Sewer System Management Plan (SSMP) Revision 3

November 2018

Prepared for

Bayshore Sanitary District
36 Industrial Way
Brisbane, CA 94005

Prepared by

Thomas E. Yeager, P.E.
District Engineer

REGISTERED PROFESSIONAL ENGINEER
THOMAS E. YEAGER
No. C 48014
Exp. 12-31-19
CIVIL
STATE OF CALIFORNIA

Table of Contents

List of Tables

List of Figures

Attachments (Rev. 9/2/2015)

INTRODUCTION

District History

This is the second revision of the Sanitary Sewage Management Plan (SSMP) prepared for the Bayshore Sanitary District (District). The initial SSMP was prepared in 2008 and the first revision was prepared in 2013.

This revision is in essence a new document that builds upon previous SSMPs. This approach was taken to bring the SSMP into closer compliance with the State Water Resources Control Board (SWRCB) Order 2006-003-DWQ. Previously the Bay Area Water Recourses Control guidelines were followed. In addition, this document incorporates best management practices presented by the California Sanitation Risk Management Authority (CSRMA) at their 2014 Sewer Summit held in Fremont, CA in November 2014. At this Sewer Summit, the State Water Resources Control Board indicated that they were preparing a SSMP Guidance Document; however, this has not yet been developed.

The District's SSMP also captures the institutional knowledge of District staff, including that of the Maintenance Director who has worked for the District for over 25 years. This is essential to insure the orderly transition of responsibilities at some point in the future.

The District was organized in 1925 to provide wastewater collection services to an unincorporated portion of San Mateo County. At this time a collection system was constructed and the wastewater discharged directly to San Francisco Bay.

The area grew slowly until the 1960s. In 1961 the City of Brisbane was incorporated and included a portion of the District. In 1963, Daly City annexed that portion of the District that was not in the Brisbane City Limits. Currently the entire District is in the City Limits of either Brisbane or Daly City. The majority of the wastewater collection is in Daly City, and a much smaller portion in Brisbane. However, the wastewater pump station and force main is in Brisbane. The District boundaries and Daly City and Brisbane City Limits are shown in Figure 1. The District encompasses approximately 1060 acres.

In the 1960s a pump station was constructed along Tunnel Avenue and the wastewater collected and pumped to San Francisco for treatment. At that time the sewer system was a combined sewer. In 1971 a new wastewater collection and storm drainage system was constructed for most of the District. A new pump station, the Carlyle Pump Station (CPS), and force main were constructed that is still in operation. The District offices are located in this pump station. The pump station and force main will be discussed in subsequent sections of this SSMP.

Treatment of the District's wastewater is provided by the San Francisco Public Utilities Commission (SFPUC) at their Southeast Wastewater Treatment Plant. The District renegotiated their agreement with the SFPUC in January 2013 and the agreement remains in effect until 31 July 2025.

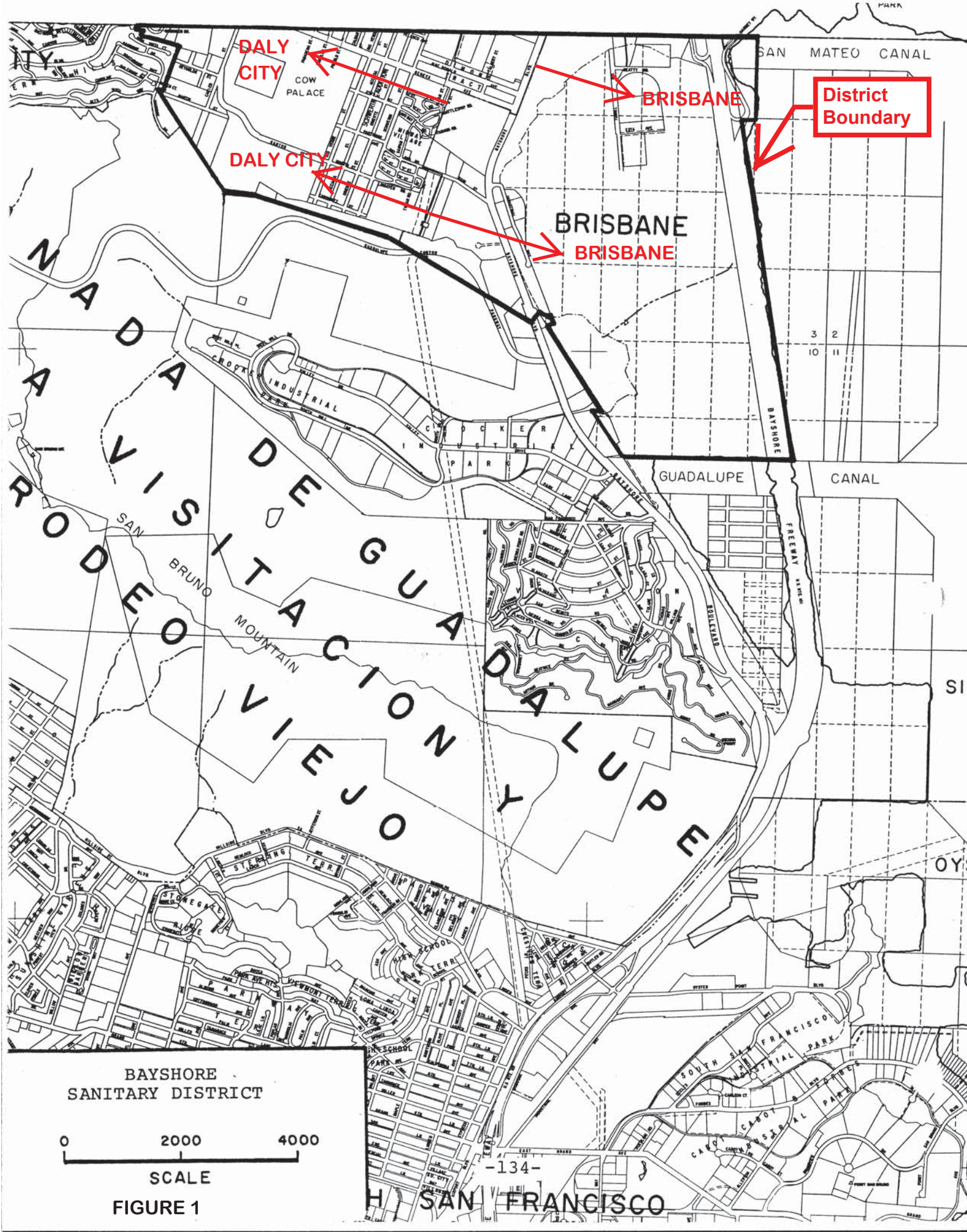

DALY CITY
COW PALACE
DALY CITY
BRISBANE
BRISBANE
District Boundary
SAN MATEO CANAL
BRISBANE
BRISBANE
NADA DE VISITACION Y RODEO VIEJO
GUADALUPE
CANAL
SAN BRUNO MOUNTAIN
CROCKER INDUSTRIAL
CROCKER INDUSTRIAL PARK
BAYSHORE
FREEWAY
BOULEVARD
GUADALUPE
SAN FRANCISCO
BAYSHORE SANITARY DISTRICT
0 2000 4000
SCALE

FIGURE 1

District Assets

The District's collection system is approximately 54,000 feet long and consists of 6-, 8-, 10-, 18-, 21-, and 24-inch pipe. A variety of pipe materials have been used including lined corrugated metal pipe (CMP), vitrified clay pipe (VCP), ductile iron pipe (DIP), high density polyethylene pipe (HDPE), and polyvinyl chloride pipe (VCP). Some of the VCP has had a HDPE liner placed internally as a rehabilitation measure.

