SEWER SYSTEM MANAGEMENT PLAN

LEUCADIA WASTEWATER DISTRICT
1960 La Costa Avenue
Carlsbad, CA
92009

LEUCADIA WASTEWATER DISTRICT

LEADERS IN ENVIRONMENTAL PROTECTION

SEWER SYSTEM MANAGEMENT PLAN

For the

LEUCADIA WASTEWATER DISTRICT
1960 La Costa Avenue
Carlsbad, CA
92009

Certified by: _____
Paul Bushee, General Manager

Date: July 31, 2014

Prepared by:

Dexter Wilson Engineering, Inc.
2234 Faraday Avenue
Carlsbad, CA 92008

DWE Job No. 103-015

Table of Contents

Executive Summary

The purpose of this Sewer System Management Plan is to document and publicly present in a central document the programs and activities utilized by the Leucadia Wastewater District (the District or LWD) in effectively managing its wastewater collection system.

Regulatory Background

On May 2, 2006, in an effort to reduce the occurrences of sanitary sewer overflows (SSOs) within California, a Statewide General Waste Discharge Requirement (Statewide WDR) was adopted that imposed several new requirements on all agencies that operate sewage collection systems. To date, the District has complied with all provisions prescribed in the Statewide WDR, including enrollment in electronic spill reporting, the establishment of its legal authority to enforce sewer ordinances, certification of complete SSMP implementation on June 8, 2009 by the General Manager, and subsequent audits of the 2009 SSMP.

On July 30, 2013, revisions to the Monitoring and Reporting Program for the Statewide WDR were adopted. The adoption included revisions of spill category definitions; revisions to notification, reporting, and record keeping requirements; and enhancement of water quality monitoring requirements

This 2014 SSMP is the 5-year update to the 2009 SSMP (as required by the Statewide WDR), will be re-certified by the General Manager and reported to the State Board.

SSMP Development

Dexter Wilson Engineering, Inc., a consulting engineering firm, was tasked to assist the District in completing its Sewer System Management Plan (SSMP). Prior to drafting this SSMP, every aspect of the District's activities and programs to prevent sanitary sewer overflows and to assure the proper system operation and maintenance were carefully reviewed and validated by the District. This included checks of: staff training, programs, operating procedures, historic data, and planning documents like the LWD Standard Specifications, the Asset Management Plan, and the Financial Plan Update. This review determined that the programs, procedures, plans, and management practices required for the Statewide WDR have been in place at the District for many years and are the basis for its outstanding record of environmental protection and regulatory compliance.

As an over-arching document, the SSMP strives to integrate programs and activities from the staff level to the Board level to insure that all components of District are connected and effective in preventing Sanitary Sewer Overflows. Dexter Wilson Engineering, Inc. completed annual audits of the District's 2009 SSMP and guided the District in the development of this 2014 version. The annual audit exceeds the WDR requirement of bi-annual audits and reflects the District's commitment to a proactive approach toward preventing SSOs.

SSMP Future Activities

The performance evaluations and audits of the 2009 SSMP are incorporated into this document by reference. Similarly, performance evaluations and audits of this 2014 SSMP shall be included in the future 2019 revision.

Definitions

ASM	Administrative Services Manager
CIP	Capital Improvement Project
CWMS	Computerized Work Management System
DE	District Engineer
EDU	Equivalent Dwelling Units
EWA	Encina Wastewater Authority
FOG	Fats, Oil, and Grease
FSS	Field Services Superintendent
gpd	gallons per day
GM	General Manager
LRO	Legal Responsible Officer
LWD	Leucadia Wastewater District
MGD	million gallons per day
PM	Project Manager
SMA	Special Maintenance Area
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
TSM	Technical Services Manager
WDR	Waste Discharge Requirement

Section I – Goals

Background and Regulatory Requirements

The Statewide General Waste Discharge Requirements (Statewide WDRs) governing sanitary sewers specify that the goal of each Sewer System Management Plan (SSMP) is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system.

Leucadia Wastewater District Actions

The Leucadia Wastewater District (District) Vision Statement is:

> "To be a recognized leader in wastewater services, water recycling, and environmental protection."

The District's Mission Statement is:

> "To serve the public by collecting, transporting, recycling and treating wastewater in a safe, reliable, efficient, cost effective, and environmentally responsive manner, while providing excellent service to our customers."

The District continually updates and evaluates several documents under these guiding Statements which include the:

Strategic Plan – Creating a vision of what the organization's ideal future should be, evaluation of the environment in which the District exists, and the annual development of specific tactics and actions to implement the Vision and Mission.

Financial Plan – A long-term 20-year financial plan to project future financial conditions and provide guidance in the decision making process.

Asset Management Plan – A 5-year short-term and long-term 20-year plan of known and potential capital improvements required for each wastewater collection system asset class.

Sewer System Management Plan – A plan to document and evaluate programs and activities from the staff level to Board level to minimize the occurrence of Sanitary Sewer Overflows.

Section II – Organization

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify that the Sewer System Management Plan (SSMP) must identify the appropriate responsible representative, identify the organization and lines of authority, and provide a chain of communication for reporting SSOs from receipt of a complaint and include the person responsible for reporting SSOs.

Leucadia Wastewater District Actions

The District's General Manager, Paul Bushee, was authorized by the District's Board to certify the elements of the SSMP at the District's October 2007 Board meeting.

The District's organizational structure is shown below illustrating the lines of authority within the District and the chart also identifies the District positions responsible for implementing specific measures of the SSMP. The District's "Frequently Called Numbers" contain the contact information for the responsible parties. Complimentary to this is the District's Field Services Procedure for Reporting Sanitary Sewage Overflows which identifies the chain of communication for reporting SSOs to the appropriate authorities. This Field Services Procedure is an attachment to the Field Services Procedure for Emergency Response to Sanitary Sewage Overflows and the District's Overflow Emergency Response Plan in Section VI of the SSMP.

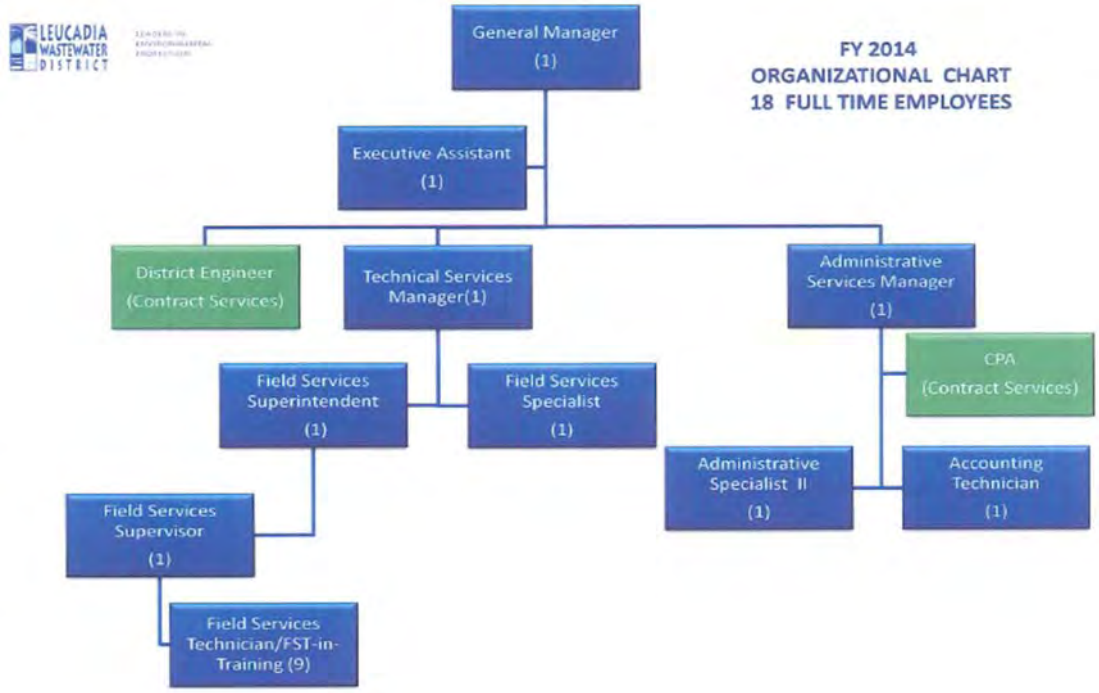
District Documents Included In This Section

- District Organizational Chart and SSMP Implementation
- District list of Frequently Called Numbers

District Documents Referenced By This Section

- SOP – Reporting Sanitary Sewage Overflows
- SOP – Emergency Response to Sanitary Sewage Overflows
- SSMP Section VI – Overflow Emergency Response Plan

Organizational Chart



SSMP Program Responsibilities

SSMP Section	Responsible Party
1. Goals	GM
2. Organization	GM
3. Legal Authority	GC
4. Operation and Maintenance Program	TSM, FSS, DE
5. Design and Performance Provisions	TSM, FSS, DE
6. Overflow and Emergency Response Plan	FSS, DE
7. FOG Control Program	
8. System Evaluation and Capacity Assurance Plan	TSM, DE
9. Monitoring, Measurement, and Program Modifications	TSM, FSS, DE
10. SSMP Program Audits	TSM, FSS
11. Communication Program	ASM, TSM, FSS

Abbreviations for Organizational Chart and SSMP Implementation Plan

- ASM, Administrative Services Manager
- DE, District Engineer
- FSS, Field Services Superintendent
- FST, Field Services Technician
- GC, General Counsel
- GM, General Manager
- TSM, Technical Services Manager

FREQUENTLY CALLED NUMBERS

10/23/2013

SPILL REPORTS	
OES	(800) 852-7550
AFTER HOURS COUNTY HEALTH	(858) 565-5255
EWAN MOFFAT (DEHS)	(858) 495-5579
RWQCB (CONFRANCESCO)	(858) 637-5589
RWQCB AFTER HOURS	(858) 822-8344
CA FISH/GAME	(858) 467-4218
ATLAS PUMPING	(800) 491-7867
NRC	(800) 337-7455
CARLSBAD	
POLICE DEPARTMENT	(760) 931-2197
GENERAL INFO.	(760) 434-2820
STREETS/ STORM WATER	(760) 434-2980
WATER/SEWER	(760) 438-2722
WATER HOOK UP	(760) 434-2883
ONCALL OPERATOR	(760) 802-8100
ONCALL SUPERVISOR	(760) 802-4790
SDG&E	(888) 320-1907
FLOODED HOUSE	(800) 413-2999
ENCINITAS	
WATER	(760) 633-2650
SEWER	(760) 753-5018
STORM WATER M-F 8-5:30	(760) 633-2787
EMERGENCY AFTER HOURS	(760) 633-2922
PUBLIC WORKS	(760) 633-2840
ONCALL OPERATOR	(760) 633-2342
SHERIFF	(760) 966-3500
SANITATION	
ENCINA (MAIN)	(760) 438-3941
ENCINA AFTER HOURS	(760) 268-8823
	(760) 801-9120
COUNTY OF SAN DIEGO	(858) 694-3273
SCADA	
RICK PATECELL	(951) 302-1018
WATER	
OLIVENHAIN	(760) 753-6466
SANTA FE IRRIGATION	(858) 756-2424
VALLECITOS W.D.	(760) 744-0460
(SAN MARCOS)	
SAN ELIJO (Treatment Plant)	(760) 753-6203
WAYNE BRECHTEL	
General Counsel	(858) 755-6604
ANSWERING SERVICE	(760) 753-6565
answering service forward to number	(760) 633-2387

PHONE EXTENSIONS	
TIANNE BAITY	**3001**
FRANK REYNAGA	**3002**
FINANCE	**3003**
COPY ROOM 1st FLR	**3004**
BOARD ROOM	**3005**
FRONT DESK GIS	**3006**
ROBIN MORISHITA	**3007**
JEFF STECKER	**3008**
TRISHA HILL	**3009**
MAGGIE McENIRY	**3010**
CHUCK LEMAY	**3012**
LUNCH ROOM	**3013**
PAUL BUSHEE	**3014**
CONFERENCE ROOM 2nd FLR	**3015**
SCADA ROOM	**3016**
MARVIN GONZALEZ	**3017**
LEUCADIA PUMP STATION	**3019**
SERVER ROOM	**3022**
FILE ROOM	**3023**
TRAINING ROOM	**3025**

CELLULAR PHONES		
General Manager	**Paul**	(760) 212-2837
Superintendent	**Jeff**	(760) 500-1451
Technical Services Mgr	**Robin**	(760) 331-7819
Admin Services Manager	**Chuck**	(760) 420-6062
Field Services Specialist	**Frank**	(760) 214-2229
Field Services Supervisor	**Marvin**	(760) 212-2838
Field Services Tech.	**Steve**	(760) 500-1491
Field Services Tech.	**James**	(760) 207-8249
Field Services Tech.	**Craig**	(760) 207-8209
Field Services Tech.	**Ian**	(760) 450-5150
Field Services Tech.	**Gabe**	(760) 450-5356
Field Services Tech.	**Mauricio**	(760) 450-5357
Field Services Tech.	**Todd**	(760) 212-2836
Field Services Tech.	**Hugo**	(760) 207-8264
Field Services Tech.	**Rick**	(760) 500-6050
RICHARD STINSON		(760) 525-8653
RANCHO SANTA FE SECURITY		(800) 303-8877
ELEVATOR EMERGENCY SERVICE		(800) 988-8474
ATEL		(858) 646-4646
LWD FAX		(760) 753-3094
BATIQUITOS		(760) 942-3588
VOICEMAIL		(760) 753-0156 (9 + EXT.)
VOICEMAIL		(760) 753-0156 (9 + EXT.)
STEVE DEERING		(760) 479-4101
District Engineer	cell	(619) 417-6305
JEFF MEYER		(760) 479-4140
Inspector	cell	(760) 840-7748

Attachment (c)

Section III – Legal Authority

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify that each agency must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses sufficient legal authority to prevent illicit discharges, require proper construction, ensure access to facilities, limit discharges of FOG and debris, and enforce any violation of its ordinances.

Leucadia Wastewater District Actions

The District's Wastewater Sewer Ordinance No. 128 in concert with the District's Standard Spec establishes the legal authority necessary to:

- Prevent illicit discharges,
- Require that sewers and connection be properly designed and constructed,
- Ensure access for maintenance, inspection, or repairs for facilities owned by the District,
- Limit the discharge of fats, oils, and grease, and other debris that may cause blockages, and
- Enforce any violation of its sewer ordinances.

Additionally the District has a service agreement for 18 EDUs to the Cardiff Sanitation Division of the City of Encinitas.

District Documents Referenced By This Section

- Wastewater Ordinance 128, Adopted May 8th, 2013
- District Standard Spec, April 2013 and updated every three years in the same cycle as the Standard Specifications for Public Works Construction, 2012.

Section IV – Operation and Maintenance Program

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify the development and implementation of an operation and maintenance program as an element of each Wastewater Collection Agency's Sanitary Sewer Management Plan (SSMP). When appropriate and applicable to the agency's system, the plan must include mapping activities, routine preventative operation and maintenance activities, rehabilitation and replacement plans, training, and equipment and replacement parts inventories.

Leucadia Wastewater District Actions

Database and Mapping Activities

The District maintains an active geographic information system (GIS) database of their collection system. The database includes all gravity sewer piping, manholes, pump stations, force mains, and appurtenances such as cleanouts, air release valves, blow-offs, and cathodic test stations, as well as the storm drain systems owned, operated, and GIS- maintained by the City of Carlsbad and the City of Encinitas. The database is continually updated by the Field Services Specialist for new construction, replacement, or repairs. Additionally, when appropriate and feasible, the District strives to maintain the most accurate location of appurtenances. For example, as part of the 2009 force main evaluation efforts, all appurtenances (air release valves, cathodic test stations, etc.) on the District's most crucial force mains, Leucadia and Batiquitos, were GPS located by a licensed surveyor and entered into the District's GIS database.

District staff and field crews utilize laptops of collection system maps in their daily activities of work order completion and customer service response. If errors in the mapping are found based on field evaluation, the collection system map is promptly updated.

The District, and its consultants, use system mapping in their planning efforts for growth and system capacity evaluations. Attached to this section is a sample map of the District's sewer collection system by drainage basin illustrating the location of all the District's gravity sewer lines, manholes, pump stations, and force mains.

The database is also used in District planning documents such as the Asset Management Plan for consistent identification of assets between planning documents and actual maintenance and replacement activities.

Operation and Maintenance Activities

The District's operation and maintenance activities can be classified into three broad categories – preventative maintenance, corrective action, and reactive/customer service response.

Preventative Maintenance.

The preventative maintenance activities for each collection system asset class are discussed in the following paragraphs. In addition to such activities as cleaning and routine monitoring and inspection, preventative maintenance activities also include condition assessment evaluations for integrity and estimated useful life. These efforts are in addition to capacity evaluations and are discussed within each of the sections below.

Gravity Lines and Manholes

Approximately, the District annually cleans, via Hydrocleaning, 80% of its 200 miles of gravity sewer and annually inspects 98% of its 5,000 manholes. On average the field services staff Hydrocleans/Vactors 30-50 gravity pipeline segments per day depending on the configuration of the manholes and pipelines. The District's computerized maintenance management system (CMMS) generates the Hydrocleaning Work Orders identifying the segments scheduled to be cleaned. To ensure the annual cleaning schedule is adhered to, the District has three Vactors – two duty and one standby. This ensures that two Vactors are available when one of the three is in need of repair. The remaining 20% of the gravity lines are located in areas which are inaccessible to Vactor equipment. For these lines, Easement Inspection Work Orders are issued on an annual basis for District staff to walk the pipeline, hydraulically flush, and visually inspect the line. The District has budgeted funds in the fiscal year 2015 budget to purchase portable equipment (mini-jetter) which would allow them to hydro-clean these areas.

In 2011, the District changed its daily focus to emphasize Closed Circuit Television (CCTV) inspections. On a daily basis, video inspection efforts are occurring to visually inspect the gravity lines and manholes. The field services staff video inspect approximately 15 gravity pipeline segments per day. From calendar year 2011 through 2013 Field Services staff CCTV inspected 196 miles of gravity lines. The District plans to CCTV inspect its entire system on a three to four year cycle. With its two (2) video inspection trucks, the District is poised to conduct CCTV inspections as necessary, without having to procure a contractor for inspection. This is especially critical for responding to customer service calls and confirming corrective actions have been successfully implemented.

In addition to the regular cleaning and inspection activities, there are approximately one hundred and sixty (160) locations in the District identified as Special Maintenance Actions (SMAs). This is largely due to the increased video inspection by the FS staff. The line segments are classified as SMAs if there is an identified reason for more frequent cleaning. The lines are cleaned more frequently on either a quarterly basis as set in the work management system and are also available for view in the District's GIS database. These areas are also video inspected on an annual basis. This list is reviewed and revised on an ongoing basis based on observations by FS staff.

The District's preventative maintenance efforts also include monthly inspection of temporary construction connection plugs or traps. This is performed by District-contracted staff and reported to the District.

The District's 2008 Asset Management Master Plan identified and prioritized a list of gravity sewer segments and manholes to be inspected based on a relative remaining useful life.

Through implementation of the 2008 Plan, the District determined the preferred approach to identifying those facilities in most need of repair was to systemically inspect each gravity sewer line utilizing CCTV equipment. Since the 2008 Plan, the District has enhanced the quantity and quality of CCTV inspections to provide a baseline visual condition assessment of the entire gravity system. The District's 2013 Asset Management Plan provides specific and general estimates for short-term (5-year) and long term (20-year) CIP expenditures. These estimates were used in the 2013 update of the District's Financial Plan.

Pump Stations

The District operates and maintains ten (10) pump stations. The four most critical stations surrounding the Batiquitos Lagoon are inspected daily. The remaining pump stations are visited weekly. Pump station visit tasks include noting pump run times, checking locks and alarms, exercising valves, and cycling and testing equipment as necessary. These tasks are defined on the pump station work orders and are included as part of field staff standard operating procedures. The District's ten pump stations vary greatly in size.

Additional pump station duties include daily monitoring of SCADA systems, noting any abnormal conditions (including failed check valves), and performing a test for proper SCADA function. These duties are identified in the Field Services Procedure – SCADA Alarms and cellular text messages provided in Section 6 – Overflow Emergency Response Plan. The wet wells of 8 of the 10 pump stations are cleaned every two months, or more frequently, to further ensure proper and reliable pump station operation. Leucadia and Batiquitos pump stations are cleaned every 5 years.

Finally, comprehensive condition assessments are conducted by technical consultants every five years for each of the pump stations. Capital improvement projects are scheduled as a result of the condition assessment as necessary.

Force Mains

Redundant (dual) force mains are provided for five of the District's ten pump stations, including the two largest and most critical pump stations, Leucadia and Batiquitos. Of the remaining five, single force main stations, three of them have been replaced since 2008. The remaining two force mains are within their projected useful life.

Additional Preventative Maintenance Activities and Efforts

- On a semiannual basis, field staff exercise and service, as necessary, all of the District's air vacuum release valves. The locations of the air release valves are maintained in the database and CMMS work orders are generated for these activities.
- The District has ten (10) "smart" manhole covers in the collection system to alarm staff of surcharge situations in manholes most at risk.
- The District has a web based system which provides real time data for seven flow monitors within the collection system. The data collected by these flow monitors is compiled and reported monthly to the board.

Corrective Action.

The second main component of the District's operations and maintenance activities is the prompt scheduling and execution of corrective action work orders. These work orders are typically initiated due to visual inspection of a problem during preventative maintenance activities which could not be immediately resolved. These include evidence of roots in a sewer line, where a Root Saw/Rodder Work Order would be issued. A work order to video inspect the line would follow. If the corrective action requires a repair, rehabilitation, or replacement the pipeline segment or manhole will be placed on the Repair Priority list per the District's Rating Repair Lines/Manholes SOP. Any repairs deemed necessary would either be placed on a priority list for subsequent repair as part of a capital improvement project or repaired immediately by using the miscellaneous pipeline and manhole repair funds (e.g., sliplining, dig and replace, or manhole coating).

The District rehabilitates 10-20 manholes per year and maintains a prioritized list of manholes if deterioration or inflow and infiltration is suspected/observed or if other damage to the manhole lining is observed.

Proactive/Customer Response.

The last major component of the District's operation and maintenance activities is the action associated with responding to customer service calls. In response to a customer service call of slow drain or odors, the District verifies if there is a blockage in the main line. If roots are detected, follow up video inspection will be used to assess the problem. If the problem is found to be on the customer side, the customer will be notified along with a request for notifying the District when the plumber takes corrective action. Additionally, the District will notify the resident of its lateral reimbursement program which was developed to assist residents repair their laterals when it is necessary. If roots in the private lateral are the problem, the District will be on hand during cleaning by the property owner's plumber/contractor to catch the root ball to reduce the likelihood of a downstream blockage. The cleaned segment and manholes will remain within their routine hydrocleaning schedule. Additionally, Paragraphs 4.6 and 4.7 of the District's Wastewater Ordinance outline responsibilities between public and private sewer facilities.

Rehabilitation and Replacement Plans

The District has reached approximately 92.5 percent of buildout and has transitioned its capital improvement program from growth-based projects to replacement-based projects. Capacity-related improvement projects were identified in the 1999 Master Plan. All of the collection system projects identified were addressed.

To address the timely and appropriate replacement of assets as the end of their useful life approaches, the District developed in 2008 an asset management based master plan to guide the District with a replacement-based capital program. This plan was subsequently updated in January 2013. For each wastewater asset class in the District (gravity sewer pipelines, manholes, pump stations, force mains, and jointly-owned facilities), the Asset Management Plan provides operation and maintenance recommendations (as-related to capital replacement), as well as anticipated projects and costs for short-term capital replacement,

and long-term capital replacement. The projected costs were subsequently incorporated into the District's 2013 Financial Plan Update.

Operations and Maintenance Training

The Field Services Technician Qualification Sheet (Qual Sheet), included at the end of this section, is used to standardize and list the training requirements for each Field Service Technician (FST) level. As the individual completes a task or item on the Qual Sheet, that item is signed off and dated by the trainer. All tasks and line items specified for the specific FST level must be completed in order to be eligible for promotion to that level. For example, a FST I must complete all tasks and line items specified for a FST II to be considered for promotion to FST II.

Additionally, an individual is required to pass an oral board to be considered for either On-Call Duty or to be considered for promotion to FST III. The On-Call oral board consists of three qualified On-Call technicians. The FST III promotion oral board consists of three individuals who are FST III or higher.

In all cases, an individual must be recommended for promotion or assignment to On-Call Duty by the Field Services Supervisor (FS Supervisor) to be promoted or assigned to On-Call Duty.

Upon initial employment, each FST-in-Training is provided with the Qual Sheet. In order to be considered for promotion to FST I, an individual must complete all required FST I items on the Qual Sheet including obtaining a California Water Environment Association (CWEA) Collection System Maintenance Grade I certificate, a Class "B" driver's license with tanker and air brake endorsement, and a State of California Department of Public Health Water Treatment Grade I certificate. Once the individual completes these requirements, has a minimum of one year of FST-in-Training experience and is recommended for promotion by the FS Supervisor, he/she is promoted to FST I.

To be considered for promotion above FST I, an individual is required to obtain the appropriate CWEA Collection System Maintenance Grade certificate for the next level. For example, a FST I is required to obtain a CWEA Collection System Maintenance Grade II certificate to be eligible for promotion to FST II. This requirement is specified on the Qual Sheet under the Written Exams section. Additionally, an individual will normally be required to have a minimum of one (1) year of experience at their current FST level before being considered for promotion.

Staff is incentivized to achieve higher grades by reimbursement of educational expenses and increases in salary. The FSS and FS Supervisor provide regular training and updates as well as an annual review of all field services standard operating procedures (SOP) for any needed updates.

