

Coachella Valley Water District



Sanitary Sewer Management Plan

**FINAL DRAFT
November 17, 2009**

Preface

This Sewer System Management Plan (SSMP) is to be the guide followed by the Coachella Valley Water District (District) in managing its sewer collection system. By following this SSMP, the District will reduce the number of Sanitary Sewer Overflows that might otherwise occur.

On July 31, 2007, the District's Board of Directors approved a Sewer System Management Plan Development Plan and Schedule (Development Plan). This SSMP is being developed in accordance with the Development Plan. The Development Plan is dated June 19, 2007 and it is available in District File 0732.31 and on the District's J: drive under public documents.

This SSMP is required by the State Water Resources Control Board (SWRCB) Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WDR 2006-0003) enacted May 2, 2006. The purpose of WDR 2006-0003 is to reduce sanitary sewer overflows. The District's sanitary sewer overflow history is not unusual or above average compared to other agencies in the state. A large portion of the District's sanitary sewer system is relatively new and this, coupled with dedicated staff, accounts for the moderate overflow history. The principles and practices required by WDR 2006-0003 will assist the District to maintain and improve upon this overflow pattern.

This SSMP is organized to follow the tasks as listed in WDR 2006-0003.

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Chapter 1. Goals

The District's Mission Statement:

The mission of Coachella Valley Water District is to meet the water related needs of the people through dedicated employees providing high quality water at a reasonable cost.

It is important that the wastewater collection system goals be developed within the context of the District's Mission Statement. Therefore, the goals of the wastewater collection system are;

The overall goal of the Coachella Valley Water District's Wastewater Collection System is to protect the environment and the valley's water supply. To meet this goal, the District will utilize a Sewer System Management Plan. The District will foster a business atmosphere where dedicated employees can efficiently carry out the following specific goals of the wastewater collection system at a reasonable cost;

- 1. To properly manage, operate, and maintain all portions of the District's wastewater collection system.***
- 2. To provide adequate capacity to convey the peak wastewater flows.***
- 3. To minimize the frequency of sanitary sewer overflows.***
- 4. To mitigate the impacts that are associated with any sanitary sewer overflow that may occur.***
- 5. To meet all applicable regulatory notifications and reporting requirements.***
- 6. To provide exceptional customer service to the residents and businesses served.***

Chapter 2. Organization

The Coachella Valley Water District (District) was formed in 1918 under the County Water District law. It is governed by a five member board of directors, elected at large to four year terms. The District is a multi-function agency, providing the following services; domestic water, sanitation collections and treatment, agricultural irrigation and drainage, stormwater protection, and groundwater management. The District's general organizational chart is shown on Figure 1.

All work of the District is done under the direction of the General Manager – Chief Engineer. However, for the purposes of the wastewater collection system, the following parties are identified as responsible for the indicated areas. Contact information can be found in Appendix A.

Authorized Representative

All applications, reports or information shall be signed by the District's authorized representative, the Director of Engineering. He has been duly authorized in accordance with the requirements of Section J of State Water Resources Control Board Order No. 2006-0003.

Management, Administrative and Maintenance Responsibilities

As a multi-function district, the District has found efficiencies in distributing responsibilities through different specialized departments. This distribution of responsibilities is suited more to the abilities of the department personnel, rather than separating departments according to function. The daily work of the wastewater collections system, like the other functions of the District, is performed across virtually all department lines at the District.

The Operations Department is responsible for the daily operations and maintenance of the wastewater collection system. Line maintenance and repair, response to SSOs, preparation of the Sanitary Sewer Overflow Response Plan, lift station piping and site maintenance and new connections are all the responsibility of the Operations Department.

Under the Director of Operations is the Sanitation Superintendent, who supervises the General Supervisor. The General Supervisor and his staff in the Collections Branch of the Sanitation Division are required to possess California Water Environment Association Certification in Collections Systems Maintenance.

The District's Trades and Support Department is a group of skilled tradespersons who perform their specialized work across department boundaries, affecting each District function. In general, Trades and Support includes motor pool, building trades, and grounds keeping. Specific to the collections system, Trades and Support includes the electronics shop which is responsible for SCADA, the electric shop which is responsible for electrical systems and motor maintenance and the mechanical shop which is responsible for pump and mechanical device maintenance.

Reporting to the Director of Trades and Support the electronic shop supervisor, the electrical shop supervisor, and the mechanical shop supervisor.

The Engineering Department has two divisions that are key for the operation and maintenance of the collections system. The Sanitation Engineering division is responsible for system design and capacity assurance. The Water Quality division has the Water Resources branch which is responsible for all reporting, including SSO reporting and the Source Control branch which is responsible for the Fats, Oils and Grease (FOG) program.

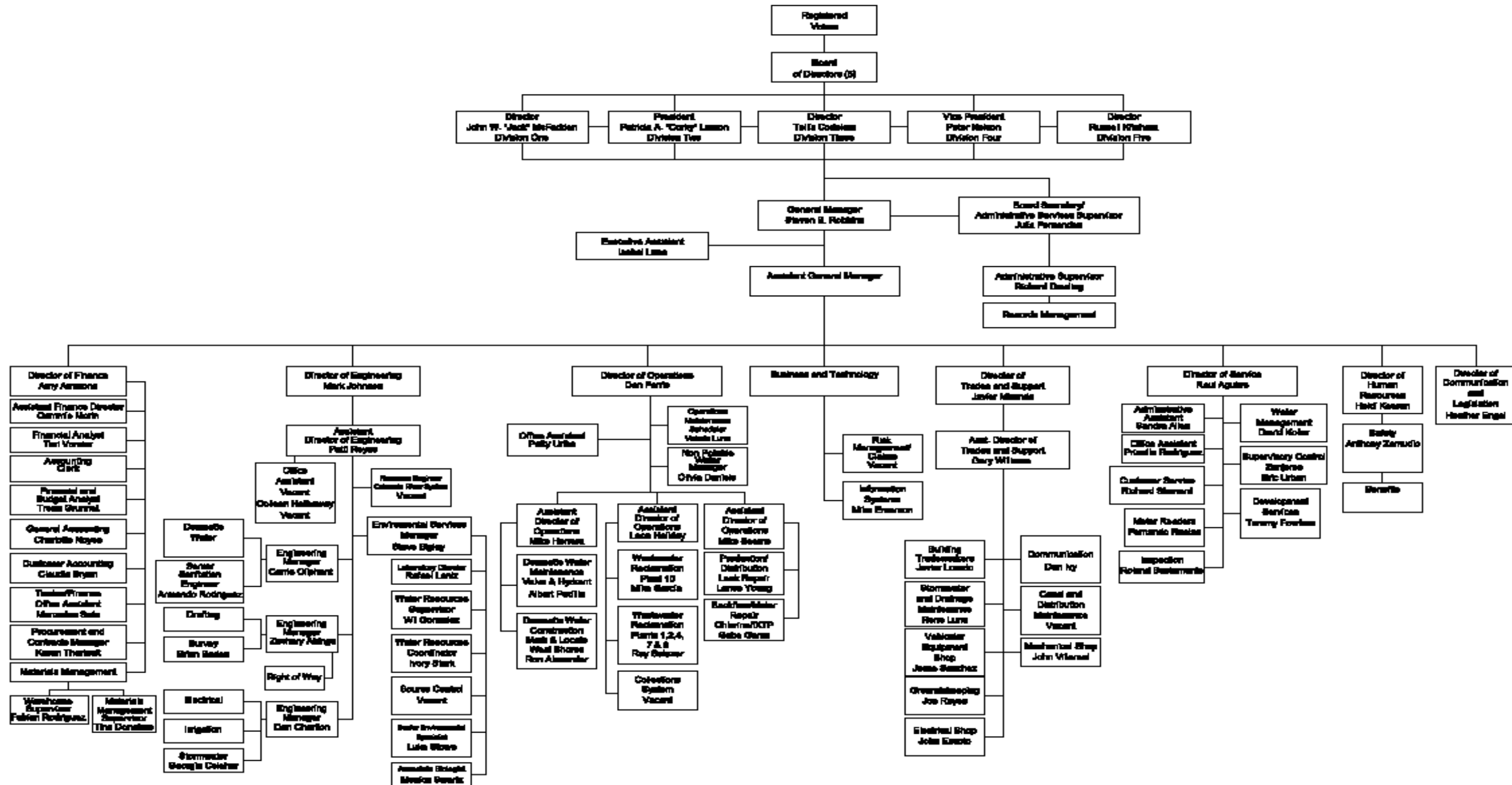
Reporting to the Director of Engineering are the Principal Sanitation Engineer and the Water Quality Manager. In Water Quality are the Water Resources branch and the source control branch.