A significant portion of the District's collection system was replaced in the period 1985-89. The main lines were replaced, but not the laterals which date back to when the individual homes were built. New lines were constructed as subdivisions were developed during 1972-1976, 1985-1989, 1994-1997, and 2000-2004. There are some lines dating back to 1925 that are still in good condition and operational. The District also completed several CIP projects during the period 1990 to the present. These CIP projects:

- Replaced defective laterals
- Replaced old, under-capacity lines
- Fixed broken pipes and leaking joints
- Reconfigured portions of the system to achieve better hydraulic operation.

The District has also retained responsibility for all sewer laterals from the sewer main to the sewer cleanout, provided the sewer cleanout is located in a public right-of-way and meets District standards. Most of the sewer laterals are 4-inch, but there are a few 6-inch and 8-inch laterals serving commercial establishments. Older laterals are VCP while the newer ones and replacement ones are PVC.

The District maintains an asset data base that identifies all manhole segments and their attributes.

The majority of the wastewater is pumped to San Francisco from the Carlyle Pump Station. This pump station has 4 30-hp pumps that discharge through a 14-inch asbestos (AC) force main that is approximately 3200 feet long. Other wastewater flow enters San Francisco directly from Tunnel Avenue or from an area north of Geneva Avenue.

Storm Drainage System

The District does not own, operate, or maintain the storm drainage facilities within their boundaries. The storm drainage facilities are owned by either the City of Brisbane or Daly City. In addition, storm drainage facilities of San Francisco are used indirectly to convey storm water generated within the District boundaries. It is important to know how these systems operate in order to respond to a sanitary sewer overflow (SSO) that might enter the existing storm drainage facilities. An overview of these storm drainage systems and their relation to the District's pump station is shown in Figure 2.

Any SSO that occurred north of Geneva Avenue would enter that portion of Daly City's storm drainage facilities that flows into San Francisco's combined storm and sanitary sewer system.

Therefore it would go to San Francisco's Southeast Wastewater Treatment Plant (WWTP) and not directly to the Bay.

The portion of Daly City that is located west of Bayshore Boulevard flows into storm drainage facilities that enter a detention facility located along Main Street near Bayshore Boulevard. From here the storm water flows under Bayshore Boulevard and into a brick arch culvert that flows beneath a portion of the Carlyle Pump Station property and ultimately ends up in Visitacion Creek. This will be described in more detail in the section of this SSMP that describes the emergency response plan for the Carlyle Pump Station.

In addition any storm water generated along Bayshore Boulevard or Industrial Way in Brisbane also enters this brick arch line that ultimately discharges to Visitacion Creek.

The City of Brisbane's storm water collection system along Tunnel Avenue from approximately 1000 feet south of Beatty Road runs north to Beatty Road and then runs east to San Francisco's Sunnyvale Pump Station where it is discharged into this pump station and conveyed to the Southeast WWTP. This storm water does not directly enter the Bay. The remaining storm water along Tunnel Ave. runs south where it is discharged into Visitacion Creek.

FIGURE 2: STORM DRAINAGE SYSTEM OVERVIEW

District Customers

The District has a total of 1456 accounts. They are broken down by classification as follows;

CLASSIFICATION	NUMBER
Residential	1328
Hotel/Motel	6
Restaurant	8
Office	7
Institutional	13
Stores/General Commercial	50
Industrial	40

The majority of the residential accounts are single family residential accounts, but there are some multi-family residential units. There are a total of 260 multi-family units, resulting in 1588 residential living units in the District.

The two largest discharges in the District are Midway Village which is a 145 low-income housing unit owned by the San Mateo County Housing Authority and the Cow Palace which is a multi-use exhibition center owned by the State of California.

There are also 3 significant industrial discharges that are co-permitted by the SFPUC. These are:

- PG&E's Martin Service Center
- Kinder Morgan's Brisbane Fuel Tank Farm
- The old Brisbane Landfill owned by Universal Paragon Company.

At this time the District is essentially built out except for 2 large parcels, one in Daly City and the other in Brisbane. However, the development schedule and plans are unknown at this time. There is some redevelopment that is occurring. In the past this redevelopment has been relatively small and occurred infrequently. Currently, interest is significantly increasing in various redevelopment projects.

SSMP Organization

The SSMP is organized into the following 10 sections:

- Section 1: Goals
- Section 2: Organization
- Section 3: Overflow Emergency Response Plan
- Section 4: Fats, Oil and Grease (FOG) Control Program
- Section 5: Legal Authority
- Section 6: Measures and Activities
- Section 7: Design and Construction Standards
- Section 8: Capacity Management
- Section 9: Monitoring, Measurement, and Program Modifications
- Section 10: SSMP Audits

Rich Landi was designated as the Authorized Representative by Board action of 23 July 2015, and the revised SSMP was accepted by the Board on 27 August 2015.

Section 1: Goals

The goals of the Bayshore Sanitary District, a public agency, established in 1925 are:

- To assure that the public is provided with high quality, uninterrupted sewer service
- To minimize the frequency of sanitary sewer overflows
- To have an emergency response plan in place to deal with emergencies
- To utilize environmentally safe practices in order to protect the water quality of San Francisco Bay.
- To maintain our infrastructure to prolong the life of the collection and pumping systems
- To insure that the District is well managed now and in the future
- To accomplish the above goals in a financially sound manner.

Section 2: Organization

Figure 3 is an organization chart for the Bayshore Sanitary District. All staff positions are filled on a contract basis.