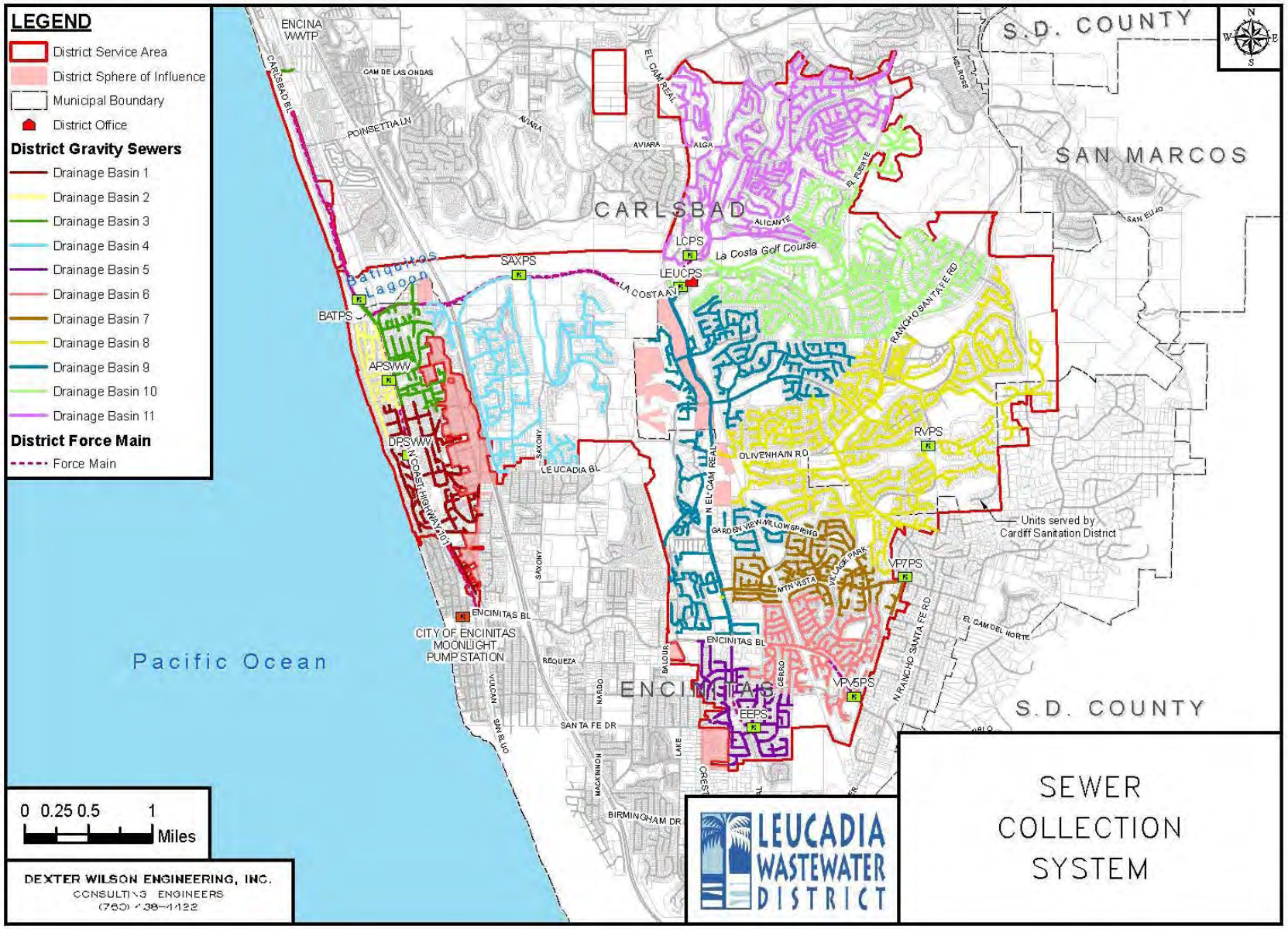
Equipment and Replacement Parts

The District has identified components and parts which are critical to maintaining proper operation of the sewer system (such as Romac couplings for emergency pipeline repairs and

spare submersible pump parts for the satellite pump stations). Most notably for the pump stations, each pump station has 100% redundancy in pumping capacity where if the primary pumping facilities were to fail, secondary pumping facilities will automatically engage. Also, 6 of the 10 pump stations are equipped with emergency generators in event of main power failure to the station. During emergencies, the remaining 4 pump stations are either powered by trailer-mounted emergency generators or can be serviced by Vactor trucks due to the relatively small volume of flow at these satellite pump stations.

District Documents Referenced By This Section

- SOP – Collection System Maintenance Duties
- SOP – Video Inspection Procedure
- SOP – Easement Inspection Duties
- Special Maintenance Area Cleaning Schedule
- SOP – Pump Station Duties
- SOP – Pump Station Odor Control
- Field Service Technician Qualification Sheet
- January 2013, *Asset Management Plan* by Dexter Wilson Engineering, Inc., available at www.lwwd.org
- January 2013, *Comprehensive Financial Plan Update* by MuniFinancial, available at www.lwwd.org
- SOP – SCADA Alarms and Cellular Pages
- SOP – Rating Repair Lines/Manholes
- SOP – Switching Force Main Lines
- SOP – Bypass Pumping for Avocado and Diana Pump Stations
- SOP – Bypass Pumping for Batiquitos
- SOP – District Pipeline Location and Markout
- SOP – Traffic Control Procedures
- SOP – Switching Force Main Lines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LEGEND
District Service Area
District Sphere of Influence
Municipal Boundary
District Office
District Gravity Sewers
Drainage Basin 1
Drainage Basin 2
Drainage Basin 3
Drainage Basin 4
Drainage Basin 5
Drainage Basin 6
Drainage Basin 7
Drainage Basin 8
Drainage Basin 9
Drainage Basin 10
Drainage Basin 11
District Force Main
Force Main
ENCINA WWTP
CARLSBAD
S.D. COUNTY
SAN MARCOS
ENCINITAS
Pacific Ocean
Batiquitos Lagoon
LCPS
La Costa Golf Course
LEUCPS
SAXPS
BATPS
APSWW
DPSWW
RVPS
VP7PS
VPV5PS
EEPS
CITY OF ENCINITAS MOONLIGHT PUMP STATION
Units served by Cardiff Sanitation District
0 0.25 0.5 1 Miles
DEXTER WILSON ENGINEERING, INC.
CONSULTING ENGINEERS
(760) 438-4122
LEUCADIA WASTEWATER DISTRICT
SEWER COLLECTION SYSTEM

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: COLLECTION SYSTEM MAINTENANCE DUTIES

1.0 Purpose:

The purpose of this procedure is to standardize the method used by Field Services staff when "line cleaning" or conducting video camera inspections. It is intended to ensure operation, maintenance, and data collection for the Collection System owned and operated by LWD are accomplished in a consistently safe and efficient manner.

2.0 Safety:

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Operators must perform a daily vehicle check on any LWD vehicle each day it is used (especially the Vactor) – ALWAYS USE and completely fill out form (attachment {a}).***
- ✓ ***Traffic vests, safety shoes, nitrile gloves, and leather gloves and other appropriate PPE must be used when operating the Vactor and working in and around sanitary sewers.***
- ✓ ***Hearing Protection and other appropriate PPE must be used when operating the Vactor.***
- ✓ ***Arrow Lights, flashers, and traffic cones are to be used whenever LWD vehicles are being operated in the public right-of-way.***
- ✓ ***Second employee with chase truck must be used whenever traffic density requires extra control.***
- ✓ ***For Safety purpose: Always use two man crews when ever possible.***

3.0 Preparation:

a. Assemble assigned work orders to be accomplished for the day in order from upstream toward downstream.
b. Inspect LWD vehicle (especially Vactor) using check sheet (attachment {a}).
c. Ensure all required Personal Protective Equipment is available.

d. Ensure handheld GPS, onboard computer, Thomas Brother guide, map book and cell phone are available and in working order.
e. Ensure Vactor equipped with water meter, fill hose, and manhole hooks.

4.0 General Procedure:

Upon arrival at each manhole:

a. Stay in truck for about a minute to observe the traffic flow and the overall safety of the location.
b. Carefully review the work order to determine if manhole and line segment listed on work order have any significant historical items.
c. Step out of the vehicle and make final check of traffic pattern and neighborhood.
d. Coordinate all work and safety activities with any assigned co-worker.
e. Verify street address and the GPS coordinates listed on the work order are correct. Note the line segment's length on the work order.
f. Open manhole cover carefully and observe manhole conditions. Verify presence and condition of Inflow dome and determine if manhole has been lined. Observe condition of lining. Document any and all discrepancies or exceptional conditions with the manhole, (including its lining, frame and cover), indications of I&I or roots on the work order form. Observe the pipe and its flow.

Safety note: Hats, sunglasses, and sun screen should be employed when working outdoors.

For Line Cleaning (include):

g. Clean line segment using jetter hose and appropriate nozzle, evaluate effectiveness of cleaning effort by observing type and quantity of debris (normally from upstream down).
h. Record all observations on work order, especially observations that seem "exceptional", including odor, type and quantity of debris. Verify that line segment length is correct based upon the footage meter.

Safety note: Always minimize water pressure and secure pumping operations prior to removing jetter hose from manhole.

i. Vacuum debris from manhole, ensuring that no debris is left on manhole rim.
j. Return Inflow dome and replace manhole cover ensuring that it is properly seated.
k. Report any unsafe conditions to Field Services supervisor immediately.

Safety note: Always wash hands before eating and use hand disinfectant frequently.

5.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their "new hire" orientation.
2) Will become familiar with the procedure
3) Will attend training as directed by the Field Services Superintendent.

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that staff is performing these activities properly.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

6.0 Preparation

A. Field Services Supervisor

1) Will periodically spot check that staff has all required materials to properly carry out this procedure. This will include at a minimum:
   a. map books, Thomas Brothers guide and laptop computer
   b. hand-held GPS device (with spare batteries)
   c. an operable cell phone with important phone numbers pre-programmed in memory

Attachments

a. LWD Drivers Daily Vehicle Checklist

ATTACHMENT A

LWD DRIVERS DAILY VEHICLE CHECKLIST

Vehicle #			
Vehicle License	Mileage	Date	Time Begun
			AM PM

State & Federal law requires the driver of this vehicle to perform a pre-inspection and report daily. This inspection report must be submitted to your foreman and defects must be repaired by the maintenance shop immediately. Check if OK or DEFective ☑

OK	DEF	ENGINE COMPARTMENT
☐	☐	Fluid Leaks Under Vehicle
☐	☐	Oil Level
☐	☐	Water / Coolant Level
☐	☐	Battery
☐	☐	Radiator
☐	☐	Exhaust System
☐	☐	Transmission
☐	☐	Belts & Hoses
☐	☐	Odor

OK	DEF	OUTSIDE CAB
☐	☐	Tires (Check F/R Tire Pressure)
☐	☐	Wheels, Rims, Lugs
☐	☐	Reflectors
☐	☐	Mud Flaps
☐	☐	Steering System
☐	☐	Fuel Cap / Tank / Mounting
☐	☐	Drain Air Tanks
☐	☐	Body Damage
☐	☐	Parking Lamps
☐	☐	Head Lamps high ☐ low ☐
☐	☐	Turn Signals
☐	☐	Brake / Tail Lights
☐	☐	Emergency Flashers
☐	☐	Trailer Coupling Devices

Inspected By:

Vehicle Status	Signature / Date
Defect Noted-Vehicle Safe to Operate	
Parts Ordered	
Ground Out of Service	
Drivers Signature	

OK	DEF	INSIDE CAB
☐	☐	Gauge readings normal (oil, fuel, ammeter, temp, air)
☐	☐	Note: Fuel tank should be at least 1/2 when brought back to yard at the end of shift
☐	☐	Heater / Defroster
☐	☐	Windows
☐	☐	Windshield Wipers
☐	☐	Mirror Adjusted
☐	☐	Horn
☐	☐	Odor
☐	☐	Communications Radio
☐	☐	Brake Pedal Pressure
☐	☐	Starter
☐	☐	Steering Free Play
☐	☐	Clutch
☐	☐	Dump / Back-Up Alarm
		SAFETY GEAR
☐	☐	Fire Extinguisher
☐	☐	First Aid Kit
☐	☐	Emergency Triangles

OK	DEF	OUTSIDE CAB
		AIR BRAKES
☐	☐	Governor Cut-In > 85 psi
☐	☐	Cut Out < 120 psi
☐	☐	Static Air Pressure Loss (Max loss 2 lb/min; 4lb/min combined)
☐	☐	Applied Air Pressure Loss (Max loss 3 lb/min; 4lb/min combined)
☐	☐	Low Air Warning Device (60-70 psi)
☐	☐	Spring Brakes (Tractor / Trailer / Hand)
☐	☐	Applied Function Test (5 mph)
		HYDRAULIC BRAKES
☐	☐	Fluid Reservoir
☐	☐	Fluid Leaks

Trailer License # _____ TRAILER INSPECTION Trailer # _____

OK	DEF	BODY / TRAILER COUPLINGS	OK	DEF	LIGHTS / STOP / TURN / REFLECTORS
☐	☐	Brakes	☐	☐	Tires / Wheels/ Rims
☐	☐	Safety / Emergency Equipment	☐	☐	Springs / Loading Ramps

Comments: _____

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: VIDEO INSPECTION DUTIES

1.0 PURPOSE

The purpose of this procedure is to standardize the method used by Field Services staff when conducting CCTV (Closed Circuit Television) inspections. It is intended to ensure operation, maintenance, and data collection for the Collection System owned and operated by LWD are accomplished in a consistently safe and efficient manner.

2.0 SAFETY

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Hearing Protection, traffic vests, safety shoes, nitrile gloves, and leather gloves and other appropriate PPE must be used when operating the CCTV van and inspecting sanitary sewers.***
- ✓ ***Arrow Lights, flashers, and traffic cones are to be used whenever CCTV van is operated in the public right-of-way.***
- ✓ ***Second employee must be used whenever traffic density requires extra control.***

3.0 PREPARATION

a. Assemble assigned work orders to be accomplished for day in order from upstream toward downstream.
b. Ensure all required Personal Protective Equipment is available.
c. Ensure handheld GPS, onboard computer, Thomas Brother guide, map book cell phone and manhole hook are available and in working order.
d. Perform operation check on vehicle, camera, and onboard electronics.

4.0 GENERAL PROCEDURE

Upon arrival at each manhole:

a. Set up traffic signs in work area.
b. Turn on traffic control arrow board and select to desired direction.

c. Position rear of van over manhole, turn off vehicle engine and roll up driver's side window.
d. Stay in truck for about a minute to observe the traffic flow and the overall safety of the location.
e. Carefully review the work order to determine if manhole and line segment listed on work order have any significant historical items.
f. Step out of truck; set up traffic control cones around work area and make final check of traffic pattern and neighborhood.
g. Coordinate work and safety activities with co-worker, if assigned.
h. Take atmospheric monitor (calibrated gas monitor) to fresh air and turn on. After its warm up period, place atmospheric monitor inside van on CCTV operator's desk top.
i. Install the generator's exhaust extension device onto generator exhaust pipe; ensure locking pin is securely in place for extension device. See picture for Vehicle #124

Safety note: Never turn generator on before attaching exhaust extender.

j. Start up generator and check exhaust extension device for leaks.
k. Test installed carbon monoxide monitor, located at operator's station, by pushing red test button.
l. Verify street address and the GPS coordinates for the work order are correct. Note line segment length.
m. Open manhole cover carefully and observe manhole conditions. Verify presence and condition of Inflow dome and determine if manhole has been lined. Observe condition of lining.

n. Lower camera into manhole using proper technique.
o. Commence CCTV Inspection.
p. Record all observations in CCTV inspection report. Note observations that seem "exceptional", including odor, type and quantity of debris on work order as well. Verify that line segment length is correct based upon the footage meter.

Safety note: Avoid prolonged staring at the computer screens by periodically looking at objects outside the CCTV van.

q. If the inspection of the line segment cannot be completed ("Survey Abandoned") due to a defect like a severely offset joint or deformed/broken pipe, or cannot be completed satisfactorily due to the camera being submerged for lengths of pipe greater than 12 feet, **supervisor must be notified immediately**.
r. When CCTV inspection operation is complete, wash camera and remove manhole
s. After ensuring that no debris is left on manhole rim, return Inflow dome and replace manhole cover ensuring that it is properly seated.
t. Turn off generator, remove locking pin and detach exhaust extension device from generator pipe.

Safety note: Exhaust extension device may be hot, wait until cool and use special care and appropriate PPE (leather gloves) during removal.

Safety note: Vehicle #124, Never drive CCTV van with exhaust extension device installed.

u. Use extreme caution, when taking down traffic control.
v. Report any unsafe conditions to Field Services supervisor immediately.

Safety note: Hats, sunglasses, and sun screen should be employed when working outdoors.

Safety note: Always wash hands before eating and use hand disinfectant frequently.

5.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their "new hire" orientation.
2) Will become familiar with the procedure

3) Will attend training as directed by the Field Services Superintendent.

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that staff is performing these activities properly.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

6.0 PREPARATION

A. Field Services Supervisor

1) Will periodically spot check that staff has all required materials to properly carry out this procedure. This will include at a minimum:
   a. map books, Thomas Brothers guide and laptop computer
   b. hand-held GPS device (with spare batteries)
   c. an operable cell phone with important phone numbers pre-programmed in memory

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: EASEMENT INSPECTION DUTIES

1.0 PURPOSE

The purpose of this procedure is to standardize the method used by Field Services staff when conducting easement inspections (EI's). Following this procedure carefully will ensure proper operation, maintenance, and data collection for the Collection System owned and operated by LWD are accomplished in a consistently safe and efficient manner.

2.0 SAFETY

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Traffic vests, safety shoes, nitrile gloves, leather gloves, snake garters and proper footwear and other appropriate PPE must be used when inspecting sanitary sewers.***
- ✓ ***Workers should protect themselves from over-exposure to sun and heat. Sunscreen lotion, wide-brim hats, and bottled water are available.***
- ✓ ***Worker must be aware of external hazards that exist in easements, including dogs and other animals, snakes, bees and other insects, poison oak, and thorn bushes as well as unstable footing on steep, uneven terrain.***
- ✓ ***Arrow Lights, flashers, and traffic cones are to be used whenever in the public right-of-way.***
- ✓ ***Second LWD employee must be used whenever traffic density requires extra control.***

3.0 PREPARATION

a. Assemble assigned work orders to be accomplished each day in order from upstream toward downstream.
b. Ensure all required Personal Protective Equipment is available.

c. Ensure handheld GPS, onboard computer, Thomas Brother guide, map book, cell phone and manhole hook are available and in working order.

4.0 GENERAL PROCEDURE

Upon arrival at each manhole:

a. Stay in truck for about a minute to observe the traffic flow and the overall safety of the current location.
b. Carefully review the work order to determine if manhole and line segment listed on work order have any significant historical items.
c. Step out of truck and make final check of traffic pattern and neighborhood.
d. Coordinate work and safety activities with co-worker, if assigned.
e. Locate manhole. Verify GPS coordinates for manhole are correct on work order. Note line segment length.
f. Clear brush and overgrowth from around manhole. Check carcinite marker. Inspect condition of concrete around frame.
g. Open manhole cover carefully and observe manhole conditions. Verify presence and condition of Inflow dome and determine if manhole has been lined. Observe condition of lining.
h. Observe wastewater flow through manhole. Look specifically for any surcharge as water moves into downstream line segment. If available, contact LWD employee to introduce slug of “dyed” water into upstream manhole to flush line and display any “surcharging”. (Air gap device and traveling water meter must be used.)
i. Record all observations on work order. Note any and all observations that seem “exceptional”, including odor, type and quantity of debris on work order as well.
j. After ensuring that no debris is left on manhole rim, return Inflow dome and replace manhole cover ensuring that it is properly seated.
k. Report any unsafe conditions to Field Services Supervisor immediately.

Safety note: Always wash hands before eating and use hand disinfectant frequently.

5.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their “new hire” orientation.

2) Will become familiar with the procedure
3) Will attend training as directed by the Field Services Superintendent.

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that staff is performing these activities properly.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

6.0 PREPARATION

A. Field Services Supervisor

1) Will periodically spot check that staff has all required materials to properly carry out this procedure. This will include at a minimum:
   a. map books, Thomas Brothers guide and laptop computer
   b. hand-held GPS device (with spare batteries)
   c. an operable cell phone with important phone numbers pre-programmed in memory

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: PUMP STATION OPERATOR DUTIES

1.0 PURPOSE

The purpose of this procedure is to standardize the method used by Field Services staff when checking district pump stations (large) and satellite lift stations (small). It is intended to ensure safety, operation, maintenance, and data collection is accomplished in a consistent and efficient matter.

2.0 SAFETY

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Hearing Protection is always required when entering pump and lift stations.***
- ✓ ***Pre-atmospheric checks, using a calibrated gas detector, are required when entering any drywell.***
- ✓ ***No electrical breakers shall be operated and no electrical panel shall be opened without the express permission of the Field Services Supervisor or the Field Services Superintendent.***
- ✓ ***Arrow lights, flashers, and traffic cones are to be used whenever in the public right-of-way.***

3.0 INFORMATION AND BACKGROUND

3.1 Pump stations

The district maintains two main pump stations, Leucadia and Batiquitos; both stations are configured with a drywell equipped with four (4) flooded suction centrifugal pumps, separate wetwells with odor control systems, and diesel powered emergency generators.

Both pump stations are also equipped with two (2) dual force mains and valves to select or isolate these force mains.

3.2 Lift stations

There are currently eight (8) lift stations; four (4) are Smith & Loveless type (modular sub-surface drywell) (Encinitas Estates, La Costa, Village Park #5, and Village Park #7) and four (4) use submersible pumps with above-grade control stations (Rancho Verde, Avocado, Diana, and Saxony). Four (4) lift stations (Saxony, La Costa, Encinitas Estates, and Village Park (5) are equipped with emergency generators, while the remaining four (4) are outfitted with sockets that accommodate hookup to trailer mounted diesel generators.

3.3 Odor Control

The Batiquitos and Leucadia Pump Stations are equipped with Odor Control Systems which include Vapex fog systems and US Filter Midas Carbon scrubbers. APCD permits require atmospheric readings (H2S and ozone) be recorded for these systems on a daily basis. Bioxide (MSDS on file) is also injected into the Leucadia Pump Station to reduce H2S formation in the force main and the Batiquitos Pump Station. (Saxony and Rancho Verde lift stations are equipped with Bioxide feed equipment but are currently not in use at this time.) See also, the SOP for Odor Control Equipment.

3.4 Data collection

1. Daily flow and pump hours, pre-atmospheric checks readings, and odor control readings shall be taken daily and the log sheet logs shall be changed out monthly. Flow charts shall be changed out weekly. These flow and pump hour log sheets shall be available in the Field Services office.
2. Leucadia Pump Station readings shall be recorded at 7:30 am and Batiquitos Pump Station shall be checked at 9:00am. It is important that these stations are checked at the same time daily so accurate, consistent flow data is compiled. The flow data from Batiquitos Pump Station is used to calculate hydraulic loading at the EWA plant and for future planning purposes.

3.5 Emergency Electrical Generators

Generators are permanently installed at six pump stations, Leucadia, Batiquitos, Saxony, La Costa, Village Park #5, and Encinitas Estates. All generators have integral diesel fuel tanks except the generator at Encinitas Estates which uses Natural Gas supplied by SDG&E piping. The generators start automatically whenever the normal SDG&E electrical power is lost or below normal (loss of phase, voltage drop, etc).

The generators are also started manually on a weekly basis to ensure their readiness in an emergency. All generators (including the trailer mounted generators) have log sheets. Entries are required by APCD permit whenever the generator is started and whenever the generator is fueled.

4.0 PROCEDURES

Prior to leaving the District yard, the operator will:

1) Read the logbook for the previous two days to be aware of any current issues, conditions and/or safety hazards.
2) Speak with the on call operator to obtain additional information or changed conditions at the pump station(s).
3) Check the SCADA display and the previous days pump run time report to verify normal and/or expected conditions.
4) Checkout a calibrated and charged gas detector.
5) Inspect the duty truck to ensure vehicle equipment; (lights, horn, brakes, etc.) are operating properly.
6) Verify all necessary personal protective equipment, including gloves, safety vest; hearing protection, etc. are available on vehicle.

Upon arrival at the District pump stations, operator(s) will:

1) Park truck in the safest area adjacent to the pump station.
2) Deploy any required safety devices; cones, rotating beacons, emergency flashers etc.
3) Check overall condition of the pump station for odors, signs of vandalism, water leaks etc.
4) Prior to opening the lift station access hatches, observe the ventilation streamer for positive airflow and begin testing at the vent for a permissible atmosphere in accordance with the confined space entry procedures.
5) Check for excessive water on the station's floor, adequate lighting, unusual noises, smoke, or odors.

6) If conditions appear normal, proceed with entry into the station, using the ladder and fall protection equipment where provided. Atmosphere monitor will be kept in operation near the operator at all times while inside the station's drywell.
7) Observe the alarm panel for illuminated alarms or **burnt out bulbs, replace if needed.**
8) Hour meter readings will be recorded on the station's monthly data sheet, along with the results of the pre-atmospheric check readings, and the initials of the operator performing the station's check.
9) Check the remainder of the installed equipment for proper operation. This will include;
    - running each pump in the "hand" position
    - venting seal water line to check for sufficient water flow
    - observing and exercising check valves
    - observing wet well level controller (Milltronics) operation as it calls pump(s) on and off
    - pumping down the pump stations sump pumps as required
    - performing any required housekeeping
10) Corrective and preventative maintenance actions. Check valve position transmitters (limit switch) should not be used. Be careful when working in the vicinity of these.
11) Prior to leaving the station, the operator will ensure that all alarms have been reset, that all valves have been returned to normal positions, and that the pumps are in the **automatic mode,** unless casualty circumstances required a change in these settings.
12) Upon leaving the station, the operator will ensure that intrusion alarms are set and the gates are securely locked.
13) The operator will log any "exceptional" pump station information in the "Daily Pump Station Log Book".

Note: Any exceptional condition or observation must be reported to the Field Services Supervisor immediately!

14) Before returning to the yard, the operator will ensure that the truck fuel tank is above half.
15) Upon returning to the Leucadia yard, the operator will ensure all trash and extra equipment are removed from the truck, and that the truck is secured for the night.
16) At the end of the pump station route, the pump station operator will check to ensure the observed stations conditions are properly displayed in SCADA.
17) The pump station operator will ensure that the stand by duty operator (on call) operator is briefed on all conditions at the pump stations.

5.0 TRAINING

A. LWD employees:

1. Will be issued a copy of this procedure and its attachments as part of their "new hire" training.
2. Will become and remain familiar with this procedure.

B. Field Services Superintendent and Supervisor

1. Will provide regular training and updates on these procedures. Record attendance in Training Log.
2. Will conduct annual review of these procedures.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: PUMP STATION ODOR CONTROL

1.0 PURPOSE

The procedure for employees assigned to performing daily checks of the District's Odor Control equipment was developed to:

A. Standardize the duties performed by Field Services staff when assigned to check Odor Control equipment.

B. Ensure that all safety precautions are consistently followed to minimize the potential for worker accident or injury.

C. Ensure that Leucadia Wastewater District facilities and infrastructure remain or are returned to operational status as quickly as possible by ensuring a prompt and capable response to trouble reports and system alarm conditions.

D. Ensure that Odor Control equipment remains in compliance with the Permit to Operate issued by the San Diego Air Pollution Control District.

2.0 SAFETY

Nothing in these procedures supersedes, or in any other way, relaxes LWD Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Confined Space, Respiratory Protection, Hearing Conservation, MSDS, Bloodborne Pathogens, Illness and Injury Prevention, or the Substance Abuse policy.

Vapex equipment must secured and tagged out whenever any manhole, downstream of the Vapex injection point, or wetwell/overflow basin is opened, regardless of duration of time.

