

# Crestline Sanitation District

## Sewer System Management Plan



Respectfully submitted by:



Integrated Resource Management, LLC

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## ABBREVIATIONS

|          |   |
|----------|---|
| CCTV     | closed circuit television   |
| CIP      | capital improvement plan  |
| CIWQS    | California Integrated Water Quality System                                |
| CMMS     | Comprehensive Maintenance Management System                               |
| County   | San Bernardino County   |
| CWEA     | California Water Environment Association                                  |
| CWWTP    | Cleghorn Wastewater Treatment Plant                                       |
| District | Crestline Sanitation District   |
| FOG      | fats, oils, and grease  |
| FY       | fiscal year   |
| GIS      | geographic information system   |
| HCWWTP   | Huston Creek Wastewater Treatment Plant                                   |
| I/I      | infiltration and inflow   |
| KPI      | key performance indicators  |
| LRO      | Legally Responsible Official  |
| NASSCO   | National Association of Sewer Service Companies                           |
| NPDES    | National Pollutant Discharge Elimination System                           |
| O&M      | operations and maintenance  |
| OES      | State Office of Emergency Services  |
| OERP     | Overflow Emergency Response Plan  |
| PACP     | Pipeline Assessment and Certification Program                             |
| PM       | preventative maintenance  |
| PVC      | polyvinyl chloride  |
| SBC DPH  | San Bernardino County Department of Public Health                         |
| SCADA    | Supervisory Control and Data Acquisition System                           |
| SCWWTP   | Seeley Creek Wastewater Treatment Plant                                   |
| SECAP    | System Evaluation and Capacity Assurance Plan                             |
| SSO      | sanitary sewer overflow   |
| SSMP     | Sewer System Management Plan  |
| SWRCB    | State Water Resources Control Board                                       |
| WDR      | Statewide General Waste Discharge Requirements for Sanitary Sewer Systems |



# 1.0 INTRODUCTION & BACKGROUND

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## 1.1 Background

This Sewer System Management Plan (SSMP) has been prepared in compliance with the State Water Resources Control Board (SWRCB) Order 2006-0003: Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR), as revised by Order No. WQ 2008-0002.EXEC on February 20, 2008. The WDR prohibits sanitary sewer overflows (SSOs). If an SSO should occur, WDR requires the event be reported using the statewide electronic reporting system.

This SSMP is generally consistent with state- and federally-mandated plans. It includes a sewer inspection and cleaning program; a fats, oils, and grease (FOG) inspection methodology and frequency; a capital replacement and rehabilitation program; and customer outreach and rate management in accordance with asset management principles and generally accepted industry practice. This SSMP has been prepared by the Crestline Sanitation District (District) with assistance from Integrated Resource Management, LLC. The SSMP should be updated annually or as needed to reflect changes to the SSMP elements.

## 1.2 Organization of SSMP

The structure of this document follows the section numbering and nomenclature specified in the WDR.

The District's SSMP includes 14 sections, as follows:

1. Introduction and Background
2. How to Use this Manual and Pull-out Sections
3. Statement of Goals
4. Organization
5. Legal Authority
6. Sewer Overflow / Emergency Response Plan
7. Fats, Oils, and Grease (FOG) Control Program
8. Measures and Activities
9. Design and Construction Standards
10. Capacity Management
11. Monitoring, Measurement, and Indicators
12. SSMP Audits
13. Communication Plan
14. Appendices



### 1.3 System Overview

On October 1, 2010 the District took over operation and maintenance of the wastewater collection system from San Bernardino County Special Districts Department (Special Districts). The District now owns, operates, and maintains its own wastewater collection system. The District is located 30 miles northeast of San Bernardino in the western mountain region of San Bernardino County. The District's population is roughly 10,200 persons. The District is located in a mountain climate. The District and its water purveyors currently rely mostly on imported water, which is transported from other parts of the state through the California Aqueduct as part of the State Water Project, and groundwater wells.

As shown in Figure 1-1, the District's planning area (sphere of influence) encompasses approximately 13 square miles. The District's service area is approximately ten square miles. The Crestline Sanitation District operates and maintains the wastewater collection system within the District's service area. Areas outside of the District's service area but within the District's planning area are considered San Bernardino County (County) property. These County areas are under County standards and rules until incorporated by the District.

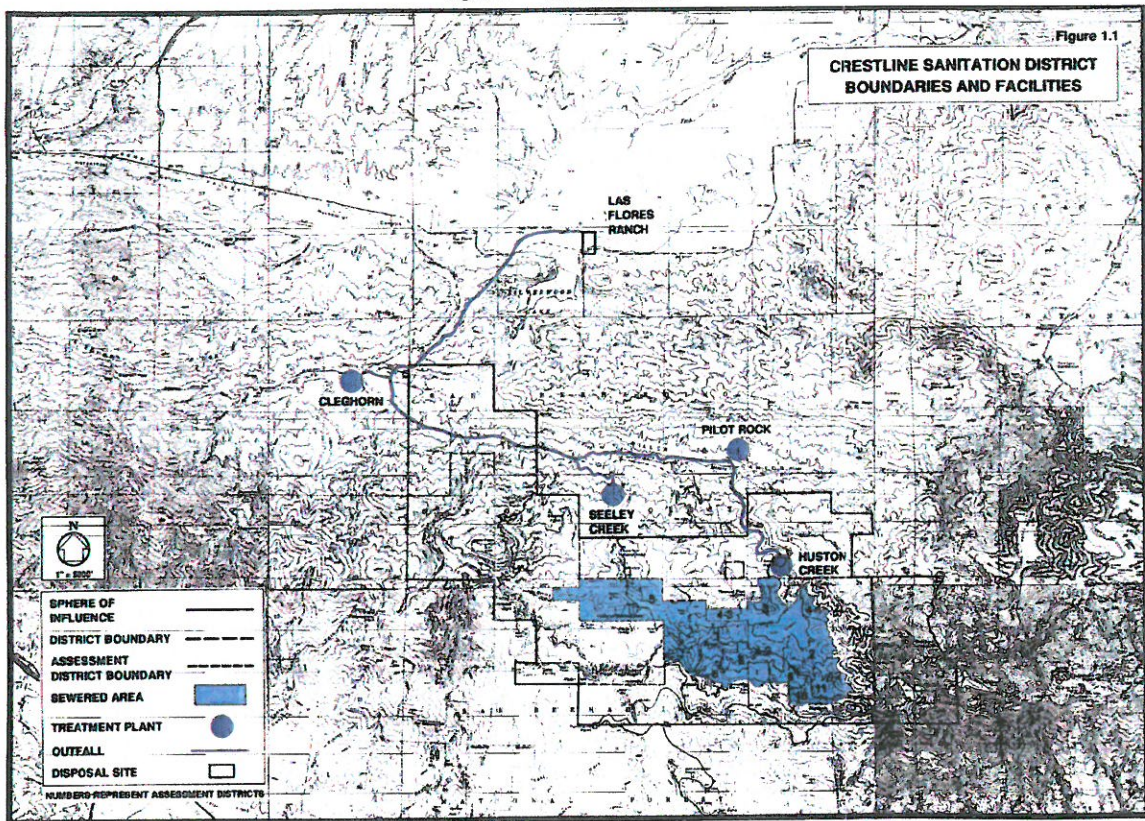
The District's service area varies greatly in elevation. As a result, there is moderate potential for SSOs, because there is little storage capacity in the collection system compared to systems with flatter terrain. In steeper systems, such as at Crestline, there is less storage capacity in the system, increasing the likelihood of a sewer overflow.

Sewage is discharged to one of three treatment plants via separate collection systems. The majority of this sewage is sent to Huston Creek Wastewater Treatment Plant (HCWWTP), with the balance sent to Seeley Creek Wastewater Treatment Plant (SCWWTP). The Cleghorn Wastewater Treatment Plant (CWWTP) is the smallest plant serving the needs of the California Department of Parks and Recreation campgrounds at Lake Silverwood. There are also approximately 1,000 septic tanks identified in the District's billing inventory.

Drainage generally flows west and north through the main portion of Crestline into Lake Gregory and Huston Creek. This creek typically runs continuously, although its level drops during the summer months. It also receives stormwater flows in the wet and winter months. Huston Creek ultimately discharges into the Lake Silverwood reservoir. In the southwest portion of the service area, drainage generally flows north and west toward Seeley Creek. Seeley Creek drains to the north into the Lake Silverwood watershed.

The District's entire sewer system consists of about 76 miles of pipe and approximately 2,200 manholes. The majority of gravity pipe (about 95%) is eight inches in diameter, built before 1980 and is more than 30 years in age. Approximately 50% of the sewer main is in easements on mountain slopes.