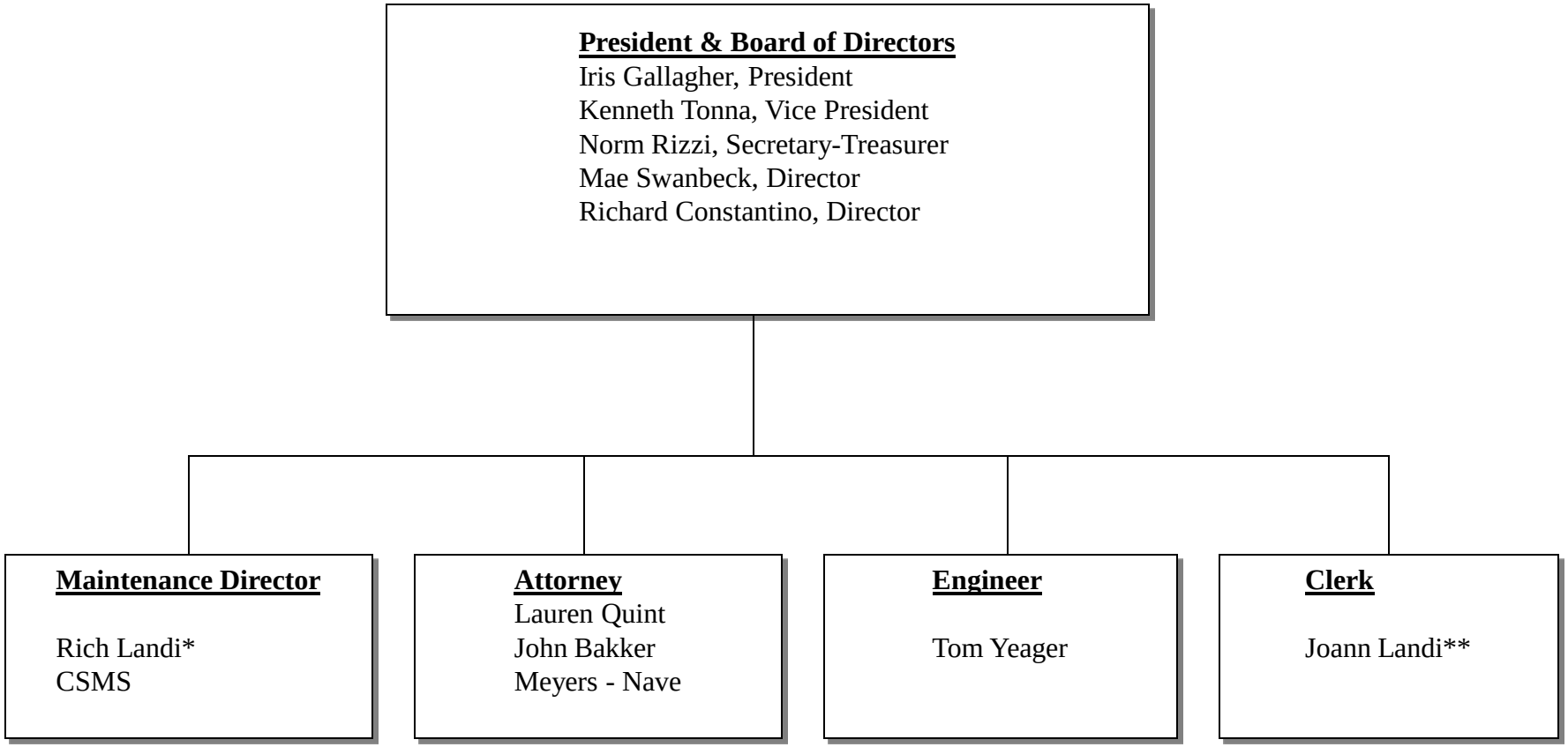


FIGURE 3

ORGANIZATION CHART (rev 11/8/18)

BAYSHORE SANITARY DISTRICT

***Authorized Representative**

****Responsible SSO Reporting Representative**

Section 3: Overflow Emergency Response Plan

3.1 Policy

To establish a procedure for receiving, handling and reporting service calls and sewer overflows in the collection system, including the pump station and force main.

3.2 Scope

This procedure is intended to outline the minimum steps to be taken by collection system personnel. The procedural steps indicated are intended to identify baseline requirements. All steps will not apply in every case. Additional steps may be necessary in some cases. The procedures must be used based on experience with the collection system and applicable regulatory provisions. It is the goal of this document to establish and follow guidelines to enable personnel to recognize, assess and remedy any Sanitary Sewer Overflow (SSO) in an expedient manner. Further, it is intended to provide steps to ensure minimal environmental impact to receiving waters of the United States of America, and to minimize exposure to the general public and to private property.

3.3 Responsibility

It is the responsibility of the responder to an SSO to immediately address and remedy the condition, and then notify the Maintenance Director. The Maintenance Director shall notify the following agencies (See Section 3.4.G)

1. Region 2 California Integrated Water Quality System (CIWQS) for spills 100-999 gallons

2. CA office of Emergency Services (OES) for spills of 1,000 gallons or more within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.

3. San Mateo County Environmental Health if posting of “Warning Spill” signs is required.

3.4 Procedure

A. Receiving a Call – Recording Vital Information

1. Receiving

Log all information requested on a Service Call form. Information from each call shall be placed on a separate Service Call form.

2. Verify Address
Check map book or street index to confirm address is in the District. If not in the District, refer the call to the appropriate agency:

Non-emergency DCPD	650-991-8119
Daly City/NSMCSD	650-991-8200
City of Brisbane	415-508-2130
C&C of San Francisco	415-695-2096
City of South San Francisco	650-877-8558
San Mateo County	650-363-4305

3. Dispatching: calls received during regular working hours
Notify the designated response crew.

Dispatching: calls received after hours, weekends, and holidays
Contact the designated standby person.

Standby Personnel	Cell Phone	Home Phone
Rich Landi	650-868-7697	650-366-1059
Benyamin Asfour	415-756-7002	650-355-0349

B. Responding to a Service Call

1. Be sure to obtain adequate information from the reporting party including the name, address and telephone number of the person who reported the service call and the nature of the problem.

2. Review District map to determine location of sewers in the area of the reported overflow or problem.

3. Upon arrival at the site of problem, look for apparent overflows. If an overflow or surcharged sewer main is located, check downstream manholes until a dry manhole (normal flow or less) is located. If a second person is needed to assist in clearing a stoppage; the responder should contact a second person. Locate storm drainage facilities in the area and determine if they are at risk. Take appropriate actions to eliminate or minimize discharges into storm drainage system.

4. Using the appropriate cleaning equipment, work upstream from the dry manhole to clear the blockage (in some cases it may be necessary to

work downstream from the last surcharged manhole). The line should be cleaned after clearing the blockage and cleaned again the following work day. Observe flows to ensure blockage does not reoccur down stream. Stay at job site until flows return to normal.

5. Contact homeowner or person who reported the problem. If damage or overflow into private property exists, call the Maintenance Director for dispatch of a restoration company. Where sewage has overflowed out of a manhole or cleanout, contain the area and collect all flow, paper and solids as possible. Flush manhole steps and shelves to clear debris whether or not overflows have occurred.

C. Field Activities

1. Responder's Role

A. Protect public health and property from sewage spill events and restore area back to normal as soon as possible.
B. Establish perimeters and control zones with cones, barricades, vehicles or terrain.
C. Promptly notify Maintenance Director of preliminary spill information and potential impacts.
D. Contain the sewage discharged to the maximum extent possible. Every effort must be made to prevent the discharge of sewage into waters of the State and San Francisco Bay.

D. Spill Response Procedures

1. Respond to Spill

A. Respond to and assess situation.
B. Determine if other personnel are necessary, contact them if needed. Make arrangements for other personnel to bring additional equipment in the event of a mainline stoppage.

2. Spill Containment

A. Make every effort to use diversion/containment equipment on response truck while waiting for assistance.
B. Note time equipment was put into place for reporting purposes.

3. Alleviate Blockage Source

A. Relieve the stoppage as soon as possible.
B. Try to determine what caused the stoppage. Try to recover any foreign material that may have contributed (bricks, towels, tools, etc.)

4. Cleanup and Notification

A. If there was a sewage backup into a home or business, a restoration company will be called for cleanup. Maintenance Director must be notified.
B. If backup was only on street surface, wash area down with potable water and recapture and redirect water back to the sanitary sewer.
C. If there was sewage lost down a storm system line, recovery via plugs, pumps or other procedures will be utilized. If recovery is partial, estimate gallons lost and notify Maintenance Director to begin reporting process.
D. When contamination is significant in areas accessible to the general public, such as parks, creeks, or any receiving water body of the USA, post "Warning/Spill" signs (Attachment A) and block off the areas with yellow caution tape. Signs and tape are located on the response trucks.

5. Sampling and Lab Tests

Please refer to Sampling Protocol/Chain of Custody form (Attachment B).

6. Video Inspection

A video inspection of the mainline segment where the stoppage occurred may be performed to inspect the condition of the line and identify any items that may have contributed to the stoppage.

