



SEWER SYSTEM MANAGEMENT PLAN

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SECTION I: GOAL & INTRODUCTION

MISSION STATEMENT AND GOALS

The mission of the Cayucos Sanitary District is to serve the public by operating a well-maintained wastewater collection conveyance and treatment system for the protection of the public health and safety, and when doing so, to take the necessary steps to protect the environment. The District is committed to preserving the community's capital investment and being a good steward of the community's assets.

This can be most readily accomplished by:

1. The creation of a Sewer System Master Plan (SSMP). To assist the District in future planning for the identification of future capital projects and to aid in the assessment of the collection system as a whole.
2. Maintaining and improving the sewer lines and lift stations within the District in a manner that is consistent with an adopted Sewer System Master Plan.
3. Aggressively minimizing the number and impact of sanitary sewer overflows, (SSOs) that may occur throughout the Cayucos Sanitary District.
4. Cost-effectively minimizing inflow and infiltration (I/I) and providing adequate sewer capacity to accommodate design storm flows.
5. Controlling source discharges to the Cayucos WWTP in accordance with State and Federal regulations.
6. Developing and implementing programs necessary to comply with State and Federal mandates, rules, and regulations.
7. Developing training programs necessary to teach up-to-date industrial systems required by State and Federal mandates, rules and regulations, describing the duties and responsibilities of all positions including supervisory and advancement certification, continuing education for certification maintenance, and additional training on standards and codes to gain additional understanding of the California Building and Plumbing Code, trenchless technology (preventative maintenance and repairs) and standard construction methods.

REGULATORY REQUIREMENT

On December 6, 2022, the State Water Resources Control Board (SWRCB) adopted Order WQ 2022-0103-DWQ, State Waste Discharge Requirements General Order for Sanitary Sewer Systems (WDR). The WDR requires any public agency that owns or operates a sanitary sewer system more than one mile in length that conveys untreated or partially treated wastewater to a publicly owned treatment works (POTW) in the State of California, comply with the requirements of the WDR.

The Cayucos Sanitary District (District) owns and operates a wastewater collection system more than one mile

in length that conveys untreated wastewater to a publicly owned treatment works (POTW) and therefore is required to comply with the WDR. In order to continue regulatory coverage from previous Order 2006-0003-DWQ, which the District adopted in 2010, the District submitted a Continuation of Existing Regulatory Coverage form in the on-line California Integrated Water Quality System (CIWQS) Sanitary Sewer Systems Database prior to the June 5, 2023 deadline. This Sewer System Management Plan (SSMP) has been redeveloped to comply with the required elements.

UPDATED SCHEDULE

Per the WDR, the District shall conduct an internal audit of its Sewer System Management Plan, and implementation of its Plan, at a minimum frequency of once every three years beginning with this SSMP revision in 2023, thence in 2026, 2029, etc. The audit must be conducted for the period after the end of the District's last required audit period. Within six months after the end of the required 3-year audit period, the Legally Responsible Official shall submit the audit report into the online CIWQS Sanitary Sewer System Database per the requirements in section 3.10 (Sewer System Management Plan Audit Reporting Requirements) of Attachment E1 of the WDR.

Audit reports submitted to the CIWQS Sanitary Sewer System Database will be viewable only to Water Boards staff. The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. The District's sewer system operators must be involved in completing the audit. At minimum, the audit must:

1. Evaluate the implementation and effectiveness of the District's Sewer System Management Plan in preventing spills
2. Evaluate the District's compliance with the WDR
3. Identify Sewer System Management Plan deficiencies in addressing ongoing spills and discharges to waters of the State
4. Identify necessary modifications to the Sewer System Management Plan to correct deficiencies

The District shall submit a complete audit report that includes:

1. Audit findings and recommended corrective actions;
2. A statement that sewer system operators' input on the audit findings has been considered
3. A proposed schedule for the District to address the identified deficiencies

Additionally, the District shall update the SSMP every six years beginning with this update in 2023, thence in 2029, 2035, etc.

SEWER SYSTEM ASSET OVERVIEW

The District's collection system serves residential and commercial users within the County of San Luis Obispo's Urban Reserve Line for the unincorporated town of Cayucos, population of 2,464 (2020 census). The collection system includes approximately 20 miles of gravity sewer line, approximately 6 miles of force main, one of which conveys sewage from Lift Station 5 to the Cayucos Water Resource Recovery Facility, approximately 480 manholes, lamp-holes, and clean-outs and five lift stations. The WRRF and all the lift stations are monitored by a SCADA system, controlled and monitored at the WRRF, and monitored after hours by the on-call staff using

tablets.

The mainlines are made of a variety of materials, depending on the age; vitrified clay pipe (VCP), polyvinyl chloride (PVC), high density polyethylene pipe (HDPE), and cast iron. The lift stations are all of the submersible pump and above-ground control panel variety. There are no structures that divert stormwater into the collections system.

Per District Ordinance No. 26, all sewer laterals are owned by the lot being served, from point of connection with the District's main to the building. The District smoke tests the mains to help prevent unwanted inflow and infiltration (I&I).

The District has 90% residential and 10% commercial service connections. The District's main line and laterals can be viewed by the public on the District's website at <https://www.cayucossd.org>.

COLLECTIONS EQUIPMENT

The District operates and maintains a trailer-mounted hydraulic line cleaner, six emergency generators (five permanently installed; one trailer-mounted), and one diesel-powered bypass pump. The District maintains an inventory of spare pumps, safety equipment, and other tools and equipment for planned and emergency situations. The District has a scheduled preventive maintenance and enhanced maintenance program that addresses hot-spots to maintain the system. The District conducts its own Closed-Circuit Television (CCTV) inspections and records historical data about the system to prioritize maintenance activities. Additionally, the District owns and operates a smoke generating device for conducting yearly smoke testing on select areas of the collections system.

WASTEWATER TREATMENT PLANT

The Cayucos Sanitary District's Water Resource Recovery Facility is a newly constructed wastewater treatment plant, completed in 2021. It has a maximum capacity of 1.2 MGD, an average capacity of 0.340 MGD, and consists of headworks with both coarse and fine screens and grit removal, a membrane bio reactor (MBR) with two (2) aeration tanks as well as two (2) pre-anoxic and two (2) post-anoxic tanks, three (3) membrane tanks with ultrafiltration, a screw press for dewatering solids, and two (2) ultra-violet vessels for disinfection of effluent water.

SECTION II: ORGANIZATION

The District maintains two Legally Responsible Officials (LRO) for both the collection system and the WRRF. An LRO is a principal executive officer, ranking elected official, or their written designee responsible for the overall operation of the system.

COLLECTIONS SYSTEM

LRO NAME AND TITLE	E-MAIL ADDRESS	PHONE #
Rick Koon , District Manager	RKoon@CayucosSD.org	805-995-3290 ext. 101
Justin Owens , Lead Collection Worker	JOwens@CayucosSD.org	805-995-3290 ext. 106

WATER RESOURCE RECOVERY FACILITY

LRO NAME AND TITLE	E-MAIL ADDRESS	PHONE #
Rick Koon , District Manager	RKoon@CayucosSD.org	805-995-3290 ext. 101
Sarah L. Hooper , Chief Plant Operator	SHooper@CayucosSD.org	805-995-3290 ext. 201