Working with the Director of Finance, each department prepares annual budgets that are submitted to the general manager and then the board of directors for approval.

Chain of Communication for Reporting Sanitary Sewer Overflows (SSOs)

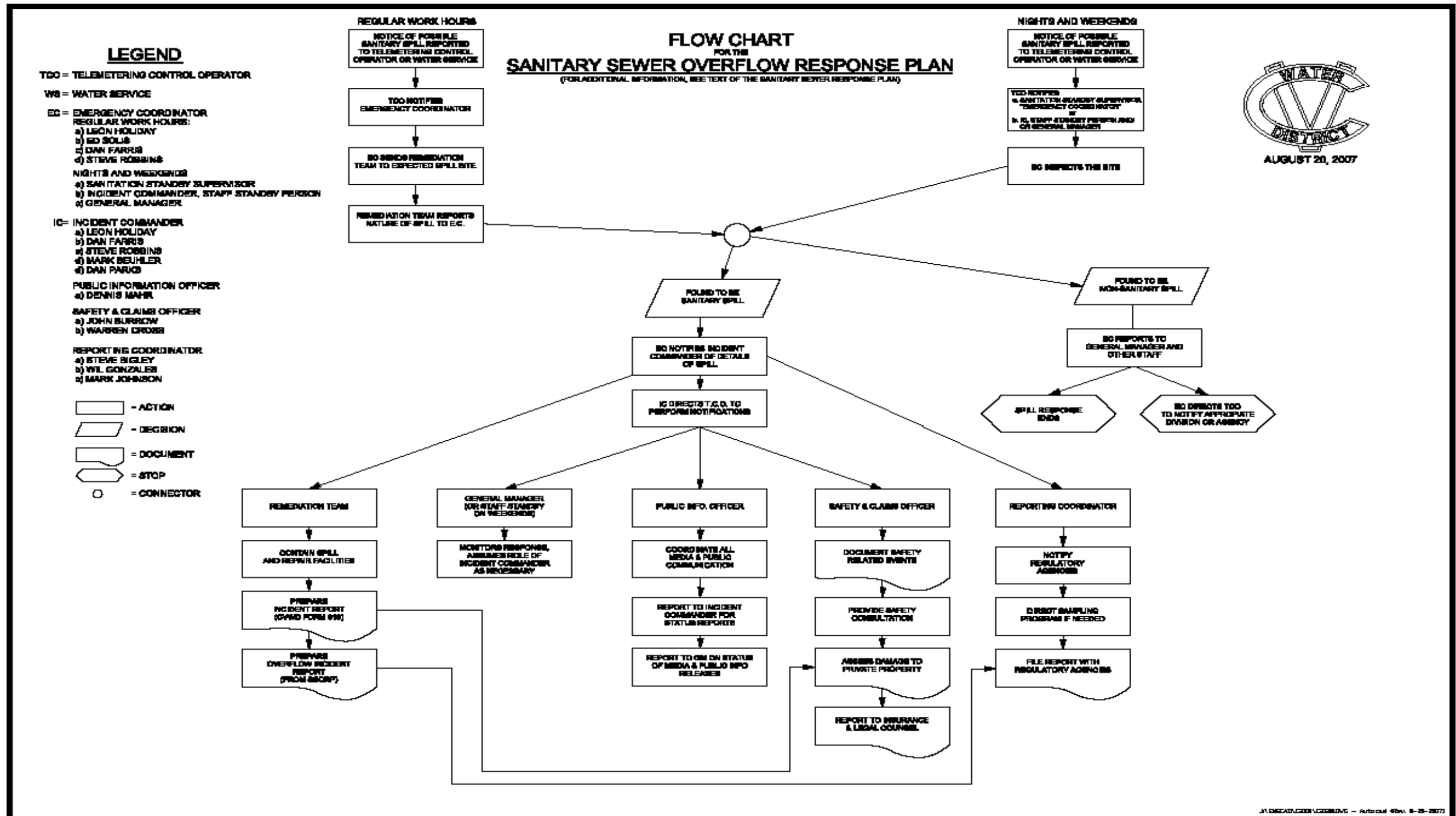
Please see the fold out Flow Chart for the Sanitary Sewer Overflow Response Plan (Figure 2). When a possible SSO is reported, an Emergency Coordinator is notified. A Remediation Team is sent to the site to evaluate the complaint. If it is determined that there is a SSO, an incident commander assumes responsibility for containment, cleanup and repair. The General Manager, the Public Information Officer and the Claims and Safety Officer are also notified. The Emergency Coordinator works with the Reporting Coordinator who is responsible for preparing a report which will be provided to the Regional Water Quality Control Board. The Director of Engineering certifies the final report.

Coachella Valley Water District Organizational Chart



REPRODUCED BY DWR - Revised (March 14/2008)

Figure 1



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Figure 2

Chapter 3. Legal Authority

The Sanitation mission of the Coachella Valley Water District (District) is authorized under California Water Code Division 12, Part 5, Chapter 1, Article 6, et. seq. (Section 31100, et. seq.). In addition to this state law, the District has its Ordinance 1138, Regulations Governing Sanitation Service, in place.

This Sanitary Sewer Management Plan is required to demonstrate that the District has the proper legal authorities for specific concerns listed in Waste Discharge Requirement 2006-0003. Part 9, Regulation of Wastes and Water, of District Ordinance 1138 contains language to prevent illicit discharges into the District maintained system. Part 3, Service Connection, requires that connections to the system are properly designed and constructed. In Part 3, the District explicitly states that maintenance of laterals connected to the District's system is the responsibility of the customer served by the lateral. Part 3 also authorizes the District access to inspect and require the maintenance of laterals. The District's Fats Oils and Grease (FOG) program, included as Chapter 7 of this SSMP, is authorized in Part 9 of Ordinance 1138. The authority to enforce any violation to Ordinance 1138 is authorized in Part 10, Enforcement.

Coachella Valley Water District Ordinance 1138 is updated periodically. At the time of this printing, the most current compilation of the Ordinance is a 2004 edition, with amendments passed since then attached. In the near future, a major update to the published ordinance is anticipated. This update will incorporate all amendments since 2004 into the body of the published Ordinance. When this update is completed, this chapter will be revised to include the ordinance in its entirety. Anyone desiring a copy of Ordinance 1138 may contact the District's Document Management Department at (760) 398-2651 extension 2536, where the Ordinance is retained in file number 0032.3.

Chapter 4. Operation and Maintenance Program

This chapter of the Sanitary Sewer Maintenance Plan (SSMP) is the Operation and Maintenance Program for the Coachella Valley Water District's sanitary sewer collection system. The collection system is to be operated and maintained to accomplish the Goals stated in Chapter 1 of the SSMP.

The collection system serves approximately 100,000 customers. The system collects municipal waste from residential and commercial users, delivering the collected wastewater to one of six Wastewater Reclamation Plants. The system includes over 1100 miles of sewer, 35 lift stations and more than 14,000 manholes. Total wastewater flow in 2005 was 18.3 million gallons per day and it is expected to reach 22.1 million gallons per day by 2010.

This Operation and Maintenance Plan is divided into five parts. These parts follow the prescribed elements listed in Waste Discharge Requirement 2006-0003.

Part 1 – Mapping

Part 2 – Preventive Operation and Maintenance

Part 3 – Rehabilitation and Replacement

Part 4 – Training

Part 5 – Equipment and Replacement Parts Inventories

Part 1 - Mapping

The District maintains up to date mapping of the district's sanitary sewer collection system in several formats.

The backbone of the mapping is the District's plat sheets. The plat sheets are organized in quarter sections of land, showing the collection system components, including lateral locations, pipeline sizes, manholes with rim elevation, lift stations and air-vacs. The plat sheets also include references to the record drawings of the facilities. The plat sheets are available in printed, hard copy format, printed at 1" = 200' or 1" = 400' scale. The plat sheets are also available electronically. The electronic versions have hot links to the digital record drawings.

In addition to the plat sheets, the District has developed a Sewer Collection System Masterplan which includes modeling and addition mapping on the system. Mapping from this effort has been made available to all District departments. The Collections System Masterplan will be discussed in more detail in the upcoming Chapter 8, System Evaluation and Capacity Assurance Plan, due in May 2, 2009.

All mapping is maintained by the Engineering Department.

Part 2 - Preventive Operation and Maintenance

The District has developed plans for routine preventive maintenance both by District forces and by contractors. This plan was developed by the Operations Department and records are maintained within the Operations Department showing that the work of the preventive maintenance plan has been accomplished.

