr>
<td>1 VOLUTE</td>
<td>1</td>
<td>D.I.</td>
<td>316 S.S.</td>
</tr>
<tr>
<td>2 VOLUTE GASKET</td>
<td></td>
<td></td>
<td>GORTEX</td>
</tr>
<tr>
<td>2.1 WEAR PLATE</td>
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<td>D.I.</td>
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</tr>
<tr>
<td>3.2 SEAL PLATE</td>
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<td>D.I.</td>
<td>316 S.S.</td>
</tr>
<tr>
<td>4 POWER FRAME</td>
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<td>C.I.</td>
<td>C.I.</td>
</tr>
<tr>
<td>6.1 MECHANICAL SEAL</td>
<td>1</td>
<td>T. CARB.</td>
<td>TFELOM</td>
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<tr>
<td>8 SLINGER</td>
<td>1</td>
<td>PVC</td>
<td>PVC</td>
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<tr>
<td>9 BEARING CAP</td>
<td>1</td>
<td>C.I.</td>
<td>C.I.</td>
</tr>
<tr>
<td>10 GREASE/OIL SEAL</td>
<td>1</td>
<td>RUBBER</td>
<td>RUBBER</td>
</tr>
<tr>
<td>11 INBOARD BEARING</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 OUTBOARD BEARING</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 BEARING CAP</td>
<td>1</td>
<td>C.I.</td>
<td>C.I.</td>
</tr>
<tr>
<td>14 GREASE FITTING</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>15 GREASE/OIL SEAL</td>
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<td>RUBBER</td>
<td>RUBBER</td>
</tr>
<tr>
<td>16 SHAFT</td>
<td>1</td>
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<tr>
<td>17 SNAP RING</td>
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<tr>
<td>18 &quot;0&quot; RING (BEARING CAP)</td>
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<td>BUNA-N</td>
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<tr>
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<td>23 DRAIN</td>
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<td>27 IMPELLER WASHER</td>
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<tr>
<td>28.1 IMPELLER BOLT/WASHER</td>
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<td>NHARD</td>
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<td>29 IMPELLER KEY</td>
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<td>31 IMPELLER SIDE CASE BOLT</td>
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<td>32 SUCTION ELBOW</td>
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<td>33 SUCTION ELBOW BOLT</td>
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<td>304 S.S.</td>
</tr>
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<td>35 HAND &quot;HOLE&quot; GASKET</td>
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<td>NEOPRENE</td>
<td>NEOPRENE</td>
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<td>36 HAND HOLE COVER BOLT</td>
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<td>316 S.S.</td>
</tr>
<tr>
<td>37 PUMP STAND</td>
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</tr>
<tr>
<td>38 PUMP BASE BOLT</td>
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<td>304 S.S.</td>
</tr>
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<td>39 MOTOR COUPLING KEY</td>
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<tr>
<td>49 GREASE RELIEF FITTING</td>
<td>2</td>
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<td>STEEL</td>
</tr>
</tbody>
</table>

NOTES:
1- IMPELLER WEAR PLATES ARE AVAILABLE FOR ALL VERTICAL PUMPS AT EXTRA COST.
2- PUMPS WITH 30 HP AND ABOVE ARE SUPPLIED WITH PLATED GRADE 8 BOLT.

DATE: 2/14/89
FILE NAME: 98229-2
DRAWN BY: BRAD J. MANN
REV. BY: B.K.B.
REV. DATE: 10/15/98

100% RECESSSED IMPELLER VORTEX PUMP MODEL VDPL
.5 NPT BRASS ELBOW & CLOSE NIPPLE-VENT ONLY

.5 NPT BRASS ELBOW & CLOSE NIPPLE-VENT OR WATER FLUSH ONLY

ITEM DESCRIPTION
NO.
1 Volute
2 CASE GASKET
2.1 WEAR PLATE
3.2 SEAL PLATE (4)
4 POWER FRAME
6 MECHANICAL SEAL
7 GLAND (6)
7A GLAND GASKET SEAL
8 SLINGER
9 BEARING CAP
10 OIL SEAL
11 INBOARD BEARING
12 SCREW CAP CAP SCREW
13 SNAP RING
14 STUO. LIT, WASHER
15 SHAFT SLEEVE (1)
16 IMPELLER
26 IMB BOLT/WASHER
29 IMPELLER KEY
30 STAND/SAVING COVER BOLT
31 CASE BOLT
32 SUCTION ELBOW
33 SUCTION ELBOW BOLT (2)
37 PUMP STAND
41 SUCTION ELBOW GASKET
49 RELIEF Fitting PLATED STEEL PLATED STEEL

DUCTILE IRON CONSTRUCTION
316 S.S. CONSTRUCTION

(6) SEAL MATERIALS OF CONSTRUCTION VARY.
(6) STAINLESS PUMPS USE A LOCK COLLAR IN LIGE OF A SNAP R.
(4) UNITS WITH SINGLE INSIDE MECHANICAL SEALS HAVE A 2" HOUSING IN LIEU OF A STUFFING BOX.
(3) NOT USED ON SOME MODELS.
(2) ALL FASTENERS ARE 304 OR 316 S.S.
(1) 420 S.S. HARDENED TO 450 BRN. MINIMUM.

NOTES:

DATE:
11/6/99
FILE NAME:
90229-1
DRAWN BY:
BRAD J. MANN
CHECKED BY:
JL
REV. BY:
B.K.B.
REV. DATE:
10/15/98

MECHANICAL SEAL DETAILS
FOR CAST IRON AND STAINLESS STEEL PUMPS WITH WEAR PLATE
Wastewater Air Release Valve
Models 48A, 49A

Operation, Maintenance and Installation Manual
INTRODUCTION
This manual will provide you with the information to properly install and maintain the valve to ensure a long service life. The Wastewater Air Release Valve has been designed with stainless steel trim to give years of trouble-free operation but regular maintenance is recommended for valves subject to fluids containing suspended solids or greases/oils. The Wastewater Air Release Valve is typically mounted at the high points in a piping system to automatically remove pockets of air as they accumulate. The valve can also be used to slowly release air in tanks and pump casings.

CAUTION: This valve is not intended for fuel liquids service.

The valve is a float-operated, resilient-seated valve designed to handle waste fluids. The valve may be equipped with backwash accessories. The Size, Maximum Working Pressure and Model No. are stamped on the nameplate for reference.

RECEIVING AND STORAGE
Inspect valves upon receipt for damage in shipment. Handle all valves carefully without dropping. Valves should remain boxed, clean and dry until installed to prevent weather related damage. For long term storage greater than six months, the valve must remain in the box and stored indoors. Do not expose valve to sunlight or ozone for any extended period.

DESCRIPTION OF OPERATION
The Wastewater Air Release Valve is designed to automatically remove air pockets at the high points in a piping system. The valve, as shipped, is a normally open valve and will slowly vent air through the top orifice. As fluid enters the valve, the float will rise, closing the orifice. As air accumulates in the piping system and enters the valve, the float drops allowing the venting orifice to open.

The valve can be equipped with optional external valves and hose connections for backwashing. These items are packaged separately.

FIGURE 1. WASTEWATER AIR RELEASE VALVE

The lever mechanism provides mechanical advantage for the float. During system operation, the pipeline pressure exerts a strong upward force on the sealing component, the orifice button. The lever mechanism magnifies the weight of the float so that the orifice will open under high pipeline pressures. Additional ports are provided for flushing, testing and draining purposes.
INSTALLATION
The installation of the valve is important for its proper operation. Valves must be installed at the system high points in the vertical position with the inlet down. For pipeline service, a vault with freeze protection, adequate screened venting, and drainage should be provided. During closure, some fluid discharge will occur so vent lines should extend to an open drain area in plant service. A shut-off valve should be installed below the valve in the event servicing is required.

CAUTION: Install valve with "INLET" port down or leakage will occur.

VALVE CONSTRUCTION
The standard Wastewater Air Release Valve body and cover are cast iron. See the specific Materials List submitted for the order if other than standard cast iron construction. All internal components are stainless steel with the exception of the orifice button which is resilient. The general details of construction are illustrated in Figure 2. The body (1) is threaded for connection to the pipeline. The seat (4) is threaded into the cast cover (2).

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>2</td>
<td>Cover</td>
<td>Cast Iron</td>
</tr>
<tr>
<td>3</td>
<td>Leverage Frame*</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>4</td>
<td>Seat*</td>
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<tr>
<td>5</td>
<td>Float*</td>
<td>Stainless Steel</td>
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<tr>
<td>6</td>
<td>Gasket*</td>
<td>Non-Asbestos</td>
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<td>7</td>
<td>Cover Bolt</td>
<td>Alloy Steel</td>
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<td>Retaining Screw*</td>
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<tr>
<td>10</td>
<td>Float Arm*</td>
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</tr>
<tr>
<td>11</td>
<td>Orifice Button*</td>
<td>Buna-N</td>
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<tr>
<td>12</td>
<td>Pivot Pin*</td>
<td>Stainless Steel</td>
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<tr>
<td>13</td>
<td>Retaining Ring*</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>14</td>
<td>Pipe Plug</td>
<td>Iron</td>
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<td>Float Retainer*</td>
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<tr>
<td>19</td>
<td>Link*</td>
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<tr>
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<td>Extension Shaft*</td>
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<tr>
<td>21</td>
<td>Locating Pin</td>
<td>Stainless Steel</td>
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<tr>
<td>22</td>
<td>Orifice Button Arm*</td>
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<td>28</td>
<td>Pipe Plug</td>
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</tr>
<tr>
<td>36</td>
<td>Pipe Plug</td>
<td>Malleable Iron</td>
</tr>
</tbody>
</table>

*RECOMMENDED REPAIR PART KIT

TABLE 1. LIST OF PARTS
Option Backwash Assembly
Refer to the drawing on page 3 for the correct piping arrangement. Please note the each Kit contains extra fittings such as reducer bushings that may not be needed for your valve. The fittings should be installed with a standard pipe compound such as Oatey White Thread Sealant (supplied) or sealing tape. The quick disconnect fittings are designed for easy push and turn connections to a clean water source.

<table>
<thead>
<tr>
<th>Type</th>
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<td>48ABW, 48A.4BW</td>
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<td>49ABW, 49A.4BW</td>
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<td></td>
<td>4&quot;</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>49A.3BW, 49A.6BW</td>
</tr>
</tbody>
</table>

MAINTENANCE
The Wastewater Air Release Valve should be scheduled for regular inspection on an annual basis. Based on experience in service, a more frequent backwash regimen may be desirable to minimize leakage.

WARNING: Wear safety glasses to look into the valve outlet after installation. Released fluid can cause injury.

Inspection: Periodic inspection to verify operation can be performed. The valve should not leak fluid at any connection or through the outlet. If there is leakage through the outlet, perform a backwash procedure on the valve. Check to see that air is being released by cracking open the lower drain valve. If a large amount of air is released from the drain valve, then the main valve may be clogged and cleaning or a backwash procedure should be performed.

Lubrication: The Wastewater Air Release valve is a self-contained automatic valve and does not require and lubrication to enhance its operation.

Tools: No special tools are needed to maintain or repair the valve. The valve can be equipped with backwash valves and hoses for ease of backwashing.

Backwash Procedure: In order to properly backwash the valve, a ½" clean water supply of at least 30 psi is needed. This supply should be connected to the rubber hose with quick disconnect couplings as provided with the wastewater valve and shown in Figure 3.

1. Pipe valve B to a drain prior to backwashing.
2. Close inlet valve A.
3. Open valve B.
4. Connect water supply to E and supply water for 3 minutes to flush seat and mechanism area.
5. Re-connect water supply to C and open valve D to wash the valve body for 1 minute.
6. Close valves D and B.
7. Slowly open valve A to place unit back in service.
TROUBLESHOOTING
Several problems and solutions are presented below to assist you in troubleshooting the valve assembly in an efficient manner.

- **Leakage at Bottom Connection:** Tighten valve threaded connection. If leak persists, remove valve and seal threads with Teflon* sealant.
- **Leakage at Cover:** Tighten bolts per Table 2, replace gasket.
- **Valve Leaks when Closed:** Backwash valve to remove debris. Disassemble and inspect seat, orifice button, and float. NOTE: Many floats contain sand for weight but if water is detected, replace float.
- **Valve not Venting Air:** Check that operating pressure does not exceed Working Pressure on nameplate. Backwash valve.

DISASSEMBLY
The valve can be disassembled without removing it from the pipeline. Or for convenience, the valve can be removed from the line. All work on the valve should be performed by a skilled mechanic with proper tools. No special tools are required.

**WARNING:** The valve must be drained before removing the cover or pressure may be released causing injury.

1. Close inlet shut-off valve. Open drain valve or remove drain plug. Remove the cover bolts (7) on the top cover.
2. Pry cover (2) loose and lift off valve body.
3. Remove the 2 retainer rings (13) and pivot pins (12) that pass through the lever frame (3). The float (5) and linkage will be free from the cover. Disconnect float from lever (10).

DISASSEMBLY (Cont'd)
4. To remove lever frame (3), remove two roundhead fasteners (8). Rotate seat (4) counterclockwise to remove.
5. Remove locknut (18) and orifice button (11) from orifice button arm (22).
6. Clean and inspect parts. Note: some floats contain sand for extra weight; if water is detected, replace float. Replace worn parts as necessary.

REASSEMBLY
All parts must be cleaned and gasket surfaces should be cleaned with a stiff wire brush in the direction of the serrations or machine marks. Worn parts, gaskets and seals should be replaced during reassembly. Refer to Figure 2 on page 2.

1. Apply Loctite PST thread sealant to seat (4) and assemble to cover with maximum torque of 10 ft-lbs; DO NOT OVER-TORQUE.
2. Assemble lever frame (3) to cover over locating pin (21) in cover. Secure with screws (8) and washers (30).
3. Install new orifice button (11) flush to arm (22). Assemble lockwasher (34) and locknut (18) over orifice button but do not tighten.
4. Connect arms (10 & 22) and assemble to lever frame (3) with four pivot pins (12) and retaining rings (13); rings should snap over pins.
5. Adjust orifice button (11) so that orifice button arm (22) slopes away from cover about 1/16” when resting gently against seat (4). Secure button by tightening lockwasher (34) and nut (18).
6. Attach float (5) and guide shaft (20) by installing last pivot pin (12) into lever frame (3). Float should move freely pressing the orifice button (11) against the seat (4) when pushed upward. Verify that all retainer rings (13) are properly secured.
**REASSEMBLY (Cont'd)**

7. Lay new cover gasket on clean surface. Assemble gasket (6) and cover (2) over bolt holes in body (1).

8. Insert lubricated bolts (7) and tighten to the torques listed in Table 2.

9. Place valve back in service. Refer to the installation instructions on page 2. Slowly open inlet isolation valve.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Bolt Size</th>
<th>Torque (ft-lbs)</th>
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<tbody>
<tr>
<td>48A, 48A.2</td>
<td>7/16&quot;</td>
<td>30</td>
</tr>
<tr>
<td>48A.4, 48A.5</td>
<td>1/2&quot;</td>
<td>45</td>
</tr>
</tbody>
</table>

**TABLE 2. VALVE COVER BOLT TORQUES**

**PARTS AND SERVICE**

Parts and service are available from your local representative or the factory. Make note of the valve Size and Model No. located on the valve nameplate and contact:

Val-Matic Valve and Mfg. Corp.
905 Riverside Drive
Elmhurst, IL 60126
PH: 630/941-7600
FAX: 630/941-8042

A sales representative will quote prices for parts or arrange for service as needed.

---

**LIMITED WARRANTY**

All products are warranted to be free of defects in material and workmanship for a period of one year from the date of shipment, subject to the limitations below.

If the purchaser believes a product is defective, the purchaser shall: (a) Notify the manufacturer, state the alleged defect and request permission to return the product; (b) if permission is given, return the product with transportation prepaid. If the product is accepted for return and found to be defective, the manufacturer will, at his discretion, either repair or replace the product, f.o.b. factory, within 60 days of receipt, or refund the purchase price. Other than to repair, replace or refund as described above, purchaser agrees that manufacturer shall not be liable for any loss, costs, expenses or damages of any kind arising out of the product, its use, installation or replacement, labeling, instructions, information or technical data of any kind, description of product use, sample or model, warnings or lack of any of the foregoing. NO OTHER WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, ARE MADE OR AUTHORIZED. NO AFFIRMATION OF FACT, PROMISE, DESCRIPTION OF PRODUCT OF USE OR SAMPLE OR MODEL SHALL CREATE ANY WARRANTY FROM MANUFACTURER, UNLESS SIGNED BY THE PRESIDENT OF THE MANUFACTURER. These products are not manufactured, sold or intended for personal, family or household purposes.
# Drawing Reference Numbers

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<td>3</td>
<td>Bearing Cover Plate O'Ring</td>
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<tr>
<td>4</td>
<td>Drive Shaft Head</td>
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<td>Drive Shaft O'Ring</td>
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## IMPORTANT NOTE

THE DRAWING REFERENCES SHOWN GIVE THE DESCRIPTION OF ALL THE PARTS DETAILED ON THE SECTIONAL DRAWINGS IN THIS SECTION OF THE BOOK. THEREFORE SOME OF THE REFERENCES MAY NOT BE SHOWN ON ANY ONE.
## STANDARD HARDWARE

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<td>C</td>
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<td>E</td>
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<td>F</td>
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<td>G</td>
<td>Zerk Fittings</td>
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<td>H</td>
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<td>J</td>
<td>Packing Gland Studs</td>
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<td>K</td>
<td>Gland Adjusting Nuts</td>
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**IMPORTANT NOTE**

The drawing references shown give the description of all the parts detailed on the sectional drawings in this section of the book. Therefore some of the references may not be shown on any one.

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Section 4e-1
Drawing Reference Numbers

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<td>DATUM TUBE</td>
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<td>8x25 DOWEL</td>
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<td>M16 SPRING WASHER</td>
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<td>P107</td>
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IMPORTANT NOTE:-
The drawing references shown give the description of all the parts detailed on the sectional drawings in this section of the book. Therefore some of the references may not be shown on any one.

Torque Tightening Table for Fasteners

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<tr>
<th>DESCRIPTION</th>
<th>THREAD SIZE</th>
<th>PART No.(s)</th>
<th>MAX. TIGHTENING TORQUE</th>
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<td>MOTOR MOUNT BOLT</td>
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Torque tolerances are +/- 5% of stated values.

Assembly/Re-Assembly Advice

1. Use anti-seize compound on shafts.
2. Ensure correct orientation of bearing housing drain holes.
3. When viewed from drain holes side, drive shaft is to the right.
4. Where necessary use jacking screw holes to remove difficult components.
5. Observe the cutter stacking table guidelines below.

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<thead>
<tr>
<th>MODEL / TOOTH WIDTH</th>
<th>CUTTERS</th>
<th>SPACERS</th>
<th>START TOP</th>
<th>FINISH BOTTOM</th>
<th>CUTTERS</th>
<th>SPACERS</th>
<th>START TOP</th>
<th>FINISH BOTTOM</th>
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<tr>
<td>CT7200-W-22</td>
<td>G2</td>
<td>G2</td>
<td>29</td>
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<td>G2</td>
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<tr>
<td>(CT7200-W-02)</td>
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<td>(SPACER)</td>
<td>(CUTTER)</td>
<td>(15)</td>
<td>(15)</td>
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<td>(SPACER)</td>
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<td>Cutter</td>
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<td>G2</td>
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<td>Cutter</td>
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<td>CT7200-W-02</td>
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Sectional Arrangement
**General Arrangement**

![Diagram of a mechanical component](image)

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<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
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**FLANGES DRILLED TO ANSI B16.1 CLASS 125"**

**Drawing Number T000 99000**

Section 8, Page 1
Issued – October 2006

**Monosio®**
One Company, Unlimited Solutions

Section 4e-1
PARTS LIST

4. PUMP BRACKET
4A. BRACKET (D.E.)
8. FRAME
14. SHAFT
16. DEFLECTOR
18. LIP SEALS (2)
20. BEARING (F.E.)
21. BEARING (D.E.) (2)
35. SNAP RING
36. SHAFT KEY (D.E.)
55. MOTOR
107. SHIMS
129. LOCK NUT
129A. LOCK WASHER
147. SHAFT COUPLING
252. BREATHER
273. GREASE SHIELD
303. COUPLING SHIELD

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Section 4e-1
**SPARE PARTS PROVIDED**
for Cornell Pump Section 11212

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FLYGT SUBMERSIBLE PUMP

PARTS LIST NP 3153 SH

SERIAL NO 3153.091 0970085

ITT WATER & WASTEWATER U S A
35 NUTMEG DRIVE

TRUMBULL, CT 06611
USA
TELEPHONE NO:

Section 4e-1
**FLYGT NP 3153 SH**

**SERIAL NO:** 3153.091 0970085

**DATE:** 2009-10-28

---

**Dataplate Interpretation:**
- **A** Serial number
- **B** Product code + Number
- **C** Curve code/Propeller code
- **D** Country of origin
- **E** Product number
- **F** Additional information
- **G** Phase; Type of current; Frequency
- **H** Rated voltage
- **I** Thermal protection
- **J** Thermal class
- **K** Rated shaft power
- **L** International standard
- **M** Degree of protection
- **N** Rated current
- **O** Rated speed
- **P** Max. submergence
- **Q** Direction of rotation: L=left, R=right
- **R** Duty class
- **S** Duty factor
- **T** Product weight
- **U** Locked rotor code letter
- **V** Power factor
- **X** Max. ambient temperature
- **Y** Notified body
- **Z** Only for EN-approved Ex-products
- **Z** Read Installation Manual

(1 kg = 2.2 pound, 1 lit = 0.26 US gallon, 1 lit = 0.22 UK gallon)

**Recommended spare parts:**
- See Rec. column: **I** = Intermediate Service Kit; parts for inspection and maintenance.
- **B** = Basic Repair Kit; parts for major overhaul.

**For service:**
- Pos number 800; O-rings kit intended for Intermediate Service.
- Pos number 600; contains of a shaft seal unit, bearings and O-rings.

A complete set of tools can be ordered for repair and maintenance work; i.e. standard hand tools and special tools for seal change and hydraulic-end use.

**Order:**
- This partlist can be used as an order form by marking out the number of parts in the Qty/Order column.
- Please send or fax the form to your Flygt representative.
# FLYGT NP 3153 SH

**SERIAL NO 3153.091 0970085**

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Ordered by:

Company:..........................Ref:........................Tel:........................Date:..........................

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*) Optional
CROSS SECTION AND PARTS IDENTIFICATION DRAWING

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*NOTE: THRUST AND RADIAL BEARING TYPE DIFFER BY FRAME SIZE.

**NOT APPLICABLE TO ALL FRAMES.

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<td>177350</td>
<td>Training</td>
<td>Wastewater</td>
<td>Training for the usage of the CCTV equipment with unit 25</td>
<td></td>
<td>Completed</td>
<td>8/18/2017 0:00</td>
</tr>
<tr>
<td>177494</td>
<td>Training</td>
<td>Wastewater</td>
<td>CCTV Training with Chad</td>
<td></td>
<td>Completed</td>
<td>9/30/2017 0:00</td>
</tr>
<tr>
<td>179859</td>
<td>Training</td>
<td>Wastewater</td>
<td>Tri State</td>
<td></td>
<td>Completed</td>
<td>10/2/2017 0:00</td>
</tr>
<tr>
<td>180082</td>
<td>Training</td>
<td>Wastewater</td>
<td>Attend Mandatory Hazardous Communication training session.</td>
<td></td>
<td>Completed</td>
<td>9/28/2017 0:00</td>
</tr>
<tr>
<td>180270</td>
<td>Training</td>
<td>Wastewater</td>
<td>Attend Traffic Control Training in Ops Lounge</td>
<td>WW Crew attended Traffic Control Training</td>
<td>Completed</td>
<td>10/11/2017 0:00</td>
</tr>
<tr>
<td>180533</td>
<td>Training</td>
<td>Wastewater</td>
<td>Attend Snake awareness training in Ops Lounge</td>
<td>WW Crew attended Snake awareness training in Ops Lounge</td>
<td>Completed</td>
<td>10/11/2017 0:00</td>
</tr>
<tr>
<td>180640</td>
<td>Training</td>
<td>Wastewater</td>
<td>Training with Chad for CCTV maintenance and light repairs.</td>
<td>Explained break down and build up procedure</td>
<td>Completed</td>
<td>10/13/2017 0:00</td>
</tr>
<tr>
<td>180875</td>
<td>Training</td>
<td>Wastewater</td>
<td>Attend Environmental Safety</td>
<td></td>
<td>Completed</td>
<td>10/18/2017 0:00</td>
</tr>
<tr>
<td>182629</td>
<td>Training</td>
<td>Wastewater</td>
<td>Attend scheduled DKF Solutions Group training on Sewer Overflow and Backup Response Plans. Completed training provides certificate of completion to include 3 contact hours.</td>
<td></td>
<td>Completed</td>
<td>11/2/2017 0:00</td>
</tr>
<tr>
<td>ID</td>
<td>Type</td>
<td>Wastewater Collection</td>
<td>Topics</td>
<td>Completion Date</td>
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<tr>
<td>184226</td>
<td>Training</td>
<td>Attend SCAP Meeting/ Training in Carlsbad</td>
<td>topics on activities with different municipalities</td>
<td>Completed 12/12/2017 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>184351</td>
<td>Training</td>
<td>Attend bi-weekly Cal-OSHA safety training - A burning issue: fire prevention and safety.</td>
<td>Completed 12/18/2017 0:00</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>184371</td>
<td>Training</td>
<td>Attend JPIA Trenching and Shoring training as required.</td>
<td>Completed 3/2/2018 0:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>184551</td>
<td>Training</td>
<td>JPIA Training for Trenching And Shoring</td>
<td>Completed 12/20/2017 0:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>185117</td>
<td>Training</td>
<td>Mandatory Cal-OSHA bi-weekly safety tailgate, Dangers of using damaged jetter hose and proper repairs techniques.</td>
<td>Completed 1/9/2018 0:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>185152</td>
<td>Training</td>
<td>Attend safety training tailgate associated with new Vactor disinfectant product &quot;Vanguard San-Solution&quot; prior to use in the field.</td>
<td>Completed 1/11/2018 0:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>185728</td>
<td>Training</td>
<td>Attend Mandatory Cal-OSHA Bi-weekly safety tailgate &quot;Hands on training on use of vactor hose swage machine&quot;</td>
<td>Completed 1/23/2018 0:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>185733</td>
<td>Training</td>
<td>Train crew on swedge kit to mend piranha armor belt hose for Vactor.</td>
<td>Completed 1/24/2018 0:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>186495</td>
<td>Training</td>
<td>Attend mandatory Cal-OSHA Bi-weekly safety tailgate meeting &quot;Get a leg up on ladder safety&quot;</td>
<td>Completed 2/6/2018 0:00</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>186822</td>
<td>Training</td>
<td>Attend mandatory Cal-OSHA Bi-weekly safety tailgate &quot;Avoiding Slips and Trips&quot;</td>
<td>Completed 2/20/2018 0:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>187694</td>
<td>Training</td>
<td>Fit testing: In class Lecture and face mask fitting</td>
<td>Completed 2/28/2018 0:00</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>187898</td>
<td>Training</td>
<td>Attend mandatory Cal-OSHA bi-weekly safety tailgate &quot;Climb into confined - space safety&quot;</td>
<td>Completed 3/5/2018 0:00</td>
<td></td>
<td></td>
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<tr>
<td>189316</td>
<td>Training</td>
<td>Attend Cal-OSHA mandatory bi-weekly tailgate safety meeting &quot;OSHA Fact Sheet ,Personal Protective Equipment&quot;.</td>
<td>Completed 3/19/2018 0:00</td>
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<tr>
<td>ID</td>
<td>Location</td>
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<td>Status</td>
<td>Completed Date</td>
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<tr>
<td>189954</td>
<td>Training</td>
<td>Attend mandatory Cal-OSHA bi-weekly tailgate &quot;Safe Driving in Adverse Weather Condition&quot;</td>
<td>Completed</td>
<td>4/4/2018 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>191683</td>
<td>Training</td>
<td>Attend new backhoe equipment walk around training at Fleet.</td>
<td>Completed</td>
<td>4/12/2018 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>192112</td>
<td>Training</td>
<td>Attend new GraniteNet training. Training is a three day event. Will need to locate decent pipe to run during training. Nothing that needs cleaning. Staff learned how operate the new system</td>
<td>Completed</td>
<td>5/3/2018 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>192542</td>
<td>Training</td>
<td>Attend CSRMA Webinar sponsored by DKF Solutions &quot; Selecting the Best Method and Nozzle/Attachment for Cleaning Pipe&quot;. (1 Contact Hour) Webinar ID: 584-075-059 Webinar will start at 8:15am and conclude at 9:15am. Webinar debriefing will be conducted afterward to discuss training.</td>
<td>Completed</td>
<td>4/24/2018 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>193164</td>
<td>Training</td>
<td>Attend mandatory bi-weekly Cal-OSHA safety tailgate &quot;Safe fuel handling practices&quot;</td>
<td>Completed</td>
<td>5/14/2018 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>194488</td>
<td>Training</td>
<td>Attend mandatory Cal-OSHA bi-weekly tailgate &quot; ABC's Plus of safety: Awareness and attitude, background, and caution&quot;.</td>
<td>Completed</td>
<td>5/29/2018 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>195237</td>
<td>Training</td>
<td>Attend Cal-OSHA mandatory by-weekly tailgate safety meeting &quot;Trenching Safety&quot;</td>
<td>Completed</td>
<td>6/11/2018 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>195451</td>
<td>Training</td>
<td>Attend CDL training and DMV test. Dates as follows: Training 6/11 - 6/12 - 6/19 - 6/20 - 6/25 - 6/26 DMV Test 6/28</td>
<td>Completed</td>
<td>6/28/2018 0:00</td>
<td></td>
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</tr>
<tr>
<td>195803</td>
<td>Training</td>
<td>ERT Training- Train Barn/ Old Poway Park</td>
<td>Completed</td>
<td>3/28/2019 0:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>195913</td>
<td>Training</td>
<td>Attend Cal-OSHA mandatory bi-weekly safety tailgate meeting &quot;Using Jackhammer Safety&quot;.</td>
<td>Completed</td>
<td>6/25/2018 0:00</td>
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<tr>
<td>ID</td>
<td>Type</td>
<td>Collection</td>
<td>Description</td>
<td>Completed</td>
<td>Date</td>
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<tr>
<td>195953</td>
<td>Training</td>
<td>Wastewater</td>
<td>Attend 2 Day Backhoe Safety and Skills Training with Ron provided through Hawthorne CAT. Training is split between Classroom and Field.</td>
<td>Completed</td>
<td>6/26/2018 0:00</td>
<td></td>
</tr>
<tr>
<td>197838</td>
<td>Training</td>
<td>Wastewater</td>
<td>Attend mandatory Cal-OSHA bi-weekly safety tailgate &quot; Avoiding slips and trips&quot;.</td>
<td>Completed</td>
<td>7/25/2018 0:00</td>
<td></td>
</tr>
</tbody>
</table>
| 199298 | Training | Wastewater   | Attend JPIA Big 5 safety training at operations:  
*Hearing  
*Heat Illness  
*BBP  
*Aerosolized Transmitted Diseases  
Completed JPIA training on CPR/AED/First Aid  | Completed   | 8/15/2018 0:00 |
<p>| 199299 | Training | Wastewater   | Attend JPIA CPR/First Aid training at operations as required. Afternoon class starts at noon and ends at 4pm.                                                                                               | Completed   | 8/30/2018 0:00 |
| 199300 | Training | Wastewater   | Attend CAT Backhoe level one certification at Hawthorne Rancho Bernardo site.                                                                                                                                   | Completed   | 8/7/2018 0:00  |
| 199654 | Training | Wastewater   | Attend mandatory Cal-OSHA bi-weekly safety tailgate &quot; Carbon Monoxide: A silent killer&quot;.                                                                                                                      | Completed   | 8/20/2018 0:00 |
| 199688 | Training | Wastewater   | Attend initial training on new Gapvax equipment, training will start at fleet then move out into the field. (8am - 2pm).                                                                                      | Completed   | 8/23/2018 0:00 |
| 199907 | Training | Wastewater   | Provide training for new staff for the process of CCTV with PLC's for Ivan and Jose to perform CCTV push cam.                                                                                                 | Completed   | 8/27/2018 0:00 |
| 200021 | Training | Wastewater   | ERT training on ERT procedures                                                                                           | Completed   | 8/31/2018 0:00 |
| 200056 | Training | Wastewater   | Attend Cal-OSHA safety tailgate &quot;Reducing the threat of customer violence&quot;.                                                                                                                                    | Completed   | 9/4/2018 0:00  |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Action Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>9-10-18</td>
<td>Showed Jose how to perform one man flagging around the Vactor on Oak Knoll Rd. for Monthly HFF. I first demonstrated while explaining the techniques to use. Jose observed and then took over flagging duties while I observed his abilities. He did a great job and comprehended the skills to safely flag traffic around the Vactor.</td>
<td></td>
</tr>
<tr>
<td>9-11-18</td>
<td>Trained Vactor Crew on locating buried MH’s, root removal, and final jetting.</td>
<td></td>
</tr>
<tr>
<td>9-27-18</td>
<td>Observe Jose operate in Zone 1A. He did very well and looked confident in his abilities. I explained what heads I would use and why per Main as well as PSI and he comprehended. He adjusted well when faced with difficulties obtaining the distance needed.</td>
<td></td>
</tr>
<tr>
<td>10-30-18</td>
<td>Worked with MJ and Ivan: Reviewed jetting and easements with 535 &amp; 91. Used the GapVax in the afternoon for WW crew to familiarize ourselves with the new Combination Vacuum Jetting vehicle. Reviewed Monthly HFF procedures and T.C.</td>
<td></td>
</tr>
<tr>
<td>11-8-18</td>
<td>Explained the forced main to Ivan and Nick located on Highlands Ranch Rd. Assisted with jetting and filling.</td>
<td></td>
</tr>
</tbody>
</table>

- **Wastewater Collection**: Assist Vactor Crew with training new staff. Includes training on Traffic Control, SOP, and Mitigation.

- **Completed**: 4/10/2019 0:00
<table>
<thead>
<tr>
<th>ID</th>
<th>Date</th>
<th>Description</th>
<th>Details</th>
<th>Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>201224</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Assist with CCTV Training. Training includes Traffic Control, SOP, and Mitigation. 9-10-18 CCTV operations as well as the use of Cartegraph time recording. Ivan began operating the CPR... CPR had issues with panning head. Showed crew how to troubleshoot OZ3 head. Used test cable as well. Contacted Cues West who confirmed to me they have a loaner. They will contact Plumbers Depot to set up Loaner Agreement. 9-11-18 Trained CCTV on locating buried MH's, root removal, and final jetting. 9-27-18 Observed Ivan operate CPR, performed very well and treated the equipment well.</td>
<td>Completed 4/10/2019 0:00</td>
</tr>
<tr>
<td>201399</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>ERT Training for Facility Gate Operations.</td>
<td>Completed ERT Training for Gate Operations 9/14/2018 0:00</td>
</tr>
<tr>
<td>201413</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend &quot;Your role as disaster service worker&quot; training at city hall 8am to 9am. WW Staff attended the training at City Hall.</td>
<td>Completed 9/19/2018 0:00</td>
</tr>
<tr>
<td>201414</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend &quot;confined space training&quot; at operations. 7:30am - 11:30am. attended the Confined Space Safety review</td>
<td>Completed 9/27/2018 0:00</td>
</tr>
<tr>
<td>201748</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend mandatory Cal-OSHA bi-weekly safety tailgate &quot;Your Role as a Disaster Services Worker - Being Prepare&quot; Training is at City Hall administered by Safety Services.</td>
<td>Completed 9/19/2018 0:00</td>
</tr>
<tr>
<td>203000</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend Respiratory Training class in morning from 7:15 - 8:15am. Fit testing schedule as follows: 9:00 T. Zaragoza 9:15 Chad Fried/Amjad Mohamad/Jose Godinez 9:30 Ivan Martinez/Nick Maxey</td>
<td>Completed SCBA Fit Testing and Training in O 10/15/2018 0:00</td>
</tr>
<tr>
<td>ID</td>
<td>Type</td>
<td>Category</td>
<td>Description</td>
<td>Completed Date</td>
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<tr>
<td>204971</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend scheduled SCBA physical at Sharp Rees-Stealy Rancho Bernardo Occupational Medicine 16899 West Bernardo Dr. Jose Godinez - Thursday 10/11/18 @ 1:45pm Ivan Martinez - Monday 10/15/18 @ 1:15pm. I have passed the test!</td>
<td>10/11/2018 0:00</td>
</tr>
<tr>
<td>205196</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend JPIA training : Asbestos/Lead, Hazardous waste, and NPDES as required. Training is at Operations November 6th 7:30am - 11:30am.</td>
<td>11/6/2018 0:00</td>
</tr>
<tr>
<td>205305</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend Gap Vaxs training at Fleet. Kirkham as well as at Crosthwaite. Hands on training.</td>
<td>10/24/2018 0:00</td>
</tr>
<tr>
<td>205532</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>ERT Training on mechanical rodding. ERT training</td>
<td>10/26/2018 0:00</td>
</tr>
<tr>
<td>206081</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend Cal-OSHA bi-weekly safety tailgate meeting &quot;Biohazards and Worker Safety&quot;</td>
<td>11/13/2018 0:00</td>
</tr>
<tr>
<td>212334</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend Cal-OSHA Mandatory by-weekly safety meeting &quot;Identify, Treat, and Prevent Carpal Tunnel Syndrome&quot;.</td>
<td>11/27/2018 0:00</td>
</tr>
<tr>
<td>212782</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Train new employee. Go over the Vactor's S.O.P. Practice jetting procedures. supervisor provide staff overview of wastewater collection system utilizing map of system to identify: sewer lift stations * flows to and from San Diego to include metering stations * Locations of sewer trunk lines and direction of flows</td>
<td>12/3/2018 0:00</td>
</tr>
<tr>
<td>212964</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend &quot; Collection Systems Overview&quot; training at Operations as required.</td>
<td>12/6/2018 0:00</td>
</tr>
<tr>
<td>213228</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend &quot;Intro to Collection Systems O&amp;M&quot; Webinar at operations lounge 8:15am - 9:15am. if attended webinar and discussed webinar at Kirkham.</td>
<td>12/13/2018 0:00</td>
</tr>
<tr>
<td>213230</td>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Attend Employee Self Service (ESS) Training at operations lounge 7:30am - 9:00am.</td>
<td>1/9/2019 0:00</td>
</tr>
<tr>
<td>Training</td>
<td>Wastewater Collection</td>
<td>Task Description</td>
<td>Date Completed</td>
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<tr>
<td>213252</td>
<td>Training</td>
<td>Attend Radio use training at PW Operations lounge morning session 7:30am - 11:30am.</td>
<td>Completed 12/18/2018 0:00</td>
<td></td>
</tr>
<tr>
<td>213564</td>
<td>Training</td>
<td>Cartegraph Training for Utility Crew</td>
<td>Completed 12/27/2018 0:00</td>
<td></td>
</tr>
<tr>
<td>213777</td>
<td>Training</td>
<td>Attend Cal-OSHA mandatory by-weekly safety meeting &quot;Climb into confined-space safety&quot;.</td>
<td>Completed 1/7/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>213795</td>
<td>Training</td>
<td>Attend CLD training. Use this task for all time associated with training.</td>
<td>Completed 4/8/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>213865</td>
<td>Training</td>
<td>Training new hire on CCTV</td>
<td>Completed 1/31/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>214586</td>
<td>Training</td>
<td>Attend Cal-OSHA bi-weekly safety tailgate &quot;Be prepared for an emergency&quot;.</td>
<td>Completed 1/22/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>215198</td>
<td>Training</td>
<td>Train Vernon on Cartegraph Data entry for Utilities as well as Push Cam Video Uploading.</td>
<td>Completed 1/31/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>215557</td>
<td>Training</td>
<td>Training Vernon with jet rodding and Cartegraph.</td>
<td>Completed 2/12/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>215752</td>
<td>Training</td>
<td>Training Vernon on unit 7 jet rodding.</td>
<td>Completed 3/4/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>215912</td>
<td>Training</td>
<td>Attend Cal-OSHA bi-weekly safety tailgate meeting :Cutting pipe safely with powersaws&quot;.</td>
<td>Completed 2/21/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>216192</td>
<td>Training</td>
<td>ADS Environmental ECHO Flow Monitor Demonstration in Ops Lounge</td>
<td>Completed 2/27/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>216312</td>
<td>Training</td>
<td>Attend Cal-OSHA &quot;Don't get in a bind with a backhoe&quot; bi-weekly training.</td>
<td>Completed 3/4/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>216937</td>
<td>Training</td>
<td>Attend Safety Rodeo at Crosthwaite Crosthwaite Material Yard. MJ was a demonstrator.</td>
<td>Completed 3/14/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>216989</td>
<td>Training</td>
<td>Attend Cal-OSHA bi-weekly tailgate &quot;Stepladder safety&quot;</td>
<td>Completed 3/21/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>221066</td>
<td>Training</td>
<td>Training with supervisor on mark out on Pomerado and Stone Canyon</td>
<td>Completed 3/26/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>221744</td>
<td>Training</td>
<td>Attend training in field to install and set up new ADS ECHO monitoring device in manhole xx-xxx-SM.</td>
<td>Completed 4/10/2019 0:00</td>
<td></td>
</tr>
<tr>
<td>221884</td>
<td>Training</td>
<td>Attend Cal-OSHA safety tailgate &quot;Dog Wise: Safety with customers canines&quot;.</td>
<td>Completed 4/16/2019 0:00</td>
<td></td>
</tr>
</tbody>
</table>
(a) Design and construction standards and specifications for installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems.

The City of Poway has adopted the 2015 publication for the following specifications, details, and standards for construction:

- Standard Specifications for Public Works Construction (THE GREENBOOK)
- San Diego Regional Standard Drawings
- City of Poway Supplemental Engineering Standards

(b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

The City of Poway has adopted the 2015 publication for the following specifications, details, and standards for construction inspection:

- Standard Specifications for Public Works Construction (THE GREENBOOK)
- San Diego Regional Standard Drawings
- City of Poway Supplemental Engineering Standards

**New Sewer Lift Station:**
Plans are pre-inspected from the start of the project thru the 100% (percent) submittals. The station is built according to the 100% drawings. A start-up test is set up with representatives from the pump, electrical and engineering contractors and Public Works staff. The wet well is filled with potable water to test the alarms, then the pumps are placed in AUTO and the system tested to verify it runs as designed. Any failures are corrected and the test is re-run from the beginning. If the test is successful, the station is allowed to operate for the duration of the test, usually from 14 to 30 days. After successful completion of the test, the station is operated per design and manufacturer’s specifications.

**Rehabilitation of a station:**
Plans are pre-inspected from the start of the project thru the 100% (percent) submittals. The station is built according to the 100% drawings. A start-up test is set up with representatives from the pump, electrical, and engineering contractors, and Public Works staff. The alarms are tested, then the pumps are placed in AUTO and the system...
is tested to verify it runs as designed. Any failures are corrected and the test is re-run from the beginning. If the test is successful, the station is allowed to operate for the duration of the test, usually from 14 to 30 days. The existing station is left online as a back-up in the event the new station fails (from 14 to 30 days). In the event the new station fails, the old station is placed back online until the problems can be fixed, at which time a new test will begin. The wet well continues to be online since raw sewage is still flowing into the system. If the wet well needs to be repaired or coated, a temporary pump may be installed in a manhole upstream of the station to move the sewage around the station until the wet well is finished. After successful completion of the test, the station is operated per design and manufacturer’s specifications.
CITY OF POWAY

OVERFLOW EMERGENCY RESPONSE PLAN
Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

(a) Proper notification procedures so the primary responders and regulatory agencies are information of all SSOs in a timely manner;

(b) A program to ensure an appropriate response to all overflows;

(c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g., health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the water of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive the notification;

(d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;

(e) Procedures to address emergency operations, such as traffic and crowd control, and other necessary response activities; and

(f) A program to ensure all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

See the included City of Poway Sewer Overflow Prevention Plan (SOPP) and Sewer Overflow Response Plan, Revised May 2019.
SEWER OVERFLOW PREVENTION PLAN

AND

SEWER OVERFLOW RESPONSE PLAN

CITY OF POWAY

MAY 2019
SEWER OVERFLOW PREVENTION PLAN

In compliance with the San Diego Regional Water Quality Control Board (RWQCB) Permit Order No.2006-0003-DWQ (SSS WDR) (Permit), the City of Poway will prevent, respond to, contain, and clean up all sewage and other spills that discharge to its municipal separate storm sewer system (MS4) from any source. In order to accomplish this, the City has developed specific spill prevention and spill response mechanisms described below.

The Sewer Overflow Prevention Plan (SOPP) describes the sewer system and addresses the organization and major activities of the City of Poway’s wastewater operations.

ORGANIZATION

The City of Poway operates its wastewater system within the Department of Public Works. The maintenance of the sewage collection system is the responsibility of the Wastewater Collection Division and the Utility Systems Division. The sewage collection system includes the actual wastewater collection system and five sewer lift stations.

The City of Poway maintains a full-time staff responsible for performing continuous preventative maintenance activities on the sanitary sewer system including traffic and crowd control during routine and emergency operations. Exhibit 1 presents the organizational chart of the Public Works divisions responsible for the operation and maintenance of the collection system. These positions are also responsible for emergency response and repair of the system.

SEWAGE COLLECTION SYSTEM

The City of Poway sewage collection system consists of 185.6 miles of pipeline, 4,017 manholes, and five sewer lift stations. The system serves an estimated population of 49,986.