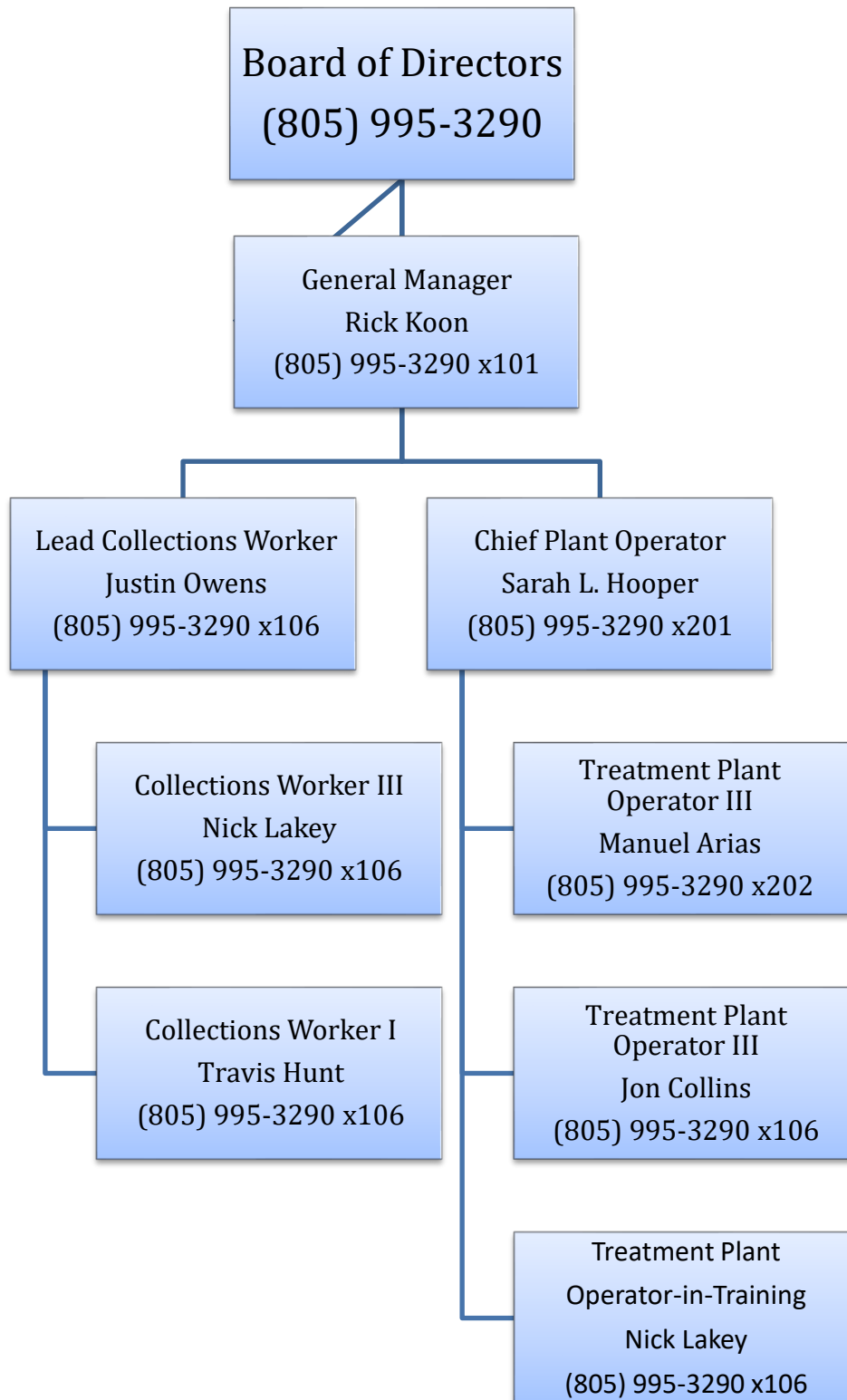
Collections Staff

The District's Collections staff operate under the general supervision of the District Manager. Collections staff includes one part-time lead worker and two full-time collections workers. Staff responds to main line sewage spills and other calls 7 days a week, 24 hours per day. The District will respond to private lateral sewer discharges but is not responsible for maintaining or replacing private laterals (District Ordinance No. 26).

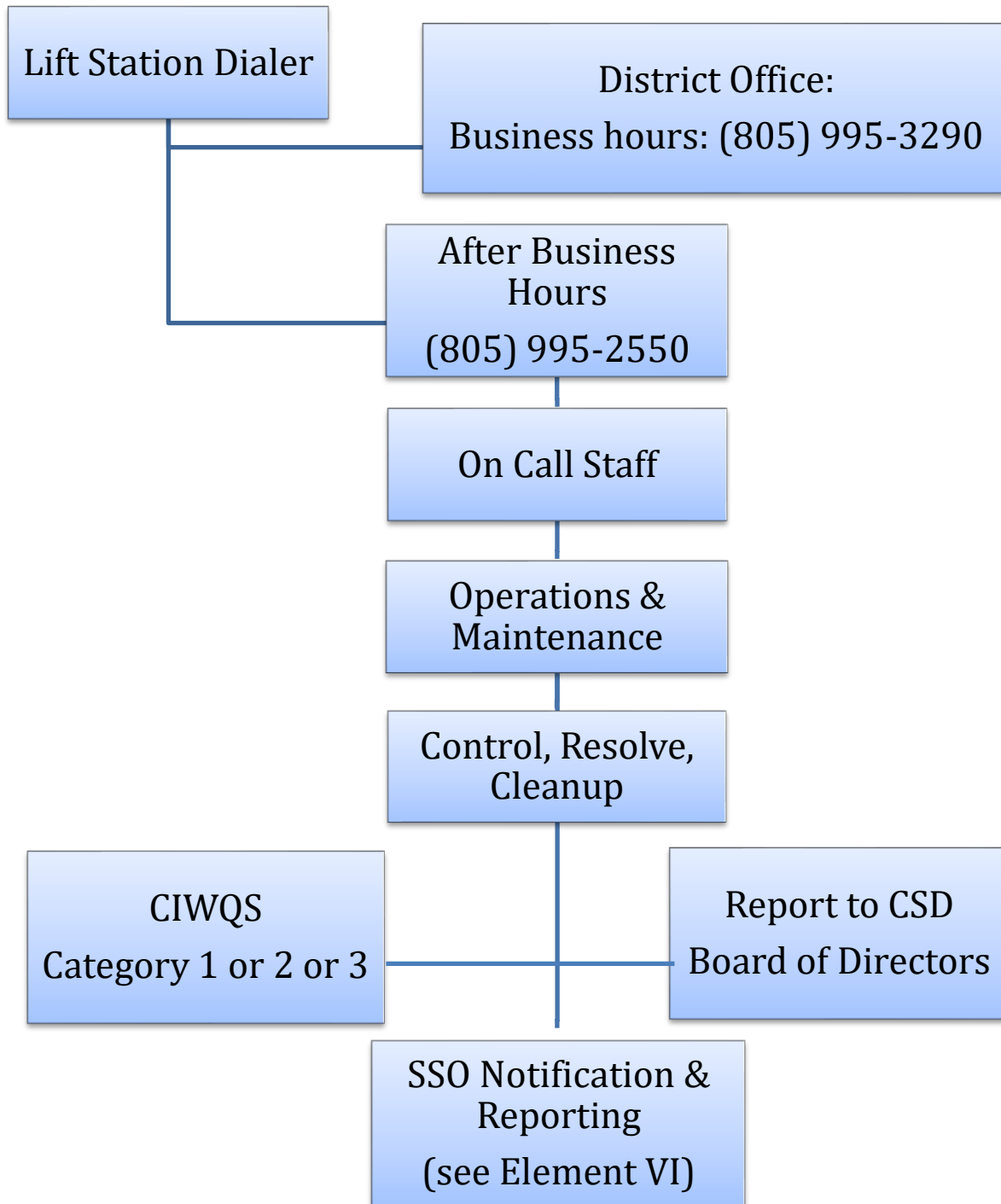
Wastewater Treatment Staff

Treatment Plant staff operate under the general supervision of the District Manager. Treatment plant staff includes one Chief Plant Operator (Grade V), two full-time Operators (Grade III), and one part-time OIT (Operator-in-Training). Staff responds to any emergency calls for spills or other issues at the plant 7 days a week, 24 hours per day.

Organizational Lines of Authority



Chain of Communication



SECTION III: LEGAL AUTHORITY

LEGAL AUTHORITY DISCUSSION

Cayucos Sanitary District Sanitary Sewer Ordinances contain the legal authority SWRCB requires.

- a) Ordinance No. 5 contains sections stating the District's requirements for the use of sanitary sewer within the District. This General Ordinance includes provisions to protect public health and prevent pollution.
- b) Ordinance No. 5, Part V contains the District's requirements for the construction of sanitary sewer facilities installed, altered, or repaired within the District.
- c) Ordinance No. 26 provides that property owners are responsible for maintaining, in satisfactory and effective operation, the street and sewer laterals all the way to the main.
- d) Ordinance No. 24 establishes uniform permitting, maintenance, and monitoring requirements for controlling the discharge of FOG.
- e) California Health and Safety Code 6523.3 establishes enforcement provisions of any ordinance of a Sanitary District.

Cayucos Sanitary District ordinances are available in the District office and at www.CayucosSD.org. Segments of these documents are discussed in the following sub-sections as they pertain to the prevention of illicit discharges, proper design and construction of sewer mains and connections, maintenance access, and enforcement measures.

3A. PREVENTION OF ILLICIT DISCHARGES

Cayucos Sanitary District General Ordinance No. 5 outlines legal and illegal discharges to the District's sewer system. The chapter also contains measures prohibiting illicit discharges to prevent damage to the collection system, treatment process, or cause harm to the public health or environment.

1. Storm Water and I/I: Section 28 prohibits the discharge or cause of discharge of any storm water, surface water, groundwater, roof runoff, subsurface drainage, unpolluted industrial cooling, or unpolluted industrial process waters to any sanitary sewer.
2. Prohibited Discharges: Section 29 prohibits the discharge or cause of discharge of any of the following described waters or wastes to any public sewers:
 - a. Any liquid or vapor having a treatment temperature higher than one hundred fifty degrees Fahrenheit.
 - b. Any water or waste which may contain more than one hundred parts per million, by weight, of fat, oil, or grease.
 - c. Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid or gas.
 - d. Any garbage that has not been properly shredded.
 - e. Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewerage system.
 - f. Any water or wastes having a pH lower than 5.5 or higher than 9.0, or having any other

corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works.

- g. Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans, plants, or animals, or create any hazard in the receiving waters of the sewage treatment plant.
- h. Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant.
- i. Any noxious or malodorous gas or substance capable of creating a public nuisance.

3B. STORM SEWER PERMIT

The County of San Luis Obispo Department of Public Works handles all storm drainage within the District. The District has a yearly encroachment permit to be able to access storm drainage for emergency spill response.

3C. PROPER DESIGN AND INSTALLATION OF SEWERS AND CONNECTIONS

Regulations pertaining to the design, construction, and inspection of private sewer systems, building sewers, and connections are included in District General Ordinance No. 5 and in standard specifications found in District as-built drawings.