Figure 1-1 District Planning Area





## **2.0 HOW TO USE THIS MANUAL AND PULL-OUT SECTIONS**

### **2.1 Sewer System Management Plan - General Policy Statement**

The community and employees of the District are entitled to a safe and healthy environment. It is the intent of the District to provide this environment, and, in the process, to comply with the laws, rules, and regulations of federal, state, and local governments regarding practices for sewage collection system management and maintenance. Faithfully accomplishing these goals will also reduce the District's exposure to public liability or property damage losses.

The Board of Directors recognizes the importance of a well managed and maintained system to prevent sanitary sewer overflows and excessive flow to the treatment plants. The training, development, and motivation of employees are critical to this effort. Their team skills, technical knowledge, and robust training are essential to the operation of the District. As the District's "most important resource," employees deserve the District's best effort to provide a safe and healthful place to work. The District management and supervisory staff have been charged with the responsibility to develop and implement those programs necessary for compliance with this policy.

The policies and practices set forth in this manual provide a foundation for the Sewer System Management Plan required by the State Water Resources Control Board. The accountability of management and employees is fundamental to the basic goals of an effective SSMP. The District's management shall direct the enforcement of regulations with emphasis on proactive SSO incident prevention rather than after-the-fact SSO incident investigation. Further, SSO incident investigations shall seek to determine reasons for failings rather than simply account for the failures themselves. The overall SSMP initiative offers opportunities for employees to improve performance of the collection and treatment systems through constructive criticism and employee-management interaction.

The safety and well being of the natural environment and the community within the District is of vital importance. Therefore, this statement of policy has been issued to emphasize the need for the General Manager, Supervisors, and every employee to together accept full responsibility for system management, and to perform their responsibilities in a manner that will most reliably assure proper operation and maintenance of the sewage collection system.

This version of the SSMP is not to be considered all-inclusive and/or static. The environmental and technical regulations may be expanded, supplemented, and modified from time to time by the General Manager to conform to the most recent legislation or District requirements. Minor modifications not requiring a rewrite of the Resolution will be included in the District SSMP, which is developed by the Operations Manager and General Manager.



## **2.2 Purpose of the Manual**

This manual has been prepared to provide a framework and guide for all District employees in managing and maintaining the sewage collection system. These requirements cover a broad range of complex activities, including proper inspection and cleaning of sewer lines and pump stations; reporting, containing, and investigating SSOs; and ensuring that employees take proper precautions when performing routine work assignments. To meet this responsibility, all employees must be aware of the purpose and responsibilities associated with the work they assign and/or perform. All employees must be familiar with all the materials, conditions, equipment, and activities under their supervision, that relate to prevention and correction of SSO conditions.

This manual is part of the District's commitment to providing quality support services to ensure a safe working environment. The manual is a reference tool and training guide for identifying regulatory requirements, District policies, and instructional procedures that apply to specific District activities.

## **2.3 Elements of the Manual**

The District, like other public agencies, is subject to various federal, state, and local regulations, many of which require the preparation and upkeep of written programs and procedures.

This manual consists of many written programs and procedures that comply with a broad variety of environmental and public health regulations. The programs incorporated into this manual are designed to communicate District policy, regulatory requirements, and responsibilities in a manner that both provides very specific procedures and promotes a broad understanding of overarching subjects. The procedures are designed to provide District personnel with specific instructions on how to carry out particular activities or job duties, with the intent to ensure that the programs are implemented effectively. By presenting both programs and procedures, the District aims to effectively manage the sewage collection system and relay safety, public health, and environmental information to managers, supervisors, and employees.

## **2.4 Process for Updating the Manual**

Developing programs and procedures is a continuous joint effort among District staff, management, and legal counsel. The process for developing programs and procedures involves four major steps, listed below, that will be coordinated in an ongoing manner by District management staff.

### **2.4.1 Identification**

The first step in developing programs and procedures is identifying what is needed to comply with regulatory and District requirements. Identification is accomplished primarily by District management's analysis of laws and regulations, audit results, self-review, and applicable industry standards. Additionally, input from the District's legal counsel may result in a determination that a new and modified program or procedure is required.

Once the needs have been determined, the District will develop and authorize and a work plan for completing the required programs and procedures.



## **2.4.2 Development**

Each program and procedure will be developed in draft by District staff or a qualified consultant retained by the District. A program may require any number of procedures to ensure compliance.

## **2.4.3 Input**

Input is obtained from legal counsel, management, employees, and employee representatives. This assures that programs and procedures accurately address conditions within the District and that disruption of current District operations is minimized.

Once a program or procedure has been completed in draft, it will be forwarded to all contact persons and legal counsel designated by District management for review and comment. Contact persons will provide comments back to District management. All comments will be reviewed for incorporation into the current draft. If requested, a meeting may be set up to discuss important comments prior to finalization.

In coordination with contact persons and supervisors, a final draft will be produced and circulated for signing and issuance by the Operations Manager and General Manager and acknowledgement by signature of all affected employees.

## **2.4.4 Updating**

The District is responsible for ensuring that the programs and procedures remain consistent with regulatory and District requirements. The programs and procedures contained in the SSMP manual will be routinely reviewed, revised, and updated as required by new or amended laws and regulations. The programs and procedures will also be reviewed as part of a routine annual SSMP audit to evaluate the effectiveness of the program implementation, support training, and management programs.

## **2.5 Responsibilities**

### **2.5.1 District Management**

The Operations Manager and Maintenance Worker III are responsible for the following:

1. Identifying and prioritizing program and procedure needs based on laws, regulations, field conditions and activities, and input from affected sections.
2. Developing, with input from affected departments, applicable programs and procedures for inclusion in the manual.
3. Maintaining the manual.
4. Providing support services to affected departments and employees to assist in implementing the requirements contained within the manual.

### **2.5.2 Affected Departments**

Supervisors of the affected sections are responsible for the following:

1. Using the manual to identify the programs and procedures that are applicable to their activity or operation, based on conditions associated with work under their purview or other legal requirements.
2. Implementing the necessary steps to ensure that employees adhere to the requirements of the programs and procedures.
3. Incorporating the procedures into existing District operating standards to ensure that employees are provided with a comprehensive understanding of their responsibilities on the job.

### **2.5.3 All District Employees**

All District employees, and contract workers under direct supervision of District personnel, are responsible for adhering to the requirements of the programs and procedures established in the SSMP manual as they relate to their job duties.

## **3.0 STATEMENT OF GOALS**

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### **3.1 General/Overview**

To reduce and prevent SSOs, as well as to mitigate any SSOs that do occur, the District's SSMP focuses on plans and schedules to properly manage, operate, and maintain all parts of the sanitary sewer system.

1. Properly manage, operate, and maintain all parts of the wastewater collection system to provide reliable and virtually uninterrupted service.
2. Provide adequate capacity to convey peak flows and reduce annual inflow and infiltration in the collection system.
3. Take all feasible steps to eliminate or reduce SSOs to less than five per year, declining over time to zero.
4. Mitigate the impact of SSOs by using safe, practical, and effective methods.
5. Continue the operations and maintenance (O&M) training for all field crew and stand-by personnel who are involved in responding to Sewer System Overflows.
6. Perform a system-wide cleaning and inspection of all sewers and manholes every five years.

### **3.2 Inspection and Cleaning**

The system maintenance has established a goal to inspect and clean appropriate sections every five years. This will allow employees to identify and prioritize needed repairs and replacement of sewers and manholes, lateral connections with problems, and areas prone to infiltration.

### **3.3 Equipment Upgrades/Additions**

Equipment for flushing, cleaning, root removal, television inspection and recording, pressure testing and sealing, and smoke testing will be evaluated for current needs, increase in use, and effectiveness.

### **3.4 Hot-Spot Achievement**

With this aging system, the District has performed past system evaluations and surveys. These have resulted in identification of high priority infiltration and inflow (I/I) areas, primarily but not exclusively in Improvement District 1. Many of the identified areas, listed in Section 8, have been repaired. Ongoing efforts with inflow will be reported in the next audit.

### **3.5 Priority Repair/Replacement**

Currently, priority repairs and replacement are performed on an as-needed basis. This will continue, but it will also be improved with the plan noted in Subsection 3.6 below.



### **3.6 Line Replacement/Rehabilitation/Slip Lining**

With most of the system over 30 years old, of which 20% is over 50 years old, the District will update its evaluation, replacement, slip-lining, and funding program over the next two years. The annual audit will report the status of this effort.

### **3.7 Lift Station Upgrade/Rehabilitation**

The District has two primary pump stations and one small pump station that serves three residences. The Lake Gregory facility, a primary station, has recently been upgraded; the Forest Shade station has been upgraded in 2011.