3.0 PROCEDURE

A. Employees assigned to perform daily check of Odor Control equipment will:

1. Will read and be familiar with the two (2) Permits To Operate the pump station Odor Control equipment.

2. Will ensure that copies of these permits are posted on or within 25 feet of the Odor Control equipment each day.

3. Will have the appropriate compliance readings sheet (Attachment A & B), an operable AET-030P ozone detector, and an ATX-612 H2S meter taking off the charging/calibration station within the last 24 hours each day. ***If AET-030P is inoperative, Vapex equipment must be secured and locked out and the Field Services Supervisor notified immediately.***

4. Will check and record that the Vapex equipment, the Odor Control scrubber blower, the Bioxide pump station, and the Oda-Log (mounted on the scrubber vent) are energized and operating properly each day.

5. Will record ozone and H2S readings both into and out of the scrubber and the difference in pressure (∆ P, measured in inches of H2O) each day. ***When the Odor Control Scrubber must be taken off-line, the operator will ensure that the the blower dampers are closed from the wetwell and overflow basin and that the Vapex vent valve is open. The operator will then check and record ozone and H2S readings at theVapex vent and notify the Field Services Supervisorof this action and the H2S reading.***

6. Will record Bioxide tank level reading each day.

7. Will notify the Field Services Supervisor immediately of any exceptions in equipment operation, when H2S readings exceed 1 ppmv, and if bioxide level did not change since last reading.

8. Will download Oda-Log data weekly and file graphical reports in Oda-Log notebook.

9. Will conduct and record quarterly ozone surveys on Vapex equipment for fugitive leaks, ensuring that ozone detector about 1 cm from equipment housing and all piping connections. Readings greater than 0.1 ppmv require that the Vapex equipment be secured immediately and the Field Services Supervisor notified. Vapex can be re-started after the leak is repaired and tested.

B. Field Services Supervisor (or Superintendent)

1. Will ensure that a qualified field service staff member, is always assigned to conduct these checks. This assignment is to be absolutely daily on work days.

2. Will ensure that Bioxide is on order to ensure *tank is never empty* and that common spare parts like blower *fan belts are always readily available.*

3. Will ensure all Permit To Operate requirements are scheduled by the work management system and completed when due, including quarterly ozone leak surveys, semi-annual Odor Scrubber Carbon analyses, and permit renewal.

4. Will order Carbon replacement at a frequency that minimizes period of time H2S at vent exceeds 1 ppmv.

5. Will quality assure compliance reading sheets and Ozone leak surveys for completeness and accuracy and are properly filed and readily available.

6. Will perform periodic checks to ensure Odor Control equipment procedures are being carried out in accordance with the written procedures.

7. Will ensure that all follow up actions required to restore the Odor Control equipment to a fully operational condition are accomplished as soon as practical.

8. Will ensure that any instance of non-compliance with the Permit To Operate is immediately reported to the San Diego Air Pollution Control District.

9. Will conduct annual training on this procedure for all Field staff.

4.0 TRAINING

A. LWD employees:

1. Will be issued a copy of this procedure and its attachments as part of their “new hire” training.

2. Will become and remain familiar with this procedure.

B. Field Services Superintendent and Supervisor

1. Will provide regular training and updates on this Odor Control equipment. Record attendance in Training Log.

2. Will conduct annual review of these procedures.

ODOR CONTROL SOP
ATTACHMENT A

Leucadia Wastewater District

Wastewater Pump Station Air Quality Compliance Record

Leucadia Odor Scrubber - Permit No. 976013 (5/17/06) MONTH: _____ YEAR: _____

Date	**Operator**	**Scrubber ON** (circle one)	H_2S IN	H_2S OUT	Media Tank ? P Inches H_2O	**Vapex ON** (circle one)	H_2S Vapex Vent ***when online****	Ozone IN	Ozone OUT	OdaLog H_2S ON	**Verified Normal System Airflow at Drain** (circle one)
1		Yes No				Yes No					Yes No
2		Yes No				Yes No					Yes No
3		Yes No				Yes No					Yes No
4		Yes No				Yes No					Yes No
5		Yes No				Yes No					Yes No
6		Yes No				Yes No					Yes No
7		Yes No				Yes No					Yes No
8		Yes No				Yes No					Yes No
9		Yes No				Yes No					Yes No
10		Yes No				Yes No					Yes No
11		Yes No				Yes No					Yes No
12		Yes No				Yes No					Yes No
13		Yes No				Yes No					Yes No
14		Yes No				Yes No					Yes No
15		Yes No				Yes No					Yes No
16		Yes No				Yes No					Yes No
17		Yes No				Yes No					Yes No
18		Yes No				Yes No					Yes No
19		Yes No				Yes No					Yes No
20		Yes No				Yes No					Yes No
21		Yes No				Yes No					Yes No
22		Yes No				Yes No					Yes No
23		Yes No				Yes No					Yes No
24		Yes No				Yes No					Yes No
25		Yes No				Yes No					Yes No
26		Yes No				Yes No					Yes No
27		Yes No				Yes No					Yes No
28		Yes No				Yes No					Yes No
29		Yes No				Yes No					Yes No
30		Yes No				Yes No					Yes No
31		Yes No				Yes No					Yes No

**** when odor scrubber blower is off-line, vapex vent must be opened and H2S readings and oda-log taken at Vapex vent***

ODOR CONTROL SOP
ATTACHMENT B

Leucadia Wastewater District

Wastewater Pump Station Air Quality Compliance Record

Batiquitos Odor Scrubber - Permit No. 976014 (6/27/05) MONTH: _____ YEAR: _____

Date	**Operator**	**Scrubber ON** (circle one)	H_2S IN	H_2S OUT	Media Tank ? P Inches H_2O	**Vapex ON** (circle one)	H_2S Vapex Vent ***when online****	Ozone IN	Ozone OUT	OdaLog H_2S ON	**Verified Normal System Airflow at Drain** (circle one)
1		Yes No				Yes No					Yes No
2		Yes No				Yes No					Yes No
3		Yes No				Yes No					Yes No
4		Yes No				Yes No					Yes No
5		Yes No				Yes No					Yes No
6		Yes No				Yes No					Yes No
7		Yes No				Yes No					Yes No
8		Yes No				Yes No					Yes No
9		Yes No				Yes No					Yes No
10		Yes No				Yes No					Yes No
11		Yes No				Yes No					Yes No
12		Yes No				Yes No					Yes No
13		Yes No				Yes No					Yes No
14		Yes No				Yes No					Yes No
15		Yes No				Yes No					Yes No
16		Yes No				Yes No					Yes No
17		Yes No				Yes No					Yes No
18		Yes No				Yes No					Yes No
19		Yes No				Yes No					Yes No
20		Yes No				Yes No					Yes No
21		Yes No				Yes No					Yes No
22		Yes No				Yes No					Yes No
23		Yes No				Yes No					Yes No
24		Yes No				Yes No					Yes No
25		Yes No				Yes No					Yes No
26		Yes No				Yes No					Yes No
27		Yes No				Yes No					Yes No
28		Yes No				Yes No					Yes No
29		Yes No				Yes No					Yes No
30		Yes No				Yes No					Yes No
31		Yes No				Yes No					Yes No

**** when odor scrubber blower is off-line, vapex vent must be opened and H2S readings and oda-log taken at Vapex vent***

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: SCADA ALARMS AND CELLULAR TEXT PAGES

1.0 PURPOSE

The procedure for responding to Supervisory Control and Data Acquisition (SCADA) alarms was developed and instituted to:

a. Standardize the proper method used by Field Services staff when responding to a cellular text from the SCADA system.
b. Ensure that alarm conditions are responded to in sufficient time to prevent a Sanitary Sewer Overflow (SSO) or minimize the impact of a sewage spill to public health, worker safety and the environment.
c. Correct situations at an LWD pump station and return it to full service in minimum time.

2.0 BACKGROUND

While each of the ten (10) sewage pump stations the District operates is independent and autonomous, which means that each pump station has its own individual power, instrumentation, and control systems, their operation is monitored by a telemetry system referred to as SCADA (Supervisory Control and Data Acquisition). This SCADA system registers any deviation from a station's proper operation (alarm condition) and alerts staff, normally the pump station operator or the Stand By Operator via a cellular text. Texts transmitted directly to these staff has greatly improved the response time and provided the operator responding to the alarm condition with very specific information about the alarm.

The list of alarms/texts that may be transmitted to an operator include but are not limited to:

a. Electrical phase failure
b. Electrical power failure
c. Generator running
d. High drywell
e. High wetwell
f. High high wetwell
g. Low wetwell
h. Intrusion alarm
i. Check valve fail
j. Communication fail
k. SCADA Alarm test

l. Smart Cover, High emergency overflow basin
m. Notices from office (760) 753-0155 or the Answering Service (760) 753-6565

3.0 PROCEDURE

3.1 Urgent (timely) and proper response is critical. Proper response is defined as the on-call person calling in and acknowledging a SCADA text immediately (within three minutes) after receiving a text. SCADA will re-try sending text one more time prior to calling second person designated in on-call category.

3.2 For SCADA texts that indicate phase failure or commercial power failure, response is immediately driving to District yard, picking up trailer mounted emergency generator and driving generator to alarming pump station (see SOP-Pump Station Alarm Response). During transit to District, on-call person is to use their assigned cell phone to call into SCADA to acknowledge alarm and to call answering service to obtain assistance for possible power outage.

3.3 SCADA texts for generator running, high dry well, high wetwell, high high wetwell, and check valve fail at Batiquitos and Leucadia require operator to acknowledge SCADA text and to immediately proceed in duty truck to alarming pump station. It is important to note and record circumstances at station prior to correcting the situation (including what alarm lights were on, or if breakers were tripped, etc) as well as the specific corrective actions taken by the operator to correct the alarm (like placing HOA switch in hand, on placing HOA in off, resetting breaker, and placing HOA in auto, etc).

Anytime a staff member visits a pump station, they are to record time, pump hours and atmospheric test results.

3.4 Intrusion Alarms require SCADA acknowledgement and notification to answering service prior to physically responding to alarm. Extreme caution is required which includes remaining in the “locked” duty truck and observing conditions at pump station from a safe distance. If any evidence of an intrusion is observed (like an open gate or hatch, vandalism, or fire) the operator should immediately call 911 and then their supervisor.

3.5 Communication failures should be acknowledged immediately. If only one station is alarming, on-call person is to wait no more than 30 minutes before calling

SCADA a second time to determine if alarm is still active. If alarm is still active, or the operator has received communication failures from other stations or from same station more than twice in one day, then operator should proceed to affected pump station.

3.6 Validate proper pump station operation. After assuring all is normal at each alarming station, the operator will proceed to the District office and attempt to cycle power to the Verizon Blue-tree Wireless Data Controller. If the communications alarm doesn't clear, call Verizon Wireless, give them the Location address, phone number and IP address. See Attachment A to this SOP for details.

When in doubt about any alarm or condition, Operator or Stand By Operator must physically check out affected pump station immediately and to contact the supervisor if alarm condition cannot be corrected.

All alarms also require proper record keeping, including completion of emergency action form and appropriate log entries in on-call logbook (or SCADA logbook).

4.0 ADDITIONAL DUTIES

4.1 The SCADA system check at end of each workday.

- note runtimes for pumps at each station,
- note any abnormal conditions (including failed check valves), and
- perform a test of SCADA by accessing and operating red test button located in Leucadia Pump station screen. SCADA should state alarm over speakers, printer should print, and you should receive a SCADA text on your assigned cell phone prior to clicking test button back to green.

4.2 Calling into SCADA during weekends and holidays.

4.3 Checking in with Answering Service on the first day on Standby Duty and ensuring Answering Service has the operator's correct cell phone number and home phone number.

4.4 Being ready to respond to other call outs like spills, odor complaints, missing or noisy manhole covers, or any other exceptional circumstance within 30 minutes.

4.5 Understanding both the components of the SCADA system as well as the more common corrective actions required at the pump stations to keep them operational.

4.6 Checking that emergency generator and its tow vehicle are in a ready condition.

4.7 Ensuring that duty truck is fueled, that the gas detector, flashlight, digital camera charged and with extra batteries, and cell phone are fully charged, and that your keys, Thomas Brother map, phone number card, and Standby Operator procedures are available.

SCADA ALARMS AND CELLULAR TEXT PAGES S.O.P.
ATTACHMENT A

Pump Stations Serviced By Verizon

Location Address	Phone #	ESN (Hex)
Rancho Verde IP: 166.154.143.126 Lat 33.06832 long 117.23337 W	**760-707-9284**	**605B6B9A**
Diana IP: 154.143.68 Lat 33.0666N long 117.3035W	**760-685-6937**	**608A2B07**
Encinitas Estates IP: 166.241.175.60 Lat 33.03639 long 117.25649 W	**760-685-4208**	**608A299A**
Avocado IP: 166.241.175.62 Lat 33.07542 long 117.30618 W	**760-685-4287**	**608A2B08**
Village Park #7 IP: 166.241.175.63 Lat 33.05306 long 117.23644 W	**760-685-4485**	**608A2967**
Village Park #5 IP: 166.241.175.64 Lat 33.03963 long 117.24282 W	**760-685-54473**	**608A28EF**

24 Hour Technical Support to Support # 866-463-2244 (Tell them you're a public Safety Agency)

Verizon Rep - Patrick Guericke 760-310-0860

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: RATING REPAIR LINES / MANHOLES

1.0 Purpose

The purpose of this procedure is to standardize the method used by Field Services staff when rating a sewer line or sewer manhole in the 'Repair Priority' field of the work order.

2.0 General Procedure

a. Once a Field Service Technician (FST) discovers a defect with a sewer line or sewer manhole, the asset will need to be rated on a scale from 0 - 4. The scale ranges from a rating of "0", asset does not have any defects, to a rating of "4", asset is in eminent failure.

b. The scale is as follows:
   - 0 – The asset does not have any defect(s).
   - 1 – The asset has a minor defect(s). Examples: minor cracks or minor roots
   - 2 – The asset has a defect(s). Examples: medium offset joint, several roots, broken/cracked cleanout cap, medium sag, broken pipe
   - 3 – The asset has a major defect that needs attention accordingly. Examples: Large offset joint, void in pipe, any infiltration, major sags, fractures
   - 4 – The asset is in eminent failure or shows signs of exfiltration

c. FST determines the repair rating and makes the recording in the appropriate box when the work order is closed.

d. The Field Services Supervisor (FSS) and the FST will review any asset determined to be a "3-4" and come to a consensus on the final rating.

e. Process for lines/manholes rated 4:

   1. Report immediately to FSS
      a) Review inspection
      b) Confirm rating
      c) Add to Repair Priority List
   2. Discuss with Field Services Superintendent (FSSupt)
      a) Confirm rating

b) Ensure asset data in Repair Priority List is correct – location, depth, material
c) Discuss possible repair methods

3. Notify Technical Services Manager (TSM)
   a) Discuss defect of asset
   b) Determine method of repair
   c) Discuss with District Engineer, if engineering support is needed.
4. FSSupt or FSS obtain cost estimate for repair, with TSM support as needed
   a) Ensure compliance with Procurement Policy:
      1) < $25,000 - the best qualified contractor at the lowest possible cost
      2) > $25,001 to $50,000 - Request for Quotes, at least three
      3) > $50,000 – Request for Sealed Bids
   b) Verify sufficient finds available in Miscellaneous Pipeline/Manhole Repair Account
5. Contract for repair:
   a) < $25,000 - Purchase Order with signed terms and conditions
   b) > $25,001 - Board approval required

f. Process for lines/manholes rated 3:

1. Report defect to FSS
   a) Review inspection
   b) Confirm rating
   c) Add to Repair Priority List
2. Discuss with Field Services Superintendent (FSSupt)
   a) Confirm rating
   b) Ensure asset data in Repair Priority List is correct - location, depth, material
   c) Discuss possible repair methods, enter repair method recommendation into Repair Priority List

g. The FSS will meet with the FSSupt and TSM at least twice a year to review the Repair Priority List. One of the meetings will be conducted by the end of January to verify the discrepancies on the list and confirm the defects are listed in priority within each rating.

h. Provide Repair Priority List to District Engineer for cost estimates, for priority 3 defects, by early February.

i. Present list of proposed repairs for the next fiscal year's gravity pipeline or manhole repair Capital Improvement Project to the Engineering Committee in March.

j. Submit gravity pipeline / manhole repair project in budget for appropriation.

3.0 Maintenance Of The Repair Priority List

a. The Repair Priority List will be maintained and updated by the FS Specialist. When new defects are discovered by the Field Services staff the following procedure will be employed:

1. The FSS and the FST reporting the defect will discuss and reach consensus on the defect rating and priority based on the current Repair Priority List.
2. The FSS and FSSupt will determine the final priority and rating of the defect according to the defect scale listed under General Procedure 2.0 (b).
3. The FS Specialist will input the asset and its defect information into the Repair Priority List according to the assigned rating and priority.
4. The FSS will review the Repair Priority List on a monthly basis.
5. The Priority list will reside on the District's server on the "G" Drive under Operations, Priority Repair and Maintenance

4.0 Completion Of Repairs

a. Once a defect has been repaired, the following procedure will be performed:

1. The FS Specialist will be notified by the FSS that the asset has been repaired.

2. The FS Specialist will move the asset and its associated data to a separate list called the “Completed Pipeline/Manhole Repair List”.
3. The FS Specialist will add the final cost of repair to the asset data and maintain a running total of the repair costs.
4. The FS Specialist will update the District’s Computerized Maintenance Management System (CMMS) with the repair information.
5. The completed repair list will also reside on the District’s “G” Drive under Operations, Priority Repair and Maintenance.
6. The FS Specialist will establish a new list for each fiscal year.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: SWITCHING FORCE MAIN LINES

1.0 PURPOSE

The purpose of this procedure is to standardize the proper method used by Field Services staff when switching force mains at Leucadia, Batiquitos, and Saxony Pump Stations. It is intended to ensure that safety, operation, maintenance, and data collection is accomplished in a consistent and efficient matter.

2.0 SAFETY

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Hearing Protection is always required when entering pump and lift stations.***
- ✓ ***Pre-atmospheric checks, using a calibrated gas detector, are required when entering any drywell.***
- ✓ ***No electrical breakers shall be operated and no electrical panel shall be opened without the express permission of the Field Services Supervisor or the Field Services Superintendent.***

3.0 INFORMATION AND BACKGROUND

3.1 Pump stations

The district maintains two main pump stations, Leucadia and Batiquitos; both stations are configured with two (2) dual force mains and separate valves to select or isolate these force mains. L1 and L2 force mains are located at the Leucadia Pump Station and B2 and B3 force mains at Batiquitos Pump Station.

The Saxony Pump Station force main discharges to the Leucadia Pump Station force mains L1 and L2. The Saxony Pump Station discharge should be switched to match whichever Leucadia Pump Station force main is in operation, unless otherwise directed by the Field Services Supervisor or Superintendent.

4.0 PROCEDURES

Batiquitos Pump Station:

Isolation Valve Locations:

- **B2 force main isolation valve is located inside of pump station.**
- **B3 force main isolation valve is located outside of pump station in the parking lot.**

Prior to leaving the District yard, the operator will:

1) Verify all necessary personal protective equipment, including gloves, safety vest; hearing protection, etc. are available on vehicle.
2) Verify force main valve key is located in District vehicle.

Upon arrival at the District pump stations, operator(s) will:

1) Park truck in the safest area adjacent to the pump station.
2) Deploy any required safety devices; cones, rotating beacons, emergency flashers etc.
3) Remove the force main valve can lid of the desired force main isolation valve you are opening.
4) Insert the valve key into valve can, make sure the valve key is in the top of the isolation valve.
5) Turn the valve counter clockwise to open the isolation valve, after you get the valve all the way open, turn valve clockwise one quarter turn.
6) Next, remove the valve can lid of the force main isolation valve you want to close.
7) Turn the force main isolation valve you want to close by turning the valve clockwise, after the valve is closed, turn valve counter clockwise one quarter turn.
8) Check pump station flow and chart recorder to verify flow output and initial chart recorder.
9) Log force main changes in Operators log book and on the pump station check sheet. (Notating the date, time and operator making changes).
10) Notify Encina Wastewater Authority (EWA) of force main change.
11) Check all air vacs for leaks after force main changes have been made.
12) Notify Supervisor or Superintendent of force main line up change.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE
SWITCHING FORCE MAIN LINES

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

In case of a force main break, the responding field services operator must secure the pump station by turning off all pump controls at the hand off auto (HOA) switch, allowing the flow to go into emergency overflow basin. Then, immediately open the force main isolation valve that's not affected and close the affected force main isolation valve. Place pump controls HOA's back in auto, and verify flow and pump out put.

Leucadia Pump Station:

Isolation Valve Locations:

- **Both force mains, L1 and L2 are located in a separate valve vault, west of Leucadia Pump Station.**

1) Turn the exhaust fan on (switch located on west wall)
2) Remove valve vault grading above the vault latter, pull up latter up making sure it locks into place.
3) Preform atmospheric check
4) Unlock lock and remove cable.
5) Open the desired force main by turning the valve wheel counter clock wise, after the valve is all the way opened turn the valve back clock wise one quarter turn.
6) Close the desired force main valve by turning the valve clock wise, after the valve is all the way opened, turn the valve counter clock wise one quarter turn.
7) Re-installed cable through valve wheels and lock. (Cable and lock are in place to prevent unauthorized personal opening or closing valves).
8) Check pump station flow and chart recorder to verify flow output, initial chart recorder.
9) Log force main changes in Operators log book and on the pump station check sheet. (Notating the date, time and operator making changes).
10) Check all air vacs for leaks after force main changes have been made.
11) Notify Supervisor or Superintendent of force main line up change.

In case of a force main break, the responding field services operator must secure the pump station by turning off all pump controls at the hand off auto (HOA) switch, allowing the flow to go into emergency overflow basin. Then, immediately open the force main isolation valve that's not affected and close the affected force main isolation valve. Place pump controls HOA's back in auto, and verify flow and pump output.

Saxony Pump Station:

Isolation Valve Locations:

Saxony force mains' isolation valves are located along La Costa Ave. Saxony Pump Station discharges into either L1 or L2 force mains. L1 isolation valve is located in the west bound bike lane, L2 isolation valve is in the number 1 lane going east bound.

1) Park truck in the safest area adjacent to the pump station.
2) Deploy any required safety devices; cones, rotating beacons, emergency flashers etc.
3) Remove the force main valve can lid of the desired force main isolation valve your opening.
4) Insert the valve key into valve can, make sure the valve key is in the top of the isolation valve.
5) Turn the valve counter clock wise to open the isolation valve, after you get the valve all the way open, turn valve clock wise one quarter turn.
6) Next, remove the valve can lid of the force main isolation valve you want to close.
7) Turn the force main isolation valve you want to close by turning the valve clock wise, after the valve is closed, turn valve counter clock wise one quarter turn.
8) Check pump station's level control device to verify flow output and check valves.
9) Log force main changes in Operators log book and on the pump station check sheet. (Notating the date, time and operator making changes).
10) Check all air vacs for leaks after force main changes have been made.
11) Notify Supervisor or Superintendent of force main line up change.

5.0 TRAINING

A. LWD employees:

1. Will be issued a copy of this procedure and its attachments as part of their "new hire" training.
2. Will become and remain familiar with this procedure.

B. Field Services Superintendent and Supervisor

1. Will provide regular training and updates on these procedures. Record attendance in Training Log.
2. Will conduct annual review of these procedures.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: By-Pass Pumping for Avocado and Diana Pump Stations using #133 with 4" suction and discharge hoses

1.0 PURPOSE

The purpose of this procedure is to standardize the method used by Field Services staff when conducting by-pass pumping at Avocado and Diana pump stations. Following this procedure carefully will ensure proper operation, maintenance, and data collection for the Collection System owned and operated by LWD are accomplished in a consistently safe and efficient manner.

2.0 SAFETY

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Traffic vests, safety shoes, nitrile gloves, leather gloves, and proper footwear and other appropriate PPE must be used when inspecting sanitary sewers.***
- ✓ ***Workers should protect themselves from over-exposure to sun and heat. Sunscreen lotion, wide-brim hats, and bottled water are available.***
- ✓ ***Arrow Lights, flashers, and traffic cones are to be used whenever in the public right-of-way.***
- ✓ ***Second LWD employee must be used whenever traffic density requires extra control.***

3.0 PREPARATION

a. Ensure by-pass pump is full of fuel and check engine oil level.
b. Ensure all required Personal Protective Equipment is available.
c. Ensure two 4' hoses are in good working order, check for cuts, cracks.
d. Ensure gas detector is fully charged and in good working order.

4.0 GENERAL PROCEDURE

Upon arrival at each pump station:

a. Stay in truck for about a minute to observe the traffic flow and the overall safety of the current location.
b. Step out of truck and make final check of traffic pattern and neighborhood.
c. Coordinate work and safety activities with co-worker, if assigned.
d. Report any unsafe conditions to Field Services Supervisor immediately.

Safety note: Always wash hands before eating and use hand disinfectant frequently.

5.0 SPECIFIC PROCEDURES

A. Start-up Procedures:

1) Setup pump facing west and place pump west of wet well hatch.
2) Place both “Hand off Auto” (HOA) switches in “OFF” position at the control panel.
3) Open all hatches for access.
4) Confirm both force main valves are closed located in valve vault.
5) Confirm at least one pump’s air-vac is open located in valve vault.
6) Drain discharge pipe by opening check valve of one pump until discharge line is empty.
7) Remove 4” cam-loc plug from discharge pipe.
8) Connect 4” cam-loc suction hose to by-pass pump and insert into wet well.
9) Connect 4” discharge hose to by-pass pump and discharge piping in valve vault.
10) Open by-pass valve located in valve vault.
11) Open one or both force main valves in valve vault.
12) Proceed to by-pass pump and open 3/4 inch ball valve on pump volute housing.
13) Start-up pump at idle; confirm oil pressure, water temperature, and battery volts.
14) Close ¾ inch ball valve and observe vacuum gauge rising in pressure, at 15 “pounds per square inch” (PSI) pump should self-prim and start pumping.
15) Observe level in wet well, and adjust pump speed as necessary to maintain safe operating level.
16) Observe station’s downstream manhole to confirm pumping.

B. Shut-down Procedures:

1) Turn off bypass pump.
2) Proceed to valve vault and close both force main valves.
3) Verify one air-vac is open in valve vault.
4) Open ¾ inch ball valve on bypass pump's volute.
5) Open one of the pump's check valves and the bypass check valves simultaneously to drain suction/discharge hoses back into wet well until empty.
6) Verify both of the stations pump check valves are closed.
7) Disconnect 4" discharge hose from discharge pipe in valve vault.
8) Close bypass in valve vault and install cam-loc plug.
9) Open both pump station's force mains.
10) Remove suction and discharge hoses from pump and close ¾ inch ball valve on bypass pump's volute.
11) Turn both pump station's HOA's back to the auto position.
12) Observe pump stations operation at wet well and milltronic's pump controller.
13) Record pump station's operators log sheet.
14) Record bypass pump's APCD total run hours log sheet.

C. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that staff is performing these activities properly.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

6.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their "new hire" orientation.
2) Will become familiar with the procedure.
3) Will attend training as directed by the Field Services Superintendent.

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that staff is performing these activities properly.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

7.0 PREPARATION

A. Field Services Supervisor

1) Will periodically spot check that staff has all required materials to properly carry out this procedure. This will include at a minimum:
   a. map books, Thomas Brothers guide and laptop computer
   b. hand-held GPS device (with spare batteries)
   c. an operable cell phone with important phone numbers pre-programmed in memory

SOP CHECKLIST

By-pass Pumping for Avocado / Diana Pump Stations
Using Pump #133 with 4” Suction / Discharge hoses

Start-up Procedures:

1 __ Setup pump facing west and place west of wet well hatch

2 __ Place both HOA switches in ‘OFF’ position in control panel

3 __ Open all hatches for access

4 __ Confirm both force main valves are closed located in valve vault

5 __ Confirm at least one air-vac is open located in valve vault

6 __ Drain discharge pipe by opening check valve of one pump until discharge line is empty

7 __ Remove 4” cam-loc plug from discharge pipe

8 __ Connect 4” 30 ft.suction hose to pump and insert into wet well

9 __ Connect 4” 40 ft.discharge hose to pump and discharge piping in valve vault

10 __ Open bypass valve located in valve vault

11 __ Open one or both force main valves in valve vault

12 __ Proceed to bypass pump and open ¾ inch ball valve on pump volute housing

13 __ Start pump at idle – confirm oil pressure, temperature, and volts

14 __ Close ¾ inch ball valve and observe vacuum gauge rising in pressure - at 15 psi pump should self-prime and start pumping

15 __ Observe level in wet well and miltronics in control panel

16 __ Adjust pump speed as necessary to keep up with the flow until bypass complete

SOP CHECKLIST

By-pass Pumping for Avocado / Diana Pump Stations Using Pump #133 with 4” Suction / Discharge hoses

Shut-down Procedures:

1 __ Turn off bypass pump

2 __ Proceed to valve vault and close both force main valves

3 __ Verify one air-vac is open in valve vault

4 __ Open 3/4 inch ball valve on bypass pump volute

5 __ Open one pump's check valve and the bypass check valve simultaneously to drain hoses back into wet well until empty

6 __ Verify both pump's check valves are closed

7 __ Disconnect 4" discharge hose from discharge pipe in valve vault.

8 __ Close bypass valve in valve vault and install cam-loc plug

9 __ Open both force mains

10 __ Remove suction and discharge hoses from pump and close 3/4 inch ball valve on pump volute

11 __ Turn both pump station's HOA's back to auto

12 __ Observe pump station's operation is normal, Check wet well and milltronics controller

13 __ Record pump stations operators log sheet

14 __ Record bypass pumps #133 total run hours in APCD log book

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: DISTRICT PIPELINE LOCATION AND MARKOUT

1.0 PURPOSE

The purpose of this procedure is to standardize the method used by Field Services staff for locating and marking District facilities.

2.0 SAFETY

All District Safety Procedures regarding Traffic Safety must be adhered to.

- ✓ ***Operators must perform a daily vehicle check on any LWD vehicle each day it is used***
- ✓ ***Traffic vests, safety shoes, nitrile gloves, and leather gloves and other appropriate PPE must be used when operating the Vactor and working in and around sanitary sewers.***
- ✓ ***Flashers and traffic cones are to be used whenever LWD vehicles are being operated in the public right-of-way.***

3.0 PROCEDURE

a. Review USA line location tickets in order of the most recent line location ticket (printout date) and work date.

b. Separate location tickets that are out of the district or that are resend tickets.

c. Review street location on ticket using the Thomas Bros. Guide, so you know where you are going.

d. Sort tickets by zone, so you don't retrace your steps going to each location.

e. Read and understand the type of construction work to be performed.

f. If necessary make a follow up phone call to the contractor doing the work (number is on ticket).

g. If the ticket requests a joint meet, schedule and be sure to attend the meet.

h. Most importantly response time for emergency location requests is 90 minutes.

i. Mark district mainlines with green paint, in 6 inch to 8 inch tall letters.

j. Mark in green paint 25 feet increments over the entire line segment where work is to be performed.

k. Contact the foreman on the site and review work to be done, if necessary

l. Annotate all line location tickets with your initials and the date, after all locations have been performed.

m. If there are any conflicts with the work to be done and the LWWD facilities, or the work requires use of on call person, notify the inspector for further coordination.

n. Return all tickets to the line location clipboard that is located in the Field Services area.

If you are unsure of a complex location, or have any other questions, see the Field Services Superintendent or the Field Services Specialist.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: TRAFFIC CONTROL PROCEDURES

1.0 PURPOSE

These procedures have been established to insure safe working conditions for Leucadia Wastewater District (LWD). LWD personnel required to work in the public roadways as well as to ensure roadway safety by providing for the orderly and predictable movement of traffic, motorized and non-motorized through LWD construction and/or maintenance work zones.

2.0 GENERAL

Traffic control devices and plans in California are required by Section 21400 of the California vehicle code to conform to the Caltrans Manual of Operation for construction and maintenance work zones. Caltrans' manual conforms to Standards issued by the Federal Highway Administration.

All work performed by LWD personnel in the public roadways or right-of-way shall be conducted in accordance with these standards.

The normal daily operation of the Field Services department requires continuous work in the public right-of-way under various traffic volume conditions.

3.0 SAFETY

Working in the roadway represents a significant hazard to LWD personnel as well as pedestrians and motorist.

On-coming traffic must be warned of your presence in the roadway to minimize these hazards.

Regardless of location, LWD personnel must deal with different areas of traffic control. These areas are identified as:

Advance Warning Area

1. Alert drivers to activity ahead and allow them enough time to alter driving pattern prior to reaching the work area.

2. Warnings can vary from a series of signs beginning a mile in advance or to single sign or flashing lights on a vehicle.

3. Guidelines for placement of advance warning area are:

   A) 1/2 mile to 1 mile for highways.
   B) 1,500 feet for most other roadways.
   C) At least one block in urban areas.

Transition Area

In the transition area, traffic is channeled from the normal traffic lane to the path required to move it around the work area.

The transition area generally forms a taper by means of a series of channeling devices placed on an angle to move traffic out of its normal path.

Buffer Zone

This pen or unoccupied spacer between transition and work areas provides an additional margin of safety for both traffic and workers. The buffer zone area should be free of equipment, workers, materials and vehicles.

Work Area

The portion of the road which contains the work activity and equipment is closed to traffic and is set aside for exclusive use by workers, equipment and the placement of materials.

This is the most hazardous are to the workers since it is usually close to the traveled lanes (therefore, traffic) and it may be necessary to load or unload equipment within the work area.

Termination Area

This area provides a short distance for traffic to get clear of the work area and to return to the normal traffic lanes. A taper may be installed to channel traffic back into normal traffic lanes.

4.0 PROCEDURES

Whenever LWD operations take place in the roadway and traffic maybe affected, the appropriate agencies having jurisdiction over the roadway, must be notified. Traffic diversion or disruption may have an impact on emergency response by police or fire services in the affected area. This is accomplished by notifying the respective construction inspection department of the Cities of Carlsbad and Encinitas.

Each work zone shall be observed prior to commencing work and appropriate traffic measures taken to receive work zone and maintain traffic flow.

Placing of traffic control devices shall be performed prior to the commencement of work in the roadway.

Upon arrival at the job site, look for a safe place to park the vehicles. If they must be parked in the street to do the job, route the traffic before parking the vehicles. If practical, park vehicles between oncoming traffic and the work zone to serve as barricades and to provide additional protection for workers.

Rotating beacon and strobe lights on all LWD vehicles shall be used at all times when vehicles are parked in the roadway and/or work zone to provide additional warning to oncoming traffic.

Traffic control devices shall be placed beginning with the advance warning area first continuing through the termination area. When taking down traffic control devices they shall be removed in the reverse order, beginning with termination area back to the advance warning area.

Traffic control shall not be removed until all work is complete; work zone is secure, free of personnel, materials and equipment. Traffic may then be routed back through the affected area.

Routine line cleaning operations on residential or urban streets shall require the use of two advance warning signs(c-23, roadwork ahead) at least one block from work zone, one job for each direction of travel. The work area shall be coned off and the directional arrow board and strobe lights on the vactor will be used.

When line cleaning takes place on main arteries, roadways with high traffic volume or with approach speed in excess of 30 mph, additional traffic control devices will be required.

This may include, but not limited to, the following:

C-23 - Roadwork Ahead
C-9A - Flagman Ahead
C-21 - Single Lane Ahead
C-36 - Prepare to Stop
C-20 - Right/Left Lane Closed Ahead
C-30 - Lane Closed
C-14 - End of Roadwork

Certain conditions may necessitate the use of flagmen to alternate traffic flow on a two lane road when one lane is closed.

Use of a flashing arrow sign (FAS) may also be used on high volume, high speed roadways to direct traffic flow around work zones or for lane changes.

At times, due to windy conditions or close proximity of vehicles passing traffic control devices, it may be necessary to secure sign holders with sandbags or other weights to prevent them from being blown over.

The following table provides guidelines for approximate taper lengths, cone spacing and the number of cones for various approach speeds.

approach speed	taper length	# of cones	cone spacing
25 mph	125 ft.	6	25 ft.
30 mph	180 ft.	7	30 ft.
35 mph	245 ft.	8	35 ft.
40 mph	320 ft.	9	40 ft.
45 mph	540 ft.	13	45 ft.
50 mph	600 ft.	13	50 ft.
55 mph	1000 ft.	21	50 ft.

5.0 RESPONSIBILITIES

The Supervisor will be responsible to ensure that respective operations and maintenance personnel are trained properly and follow these safety practices.

The Supervisor shall be responsible for notifying appropriate agencies of LWD work in roadways prior to commencement of work.

The Superintendent shall periodically review work zones and traffic control plans to ensure compliance with accepted standards, recommend improvements and correct deficiencies.

6.0 TRAINING

LWD personnel are required to attend traffic control training every year and flagger training every two years. These training meetings cover training topics such as, traffic control procedures and flagging procedures. This training is conducted by the Out Side Vendor from Pacific Safety. .

The Supervisor may conduct monthly tailgate training sessions which will include training sessions on traffic control and placement of traffic control devices.

7.0 SUPPLEMENTAL INFORMATION

Refer to the WATCH handbook for supplemental information relating to traffic control. They include the following:

1) Standard construction signs
2) Typical warning signs, markers and regulatory signs
3) Typical flagging equipment
4) Flagging procedures
5) Channelization devices

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: EMERGENCY BY-PASS PUMPING FOR BATIQUITOS PUMP STATION WITH PORTABLE BY-PASS PUMP

1.0 PURPOSE

The purpose of this procedure is to standardize the method used by Field Services Staff conducting by-pass pumping at the Batiquitos pump station. It is intended to ensure safety, operation, maintenance, and data collection is accomplished in a consistent and efficient matter.

2.0 SAFETY

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tag out, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Hearing Protection is always required when entering pump and lift stations.***
- ✓ ***Pre-atmospheric checks, using a calibrated gas detector, are required when entering any drywell.***
- ✓ ***No electrical breakers shall be operated and no electrical panel shall be opened without the express permission of the Field Services Supervisor or the Field Services Superintendent.***

3.0 PREPARATION

a. Ensure by-pass pump is full of fuel and check engine, oil level, water level and tires

b. Ensure all piping, flanges, wrenches and nuts& bolts are in truck

c. Ensure all required Personal Protective Equipment is available.

d.. Ensure gas detector is fully charged and in good working order.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE
BY-PASS PUMPING FOR BATIQUITOS PUMP STATION #134 PUMP

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

4.0 GENERAL PROCEDURE

Upon arrival at Batiquitos pump station:

a. Stay in truck for about a minute to observe the traffic flow and the overall safety of the current location.
b. Step out of truck and make final check of traffic pattern and neighborhood.
c. Coordinate work and safety activities with co-worker, if assigned
d. Report any unsafe conditions to Field Services Supervisor immediately.
e. Use the buddy system when backing #134 pump towards by-pass connection Manifold.

A. START-UP PROCEDURES:

1) Setup pump with suction and dis-charge side facing to the south.
2) Connect suction and dis-charge piping up
3) Make sure all flanges and bolts are tight
4) Confirm force main valve is open located in parking lot.
5) Confirm ½ “ball valve located on the primer box is CLOSED
6) Start –up engine at idle speed – 1100 RMP’s, confirm oil pressure, water temperature and battery volts.
7) Located in pump station dry well, open by-pass suction valve and dis-charge valves
8) CLOSE ½” ball valve on primer box and increase throttle speed to 1550 RPM’s, observe vacuum gauge rising in pressure at 15 “pounds per square inch” (PSI) pump should self-prim and start pumping (Pump should prim in (2) two minutes.
9) Observe level in wet well, and adjust pump speed as necessary to maintain safe operating level.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE
BY-PASS PUMPING FOR BATIQUITOS PUMP STATION #134 PUMP

7.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their “new hire” orientation.
2) Will become familiar with the procedure
3) Will attend training as directed by the Field Services Superintendent

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that staff is performing these activities properly.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

Leucadia Wastewater District

STANDARD OPERATING PROCEDURE

BY-PASS PUMPING FOR BATIQUITOS PUMP STATION #134 PUMP

SOP CHECKLIST

Start-up Procedures:

- ✓ Setup pump facing the rear of the pump towards the south
- ✓ Connect suction and dis-charge piping up
- ✓ Check to make sure all flanges and bolts are tight
- ✓ Confirm force main valve is open located in parking lot
- ✓ Confirm ½" ball valve located on the pumps primer box is CLOSED.
  Start-up engine at idle speed – 1100 RPM's, confirm oil pressure, water temperature and battery volts gauges are all working
- ✓ Located in the pump station dry well, open the by-pass suction and discharge valves.
  CLOSE ½" ball valve on primer box and increase throttle speed to 1551 RPM's,
  Observe vacuum gauge rising in pressure to 15 "pounds per square inch" (PSI).
  Pump should self-prim and start pumping within (2) two minutes.
- ✓ Observe level in wet well, and adjust pump speed as necessary to maintain safe operating level.
- ✓ Check all downstream air vacs, checking for proper operation.
- ✓ Monitor pump station until corrective measures have been made

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE
BY-PASS PUMPING FOR BATIQUITOS PUMP STATION #134 PUMP

SOP CHECKLIST

Shut-down Procedures:

- ✓ Throttle pump speed to idle – 1100 RPM's
- ✓ Open ½" ball valve to release vacuum and leave in the OPEN position
- ✓ Let idle for 10 minute, then turn off engine
- ✓ CLOSE ½" ball valve on primer box AFTER system returns to atmospheric pressure
- ✓ CLOSE bypass suction and discharge valves located in drywell
- ✓ Record engine runtime duration on APCD Log sheet
- ✓ Close force main valve located in parking lot
- ✓ Loosen and remove all flanges and bolts
- ✓ Disconnect suction and dis-charge piping
- ✓ Return pump, piping, flanges and bolts back to the yard
- ✓ Return piping, flanges and bolts back to pipe bend
- ✓ Return pump back under the car port near building 300
- ✓ Plug in Battery Charger to pump batteries

Section V – Design and Performance Provisions

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify the development and implementation of design and performance provisions as an element of each Wastewater Collection Agency's Sanitary Sewer Management Plan (SSMP). Specifically, design and construction standards and each project's specifications must be in place for the installation of new facilities and for the rehabilitation and repair of existing facilities. Additionally procedures and standards for each project should be in place for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

Leucadia Wastewater District Actions

Certified by the District Engineer, the District maintains a set of standard specifications and drawings which are adopted by Board resolution and called the *Standard Specification and Procedures for Wastewater Facilities*, also known as the "LWD Standard Spec." The District adopted its original set of standard specifications in November 1970, and since that time, has reviewed, updated, and readopted the document periodically to match the changing design and construction environment and to meet the needs of the District. Currently, the District Engineer reviews the LWD Standard Spec every three years to determine if revisions are necessary. A team consisting of District staff, District Legal Counsel and District Engineer revises the Standard Specs. The LWD Standard Spec is then stamped and signed by the District Engineer prior to Board adoption. The District revised the LWD Standard Spec in January 2013 and it was adopted by the Board in April 10, 2013.

The LWD Standard Spec functions as the primary document provided for sewer construction. In addition to the standard specifications and drawings, it also identifies the procedures that must be followed for the District to ultimately accept privately constructed facilities. As the author of these requirements and the enforcer of adherence to these guidelines in acceptance of facilities, the District follows these same standards and specifications in the development of its own CIP projects. As part of the plans and specification for a District CIP project, the Engineer of Record for the capital project incorporates the LWD Standard Spec by reference and oversees and approves any deviations from the sections as necessary for the specific project.

The LWD Standard Spec includes the following:

- Design and Construction Standards and Specifications for the installation of
    - new sanitary sewer systems,
    - pump stations, and
    - appurtenances.
- Design and Construction Standards and Specifications for the rehabilitation and repair of existing sanitary sewer systems

- Procedures and Standards for inspecting and testing the installation of
    - new sanitary sewer systems,
    - pump stations, and
    - appurtenances.
- Procedures and Standards for the rehabilitation and repair of existing sanitary sewer systems

In addition to the above, the LWD Standard Spec also includes:

- Review of the preparation and processing of privately constructed wastewater facilities dedicated to the District after design review, construction inspection, testing, and acceptance by LWD,
- sewer system planning guidelines,
- the District Standard Drawings, and
- standardized forms for easements, encroachments, annexations, etc.

District Documents Referenced By This Section

- District Standard Spec, April 2013

Section VI – Overflow Emergency Response Plan

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify the development and implementation of an overflow emergency response plan as an element of each Wastewater Collection Agency's Sanitary Sewer Management Plan (SSMP). This element identifies the agency's practices to protect public health and the environment in the event of a spill. State Water Resources Control Board Order NO. WQ2013-0058-EXEC amended the Monitoring and Reported Program (MRP) on September 9, 2013.

Leucadia Wastewater District Actions

The District has developed and implemented an Overflow Emergency Response Plan (OERP) which standardizes the District's response actions to the report of a possible sanitary sewer overflow or spill, identifies the safety precautions and industry practices to ensure public and environmental health and safety, and identifies the internal and external notification and reporting requirements. Key required components of this SSMP element are discussed in the following sections.

An essential component of the OERP is the identification of the proper notification procedures to the appropriate parties. This includes regulatory agencies and other external agencies, as well as District management. A list of emergency contractors is also provided. Pages 1 through 3 of the plan provide the specific procedures for who should be contacted regarding the spill, starting with the person who actually receives the initial reporting call. One of the first steps required of the person receiving the call is to notify the Field Services Supervisor and/or Superintendent who has the responsibility, as the plan specifies, to make all required notifications within the required timeframes. The specific officials who are to be notified are listed in OERP-Attachment H to the plan. The plan also identifies procedures to address emergency operations, such as traffic and crowd control, while adhering to District safety procedures.

In addition to general spill response practices, the plan identifies specific additional steps which should be followed for a particular spill cause. For example, if the spill is due to the loss of power at a pump station, the first responder is required to immediately request a portable emergency generator, even though six of the ten stations have one onsite.

In the event of a spill, the OERP identifies the procedures to contain and prevent any discharge to surface waters and the plan also directs first responders to first make all practical efforts to contain the spill, to correct the cause of the spill, and evaluate the feasibility of secondary containment or collection. These containment steps help to minimize any impact to the environment as a result of the spill.

Additionally, to further minimize or correct any adverse impact, the plan procedures specify that any wash-water, debris, and contaminated soil are collected and properly disposed of. Finally, the Field Service Supervisor/Superintendent executes, in concert with the

appropriate agencies, directs sampling protocols, if necessary, to determine the environmental impact and remediation of the spill. For public health and safety, this step also includes working with regulatory agencies for posting of signs, as necessary (e.g., at beach or lagoon). The District maintains a standard posting and sampling procedure which would be modified to incorporate the concerns of any regulatory authorities, as necessary, as part of the spill response. For spills greater than 50,000 gallons, the Water Quality Monitoring Program reporting would be treated to provide the appropriate sampling and documentation.

To ensure that all appropriate personnel are adequately trained on the spill response plan procedures, the plan discusses how new employees are made aware of the response plan and identifies the Field Services Supervisor and/or Superintendent responsibilities for regular training and hands-on spill response drills. The District's SCADA response procedure details how staff should respond to SCADA alarms.

Prevention of spills is paramount to the District. As part of the new hire process, all field services staff are provided with the standard list of duties which promote safety and emphasize the importance of ensuring that District facilities and infrastructure remain or are returned to operational status as quickly as possible with emphasis on ensuring a prompt and capable response to trouble reports and system alarm conditions.

District Documents Included With This Section

- SOP – Overflow Emergency Response Plan
- SOP – Reporting Sanitary Sewer Overflows
- SOP – Pump Station Alarm Response
- SOP – Posting and Sampling Procedure
- SOP – SCADA Alarms and Alarm Text Pages
- SOP – Standby Duty Operator (On Call)
- SOP – Emergency Procedures for Air Release Valves

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE
OVERFLOW EMERGENCY RESPONSE PLAN

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: PROCEDURE FOR EMERGENCY RESPONSE TO SANITARY SEWAGE OVERFLOWS (SSOs)

1.0 PURPOSE

The procedure for responding to sewage overflow was developed and instituted to:

a. Standardize the proper method used by Field Services staff when responding to a report of a possible sewage overflow.
b. Ensure that all safety precautions and industry practices are consistently followed to minimize the impact of a sewage spill to public health, worker safety, and the environment.
c. Provide notification to all appropriate external agencies and LWD management of the SSO in accordance with 40 CFR 122.41; State Water Resources Control Board (SWRCB) Order No. 2006-03, General Waste Discharge Requirements (GWDR), dated May 3, 2006; SWRCB Order No. WQ 2013-0058-EXEC, effective July 26, 2013; and San Diego Regional Water Quality Control Board (SDRWQCB) Waste Discharge Requirements Order R9-2007-005, dated Feb 14, 2007.

2.0 SAFETY

Nothing in these procedures supersedes, or in any other way, relaxes LWD Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Confined Space, Infectous Disease, or Illness and Injury Prevention.

3.0 PROCEDURE

A. **Any LWD employee (including answering service staff)**, being notified of a "sewage spill or overflow", will carry-out the following duties:

1) politely interact with the caller, obtain all relevant information and fill out a "Work Order/Service Request" {Attachment (a)}. (Note time spill is reported.)
2) utilizing your cell phone immediately notify the Field Service Supervisor and/or Field Service Superintdent (or the Stand-By Duty Operator) that sewage overflow/spill has been reported. If sewer overflow is backing up into a building or residence, Administrative Services Manager must also be notified. Use LWD Emergency phone card {Attachment (b)} or Frequently Called Numbers {Attachment (c)}. [Note time of notification was made.]

B. Stand By Duty Operator (staff member responding to spill)

1) Quickly but ***safely*** proceed to the location of the reported spill in ***one of the Vactors***.
2) Upon arrival, immediately investigate and assess the situation, especially for any safety hazards. Determine if there is any exceptional or additional measures required to protect the public, such as traffic control or crowd control. As practical and within safety limits consider the use of barriers, taping of the area, or requesting assistance from law enforcement officials.
3) Determine the type of water overflowing/spilling. ***Make a rapid estimate of spill flowrate or its volume, the source of the spill, and its destination.*** {see photos of various spill volumes, Attachment (d)}.
4) Note time of arrival on Emergency Action Report {Attachment (e)}.
5) Immediately make all practical efforts to contain the overflowing sewage and then, as rapidly as possible, ***correct the cause of the spill***. [Note times spill is contained and/or stoppage corrected on Sewer Spill Data Sheet {Attachment (f)}].

Note: If any aspect of the spill (e.g., spill greater than 1000 gals, spill location, spill destination, damage to private property, media interest, injury, etc.) is "exceptional" or there is any doubt regarding the spill, LWD staff member is to immediately notify the Field Services Supervisor, Field Services Superintendent, Technical Services Manager, or General Manager at their offices or homes.

(If spill is due to power outage at a pump station, notify Field Services Supervisor immediately. If the station has an emergency generator, confirm that it is operating. If the power outage occurs at a station without an emergency generator, request a portable emergency generator be brought to the affected pump station. See also the Standard Operating Procedure - Pump Station Alarm Response)

(If the source of the spill is a forcemain, notify the Field Services Supervisor Immediately so that commercial pumper trucks can be dispatched without delay.)

(Spill Response includes deploying spill kit barriers across the entrance of nearby storm drains, verifying proper lift station operation or securing lift station operation as required, and checking manholes for stoppages caused by grease or other debris.)

(Note: If circumstances preclude spill containment, the responding LWD staff member will, as soon as practical, determine the ultimate destination of the spill and evaluate the feasibility of secondary containment or collection.)

6) Keep Field Services Supervisor informed of all aspects of the Spill (time of arrival on scene, estimated volume or amount of spill, **all requirements for extra staff or special equipment**, with periodic updates/re-assessments, and the cause of the spill, including the determination if it is a private lateral spill and the property owner's responsibility.)
7) Record the various times of events and details of the spill response on Sewer Spill Data Sheet. {Attachment (f)}. Use handheld GPS device to determine latitude and longitude of spill location and spill destination, if this location is substantially different (over 1000 yards away).
8) If required, assist pumper truck operator in returning all collected wastewater to sewer collection system.
9) Assist with any and all repair/remediation efforts directed by Field Services Superintendent and/or Field Services Supervisor.
10) Review the Emergency Action Report sheet {Attachment (e)} and the Sewer Spill Data Sheet {Attachment (f)}, completing all sections with the required data.
11) Take photographs, if possible, to record spill size, spill damage, and response.
12) As soon as practical after the spill/overflow has been corrected/cleared, wash and/or remediate all areas affected by the spill. Wash water and other debris, as well as contaminated soil should be collected and properly disposed of.