- a. **Inspection Required:** The District requires all sewer lines and lateral connections to be inspected by District staff prior to backfill.
- b. **Design Requirements:** The Standard Specifications specifies the minimum size and slope of a building sewer. Design requirements are contained in the Standard Specifications.
- c. **Installation of Sewers:** As-Built Standard Specifications state the requirements of lines and grades, trench widths, excavation for sewers, bracing and shoring, laying of pipe, trench backfill, testing of sewer lines, and cleaning for the construction of all sewer lines and connections.

The District's Standard Construction Specifications are based upon the standards of the San Luis Obispo County Department of Public Works and the California Uniform Plumbing Code (CUPC). These standards will be reviewed, assessed, and revised as necessary with periodic SSMP audits as required by the State Water Board.

3D. LATERAL MAINTENANCE ACCESS

Property owners are responsible for maintaining in satisfactory and effective operation the street and sewer laterals all the way to the main (Ordinance No. 26). The District has a map of the District maintained sanitary sewer system, including lateral locations.

General Ordinance No. 5, Part V, Section 18, cites that District representatives shall at all reasonable times

be permitted to enter in and upon all buildings and premises within the District for purposes of inspection, observation, measurement, sampling, testing, or otherwise performing such duties as may be necessary in carrying out the provisions of Ordinance No. 5 in the event of illicit discharge or substandard conditions.

3E. ENFORCEMENT MEASURES

District Ordinance Nos. 5 and 26 give the District the power to fine persons in violation of District Ordinances liable for all damages resulting from said violations, including but not limited to attorney's fees and court costs. Persons found to be in violation of District Ordinances can be found guilty of a misdemeanor. The District does not have jurisdiction over the community's water supply and therefore cannot use the termination of water service as an enforcement measure.

3F. EASEMENTS

The District has obtained all necessary easement accessibility agreements. The original system design included easement agreements which are individually numbered and delineated on the as-built plans. Additional easements have been added as needed.

SECTION IV: OPERATION AND MAINTENANCE PROGRAM

O & M OVERVIEW

District collections staff are responsible for the inspection and maintenance of approximately 23 miles of sewer line; five lift stations; more than 480 manholes/cleanouts, and the equipment and facilities related to collections and conveyance. Staff is charged with public relations, implementation of a pretreatment program, implementation of a FOG program, and other programs as necessary to ensure compliance with Federal and State law. Staff also monitors, schedules, and performs repairs, video inspections, I/I monitoring, construction, and lateral work. In addition, staff records historical information concerning the system and/or repairs, changes, and other information.

Staff conducts systematic video inspections of the sewer lines, scheduled and enhanced line cleaning, and an annual root control program. Staff maintains maps of all lines and cleans them on a two-year schedule. Lines that have been identified as problem areas are cleaned on a more frequent basis.

Employees are rotationally on call twenty-four hours a day, 365 days a year to respond to calls and emergencies, both in the Collection system and at the Water Resource Recovery Facility.

Staff operates and maintains a trailer-mounted sewer jetter, a trailer-mounted Vactron vacuum, two CCTV inspection assemblies (main line, and lateral), one portable emergency generator, five stationary generators, a by-pass pump, three service trucks and other equipment.

District treatment plant staff are responsible for operating and maintaining all equipment in the WRRF. Operators closely monitor biological activity in the treatment system by means of observation and laboratory

testing and make any appropriate changes in the treatment process as needed. Treatment staff are responsible for maintenance on all equipment in the plant, from cleaning and inspection through oil changes, greasing, repairs and replacement. Staff utilizes a Computerized Maintenance Management System (CMMS) to more easily schedule and track all maintenance.

4A. SANITARY SEWER SYSTEM MAPS

The District has and maintains an online mapping system for viewing plans and as-built maps of the wastewater collection system which is available on the District's website at www.CayucosSD.org. Hard copies are available for viewing at the District office. This set of maps divides the District into five numbered sections. All manholes are numbered, and all sewer line distances are labeled. There are additional notations on these maps concerning street names, force mains, valves, manholes, lift station locations, and pipe diameters, to aid collections staff during routine cleaning and maintenance.

On these maps, the numbering system generally follows flow direction, in that the lower numbers indicate either the highest point in a section, the end of a line, or where one section ties into another. Additionally, clean-outs and lamp holes are also numbered. The on-line maps indicate flow direction with arrows.

This set of maps is constantly being updated. When errors in distance or other issues are noticed they are updated on the maps.

There are as-built drawings of the five lift stations in the District office. These contain engineering information and drawings of each station. There are small areas of the District where sufficient as-built information does not exist. The District continues to work on updating maps for these areas.

The San Luis Obispo County Public Works Department maintains the storm drain system in Cayucos. County Public Works maintains and possesses maps of the storm drain system.

4B. PREVENTATIVE OPERATION AND MAINTENANCE

Routine operations and maintenance activities are most readily categorized by dividing them into the normal frequency of occurrence. The time intervals we use are:

- Daily
- Weekly
- Monthly
- Quarterly
- Annually
- Other

Safety and Vehicle Inspection

Safety equipment is checked for faults and preparedness daily to ensure it is able to be used in response to an emergency. Vehicles are inspected and maintenance is performed if any problems are found to ensure a reliable operating vehicle fleet.

Underground Service Alerts

Each day operations staff checks for Underground Service Alerts (USAs) that have been received by the District office. Underground utilities are marked in the field; operators initial the USA ticket, and date the form. A record of this activity is then logged in the daily log and the completed USA ticket is included with the daily log.

Lift Station Checks

Each lift station is checked Monday through Friday with the exception of holidays. All five District lift stations are submersible pump style which allows for above ground operation. If any open well, pumps, plumbing or electrical work is done, two trained stand-by personnel are required in addition to the trained worker who is performing the work.

Station performance is checked by running each pump in the hand position, listening to the pump, checking for heat or vibration, and observing the check valve operation. Pump seals are checked for leakage. Hour meter readings and flow characteristics are recorded on the lift station record sheets. The general condition of each station is noted. Pumps are always returned to the auto position. Any abnormal operations are assessed and repaired when necessary. Pertinent information is entered into the daily log, reported to supervisory staff, and additional work or maintenance is scheduled.

Morning rounds can also include inspection of areas that have had known problems and also may include 'blind' areas where a Sanitary Sewer Overflow (SSO) could potentially go unnoticed such as easements and creek crossings.

Electrical issues that cannot be solved or repaired will be contracted to a local electrician for assessment and repair.

Following the daily rounds noted above, staff performs various other scheduled tasks. These tasks can include preventative maintenance of sewer lines, manhole inspections; lateral/tie-in inspections, pretreatment program implementation, CCTV inspections, or any other maintenance tasks required.

Customer Calls and Complaints

District staff answers emergency calls 24 hours per day 7 days a week. One staff member is always on-call and is available for response within 30 minutes.

Customer complaints and calls are prioritized and responded to as soon as possible. All calls are recorded in the daily log or in a customer contact report for inclusion in the Monthly O&M Report.

Calls may come from a number of different sources, including staff at the District office, or from customers themselves. Staff records the date, time, name of the caller, the nature of the complaint, and the resolution of the call. In some instances, collections staff may not be able to resolve an issue because it involves facilities on private property which the District neither owns nor maintains. In these cases, staff records the call and assists to the degree possible but does not take responsibility for the issue. Staff will answer calls to spills from private laterals and assist as possible, but in general they do not perform work on private facilities. Staff may assist with cleanup of spills to public streets, and provide other assistance, where such assistance is immediately necessary to protect the public health and welfare. The District encourages citizens to hire licensed plumbers to do repairs, maintenance, and cleaning of facilities on private property.

Calls after hours will be attended to and assessed by the on-call duty personnel. The person on duty receiving the call will decide the course of action to be taken and call for further assistance or equipment as needed.

Scheduled Line Cleaning

All lines are cleaned on a 2-year cycle. This line cleaning will be recorded in a daily log when performed by District staff and recorded on a master line cleaning map.

Enhanced Line Cleaning

Enhanced maintenance includes lines suspected of having FOG, roots, or other hot spot issues. Enhanced maintenance is performed in the fall and spring of each year, in addition to routine line cleaning in these areas. District staff utilizes records, past practices, and operator familiarity to identify and schedule enhanced maintenance. These sewer lines receive cleaning two times per year and are treated for roots or hydro-jetted as appropriate to the severity of the problem.

A list of known potential problem areas is maintained for use by collections system staff.

Closed Circuit Television (CCTV)

The District has both a CCTV unit and a push camera for main line inspections. CCTV inspections are used to look for cracks, potential for collapse, offsets, lateral inventory, and other pipe flaws. District staff prioritizes repairs based on these video inspections, operator familiarity with the system, and information gathered from other activities.

On average, the District performs CCTV inspections on the entire system every five years. Lines are videoed as scheduled, as problems occur, or as requested for project planning purposes. Repairs are prioritized according to condition, location, capacity and other criteria by engineering and operations staff.

Roots

The District has a systematic root treatment program to prevent blockages of the sewer mains and damage caused by roots. Root control consists of the application of a chemical root killer in sewer mains. This program varies based on operator observations and CCTV inspections. The program is cyclic, with root foam application being applied yearly to different lines. The current root treatment product must be reapplied within two years after the first application, and within three years after the second application. This treatment schedule is used to plan root treatment for existing and future line treatment.