The collection system delivers wastewater to the City of San Diego for treatment. The sewage collection system serves properties within the incorporated boundaries of the City of Poway and additional flows from the City of San Diego that are conveyed through a portion of Poway’s system. City of Poway’s average daily sewage flows are 2.3 mgd with an additional average daily flow of 1.4 mgd from the City of San Diego. The City of San Diego’s portion is deducted from Poway’s main meter for billing purposes.

MAJOR OPERATIONAL ACTIVITIES

Preventive maintenance is often the most effective method of preventing SSO’s. The City of Poway actively maintains its sewer collection, lift station systems and MS4. The majority of the City’s sewage collection system is approximately 50 years old. The City has not experienced an SSO event related to capacity of the system.
Eighty-six mainline segments within the collection system area (for a total of approximately 21,641 lineal feet) have been identified for increased flushing. The City of Poway’s standard BMP for these mainline segments is to clean them monthly and quarterly due to grease buildup and root intrusion. The 86 mainline segments will continue to be evaluated for future capital improvement projects.

**Maintenance Activities**

- Monthly and quarterly cleaning of 86 mainline segments (21,641 lineal feet)
- Annual mainline segment cleaning goal of 293,182 lineal feet
- Annual mainline segment CCTV inspection of 205,227 lineal feet

**Infiltration and Inflow**

In addition to the rigorous maintenance schedule, the City’s spill prevention procedures are designed to prevent infiltration of seepage from sanitary sewer systems to MS4s. Addressing infiltration and inflow is one of the key goals of the Wastewater Collection Division. The City’s *Infiltration and Inflow Study*, prepared by Dudek and Associates, is completed. The study was started in the year 2000. Due to several seasons of low precipitation, the study was completed and submitted to the city in 2005.

The City performed video inspection of areas identified in the study during the wet season to identify the location of the infiltration. Dudek and Associates analyzed the data and provided an action plan to decrease inflow and infiltration. In 2005, 6,296 lineal feet of 15-inch vitrified clay pipe on Community Road and 1,326 lineal feet of 8-inch vitrified clay pipe on Metate Lane were rehabilitated with CIPP to mitigate identified Inflow and Infiltration.

**Video Inspection**

In early 2019 the City has initiated a program to perform sewer mainline segment condition inspections to verify condition of VCP within the system. Staff has found older sections starting to fatigue to the point rehabilitation will be required to maintain an efficient and effective system.

**Collection System, Capital Improvements Program**

- The Sanitary Sewer Master Plan (SSMP) was completed by Atkins North America Inc. in 2013. The SSMP objectives were to evaluate the capacity of Poway’s conveyance system and provide a general assessment of the condition of the existing sewer collection system, including its sewer lift stations, in order to develop a recommended comprehensive 10-year Capital Improvement Program (CIP).
The City continues to evaluate existing manholes for potential candidates for the on-going Manhole Rehabilitation Program. To date the City’s asset management program has identified 1,348 of the 4,024 rehabilitated with a liner system to date.

SEWAGE PUMPING STATIONS

The City of Poway has five sewer lift stations for sewage pumping. The following three sewer lift stations have been completely rehabilitated:

- St. Andrews lift station completed 2011
- Highlands Ranch lift station completed 2009
- Camino Del Valle lift station completed 2003

Chopper pump in wet wells were added to:

- Old Coach lift station in 2015
- St. Andrews lift station in 2015

Preventive Maintenance Actions

- Daily Physical Checks – all five lift stations inspected as per guide list provided for each station (daily checks are accomplished Monday through Friday).

- Electronic Monitoring – stations are real-time monitored (SCADA) via telemetry lines. All stations are equipped with high wet well; pump failure, and dry well flooding alarms. In addition, all stations are equipped with override controls. Sewer lift stations are currently undergoing improvements adding auxiliary power via generators to mitigate power failure.

- Weekly Physical Checks – detailed well inspection.

- Monthly Physical Checks – test all components (pumps, valves, alarms, bubblers) and verify all alarm system set points.


- Water Treatment Plant staff monitor lift stations around the clock through real-time SCADA displays maintained at the plant.
SEWER OVERFLOW RESPONSE PLAN
WASTEWATER COLLECTION SYSTEM

NOTIFICATION

During regular working hours, the Wastewater Collection staff is notified of overflows by the public or a City staff member. The reports are called in to the Public Works Maintenance Operations Office and are immediately reported to the Wastewater Collection Division Supervisor. During off-duty hours, reports of overflows are called in to the Water Treatment Plant. The staff at the Water Treatment Plant immediately calls the wastewater collection on-call worker or standby person. (Exhibit 1).

IMMEDIATE ACTION

During regular working hours, staff and a Vactor truck is immediately dispatched to the scene to clear the blockage, and provide traffic and crowd control when necessary. Recovery crews are dispatched as needed. During off-duty hours, the standby employee responds and calls out crews as needed. A Supervisor is called as soon as possible. An additional Vactor is dispatched for containment as needed.

GUIDELINES

The City of Poway implements all remedial actions to the extent that they are applicable to the discharge, including the following:

- Interception and rerouting of sewage flows around the sewage line failure;

- Vactor truck recovery of sanitary sewer overflows and wash down water utilizing appropriate containment BMP's; (Exhibit 4)

- Perform mandatory SSO reporting in accordance with the State Water Resources Control Board’s guide for Sanitary Sewer Overflow Reduction Program, Cal OES, and the San Diego County Health Department utilizing DKF Solutions, SMART Sewer Overflow Volume Estimation Workbook for volume estimations.

- Cleanup of debris of sewage origin at the overflow site and additional monitoring when required.

Removal of the blockage is the priority, followed by efforts to contain and recover the overflow. The affected area is disinfected and receives a wash down. All wash downs are contained and recovered by a Vactor. All line segments involved in the overflow are inspected by the division’s TV crew. Bilingual warning signs may be posted depending upon the boundaries of the spill. Notification is conducted in accordance with the attached procedures and report form for overflows (Exhibits 2, 3).
SEWER OVERFLOW RESPONSE PLAN
PUMP STATIONS

NOTIFICATION

During regular working hours, the Wastewater Pumping Division and the Utility Systems staff are notified of any pumping station malfunction by the Water Treatment Plant staff that monitors all incoming pump station alarms.

During off-duty hours, alarms are also monitored by the Water Treatment Plant staff. In the event of a pump station malfunction, the duty operator will immediately dispatch the Treatment Plant on-call worker or standby person (Exhibit 1).

IMMEDIATE ACTION

During regular working hours, the Vactor Crew is dispatched to the site to pump down the wet well and keep it from overflowing. A repair crew is also dispatched to assess and make the necessary repairs to put the station back into operation. During after-hours, the standby employee responds and calls out the necessary crews. The Utility Systems Supervisor is notified as soon as possible.

GUIDELINES

The priority is to prevent any new blockage and SSO, containing and recovering overflows utilizing appropriate containment BMP’s (Exhibit 4). Concurrent to this process, the repair of the station is of vital importance. All areas exposed to overflow are disinfected and receive a wash down. Bilingual warning signs may be posted depending upon the boundaries of the spill. The Vactor Crew will remain at the site until the sewer lift station is put back into service. Notification will be done in accordance with the attached procedures and report form for overflows (Exhibits 2, 3).
Regulatory Reporting Guide

Detailed information on each SSO is submitted by enrollees in the SSO report. Enrollees are required to report all SSOs that result from a failure or flow condition in any portion of a sanitary sewer system under their ownership or management. For the purposes of reporting, SSOs fall into one of the three categories: Category 1, Category 2, and Category 3. The definitions for each Category are listed in Table 1, below.

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>DEFINITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Discharges of untreated or partially treated wastewater of <strong>any volume</strong> resulting from an enrollee’s sanitary sewer system failure or flow condition that: Reach surface water and/or reach a drainage channel tributary to a surface water; or Reach a municipal separate storm sewer system and not fully captures and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the municipal separate storm sewer system is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or ground water infiltration basin (e.g., infiltration pit, percolation pond).</td>
</tr>
<tr>
<td>Category 2</td>
<td>Discharges of untreated or partially treated wastewater of <strong>1,000 gallons or greater</strong> resulting from an enrollee’s sanitary sewer system failure or flow condition that <strong>do not</strong> reach surface water, a drainage channel, or a municipal separate storm sewer system unless the entire SSO discharge to the storm drain system is fully recovered and disposed of properly</td>
</tr>
<tr>
<td>Category 3</td>
<td>All other discharges of untreated or partially treated wastewater resulting from an enrollee’s sanitary sewer system failure or flow condition.</td>
</tr>
<tr>
<td>Private Lateral Sewage Discharge (PLSD)</td>
<td>Discharge of untreated or partially treated wastewater resulting from blockages or other problems <strong>within a privately owned sewer lateral</strong> connected to the enrollee’s sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be voluntarily reported to the SSO Database.</td>
</tr>
</tbody>
</table>

Table 1 – Spill Categories and Definitions

The reporting deadline for submittal of a SSO report depends on the classification of the spill as shown in Table 2. For Category 1 and 2 SSOs, the enrollee must submit an initial, draft report of the SSO as soon as possible but no later than 3 business days after becoming aware of the SSO. The final, certified report for Category 1 and 2 SSOs must be submitted within 15 calendar days of the SSO end date. For Category 3 SSOs, the enrollee must submit a final, certified report (no initial, Draft report required) within 30 calendar days after the end of the calendar month in which the SSO occurred. For instance, if the SSO occurred on February 1st, the enrollee must certify the Category 3 SSO before March 30th.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>REQUIREMENT</th>
<th>METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notification</td>
<td>Within 2 hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.</td>
<td>Call <a href="https://www.waterboards.ca.gov">Cal OES</a> at: (800) 852-7550</td>
</tr>
<tr>
<td>Reporting</td>
<td><strong>Category 1 SSO:</strong> Submit Draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</td>
<td>Enter data into the California Integrated Water Quality System (CIWQS) Online SSO Database (<a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a>), certified by enrollee’s Legally Responsible Official(s).</td>
</tr>
<tr>
<td></td>
<td><strong>Category 2 SSO:</strong> Submit Draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Category 3 SSO:</strong> Submit Certified report within 30 calendar days of the end of month in which SSO occurred.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>“No Spill” Monthly Certification:</strong> Certify that no SSOs occurred within 30 calendar days of the end of the month in which no SSOs occurred.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Collection System Questionnaire:</strong> Update and Certify every 12 months.</td>
<td></td>
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</tbody>
</table>

**Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements**

Notification of Cal OES is required within two hours of becoming aware of a Category 1 SSO greater than or equal to 1,000 gallons that results or may result in a discharge to surface waters. Specifically, the enrollee shall, as soon as possible, but no later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.

With the exception of enrollees in the San Diego region, Private Lateral Sewage Discharges (PLSDs) are not required to be reported, but they can be voluntarily reported to the database. The State Water Board encourages enrollees to Notify Cal OES for PLSDs greater than or equal to 1,000 gallons that result or may result in a discharge to surface waters.

No-spill Certifications are required within 30 days after the end of each calendar month if there are no SSOs during the calendar month. If there are no SSOs during a calendar month but the enrollee reported a PLSD, the enrollee must still file a “No Spill” certification statement for that month.
Sanitary Sewer Overflow (SSO) Reporting Flow Chart

If no SSOs occurred during the calendar month, submit “No Spill” Certification to CIWQS within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.* END

**PRIVATE**

Did SSO occur? (See SSO Response Flowchart)

Was the spill caused by a problem in the public sewer or on private property?

**PUBLIC**

If no SSOs occurred during the calendar month, submit “No Spill” Certification to CIWQS within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.* END

NO

PRIVATE

Did the spill equal or exceed 1,000 gallons AND discharge to a surface water or in location where it may discharge to a surface water?

YES

NO

Notify Cal OES (800) 852-7550

1. Did the spill reach surface waters or drainage channel?
2. OR did the spill reach a storm drain and could not be completely recovered?
3. OR did the spill equal or exceed 1,000 gallons?

YES

NO

Within 2 hours**, report spill by phone (800) 852-7550 to the California Office of Emergency Services (Cal OES) and obtain notification control number.***

Category 1 SSO

** Category 2 SSO

** Category 3 SSO

NO

YES

Within 48 hours after initial SSO notification, conduct water quality sampling. Upload water quality results into CIWQS.

Substitute report using CIWQS**** within 30 calendar days of the end of the calendar month in which SSO occurred.

YES

NO

Substitute draft report using CIWQS**** within 3 business days of becoming aware of SSO. Certify report within 15 calendar days of SSO end date.

Submit SSO Technical Report within 45 calendar days after SSO end date.

END

NOTES

* Per Order 2013-0058-EXEC, if there are no SSOs during a calendar month but a PLSD was reported, a “No Spill” certification statement for that month should still be submitted.

** After the Sewage Collection Agency becomes aware of the SSO, notification is possible, and notification can be provided without substantial impeding cleanup or other emergency measures.

*** If applicable, update Cal OES regarding substantial changes to the estimated volume of the spill and any substantial changes to known impact(s) after initial notification and before SSO report is certified.

**** If CIWQS is not available for any reason, information must be faxed or emailed to the San Diego RWQCB according to the time frame.
**SANITARY SEWER OVERFLOW (SSO) REPORTING FORM**  
**WDID: 9SSO10656 CITY OF POWAY COLLECTION SYSTEM**

**WAS SPILL REPORTED TO THE FOLLOWING AGENCIES?** (Leave blank if not required.)
- STATE WATER RESOURCES CONTROL BOARD (CIWQS) Online Reporting  
  - SAN DIEGO COUNTY / DEPT OF ENVIRONMENTAL HEALTH: 858/505-6786 (fax)  
  - CAL EMA (OES): 800/852-7550 (1,000+ GALS discharged into state waters or any spill that poses "significant hazard to human health & safety or the environment.")

☐ YES  ☐ YES  ☐ YES

This report is the:  
- ○ DRAFT REPORT  
- ○ FINAL REPORT  
- ○ PSLD

SSO Spill Type:  
- ○ CATEGORY 1  
- ○ CATEGORY 2  
- ○ CATEGORY 3

**LOCATION DETAILS**
- Spill location name or ID:  
- Latitude of spill location:  
- Longitude of spill location:  
- Address or street reference:  
- City, State Zip  
- County:  
- Spill location description:  
- Regional Water Quality CB: Region 9

**SPILL DETAILS**
- Spill appearance point:  
- Spill appearance point explanation:  
- Did spill discharge to drainage channel and/or surface water?  
  - ○ YES  
  - ○ NO

- Did spill reach a separate (i.e., not combined) storm drain pipe?  
  - ○ YES  
  - ○ NO

- If spill reached a separate storm-drain pipe, was all wastewater fully captured from the separate drain and returned to sanitary sewer system?  
  - ○ YES  
  - ○ NO  
  - ○ N/A
SPILL DETAILS (cont’d)

Private lateral spill?

[ ] YES  [ ] NO

If private lateral spill, what is the name of the responsible party, if known:

Final spill destination:

Explanation of final spill destination:

Estimated spill volume:

Estimated volume of spill recovered:

Estimated volume of spill that reached surface water(s), drainage channel, or NOT recovered from a separate stormdrain (or N/A):

[ ] N/A

Estimated current spill rate (if applicable):

[ ] N/A

Estimated spill START date/time:

Date/time Poway Public Works staff was notified of or discovered spill:

Estimated onsite arrival date/time:

Estimated spill END date/time:

Spill cause:

Spill cause explanation (brief):

Where did failure occur?

Explain where failure occurred:

Spill caused by wet weather?

[ ] YES  [ ] N/A

Diameter of sewer pipe at point of blockage or spill cause (if applicable):

[ ] N/A

Sewer pipe material at point of blockage or spill cause (if applicable):

[ ] N/A

Age (estimated) of sewer pipe at point of blockage or spill cause (if applicable):

[ ] N/A

Describe terrain surrounding the point of blockage or spill cause (if applicable):

[ ] N/A
**SPILL DETAILS** (cont'd)

Spill response activities:

Visual inspection results from impacted receiving water (or N/A):

Health warning signs posted?:

Impacted beach(es) (or N/A):

Impacted surface water(s) (or N/A):

**NOTIFICATION DETAILS**

OES Control Number (if applicable): Date/Time OES called (if applicable): Date/Time RWQCB notified: Method of notification and number:

County DEH notified: Method of notification and number:

Was any of this spill report information submitted via fax or electronically to the RWQCB? If yes, enter date/time information was submitted to RWQCB. If no, leave box blank.

Other remarks/comments:

I swear under penalty of perjury that the information submitted in this report is true and correct. I certify under penalty of perjury that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature:

Print Name:

Title:

Date:

Email (optional):
CITY OF POWAY

FOG CONTROL PROGRAM
Each Enrollee shall evaluate its service area to determine whether a FOG control program is needed. If an Enrollee determines that a FOG program is not needed, the Enrollee must provide justification for why it is not needed. If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

(a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;

(b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;

(c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;

(d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;

(e) Authority to inspect grease-producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;

(f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and

(g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.
City of Poway
Public Works Department

FOG Program (Fat, Oil, Grease)

Summary of Rules and Regulations for Wastewater Discharge from Food Establishments

The Poway Municipal Code (Chapters 13.04 and 13.05) and the adopted Uniform Plumbing Code give the City of Poway the authority for the FOG Program and should be referred to for complete requirements. The Poway Municipal Code can be referred to on the City’s web page: www.poway.org. The following is a summary of rules and regulations.

Purpose of the FOG Program
The FOG Program helps prevent sewer line blockages and spills. Wastewater sewer blockages or spills can cause harm to the environment and the community, resulting in costly cleanup and repairs. Any wastewater that enters a storm drain flows untreated into creeks, rivers, and the ocean, and can result in polluted water and closed beaches.

The intent of the FOG Program is to eliminate the discharge of excess grease and oil into the wastewater collection system, minimize the potential formation of blockages to the flow of wastewater as a result of grease accumulations, and eliminate sewage spills that may result from such blockages.

Industrial Wastewater Discharge Permit - Food Establishment Wastewater Discharge (FEWD) Permit

All food establishments including, but not limited to, restaurants, delis, ice-cream parlors, commercial kitchens, etc., desiring to discharge wastewater into the City’s sewer system shall obtain a FEWD Permit from the Director of Public Works.

Subject to Industrial Wastewater Limitations

Wastewater discharged into the City sewer system from establishments engaged in preparing food for public consumption shall be subject to the limitations for Industrial Wastewater Discharge as set forth in Poway Municipal Code Chapters 13.05, as well as Chapter 13.04, the Uniform Plumbing Code, and other conditions and requirements as may be specified in the FOG Program and FEWD Permit.
Permit Requirements

The Food Establishment Wastewater Discharge Permit (FEWD Permit) may require pretreatment of wastewater prior to discharge, restriction of peak flow discharge, discharge of certain wastewater only to specified sewers of the City, or relocation of the point of discharge. Such requirements may also include prohibition of discharge of certain wastewater components, restriction of discharge to certain hours of the day, payment of additional charges to defray increased costs of the City created by the wastewater discharge, and such other conditions as may be required to achieve the purpose of the FOG Program.

Discharge of Industrial Wastewater in excess of the quantity or quality limitations set by the FEWD Permit is prohibited.

Applications for Food Establishment Wastewater Discharge (FEWD) Permit

Applicants for a Food Establishment Wastewater Discharge (FEWD) Permit shall complete and file with the City of Poway Public Works Department an application in the form prescribed by the Director of Public Works.

Information Requirements

The applicant may be required to submit for evaluation the following information:

a) Name and address of applicant, and 24-hour emergency telephone contact
b) Service and site address
c) Volume of wastewater to be discharged
d) Time of daily food preparation operations
e) Description of food preparation, type, and number of meals served, clean-up procedures, dining room capacity, number of employees, and size of kitchen
f) Any other information deemed necessary by the Director of Public Works to evaluate the Permit application.

Application Review and Approval

The City will review the FEWD Permit application and may require the applicant to provide additional information in order to complete the review. Additionally, an on-site inspection of the wastewater discharge system, pretreatment systems, and any other systems relating to the wastewater discharge may be required.

Upon final approval, the Director of Public Works will issue a Food Establishment Wastewater Discharge Permit, subject to the terms and conditions of the FOG Program, Poway Municipal Code, and Uniform Plumbing Code.
Penalty for Violations

Discharge of wastewater in any manner in violation of the Poway Municipal Code (PMC) Chapter 13.05 is a public nuisance. Whenever a discharge of wastewater is in violation of the PMC and/or FEWD Permit and FOG Program, the City may seek a petition to the Superior Court for the issuance of an injunction. The City may revoke any industrial wastewater discharge permit issued pursuant to Section 13.05.160 of the municipal code or terminate any wastewater service to any premises if a violation of any provision of the PMC (Chapter 13.05) is found to exist or threatens to cause a condition of contamination, pollution, or nuisance.

Duration of the Permit

Permits are issued for a specified time period, not to exceed five years before renewal application by the establishment. A permit may be issued for a period less than a year or may be stated to expire on a specific date.

Terms and Conditions of the Permit

The terms and conditions of the FEWD Permit may be subject to modification by the Director of Public Works in accordance with any changes in the discharge standard limitations or the prohibited discharge substances described. The discharger shall be informed of any proposed changes in the permit at least thirty (30) days prior to the effective date of change. Any modifications or new conditions in the permit shall include a time schedule for compliance as determined by the City.

Permit is not Transferable

Any sale, lease, transfer, or assignment of the premises or operation for which a FEWD Permit was issued shall require a new permit.

A permit shall be issued only for a specific use or operation, and any new or modified conditions of operation shall require an amended or new permit.

Revocation of Permit

The Director of Public Works may revoke the FEWD Permit of any discharger who is found to be in violation of the FOG Program. The permit may also be revoked on the basis of the following violations:

   a) Failure to install grease pretreatment devices as required by the permit.
   b) Failure to fulfill reporting requirements or pretreatment maintenance as required by the permit.
   c) Refusal to grant reasonable access to the premises for the purpose of inspection or monitoring.
   d) Violation of a condition of the permit.
Food Establishment Wastewater Discharge Requirements

Grease Pretreatment

Food establishment dischargers shall ensure that wastewater is acceptable for discharge into the City sewer system in accordance with the limitations established in PMC Chapters 13.04, 13.05, adopted Uniform Plumbing Code, and FOG Program. The Standard Maximum Effluent Concentration of grease and oil is 500 mg/L.

Each discharger shall install a grease pretreatment device, of a type approved by the Director of Public Works, to remove grease from wastewater prior to discharge. Such device shall be located on the waste line leading from areas where grease may be introduced into the sewer system, such as sinks, drains, appliances, and other fixtures or equipment used in food preparation or the cleanup process.

Each discharger shall also provide a collection drum or other container for the purpose of physically segregating all oils, greases, and greasy solids. No such collected grease shall be introduced into any drainage pipeline, public sewer system, or storm drain.

The permit holder shall establish procedures for the discharger’s personnel to perform maximum segregation of oils, greases, and greasy solids, which shall be collected in a drum or container prior to discharging of washing or cleaning wastewater into the sewer system. Grease pretreatment devices shall be maintained in efficient operating condition by means of periodic removal of accumulated grease. Dischargers shall be responsible for the proper removal and disposal of material captured from grease pretreatment devices, and from collection drums used for segregating oils, greases, and greasy solids.

Monitoring Reports and Grease Removal Maintenance Records

The discharger shall keep records of grease pretreatment device cleaning, maintenance and grease removal, and report on such maintenance to the Public Works Department per FOG Program requirements. Dischargers shall also make the records available to City staff during normal business hours.

Each food establishment holding a permit shall provide results of periodic measurements of its discharge, which is to include chemical analysis of oil and grease content and shall provide documentation of delivery of all grease and oil to a recycling or disposal contractor or facility. Documentation shall be in the form of a manifest from the transporter, or a receipt that identifies the date and volume, name of waste, address, phone, and contact person with contractor or facility. The Public Works Department, Wastewater Utilities Division, will review reports annually.

Right of Entry
No person shall interfere with, delay, resist, or refuse entrance to authorized City personnel attempting to inspect any wastewater generation, conveyance, or treatment facility connected directly or indirectly to the City’s wastewater system.

The Director of Public Works shall provide adequate identification for all inspectors and authorized personnel, and they will identify themselves when entering property for inspection purposes or when inspecting the work of any contractor.
<table>
<thead>
<tr>
<th>Mainline Asset ID</th>
<th>Main Size</th>
<th>Pipe Type</th>
<th>Lineal Feet</th>
<th>Location Description</th>
<th>Frequency</th>
<th>Comments</th>
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<tbody>
<tr>
<td>6365WWMAIN</td>
<td>8''</td>
<td>VCP</td>
<td>135</td>
<td>13301 Poway Road (5 Guys)</td>
<td>Monthly</td>
<td>Grease (FOG) 85' push north</td>
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<tr>
<td>6366WWMAIN</td>
<td>8''</td>
<td>VCP</td>
<td>273</td>
<td>13302 Poway Road (5 Guys)</td>
<td>Monthly</td>
<td>Grease (FOG)</td>
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<td>8''</td>
<td>VCP</td>
<td>263</td>
<td>13303 Poway Road (5 Guys)</td>
<td>Monthly</td>
<td>Grease (FOG)</td>
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<td>1997WWMAIN/2139WWMAIN</td>
<td>10''</td>
<td>VCP</td>
<td>470</td>
<td>Gate Dr/Poway Rd.</td>
<td>Quarterly</td>
<td>Grease (FOG)/pull east only/need traffic control</td>
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<tr>
<td>2031WWMAIN/2060WWMAIN</td>
<td>8&quot;-10&quot;</td>
<td>VCP</td>
<td>728</td>
<td>Bowron Rd/Poway Rd.</td>
<td>Quarterly</td>
<td>Grease (FOG)/350' pull west/378' pull north/need traffic control</td>
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<tr>
<td>3217WWMAIN</td>
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<td>VCP</td>
<td>220</td>
<td>Pomerado Rd (between Casa Avenida/Robert Way)</td>
<td>Quarterly</td>
<td>Grease (FOG)/pull east</td>
</tr>
<tr>
<td>3206WWMAIN</td>
<td>8''</td>
<td>VCP</td>
<td>220</td>
<td>Pomerado Rd (between Casa Avenida/Via Monte Claro)</td>
<td>Quarterly</td>
<td>Grease (FOG)/pull east</td>
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<tr>
<td>1631WWMAIN</td>
<td>8''</td>
<td>PVC</td>
<td>230</td>
<td>York Ave</td>
<td>Monthly</td>
<td>Grease (FOG)</td>
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<tr>
<td>1632WWMAIN</td>
<td>8''</td>
<td>VCP</td>
<td>350</td>
<td>York Ave</td>
<td>Monthly</td>
<td>Grease (FOG)</td>
</tr>
<tr>
<td>1725WWMAIN</td>
<td>8''</td>
<td>VCP</td>
<td>235</td>
<td>York Ave</td>
<td>Monthly</td>
<td>Grease (FOG)</td>
</tr>
<tr>
<td>4296WWMAIN</td>
<td>8''</td>
<td>VCP</td>
<td>160</td>
<td>York Ct.</td>
<td>Monthly</td>
<td>Grease (FOG)</td>
</tr>
</tbody>
</table>

**Identified Sanitary Sewer Sections subject to FOG Blockages/Cleaning Schedule**

| Monthly Locations | 7 | 3284 Lineal Feet Cleaned | Quarterly Locations | 4 |
City of Poway

FOG Program
Managing Fats, Oil, and Grease to Prevent Damage to the Sanitary Sewer System

Kitchen Practices

Collect waste cooking oil and store in drums or barrels for recycling.

Dispose food waste directly into the trash.

Wipe pots, pans, dishware, and work areas prior to washing.

Use absorbent material under fryer baskets.

Use absorbents like towels or cat litter to pick up spills before mopping the floor.

Keep grease emulsifying agents out of the sink and drain.

Junte el aceite de cocina que deseché y almacénelo en tambos o barriles para reciclarlo.

Tire directamente en el bote de basura los desechos de alimentos.

Limpie con un trapo los sartenes, las cacerolas, la vajilla y las áreas de trabajo antes de lavarlos.

Utilice material absorbente debajo de las canastas de las freidoras.

Antes de trapear el piso, recoja cualquier derrame con productos absorbentes como toallas o arenilla para gatos.

No utilice solventes o aditivos que disuelven grasa dentro de el frigadero o en la coladera.

The City of Poway gratefully acknowledges the Bureau of Sanitation of the City of Los Angeles, Dept. of Public Works for the concept, content and artwork of this one-page fact sheet.
PLEASE POST / MANTENGALO EN UN LUGAR VISIBLE

In case of a En caso de un

GREASE/OIL SPILL DERRAME DE GRASA/ACEITE

MAKE SURE THAT NONE OF THE SPILLED GREASE/OIL ENTERS THE SEWER LINES! ASEGúRESE DE QUE NINGUNA GRASA/ACEITE SE INTRODUZCA EN LOS DRENAJES!

1. IMMEDIATELY BLOCK OFF ALL FLOOR SINKS AND FLOOR DRAINS NEAR THE SPILL TO PREVENT ANY GREASE FROM GETTING INTO THE SEWER.

   Use covers, rags, or towels to block the drains. Use whatever you have available to contain the spill and prevent it from reaching the floor drains and floor sinks.

2. COVER THE SPILL WITH ABSORBENT MATERIAL: sand, saw dust, kitty litter, salt, etc.

3. REMOVE GREASE/OIL OFF THE FLOOR AND PUT IT IN THE TRASH.

4. NEVER CLEAN UP GREASE/OIL WITH A MOP AND BUCKET: when you clean the mop, the grease will get into the sewer.

REMEMBER: ANY GREASE/OIL THAT GETS INTO YOUR SEWER LINES IS LIKELY TO CAUSE A BLOCKAGE THAT MAY BE VERY EXPENSIVE TO REMOVE.

RECUERDE: CUALQUIER CANTIDAD DE GRASA/ACEITE QUE SE INTRODUZCA EN LAS LÍNEAS DE EL DRENAJE PUEDE CAUSAR UN BLOQUEO QUE PODRÍA SER MUY COSTOSO EN REMOVER.

CITY OF POWAY
Public Works Department
Wastewater Division (858) 668-4719
P.O. Box 789, Poway CA 92074-0789
FOG Binder Table of Contents

I. Front Pocket:
   A. Yellow Laminated Sign “In Case of a Grease/Oil Spill”

II. Binder Rings:
   A. "In Case of Sewer Overflow"
   B. Intro Letter
   Tab #1:
      a. FOG Inspection & Assistance Program Brochure
      b. Food Establishment Wastewater Discharge (FEWD) Permit
      c. Grease Trap/Interceptor Cleaning Record Verification Form
      d. Employee FOG Training Form
   Tab #2:
      e. Summary of Rules and Regulations for Wastewater Discharge from Food Establishments (4 pages)
      f. Poway Municipal Code Chapters 13.04 "Sewer Regulations" and 13.05 "Industrial Wastewater Treatment Program"
      g. Uniform Plumbing Code Chapter 10 "Traps and Interceptors"
   Tab #3:
      h. Formula to Determine Correct Size of Grease Trap
      i. Typical Grease Inceptor Drawing
      j. Big Dipper Grease Removal Systems
   Tab #4:
      k. Maintenance of Grease Removal Equipment (GRE)
      l. Grease Waste Hauler Standards
      m. FEWD Permit Inspection Report
   Tab #5:
      n. Sewer Spill Notice
      o. Best Management Practices for Restaurants Brochure (English/Spanish)
      p. Storm Water Pollution Prevention Program Restaurants (English/Spanish)
      q. Dumpsters & Loading Dock Areas (English/Spanish)
In Case of Sewer Overflow

Call the City of Poway Public Works Department
Wastewater Division

(858) 668-4700 from 7:00 a.m. until 5:00 p.m. Monday - Friday.

If after 5:00 p.m. Monday through Friday, or weekends
or holidays, call: (858) 748-1050

Notice: Plumbing repairs on private property is the responsibility of the
property owner and/or lease holder per private lease agreement.
May 28, 2019

Dear Restaurant Manager/Owner:

The purpose of this binder is to assist all Poway food establishments by providing necessary information regarding the Fat, Oil, and Grease (FOG) Program. This formalized program is based on existing regulations from the City of Poway's Municipal Code, and is a partnership between the City, the Chamber of Commerce, and your food establishment to protect the environment.

Sewer line blockages have occurred not only in Poway, but also throughout the San Diego region that are due to build-ups of FOG in the sewer lines that can result in spills. The FOG Program is the City's response to reduce and/or prevent these spills.

You may already be familiar with this program, as your facility previously received and returned the Food Establishment Wastewater Discharge (FEWD) Permit application, which has been provided for your information. Please review the application and inform the City of any changes that may have occurred.

The information in this binder provides a comprehensive overview of the FOG Program. The information will give you, the owner and/or manager, a clear understanding of the specific requirements for the FOG Program. In it you will find the rules and regulations for wastewater discharge, guidelines for grease removal equipment, and necessary maintenance information. Also enclosed is a laminated sign, "In case of grease/oil spill", that must be posted in a visible location to employees at all times.

The next step in the FOG Program is for the City of Poway to issue your facility a FEWD Permit, which first requires an inspection by City staff. Rob Bremer, Cross-Connection Specialist, will contact you to schedule an appointment for an inspection and to issue a permit. When your food establishment is issued a FEWD Permit, it must be kept in this binder and available for review by City staff.

Once again, we appreciate your cooperation in complying with the City's FOG Program. In forming a partnership with our local food establishments, we aim to eliminate future sewer spills to ensure a cleaner environment for all. If you have any questions before your inspection, please contact Mr. Bremer at (858) 668-4735.

Sincerely,

[Signature]

Terry Zaragoza
Wastewater Utilities Supervisor
FOG BINDER TAB 1
Your customers deserve a delightful dining experience. Don’t lose customers due to unpleasant and unsightly conditions caused by FOG (Fat, Oil, & Grease).

To help prevent your facility from experiencing a sewer blockage or odors caused by fat, oil, and grease (FOG), the City of Poway wants to form a partnership with your business.

The City of Poway has implemented a formalized fat, oil, and grease inspection program. Wastewater sewer blockages or spills can impact your business and harm the environment. The FOG Program is Poway’s way of being proactive to prevent sewer spills.

- Food establishments are now required to obtain a Food Establishment Wastewater Discharge (FEWD) Permit (no fee) as wastewater discharge is regulated by the Poway Municipal Code.
- Periodic inspections are a routine part of the FOG Program. The City’s goal is to assist food establishments in creating a facility that is free of odors and blockages due to grease.
- The first step in forming a partnership with food establishments is to increase awareness of what causes FOG to enter the plumbing system.

Sources of Fat, Oil, and Grease (FOG)

Everyone who has ever stepped into a kitchen knows grease is a by-product of cooking. The primary sources of FOG are:
- Butter and margarine
- Cooking oil
- Shortening and lard
- Meat, poultry, and fish
- Dairy products
- Food scraps
- Sauces and gravy

Best Management Practices

- The most effective solution is to control FOG at the source. Here’s how:
- Obtain a grease bin, and have it regularly emptied by a certified grease hauler, and/or install a grease interceptor or trap that is sized and manufactured to handle the amount of FOG anticipated.
- Maintain the grease interceptor or trap in proper operating condition, and have it cleaned and serviced frequently. Routine, often daily, maintenance of grease traps and interceptors is essential to ensure they are functioning efficiently in order to reduce and/or prevent blockages.
- Never put solids into grease traps or interceptors.
- NEVER pour grease or oil into a sink, floor drain, toilet, storm drain or dumpster. Instead, recycle it.
- Scrape all food waste into plastic lined trash cans, and dispose of in dumpsters.
- Use paper towels to remove FOG from pots, pans, and containers prior to washing.
- Do not put grease down garbage disposals. Install 1/4” stainless steel screens in all sinks and drains.
- Use dry methods for spill cleanup. Rags or absorbents can be used to pick up liquids or grease. Sweep up the absorbent, seal it in a plastic bag and dispose of it in the trash.
- Be cautious of chemicals and detergents that claim to dissolve grease. They may simply pass it down the pipe and cause a clog in the sewer line.
A Clean Environment is Important to All of Us

- Fat, oil, and grease (FOG) clog the sewer lines. Sewage backups and overflows are typically the result of grease buildup that can cause property damage, environmental problems, and other health hazards.
- FOG gets into the sewers mainly from commercial food preparation establishments that do not have adequate grease control measures in place, such as grease interceptors.
- All too often, fat, oil, and grease are washed into the plumbing system, usually through kitchen sinks and floor drains found in food preparation areas. They stick to the inside of sewer pipes both on your property and in the streets. Over time, the FOG builds up and eventually blocks the entire pipe, causing sewage backups and overflows.

COSTS

To your business: As your sewer pipes backup, the sewage and food particles that accumulate can attract insects and other vermin, cause unpleasant odors, and could create health hazards. Property damage can also result from sewage backups and lead to expensive cleanup and plumbing repairs. Health code violations or closures can greatly impact your business.

To the Environment: Clogged sewers can lead to overflows. As sewage overflows onto streets, it enters the storm drain system and is carried to our local creeks and beaches, creating health risks for swimmers, fish and plant life.

To the City: Increased sewer blockages and overflows lead to costly maintenance and can result in severe fines from State regulatory agencies. This can increase your sewer fees.

Who Can You Contact to Obtain Your Permit?

Public Works Department
Wastewater Division
(858) 668-4719

Report Illegal Dumping to:
Poway Code Compliance (during business hours 8 a.m. to 5 p.m.)
(858) 668-4664

City of Poway
13325 Civic Center Drive
Poway, CA 92064
www.poway.org

Wastewater Division (858) 668-4719

This education and awareness program is endorsed by the Poway Chamber of Commerce.
City of Poway
Food Service Establishment Wastewater Discharge Permit
Phone: 858-668-4735

Issued to:
Food Establishment Name
Address
Poway, CA 92064

Valid From
Expires
Permit Number

Special Permit Conditions

Report sewer blockages to City.
Maintain FOG manual and all records on site.
Train all employees in Best Management Practices.

General Permit Conditions

1. Retain this permit on the premises and make available upon request.
2. Have grease removal equipment (GRE) intercept the waste lines leading from all sinks, drains, appliances and other fixtures or equipment used in food preparation or cleanup where fat, oil, grease or greasy matter may be introduced into the sewer system.
3. Confine all processes that may introduce fat, oil, grease and greasy matter into the sewer to fixtures connected to grease removal equipment.
   No matter containing more than 500mg/l of oil and grease or that might otherwise obstruct the sewer flow, nor any matter that might create a hazardous condition may be discharged into the sewer system.
5. Maintain GRE in efficient operating condition by periodic removal of the accumulated grease and solids. No such collected material shall be introduced into any drainage pipe or public sewer.
6. Maintain a GRE cleaning log and save maintenance receipts. Retain for a period of no less than two (2) years.
7. Provide a collection drum or other suitable container for maximum segregation of fat, oil and grease.
8. Implement and post a grease spill control plan.
9. You must notify the FEWD Permit Program at (858) 668-4735 of any: New permit required.
   a. Sale, lease, transfer or assignment.
   b. Change of facility name.
   c. Changes in food preparation or kitchen practices and/or addition of equipment.
   d. Spills that result in the discharge of fats, oils or grease to the sewer or storm drain systems.
10. You must allow City representatives ready access at all reasonable times to all parts of the premises for purposes of sampling and inspection.
11. Any person(s) who knowingly makes any false statement or representation, or submits any false record, report, plan or other document shall be guilty of a misdemeanor.
12. Any person(s) discharging wastewater in violation of the Food Establishment Wastewater Ordinance or FEWD Permit is subject to fines, penalties, cost recovery, injunction, termination of sewer service, permit revocation and/or such other remedies as are available to the Director of Public Works.

Terry D. Zaragoza
By Authority of the Director of Public Works
City of Poway

GREASE TRAP/INTERCEPTOR CLEANING RECORD
VERIFICATION FORM

<table>
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<tr>
<th>Date</th>
<th>Cleaned by:</th>
<th>Site Rep or Witnessed by:</th>
<th>Gallons Pumped</th>
<th>Grease Disposal Site Address</th>
<th>Remarks – Condition of Interceptor Device</th>
</tr>
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City of Poway
Employee FOG training sign off

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<tr>
<th>Date</th>
<th>Employee name</th>
<th>Read &amp; understand FOG manual Y/N</th>
<th>Next training due</th>
<th>Manager signature</th>
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FOG BINDER TAB 2
Summary of Rules and Regulations for Wastewater Discharge from Food Establishments

The Poway Municipal Code (Chapters 13.04 and 13.05) and the adopted Uniform Plumbing Code give the City of Poway the authority for the FOG Program, and should be referred to for complete requirements. The Poway Municipal Code can be referred to on the City’s web page: www.ci.poway.ca.us / City Hall. The following is a summary of rules and regulations.

Purpose of the FOG Program
The FOG Program helps prevent sewer line blockages and spills. Wastewater sewer blockages or spills can cause harm to the environment and the community, resulting in costly cleanup and repairs. Any wastewater that enters a storm drain flows untreated into creeks, rivers, and the ocean, and can result in polluted water and closed beaches.

The intent of the FOG Program is to eliminate the discharge of excess grease and oil into the wastewater collection system, minimize the potential formation of blockages to the flow of wastewater as a result of grease accumulations, and eliminate sewage spills that may result from such blockages.

Industrial Wastewater Discharge Permit - Food Establishment Wastewater Discharge (FEWD) Permit

All food establishments including, but not limited to, restaurants, delis, ice-cream parlors, commercial kitchens, etc., desiring to discharge wastewater into the City’s sewer system shall obtain a FEWD Permit from the Director of Public Works.

Subject to Industrial Wastewater Limitations

Wastewater discharged into the City sewer system from establishments engaged in preparing food for public consumption shall be subject to the limitations for Industrial Wastewater Discharge as set forth in Poway Municipal Code Chapters 13.05, as well as Chapter 13.04, the Uniform Plumbing Code, and other conditions and requirements as may be specified in the FOG Program and FEWD Permit.

Permit Requirements

The Food Establishment Wastewater Discharge Permit (FEWD Permit) may require pretreatment of wastewater prior to discharge, restriction of peak flow discharge, discharge of certain wastewater only to specified sewers of the City, or relocation of the point of discharge. Such requirements may also include prohibition of discharge of
certain wastewater components, restriction of discharge to certain hours of the day, payment of additional charges to defray increased costs of the City created by the wastewater discharge, and such other conditions as may be required to achieve the purpose of the FOG Program.

Discharge of Industrial Wastewater in excess of the quantity or quality limitations set by the FEWD Permit is prohibited.

Applications for Food Establishment Wastewater Discharge (FEWD) Permit

Applicants for a Food Establishment Wastewater Discharge (FEWD) Permit shall complete and file with the City of Poway Public Works Department an application in the form prescribed by the Director of Public Works.

Information Requirements

The applicant may be required to submit for evaluation the following information:

a) Name and address of applicant, and 24-hour emergency telephone contact
b) Service and site address
c) Volume of wastewater to be discharged
d) Time of daily food preparation operations
e) Description of food preparation, type, and number of meals served, clean-up procedures, dining room capacity, number of employees, and size of kitchen
f) Any other information deemed necessary by the Director of Public Works to evaluate the Permit application.

Application Review and Approval

The City will review the FEWD Permit application and may require the applicant to provide additional information in order to complete the review. Additionally, an on-site inspection of the wastewater discharge system, pretreatment systems, and any other systems relating to the wastewater discharge may be required.

Upon final approval, the Director of Public Works will issue a Food Establishment Wastewater Discharge Permit, subject to the terms and conditions of the FOG Program, Poway Municipal Code, and Uniform Plumbing Code.

Penalty for Violations

Discharge of wastewater in any manner in violation of the Poway Municipal Code (PMC) Chapter 13.05 is a public nuisance. Whenever a discharge of wastewater is in violation of the PMC and/or FEWD Permit and FOG Program, the City may seek a petition to the Superior Court for the issuance of an injunction. The City may revoke any industrial wastewater discharge permit issued pursuant to Section 13.05.160 of the municipal code, or terminate any wastewater service to any premises if a violation of any provision of the PMC (Chapter 13.05) is found to exist or threatens to cause a condition of contamination, pollution, or nuisance.
Duration of the Permit

Permits are issued for a specified time period, not to exceed five years before renewal application by the establishment. A permit may be issued for a period less than a year or may be stated to expire on a specific date.

Terms and Conditions of the Permit

The terms and conditions of the FEWD Permit may be subject to modification by the Director of Public Works in accordance with any changes in the discharge standard limitations or the prohibited discharge substances described. The discharger shall be informed of any proposed changes in the permit at least thirty (30) days prior to the effective date of change. Any modifications or new conditions in the permit shall include a time schedule for compliance as determined by the City.

Permit is not Transferable

Any sale, lease, transfer, or assignment of the premises or operation for which a FEWD Permit was issued shall require a new permit.

A permit shall be issued only for a specific use or operation, and any new or modified conditions of operation shall require an amended or new permit.

Revocation of Permit

The Director of Public Works may revoke the FEWD Permit of any discharger who is found to be in violation of the FOG Program. The permit may also be revoked on the basis of the following violations:

a) Failure to install grease pretreatment devices as required by the permit.
   b) Failure to fulfill reporting requirements or pretreatment maintenance as required by the permit.
   c) Refusal to grant reasonable access to the premises for the purpose of inspection or monitoring.
   d) Violation of a condition of the permit.

Food Establishment Wastewater Discharge Requirements

Grease Pretreatment

Food establishment dischargers shall ensure that wastewater is acceptable for discharge into the City sewer system in accordance with the limitations established in PMC Chapters 13.04, 13.05, adopted Uniform Plumbing Code, and FOG Program. The Standard Maximum Effluent Concentration of grease and oil is 500 mg/L.