Computerized Maintenance Management

At the time of publishing this initial version of this chapter, the District is in the process of implementing the Work Orders Module of Sungard Public Sector enterprise resource planning computer based management system. The Work Orders module will allow the establishment of automated work orders to be issued on a prescribed schedule to perform the preventive maintenance described in this chapter. Once the new computerized work order system is on line, this chapter will be updated to reflect the changes this tool will provide.

Sewer Pipeline Cleaning Program

The Sewer Line Cleaning Program consists of two (2) components,

Routine Cleaning

- Clean all sewer pipelines every 5 years.
- This requires a cleaning rate of 220 miles per year.
- This is achieved through a current yearly contracting sewer line cleaning program, and District forces.

Targeted Cleaning

- Clean a compiled list of known problem sewer lines that has been compiled from previous problem records and video inspections.
- This list is scheduled in quarterly, six-month intervals, and yearly schedule cleaning.
- This list is currently at approximately 88,523 linear feet or 16.77 miles of various sizes of sewer lines.
- See attached Repeat Cleaning Listing.

Manhole Maintenance Program

This Operation and Maintenance program consists of a full time working group that repair and maintain our more than 14,000 existing manholes. All maintenance work is performed on an as needed basis.

- Replacement of worn-out frame and cover assemblies.
- Replacement of concrete collars.
- Locate and raise to grade after street improvements.
- Inspection of interior of manholes.

Force Main/Valve Maintenance/Air Vacuum Units Maintenance Program

The District operates approximately 55 miles of force mains that convey sewage to different wastewater treatment plants. These force mains vary in size from six inches (6") to eighteen inches (18") in diameter. The force main systems also include over 100 Air Vacuum/Air Release units, and system operating valves through-out the system.

Operation and Maintenance work of this Force Main Systems consist of the following:

- Visual Inspection of all force mains, and Air Vacuum units a minimum of two (2) times per week.
- Cleaning, Flushing and making all necessary repairs to all air vacs every six (6) months or sooner as needed.
- Locate, mark, and exercise all valves on all force mains once a year.

Lift Stations Maintenance And Operation Plan

The District currently operates and maintains 35 sewage lift stations throughout the collection system. This lift stations are operated and maintained by two (2) different departments within the district.

Operation and Maintenance Plan performed by the Collection Systems Section of the Operations Department

- Make Operational decisions concerning diversion and pumping of flows between the different treatments plants in consultation with the chief plant operators.
- Clean wet wells utilizing vacor trucks on a quarterly basis to rid of all grease build-up that can cause pump failures or odor problems.
- Install and maintain emergency by-pass set-ups for gasoline driven portable pumps.
- Utilize degreasers, or other chemicals to eliminate grease build-up on locations where vacor trucks cannot be used to clean wet wells.
- Assist Electrical Dept. personnel when repairing or replacing pumps.

Operation and Maintenance performed by the Trades and Support Department

- Routine inspection of mechanical equipment.
- Pump and Motor preventive maintenance.
- Electric and Electronic Controls, in consultation with Operations, establish set points for automated equipment at Lift Stations
- Supervisory Control And Data Acquisition system maintenance

System Inspection / Video Inspection Maintenance And Operation Plan

Our current System Inspection program consists of two (2) different types of inspections which are performed regularly.

Visual Inspection 1:

- Visually inspect known problem areas and report any necessary work needed.
- Open manholes and visually inspect Flow levels, Condition of Manholes, and all other system operating problems detected.
- Inspect and measure flow levels, and record for future capacity management information.

Video Inspection:

The District owns one state of the art video inspection vehicle with a fully trained operating crew. The District also owns a portable short-run camera that can be utilized by many crews.

- Video Inspect sewer areas following any stoppage to locate and identify problem.
- Video Inspect areas that were contracted for cleaning to evaluate quality of work by contractor.
- Video inspect areas for possible CIP projects.
- Video inspect newly acquired sewer systems to evaluate conditions and as-builts.

Part 3 – Rehabilitation and Replacement

The District produces an updated five year Capital Improvement Budget (CIB) each year. The CIB includes both capital improvement projects and capital replacement projects.

Capital improvement projects are for those facilities which are constructed to meet increased demands on the districts' collection system resulting from increases in the customer base. These types of projects are typically funded through developer impacts fees. The district charges a Sanitation Capacity Charge (SCC) on a per unit basis for new development to fund capacity increases in the collections and treatment facilities. The District also accepts in-kind, developer constructed facilities which offset all or a portion of the SCC.

Capital replacement projects are for the replacement of existing facilities that have reached the end of their efficient useful life. Capital replacement projects are funded through the monthly sewer service rates. When it is effective to do so, a project may be constructed wherein an existing facility is reconstructed with increases in capacity. A project such as this may be funded through a combination of developer impact fees and rates.

Not all capital replacement projects are constructed through the CIB process. Many items, such a lift station motor replacement for example, will be done entirely through the District's Operating Budget. The Operating Budget is utilized for capital replacement projects typically when the cost is below \$50,000 or the majority of the work is to be done by district forces.

Each year, in January, the Operations Department and the Trades and Support Department are asked to nominate projects for the CIB. The Engineering Department also uses the collections system computerized model to identify potential bottlenecks or other deficiencies which should be addressed in the CIB. The Engineering Department is responsible for prioritizing projects within the CIB. The Finance Department is responsible for assuring the prioritized projects can be funded in the years proposed in the CIB. By working together, the four departments can develop a CIB that includes the input of all involved, setting the priorities on a fundable schedule meeting the Goals stated in chapter 1 of this SSMP.

Part 4 – Training

The District maintains a well trained work force by providing safety, technical and supervisory training.

Safety training is managed by the District's Human Resources Department. In addition to weekly safety meetings there are special training seminars held periodically covering issues including traffic control, trench safety, crane operation including hand signals, and materials safety data sheets. The safety record for the District's Collections System Operation is outstanding.

Technical training related to the Operation and Maintenance of the collection system is managed in two ways. First, there is the constant day to day culture of learning on the crews so the crew chiefs and leads personnel are always encouraged to share what they have learned over the years with newer employees. Second, employees are sent to outside seminars covering the operation and maintenance of collection systems. In addition, the District is active in the California Water Environment Association (CWEA) and has hosted many CWEA seminars on District premises.

The District requires certification in the field of Collection Systems Operation and Maintenance, issued by CWEA in order to advance in the Collection Systems career path. In the Collection Systems division of the Operations Department, there are currently 20 employees. Fully one – half (10) hold the highest certification available, the Grade IV. There are also three (3) Grade III's and five (5) Grade II's. The other two new employees are actively seeking certification.

In the Trades and Support Department continuing education in electrical safety, electric principles, electronic technology advances, programmable logic controller programming and related areas of study is a high priority.

Part 5 – Equipment and Replacement Parts Inventories

The District maintains a warehouse in Coachella where many of the critical replacement parts are stored. In addition, parts are stored in storage containers in Palm Desert and at Wastewater Reclamation Plant 7 in North Indio.

The District has a policy of keeping parts on hand that may be required to keep the collection system operating. Critical parts lists are developed based on manufacturer recommendations for mechanical equipment. Parts are also kept on hand so that repairs can be made on each type and size of pipe, including fittings that are in the District's system. Many parts are readily available at local vendors. In determining which parts are needed to be on District premises, key factors such as lead time are taken into account.

The District's new Sungard Public Sector computer based inventory management system can list parts on hand. The remotely stored parts are not yet in the Sungard inventory, but will be.

Repeat Cleaning Listing

The listing below is of problem areas in the collection system where cleaning of the sewer pipeline is required more often than the standard of once every five years.