Task Scheduling

The following tasks are completed on a daily basis:

- a. Vehicle inspections
- b. USA marking
- c. Lift station checks and inspections of known problem areas
- d. Inspection of the plant and dewatering system
- e. Review of the SCADA (Supervisory Control and Data Acquisition) system
- f. Collection of effluent samples

- g. Testing and recording of the effluent water temperature
- h. Completion of daily logs

The District performs the following tasks on a weekly basis:

- a. Testing of lift station alarms.
- b. Testing of safety equipment, cleaning of analyzers and probes, and odor control performance testing.
- c. Monitoring of hydrogen sulfide levels.
- d. Collection of samples of influent and effluent waters which are sent to a local approved lab for State-required testing.

The District performs the following tasks on a monthly basis:

- a. Identifying and preparing monthly maintenance assignments and performing identified maintenance.
- b. Preparing and submitting the Monthly Operations Report. The Monthly Operation Report documents accomplishments, difficulties, repairs, calls/complaints, routine and enhanced maintenance operations, and other subjects that come up or are out of the ordinary, spill reports and related paperwork. Monthly operations reports are kept on file for future reference. These can be subpoenaed, referenced for operational information, and used for historical data. The information is taken from the daily logs, customer contact reports, emergency call out reports, and other pertinent sources.
- c. File Category II, III and 'No Spill' certifications on the CIWQS website. Category I spill reports are reported within three days of discovery and have other reporting requirements (see Section VI: Spill Emergency Response Plan). All reporting and certification rules and guidelines are contained in the Spill Emergency Response Plan.
- d. File monthly reports to the State Water Resources Control Board.
- e. Test run generators, perform laboratory checks on in-line analyzers, clean screw press.
- f. Check fire extinguishers and eyewash stations.

The following tasks are completed on a quarterly basis:

- a. Perform laboratory tests as required by the State Water Resources Control Board permit (R3-2020-0004)

The following tasks are completed on an annual basis:

- a. File an annual summary with Marine Research Specialists, the WWTP monitoring and reporting program consultants, for inclusion in the WWTP Annual Report.
- b. Conduct annual FOG control inspections as part of the District Fats, Oils, and Grease Control program.
- c. Identify eligible areas of the collection system for root treatment and schedule treatment for applicable sewer lines.
- d. Plan and schedule video inspections throughout the collection system.
- e. Update emergency notification sheet as appropriate. Call all the phone numbers to ensure the proper number and contact are recorded. Assess and update any programs that may have changes to them including personnel or phone number changes.
- f. Identify sites for the installation of flow monitoring equipment to monitor flow throughout the sewer system to track and eliminate sources of I/I.

Other Intervals

Benthic Sediment Monitoring and Reporting is required once during each permit term for our NPDES permit, which is renewed every five years.

These lists are not all-inclusive, as numerous additional tasks are completed by District staff throughout each year including:

- a. Certification testing
- b. Specialty training (utility locating, trenching and shoring training, First Aid/CPR, safety, fire suppression, and other industry related training)
- c. Emergency operations and assisting with neighboring agencies
- d. Will-Serve and tie-in inspections
- e. Monitoring contract work
- f. FOG issues and source control

4C. REHABILITATION AND REPLACEMENT PLAN

COLLECTIONS SYSTEM

Routine maintenance is essential to keeping a sewer system operating efficiently. In addition to solving emergency problems, the prevention efforts of scheduled maintenance is important. In order to manage a sewer system, priorities must be determined, and tasks assigned.

Table 1-1 Priority Determination

Priority	Description
1	Tasks to mitigate threats to the public health or environment are the first priority
2	Tasks to mitigate threats to the effectiveness of sewer system or treatment process operation are second priority
3	All other identified tasks

Inspecting all elements of the sewer system is important to measure the effectiveness of the cleaning and repair efforts. The District uses a variety of monitoring and inspection methods to determine the condition of the system and the effectiveness of the maintenance performed. Closed circuit television inspection is used to evaluate the condition of the sewer system. Ground inspection of collection system facilities, including lift stations and manholes are done by the sewer maintenance team on a regular basis as part of their scheduled tasks. These monitoring and inspecting efforts are recorded and ranked in accordance with the above priority ranking. This list is used to plan sewer replacement and repair projects.

Short term rehabilitation and replacement (R&R) projects are based on sewer and WRRF inspections with

ranked priority levels and are addressed during development of annual CIP plans.

Several important techniques are available for sewer rehabilitation. The types used are best determined by an economic analysis after sewer evaluation.

Point Repairs and Replacement

Point repairs consist of repairing cracked, corroded, or broken gravity sewers and force mains. This work typically includes excavation to the location of the break, removal of the broken pipe section(s) and replacement with new pipe.

Joint Testing and Grouting

Joint testing and grouting are done on sewer line sections with leaking joints but no structural defects. This work can be done in conjunction with the routine televising of lines. Grouting has a limited life and must be repeated every 5-10 years.

Sewer Lining

Sewer lining is a technique which returns pipe to new condition. Many of the current systems can be used where pipe is structurally deficient. Due to the limited excavation required for these techniques, they are good choices where surface construction would cause much disruption.

Pipe Bursting

Pipe Bursting is a technique used to replace an existing pipe by splitting the existing pipe and putting the new pipe inside. This technique can be used to put in a larger pipe or replace broken sections of pipe. Due to the limited excavation required for this technique, it is a good choice where surface construction would cause much disruption.

Manhole Repairs

Manhole repairs consist of repairing structural defects or leakage in individual manholes and castings. The structural repair work may include:

- 1. Replacement of casting (lid and frame)**

The castings of a manhole protect the integrity of the inside of the manhole and help prevent inflow of surface storm water. Replacement of the casting is used when the lid and frame of a manhole have deteriorated. This technique involves replacing the old lid and frame with a new lid and frame.

- 2. Replacement of defective adjusting rings or top sections**

The concrete rings that make up a sewer manhole deteriorate over time causing weak spots in the manhole walls. Rings that show extensive wear can be replaced as an alternative to replacing the whole manhole. This technique is best used for manholes that have only a few worn rings near the top section of the manhole.

- 3. Replacement of complete manhole**

Manhole replacement involves demolition and removal of the existing manhole and the construction of a new manhole. This technique is commonly used to replace damaged or caved manholes.

4. Re-lining the existing manhole

Existing manholes can be lined with an epoxy liner to seal the manhole and prevent infiltration. Wire mesh is placed before the liner in cases where additional structural support is needed. Due to the limited excavation required for this technique, it is a good choice where surface construction would cause much disruption.

5. Grouting to eliminate leakage

Grouting to eliminate leakage is a technique used to seal joints between manhole rings or cracks in a manhole. By grouting joints and cracks in the sides of a manhole inflow and infiltration of storm water and ground water can be reduced.

Lift Station Repairs

Preventative Maintenance is performed on the lift station pumps including changing out aging seals, balancing impellers, cleaning out pumps of debris. Valves are maintained by operating the valves semi-annually and rebuilding non operable valves. Lift stations require periodic cleaning to remove built up grit and debris in the wells. Other repairs that are necessary for reliable operation of the lift stations are scheduled by District staff.

WATER RESOURCE RECOVERY FACILITY

The WRRF is a newly constructed facility completed in 2021, and as such, does not currently need any major repairs. Preventative maintenance will be accomplished as outlined in the various Operation and Maintenance manuals for each piece of equipment in the plant.

Headworks

Headworks consists of screening and grit removal. There are two coarse screens, two fine screens, with conveyors for each set of screens and a washer press for the coarse screens. The grit removal system includes a mixer, grit pump and grit classifier.

Equalization Basins

There are two equalization basins at the plant which can hold a combined volume of just over 400,000 gallons. Associated with these are a wet well and two submersible pumps.

Membrane Bioreactor and Associated Equipment

The MBR system is comprised of an influent feed channel, a feed channel ahead of the membrane tanks, two pre-anoxic basins, two aeration basins, two post-anoxic basins, several monitoring instruments, three membrane tanks fitted with Evoqua B40 N+ Mempulse membranes, three aeration blowers, three air scour blowers, four mixers, two air compressors, three rotary lobe permeate pumps and three centrifugal sludge pumps, along with associated valving and piping.

Chemical Area

The Chemical area contains three different peristaltic chemical pumps for sodium hypochlorite and one peristaltic pump for citric acid, as well as associated valving and piping and one 3,000-gallon tank for sodium hypochlorite.

Ultra-Violet (UV) Disinfection

The UV Disinfection area consists of two UV vessels, each with 60 UV bulbs, two turbidimeters, two UV intensity probes, one UV transmittance analyzer and all associated valving and piping.

Dewatering

The solids handling system consists of two sludge grinder pumps, one FKC screw press, a polymer blending unit and three conveyors.

Effluent Pump Station

The effluent area has two vertical turbine pumps, a wet well, and three valves, two of which are automatic.

Plant Water System

The plant water system has a welded steel recycled water tank with a capacity of 120,000 gallons. There are three pumps associated with it; an emergency fire pump, a large pump, and a jockey pump.

Potable Water System

The potable water system has a submersible well pump, a chemical feed pump and storage tank for sodium hypochlorite, a pressure tank and two booster pumps. There is also a 3,000-gallon storage tank.