Any repairs to the line that result from the inspection will be completed ASAP given the constraints of USA notification or any other mitigating circumstances.

E. Sewer Backup Response and Internal Reporting

When responding to a service call, if it is found that a District sewer main has or is causing damage to private or public property and there is any potential for a claim, the first priority must be to remove the stoppage and stop the inflow of sewage onto the property. Where damage has occurred, the following steps should be taken after the stoppage is cleared:

1. Contact the Maintenance Director and describe the conditions found and the extent of the damage.

2. The Maintenance Director will notify the Board President and/or Risk Management if there is damage or possible damages which may result in a major claim.

3. Do not acknowledge or discuss liability or responsibility for damages. Refer these questions to the Maintenance Director or the District's Legal Counsel.

4. Where flooding has occurred on public properties (streets, parks, schools, creeks) remove any visible signs of the flooding by containing, washing down with potable water and cleaning the areas affected.

5. Where flooding is extensive, a professional clean-up service (See Attachment G) should be immediately called to the scene upon authorization from the Maintenance Director or the District Board President.

6. Record damages by use of disposable 35mm camera on truck. Pictures from a digital camera are also o.k. Initiate a written list of damages that you have observed. The restoration company will repeat these steps.

7. The responder will file a complete written report on the District's Sewer Service Request Form and submit to the District Clerk describing details Of the service call, who responded, what was found, and what was done. The Maintenance Director shall investigate the report and manage the Initial claims process.

F. Documentation of Spill

1. Provide accurate flow measurements and estimate duration of spill.

   A. If the flow is coming from a cleanout or a broken line, count the number of upstream connections and estimate the time that the flow has been occurring. Document times (time call was received, and when cause of blockage was relieved). Each residence contributes between 160 and 200 gallons per day or about 8 gallons per hour (depending on the time of the day). Assuming no flow is going through the plug/break, multiply the number of residences by estimated gallons per hour times the number of hours. This gives you an approximate number of gallons.

   B. If the flow is coming from a manhole, use the DWWR manhole Overflow visual estimator to estimate the flow (Attachment C).

   C. If the flow is coming from a pump station, use the previous day's flow and pump capacity to estimate the flow.

2. Provide map of problem location – manhole(s) involved – and where the spill discharged (e.g., storm drain, field, stream).

3. Take photos of events, if possible.

4. Complete the District's Sewer Service Request form (Attachment E) and submit report to District Clerk.

G. Mandatory Regulatory Reporting Requirements for Sanitary Sewer Overflows

1. 1-999 gallons
   Report to California Integrated Water Quality System (CIWQS)
   http://ciwqs.waterboards.ca.gov 3 business days.

   Password: XXXXX (changes annually)
   User id: XXXXX

   Note: If overflow involves a fish kill or poses a danger to human health, post "Warning Spill" signs and follow steps for 1,000 gallons or more. Report overflow to San Mateo County Environmental Health at (650) 363-4305.

2. 1,000 gallons or more
   A. Telephone Office of State of California Office of Emergency Services (OES) to obtain OES control number, by calling (800)852-7550. Remember to obtain the name of the OES representative you spoke with when obtaining OES control number.
   B. Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date

3. Other Spills
   A. Public Reportable – Mainline blockages that result in backups on private property that remain on site, do not enter the storm system and may endanger human health, are reportable SSO's. Take the following steps.

      1. Contact San Mateo County Environmental Health at (650) 363-4305 with four points of information:
         a. Who we are
         b. Address of incident
         c. Time of day
         d. Date of incident

   B. Private Non-Reportable – Wastewater backups into buildings caused by a blockage or other malfunctions of a building lateral that is privately owned are not SSO's. Thus, no reporting from the District is required.

   C. Site Restoration
      1. *Containment* – by use of plugs, sandbags, straw waddles, hay bales, felt rolls, any material that can be used to divert and isolate surface runoff for recovery and return.

2. *Clean up* – wash down and disinfection of surface areas, removal by use of mechanical or manual methods of solids, paper, etc. Flushing of the storm system. Removal and disposal of contaminated material. Use of restoration contractor for any water damage to interior of homes or businesses.

3. *Return* – Pick up surface water and return to sewer main by use of plugs and pumps to capture and return contained water from the storm drain system back into the sewer.

4. *Public notice* – In cases of runoff to State receiving waters, posting of signs stating site status, use of barricades, barriers, caution tape or other means to achieve site safety.

5. Records to Be Maintained by District

   a. Keep records for at least five (5) years
   b. This time period may be extended by CIWQS if there is an unresolved enforcement action.

H. Reporting Responsibility

24-Hour Report to CIWQS

1. Maintenance Director or District Clerk shall file 24 hour report.
2. 10 day Electronic Report to be completed and filed by the District Clerk.

3.5 Emergency Response Plan – Carlyle Pump Station and Force Main

Two critical elements of the District's wastewater system are the Carlyle Pump Station and associated force main. This pump station and force main conveys the majority of the District's wastewater to San Francisco for treatment. These facilities are well maintained and have given the District few problems since their construction in 1971. The only significant SSO occurred during the 1989 Loma Prieta Earthquake when the force main broke where it exited the pump station.

However, it is important to have a plan in place so that the District is prepared in the unlikely event of a major equipment failure or force main break. The emergency response plan will address:

- The operation of the pump station and force main, including the pump station storage capacity

- The potential locations of overflow in the event of pump station failure and the potential routes by which an SSO might reach San Francisco Bay

- The required water sampling program that needs to be in place prior to a spill

3.5.1 Pump Station/Force Main Operation

The Carlyle Pump Station's wet well has interior dimensions of 10' x 27'-2" which equals 2,032 gallons per foot of depth. The low level float is set at an elevation of -7.00 feet and the pump on float is set at -3.00 feet which is the invert of 18" inlet sewer. Therefore the normal pump cycling volume is approximately 8,000 gallons. The top of the wetwell slab is at an elevation of 13.00 and the slab roof slab is 12" thick. However the storage capacity is less than the interior height of the wetwell and manholes will overflow prior to overflow occurring at the wetwell access hatch. This will be described in a following section.

The pump station has 4-30 horsepower pumps that normally pump between 1800 and 1850 gpm each at a discharge pressure of 35 feet of head (15.15 psi). These pumps are not variable speed pumps, rather they cycle on and off and are controlled by floats. If one pump will not keep up with the inflow, then additional pumps will come on. The approximate pumping capacity as a function of the number of operating pumps is as follows;

- 1 pump -- 1800 gpm
- 2 pumps – 2500 gpm
- 3 pumps – 2800 gpm
- 4 pumps – 3000 gpm