### **3.8 FOG/Root Control**

The District's FOG program, described in Section 7, has proven effective and will be continued. The root-control program continues to be challenging and will be improved with the equipment upgrade as well as with increased inspections and cleaning, as were previously discussed.



## 4.0 ORGANIZATION

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This section of the SSMP identifies District staff responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the authorized representative to meet SWRCB requirements for completing and certifying spill reports.

### 4.1 Regulatory Requirements for Organization Element

The requirements for the organization element of the SSMP are summarized below. The SSMP must identify:

1. The name of the responsible or authorized representative;
2. The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The document must include lines of authority as shown in an organization chart or similar document with a narrative explanation; and
3. The chain of communication for reporting SSOs. This chain begins at the point of receipt of a complaint or other information, and it includes everyone from the person responsible for reporting SSOs to the State and Regional Water Board and other agencies, if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

### 4.2 Legally Responsible Official

The District's Legally Responsible Official (LRO), having overall responsibility for wastewater collection system matters, is the General Manager in concert with designated maintenance and operations staff as discussed below. The LRO's responsibilities include, but are not limited to, signing and certification of all reports and correspondence as required under the Order.

The Operations Manager has been designated as the individual with overall responsibility for the implementation of the District's SSMP. The names and telephone numbers for the management, administrative, and maintenance staff responsible for implementing specific measures of the risk-based SSMP are provided in Appendix B.

To ensure efficiency and expediency in meeting the General Waste Discharge Requirements (WDR), the following District staff have all been delegated LROs, Authorized Representatives having responsibility for the day-to-day operation of the District's wastewater collection system and associated documentation and reporting requirements, including but not limited to verbal notification as well as electronic and written reporting to the San Bernardino County Department of Public Health (SBC DPH), Regional Water Quality Control Board (RWQCB), SWRCB, and OES:

- General Manager
- Operations Manager
- Maintenance Worker III

Due to the role of the On-Call Duty-Phone Personnel as first responder in the event of an SSO, this employee is authorized to act as the Authorized Representative in the absence of the Sanitary Sewer Maintenance Worker III. Such responsibility includes meeting wastewater collection system documentation and reporting requirements including, but not limited to, verbal notification as well as electronic and written reporting to the SBC DPH, RWQCB, SWRCB, and OES.

#### **4.3 Responsibility for SSMP Development, Implementation, and Maintenance**

The General Manager has the ultimate responsibility for development, implementation, and maintenance of all elements of the District's SSMP. The responsibility for day-to-day implementation and maintenance of the each of the District's SSMP elements has been delegated to District staff.

The Operations Manager plans, organizes, and directs field activities and associated budgets for the District. This includes advising District management and the District Board on matters including those related to the wastewater collection system. It is the responsibility of District Board and legal counsel to establish and amend resolution and policies governing municipal operations through recommendations by District management. This includes resolution and policies related to the wastewater collection system. The General Manager is responsible for updating the Goals, Organization, Legal Authority, Program Audits, and the Communication Program sections of the SSMP.

The Maintenance Worker III has responsibility for day-to-day development, implementation, and maintenance of the District's O&M program and reports results to the Operations Manager. The Maintenance Worker III is also responsible for the design and implementation of the FOG Control Program.

The Maintenance Worker III is responsible for developing and implementing the District's Overflow Emergency Response Plan as well as responding to SSOs.

The Maintenance Worker III is responsible for monitoring, measurement, and program modifications to the SSMP, and, in turn, works with other maintenance staff as necessary to accomplish these tasks.

#### **4.4 Organization Chart**

The Crestline Sanitation District organization chart identifying lines of authority and staff responsible for management, operation, and maintenance of District utilities including the wastewater collection system is provided in Appendix 4-B.

#### **4.5 SSO Reporting Chain of Communication**

The SSO reporting chain of communication follows the typical flow of information depicted in Table 4-1. The SSO reporting process and responsibilities are described in greater detail in Chapter 6 – Sewer Overflow/Emergency Response Plan.



**Table 4-1: SSO Reporting Chain of Communication Overview**

| <b>SSMP Element</b>                                    | <b>Legally Responsible Official</b> | <b>Name</b>   | <b>Work Phone Number</b> | <b>Personal Phone Number (Cell)<br/>(1)</b> |
|--|-------------------------------------|---------------|--------------------------|---|
| 1 – Goal   | General Manager                     | Rick Dever    | (909) 338-1751           | (909) 289-4463                              |
| 2 – Organization                                       | Operations Manager                  | Ron Scriven   | (909) 338-1751           | (909) 723-3075                              |
| 3 – Legal Authority                                    | General Manager                     | Rick Dever    | (909) 338-1751           | (909) 289-4463                              |
| 4 – O&M Program  | Operations Manager                  | Ron Scriven   | (909) 338-1751           | (909) 723-3075                              |
| 5 – Design & Performance Provisions                    | Operations Manager                  | Ron Scriven   | (909) 338-1751           | (909) 723-3075                              |
| 6 – Overflow Emergency Response                        | Maintenance Worker III              | Dave Crabtree | (909) 338-1751           | (909) 961-7594                              |
| 7 – FOG Control Program                                | Maintenance Worker III              | Dave Crabtree | (909) 338-1751           | (909) 961-7594                              |
| 8 – System Evaluation Assurance Plan                   | Operations Manager                  | Ron Scriven   | (909) 338-1751           | (909) 723-3075                              |
| 9 – Monitoring, Measurement, and Program Modifications | Operations Manager                  | Ron Scriven   | (909) 338-1751           | (909) 723-3075                              |
| 10 – SSMP Program Audits                               | Operations Manager                  | Ron Scriven   | (909) 338-1751           | (909) 723-3075                              |
| 11 – Communication                                     | General Manager                     | Rick Dever    | (909) 338-1751           | (909) 289-4463                              |

Footnote: (1) Personal phone numbers are on file at District Hall and available to Crestline Sewer Maintenance District staff.

## 5.0 LEGAL AUTHORITY

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

### 5.1 Regulatory Requirements for the Legal Authority Element

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

1. The District must demonstrate, through collection system use resolutions, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:
  - a. Prevent illicit discharges into its wastewater collection system (e.g. infiltration and inflow (I/I), stormwater, chemical dumping, unauthorized debris and cut roots, etc.);
  - b. Require that sewers and connections be properly designed and constructed;
  - c. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District;
  - d. Limit the discharge of fats, oils, grease, and other debris that may cause blockages; and
  - e. Enforce any violation of its sewer resolutions.

### 5.2 District Sewer-Use Resolution

District Resolution No. 3 adopts rules and regulations for sewer service; District Resolution No. 4 adopts an ordinance for sewer service regulating the use and construction of public wastewater facilities. According to the Resolutions, the District is responsible for administering, implementing, and enforcing the provisions that are applicable to the sewer system. The Resolutions state the requirements and guidelines applicable to sanitary facility construction and maintenance within the District Boundaries. The Resolutions also establish charges for services and provide a method for the collection of charges. Copies of the Resolutions are included as Appendices C and D.

#### 5.2.1 Prevention of Illicit Discharges

Resolution No. 3 prohibits the unauthorized discharge of rain, surface, or subsurface water into the collection system. The illegal dumping of offensive or damaging substances such as chemicals, debris, etc., which are considered inflows, are also prohibited. In addition, property owners are responsible for maintenance of their house laterals, including the elimination of cracks, tree roots, and other debris.



## **5.2.2 Proper Design and Construction of Sewers and Connections**

Resolution No. 4 establishes the legal authority for the District to require new developments and/or sewer connections to the public sewer be designed, constructed, and inspected according to defined standards for all infrastructure. In addition, the Resolution also requires that the design, construction, and inspection of building laterals and on-site facilities be in conformity with requirements. All new construction plans are required to be submitted to the District for review and approval prior to construction. District staff inspects and ensure conformance with approved plans prior to construction.

## **5.2.3 Lateral Maintenance**

Resolution No. 3 specifies all house laterals, industrial connection sewers, and appurtenances thereto shall be maintained by the owner of the property.

The property owner is responsible for laterals; however, under Resolution No.3, the District may inspect, as often as deemed necessary, every main-line sewer, industrial sewer connection, interceptor, or other similar appurtenance to ascertain whether such facilities are maintained and operated in accordance with the provisions of this resolution. All persons shall permit and provide the District with access to all such facilities at reasonable times. Existing building sewers and building drains may be used in connection with new buildings or new plumbing and drainage work only when they are found on examination and test to conform in all respects to the requirements governing new work.

## **5.2.4 FOG and Other Debris Blockages**

Sanitary Sewer Overflow Prevention Provisions (referencing California Plumbing Code Chapter 10, Section 1009, 1014, and 1015) give the General Manager the authority to require the installation of treatment facilities, including grease interceptors, at any facility that generates FOG in the amount that will damage or increase the maintenance costs of the sewer collection system.