Each discharger shall install a grease pretreatment device, of a type approved by the Director of Public Works, to remove grease from wastewater prior to discharge. Such device shall be located on the waste line leading from areas where grease may be
introduced into the sewer system, such as sinks, drains, appliances, and other fixtures or equipment used in food preparation or the cleanup process.

Each discharger shall also provide a collection drum or other container for the purpose of physically segregating all oils, greases, and greasy solids. No such collected grease shall be introduced into any drainage pipeline, public sewer system, or storm drain.

The permit holder shall establish procedures for the discharger's personnel to perform maximum segregation of oils, greases, and greasy solids, which shall be collected in a drum or container prior to discharging of washing or cleaning wastewater into the sewer system. Grease pretreatment devices shall be maintained in efficient operating condition by means of periodic removal of accumulated grease. Dischargers shall be responsible for the proper removal and disposal of material captured from grease pretreatment devices, and from collection drums used for segregating oils, greases, and greasy solids.

Monitoring Reports and Grease Removal Maintenance Records

The discharger shall keep records of grease pretreatment device cleaning, maintenance and grease removal, and report on such maintenance to the Public Works Department per FOG Program requirements. Dischargers shall also make the records available to City staff during normal business hours.

Each food establishment holding a permit shall provide results of periodic measurements of its discharge, which is to include chemical analysis of oil and grease content, and shall provide documentation of delivery of all grease and oil to a recycling or disposal contractor or facility. Documentation shall be in the form of a manifest from the transporter, or a receipt that identifies the date and volume, name of waste, address, phone, and contact person with contractor or facility. The Public Works Department, Wastewater Utilities Division, will review reports annually.

Right of Entry

No person shall interfere with, delay, resist, or refuse entrance to authorized City personnel attempting to inspect any wastewater generation, conveyance, or treatment facility connected directly or indirectly to the City's wastewater system.

The Director of Public Works shall provide adequate identification for all inspectors and authorized personnel, and they will identify themselves when entering property for inspection purposes or when inspecting the work of any contractor.
POWAY MUNICIPAL CODE

CHAPTERS 13.04-13.05

SEWER REGULATIONS AND
INDUSTRIAL WASTEWATER TREATMENT
PROGRAM
Chapter 13.04
SEWER REGULATIONS

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13.04.040 Sewer system.
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13.04.220 Responsible party for payment of sewer service charge.
13.04.230 Changes in use resulting in increased rates, sewer service charges and/or connection fees.

13.04.010 Title.
This chapter shall be known as “the City of Poway sewer ordinance.” (Ord. 107 § 3.1, 1983)

13.04.020 Purpose of rules and regulations.
The purpose of these rules and regulations is to set forth the terms and conditions under which the City will authorize connections and provide sewer service to customers. (Ord. 107 § 2, 1983)

13.04.030 Grammatical interpretation.
For the purpose of this chapter:
A. All words used in the present tense shall include the future;
B. All words in the plural number shall include the singular number; and
13.04.040 Sewer system.
The City will furnish a system, works and undertakings used for and useful for collection of domestic and industrial sewage, including all parts of the enterprises, all appurtenances to it, and lands, easements, rights in land, contract rights, franchises and other sewage collection facilities and equipment. (Ord. 107 § 3.3, 1983)

13.04.050 Sewer service and connection conditions.
All applicants for sewer service or sewer connections shall be required to accept such conditions of connection and service as may be provided by the City. (Ord. 107 § 3.5, 1983)

13.04.060 Tampering with City property.
No one except an employee or representative of the City shall at any time in any manner operate the valves, motors, gates, machinery, sewage treatment plant, sewer manholes, or siphons of the City system or interfere with sewer lines or other parts of the sewer system. (Ord. 107 § 3.6, 1983)

13.04.080 Definitions.
For the purposes of this chapter, the words set out in this section shall have the following meanings:
A. "Applicant" means any person or group of persons who applies for sewer service.
B. "City service lateral" means the pipe between the City's main or collection line and the customer's service connection at the edge of the street, easement or property line.
C. "Collector line" means the City's pipeline to which the City's service laterals are connected.
D. "Cost" means the cost of labor, material, transportation, supervision, engineering and all other necessary overhead expenses.
E. "Customer" means any person, firm, association, corporation or government agency served or entitled to be served sewer service by the City for compensation.
F. "Developer" means any person or group of persons, including corporations or public entities, who request the City to extend its sewer facilities.
G. "High volume sewer and users" means any applicant that generates more than 25,000 gallons per day ADF (average daily flow).
H. "Owner" means the person owning the fee, or the person in whose name the legal title to the property appears, by deed duly recorded in the County Recorder's office, or the person in possession of the property or buildings under claims of, or exercising acts of ownership over same for himself, or as executor, administrator, guardian or trustee of owner.
I. "Regular sewer service" means sewer service and facilities rendered for normal domestic and industrial or commercial purposes on a permanent basis and the sewer system available therefor.

J. "Sewer connection" means the connection of any domestic, commercial or industrial sewer lines to the City's system after the payment of established fees and charges and City's approval.

K. "Sewer Department" means the administrative and operations facilities of the City performing functions to the City's sewer service, together with the City Manager, City Engineer and other duly authorized City representatives.

L. "Trunk line" means a main sewer line to which many collection lines are connected and which serves the primary purpose of transporting sewage from collection lines to the disposal. (Ord. 473, 1997; Ord. 107 § 4, 1983)

13.04.090 Notice to customers.

Notices from the City to a customer will normally be given in writing and either delivered or mailed to the customer at the customer's last known address. However, in emergencies the City may notify the customer either by telephone or messenger. Notice from the customer to the City may be given by the customer, or the customer's authorized representative in writing to the City Clerk. (Ord. 107 § 5, 1983)

13.04.100 Application for sewer connections and/or monthly sewer service – Applicant responsibilities.

A. Applications. Applications for sewer connections and/or sewer service may be made at the City Hall on prescribed forms provided by the City.

B. Undertaking of Applicant. Application approved for sewer service and/or sewer connections will signify the applicant's willingness and intention to comply with all ordinances and regulations relating to sewer service and/or connections and to make payment for such sewer service fees, connection fees and inspection fees, as well as other pertinent contingent fees set forth by resolution and by other applicable rules and regulations. (Ord. 107 § 6, 1983)

13.04.140 Use of plumbing interceptors.

Except in the case of private dwelling units, the City may order any person connecting to the sewer system to install interceptors for grease, oil, sand or other harmful ingredients. All interceptors shall be of a type and capacity approved by the City and shall be located so as to be easily accessible for cleaning and inspection. Such interceptors shall be installed and maintained by the owner at his expense and shall be kept in good and continuous operation at all times. (Ord. 107 § 10, 1983)

13.04.150 Water conservation devices.

It is the intent of this chapter to promote and facilitate a policy of water conservation and reclamation. New construction units, residential or commercial will not be permitted to connect to the sewer system unless water saver type toilet fixtures are utilized in the
dwelling or commercial buildings. Water saver toilets are defined as those specifically designed and manufactured so as to utilize no more than three and three-quarters gallons of water per flush. In addition, installation of water saver faucets and shower heads is required. (Ord. 107 § 11, 1983)

13.04.160 Right to inspect.

The officers, employees and agents of the City shall have the right to enter upon any premises within the City to inspect and determine if this chapter is being complied with. (Ord. 107 § 12, 1983)

13.04.170 Unlawful to make sewer connection without payment of fee.

A. No person shall connect to the City’s sewer system without first executing an application for sewer connection and obtaining the approval of the City Manager authorizing such connection. Approval of the application shall be based on the applicant’s ability to deliver sewage to points and elevations designated by the City and payment of all fees and charges. All applicants for new connections must provide evidence that the property or properties to be served are within the boundaries of the City or shall have submitted a request and “Consent to Annexation” to the City and paid the prescribed fees and charges for such annexation prior to approval of such annexation and complied with all local and State laws related to annexations.

B. No person shall discharge or allow the discharge of or dump sewage or other waste matter into the City’s sewer system except in compliance with the terms of this chapter and payment of the fees and charges established by resolution pursuant to this chapter. (Ord. 107 § 13, 1983)

13.04.180 Enforcement measures in case of delinquency.

When any fee or charge imposed by this chapter becomes delinquent, the enforcement agents are authorized to take any or all of the following actions:

A. Any steps authorized by law to collect fees and charges;

B. Disconnect the premises from the City’s sewer system; prior to such disconnection, notice of such delinquency shall be given to the occupant of the premises by United States mail with return receipt, or by posting such notice on the premises; the occupant will be given the opportunity for informal hearing with the City Manager prior to said disconnection, and if requested, within five days thereafter appeal to the City Council; concurrently with the disconnect, a copy of the City’s notice to occupant will be furnished to the regional office of the County Health Department. When a premises has been disconnected, it shall not be reconnected until all delinquent fees and charges have been paid, together with a charge for such disconnection and reconnection, as established by resolution of the City Council;

C. Discontinuance of water services. (Ord. 107 § 14, 1983)

13.04.190 Construction of sewer lateral.
The expense of construction of the applicant's sewer line and the City's lateral from the property line to the City main or collection system, including, but not limited to, City permits, excavation, pipe, wyes, tees, backfill, surface restoration and construction of No. 3 cleanout box and property line cleanout is the responsibility of and shall be borne entirely by the applicant. (Ord. 107 § 15, 1983)

13.04.195 Sewer extension line charge.
At the time of application for connection to a sewer main installed by the City and funded by the sewer fund after the date of the adoption of the ordinance codified in this section, the applicant shall pay a sewer extension line charge. The line charge shall be $5,600 per parcel subject to revision from time to time by resolution of the City Council as necessary to reflect current construction cost. The charge is separate and above all other connection charges. Connections subject to the sewer extension line charge are exempt from the sewer line charge. The charge shall be collected at building permit issuance for new construction or application to construct a sewer lateral for existing dwellings. (Ord. 428 § 1, 1994)

13.04.200 Payment of sewer connection fees.
Connection fees and inspection fees are due and payable at the time of application for connection. The applicants for connection to an established home may pay the connection fee on an installment plan of 25 percent down at the time of application with the balance in monthly installments calculated to pay the balance in full within 12 months. This provision is intended for hardship cases when converting from septic system to public sewer. Evidence of the payment and approval of connection to a public sewer must be presented before issuing a building permit. The City will provide a copy of the approved sewer connection application for this purpose when all fees and charges have been paid. (Ord. 107 § 16, 1983)

13.04.205 Alternative method of collecting sewer connection fees for high volume sewer users.
A. Once an applicant is declared a "high volume sewer user" by generating more than 25,000 gallons per day, then they will be eligible to lease their required sewer capacity. The lease payments will be collected on their bimonthly sewer bill based on the average daily flow calculated for the bimonthly period.

B. An applicant will have the option of either paying all of their connection fees prior to building permit issuance or participating in the lease rate. Participating in the lease program will provide sewer capacity as needed; however, the property owner would obtain no ownership in sewer capacity and could not be transferred in the future other than the minimum purchased capacity.

B. A high volume user applicant will be required to construct a sewer discharge metering facility upon which their bimonthly sewer rate and connection fee lease rate will be based.
If any portion of this section should be determined to be unconstitutional or otherwise unenforceable by a court of competent jurisdiction, the remaining portions of this section shall continue in full force and effect. (Ord. 473, 1997)

13.04.210 Payment of sewer service charges.
   A. The sewer service charges shall be set by resolution of the City Council and, except for schools, will be collected on the bimonthly water bill if water service is provided. Schools and those customers not receiving water service will be billed annually in advance during the month of July for the entire year.
   B. Bills for periods of service for 30 days or less shall be one-half of the bimonthly charge. For periods greater than 30 days, the bill shall be equal to the full bimonthly charge.
   C. Bills are due and payable on presentation and are delinquent if unpaid within 30 days of the date mailed. A delinquency charge shall be added to the service charge for all payments not received within 30 days of the date the bill was mailed to the customer. The amount or rate of the delinquency charge shall be set by resolution of the City Council.
   D. The City may discontinue service as provided in PMC 13.04.180 for failure to pay the service charge or delinquency charge. (Ord. 107 § 17, 1983)

13.04.220 Responsible party for payment of sewer service charge.
   A. Bimonthly Service Charge. The party responsible for payment of the bimonthly service charge shall be the party who is being billed for water service. However, the record owner of the property shall ultimately be responsible for payments of the sewer service charges. Any agreement between landlords and tenants to the contrary will not relieve the landlord or record owner of the property of the responsibility for payment of the sewer service charges to the City.
   B. Annual Service Charge. The record owner of the property shall be responsible for payment of the annual service charge. Any agreement between landlords and tenants to the contrary will not relieve the landlord or record owner of the property of the responsibility for payment of the sewer service charges to the City. (Ord. 107 § 18, 1983)

13.04.230 Changes in use resulting in increased rates, sewer service charges and/or connection fees.
   Whenever the use of any premises previously connected to the City’s system is changed so that there is a fee applicable to such premises different from that which existed at time original application was made, there shall immediately become due, owing and payable to the City the increase in fees applicable, and in addition thereto the increased rate for sewer service charges applicable to the premises for the remainder of the month in which the change is made, and all past sewer service charges shall be paid to the current time of the next billing period or July 1st following. The charges imposed by this regulation shall become delinquent 60 days following the date it becomes due. (Ord. 107 § 19, 1983)
For the failure of a customer to comply with all or any part of this chapter and any
ordinance, resolution or order of the City pertaining to the delivery of public services in
addition to any other penalty or remedy provided by law, the City may discontinue sewer
service. (Ord. 107 § 3.7, 1983)

Chapter 13.05
INDUSTRIAL WASTEWATER PRETREATMENT PROGRAM

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13.05.020 Purpose.
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13.05.040 Liquid waste disposal policy.
13.05.050 Definitions.
13.05.060 Responsibility for administration.
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13.05.340 Validity.

13.05.010 Title.
This chapter shall be known as the "City of Poway Industrial Wastewater Pretreatment Ordinance." (Ord. 440 § 1, 1995)

13.05.020 Purpose.
The purpose of this chapter is to provide for the maximum beneficial public use of the City's wastewater system through adequate regulation of sewer construction, sewer use, and industrial wastewater discharge, to provide for equitable distribution of the City's costs, and to provide procedures for complying with wastewater discharge requirements placed upon the City by other regulatory bodies. (Ord. 440 § 1, 1995)

13.05.030 Scope.
This chapter shall be interpreted in accordance with the definitions set forth herein and the provisions of this chapter shall apply to the direct or indirect discharge of all waste into the City's wastewater system.
This chapter provides for the regulation of sewer construction in areas within the City's boundaries, the quantity and quality of discharged wastes, the degree of waste pretreatment required, the setting of waste discharge fees to provide for equitable distribution of costs, the issuance of permits for industrial wastewater discharge and of other miscellaneous permits, and the establishment of penalties for violation of the ordinance codified in this chapter. (Ord. 440 § 1, 1995)

13.05.040 Liquid waste disposal policy.
The City builds and operates public sewers and wastewater facilities serving homes, industries, and commercial establishments. The following policies apply to wastewater discharges within the City's boundaries and to other discharges that are tributary to the City's wastewater facilities.
Generally, wastewater originating within the City's boundaries will be removed by the City's wastewater system provided the wastewater will not (1) damage structures, (2) create nuisances such as odors, (3) menace public health, (4) impose unreasonable collection, treatment, or disposal costs on the City, (5) interfere with wastewater treatment processes, (6) exceed quality requirements set by regulatory government agencies, or (7) detrimentally affect the local environment.
The City is committed to a policy of wastewater renovation and reuse in order to provide an alternate source of water supply and to reduce overall costs of wastewater treatment and disposal. The renovation of wastewater through secondary and tertiary wastewater treatment processes may necessitate more stringent quality requirements on industrial wastewater dischargers than those required by other regulatory agencies.
To comply with stated policies of the Federal government and to permit the City to meet increasingly higher standards, provisions are made in this chapter for the regulation of industrial wastewater discharges. This chapter establishes quantity and quality limitations on industrial wastewater discharges. Methods of cost recovery from industrial wastewater dischargers where the discharges impose inequitable collection, treatment, or disposal costs on the City will be established by a resolution of the City Council.

Recovery and reuse procedures established by industrial wastewater dischargers themselves to meet the limitations set on their discharges will be preferred by the City over those procedures designed solely to meet wastewater discharge limitations. Methods providing for beneficial reuse of otherwise wasted resources shall be the approved method of industrial wastewater treatment wherever feasible.

Optimum use of the City’s wastewater facilities may require that certain industrial wastewaters be discharged during periods of low flow in the City’s wastewater system. (Ord. 440 § 1, 1995)

13.05.050 Definitions.

For the purposes of this chapter, the terms relating to water and wastewater shall be as adopted in the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation.

The meaning of other various terms as used in this chapter shall be as follows:

A. "Applicant" means a person, or group of persons, who applies for sewer service.

B. "Director of Public Services" means the department head of the Public Services Department of the City of Poway or his/her designee.

C. "Discharger" means any person that discharges or causes a discharge of wastewater directly or indirectly to a public sewer.

D. "Domestic wastewater" means the liquid and waterborne wastes derived from the ordinary living processes in a dwelling unit, said wastes being of such character as to permit satisfactory disposal, without special treatment, into a public sewer or by means of a private disposal system.

E. "Industrial wastewater" means all wastewater, excluding domestic wastewater, and shall include all wastewater from any producing, manufacturing, processing, institutional, commercial, service, agricultural, or other operation. These may also include wastes of human origin similar to domestic wastewater.

F. "Mass emission rate" means the weight of material discharged to a public sewer during a given time interval.

G. "Person" means any individual, partnership, entity, firm, association, corporation, or public agency including the State of California and the United States of America.

H. "Public sewer" means a sewer owned and operated by the City of Poway.

I. "Standard methods" means procedures described in the current edition of Standard Methods for the Examination of Water and Wastewater, as published by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation.

J. "Suspended solids" means any insoluble material contained as a component of wastewater and capable of separation from the liquid portion of said wastewater by
laboratory filtration as determined by the appropriate testing procedure and standard methods.

K. "Treatment facilities" means treatment works actually used in the treatment of wastewater or for the reclamation of wastewater.

L. "Waste" means wastewater and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, of human or animal origin, or from any producing, manufacturing, or processing operation of whatever nature, including such wastes placed within containers of whatever nature, prior to and for the purpose of disposal.

M. "Wastewater" means waste and water, whether treated or untreated, discharged into or permitted to enter a public sewer.

N. "Wastewater constituents and characteristics" means the individual chemical, physical, bacteriological, or radiological parameters, including volume, flow rate, and such other parameters that define, classify, or measure the quality and quantity of wastewater.

O. "Wastewater system or facilities" means any and all facilities used for collecting, conveying, pumping, treating, and disposing of wastewater. (Ord. 440 § 1, 1995)

13.05.060 Responsibility for administration.

The Director of Public Services shall administer, implement, and enforce the provisions of this chapter. Any powers granted to or duties imposed upon the Director of Public Services may be delegated by the Director of Public Services to persons in the employ of the City of Poway or any other duly authorized representative, agent, or agency.

The Director of Public Services shall make and enforce regulations necessary to the administration of this chapter. The Director may amend such regulations from time to time as conditions require. These regulations shall be consistent with the general policy established herein by the City Council. (Ord. 440 § 1, 1995)

13.05.070 Penalty for violations.

A. Public Nuisance. Discharge of wastewater in any manner in violation of this chapter or of any order issued by the Director of Public Services, as authorized by this chapter, is hereby declared a public nuisance and shall be corrected or abated as directed by the Director of Public Services. Any person creating such a public nuisance is guilty of a misdemeanor.

B. Injunction. Whenever a discharge of wastewater is in violation of the provisions of this chapter or otherwise causes or threatens to cause a condition of contamination, pollution, or nuisance, the Director of Public Services may cause the City to seek a petition to the Superior Court for the issuance of a preliminary or permanent injunction or both, as may be appropriate in restraining the continuance of such discharge.

C. Costs of Damage. Any person violating any of the provisions of this chapter or who has a discharge which causes a deposit, obstruction, damage, or any other impairment to the City's facilities shall become liable to the City for all expense, loss, or damage occasioned the City by reason of such violation or discharge.
D. Falsifying of Information. Any person who knowingly makes any false statements, representation, record, report, plan, or other document filed with the Director of Public Services or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under this chapter, shall be guilty of a misdemeanor.

E. Termination of Service. The City may revoke any industrial wastewater discharge permit issued pursuant to PMC 13.05.160 or terminate or cause to be terminated any wastewater service to any premises if a violation of any provision of this chapter is found to exist or if a discharge of wastewater causes or threatens to cause a condition of contamination, pollution, or nuisance. This provision is in addition to other statutes or rules authorizing termination of service for delinquency in payment.

When deemed necessary by the Director of Public Services, for the continuing preservation of public health or safety or for the protection of public or private property, the Director may suspend sewer service to any person or persons using the wastewater system in a manner or way to endanger the public health or safety of public or private property. In suspending service, the Director may sever all pertinent connections to the public sewer. If such endangerment shall be imminent, then the Director of Public Services may act immediately to suspend sewer service without notice or warning to said person or persons.

F. Civil Penalties. Any person who violates any provision of this chapter or permit condition, or who discharges wastewater which causes pollution, or who violates any cease and desist order, prohibition, effluent limitation or national pretreatment standard, shall be liable civilly for a penalty not to exceed $300.00 for each day in which such violation occurs.

G. Criminal Penalties. Any person who intentionally violates any provision of this chapter or permit condition or who discharges wastewater which causes pollution or who violates any cease and desist order, prohibition, effluent limitation or national pretreatment standard shall be liable, upon conviction, for a sum not to exceed $10,000 for each day in which such violation occurs, or for imprisonment for not more than one year or both. (Ord. 440 § 1, 1995)

13.05.080 Notice and appeal procedures.

Unless otherwise provided herein, any notice required to be given by the Director of Public Services under this chapter shall be in writing and served in person or by registered or certified mail. If served by mail, the notice shall be sent to the last address known to the Director of Public Services. Where the address is unknown, service may be made upon the owner of record of the property involved.

Notice shall be deemed to have been given at the time of deposit, postage prepaid, in a facility regularly serviced by the United States Postal Service.

Any person found to be violating any provision of the chapter shall be served by the Director of Public Services with written notice stating the nature of the violation. Within 30 days after the date of the notice, unless a shorter time is necessary due to the nature of the violation, a plan for the satisfactory correction thereof shall be submitted to the Director of Public Services. If the violation is not corrected by timely compliance, or a satisfactory correction plan submitted within the specified time, the Director of Public Services may order any person to show cause before the Director of Public Services why enforcement action should not be taken. A written notice shall be served on the
person specifying the time and place of a hearing, the reason why the action is to be taken, and the proposed enforcement action. The Director of Public Services may propose any enforcement action reasonably necessary to abate the violation. Based upon the evidence presented at the hearing, the Director of Public Services shall determine the appropriate enforcement action which should be taken, if any. (Ord. 440 § 1, 1995)

13.05.090 Time limits.
Any time limit provided in any written notice or in any provision of this chapter may be extended only by a written directive of the Director of Public Services. (Ord. 440 § 1, 1995)

13.05.100 Inspection and sampling.
Adequate identification shall be provided by the Director of Public Services for all inspectors and other authorized personnel and those persons shall identify themselves when entering any property for inspection purposes or when inspecting the work of any contractor.

Inspection and sampling of every facility that is involved directly or indirectly with the discharge of wastewater to the City’s wastewater system may be made by the Director of Public Services as he deems necessary. These facilities shall include but not be limited to sewers, wastewater pumping stations, pollution control plants, all industrial processes, food establishment facilities or other facilities which discharge grease and oil at levels which cause blockages to the sewer, industrial wastewater generation, conveyance and pretreatment facilities, and all similar wastewater facilities. Inspections may be made to determine that such facilities are maintained and operated properly and are adequate to meet the provisions of this chapter.

Access to all of the above facilities or to other facilities directly or indirectly connected to the City’s wastewater system shall be given to authorized personnel of the City at all reasonable times including those occasioned by emergency conditions. Any permanent or temporary obstruction to easy access to the wastewater facility to be inspected shall promptly be removed by the facility user or owner at the written or verbal request of the Director of Public Services and shall not be replaced.

No person shall interfere with, delay, resist, or refuse entrance to an authorized City inspector attempting to inspect any wastewater generation, conveyance, or treatment facility connected directly or indirectly to the City’s wastewater system.

The City, through its representative or inspectors, shall have the right to inspect and copy pertinent records relating to a permittee’s wastewater discharge or pretreatment operations including inventories, chemical usage, materials sources, hazardous materials manifests and disposal records, treatment and operations log books and materials invoices. (Ord. 440 § 1, 1995)

13.05.110 Recording of fees and charges.
The Director of Public Services shall keep a permanent and accurate account of all fees and charges received under this chapter, giving the names and addresses of the
persons on whose account the fees and charges were paid, the date and amount thereof, and the purpose for which charges were paid. (Ord. 440 § 1, 1995)

13.05.120 Estimated quantities and values.
Unless otherwise provided herein, whenever the fees and charges required by this chapter are based on estimated values or estimated quantities, the Director of Public Services shall make such determinations in accordance with established estimating practices. (Ord. 440 § 1, 1995)

13.05.130 Approval of plans and issuance of permits.
The Director of Public Services will approve plans for wastewater facilities construction, approve issuance of a permit for industrial wastewater discharge or any other permit under the ordinance codified in this chapter only if it appears to the Director of Public Services that the wastewater facilities construction, sewer connection, industrial wastewater discharge, or other procedure conforms to the requirements of this chapter.
All required fees and charges shall be paid before approval of plans or issuance of a permit.
The approval of plans or the issuance of a permit shall not relieve the discharger of any duty imposed upon him pursuant to this chapter. (Ord. 440 § 1, 1995)

13.05.140 Malicious damage to City’s facilities.
Any unauthorized entering, breaking, damaging, destroying, uncovering, defacing or tampering with any structure, equipment, or appurtenance which is a part of the City’s wastewater system shall be a violation of this chapter. (Ord. 440 § 1, 1995)

13.05.150 Waste disposal – Permit required.
Any person, municipality, sanitation district, or governmental agency desiring to discharge industrial waste into a public sewer shall obtain a permit to discharge said wastes into said system from the Director of Public Services known as a permit for industrial wastewater discharge. (Ord. 440 § 1, 1995)

13.05.160 Permit for industrial wastewater discharge.
The permit for industrial wastewater discharge may require pretreatment of industrial wastewaters before discharge, restriction of peak flow discharges, discharge of certain wastewaters only to specified sewers of the City, relocation of point of discharge, prohibition of discharge of certain wastewater components, restriction of discharge to certain hours of the day, payment of additional charges to defray increased costs of the City of Poway created by the wastewater discharge, and such other conditions as may be required to effectuate the purpose of this chapter.
No person shall discharge industrial wastewaters in excess of the quantity or quality limitations set by the permit for industrial wastewater discharge. Any person desiring to
discharge wastewaters or use facilities which are not in conformance with the industrial wastewater permit should apply to the City of Poway Public Services Department for an amended permit. (Ord. 440 § 1, 1995)

13.05.170 Discharge reports. The City may require that any person discharging or proposing to discharge wastewater into a public sewer file a periodic discharge report. The discharge report may include, but not be limited to, nature of process, volume, rates of flow, mass emission rate, production quantities, hours of operation, or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also include the chemical constituents and quantity of liquid or gaseous materials stored on site even though they may not normally be discharged. In addition to discharge reports, the City may require information in the form of industrial wastewater discharge permit applications and self-monitoring reports.

In addition to the foregoing, the City may also require permittees to provide baseline monitoring reports, compliance schedule reports and final compliance reports. (Ord. 440 § 1, 1995)

13.05.180 Permit application. A. Persons seeking an industrial wastewater discharge permit shall complete and file with the Director of Public Services, an application in the form prescribed by the Director of Public Services, and accompanied by the applicable fees. The applicant may be required to submit, in units and terms appropriate for evaluation, the following information:

1. Name, address and standard industrial classification number of applicant;
2. Volume of wastewater to be discharged;
3. Wastewater constituents and characteristics including but not necessarily limited to those mentioned in PMC 13.06.270 as determined by a laboratory approved by the City;
4. Time and duration of discharge;
5. Average and 30-minute peak wastewater flow rates, including daily, monthly, and seasonal variations if any;
6. Description of activities, facilities, and plant process on the premises including all materials, processes, and types of materials which are or could be discharged; and
7. Any other information as may be deemed by the Director of Public Services to be necessary to evaluate the permit application.

B. The Director of Public Services will evaluate the data furnished by the applicant and may require additional information. After evaluation and acceptance of the data furnished, an on-site inspection of the waste discharge system, treatment systems, or other systems relating to the waste discharge may be required. The Director of Public Services may then issue an industrial wastewater discharge permit subject to terms and conditions provided herein. (Ord. 440 § 1, 1995)
13.05.190 Permit conditions.
   Industrial wastewater discharge permits shall be subject to all provisions of this
   chapter and all other regulations, user charges, and fees established from time to time
   by resolution of the City Council. The conditions of industrial wastewater discharge
   permits shall be uniformly enforced by the Director of Public Services in accordance
   with this chapter, and applicable local, State, and Federal regulations. (Ord. 440 § 1,
   1995)

13.05.200 Duration of industrial wastewater discharge permits.
   Permits shall be issued for a specified time period, not to exceed five years. A permit
   may be issued for a period less than a year or may be stated to expire on a specific
   date. If the permittee is not notified by the Director of Public Services 30 days prior to
   the expiration of the permit, the permit shall be extended one additional year. The terms
   and conditions of the permit may be subject to modification and change by the City of
   Poway during the life of the permit as limitations or requirements as identified in PMC
   13.05.270 are modified and changed. The permittee shall be informed of any proposed
   changes in his permit at least 30 days prior to the effective date of change. Any
   changes or new conditions in the permit shall include a reasonable time schedule for
   compliance. (Ord. 440 § 1, 1995)

13.05.210 Transfer of an industrial wastewater discharge permit or changed use.
   Industrial wastewater discharge permits shall be issued only for specific use for a
   specific operation. Any sale, lease transfer or assignment of the premises or operation
   for which the permit was issued shall require a new permit to be issued. Any new or
   changed conditions of operation shall require a new permit to be issued. (Ord. 440 § 1,
   1995)

13.05.220 Revocation of industrial wastewater discharge permit.
   The Director of Public Services may revoke the permit of any permittee who is found
   to be in violation of this chapter or applicable local, State, or Federal regulations or who:
   A. Fails to factually report the wastewater constituents and characteristics of its
      discharge;
   B. Fails to report significant changes in operations, or wastewater constituents and
      characteristics;
   C. Refuses reasonable access to the permittee’s premises for the purpose of
      inspection or monitoring; or
   D. Violates conditions of the permit. (Ord. 440 § 1, 1995)

13.05.230 Industrial wastewater discharge permit fee.
   An industrial wastewater discharge permit fee will be collected annually from all
   permittees. The permit fee will be established periodically by a resolution of the City
   Council; provided, however, that prior to considering any change in said permit fee by
   resolution as aforesaid, a notice of the proposed change shall be posted by the City
Clerk at least 10 days prior to consideration of such a resolution by the City Council. (Ord. 440 § 1, 1995)

13.05.235 Collection of monitoring fees.
Where monitoring services are provided by either the City of Poway or an outside agency on the City’s behalf, the City of Poway shall assess the individual discharge permit holder the actual costs incurred by the City of Poway in conjunction with the monitoring and the administrative overhead for the management of the pretreatment program. (Ord. 440 § 1, 1995)

13.05.240 Sampling, self-monitoring, and flows.
The Director of Public Services shall require the permittee to provide results of periodic measurements of its discharge which is to include chemical analyses and flow. The Director of Public Services may require a monitoring facility to be furnished and operated at permittee’s expense. All permittees making periodic measurements shall furnish and install at an appropriate location, a calibrated flume, weir, flow meter, or similar device suitable to measure flow rate and total volume approved by the Director of Public Services. In lieu of wastewater flow measurement, the Director of Public Services may accept records of water usage and adjust the flow volume by suitable factors to determine peak and average flow rates for the specific industrial wastewater discharge. The monitoring facility should normally be situated on the permittee’s premises, but the Director of Public Services may, when such a location would be impractical or cause undue hardship on the user, allow the facility to be constructed in the public street or sidewalk area and located so that it will not be obstructed by landscaping or parked vehicles. Whether constructed on public or private property, the sampling and monitoring facilities shall be provided in accordance with the Director of Public Services requirements and shall be completed within 90 days following written notification by the Director of Public Services, unless a time extension is granted by the Director of Public Services. Those permittees required by the Director of Public Services to make periodic measurements of industrial wastewater flows and constituents shall annually make the minimum number of such measurements as required in the permit. When required by the Director of Public Services, permittees shall install and maintain in proper order automatic flow-proportional sampling equipment and/or automatic analysis and recording equipment. Permittees shall allow the City or its representative ready access at all reasonable times to all parts of the premises for purposes of sampling or in the performance of any of their duties. The Director of Public Services shall have the right to set up on the permittee’s property such devices as are necessary to conduct sampling or metering operation. Where a permittee has security measures in force, the permittee shall make the necessary arrangements with their security guards so that upon presentation of suitable identification, personnel of the City shall be permitted to enter without delay.

All sampling, analysis and flow measurement procedures, equipment, results, and records shall be subject at any time to inspection by the Director of Public Services. (Ord. 440 § 1, 1995)
13.05.250 Pretreatment.
Permittees shall make wastewater acceptable under the limitations established herein before discharging to any public sewer. Any facilities required to pretreat wastewater to a level acceptable to the Director of Public Services shall be provided and maintained at the permittee's sole expense. Detailed plans, compliance schedules, and operating procedures shall be submitted to the Director of Public Services for review and shall be approved by the Director of Public Services before construction of the facility. The review of such plans and operating procedures will in no way relieve the permittee from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the Director of Public Services under the provisions of this chapter. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be approved by the Director of Public Services. No permittee shall increase the use of processed water or, in any way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with any local, State, or Federal discharge standard.

The Director of Public Services shall have the authority in negotiation with any industrial permittee, to impose compliance schedules relating to installation of specific pretreatment equipment, filing of reports, and achievement of specific discharge conditions including target parameter concentrations. (Ord. 440 § 1, 1995)

13.05.260 Protection from accidental discharge.
A. Each permittee shall provide protection from accidental discharge of prohibited materials or from other substances regulated by this chapter. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the permittee’s own cost and expense.

B. In the case of an accidental discharge, it is the responsibility of the permittee to immediately notify both the Director of Public Services of the City of Poway and the City Manager of the City of San Diego of the incident. The notification shall include location of discharge, type of waste, concentration and volume, and corrective actions. Within five days following an accidental discharge, the permittee shall submit to the Director of Public Services a detailed written report describing the cause of the discharge and the measures to be taken by the permittee to prevent similar future occurrences. Such notification shall not relieve the permittee of any expense, loss, damages, or other liability which may be incurred as a result of damage to the wastewater systems, fish kills, or any other damage to persons or property; nor shall such notification relieve the permittee of any fines, civil penalties, or other liability which may be imposed by this chapter or other applicable law. A notice shall be permanently posted on the permittee's bulletin board or other prominent place advising employees who to call in the event of an accidental discharge. Permittees shall ensure that all employees who may cause, allow, or observe such an accidental discharge to occur are advised of the emergency notification procedures. (Ord. 440 § 1, 1995)

13.05.270 Prohibited discharges.
In most cases, the concentration or amount of any particular constituent which will be judged to be excessive or unreasonable cannot be foreseen but will depend on the
results of technical determinations and the actions of regulatory agencies. The list of constituents which may be regulated provides specific limits only where they are not reasonably well established. The other constituents in the list are presented with the objective of enumerating the types of wastes which will be regulated from time to time. No person shall discharge or cause to be discharged to a public sewer, which directly or indirectly connects to the City's wastewater system, the following:

A. Any gasoline, benzene, naphtha, solvent, fuel oil, or any liquid, solid or gas that would cause or tend to cause flammable or explosive conditions to result in the wastewater system;

B. Any matter containing toxic or poisonous solids, liquids, or gases in such quantities that, alone or in combination with other substances, may create a health hazard for humans, animals, or the local environment, interfere detrimentally with wastewater treatment processes, cause a public nuisance, or cause any hazardous condition to occur in the wastewater system;

C. Any matter having a pH lower than 5.0 or having any corrosive or detrimental characteristic that may cause injury to wastewater treatment or maintenance personnel or may cause damage to structures, equipment, or other physical facilities of the wastewater system;

D. Any solids or viscous substances or other matter of such quality, size, or quantity that they may cause obstruction to flow in the sewer or be detrimental to proper wastewater treatment plant operations. These objectionable substances include, but are not limited to, asphalt, dead animals, offal, ashes, sand, mud, straw, industrial process shavings, metal, glass, rags, feathers, tar, wood, whole blood, manure, bones, hair and fleshings, entrails, fatty acids, grease and oil, paper dishes, paper cups, milk containers, or other similar paper products, either whole or ground;

E. Any rainwater, stormwater, groundwater, street drainage, subsurface drainage, roof drainage, yard drainage, water from yard fountains, ponds, or lawn sprays, or any other uncontaminated water;

F. Any matter having a temperature higher than 150 degrees Fahrenheit (65 degrees Celsius) or at a temperature which causes the influent to the waste treatment plant to exceed 104 degrees Fahrenheit (26 degrees Celsius);

G. Any matter containing more than 500 mg/l of oil or grease;

H. Any strongly odoriferous matter or matter tending to create odors;

I. Any matter containing over 1.0 mg/l of dissolved sulfides;

J. Any matter with a pH high enough to cause alkaline incrustations on sewer walls;

K. Any matter promoting or causing the promotion of toxic gases;

L. Any matter requiring an excessive quantity of chlorine or other chemical compound used for disinfection purposes;

M. Any excessive amounts of deionized water, steam condensate, distilled water, or single-pass cooling water;

N. Any radioactive matter, except:

1. When the person is authorized to use radioactive materials by the State Department of Health or other governmental agency empowered to regulate the use of radioactive materials, and

2. When the matter is discharged in strict conformity with current California Radiation Control Regulations (California Administrative Code, Title 17), and the
Nuclear Regulatory Commission regulations and recommendations for safe disposal, and

3. When the person is in compliance with all rules and regulations of all other applicable regulatory agencies;
   O. Any matter producing excessive discoloration of the wastewater treatment plant effluent;
   P. Any toxic materials including, but not limited to, all heavy metals, cyanide, phenols, chlorinated hydrocarbons, and other organic compounds unless limited to that concentration which complies with all local, State, and Federal discharge limitations, and which does not interfere with the operation of the wastewater facilities. (Ord. 440 § 1, 1995)

13.05.280 Limitations on the use of garbage grinders.
Matter from garbage grinders shall not be discharged into a public sewer except matter generated in preparation of food normally consumed on the premises, or where the permittee has obtained a permit for that specific use from the Director of Public Services, and agrees to undertake whatever self-monitoring is required to enable the Director of Public Services to equitably determine the sewer service charges based on the waste constituents and characteristics. Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the public sewer. Garbage grinders shall not be used for grinding plastic, paper products, inert materials, or garden refuse. (Ord. 440 § 1, 1995)

13.05.300 Limitations on point of discharge.
No person shall discharge any substances directly into a manhole or other opening in a public sewer other than through an approved sewer connection unless upon written application and payment of the applicable charges and fees and the Director of Public Services approves the issuance of a permit for such direct discharges. (Ord. 440 § 1, 1995)

13.05.310 Availability of the City's wastewater facilities.
If wastewater facilities capacity is not available, the Director of Public Services may require the industrial waste discharger to restrict his discharge until sufficient capacity can be made available. When requested, the Director of Public Services will advise persons desiring to locate new facilities as to the areas where industrial wastewater of their proposed quantity and quality can be received by available wastewater facilities. The Director of Public Services may refuse service to persons locating facilities in areas where their proposed quantity or quality of industrial wastewater is unacceptable in the available treatment facility. (Ord. 440 § 1, 1995)

13.05.320 Discrepancies between actual and reported industrial wastewater discharge permit quantities.
Should measurements or other investigations reveal that the permittee is discharging a flow rate or a quantity of flow, chemical oxygen demand, or suspended solids significantly in excess of that stated on the permit or in excess of the quantities reported to the Director of Public Services by the permittee and upon which the sewer service charge is based, the permittee shall apply for an amended permit and shall be assessed for all delinquent charges together with penalty and interest. Before these charges shall be assessed at least two additional 24-hour samples and flow measurements shall be obtained by the Director of Public Services with all costs of sampling and analyses to be paid by the permittee.

For the purpose of establishing the correct sewer service charge, the data obtained in these samplings along with any other relevant information obtained by the Director of Public Services or presented by the permittee shall be used by the Director of Public Services in determining the quantity parameters for use in determining the sewer service charge. A permittee who violates this section shall, in the absence of other evidence, be presumed to have been discharging at the determined parameter values over the preceding three years or since the Director of Public Services previous verification of quantity parameters, whichever period is shorter. (Ord. 440 § 1, 1995)

13.05.330 Records retention.

All permittees subject to this chapter shall retain and preserve for not less than three years, any records, books, documents, memoranda, reports, correspondence, and any and all summaries thereof relating to monitoring, sampling, and chemical analyses made by or on behalf of a permittee in connection with its discharge. All records which pertain to matters which are the subject of administrative action or any other enforcement or litigation activities brought by the City shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired. (Ord. 440 § 1, 1995)

13.05.340 Validity.

If any provision of this chapter or the application thereof to any person or circumstance is held invalid, the remaining portions of the chapter and the application of such provisions to other persons or circumstances are to be considered valid. (Ord. 440 § 1, 1995)
UNIFORM PLUMBING CODE

CHAPTER 10

TRAPS AND INTERCEPTORS
CHAPTER 10
TRAPS AND INTERCEPTORS

1001.0 Traps Required.

1001.1 Each plumbing fixture, excepting those having integral traps or as permitted in Section 1001.2, shall be separately trapped by an approved type of water seal trap. Not more than one (1) trap shall be permitted on a trap arm.

1001.2 One (1) trap shall be permitted to serve a set of not more than three (3) single compartment sinks or laundry tubs of the same depth or three (3) lavatories immediately adjacent to each other and in the same room if the waste outlets are not more than thirty (30) inches (762 mm) apart and the trap is centrally located when three (3) compartments are installed.

1001.3 No food waste disposal unit shall be installed with any set of restaurant, commercial, or industrial sinks served by a single trap; each such food waste disposal unit shall be connected to a separate trap. Each domestic clothes washer and each laundry tub shall be connected to a separate and independent trap, except that a trap serving a laundry tub shall be permitted to also receive the waste from a clothes washer set adjacent thereto. No clothes washer or laundry tub shall be connected to any trap for a kitchen sink.

1001.4 The vertical distance between a fixture outlet and the trap weir shall be as short as practicable, but in no case shall the tailpiece from any fixture exceed twenty-four (24) inches (610 mm) in length.

1002.0 Traps Protected by Vent Pipes.

1002.1 Each plumbing fixture trap, except as otherwise provided in this code, shall be protected against siphonage, back-pressure, and air circulation shall be assured throughout all parts of the drainage system by means of a vent pipe installed in accordance with the requirements of this code.

1002.2 Each fixture trap shall have a protecting vent so located that the developed length of the trap arm from the trap weir to the inner edge of the vent shall be within the distance given in Table 10-1, but in no case less than two (2) times the diameter of the trap arm.

1002.3 A trap arm shall be permitted to change direction without the use of a cleanout when such change of direction does not exceed 90 degrees (1.6 rad). All horizontal changes in direction of trap arms shall comply with Section 706.3.

Exception: For trap arms three (3) inches (80 mm) in diameter and larger, the change of direction shall not exceed 135 degrees (2.36 rad) without the use of a cleanout.

1002.4 The vent pipe opening from a soil or waste pipe, except for water closets and similar fixtures, shall not be below the weir of the trap.

1003.0 Traps — Described.

1003.1 Each trap, except for traps within an interceptor or similar device shall be self-cleaning. Traps for bathtubs, showers, lavatories, sinks, laundry tubs, floor drains, urinals, drinking fountains, dental units, and similar fixtures shall be of standard design, weight and shall be of ABS, cast brass, cast iron, lead, PP, PVC, or other approved material. An exposed and readily accessible drawn-brass tubing trap, not less than 17 B & S Gauge (0.045 inch) (1.1 mm), shall be permitted to be used on fixtures discharging domestic sewage.

Exceptions:

(1) Drawn-brass tubing traps shall not be used for urinals. Each trap shall have the manufacturer's name stamped legibly in the metal of the trap, and each tubing trap shall have the gauge of the tubing in addition to the manufacturer's name. Every trap shall have a smooth and uniform interior waterway.

(2) [HCD 1 & HCD 2] Non-water supplied urinals conforming to ASME A112.19.19-2006, Standard for Vitreous China Nonwater Urinals, or reference standards in Table 14-1 for non-vitreous ceramic or plastic urinal fixtures.