C. Field Services Supervisor and Field Services Superintendent

1) Will dispatch additional assistance as required/requested by responding LWD Staff. Will request assistance from list of emergency contractors as necessary. {see Attachment (g)}
2) Will make all required telephonic notifications to the Regional Water Quality Control Board, SD County's Office of Environmental Health, and the Office of Emergency Services (OES) within two hours for any spill reaching a storm drain, drainage channel, or surface waters. {see Attachment (f), Attachment (h), and Attachment (i)}

3) Based upon size and location of sewer spill, will coordinate with District Engineer, RWQCB, Environmental Health, and Fish and Game to determine number, locations, frequency, and type of analyses for the samples required to determine environmental impact of spill and prepare and carry out a written plan and protocol as soon as practical but within 1st 24 hours. District Engineer will make recommendations as soon as possible to incorporate additional resources such as an environmental scientist or biologist as necessary. Note: If spill is greater than 50,000 gallons the SSO Water Quality Monitoring Program must be implemented {see Attachment (j)}.
4) Will conduct an immediate investigation into the spill, including a review of the affected sewer line's preventative maintenance history within 24 hours using Spill Review Checklist {Attachment (k)}.
5) After investigation is completed and properly documented, a narrative report will be submitted to the General Manager, via the Technical Services Manager.
6) Will conduct a spill response debriefing.
7) Will ensure completion of any requirements of regulatory agencies as soon as can be ***safely*** carried out (e.g., ***posting*** of affected areas, sampling, soil remediation or capping, environmental mitigation, etc.).{see Attachment (i) and Attachment (j)]
8) Will prepare and/or review all follow up documentation for inclusion in the GWDRs required SSO database, California Integrated Water Quality System (CIWQS) within twenty-four hours.{see Attachment (i, j, and k}

Note: Procedures for Beach Posting is provided separately.

4.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their "new hire" orientation.
2) Will become familiar with the procedure and the duties required during a Spill Response.
3) Will attend Spill Response Training annually as directed by the Field Services Superintendent.

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) and drills (simulated and "Hands On") on spill response annually as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that emergency response equipment and supplies are maintained in a high degree of readiness.
4) Will conduct annual review of these procedures as well as LWD's collection system and the storm drain system within LWD service area to determine in advance any probable locations for sewage spills and the deployment of secondary containment. These locations will be included in Emergency Overflow Response Plan Training.
5) Will review spill investigation and implement any required improvements to this procedure.

5.0 PREPARATION

A. Field Services Supervisor

1) Will periodically spot check that Vactors and OnCall Vehicle have all required materials to properly respond to and contain a sanitary sewer overflow. This will include at a minimum:
   a. map books, Thomas Brothers guide and laptop computer
   b. tarps
   c. shovel
   d. disposable camera/digital camera
   e. hand-held GPS device (with spare batteries)
   f. applicable forms (complete OERP) and copies of Ordinance 128
   g. Operators assigned an operable cell phone with important phone numbers pre-programmed in memory
   h. materials and supplies required to properly post signs warning of water contamination
   i. sample bottles and chain of custody forms to conduct water sampling

B. Stand By Duty Operator

Preparation for Sanitary Sewer Overflows is part of the Standard Operating Procedure for Stand By Duty Operators. See the SOP for specific requirements.

ATTACHMENTS

The list of attachments to this plan are as follows:

a. Work Order/Service Request
b. Employee Phone Card
c. List of Frequently Called Numbers
d. Spill Volume Photos
e. Emergency Action Report
f. Sewer Spill Data Sheet
g. Emergency Contractors Contact List
h. SDRWQCB Flow Chart
i. SOP – Reporting Sanitary Sewer Overflows
j. SOP – Posting and Sampling (includes SSO Water Quality Monitoring Program)
k. Spill Review Checklist

LEUCADIA WASTEWATER DISTRICT

CUSTOMER SERVICE REQUEST

Date: _____ **Time:** _____

Received By: _____

Name of Person Reporting Problem: _____

Identity: _____ *Homeowner* _____ *Plumber* _____ *Public Agency Employee*

Other: _____ Phone # _____

Location/Address of Problem _____
or Pump Station: _____

Cross Street: _____

Problem: _____ *Overflowing Sewage* _____ *Manhole Cover* _____ *Odor*

_____ *Slow Drain* _____ *Other*

Description of Problem/Alarm/Supplemental Information:

_____
_____
_____
_____

☐	**Dispatched Vactor Crew (Name)**	_____			**Time:** _____
☐	**Dispatched On call Employee (Name)**	_____			**Time:** _____
☐	**Notified Operations Supervisor**	hand	page	cell	**Time:** _____
☐	**Notified District Superintendent**	hand	page	cell	**Time:** _____
☐	**Crew Request for Additional Assistance**				**Time:** _____

Problem Resolved/Closed by Supervisor **Date:** _____

Time: _____

Comments: _____
_____
_____
_____
_____

attachment (a)

G:\FORMS\Maintenance Service Request for Customer

OVERFLOW EMERGENCY RESPONSE PLAN, ATTACHMENT a

STAFF	HOME/CELL	WORK CELL
Todd Amos	cell 522-4951	212-2836
Mauricio Avalos	cell 622-8125	450-5357
Tianne Baity	cell (858) 442-6787	
Rick Easton	271-4772	500-6050
Craig Farrell	630-6147 / 201-5419	207-8209
Hugo Gonzalez	cell 453-3735	207-8264
Trisha Hill	cell 331-8967	
James Hoyett	809-2392	207-8249
Steve Krason	480-1168	500-1491
Chuck LeMay	966-1798	cell 420-6062
Maggie McEniry	598-5256	cell 805-3020
Gabriel Mendez	cell 889-8960	450-5356
Robin Morishita	(619) 482-9391	cell 331-7819
Frank Reynaga	942-0865	cell 214-2229
Ian Riffel	cell 443-4705	450-5150

STAFF	HOME	CELL
Paul Bushee	727-3614	212-2837
Jeff Stecker	415-1225	500-1451
Marvin Gonzalez	754-2781	212-2838
Answering Service	753-6565	

IMPORTANT NUMBERS			
Batiquitos PS	942-3588	SCADA Alarm	479-2130
SPILLS OES	800-852-7550	R9 858-637-5581	R9 858-822-8344
DEHS - DAY	858-495-5579	DEHS - AFTER HR	858-565-5255
CARLSBAD ON CALL	802-8100	ENCINITAS ON CALL	633-2342
Rancho Santa Fe Security		800 303-8877	

FREQUENTLY CALLED NUMBERS

10/23/2013

SPILL REPORTS	
OES	(800) 852-7550
AFTER HOURS COUNTY HEALTH	(858) 565-5255
EWAN MOFFAT (DEHS)	(858) 495-5579
RWQCB (CONFRANCESCO)	(858) 637-5589
RWQCB AFTER HOURS	(858) 822-8344
CA FISH/GAME	(858) 467-4218
ATLAS PUMPING	(800) 491-7867
NRC	(800) 337-7455

CARLSBAD	
POLICE DEPARTMENT	(760) 931-2197
GENERAL INFO.	(760) 434-2820
STREETS/ STORM WATER	(760) 434-2980
WATER/SEWER	(760) 438-2722
WATER HOOK UP	(760) 434-2883
ONCALL OPERATOR	(760) 802-8100
ONCALL SUPERVISOR	(760) 802-4790

SDG&E	(888) 320-1907
FLOODED HOUSE	(800) 413-2999

ENCINITAS	
WATER	(760) 633-2650
SEWER	(760) 753-5018
STORM WATER M-F 8-5:30	(760) 633-2787
EMERGENCY AFTER HOURS	(760) 633-2922
PUBLIC WORKS	(760) 633-2840
ONCALL OPERATOR	(760) 633-2342
SHERIFF	(760) 966-3500

SANITATION	
ENCINA (MAIN)	(760) 438-3941
ENCINA AFTER HOURS	(760) 268-8823
	(760) 801-9120
COUNTY OF SAN DIEGO	(858) 694-3273

SCADA	
RICK PATECELL	(951) 302-1018

WATER	
OLIVENHAIN	(760) 753-6466
SANTA FE IRRIGATION	(858) 756-2424
VALLECITOS W.D. (SAN MARCOS)	(760) 744-0460

SAN ELIJO (Treatment Plant)	(760) 753-6203

WAYNE BRECHTEL	
General Counsel	(858) 755-6604

ANSWERING SERVICE	(760) 753-6565
answering service forward to number	(760) 633-2387

PHONE EXTENSIONS	
TIANNE BAITY	**3001**
FRANK REYNAGA	**3002**
FINANCE	**3003**
COPY ROOM 1st FLR	**3004**
BOARD ROOM	**3005**
FRONT DESK GIS	**3006**
ROBIN MORISHITA	**3007**
JEFF STECKER	**3008**
TRISHA HILL	**3009**
MAGGIE McENIRY	**3010**
CHUCK LEMAY	**3012**
LUNCH ROOM	**3013**
PAUL BUSHEE	**3014**
CONFERENCE ROOM 2nd FLR	**3015**
SCADA ROOM	**3016**
MARVIN GONZALEZ	**3017**
LEUCADIA PUMP STATION	**3019**
SERVER ROOM	**3022**
FILE ROOM	**3023**
TRAINING ROOM	**3025**

CELLULAR PHONES		
General Manager	**Paul**	(760) 212-2837
Superintendent	**Jeff**	(760) 500-1451
Technical Services Mgr	**Robin**	(760) 331-7819
Admin Services Manager	**Chuck**	(760) 420-6062
Field Services Specialist	**Frank**	(760) 214-2229
Field Services Supervisor	**Marvin**	(760) 212-2838
Field Services Tech.	**Steve**	(760) 500-1491
Field Services Tech.	**James**	(760) 207-8249
Field Services Tech.	**Craig**	(760) 207-8209
Field Services Tech.	**Ian**	(760) 450-5150
Field Services Tech.	**Gabe**	(760) 450-5356
Field Services Tech.	**Mauricio**	(760) 450-5357
Field Services Tech.	**Todd**	(760) 212-2836
Field Services Tech.	**Hugo**	(760) 207-8264
Field Services Tech.	**Rick**	(760) 500-6050

RICHARD STINSON		(760) 525-8653
RANCHO SANTA FE SECURITY		(800) 303-8877
ELEVATOR EMERGENCY SERVICE		(800) 988-8474
ATEL		(858) 646-4646
LWD FAX		(760) 753-3094
BATIQUITOS		(760) 942-3588
VOICEMAIL		(760) 753-0156 (9 + EXT.)
VOICEMAIL		(760) 753-0156 (9 + EXT.)
STEVE DEERING		(760) 479-4101
District Engineer	cell	(619) 417-6305
JEFF MEYER		(760) 479-4140
Inspector	cell	(760) 840-7748

Attachment (c)

City of San Diego
Metropolitan Wastewater Department

Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes

All estimates are calculated in gallons per minute (gpm)

Wastewater Collection Division
(619) 654-4160

5 gpm

25 gpm

50 gpm

100 gpm

150 gpm

200 gpm

225 gpm

250 gpm

275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

rev. 4/99

LEUCADIA WASTEWATER DISTRICT

Emergency Action Report

Operator_______________________________________ Date _________________

Eqmt used:__________________ Hours OT: _____________ Total Miles: _________

- -

Pump Station: LEU BAT SAX LaC Dia Avo EE Mdsl Mds3 VP5 VP7 EE RV

Problem: heartbeat - power outage - phase fail - high wetwell - high drywell - pump fail

Time received page:_______________ Virtual Response only _____________
Time arrived at pump station: ________________ (initials)
Time problem corrected: ________________

Action taken: ____

____

____

Customer Service:
Problem: slow drain - odor - missing or loose MH cover - lateral - ***other***

Time notified:__________How notified:_______________ MH#:_________________
Customer name: ___________________________________ ph #:_________________
Service Address:____________________________________

Action taken: ____

____

____

Spill Response:

Time notified:__________How notified:_______________ call back ph# _____________
Spill location:___________________________________cross street: _______________

Action taken: ____

____

Sewer Spill Data Sheet completed & filed with Supervisor.__________ (initials)

Additional Comments on back of this sheet yes/no

Attachment (d)

G:\MASTERS\Emergency Action Report.rtf

LEUCADIA WASTEWATER DISTRICT

SEWER SPILL DATA SHEET

Date:_____ **Report completed by:**_____

Event:	**Time:**	**Comments:**
a) Spill Reported to LWD	_____	_____
b) LWD on scene	_____	_____
c) Spill contained	_____	_____
d) Problem corrected	_____	_____
e) Cleanup completed	_____	_____
f) OES (if > 1000 gals)	_____	Control # _____
g) SD Dept Enviro Health	_____	_____
h) City Storm Water	_____	Carl: 438-2722 x 7134 or 802-8101
		Enc: 633-2632

Additional Information: (check if applicable)

☐ **Photographs taken** **Spill Lat & Long** _____**N** _____ **W**

☐ **Property Damage:** (describe include address if any structure was flooded)

_____

_____

☐ **Spill water released to environment or storm sewer:** (describe and estimate amount)

_____

_____

☐ **Spill volume estimate:** (include length width and depth of contained spill and/or estimate flowrate from pipe or manhole with estimated duration of flow and amount returned to system)

_____

_____

☐ **Method of spill containment and problem correction:** (describe how contained and how corrected, For example: deployed canvas across storm drain, secured lift station, line jetted.)

_____

_____

☐ **Method of spill cleanup and disposal of wastewater & debris/soil:** (describe cleanup activity and disposal. For example: vactored spill, washed down street, returned all water (estimated 1000 gallons) to lift station wet well, contaminated soil removed to plant.

_____

_____

☐ **Potential Human Contact:** (describe measures to prevent, e.g. post & barricade area)

_____

_____

☐ **Cause of problem (if Known):**

☐ **LWD problem** ☐ **Homeowner problem** ☐**Vandalism (must report to PD)**

_____

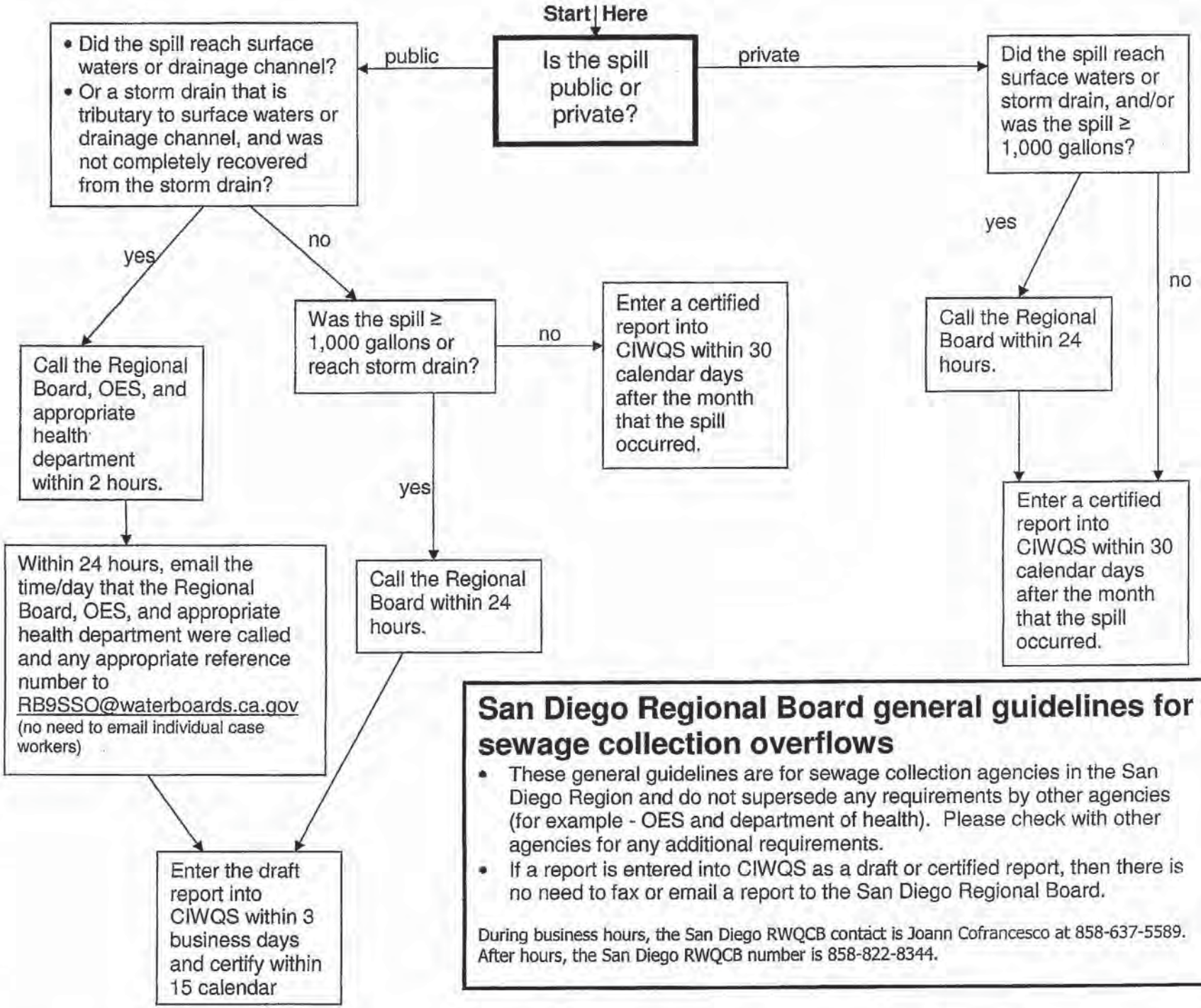
_____

Services and Support Emergency Contacts

Name	Phone Number
ADS, Neal Volk	858-292-2091
Affordable Drain	760-944-1607
Answering Service for LWD	760-753-6565
Arrow Pipeline, Lane Post	760-476-9388
Atlas Pumping	619-443-7867
Ayala, Mike Mendez	760-585-8928
B & C Crane Service	760-749-7477
B & D Construction, George Vernaci	951-830-9119
Barrett Pumps, Eric	619-232-7867
Barry Trucking, Russ Barry	909-574-4697
Bay City Electric, Emergency After Hours	619-938-2800
Berg Electric, Howard Powell	760-746-2554
Bob Moorco	760-722-1541
Carson & Beauloyee, Ron Beauloyee	619-234-2865
Co's Traffic Control	858-775-4600
Cues West, Julie	909-923-2001
Cues West, Tom Rebezo	619-797-7311
Cummins	323-869-7402
Detection Instruments	602-797-0630
Dig Alert	800-227-2600
Dion International Trucks	619-263-7295
Downstream	760-746-3521
Electrical Sales Inc., Joe LaRussa	760-613-1131
Electro Test Instruments	858-695-9551
Evoqua, Bioxide	800-566-1568
Godwin Pump	951-681-3636
Grainger	760-471-0400
Graybar	760-591-4788
Haaker Equipment	909-598-2706
Haaker Equipment, Dave Thomas	909-721-7987
Hank Logan (Base 9)	760-390-5038
Hi TechGov LLC, Bob Summers	530-363-0510
Interstate Batteries	858-271-5003
iWater	949-768-4549
Jones Chemical	800-562-7920
JWC	949-833-3888
La Costa Resort	760-438-9111
Marco Crane	619-520-0468
McEnna Construction, Bruce	858-755-2290

Moorco	619-925-9567
Nash Welding	760-310-9967
Neal Electric	619-748-7274
NRC Environmental, Lance Klein	800-33SPILL
One Source	760-966-4500
Pacific Drain	760-436-8600
Pacific Pipe	760-471-7473
Piperin, Craig Berry	760-510-6747
Plumbers Depot, Vickie	310-913-2733
Quality Chevrolet	760-745-7221
Rancho Santa Fe Alarm	800-303-8877
Rebel Equipment Rentals	760-633-3100
San Elijo Joint Powers Authority	760-753-0352
SCADA phone	760-632-7047
SCADA, Rick Patecell	951-302-1018
SDGE Emergency	800-411-7343
Sloan Electric	619-239-5174
Smart Cover	760-402-3793
Smith & Loveless	913-888-5201
Southern Electric, Robert	760-535-7965
Sparling Instruments	626-444-0571
Specialty Seal	619-477-7338
Sunbelt Rentals	619-574-1904
TC Construction	619-448-4560
Tiago, J.D. Dye	760-471-9531
Trench Plate Rental	760-746-8564
Triton Doors	760-735-6366
TS Supply	760-747-3513
US Fish and Wildlife Service	760-431-9440
Vallecitos Treatment Plant	760-744-4550
Vapex, Patrick	407-579-3693
Vortex Doors	760-471-7744
Waste Management	619-596-5120
West Coast Safety	800-804-7772
West Coast Underground, Chad Awad	858-382-9455

Revised 6-18-2014



San Diego Regional Board general guidelines for sewage collection overflows

- These general guidelines are for sewage collection agencies in the San Diego Region and do not supersede any requirements by other agencies (for example - OES and department of health). Please check with other agencies for any additional requirements.
- If a report is entered into CIWQS as a draft or certified report, then there is no need to fax or email a report to the San Diego Regional Board.

During business hours, the San Diego RWQCB contact is Joann Cofrancesco at 858-637-5589. After hours, the San Diego RWQCB number is 858-822-8344.

Spill Review Checklist		
Checklist Items	**YES/Done**	**NO**
Assemble information from:		
a. Emergency Action Report		
b. Work Order / Service Request		
c. Sewer Spill Data Sheet		
Map Location of the Above (provided or attached)		
Compare to previous 5 years and determine if there is a correlation for location		
Review Work Order / Service Request history for correlation with spill location (this includes review of the cleaning schedule and noting the last cleaning date at the spill location.		
a. If correlation, determine if all identified problems have been remedied.		
Record data from Spill Data Sheet to LWD Spill Summary		
Is spill related to food establishment and potentially a FOG related issue?		
a. If line recently cleaned, evaluate whether grease interceptors in area need to be inspected.		
Are there any resources which would have prevented or minimized the occurrence of the spill?		
a. If yes, identify which of the following (can be more than one) could have been improved on:		
i. Staff		
ii. Equipment		
iii. Training		
iv. Coordination with agencies		
v. Other – please explain		
Are there any resources which would have prevented or lessened the environmental impact of the spill?		
a. If yes, identify which of the following (can be more than one) could have been improved on:		
i. Staff		
ii. Equipment		
iii. Training		
iv. Coordination with agencies		
v. Other – please explain		

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: PUMP STATION ALARM RESPONSE

1.0 PURPOSE

The primary objective of the Leucadia Wastewater District's pumping station alarm system is to provide timely alert for pump station problems, to prevent the overflow of sewage, and the resulting impacts to public health and the environment.

2.0 GENERAL

There are ten (10) pumping stations operated by the District. These stations are located throughout the District and vary in size and type. The District's staff must be prepared to respond to many different types of emergencies that may occur at any one of these stations.

3.0 SAFETY

Whenever District personnel (usually the pump station operator or the Standby Duty Operator (SDO)) respond to an emergency situation, the most critical requirement is to safely, and competently restore these facilities to their normal operating condition as soon as possible.

All applicable safety and operating procedures must be followed so that the response does not escalate the situation.

Nothing in these procedures supersedes, or in any other way, relaxes LWD Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Confined Space, Infectious Disease, or Illness and Injury Prevention.

Typical pump station emergency response may require the following safety procedures to be initiated:

- Lock out / Tag out
- Confined Space Entry
- Traffic Control
- Equipment and Vehicle Operation
- Use of Personal Protective Equipment

4.0 PROCEDURES

Assigned District personnel have the primary responsibility for the response to an emergency or alarm condition at District's pumping facilities. The following general steps should be performed to prevent injury and limit the spread of the emergency:

1. Safely and quickly proceed to the alarming pump station.
2. Assess situation prior to exiting the vehicle
3. Establish communications with the Office or Answering Service.
4. Alert and direct any bystanders away from the immediate vicinity of the emergency.
5. Take all actions required to limit the extent of the emergency, including efforts to contain any overflowing sewage.
6. Summon any additional assistance required.

After these initial general steps have been carried out, the following specific actions should be carried out to bring the emergency under control. These steps may also include initiating the Overflow Emergency Response Plan. The proper response procedures should be followed for each specific emergency.

4.1 POWER FAILURE

GENERAL – San Diego Gas and Electric Company normally provides three phase AC electrical power to LWD pump stations. The following summarizes emergency power needs for each station.

LEUCADIA – The Leucadia Pump Station standby diesel generator (480V) also starts automatically in the event of loss of power. It takes care of all power needs for the pump station, main office and buildings 200,300 & 400.

BATIQUITOS – The Batiquitos Pump Station is also equipped with a standby diesel generator (480V). In the event of loss of power, the generator will automatically start, but it can only supply enough power for two pumps.

SAXONY, LA COSTA, VILLAGE PARK 5, AND ENCINITAS ESTATES – Generators are also permanently installed at Saxony, La Costa, Village Park 5, and Encinitas Estates. All generators have integral diesel fuel tanks except the generator at Encinitas Estates which uses Natural Gas supplied by SDG&E piping. The generators start automatically whenever the normal SDG&E electrical power is lost or below normal (loss of phase, voltage drop, etc).

AVOCADO, DIANA, RANCHO VERDE, VILLAGE PARK 7 – These stations are equipped with a power receptacle and a manual transfer switch. In the case of a power failure at these locations, a trailer mounted portable standby diesel generator (480V/240V) is available as the source of emergency electrical power. The portable generator is equipped with two power cords one for 240 volts and another for 480 volts). The cords and receptacles are indexed so the 480 volt cord cannot be plugged into a 240 volt receptacle and vice versa. The fuel tank is an integral part of the trailer's frame and holds about ninety gallons of diesel fuel.

PROCEDURES

a. Power outage at a pump station with a permanent standby emergency generator (Leucadia, Batiquitos, Saxony, La Costa, Village Park #5, and Encinitas Estates). If a power outage should occur at one these pump stations, responding Field Services staff or SDO shall carry out the following procedures:

    1. Immediately notify the power supplier, SDG&E, at (888) 302-1907, and notify their dispatcher of the location of the power failure. Ensure the dispatcher understands the importance of restoring power to this critical facility and request their name and an estimated time for power restoration. Record their name and provide them with a “call-back” phone number.

    2. At least every thirty (30) minutes, monitor and inspect the standby diesel generator to ensure it is operating properly. Closely track fuel consumption and quantity of diesel fuel remaining in storage tank. Replenish if below half full.

3. Tour the pumping facility and make sure that all necessary equipment is in operation and functioning normally.

4. Call the Field Services Supervisor at (760) 212-2838.

5. Continue to monitor facility operation until normal power is restored, then restart any equipment as necessary.

6. Make additional tours every thirty minutes to ensure all equipments are functioning normally.

7. After normal SDG&E power has been restored, ensure all equipment is properly operating. Re-start any equipment equipped with “Start-Stop” buttons.

8. Ensure the standby diesel l generator completely shuts down after its programmed cool down period. Enter all required information on the generator’s compliance log sheet.

9. Log generator run hours.

b. Power outage at a pump stations which requires a portable generator (Avocado, Diana, Rancho Verde, and Village Park #7). If a power outage should occur at any of these pump stations, then responding Field Services staff shall carry out the following procedures:

1. Immediately notify the power supplier, SDG&E, at (888) 302-1907, and notify their dispatcher of the location of the power failure. Ensure the dispatcher understands the importance of restoring power to this critical facility and request their name and an estimated time for power restoration. Record their name and provide them with a “call-back” phone number.