Emergency Generator

One 1,270kW Kohler emergency diesel generator.

4D. STAFF TRAINING

This SSMP is reviewed upon hiring and annually thereafter. Specific training in spill emergency response, estimation of spill volume and electronic CIWQS reporting are covered in the SSO Procedural Manual.

Training is important to keep sewer systems operating efficiently. The District encourages and sends staff to training seminars to teach sewer maintenance and operation skills. In addition, staff also brings ideas for new technology to the District for possible adoption into the sewer program. The OSHA recorded training schedule is included herein.

Training Topic	Frequency	Description
Blood borne Pathogens	Initial then Annually	Title 8 Section 5193(g)(2)

Carcinogens as Listed	Initial	Title 8 Section 209(e)(5)
Confined Spaces	Initial	Title 8 Section 5157(g)
	Program Update Changes	Title 8 Section 5158(c)(2)
Emergency Action Plan	Initial Plan Update	Title 8 Section 3220(e)
Excavation/ Trenching/Shoring		Title 8 Section 1541
Fall Protection, First Aid & CPR	Initial, Changes Every 2 years	Title 8 Section 1671.1 Title 8 Section 3469(b) 6251(d)(2) 3400(b) 5157,5158,5193
Flaggers (Traffic)	Initial	3421,605 Title 8 Section 1599(f)&(g)
Hazardous Waste Hearing (Noise)	Initial Annual Refresher Initial	Title 8 Section 5192(e) 5192(q)(6) Title 8 Section 5098(a)(4)
Protectors	Retraining	5097(d)(5)(A) 5097(d)(5)(B)
Injury & Illness Prevention Program Job Hazard(s)	Initial Update Before Job Assignment	Title 8 Section 3203(a)(7) 1509(e) Title 8 Section 3203(a)(7)
	New Hazards	1510(a)&(c)
Lockout/Blockout	Initial	Title 8 Section 3314
Machinery and Equipment	When Updated and Before Use	33140 Title 8 Section 1510(b)
Noise Exposure	Initial	Title 8 Section 5099(a)
Openings/Holes- Floors and Roofs	Annually	Title 8 Section 3212(b)
Calif. Posting Requirements	Initial	Title 8 Section 340
Traffic Control	Initial	Title 8 Section 1599(f)&(g)

4E. CONTINGENCY EQUIPMENT AND REPLACEMENT INVENTORIES

The District keeps an inventory log of all operations equipment and replacement parts. The item description, quantity, and storage location are recorded. This inventory list is kept at the District office, to track and manage equipment held by the District. The list is updated on a periodic basis as equipment and replacement inventory changes. Every year the list is reviewed to verify inventory. In the event something is missing from the inventory list, staff investigates and updates the inventory log.

Staff operates and maintains a trailer mounted sewer jetter and a trailer mounted vacuum used for scheduled and enhanced maintenance. This tool allows the District to clean main sewer lines on a routine basis and clear mains in response to an emergency. Staff also owns and operates five emergency generators to power lift station pumps during a power outage as well as a by-pass pump used to move wastewater when a lift station pump is being worked on or when a pump is out of service.

Spare parts are kept on hand at the District shop in order to be used to make minor repairs at night or on weekends when supplies are hard to obtain. Spare parts on hand include:

- Fittings
- Wyes
- Seals
- Flanges
- Valves
- Jetter & CCTV parts
- Sewer pipe & couplings
- Complete pumps

Spare parts are kept on hand at the Water Resource Recovery Facility as well. Many manufacturers of treatment plant equipment have proprietary parts which need to be ordered in advance. When the plant was constructed, manufacturers of each system (for example, the UV system or the dewatering system) provided spare parts of the most commonly used items for their systems. These are listed and are stored at the Facility.

In the event of a catastrophic event where major repairs are needed, staff will provide a safe, temporary solution until a qualified repair crew is able to be brought in to make the repair.

SECTION V: DESIGN AND PERFORMANCE PROVISIONS

5A. STANDARDS FOR INSTALLATION, REHABILITATION AND REPAIR

The District currently uses San Luis Obispo County Public Works construction documents which include standard drawings and specifications. These construction documents are currently under review to incorporate new technologies in sanitary sewer installation, rehabilitation, and repair techniques.

The District's standard specifications address Sanitary Sewer Installation. This section includes specifications on pipe, manhole, cleanout, and sewer lateral materials and construction methods, including acceptable methods for sewer taps, as well as sewer line testing, acceptance, and abandonment of existing sewer mains. These requirements are used to ensure that sewers are constructed to the District's specifications and will perform adequately with minimal infiltration or maintenance problems and will maintain their structural integrity for the duration of their intended service lives.

Many of the specifications included in these standard specifications also apply to sewer pipeline rehabilitation and repair projects. Additional specifications related to specific sewer rehabilitation and repair projects will be added as the District selects the preferred method of such rehabilitations and repairs. Additional requirements will be included in project-specific specifications as needed to ensure a quality product.

The District owns and operates five lift stations and does not anticipate additional lift stations to be built because the District is near built out. Therefore, lift station plans and specifications are not included in the standards and will be reviewed on a project-specific basis. Design standards and construction specifications for lift stations will be developed as needed on a project-specific basis should any new municipal lift stations or major lift station rehabilitation or repair projects be implemented.

All public sewer mains within the District are designed and constructed by consultants under contract with the District. The District's Standard Specifications contains design requirements for building sewers, including minimum sizes and slopes.

5B. STANDARDS FOR INSPECTION AND TESTING OF NEW, REHABILITATED, AND REPAIRED FACILITIES

Installation of new or rehabilitation of private sewer laterals are required to be videoed to allow inspection by District staff. District staff is available to observe all construction projects involving the main sewer system, such as lateral connections, manhole and sewer line rehabilitations and repairs. This inspection is a requirement of the permit issued to contractors working on any connections to the main.

Inspection and testing are performed to ensure that overall construction of the project conforms to the contract documents; facilities are tested in accordance with the provisions of the contract. Inspection and testing of construction projects are conducted by District staff, District consultants, or private contractors.

Testing and startup occur throughout the project as system components are placed and connected in the manner in which they are intended to operate. The system components are expected to be fully functional prior to testing. The contractor is required to test the operation of each component upon completion of its installation. During the testing and startup process, individual components are checked, tested, and started individually prior to checking the system as a whole. The inspector is responsible for monitoring quality assurance to assure compliance with the contract documents and any authorized amendments.

A project is considered complete when the construction is sufficiently complete, when the facility is tested in accordance with the contract and can be used for its intended purpose. Before acceptance of a facility, the District receives O&M manuals, record and as-built drawings, permanent keys, final cleanup, final repairs, etc. The testing and startup are completed when test results are approved, and the reliability test has demonstrated that the system functions as designed.

SECTION VI: SPILL EMERGENCY RESPONSE PLAN

The Cayucos Sanitary District maintains a Spill Emergency Response Plan (SERP) that provides procedures for spill notification, response, reporting, and impact mitigation. These procedures apply both to the Collection System and to the Cayucos Water Resource Recovery Facility.

The SERP includes procedures which encompass:

- Notification of primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner.
- Notification of other potentially affected entities of spills that potentially affect public health or reach waters of the State.
- Complying with the notification, monitoring and reporting requirements of the Statewide Sanitary Sewer Systems General Order 2022-0103-DWQ, State law and regulations, and applicable Regional Water Board Orders.
- Ensuring that appropriate staff and contractors implement the SERP and are appropriately trained.
- Addressing emergency system operations, traffic control and other necessary response activities.
- Containing a spill and preventing/minimizing discharge to waters of the State or any drainage

- conveyance system.
- Minimizing and remediating public health impacts and adverse impacts on beneficial uses of waters of the State.
- Removing sewage from the drainage conveyance system.
- Cleaning the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters.
- Implementing technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery.
- Implementing pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event.
- Conducting post-spill assessments of spill response activities.
- Documenting and reporting spill events as required in General Order 2022-0103-DWQ.
- Annually, review and assess effectiveness of the Spill Emergency Response Plan and update the Plan as needed.

SECTION VII: SEWER PIPE BLOCKAGE CONTROL PROGRAM

7A: FATS, OILS AND GREASE (FOG) DISCUSSION

Fats, oils, and grease (FOG) can have negative impacts on wastewater collection and treatment systems. Most wastewater collection system blockages can be traced to FOG and roots. Blockages in the collection system are serious, causing sewage spills and manhole overflows and can cause back-ups into homes and businesses. In January 2006 the District Board of Directors adopted Ordinance No. 24, which amended Section 13 of Ordinance No. 5 to establish a Grease Management Program.

Problems caused by waste from restaurants and other grease producing establishments have served as the basis for ordinances and regulations governing the discharge of grease materials to the sanitary sewer system. This type of waste can be mitigated by requiring the installation of preliminary treatment facilities, commonly known as grease traps or interceptors.

There is an average of between twelve and fourteen food service facilities located within the District that discharge to the District sewers. Operations staff has noted the tendency for grease to build-up in specific sewer lines and in certain sections of the District.

The District's FOG control program consists of focused cleaning and maintenance as well as source control. The District also maintains a list of all spills and blockages to localize areas requiring further attention.