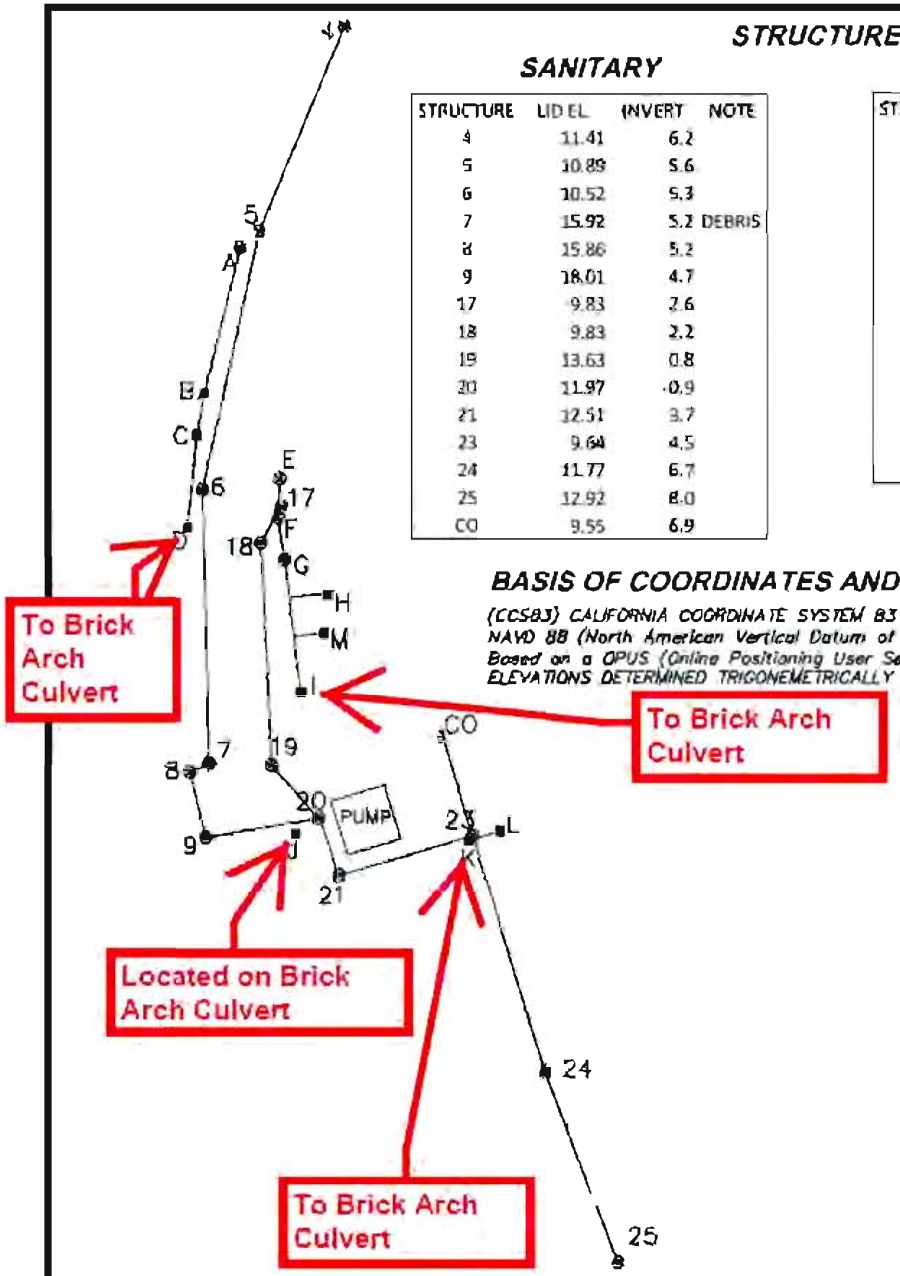
It is to be noted that bringing on the fourth pump has little impact on overall pumping capacity.

The forcemain is a 14" asbestos cement (AC) pipeline that is 3250 feet long and runs north from the Carlyle Pump Station in Bayshore Boulevard to the point of discharge in San Francisco's Sunnyvale Interceptor. The force main slopes up to the point of discharge continuously and there are not high point that would require an air/vacuum relief valve.

3.5.2 Potential SSO Locations

It is not obvious from a simple field review where a SSO would occur if there was a failure at the pump station. The District had a survey performed in October 2014 to determine which storm drainage facilities a SSO might discharge to. This survey is included as Figure 4. The wetwell of the pump station is identified as "PUMP". The manhole numbering system corresponds to the numbering system used by the District and the storm drainage facilities of Daly City and Brisbane are identified by letters "A" through "K". Manholes #17 and #18 are located at the intersection of Industrial Way and Bayshore Boulevard; Manholes #4 through #8 are located along the west side of Bayshore Boulevard; and Manhole #9 is located in the intersection of Main Street and Bayshore Boulevard. Figure 5 shows these features in relation to the overall storm drainage facilities that go from Main Street detention facility to San Francisco Bay.

MH #20 is located directly in front of the wetwell within the parcel containing the Carlyle Pump Station. However, this manhole lid (elev. 11.97) is not the low point in the wastewater



STRUCTURES

SANITARY

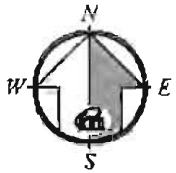
STRUCTURE	LID EL.	INVERT	NOTE
4	11.41	6.2	
5	10.89	5.6	
6	10.52	5.3	
7	15.92	5.2	DEBRIS
8	15.86	5.2	
9	18.01	4.7	
17	9.83	2.6	
18	9.83	2.2	
19	13.63	0.8	
20	11.97	-0.9	
21	12.51	3.7	
23	9.64	4.5	
24	11.77	6.7	
25	12.92	8.0	
CO	9.55	6.9	

STORM

STRUCTURE	LID EL.	INVERT	NOTE
A	9.59	2.5	
B	9.23	7.2	DEBRIS
C	9.19	2.5	
D	10.37	9.7	DEBRIS
E	9.87	8.9	CURB FL
F	9.73	8.9	CURB FL
G	10.17	9.3	CURB FL
H	8.94	7.0	
I	11.2	5.2	
J	12.75	5.6	
K	9.02	5.5	
L	8.94	5.9	
M	9.03	6.2	

BASIS OF COORDINATES AND ELEVATION

(CCS83) CALIFORNIA COORDINATE SYSTEM 83 ZONE 3(NAD 83 2011) Epoch 2010
NAVD 88 (North American Vertical Datum of 1988, Geoid12A.
Based on a OPUS (Online Positioning User Service) Solution.
ELEVATIONS DETERMINED TRIGONEMETRICALLY



GRAPHIC SCALE

200 0 100 200

1 INCH = 200 FEET

Notes:

(Provided by Bayshore Sanitary District)

1. "Y" IS A JUNCTION STRUCTURE THAT DISCHARGES TO THE BRICK ARCH STORM DRAIN
2. "J" AND "K" ARE CATCH BASINS THAT DISCHARGE TO THE BRICK ARCH STORM DRAIN
3. ALL SANITARY SEWER FACILITIES ARE OWNED BY THE BAYSHORE SANITARY DISTRICT. SEE MAP K-4.
4. MHs 25, 24, 23, AND CO; CBs "K", "L" "H" AND "M" ARE LOCATED IN INDUSTRIAL WAY. MH #21 IS LOCATED IN A PARKING AREA OUTSIDE THE FENCE OF THE PUMP STATION AND MH# 20 IS LOCATED INSIDE THE FENCE OF THE PUMP STATION. JUNCTION STRUCTURE "Y" IS LOCATED IN THE YARD OF THE STATUTE FACTORY. ALL OTHER MHS AND CBS ARE LOCATED IN BAYSHORE BLVD.
5. MHs AND CBs "A", "B", "C", AND "D" ARE LOCATED ON A 4' X 4' BOX CULVERT OWNED BY THE CITY OF BRISBANE THAT CONNECTS TO THE BRICK ARCH CULVERT.