2. Immediately call the District office or the Answering Service and direct the person answering to call other Field staff to assist with the emergency.

3. Call the Field Services Supervisor at (760) 212-2838.

4. Upon arrival at the affected pump station, the pump station operator will ensure both pumps' Hand/Off/Auto (HOA) switches are in the "Off" position and that the Manual Transfer Switch is in the middle position (neutral).

5. Determine the pump station's voltage (480VAC or 240 VAC) and then plug the appropriate power cord from the diesel generator into the pump station's power receptacle.

Note: These connection plugs are color coded (BLUE for 480VAC and RED for 240VAC).

6. When the connections are complete and have been checked, start the diesel generator. After it comes to speed (about 30 seconds), close the Manual Transfer Switch by moving it into the emergency position "toward" the power cord connection.

7. Monitor and inspect the portable diesel generator to ensure it is operating properly.

8. Re-enter the pump station and place the pumps' HOA switch back into the "automatic" position and ensure all necessary equipment is back in operation and functioning normally.

9. Continue to monitor pump station and generator operation until normal power is restored. Secure the generator and move the Manual Transfer Switch to the middle (neutral) position.

10. Remove the generator's power cord and move the Manual Transfer Switch to the normal position "away" from the power cord connection.

11. Restart any equipment as necessary.

12. Make a final inspection of the pump station to ensure that all equipment is functioning normally and that the standby diesel generator completely shuts down and resets.

13. Properly stow all power cables and portable trailer gear. Double check the trailer connection and return the generator to the yard. Refuel the generator prior to properly parking and disconnecting the trailer.

14. Log generator run hours for potable generator in Building 300 inbox.

Note: In the case of electrical alarms from more than one pump station, responding field staff or SDO will have LWD answering service contact and call out additional Field Services staff to assist with these multiple alarms. Additional responding staff, who are called out, will drive directly to District yard and then proceed to the required location in a District vehicle.

4.2 DISASTERS

The extent of damage to structures or equipment by natural or man-related disaster depends on the proximity, the magnitude and the nature of the disaster. Assigned personnel should proceed as directed to each station, considering safety at all times, and when circumstances allow, personnel should survey damage and functionality of the pump station and its force main. Priority should be given to starting or maintaining pumping without damage to existing system or other utilities. Standard operating procedures should be followed where possible.

4.3 ACCIDENTS

In case of accidents, 911 should be called immediately. Standard first aid procedures should be followed. As soon as possible after all safety issues have been properly addressed, procedures to address the pump station emergency should be carried out.

5.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their “new hire” orientation.
2) Will become familiar with the procedure
3) Will attend training as directed by the Field Services Superintendent.

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor, and otherwise quality assure, that staff is performing these activities properly.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: REPORTING SANITARY SEWER OVERFLOWS

1.0 Purpose:

The purpose of this procedure is to ensure that timely, proper, and standard notification and reporting of Sanitary Sewer Overflows (SSOs) are carried out by Leucadia Wastewater District staff. Following this procedure carefully will ensure all regulatory requirements are met.

2.0 Procedure:

Whenever a Sanitary Sewer Overflow occurs, regardless of private lateral or District sewer lines, the following procedure shall be followed:

a. Sewer Crew is cell phone texted or if, after work-hours, Standby Duty Operator (SDO) is cell phone texted or called on District cell phone or home phone.

b. Field Services Supervisor (760) 212-2838 and Field Services Superintendent (760) 500-1451 are notified.

c. LWD Standby Duty Operator (SDO) responds to spill. SDO confirms volume and/or flow rate, and time of day for when SDO was notified, when SDO arrived on scene, and when SDO ended the spill.

Note: If flow rate provided, Spill Volume must be calculated by backtracking to find 1st person having knowledge of spill and that time of day - for example, call answering service, and then call original caller back, or if another public agency, until you get the name and number of the person who called in the original report to verify time of spill --- Calculation is minutes from time spill first discovered to time of spill was stopped by clearing stoppage multiplied by spill flowrate.

d. SDO must also provide street address of spill, GPS coordinates (lat and long of spill), spill destination, usually storm drain (or creek/arroyo). If the spill clearly stops short of the storm drain, like on shoulder of road, LWD staff should to get a digital picture showing that the spill clearly “ends” for historical proof. If sewage spill is private, LWD practice is to vactor until plumber comes (make sure a plumber is called out) – same documentation.

Note: The following steps will be carried out by Standby Duty Operator (SDO), unless Field Services Supervisor (or Superintendent) has spoken with SDO and verified that they will carry out notification/reporting responsibilities.

e. Call General Manager (760)-212-2837 and the Technical Services Manager (760) 331-7819

f. (WITHIN 2 HOURS !!) If Volume estimate is over 1000 gallons or ***sewage reaches storm drain from LWD sewer in any amount***, call Office of Emergency Services at ***800.852.7550*** and provide all information requested – ***don't hang up without obtaining OES notification control number and write it down.***

g. San Diego County Health # (Ewan Moffat): (858) 495-5579

h. Be prepared to post beach and take samples at times specified. Decision to post is usually based on spill volume and approximate miles from spill to mouth of Batiquitos Lagoon. (Microsoft Streets and Trips has a measure distance tool on toolbar). See Posting and Sampling SOP.

i. Next, if spill in Carlsbad, Call either Carlsbad Water during normal work hours ***760.438.2722*** or Carlsbad Police Department dispatcher outside business hours, **760.931.2197** or Storm Water Hotline (760) 602-2799

j. If spill occurs in Encinitas, Call the Storm Water Hot Line (760) 633-2787during normal work hours and Encinitas' on-call operator outside business hours, **760.633.2922**.

k. If spill larger than 1000 gals, call CA Fish and Game Warren Wong (858) 467-4247

l. If spill backs up into home. Also call Mauri McGuire at CSRMA/Carl Warren **(808) 650-7020 ext. 1003 or Cell (805) 509-1426**

m. Then call Mike Boshard with Restoration Management at **(858) 688-6765**

n. Provide updates to OES as necessary regarding substantial changes to the volume discharged or impacted area since time of initial reporting. Continue updates until CIWQS reporting is complete.

o. Prepare information to file Draft SSO Report (Use Sewer Data Sheet)

p. File draft California electronic data base report must be submitted spill within 24 hours using http://ciwqs.waterboards.ca.gov/ciwqs

q. Access site via login and password. If website is down, fax or email to Regional Board within required timeframe.

r. When you get to site: select SSO

s. Then follow the instructions carefully and ***verbatim.*** Upload Water Quality data/results as a PDF in Attachments.

Note: When entering latitude and longitude, use the boxes provided. If you get an error message after you try to enter all the data, go back and delete the decimal point and the actual decimal number after the decimal point, for some reason it won't accept decimals in this formatted box.

t. Submit final CIWQS report for a Category 1 or Category 2 spill within 10-15 calendar days. Report for Category 3 spill within 30 calendar days. See Attachment (a) for determining spill category and Attachment (b) for Final Report requirements.

u. If SSO is >50,000 gallons prepare SSO Technical Report per outline in Attachment (c). Submit draft report within ___ days and final report within ___ days.

v. Prepare hard copy and electronic file of all spill-related paperwork. (All attachments and other information as appropriate)

Attachments

a. Spill Data Sheet
b. Spill Category Flow Chart
c. Requirements for Final CIWQS report
d. Spill Review Checklist
e. SSO Technical Report Outline for spills >50,000 gallons

LEUCADIA WASTEWATER DISTRICT

SEWER SPILL DATA SHEET

Date:_____ **Report completed by:**_____

Event:	**Time:**	**Comments:**
a) Spill Reported to LWD	_____	_____
b) LWD on scene	_____	_____
c) Spill contained	_____	_____
d) Problem corrected	_____	_____
e) Cleanup completed	_____	_____
f) OES (if > 1000 gals)	_____	Control # _____
g) SD Dept Enviro Health	_____	_____
h) City Storm Water	_____	Carl: 438-2722 x 7134 or 802-8101
		Enc: 633-2632

Additional Information: (check if applicable)

☐ **Photographs taken** **Spill Lat & Long** _____**N** _____ **W**

☐ **Property Damage:** (describe include address if any structure was flooded)

_____

_____

☐ **Spill water released to environment or storm sewer:** (describe and estimate amount)

_____

_____

☐ **Spill volume estimate:** (include length width and depth of contained spill and/or estimate flowrate from pipe or manhole with estimated duration of flow and amount returned to system)

_____

_____

☐ **Method of spill containment and problem correction:** (describe how contained and how corrected, For example: deployed canvas across storm drain, secured lift station, line jetted.)

_____

_____

☐ **Method of spill cleanup and disposal of wastewater & debris/soil:** (describe cleanup activity and disposal. For example: vactored spill, washed down street, returned all water (estimated 1000 gallons) to lift station wet well, contaminated soil removed to plant.

_____

_____

☐ **Potential Human Contact:** (describe measures to prevent, e.g. post & barricade area)

_____

_____

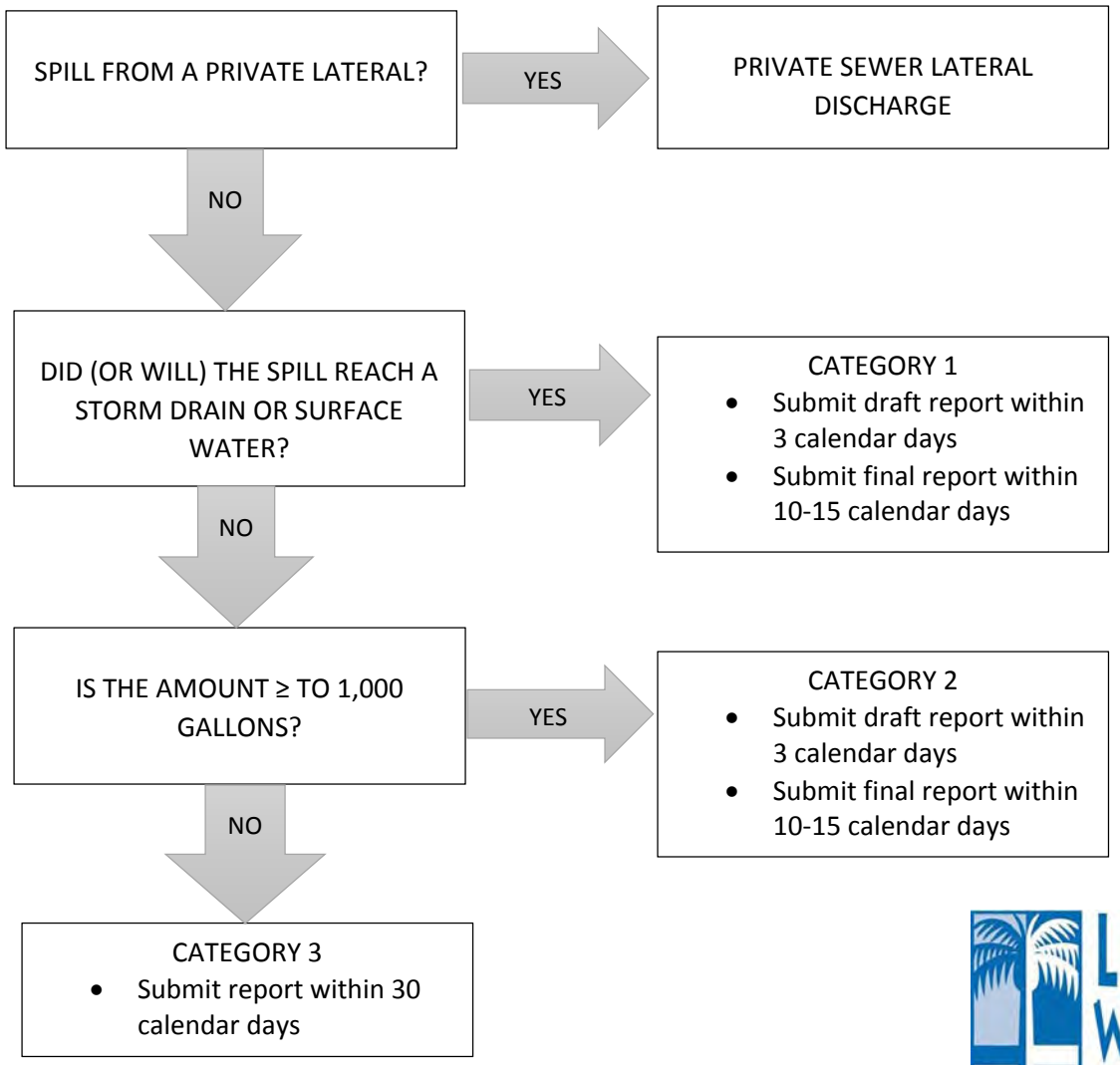
☐ **Cause of problem (if Known):**

☐ **LWD problem** ☐ **Homeowner problem** ☐**Vandalism (must report to PD)**

_____

_____

DETERMINING SPILL CATEGORY



LEUCADIA WASTEWATER DISTRICT

CERTIFIED SSO REPORT

REQUIREMENTS IN ADDITION TO SPILL DATA SHEET

Required to Complete?			MRP Item Section 8.i.b.	District Response
Category 1	Category 2	Category 3		
✓	✓	✓	1. Description of SSO destination(s)	
✓	✓	✓	2. SSO end date and time	
✓	✓	✓	3. SSO causes (mainline blockage, roots, etc.)	
✓	✓	✓	4. SSO failure point (man, lateral, etc.)	
✓	✓	✓	5. Whether or not the spill was associated with a storm event.	
✓	✓	✓	6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.	
✓	✓	—	7. Description of spill response activities.	
✓	✓	—	8. Spill response completion date.	
✓	✓	—	9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.	
✓	—	—	10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.	
✓	—	—	11. Whether or not health warnings were posted as a result of the SSO.	

REPORTING SSO's, ATTACHMENT c

CERTIFIED SSO REPORT

REQUIREMENTS IN ADDITION TO SPILL DATA SHEET

Required to Complete?			MRP Item Section 8.i.b.	District Response
Category 1	Category 2	Category 3		
✓	—	—	12. Name of beach(es) closed and/or impacted. If no beach was impacted. NA shall be selected.	
✓	—	—	13. Name of surface water(s) impacted.	
✓	—	—	14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.	
✓	—	—	15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.	
✓	—	—	16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.	
✓	✓	✓	17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.	

Spill Review Checklist		
Checklist Items	**YES/Done**	**NO**
Assemble information from:		
a. Emergency Action Report		
b. Work Order / Service Request		
c. Sewer Spill Data Sheet		
Map Location of the Above (provided or attached)		
Compare to previous 5 years and determine if there is a correlation for location		
Review Work Order / Service Request history for correlation with spill location (this includes review of the cleaning schedule and noting the last cleaning date at the spill location.		
a. If correlation, determine if all identified problems have been remedied.		
Record data from Spill Data Sheet to LWD Spill Summary		
Is spill related to food establishment and potentially a FOG related issue?		
a. If line recently cleaned, evaluate whether grease interceptors in area need to be inspected.		
Are there any resources which would have prevented or minimized the occurrence of the spill?		
a. If yes, identify which of the following (can be more than one) could have been improved on:		
i. Staff		
ii. Equipment		
iii. Training		
iv. Coordination with agencies		
v. Other – please explain		
Are there any resources which would have prevented or lessened the environmental impact of the spill?		
a. If yes, identify which of the following (can be more than one) could have been improved on:		
i. Staff		
ii. Equipment		
iii. Training		
iv. Coordination with agencies		
v. Other – please explain		

Leucadia Wastewater District
SSO TECHNICAL REPORT OUTLINE

Reporting

A report following this outline shall be submitted to CIWQS for an SSO ≥ 50,000 gallons. The report shall be filed within 45 calendar days of the SSO end date. Note that the Water Boards may require additional information based on spill event.

Outline

1. Causes and Circumstances of the SSO:
   a. Complete and detailed explanation of how and when the SSO was discovered.
   b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
   c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
   d. Detailed description of the cause(s) of the SSO.
   e. Copies of original field crew records used to document the SSO.
   f. Historical maintenance records for the failure location.

2. Enrollee's Response to SSO:
   a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
   b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.
   c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

3. Water Quality Monitoring:
   a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.
   b. Detailed location map illustrating all water quality sampling points.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: POSTING AND SAMPLING WATERS IMPACTED BY AN SANITARY SEWER OVERFLOW (SSO)

1.0 PURPOSE

The procedure for responding to sewage overflow often includes a requirement to post and sample a body of water impacted by a sanitary sewer overflow as a precautionary measure to protect the public from potential exposure to infectious disease.

The steps in this procedure outline the most typical posting requirements based on the drainage basin characteristics of the District service area. These steps should be followed unless otherwise directed by the Field Services Supervisor or Field Services Superintendent.

2.0 SAFETY

Nothing in these procedures supersedes, or in any other way, relaxes LWD Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Confined Space, Infectous Disease, or Illness and Injury Prevention.

3.0 PROCEDURE

A. <u>Standby Duty Operator (staff member responding to spill) will:</u>

1. When directed by San Diego County, Department of Environmental Health, or other agency, retrieve the posting and sampling materials from Building 200.
2. Notify the Field Services Supervisor (or the Field Services Superintendent) that you are going to post and/or sample the beach.
3. Proceed to the South Carlsbad beach (or to the designated area to be posted).

Due to the hazards involved with posting and/or sampling, personal protective equipment including rubber boots, traffic vest, eye protection, and nitrile gloves must be worn.

Depending on size or proximity of an SSO to the beach, number of signs or samples are subject to change from the below procedure.

4. Signs are to be posted in the sand approximately 10 feet before the high tide mark of the shoreline. Eight (8) signs are to be placed North of the Lagoon mouth, starting near the rock breakwater, at 30 yard (30 long paces) intervals moving North.(see Attachment {A}) Wording on the signs should face the beach.

5. An additional eight (8) signs are to be placed South of the Lagoon, starting near the rocky breakwater, at 30 yard (30 long paces) intervals moving South. (see Attachment {A})

(Daily samples)

6. All samples to be placed on ice as they are collected at the designated time (usually low tide) ***and during daylight hours***, seven (7) samples are to be taken (see Attachment {B}). The samples are to be labeled as to their location:

    - A sample, labeled "**bridge**" is to be taken using a bucket lowered from the Hwy 101 bridge into the mouth of the Batiquitos Lagoon.

The remaining six (6) are to be taken in the surf (no more than ankle deep) moving from 250 feet North of the Lagoon mouth and ending approximately 250 feet South of the Lagoon mouth:

- "1N" will be taken 250 ft North of the Lagoon mouth,
- "2N" will be taken 150 ft North of the Lagoon mouth and
- "3N" will be taken 50 ft North of the Lagoon mouth.
- "4S" will be taken 50 ft South of the Lagoon mouth,
- "5S" will be taken 150 ft South of the Lagoon mouth and
- "6S" will be taken 250 ft South of the Lagoon mouth.

7. Deliver seven (7) sample bottles to Encina Wastewater Authority Laboratory immediately, after ensuring all bottles are properly labeled with sample location, sample time and date, name of person taking sample and properly filling out Encina Chain of Custody Form (see Attachment (C)}.

While taking the required "daily" samples on the North and South shorelines, Standby Duty Operator should check and replace as required, signs posted is steps 4 and 5 above.

B. Field Services Supervisor and/or Field Services Superintendent

1) Will ensure that all efforts to protect public from spill are in place, including traffic control.
2) Will determine that location, frequency, type of environmental analysis, and other monitoring elements required to measure environmental impact of spill.
3) Will make all required telephonic notifications and provide (or otherwise ensure that) results of all sample analyses to the San Diego County's Office of Environmental Health (DEHS) and the San Diego Regional Water Quality Control Board (RWQCB) ***as soon as they are available***. See also the Overflow Emergency Response Plan for Emergency Response to SSOs.
4) Will confirm that results include:
    1) The date(s) the analyses were performed,
    2) The individual(s) who performed the analyases,
    3) The analytical technique or method used, and
    4) The results of such analyses.
    5) Request relevant records from Encina documenting maintenance and calibration of analytical equipment

The documentation of the above efforts shall be the District's Water Quality Monitoring Program. In addition to the above, if the spill is greater than 50,000 gallons, insure that ammonia is evaluated in the samples in addition to bacteriological indicators required by DEHS or Regional Board. These samples must be taken within 48 hours of becoming aware of the spill.

4.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their "new hire" orientation.
2) Will become familiar with this procedure and the duties required to post and sample during an SSO Response.

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) and drills (simulated and “Hands On”) on spill response annually as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that emergency response equipment and supplies are maintained in a high degree of readiness.
4) Will conduct annual review of these procedures. These locations will be included in Emergency Overflow Response Plan Training.

5.0 PREPARATION

A. Field Services Supervisor

1) Will periodically spot check that an adequate supply of posting and sampling equipment and supplies are readily available. This will include at a minimum:
    a. (1) Sledge Hammer
    b. (50) wooden stakes
    c. (40) Warning – Contaminated Water
    d. (1) Staple Gun
    e. (2) boxes of staples (minimum 3/8 inch)
    f. (8) clean sample bottles
    g. (16) Bottle Labels
    h. (1) black Sharpie Pen
    i. (3) Encina Chain of Custody sheets (Attachment {C})
    j. (2) 50 foot rolls of yellow barrier tape

B. Standby Duty Operator:

1) Will review these procedures prior to taking Standby Duty
2) Will ensure check inventory of posting and sampling supplies is adequate (see above).

ATTACHMENTS

The list of attachments to this SOP are as follows:

a. Posting Locations for Warning Signs at South Carlsbad Beach
b. Sampling Locations for Warning Signs at South Carlsbad Beach
c. Encina Wastewater Authority Chain of Custody

ATTACHMENT A

LWD SSO Response Plan
Posting Locations for Warning Signs
at
South Carlsbad Beach

LWD SSO Response Plan
Sampling Locations
at
South Carlsbad Beach

4740

ENCINA WASTEWATER AUTHORITY LABORATORY

6200 AVENIDA ENCINAS
CARLSBAD, CA 92011
PH: (760) 438-3941
FAX: (760) 476-9852
ELAP LABORATORY CERTIFICATION NO. 1441

CHAIN OF CUSTODY

SAMPLERS (SIGNATURE)	PRINT NAME:	SAMPLE TYPE										
DATE	TIME	SAMPLE LOCATION	GRAB	COMPOSITE	LIQUID	SOLID	COLILERT	GENERAL PHYSICAL	HETEROTROPHIC PLATE COUNT	OTHER	(TP) TOP PRIORITY OR (R) ROUTINE	NUMBER OF CONTAINERS	ANALYSES REQUESTED
RELINQUISHED BY:	DATE/TIME:					RECEIVED BY:					DATE/TIME:		
RELINQUISHED BY:	DATE/TIME:					RECEIVED BY:					DATE/TIME:		

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: STANDBY DUTY OPERATOR (ON CALL)

1.0 PURPOSE

The procedure for employees assigned as Standby Duty Operator (SDO) was developed to:

a. Standardize the duties performed by Field Services staff when assigned to Standby Duty
b. Ensure that all safety precautions are consistently followed to minimize the potential for worker accident or injury.
c. Ensure that Leucadia Wastewater District facilities and infrastructure remain operational or are returned to operational status as quickly as possible by ensuring a prompt and capable response to trouble reports and system alarm conditions.
d. Provide notification to LWD management and staff of problems with the potential to cause sanitary sewer overflows and other significant problems within the Collection System.

2.0 SAFETY

Nothing in these procedures supersedes, or in any other way, relaxes LWD Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Confined Space, Respiratory Protection, Hearing Conservation, MSDS, Bloodborne Pathogens, Illness and Injury Prevention, or the Substance Abuse policy.

3.0 PROCEDURE

Note: Any LWD employee (including answering service staff), being notified of a "sewage spill or overflow", must immediately notify the Field Services Supervisor and Field Services Superintendent, and Technical Services Manager and then carry-out the LWD Overflow Emergency Response Plan.

A. Employees assigned Standby Duty Operator (SDO) will:

1. Remain within 30 minute travel time of the District while assigned to Standby Duty. While this distance is variable, this requirement incorporates a trip that can be reasonably completed at posted speed limits under normal traffic conditions within 30 minutes. Responding to an alarm or trouble report is never a reason to drive at an unsafe speed or manner.

2. Refrain from activities that would impede a 30 minute response. Crowded events, special ceremonies, medical or dental procedures, etc., could significantly impede response time, regardless of the proximity of the activity to the District's service area.

SDO is required to notify the Field Services Supervisor (or Superintendent) whenever an emergency circumstance would prevent the SDO from carrying out Standby Duty.

Additionally, Field staff will obtain a substitute for Standby Duty whenever potential schedule conflicts are known.

3. Refrain from behaviors that could impact physical or mental ability to respond to Collection System alarms and trouble calls. Alcohol and illegal drug use is prohibited by LWD policy, but employees assigned to Standby Duty are also expected to ensure that use of prescription and/or "over the counter" drugs do not interfere with their ability to drive or otherwise respond to a Standby Duty callout.

Additionally, activitities that would impact a SDO's ability to be rested sufficiently to competently respond to a callout should also be avoided.

4. Confirm to the Field Services Supervisor and staff at the weekly meeting that you are assuming the responsibility for Standby Duty. Announce any substitutions you are aware of . Be attentive to previous callouts or problems discussed at this meeting. In the event, that this meeting is cancelled or missed, SDO will conduct an information exchange with the person going off Standby Duty, the Field Services Supervisor, and the technician checking pump stations.

5. Confirm that both portable emergency generators have a full fuel tank and will start and run (about 10 minutes). Appropriate entries for these generators must be recorded on their respective checksheets.

6. Confirm and log emergency fuel supply inventory, available in flammable storage lockers.

7. Contact the LWD answering service as soon as you assume Standby Duty and confirm your cellular and home telephone numbers.

8. Prior to the end of each work day, review the LWD SCADA system, note the pump run times, noting any and all displayed alarm conditions, confirm that your cell phone number is in the lead position on the SCADA system and perform a "test" text, generated through the SCADA system and received by the SDO's cell phone. This test text and any alarm conditions must be recorded in the SCADA logbook.

9. **Ensure that your cellular phone is turned on and remains charged and operable.**

10. Ensure that duty truck has over one half tank of fuel, a charged and operable gas detector, an operable GPS unit, flashlight, digital camera with extra batteries, mapbook, Thomas Brothers guide, and all required emergency report forms. Ensure duty truck mileage log is maintained on a daily basis.