1003.2 A maximum of one (1) approved slip joint fitting shall be permitted to be used on the outlet side of a trap, and no

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TABLE 10-1
HORIZONTAL LENGTHS OF TRAP ARMS
(EXCEPT FOR WATER CLOSETS AND SIMILAR FIXTURES)*

<table>
<thead>
<tr>
<th>TRAP ARM PIPE DIAMETER</th>
<th>DISTANCE TRAP TO VENT MINIMUM</th>
<th>LENGTH MAXIMUM</th>
<th>TRAP ARM PIPE DIAMETER</th>
<th>DISTANCE TRAP TO VENT MINIMUM</th>
<th>LENGTH MAXIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/4&quot;</td>
<td>2 1/2&quot;</td>
<td>30&quot; (2&quot;-6&quot;)</td>
<td>32 mm</td>
<td>64 mm</td>
<td>762 mm</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>3&quot;</td>
<td>42&quot; (3&quot;-6&quot;)</td>
<td>40 mm</td>
<td>76 mm</td>
<td>1,067 mm</td>
</tr>
<tr>
<td>2&quot;</td>
<td>4&quot;</td>
<td>60&quot; (5&quot;-9&quot;)</td>
<td>50 mm</td>
<td>102 mm</td>
<td>1,524 mm</td>
</tr>
<tr>
<td>3&quot;</td>
<td>6&quot;</td>
<td>72&quot; (6&quot;-9&quot;)</td>
<td>80 mm</td>
<td>152 mm</td>
<td>1,829 mm</td>
</tr>
<tr>
<td>4&quot;</td>
<td>8&quot;</td>
<td>120&quot; (10&quot;-0&quot;)</td>
<td>100 mm</td>
<td>203 mm</td>
<td>3,048 mm</td>
</tr>
<tr>
<td>Exceeding 4&quot;</td>
<td>2 x Diameter</td>
<td>120&quot; (10&quot;-0&quot;)</td>
<td>Exceeding 100 mm</td>
<td>2x Diameter</td>
<td>3,048 mm</td>
</tr>
</tbody>
</table>

Maintain one-fourth (1/4) inch per foot slope (20.8 mm/m)

*The developed length between the trap of a water closet or similar fixture (measured from the top of the closet, flange to the inner edge of the vent) and its vent shall not exceed six (6) feet (1,829 mm)
TRAPS AND INTERCEPTORS

tubing trap shall be installed without a listed tubing trap adapter. Listed plastic trap adapters shall be permitted to be used to connect listed metal tubing traps.

1003.3 The size (nominal diameter) of a trap for a given fixture shall be sufficient to drain the fixture rapidly, but in no case less than nor more than one (1) pipe size larger than given in Table 7-3. The trap shall be the same size as the trap arm to which it is connected.

1004.0 Traps — Prohibited.

No form of trap that depends for its seal upon the action of movable parts shall be used. No trap that has concealed interior partitions, except those of plastic, glass, or similar corrosion-resistant material, shall be used. "S" traps, bell traps, and crown-vented traps shall be prohibited. No fixture shall be double trapped. Drum and bottle traps shall be installed only for special conditions. No trap shall be installed without a vent, except as otherwise provided in this code.

1004.1 Bladders, check valves or any other type of devices with moveable parts shall be prohibited to serve as a trap.

1005.0 Trap Seals.

Each fixture trap shall have a liquid seal of not less than two (2) inches (51 mm) and not more than four (4) inches (102 mm), except where a deeper seal is found necessary by the Authority Having Jurisdiction. Traps shall be set true with respect to their liquid seals and, where necessary, they shall be protected from freezing.

1006.0 Floor Drain Traps.

Floor drains shall connect into a trap so constructed that it can be readily cleaned and of a size to serve efficiently the purpose for which it is intended. The drain inlet shall be so located that it is at all times in full view. When subject to reverse flow of sewage or liquid waste, such drains shall be equipped with an approved backwater valve.

1007.0 Trap Seal Protection.

Floor drain or similar traps directly connected to the drainage system and subject to infrequent use shall be protected with a trap seal primer, except where not deemed necessary for safety or sanitation by the Authority Having Jurisdiction. Trap seal primers shall be accessible for maintenance.

1008.0 Building Traps.

Building traps shall not be installed except where required by the Authority Having Jurisdiction. Each building trap when installed shall be provided with a cleanout and with a relieving vent or fresh-air intake on the inlet side of the trap, which need not be larger than one-half the diameter of the drain to which it connects. Such relieving vent or fresh-air intake shall be carried above grade and terminate in a screened outlet located outside the building.

1009.0 Industrial Interceptors (Clarifiers) and Separators.

1009.1 When Required. Interceptors (clarifiers) (including grease, oil, sand interceptors [clarifiers], etc.) shall be required by the Authority Having Jurisdiction when they are necessary for the proper handling of liquid wastes containing grease, flammable wastes, sand, solids, acid or alkaline substances, or other ingredients harmful to the building drainage system, the public or private sewer, or to public or private sewage disposal.

1009.2 Approval. The size, type, and location of each interceptor (clarifier) or separator shall be approved by the Authority Having Jurisdiction. Except where otherwise specifically permitted, no wastes other than those requiring treatment or separation shall be discharged into any interceptor (clarifier).

1009.3 Design. Interceptors (clarifiers) for sand and similar heavy solids shall be so designed and located as to be readily accessible for cleaning and shall have a water seal of not less than six (6) inches (152 mm).

1009.4 Relief Vent. Interceptors (clarifiers) shall be so designed that they will not become air-bounded if closed covers are used. Each interceptor (clarifier) shall be properly vented.

1009.5 Location. Each interceptor (clarifier) cover shall be readily accessible for servicing and maintaining the interceptor (clarifier) in working and operating condition. The use of ladders or the removal of bulky equipment in order to service interceptors (clarifiers) shall constitute a violation of accessibility. Location of all interceptors (clarifiers) shall be shown on the approved building plan.

1009.6 Maintenance of Interceptors. Interceptors shall be maintained in efficient operating condition by periodic removal of accumulated grease, scum, oil, or other floating substances and solids deposited in the interceptor.

1009.7 Discharge. The waste pipe from oil and sand interceptors shall discharge as approved by the Authority Having Jurisdiction.

1010.0 Slaughterhouses, Packing Establishments, etc.

Every fish, fowl, and animal slaughterhouse or establishment; every fish, fowl, and meat packing or curing establishment; every soap factory, tallow-rendering, fat-rendering, and hide-curing establishment shall be connected to and shall drain or discharge into an approved grease interceptor (clarifier).


1010.1.1 Drainage and Plumbing Systems. Drainage and plumbing systems shall meet the requirements of Section 724.0.

1010.1.1.1 Each floor drain shall be equipped with a deep-seal trap.

1010.1.2 The plumbing shall be installed so as to prevent sewage from backing up and flooding the floor. Exception: Floor drains in areas not regularly washed down will be acceptable with deep-seal traps, provided
that such drains are connected to secondary drainage systems discharging into a safe sink or basin (air gap) that is properly trapped and vented, and that such drains accomplish the objectives and intent of this section.

1010.3 Interceptor traps which are connected with the sewer system shall not be near any edible products department or in any area where products are unloaded from or loaded into vehicles. To facilitate cleaning, such traps shall have inclined bottoms and be provided with suitable covers.

1010.4 [AGR] Collection Centers and Facilities. All drains shall be properly installed with adequate deep-sealed traps of the conventional "P," "U" or "S" type and vents.

1010.5 [AGR] Horse Meat and Pet Food Establishments. There shall be an efficient drainage and plumbing system for the establishment and premises. All drains and gutters shall be installed with traps and vents approved by the Department.

1010.6 [AGR] Drainage and Plumbing. There shall be an efficient drainage and plumbing system for the plant and premises.

1010.4.1 Drainage and Gutters. All drains and gutters shall be properly installed with approved traps and vents. The drainage and plumbing system must permit the quick runoff of all water from plant buildings, and of surface water around the plant on the premises, and all such water shall be disposed of in such a manner as to prevent a nuisance or health hazard.

1010.4.2 Sewage and Plant Waste. The sewer system have adequate slope and capacity to remove readily all waste from the various processing operations and to minimize, or if possible, prevent stoppage and surcharging of the system. When the sewage disposal system is a private system which is required to be approved by a state or local health authority, the applicant shall furnish the administrator a letter from the proper health authority indicating that the sewage disposal system is acceptable to such authority.

1011.0 Minimum Requirements for Auto Wash Racks.
Every private or public wash rack and/or floor or slab used for cleaning machinery or machine parts shall be protected against storm or surface water and shall drain or discharge into an approved interceptor (clarifier).

1012.0 Commercial and Industrial Laundries.
Laundry equipment in commercial and industrial buildings that does not have integral strainers shall discharge into an interceptor having a wire basket or similar device that is removable for cleaning and that will prevent passage into the drainage system of solids one-half (1/2) inch (12.7 mm) or larger in maximum dimension, such as string, rags, buttons, or other solid materials detrimental to the public sewerage system.

1013.0 Bottling Establishments.
Bottling plants shall discharge their process wastes into an interceptor that will provide for the separation of broken glass or other solids, before discharging liquid wastes into the drainage system.

1014.0 Grease Interceptors.
1014.1 Where it is determined by the Authority Having Jurisdiction that waste pretreatment is required, an approved type of grease interceptor(s) complying with the provisions of this section shall be correctly sized and properly installed in grease waste line(s) leading from sinks and drains, such as floor drains, floor sinks, and other fixtures or equipment in serving establishments such as restaurants, cafes, lunch counters, cafeterias, bars and clubs, hotels, hospitals, sanitariums, factory or school kitchens, or other establishments where grease is introduced into the drainage or sewage system in quantities that can affect line stoppage or hinder sewage treatment or private sewage disposal. Any combination of hydro-mechanical, gravity grease interceptors and engineered systems shall be allowed in order to meet this code and other applicable requirements of the Authority Having Jurisdiction when space or existing physical constraints of existing buildings necessitate such installations. A grease interceptor shall not be required for individual dwelling units or for any private living quarters. Water closets, urinals, and other plumbing fixtures conveying human waste shall not drain into or through the grease interceptor.

1014.1A [OSHPD 1, 2, 3 & 4] The Authority Having Jurisdiction of the individual official, board, department or agency authorized to administer and enforce the sewage treatment system in the area of the location of the health facility.

1014.1B [OSHPD 1, 2, 3 & 4] Grease traps shall not be installed in food preparation area of the kitchen.

1014.1C [OSHPD 1, 2, 3 & 4] Grease interceptors shall be installed outside of the kitchen area in location affording ease of maintenance and servicing.

1014.1.1 Each fixture discharging into a grease interceptor shall be individually trapped and vented in an approved manner.

1014.1.2 All grease interceptors shall be maintained in efficient operating condition by periodic removal of the accumulated grease and latent material. No such collected grease shall be introduced into any drainage piping or public or private sewer. If the Authority Having Jurisdiction determines that a grease interceptor is not being properly cleaned or maintained, the Authority Having Jurisdiction shall have the authority to mandate the installation of additional equipment or devices and to mandate a maintenance program.

1014.1.3 Food Waste Disposal Units and Dishwashers. Unless specifically required or permitted by the Authority Having Jurisdiction, no food waste disposal unit or dishwasher shall be connected to or discharge into any grease interceptor. Commercial food waste disposers shall be permitted to discharge directly into the building's drainage system.
1014.2 Hydromechanical Grease Interceptors.

1014.2.1 Plumbing fixtures or equipment connected to a Type A and B hydromechanical grease interceptor shall discharge through an approved type of vented flow control installed in a readily accessible and visible location. Flow control devices shall be designed and installed so that the total flow through such device or devices shall at no time be greater than the rated flow of the connected grease interceptor. No flow control device having adjustable or removable parts shall be approved. The vented flow control device shall be located such that no system vent shall be between the flow control and the grease interceptor inlet. The vent or air inlet of the flow control device shall connect with the sanitary drainage vent system, as elsewhere required by this code, or shall terminate through the roof of the building, and shall not terminate to the free atmosphere inside the building.

Exception: Listed grease interceptors with integral flow controls or restricting devices shall be installed in an accessible location in accordance with the manufacturers' instructions.

1014.2.2 The total capacity in gallons (L) of fixtures discharging into any hydromechanical grease interceptor shall not exceed two and one-half (2 1/2) times the certified GPM (L/min) flow rate of the interceptor as per Table 10-2.

For the purpose of this section, the term “fixture” shall mean and include each plumbing fixture, appliance, apparatus, or other equipment required to be connected to or discharged into a grease interceptor by any provision of this section.

1014.2.3 A vent shall be installed downstream of hydromechanical grease interceptors in accordance with the requirements of this code.

1014.3 Gravity Grease Interceptors. Required gravity grease interceptors shall comply with the provisions of Sections 1014.3.1 through 1014.3.7.

1014.3.1 General. The provisions of this section shall apply to the design, construction, installation, and testing of commercial kitchen gravity grease interceptors.

1014.3.2 Waste Discharge Requirements.

1014.3.2.1 Waste discharge in establishments from fixtures and equipment which contain grease, including but not limited to, scullery sinks, pot and pan sinks, dishwashers, soup kettles, and floor drains located in areas where grease-containing materials exist, shall be permitted to be drained into the sanitary waste through the interceptor when approved by the Authority Having Jurisdiction.

1014.3.2.2 Toilets, urinals, and other similar fixtures shall not drain through the interceptor.

1014.3.2.3 All waste shall enter the interceptor through the inlet pipe only.

1014.3.3 Design.

1014.3.3.1 Gravity Interceptors shall be constructed in accordance with the applicable standard in Table 14-1 or the design approved by the Authority Having Jurisdiction.

---

**TABLE 10-2**

**HYDROMECANICAL INTERCEPTOR SIZING USING GRAVITY FLOW RATES**

<table>
<thead>
<tr>
<th>DIAMETER OF GREASE WASTE PIPE</th>
<th>MAXIMUM FULL PIPE FLOW (GPM)²</th>
<th>ONE-MINUTE DRAINAGE PERIOD (GPM)</th>
<th>TWO-MINUTE DRAINAGE PERIOD (GPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2&quot;</td>
<td>20</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>3&quot;</td>
<td>60</td>
<td>75</td>
<td>35</td>
</tr>
<tr>
<td>4&quot;</td>
<td>125</td>
<td>150</td>
<td>75</td>
</tr>
<tr>
<td>5&quot;</td>
<td>230</td>
<td>250</td>
<td>125</td>
</tr>
<tr>
<td>6&quot;</td>
<td>375</td>
<td>500</td>
<td>250</td>
</tr>
</tbody>
</table>

1 For interceptor sizing by fixture capacity see the example below.

2 \(\frac{1}{2}\) (.240) slope per foot based on Manning's formula with friction factor N = 0.012

**EXAMPLE FOR SIZING HYDROMECHANEICAL INTERCEPTOR(S) USING FIXTURE CAPACITY**

**Step 1:** Determine the flow rate from each fixture.

\[\text{[Length] X [Width] X [Depth]} / 231 = \text{Gallons X [.75 fill factor]} / \text{[Drain Period (1 min or 2 min)]}\]

**Step 2:** Calculate the total load from all fixtures that discharge into the interceptor.

<table>
<thead>
<tr>
<th>FIXTURES</th>
<th>LOAD (gallons)</th>
<th>SIZE OF GREASE INTERCEPTOR ONE-MINUTE DRAINAGE PERIOD (gpm)</th>
<th>TWO-MINUTE DRAINAGE PERIOD (gpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compartments size</td>
<td>2</td>
<td>44.9</td>
<td></td>
</tr>
<tr>
<td>24&quot;x24&quot;x12&quot;</td>
<td>2</td>
<td>44.9</td>
<td></td>
</tr>
<tr>
<td>Hydrant</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated Appliance</td>
<td>2</td>
<td>49.9</td>
<td>50</td>
</tr>
</tbody>
</table>
1014.3.4 Location.

1014.3.4.1 Each grease interceptor shall be so installed and connected that it shall be at all times easily accessible for inspection, cleaning, and removal of the intercepted grease. A gravity grease interceptor complying with IAPMO Z1001, Standard for Pre-fabricated Gravity Grease Interceptors, shall not be installed in any part of a building where food is handled. Location of the grease interceptor shall meet the approval of the Authority Having Jurisdiction.

1014.3.4.2 Interceptors shall be placed as close as practical to the fixtures they serve.

1014.3.4.3 Each business establishment for which a gravity grease interceptor is required shall have an interceptor which shall serve only that establishment unless otherwise approved by the Authority Having Jurisdiction.

1014.3.4.4 Each gravity grease interceptor shall be located so as to be readily accessible to the equipment required for maintenance.

1014.3.5 Construction Requirements.

1014.3.5.1 Purpose. Gravity grease interceptors shall be designed to remove grease from effluent and shall be sized in accordance with this section. Gravity grease interceptors shall also be designed to retain grease until accumulations can be removed by pumping the interceptor. It is recommended that a sample box be located at the outlet end of all gravity grease interceptors so that the Authority Having Jurisdiction can periodically sample effluent quality.

1014.3.6 Sizing Criteria.

1014.3.6.1 Sizing. The volume of the interceptor shall be determined by using Table 10-3. If drainage fixture units (DFUs) are not known, the interceptor shall be sized based on the maximum DFUs allowed for the pipe size connected to the inlet of the interceptor. Refer to Table 7-5, Drainage Piping, Horizontal.

1014.3.7 Abandoned Gravity Grease Interceptors. Abandoned grease interceptors shall be pumped and filled as required for abandoned sewers and sewage disposal facilities in Section 722.0.

1015.0 FOG (Fats, Oils, and Greases) Disposal System.

1015.1 Purpose. The purpose of this section is to provide the necessary criteria for the sizing, application, and installation of FOG disposal systems designated as a pretreatment or discharge water quality compliance strategy.

1015.2 Scope. FOG disposal systems shall be considered engineered systems and shall comply with the requirements of Section 301.4 of this code.

1015.3 Components, Materials, and Equipment. FOG disposal systems, including all components, materials, and equipment necessary for the proper function of the system, shall comply with Sections 301.1.3 or 301.2 of this code.

1015.4 Sizing Application and Installation. FOG disposal systems shall be engineered, sized, and installed in accordance with the manufacturers' specifications and as specified in ASME A112.14.6, Standard for FOG (Fats, Oils, and Greases) Disposal Systems, as listed in Chapter 14, Table 14-1 of this code.

### Table 10-3: Gravity Grease Interceptor Sizing

<table>
<thead>
<tr>
<th>DFUs</th>
<th>Interceptor Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>500 gallons</td>
</tr>
<tr>
<td>21</td>
<td>750 gallons</td>
</tr>
<tr>
<td>35</td>
<td>1,000 gallons</td>
</tr>
<tr>
<td>90</td>
<td>1,250 gallons</td>
</tr>
<tr>
<td>172</td>
<td>1,500 gallons</td>
</tr>
<tr>
<td>216</td>
<td>2,000 gallons</td>
</tr>
<tr>
<td>307</td>
<td>2,500 gallons</td>
</tr>
<tr>
<td>342</td>
<td>3,000 gallons</td>
</tr>
<tr>
<td>428</td>
<td>4,000 gallons</td>
</tr>
<tr>
<td>576</td>
<td>5,000 gallons</td>
</tr>
<tr>
<td>720</td>
<td>7,500 gallons</td>
</tr>
<tr>
<td>2112</td>
<td>10,000 gallons</td>
</tr>
<tr>
<td>2640</td>
<td>15,000 gallons</td>
</tr>
</tbody>
</table>

1 The maximum allowable DFUs plumbed to the kitchen drain lines that will be connected to the grease interceptor.
2 This size is based on: DFUs, the pipe size from this code; Table 7-5: Useful Tables for flow in half-inch pipes (ref: Mohinder Nayar Piping Handbook, 3rd Edition, 1992). Based on 30-minute retention time (ref: George Tchobanoglous and Metcalf & Eddy, Wastewater Engineering Treatment, Disposal and Reuse, 3rd Ed. 1991 & Ronald Criets and George Tchobanoglous, Small and Decentralized Wastewater Management Systems, 1998). Rounded up to nominal interceptor volume.
3 When the flow rate of directly connected fixture(s) or appliance(s) have no assigned DFU values, the additional grease interceptor volume shall be based on the known flow rate (gpm) multiplied by 30 minutes.

1015.5 Performance. FOG disposal systems shall be tested and certified as listed in Chapter 14, Table 14-1 of this code, and other national consensus standards applicable to FOG disposal systems as discharging a maximum of 100 mg/L FOG.

1015.6 [OSHPD 1, 2, 3 & 4] Grease traps shall not be installed in food preparation area of the kitchens.

1015.7 [OSHPD 1, 2, 3 & 4] Grease Interceptors shall be installed outside of the kitchen area in location affording ease of maintenance and servicing.

Gravity Grease Interceptor Sizing Example:

Given: A restaurant with the following fixtures and equipment:
One food preparation sink; three floor drains - one in the food prep area, one in the grill area, and one receiving the indirect waste from the ice machine and a mop sink.

Kitchen Drain Line DFU Count (from Table 7-3):

- 3 floor drains @ 2 DFUs each = 6 DFUs
- Mop sink @ 3 DFUs each = 3 DFUs
- Food prep sink @ 3 DFUs each = 3 DFUs
- Total = 12 DFUs

Using Table 10-3, the grease interceptor will be sized at 750 gallons.
TRAPS AND INTERCEPTORS

1016.0 Sand Interceptors.
1016.1 Where Required.

1016.1.1 Wherever the discharge of a fixture or drain contain solids or semi-solids heavier than water that would be harmful to a drainage system or cause a stoppage within the system, the discharge shall be through a sand interceptor. Multiple floor drains shall be permitted to discharge into one sand interceptor.

1016.1.2 Sand interceptors are required when the Authority Having Jurisdiction deems it advisable to have a sand interceptor to protect the drainage system.

1016.2 Construction and Size. Sand interceptors shall be built of brick or concrete, prefabricated coated steel, or other watertight material. The interceptor shall have an interior baffle for full separation of the interceptor into two (2) sections. The outlet pipe shall be the same size as the inlet pipe of the sand interceptor, the minimum being three (3) inches (80 mm), and the baffle shall have two (2) openings of the same diameter as the outlet pipe and at the same invert as the outlet pipe. These openings shall be staggered so that there cannot be a straight line flow between any inlet pipe and the outlet pipe. The invert of the inlet pipe shall be no lower than the invert of the outlet pipe.

The sand interceptor shall have a minimum dimension of two (2) feet square (0.19 m²) for the net free opening of the inlet section and a minimum depth under the invert of the outlet pipe of two (2) feet (610 mm).

For each five (5) gallons (18.9 L) per minute flow or fraction thereof over twenty (20) gallons (75.7 L) per minute, the area of the sand interceptor inlet section is to be increased by one (1) square foot (0.09 m²). The outlet section shall at all times have a minimum area of fifty (50) percent of the inlet section.

The outlet section shall be covered by a solid removable cover, set flush with the finished floor, and the inlet section shall have an open grating, set flush with the finished floor and suitable for the traffic in the area in which it is located.

1016.3 Separate Use. Sand and similar interceptors for every solid shall be so designed and located as to be readily accessible for cleaning, shall have a water seal of not less than six (6) inches (152 mm), and shall be vented.

1017.0 Oil and Flammable Liquid Interceptors.

1017.1 Interceptors Required. All repair garages and gasoline stations with grease racks or grease pits, and all factories that have oily, flammable, or both types of wastes as a result of manufacturing, storage, maintenance, repair, or testing processes, shall be provided with an oil or flammable liquid interceptor that shall be connected to all necessary floor drains. The separation or vapor compartment shall be independently vented to the outer air. If two (2) or more separation or vapor compartments are used, each shall be vented to the outer air or shall be permitted to connect to a header that is installed at a minimum of six (6) inches (152 mm) above the spill line of the lowest floor drain and vented independently to the outer air.

The minimum size of a flammable vapor vent shall be not less than two (2) inches (50 mm), and, when vented through a sidewall, the vent shall be not less than ten (10) feet (3,048 mm) above the ceiling of an approved location. The interceptor shall be vented to the sewer side and shall not connect to a flammable vapor vent. All oil and flammable interceptors shall be provided with gastight cleanout covers that shall be readily accessible. The waste line shall be not less than three (3) inches (80 mm) in diameter with a full-size cleanout that shall be readily accessible. The waste line shall be not less than three (3) inches (80 mm) in diameter with a full-size cleanout to grade. When an interceptor is provided with an overflow, it shall be provided with an overflow line (not less than two (2) inches (50 mm) in diameter) to an approved waste oil tank having a minimum capacity of five-hundred fifty (550) gallons (2,082 L) and meeting the requirements of the Authority Having Jurisdiction. The waste oil from the separator shall flow by gravity shall be pumped to a higher elevation by an automatic pump. Pumps shall be adequately sized and accessible. Waste oil tanks shall have a two (2) inch (50 mm) minimum pump-out connection at grade and a one and one-half (1 1/4) inch (40 mm) minimum vent to atmosphere at an approved location not less than ten (10) feet (3,048 mm) above grade.

1017.2 Design of Interceptors. Each manufactured interceptor that is rated shall be stamped or labeled by the manufacturer with an indication of its full discharge rate in gpm (L/min). The full discharge rate to such an interceptor shall be determined at full flow. Each interceptor shall be rated equal to or greater than the incoming flow and shall be provided with an overflow line to an underground tank.

Interceptors not rated by the manufacturer shall have a depth of not less than two (2) feet (610 mm) below the invert of the discharge drain. The outlet opening shall have not less than an eighteen (18) inch (457 mm) water seal and shall have a minimum capacity as follows: Where not more than three (3) motor vehicles are serviced and/or stored, interceptors shall have a minimum capacity of six (6) cubic feet (0.17 m³), and one (1) cubic foot (0.03 m³) of capacity shall be added for each vehicle up to ten (10) vehicles. Above ten (10) vehicles, the Authority Having Jurisdiction shall determine the size of the interceptor required. Where vehicles are serviced only and not stored, interceptor capacity shall be based on a net capacity of one (1) cubic foot (0.03 m³) for each one-hundred (100) square feet (9.29 m²) of surface to be drained into the interceptor, with a minimum of six (6) cubic feet (0.17 m³).
City of Poway
Public Works, Wastewater Division
FOG Program for Food Establishment Wastewater Discharge

Formula to Determine Correct Size of Grease Trap

Single Fixture Installations

**Step 1: CALCULATE CAPACITY OF FIXTURE**

Cubic content of a fixture = Length x Width x Depth

Example: A three-compartment pot sink where each compartment is 18" x 18" x 12" = 3,888 cubic inches per compartment; 3 x 3,888 = 11,664 cubic inches for all three compartments.

Content in cubic inches divided by 231 = capacity in U.S. gallons.

11,664 ÷ 231 = 50 gallons

**Step 2: CALCULATE FLOW RATE**

The most generally accepted drainage period is one minute. The maximum drainage period allowed is two minutes.

Capacity in gallons ÷ Drainage period in minutes = Flow Rate in GPM

Therefore, flow rates for this example would be 50 GPM for a one-minute drainage period, and 25 GPM for a two-minute drainage period.

Multiple Fixture Installations

A grease trap should be installed as close to the fixtures it serves as possible. The greater the distance between multiple fixtures and the grease trap, the greater probability the greases and oils will plug the waste line before they enter the grease trap. If the project requires a multi-fixture installation, proceed as follows:

**Step 1:** Follow Steps 1 and 2 under "Single Fixture Installations" to establish the GPM for each fixture.

**Step 2:** Add the GPM requirement of each fixture to arrive at a total flow rate. For fixtures that do not have a calculable volume, e.g. waterwash hoods, wok
ranges (without water curtain), and pre-rinse stations, allow 10 GPM each or the actual flow rate, whichever is greater.

**Step 3:** Ensure that you do not exceed the maximum number of fixtures that are allowed to drain simultaneously into the grease trap (see Table 1).

**Table 1. Maximum Number of Fixtures Allowed Per Grease Trap**

<table>
<thead>
<tr>
<th>Total Number of Fixtures Connected</th>
<th>Required Rate of Flow Gallons Per Minute (GPM)</th>
<th>Grease Retention Capacity, Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>4</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

**Multiple Fixture Example 1**

A two-compartment pot sink (23" × 18" × 12" each compartment) plus a pre-rinse station = two fixtures.

\[
2 \times 23'' \times 18'' \times 12'' \div 231 = 43 \text{ gallons.}
\]

For a two-minute drainage period, the flow rate will be 21.5 GPM for the pot sink plus 10 GPM for the pre-rise station, equaling a total flow rate of 31.5 GMP. The grease trap must, therefore, have a MINIMUM 31.5 GPM rated flow.

From Table 1, for two fixtures the minimum allowable rated flow of a grease trap is 25 GPM. We have calculated a flow rate of 31.5 GPM. Therefore, a grease trap rated at 31.5 GPM or greater is required for the fixtures used in this example.

**Multiple Fixture Example 2**

A two-compartment pot sink (14" × 16" × 12" each compartment) plus a pre-rise station, and a wok range = three fixtures. The wok does not use a water curtain.

\[
2 \times 14'' \times 16'' \times 12'' \div 231 = 23.3 \text{ gallons.}
\]

For a two-minute drainage period, the flow rate will be 11.6 GPM for the pot sink plus 10 GPM each for the pre-rinse and the wok, equaling a total flow rate of 31.6 GPM.

From Table 1, for three fixtures, the minimum allowable rated flow of a grease trap is 35 GPM. Therefore, a grease trap rated at 35 GPM is the minimum size allowable for this installation.
City of Poway
Public Works, Wastewater Division
FOG Program for Food Establishment Wastewater Discharge

Formula to Determine Correct Size of Grease Trap

Single Fixture Installations

Step 1: CALCULATE CAPACITY OF FIXTURE

Cubic content of a fixture = Length $\times$ Width $\times$ Depth

Example: A three-compartment pot sink where each compartment is 18" $\times$ 18" $\times$ 12" = 3,888 cubic inches per compartment; $3 \times 3,888 = 11,664$ cubic inches for all three compartments.

Content in cubic inches divided by 231 = capacity in U.S. gallons.

$11,664 \div 231 = 50$ gallons

Step 2: CALCULATE FLOW RATE

The most generally accepted drainage period is one minute. The maximum drainage period allowed is two minutes.

Capacity in gallons $\div$ Drainage period in minutes = Flow Rate in GPM

Therefore, flow rates for this example would be 50 GPM for a one-minute drainage period, and 25 GPM for a two-minute drainage period.

Multiple Fixture Installations

A grease trap should be installed as close to the fixtures it serves as possible. The greater the distance between multiple fixtures and the grease trap, the greater probability the greases and oils will plug the waste line before they enter the grease trap. If the project requires a multi-fixture installation, proceed as follows:

Step 1: Follow Steps 1 and 2 under “Single Fixture Installations” to establish the GPM for each fixture.

Step 2: Add the GPM requirement of each fixture to arrive at a total flow rate. For fixtures that do not have a calculable volume, e.g. waterwash hoods, wok
ranges (without water curtain), and pre-rinse stations, allow 10 GPM each or the actual flow rate, whichever is greater.

**Step 3:** Ensure that you do not exceed the maximum number of fixtures that are allowed to drain simultaneously into the grease trap (see Table 1).

### Table 1. Maximum Number of Fixtures Allowed Per Grease Trap

<table>
<thead>
<tr>
<th>Total Number of Fixtures Connected</th>
<th>Required Rate of Flow Gallons Per Minute (GPM)</th>
<th>Grease Retention Capacity, Pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>4</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

**Multiple Fixture Example 1**

A two-compartment pot sink (23" × 18" × 12" each compartment) plus a pre-rinse station = two fixtures.

\[2 \times 23'' \times 18'' \times 12'' = 231 \text{ gallons.}\]

For a two-minute drainage period, the flow rate will be 21.5 GPM for the pot sink plus 10 GPM for the pre-rise station, equaling a total flow rate of 31.5 GPM. The grease trap must, therefore, have a MINIMUM 31.5 GPM rated flow.

From Table 1, for two fixtures the minimum allowable rated flow of a grease trap is 25 GPM. We have calculated a flow rate of 31.5 GPM. Therefore, a grease trap rated at 31.5 GPM or greater is required for the fixtures used in this example.

**Multiple Fixture Example 2**

A two-compartment pot sink (14" × 16" × 12" each compartment) plus a pre-rise station, and a wok range = three fixtures. The wok does not use a water curtain.

\[2 \times 14'' \times 16'' \times 12'' = 231 = 23.3 \text{ gallons.}\]

For a two-minute drainage period, the flow rate will be 11.6 GPM for the pot sink plus 10 GPM each for the pre-rinse and the wok, equaling a total flow rate of 31.6 GPM.

From Table 1, for three fixtures, the minimum allowable rated flow of a grease trap is 35 GPM. Therefore, a grease trap rated at 35 GPM is the minimum size allowable for this installation.
TYPICAL GREASE INTERCEPTOR
DRAWING NOT TO SCALE

24" CAST IRON FRAME & COVER
WITH GASKET (GASTIGHT) STANDARD

INLET → INLET TEE & STANDPIPE

CROSSOVER TEE & STANDPIPE

OUTLET TEE & STANDPIPE

BAFFLE WALL

SAMPLE BOX

SIDE VIEW CUTAWAY

ROUND LID PREFERRED

TOP VIEW (LIDS REMOVED)
APPROVED GREASE TRAPS

PRESSURE EQUALIZING & FLOW DIFUSING BAFFLE

INLET

LIFT HANDLE

OUTLET

01-PASS

Removable Baffles

Neoprene Gasket

Air Relief
APPROVED GREASE TRAPS

JONESPEC

ROCKFORD

WATTS

MIFAB
FEATURES:
- Fully automatic self cleaning cycle. Removes collected grease & oils from tank without any operator assistance. Comes complete with 24-hour timer.
- Constructed of corrosion resistant materials suitable for installation in virtually any location. Attractive sanitary Stainless Steel exterior.
- Integrated Motor/Grease Outlet/Heater/Lid enables a fast, do-it-yourself unit operation reversal.
- Easy lift grease collector simplifies grease collection container emptying.
- Compact footprint.

TECHNICAL DATA

| Material | Exterior: 304 Stainless Steel, Bright Finish
|          | Interior: Rotationally Molded Polyethylene
| Electrical | 115 VAC, 60 Hz, 350 Watts (3-Phase)
| Maximum Flow Rate | 20 GPM
| Number of Skimming Wheels | 1
| Skimming Rate | 35 Pounds Per Hour
| Grease Retention Capacity | 40 Pounds
| Internal Solids Strainer Capacity | 1.16 Gallons

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INSTALLATION INFORMATION

Suggested Minimum Footprint Dimensions

**DO...**
- Allow a minimum of 14" clearance for removal of unit lid.
- Read instruction manual included with system before doing anything.
- Install unit allowing for the minimum clearances shown.
- Make sure the height above the internal strainer access cover is enough to remove the strainer.
- Make piping connections with rubber "no hub" connectors.
- Keep outlet piping as straight as possible. Use only "sweep" connections.
- Install vent on outlet piping.
- Fill the tank with water before energizing the power to the motor and heater.
- Set programmable time controller for proper operating times.

**DON'T...**
- Install "P" trap on outlet connection. Reduce pipe size on outlet piping.
- Reduce pipe size on outlet piping of tank. (Note: the unit already has an internal gas trap.)

**Job Specification:**

Grease and oil separator(s) shall be Thermaco Big Dipper automatic grease/oil recovery system(s) as manufactured by Thermaco, Inc., Asheboro, North Carolina as noted on plans.

**Separator Specifications:**

Furnish and install __ Thermaco Big Dipper Model No. W-200-IS, bright finish type 304 stainless steel exterior, rotationally molded polyethylene interior automatic self-cleaning grease and oil recovery separator(s) for floor mounted or partially recessed installation, rated at 20 gallons per minute peak flow, 40 pounds of grease capacity and including an integral part of the unit, a rotating gear hydrophobic wheel assembly for automatic grease oil removal, an integral flow control device, self-regulating shell and tube electric immersion heater, a vacuum vent, an integral gas trap, an integral programmable 24-hour multi-event time control, a field reversible motor location, a field reversible grease/oil sump outlet, quic...
### Specifications

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Use the chart below to compare specific dimensions with the picture above

### Approximate Dimensions

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### Frequently Asked Questions

**Q:** How long should the holding time of the wastewater in the grease trap be?

**A:** All of the grease traps that we offer come with a flow control device, so in most situations you shouldn't need to be concerned with that issue. The flow control limits the volume/speed and therefore creates the necessary holding time of the wastewater sitting inside of the greasetrap.

**Q:** What are the main features of these grease traps?

**A:** These grease traps are durable, lightweight, leak-proof, and easy to handle & install. For a complete listing of features, view our grease trap information page.
FOG BINDER TAB 4
City of Poway
Public Works, Wastewater Division
FOG Program for Food Establishment Wastewater Discharge

Maintenance of Grease Removal Equipment (GRE)

The City of Poway's Industrial Wastewater Pretreatment Program (Chapter 13.05 of the Poway Municipal Code) requires that GRE (Grease Removal Equipment: grease traps and interceptors) be maintained in efficient operating condition by periodic removal of the accumulated grease and solid food waste. The cleaning interval varies with the amount of food preparation/clean-up activities and with the facility's housekeeping procedures. This interval must be determined by each facility, but will be mandated by the City when maintenance is found to be unsatisfactory. On the back of this page are acceptable grease and oil levels for different size grease traps and interceptors.

Methods

Two maintenance methods are approved by the City of Poway:

1. Manual Removal of Grease. This consists of skimming out accumulated grease and oil and removing solids that have settled at the bottom. None of the removed material can be disposed of in the sewer or storm drain system. Collected material can be put in a grease-recycling barrel if the barrel is specifically designated to hold grease trap waste. If applicable, you must ensure that your grease recycler or waste hauler accepts grease trap waste. Any of the material that is disposed of in the trash must be in a container and may not be over 50% liquid.

2. Pumping. You may hire a pumping service to empty your GRE. If you have a grease interceptor, pump all grease, oil, and food matter from each chamber and sample box including solids or sludge at the bottom of each chamber, specifically at the bottom of all standpipes. The City requires a complete pump out at each cleaning.

Additional Information

Bacterial products may help to reduce cleaning frequency. However, high temperature, high or low pH level, sanitizers and other cleaning products render them ineffective. Bacterial products may also cause the accumulated grease to "fluff-up" or take more space in your GRE than if left alone. These products are not to be substituted instead of Methods 1 or 2.
Enzyme products are never allowed because they keep grease and oil suspended in the water, which causes them to pass through your grease trap or interceptor. They may also contribute to the corrosion of your GRE.

IN ALL CASES, FACILITY OPERATORS ARE SOLELY RESPONSIBLE FOR PROPER GRE MAINTENANCE.

Summary

GRE collects grease that would otherwise enter the sewer lines and cause blockages and overflows. Methods 1 and 2 are the best ways of disposing grease. Bacteria may reduce the frequency of manual cleaning or pumping, but it does not eliminate the need for manual cleaning or pumping.

A record of the dates, methods and identity of the people/company cleaning GRE must be kept at the facility and be available for review at any time. During facility inspections, all GRE will be required to be opened and will be examined for proper maintenance.

The maximum grease and/or oil levels, including any solids or sludge that has accumulated on the bottom of your grease trap or grease interceptor, are as follows:

Grease Traps

Any size low-profile grease trap: 2 inches
20 GPM, 40 pounds: 2 inches
25 GPM, 50 pounds: 2½ inches
35 GPM, 70 pounds: 3 inches
50 GPM, 100 pounds: 3½ inches
75 GPM, 150 pounds: 4 inches
100 GPM, 200 pounds: 5 inches
150 GPM, 300 pounds: 6 inches

Grease Interceptors

All grease interceptors, regardless of their size, are required to be pumped when the second chamber has a grease and/or oil layer of 6 inches. At no time should there be visible grease or oil in the sample box.
Grease Waste Hauler Standards

The City's FOG Program (Fat, Oil, Grease control for food establishments) has compiled the following list of required and recommended standards to help your business comply with the FOG Permit Program discharge requirements and grease removal equipment maintenance requirements. These standards promote pollution prevention by minimizing grease discharge into the sewer collection system.

Grease Interceptors

Requirements

No decanted water from the pumping truck is to be discharged into a grease interceptor, prior to or after pumping. Such practice is strictly prohibited.

Open all grease interceptor manhole covers for inspection, including the sample box, if present. Pump the sample box clean when grease or oil is found in the sample box. Report this condition on the checklist left at the food establishment with a recommendation to increase pumping frequency, if no other cause for discharge is found.

Pump all grease, oil and food matter from interceptor chambers, including solids or sludge which may be at the bottom of each chamber; specifically at the bottom of standpipes. FOG will at times require a complete pump-out to facilitate inspection and flow testing.

Scrape off all built-up grease or solids on the interceptor walls and baffle and remove from the interceptor.

Inspect all tees and standpipes for plugging or excess build-up, clean off the build-up and remove it from the interceptor.

Inspect all tees, standpipes and baffles for damage and integrity; report deficiencies on the checklist left at the establishment.

FOG Permit Program standards consider a grease interceptor to be full and ready for pumping when the outlet chamber has a grease and/or oil layer of 6 inches. This may vary in some cases.

All interceptor entries are Confined Space Entry. Refer to CAL-OSHA requirements.

Recommendations

Report all conditions such as surcharge, straws, napkins, towels, plastic or excess food matter found in the interceptor on the checklist left at the food establishment.

Report any manhole frames not tightly fastened to the interceptor on the checklist left at the establishment.
CITY OF POWAY

FEWD PERMIT INSPECTION REPORT
Food Establishment Wastewater Discharge Permit * FOG Program * Public Works Department *
P.O. Box 789, Poway CA 92074-0789 * Wastewater Division (858) 658-4719

FACILITY NUMBER: _______________ DATE: _______________

FACILITY NAME: ____________________________

ADDRESS: ________________________________

PUBLIC WORKS INSPECTED YOUR FACILITY TODAY FOR THE FOLLOWING REASON(S):

☐ FEWD PERMIT RENEWAL  ☐ GRE CONDITION CHECK  ☐ FLOW TEST
☐ INITIAL INSPECTION  ☐ GRE DIRTY AT LAST INSPECTION
☐ SEWER BLOCKAGE / SPILL  ☐ REQUIREMENTS COMPLETION CHECK

GREASE REMOVAL EQUIPMENT (GRE) CLEANING:

☐ IMMEDIATE CLEANING NEEDED ON GRE SERVING: __________________________
☐ NOTIFY PUBLIC WORKS FOG PROGRAM WHEN GRE HAS BEEN CLEANED
☐ NOTIFY PUBLIC WORKS FOG PROGRAM OF NEXT SCHEDULED PUMPING DATE
☐ MORE FREQUENT CLEANING NEEDED FOR GRE SERVING: __________________________
☐ FREQUENCY RECOMMENDATION: _________________________________

☐ NOTICE OF VIOLATION PENDING

MAINTENANCE LOG AVAILABLE: ☐ YES ☐ NO

☐ REQUIREMENTS PENDING

INSPECTOR: ___________________________ PHONE (858) ___________________________

RESTAURANT/FACILITY MANAGER OR STAFFMEMBER WHO RECEIVED THIS INSPECTION REPORT: ___________________________

(PLEASE PRINT NAME)

White copy: Facility
Yellow copy: Public Works
FOG BINDER TAB 5
Sewer Spill Notice

There was a recent pipeline blockage and/or sewer spill in your neighborhood caused by the improper disposal of cooking grease.

All cooking oil, including:

- frying oil
- salad oil
- meat drippings
- bacon fat
- greasy leftovers

...should be disposed of in the garbage, instead of down the drain.

If you see or smell something you think might be a sewer spill,
CALL 858-668-4757 immediately
Monday through Friday 7:00 a.m. to 5:00 p.m.
For weekend, holiday, or after hours,
CALL 858-748-1050

Aviso: Derrame Del Alcantarillado

Se le informa que recientemente en su vecindario hubo un bloqueo de la tubería y/o derrame del alcantarillado debido a la disposición inadecuada de grasa de cocinar.

Toda clase de grasa de cocinar:

- El aceite de freír
- El aceite de ensalada
- La grasa de carnes cocidas
- La grasa de tocino
- Las sobras de comidas grasosas

...Debe ser depositada en la basura y no tirar por el desagüe.

Si usted ve o huele cualquier cosa que podría ser un derrame del alcantarillado,
Llamando al 858-668-4757 inmediatamente
El lunes por el viernes 7:00 de la mañana a 5:00 de la tarde.
Por el fin de semana, las vacaciones, o después de horas,
Llamar al 858-748-1050
Did you know that storm drains are NOT connected to sanitary sewer systems and treatment plants? The primary purpose of storm drains is to carry rainwater away from developed areas to prevent flooding. Untreated storm water, and the pollutants it carries flows directly into our creeks, rivers and ocean.

In recent years, sources of water pollution like industrial wastes from factories have been greatly reduced. However, the majority of water pollution now occurs from things like cars leaking oil, wash water from restaurants, fertilizers from farms, lawns and gardens, failing septic tanks, residential car washing, and pet waste washing into the storm drains and into the ocean and waterways.

All these sources add up to a pollution problem! But each of us can do small things to help clean up our water too—and that adds up to a pollution solution!

This brochure is one of a series of pamphlets describing storm drain protection measures, which are available at the Development Services Department at City Hall, or online at www.ci.poway.ca.us.

Other pamphlets include:
- Home Repair and Remodeling BMPs
- Concrete & Mortar Project BMPs
- Power Washing BMPs
Best Management Practices

Restaurants contribute to storm water pollution through improper cleaning practices that allow food particles, oil, grease, trash and cleaning products to flow into the street, gutter or storm drain. These discharges pollute our creeks, rivers and ocean and are PROHIBITED BY LAW. Below are recommended Best Management Practices (BMPs) for restaurants.