October 27, 2014

BAYSHORE SANITARY
EMERGENCY RESPONSE PLAN
EXHIBIT 1

MERIDIAN SURVEYING ENGINEERING, INC.
2958 VAN NESS AVENUE
SAN FRANCISCO, CA 94109
(415) 440-4131
info@meridiansurvey.com
(14152)
777 GRAND AVENUE, #202
SAN RAFAEL, CA 94901
(415) 456-5450

FIGURE 4: STORM DRAIN FACILITIES' SURVEY

FIGURE 5: STORM DRAINAGE FACILITEIS NEAR CARLYLE PUMP STATION

collection system feeding into the manhole. MH #5 (elev. 10.89) and MH #6 (elev. 10.52) are both lower. The lowest manhole elevation are not these two located along the west side of Bayshore Boulevard, rather the lowest point is the cleanout (CO elev. 9.55) located in Industrial Way and MH #17 (elev. 9.83) and MH #17 (elev. 9.83) both of which are located near the intersection of Industrial Way and Bayshore Boulevard. Irrespective of where an SSO occurred, the flow would enter storm drainage facilities that ultimately flow to the brick arch culvert and then to San Francisco Bay.

A SSO could occur under two different conditions and the overflow locations would be different. If an operational failure was to occur and the wetwell gradually filled, the overflow would occur at the low points along Industrial Way (CO, MH#18 and MH #17) and appropriate actions would need to be taken to protect the nearby storm drain catch basis. However, if the SSO were to occur due periods of high inflow/infiltration (I/I) and the 18" sewer leading to the pump station became surcharged and the hydraulic capacity of the 18" sewer exceeded, MH #5 and #6 could also surcharge and a additional storm drainage catch basins would need to be protected.

In the event of an operational failure, all manholes noted above need to be monitored, and if the depth of wastewater inside the manholes becomes critical, appropriate steps to protect the storm drain needs to be taken. Cleanup of any spilled sewage also needs to begin.

If the force main were to break, the wastewater would likely be contained to the east side of Bayshore Boulevard and flow to the south where it could enter a storm drain inlet across Bayshore Boulevard from MH "A". This would be somewhat mitigated as the wastewater flow would also move into an open field to the east.

3.5.3 Water Quality Sampling

If a major SSO were to occur at the Carlyle Pump Station or force main, it is important to have a sampling plan in place to document the impact on the receiving water which in this case is San Francisco Bay. This is problematic as there are no access points to the Visitacion Creek storm drain system directly upstream of the Carlyle Pump Station and downstream locations are impacted by the tidal influence of San Francisco Bay.

The immediate upstream sampling location would be the Main Street storm water detention facility. However, this is dry most of the time and in the event of a significant rainfall event in would fill up with stormwater contaminated by street runoff.

There are no downstream access points until the old pump station site. Easier access is located slightly downstream where Visitacion Creek goes under Tunnel Avenue; however, this is impacted by tidal flows.. Therefore the recommended procedure would be to immediately sample at Tunnel Avenue if a spill were to occur and then continue sampling to determine if the spill reaches this point and its impact. It may also be possible to set up a temporary containment structure at this area and attempt to recover any SSO.

3.6 Attachments

Section 4: Fats, Oils, and Grease (FOG) Control Program

4.1 Background

The Bayshore Sanitary District has minimal problems with respect to FOG. The District's routine cleaning program addresses routine FOG problems before they develop. The District currently has 8 restaurants, and the sewer lines that these restaurants discharge into are monitored for grease build-up. Three of these restaurants have grease traps. The others are older, smaller restaurants that have not presented problems,

4.2 Policies

The District's ordinance requires that all new restaurants or retrofits of existing restaurants have outside grease interceptors installed that correspond to Appendix H of the Uniform Plumbing Code. The installation of the appropriate grease interceptor was required for the new KFC/Taco Bell.

4.3 Proactive Response to Problem Areas

There are 3 areas where grease builds up and which the District cleans regularly. They are:

- Downstream of the 7 Mile House
- Along MacDonald behind the Town Motel
- Downstream of Midway Village

The regular grease cleaning program covering these areas and other areas of concern consists of the following:

- Rod and jet the Midway Village line between MH 39 and MH 37 on a semi-annual basis
- Jet the lines on both sides of MacDonald Ave. 2-3 times a year
- Jet the lines on both sides of Geneva between Rio Verde/Acacia and Schwerin twice a year. This also includes the line on the north side of Geneva between Geneva and MacDonald Ave.
- Jet the line on Bayshore Boulevard between MacDonald and Main Street twice a year

Besides regularly inspecting and cleaning these lines, the District has proactively taken the following steps:

- Met with the owners of the 7 Mile House and explained the grease problem associated with their increased business and advised them to increase the frequency of the

cleanout of their grease trap. The District continues to monitor the frequency of the grease trap cleanouts.

- Included sewer line repairs along MacDonald Avenue in the 2014-15 CIP project where broken sewer lines contribute to the grease buildup.

- Worked with the management of Midway Village and distributed notices and brochures to residents explaining the problems associated with discharging grease, paper products and rags to the sewer. It is to be noted that Midway Village cleans the grease from a tenant's lateral once, but then charges the tenant for future cleanings.

Section 5: Legal Authority

State law and the District's ordinances give the District the legal authority to:

1. Control infiltration/inflow (I/I) from satellite wastewater collection systems and laterals

2. Require proper design and construction of new and rehabilitated sewers and connections

3. Require proper installation, testing, and inspection of new and rehabilitated sewers.

The District Code was completely reviewed and revised in March 2006. In particular, the District's Ordinance Code contains the following relevant provisions.

Control of Infiltration and Inflow. Section 403.2 prohibits the discharge, either directly or indirectly, of stormwater and the like into the District's sewer system, without a permit from the District.

Design, Construction, and Inspection. Section 300 of the District Ordinance Code requires that all construction, repair, maintenance, and operation of wastewater facilities must conform to the District's standard specifications. The District's ordinances require permits for all connections to, and construction of, the District's sewer system. All lateral sewers and the connection of such sewers must be inspected and tested, for conformance to the standard specifications, prior to the time the connection to the system is made. (Sect. 301.8.) Similarly, all construction of public sewer facilities must be tested and inspected, for conformance to the standard specifications, before use is made of the faculties. (Sect. 302.9.)

Enforcement. Chapter 7 of the District's Ordinance Code contains broad authority for the District to enforce the requirements listed above. For example, if a premise violates the provisions of the District's Ordinance Code, the District may terminate service to that premises. (Sect. 703.) Similarly, the District may revoke permits where the terms of the permit have been violated. (Sect. 704.) Other remedies include bringing nuisance abatement actions and charging violators with a misdemeanor. (Sects. 705 and 706.)

It should be noted that the District does not issue building permits. The District is within the boundaries of two incorporated cities – Brisbane and Daly City. These two cities issue any required permits and have requirements for the construction of that portion of the building sewer that is on private property.

It should also be noted that the issuance of an industrial discharge permit is the joint responsibility of the District and the San Francisco Public Utilities Commission (SFPUC). The SFPUC issues their permit first and then the District will issue their permit. These requirements are described in Sections 402 and 403 of the District’s Ordinance Code.

Section 6: Measures and Activities

6.1 Collection System Map

The District has a collection system map that meets the basic needs of the District. This map was updated in August 2008. The District has recently signed a contract to have an enhanced GIS map created from the existing AutoCAD map. This map will include a GPS survey of the sewer manholes and will include the following:

- X- and y- coordinates of each manhole plus the rim elevation
- Collection system attributes
- A database of the locations of all CCTV work since 2007
- A database of lateral replacements since 2000
- A database of all CIP improvements since 1997
- A portion of the storm drain facilities of the Cities of Daly City and Brisbane which can be expanded as each City develops their storm drainage GIS map
- Water courses within the District
- Storm drain discharge points to San Francisco Bay

The target date for the completion of this GIS map is 31 December 2015.