Resolution No. 3 prohibits the discharge of FOG and other substances that may, among other things, clog, obstruct, fill, or necessitate frequent repairs, cleaning, or flushing of sewer facilities in the system.

The Resolution gives the General Manager or designee the legal authority to inspect main-line sewers, interceptors, etc. as often as he deems necessary to ascertain whether such facilities are maintained and operated in accordance with the District standards.

## **5.2.5 Enforcement Measures**

Resolution No. 4 empowers the District through the O&M Supervisor or the Maintenance Supervisor or their designees to enforce all requirements of this Ordinance; Violations, Enforcement, and Policing are contained in this Ordinance.

## **6.0 SEWER OVERFLOW/EMERGENCY RESPONSE PLAN**

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The purpose of the Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to SSOs. This plan provides guidelines for District to follow when reporting, responding to, and cleaning up SSOs that may occur within the District's service area.

### **6.1 Regulatory Requirements**

#### **6.1.1 WDR Requirements for the Overflow Emergency Response Plan**

The District 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:

1. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
2. A program to ensure appropriate responses to all overflows;
3. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the state in accordance with the monitoring and reporting program. All SSOs shall be reported in accordance with this MRP, the California Water Code, other state law, and applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification;
4. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
5. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
6. A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

### **6.2 Goals of the Overflow Emergency Response Plan**

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

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Contain the spilled wastewater to the extent feasible;



- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Minimize public and environmental contact with the spilled wastewater;
- Mitigate the impact of the SSO; and
- Meet the regulatory reporting requirements.

### **6.3 SSO Detection**

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

#### **6.3.1 Public Observation and Emergency Communications**

Public observation is the most common way that the District is notified of blockages and spills. Contact information for reporting sewer spills and backups is in the phone book and on the District's website at [www.CrestlineSanitation.com](http://www.CrestlineSanitation.com).

##### **6.3.1.1 Normal Work Hours**

The District's normal working hours are Monday through Friday from 8:00 a.m. to 4:30 p.m., except holidays. When a report of a sewer spill or backup is made, the District's Maintenance Center staff receives the call, takes the information from the caller, and communicates it to the Sanitary Sewer Maintenance Worker III, who responds to the site and/or dispatches a field crew. Emergency calls received by Fire or Police Department Dispatch, 911 Emergency, or the District Main Office are routed to the District's Maintenance Center.

##### **6.3.1.2 After Hours**

All after-hours emergency calls to the District's Main Office are routed to a pager. This calls out the District's On-Call Duty Personnel, who responds to the site and investigates the SSO.

The home and/or cell telephone numbers of all District staff are on file and available for use in contacting them during emergencies.

A list of contact information related to sewage spill response for neighboring and downstream agencies is provided in Appendix B. Information from the emergency call is recorded on the Sanitary Sewer Problem Report Form.

#### **6.3.2 Lift Station Alarms**

The District's lift stations are equipped with an alarm system and telemetry which are integrated with other system wide telemetry as indicated in the Block Diagram (Figure 6-1, at the end of this section).



The telemetry equipment detects and sends alarms in response to pump failures, high and low wet well levels, and power outages. The alarms are transmitted to the District office and then to the Verbatim Auto Dialer. After-hour calls are also directed to the auto dialer. The dialer via telephone then contacts the on-call person's pager with a voice message. Figure 6-2 (located at the end of this section) illustrates the telemetry system.

### **6.3.3 District Staff Observation**

District staff conducts periodic inspections of wastewater collection system facilities as part of their routine activities. Any problems noted with the wastewater collection system facilities are reported to the Sanitary Sewer Maintenance Worker III, who responds to emergency situations. Work orders are issued by the Maintenance Worker III to correct non-emergency conditions.

## **6.4 SSO Response Procedures**

Sewer service calls and lift station alarms are considered high priority events that demand a prompt response to the location of the problem. Upon notification of a sewer overflow, the Sanitary Sewer Collection System Supervisor and/or On-Call Duty-Phone personnel shall be dispatched within 15 minutes of the notification to attend to the emergency call.

### **6.4.1 Safety**

The Sanitary Sewer Maintenance Worker III or On-Call Duty-Phone personnel, as first responder, is responsible for following District safety procedures at all times.

There may be times when District personnel responding to a wastewater collection system event are not familiar with potential safety hazards peculiar to sewer work. The District will provide training courses for all maintenance workers to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

#### **6.4.1.1 Hazardous Material Spills**

On occasion, the Sanitary Sewer Maintenance Worker III or On-Call Duty-Phone personnel may encounter a sewer spill that involves hazardous materials. In those instances, or in any instance where there is a reasonable doubt, they should immediately contact the Maintenance Worker III or Operations Manager, as well as the Fire Department, for special instructions. Sanitary Sewer Maintenance Worker III or On-Call Duty-Phone Personnel will remain on site and provide assistance to the hazardous materials response team. The types of assistance to be provided include traffic control, plugging storm drains from a safe distance, and shutting down lift stations.

#### **6.4.2 Sanitary Sewer Maintenance Worker III or On-Call Personnel Priorities**

The priorities of the Maintenance Worker III and/or On-Call Duty-Phone Personnel, as the first person to respond to the call, are:

- To follow safe work practices;
- To contact the reporting party and collect as much information as possible;
- To respond promptly with appropriate equipment;
- To contain the spill wherever feasible;
- To restore the flow as soon as practicable;

- To minimize public access to and/or contact with the spilled sewage;
- To promptly notify the Maintenance Supervisor and General Manager in the event of a major SSO;
- To return the spilled sewage to the wastewater collection system; and
- To restore the area to its original condition (or as close as possible).