- **NEVER** pour wash water outside or into a street, gutter or storm drain.
- **NEVER** pour grease or oil into a sink, floor drain, storm drain or dumpster.
- Sweep, mop or vacuum instead of using a hose to clean outdoor areas.
- **Always** clean equipment including floor mats, grease filters, grills and garbage cans indoors or in a covered outdoor wash area that is plumbed to the sanitary sewer.
- Clean equipment in a mop sink if possible (never in a food preparation sink).
- If your restaurant does not have a mop sink, dedicate an indoor cleaning area where there is a drain that is plumbed to the sanitary sewer.
- Discharges to the sewer **should not** contain hazardous materials, grease, grit, or any material that could clog piping.
- All wastewater containing oil and grease must be disposed of in a grease trap or interceptor. Concentrated waste oil and grease must be collected in a grease bin and disposed of by a certified waste grease hauler.
- Major cleaning of exterior surfaces must include capturing wash water and disposing it in the sanitary sewer in compliance with local regulations.
- **Wash water should not be allowed to enter the street gutter or storm drain.**
- All mop water from cleaning floors must be disposed of indoors in a mop sink, toilet or other drain that is plumbed to the sanitary sewer.
- **Dry sweep pavement** areas, including “drive-through” areas, parking lots, outdoor eating areas and dumpster or grease bin areas frequently. If you must use water for cleaning, use a mop and bucket and dispose of wash water in a mop sink or floor drain that is plumbed to the sanitary sewer.
- Use dry methods for spill cleanup. Rags or absorbents can be used to pick up liquids or grease. Sweep up the absorbent, seal it in a plastic bag and dispose of it in the trash.
- Keep outside areas free of trash and debris. Clean outdoor eating areas frequently using dry cleaning methods such as sweeping or vacuuming.
- **Never** wash down dumpsters or grease bins with a hose. Check dumpsters regularly for leaks. If a dumpster or tallow bin must be cleaned or repaired, contact the leasing company.

Who Can You Contact?

For more information, please call (858) 679-4350

Report Illegal Dumping to:
Poway Code Compliance (during business hours, 8 a.m. to 5 p.m.) at (858) 679-4264 or (858) 649-4299, press “0” for immediate assistance
Or
Poway Sheriff’s Station (after 5 p.m.) at (858) 513-2800
Storm Water Pollution Prevention Program

Restaurants

When it rains or when water flows out of yards or over pavement, it flows directly into storm drains. Many people mistakenly believe this water gets "cleaned" before reaching waterways. The sewer system and the storm water conveyance systems (drains, inlets and catch basins) are separate; they are not connected. Sewer water gets treated, but everything that washes into the storm drain system goes untreated directly into our rivers, creeks, bays and ocean. This causes beach closures and postings due to contamination. Releasing pollutants into the storm water collection system is a violation of the City Municipal Code, (43.0301).

Clean Restaurants are important to us all. But, often the very activities that keep them sparkling, or assist in food production can cause pollution of our rivers, beaches, bays and ocean. Being a great restaurant and an environmentally responsible food establishment can go hand-in-hand in the City of San Diego. Here are some Storm Water Best Management Practices Restaurants and other Food and Beverage Establishments can adopt:

1. **Identify and Locate** the storm drains on your premises and down the street where pollutants may migrate to from your establishment. Being aware of what you are trying to protect and where it's located is a great start in becoming a Clean Water Leader.

2. **Litter** - paper and Styrofoam products are common pollutants found in the storm drain conveyance system. Encourage customers to use trash containers on the premises, and empty them frequently. Customers are more likely to use a trash receptacle if it is kept neat and clean. Routinely pick-up litter on and surrounding your premises. Check storm drains frequently and clean out the debris.

3. **Cleaning Equipment** -
   - When cleaning floor mats, filters, and garbage cans...
     - Indoors - do so in a mop sink or near a floor drain that's connected to the sanitary sewer system.
     - Outdoor - within your designated cleaning area, where cleaning water will not flow to the street, the gutter, a storm drain, creek, river or ocean.
   - When discarding wash water...
     - Pour the dirt liquid into the mop sink. Never pour it out the back door, or into the gutter.

4. **Grease & Oil** -
   - Save used grease and oil for recycling in tallow bins or sealed containers
   - Never pour grease into a sink, floor drain, storm drain or dumpster
   - Watch out for, and report to management, overflowing grease interceptors, tallow bins and concealed containers
   - Keep tallow bins and locked to prevent illegal dumping
   - Place spill clean-up kits nearby in a well marked and accessible location

5. **Other Fact sheets that may pertain to your activities:**
   - Cleaning Impervious Surfaces (high pressure washing)
   - Dumpsters
   - Spills
   - Be A Clean Water Leader: Control, Contain & Capture

Adopt these behaviors and help Clean up our beaches and bays.

**Think Blue**, San Diego. For more information, call (619) 235-1000, or log on to: [www.thinkbluesd.org](http://www.thinkbluesd.org)
Restaurantes

Cuando llueve o cuando el agua fluye de nuestros jardines, sobre el pavimento y a las calles, va directamente a las alcantarillas de agua pluvial. Muchas personas creen erróneamente que esta agua es limpia o tratada antes de llegar a las vías fluviales. Pero la verdad es que los sistemas de alcantarillado sanitario y agua no están conectados al sistema de alevamiento de aguas pluviales. Las aguas negras son tratadas, pero todo lo que escurre al alcantarillado de aguas pluviales no es tratado; fluye directamente a nuestros ríos, arroyos, bahías y mar. Esto provoca el cierre de playas y la colocación de avisos de advertencia sobre la contaminación. La descarga de contaminantes al alcantarillado pluvial es infracción del Código Municipal (43.0301).

Mantener restaurantes limpios es algo muy importante para todos nosotros. Sin embargo, es precisamente lo que los mantiene relucientes o que está relacionado con la elaboración de alimentos lo que provoca la contaminación de nuestros ríos, playas, bahías y mar. Ser un gran restaurante y, a la vez, un establecimiento ambientalmente responsable, es algo muy factible en la ciudad de San Diego. He aquí algunas prácticas efectivas para el manejo de aguas pluviales que los restaurantes y establecimientos afines pueden adoptar:

Identifique y localice las alcantarillas pluviales en su propiedad y calle abajo a donde pudieran escorrerse materias contaminantes de su establecimiento. Estar consciente de lo que debe proteger y dónde se encuentra constituye un buen principio al programa encaminado a lograr un agua limpia.

Desperdicios de papel y productos de poliestireno son contaminantes encontrados frecuentemente en el alcantarillado pluvial. Recomienda a sus clientes usar los botes de basura en el lugar y vacíe los recipientes con frecuencia. Los clientes se sentirán más dispuestos a usar un bote si se mantiene limpio. Recoja frecuentemente toda la basura en su propiedad y alrededores. Revise las alcantarillas fluviales periódicamente y retire todos los desperdicios.

**Limpieza del equipo:**

Al limpiar los tapetes, filtros y botes de basura...

- Si lo hace dentro del establecimiento, hágalo en un lavadero o cerca del desagüe de piso conectado al sistema de alcantarillado sanitario.
- Si lo hace al aire libre, hágalo en un lugar donde el agua no fluya a la calle, a la cuneta, alcantarilla pluvial, arroyo, río o mar.

Al deshacerse del agua sucia...

- Vacíela en el lavadero. **Nunca** la tire al patio o a la alcantarilla.

**Grasa y aceite:**

- Guarde la grasa y aceite usado en recipientes de sebo o en contenedores sellados
- **Nunca** deseche la grasa en un fregadero, desagüe de piso, alcantarilla pluvial o contenedor
- Informe a la gerencia inmediatamente si ve algún interceptor de grasa, recipiente o contenedor reboseando
- Mantenga los recipientes cerrados para impedir que personas extrañas desechen su basura
- Siempre mantenga material de limpieza a la mano, en un lugar accesible y bien identificado

**Otras hojas de datos que podrían relacionarse con sus actividades:**

- Superficies impermeables (Lavado a alta presión)
- Contenedores
- Derrames
- Sea líder del programa de agua limpia: Controle, Contenga y Capte

Adopte estas medidas y ayude a limpiar nuestras playas y bahías.

**Piense Azul, San Diego. Para mayor información, llame al (619) 235-1000 o visítenos en la red en el [www.thinkblued.org](http://www.thinkblued.org)
Storm Water Pollution Prevention Program

Contenedores grandes para desperdicios y plataformas de carga:

Cuando llueve o cuando el agua fluye de nuestros jardines, sobre el pavimento y a las calles, va directamente a las alcantarillas de agua pluvial. Muchas personas creen erróneamente que esta agua es limpia o tratada antes de llegar a las vías fluviales. Pero la verdad es que los sistemas de alcantarillado sanitario y agua no están conectados al sistema de alegamiento de aguas pluviales. Las aguas negras son tratadas, pero todo lo que escurre al alcantarillado de aguas pluviales no es tratado; fluye directamente a nuestros ríos, arroyos, bahías y mar. Esto provoca el cierre de playas y la colocación de avisos de advertencia sobre la contaminación. La descarga de contaminantes al alcantarillado pluvial es infracción del Código Municipal (43.0301).

Contenedores. Estos gigantescos recipientes de basura nos son muy útiles a todos. Y, puesto que su función es la de recibir nuestros desperdicios, frecuentemente constituyen una fuente de contaminación de aguas pluviales. De la misma forma, las plataformas de carga y descarga representan una muy útil y usada estructura industrial, pero donde pueden originarse y acumularse numerosos contaminantes. He aquí algunas recomendaciones sobre la forma práctica y efectiva de usar y limpiar contenedores y las áreas de carga y descarga:

Identifique y localice las alcantarillas pluviales en su propiedad y calle abajo, a donde pudieran escurrirse materias contaminantes de su contenedor o plataforma de carga. Estar consciente de lo que debe proteger y dónde se encuentra constituye un buen principio al programa encaminado a lograr un agua limpia. Inspeccione frecuentemente los sistemas conductores de agua pluvial y retire todo escombros y basura.

Mantenga cerradas las tapas de los contenedores para impedir que penetre el agua cuando llueve o al regar jardinería de ornato. Jemés coloque en un contenedor desechos líquidos o bolsas de basura que escurran. Revise periódicamente los contenedores en busca de alguna fuga. Llame a la compañía que haya contratado para la recolección de basura para que reponga contenedores con escurecimientos o compactadores sucios.

Cuando se use manguera o equipo de lavado a alta presión, para mantener contenedores de basura y plataformas de carga y descarga limpias, el agua usada debe de ser controlada, contenida y capturada de acuerdo con el Código Municipal de San Diego §43.0301. Los métodos de limpieza alternativos incluyen el uso de absorbentes, tales como arena o el material usado para impermeabilizar los techos de gatos, antes de barrer el sitio. Recuerde que todo líquido depositado en un contenedor siempre se derramará al vaciar el recipiente. Estos derrames están contaminados y no deben llegar al sistema de conducción de aguas pluviales.

Coloque, cerca de los contenedores o plataformas de descarga, instructivos sobre la forma efectiva de limpiar cualquier derrame. Incluya procedimientos para manejar diversos tipos de derrames como tierra, aceite, grasa, fluidos automotrices, solventes, desechos de producción, sustancias químicas, etc. Lleve a cabo programas de capacitación entre los empleados para que sepan cómo actuar al presentarse una emergencia. Siempre mantenga a la mano material de limpieza en los lugares donde es más probable que ocurran derrames.

Barra con frecuencia las áreas de los contenedores y la plataforma de carga y descarga para prevenir la acumulación de basura. Un área que se mantiene limpia inspira a otros a hacer lo mismo.

Otras hojas de datos que podrían relacionarse con sus actividades: Superficies impermeables (Lavado a alta presión)); Restaurantes; Derrames; Sea líder del programa de agua limpia: Controle, contenga y cepel.

Storm Water Pollution Prevention Program

Dumpsters & Loading Dock Areas:

When it rains or water flows out of yards or over pavement, it flows directly into storm drains. Many people mistakenly believe this water gets "cleaned" before reaching waterways. The sewer system and the storm water conveyance systems (drains, inlets and catch basins) are separate; they are not connected. Sewer water gets treated, but everything that washes into the storm water conveyance system goes untreated directly into our rivers, creeks, bays and ocean. This causes beach closures and postings due to contamination. Releasing pollutants into the storm water collection system is a violation of the City Municipal Code (43.0301).

Dumpsters. They are useful disposal containers we all use. And, because they are intended to take-away our discarded trash they can often be a source of storm water pollution. Similarly, Loading Docks are a useful, heavily used industrial structural feature that can be the place where pollutants originate and accumulate at a site. Here are some Storm Water Best Management Practices for using and cleaning-up Dumpsters and Loading Dock Areas:

Identify and Locate the storm drains on your premises and down the street where pollutants may migrate to from your dumpster or loading dock area(s). Being aware of what you are trying to protect and where it's located is a great start in becoming a "Clean Water Leader".

Check storm water conveyance systems frequently and clean out the debris.

Keep dumpster lids closed to keep rain water and landscape irrigation out. Never place liquid waste or leaky garbage bags into a dumpster. Routinely check dumpsters for leaks. And, call your trash disposal leasing company to replace leaking dumpsters and dirty compactors.

When using a hose or power washing equipment to keep dumpsters and loading dock areas clean, all wash water must be properly controlled, contained and captured in accordance with Municipal Code 43.0301. Alternative cleaning methods include the use of absorbents – cat litter, sand, etc. – on the spilled fluids before sweeping them up. Remember that contaminated fluids can spill onto the ground when dumpsters are emptied and must not reach the storm water conveyance system.

Post spill clean-up procedures near the dumpster or loading dock areas. Be sure to include procedures for different types of spills (dirt, oil, grease, automotive fluids, cleaning fluids, yard waste, chemicals, etc). Schedule for training and refresher training for employees about the procedures. Create clean-up kits and place in areas where spills are likely to occur.

Sweep up dumpster and loading dock areas frequently to keep litter from accumulating. An area that's kept neat and clean encourages others to do the same.

Other Fact sheets that may pertain to your activities:

- Cleaning Impervious Surfaces (high pressure washing)
- Restaurants
- Spills
- Be A Clean Water Leader: Control, Contain & Capture

Adopt these behaviors and help Clean-up our beaches and bays. Think Blue San Diego.
For more information, call (619) 235-1000, or log on to: www.thinkbluesd.org (3/204)
CITY OF POWAY

SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN
Sanitary Sewer Management Plan (SSMP)
Section 8.0 System Evaluation and Capacity Assurance

The Enrollee shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

(a) Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

(b) Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria;

(c) Capacity Enhancement Measures: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of fund; and

(d) Schedule: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements.

Reference the included February 2013 CD, City of Poway Sanitary Sewer Master Plan.
City of Poway

COUNCIL AGENDA REPORT

DATE: April 2, 2013
TO: Honorable Mayor and Members of the City Council
FROM: Penny Riley, City Manager
INITIATED BY: Robert J. Manis, Director of Development Services
Steve Crosby, City Engineer
Jeff Beers, Special Projects Engineer
SUBJECT: Sanitary Sewer Master Plan

Summary:
Preparation of the 2013 Sanitary Sewer Master Plan (Master Plan) is complete. The Master Plan addresses system maintenance and sewer conveyance and treatment capacity needs based upon present flow levels, projected 2030 flows, and projected 2050 flows (system build out). The previous Sewer Master Plan was prepared in 2000.

Recommended Action:
It is recommended that the City Council receive and file the Master Plan.

Background:
The City's sewage flows are collected by over 180 miles of collector sewer mains City wide, both by gravity flow and through five existing sewer lift stations and force mains. The flows are ultimately conveyed into the City of San Diego for treatment at multiple treatment facilities including the Point Loma Wastewater Treatment Plant, the North City Water Reclamation Plant and the Hale Avenue Resource Recovery Facility. Poway has existing conveyance and treatment capacity contracts with the City of San Diego.

This report analyzes the capacity of the existing Citywide sewer collection system, and also calculates the total flow delivered to the City of San Diego for treatment based on current condition, projected 2030 flows, and 2050 flows (system build out).

The report also evaluates the City's ongoing maintenance procedures and provides recommendations for improvement or modification where appropriate.

Findings:
Based upon the findings of the Master Plan the City's current contracted conveyance and treatment capacities with the City of San Diego are sufficient through build out. The existing Citywide sewer system is determined to be generally adequate to collect and deliver current and projected flows through the City, although some sewer mains are currently flowing above recommended levels at certain times of year. These sewer mains
Sanitary Sewer Master Plan
April 2, 2013
Page 2

are identified in the Master Plan and are prioritized as potential future CIP projects. Nine such projects are identified with a combined estimated cost of $8,283,000. The Master Plan also recommends upgrades to the Old Coach and Camino Del Valle lift stations with estimated costs of $660,000 and $45,000, respectively. The overall condition of the system is good, with little deferred maintenance. The Master Plan includes the evaluation of the City’s current ongoing maintenance procedures and includes recommendations for improvement.

The Master Plan consists of the following chapters:

- **Chapter 1 – Introduction**: Presents the Master Plan objectives, describes the report organization, and provides a brief historical background of the City’s sewer system.
- **Chapter 2 – Study Area**: An overview of the study area and the existing sanitary sewer collection facilities.
- **Chapter 3 – Wastewater Generation Analysis**: An analysis to estimate future wastewater generation rates and regional treatment capacity requirements.
- **Chapter 4 – Capacity Evaluation**: Presents the methodology and findings of the capacity evaluation of the existing sewage collection system.
- **Chapter 5 – Operations and Maintenance Evaluation**: A general condition assessment of the sanitary sewer system and pump stations, as well as an assessment of current inspection and maintenance procedures, with recommendations for enhancement.
- **Chapter 6 – Proposed Capital Improvement Projects**: A recommended 10 year Capital Improvement Program for the sanitary sewer system.

The Master Plan will be used as the foundation document to develop and prioritize future sewer system maintenance and CIP projects City wide.

**Fiscal Impact:**
None, although future approvals of individual projects identified in the Sanitary Sewer Master Plan would require funding prior to design and construction. The estimated costs of the individual projects are listed in the Master Plan.

**Environmental Review:**
This item is not subject to the California Environmental Quality Act (CEQA). However, future approval of specific projects identified in the Master Plan would be subject to future additional review under CEQA.

**Public Notification:**
None

Attachment:

A 2013 Sanitary Sewer Master Plan

M:\CIP_Development\CIP Admin\Agenda Reports\2013 Reports\Sanitary Sewer Master Plan\Agenda Report.doc
CITY OF POWAY
SANITARY SEWER MASTER PLAN

February 2013

Prepared for:

City of Poway
13325 Civic Center Drive
Poway, California 92064

Prepared by:

ATKINS
3570 Carmel Mountain Road, Suite 300
San Diego, California 92130

Atkins Project No.: 100021812

Carmen C Kasner, PE
Project Manager
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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ABS</td>
<td>Acrylonitrile Butadiene Styrene Pipe</td>
</tr>
<tr>
<td>ACP</td>
<td>Asbestos Cement Pipe</td>
</tr>
<tr>
<td>CEQA</td>
<td>California Environmental Quality Act</td>
</tr>
<tr>
<td>CI</td>
<td>Cast Iron Pipe</td>
</tr>
<tr>
<td>CIP</td>
<td>Capital Improvement Program</td>
</tr>
<tr>
<td>City</td>
<td>City of Poway</td>
</tr>
<tr>
<td>d/D ratio</td>
<td>depth to pipe diameter</td>
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<tr>
<td>DIP</td>
<td>Ductile Iron Pipe</td>
</tr>
<tr>
<td>DU</td>
<td>dwelling unit</td>
</tr>
<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
</tr>
<tr>
<td>fps</td>
<td>feet per second</td>
</tr>
<tr>
<td>gpd/ac</td>
<td>gallons per day per acre</td>
</tr>
<tr>
<td>gpd/du</td>
<td>gallons per day per dwelling unit</td>
</tr>
<tr>
<td>gpm</td>
<td>gallons per minute</td>
</tr>
<tr>
<td>H2S</td>
<td>hydrogen sulfide gas</td>
</tr>
<tr>
<td>HARRF</td>
<td>Hale Avenue Resource Recovery Facility</td>
</tr>
<tr>
<td>HDPE</td>
<td>High Density Polyethylene Pipe</td>
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<tr>
<td>LS</td>
<td>Lift Station</td>
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<td>Master Plan</td>
<td>Sanitary Sewer Master Plan</td>
</tr>
<tr>
<td>MBR</td>
<td>membrane bioreactor</td>
</tr>
<tr>
<td>Metro</td>
<td>San Diego’s Metropolitan Wastewater System</td>
</tr>
<tr>
<td>mgd</td>
<td>million gallons per day</td>
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<tr>
<td>PVC</td>
<td>Poly-Vinyl Chloride Pipe</td>
</tr>
<tr>
<td>RCP</td>
<td>Reinforced Concrete Pipe</td>
</tr>
<tr>
<td>RDI&amp;I</td>
<td>Rainfall derived inflow and infiltration</td>
</tr>
<tr>
<td>SANDAG</td>
<td>San Diego Association of Governments</td>
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<td>Single-Family Residential Dwelling Units</td>
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<td>Sewer Pump Station</td>
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<td>Sanitary Sewer Management Plan</td>
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<td>State Water Resources Control Board</td>
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<td>VCP</td>
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<td>WDRs</td>
<td>Waste Discharge Requirements</td>
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Chapter 1
Introduction

The City of Poway (City or Poway) is updating their Sanitary Sewer Master Plan (Master Plan), previously conducted in 2000, for its sewer service area. Poway is seeking an update to the Master Plan to reflect growth in development, modifications to the wastewater system, and ongoing water conservation efforts.

This introductory chapter to the Master Plan provides a summary of the:

- Master Plan Objective
- Contents and Organization of this Report
- Background Information about Poway’s sanitary sewer system
- Overview of Regulatory Requirements
- Environmental Compliance and Policy Considerations

1.1 Sewer Master Plan Objectives

The objectives of this Master Plan are to evaluate the capacity of Poway’s conveyance system, provide a general assessment of the condition of the existing sewer collection system, including its pump stations, in order to develop a recommended comprehensive 10-year Capital Improvement Program (CIP). The Master Plan also includes evaluating the cost-effectiveness of a potential satellite wastewater treatment plant. The 10-year CIP includes pipeline and pump station condition and capacity improvement projects, long range maintenance program enhancements and regional treatment and transportation needs and opportunities. This recommended CIP forms the basis for capital facility needs, sewer rate evaluations, and long-range financial plans to be completed in separate financial studies.

1.2 Report Organization

This Master Plan provides a comprehensive review and evaluation of Poway’s wastewater collection, conveyance, and capacity requirements under existing and future conditions. Based on findings of the evaluation, the Master Plan recommends facility improvements and identifies capital cost requirements to ensure aging infrastructure remains serviceable and to allow for additional growth within Poway.

The Master Plan is presented in six (6) chapters:

- Chapter 1 provides an introduction to the project.
- Chapter 2 presents an overview of the study area and existing sanitary sewer collection facilities.
- Chapter 3 presents an overview of the sewer basins and provides estimates of future wastewater generation rates and regional treatment capacity requirements.
Introduction

- Chapter 4 presents the methodology and findings of the sewer capacity evaluation, including summaries of hydraulic computer models used to analyze flow conditions.

- Chapter 5 presents a general condition assessment of Poway’s sanitary sewer system and pump stations, an assessment of potential odors and corrosion resulting from potential hydrogen sulfide gas generation, an assessment of inspection and maintenance procedure, and identifies specific opportunities for enhancement based on condition assessments, as well as providing recommendations for enhancements to Poway’s Maintenance Program.

- Chapter 6 presents a recommended 10-year CIP for Poway’s sanitary sewer facilities.

1.3 Background

The City of Poway is located in northeast San Diego County, as shown in Figure 1-1, and is spread out over 39.4 square miles. Poway was historically an agricultural area with many farms, orchards and vineyards. Residential growth within Poway occurred in the 1950’s once Poway Valley Homes opened its first subdivision. In 1980, Poway incorporated as a full-service, general law city, operating under the Council/Manager form of government. Poway is committed to the preservation of natural open spaces and is home to over 4,700 acres of open space, 82 miles of trails, and 25 parks.

Poway features a mixture of residential and commercial properties. There are more than 16,000 housing units within the City limits, with 80 percent of the housing units being single family residences. Poway currently has a residential population of approximately 50,000 people. Poway also has a large commercial area known as the Poway Business Park. This 700 acre commercial area is home to nearly 500 businesses which, with the rest of Poway’s commercial areas, employ approximately 31,000 employees.

The Poway Municipal Water District originated in 1954 to purchase and provide water to Poway. In 1959, the Pomerado County Water District formed to provide sewer service along the Pomerado Road corridor. When Poway was incorporated in 1980, the two entities were incorporated and the City of Poway Public Works Department assumed responsibility for all utility operations.

Poway provides sanitary sewer service within its City limits, predominantly serving the western areas of Poway. In general, developments in the eastern areas of Poway are served by on-site septic systems. Additionally, Poway provides sewer service to some neighborhoods located within City of San Diego boundaries. Approximately 25 percent of the total wastewater flows conveyed through the sewer system are from the City of San Diego. The majority of flows from Poway drain to the City of San Diego’s Metropolitan Wastewater System (Metro) under a comprehensive Regional Wastewater Disposal Agreement and are metered at Meter PO-2 along Poway Road. Two small areas (approximately 6 percent of Poway’s total sanitary sewer flow) in the northwest area of Poway flow north through the Rancho Bernardo Trunk Sewer to the Hale Avenue Resource Recovery Facility (HARRF) in Escondido.
Introduction

1.4 Regulatory Requirements

On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted Order 2006-0003 for statewide Waste Discharge Requirements (WDRs) requiring all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate a sanitary sewer system greater than one (1) mile in length to comply with the elements of the WDRs. The WDRs serve to provide a unified statewide approach for reporting and tracking sanitary sewer overflows, establishing consistent and uniform requirements for the Sanitary Sewer Management Plan (SSMP) development and implementation, establishing uniformity in reporting, and facilitating consistent enforcement for violations. Additionally, the WDRs require that the SSMP include directives for owners and operators of sanitary sewer systems to demonstrate effective and efficient management, operation and maintenance of the sanitary sewer system.

Poway recognizes the importance of preventing sewage spills for the mutual protection of its surface waters and the overall environment to safeguard public health and safety. Therefore, in compliance with State WDR requirements, Poway prepared an SSMP that includes various plans and programs that are reflective of Poway’s existing processes and procedures pertaining to Poway’s sanitary sewer collection system.

The City of Poway Wastewater Utilities Division’s overall work plan includes six (6) primary activities:

- Administration and Training
- Video Inspection of Wastewater Collection System
- Wastewater Discharge Requirements and Vactor Flushing and Rodding Program
- Wastewater Utility and Easement Program
- Fats, Oils, and Grease (FOG) Program
- Smoke Testing

A summary of the tasks and objectives identified for each primary activity is included in Poway’s SSMP.

To establish an understanding of Poway’s current operation and maintenance procedures pertaining to the wastewater collection system, Atkins conducted a review of Poway’s SSMP and met with operations staff to discuss inspection and maintenance measures implemented by the Wastewater Utilities Division staff in conformance with industry best-in-class practices. Chapter 5 includes a summary of the activities currently performed by the Wastewater Utilities Division staff and provides recommendations to supplement Poway’s current efforts.

1.5 Environmental Compliance

Poway’s Master Plan is statutorily exempt from the preparation of an Environmental Impact Report (EIR) or a Negative Declaration per Section 15262 of the California Environmental Quality Act (CEQA) guidelines. However, the approval of specific improvement projects identified in this Master Plan represents a discretionary action by Poway, which is subject to review under CEQA.
Chapter 2
Study Area

This chapter provides a description of the Master Plan study area including:

- Potential impacts to the existing sanitary sewer system;
- Existing and planned land uses;
- Existing and projected populations;
- Physical attributes of the sanitary sewer system; and
- Regional sewerage facilities serving Poway.

2.1 Study Area Description

The City of Poway is located in northern San Diego County, approximately three miles east of Interstate 15 and just west of Highway 67. Poway is approximately 25 miles north east of the San Diego International Airport. Terrain ranges in elevation from 450 to 2,700 feet. The Poway LAFCO sphere of influence boundary, last affirmed in March 2008, generally aligns with the Poway boundary except in two locations along the eastern portion of Poway where it extends beyond the Poway boundary. The City of Poway service area includes both developed and undeveloped areas and encompasses 39.4 square miles.

Poway conveys wastewater flows generated within its boundary as well as flows generated from bordering areas within the City of San Diego. The study area for this Master Plan includes Poway’s jurisdictional boundary, the sphere of influence extensions into the County of San Diego and the portions of the City of San Diego that convey wastewater flows to Poway’s sanitary sewer system. Table 2-1 summarizes the study area component coverage and Figure 2-1 presents the study area for the Master Plan.

The City of Poway can be generally divided into a western and eastern portion. The western portion of Poway is predominantly built out and is either connected to the existing sewer system or in close proximity to it. The eastern portion of Poway is generally rural and utilizes on-site septic systems for sewer disposal. This Master Plan assumes that parcels in the City of San Diego that drain to Poway’s sewer system are connected to the existing sewer system and are not on septic systems. The portion of the County of San Diego within the study area is generally rural and utilizes on-site septic systems for sewer disposal.

Table 2-1 Study Area

<table>
<thead>
<tr>
<th>Area</th>
<th>Square Miles</th>
<th>Percentage of System Area</th>
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<tbody>
<tr>
<td>City of Poway</td>
<td>39.4</td>
<td>84.7%</td>
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<tr>
<td>City of San Diego</td>
<td>3.8</td>
<td>8.2%</td>
</tr>
<tr>
<td>County of San Diego</td>
<td>3.3</td>
<td>7.1%</td>
</tr>
<tr>
<td>Study Area Total</td>
<td>46.5</td>
<td>100%</td>
</tr>
</tbody>
</table>
2.2 Potential Impacts to the Sanitary Sewer System

Poway provides sanitary sewer service to developed parcels within the City boundary. Within the current City boundary, approximately 90 percent of developed parcels connect to the sewer system, with the remaining parcels either vacant or on septic systems. City of San Diego properties within the sewer basins draining to the Poway system were all assumed to be connected to the sewer system and not serviced by on-site septic systems.

This Master Plan considers the future impacts of existing private septic system connections to the sanitary sewer system, due to failing septic systems in the future. The County of San Diego Department of Environmental Health Code Section 68.312 states that any new building construction or reconstruction where the building is located within 200 feet of an existing public sewer shall connect to a public sewer. With this code in mind and recognizing the high costs for small rural developments to extend lengthy sewers, the study area is divided into four service areas with a 1,000-foot distance set as a boundary for a reasonable Potential Service Area, to be conservative. For purposes of evaluating the conveyance capacity of the existing sewer system, it is assumed that the Potential Service Area will be connected by 2030 and that the Rural Service Area will be connected by 2050, which for the purposes of this Master Plan is considered the buildout horizon. The hydraulic analysis for this Master Plan will consider growth through year 2030. Table 2-2 summarizes the four service area sizes and Figure 2-2 presents a distribution of parcels by acreage chart. The study area is evaluated as five service areas, as shown on Figure 2-3:

- **Existing Service Area** is comprised of the western half of Poway and consists of currently permitted parcels. The majority of the Existing Service Area is made up of parcels less than an acre in size.

- **San Diego Service Area** is comprised of the portions of the City of San Diego that drain into Poway’s sanitary sewer system and mainly consist of parcels less than one acre in size or between one and five acres.

- **Potential Service Area** is comprised of parcels, either vacant or utilizing an on-site septic system, within or surrounding the existing sanitary sewer system within a distance of 1,000 feet, that have a higher probability of connecting, future development, or existing developments which may experience a septic system failure and connect to the existing sewer system. This service area is assumed to be completely connected to the existing sewer system by 2030.

- **Rural Service Area** is comprised of parcels, either vacant or utilizing an on-site septic system, which are more than 1,000 feet from the existing sewer system and extend to the study area boundary. These parcels have a low probability of connecting to the sewer system given the high costs of sewer system extension. This service area is assumed to be completely connected to the existing sewer system by 2050, which is the assumed buildout horizon. Buildout flow estimates and assumed growth from the Rural Service Area are considered in this Master Plan for informative purposes only and to provide a conservative view of growth within the Poway area.

- **Parks and Open Space** comprise 27 percent of the acreage within the Master Plan study area. These areas are considered to remain undeveloped and unconnected to the sanitary sewer system. Wastewater flows from parks and open space areas are
assumed to be accounted for as part of the overall service area flows and are not evaluated at a parcel level for the purposes of evaluating the sewer system capacity.

### Table 2-2  Service Area

<table>
<thead>
<tr>
<th>Area</th>
<th>Acres</th>
<th>Percentage of System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Poway</td>
<td>7,753</td>
<td>27.6%</td>
</tr>
<tr>
<td>City of San Diego</td>
<td>1,438</td>
<td>5.1%</td>
</tr>
<tr>
<td>Poway Potential</td>
<td>4,126</td>
<td>14.7%</td>
</tr>
<tr>
<td>Poway Rural</td>
<td>5,414</td>
<td>19.3%</td>
</tr>
<tr>
<td>County Rural</td>
<td>1,693</td>
<td>6.0%</td>
</tr>
<tr>
<td>Parks/Open Space</td>
<td>7,673</td>
<td>27.3%</td>
</tr>
<tr>
<td>Study Area Total</td>
<td>28,097</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Figure 2-2  Distribution of Parcels

Note: Number of “Existing Poway” parcels less than 1 acre totals 10,155 parcels; chart axis adjusted to better view remaining categories.
Service Areas
Figure 2-3
2.3 Land Uses

To document land use and population projections within the study areas, the San Diego Association of Governments (SANDAG) 2050 Regional Growth Forecast was utilized. The primary function of the SANDAG land use model is to produce mid-range and long-range demographic and economic forecasts for the San Diego region. Essential model inputs include assumptions about birth and death trends, international and domestic migration, and national economic and demographic forecasts, as well as forecasts for the California population and economy. These forecasts act as independent driving variables in the model, supplying the overall trend and direction that the local demographics and economy are likely to follow. The current forecast (Series 12 – 2050 San Diego Regional Growth Forecast Update) was adopted by SANDAG’s Board of Directors on February 26, 2010 and is the twelfth forecast completed since SANDAG began forecasting in the late 1970s.

The land uses within the study area were categorized into eight categories: single-family residential, multi-family residential, commercial, industrial, institutional, parks and open space, undeveloped land, and agricultural. SANDAG Series 12 existing land use coverage was used as the existing land use and SANDAG planned land use coverage, along with Poway’s Zoning data, was used for the planned land uses, shown on Figure 2-4 and Figure 2-5, respectively. The land use coverages were overlaid with parcels from the SANGIS parcel database (January 2009). Parcels were attributed with a Master Plan land use category based on the location of the parcel centroid and the SANDAG land use overlay. Poway’s current Zoning was then compared to the SANDAG planned land use overlay to identify and correct any errors in the SANDAG data. Table 2-3 and Table 2-4 summarize existing and planned dwelling unit (DU) counts for residential parcels and acreage for nonresidential parcels for the service areas. The following describes the anticipated growth in each service area.

- The Existing Service Area is anticipated to change slightly as some agriculture land uses transition to non-residential uses. Vacant land within this service area was included in the Potential Service Area.
- The San Diego Service Area is anticipated to add approximately 220 dwelling units with the non-residential uses not changing significantly.
- The Potential Service Area has the most potential for growth because it includes vacant land surrounding the existing sewer system. This service area is anticipated to see growth of an estimated 200 new dwelling units. This service area also contains approximately 1,000 existing dwelling units currently being served with on-site septic systems that could be converted to the existing sewer system. For the purposes of this Master Plan the 2030 planning horizon will include this service area.
- The Rural Service Area is anticipated to add approximately 700 dwelling units at very low densities. It is unlikely that these areas will require sewer service unless the dwelling units are located in closer proximity to the existing sewer system. This Master Plan includes this service area in the 2050 planning horizon.
### Table 2-3  Existing Land Use

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Existing Service Area</th>
<th>San Diego Service Area</th>
<th>Potential Service Area</th>
<th>Rural Service Area</th>
<th>Study Area Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential</td>
<td>5,530 Ac</td>
<td>852 Ac</td>
<td>1,368 Ac</td>
<td>2,115 Ac</td>
<td>9,864 Ac</td>
</tr>
<tr>
<td>Single Family Residential</td>
<td>11,739 DU</td>
<td>4,560 DU</td>
<td>1,033 DU</td>
<td>311 DU</td>
<td>17,643 DU</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>238 Ac</td>
<td>117 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>354 Ac</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>3,397 DU</td>
<td>1,248 DU</td>
<td>0 DU</td>
<td>0 DU</td>
<td>4,645 DU</td>
</tr>
<tr>
<td>Agricultural</td>
<td>377 Ac</td>
<td>0 Ac</td>
<td>25 Ac</td>
<td>453 Ac</td>
<td>855 Ac</td>
</tr>
<tr>
<td>Commercial</td>
<td>383 Ac</td>
<td>45 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>427 Ac</td>
</tr>
<tr>
<td>Hospital</td>
<td>30 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>30 Ac</td>
</tr>
<tr>
<td>Industrial</td>
<td>759 Ac</td>
<td>74 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>833 Ac</td>
</tr>
<tr>
<td>Institutional</td>
<td>422 Ac</td>
<td>109 Ac</td>
<td>0 Ac</td>
<td>2 Ac</td>
<td>533 Ac</td>
</tr>
<tr>
<td>Park/Open Space</td>
<td>2,861 Ac</td>
<td>982 Ac</td>
<td>503 Ac</td>
<td>3,432 Ac</td>
<td>7,778 Ac</td>
</tr>
<tr>
<td>Vacant</td>
<td>25 Ac</td>
<td>241 Ac</td>
<td>2,672 Ac</td>
<td>4,537 Ac</td>
<td>7,475 Ac</td>
</tr>
<tr>
<td><strong>Total Area</strong></td>
<td><strong>10,623 Ac</strong></td>
<td><strong>2,420 Ac</strong></td>
<td><strong>4,569 Ac</strong></td>
<td><strong>10,538 Ac</strong></td>
<td><strong>28,149 Ac</strong></td>
</tr>
<tr>
<td><strong>Total Dwelling Units</strong></td>
<td><strong>15,136 DU</strong></td>
<td><strong>5,808 DU</strong></td>
<td><strong>1,033 DU</strong></td>
<td><strong>311 DU</strong></td>
<td><strong>22,288 DU</strong></td>
</tr>
</tbody>
</table>

Ac = Acres  
DU = dwelling units

### Table 2-4  Planned Land Use

<table>
<thead>
<tr>
<th>Land Use Category</th>
<th>Existing Service Area</th>
<th>San Diego Service Area</th>
<th>Potential Service Area</th>
<th>Rural Service Area</th>
<th>Study Area Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Residential</td>
<td>5,904 Ac</td>
<td>1,023 Ac</td>
<td>3,620 Ac</td>
<td>7,140 Ac</td>
<td>17,687 Ac</td>
</tr>
<tr>
<td>Single Family Residential</td>
<td>11,742 DU</td>
<td>4,782 DU</td>
<td>1,215 DU</td>
<td>336 DU</td>
<td>18,075 DU</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>238 Ac</td>
<td>117 Ac</td>
<td>2 Ac</td>
<td>0 Ac</td>
<td>356 Ac</td>
</tr>
<tr>
<td>Multifamily Residential</td>
<td>3,397 DU</td>
<td>1,248 DU</td>
<td>0 DU</td>
<td>0 DU</td>
<td>4,645 DU</td>
</tr>
<tr>
<td>Agricultural</td>
<td>6 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>6 Ac</td>
</tr>
<tr>
<td>Commercial</td>
<td>390 Ac</td>
<td>45 Ac</td>
<td>22 Ac</td>
<td>0 Ac</td>
<td>457 Ac</td>
</tr>
<tr>
<td>Hospital</td>
<td>30 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>0 Ac</td>
<td>30 Ac</td>
</tr>
<tr>
<td>Industrial</td>
<td>757 Ac</td>
<td>74 Ac</td>
<td>312 Ac</td>
<td>0 Ac</td>
<td>1,143 Ac</td>
</tr>
<tr>
<td>Institutional</td>
<td>419 Ac</td>
<td>127 Ac</td>
<td>31 Ac</td>
<td>6 Ac</td>
<td>583 Ac</td>
</tr>
<tr>
<td>Park/Open Space</td>
<td>2,856 Ac</td>
<td>1,001 Ac</td>
<td>463 Ac</td>
<td>3,376 Ac</td>
<td>7,695 Ac</td>
</tr>
<tr>
<td>Vacant</td>
<td>24 Ac</td>
<td>33 Ac</td>
<td>118 Ac</td>
<td>16 Ac</td>
<td>191 Ac</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,623 Ac</strong></td>
<td><strong>2,420 Ac</strong></td>
<td><strong>4,569 Ac</strong></td>
<td><strong>10,538 Ac</strong></td>
<td><strong>28,149 Ac</strong></td>
</tr>
<tr>
<td><strong>Total Dwelling Units</strong></td>
<td><strong>15,139 DU</strong></td>
<td><strong>6,030 DU</strong></td>
<td><strong>1,215 DU</strong></td>
<td><strong>336 DU</strong></td>
<td><strong>22,720 DU</strong></td>
</tr>
</tbody>
</table>

Ac = Acres  
DU = dwelling units

The existing service area is predominantly built out with only minor anticipated growth of approximately 200 dwelling units in total. Extending service to the Potential Service Area would add another 180 dwelling units. The following describes the anticipated growth in each service area.
2.4 Existing and Forecasted Populations

Residential and employment populations were estimated for the existing 2010 condition and the future 2030 and 2050 horizon conditions. Populations within the study area were provided by SANDAG at the model basin level for years 2010, 2030 and 2050 based on the Series 12 data and adjusted based on recent 2010 census data for the City of Poway. The 2030 horizon assumes that populations within the Potential Service Area will be connected to the existing system. The 2050 buildout horizon assumes that the sanitary sewer system will have been extended to serve the Rural Service Area. Table 2-5 summarizes the residential and employment population estimates for the existing and future horizon scenarios.

Table 2-5 Existing and Forecasted Populations

<table>
<thead>
<tr>
<th>Planning Scenario</th>
<th>Service Areas Included</th>
<th>Populations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Residential</td>
<td>Employment</td>
</tr>
<tr>
<td>Existing</td>
<td>Existing + San Diego</td>
<td>65,949</td>
<td>34,997</td>
</tr>
<tr>
<td>2030 Horizon</td>
<td>Maximum Growth</td>
<td>74,463</td>
<td>39,016</td>
</tr>
<tr>
<td>Without Rural</td>
<td>Existing + San Diego + Potential</td>
<td>76,634</td>
<td>45,423</td>
</tr>
<tr>
<td>With Rural</td>
<td>Existing + San Diego + Potential + Rural</td>
<td>80,569</td>
<td>46,182</td>
</tr>
</tbody>
</table>

Based on SANDAG’s forecasted projections, populations within the study area are expected to grow by 15 percent by 2030 and 30 percent through 2050.

This Master Plan will utilize the Existing planning scenario to evaluate Poway’s existing infrastructure and the 2030 Horizon planning scenario to assess potential infrastructure deficiencies in the sanitary sewer system. The 2050 Buildout Horizon will be used to assess planned infrastructure needs and develop recommended capital improvement projects.

2.5 Existing Sanitary Sewer System

Poway’s existing sanitary sewer system consists of approximately 4,000 manholes, 185 miles of gravity mains, five (5) lift stations and force mains and the Oak Knoll Siphon, which has three barrels. Figure 2-6 depicts Poway’s sanitary sewer system along with the contributing City of San Diego sewer mains. Figures 2-7, and 2-8 depict the existing gravity system by age and material, respectively, and a summary of this breakdown is provided in Appendix A. In general, Poway includes predominantly 8-inch diameter pipelines constructed of either vitrified clay pipe (VCP) generally before the 1990s or poly vinyl chloride (PVC) pipe in the 1990s to current. Tables 2-6 and 2-7 summarize Poway’s existing lift stations, force mains and siphon, respectively.
Table 2-6  Lift Stations

<table>
<thead>
<tr>
<th>Lift Station</th>
<th>Date Installed/Upgraded</th>
<th>No. Pumps</th>
<th>Design Discharge (gpm)</th>
<th>Design TDH (feet)</th>
<th>Hp</th>
<th>RPM</th>
<th>Emergency Storage (gallons)</th>
<th>Backup Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Coach (LS-1)</td>
<td>1999</td>
<td>2</td>
<td>215</td>
<td>248</td>
<td>75</td>
<td>1,750</td>
<td>1,571</td>
<td>Generator</td>
</tr>
<tr>
<td>St Andrews (LS-2)</td>
<td>1975/2011</td>
<td>3</td>
<td>100</td>
<td>105</td>
<td>15</td>
<td>1,250</td>
<td>7,898</td>
<td>Portable</td>
</tr>
<tr>
<td>Camino del Valle (LS-3)</td>
<td>1979/2007</td>
<td>3</td>
<td>565</td>
<td>165</td>
<td>60</td>
<td>1,750</td>
<td>4,308</td>
<td>Generator</td>
</tr>
<tr>
<td>Highlands Ranch (LS-4)</td>
<td>1988/2010</td>
<td>2</td>
<td>150</td>
<td>156</td>
<td>30</td>
<td>1,750</td>
<td>804</td>
<td>Portable</td>
</tr>
<tr>
<td>Heritage (LS-5)</td>
<td>2003</td>
<td>2</td>
<td>290</td>
<td>127</td>
<td>25</td>
<td>1,750</td>
<td>1,429</td>
<td>Portable</td>
</tr>
</tbody>
</table>

gpm = gallons per minute

Table 2-7  Force Mains

<table>
<thead>
<tr>
<th>Force Main</th>
<th>Diameter (inches)</th>
<th>Material</th>
<th>Length (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Coach Force Main</td>
<td>6</td>
<td>PVC</td>
<td>6,171</td>
</tr>
<tr>
<td>St Andrews Force Main</td>
<td>4</td>
<td>PVC</td>
<td>1,925</td>
</tr>
<tr>
<td>Camino del Valle Force Main</td>
<td>12</td>
<td>PVC</td>
<td>6,442</td>
</tr>
<tr>
<td>Highlands Ranch Force Main</td>
<td>4</td>
<td>PVC</td>
<td>1,363</td>
</tr>
<tr>
<td>Heritage Force Main</td>
<td>6</td>
<td>PVC</td>
<td>1,263</td>
</tr>
<tr>
<td>Oak Knoll Road Siphon</td>
<td>8</td>
<td>VCP</td>
<td>677</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>VCP</td>
<td>677</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>PVC</td>
<td>768</td>
</tr>
</tbody>
</table>

2.6  Regional Sewerage Facilities

Poway conveys sewer flows generated in its service area as well as sewer flows generated in portions of the City of San Diego into the City of San Diego’s Municipal Wastewater System (Muni) for conveyance to either the City of Escondido’s Hale Avenue Resource Recovery Facility (HARRF) or to the City of San Diego Metropolitan Wastewater District’s System (Metro).