11. Will ensure that Vactors and OnCall Vehicle have all required materials to properly respond to and contain a sanitary sewer overflow. This will include at a minimum:
    a. map books, Thomas Brothers guide and laptop computer
    b. tarps
    c. shovel
    d. disposable camera/digital camera (with extra batteries)
    e. hand-held GPS device (with spare batteries)
    f. a Copy of Ordinance 128 and the Overflow Emergency Response Plan (with forms)
    g. an operable cell phone with important phone numbers pre-programmed in memory
    h. sample bottles and chain of custody forms to conduct water sampling (if needed, extra bottles in Bldg. 200)

12. Confirm adequate posting supplies at Batiquitos Pump Station and District Workshop (Building 200)

Note: Duty truck, or other District vehicles designated for standby duty by Field Services Supervisor, are "for official use only" and must be operated in accordance with LWD Vehicle Use Policy.

13. Immediately respond to all SCADA alarms and reported problems within LWD, by driving the duty truck to source of the alarm and correcting the cause of the alarm or report.

Note: Responding to a pump station alarm requires use of gas detector for atmospheric check and use of climber safety devices where installed.

a. For reports of spills, slow drains or other residential plumbing problems, SDO will proceed directly to the District yard and then drive the Vactor to the problem location, unless this location is directly on the route to the District's yard. In this case, SDO will stop briefly to determine the extent of the problem prior to deploying the Vactor.

b. For pump station electrical alarms, SDO will proceed directly to pump stations that are equipped with standby generators to ensure they are operating properly, and to the District yard to pick up the portable generator in the cases where the pump station is not equipped with an installed standby generator. See also the SOP – Pump Station Alarm Response.

c. In the case of electrical alarms from more than one pump station, SDO will have LWD answering service contact and call out additional Field Services staff to assist with these multiple alarms. Additional staff, who are called, will drive directly to District yard and then proceed to the required location in a District vehicle.

d. For "Communication Failure" alarms from pump stations (other than Leucadia or Batiquitos), SDO will wait 30 minutes, to determine if this alarm condition has cleared, before responding to this alarm by physically checking the pump station. (This is known as a "virtual response".)

e. Check-in with LWD answering service every hour during every response and keep the answering service advised of your location and the alarm status. Answering service will contact Field Services Supervisor and/or Field Services Superintendent anytime that the SDO fails to check in with the answering service as required.

f. SDO will re-check the SCADA system when response is completed to ensure all SCADA alarms are reset.

g. SDO will check out with answering service when response is completed and SDO is returning home.

14. Perform other duties as assigned by Field Services supervisor. Occasionally, potential trouble spots, pump stations without SCADA communication, beach posting and sampling requirements, Recycled Water operations, and/or chart changeouts on Mondays that are holidays will require SDO to perform additional duties as assigned.

15. Debrief each callout with the Field Services Supervisor and with Field Services staff during the weekly staff meeting.

B. Field Services Supervisor (or Superintendent)

1. Will ensure that a qualified field service staff member, who is fit for duty, is always assigned to Standby Duty.

2. Will ensure that a second field staff is assigned to Standby Duty when circumstances dictate higher levels of response are required.

3. Will be available to make decisions regarding changes to the SCADA system, pump station control parameters, or response priorities in response to multiple or conflicting alarms.

4. Will perform periodic checks to ensure Standby Duty procedures are being carried out in accordance with the written procedures.

5. Will ensure that all follow up actions required to restore the Collection System to a fully operational condition are accomplished as soon as practical.

4.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their “new hire” training.
2) Will become and remain familiar with this procedure and with Spill Response procedure.
3) Will attend training as directed by the Field Services Superintendent.

B. Field Services Superintendent and Supervisor

1) Will provide regular training and updates on changes within the District's service area and with the Collection System operation as well as provide the opportunity to attend offsite training.
2) Will routinely monitor and, otherwise quality assure, that emergency response equipment and supplies are maintained in a high degree of readiness.
3) Will conduct annual review of these procedures with Field Services staff.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE

EFFECTIVE: July 1, 2014
REVIEW: July 1, 2015

SUBJECT: EMERGENCY PROCEDURES FOR AIR RELEASE VALVES FOR THE LEUCADIA, BATIQUITOS & SAXONY PUMP STATION FORCE MAINS

1.0 Purpose:

The purpose of this procedure is to standardize the method used by Field Services staff for an air release valve leak. It is intended to ensure operation, maintenance, and data collection for the Collection System owned and operated by LWD are accomplished in a consistently safe and efficient manner.

2.0 Safety:

All District Safety Procedures regarding Traffic Safety, Electrical Safety, Lockout/Tagout, Respiratory Protection, Confined Space, Hearing Protection, and Illness and Injury Prevention must be adhered to.

- ✓ ***Traffic vests, safety shoes, nitrile gloves, and leather gloves and other appropriate PPE must be used when operating the Vactor and working in and around sanitary sewers.***
- ✓ ***Hearing Protection and other appropriate PPE must be used when operating the Vactor.***
- ✓ ***Arrow Lights, flashers, and traffic cones are to be used whenever LWD vehicles are being operated in the public right-of-way.***
- ✓ ***Second employee with chase truck must be used whenever traffic density requires extra control.***
- ✓ ***For Safety purpose: Always use two man crews whenever possible.***

3.0 Preparation:

a. Inspect LWD vehicle.
b. Ensure all required Personal Protective Equipment is available.
c. Ensure handheld GPS, onboard computer, Thomas Brother guide, map book and cell phone are available and in working order.

Leucadia Wastewater District
STANDARD OPERATING PROCEDURE
EMERGENCY PROCEDURES FOR AIR RELEASE VALVES FOR THE LEUCADIA, BATIQUITOS & SAXONY PUMP STATION FORCE MAINS

4.0 General Procedure:

Upon arrival at each air release valve:

a. Stay in truck for about a minute to observe the traffic flow and the overall safety of the location.
b. Step out of the vehicle and make final check of traffic pattern and neighborhood.
c. Coordinate all work and safety activities with any assigned co-worker.

5.0 Controlling a leak on an Air Release Valve

Leucadia Force Main

- ✓ Determine which force main air release valve is leaking, L1 force main runs west along the north side of La Costa Ave. and L2 along the south.
- ✓ ***If the air release valve is connect to the duty force main, proceed to the station: responding field services operator must secure the pump station by turning off all pump controls at the hand off auto (HOA) switch, allowing the flow to go into emergency overflow basin. Then immediately open the force main isolation valve that's not affected and close the affected force main isolation. Place pump controls HOA's back in auto, and verify flow and pump output.***
- ✓ If the air release valve is not connect to the duty force main, proceed to the stations force main valve vault
- ✓ Turn the exhaust fan on (switch located on west wall)
- ✓ Remove valve vault grading above the vault latter, pull up latter up making sure it locks into place.
- ✓ Preform atmospheric check
- ✓ Unlock lock and remove cable.
- ✓ Open the desired force main by turning the valve wheel counter clock wise, after the valve is all the way opened turn the valve back clock wise one eighth quarter turn.
- ✓ Close the desired force main valve by turning the valve clock wise, after the valve is all the way opened, turn the valve counter clock wise one eighth turn.

- ✓ Re-installed cable through valve wheels and lock. (Cable and lock are in place to prevent unauthorized personal opening or closing valves).
- ✓ Check pump station flow and chart recorder to verify flow output, initial chart recorder.
- ✓ Log force main changes in Operators log book and on the pump station check sheet. (Notating the date, time and operator making changes).
- ✓ Check all air release for leaks after force main changes have been made.
- ✓ Notify Supervisor or Superintendent, call answering service for back up
- ✓ Park truck in the safest area adjacent to the air release valve
- ✓ Deploy any required safety devices; cones, rotating beacons, emergency flashers etc.
- ✓ Remove the air release valve can lid
- ✓ Insert the valve key into valve can, make sure the valve key is in the top of the isolation valve.
- ✓ Turn the valve clock wise to close the isolation valve, after you get the valve all the way closed, turn valve clock wise one quarter turn.
- ✓ Refer to Standard Operating Procedure (SSO's) for Reporting and Clean up
- ✓ If spill reaches Lagoon, Refer to Posting and Sampling Waters Impacted by a Sanitary Sewer Overflow SOP.

Batiquitos pump Station Force main

- ✓ Determine which force main air release valve is leaking. B2 & B3 force main runs north along the east side of Carlsbad Blvd.
- ✓ ***If the air release valve is connect to the duty force main, proceed to the station: responding field services operator must secure the pump station by turning off all pump controls at the hand off auto (HOA) switch, allowing the flow to go into emergency overflow basin. Then immediately open the force main isolation valve that's not affected and close the affected force main isolation. Place pump controls HOA's back in auto, and verify flow and pump output.***
- ✓ B2 force main isolation valve is located inside of pump station; B3 force main isolation valve is located outside of pump station in the parking lot.
- ✓ Remove the force main isolation valve can lid
- ✓ Insert the valve key into valve can, make sure the valve key is in the top of the isolation valve.

- ✓ Open the desired force main by turning the valve wheel counter clock wise, after the valve is all the way opened turn the valve back clock wise one eighth quarter turn.
- ✓ Close the desired force main valve by turning the valve clock wise, after the valve is all the way opened, turn the valve counter clock wise one eighth turn.
- ✓ Check pump station flow and chart recorder to verify flow output, initial chart recorder.
- ✓ Log force main changes in Operators log book and on the pump station check sheet. (Notating the date, time and operator making changes).
- ✓ Check all air release for leaks after force main changes have been made.
- ✓ Notify Supervisor or Superintendent, call answering service for back up
- ✓ Park truck in the safest area adjacent to the air release valve
- ✓ Deploy any required safety devices; cones, rotating beacons, emergency flashers etc.
- ✓ Remove the air release valve can lid, if no valve can close root valve.
- ✓ Insert the valve key into valve can, make sure the valve key is in the top of the isolation valve.
- ✓ Turn the valve clock wise to close the isolation valve, after you get the valve all the way closed, turn valve clock wise one eighth.
- ✓ Notify Encinia Wastewater Authority (EWA) of force main change.
- ✓ Refer to Standard Operating Procedure (SSO's) for Reporting and Clean up
- ✓ If spill reaches Lagoon, Refer to Posting and Sampling Waters Impacted by a Sanitary Sewer Overflow SOP.

Saxony Pump Station:

Location:

Saxony force mains isolations valves are located along La Costa Ave, Saxony pump station discharges into either L1 or L2 force mains. L1 isolation valve is located in the west bound bike lane, L2 isolation valve in the number 1 lane going east bound.

1.) Park truck in the safest area adjacent to the pump station.
2.) Deploy any required safety devices; cones, rotating beacons, emergency flashers etc.
3.) Remove the force main valve can lid of the desired force main isolation valve your opening.

4.) Insert the valve key into valve can, make sure the valve key is in the top of the isolation valve.

5.0 TRAINING

A. LWD employees:

1) Will be issued a copy of this procedure and its attachments as part of their "new hire" orientation.
2) Will become familiar with the procedure
3) Will attend training as directed by the Field Services Superintendent.

B. Field Services Superintendent and/or Supervisor

1) Will provide both regular training (on-site) as well as provide the opportunity to attend offsite training.
2) Will review procedures annually to ensure compliance with all required regulations.
3) Will routinely monitor and, otherwise quality assure, that staff is performing these activities properly.
4) Will conduct annual review of these procedures and implement any required improvements to this procedure.

6.0 Preparation

A. Field Services Supervisor

1) Will periodically spot check that staff has all required materials to properly carry out this procedure. This will include at a minimum:
   a. map books, Thomas Brothers guide and laptop computer
   b. hand-held GPS device (with spare batteries)
   c. an operable cell phone with important phone numbers pre-programmed in memory

Section VII – FOG Control Program

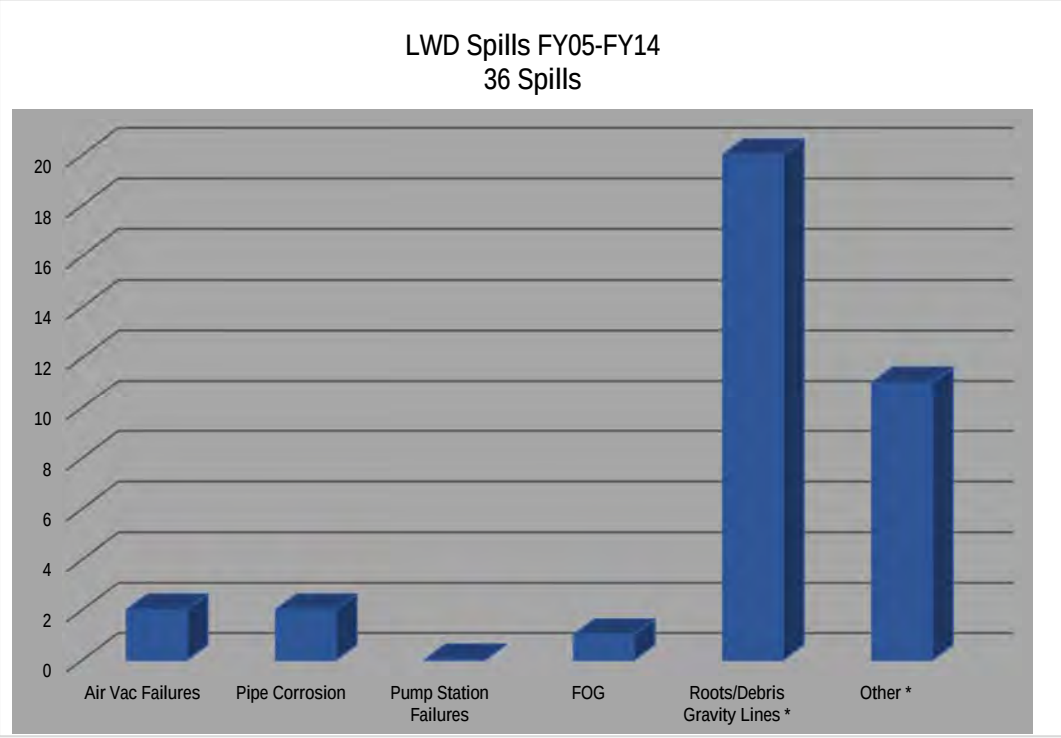
Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify FOG (Fats, Oils, and Grease) Control Programs as an element of each Wastewater Collection Agency's Sanitary Sewer Management Plan (SSMP). This element requires each agency to evaluate its service area to determine whether a FOG control program is needed. If the agency determines that a FOG control program is not needed, justification must be provided for why it is not needed.

Leucadia Wastewater District Actions

After conducting an analysis of the District's spill prevention performance over the last ten years, the District has determined that a formal FOG control program is not required. The District does however recognize that FOG is present in its system and as such, tracks all food service establishments, maintains a list of SMAs due to FOG, and has legal authority to address FOG related issues. These are discussed further below in conjunction with the analysis conducted to justify a formal FOG control program is not required.

The District's average daily dry weather flow exceeds 4 million gallons per day with a gravity collection system approximately 200 miles in length. There are 559 restaurant and food establishments within the District service area. Since 2004, there has only been one FOG-related spill of the total 41 spills. This was due to grease in a private lateral.



* Note that 21 of these spills occurred in private laterals or cleanouts

The District's spill prevention success with minimal FOG related sewage spills is, in part, a result of the District practice of cleaning the gravity lines annually and enhanced CCTV inspections, which is discussed further in the SSMP Section IV – Operation and Maintenance Program. In addition to the ongoing cleaning of the sewer system, FOG prevention remains a key component of the District's review process in the application for all new or amended sewer service permit(s). The permit application process (described in the District's Wastewater Ordinance) includes a review of FOG prevention mechanisms for food establishment and industrial permits. The permit application process must be completed for any new permit for sewer service or when improvements would require a city permit, such as significant tenant improvements to a restaurant space or the conversion of a commercial space to a restaurant. Finally, for the general public, the District website provides the public with basic information regarding the proper disposal of household FOG.

To date, as evident in the above analysis of FOG related spills, these practices are considered by the District to be the most effective and efficient practices in preventing FOG related SSOs. The District's Wastewater Ordinance provides sufficient legal authority to appropriately address any FOG issues that arise. Specifically, it allows the District to take corrective actions ranging from issuing a written notice that a customer is in violation of the ordinance to suspension or termination of sewer service if a violation is not corrected as directed.

District Documents Referenced By This Section

- Food Establishment Registration/Information Form
- Wastewater Ordinance No. 128, Adopted May 8, 2013
- District Standard Spec, April 2013

Section VIII – System Evaluation and Capacity Assurance Plan

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify that each Wastewater Collection Agency shall prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event as part of the Sanitary Sewer Management Plan (SSMP).

Leucadia Wastewater District Actions

The District has reached approximately 92.5 percent of buildout and has transitioned its capital improvement program from growth-based projects to replacement-based projects. The District has never experienced an SSO due to a capacity shortfall and has conducted several evaluations of existing and buildout flows to insure this continued success in preventing and minimizing SSOs. In addition, historical flow data has been analyzed to verify the theoretically established system capacity of 215 gpd/EDU is significantly higher than the actual flow-based EDU estimate of approximately 140-150 gpd/EDU the District has seen over the last 5 years. The District has access to real-time web based flow data to track District flows from seven of its eleven basins. The following sections highlight the District's system evaluations, design criteria, capacity enhancement measures, and CIP schedule related to capacity.

Treatment Capacity Evaluation – Flows generated within the District are treated at the regional treatment facility, Encina Water Pollution Control Facility and are monitored on a continual basis by both the District and the Encina Wastewater Authority (EWA). Flow data has been collected for the District for approximately 25 years, allowing for a long-term comparison of flows generated by the District. Flows are reported monthly to the six EWA member agencies as a continual check that each agency is within its contracted treatment capacity. The facility presently has a capacity of approximately 41.0 mgd with the District owning 7.11 mgd of this capacity. With an ultimate flow projection of 6.46 mgd, the District has approximately 0.65 mgd of emergency reserve capacity. Based on actual flow per EDU there is an even greater emergency reserve capacity.

Joint Facilities Conveyance Evaluation – There are five major infrastructure elements, aside from the treatment plant, that the District owns jointly with other agencies. These include: (1) the Batiquitos Influent Sewer, (2) the Batiquitos Pump Station, (3) the Batiquitos Pump Station force mains, (4) the Lanikai Gravity sewer, and (5) the Occidental sewer. These assets are jointly owned with the City of Encinitas. Additionally, the City of Carlsbad is a joint owner of the Occidental sewer. The 2013 Asset Management Plan summarizes these facilities and details the District's ownership percentage in each facility. Like the treatment

plant capacity, the flowrate through these facilities is continually monitored by the District and the EWA.

Overall System Evaluation – In 1994, the District completed a Planning Study Update which established the primary system capacity design criteria of 215 gpd/EDU. In 1999 the District's Wastewater Master Plan was completed which evaluated the capacity of the sewer system by sub-basin based on flows existing at the time and the projected ultimate build-out flows of the District. The plan identified capacity-related improvement projects and those projects identified to address short-term capacity concerns were completed. The 2008 and 2013 Asset Management Plans confirmed that the conveyance system in place could convey the ultimate projected peak wet weather flow through the system.

The 2008 Asset Management Master Plan marked the transition for the District from land use based capacity evaluations and projections, to evaluations and projections based on actual recorded flow data. Using 10 years of historic flow data, the 2008 Asset Management Master Plan analyzed existing and ultimate average and peak flows based on the known and anticipated number of equivalent dwelling units (EDUs) in the District. This analysis confirmed that the 215 gpd/EDU design criteria is appropriate and that additional wet weather capacity studies of the District were not warranted. However, the plan did recommend that the District continue its present efforts to reduce inflow and infiltration as much as possible. These conclusions were reaffirmed in the 2013 Asset Management Plan update.

Design Criteria – As discussed in the previous section, for planning purposes utilizing 215 gpd/EDU as a generation rate is a conservative factor for the District. This design criteria is stated in the LWD Standard Spec, which also provides EDU factors for different use types and peaking factors based on population.

Pump Station Capacity Evaluation – As part of the 2008 Asset Management Master Plan and confirmed in the 2013 Asset Management Plan update, all eleven of the collection system pump stations were evaluated to have sufficient capacity for both average and wet weather flows as well as 100 percent redundancy.

On-going Evaluation and Capacity Enhancement Measures – Currently, the District utilizes a web-based system to access real-time data and alarms from seven flow meters throughout the District. Each of the meters is strategically located to monitor the flow of a sub-basin within the District. On a monthly basis this data is compiled and reported to the Board.

Schedule – As there are no capacity-driven replacement projects currently identified for the District, there is no schedule necessary.

District Documents Referenced By This Section

- April 1995, *1994 Planning Study Update* by Parsons Engineering Science, Inc.
- *1999 Wastewater Master Plan* by Dudek and Associates, Inc.
- June 11, 2008, *Asset Management Master Plan* by Dexter Wilson Engineering, Inc., available at www.lwwd.org
- District Standard Spec, April 2013
- January 2013, *Asset Management Plan* by Dexter Wilson Engineering, Inc.

Section IX – Monitoring, Measurement, and Program Modifications

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify that each Wastewater Collection Agency shall:

- maintain relevant information that can be used to establish and prioritize appropriate SSMP activities,
- monitor the implementation and measure the effectiveness of each element of the SSMP,
- assess the success of the preventative maintenance program,
- update program elements, as appropriate based on monitoring or performance evaluations, and
- identify and illustrate SSO trends, including frequency, location, and volume.

Maintaining the applicability of the SSMP to District activities necessitates ongoing evaluation of the activities the District performs, their success, and improvement if necessary. The first two of the following sections describe the ongoing evaluation of SSOs as they occur and discussion of preventative maintenance evaluations. The last section describes the SSMP Evaluation Checklist used on an annual basis to evaluate the applicability and effectiveness of the District's SSMP. Completion of this evaluation will run concurrent with the annual SSMP audit. It is important to note that the District conducts annual SSMP audits instead of the bi-annual requirement set in the WDR. This proactive approach enables the District to keep the SSMP current, effectively monitor the success of its programs, and update its plans and procedures as required.

Leucadia Wastewater District Actions

SSO Occurrences and Evaluation

For each spill, the District staff critically evaluates the cause and identifies steps to prevent future spills. The District maintains the LWD Spill Summary which lists all spills dating back to 1996. The summary identifies the date, time, location, cause, size, and steps taken to mitigate and prevent future spills. All spills are included on this list whether public or private. The spill summary is included as an attachment to this section. This summary is continually updated and can be checked against California's spill database at:

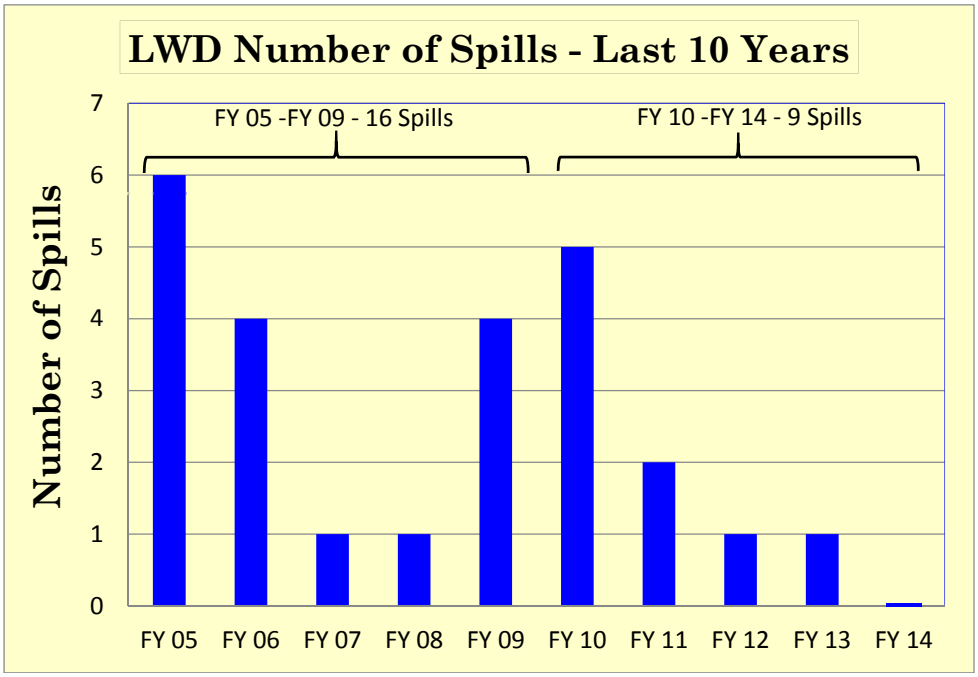
http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.shtml

As part of the District's spill response, a debriefing is held by key staff to review the cause of the every spill. The spill summary is updated and carefully reviewed for trends in frequency, location, and volume as part of completing the Spill Review Checklist (Attachment J to the Overflow Emergency Response Plan).

Preventative Maintenance Program Evaluation

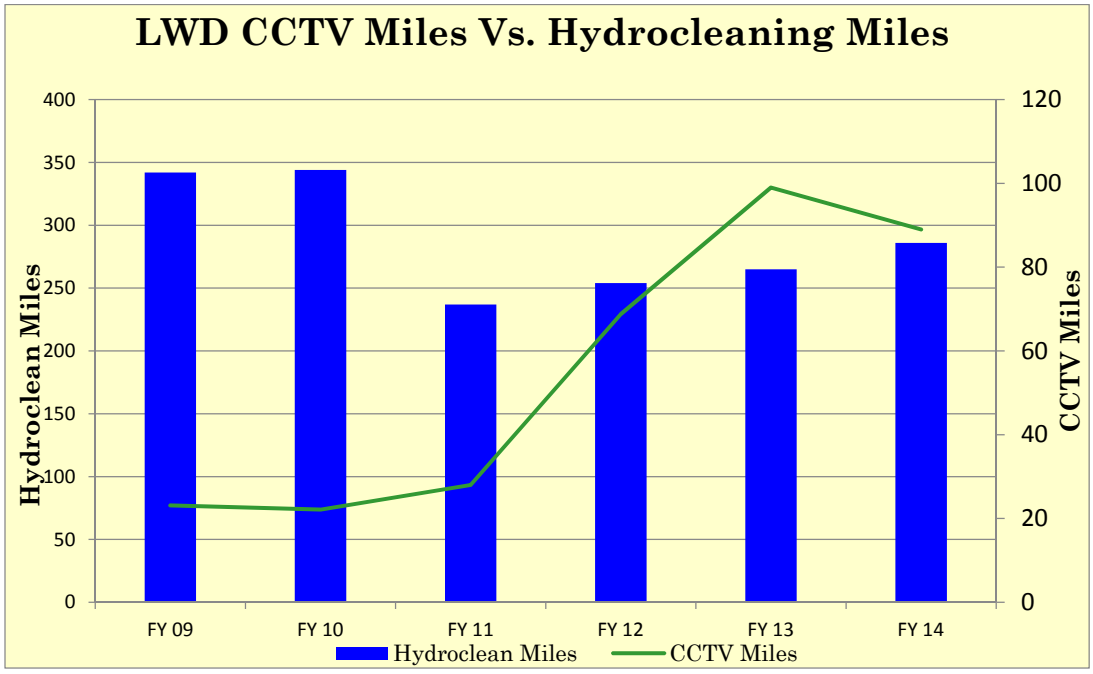
A review of the District's recent spill history, clearly demonstrates the District's present preventative maintenance program has been successful. The graph below illustrates the decrease in the occurrence and volume of spills over the last ten years. This has been accomplished by implementing programs to minimize spills in addition to incentivizing District staff to maintain a low spill record. Examples of preventative maintenance programs implemented to address spill causes are discussed in the following paragraphs.