Monthly

Location	Plat	Line No.	Lineal Feet	Diameter
Aven.Juarez @ McCallum way in Cathedral City	45161	14558	800	8
Eleanora Dr. in Rancho Mirage	55124	542	761	8
Vista Del Sol @ Indian Wells Racquet Club	57193	8794	495	8
Camino De Paco @ Desert Horizons in Indian Wells	56221	9052	677	12
New York Ave. @ PDCC in Palm Desert	56132	239	535	8
2 nd St. in Mecca	7983	13235	800	8
3 rd St. in Mecca	7983	13236	786	8
4 th St. in Mecca	7983	13248	1200	8
5 th St. in Mecca	7983	13250	1200	8
Total Monthly			7254	

Quarterly

Location	Plat	Line No.	Lineal Feet	Diameter
<i>Cathedral City -</i>				
Date Palm Plaza	45164	18264	623	8
Date Palm Plaza	45164	14302	768	8
Food 4 Less Center	45281	16370	1141	8
Food 4 Less Center	45281	16776	1045	8
Mission Hills Plaza	45284	8431	523	8
Cathedral canyon Estates	45284	12131	250	8
<i>Rancho Mirage</i>				
Pavilion Center	45361	18843	717	8
Black Angus area	45344	8483	1762	8
Jensens	5531	1169	462	8
Kobe	5531	1168	300	8
Kobs	5531	1157	1355	8
Desert Braemar	5531	1154	886	8
Desert Braemar	5531	1155	812	8
Chart House	5531	1155	100	8
RM Mobile Homes	5522	1153	686	10
RM Nursery to Ave 39	5522	1152	1190	10
Ave 39 to Peterson	5522	1150	671	12

Quarterly Continued

Location	Plat	Line No.	Lineal Feet	Diameter
<i>Rancho Mirage Continued</i>				
Peterson Rd.	5523	1149	680	15
Peterson Road	5523	1158	715	8
Las Casuelas	5523	1161	627	8
Michaels Bistiro	5523	51258	330	8
Beach House	5523	51159	1053	8
Desert Cove	5523	1148	1004	15
Wallys Area	55131	19087	117	8
Wallys Area	55131	19087	760	8
Marios	55131	19088	500	15
Post Off. to Bob Hope	55131	19086	864	15
Rancho Las Palmas Hotel	56182	1289	744	15
Rancho Las Palmas Hotel	56182	1380	342	8
Magnesia Falls	56183	8124	1100	8
Rancho Las Palmas Shopping Center	56182	6941	715	8
<i>Indian Wells</i>				
Ralphs 2 Cook & Hwy111	56214	10246	975	8
Stouffers Hotel	56231	14189	1662	12
Grand Champs	56232	13557	613	8
Betty Barker	57193	26773	118	18
<i>Palm Desert</i>				
Painters Path Center	56183	8448	640	8
Hwy111 to Fred Waring	56183	8472	1196	8
Fred Waring To PVSWC	56192	5290	848	12
Fred Waring to Town Center Dr.	56191	532	323	12
TGIF Center To Edgehill	56191	10262	540	8
TGIF to Edgehill	56192	6960	947	8
P.D. Town Center	56191	10309	2279	8
Monterey Ave. Between Hwy. 111 & F. Waring Dr.	56191	10312 10311	2431	8
Palms to Pines Center	56194	8346	475	8
Palms to Pines Center	56194	1173	415	8
Thrifty Center	56194	1918	1041	8
Frontage Rd. @ Hwy. 74	56194	1470	802	8
Baker Sqr. To Sage Ln.	56203	751	1085	8
Sage Ln. To Lupine Dr.	56203	750	772	8
Lupine Dr. to Jensen Cntr.	56203	749	1011	10
Jensen Cntr. to Presidents Cntr.	56204	748	949	10
Presidents Plaza	56204	747	998	10

Quarterly Continued

Location	Plat	Line No.	Lineal Feet	Diameter
<i>Palm Desert Continued</i>				
Pres. Plaza to Portola Ave.	56204	746	694	10
Portola Alley to El Paseo	56213	745	825	10
Country Club Dr. & Washington St.	56121	14245	762	8
Ave. 42 & Washington Albertson Center	56131	17874	1311	8
Desert Springs Marriott	5691	11706	1221	12
Desert Springs Marriott	5691	11705	975	12
Desert Springs Marriott	5691	11707	446	12
Allesandro	56212	15032	876	8
San Anselom	56202	1500/01	1777	8
Alley / Radio Active	56202	14978	1775	8
Allesandro /San Gorgonio	56201	15027/ 15028/13 82/1125/ 10137	1954	8
Allesandro 7-11 to Portola	56201	9225 / 2362	890	8
Waring Center	56183	18608/05	1208	8
<i>Thousand Palms</i>				
Truck Wash to Varner	46183	15115	671	15
Varner Road	46183	13625	1424	15
Varner Road	46192	13625	1255	15
Algoquin	46201	14861	200	6
San Lucas	46203	14872	90	6
Costco	46194	22686	474	8
Costco	46194	17328	77	8
<i>La Quinta</i>				
Vons Plaza	57193	10121	1385	8
Cliff House	57193	18245	364	8
Washington St	57194	18242-4	1566	8
Kohl's Center	57194	18868	513	8
Kohl's Center	57194	18867	1878	8
Kohl's Center	57301	188590	715	8
Kohl's Center	57301	18866	715	8
Kohl's Center	57301	18865	1160	8
Kohl's Center	57301	18589	895	8
La Quinta Hotel Santa Rosa Cove	56363	11202	1037	10

Quarterly Continued

Location	Plat	Line No.	Lineal Feet	Diameter
<i>La Quinta Continued</i>				
Santa Rosa Cove Mazatlan	56363	10729-30	1558	10
Mazatlan	56363	9685	871	10
Mazatlan	6611	9682	1046	10-12
Mazatlan To Ave. 50 th .	6611	8773	433	18
Ave. Cadiz	6763	15180	658	10
Desert Club Dr.	6763	15180-A	2295	10
Point Happy	57193	29684	1000	8-10
Wal-Mart	57293	29304	938	8
Wal-Mart	57293	29307	1080	8
Wal-Mart	57293	29305	579	8
Wal-Mart	57293	29306	1148	8
<i>Areas to be cleaned at night only</i>				
Dinah Shore @ Cathedral Canyon Dr.	45281	11036	733	10
Corral & Date Palm	45211	14394	250	8
Bob Hope Dr & Gerald Ford Dr.	45361	22435	657	10
Fred Waring Dr & Monterey Ave.	56191	10310	450	8
Fred Waring Dr & San Anselmo Ave.	56202	15000	300	8
Country Club Dr & Cook St.	5644	19820	200	12
Portola Ave & Alessandro Dr.	56201	8445	350	8
Fred Waring Dr & Tennessee	56133	3983	450	10
Cliff House HWY 111, Indian Wells	57193	18245	250	8
Calle Tampico & Desert Club Dr	6763	15180A	250	10
Calle Tampico & Bermudas	6763	29648	350	8
Total Quarterly			89927	

Semi Annual

Location	Plat	Line No.	Lineal Feet	Diameter
Dinah Shore @ Cathedral Canyon Dr.	45214	14428	325	8
Dinah Shore @ Cathedral Canyon Dr.	45214	14426	330	8
Dinah Shore @ Cathedral Canyon Dr.	45213	11037	1003	10
Pavilions Center	45361	18843	717	8
Fred Waring to HWY 111	56192	8447	480	8
Pizza Hut / Toys R Us	56192	13889	561	8
Alley / San Gorgonio	56202	1125	589	8
Desert Springs Market Place	5644	19820	1128	8
Total Bi-Annual			5133	

Chapter 5. Design and Performance Provisions

The Coachella Valley Water District (District) has maintained design and performance provisions for many years. These take the form of two documents; the Standard Specifications for the Construction of Sanitary Sewer Systems (Standard Specifications), and the Instructions for Preparation of Improvement Plans for Domestic Water and / or Sanitary Sewer Systems (Instructions). In addition to these two documents, a Development Design Manual (DDM) is in draft form. This manual will incorporate the guidelines in the Standard Specifications and Instructions. The DDM may then replace the Standard Specifications and Instructions.

The Standard Specifications provide direction on the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems. Procedures and standards for the inspection and testing of these are also included in the District's Standard Specifications. The Instructions assists design engineers working on tracts, subdivisions and other developments which require approval by the District.

The District's Standard Specifications along with the Instructions meet or exceed the requirements of WDR 2006-0003. Since both of these documents are distributed to a larger set of users than this SSMP, they are hereby included in this SSMP by reference and not reproduced herein.

Within the District's Standard Specifications, the technical conditions are discussed in Part II, and special provisions discussed in Part III. The detail drawings for the collection system are demonstrated in Part III of the specification. Inside the Instructions, general information and requirements are discussed in Part I, followed by design requirements and drawing requirements covered in Part II and Part III respectively.

Both the District's Standard Specifications and the Instructions are the responsibility of the Engineering Department for update, review and distribution. As with all regulated activities of the District, the Engineering and Operations Departments are involved in ensuring that the maintenance of this document meets state requirements. Anyone desiring a copy of the District's Standard Specifications the Instructions may contact the Engineering Department's office assistant, at (760) 398-2651 extension 2260.