There are two kinds of FOG pollutants common to wastewater systems:

1. Petroleum-based oil and grease (non-polar concentrations) occur at businesses (normally automotive-related) using oil and grease. These disperse on the surface of water causing sheen. These concentrations are regulated by other agencies (local, state, and federal), and are not part of this program.
2. Animal and vegetable-based fats, oils, and grease (polar concentrations) do not disperse in water, but instead congeal and regroup in large masses. These concentrations are the basis for this program.

Grease is singled out for special attention because of its poor solubility in water and its tendency to separate from the liquid solution. Grease in a warm liquid may not appear harmful. As the liquid cools, the grease or fat congeals and causes "nauseous mats" on the surface of settling tanks and digesters. It coats the interior of pipes, wet-wells, and other surfaces. It can cause the shut-down of wastewater treatment units. It is the cause for targeted, scheduled maintenance of specific areas of the District.

Traps and Interceptors

A trap is a small reservoir built into the wastewater piping a short distance from the grease producing area. Baffles in the reservoir retain the wastewater long enough for the grease to congeal and rise to the surface. The grease can then be removed and disposed of properly.

An interceptor is a vault with a minimum capacity of 500 gallons. It is normally located on the exterior of the building. The vault includes a minimum of two compartments. Flow between each compartment is through a 90-degree fitting designed for grease retention. The capacity of the interceptor provides adequate time for wastewater to cool down and allow the grease to congeal and rise to the surface where it accumulates until the interceptor is cleaned.

Maintenance staff, or another employee of the establishment, usually performs grease trap maintenance. Permitted haulers, licensed septic services, or recyclers usually perform interceptor maintenance. The entire volume of the interceptor (liquids and solids) is removed from the interceptor and properly disposed of. When performed properly and at the appropriate frequency, grease interceptor and trap maintenance can greatly reduce the discharge of FOG into the collection system.

The required maintenance frequency for grease interceptors and traps depends greatly on the amount of FOG a facility generates, as well as any best management practices (BMPs) that the establishment implements to reduce the FOG discharged into its sanitary sewer system.

All food service facilities are required to have a grease trap or grease interceptor properly installed (CSD Ordinance No. 24, Sec 13, A, 1) in accordance with any and all applicable requirements of the latest edition of the Uniform Plumbing Code (UPC), Regional Water Quality Control Board (RWQCB), and the Cayucos Sanitary District. Interceptors are the best choice for larger, high-volume restaurants, hotels, retirement homes and other larger commercial establishments. Smaller restaurants and take-out restaurants with limited menus, minimum dishwashing and/or minimal seating may find a trap suitable. Medium volume establishments may find that a trap will be too small and opt to install an interceptor.

Any establishment that does not install a trap or interceptor and generates or uses FOG in food preparation will eventually encounter a maintenance problem that will be grease related. If the blockage is in the building, the establishment has direct responsibility for paying for maintenance. If a blockage or restriction is in the public sewer, the establishment may have to pay to have the District main maintained. If the blockage affects other establishments or homes, there may be civil issues and penalties involved.

7B. IDENTIFICATION AND SEWER CLEANING

District Collection Staff utilizes records, past practices, and operator familiarity to identify and prioritize

enhanced maintenance procedures. A list of known areas that are prone to grease build-up and root problems has been established and staff schedules maintenance in these areas on a semi-annual basis. The reason that root problems are included in this list is that grease is prone to accumulate on roots. The District has established a cyclic root control program using chemical root control measures to kill and retard the growth of roots in the sewer system.

Identification of Grease Problem Areas

The District identifies potential problem areas by tracking locations and causes of blockages and SSOs. A review of the District's sewer overflow/blockage list shows that most SSOs are caused by roots and grease. Additionally, debris type and severity are noted by operations staff during routine and focused cleaning. Areas with several restaurants or grease producing facilities are also considered potential grease problem areas.

Hot Spots

Included in the hot spot program are lines specifically identified for FOG control, root control and other lines that have been prone to other problems in the past. Cleaning frequency depends on the history of stoppages, as well as areas expected to be prone to grease build-up.

7C. LEGAL AUTHORITY TO CONTROL SOURCES OF FOG

Legal measures available to the District to control sources of FOG include the following:

1. Authority to prohibit specific discharges
2. Authority to require grease removal devices
3. Preliminary treatment facility maintenance
4. Inspection of premises
5. Enforcement measures, as appropriate

Legal Authority to Prohibit Discharges

District General Ordinance No. 5, Section 29 prohibits specific discharges, as follows:

“Except as hereinafter provided, no person shall discharge or cause to be discharged into a public sewer any of the following described substances:

- a. *Any liquid or vapor having a temperature higher than one hundred fifty degrees Fahrenheit.*
- b. *Any water or waste which may contain more than one hundred parts per million (PPM), by weight of fat, oil, or grease.*
- c. *Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas*
- d. *Any garbage that has not been properly shredded.*
- e. *Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar plastics, wood, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewage works.*

- f. Any water or waste having a pH lower than 5.5 or higher than 9.0, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works.
- g. Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans, plants or animals, or create any hazard in the receiving waters of the treatment plant.
- h. Any waters or wastes containing suspended solids of such character and quantity that unusual attention or expense is required to handle such materials at the water reclamation facility.
- i. Any noxious or malodorous gas or substance capable of causing a public nuisance.”

Authority to Require Installation of Grease Traps and Interceptors

Cayucos Sanitary District Ordinance No. 24 requires the installation of grease removal equipment as follows:

“All food service facilities are required to have a grease trap or grease interceptor properly installed in accordance with any and all applicable requirements of the latest edition of the Uniform Plumbing Code (UPC), Regional Water Quality Control Board (RWQCB), and the Cayucos Sanitary District.

Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be of substantial construction, watertight, and equipped with easily removable covers which, when bolted in place, shall be gastight and watertight.”

Grease Traps and Interceptors - Maintenance

Section 13C 5(c) and (d), and Section 13C 6(a) and (c) provide the following:

“5c. Inspection, cleaning, and maintenance: Each food service facility shall be solely responsible for the cost of trap installation, inspection, cleaning, and maintenance. Grease traps should be cleaned, as needed, to maintain the 25% rule: combined thickness of floating fats, oils, and grease (FOG) and settleable solids shall not exceed 25%. Settleable solids shall not exceed 1" in depth at any given time. Best Management Practices (BMPs) for the management of FOG shall be adopted by each establishment (see Cayucos Sanitary District for suggested BMPs)

5d. Repairs and Replacement: The food service facility shall be responsible for the cost and scheduling of all repairs or replacement to its grease trap. Repairs or replacement required by the Grease Management Program Inspector shall be completed within thirty (30) calendar days after the date of written notice of required repairs or replacement is received by the facility. The District may authorize an extension of time to achieve compliance for an additional 5 calendar days.”

6a. and 6c. contain provisions that mirror the above referenced subsections, substituting the term "Grease Interceptor" for "Grease Trap".

Inspection of Premises

Section 13 D provides for inspection as follows:

“District Inspection: Grease Traps/Interceptors shall be inspected by the District's Grease Management Program Inspector, or his/her designee, to assure compliance, proper cleaning and maintenance, and proper cleaning and maintenance schedules are being adhered to. These inspections take place biannually. Each food service facility shall allow the Grease Management Program Inspector, or his/her designee, access at all reasonable times to the premises for the purposes of inspection, observation, records examination, measurement, sampling, and testing in accordance with the provisions of this Ordinance. Refusal to allow the Grease Management Program Inspector such entry shall constitute a violation of this Ordinance.”

Enforcement Measures Where Appropriate

Section 13 E & F provides enforcement action for violations as follows:

“Enforcement actions against food Service Facilities in Violation of Ordinance No 24 are as follows:

Notice of Violation. A written notice of violation (NOV) is issued to the owner of a food service establishment/business for any one or more of the following reasons:

- a. Failure to maintain grease trap to District standards*
- b. Failure to maintain adequate records*
- c. Failure to provide logs, files, records, or access for inspection or monitoring*
- d. Repeated violations of provisions set forth in the grease management plan*
- e. Failure to initiate/complete corrective action response NOV*
- f. Failure to allow District inspector access for purposes of inspection*

Persons receiving more than two written NOV's in one year will be subject to fines of \$300.00 per violation.

Recovery of Costs. *When a discharge of waste or grease build-up causes an obstruction, damage, backup and flooding of streets, residences, commercial buildings or impairment of District facilities, or any expense of whatever character or nature to the District, the District Manager shall assess the expenses incurred by the District to clear the obstruction, repair damage, and any other expenses or damages of any kind of nature suffered by the District. The District Manager shall file a claim with the user, the owner of the business/establishment or any entity causing such damages seeking reimbursement for any and all expenses or damages suffered by the District.”*

Facility Inspection

In 2005 the District conducted a survey of grease producing facilities. This included restaurants, retirement homes, markets and liquor stores with delicatessens, hotels and schools, sandwich shops and others. A Site Visit Inspection Form (SVIF) was developed which records the date, name of the business, owner/contact information, and inspector, condition of trap and purpose of visit. There is a 'remark' section on which field notes, conditions noted, and warnings can be noted. A master list was then made, and a record book was instituted.