Figure 6-1 Simplified Telemetry System Block Diagram

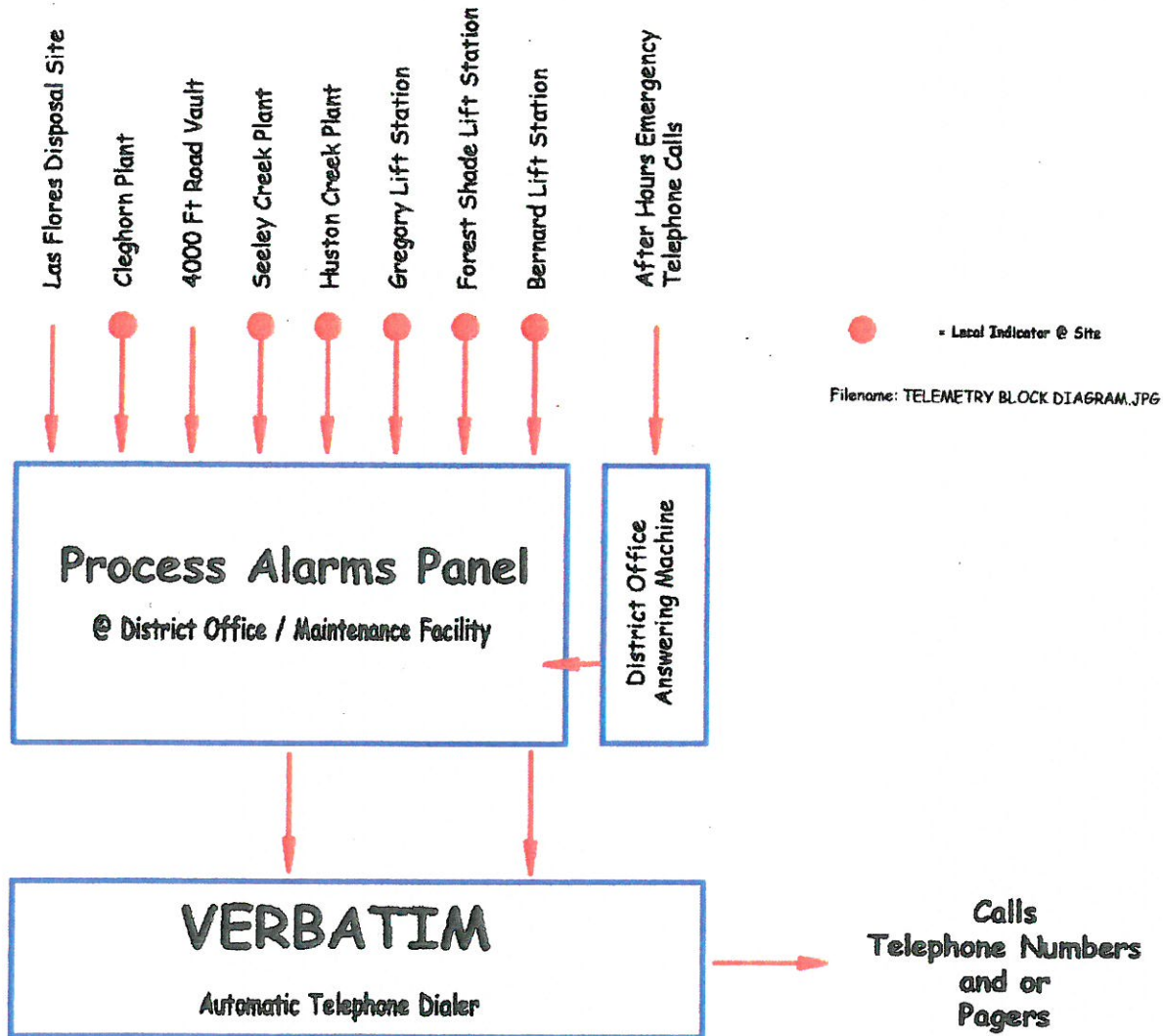
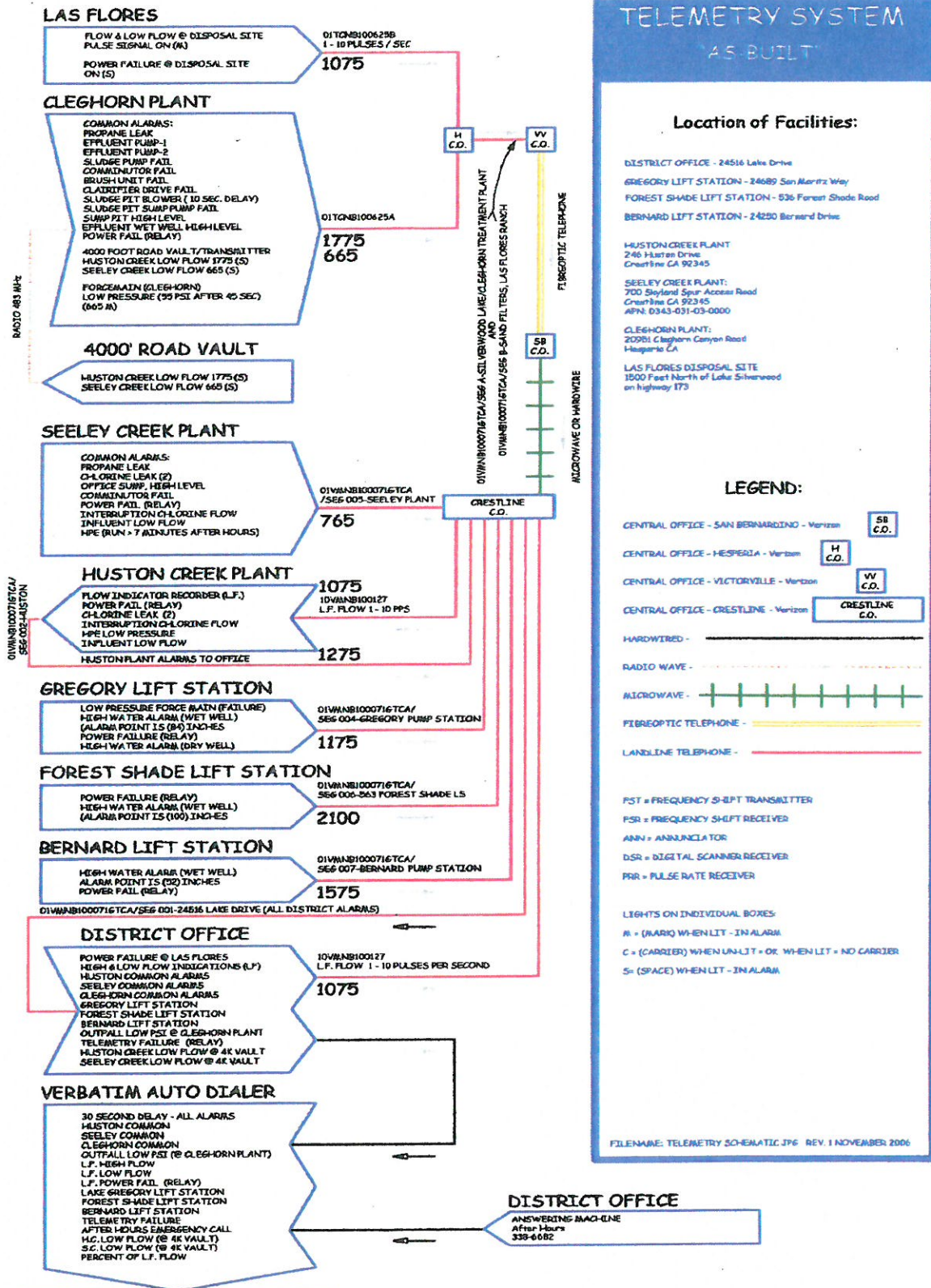




Figure 6-2 Telemetry System – As Built Diagram





## **7.0 FATS, OIL AND GREASE (FOG) CONTROL PROGRAM**

This section of the SSMP presents the extent and nature of SSOs related to fats, oils, and grease (FOG) and the need for a FOG control program.

### **7.1 Regulatory Requirements for the FOG Control Program Element**

Fats, oils, and grease are discharged to sanitary sewer systems by residential users, food handling facilities, and other commercial and industrial establishments. Commonly, FOG can cause pipe blockages leading to SSOs.

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

To control FOG, the District has established a FOG control program, which includes:

1. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
2. 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;
3. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
4. Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping, and reporting requirements;
5. Authority to inspect grease producing facilities, enforcement authorities, and determination of whether the collection system district has sufficient staff to inspect and enforce the FOG ordinance;
6. An identification of sewer system sections subject to FOG blockages and the establishment of a cleaning maintenance schedule for each section; and
7. Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified in (6) above.

### **7.2 Nature and Extent of FOG Issues**

The District has not reported any FOG-related SSOs using CIWQS. Based on this data, it can be concluded that Crestline does not have a FOG problem.

#### **7.2.1 Commercial FOG Source Control**



Currently there are 12 Food Service Establishments (FSEs) in the District's service area. Only one of these FSEs has approved grease removal equipment. None of these FSEs is currently exempt, permanently or temporarily, from owning and maintaining grease removal equipment. Most are small producers of grease and use manual removal into containers for disposal.

The District conducts annual CCTV inspections of FSE laterals and regular inspections of large interceptors. Further, the District visits FSEs annually to review maintenance, training, and records compliance.

If an FSE is not in compliance with the sewer ordinance, a notice of non-compliance is given. Non-compliance will result in additional inspections and associated inspection and testing fees as needed until the violation is corrected.

Currently, there is one primary employee responsible for the support of FOG compliance. The primary FOG compliance employee spends approximately 10% of his time on FOG-related issues.

The District has concluded that there is adequate local capacity to dispose of grease from small commercial sources within the District at this time. Larger capacity grease interceptors require commercial cleaning, and waste is typically hauled to waste disposal facilities.

In addition to source control, the District also focuses sewer cleaning activities in areas of known FOG sources. The goal of this effort is to prevent FOG accumulation from blocking the flow of wastewater and potentially causing a sanitary sewer overflow.

The District also leverages operational findings from cleaning, CCTV, or pump station maintenance. If a maintenance crew identifies an abnormal FOG accumulation in the pipe or wet well, they will notify the Operations Manager of the issue. The District has a FOG public education outreach program that promotes proper disposal of FOG.



## 8.0 MEASURES AND ACTIVITIES

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This section of the SSMP presents the District's wastewater collection system operations and maintenance (O&M) measures and activities program.

### 8.1 Regulatory Requirements for Measures and Activities - Operation and Maintenance Program Element

The summarized requirements for the Operations and Maintenance Program are:

1. Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments, manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;
2. 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;
3. 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 TV inspections of manholes and sewer pipes as well as 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;
4. Maintain an inventory of contingency equipment and spare/replacement parts intended to handle emergencies and minimize equipment/facility downtime.
5. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance and require contractors to be appropriately trained; and
6. Provide equipment and replacement part inventories, including identification of critical replacement parts.



## **8.2 Collection System Mapping**

The District uses sewer system maps (hard copies) and data sets associated with its wastewater collection system facilities for reference and logging services, repairs, and any changes or observations. Location of pipe and manhole inventory data, including length, diameter, material, elevations, and other information, are maintained on the maps. Mapping and associated data is accessible to District personnel. The District is considering an update to this system in the future to include electronic copies through AutoCAD, possibly with a GIS reference system, and adding street addresses to more accessible and detailed. This effort will be updated in the audit reports. The District's collection system is described and detailed in Section 9.0, Subsection 9.2.

### **8.2.1 Updates to Existing Drawings**

Field crews refer to hard copy maps. Maps are updated through manual written notes, inclusion of data and findings, and periodic graphic updates of master copies. Proposed corrections identified by field crews are communicated to the maintenance department for revisions to record maps. This results in updated record map pages that are issued to District personnel.