Chapter 6. Overflow Emergency Response Plan

Prior to the implementation of Waste Discharge Requirement (WDR) 2006-0003, the Coachella Valley Water District (District) had a Sanitary Sewer Overflow Response Plan (SSORP) in effect. The District's SSORP meets the requirements of WDR 2006-0003 and it is hereby included in this SSMP by reference. Because the distribution of the SSORP is wider than the distribution of this SSMP, and since affected employees are encouraged to keep copies of the SSORP readily available, it was decided to keep the SSORP as a separate publication. If the District were to incorporate the SSORP into the SSMP, updates would need to be simultaneous, printing costs would increase and field employees would need to carry heavier volumes in their respective vehicles.

WDR 2006-0003 requires certain specific minimum components to be included in the Overflow Emergency Response Plan, the District' SSORP.

Notification of first responders and the appropriate response are covered in Part II, Collections System Overflows, of the SSORP.

Proper notification of regulatory and other potentially affected agencies is also covered in Part II, Collections System Overflows. Reporting is the responsibility of the Engineering Department, Environmental Services group. Part II of the SSORP incorporates the District's Water Reclamation Plant Notification Procedures by reference. The SSORP and Water Reclamation Plant Notification Procedures are distributed in the same notebook.

Training in the aspects and procedures of the SSORP is discussed in Part V, Personnel Training.

Emergency operations and spill containment are addressed in Part II of the SSORP.

The District's SSORP is the responsibility of the Operations Department for update, review and distribution. As with all regulated activities of the District, the Environmental Management group of the Engineering Department is instrumental in ensuring the maintenance of this document meets state requirements. Anyone desiring a copy of the District's current SSORP may contact the Operations Department Schedule Coordinator at (760) 398-2651 extension 3529 or Office Assistant at extension 3429 to obtain a copy.

Chapter 7. Fats, Oils and Grease (FOG) Control Program

The Coachella Valley Water District (District) has maintained a Fats Oils and Grease (FOG) Control Program for many years. The FOG program is managed by the Source Control section of the Environmental Management Division of the Operations Department. The prevention of illicit discharges into the District's maintained system is authorized in Part 9, Regulation of Wastes and Water, of the District's Ordinance 1138, Regulations Governing Sanitation Service.

The District has evaluated its service area and developed a FOG program appropriate to the Coachella Valley. The urbanized portion of the Coachella Valley is characterized as a residential, golf and tourism community. There is little industry, and no heavy manufacturing. The FOG program reflects this community.

A FOG source control program has been determined to be necessary and it was implemented. The District began grease trap inspections in the late 1970's and the source control group was started in 1990. Provisions for the requirement of and proper design of interceptor facilities, their inspection and disposal of FOG are included in the FOG program. Cleaning of critical areas is included in Chapter 4, the Operations and Maintenance Program.

The District's FOG program is included in its entirety on the following pages.

Chapter 8. System Evaluation and Capacity Assurance Plan

The Coachella Valley Water District (District) has prepared a sewer collection system master planning study that meets the requirements of WDR 2006-0003. Since this master plan is larger than the distribution of the SSMP, it is hereby included in this SSMP by reference.

The sewer master plan evaluates those portions of the sanitary sewer system with hydraulic deficiencies that can and may lead to a sanitary sewer overflow (SSO). The steps needed to establish a short and long-term CIB to address identified hydraulic deficiencies, including prioritization, alternative analysis and a schedule of all portions of the CIB are put forward. This master study highlights the District's existing sewer collection system and establishes design and planning criteria. Capacities of the existing sewer collection system are evaluated with the use of hydraulic modeling software existing deficiencies and proposed improvements to enhance system reliability are summarized.

The sewer collection system master plan contains five chapters, followed by appendices that provide supporting documentation for the information presented in the report. The chapters are briefly described below.

Chapter 1 – Introduction. This chapter presents the background on the Sewer Collection Master Plan and its objectives.

Chapter 2 – Existing System and Hydraulic Model. This Chapter presents an overview of the District's sewer collection system. The chapter also describes the development and calibration of the District's sewer hydraulic model. This model was used for identifying existing system deficiencies and for recommending enhancements.

Chapter 3 – Planning and Design Criteria. Design criteria presented in this chapter provides the basis for the capacity of the wastewater collection system. Historical flows at the District's water reclamation plants were reviewed and analyzed to determine daily, monthly, and seasonal fluctuations experienced by the sewer system. The developed criteria address the sewer system capacity, acceptable pipe gravity slopes, and acceptable depths of flow within pipes.

Chapter 4 – Evaluation and Proposed Improvements. This chapter presents the results of the capacity evaluation of the sewer collection system. The chapter also presents improvements to mitigate existing system deficiencies and for servicing future growth. These improvements are recommended based on the system's technical requirements, cost effectiveness, and operational reliability.

Chapter 5 – Capital Improvement Budget. This chapter presents the recommended Capital Improvement Budget (CIB) for the District's sewer collection system. The program is based on the evaluation of the sewer collection system and on recommended projects described in the previous chapters. The CIB was phased to the planning horizon year of 2030.

A copy of the Sewer Collections System Masteplan may be obtained by contacting Armando Rodriguez, Principal Sanitation Engineer.

The Engineering Department will continually monitor and update this Masterplan in order to meet the changing needs of the community as well as changes in condition of the facilities.

Chapter 9. Monitoring, Measurement, and Program Modification

Records that can be used to establish and prioritize SSMP activities will be maintained in the Collections System Division of the Sanitation Branch of the Operations Department. The records will also be filed with the district's records management system under file number 0732.31.

The Coachella Valley Water District (District) has implemented the Sungard Public Sector enterprise wide computerized business management application. Included in Sungard is the Work Order or WF system. By utilizing the Sungard WF, accurate records will be kept showing the work accomplished relevant to the SSMP activities. Reports can then be generated and compared to the tasks outlined in the SSMP to measure compliance.

As the implementation of Sungard matures, the maintenance activities planned in the SSMP can be set as automatically triggered routing maintenance activities, on a predetermined schedule. A report showing the schedule can be generated, and then periodic reports can be generated showing success against the schedule.

Evaluation of the success of the SSMP is a continual process. As each section of the District works on different aspects of the sewer collection system, each employee will evaluate the success as planned, and consider suggestions for constant improvement.

The bottom line measurement for success of the SSMP is the number and nature of Sanitary Sewer Overflows. CVWD maintains a database of SSO events and performs trend analysis to evaluate the effectiveness of the SSMP.

Table 1 shows the number of SSO's that have been reported by CVWD since Region 7 began implementation of on-line reporting in the California Integrated Water Quality System (CIWQS) on September 2, 2007. These Tables and Graphs will be updated annually, each January. The associated volumes of these SSO's are also shown. As shown in the table, 19 SSO's have been reported by CVWD from September 2007 to April 2009 – 18 within CVWD's collection system and 1 from a private spill. The volume of these spills has ranged from 0 to 250,000 gallons.

Graph 1 shows the frequency of SSO's per month within CVWD's collection system since September 2007. As shown in the graph, the trend line shows a gradual decline from greater than 1 SSO/month to less than 1 SSO/month since September 2007.

Graph 2 shows the volume trend for these SSO's. As shown in the graph, the trend line also shows a decline in the volume of these SSO's.

Graph 3 shows the frequency of Category 1 SSO's (greater than 1,000 gallons or entering a surface water or drainage channel) within CVWD's collection system. The trend line for this graph indicates a general reduction in these types of SSO's since September 2007 with the trend averaging less than 1 SSO per month throughout this period.

Graph 4 shows the volume trend for these SSO's. As shown in the graph, the trend line also shows a decline in the volume of these SSO's.

Graph 5 shows the frequency of Category 2 SSO's (less than 1,000 gallons and not entering a surface water or drainage channel) within CVWD's collection system. The trend line for this graph indicates a general reduction in these types of SSO's since September 2007 with the trend averaging less than 1 SSO per month throughout this period.