Sewer flows are conveyed within the Metro System for disposal at either the North City Water Reclamation Plant (NCWRP) and/or the Point Loma Wastewater Treatment Plant (PLWTP). The majority of sewage generated within the study area flows southwesterly along Poway Road and discharges into the City of San Diego’s Penasquitos Trunk Sewer, where flows are ultimately conveyed to the Metro System. Poway’s current contracted conveyance capacity within the Metro System is 5.05 million gallons per day (mgd). Conveyance capacity provides Poway with a contracted flow capacity to transport wastewater within the Metro trunk sewer system and is contracted separately from treatment capacity within Metro treatment facilities. Sewage generated in the Pomerado and Old Winery basins (approximately 1 percent of total Poway flows) are conveyed north westerly into Muni’s East Bernardo Trunk Sewer and are ultimately conveyed to HARRF.

Poway has 5.894 mgd of contracted treatment capacity within the Metro system, including 0.05 mgd of treatment capacity at HARRF. Regional sewerage facilities are shown in Figure 2-9.
Existing Sewer System
Figure 2-6
Existing Gravity Mains Pipeline Age

Figure 2-7

City of Poway
Sanitary Sewer Master Plan
February 2013
Regional Sewerage Facilities

Figure 2-9

NOTE: Pipelines shown schematically for graphic purposes only.
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Chapter 3  Wastewater Generation Analysis

This chapter provides a description of the wastewater generation including:

- Existing flow meter data summary;
- Methodology for developing unit generation rates;
- Recommended unit generation rates;
- Estimated future wastewater flows; and
- Metro capacity needs.

3.1 Flow Meters

As described in Section 2.6, most of Poway’s sewer flows are conveyed within the City of San Diego Metro System for disposal at either the NCWRP and/or the PLWTP. Poway’s current contracted conveyance capacity within the Metro System is 5.05 million gallons per day (mgd). Sewage generated in the Pomerado and Old Winery basins are conveyed north westerly into Muni’s East Bernardo Trunk Sewer and are ultimately conveyed to HARRF. Poway has 5.894 mgd of contracted treatment capacity within the Metro system, including 0.05 mgd of treatment capacity at HARRF.

The existing sanitary sewer system has one permanent flow meter located at the downstream end of the Poway system (Meter PO-2) and five permanent flow meters where City of San Diego flows are metered into the Poway sanitary sewer system. The permanent meters are maintained by the City of San Diego through their contractor ADS Environmental Services (ADS). To help characterize wastewater flows throughout the system, five temporary flow meters were placed strategically throughout Poway’s sanitary sewer system to monitor flows from internal Poway areas. ADS monitored these locations for a 14-day period, from November 11 through November 24, 2011. Table 3-1 summarizes the average daily metered flow at the permanent and the temporary meters with viable data. Figure 3-1 presents the locations of the permanent and temporary meters. The ADS flow metering report and meter data are included in Appendix B.

Table 3-1  Sanitary Sewer Flows by Meter

<table>
<thead>
<tr>
<th>Meter Name</th>
<th>Monitoring Period</th>
<th>Metered Average Flow (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO1</td>
<td>Dec 1, 2010 - Nov 30, 2011</td>
<td>0.44</td>
</tr>
<tr>
<td>PO3</td>
<td>Dec 1, 2010 - Nov 30, 2011</td>
<td>0.12</td>
</tr>
<tr>
<td>PO5</td>
<td>Dec 1, 2010 - Nov 30, 2011</td>
<td>0.23</td>
</tr>
<tr>
<td>PO4</td>
<td>Dec 1, 2010 - Nov 30, 2011</td>
<td>0.15</td>
</tr>
<tr>
<td>PO6</td>
<td>Dec 1, 2010 - Nov 30, 2011</td>
<td>0.19</td>
</tr>
<tr>
<td>Meter C</td>
<td>Nov 11, 2011 - Nov 24, 2011</td>
<td>0.14</td>
</tr>
<tr>
<td>Meter D</td>
<td>Nov 11, 2011 - Nov 24, 2011</td>
<td>0.36</td>
</tr>
<tr>
<td>Meter E</td>
<td>Nov 11, 2011 - Nov 24, 2011</td>
<td>0.26</td>
</tr>
<tr>
<td>Meter B</td>
<td>Nov 11, 2011 - Nov 24, 2011</td>
<td>1.41</td>
</tr>
<tr>
<td>Meter A</td>
<td>Nov 11, 2011 - Nov 24, 2011</td>
<td>0.06</td>
</tr>
<tr>
<td>PO2</td>
<td>Dec 1, 2010 - Nov 30, 2011</td>
<td>4.60</td>
</tr>
</tbody>
</table>

mgd = million gallons per day
3.1.1 Metered Sewer Basins

Meter basins were delineated for all of the installed temporary and permanent flow meters and encompass all of Poway’s existing connected wastewater customers. Wastewater flows generated within each meter basin were estimated from the average flows observed at each meter. In some basins, this required the deduction of flows from upstream meters. Table 3-2 summarizes the meter basins, the estimated average flow and a description of each basin. Figure 3-2 presents a flow schematic of the meter basins and flow meters in Poway’s sanitary sewer system.

Table 3-2  Poway Metered Sewer Flows by Basin

<table>
<thead>
<tr>
<th>Meter Name</th>
<th>Description</th>
<th>Metered Average Flow (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>San Diego Basin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PO1</td>
<td>San Diego West (includes La Manda area)</td>
<td>0.44</td>
</tr>
<tr>
<td>PO3</td>
<td>San Diego West</td>
<td>0.12</td>
</tr>
<tr>
<td>PO4</td>
<td>San Diego West</td>
<td>0.15</td>
</tr>
<tr>
<td>PO5</td>
<td>San Diego South</td>
<td>0.23</td>
</tr>
<tr>
<td>PO6</td>
<td>San Diego South</td>
<td>0.19</td>
</tr>
<tr>
<td><strong>City Metro Basin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meter C</td>
<td>Poway Business Park</td>
<td>0.14</td>
</tr>
<tr>
<td>Meter D</td>
<td>South East Poway/ Business Park</td>
<td>0.36</td>
</tr>
<tr>
<td>Meter E</td>
<td>South East Poway</td>
<td>0.26</td>
</tr>
<tr>
<td>Meter B</td>
<td>Pomerado/ North Poway</td>
<td>1.41</td>
</tr>
<tr>
<td>Camino del Valle</td>
<td>Camino del Valle LS (pumps to Meter B)</td>
<td>0.62</td>
</tr>
<tr>
<td>Meter A</td>
<td>North Poway</td>
<td>0.06</td>
</tr>
<tr>
<td>PO2</td>
<td>Central Poway</td>
<td>4.60</td>
</tr>
</tbody>
</table>

mgd = million gallons per day
Note: Flow meter data from November 11-25, 2011.

The study area is comprised of three major sewer basins, shown in Figure 3-3: San Diego flows to Poway (San Diego Basin), Poway flows treated by HARRF (Poway HARRF Basin), and Poway flows to the Metro System (City Metro Basin). The San Diego Basin is monitored by three flow meters along the western portion of Poway (PO-1, PO-3, and PO-5) and two additional meters along the southern boundary of Poway (PO-4 and PO-6). The Poway HARRF Basin is not metered but includes two house count areas for estimating flow contributions, Old Winery and Pomerado. The Poway Metro Basin is monitored at meter PO-2, located on Poway Road west of Poway’s boundary prior to entering the City of San Diego’s Penasquitos Trunk Sewer.
Major Sewer Basins

Figure 3-3

City of Poway
Sanitary Sewer Master Plan
February 2013

Feet

6,000

Potential Future Service Area

City HARRF Basin

San Diego Basin

City Metro Basin

Gravity Sewer

Forcemain

Permanent Meter

Temporary Meter

Outside of Service Area
San Diego Basin

The San Diego Basin includes areas to the west and to the south of Poway. Flows generated within this basin are metered at the point where flows enter the Poway sanitary sewer system and are conveyed through the Poway Metro Basin to the City of San Diego's Penasquitos Trunk Sewer. The basin is predominantly residential but also includes some retail commercial areas.

In addition to metered flows, there are three unmetered areas where flows are estimated by house counts.

- The La Manda area is located along the western boundary of Poway and flows through meter PO-1. Meter PO-1 monitors flows from the City of San Diego into the Poway sanitary sewer system but also includes Poway flows from the La Manda area. The area consists of 63 single family-residential units.
- The Springhurst Street area is located in the Sabre Springs area of the City of San Diego, just west of Poway's boundary and north of Poway Road. The area flows unmetered into the Poway sanitary sewer system just upstream of meter PO-2 and consists of 72 single-family residential units.
- The Stone Canyon area is located along the western boundary of Poway and enters the Poway sanitary sewer system as a pumped flow from San Diego Sewer Pump Station (SPS) No. 75. The area consists of 484 single-family units, 154 multi-family residential units, and some retail commercial.

Poway HARRF Basin

The Poway HARRF Basin includes areas in the northern and western portion of Poway. Flows generated within this basin are conveyed to HARRF via the East Bernardo Trunk Sewer. The basin is made up of two unmetered areas that are billed by house counts.

- Old Winery: The Old Winery area is located in the northern portion of Poway near Old Winery Road and flows unmetered into the City of San Diego sewer system and through the San Diego East Bernardo Trunk Sewer to HARRF. The area consists of 175 single-family residential units, Chaparral Elementary School, and Bernardo Winery and is estimated at approximately 193 equivalent dwelling units (EDUs). This area also includes 8 vacant parcels.
- Pomerado: The Pomerado unmetered basin is located along Pomerado Road and Stone Canyon Road within Poway. The area flows to the City of San Diego sewer system and through the San Diego East Bernardo Trunk Sewer to HAARF. The area consists of 34 single-family residential units, three churches, and medical offices and is equivalent to approximately 53 EDUs. This area also includes one single-family residential unit that is not currently connected to the sanitary sewer system.

Poway Metro Basin

The Poway Metro Basin includes the majority of the Study Area and conveys flows generated within its basin and the San Diego Basin along Poway Road to the City of San Diego Penasquitos Trunk Sewer. The Poway Metro Basin flows are monitored by Meter PO-2.
order to better understand wastewater flows within this basin, five temporary meters (Figure 3-2) were installed to monitor flows over a 14-day period.

- Meter A: Area A is located in the northern portion of Poway near Espola Road and Valle Verde Road. The area mainly consists of single-family residential units.
- Meter B: Area B includes the northern portion of Poway that drains into the major trunk sewers along the Pomerado Road corridor. The area also includes flows from the City of San Diego that flows through meters PO-1, PO-3, and PO-5. Area B is divided into a north and south metered basin. The Camino del Valle Lift Station (LS) serves the northern portion of the Basin and discharges into the trunk sewer in Pomerado Road. Atkins received metered flows from Poway for the Camino del Valle LS during the temporary monitoring period of November 11 through 24, 2011.
- Meter C: Area C is located within the Business Park area of Poway and includes flows that drain west to Pomerado Road. This area consists of all commercial and industrial development.
- Meter D: Area D is located in the south central portion of Poway and includes commercial and residential areas. Flows from this area generally drain north to Poway Road.
- Meter E: Area E is located within the central portion of Poway and includes commercial and residential areas. Flows from this area generally drain southwest to Poway Road.

### 3.2 Wastewater Generation Rates

The purpose of establishing wastewater generation rates is to characterize the existing unit use by either population or land use and for use in forecasting wastewater flows. The existing metered flows were compared with land use data and population estimates to develop unit wastewater generation rates. Unit generation rates were estimated using two sources for comparison purposes: 1) population estimates compiled by SANDAG (Series 12), and 2) SANDAG Series 12 existing and planned land use coverage along with Poway’s Zoning data. Based on the findings of the unit generation rate analysis by land use and population, recommended unit rates will be established for use in forecasting future wastewater flows.

SANDAG produces a new population forecast every three to five years based on land use input from incorporated cities within the County of San Diego. SANDAG coordinates with local agencies and cities on potential land use changes, general plan updates, and assumptions for residential and non-residential growth potential within its jurisdiction. Land use changes and demographic factors are input into SANDAG’s forecasting models to produce population, housing unit, and employment data forecasts.

To develop unit wastewater generation rates for each Meter Basin, the metered flows were compared with land use data and population estimates. Unit generation rates were estimated for residential dwelling units and commercial, industrial, and institutional acreages. Residential unit generation rates were determined in each basin based on the average household size (meter basin population / meter basin Single-Family Residential Dwelling Units (SFR DU)). Multi-family residential unit generation rates were assumed to be 75 percent of SFR generation rates. Per capita unit generation rates were determined through an iterative process utilizing established typical rates for residential and employment populations within San Diego County. Non-
residential generation rates were determined in each basin by iteratively adjusting the unit rate between 300 and 1,500 gallons per day per acre (gpd/ac).

Commercial and industrial land uses can have a wide range of unit generation rates depending on the type of development, such as manufacturing, office, or warehouse distribution. With large potential variations in non-residential unit generation rates, non-residential (employment) population data was used from SANDAG Series 12 data as a check against the unit generation rates. For Commercial/Industrial land uses, employment populations were utilized to determine per capita rates as a check against the land use unit rates. Typically, employment per capita rates range from 10 to 50 gallons per capita per day (gpcd) depending on the type of employer (i.e. low rates for large warehousing and retail facilities and higher rates for manufacturing). For institutional land uses, student and employment populations were utilized to determine per capita rates. Student population data was gathered from Poway Unified School District School Accountability Report Cards for the school year 2009-2010. Typically student and employee per capita rates range from 10 to 30 gpcd.

The unit generation rate calibration of each basin is described in the following sections and summarized in Table 3-3 and Table 3-4. A detailed summary of the calibration process is presented as Appendix C.

Table 3-3  Wastewater Unit Generation Rate Calibration based on Population

<table>
<thead>
<tr>
<th>Basin</th>
<th>Residential</th>
<th>Employment</th>
<th>Student</th>
<th>Calculated Flow</th>
<th>Calibration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter PO-1</td>
<td>55 gpcd</td>
<td>20 gpcd</td>
<td>15 gpcd</td>
<td>0.482 mgd</td>
<td>9.5</td>
</tr>
<tr>
<td>Meter PO-3</td>
<td>60 gpcd</td>
<td>20 gpcd</td>
<td>N/A</td>
<td>0.110 mgd</td>
<td>-8.6</td>
</tr>
<tr>
<td>Meter PO-5</td>
<td>60 gpcd</td>
<td>20 gpcd</td>
<td>15 gpcd</td>
<td>0.230 mgd</td>
<td>0.1</td>
</tr>
<tr>
<td>Meter PO-4</td>
<td>90 gpcd</td>
<td>20 gpcd</td>
<td>N/A</td>
<td>0.147 mgd</td>
<td>-1.7</td>
</tr>
<tr>
<td>Meter PO-6</td>
<td>90 gpcd</td>
<td>20 gpcd</td>
<td>N/A</td>
<td>0.183 mgd</td>
<td>-3.7</td>
</tr>
<tr>
<td>Meter C</td>
<td>60 gpcd</td>
<td>20 gpcd</td>
<td>N/A</td>
<td>0.151 mgd</td>
<td>8.0</td>
</tr>
<tr>
<td>Meter D</td>
<td>55 gpcd</td>
<td>20 gpcd</td>
<td>N/A</td>
<td>0.382 mgd</td>
<td>5.5</td>
</tr>
<tr>
<td>Meter E</td>
<td>60 gpcd</td>
<td>20 gpcd</td>
<td>15 gpcd</td>
<td>0.277 mgd</td>
<td>6.9</td>
</tr>
<tr>
<td>Meter B</td>
<td>55 gpcd</td>
<td>20 gpcd</td>
<td>15 gpcd</td>
<td>0.170 mgd</td>
<td>-5.6</td>
</tr>
<tr>
<td>Camino del Valle</td>
<td>90 gpcd</td>
<td>20 gpcd</td>
<td>N/A</td>
<td>0.611 mgd</td>
<td>-4.1</td>
</tr>
<tr>
<td>Meter A</td>
<td>90 gpcd</td>
<td>20 gpcd</td>
<td>N/A</td>
<td>0.043 mgd</td>
<td>-22.4</td>
</tr>
<tr>
<td>Meter PO-2</td>
<td>55 gpcd</td>
<td>20 gpcd</td>
<td>15 gpcd</td>
<td>2.095 mgd</td>
<td>6.3</td>
</tr>
</tbody>
</table>

gpcd = gallons per capita per day
mgd = million gallons per day
### Table 3-4  Wastewater Unit Generation Rate Calibration based on Land Use

<table>
<thead>
<tr>
<th>Basin</th>
<th>SFR</th>
<th>MFR</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Institutional</th>
<th>Calculated Flow</th>
<th>Calibration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter PO-1</td>
<td>200 gpd/DU</td>
<td>150 gpd/DU</td>
<td>300 gpd/ac</td>
<td>500 gpd/ac</td>
<td>500 gpd/ac</td>
<td>0.464 mgd</td>
<td>5.5</td>
</tr>
<tr>
<td>Meter PO-3</td>
<td>180 gpd/DU</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.110 mgd</td>
<td>-8.7</td>
</tr>
<tr>
<td>Meter PO-5</td>
<td>180 gpd/DU</td>
<td>N/A</td>
<td>300 gpd/ac</td>
<td>500 gpd/ac</td>
<td>1,000 gpd/ac</td>
<td>0.228 mgd</td>
<td>-1.0</td>
</tr>
<tr>
<td>Meter PO-4</td>
<td>270 gpd/DU</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.147 mgd</td>
<td>-2.1</td>
</tr>
<tr>
<td>Meter PO-6</td>
<td>270 gpd/DU</td>
<td>205 gpd/DU</td>
<td>N/A</td>
<td>N/A</td>
<td>500 gpd/ac</td>
<td>0.181 mgd</td>
<td>-4.7</td>
</tr>
<tr>
<td>Meter C</td>
<td>N/A</td>
<td>N/A</td>
<td>300 gpd/ac</td>
<td>300 gpd/ac</td>
<td>N/A</td>
<td>0.137 mgd</td>
<td>-2.1</td>
</tr>
<tr>
<td>Meter D</td>
<td>180 gpd/DU</td>
<td>135 gpd/DU</td>
<td>300 gpd/ac</td>
<td>500 gpd/ac</td>
<td>500 gpd/ac</td>
<td>0.335 mgd</td>
<td>-7.4</td>
</tr>
<tr>
<td>Meter E</td>
<td>190 gpd/DU</td>
<td>145 gpd/DU</td>
<td>300 gpd/ac</td>
<td>N/A</td>
<td>500 gpd/ac</td>
<td>0.266 mgd</td>
<td>2.5</td>
</tr>
<tr>
<td>Meter B</td>
<td>165 gpd/DU</td>
<td>125 gpd/DU</td>
<td>300 gpd/ac</td>
<td>500 gpd/ac</td>
<td>N/A</td>
<td>1.649 mgd</td>
<td>-2.6</td>
</tr>
<tr>
<td>Camino del Valle</td>
<td>240 gpd/DU</td>
<td>180 gpd/DU</td>
<td>500 gpd/ac</td>
<td>N/A</td>
<td>N/A</td>
<td>0.598 mgd</td>
<td>-6.1</td>
</tr>
<tr>
<td>Meter A</td>
<td>285 gpd/DU</td>
<td>N/A</td>
<td>500 gpd/ac</td>
<td>N/A</td>
<td>N/A</td>
<td>0.042 mgd</td>
<td>-24.5</td>
</tr>
<tr>
<td>Meter PO-2</td>
<td>190 gpd/DU</td>
<td>145 gpd/DU</td>
<td>300 gpd/ac</td>
<td>500 gpd/ac</td>
<td>500 gpd/ac</td>
<td>1.863 mgd</td>
<td>-4.9</td>
</tr>
</tbody>
</table>

gpd/ac = gallons per day per acre  
gpd/DU = gallons per day per dwelling unit  
mgd = million gallons per day
3.2.1 Generation Rates Using SANDAG Population

The purpose of estimating population based unit generation rates is to establish the amount of wastewater a typical residential person and non-residential employee generate over a given day in order to assist in forecasting the amount of wastewater that the study area can expect through 2050. Per capita unit generation rates are determined through a comparison of the existing SANDAG population data within a given meter basin against the average wastewater flows observed at that flow meter and industry standard ranges.

SANDAG provided 2010 residential and employment population projections by basin for the study area based on Series 12 data. Through an iterative process, per capita generation rates for residential and employment populations were estimated. Table 3-3 summarizes the estimated unit generation rates by population through the iterative flow calibration process. Per capita unit generation rates were calibrated to within ten percent of existing flows based on industry standards, with the exception of Meter A. Flows generated within Meter A are small, so even slight differences in the calibrated flows make up a relatively large percentage when compared to metered flows.

Both Poway and San Diego basins had an estimated employment per capita unit generation rate of 20 gpcd. Residential unit generation rates ranged from 55 to 90 gpcd. The range of residential unit generation rates can be attributed to large estate homes in the San Diego South area and the Camino del Valle LS Basin in the north and smaller homes along South East Poway.

3.2.2 Generation Rates Using Land Use Data

The purpose of estimating land use based unit generation rates is to establish the amount of wastewater generated in a day over an acre of land by general land use types in order to assist in estimating the amount of wastewater that the study area can expect at the buildout. Land use based unit generation rates are determined through a comparison of the existing area per land use type within a given meter basin against the average wastewater flows observed at that flow meter and industry standard ranges.

As shown in Figure 2-4 of the previous chapter, existing land uses include single-family residential, multi-family residential, industrial, commercial, and institutional. When the GIS land use coverage is overlaid with Poway’s permitted sewer database, it was possible to estimate the number of single-family and multi-family dwelling units and calculate industrial, commercial, and institutional acreage for the study area.

Table 3-4 summarizes the calibration of sewer flows for each meter basin with estimated unit wastewater generation rates summarized by land use. Unit wastewater generation rates were “calibrated” to within ten percent of existing flows, with the exception of Meter A. SANDAG data projected an average of 3.32 persons per household for Poway and 3.16 persons per household for the areas of San Diego that drain to Poway. The household population density was between 2.8 and 3.4 persons per household for Poway and 3.0 to 3.6 persons per household for the areas of San Diego that drain to Poway based on estimated dwelling unit counts and SANDAG population.
Commercial and Industrial unit generation rates averaged 300 and 500 gpd/ac, respectively. Institutional unit generation rates ranged from 300 to 500 gpd/ac, due to varying student densities of the schools. Student densities were estimated based on parcel acreage and student enrollment population stated in each school's Accountability Report Card.

In each meter basin the single-family residential land use unit generation rate was first assigned a value equal to the calculated household density multiplied by the calibrated population unit generation rate. The multi-family residential land use unit generation rate was then set equal to 75 percent of the single-family unit generation rate, and the rates were adjusted through an iterative process to reasonably match the estimated residential wastewater generation for each area, as presented in Table 3-3. Non-residential land use unit generation rates were set equal to each other and then were adjusted through an iterative process to reasonably match the estimated employment wastewater generation for each area presented in Table 3-3.

Typically, design standards for agencies in San Diego County assume wastewater flows between 200 to 400 gallons per day per dwelling unit (gpd/du) for single-family residential, with multi-family residential ranging from 60 percent to 75 percent of single-family residential, and 500 to 1,500 gpd/ac for non-residential land uses. When compared to typical design standards, the calibrated unit generation rates suggest that, overall, Poway residential customers generate lower than average wastewater flows and Poway has lower than average employment densities.

### 3.2.3 Recommended Unit Generation Rates

For future development, it is typical to develop uniform unit generation rates. Poway has relatively uniform wastewater generation for land use and population projections based on our unit generation rate analyses. Therefore, for the existing system analysis, the calibrated unit generation rates shown above will be used. For future wastewater generation, more conservative generation rates will be used for the hydraulic capacity analysis. The wastewater generation rates used to estimate future flows are summarized in Table 3-5.

**Table 3-5 Recommended Unit Generation Rates**

<table>
<thead>
<tr>
<th>Land Use / Population</th>
<th>Recommended Unit Generation Rate</th>
<th>Range of Existing Unit Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-Family Residential</td>
<td>215 gpd/DU</td>
<td>165-285 gpd/DU</td>
</tr>
<tr>
<td>Multi-Family Residential</td>
<td>160 gpd/DU</td>
<td>125-205 gpd/DU</td>
</tr>
<tr>
<td>Commercial</td>
<td>300 gpd/ac</td>
<td>300-500 gpd/ac</td>
</tr>
<tr>
<td>Industrial</td>
<td>500 gpd/ac</td>
<td>300-500 gpd/ac</td>
</tr>
<tr>
<td>Institutional</td>
<td>600 gpd/ac</td>
<td>500-1,000 gpd/ac</td>
</tr>
<tr>
<td>Population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>65 gpcd</td>
<td>55-90 gpcd</td>
</tr>
<tr>
<td>Employment</td>
<td>20 gpcd</td>
<td>20 gpcd</td>
</tr>
<tr>
<td>Student</td>
<td>15 gpcd</td>
<td>15-20 gpcd</td>
</tr>
</tbody>
</table>

These recommended unit generation rates are intended to serve as a guide for estimating sewer flows from potential future development projects.
3.3 Wastewater Flow Projections

Wastewater flow projections were developed through 2030 and for buildout. Flow projections for 2030 and 2050 were estimated by applying the recommended population unit generation rates to the recommended phased populations. These projections form the basis for sewer input flows to the hydraulic model and analyses of future capacity needs in the wastewater collection system. Table 3-6 summarizes the study area estimated future flows based on recommended phasing through 2050 and Table 3-7 summarizes the estimated buildout flow based on the land use for ultimate conditions.

### Table 3-6 Study Area Flow Projections through 2050 (by Population)

<table>
<thead>
<tr>
<th>Basin</th>
<th>Population</th>
<th>Estimated Wastewater Generation (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2010</td>
</tr>
<tr>
<td>Poway HAARF</td>
<td>Residential</td>
<td>635</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>229</td>
</tr>
<tr>
<td></td>
<td>HARRF Subtotal</td>
<td></td>
</tr>
<tr>
<td>Poway Metro</td>
<td>Residential</td>
<td>47,347</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>30,833</td>
</tr>
<tr>
<td></td>
<td>Metro Subtotal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poway Subtotal</td>
<td></td>
</tr>
<tr>
<td>San Diego</td>
<td>Residential</td>
<td>17,966</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>3,920</td>
</tr>
<tr>
<td></td>
<td>San Diego Subtotal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
</tr>
</tbody>
</table>

The study area includes parcels that are currently on septic systems and are not connected to Poway’s sanitary sewer system (included in the Potential Service Area described in Chapter 2). There are also areas of rural residential land along the eastern portion of Poway’s jurisdiction.
that are not yet developed and/or not connected to the sanitary sewer system (part of the Rural Service Area described in Chapter 2). When evaluating growth within Poway's service area, a conservative approach was assumed to phase these areas into the study area.

Wastewater projections through 2030 assume all existing septic systems within 1,000 feet will connect to the existing sanitary sewer system. The County of San Diego Department of Public Health code requires any septic system within 200 feet of the sanitary sewer system to connect if it experiences a service failure. The Master Plan assumptions to include septic system properties within 1,000 feet are conservative but reasonable given that there are only approximately 1,000 residential properties that meet this criteria. There currently are not any known septic problems in this area.

By 2050, the Master Plan assumes that all existing septic system properties will connect to the sanitary sewer system. The growth assumptions also include the possibility that parcels within the Rural Service Area have developed at their planned land use densities and have connected to the sanitary sewer system.

### 3.4 Metro Capacity

Sewage collected from the study area flows into the City of San Diego’s Municipal Wastewater System for conveyance to the City of Escondido’s HARRF for treatment and disposal or to the Metro System for treatment at either the North City Water Reclamation Plant and/or the Point Loma Wastewater Treatment Plant.

The majority of sewage generated within the study area flows southwesterly along Poway Road and discharges into City of San Diego’s Penasquitos Trunk Sewer, where flows are ultimately conveyed to the Metro System. Sewage generated in the Pomerado and Old Winery basins are conveyed northwesterly into the City of San Diego’s East Bernardo Trunk Sewer and are ultimately conveyed to HARRF.

Poway has 5.894 mgd of treatment capacity within the Metro system and a conveyance capacity within the Metro System of 5.05 mgd, as explained in Section 2.6. Poway also has 0.05 mgd of capacity at HARRF. Based on the future flow projections for Poway of 4.76 mgd, the existing Metro and Muni treatment and conveyance capacity rights will be sufficient to serve Poway through 2050.

In conjunction with the Master Plan, a market assessment was performed on supplying recycled water to the golf courses located in the north end of Poway with the Camino del Valle Lift Station as a potential diversion point in the system to support a membrane bioreactor (MBR) treatment plant. The lift station receives approximately 0.62 mgd of average annual sewer flows and a small treatment plant could divert this flow from the sanitary sewer system for use as recycled water. Detailed discussions of the Beneficial Reuse Impact on Metro capacity are presented in the Satellite Treatment Plant Study Technical Memorandum, included as Appendix F.
### 3.5 Conclusions

Existing average wastewater flows generated within Poway are approximately 3.5 mgd, including 0.04 mgd that flows to HARRF. Using conservative growth assumptions and SANDAG population projections, Poway total flows in 2030 are estimated to be 4.27 mgd. Assuming buildout of the entire study area, Poway’s ultimate sewer generation to be conveyed to Metro is estimated at approximately 4.70 mgd, plus 0.06 mgd conveyed to HARRF, and will likely not occur until beyond 2050.

Poway has sufficient treatment and conveyance capacity in the Metro and Muni systems to accommodate their existing and projected sewer flows through 2050.
Chapter 4
Capacity Evaluation

This chapter provides a description of the capacity analysis performed as part of the Master Plan, and includes:

- Evaluation criteria;
- Model selection, development and calibration;
- Capacity analysis; and
- Potential phased recommended improvements.

4.1 Background

A capacity evaluation of Poway’s existing sanitary sewer system was completed to identify sewer pipelines and lift stations that may be deficient under recommended design criteria and to identify any upgrades needed to accommodate existing and projected dry and wet weather wastewater flows. Based on the capacity evaluation, phased facility improvements were identified to reduce the potential for sanitary sewer overflows as well as to allow for projected growth within the study area.

4.2 Methodology

The principal tool utilized in the capacity analysis was the dynamic hydraulic computer model. The hydraulic model simulates flow conditions, such as wastewater flow depth, flow rate, and velocity, within pipes, manholes, and lift stations in Poway’s sanitary sewer system. The model selected for this study, InfoWorks CS (Innovyze, Version 8.5), belongs to a class of models referred to as dynamic wave models. These models provide a reasonable representation of hydraulic flow conditions over an extended period of time.

The model was developed using the physical collection system data, existing and forecasted populations, per capita unit generation rates, diurnal patterns, and rainfall events. The model was then calibrated to flow metering records for dry and wet weather conditions. It was then utilized to evaluate the existing sanitary sewer system under existing and projected dry and wet weather flow conditions in order to identify potential recommended improvements.

4.3 Flow Monitoring

Flow records from various locations within Poway’s sanitary sewer system were used to develop initial diurnal patterns and calibrate the hydraulic model. As discussed in Chapter 3, the City of San Diego maintains flow meters at six (6) locations within the collection system and five (5) temporary meters were installed for a 14-day period to evaluate flows from within the study area. These meters continuously record flow, depth and velocity. Flow monitoring data from November 11 through November 25, 2011 at all of the meters was used to develop initial diurnal patterns and calibrate the existing dry weather hydraulic model scenario. The month of December 2010 was identified as having a rainfall event between a 10-year and 25-year return storm. This storm event was used to calibrate wet weather events.
4.4 Limitations of Hydraulic Modeling

The hydraulic model was utilized as the primary planning tool for the sewer capacity analysis and provides a reasonable representation of actual flow conditions within a sanitary sewer system in response to existing and future sewage loading. The accuracy of the simulation, however, is directly related to the accuracy of the model input data, including physical parameters and sewage loading projections. For example, in a case where roots had entered the sewer causing a blockage, the model would be unable to predict a resulting surcharge condition. Consequently, an understanding of the data sources is critical in interpreting the modeling results.

4.5 Evaluation Criteria

Recommended criteria were developed to evaluate the capacity of the existing collection system under existing and projected dry and wet weather flow conditions. Poway’s previous Master Plan gravity main and force main evaluation criteria were reviewed and found to be within acceptable planning limits. Siphon and lift station evaluation criteria were developed by reviewing criteria for similar Southern California sewer agencies and the Water Agencies’ Standards (WAS) Design Guidelines (May 2006). The recommended evaluation criteria are presented in Table 4-1 and will be utilized to identify deficient facilities and size replacement infrastructure.

Table 4-1 Recommended Evaluation Criteria

<table>
<thead>
<tr>
<th>Item</th>
<th>Recommended Evaluation Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gravity Main Criteria</strong></td>
<td></td>
</tr>
<tr>
<td>Minimum Pipe Diameter</td>
<td>8 inches</td>
</tr>
<tr>
<td>Minimum Velocity</td>
<td>2 fps at peak flow rate</td>
</tr>
<tr>
<td>Manning's Roughness Coefficient</td>
<td>0.013</td>
</tr>
<tr>
<td>Maximum Peak d/D Ratio</td>
<td>0.50 PDWF for diameter &lt; 18-inch</td>
</tr>
<tr>
<td>for Existing Sewers</td>
<td>0.75 PDWF for diameter ≥ 18-inch</td>
</tr>
<tr>
<td></td>
<td>0.90 PWWF for all diameters</td>
</tr>
<tr>
<td>Maximum Peak d/D Design</td>
<td>0.50 PWWF for diameter &lt; 18-inch</td>
</tr>
<tr>
<td>Criteria For New Sewers</td>
<td>0.75 PWWF for diameter ≥ 18-inch</td>
</tr>
<tr>
<td><strong>Force Main Criteria</strong></td>
<td></td>
</tr>
<tr>
<td>Minimum Pipe Diameter</td>
<td>4 inches</td>
</tr>
<tr>
<td>Minimum Velocity</td>
<td>2.5 fps</td>
</tr>
<tr>
<td>Maximum Velocity</td>
<td>8 fps</td>
</tr>
<tr>
<td>Hazen Williams ‘C’ Factor</td>
<td>130</td>
</tr>
<tr>
<td><strong>Siphon Criteria</strong></td>
<td></td>
</tr>
<tr>
<td>Minimum Pipe Diameter</td>
<td>6 inch</td>
</tr>
<tr>
<td>Minimum Number of Pipes</td>
<td>2</td>
</tr>
<tr>
<td>Minimum Velocity</td>
<td>3 fps at peak flow rate</td>
</tr>
<tr>
<td>Hazen Williams ‘C’ Factor</td>
<td>120</td>
</tr>
<tr>
<td><strong>Lift Station Criteria</strong></td>
<td></td>
</tr>
<tr>
<td>Minimum Number of Pumps</td>
<td>2</td>
</tr>
<tr>
<td>Minimum Pump Capacity</td>
<td>Duty pumps capable of handling ultimate wet weather capacity</td>
</tr>
<tr>
<td>Standby Capacity</td>
<td>100% of largest duty pump capacity</td>
</tr>
<tr>
<td>Emergency Power</td>
<td>Required: Permanent or Portable Standby Generator</td>
</tr>
<tr>
<td>Emergency Storage Capacity</td>
<td>2 hour pumping volume at peak wet weather flow</td>
</tr>
</tbody>
</table>

fps = feet per second
PDWF = peak dry weather flows; PWWF = peak wet weather flows
4.6 Model Development

The model was developed with the physical collection system data, existing and forecasted populations, per capita unit generation rates, diurnal patterns, and rainfall events. Details regarding the collection system and the application of sewage loading factors and rainfall events are described below.

4.6.1 Collection System Attributes

Data required to create the model includes information describing the physical sanitary sewer system, such as physical location, pipe diameters and reach lengths, manhole invert elevations, and estimated pipe roughness coefficients. Model connectivity was reviewed and verified with Poway operations staff. The physical parameters of the model, including pipe diameter, slope, and roughness coefficients were based principally on Poway’s GIS records. Where the data appeared to be inaccurate or unclear, Atkins coordinated with Poway staff to confirm data or agree on reasonable assumptions to input into the model.

4.7 Model Loading

Wastewater flows are generated in the model by applying basin populations to per capita unit generation rates and time-varying hydrographs (diurnal patterns) at the basin’s identified tributary node. Populations were applied for existing, interim and ultimate conditions at the parcel level. Each parcel was assigned a corresponding tributary model node based on available lateral information and topography. Model basins were then formed by merging parcels with identical tributary nodes.

The parcel’s existing, interim, and buildout residential and employment populations were summed and input into the model at the basin level. Residential and employment population estimates for the existing and buildout conditions were provided by SANDAG. Figure 4-1 presents the location of the model basins.

A diurnal pattern is expressed as a varying flow rate over time and is applied to the estimated average residential and employment flows to develop model flow inputs into the collection system. It is necessary to develop multiple diurnal patterns in order to properly model communities with varying types of sewer discharge patterns. For instance, residential users typically discharge the most sewage during the early morning and early evening hours, while employment users typically discharge the most sewage in the middle of the day. Initial residential diurnal patterns were developed for both Poway and areas of the City of San Diego based upon the flow metering data. The flow patterns for Poway and areas of the City of San Diego are typical of largely residential communities, which exhibit the largest peak in the morning and a smaller peak in the early evening. Employment populations represent only a small portion of the overall flows and, as such, diurnal patterns for employment populations were assumed as a typical bell curve with the peak occurring at midday, which is conservative. The shapes of the residential diurnal patterns were refined during the dry weather model calibration to better simulate the observed peaking of the sewage flows. Because Meter C monitored a basin comprised of only non-residential uses, diurnal patterns created for the model were able to match both weekend and weekday flows, allowing for a better approximation of employment diurnal patterns in the remaining metered basins. Appendix D includes model basin population projections and diurnal patterns.
4.7.1 Rainfall Events

Rainfall derived inflow and infiltration (RDI&I) is the combination of wet weather infiltration and direct inflow that establishes the maximum required hydraulic capacity of the sanitary sewer system. Rainfall infiltration is water that enters the sanitary sewer system underground through holes, cracks and leaky joints in pipelines and manholes as a result of rainfall percolation and temporary rising of groundwater levels. While the amount of infiltration from rainfall events can be estimated from an evaluation of flow data and rainfall records, infiltration that occurs year-round in areas of high groundwater can typically only be detected from pipeline video inspections or manhole inspections. Rainfall inflow also refers to surface storm water that enters the collection system at manholes or from illicit connections to the sanitary sewer system, such as roof and yard drains and surface flows from parking lots. The primary characteristics of inflow are the rapid response to the onset and cessation of rainfall. The rate of inflow depends on the amount and intensity of a specific rainfall event and also previous rainfall events, which affect ground water saturation levels and the amount of surface runoff. Inflow and infiltration is discussed further in Chapter 5.

A storm event occurring December 20-22, 2010 was selected for use in calibrating the wet weather model. The precipitation readings for the December storm are similar to an event between a 10-year and 25-year design storm for San Diego County, as shown in Figure 4-2. Figure 4-3 presents a comparison of the average daily flows recorded at Meter PO-2 to the average daily rainfall totals at the Poway rain gauge. The Poway rain gauge is located near the intersection of Pomerado Road and Oak Knoll Road and data from this rain gauge was used for evaluating storm events within the Study Area.

Rainfall events are applied to the model to identify their potential impacts on the collection system. RDI&I flows into the system are modeled by applying infiltration and routing coefficients to the rainfall event. These coefficients were refined during the wet weather model calibration to better simulate the observed peaking of the sewage flows.

December 2010 was a very wet period, with approximately seven inches of rain falling in the last half of the month. Figure 4-3 illustrates the rapid increase in wastewater flows following periods of heavy rainfall attributed primarily to rainfall inflow. The December 2010 storm produced a peak increase of approximately 6.45 mgd (11.05 mgd total flow) at Meter PO-2 from a storm event that averaged over six inches of rain during its 5-day period. Meter PO-2 measures the total flow from the study area, except for sewer flows that are treated at HARRF. These results are not surprising given that Poway has indicated high groundwater levels throughout its service area.

Poway experiences a relatively high rate of infiltration after storm events, as shown on Figure 4-3. Meter data from Meter PO-2 shows that after the December 20-22 storm event, daily flows still averaged approximately 1.1 mgd higher than the average annual sewage flow, with an estimated 40 million gallons of infiltration volume. This suggests high infiltration flows in the sanitary sewer system following a significant rain event. Poway pays $0.003 per gallon for Metro Annual I&I Treatment costs, equating to approximately $120,000 for infiltration flows following the December storm event.
Figure 4-2 December 2010 Rainfall Intensity-Duration-Frequency Curve

Figure 4-3 Meter PO-2 Wet Weather Flow Assessment
4.8 Model Calibration

The model was calibrated by refining estimated model parameters under dry and wet weather conditions so that the simulated model flow conditions reasonably approximated the measured flow conditions. Diurnal curves were adjusted for the dry weather calibration such that simulated and recorded wastewater flow and depth hydrographs matched to within a reasonable level of accuracy. Infiltration and routing coefficients were adjusted in the wet weather calibration such that simulated and recorded wastewater peak flows matched to within a reasonable level of accuracy.

4.8.1 Dry Weather Calibration

The model was calibrated to dry-weather meter data recorded during the temporary monitoring period of November 11-25, 2011 at both the permanent and temporary flow meters. November 11, 2011 was chosen for calibration since no rain events were observed and flows were indicative of typical dry weather flow patterns. Peak flow calibration was based on the highest observed flow recorded in that month. Simulated flow hydrographs at each meter location were compared with recorded discharge measurements. The purpose of the comparison was to allow for refinement of estimated model parameters so that the simulated flow conditions reasonably approximated the measured flow conditions. These parameters generally include diurnal curve patterns and peak to average flow ratios (peaking factors).

Results of the dry weather calibration are best presented graphically, and are shown in Figures 4-4 through 4-14. The typical range of sewer volume and peak flows for dry weather model calibration is within +/- 10 percent of field measurements for master planning purposes. Table 4-2 summarizes the results of the dry weather calibration.

Table 4-2 Dry Weather Calibration Summary

<table>
<thead>
<tr>
<th>Meter Name</th>
<th>Description</th>
<th>Observed Peak Flow (mgd)</th>
<th>Modeled Peak Flow (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego Basin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PO1</td>
<td>San Diego West (includes La Manda area)</td>
<td>0.96</td>
<td>0.80</td>
</tr>
<tr>
<td>PO3</td>
<td>San Diego West</td>
<td>0.25</td>
<td>0.27</td>
</tr>
<tr>
<td>PO4</td>
<td>San Diego West</td>
<td>0.43</td>
<td>0.49</td>
</tr>
<tr>
<td>PO5</td>
<td>San Diego South</td>
<td>0.28</td>
<td>0.29</td>
</tr>
<tr>
<td>PO6</td>
<td>San Diego South</td>
<td>0.37</td>
<td>0.34</td>
</tr>
<tr>
<td>Poway Metro Basin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meter C</td>
<td>Poway Business Park</td>
<td>0.13</td>
<td>0.14</td>
</tr>
<tr>
<td>Meter D</td>
<td>South East Poway/ Business Park</td>
<td>0.48</td>
<td>0.55</td>
</tr>
<tr>
<td>Meter E</td>
<td>South East Poway</td>
<td>0.49</td>
<td>0.46</td>
</tr>
<tr>
<td>Meter B</td>
<td>Pomerado/ North Poway</td>
<td>2.35</td>
<td>2.37</td>
</tr>
<tr>
<td>Meter A</td>
<td>North Poway</td>
<td>0.09</td>
<td>0.10</td>
</tr>
<tr>
<td>PO2</td>
<td>Central Poway</td>
<td>6.89</td>
<td>6.32</td>
</tr>
</tbody>
</table>

mgd = million gallons per day
Figure 4-4  Dry Weather Calibration at Meter PO-1

Figure 4-5  Dry Weather Calibration at Meter PO-3
Figure 4-6  Dry Weather Calibration at Meter PO-5

Figure 4-7  Dry Weather Calibration at Meter PO-4
Figure 4-8  Dry Weather Calibration at Meter PO-6

Figure 4-9  Dry Weather Calibration at Meter A
Figure 4-10  Dry Weather Calibration at Meter B

Figure 4-11  Dry Weather Calibration at Meter C
Figure 4-12  Dry Weather Calibration at Meter D

Figure 4-13  Dry Weather Calibration at Meter E
The model was calibrated to the peak wet-weather flow event that occurred on December 20-22, 2010 at the six (6) permanent flow meters. The flow records for December 22 were selected because they represented the largest spike in flows that corresponded with the peak intensity of the storm. Simulated flow hydrographs at each meter location were compared with recorded discharge measurements. The purpose of the comparison was to allow for refinement of estimated model parameters so that the simulated flow conditions reasonably approximated the measured flow conditions. These parameters include the infiltration and routing coefficients. The infiltration coefficient determines what percentage of the rainfall enters the system. The routing coefficient determines how fast or slow the rainfall enters the system.