6.2 Resources and Budgets

6.2.1 Annual Operating Budget

Fiscal Year 2015-16 Budget has been adopted. Budgets are adopted annually in June before the start of the fiscal year.

6.2.2 Capital Improvements Plan

The last 5 Year CIP was adopted in August 2008. A draft 5-year CIP was used in developing the FY 2015-2016 Budget and a formal 5-year CIP will be developed in 2016. .

6.3 Prioritized Maintenance Activities

The District has a proactive preventive maintenance program for the entire collection system. System-wide cleaning and inspection of the system is conducted annually. Past maintenance

records developed over many years determines the frequency of cleaning known problem areas.

Cleaning is accomplished by use of high pressure jet flushing or power rodding. Television inspection is utilized to evaluate system problems, assist in developing capital improvement projects and to evaluate sewer line cleaning effectiveness. After any SSO a television inspection is performed on the line segment to determine what caused the stoppage and take the appropriate action to prevent future SSO's. Cleaning of the collection system is performed on a 3-year cycle except for known problems areas as previously described.

The District routinely uses Closed Circuit Television (CCTV) to assess the condition of the collection system and sewer laterals that the District is responsible for. In general, mainlines are inspected on a 5-year cycle. The sewer lines between Rio Verde and Schwerin that pass beneath houses are CCTVed on a 2-year cycle.

All District maintained laterals were inspected using CCTV. Laterals are also inspected after service calls are received. As a result of these CCTV inspections 23 defective laterals were replaced since 2001.

6.4 Scheduled Inspections and Condition Assessment

The Carlyle Pump Station is inspected on week days Monday thru Friday. All equipment is checked for proper operation and minor or routine adjustments are performed when necessary. Scheduled maintenance of all operating equipment is performed on the frequency intervals recommended by the various manufacturers.

6.5 Contingency Equipment and Replacement Inventories

Adequate supplies are available.

6.6 Training

Maintenance crews are trained in confined space procedures, emergency response procedures, traffic safety and hazardous spill procedures. All training procedures are reviewed with the crew a minimum of once per year.

6.7 Outreach to Plumbers and Building Contractors

Request waiver because population is less than 10,000.

Section 7: Design and Construction Standards

The District's *Standard Specifications for Design and Construction of Sanitary Sewer Collection and Conveyance Facilities* was revised in June 2008. These *Standard Specifications* provide for:

1. Installation Rehabilitation and Repair

2. Inspection and Testing of New and Rehabilitated Facilities

For all new developments, plans must be submitted and reviewed by the District Engineer. The District Maintenance Director observes the construction in the field and the testing of these lines. In addition, the Maintenance Director conducts a CCTV inspection of the newly installed lines and laterals. Once these steps are successfully completed, the sewer lines are accepted by the District.

All other construction activities, such as the installation or replacement of laterals that do not require the submission of plans are reviewed during construction by the Maintenance Director prior to acceptance by the District.

Section 8: Capacity Management

8.1 Capacity Assessment

Existing Capacity Assessment to be included in formal 5-year CIP update in 2016.

8.2 System Evaluation and Capacity Assurance Plan

Existing System Evaluation and Capacity Assessment to be included in formal 5-year CIP update in 2016.

Section 9: Monitoring, Measurement and Program Modifications

The Maintenance Director provides an annual summary of non-scheduled maintenance activities at the end of the fiscal year during the budgeting process. This is compared to the previous year's records and rehabilitation activities are schedule as necessary.

Due to the District's aggressive maintenance program, few SSOs have occurred during the past 5 years. Table 1 summarizes these SSOs and the short- and long-term responses to these SSOs.

Table 1: SSO SUMMARY

DATE	LOCATION	SPILL	PROBABLE	FOLLOW-UP ACTIONS	
		VOL.	CAUSE	SHORT-TERM	LONG-TERM
		(gal)			
6/21/2011	Main/Bayshore	0	Grease Buildup	Jet Flushed Line	Meet w/ 7 Mile House
11/14/2012	Talbert/MacDonald	40	Grease Buildup	Jet Flushed Line	Include in 2014-15 CIP
8/6/2013	MacDonald/Bayshore	165	Grease and Debris	CCTV to Evaluate	Include in 2014-15 CIP
8/4/2014	MacDonald/Bayshore	280	Grease Buildup	Jet Flushed Line	Include in 2014-15 CIP
				CCTV to Evaluate	
11/24/2014	Midway Village	80	Grease, Paper Towels, Rags	Jet Flushed and Rodded Line	Notify MV residents regarding grease/rag disposal
4/2/2015	Talbert/MacDonald	30	Structural Damage	Jet Flushed Line	Include in 2014-15 CIP

Section 10: SSMP Audits

The SSMP was originally written in 2008. Minor revisions were made in 2013. This second revision made in 2015 is more significant and includes the addition of:

- A description of the District's history and assets
- A description of the storm drainage facilities of Brisbane and Daly City
- A revision of the District's goals
- An update of contact information
- A summary of SSOs for the past 5 years
- An Emergency Response Plan for the Carlyle Pump Station and force main
- A schedule for sewerline cleaning including a list of hot spots that require more frequent maintenance
- An preliminary schedule for CCTV inspection which will be revised in the 5-yeare CIP
- A list of all SSOs that have occurred since 2011.

In addition, this revised SSMP will be posted on the District's website. (http://bayshoresanitary.com/)

Attachment A

W A R N I N G !!

Avoid Contact

Temporary Contamination

Sewer Overflow

Questions should be directed to: Bayshore Sanitary District (415) 467-1144

Posted __/__/__ to __/__/__

Attachment B

Sampling Protocol

Sampling of receiving waters shall be done in the event of sewage from a mainline blockage entering a downstream water source. Sampling shall be performed following requisite chain of custody protocol. Three samples will be taken for three consecutive days. The areas sampled will be:

1. The point where the overflow entered the water source.
2. 50 feet upstream of entry point.
3. 50 feet downstream of entry point.

These three samples will be collected using sample bottles obtained from the lab. The bottles are plastic 100 ml size and contain a tablet of sodium thiosulfate. There is a procedure to follow for gathering samples, which will be covered later.

After taking samples, bottles should be labeled and placed in a cooler with an ice pack. Label information should include:

1. Date
2. Time sample was collected
3. Who collected the sample
4. Sampling site
5. Sample type (grab)
6. Tests required (total coliform, fecal coliform)
7. Preservative (sodium thiosulfate)

Field Testing – Grabbing Samples

To correctly take a sample, follow these simple steps:

1. By leaning over or squatting down, take the sampling bottle down as close to the source as possible.
2. Twist and break the seal on the cap. Remove the cap and hold it so that the underside of the cap faces down. Hold it a few inches from the bottle.
3. Lower the bottle into the source flow and fill the bottle to the 100 ml line. Secure the cap onto the bottle.
4. Dry the bottle, fill out the sample label and stick it on the bottle.
5. Place the completed sample in the cooler.

Remember – Once you have broken the bottle seal and removed the cap, don't let it or the bottle contact the ground or your clothing or any other possible source of contamination. Don't cough or sneeze or touch the rim of the bottle or underside of cap. This will spoil this sample and another one will need to be taken. This is also the reason why you should always have extra sampling bottles with you.