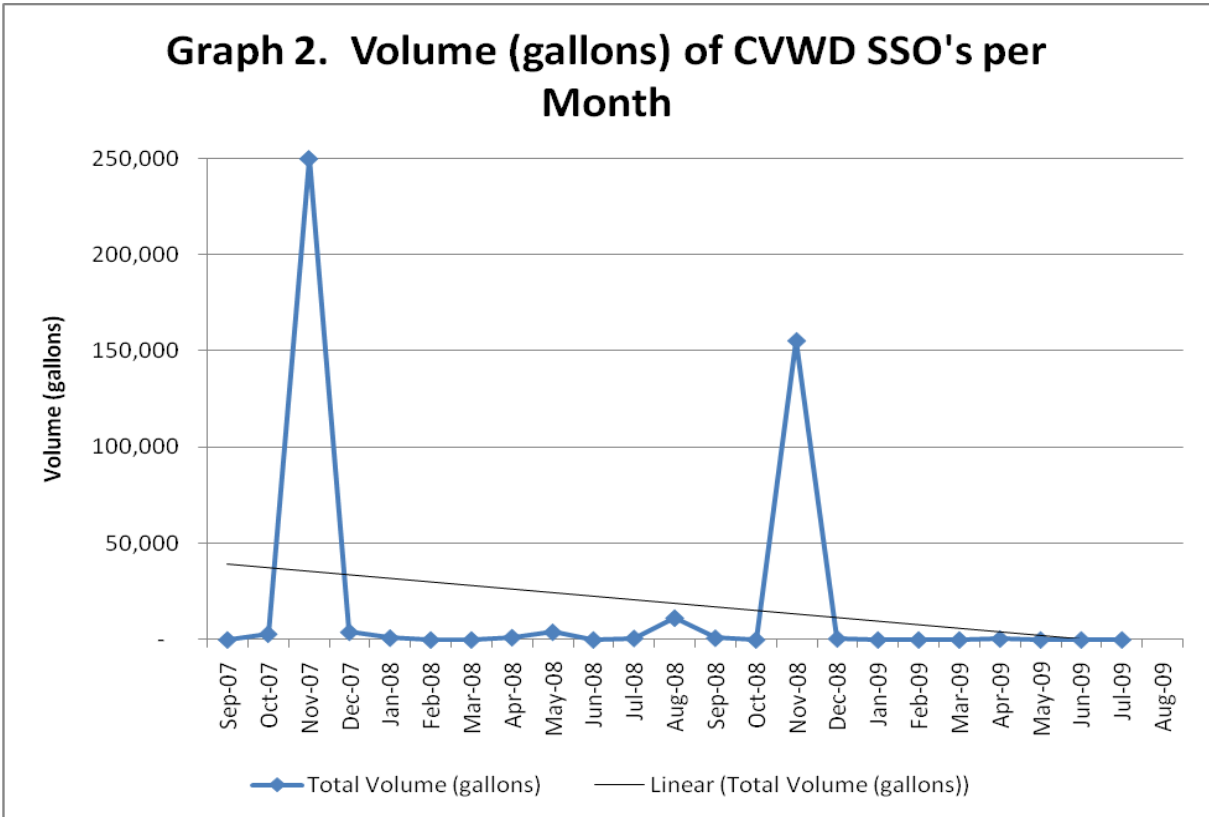
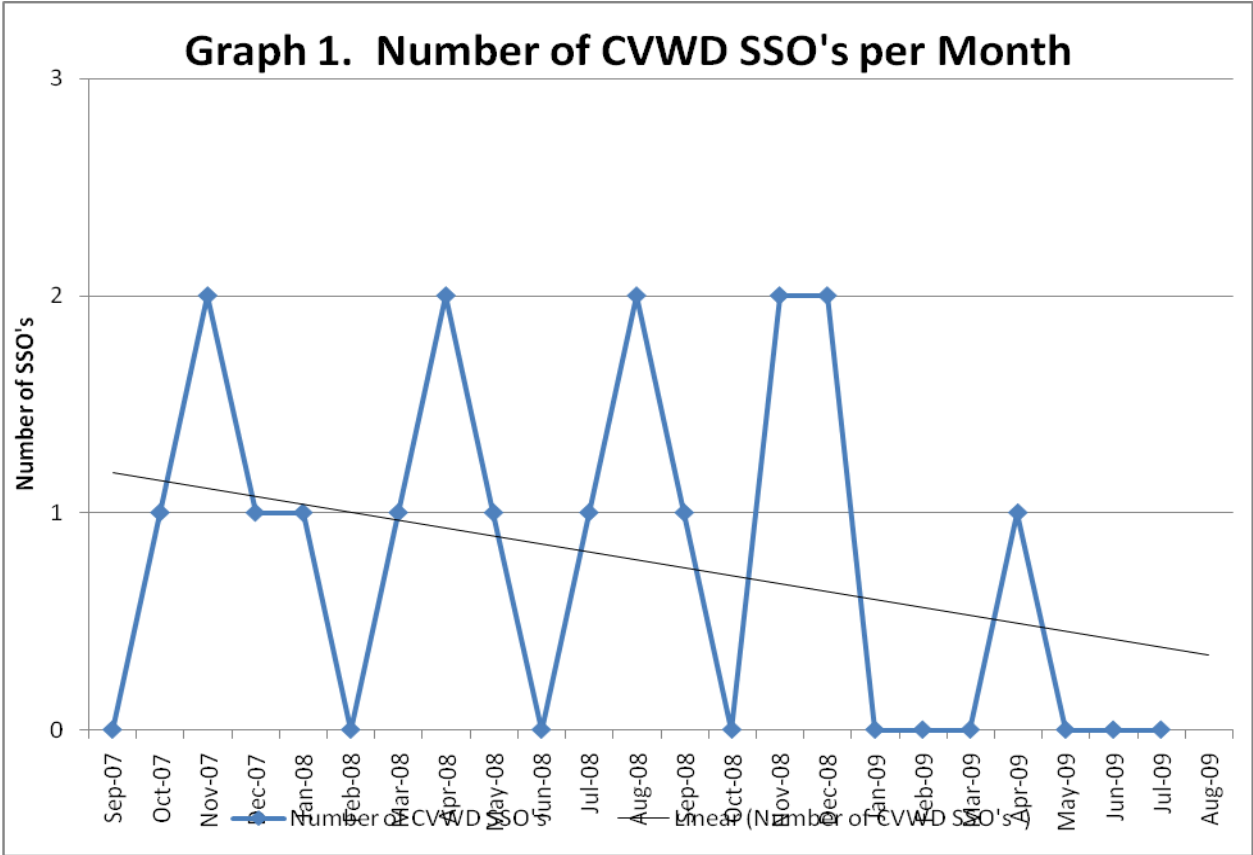
Graph 6 shows the volumes for these SSO's. The trend line for volume also indicates a decline.

Graph 7 shows the frequency of SSO's by facility location. As shown in the graph, SSO's occurring in a force main, blow off, or pump station have gradually decreased during this period as shown by their trend lines. SSO's occurring at air vacs have been steady during this period. SSO's occurring at gravity sewers indicates a trend upward during this period. All facility locations are averaging less than 1 SSO per month.

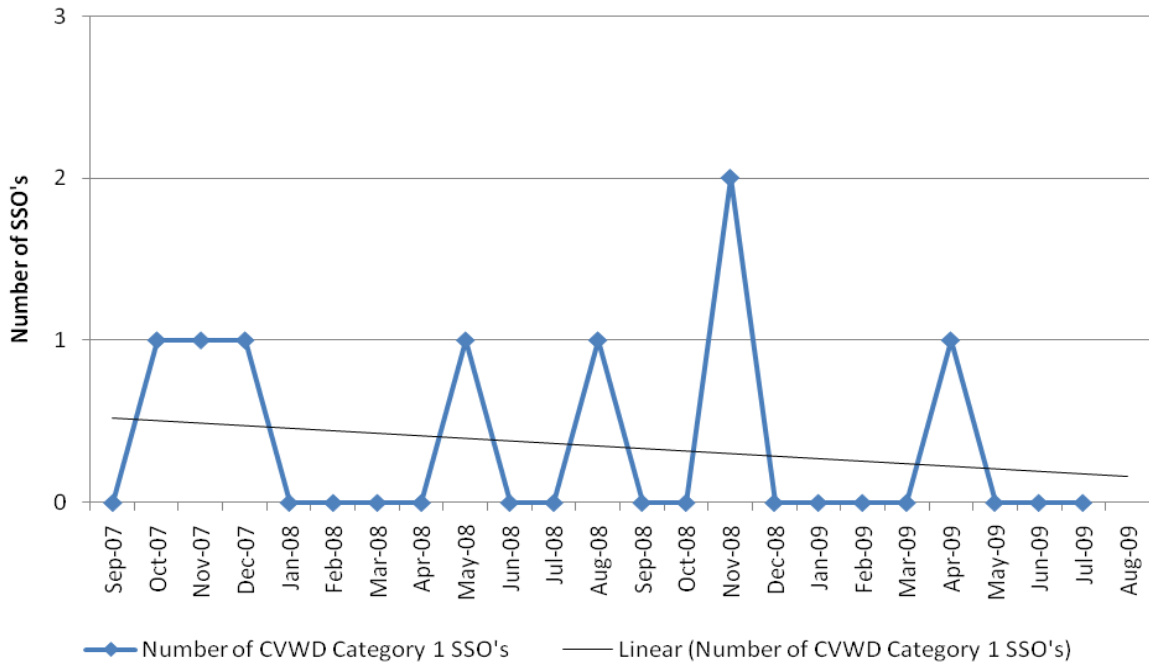
The overall assessment of CVWD's sewer collection system during this period indicates a general reduction in the number of SSO's and volume and no significant correlation between spill frequency and facility locations.