Hard-copy record drawings for Crestline's sewer mains, lift stations, and appurtenant facilities are available for viewing by the public at the District office. The District is considering an electronic system for future mapping and service records. The status of this will be included in the audit report.

### **8.2.2 New Improvement Plan Drawings**

Applicants are required to prepare and submit record drawings upon installation of newly constructed sewer mains and associated facilities. Drawings are to be submitted as hard copies. The master data set is updated with record drawing information and distributed to required personnel per District operating procedures.

## **8.3 Preventive Maintenance**

The elements of the District's wastewater collection system O&M program include proactive, preventive, and corrective maintenance of gravity sewers and periodic inspection and preventive maintenance of lift stations. The details of the District's O&M programs are described in this section. The table in Subsection 9.2 lists portions of the District's sewer system by Assessment District, year constructed, connections, and pipe material.

### **8.3.1 Gravity Sewers**

The District plans to inspect every pipe segment in the wastewater collection system and clean appropriate sections at least once over the next five years. Pipes with historical maintenance issues are cleaned on a preventive maintenance schedule monthly. As the District begins to collect and analyze maintenance data collected during proactive and preventive cleaning, the frequency of sewer cleaning will be adjusted for optimal efficiency.

Gravity sewer maintenance is currently scheduled using lists of hotspot sewers and collection system maps for system-wide cleaning. The District will schedule and track sewer maintenance activities using the District's system. At a minimum, the District will use a paper-based work order system to record completed work. The District will maintain hard copies of completed work orders along with a database containing the maintenance history of sewer cleaning activities.

An important aspect of the District's sewer cleaning program is the recording of cleaning results for each manhole-to-manhole pipe segment using code-based standard results. These results provide the basis for the Maintenance Worker III to modify the frequency or method of cleaning for that pipe segment to reflect current field conditions. Follow-up video inspections and/or repairs are requested as needed by the Maintenance Worker III.

Once the initial cycle of wastewater collection system cleaning has been completed, the District will employ an asset management approach such that each asset will be periodically cleaned based on the frequency appropriate to maintaining reliable operation. This will result in a portion of the gravity sewers being maintained at a frequency greater than five years.

The District uses c

**Table 8-1: CCTV Inspection Frequencies**

| Condition                            | PACP* Structural Condition Grade | Inspection Frequency, Years         |
|--------------------------------------|----------------------------------|-------------------------------------|
| Excellent (no or minor defects)      | 0 or 1                           | 20                                  |
| Good (defects not yet deteriorating) | 2                                | 10                                  |
| Fair (moderate defects)              | 3                                | 7                                   |
| Poor (defects not yet deteriorating) | 4                                | 5                                   |
| Immediate Attention                  | 5                                | 1 (until repaired or rehabilitated) |

\* PACP refers to Pipeline Assessment and Certification Program, which is the District's standard for CCTV inspection.

The District may assess the condition of the manholes and other structures using District field crews and visual inspection methods during its system-wide sewer cleaning. The District's Maintenance Worker III will review approximately 3% of the CCTV inspection services of its wastewater collection system to evaluate the condition assessment. This review of the CCTV inspection work will also provide quality assurance/control of the field crew's performance.

The District uses contractors for major corrective maintenance on an as-needed basis, including during emergency events such as a structural deficiency resulting in a sewer stoppage or overflow. The Maintenance Worker III maintains a list of known structural deficiencies. The list is maintained in priority order. Urgent priority structural deficiencies that may cause an SSO are corrected as soon as possible.



### **8.3.2 Lift Stations**

The District performs all operation and maintenance of its lift stations. There are operational inspections twice a week and the wet well is cleaned periodically. Preventive maintenance for mechanical and electrical equipment is scheduled annually. Completed work is recorded using daily logs that are maintained by the Maintenance Worker III.

### **8.3.3 Force Mains**

The District is planning to evaluate its two force mains to determine an appropriate preventive maintenance and inspection program.

## **8.4 Rehabilitation and Replacement Plan**

The District's rehabilitation and replacement program is driven by the condition of its sewer system assets. The District's rehabilitation and replacement program is based on the initial condition assessment of gravity sewers and lift stations, which was conducted by the District during 2008.

### **8.4.1 Gravity Sewers**

The District's pipeline preventative operation and maintenance program includes a system-wide cleaning program and an accelerated cleaning program. The cleaning schedule is tracked in the District's Comprehensive Maintenance Management System (CMMS). For each cleaning, crews are required to document their findings in a sewer cleaning log. Crew findings are reviewed by the Maintenance Worker III to determine whether the cleaning frequency should be modified.

Repair and replacement projects are typically the result of observed deficiencies in the sanitary sewer system. The District uses CCTV to assess gravity sewer pipe deficiencies and has adopted the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) standards to perform these assessments. The District also regularly inspects the condition of manholes in the system. Pipeline inspections are scheduled in the District's CMMS every five years.

Pipes that are considered to be in good condition with no history of maintenance-related issues are placed on the system-wide cleaning program. Pipes that have a history of maintenance issues are placed on the District's accelerated cleaning program. Pipes on this program are cleaned every six months.

Future gravity sewer condition assessment will be based on CCTV inspection and the remaining gravity sewers that were not included in the 2009 CCTV Inspection Program will be inspected over the next five years at a rate of approximately 15 to 20 miles per year.

The District will re-evaluate its priorities for gravity sewer repair and rehabilitation projects following completion of each annual condition assessment. The District will address the highest priority repair and rehabilitation projects during subsequent annual capital improvement programs with the goal of completing the highest priority projects within appropriate timeframes.

## **8.4.2 Lift Stations**

The District maintains its lift stations in house. Each lift station has maintenance done as needed. The District will assess the condition of its lift stations and develop a plan to address any identified deficiencies.

As part of the preventative maintenance program, the District's crews visually assess the condition of assets within each lift station. Based on these assessments, crews will make recommendations for asset repair, rehabilitation, and replacement.

The District performs regular visual inspections along the force main alignment as part of their lift station maintenance program to check for signs of leakage or other potential problems.

## **8.5 Capital Improvement Program**

The sewer system rehabilitation and replacement projects will be included in the District's five-year capital improvement program (CIP). The annual expenditures for the District's CIP for wastewater collection system rehabilitation and replacement will be developed

The funds that support the capital improvement program come from the District's sewer fund. The sewer fund is an enterprise fund that includes sewer service charges, connection fees, development contribution fees, and interest. Sewer service charges are periodically reviewed and set based on identified capital improvement needs.

Currently, minor repair and replacement decisions for pipes, manholes, and lift stations are made by the operations group. More significant improvements that will likely require capital funding are reviewed by the General Manager and Operations Manager to determine the appropriate action and priority.

Beginning in 2011, the District will review the defects in the pipeline and either accept or modify the preliminary recommendations to make a final decision about sewer repairs, rehabilitation, and replacement.

## **8.6 Training Program**

### **8.6.1 District Staff**

The District uses a combination of on-the-job training, conferences, seminars, and other training opportunities to provide technical training for its wastewater collection system staff. Vendors provide training for new equipment. The Crestline Sanitation District budget includes funds for technical training.



**Table 8-7: Training Resources (Materials)**

| <b>Sponsor</b>                             | <b>Materials</b>                       | <b>Reference</b>                                       |
|--|--|--|
| California State University,<br>Sacramento | Videos, manuals, home study<br>courses | <a href="http://www.owp.csus.edu">www.owp.csus.edu</a> |

Other potential sources of training include the San Bernardino Chapter of the American Public Works Association and the Southern California Chapter of the Maintenance Superintendents Association. Individual training records are maintained by the Crestline Sewer Maintenance District and the District's Department of Human Resources using spreadsheets.

### **8.7 Equipment and Parts Inventory**

The District will consider the purchase of a trailer for its overflow emergency response program to centralize, store, and transport emergency response equipment and tools required to respond to a sewer overflow event. The trailer would be centralized and store bypass pumps, hoses, and other items to assist in containing and mitigating SSOs. Status of the decision will be reported in the next audit.

The District has determined that there are no critical replacement parts at this time in its sewer collection system. All lift stations can be bypassed if needed.

## 9.0 DESIGN AND CONSTRUCTION STANDARDS

This section of the SSMP discusses the District's use of established guidelines, standards, and specifications for design, construction, rehabilitation, repair, and inspection of sanitary sewer systems and appurtenances.