In general, the system exhibited a slow response to the storm during the first day of the storm event, but as the storm continued, rising groundwater levels resulted in very quick response times in the system. The system’s response and wet weather calibration results are best presented graphically and are shown in Figures 4-15 through 4-20. The typical range of sewer peak flow for wet weather model calibration are within $+/−$ 10 percent of field measurements for master planning purposes. Table 4-3 summarizes the results of the wet weather calibration.
Figure 4-15  Wet Weather Calibration at Meter PO-1

Figure 4-16  Wet Weather Calibration at Meter PO-3

---

### Rainfall Observed Records

- **Depth (in):** 1.540
- **Peak (in/hr):** 0.200
- **Average (in/hr):** 0.021

### Flow (MGD)

- **Min:** 0.023
- **Max:** 0.301

### Volume (US Mgal)

- **Min:** 0.532
- **Max:** 1.224

---

**Graph Template:** Poway>Graph Template Group>Wet Weather Dec 2010! (3/7/2012 2:19:03 PM)
Figure 4-17  Wet Weather Calibration at Meter PO-5

Figure 4-18  Wet Weather Calibration at Meter PO-4
Figure 4-19  Wet Weather Calibration at Meter PO-6

Rainfall
Observed Records
Model Simulation

Figure 4-20  Wet Weather Calibration at Meter PO-2

Rainfall
Observed Records
Model Simulation
### Table 4-3 Wet Weather Calibration Summary

<table>
<thead>
<tr>
<th>Meter Name</th>
<th>Description</th>
<th>Observed Peak Flow (mgd)</th>
<th>Modeled Flow (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO1</td>
<td>San Diego West (includes La Manda area)</td>
<td>1.22</td>
<td>1.22</td>
</tr>
<tr>
<td>PO3</td>
<td>San Diego West</td>
<td>0.30</td>
<td>0.31</td>
</tr>
<tr>
<td>PO4</td>
<td>San Diego West</td>
<td>1.11</td>
<td>1.11</td>
</tr>
<tr>
<td>PO5</td>
<td>San Diego South</td>
<td>0.33</td>
<td>0.34</td>
</tr>
<tr>
<td>PO6</td>
<td>San Diego South</td>
<td>1.31</td>
<td>1.31</td>
</tr>
<tr>
<td>PO2</td>
<td>Central Poway</td>
<td>14.91</td>
<td>14.86</td>
</tr>
</tbody>
</table>

mgd = million gallons per day

Based on typical master planning calibration criteria, the hydraulic model is within acceptable ranges when compared to metered flow data and observed rainfall data. The model is considered a calibrated model and can be used for future planning scenarios.

### 4.9 Capacity Analysis

A capacity analysis of the existing collection system was performed under existing and forecasted dry and wet weather flow conditions. Model simulations were performed for the recommended 2030 wastewater generation, discussed in Chapter 3, in order to identify potential improvement projects. The identified improvement projects were then sized to accommodate the 2050 flow projections. Projects were evaluated under the existing wastewater flows to identify project priority and phasing. Identified improvement projects were also evaluated against operational concerns, such as lift station deficiencies, odor problems, and known high-frequency maintenance areas. These projects and operational concerns are presented in Chapter 5 to form the Capital Improvement Plan presented in Chapter 6.

#### 4.9.1 Lift Stations and Force Mains

The lift stations and force mains owned and operated by Poway were evaluated under existing and projected wastewater flows based upon the criteria listed in Table 4-1. Table 4-4 summarizes the existing and future lift station pump capacities. Table 4-5 summarizes the existing and future lift station force main capacities.

Atkins reviewed lift station SCADA data for the November 11-25, 2011 and December 20-22, 2010 periods to evaluate pump performance and determine the firm pumping capacity of each lift station. Firm capacity is considered to be the maximum pumping capacity observed from SCADA data at a lift station with one pump out of service. Most of the lift stations were found to operate within the expected system head curves; however, the Camino del Valle LS data showed that pumps were operating at nearly twice the design point flows during the storm event. System head curves were compared to pump curves for each lift station and are presented in Appendix E.
### Table 4-4 Lift Station Pumping Capacities

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Coach LS (LS-1)</td>
<td>2</td>
<td>215</td>
<td>170</td>
<td>117</td>
<td>369</td>
<td>380</td>
<td>380</td>
</tr>
<tr>
<td>Saint Andrews LS (LS-2)</td>
<td>3</td>
<td>100</td>
<td>195</td>
<td>53</td>
<td>113</td>
<td>115</td>
<td>117</td>
</tr>
<tr>
<td>Camino del Valle LS (LS-3)</td>
<td>3</td>
<td>565</td>
<td>1,275</td>
<td>554</td>
<td>1,465</td>
<td>1,530</td>
<td>1,530</td>
</tr>
<tr>
<td>Highlands Ranch LS (LS-4)</td>
<td>2</td>
<td>150</td>
<td>150</td>
<td>9</td>
<td>91</td>
<td>92</td>
<td>92</td>
</tr>
<tr>
<td>Heritage LS (LS-5)</td>
<td>2</td>
<td>290</td>
<td>280</td>
<td>21</td>
<td>193</td>
<td>194</td>
<td>194</td>
</tr>
</tbody>
</table>

gpm = gallons per minute

### Table 4-5 Force Main Capacities

<table>
<thead>
<tr>
<th>Force Main</th>
<th>Existing Diameter (inches)</th>
<th>Observed Discharge (SCADA) (gpm)</th>
<th>Velocity (fps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Coach Force Main</td>
<td>6</td>
<td>170</td>
<td>1.9</td>
</tr>
<tr>
<td>Saint Andrews Force Main</td>
<td>4</td>
<td>195</td>
<td>5.0</td>
</tr>
<tr>
<td>Camino del Valle Force Main</td>
<td>12</td>
<td>1,275</td>
<td>3.6</td>
</tr>
<tr>
<td>Highlands Ranch Force Main</td>
<td>4</td>
<td>150</td>
<td>3.8</td>
</tr>
<tr>
<td>Heritage Force Main</td>
<td>6</td>
<td>280</td>
<td>3.2</td>
</tr>
</tbody>
</table>

gpm = gallons per minute
fps = feet per second

WAS Lift station evaluation criteria recommends lift stations contain emergency storage volume between one to six hours of pumping capacity during average dry weather flows based on the agency’s ability to provide adequate response time during an emergency. The Poway lift stations are not in remote locations and have adequate access during an emergency. Based on Poway’s ability to respond during a power outage, this Master Plan recommends a minimum of two hours of emergency storage at lift stations without a generator on site. Emergency storage was calculated based on dimensions and pump on/off levels provided in as-built plans and evaluated under existing, 2030, and 2050 conditions. Table 4-6 summarizes the existing and future lift station storage capacities.

### Table 4-6 Lift Station Storage Capacities

<table>
<thead>
<tr>
<th>Lift Station</th>
<th>Emergency Storage (gal)</th>
<th>Average DWF (mgd)</th>
<th>Storage (hours)</th>
<th>Average DWF (mgd)</th>
<th>Storage (hours)</th>
<th>Average DWF (mgd)</th>
<th>Storage (hours)</th>
<th>Emergency Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Coach LS (LS-1)</td>
<td>1,571</td>
<td>0.02</td>
<td>1.7</td>
<td>0.04</td>
<td>1.0</td>
<td>0.06</td>
<td>0.7</td>
<td>Generator</td>
</tr>
<tr>
<td>Saint Andrews LS (LS-2)</td>
<td>7,898</td>
<td>0.05</td>
<td>3.7</td>
<td>0.05</td>
<td>3.5</td>
<td>0.06</td>
<td>3.4</td>
<td>Portable</td>
</tr>
<tr>
<td>Camino del Valle LS (LS-3)</td>
<td>4,308</td>
<td>0.47</td>
<td>0.2</td>
<td>0.55</td>
<td>0.2</td>
<td>0.59</td>
<td>0.2</td>
<td>Generator</td>
</tr>
<tr>
<td>Highlands Ranch LS (LS-4)</td>
<td>804</td>
<td>0.01</td>
<td>3.6</td>
<td>0.01</td>
<td>3.1</td>
<td>0.01</td>
<td>3.0</td>
<td>Portable</td>
</tr>
<tr>
<td>Heritage LS (LS-5)</td>
<td>1,429</td>
<td>0.002</td>
<td>16.4</td>
<td>0.004</td>
<td>8.6</td>
<td>0.004</td>
<td>8.1</td>
<td>Portable</td>
</tr>
</tbody>
</table>

mgd = million gallons per day
DWF = dry weather flow
Old Coach Lift Station (LS-1)

The Old Coach LS was constructed in 1999 and contains a 6-foot by 14-foot wet well. There are two installed pumps: one duty pump and one standby pump that operate in lead/lag based on wet well levels, which provide a firm pumping capacity of 170 gpm. In addition the lift station has an emergency generator to provide power during an outage. The Old Coach LS receives flow from the Heritage LS.

Existing wet weather flows have been met with the installed pump capacity; however, Poway should consider installing a second duty pump to meet future peak wet weather flows should one pump be out of service. Poway does keep a spare duty pump on hand, which allows staff to replace a faulty pump in a timely manner. Poway has expressed concerns that the lift station does not operate properly and the system head/pump curves for the lift station show that the pump typically operates below its rated design flow.

The Old Coach force main currently operates at a velocity below the 2.5 fps criteria with one pump in operation. With pump upgrades and more efficient operation, as well as a second duty pump, it is expected that the force main velocities will improve. No force main upgrades are recommended at this time.

The lift station currently has approximately 1.7 hours of emergency storage under existing conditions and is expected to have less than one hour of storage under future conditions, all of which are less than the recommended minimum two hours of storage. With the emergency generator on site, installing additional storage may not be a priority at this time; however, pump upgrades and a second duty pump are considered to be priority improvements. Pump upgrades should be designed to accommodate peak flows to the Old Coach LS as well as peak pumped flows from the Heritage LS.

Saint Andrews Lift Station (LS-2)

The Saint Andrews LS was originally constructed in 1975 and upgraded in 2011. The lift station contains an 8-foot by 24-foot wet well and three installed pumps. The two duty pumps and one standby pump operate in lead/lag based on wet well levels providing a firm pumping capacity of 200 gpm. The lift station does not have an emergency generator on site, but can accommodate a portable generator during an outage.

Existing and future wet weather flows can be met with the installed pump capacity and the lift station is found to have adequate operational capacity.

The lift station currently has over three hours of emergency storage under existing and future conditions, which is more than the recommended minimum two hours of storage and considered to be adequate for operation. No upgrades are recommended for the Saint Andrews LS.

Camino del Valle Lift Station (LS-3)

The Camino del Valle LS originally constructed in 1979 and upgraded in 2007. The lift station contains a 6-foot by 24-foot wet well and three installed pumps. The two duty pumps and one standby pump operate in lead/lag based on wet well levels providing a firm pumping capacity of 1,275 gpm. The lift station has an emergency generator on site to provide power during an outage.
The Camino del Valle LS wet well is designed with an overflow into the City of San Diego’s sewer system. There is high potential for overflow from the lift station to result in a spill in the City of San Diego’s system; however, capacity impacts from the lift station's overflow are not considered as part of this Master Plan.

During the December 2010 storm event, SCADA data for the Camino del Valle LS showed that at the peak of the storm event, all three pumps were in operation. Poway may want to consider installing an additional duty pump to meet future peak wet weather flows should one pump be out of service.

The lift station currently has less than an hour of emergency storage, which is less than the recommended minimum two hours of storage. With the emergency generator on site, installing additional storage may not be a priority at this time.

Highlands Ranch Lift Station (LS-4)

The Highlands Ranch LS was originally constructed in 1988 and recently upgraded in 2010. The lift station contains a 6-foot diameter wet well and two installed pumps. The one duty pump and one standby pump operate in lead/lag based on wet well levels, providing a firm pumping capacity of 150 gpm. The lift station does not have an emergency generator on site, but can accommodate a portable generator during an outage.

Existing and future wet weather flows can be met with the installed pump capacity and the lift station is found to have adequate operational capacity.

The lift station currently has over three hours of emergency storage under existing and future conditions, which is more than the recommended minimum two hours of storage and considered to be adequate for operation. No upgrades are recommended for the Highlands Ranch LS.

Heritage Lift Station (LS-5)

The Heritage LS was constructed in 2003 and contains an 8-foot diameter wet well and two installed pumps. The one duty pump and one standby pump operate in lead/lag based on wet well levels, providing a firm pumping capacity of 280 gpm. The lift station does not have an emergency generator on site, but can accommodate a portable generator during an outage.

Existing and future wet weather flows can be met with the installed pump capacity and the lift station is found to have adequate operational capacity.

The lift station currently has over sixteen hours of emergency storage under existing and eight hours of storage under future conditions, which is more than the recommended minimum two hours of storage and considered to be adequate for operation. No upgrades are recommended for the Heritage LS.

4.9.2 Oak Knoll Siphon

Siphons are typically used in gravity sewer systems to convey sewer flows around utility conflicts where such crossings cannot be attained with a gravity sewer pipe at a continuous slope. The Oak Knoll Siphon allows the sanitary sewer pipes to dip below conflicting utilities in Oak Knoll Road while conveying sewer flows from a lower elevation (bottom of the siphon) to a
higher elevation (siphon outlet) without the use of a pump. The elevation difference between the siphon inlet and the bottom of the siphon provides enough pressure to move sewer flows through the siphon until it reaches atmospheric pressure at the siphon outlet.

The existing 8-inch, 15-inch, and 18-inch diameter siphons are located in Oak Knoll Road, between Poway Road and Pomerado Road. The older 8-inch and 15-inch siphons were constructed in 1980, while the newer 18-inch siphon was installed in 1991. Flow from the 27-inch sewer enters a vault in Oak Knoll Road, where flow is diverted through the 18-inch siphon or the 8-inch and 15-inch siphons. The 8-inch and 15-inch siphons also receive flow directly from the 21-inch sewer in Oak Knoll Road. A manual gate can be installed to direct all the flow from the 27-inch sewer into one siphon or the other, if necessary.

Table 4-7 presents the modeled existing flows in each of the siphons and their respective flow capacities. Figures 4-21 through 4-23 illustrate the siphon profile design and observed modeled flows under existing peak dry weather conditions.

Table 4-7   Model Predicted Existing Flows in Siphon

<table>
<thead>
<tr>
<th>Siphon</th>
<th>Capacity (mgd)</th>
<th>Existing Dry Weather</th>
<th>Existing Wet Weather</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flow (mgd)</td>
<td>Velocity (fps)</td>
<td>Flow (mgd)</td>
</tr>
<tr>
<td>8-inch</td>
<td>1.80</td>
<td>0.57</td>
<td>2.52</td>
</tr>
<tr>
<td>15-inch</td>
<td>6.35</td>
<td>1.38</td>
<td>1.74</td>
</tr>
<tr>
<td>18-inch</td>
<td>9.14</td>
<td>0.47</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Note: Siphon capacity based on maximum velocity of 8 fps.

mgd = million gallons per day
fps = feet per second

Figure 4-21   8-inch Siphon under Modeled Existing Flows
Figure 4-22  15-inch Siphon under Modeled Existing Flows

Figure 4-23  18-inch Siphon under Modeled Existing Flows
Sewer pipes are designed to generate minimum cleansing velocities, typically 3 fps, for preventing deposition of sediment in inverted siphons. Under dry weather conditions, velocities in the siphons are less than 3 fps, which may not provide adequate cleansing velocities in the pipe. However, the 15-inch and 18-inch siphons meet the 3 fps velocity criteria under wet weather conditions. The 8-inch siphon shows velocities less than 3 fps under wet weather conditions, which may not provide adequate cleansing velocities.

Based on a recommended maximum velocity of 8 fps in the siphons, the 8-inch and 15-inch siphons have the capacity to convey sewer flows should the 18-inch siphon be out of service under wet weather conditions. All three siphons have adequate capacity under dry weather conditions.

### 4.9.3 Gravity Pipelines

The gravity pipelines were evaluated under existing and projected wastewater flows based upon the criteria listed in Table 4-1. Under dry weather flow conditions pipeline capacity projects were identified if the peak flows exceeded a flow depth to pipe diameter (d/D) ratio of 0.50 for pipeline diameters less than 18 inches in diameter and 0.75 for pipelines 18 inches in diameter and greater. Under wet weather flow conditions pipeline capacity projects were identified if the peak flows exceeded a d/D ratio of 0.90 for all pipeline diameters. Capital improvement projects (CIP) will be evaluated through an iterative process from downstream to upstream and it is likely that the CIP will be less extensive than the identified deficient pipelines presented in Table 4-8 once hydraulic bottlenecks are relieved.

Pipelines with identified deficiencies were prioritized by model condition. Table 4-8 summarizes the total length of the identified deficiencies in gravity pipeline capacity based on model condition.

- Priority 1: pipelines with deficiencies triggered by existing dry weather conditions.
- Priority 2: pipelines with deficiencies triggered by existing wet weather conditions.
- Priority 3: pipelines with deficiencies triggered by 2030 dry weather conditions.
- Priority 4: pipelines with deficiencies triggered by 2030 wet weather conditions.

#### Table 4-8 Gravity Pipeline Identified Deficiencies by Model Condition

<table>
<thead>
<tr>
<th>Diameter</th>
<th>DWF d/D</th>
<th>WWF d/D</th>
<th>Priority 1</th>
<th>Priority 2</th>
<th>Priority 3</th>
<th>Priority 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>&gt; 0.50</td>
<td>&gt; 0.90</td>
<td>7,741</td>
<td>9,901</td>
<td>352</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>&gt; 0.50</td>
<td>&gt; 0.90</td>
<td>1,981</td>
<td>1,594</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>&gt; 0.50</td>
<td>&gt; 0.90</td>
<td>2,765</td>
<td>1,519</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>15</td>
<td>&gt; 0.50</td>
<td>&gt; 0.90</td>
<td>747</td>
<td>1,295</td>
<td>459</td>
<td>678</td>
</tr>
<tr>
<td>18</td>
<td>&gt; 0.75</td>
<td>&gt; 0.90</td>
<td>0</td>
<td>1,805</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>&gt; 0.75</td>
<td>&gt; 0.90</td>
<td>0</td>
<td>3,388</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>27</td>
<td>&gt; 0.75</td>
<td>&gt; 0.90</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>332</td>
</tr>
<tr>
<td>30</td>
<td>&gt; 0.75</td>
<td>&gt; 0.90</td>
<td>0</td>
<td>34</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td></td>
<td></td>
<td>13,234</td>
<td>19,536</td>
<td>811</td>
<td>1,033</td>
</tr>
</tbody>
</table>

Note: The lengths presented will be refined during CIP analysis.

- d/D = depth to pipe diameter
- DWF = dry weather flow
- WWF = wet weather flow
In summary, the capacity evaluation concluded that Poway has a significant quantity of capacity-constrained sewers based on the evaluation criteria, especially under existing wet weather flow conditions. Figure 4-24 presents the location of the identified pipeline deficiencies. Identified capacity deficiencies were also evaluated in conjunction with identified condition related projects (presented in Chapter 5) to form the Capital Improvement Plan presented in Chapter 6.

Prior to construction of improvements, it is recommended that Poway conduct detailed engineering investigations of the identified reaches that may include field inspections, flow metering during peak flow periods (such as holidays) and under wet weather conditions, and video inspection to accurately assess the improvements needed.
Gravity Pipeline

Identified Deficiencies

Figure 4-24
Chapter 5  
Operations and Maintenance Evaluation

Although not typically part of a Master Plan, the City has requested an operations and maintenance assessment which is presented in this chapter. Included are the following components:

- Assessment of the Cleaning/Preventative Maintenance Program;
- Assessment of the Physical Inspection Program including Video (CCTV) and Manhole Inspection and Rehabilitation;
- Identification and Elimination of Inflow and Infiltration;
- Evaluation of existing lift stations;
- System odor assessment; and,
- Assessment of the central Oak Knoll siphon structure, one of two key transition points into the City of San Diego's wastewater transmission system.

5.1 Background

The operations and maintenance portion of the City's Wastewater Utilities Program is in the Public Works Department. Public works personnel partner with engineers in the City’s Development Services Department to deliver the full spectrum of services necessary to ensure a well-functioning wastewater system that meets the current and future needs of the community. System information collected during operations and maintenance activities is provided to engineers in the Development Services Department who make final determinations regarding design for projected needs, capital improvement projects for repair and prioritization of competing demands.

Poway’s Public Works’ Wastewater Utilities Program is responsible for the inspection, operation, and maintenance of Poway’s wastewater collection system including access manholes and related appurtenances. Additionally, this Program is responsible for ensuring the implementation of City and regulatory agency policies and procedures to ensure that wastewater operations are effective and economical. A well-maintained sanitary sewer system is critical to preventing community nuisances such as odors resulting from high hydrogen sulfide gas (H2S), as well as preventing sewer spills for the mutual protection of surface waters and the overall environment to safeguard public health and safety and potentially result in significant penalties and fines.

5.2 Approach

To establish an understanding of Poway's current wastewater collection system inspection, operation, and maintenance procedures, Atkins conducted a review of Poway’s Sewer System Management Plan (SSMP) and met with Wastewater Utilities Division staff to discuss current inspection and maintenance measures. It is important to note that at the time of Atkins' initial evaluation, the program was undergoing an important transition to a more systematic and comprehensive approach under a new supervisor and including several new employees. An update to the SSMP was also underway.
Atkins’ evaluation supports the changes already underway in the preventative maintenance and physical inspection programs and offers suggested considerations for continued development in the areas of Inflow and Infiltration (I/I) reduction, Oak Knoll odor control and/or elimination, and necessary repairs to address asset conditions.

Generally, Poway’s inspection and maintenance programs include the core elements that are reflective of industry best practices. Poway is continuing to enhance existing programs and procedures beneficial to the preventative maintenance of the sanitary sewer collection system. Following is a summary of findings and recommendations for consideration to facilitate and optimize operation and maintenance practices for the sanitary sewer collection system organized into six (6) sections as follows:

1) Section 5.3: Cleaning/Preventative Maintenance Program;
2) Section 5.4: Physical Inspection Program:
   i. Video (CCTV)
   ii. Manhole Inspection and Rehabilitation
3) Section 5.5: Identification and Elimination of Inflow and Infiltration
4) Section 5.7: Lift Station Assessment
5) Section 5.8: Odor Assessment
6) Section 5.9: Oak Knoll Siphon

5.3 Review of Cleaning/Preventative Maintenance Program

To minimize and prevent system blockages that can lead to sewer spills and to preserve and extend the useful life of the sanitary system, Poway’s Preventative Maintenance (PM) program is currently centered around completing an updated citywide cleaning and video taping of the full system applying best in class practices and improved technology.

An effective PM program helps identify blockages in gravity sewers caused by structural defects or by an accumulation of material in a pipe. Accumulated material can include fats, oil, grease, sediment, or other materials. Certain structural defects, such as protruding lateral connections or cracked pipe, may catch debris, which then causes further buildup of solids that will eventually block the sewer. Root intrusion through structural defects is a major contributor to blockages. Repair or elimination of any defects that contribute to a buildup of material in a pipe should be evaluated as part of a rehabilitation program as defects will always create maintenance problems.

Mechanical Cleaning Procedures

Mechanical and hydraulic cleaning of sewers is a cost-effective method of removing material that interferes with the proper operation of the sewer. The objective is to remove all material clinging to the interior surface of the pipe so that the sewer pipe can carry full pipe flow without any restrictions that might result in blockages due to reduce pipe capacity.

The City of Poway Wastewater Utilities staff conducts routine mechanical cleaning of Poway’s wastewater collection pipelines at varying rates using a combination jet rodder/vactor truck. Current goals include completing a cleaning of the whole system in 18-24 months to provide an updated baseline upon which to build the future program.
After this initial citywide cleaning assessment is complete and fully documented, the data will be used to develop a customized cleaning program that most appropriately addresses varying and unique system characteristics such as age of pipe, type of pipe, roots, system design, areas of buildup and new repairs. In keeping with current best industry practices, this means that certain areas of the city may be cleaned and inspected more than once a year but other areas of the city showing no issues may be put on a one- to three-year schedule. This approach ensures the most efficient use of staff and equipment resources.

The crews are also working closely with the City’s Information Technology team to identify the best use of technology to implement the tenants of asset management that will automate the Work Book process, future cleaning schedules and replacement evaluations.

The locations and maintenance history of Poway’s maintained wastewater system pipes and associated appurtenances are currently documented with handwritten notations in forty-two (42) Work Books and Map Books. Crews complete one Work Book at a time, cleaning from north to south and east to west in the direction of flow to convergence locations. Crews can take anywhere from one to six weeks to complete a Work Book depending on the number of pipeline segments included in the respective Work Book, as well as the need to re-prioritize work to address emergencies and customer service calls. Documentation standards have been enhanced so that findings and maintenance details are entered into the asset management system to lay the groundwork for automated work scheduling in the future.

**High Frequency Maintenance Locations**

At the time of initial evaluation, Poway was re-organizing and systematizing this aspect of the preventative maintenance program and has since completed this work. The PM program includes special attention to locations that have been identified as “hot spots.” Hot spot locations include pipeline locations that rapidly accumulate excessive amounts of grease and sludge, root concentrations and possible pipe sags. These locations are placed on a High Frequency Maintenance Location (HFML) list for cleaning on a monthly or quarterly basis. Videotapes for locations that may benefit from an engineered solution are forwarded to engineering staff for evaluation. Additionally, those locations that may benefit from education about practices that keep fats, oils and grease (FOG) out of the wastewater system are referred to the City’s FOG program so that the property owner can be contacted regarding findings and possible solutions.

**Root Treatment**

Poway’s preventative maintenance effort also includes a contract root treatment component for routine chemical treatment to select portions of the wastewater collection system. The root treatment process includes the applications of chemical root inhibitors to reduce or eliminate roots intruding into the pipes. Pipelines identified as locations with root intrusion problems are treated and evaluated regularly.

Target sites for root treatment are generally located in the older developed areas of Poway and total approximately 12,000-13,000 linear feet of pipe or 1.32% of the system. Poway maintains a list of locations that require root treatment on a routine basis. As locations are identified for root control, location information is recorded and evaluated for inclusion in the subsequent treatment cycle. Poway has established a video (CCTV) inspection schedule for locations that have been
identified and treated for root control to ensure data is available should warranty work be required of the contractor.

5.3.1 Recommendations for Preventative Maintenance Program

**Metrics:** At the time of this evaluation, Poway was developing performance metrics for the PM program, which have since been completed. These metrics are used to measure progress and effectiveness. Work assignments are established including weekly cleaning and inspection goals for the PM crew. Weekly goals are developed in consideration of diameter of pipe (larger diameter pipe takes longer to clean than smaller diameter pipe), type of pipe and other system characteristics. Progress reviews consider unforeseen emergencies, and other impediments such as rain and traffic easement access that interrupt progress on any given day.

**Random Video Inspection:** Since the time of evaluation, Poway has also enhanced training regarding customizing the cleaning approach in consideration of system characteristics including selection of proper method (e.g. mechanical or hydraulic) and equipment (e.g. rodding, balling, jetting, etc.) as well as cleaning speed and effectiveness. Currently, as PM staff progresses through the city completing the collection of citywide baseline data, the video inspection unit follows the vactor/jet rodder. This provides a natural process for checking the effectiveness of the cleaning through the follow-on video and provides the cleaning operator with feedback as well as completing the data set for each system section. Once Poway's citywide baseline cleaning and inspecting effort is complete, Poway should consider switching to randomly video inspecting within two (2) weeks after cleaning for continued quality control and operator feedback.

**Further Customization of the HFMLs:** Once Poway has compiled complete data for HFMLs, including as-built data; pipe locations, lengths and diameters; current cleaning frequency intervals; sewer overflows for that specific segment; at least four condition findings; and CCTV inspection data for the last 12 months, PW crews in consultation with engineering staff should evaluate the data to determine if the interval between cleanings should be adjusted. Cleaning frequencies may be decreased, increased, or maintained considering condition findings thereby furthering Poway's effort to develop a customized program that makes best use of human and equipment resources. This data should also be reviewed for identification of potential engineering solutions for ongoing maintenance problems.

5.4 Review of Physical Inspection and Assessment

A physical inspection program for the wastewater collection and transportation (conveyance) system is necessary to implement the systematic maintenance program currently under development in the City. Elements of a physical inspection program include visual and equipment-based techniques that use established industry methods of system evaluation. Regularly scheduled physical inspections should be included in the ongoing development of the preventative maintenance program.

The purpose of conducting inspections is to:

- Maintain an accurate inventory including component and location information
- Determine and monitor the condition of the components (assessment)
- Identify defects in the system that can contribute to or cause backups, overflows and bypasses
- Identify chronic problem areas so maintenance can be planned and scheduled
- Identify defects requiring repair to identify optimal method to rectify problems and avoid potentially more expensive emergency repairs
- Develop a baseline for future comparison to determine rates of deterioration

Inspection provides detailed system characteristics of the system that includes size, material, condition, line sags, joint types, elevations, slopes, location of manholes and pump stations, location of lateral connections and other system attributes that are necessary for managing the entire operations and maintenance program.

Inspection data also provides location information that allows more efficient planning and scheduling, and especially emergency response. During blockages that involve overflows and/or backups, valuable time is lost if location information is not available, increasing the risk of regulatory violations, property and environmental damage, and threats to public health and safety.

**Video Inspection (CCTV)**

As noted above, Poway is currently completing an updated citywide cleaning and video inspection (CCTV) of the full wastewater collection system applying best in class practices and improved technology.

Regular and systematic CCTV and assessment of sanitary sewer pipeline facilities provides a means to monitor the condition of the facilities, the effectiveness of the maintenance operations, and provides a basis for identifying and scheduling capital improvements. As noted by the Environmental Protection Agency, CCTV is the most frequently used, most cost efficient in the long term, and most effective method to inspect the internal condition of a sewer. As well, the overall assessment results can be used to determine the funding required for repairing, rehabilitating, and replacing an aging collection system, to prioritize the allocation of funds, and optimize the expenditure and efforts to effectively and efficiently operate a sewer collection system.

Poway performs CCTV inspections systematically one Work Book at a time. They are generally done on a daily basis subsequent to the cleaning of pipelines (until the citywide baseline data collection effort is complete), installation of all new pipelines, and the rehabilitation of pipelines to ensure contractor compliance with Poway design and construction standards.

Poway’s CCTV truck is equipped with Granite XP software developed by Cues. The inspection codes incorporated in the software are National Association of Sewer Service Companies (NASSCO) certified and comply with the Pipeline Assessment and Certification Program (PACP).

Daily CCTV inspection progress is manually recorded in the Work Books and subsequently in Poway’s Cartegraph system for documentation, tracking, and reporting purposes. Information pertaining to sewer inspection activities includes lineal footage televised, pipe size, pipe length, names of staff performing the videotaping, and additional information about system characteristics found in the televised area is entered into the system. Continued work in this
area includes optimizing field technology efforts to eliminate double-recording of work and facilitate generation of automated work scheduling in the future. Staff is also integrating video information into the GIS system for immediate, automated single-point access.

The information obtained and recorded from the CCTV inspections is downloaded to the City server at the end of each work shift. A hard drive is maintained on the CCTV truck for potential future reference while an additional copy of the CCTV video is forwarded to Poway’s Development Services Department to facilitate access and reference by the engineering section. The information contained on the hard drive is ultimately stored on the City of Poway server.

**Manhole Inspection**

Manholes are essential components of the sewer collection system and are often the only points of access into the underground infrastructure for conducting important maintenance tasks for pipes such as cleaning, rehabilitation, and inspection. Without manholes, open-cut excavation and diversion of street traffic would be the only means of access.

Areas of spalled concrete and exposed aggregate are now typical for pre-cast concrete manholes reaching the end of their 50-year lifecycle. Manholes constructed today use materials such as HDPE, concrete with corrosion reducing additives and plastics, and typically include liners for added protection.

As an integral part of the wastewater collection system, access manholes require the same degree of inspection and maintenance as the pipeline sewer network. Manhole inspections are generally visual and include evaluating the condition of the manhole cover, ring, cone, barrel, rungs (if present), trough, and bench for any defective condition. Manholes should be inspected on a routine basis to ensure they are in adequate condition and are accessible. Older manholes may require more frequent inspections to detect signs of possible water intrusion, H2S deterioration and ensure structural integrity.

At the time of initial review, Poway was transitioning to a formal, proactive systematized manhole inspection program to replace an as-needed inspection program.

**Manhole Rehabilitation**

Since 1997, Poway has maintained a manhole rehabilitation program which has historically included the completion of approximately 150 to 250 manholes per year with a total of about 2,000 manholes (of 4,000+ total) rehabilitated to date. The program was temporarily discontinued in 2011 for program evaluation. Currently, as workload allows, crews are confirming inventory and refining the list of approximately 250 to 300 manholes identified as priorities for rehabilitation.

**5.4.1 Recommendations for Physical Inspection Program**

**Frequency:** As noted previously, Poway is currently performing city-wide PM and CCTV inspections to collect an updated system baseline ensuring that data is complete, correct and current. While cleaning of the system is targeted for 18-24 months, the baseline CCTV completion goal is 2.5 to 3 years. Once the system has been completely inspected and conditions documented and quantified, scheduled inspections will be prioritized based on need.
and availability of resources rather than simply re-inspecting the entire system using CCTV. This may result in an acceptable range of 3 to 10 years for repeat video inspection customized to system characteristics.

**Standardization of Video Review:** At the time of evaluation, Poway was developing standardization criteria and securing NASSCO and PACP training for field crew members and engineers to support standardized assessment and documentation practices. Training has been completed since that time and the following standardization practices have been implemented:

- Inspection of entire pipe segments between manholes (including conducting reverse pulls when necessary and documenting accordingly)
- Standardized defect codes and severity ratings
- Defect notations include use of appropriate severity defects
- Pacing for proper inspection of pipe and joints
- Documentation of debris location (possible sags)
- Use of verbal documentation feature
- Use of defect observation codes in conjunction with digital information to document the condition of the entire pipe segment
- Inclusion of pipe material and size on inspection reports

**Standardization of Manhole Inspection:** At the time of evaluation, Poway was developing standardized inspection procedures and rating system. It is recommended that Poway continue to pursue implementation of NASSCO’s Manhole Assessment criteria to ensure consistency of documentation and a repeatable process for evaluation. This approach will support a long-term consistency rather than simply reacting when problems arise.

The goals of the NAASCO system coding are to define attributes and features of the structure, document and explain defects, develop ratings for each applicable component of a manhole (structural rating, operations and maintenance rating, inflow and infiltration rating) and record dimensional data that can be used for selecting the appropriate rehabilitation methods. This standardized method for reporting the results of condition assessments ensures consistency across employees, promotes costs efficiency, and avoids unnecessary rehabilitation work.

NASSCO standardized manhole inspection includes the following information:

- Exact location and access characteristics of the manhole (e.g. inaccessible, within easement, buried, etc.)
- Diameter of the clear opening of the manhole
- Condition of frame and cover (include defects that allow water inflow to enter)
- Whether access manhole lid is located at proper grade or elevation
- Whether cover is subject to ponding or surface runoff
- Type of material and condition of the cone and walls
- Condition of lining if previously rehabilitated
- Improvement condition of the rungs, cone and riser joints
- Configuration, size, and type of the incoming and outgoing lines (including drops)
- Signs of leakage in the riser or damage to the frame’s seal
- Observed water infiltration sources and rate of infiltration
- Height of surcharge
**Manhole Rehabilitation Program:** It is recommended that efforts to complete the updated inventory of already rehabilitated manholes and prioritization of manholes needing rehabilitation based on NASSCO’s standardized manhole inspection criteria be continued. Manholes experiencing water intrusion should be evaluated for installation of watertight seals to eliminate intrusion into manholes that are otherwise structurally sound.

**Easement Access:** Poway should continue efforts to clear easements as possible to ensure easy, speedy access to manholes in case of emergency. Continued encroachments mapping efforts are also important to ensure accurate information regarding obstructions is available for work planning and emergency response.

### 5.5 Identification and Elimination of Inflow and Infiltration

Controlling wet weather peaking is important to avoid costly and unnecessary sewer system over-sizing, prevent sanitary sewer overflows, and prevent increased wastewater treatment costs. Wet weather occurrences, and the resulting flows, are categorized in two major categories known as Inflow and Infiltration (I/I).

"Inflow" includes large flows over a short duration coming from specific point sources such as illicit connections to the sewer system from storm drains or roof drains while "Infiltration" includes flows due to seepage into the sewer system (such as cracked sewer pipes or seepage at pipeline joints).

As discussed in Chapter 4, a general assessment of the inflow and infiltration entering Poway’s sanitary sewer system was made by evaluating flow records from Meter PO-2 during a storm event that occurred between December 20 and 22, 2010. The storm event produced approximately 6 inches of precipitation, which correlates closely to a rainfall event that is between a 10-year and 25-year design storm for San Diego County. Average daily flow rates were calculated for Poway based upon the metered flows and then compared to the average annual flow to estimate the rainfall dependent infiltration into the system. Based on the results, it was determined that Poway does have a significant amount of I/I in some areas of the City.

Measures implemented by Poway staff to identify points of I/I include performing smoke tests and conducting routine and systematic inspections of the wastewater collection system including pipelines and manholes. Smoke tests are performed to locate potential points of inflow into the sanitary sewer system that could result in high flows and/or sanitary sewer overflows. CCTV inspections of the system pipelines are performed to identify breaks, root intrusion, leaking water (infiltration from groundwater), and general deteriorating conditions. Additionally, the visual inspection of manholes is conducted to obtain additional information concerning the presence and degree of inflow and infiltration problems and the general structural condition of the manhole.

#### 5.5.1 Recommendations for Addressing Inflow and Infiltration

**Smoke Testing:** It is recommended that Poway continue its efforts to re-establish regular smoke testing in specific areas where I/I is suspected and at locations where an immediate increase in flows are noted and/or measured subsequent to rainfall events.
CCTV Inspection: As well, CCTV inspection should continue to be conducted as it offers valuable insight to the internal structural condition of buried infrastructure and serves to identify the existence and severity of defects which could also contribute to potential sanitary sewer overflows. As system defects and deficiencies are identified, they should be included in the repair/rehabilitation program and scheduled for implementation.

Manhole Rehabilitation: Manholes also offer an important opportunity for addressing the costly problem of I/I. A manhole is essentially a vertical pipe that gives access to the horizontal pipes that form a collection system. An 8-foot deep manhole of typical design has about the same surface area as a 50 foot segment of 8-inch pipe. When thought of in terms of underground surface area, Poway’s 4,000+ manholes create significant unwanted opportunities for illicit inflow. Therefore, Poway’s continued work to re-institute its manhole rehabilitation program including identification of manholes that would benefit from installation of watertight seals will support correction of I/I problems.

5.6 Review of Other System Components and Issues

Previous sections of this chapter have focused on PM and CCTV of the 185 miles of wastewater system transmission pipes and inspection and rehabilitation of Poway’s over 4,000 manholes. Poway’s system also includes five (5) lift stations and force mains and the Oak Knoll Siphon, which has three barrels. Each of these additional system components require special attention and maintenance to ensure optimal system functioning. Assessment information and recommendations are discussed in the following sections.

5.7 Lift Station Assessment

Operation, maintenance and repair of pump stations require special electrical, hydraulic and mechanical knowledge. Proper design, construction and operator training are also important. All of Poway’s lift stations are equipped with secondary power or have a back-up power plan and each has a telemetry system that transmits alarms to a central location should problems occur.

Poway’s maintenance program is based on the two (2) necessary factors: the equipment manufacturers’ recommendations and specific requirements for individual stations.

Staff conducts weekly inspections of the wastewater lift stations and performs necessary maintenance according to manufacturer’s recommendations for activities such as lubrication of bearings, oil changes, and parts replacement. Additionally, staff monitors each station for leaks, noise, vibrations, flow levels, and odor control. A SCADA system is used for remote monitoring and alarm communication. Maintenance of the stations’ electrical systems is conducted on a yearly basis and wet wells are cleaned on a quarterly basis.

Maintenance activities are scheduled and performed to maintain the system in operational condition. Maintenance and repair activities, as well as related important information is manually recorded by the crew and subsequently entered into Poway’s Cartegraph system and used for recording, tracking, and reporting purposes. The department is currently in the process of incorporating the work plan and historical maintenance activities into the Cartegraph system.
Each lift station was visually inspected with Poway operations staff to assess the physical condition of the facilities. The lift station’s structure, wet well, odor control, instrumentation, pumps, and motors were inspected and assessed as summarized below.

5.7.1 Old Coach (LS-1) Lift Station

The Old Coach Lift Station (LS-1) was constructed in 1999 and is located on the private Maderas Golf Club, near the eighth hole of the course. The station has a separate dry and wet well and utilizes two centrifugal pumps in the dry well. The station is well maintained by Poway staff and is in good physical condition. However, the existing pumps are not equipped to handle peak inflows causing the wet well to fill and back up the incoming gravity sewers. Additionally, the existing emergency generator is a Tier 1 emergency generator, which is outdated. The two pictures to the right present the observed affects in the wet well from the smaller pump capacity and the outdated emergency generator.

The existing pumps have a firm capacity of 170 gpm, which is smaller than the firm capacity of the Heritage Lift Station (LS-5) of 280 gpm. The existing pumps should be replaced with pumps that can deliver a firm capacity of 660 gpm, which is equal to the estimated local 2030 peak wet weather inflow (380 gpm) plus the Heritage Lift Station (LS-5) maximum pumped flow (280 gpm). Additionally, the existing emergency generator should be replaced with a new Tier 3 or Tier 4 emergency generator. Based on the capacity analysis in Chapter 4, the lift station currently has approximately 1.7 hours of emergency storage under existing conditions and is expected to have less than one hour of storage under future conditions, all of which are less than the recommended minimum two hours of storage. With the emergency generator on site, installing additional storage may not be a priority at this time.

5.7.2 Saint Andrews (LS-2) Lift Station

The Saint Andrews Lift Station (LS-2) was originally constructed in 1965 and upgraded in 2011 to replace pumps, electrical equipment, and rehabilitate the wet well. The lift station is located adjacent to a single family residence abutting the Stoneridge Country Club. The station has a separate dry and wet well and utilizes three progressive cavity pumps in the dry well. The lift station does not have an emergency generator on site, but can accommodate a portable generator during an outage. The station is well maintained by Poway staff and is in good physical condition. However, Poway staff is currently evaluating whether to move the spring loaded check valves from their existing horizontal location to the pump discharge’s vertical stem prior to the force main header.

5.7.3 Camino Del Valle (LS-3) Lift Station

The Camino del Valle Lift Station (LS-3) was originally constructed in 1979 and upgraded in 2007. The facility is located behind Camino Del Valle and is accessed from the nearby horse trail. The station has a separate dry and wet well and utilizes three centrifugal pumps in the dry well. The station is well maintained by Poway staff and is in good physical condition. This lift
station is critical to Poway’s sanitary sewer system as it receives and pumps flow from a large portion of North Poway.

A new emergency generator was recently installed for the station, and the station is also equipped with an at grade force main connection for portable pumps during an emergency. Poway has experienced frequent ragging problems at this lift station and currently has plans to install and test a new pump equipped with an inline cutter. If the cutter is insufficient to prevent clogging of the pump, it is recommended that an in-line grinder be installed and tested. The lift station currently has less than an hour of emergency storage, which is less than the recommended minimum two hours of storage. With the emergency generator on site, installing additional storage may not be a priority at this time. The picture to the right shows the at-grade emergency force main connection.

5.7.4 Highlands Ranch (LS-4) Lift Station

The Highlands Ranch Lift Station (LS-4) was originally constructed in 1988 and upgraded in 2010. The lift station is located adjacent to a single family residence on Highlands Ranch Road. The station has a separate dry and wet well and utilizes two centrifugal pumps in the dry well. The lift station does not have an emergency generator on site, but can accommodate a portable generator during an outage. The station is well maintained by Poway staff and is in good physical condition. However, Poway staff has noticed that the dry well manhole shaft (see photo) has shifted and is now off center from the manhole cone. The misalignment has resulted in a gap at the joint at which there is moderate infiltration. Poway staff is currently looking into products that will properly seal the joint to prevent the continued infiltration.

5.7.5 Heritage (LS-5) Lift Station

The Heritage Lift Station (LS-5) was constructed in 2003 and is located in a private gated community north of the private Maderas Golf Club on Heritage Drive. The station has two submersible pumps and has been designed to accommodate anticipated future growth. The station does not have an emergency generator on site, but can accommodate a portable generator during an outage. The station is well maintained by Poway staff and is in good physical condition. Poway desires to replace its existing carbon canister which supplies passive odor control to the facility, because the spent media requires HAZMAT disposal. Poway should evaluate other non-hazardous passive odor control applications as well as active odor control utilizing chemical injection similar to the other smaller stations. The two pictures to the right present the wet well and submersible pumps and the existing carbon canister.
5.8 Odor Assessment

To prevent odors within the sewer system Poway utilizes chemical feed with the odor control agent Bioxide at all of its lift stations except Camino del Valle. Chemical feed has been successful in reducing odor problems within the four lift stations. Most odor complaints come from areas closest to the Oak Knoll siphon. In order to assist in developing recommendations to prevent odors at this location a visual inspection was performed at the siphon to assess its current operations.

5.9 Oak Knoll Siphon

Sewage siphons are designed to convey wastewater under low areas such as the bed of a stream or river without the use of pumps. Siphons are made up of an inlet and outlet chamber connected by closed pipes or conduits through which wastewater flows under pressure. The driving force causing wastewater to flow is the hydraulic head in the inlet chamber. The individual pressurized pipes or conduits are normally smaller in diameter than the gravity system they are serving, causing the wastewater to flow at higher velocities. The higher velocity is meant to keep the heavier solids normally found in wastewater in suspension, avoiding the deposition of solids that could otherwise accumulate in the pressurized pipes and interfere with the free flow of the wastewater. Typically, there is a need for frequent siphon monitoring and maintenance due to the probability of solids deposition and the potential for chronic overflows.