As a result of Monitoring and Measuring the Success of the SSMP, Program Modifications may be indicated. Modifications to the Plan must be approved by the Director of Operations. The Director of Operations will determine if the modification warrants approval by the General Manager prior to implementation.

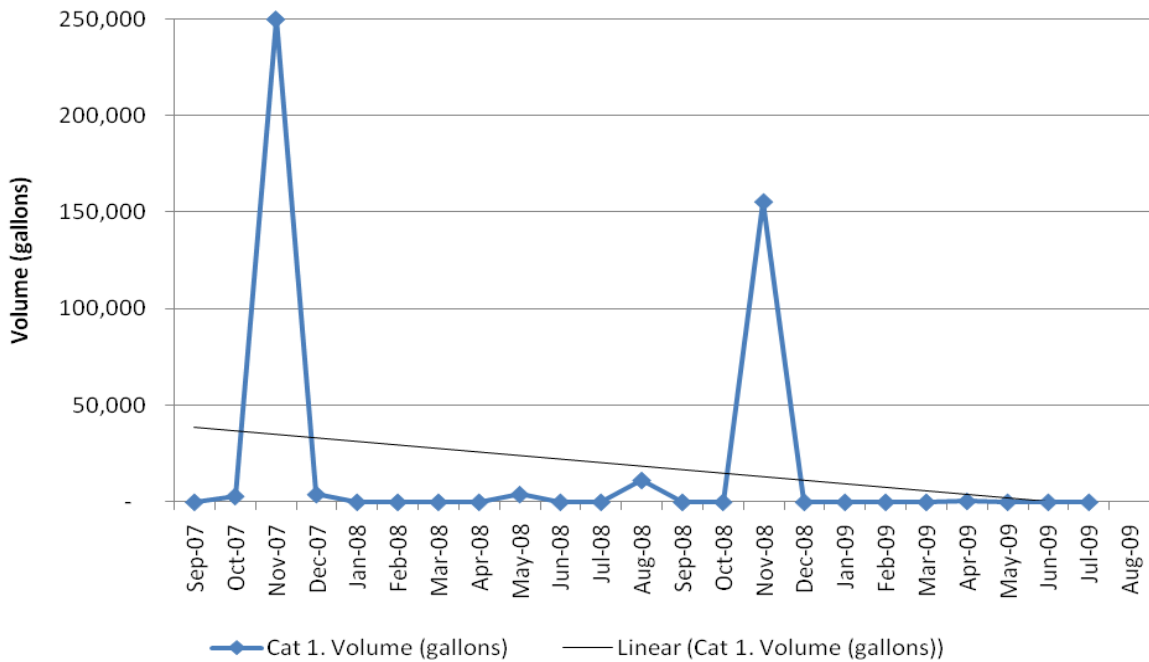
Month	Month and Year	Number of SSO's reported by CVWD	Private	Number of CVWD SSO's	Number of CVWD Category 1 SSO's	Number of CVWD Category 2 SSO's	Force Main	Blow Off	Air Vac	Pump Station	Gravity Main	Total Volume (gallons)	Cat 1. Volume (gallons)	Cat 2. Volume (gallons)
1	Sep-07	0	0	0	0	0	0	0	0	0	0	-	-	-
2	Oct-07	1	0	1	1	0	1	0	0	0	0	3,000	3,000	-
3	Nov-07	3	1	2	1	1	0	1	0	1	0	250,100	250,000	100
4	Dec-07	1	0	1	1	0	0	0	0	0	1	4,000	4,000	-
5	Jan-08	1	0	1	0	1	0	0	1	0	0	970	-	970
6	Feb-08	0	0	0	0	0	0	0	0	0	0	-	-	-
7	Mar-08	1	0	1	0	1	0	0	0	0	1	15	-	15
8	Apr-08	2	0	2	0	2	0	0	0	1	1	1,200	-	1,200
9	May-08	1	0	1	1	0	0	0	1	0	0	4,000	4,000	-
10	Jun-08	0	0	0	0	0	0	0	0	0	0	-	-	-
11	Jul-08	1	0	1	0	1	0	0	0	0	1	800	-	800
12	Aug-08	2	0	2	1	1	0	0	2	0	0	11,330	11,300	30
13	Sep-08	1	0	1	0	1	0	1	0	0	0	920	-	920
14	Oct-08	0	0	0	0	0	0	0	0	0	0	-	-	-
15	Nov-08	2	0	2	2	0	1	0	1	0	0	155,500	155,500	-
16	Dec-08	2	0	2	0	2	0	0	0	0	2	550	-	550
17	Jan-09	0	0	0	0	0	0	0	0	0	0	-	-	-
18	Feb-09	0	0	0	0	0	0	0	0	0	0	-	-	-
19	Mar-09	0	0	0	0	0	0	0	0	0	0	-	-	-
20	Apr-09	1	0	1	1	0	0	0	0	0	1	500	500	-
21	May-09	0	0	0	0	0	0	0	0	0	0	-	-	-
22	Jun-09	0	0	0	0	0	0	0	0	0	0	-	-	-
23	Jul-09	0	0	0	0	0	0	0	0	0	0	-	-	-
24	Aug-09													



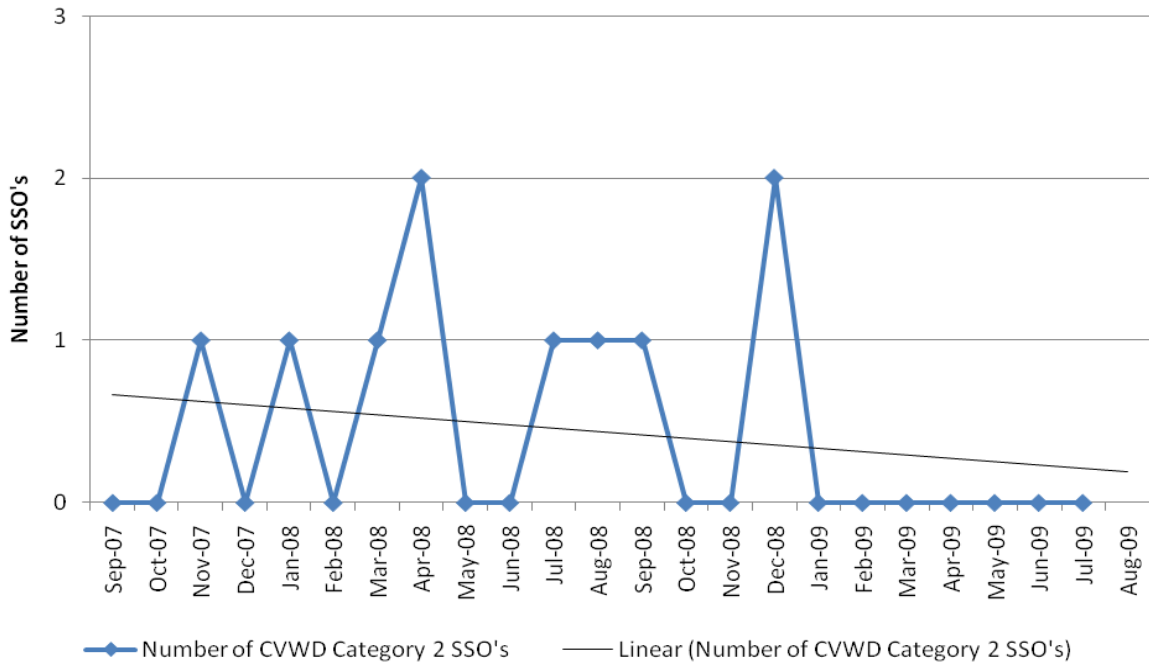
Graph 3. Number of CVWD Category 1 SSO's per Month