### 9.1 Regulatory Requirements for the Design and Performance Provisions Element

The requirements for the design and performance provisions element of the SSMP are summarized below:

1. 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
2. Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

### 9.2 Piping and Inventory, Catalog, and Specifications

The collection system piping inventory is in Table 9.1 below. As shown in the 2002 Master Plan Update, nearly all of the sewers were constructed at four different dates (1952, 1968, 1975, and 1977). In addition to the sewers listed, developers installed other sewers throughout the District, totaling about 15,000 feet. The total is about 399,320 feet (76 miles). There are over 2,200 manholes in the system.

Table 9-1: Piping Inventory

| Assessment District | Year Constructed | Number of Manholes | Sewer Length (feet) | Number of Available Connections | Pipe Material |
|---------------------|------------------|--------------------|---------------------|---------------------------------|---------------|
| AD-1                | 1952             | 580                | 77,712              | 1,665                           | VCP           |
| AD-2                | 1968             | 270                | 42,500,             | 556                             | ACP           |
| AD-3                | 1969             | 200                | 33,257              | 528                             | ACP           |
| AD-4                | 1968             | 159                | 37,643              | 555                             | VCP           |
| AD-5                | 1974             | 410                | 86,182              | 1,573                           | ACP           |
| AD-6                | 1975             | 133                | 26,000              | 397                             | VCP           |
| AD-8                | 1975             | 149                | 26,329              | 397                             | ABS           |
| AD-9                | 1977             | 82                 | 17,500              | 210                             | PVC           |
| AD-10               | 1977             | 70                 | 11,380              | 182                             | ABS           |
| AD-11               | 1977             | 61                 | 12,316              | 187                             | PVC           |
| AD-12               | 1977             | 76                 | 13,501              | 228                             | ABS           |
| Totals              |                  | 2,190              | 384,320             | 6,478                           |               |



While different materials were used, today PVC (SDR-26 or less) is the standard. Sewer mains are a minimum of eight inches in diameter, but six-inch pipe may be used for sewer mains with limited connections and slope conditions, subject to the Districts approval. In general, specifications are used from the *Standard Plans for Public Construction*.

### **9.3 Design Standards**

For lateral connections, District's Resolutions 3 and 4 address design standards for sewer service (connection and use to the public sewer system). For the District sewers, lift stations, and force mains, the *Standard Plans for Public Construction* guidelines apply. The District uses professional consultants on an as-needed basis for major or complex projects. All design is subject to District approval.

## 10.0 CAPACITY MANAGEMENT

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This section of the SSMP presents the District's System Evaluation and Capacity Assurance Plan (SECAP).

### 10.1 Regulatory Requirements for the System Evaluation and Capacity Assurance Plan Element

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

The District 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:

1. 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;
2. Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified in (1) above to establish appropriate design criteria;
3. 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, inflow and infiltration (I/I) reduction programs, increases and redundancy in pumping capacity, and/or storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
4. Schedule: The District shall develop a schedule of completion dates for all portions of the capital improvement program developed in (1)-(3) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14 of the WDR.

### 10.2 Capacity Evaluation

Although there have been no documented capacity-related SSOs in the District, a comprehensive capacity evaluation using a dynamic hydraulic model was performed to quantify flows and capacities in all major sewers under current and future flow conditions. This evaluation and its findings are documented in the report *Crestline Sanitation District, Master Plan Update, September 2002*.



### **10.3 Design Criteria**

In addition to the criteria used to evaluate the capacity of the existing sewers (as described in the preceding section), the District has separate criteria that it enforces for the design of all new sewers. The District Resolutions have established design standards that are used for the design of all new facilities. The engineering design guidelines adopted by reference in this Chapter include unit flow factors for the sizing of new sewer lines. Prior to approving new sewers, the District requires developers to perform a sewer area study that applies these criteria to confirm adequate capacity in all proposed sewers.

### **10.4 Capacity Enhancement Measures and Schedule**

The conclusions of the capacity evaluation and the required capacity enhancement measures will be documented in the Master Plan update.

The Master Plan will note locations where the capacity evaluation identified that existing sewers may need to be upsized or relieved in the future to accommodate projected upstream development.

This information will be considered when the District reviews sewer area studies of those developments to ensure that the developers are required to provide the needed capacity improvements.

## **11.0 MONITORING, MEASUREMENT, AND INDICATORS**

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This section of the SSMP presents the District's approach to monitoring, measurement, and program modifications.

The District will monitor the effectiveness of the SSMP on a regular basis and will update and modify the SSMP elements as appropriate to keep them current, accurate, and available for audit. The following describes the District's procedure for monitoring the effectiveness of the SSMP and the procedures used to minimize SSOs.

### **11.1 Regulatory Requirements for the Monitoring, Measurement, and Program Modifications Element**

The requirements for the monitoring, measurement, and program modifications element of the SSMP dictate that the District shall:

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

### **11.2 Performance Measures**

The District will track key performance indicators (KPIs) through cleaning logs and regularly-prepared reports. The indicators that the District will use to measure the performance of its wastewater collection system and the effectiveness of its SSMP are:

- SSO Rate (SSOs/25 miles/year);
- Number of SSOs for each cause (roots, grease, debris, pipe failure, capacity, lift station failures, and others);
- Median SSO volume (gallons);
- Percentage of SSOs greater than 100 gallons;
- Percentage of SSOs reported as Category 1;
- Percentage of sewage contained compared to total volume spilled; and
- Percentage of total spilled sewage discharged to surface water.

The District will use these KPIs to assist with completion of the annual SSMP program audit described in Element 12. The District will also continue to track additional information, such as customer complaints and length of pipe cleaned, to assist with evaluation of its SSMP effectiveness.



### 11.3 Historical Performance Data

The District has limited historical performance data at this time. The District has been reporting SSOs using CIWQS since January 2, 2007.

### 11.4 Baseline Performance

The baseline performance, which shows the performance of the District's wastewater collection prior to the implementation of the SSMP, is shown on Table 11-1.

Geospatial and trend analysis is not meaningful at this time due to the limited quantity of data available (less than one year's worth). Further analysis will be conducted in future years as additional data become available.

**Table 11-1: Baseline Performance (1/2/2007 – 1/26/2009)**

| Performance Indicator                             | Value                      |  |
|---|----------------------------|--|
| SSO Rate, SSOs/25 miles/year                      |                            |  |
| Primary Cause of SSOs                             | Roots                      |  |
|   | Grease                     |  |
|   | Debris                     |  |
|   | Pipe Failure               |  |
|   | Lift Station Failure       |  |
|   | Other                      |  |
|   | Median SSO Volume, gallons |  |
| Portion of SSOs >100 gallons                      |                            |  |
| Portion of SSOs Reported as Category 1            |                            |  |
| Portion of Spilled Sewage Contained and Recovered |                            |  |
| Portion of Spilled Sewage Entering Storm Drains   |                            |  |

Data Source: CIWQS

## **11.5 Performance Monitoring and Program Changes**

The District will evaluate the performance of its wastewater collection system at least annually using the performance measures identified in Section 11.2, Performance Measures, above. The District will update the data and analyses of performance measures at the time of the evaluation. The District may use other performance measures in its evaluation.

## **11.6 SSMP Updates**

The District will update its SSMP continuously during training sessions, with a major update at least every five years. The Second major update will be completed on or before September 1, 2020.

The District will determine the need to update its SSMP more frequently based on the results of the biannual audit and the performance of its sanitary sewer system. In the event that the District decides that an update is warranted, the process to complete the update will be identified at that time. The District will complete the update within one year following identification of the need for the update.

The District staff will seek approval from the District Board for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or minor procedural changes is delegated to the Maintenance Worker III.

The Board of Directors will certify that it has completed the biannual audit using CIWQS. Copies of the current SSMP document will be available to all interested parties at Crestline District Office, during normal business hours.



## 12.0 SSMP AUDITS

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

### 12.1 Regulatory Requirements for the SSMP Audits Element

The requirements for the SSMP audits element of the SSMP are that:

As part of the SSMP, the enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the District's compliance with the SSMP requirements identified in this subsection (D.13 of the WDR), including identification of any deficiencies in the SSMP and steps to correct them.

### 12.2 SSMP Audits

The District will audit its SSMP every two years. The audit will determine whether the SSMP meets the current requirements of the WDR, whether the SSMP reflects the District's current practices, and whether the District is following the SSMP. The first audit will be completed by May 1, 2011, and thereafter completed every two years no later than May of every odd-numbered year.

The audit will be conducted by a team consisting of District staff, other district personnel, and/or consultants or contractors from the surrounding area.

The scope of the audit will cover each of the sections of the SSMP. The SSMP Audit Checklist, based on the requirements in the WDR, will be used for the audit and will be included in the audit report.