Field-testing will also need to be performed for both Dissolved Oxygen (DO) and Ammonia. These tests can be done at the same site where samples were taken. The method of analysis for ammonia and dissolved oxygen may be a readily available, good quality test kit, suitable for field analysis.

Attachment B – Page 2

Laboratory Procedure

The samples for coliform testing should be taken directly to the lab for storage in their refrigerator. Lab personnel will guide you through storage and chain of custody documentation. A representative of Environmental Micro biology Laboratory (EM Lab) will pick up the samples for testing. The samples have to be tested within 6-8 hours of collection, or they will not be good.

Should lab personnel not be available, the samples can be taken directly to EM Lab, which is located at 1150 Bayhill Drive, #100 in San Bruno. Their phone number is (866) 888-6653. Their normal business hours are Monday-Friday, 8:00 A.M. to 5:00 P.M. If service is needed after normal business hours, these are the people to contact:

Rev. 9/2/2015

Additional Information

While fecal and total coliform tests are required for reporting purposes, there may be other tests that need to be performed. The initials and numbers in parenthesis refer to either

Environmental Protection Agency (EPA) or Standard Method (SM) identifiers. These include but are not limited to:

1. pH (EPA #150.1)
2. Temperature (EPA #170.1)
3. Salinity (SM #2520)
4. Enterococcus (SM #9223)

Should any additional sampling/testing need to be done, there will be further instruction from the Maintenance Director.

Attachment B – Page 3

Chain of custody form inserts here

CHAIN OF CUSTODY

866.888.6653 www.EMLab.com

ENVIRONMENTAL MICROBIOLOGY LABORATORY, INC.

* PLEASE SEE REVERSE SIDE FOR ADDITIONAL MicroLAB™ LOCATIONS *

1150 Bayhill Dr. #100, San Bruno, CA 94066 ~ AIHA EMLAP #102856

5473 Kearny Villa Road, #130, San Diego, CA 92123 ~ AIHA EMLAP #160266

WEATHER		Fog	Rain	Snow	Wind	Clear
LEVEL	None					
	Light					
	Moderate					
	Heavy					

REQUESTED SERVICES (✓ Boxes)

Bacteria

Water

CONTACT INFORMATION

Company/Branch:	Address:	
Contact:	Fax results? Y / N	Fax:
Phone:	Email results? YES	Email:

PROJECT INFORMATION

Project:	Project/ Promo ID: Coliform
Sampling Date and Time: Date and Time of Sample	
PO Number:	
Send Invoice to:	

TURN AROUND TIME CODES - (TAT)

STD - Standard (DEFAULT 48-72 Hour)

ND - 24 Hour (+50%)

SD - Same Business Day Rush (+75%)

WH - Weekend/Holiday (+100%)

Rushes received after 2pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

SAMPLE ID	DESCRIPTION	Sample Type (Below)	TAT (Above)	Total Volume/Area (as applicable)	NOTES (Time of day, Temp, RH, etc.)	Total Coliform - MPN, Method: SM 9221	Fecal Coliform
Coliform	Sampling Location	W	STD	100 ml	Time of Sample	X	X
					Weather		
					Date		

SAMPLE TYPE CODES

BC - BioCassette™	CF - Contact Plate	T - Tape	D - Dust
A1S - Andersen 1-stage	ST - Spore Trap: Zefon, Allergenco, Burkard...	SW - Swab	W - Water
A2S - Andersen 2-stage		B - Bulk	SO - Soil
SAS - Surface Air Sampler	P - Pure Culture	O - Other:	

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME

Our Allergen Analysis COC can be downloaded at www.EMLab.com

Department of Water and Wastewater Resources

Reference Sheet for Estimating Sewage Spills from Overflowing Manholes

5 gpm

25 gpm

50 gpm

100 gpm

150 gpm

200 gpm

225 gpm

250 gpm

275 gpm

Attachment D

NO LONGER REQUIRED

Attachment E

Bayshore Sanitary District
Sewer Service Request
Non-reportable Incidents

Date: _____ Time: _____

Requested By: _____ Telephone: _____

Address: _____

Problem described by caller: _____

Call taken by: _____ Referred to: _____

Person(s) responding: _____ Vehicle No(s).:_____

Work started: _____ Finished: _____ Total man hrs. _____

Nature of work: Lateral ☐ Mainline ☐ Other ☐

If mainline: Dwg. No.: _____ Start MH: _____ End MH:_____

Total feet worked: _____ Estimated spillage in gallons_____

Property damage: None ☐ Lt. ☐ Mod. ☐ Hvy. ☐

Comments: _____

_____

_____

_____

_____

_____

Rev. 9/2/2015

Bayshore Sanitary District
SEWER SERVICE REQUEST
REPORTABLE INCIDENTS

Date and time Bayshore Sanitary District was notified by reporting party:

Date and time CSMS notified by District or reporting party:

Requested by: **Telephone**:

Address:

Problem described by caller:

Call taken by: **Referred to**:

Person(s) responding: **Vehicle #:**

Estimated operator arrival date/time: **Overflow when onsite:**

Estimated spill start date/time: **End date/time:**

Work Started: **Finished:** **Total man hours:**

Nature of work: **Lateral** **Mainline** **Other**
If mainline: **Dwg. #:** **Start MH:** **End MH:**

Total feet worked: **Overflow MH:**

Property damage: **None** **Light** **Moderate** **Heavy**

Estimated spill volume: **Estimated volume of spill recovered:** __ gallons

Spill cause: **Estimated spill rate:**

Diameter and material of sewer pipe at point of blockage/spill:
Did discharge spill to drainage channel and/or surface water? Yes No
Was discharge captured and returned to sanitary sewer system? Yes No
Was discharge a private lateral spill: Yes No

Final spill destination:

Spill cause explanation and comments:

SSO Event ID #
WDID #2
Certification Confirmation #
Reported:

Rev. 9/2/2015

Submitted by:
Collection Systems Maintenance Service
178 South Palomar Drive • Redwood City, CA 94062

Attachment F

Emergency Contractors

Uniacke Construction
5698 Diamond Heights Boulevard
San Francisco, CA 94131
(415) 640-4389 (cell) (415) 824-5510 (office)

West Valley Construction
809 Hurlingame Avenue
Redwood City, CA 94063
(650) 364-9464 (800) 400-9464

A&B Construction
712 Sansome Street
San Francisco, CA 94111-1730
(415) 362-2266
Contact: Ryan Caufield

Harty Pipeline
4085 – 19th Avenue
San Francisco, CA 94132
(415) 585-6023
Contact: Jim Harty

Stoloski and Gonzalez
727 Main Street
Half Moon Bay, CA 94019
(650) 726-7119
Contact: Mark Stoloski/Robert Gonzalez

Shaw Pipelines
150 Executive Boulevard #3790
San Francisco, CA 94134
(415)337-0190
Contact: Matt Shaw

Rev. 9/2/2015

Attachment G

Restoration Contractors (rev 11/8/18)

Ideal Restoration
432 North Canal Street, Unit 16
So. San Francisco, CA 94080
(800) 379-6881

Emergency Services Restoration
25637 Nickel Place
Hayward, CA
San Carlos Branch: (800) 577-7537

Servicemaster
439 Eccles Avenue
So. San Francisco, CA 94080
(415) 805-9699

Vital Restoration
6 So. Linden Avenue
So. San Francisco, CA 94080
(866) 887-6115