The SVIF has an owner/contact signature line, which is signed at the time of the inspection. The first sheet is then torn off and given to the owner/contact and the second page is retained by the District.

Inspection Guidelines

1. Inspectors will maintain a professional, courteous demeanor at all times.
2. Inspections should be performed at times other than a facility rush hour.
3. The facility owner/contact or representative will open the trap or interceptor.
4. All records and field notes will be kept in ink.

The criteria used for inspections will be as follows:

Percent Full	Trap Condition
>20%	Good
>20% and <25%	Fair
>25%	Poor

If the trap is in FAIR condition the establishment should be advised to keep an eye on the maintenance schedule. The cleaning frequency may need to be increased. If the trap is in POOR condition, it should be noted in the 'Remarks' section of the Site Visit Inspection page and the owner/contact should be advised to clean it immediately. The establishment should then be re-inspected in about 30 days. Traps should not be allowed to be habitually kept in POOR condition. Traps and interceptors found to have more than 25% solids (POOR condition) after an initial site visit will receive a notice of violation.

Establishments with interceptors shall keep a cleaning log along with receipts from the agency contracted for service. These should be checked for frequency of cleaning.

Public Outreach

The District posts information on our website which discusses the District's accomplishments and difficulties along with educational information including suggestions on specific ways to keep FOG from entering the collection system.

Staff is available to meet with businesses and others to discuss Best Management Practices (BMPs) concerning FOG and other collection system related issues. Appointments can be made by calling the District office at (805) 995-3290.

SECTION VIII: SYSTEM EVALUATION, CAPACITY ASSURANCE, AND CAPITAL IMPROVEMENTS

This section of the SSMP identifies the District's plan for system evaluation and capacity assurance. The District has performed sewer system modeling in areas that have been subject to surcharge or SSOs during extreme wet weather events. In conjunction with these models, the District began the process of monitoring for Inflow and Infiltration (I/I) with an initial system-wide I/I Analysis in 2007 performed by Boyle Engineering. As a result of this initial study, the District purchased six portable flow meters in order to continue focused I/I monitoring efforts in specific areas of the collection system. The District is committed to identifying and

eliminating I/I.

8A. SYSTEM EVALUATION

Capacity assessments have been performed in areas where extreme wet weather events have caused SSOs in the past as part of the District's review and analysis of the collection and conveyance system. Capacity analysis models are based on hydraulic modeling of the District's collection system under both current and future design flows.

Historically, the District has experienced minor sanitary sewer overflows caused by hydraulic deficiencies in the sewer system. These SSOs occurred during extreme wet weather events. The District has recently taken measures to help eliminate SSOs caused by extreme wet weather events. The District has not experienced and does not anticipate experiencing dry weather SSOs due to hydraulic deficiencies now or in the future due to the limited potential for growth within the District's service area. Projects relating to wet weather capacity enhancement are identified in the District's 5-10 year CIP.

As part of the effort to reduce I/I and maintain adequate sewer system capacity, the District utilizes smoke testing in specific sections/basins of the collection system to identify and eliminate sources of inflow and infiltration. Through these efforts, the District has been successful in the identification and control of some sources of inflow and infiltration. When these sources of I/I are identified, corrections are performed to eliminate the source of inflow or infiltration.

Hydraulic Model

As a part of the District's evaluation, a hydraulic model was developed using a spreadsheet model, based on Manning's Equation, to evaluate existing and ultimate necessary system capacity for wet weather flows. As stated previously, only areas subject to surcharge or SSO during extreme wet weather events were included in the model.

Flow Estimates

Ultimate flow demands were estimated based on the County of San Luis Obispo's Planning Department and Cayucos 2004 Water Management Plan Update estimates for the District's build-out population. Average daily flow was recalculated in 2020 based on daily flow averages recorded at Lift Station 5 over the course of 2018-2020. Flow estimates are based on historical sewer connection data, water use data, and the number of vacant lots available for development.

Current and future average daily base wastewater flows were analyzed again in 2020 based on average daily flows seen at Lift Station 5. These flows are displayed on the table below.

Collection System Average Daily Flows	
Average Flow	0.227 mgd
Ultimate Flow	0.330 mgd

*Source: Lift Station 5 Average Daily Flow Report 2018-2020

8B. DESIGN CRITERIA

The Cayucos Sanitary District has not experienced any dry weather sanitary sewer overflows due to hydraulic deficiencies in the sewer system. The current design criteria for sanitary sewer design appear adequate to prevent hydraulic deficiencies from occurring in the construction of new facilities of the sewer system. The District's design criteria accommodate wet weather flows by reserving additional capacity for those events.

8C. PRIORITIZATION OF CORRECTIVE ACTION

As stated previously, the District does not have a history of SSO discharges caused by hydraulic deficiencies during dry weather. The Capital Improvement Project Prioritization process considers the needs of the service area as well as capacity or other operational needs.

A Capital Improvement Project Prioritization process consists of ranking a list of projects from the latest 5-Year CIP, operational issues, and modeling results. A project prioritization list is developed and ranked by District staff to identify and prioritize projects to be conducted.

Projects are evaluated on an annual basis as part of the District's budgeting process. This process considers the needs, risks, and funding priorities for the various projects.

The District uses recent sewer models and flow monitoring data to determine what projects are needed to prevent hydraulic deficiencies from occurring. Projects that are identified and prioritized in the Capital Improvement Project Prioritization process are scheduled and constructed under the direction of the District Manager. The District's 5-Year CIP will be revised and updated when the projects identified are largely completed or when new priority projects are identified.

8D. CAPITAL IMPROVEMENT PLAN

The Cayucos Sanitary District maintains a list of capital improvement projects (CIPs) for the wastewater collection system. This list is generated through the capital improvement program process and review of the current 5-10-year capital plan. The District has an up-to-date list of current CIPs including description, priority, and progress. The District reviews the capital projects, available funding, anticipated staff resources available, and priorities on an annual basis as part of the District's budgeting process.

FY 2022-2023 Capital Improvement Projects

- **Sewer Main Repairs:** \$55,000

These are areas of sewer mains that our camera has identified in need of repair. These projects consist of multiple point repairs, offsets or other anomalies and are targeted to take advantage of economy of savings. The budgeted amount is intended to allow for 2 or 3 replacements.

- **Design of the Chaney to Toro Main Line Replacements:** \$35,000

This project will look at replacing the two 12" VCP lines between Chaney and Toro Creek Road with a single larger PVC pipe to allow for temporary storage of sewage prior to Lift Station 5.

SECTION IX: MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

9A. MAINTAIN RELEVANT INFORMATION

The District monitors several performance measures through tracking logs and annual reports. Tracking tools include:

- Monthly Annual Reports
- Asset Management Software
- SSO Reporting and Tracking
- Staff Training Records
- Flow Monitoring Reports
- System Modeling and Capacity
- SSMP Audit Program
- Video Inspection Results
- FOG Inspection Log
- Hydrogen Sulfide Production

9B. MONITOR AND MEASURE EFFECTIVENESS

In order to monitor the effectiveness of each element of the SSMP, the District has selected specific parameters that can be documented and compared on an annual basis in a simple format. These parameters were selected because they are straightforward, quantitative, and focus on results. Although the parameters may not track everything associated with SSMP implementation, changes in these parameters over time will indicate the overall success of the SSMP or, conversely, underlying problems that can then be investigated further.

There are eleven required elements to the SSMP. Our Monitoring, Measurement, and Program Modification efforts for each element are:

Section I: Goals

The goal of the collection system is unlikely to change significantly. As part of the SSMP audit process (Section X) we will review the goal and make necessary modifications.

Section II: Organization

The dynamics of organizations can change dramatically with time. The effectiveness and staffing levels of the current organization will be reviewed and compared to required SSMP efforts to determine when adjustments will need to be made to either organizational or staffing levels.

Section III: Legal Authority

The legal authority by which the District operates and maintains its sewer system does not need to change very frequently. This authority is found in State Health and Safety Codes and District Sanitary Sewer Ordinances. These ordinances can be changed as necessary through District Board of Directors action.

Changes to the District's legal authority will most frequently be made to stay in alignment with changes to both State and Federal requirements. Changes to District legal authority will occur on an as needed basis.

Section IV: Operation and Maintenance Program

Collections Operations and Maintenance (O&M) practices have evolved rapidly in the last several years and will continue to evolve as new technologies are developed. Modifications to the collections O&M Program are an ongoing effort. The process of auditing the SSMP every three years as required by Section X will be used as a systematic evaluation of the effectiveness of our O&M Program. Significant changes made to the O&M practices in place will be documented in the audit process and included in the updated SSMP.

Section V: Design and Performance Provisions

Design and performance provisions do not require frequent adjustment. On occasion, new products, techniques, or practices are developed that warrant changes or revisions to design and performance standards. More frequently, rules, regulations, and code changes are made that need to be reflected in the District's standards.

Section VI: Spill Emergency Response Plan

Each spill from a sanitary sewer system is a unique event with its own set of circumstances. It is likely that as crews respond to events there may be refinements necessary to the adopted Spill Emergency Response Plan (SERP). The general approach for dealing with SSOs defined in the SERP is not likely to change. Adjustments will be made as necessary and will be included in the updates of the SSMP. The number and type of SSOs within the District are tracked, and this information will be used to determine trends in SSO events with the intent of reducing or eliminating future SSOs.