The results of the audit will be included in the SSMP Audit Report. The SSMP Audit Report will focus on the effectiveness of the SSMP program, compliance with the WDR requirements, and identification of any deficiencies in the SSMP. The SSMP Audit Report will identify revisions that may be needed for a more effective program. Information collected as part of Section 11 – Monitoring, Measurement, and Indicators will be used in preparing the audit. Tables and figures or charts will be used to summarize information about performance indicators.

The District will certify that it has completed the biannual audit using CIWQS. Copies of the biannual audit reports will be retained by the District for five years.

## **13.0 COMMUNICATIONS PLAN**

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

### **13.1 Regulatory Requirement for the Communications Program**

The requirements for the Communications Program section of the SSMP are that the District shall:

1. Communicate on a regular basis with the public about the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the District as the program is developed and implemented; and
2. Create a plan of communication with systems that are tributary and/or satellite to the District's sanitary sewer system.

### **13.2 Communicating Sanitary Sewer System Performance**

The District reports SSOs electronically to the California Integrated Water Quality System (CIWQS). The electronic SSO data, as well as information regarding regulatory actions, is available at:

[http://www.waterboards.ca.gov/water\\_issues/programs/ciwqs/publicreports.shtml](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.shtml)

The District will place a notice on its website that the sanitary sewer performance information is available at the CIWQS public access website.

In the event of a Category I spill, the Board of Directors will be notified immediately. This incident will be noticed, agendaized and reported in the next scheduled District Board meeting. In addition, District collection system operations and maintenance staff will report sanitary sewer system performance to the District Board annually in a public meeting.

The District will continue to conduct public outreach and education for residents and businesses related to sanitary sewer overflows following implementation of the SSMP program.

The District will continually update the Communication page on the District's website and will disseminate information in meetings and/or by flyers to land developers, consulting engineers, and plumbing contractors regarding the need and methods to reduce SSOs.

Plumbers and sewer contractors will have access to all available District plans, specifications, and standard details to ensure that projects are properly designed and built to the District Standards. A link to the final SSMP document, including annual audit results, will be included on the District's website. A copy of the final SSMP document will also be made available to interested parties for review and comment at the District's main office.



### 13.3 Educational Information

Useful educational information regarding the prevention of SSOs can be found on the following websites:

<http://www.stoptheclog.com/fog.html>

<http://www.wef.org/AboutWater/ForThePublic/WastewaterTreatment/>

<http://www.calfog.org/>

## **Appendices**



**Crestline Sanitation District  
Board of Directors Regular Meeting Minutes  
P.O. Box 3395  
Crestline, CA 92325-3395  
(909) 338- 1751**

**Date/Time: August 13, 2020 – 3:00 p.m.  
Place: Crestline Sanitation District Office  
24516 Lake Drive, Crestline, CA 92325**

**SPECIAL NOTICE OF TELECONFERENCE ACCESSIBILITY**

**Pursuant to the provisions of Executive Order N-29-20 issued by Governor Newsom in response to the COVID-19 outbreak, and as a precaution to our Board of Directors, District staff, and general public, Crestline Sanitation District will hold this meeting of its Board of Directors both in-person and via teleconference. The public may participate in the meeting by physical attendance or by teleconference  
*Dial in conference line (302)202-1110 – Conference code 751975***

**Call to Order**

The meeting was called to order at 3:00 p.m. by Chairman Philippe and was proceeded by the Pledge of Allegiance.

**Board of Directors Present:**

Matthew Philippe, Chairman  
Ken Nelsen, Director  
Sherri Fairbanks, Director  
Niki Wiessner, Director

**Board of Directors Absent:**

Penny Shubnell, Vice Chairwoman

**Crestline Sanitation District Employees Present:**

Rick Dever, General Manager  
Ron Scriven, Operations Manager  
Dawn Grantham, Fiscal Asst., Recording Secretary  
Jordan Dietz, Electro-Mechanical Specialist

**Others Present via Zoom Video:**

Steve Kennedy, Legal Counsel; Brunick, McElhaney, & Kennedy  
Brad Welebir, Financial Consultant; R.A.M.S.

**Others Present in Person:**

Phil Giori, PE, Dudek

### **Approval of Agenda**

Director Fairbanks motioned to approve the Agenda. Director Nelsen seconded.

AYES: Chairman Philippe, Director Nelsen, Director Fairbanks, Niki Wiessner

NOES: None ABSTAIN: None

ABSENT: Vice Chairwoman Shubnell

### **Public Comment\***

None

### **Approval of Consent Calendar\***

Director Nelsen motioned to approve the Consent Calendar. Director Fairbanks seconded.

AYES: Chairman Philippe, Director Nelsen, Director Fairbanks, Niki Wiessner

NOES: None ABSTAIN: None

ABSENT: Vice Chairwoman Shubnell

### **New Business**

*Items 3 & 4* – Phil Giori gave an update on the Huston Creek WWTP Dewatering Building and Primary Clarifier Project. He stated that the design is now at 100%, and is looking at options for cutting cost. Mr. Giori noted that Dudek will be completing final construction costs within the next two weeks. He also talked about the update of the SRF Loan and said everything looks good and believes the District will be funded.

*Item 5* – A recommendation by Rick Dever, General Manager, to amend and increase the contract cost with Dudek was presented to the Board. Phil Giori explained that there were many reasons why the increase was necessary, for example, the original plans for the HC WWTP utilities were incorrect and caused redesigns. Director Nelsen motioned authorize the General Manager to adjust the contract and increase the amount by \$50,000. Director Wiessner seconded the motion.

AYES: Chairman Philippe, Director Nelsen, Director Fairbanks, Niki Wiessner

NOES: None ABSTAIN: None

ABSENT: Vice Chairwoman Shubnell

*Item 6* – A SCADA update was presented by Jordan Dietz. He explained that all 3 Lift Stations are setup, the Cleghorn WWTP has been integrated and phase I is complete. Mr. Dietz explained that Huston Creek WWTP is ready for integration. He mentioned that 08/13/2020 would be his last day working for the District as he accepted a job offer as Assistant General Manager at Crestline Village Water District. The Board of Directors congratulated him and wished him well.

*Item 7* – Resolution No. 070 Establishing a Policy for District Reserves for Fiscal Year 2020-21 was adopted by a motion from Director Nelsen and a second by Director Fairbanks.

AYES: Chairman Philippe, Director Nelsen, Director Fairbanks, Niki Wiessner

NOES: None ABSTAIN: None

ABSENT: Vice Chairwoman Shubnell

**Item 8** – General Manager Rick Dever presented the updated Sewer System Management Plan (SSMP) for 2020, which requires recertification. He noted that the SSMP is required to be updated every 5 years and the last update was in 2015. He added that a new document for “Combat Climate Change” was included. Director Fairbanks motioned to recertify the SSMP, with a second from Director Nelsen.

AYES: Chairman Philippe, Director Nelsen, Director Fairbanks, Niki Wiessner

NOES: None ABSTAIN: None

ABSENT: Vice Chairwoman Shubnell

**Item 9** – Resolution No. 072 Establishing an Electronic Signature Use Policy was presented. Discussion was held on why Staff felt this was needed, for example, with the COVID-19 pandemic some Directors may not be able to sign some documents in person. Chairman Philippe stated he liked the idea, going on to say that he currently signs business documents electronically. Director Nelsen noted that he was not comfortable with electronic signatures and preferred wet signatures for all District documents. Directors Fairbanks and Wiessner were okay with the Resolution. Chairman Philippe motioned to adopt Resolution No. 072 and a second came by Director Wiessner.

AYES: Chairman Philippe, Director Fairbanks, Niki Wiessner

NOES: Director Nelsen ABSTAIN: None

ABSENT: Vice Chairwoman Shubnell

#### **Financial Consultant Report**

**Item 10** – June and July 2020 financials were presented by Brad Welebir. He noted that the District is still waiting on OPEB to close the fiscal year 2019-20. A quarterly Investment Report was also presented.

#### **Legal Counsel Report**

**Item 11** – No report.

#### **General Manager Report**

**Item 12** - Report was presented by General Manager Dever.

#### **Closed Session**

The Board, Management and Legal Counsel recessed to closed session at 4:15 p.m.

#### **Reconvene to Open Session**

The Directors reconvened at 4:28 p.m. No reportable actions were taken.

#### **Directors Comments**

\*Director Wiessner noted that she was happy to be a part of the Board.

\*Director Fairbanks stated she had gone to a couple treatment plants that did tertiary and UV treatment.

\*Chairman Philippe noted that he was happy about the SRF Loan.



**Future Meetings**

Regular Meeting – September 10th, 2020 at 3:00 p.m.

**Future Agenda Items**

Construction and bidding updates from Dudek

**Adjournment**

Meeting adjourned 4:45 p.m.

APPROVE: Matthew J. C. [Signature] DATE: 9/10/20

ATTEST: [Signature] DATE: 9-10-2020