The Oak Knoll Siphon is a critical juncture in Poway’s collection system as all flow culminates at this single connection point to the City of San Diego’s system. It consists of an older and newer section. The older section includes approximately 677 feet of 8- and 15-inch diameter siphon and was constructed in 1980. The newer section was installed in 1991 and includes approximately 768 feet of 18-inch diameter siphon. A visual inspection of the siphon was conducted to assess odors, the hydraulic conditions of the inlet and outlet structures, and overall condition of the structures. The results of the visual inspection are summarized below.

5.9.1 Inlet Structures

Old Siphon Inlet Structure

During a site visit, Atkins and Poway staff observed the old inlet structure had an offensive odor attributed to a wastewater stream with elevated levels of $\text{H}_2\text{S}$ gas. The structure was corroded, with exposed aggregate, but there was no visible rebar which indicates that the corrosion has primarily affected only the surface of the structure. The flow profile within the structure was highly turbulent with a waterfall affect occurring over the dike structure that separates the 8-inch from the 15-inch siphon, as shown on the picture to the right. In addition, four private lateral connections were identified as connecting perpendicular to the flow; however, during the site visit, flow was not observed. Based on the size of the lateral connections and the topology of the local properties, it was assumed that three of the connections were likely force main connections and one of the connections is likely a gravity connection. Because these lateral connections are
perpendicular to the flow, they have a high potential to cause additional turbulence and odor in the inlet structure, which was evident from the corrosion identified near their discharge, as shown in the pictures on the previous page. Turbulent flows typically generate odors and release H₂S gas, which results in pipe and structure corrosion.

**New Siphon Inlet Structure**

The new inlet structure had a noticeable odor, attributed to a wastewater stream with elevated levels of H₂S gas. The structure itself did not appear to have major corrosion issues, but the existing liner on the inlet siphon pipeline was identified as peeling up. In addition, the downstream angle point, which causes flows to be diverted to the old siphon, had captured a significant amount of rags and was producing a lot of turbulence. When the rags were removed, the turbulence was reduced; however, it was not eliminated because the diversion angle point extends into the flow path. The picture on the left shows the diversion angle point and the turbulence produced by it.

### 5.9.2 Outlet Structures

**Old Siphon Outlet Structure**

The old outlet structure had a slight odor, attributed to a wastewater stream with elevated levels of H₂S gas. The structure did not appear to have major corrosion issues however the existing liner on the outlet siphon pipelines appeared to have minor peeling, specifically in the 8-inch diameter pipeline, which is evident in the picture to the right.

**New Siphon Outlet Structure**

The new outlet structure had a moderate odor, attributed to a wastewater stream with elevated levels of H₂S gas. The structure appeared to have major corrosion issues along the shelf and within the flow channel, as shown on the picture to the left. However, the manhole shaft appeared not to have major corrosion, suggesting that the liner was not applied to the shelf or flow channel.

Gas detectors were placed in the siphon inlet and outlet structures, as well as four sites upstream to determine whether the gas generation is localized or is being caused upstream. Figure 5-1 presents the locations of the gas monitors that were utilized. Each gas detector had the ability to read H₂S gas readings in parts per million (PPM) over approximately a 20 hour period depending on battery life. Table 5-1 presents the results of the gas monitoring.
Table 5-1  \( \text{H}_2\text{S} \) Readings

<table>
<thead>
<tr>
<th>Manhole</th>
<th>Description</th>
<th>Max ( \text{H}_2\text{S} ) Reading (PPM)</th>
<th>Number of Occurrences ( \text{H}_2\text{S} \geq 3 ) PPM (Rotten Egg)</th>
<th>Number of Occurrences ( \text{H}_2\text{S} \geq 10 ) PPM (Offensive Odor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U3-054</td>
<td>New Siphon Discharge</td>
<td>6</td>
<td>90</td>
<td>0</td>
</tr>
<tr>
<td>U3-060</td>
<td>Old Siphon Discharge</td>
<td>4</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>V3-001</td>
<td>Old Siphon Inlet</td>
<td>16</td>
<td>565</td>
<td>236</td>
</tr>
<tr>
<td>V3-002</td>
<td>New Siphon Inlet</td>
<td>8</td>
<td>497</td>
<td>0</td>
</tr>
<tr>
<td>V3-005</td>
<td>New Trunk Sewer (Pomerado)</td>
<td>5</td>
<td>129</td>
<td>0</td>
</tr>
<tr>
<td>V3-055</td>
<td>Old Trunk Sewer (Pomerado)</td>
<td>10</td>
<td>308</td>
<td>1</td>
</tr>
<tr>
<td>U3-071</td>
<td>Oak Knoll (Montauk)</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>U5-059</td>
<td>Community Park (Bowron)</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Based on the gas monitor readings and the visual inspections, it was evident that the \( \text{H}_2\text{S} \) generation and subsequent odors were being caused by the old siphon inlet. Figure 5-1 graphically presents the \( \text{H}_2\text{S} \) gas readings and the model predicted flow rate over the given monitoring period.

**Figure 5-1  \( \text{H}_2\text{S} \) Readings Manhole V3-001 Old Siphon Inlet**

![Figure 5-1](image-url)
As shown on the figure, the higher H₂S concentrations occur during periods of higher flow. Similar graphs were prepared for each monitored manhole and are provided in Appendix G for reference.

In some cases, air may vent from the inlet structure due to pressure upstream of the siphon creating the potential for odor problems. To relieve these conditions air jumpers, or air lines, may be installed along the siphon barrels to move air from the inlet to the outlet structures. After further analysis, Poway has determined that installing air jumpers would be an appropriate solution for the siphon and is currently in the process of designing the air jumper.

5.9.3 Recommendations for Oak Knoll Siphon

**Odor Control:** In some cases, air may vent from the inlet structure due to pressure upstream of the siphon creating the potential for odor problems. To relieve these conditions air jumpers, or air lines, may be installed along the siphon barrels to move air from the inlet to the outlet structures. After further analysis, Poway has determined that installing air jumpers is an appropriate solution for the siphon and is proceeding with design and construction. In the meantime, a temporary odor control system has been installed and is in operation and maintenance visits have been increased from once a month to once a week.
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Chapter 6

Proposed Capital Improvement Projects

This chapter presents the proposed Capital Improvement Program (CIP) projects based on the findings of the Master Plan and includes:

- Development of Unit Costs;
- Identified sanitary sewer improvement projects
- Capital Improvement Project Summary of Cost and Timing; and
- Proposed Condition Upgrades and estimated costs

Detailed CIP projects developed for Poway’s sanitary sewer system are prioritized capacity or reliability improvements to the existing system. The CIP has been divided into four phases. Priority 1 and 2 (2012-2017) projects represent high priority projects that should be planned or constructed over the next five years. Lower priority projects are identified as Phase 3 and 4 projects that would be phased through 2030.

6.1 Development of Unit Costs

The unit cost estimates reflect full capitalization inclusive of planning, engineering design, environmental, legal, construction, construction management and contract administration. The values are presented in mid-2012 dollars based on an anticipated ENR Construction Cost Index (ENR-CCI) of 9969 for the Los Angeles/Orange County area. Unit costs were also compared to previous studies done for similar clients, such as Vallecitos Water District and the County of San Diego. These estimates are based on representative available data at the time of this report; however, since prices of materials and labor fluctuate over time, new estimates should be obtained at or near the time of construction of proposed facilities. A scaling factor has been included to account for pipeline projects that are relatively short in distance or have more significant environmental or construction challenges.

6.1.1 Pipelines

Base unit costs for pipeline material and installation including repaving and system appurtenances that, collectively, constitute principal elements of the wastewater collection system facilities, are presented in Table 6-1.

The unit costs provided reflect an average cost for full capitalization inclusive of planning, engineering design, environmental, legal, construction (including all appurtenances), construction management and contract administration. Special circumstances (e.g., jacking, trenchless installations, tunnels, etc.) are considered separately on a case-by-case basis. A scaling factor was applied to each project to account for project specific issues such as difficult conditions, constrained access, congested areas, etc.
6.1.2 Lift Stations

Lift station upgrades are primarily due to anticipated peak wet weather flows and lift station pumping capacities. The Old Coach Lift Station will likely require pump replacements and upgrades to the emergency generator. The Camino del Valle Lift Station will also require pump upgrades to accommodate peak wet weather flows should one duty pump be out of service.

Unit costs for lift station projects were estimated to be approximately $1,000 per gpm. Unit costs for upgraded pump stations that simply required pump replacements were estimated to be $80 per gpm. This assumes no retrofit of the building itself is required to accommodate the new pumps.

6.2 Priority Sanitary Sewer Improvement Projects

Trunk sewer deficiencies in the existing system with peak wet weather flows routed through the network model have been presented in Figure 4-24. Only a few areas were identified in the existing system to be hydraulically deficient based on surcharging and/or depth to diameter ratio. In general, results of the existing system capacity analysis are used to prioritize facility improvements, which are sized based on the 2030 flow analysis. A wet weather sensitivity analysis was performed using storm events from January and December 2010, which are representative of a 2 to 5-year and 10 to 25-year storm event, respectively. The proposed sanitary sewer improvement projects are shown on Figure 6-1. Detailed analysis results for both existing and 2030 analysis are included in Appendix H.

Where improvements were deemed necessary, the associated pipeline was assigned a priority ranking from 1 to 4, with 1 being of the highest priority and 4 being of the lowest. The highest priority are pipes with deficiencies under existing peak dry and wet weather flows, with decreasing priority due to the sensitivity of the hydraulic analysis parameters.

Priority rankings were assigned to deficiencies based on the following criteria:

- Priority 1: Sewers 15-inch in diameter or smaller with a ratio of flow depth to full diameter (d/D) greater than 50 percent under existing dry weather conditions and a d/D ratio greater than 90 percent under existing wet weather conditions for both storm events were assigned a priority value of 1 and classified as hydraulically deficient with a high risk of sanitary sewer overflows.

### Table 6-1 Pipeline Unit Costs

<table>
<thead>
<tr>
<th>Diameter (inches)</th>
<th>Sewer, Gravity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>$230/LF</td>
</tr>
<tr>
<td>12</td>
<td>$280/LF</td>
</tr>
<tr>
<td>15</td>
<td>$340/LF</td>
</tr>
<tr>
<td>18</td>
<td>$450/LF</td>
</tr>
<tr>
<td>21</td>
<td>$530/LF</td>
</tr>
<tr>
<td>27</td>
<td>$610/LF</td>
</tr>
</tbody>
</table>
• Priority 2: Sewers with no dry weather deficiencies but a d/D greater than 90 percent under existing wet weather conditions for both storm events were assigned a priority value of 2 and classified as hydraulically deficient with a high risk of potential sanitary sewer overflows.

• Priority 3: Sewers 15-inch in diameter or smaller with a ratio of flow depth to full diameter (d/D) greater than 50 percent under existing dry weather conditions and a d/D ratio greater than 90 percent under existing wet weather conditions for the December 2010 storm event were assigned a priority value of 3 and classified as hydraulically deficient with a moderate risk of sanitary sewer overflows.

• Priority 4: Sewers with no dry weather deficiencies but a d/D ratio greater than 90 percent under existing wet weather conditions for only the December 2010 storm event were assigned a priority value of 4 and classified as hydraulically deficient with a moderate risk of sanitary sewer overflows.

Poway should consider implementing Priority 1 and 2 projects within the next 2 to 5 years due to existing capacity deficiencies in the conveyance pipelines. Priority 3 and 4 projects are driven based on hydraulic results from a modeled 25-year storm event and not considered to be critical upgrades to the Poway sanitary sewer system. However, if maintenance or condition problems require the replacement of pipe in Priority 3 or 4 project locations, the proposed CIP projects should be reviewed prior to replacement.

Trunk sewer deficiencies were investigated in the hydraulic model and priority pipeline improvement projects were developed using the results of both existing and 2030 analyses. There were two main steps to developing pipeline improvement projects for the Master Plan:

• Prioritizing hydraulic deficiencies from the model (surcharges and d/D failures)
• Iteratively working with the InfoWorks engine to target specific improvement projects.

The benefit of this approach is noticeable when comparing Figure 4-24 and Figure 6-1; by fixing the hydraulic bottlenecks and pipes in the path of critical flow through Poway’s sanitary sewer system, we were able to address hydraulic deficiencies by developing ten (10) strategic improvement projects. This will help Poway spend their improvement dollars effectively, as well as provide confidence that by making the recommended pipeline improvements, their sanitary sewer system will be able to handle projected flows through 2030. A detailed description of the recommended pipeline improvement projects is provided in Section 6.3.

6.3 Recommended Improvements

Projects with high priority are recommended for improvement under the proposed Poway CIP. Details such as length and diameter of pipeline projects are presented in Table 6-2 and described below.
Table 6-2 Recommended Pipeline Improvement Projects

<table>
<thead>
<tr>
<th>Recommended Project</th>
<th>Priority</th>
<th>Existing Diameter (inches)</th>
<th>Replacement Diameter (inches)</th>
<th>Length (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAP-01</td>
<td>1</td>
<td>8</td>
<td>12</td>
<td>1,864</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>15</td>
<td>1,826</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>15</td>
<td>1,143</td>
</tr>
<tr>
<td>CAP-02</td>
<td>1</td>
<td>8</td>
<td>15</td>
<td>3,800</td>
</tr>
<tr>
<td>CAP-03</td>
<td>2</td>
<td>21</td>
<td>27</td>
<td>1,583</td>
</tr>
<tr>
<td>CAP-04</td>
<td>2</td>
<td>8</td>
<td>12</td>
<td>1,859</td>
</tr>
<tr>
<td>CAP-05</td>
<td>3</td>
<td>12</td>
<td>15</td>
<td>2,745</td>
</tr>
<tr>
<td>CAP-06</td>
<td>3</td>
<td>12</td>
<td>15</td>
<td>1,323</td>
</tr>
<tr>
<td>CAP-07</td>
<td>4</td>
<td>18</td>
<td>21</td>
<td>712</td>
</tr>
<tr>
<td>CAP-08</td>
<td>4</td>
<td>15</td>
<td>18</td>
<td>1,295</td>
</tr>
<tr>
<td>CAP-09</td>
<td>4</td>
<td>8</td>
<td>10</td>
<td>370</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>18,520</td>
</tr>
</tbody>
</table>

Additional collection system pipelines may be required to serve new development and septic conversion customers, but will be the responsibility of those customers to construct. As development projects are proposed, the project proponents will be required to prepare a study that will define the location and size of the proposed sewer facilities required to serve the development, including the necessary improvements to the regional collection system.

Improvement projects were developed for pipes that surcharged or experienced a d/D greater than the allowable amount set forth by the design criteria under existing or 2030 peak wet weather flow conditions (d/D > 0.90) in the hydraulic model. In cases where a pipe is deficient in the existing scenario, the recommended improvement pipe was sized to handle 2030 peak wet weather flows.

- **CAP-01**: Project CAP-01 replaces surcharging pipes along Martincoit Road, between Espola Road and Camino del Valle. The 8, 10, and 12-inch pipelines are more than 50 percent full under existing peak dry weather conditions (70 percent). The pipelines are surcharged under existing peak wet weather conditions for both the 5-year and 25-year modeled storm events. Approximately 1,870 feet of 8-inch diameter pipe will be replaced with 15-inch diameter pipe and 2,970 feet of 10 and 12-inch pipeline will be replaced with 15-inch diameter pipe. This line conveys flow from the San Diego metered area PO-6 (0.19 mgd average), which accounts for 25 percent of the overall average flow in this pipeline.

- **CAP-02**: Project CAP-02 replaces surcharging pipes along Ash Hollow Crossing Road, between Butterfield Trail and the Stoneridge County Club. The 8-inch pipeline is more than 50 percent full under existing peak dry weather conditions (66 percent). The pipeline is surcharged under existing peak wet weather conditions for both the 5-year and 25-year modeled storm events. Approximately 3,800 feet of 8-inch diameter pipe will be replaced with 15-inch diameter pipe.

- **CAP-03**: Project CAP-03 replaces surcharging pipes along Poway Road, between Pomerado Road and Oak Knoll Road. The 21-inch pipeline has sufficient capacity under
existing and future dry weather conditions. The pipeline is surcharged under existing peak wet weather conditions for both the 5-year and 25-year modeled storm events. Approximately 1,590 feet of 21-inch diameter pipe will be replaced with 27-inch diameter pipe.

- **CAP-04**: Project CAP-04 replaces surcharging pipes along Sagewood Drive, between Orchard Bend Road and Martincoit Road. The 8-inch pipeline has sufficient capacity under existing and future dry weather conditions. The pipeline is surcharged under existing peak wet weather conditions for both the 5-year and 25-year modeled storm events. Approximately 1,860 feet of 8-inch diameter pipe will be replaced with 12-inch diameter pipe.

- **CAP-05**: Project CAP-05 collects flow from the north Poway area and directs it into the Camino del Valle Lift Station. This project was also identified as a replacement project in the previous Poway Sewer Master Plan. The 12-inch pipeline is slightly above 50 percent full under existing peak dry weather conditions (54 percent). The pipeline is surcharged under existing peak wet weather conditions for the 25-year modeled storm event, but is less than 90 percent full when modeled under a 5-year storm event. Approximately 2,750 feet of 12-inch diameter pipe will be replaced with 15-inch diameter pipe.

- **CAP-06**: Project CAP-06 replaces surcharging pipes along Powers Road, between Tassel Road and McFeron Road. The 12-inch pipeline is slightly above 50 percent full under existing peak dry weather conditions (61 percent). The pipeline is surcharged under existing peak wet weather conditions for the 25-year modeled storm event, but is less than 90 percent full when modeled under a 5-year storm event. Approximately 1,330 feet of 12-inch diameter pipe will be replaced with 15-inch diameter pipe.

- **CAP-07**: Project CAP-07 replaces surcharging pipes along Bowron Road, south of Poway Road. The 18-inch pipeline has sufficient capacity under existing and future dry weather conditions. The pipeline is surcharged under existing peak wet weather conditions for the 25-year modeled storm event, but is less than 90 percent full when modeled under a 5-year storm event. Approximately 720 feet of 18-inch diameter pipe will be replaced with 21-inch diameter pipe.

- **CAP-08**: Project CAP-08 replaces surcharging pipes along Community Road, between Hilleary Place and Poway Road. The 15-inch pipeline has sufficient capacity under existing and future dry weather conditions. The pipeline is surcharged under existing peak wet weather conditions for the 25-year modeled storm event, but is less than 90 percent full when modeled under a 5-year storm event. Approximately 1,300 feet of 15-inch diameter pipe will be replaced with 18-inch diameter pipe.

- **CAP-09**: Project CAP-09 replaces surcharging pipes along Neddick Avenue, west of Kennebunk Street. The 8-inch pipeline has sufficient capacity under existing and future dry weather conditions. The pipeline is surcharged under existing peak wet weather conditions for the 25-year modeled storm event, but is less than 90 percent full when modeled under a 5-year storm event. Approximately 370 feet of 8-inch diameter pipe will be replaced with 10-inch diameter pipe.

- **CAP-10**: Project CAP-10 upgrades existing pumps at the Old Coach (LS-1) Lift Station to provide a total pumping capacity of 660 gpm. Upgrades at the lift station also include
replacing the existing generator with a Tier 3 or 4 emergency generator. Project CAP-10 is assigned as a Priority 1 project as Poway staff has expressed concerns that the lift station does not operate properly and the system head/pump curves for the lift station show that the pump typically operates below its rated design flow.

- CAP-11: Project CAP-11 upgrades the Camino del Valle (LS-3) Lift Station with an additional standby pump with 565 gpm pumping capacity. The project has been assigned as Priority 2 as the lift station meets current flows, but during peak wet weather flows all three pumps are in operation. The additional pump would provide the lift station with a backup standby pump should a duty pump be out of service.

- OM-01: Based on H₂S gas monitoring results conducted as part of this Master Plan, it is recommended that Poway conduct further gas monitoring within the collection system to identify other areas of potential concern. The project has been assigned as Priority 1 due to ongoing odor issues. Poway is currently in the process of designing an air jumper for the siphon. Project OM-1 will include construction of the air jumper following the design phase.

- CON-01: Based on visual inspection and observed condition of pipelines as part of the routine cleaning and videoing program, Poway should identify and prioritize pipeline segments for rehabilitation.

- CON-02: Based on visual inspection and observed condition of manholes as part of the routine cleaning program, Poway should identify and prioritize manholes for rehabilitation.

### 6.4 Condition Related Improvement Projects

Addressing the needs of the City’s wastewater collection system is essential to avoiding sewer overflows and for efficiently operating the collection system. Therefore, it is imperative that appropriate budgetary estimates for pipeline rehabilitation and replacement improvements be identified to mitigate potential system deficiencies.

As discussed in Chapter 5, a review of system specific CCTV video inspection data was not performed as part of the Master Plan and therefore, specific pipeline improvements are not included. However, based on the analysis of other agencies operating and maintaining wastewater collection systems within San Diego County having similar characteristics, it is recommended that the City continue to conduct the routine CCTV video inspection and condition assessment of the sanitary sewer system to obtain information pertaining to the internal structural condition of the buried infrastructure and identify the existence and severity of defects which could contribute to potential sanitary sewer overflows.

The Granite XP software used by City staff incorporates the industry standard NASSCO inspection codes for documenting system defects. Included with the various NASSCO codes is a severity rating system using a numeric method, with values ranging from 1 to 5, for expressing and summarizing the occurrences of structural and maintenance related observations that are noted by the operator during the field inspections. Though the defect codes do not provide details pertaining to the specific defects, they serve to document the type of defects observed while the encoded severity ratings document the preliminary severity of each defect. As the conditions of the pipe may include both structural and maintenance related conditions, often the
results overlap and ratings are provided for both conditions. As such, agencies are able to augment the standard codes to include codes that capture typical system defects and streamline the assessment process. Agencies then typically perform a comprehensive review of the videos, still images, and any additional data available to identify and prioritize the necessary improvements based on the assessed risk of the defects and their location within the overall collection system.

Performing CCTV inspections of the entire system over a 3-5 year period would establish a solid baseline from which accurate cost projections could be completed. The primary focus of the CCTV inspection and assessment program should be on the older pipelines. With the results of the CCTV inspections, the City will continue to develop a comprehensive list of potential improvement projects. Consequently, recommendations for improvements based on the noted defects will assist in optimizing the expenditures for the wastewater collection system by targeting available funds to the pipelines that require attention with the most cost effective improvement method. In the meantime, repair and rehabilitation projects should continue to be implemented as system deficiencies and defects are identified.

Additionally, the City should continue its efforts towards implementing its manhole rehabilitation program as City crews identify and prioritize the manholes that require rehabilitation. As part of the program, the City should evaluate the condition of the manholes to determine which would warrant the installation of watertight seals to eliminate and/or reduce the potential for infiltration/inflow into manholes that are otherwise structurally sound.

6.5 Recommended CIP

The CIP projects identify facilities needed to meet existing system needs based on Poway’s design criteria for the sanitary sewer system. As previously discussed, the CIP projects are presented in four major phases of work based on priority needs. The total CIP costs including Phase 1 through 4 are estimated to be $9.15 million. These costs are summarized by phase in Table 6-3.
## Table 6-3  Poway Capital Improvement Projects

<table>
<thead>
<tr>
<th>CIP #</th>
<th>Type</th>
<th>Project</th>
<th>Description</th>
<th>Units</th>
<th>Base Unit Cost</th>
<th>Scaling Factor</th>
<th>Description</th>
<th>Cost</th>
<th>Priority</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAP-01</td>
<td>Pipeline</td>
<td>Martincoit Road Sewer Pipeline Replacement Project, between Espola Road and Camino del Vallee. Receives flow from San Diego PO-6 (25% of total average flow).</td>
<td>Replace approximately 1,870 feet of existing 8-inch with 12-inch diameter pipeline and 2,970 feet of 10-inch and 12-inch with 15-inch diameter.</td>
<td>4,840 LF</td>
<td>$317/LF</td>
<td>1.5</td>
<td>The scaling factor was taken at 1.5 to account for construction through canyon/potentially sensitive area.</td>
<td>$2,300,000</td>
<td>1</td>
<td>$2,300,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>CAP-02</td>
<td>Pipeline</td>
<td>Ash Hollow Crossing Road Sewer Pipeline Replacement Project, between Butterfield Trail and Stone Ridge County Club.</td>
<td>Replace approximately 3,800 feet of existing 8-inch diameter with 15-inch diameter.</td>
<td>3,800 LF</td>
<td>$340/LF</td>
<td>1.0</td>
<td>No comment</td>
<td>$1,292,000</td>
<td>1</td>
<td>$1,292,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>CAP-03</td>
<td>Pipeline</td>
<td>Poway Road Sewer Pipeline Replacement Project, between Pomerado Road and Oak Knoll Road.</td>
<td>Replace approximately 1,590 feet of existing 21-inch diameter with 27-inch diameter.</td>
<td>1,590 LF</td>
<td>$610/LF</td>
<td>1.00</td>
<td></td>
<td>$970,000</td>
<td>2</td>
<td>$0</td>
<td>$970,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>CAP-04</td>
<td>Pipeline</td>
<td>Sagewood Drive Sewer Pipeline Replacement Project, between Orchard Bend Road and Martincoit Road.</td>
<td>Replace approximately 1,860 feet of existing 8-inch diameter with 12-inch diameter.</td>
<td>1,860 LF</td>
<td>$280/LF</td>
<td>1.00</td>
<td></td>
<td>$521,000</td>
<td>2</td>
<td>$0</td>
<td>$521,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>CAP-05</td>
<td>Pipeline</td>
<td>Rios Road Sewer Pipeline Replacement Project, influent line to Camino del Vallee LS.</td>
<td>Replace approximately 2,750 feet of existing 12-inch diameter with 15-inch diameter.</td>
<td>2,750 LF</td>
<td>$340/LF</td>
<td>1.5</td>
<td>The scaling factor was taken at 1.5 to account for construction through an influent LS pipeline.</td>
<td>$1,403,000</td>
<td>3</td>
<td>$0</td>
<td>$0</td>
<td>$1,403,000</td>
<td>$0</td>
</tr>
<tr>
<td>CAP-06</td>
<td>Pipeline</td>
<td>Powers Road Sewer Pipeline Replacement Project, between Tassel Road and McFeron Road.</td>
<td>Replace approximately 1,330 feet of existing 12-inch diameter with 15-inch diameter.</td>
<td>1,330 LF</td>
<td>$340/LF</td>
<td>1.0</td>
<td>The base unit cost was taken as a weighted average between the proposed diameters.</td>
<td>$452,000</td>
<td>3</td>
<td>$0</td>
<td>$0</td>
<td>$452,000</td>
<td>$0</td>
</tr>
<tr>
<td>CAP-07</td>
<td>Pipeline</td>
<td>Bowron Road Sewer Pipeline Replacement Project, south of Poway Road.</td>
<td>Replace approximately 720 feet of existing 18-inch diameter with 21-inch diameter.</td>
<td>720 LF</td>
<td>$530/LF</td>
<td>1.0</td>
<td></td>
<td>$382,000</td>
<td>4</td>
<td>$0</td>
<td>$0</td>
<td>$382,000</td>
<td></td>
</tr>
<tr>
<td>CAP-08</td>
<td>Pipeline</td>
<td>Community Road Sewer Pipeline Replacement Project, between Hilary Place and Poway Road.</td>
<td>Replace approximately 1,300 feet of existing 15-inch diameter with 18-inch diameter.</td>
<td>1,300 LF</td>
<td>$450/LF</td>
<td>1.5</td>
<td>The scaling factor was taken at 1.5 to account for mobilization costs and traffic control for Community Road.</td>
<td>$878,000</td>
<td>4</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$878,000</td>
</tr>
<tr>
<td>CAP-09</td>
<td>Pipeline</td>
<td>Neddick Avenue Sewer Pipeline Replacement Project, west of Kennebunk Street.</td>
<td>Replace approximately 370 feet of existing 8-inch diameter with 10-inch diameter.</td>
<td>370 LF</td>
<td>$230/LF</td>
<td>1.0</td>
<td></td>
<td>$85,000</td>
<td>4</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$85,000</td>
</tr>
<tr>
<td>CAP-10</td>
<td>Lift Station</td>
<td>Old Coach(LS-1) Lift Station Upgrades</td>
<td>Upgrade existing pumps for a total pumping capacity of 660 gpm. Upgrade existing emergency generator to a Tier 3 or 4 emergency generator.</td>
<td>660 GPM</td>
<td>$1,000/GPM</td>
<td>1.0</td>
<td></td>
<td>$660,000</td>
<td>1</td>
<td>$660,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>CAP-11</td>
<td>Lift Station</td>
<td>Camino del Vallee (LS-3) Lift Station Upgrades</td>
<td>Purchase additional standby pump with 565 gpm pumping capacity in the event one duty pump is out of service during peak wet weather events.</td>
<td>565 GPM</td>
<td>$80/GPM</td>
<td>1.0</td>
<td></td>
<td>$45,000</td>
<td>2</td>
<td>$0</td>
<td>$45,000</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>OM-01</td>
<td>Siphon</td>
<td>Oak Knoll Road Siphon Upgrades</td>
<td>Conduct additional gas monitoring. Construct air jumper along Oak Knoll Siphon.</td>
<td>800 LF</td>
<td>$200/LF</td>
<td>1.0</td>
<td></td>
<td>$160,000</td>
<td>1</td>
<td>$160,000</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>CON-01</td>
<td>Siphon</td>
<td>Rehabilitate pipelines based on condition.</td>
<td>After completion of CCTV assessment, identify pipelines for rehabilitation.</td>
<td>TBD</td>
<td>TBD</td>
<td>1.0</td>
<td></td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CON-02</td>
<td>Siphon</td>
<td>Rehabilitate manholes based on condition.</td>
<td>After completion of field investigation, identify manholes for rehabilitation.</td>
<td>TBD</td>
<td>TBD</td>
<td>1.0</td>
<td></td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td>****</td>
<td><strong>$9,148,000</strong></td>
<td><strong>$4,412,000</strong></td>
<td><strong>$1,536,000</strong></td>
<td><strong>$1,855,000</strong></td>
<td><strong>$1,345,000</strong></td>
<td>****</td>
</tr>
</tbody>
</table>
CITY OF POWAY

MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS
The Public Works Wastewater Collection Division strives towards proper maintenance, operations and management of the sanitary sewer collection system. Efforts focus on reducing SSO frequency impacts, improving collection system reliability, and providing capacity in the system to convey peak flows. The following information refers to what data is collected on a daily basis and how that data is used to analyze sewer collection system performance, structure and maintenance related problems, crew productivity, and overall success of maintenance and capital improvement programs.

**Data Collection**

Poway uses CartéGraph OMS software, which provides the means to capture, retrieve, and track all collection system maintenance activities. Work order, tasks and reports are created for data entry specific to Poway’s collection system. Staff is trained on the use of this program.

Staff utilizes the Asset module of the program providing information of daily activities. The information includes location of work, scope of work, activity, emergency response, or preventative maintenance.

We utilize the software program to update information associated with inspections, manhole structure, pipe length, and pipe condition. This information, along with information from GraniteNet our video inspection program, gives us the ability to perform an assessment of the collection system to plan maintenance projects and future capital improvement projects.

**Public Sewer System SSO Data and Trends**

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Gravity Main Sewer SSOs</th>
<th>Lift Station SSOs</th>
<th>Force Main SSOs</th>
<th>Public Cleanout SSOs</th>
<th>Total SSOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2018</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2017</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2016</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2015</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 2 - SSOs by Cause, 2015 through 2019

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Roots</th>
<th>Debris</th>
<th>FOG</th>
<th>Paper/Rags</th>
<th>Capacity Related</th>
<th>Vandalism</th>
<th>Pipe Failure</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2016</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2015</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3 - Current year Totals for Public Sewer SSOs
<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Total Volume SSOs, gallons</th>
<th>Portion Contained and Returned to Sewers %</th>
<th>Total Volume to Reach Land</th>
<th>Total Volume Entering Surface Water, gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>3</td>
<td>0%</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>2,072</td>
<td>27%</td>
<td>1,505</td>
<td>2</td>
</tr>
<tr>
<td>2017</td>
<td>5,960</td>
<td>0%</td>
<td>4</td>
<td>5,960</td>
</tr>
<tr>
<td>2016</td>
<td>301</td>
<td>38%</td>
<td>200</td>
<td>12</td>
</tr>
<tr>
<td>2015</td>
<td>3,534</td>
<td>84%</td>
<td>48</td>
<td>3,445</td>
</tr>
</tbody>
</table>

**FIGURE 3 - TREND IN PUBLIC SEWER OVERFLOWS, VOLUME REACHING LAND/SURFACE WATER AND VOLUME RECOVERED**

**FIGURE 4 - ANNUAL TREND OF SEWER SYSTEM OVERFLOWS**
<table>
<thead>
<tr>
<th>SSMP Element</th>
<th>Summary of Element Purpose</th>
<th>Performance Indicators for Tracking Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals</td>
<td>Establish priorities for City and provide focus for City staff</td>
<td>Annual review of goals based upon results of performance evaluations.</td>
</tr>
<tr>
<td>Organization</td>
<td>Document organization of City staff and chain of command/communication for SSO response</td>
<td>Review of Organization Chart and all contact information making any changes identified.</td>
</tr>
<tr>
<td>Legal Authority</td>
<td>Ensure the City has sufficient legal authority to properly maintain and protect the integrity of the system</td>
<td>Annual review of codes and/or ordinances for revisions, including schedule for identified updates.</td>
</tr>
</tbody>
</table>
| Operations and Maintenance Program | Minimize blockages and SSOs by properly operating and maintaining the system | • Total number and volume of SSOs  
• Number of repeat SSOs (from same location as any previous SSO)  
• Number of public lateral SSOs  
• Number of private lateral SSOs  
• Number of mainline SSOs  
• Total volume of spilled  
• Total amount recovered  
• Total amount estimated to reach land (saturate into soil)  
• Total amount estimated to reach surface waters  
• Number of pipe failures |
### SSMP Monitoring Performance Indicators, by SSMP Element

<table>
<thead>
<tr>
<th>SSMP Element</th>
<th>Summary of Element Purpose</th>
<th>Performance Indicators for Tracking Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design &amp; Construction Standards</strong></td>
<td>Ensure new facilities are properly designed and constructed</td>
<td>Annual review of new technologies and materials for collection systems assets.</td>
</tr>
</tbody>
</table>
| **Overflow Emergency Response Plan (OERP)** | Provide timely and effective response to SSO emergencies and comply with regulatory reporting requirements | • Average response time from call to arrival  
• Average response time from arrival to SSO stoppage and cleanup  
• Percent of total SSO volume contained or returned to sewer system |
| **Fats, Oils & Grease (FOG) Control** | Minimize blockages and overflows due to FOG                            | • Number of blockages due to FOG  
• Number of SSOs due to FOG  
• Number of FOG-producing facilities inspected    |
| **Monitoring, Measurement, & Program Modifications** | Evaluate effectiveness of SSMP, keep SSMP up-to-date, and identify necessary changes to SSMP Elements | • Prepare and update performance results in Elements 4, 6 & 7  
• Review and update field reporting forms as needed  
• Conduct annual review of CIWQS data |
## SSMP Monitoring Performance Indicators, by SSMP Element

<table>
<thead>
<tr>
<th>SSMP Element</th>
<th>Summary of Element Purpose</th>
<th>Performance Indicators for Tracking Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Audits</td>
<td>Formally perform an SSMP effectiveness, limitations, and necessary changes every two years as required</td>
<td>Date of completion of last audit</td>
</tr>
<tr>
<td>Communication Plan</td>
<td>Communicate with the public</td>
<td>Place audit on City website</td>
</tr>
</tbody>
</table>
The SSS WDR requires a periodic internal SSMP audit at least every (2) years starting from the original date of adoption of the SSMP by Enrollee’s governing board.

The Enrollee must prepare an audit report focusing on evaluating the effectiveness of the SSMP and compliance with the SSMP requirements.

Once the audit report is complete, the Enrollee must prepare an audit report and keep on file for a minimum of (5) years to be made available to SWRCB or RWQCB staff upon request.

Audits and updates associated with the 2019 SSMP update is as follows:

1st Audit – June 2021

2nd Audit – June 2023

5-year update – June 2024
City of Poway Sewer System Management Plan
Section 11.0 Communication Program

Developed over many years and originally implemented fully in May 2009, the City of Poway’s SSMP is a management plan for the operation, emergency response, capital program to reduce and eliminate wastewater spills to the environment, and communications program to invite participation by our customers. The City uses several modes to communicate with the public:

- City wastewater staff routinely perform customer service calls, meeting with customers in the field and educating them on City policies and practices related to sewer lateral maintenance and repair responsibilities, related operational procedures, and SSO reporting requirements.
- Through the City’s website, customers can review the SSMP, learn about fat-free sewers, the City’s FOG program, sewer lateral services, and smoke testing. Customers are able to directly contact the City’s Wastewater Utilities Supervisor or Assistant Director of Public Works for Utilities concerning input to the SSMP.
- *Poway Today* is a quarterly newsletter sent to Poway homes and businesses. The wastewater division will utilize the newsletter at times to educate the public on O&M activities associated with the wastewater collection system. Social Media such as Facebook and Twitter are also utilized as a public outreach tool to educate and notify the public associated with real time emergencies and lane closures associated with wastewater activities.
- The City’s FOG program reaches out to commercial restaurants and commercial kitchens and is a proactive, cooperative relationship with local restaurants to keep Fats, Oil, and Grease (FOG) out of the sewer system and prevent spills. In Fiscal Year 18-19, the City completed meetings with 57 FOG customers and issued permits and anticipates 30 permits will be issued by December 31, 2019.
- Council meetings provide a forum for direct customer comment to members of the Council. Comments can be received during public oral communication with Council, during Council workshops, and during capital and developer project presentations.

The City is active and regularly communicates with agencies tributary to the City by participating in the Metropolitan Joint Powers Authority (JPA). This represents 12 public agencies whose sewage goes to the City of San Diego for processing as recycled water or treated at San Diego’s Point Loma wastewater treatment plant. Poway participates at the Metro TAC committee to provide technical expertise to the JPA. In addition, one elected official from the Council sits on the JPA, which is the governing body. Meetings for both Metro TAC and the METRO JPA occur monthly.
An important piece of our communication plan for agencies tributary to the City is communication during wastewater emergencies. The following are important contacts in the City of San Diego during such emergencies:

- Station 38 (Emergency Dispatch Center, 06:00 – 23:00), 619-515-3525
- Fire Dispatch (23:00 – 06:00), 858-974-0275
- COMC (Central Operations Management Center staffed 24/7 for SPS and Flow Meter Alarms), 858-614-4551
- Field Supervisor Mike Bedard: Work 858-654-4154, Mobile 619-980-8609

Below is a listing of websites where customers and agencies tributary to the City of Poway can access important information about wastewater operations in San Diego County:


Metropolitan Joint Powers Authority: [http://www.metrojpa.org](http://www.metrojpa.org)

City of San Diego Wastewater Department: [http://www.sandiego.gov/mwwd](http://www.sandiego.gov/mwwd)
FAT-FREE SEWERS

Fats, Oils, and Greases aren't just bad for your arteries and your waistline; they're bad for sewers, too.

Sewer overflows and backups can cause health hazards, damage home interiors, and threaten the environment. An increasingly common cause of overflows is sewer pipes blocked by grease. Grease gets into the sewer from household drains as well as from poorly maintained grease traps in restaurants and other businesses.

Where Grease Comes From
Most of us know grease as the byproduct of cooking. Grease is found in things such as:

- Baking goods
- Butter and margarine
- Cooking oil
- Dairy products
- Food scraps
- Lard
- Meat fats
- Sauces
- Shortening

Too often, grease is washed into the plumbing system, usually through the kitchen sink. Grease sticks to the insides of sewer pipes (both on your property and in the streets). Over time, the grease can build up and block the entire pipe.

Home garbage disposals do not keep grease out of the plumbing system. These units only shred solid material into smaller pieces and do not prevent grease from going down the drain.

Commercial additives, including detergents, that claim to dissolve grease may pass grease down the line and cause problems in other areas.

The results can be:
- An expensive and unpleasant cleanup that often must be paid for by you, the homeowner;
- An increase in operation and maintenance costs for local sewer departments, which causes higher sewer bills for customers;
- Potential contact with disease-causing organisms;
- Raw sewage overflowing in your home or your neighbor’s home; and
- Raw sewage overflowing into parks, yards, and streets.

What You Can Do to Help
The easiest way to solve the grease problem and help prevent overflows of raw sewage is to keep this material out of the sewer system in the first place.

There are several ways to do this:
- Do not put grease down garbage disposals. Pour excess grease into a container to harden, and then put into the trash for disposal.

- Scrape grease and food scraps from plates, pots, utensils, and grill and cooking surfaces into a can or the trash for disposal.

Service Request
To report problems or maintenance issues, please call 858-668-4700 or submit the request online.
FAT, OIL & GREASE (FOG) PROGRAM FOR BUSINESS

Poway has a proactive, cooperative relationship with local restaurants to keep Fat, Oil, and Grease (FOG) out of the sewer system and prevent spills.

FOG Facts
- Fat, oil, and grease (FOG) clog the sewer lines. Sewage backups and overflows can be the result of grease buildup that can cause property damage, environmental problems, and other health hazards.
- FOG gets into the sewers mainly from commercial food preparation establishments that do not have adequate grease control measures in place, such as grease interceptors.
- All too often, fat, oil, and grease are washed into the plumbing system, usually through kitchen sinks and floor drains found in food preparation areas. They stick to the inside of sewer pipes both on your property and in the sewer pipes. Over time, FOG builds up and eventually blocks the entire pipe, causing sewage backups and overflows.

FOG Costs
- **To your business:** As your sewer pipes back up, the sewage and food particles that accumulate can attract insects and other vermin, cause unpleasant odors, and could create health hazards. Property damage can also result from sewage backups and lead to expensive cleanup and plumbing repairs. Health code violations or closures can greatly impact your business.
- **To the environment:** Clogged sewers can lead to overflows. As sewage overflows onto streets, it enters the storm drain system and is carried to our local creeks and beaches, creating health risks for swimmers, fish, and plant life.
- **To the City:** Increased sewer blockages and overflows lead to costly maintenance and can result in severe fines from state regulatory agencies. This can increase your sewer fees.

Information for Restaurants & Building Owners/Managers
The City's FOG program creates a partnership with food establishments to prevent FOG from entering the sewer system. The program has been formalized based on existing regulations from the **City of Poway's Municipal Code, (Chapter 16.103)** and is a partnership between the city, the **Chamber of Commerce** and your food establishment, to protect the environment and save you money.

The City of Poway's Wastewater Division contacts all food establishments within City limits to determine their current method for treating FOG. The City works with the business to ensure they comply with all City regulations, the Uniform Plumbing Code, and, ultimately, a Food Establishment Wastewater Discharge (FEWD) Permit will be issued. This program also requires routine periodic inspections.

For more information on the FOG Inspection and Assistance Program, please contact the Public Works Department at 858-668-4700.

Service Request
To report problems or maintenance issues, please call 858-668-4700 or submit the request online at **https://poway.org/229/Fat-Oil-Grease-FOG-Program-for-Business**.
SEWER LATERAL SERVICE

Property-Line Cleanout
Did you know that if you are having a sewer problem at your home, the City will clean your sewer lateral from the 
property-line cleanout to the sewer main free of charge? Poway is the only city in San Diego County that assumes 
responsibility from the property-line cleanout to the sewer main.

What is Needed to Perform Service?
An existing cleanout should be located in your front yard close to the sidewalk or curb in a rectangular or round box. If 
you don't have a property-line cleanout, you will need a licensed plumber to install one for you. If you have a 
cleanout that is buried, you will need to expose the box for us.

To report problems, maintenance issues or over-irrigation, please call: (858) 668-4700 or submit a service request online.
SMOKE TESTING

The Public Works Department smoke tests neighborhood sewer lines to verify connections and determine if there are areas where storm water or groundwater are entering the system.

It is important to prevent storm water and groundwater from entering the sewer system because those water sources do not require treatment at a wastewater treatment plant, which is very costly. Storm water and groundwater also impact the overall capacity of the sewer pipes, which are engineered to accommodate estimated wastewater flow from surrounding homes and businesses. Ensuring storm water and groundwater do not enter the sewer reduces the need to increase the capacity of the existing pipes and helps prevent sewer spills during rain storms.

The Process
Smoke testing is conducted by circulating colored smoke through manholes into sewer lines to locate broken pipes and other defects. White smoke then exits from vent pipes on home roofs. The smoke is non-toxic, leaves no residue, creates no fire hazard, and has no effect on plants/animals.

Smoke will not enter the house unless there is defective plumbing or the drain traps are dry. Visibility and odor last only a few minutes where there is adequate ventilation. Although this smoke is non-toxic, it is recommended that anyone with respiratory difficulties not remain indoors during the testing.

Preparing Your Home
To prepare your home, flush all toilets and run a gallon of water into sinks, drains, tubs, and showers to ensure a water seal to keep smoke out. Since interior appliances and plumbing fixtures may be connected to the sewer system, smoke may enter your house if plumbing fixtures are dry because of non-use (like sinks or tubs) or improper installation; or if vent connections, pipes, or seals are defective or improperly installed. Repair work on private property is the property owner’s responsibility.

If smoke enters your home, then gases and sewer system odor may also enter. This can be unpleasant and a health hazard. If gases or odor enter your home during testing, please call 858-668-4719 immediately. Should potential problems be found on private property during the testing, residents will be notified.

For more information, please call 858-668-4719.