Section VII: Fat, Oil and Grease (FOG) Control Program

The FOG control program in Cayucos is viewed as the primary element of the Source Control Program. The effectiveness of site visits and other outreach efforts can be directly measured by the impact of FOG on the system. The District has had a fairly mature FOG Control/Source Control program in place for a number of years so major changes are not anticipated. Refinements made to the program will be documented, reviewed, and adopted in the SSMP audit process.

Section VIII: System Evaluation and Capacity Assurance Plan

The Cayucos Sanitary District uses sewer modeling and infiltration and inflow analysis as methods to evaluate the system and assure there will be adequate capacity in the sewer collection and conveyance system for system build-out. As updates become necessary, they will be referenced in the SSMP.

Section XI: Communication Program

The District posts the SSMP and other important information on the District's website. The Public will be notified of any changes to the District's SSMP through this website and through a hard copy of the document, available at the District office. The effectiveness of this effort will be audited within the SSMP framework, and any necessary changes will be made during the SSMP audit process.

9C. SUCCESS OF PREVENTATIVE MAINTENANCE

The District's preventative maintenance program is designed to minimize corrective and emergency maintenance as well as equipment failures. The District will assess the success of the preventative maintenance program by monitoring Operation and Maintenance records, asset inventories, equipment failures, and SSOs. If it is determined that the cause of any SSOs may have been prevented through preventative maintenance, job plans and schedules will be adjusted accordingly to help protect against the reoccurrence of future SSOs.

9D. UPDATE PROGRAM ELEMENTS

Program elements will be updated or modified based on the review of the monitoring and reporting data through the self-audit process as described in Section X: SSMP Program Audit of this SSMP.

9E. IDENTIFY AND ILLUSTRATE SSO TRENDS

The District reports all SSO events to the California Integrated Water Quality System (CIWQS). The frequency, causes, volumes, locations, and other SSO details and trends are tracked and analyzed by the District. The District keeps a historical listing of all SSOs. All SSO events are investigated and a report is generated, providing event details and causes of the SSO. SSO causes and actions taken to prevent similar SSO events from occurring will be included in the Section X : SSMP Program Audit of this SSMP.

SECTION X: INTERNAL AUDITS

10A. SSMP PROGRAM AUDITS

The Cayucos Sanitary District will produce internal audits every three years to determine the effectiveness of the SSMP elements and programs. The program audit will include a review of relevant data and trends maintained as part of the SSMP Monitoring and Measurements Program to determine opportunities to improve compliance with the SSMP requirements and system performance. A prioritized list of improvements will be updated as part of the audit program. An overview of SSMP related progress between audits will be included in the program audit and the change log appendices. The audit is performed by the Collections Lead Worker, Chief Plant Operator, and District Manager.

As part of the audit process, the District will review the SSOs from the previous years and will provide details in the audit on the causes of the SSOs and what actions were taken to prevent similar SSOs from occurring in the future. As part of the audit the District will compare its performance with similar collection systems. If any deficiencies are determined, the appropriate elements of the SSMP will be updated as well as corresponding reference material.

The program audit will include a final report to the District Board reviewing the District's performance and identifying findings. When major changes are made to the SSMP the modified elements may be presented to the District Board of Directors to be readopted.

SECTION XI: COMMUNICATION PROGRAM

11A. COMMUNICATION WITH THE PUBLIC

In case of spills or discharges which result in closures of public areas, or that enter a source of drinking water, the District will post notices at the site, on our website at www.CayucosSD.org, and at select locations throughout Cayucos. In addition, any businesses or private residences that are immediately affected will be contacted via in-person visit or personal telephone call.

The District welcomes suggestions and feedback from the public via website submissions, telephone calls and in-person office visits.

11B. COMMUNICATION WITH OWNERS/OPERATORS OF SATELLITE SYSTEMS

The District does not receive flow contributions from any agencies that meet the State Water Boards definition of "Satellite Systems."

GLOSSARY AND ACRONYMS

Terms and acronyms used in this document and/or the General Order of the State Water Resources Control Board, along with their definitions, are as follows:

AR or (Authorized Representatives) - The person designated, for a municipality, state, federal or other public agency, as either a principal executive officer or ranking elected official, or a duly authorized representative of that person.

BAT - Best Available Technology

Blockage or stoppage - something that fully or partially blocks the wastewater from flowing through a sewer pipeline.

BMP - Best Management Practice

CWEA (California Water Environment Association)- CWEA is an association of professionals in the wastewater field. CWEA trains and certifies wastewater professionals, disseminates technical information, and promotes sound policies to protect and enhance the water environment. CWEA provides technical references for sewer system operation and maintenance.

CCTV - Closed Circuit Television

CFR - Code of Federal Regulations

CIP - Capital improvement Program

CIWQS (California Integrated Water Quality System) - All SSO reporting is done on the CIWQS website.

CMMS - Computerized Maintenance Management System

Clean-Out (CO) - Access hole on a sewer line, normally at the end of the line and normally smaller than a manhole.

FOG (Fats, Oils and Grease) - Fats, oils and grease that are discharged into the sanitary sewer system by food service establishments (FSE), homes, apartments, retirement homes, and other sources. FOG is a major cause of blockages leading to increased maintenance and sometimes SSOs.

FOG Control Program - Establishes criteria for FOG discharge at various businesses.

GIS (Geographical Information System) - A database linked with mapping, which includes various layers of information, such as sewer maps, storm drain maps, parcels, and other features.

Governing Board - Cayucos Sanitary District Board of Directors.

GPS - Global Positioning System

GWDR or WDR (General Waste Discharge Requirements) - An authorization to discharge waste with certain conditions. Differs from an NPDES permit in that WDRs do not sunset. The Statewide General WDR for Sewer systems was adopted by the SWRCB and will be implemented by RWQCB and SWRCB.

I/I - Infiltration and Inflow

Infiltration - The seepage of groundwater into a sewer system, including service connections. Seepage can be through cracked pipes, pipe joints, connections, or manhole walls and joints.

Inflow - Water discharged into a sewer system and service connections from roof leaders, cellars, yard and area drains, foundation drains, springs, swampy areas, around manhole covers, surface runoff, drainage etc. Inflow differs from infiltration in that it is a direct discharge into the sewer rather than a leak.

Lamp Hole - In the past this was used to lower a lamp into the line for inspection. They are currently used the same as an end-of-the-line clean-out.

Lateral - The portion of a sewer that connects the customer with the District's main line. Sewer laterals are privately owned and maintained.

Lift Station (LS) or Pump Station - A station with redundant pumps that raise sewage to a level from which it can flow by gravity.

LRO (Legally Responsible Official) - The person representing the enrollee, that certifies SSO reports to the CIWQS website.

Manhole or MH - Access hole on a sewer line with cones and barrels. Installed every 300-400 feet to facilitate cleaning or change in direction.

MRP (Monitoring and Reporting Program) - Established in the WDR for monitoring, reporting, recording and public notification requirements of the WDR.

O&M - Operation and Maintenance

OES - Office of Emergency Services

Order - SWRCB Order No. 2022-0103-DWQ adopted December 6, 2022

PM (Preventive Maintenance) - Regularly scheduled servicing of machines, infrastructure, and other equipment.

R&R - Rehabilitation and Replacement, can also be CIP.

RWQCB (Regional Water Quality Control Board) - The District is in Region 3.

POTW - Publicly Owned Treatment Works (WRRF)

SERP (Spill Emergency Response Plan) - Identifies a plan for notification procedure, appropriate response, procedures to address emergency operations and ensure that all reasonable steps are taken to contain and prevent discharges.

SOP - Standard Operating Procedure

SSO (Sanitary Sewer Overflow) - Any overflow, spill, discharge, or diversion of untreated or partially treated wastewater from a sanitary sewer system as defined in SWRCB Order #2013-0058-Exec.

Category 1: Discharges of untreated or partially treated wastewater of any volume from an enrollee's sanitary sewer system failure or flow condition that reach surface water or reach a municipal separate storm sewer system and are not fully captured and disposed of properly.

Category 2: 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 **does not** reach surface water, a drainage channel, or a municipal separate storm drain system unless fully recovered and disposed of properly.

Category 3: All other discharges of untreated or partially treated wastewater resulting from an enrollee's sanitary system failure or flow condition.

Private Lateral Sewer Discharge: Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned lateral connected to the enrollee's sanitary sewer system or from other private sewer assets. The district is not responsible for reporting these types of spills or maintaining these sewer pipes (CSD Ord. No. 26).

SSMP (Sewer System Management Plan) - This plan is different from the Sewer System Master Plan. The management plan preparation was originally required by the SWRCB Order No. 2006-0003, and superceded

by SWRCB Order No. 2022-0103-DWQ State General Waste Discharge Requirements for Sanitary Sewer Systems (WDR or GWDR).

Sanitary Sewer System - A system of pipes, pump stations, sewer lines or other conveyances upstream of the Wastewater Treatment Plant, used to collect and transport wastewater to the publicly owned treatment works.

SWRCB or State Board (State Water Resources Control Board) - The State agency that developed and passed the GWDR (WDR) for collection systems.

WDR - Waste Discharge Requirements

WRF - Water Reclamation Facility

WRRF - Water Resource Recovery Facility