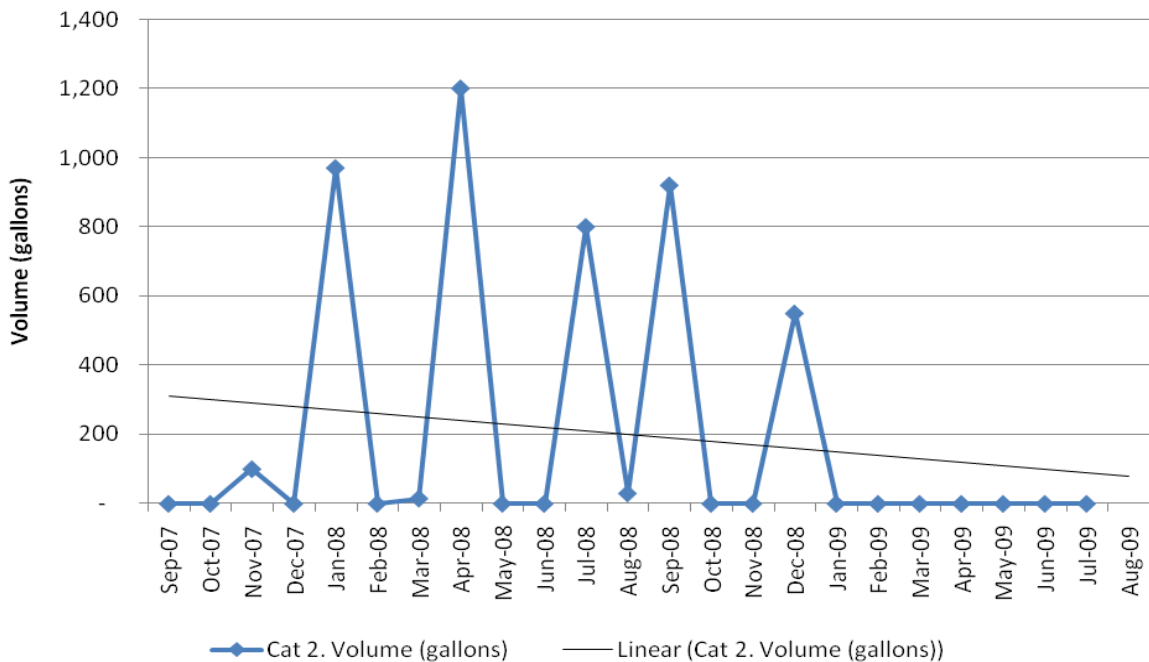
Graph 4. Volume (gallons) of CVWD Category 1 SSO's per Month



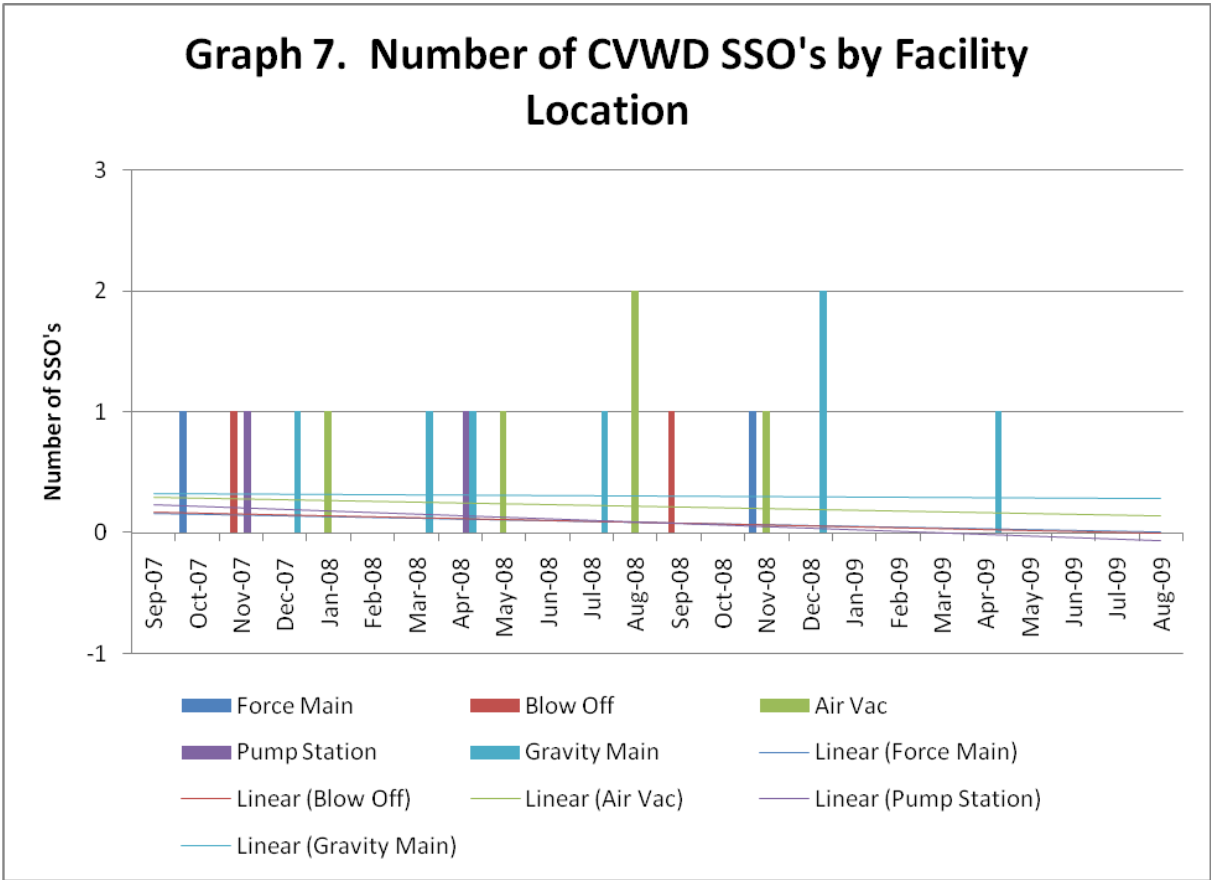
Graph 5. Number of CVWD Category 2 SSO's per Month



Graph 6. Volume (gallons) of CVWD Category 2 SSO's per Month



Graph 7. Number of CVWD SSO's by Facility Location



Chapter 10. SSMP Program Audits

In order to use this Plan effectively over time, there must be periodic internal audits. The general definition of an audit is an evaluation of a person, organization, system, process, enterprise, project or product. Audits are performed to ascertain the validity and reliability of information; also to provide an assessment of a system's internal control.

The Collections Systems Supervisor, as directed by the Director of Operations will initiate the audit process on September 1 of each year. A group of concerned stakeholders from the various district departments will be invited to participate. The integral, non-optional participants includes personnel from the Collections Systems Division of the Operations Department, the Mechanical Shop Division of the Trades and Support Department, as well as the Water Quality Division and the Sanitation Engineering Divisions of the Engineering Department. Other representatives of Departments not involved in Collections on a daily basis will be invited to participate in the audit process as well. This mix will provide a group of involved plus objective reviewers for the audit process.

The state mandate is that these audits shall occur on an interval appropriate to the system. At minimum, these audits are to occur every two years.

Audits, at minimum, shall include;

1. Review the overall effectiveness of the SSMP
2. Review each chapter of the SSMP individually to judge each chapter's success at meeting the requirements of Section D.13 of Waste Discharge Order 2006-0003
3. Identification of SSMP deficiencies and steps to correct them

Chapter 11. Communication Program

Coachella Valley Water District's SSMP Communication Program addresses the SSMP provision outlined in Section D of SWRCB Order No. 2006-0003. In particular, CVWD will communicate on a regular basis with interested parties on the implementation and performance of this SSMP. The communication program will allow interested parties to provide input as the program matures and implemented.

The SSMP is available to the public on the CVWD website at www.cvwd.org. The public is invited to comment on both the Plan at any time through the website or by calling CVWD at (760) 398-2651.

The website will be the primary source for public information and input on the SSMP. The website will provide the public the ability to review and comment on the SSMP and the SSMP performance reports, and any updates as needed. CVWD's Operations Department will review the SSMP at least annually for necessary revisions or updates and provide any revisions or updates to the Communications Department for updating on the website.

When it is necessary to communicate to tributary and/or satellite systems (such as Desert Water Agency in the Cathedral City Cove area or Valley Sanitary District), CVWD shall utilize existing committees of the Colorado River Basin Section (CORBS) of the California Water Environment Association (CWEA).

The website is advertised on all CVWD's customer and stakeholder communication materials.

The District has a good record when it comes to Sanitary Sewer Overflows. The number of overflows is within reasonable limits and the overflows have not resulted in community health hazards. Therefore, the Communications Program has been designed with an appropriate level of community involvement. The District's overflow history will be reviewed as part of the audit process and if appropriate, the Communications Program will be elevated to respond to the requirements of the changing conditions.

End