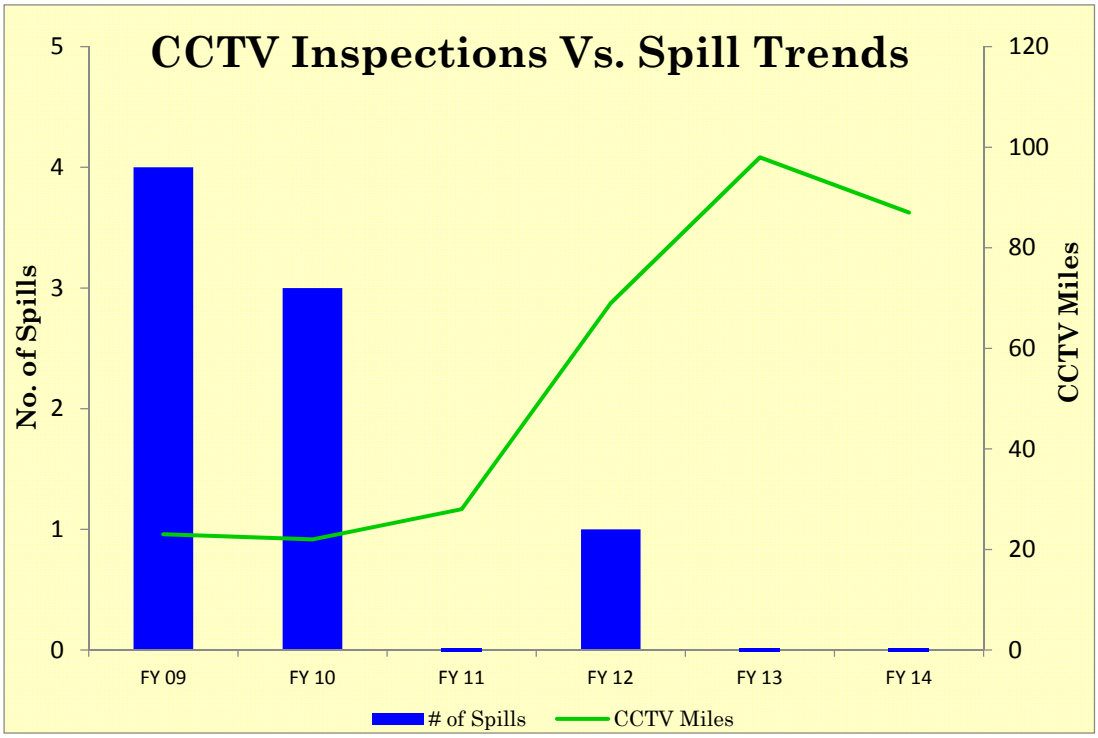
Since the addition of the second Vactor crew in 2000, the majority of the spill causes have been due to unforeseen events that are neither indicators of a lacking preventative maintenance program nor capacity related. In those cases where a potential systematic problem was identified, the District implemented procedures or developed a solution to minimize or eliminate the spill cause. For example, in 2001 and 2002, there were two spills which occurred as a result of failed air release valves on the force mains. To mitigate this, the District replaced all of the air release valves on the two force mains of interest. Additionally, on a semiannual basis, field staff exercise and service, as necessary, all of the District's air release valves. The locations of the air release valves are maintained in the database and CMMS work orders are generated for these activities.



Additionally, the District has substantially increased its inspection of pipelines using CCTV, greatly enhancing the District's knowledge of the condition of the gravity sewer pipelines over knowledge obtained solely through hydrocleaning efforts. The increased CCTV have resulted in a direct increase capital replacement projects to address areas of structural concern and has also identified areas which require more frequent preventative maintenance.

Visual inspection of gravity sewer pipelines greatly reduces the potential for preventable spills. As such the District plans to maintain its CCTV efforts as a key ongoing component to their preventative maintenance program. The following figure illustrates the trends of hydrocleaning, CCTV inspection, and gravity system spills since FY09.





Part of the District's preventative maintenance program includes monthly inspection of any temporary construction connection plugs or traps. This is performed by a District-employed contractor and reported to the District.

Although the District does not have a formal FOG control program, as discussed in Section VII of the SSMP, the District is aware of all food establishments in the District and has sufficient legal authority through the District's Wastewater Ordinance to appropriately address any FOG issues that arise with a District customer. With that said, the District will conduct a comprehensive evaluation of implementation of a formal FOG program if three FOG-related spills occur in a 24 month period.

Monitoring, Measuring, and Modifying the SSMP Sections

Evaluation of SSO trends and the preventative maintenance program are key elements of measuring the success of the District's SSMP. To ensure that all elements of the SSMP are implemented, relevant, and effective, the SSMP Evaluation Checklist is conducted on an annual basis concurrent with the SSMP Audit. The evaluation is conducted by the responsible party as identified in the implementation plan and schedule of SSMP Section 2. The evaluations, along with the annual SSMP audits, will be included with the next revision of the SSMP.

Additional discussion regarding the inter-relationship between the District's Organization, Goals, and Legal Authority is provided in the following paragraph to capture how these influence each other.

District Documents Included In This Section

- LWD Spill Summary
- Overflow Emergency Response Plan, Attachment J – Spill Review Checklist
- SSMP Evaluation Checklist

Leucadia Wastewater District 1960 La Costa Avenue, Carlsbad, CA 92026 (760) 753-0155

Sewage Spills (7/1/96 through 6/30/14)

Date	*Time*	*Vol (gal)*	*Dur-ation*	*Location of spill*	*City*	*Type of structure*	*Destination of spill*	*Beach posted*	*Cause of spill*	*Steps taken to mitigate effects of spill*	*Spill #*	*OES #*
12/10/1996	0700	*800*	60	1910 Saxony Road	Carlsbad	*pump station*	contained at pump station	*no*	*power outage*	Pump station outfitted with emergency generator		
6/6/1998	0830	750	30	2804 La Costa Avenue	Carlsbad	manhole	storm drain/San Marcos Creek	no	roots in 8 inch main sewer line	Root saw/CCTV Inspection	98-002	
7/10/1998	1150	200	130	2919 Segovia Way	Carlsbad	manhole	contained on site	no	contractor pushed dirt into manhole	District is member of USA Dig Alert	98-003	
8/29/1998	2230	150	50	2912 Managua	Carlsbad	manhole	storm drain/Batiquitos Lagoon	no	contractor left debris in main line	District Construction Manager meet with contractor	98-004	
10/7/1998	0825	200	20	1021 Hermes	Carlsbad	3 inch cleanout	contained and pumped to sewer	no	roots from private lateral	Root saw/CCTV Inspection	98-007	
12/2/1998	1025	100	20	La Costa Driving Range	Carlsbad	bypass pipeline	contained and pumped to sewer	no	contractor pump bypass line failed	by pass pump stopped immediately	98-008	
12/13/1998	0630	6,000	30	1960 La Costa Avenue	Carlsbad	sewer pipeline	storm drain/Batiquitos Lagoon	yes	corrosion of pipe	District replaced 500 ft of pipeline with PVC pipe	98-009	
3/4/1999	0710	2,000	80	1960 La Costa Avenue	Carlsbad	sewer pipeline	storm drain/Batiquitos Lagoon	yes	corrosion of pipe	District replaced 500 ft of pipeline with PVC pipe	99-001	
10/9/1999	1007	750	30	Piraeus @ Olympus	Encintas	manhole	storm drain/Batiquitos Lagoon	no	debris (possibly construction)	debris removed	99-002	
4/9/2000	1100	*500*	10	6547 Avenida Del Paraiso	Carlsbad	*pump station*	storm drain/San Marcos Creek	*no*	*power outage*	District has purchased second emergency generator	000001	
4/19/2000	1200	600	30	Rancho Santa Fe Rd @ Paseo Texco	Carlsbad	manhole	storm drain/Batiquitos Lagoon	no	vandalism	District install bolt down manhole covers in this area	000002	
11/18/2000	0740	420	10	Altisma @ Alicante	Carlsbad	manhole	storm drain/San Marcos creek	no	grease stoppage	District added second vactor crew	000003	00-5423
11/21/2000	1923	420	57	7614 Calle Madero	Carlsbad	manhole	contained on site	no	roots/grease stoppage	District added second vactor crew	000004	
11/30/2000	1100	500	50	Calina Way	Carlsbad	manhole	storm drain/dry wash	no	grease stoppage	District added second vactor crew	000005	
1/9/2001	0611	28,400	44	La Costa Avenue @ El Camino Real	Carlsbad	air vacuum release valve	storm drain/Batiquitos Lagoon	yes	failed air vacuum release valve	District replaced air vac release	001001	01-0146

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Sewage Spills (7/1/96 through 6/30/14)

Date	*Time*	*Vol (gal)*	*Dur-ation*	*Location of spill*	*City*	*Type of structure*	*Destination of spill*	*Beach posted*	*Cause of spill*	*Steps taken to mitigate effects of spill*	*Spill #*	*OES #*
3/21/2001	1915	*4,900*	35	1960 La Costa Avenue	Carlsbad	*pump station*	contained on site	*no*	*failure of pressure switch*	District has added additional alarms	001003	01-1713
10/21/2001	1059	*100*	10	6547 Avenida Del Paraiso	Carlsbad	*pump station*	storm drain/San Marcos Creek	*no*	*power outage*	District has purchased second emergency generator	001005	
12/3/2001	1020	750	50	1900 Coast Hwy	Encintas	manhole # 02-0490	storm drain/Batiquitos Lagoon	no	grease stoppage	Manhole put on trouble spot lisk for qrtly cleaning	001006	
4/3/2002	1330	10,000	40	Hwy 101 @ Avenida Encinas	Carlsbad	airvac # B2 - 020	storm drain/Batiquitos Lagoon	*yes*	corroded fitting	District replaced all air vacs on B2 & B3 forcemains	002001	02-1849
5/12/2002	0906	200	44	7400 Alicante Blvd	Carlsbad	manhole # 11-1105	contained on site	no	roots coming in from unused lateral	Manhole put on trouble spot list for qtrly cleaning	002002	
6/30/2002	2320	1,300	65	7500 Gibralta St	Carlsbad	manhole # 10-1870	storm drain/San Marcos Creek	no	construction debris/grit	Manhole on trouble spot list	002003	02-3578
8/14/2002	1500	900	45	Costa del Mar Rd	Carlsbad	manhole # 11-0760	contained on site	no	roots coming in at dead end manhole	Manhole put on trouble spot list for qtrly cleaning	002005	
9/2/2002	0843	600	34	Corinthia	Carlsbad	manhole # 11-6065	storm Drain/San Marcos Creek	no	external cost. Debris/pieces concrete	Manhole put on trouble spot list for qtrly cleaning	002006	
2/7/2003	0937	50	26	418 Hillcrest Drive	Encinitas	manhole # 03-0560	storm drain/Batiquitos Lagoon	no	roots from lateral 361 Hillcrest	Lateral letters, TVI, clean all mains on Hillcrest	003001	
2/12/2003	1645	10,000	30	Hwy 101 @ Batiquitos Pump Station	Carlsbad	Vactor dump pit at Bat psta	Batiquitos Lagoon/Pacific Ocean	yes	2 of 3 VFD's destroyed by voltage surge	Mechanical Pump, new VFD's, Surge protection	003002	03-0820
3/19/2003	0657	900	50	7504 Gibraltar St	Carlsbad	manhole # 10-1870	San Marcos Creek/Bat Lagoon	yes	roots & rocks	Manhole put on trouble spot list for qtrly cleaning	003003	03-1510
5/28/2003	0830	810	41	Saxony Rd (S of La Costa Ave)	Encinitas	manhole # 04-0670	contained in desilting basin	no	roots and debris	Manhole put on trouble spot list for qtrly cleaning	003004	
9/8/2003	0723	500	22	1100 Rcho Santa Fe Rd	Encinitas	manhole # 08-0390	storm drain/Batiquitos Lagoon	no	construction debris	TVI, clean all lines on Rcho Santa Fe	003005	
10/1/2004	0900	200	5	Hwy 101 @ Avenida Encinas	Carlsbad	airvac # B3 - 030	percolated in ground - no storm	no	Contractor left drain valve open	Drain valves plugged all air vacs - removed handles	004001	
10/20/2004	1022	3,000	15	Alga Road @ Almaden	Carlsbad	unaccepted manhole	San Marcos Creek/Bat Lagoon	yes	Developer left manhole open in rain	Placed bulkhead in Public sewer at connection	004002	04-5474

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Date	*Time*	*Vol (gal)*	*Dur-ation*	*Location of spill*	*City*	*Type of structure*	*Destination of spill*	*Beach posted*	*Cause of spill*	*Steps taken to mitigate effects of spill*	*Spill #*	*OES #*
1/30/2005	1008	800	40	Meadows 1 force main	Carlsbad	*pump station*	storm drain - percolated in arroyo	no	Ductile Iron Pipe holed	Repaired forcemain - station sked for demob	005001	
2/15/2005	0915	50	33	7683 Sequoia St	Carlsbad	recently accepted manhole	storm drain	no	miscommunication about installed plug	removed plug - instituted manhole plug protocol	005002	
2/18/2005	0858	720	12	7504 Gibraltar St	Carlsbad	manhole # 10-1855	storm drain/San Marcos Creek	no	grit and grease in flat line	Manhole on list for qtrly cleaning - CCTV	005003	
4/13/2005	1020	10	10	N Coast Hwy @ Bat Lagoon Bridge	Carlsbad	Air Vac B3-020 AV	water contained on bridge	no	leaking air vac	AV isolated, inspected, cleaned & rtn'd to service	005004	
11/23/2005	0725	1,350	30	Cam de Los Coches @ La Costa Ave	Carlsbad	unaccepted manhole	storm drain - Enc Crk - Bat Lag	no	construction debris	developer installed traps, lines cleaned	005005	05-6775
1/30/2006	1445	30	30	163 La Costa Ave @ Vulcan	Encinitas	manhole # 03-0855	captured all	no	blockage cleared, no cause determined	upstrm & dwnstrm lines cleared	006001	
2/3/2006	1150	20	20	240 Cereus St btwn Hygeia & Hermes	Encinitas	private cleanout	captured all	no	blockage cleared, no cause determined	upstrm & dwnstrm lines cleared	006002	
4/4/2006	0855	100	12	La Costa Ave, 1000yds W of ECR	Carlsbad	airvac # L2-AV-030	dried in curb & gutter	no	debris prevented airvac from seating	new airvac installed	006003	
6/30/2007	0830	2,750	55	2403 Jacaranda Avenue	Carlsbad	manhole # 03-0855	storm drain/Batiquitos Lagoon	no	roots at joint	cleared line, CCTV inspection, repaired joint in-situ	007001	07-3931
11/9/2007	0600	300	29	Estrella del Mar	Carlsbad	manhole # 11-11290	brow ditch	no	construction plug	removed plug from line, accepted sewer line	007002	
9/4/2008	2000	40	50	162 Range Street	Encinitas	cleanout # 02-0240	cntained on site	no	Main line blockage (roots from lateral)	cleared line, installed burrito, CCTV inspection	008001	Cat 2
11/4/2008	1630	500	170	1602 Burgundy Road	Encinitas	inside house	contained on site, captured all	no	Main line blockage (roots from lateral)	cleared line, CCTV inspection	008002	Cat 2
11/11/2008	1030	110	95	1540 Caudor Street	Encinitas	inside house	contained on site captured all	no	Main line blockage (rags)	cleared line, CCTV inspection	008003	Cat 2
05/24/2009	1202	100	73	2154 Pleasant Grove Road	Encinitas	manhole # 06-9070	stormdrain	no	Roots at joint	cleared line, CCTV inspection, repaired joint in-situ	009001	09-3897
5/25/2009	1202	1,315	100	2154 Pleasant Grove Road	Encinitas	manhole # 06-9070	storm drain/San Marcos Creek	no	Main line blockage roots thru joint	cleared line, CCTV inspection, point repair (burrito)	009001	09-3897
8/17/2009	1240	5	35	72338 Babilonia St	Carlsbad	private cleanout	captured all in curb & gutter	no	Main line blockage roots thru joint	cleared line, CCTV inspection	009002	Cat 2

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Sewage Spills (7/1/96 through 6/30/14)

Date	*Time*	*Vol (gal)*	*Dur-ation*	*Location of spill*	*City*	*Type of structure*	*Destination of spill*	*Beach posted*	*Cause of spill*	*Steps taken to mitigate effects of spill*	*Spill #*	*OES #*
11/3/2009	0900	500	54	7408 Calle Madero	Carlsbad	manhole # 10-1330	storm drain/ San Marcos Creek	no	Main line blockage roots in manhole	cleared line, CCTV inspection		09-7433
12/3/2009	1101	800	40	1400 Piraeus Street	Encinitas	manhole # 04-0320	storm drain	no	Main line blockage roots thru joint	cleared line, CCTV inspection		09-8081
1/9/2010	1532	1,300	65	2310 La Costa Avenue	Carlsbad	manhole # 10-0210	storm drain	no	Main line blockage, inflatable sewer plug	cleared line, CCTV inspection		10-0179
5/3/2010	1900	10,000	60	2017 N Coast Hwy (101)	Carlsbad	B2 forcemain	contained off road, captured all	no	Galvanic corrosion in 24" DIP	cutout damaged section, replaced with PVC		10-2774
8/29/2010	1253	100	167	2410 #H Altisma way	Carlsbad	private cleanout	captured portion/ storm drain	no	root intrusion	contractor cleared lateral		PVT Cat2
11/19/2010	0:00	69,780	330	2017 N Coast Hwy (101)	Carlsbad	Pump Station	Batiquitos Lagoon/ Ponto Beach	yes	Operator failed to respond to alarm	installed smart cover in overflow wetwell		106274
1/16/2011	1110	5	60	2429 La Costa Ave	Carlsbad	private lateral HOA	captured all	no	unknown	contractor cleared line		PVT Cat2
2/4/2011	1240	40	14	800 Calle Accero	Carlsbad	private manhole	storm drain	no	roots in private manhole thru joints	contractor cleaned out roots in manhole		110770
2/28/2011	1515	20	20	207 Country Haven Road	Encinitas	private cleanout	storm drain	no	unknown	contractor cleaned lateral		111233
4/4/2011	1243	1	14	120 North El Camino Real suite/apt.120	Encinitas	private grease interceptor	captured all	no	grease in lateral	contractor cleaned lateral & interceptor		PVT Cat2
4/27/2011	826	4,600	23	2017 N Coast Hwy (101)	Carlsbad	air release valve (air vac)	Batiquitos Lagoon	yes	Air Release PVC flange cracked	air release valve shut off		11-2727
10/1/2011	1530	120	75	2419 Unicornio	Carlsbad	manhole #11-6020	captured portion/dirt bankment	no	cracked mainline, roots	cleared line, CCTV inspection, install smartcover		Cat 1
1/19/2012	8:15	<5	5	1439 Encinitas Blvd	Encinitas	private cleanout	captured all	no	grease/ roots in lateral	contractor cleaned lateral		Cat 2
8/29/2012	1653	10	70	137 El Camino Real	Encinitas	private manhole	captured all	no	Roots in private manhole	LWD cleared roots from MH / contractor cleared MH		Cat 2
9/3/2012	1029	15	51	285 Aspenwood Lane	Encinitas	private lateral HOA	storm drain	no	unknown	LWD Vactored until contractor cleared lateral		Cat 1
12/10/2012	17:14	10	21	2866 Luciernaga	Carlsbad	private lateral HOA	storm drain	no	roots	LWD contained spill until plumber cleared lateral		Cat 1
1/5/2013	18:25	1	60	3200 Sello Lane	Carlsbad	private Manhole HOA	captured all	no	Roots in private manhole	LWD contained spill until plumber cleared lateral		Cat 2

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Sewage Spills (7/1/96 through 6/30/14)

Date	*Time*	*Vol (gal)*	*Dur-ation*	*Location of spill*	*City*	*Type of structure*	*Destination of spill*	*Beach posted*	*Cause of spill*	*Steps taken to mitigate effects of spill*	*Spill #*	*OES #*
2/2/2013	5:35	22,000	11	6500 Ponto Drive	Carlsbad	Force main	captured portion / dirt bankment	yes	Galvanic corrosion in 24" DIP	cutout damaged section, replaced 80 ' pipe with PVC		13-0684
5/10/2013	8:49	3	3	3543 East Calle Gavanzo	Carlsbad	private lateral	storm drain	no	unknown / lateral	plumbing contractor cleaned lateral		Cat 2
5/14/2013	14:26	20	13	2431 La Costa Ave	Carlsbad	private lateral	captured all	no	unknown / lateral	plumbing contractor cleaned lateral		Cat 2
5/28/2013	14:15	3	15	2512 La Costa Ave	Carlsbad	private lateral	dirt	no	unknown / upper lateral	plumbing contractor cleaned lateral		Cat 2
12/8/2013	11:40	20	50	660 Neptune	Encinitas	private	captured all in curb & gutter	no	unknown / lateral	plumbing contractor cleaned lateral		PLSD
4/7/2014	12:15	10	10	281 Aspenwood Lane	Encinitas	private	captured portion / storm drain	no	roots in private lateral	plumbing contractor cleaned lateral		PLSD

Spill Review Checklist		
Checklist Items	**YES/Done**	**NO**
Assemble information from:		
a. Emergency Action Report		
b. Work Order / Service Request		
c. Sewer Spill Data Sheet		
Map Location of the Above (provided or attached)		
Compare to previous 5 years and determine if there is a correlation for location		
Review Work Order / Service Request history for correlation with spill location (this includes review of the cleaning schedule and noting the last cleaning date at the spill location.		
a. If correlation, determine if all identified problems have been remedied.		
Record data from Spill Data Sheet to LWD Spill Summary		
Is spill related to food establishment and potentially a FOG related issue?		
a. If line recently cleaned, evaluate whether grease interceptors in area need to be inspected.		
Are there any resources which would have prevented or minimized the occurrence of the spill?		
a. If yes, identify which of the following (can be more than one) could have been improved on:		
i. Staff		
ii. Equipment		
iii. Training		
iv. Coordination with agencies		
v. Other – please explain		
Are there any resources which would have prevented or lessened the environmental impact of the spill?		
a. If yes, identify which of the following (can be more than one) could have been improved on:		
i. Staff		
ii. Equipment		
iii. Training		
iv. Coordination with agencies		
v. Other – please explain		

SSMP Evaluation Checklist				
Date Evaluation Completed:				
Last Date Checklist Revised: July 31, 2014				
	Monitoring, Measurement, and Modification Question	**Yes**	**No**	**Update Needed in SSMP? ***
Sections I, II, III (District Goals, Organization, Legal Authority)				
	1. Has there been an appreciable change in the Strategic Plan?			
	2. Was the current organizational chart included in the annual financial plan?			
	3. Were the District goals addressed in the annual Fiscal Year Tactics & Action Plan?			
	4. Has the District's Legal Authority been reviewed considering new regulations?			
	5. If appropriate for three year review cycle, has the District's Standard Spec been reviewed for necessary changes?			
	6. Was the staff size and organizational chain of command sufficient for implementation of the preventative maintenance programs and SSO spill response?			
	7. In review of the spill causes and environmental impacts (if any), would additional staff or a change in District organization lessened or eliminated the spill cause and environmental impact?			
	8. In review of the spill causes and environmental impacts (if any), was their sufficient legal authority for the District to respond and take action as necessary?			
Section IV (Preventative Maintenance Program)				
	1. Have all new construction or rehabilitation projects been entered into the GIS database?			
	2. Have the new pipelines and manholes been included in CWMS?			
	3. Were all scheduled preventative maintenance activities in the CWMS completed as scheduled (e.g., hydrocleaning, video inspection, air release valve exercising, pump station inspections, etc.)?			
	a. If not, determine cause and if additional staff is necessary to complete required schedule.			
	4. Are pipeline CCTV inspections on-track for complete system inspection every three to four years?			
	5. Is the pipeline and manhole Repair Priority List up-to-date and being addressed?			
	6. Is the Force Main Integrity inspection program on track?			
	7. Has the Pump Station Condition Assessment been completed and projects scheduled?			
	7. Have the following standard operating procedures been reviewed and up-to-date?			
	a. SOP – Collection System Maintenance Duties			
	b. SOP – Video Inspection Procedure			
	c. SOP – Easement Inspection Duties			
	e. SOP – Pump Station Operator Duties			
	f. SOP – Pump Station Odor Control			
	g. SOP – Switching Force Main Lines			
	h. SOP – By-pass Pumping for Avocado and Diana Pump Stations			

SSMP Evaluation Checklist			
Date Evaluation Completed:			
Last Date Checklist Revised: July 31, 2014			
Monitoring, Measurement, and Modification Question	**Yes**	**No**	**Update Needed in SSMP? ***
i. SOP – District Pipeline Location and Markout			
j. SOP – Traffic Control Procedures			
k. SOP – Emergency Procedures for Air Release Valves			
l. SOP – Emergency By-pass Pumping for Batiquitos Pump Station			
7. Has the appropriate ongoing training for these SOPs been conducted and recorded?			
Section V (Design and Performance Provisions)			
1. Has the LWD Standard Spec been sufficient to address design and construction needs?			
2. Has the LWD Standard Spec been sufficient to address inspection and testing needs?			
Section VI (Overflow Emergency Response Plan)			
1. Have the following standard operating procedures and their attachments been reviewed and up-to-date?			
a. SOP – Overflow Emergency Response Plan			
b. SOP – Pump Station Alarm Response			
c. SOP – Posting and Sampling Procedure			
d. SOP – SCADA Alarms and Alpha Numeric Pages			
e. SOP – Standby Duty Operator (On Call)			
f. SOP – Reporting SSOs			
2. Has the appropriate ongoing training for these SOPs been conducted?			
3. Have the newly hired employees been provided with these procedures and trained on these procedures, as appropriate?			
4. Has the LRO certified No Spill for each month (when applicable)?			
5. Has the Collection System Questionnaire been updated in CIWQS?			
Section VII (FOG Control Program)			
1. Where permits processed for new food establishments in the District?			
a. If so, is there a BMP agreement on file?			
2. In review of the SSO causes for the year, have any been attributable to FOG?			
3. In review of the SSO causes for the past 24 months have there been three FOG-related spills? This would trigger the District to conduct a comprehensive formal evaluation of implementing a formal FOG Control Program.			
Section VIII (System Evaluation & Capacity Assurance Plan)			
1. Did the monthly board meeting agenda packets include the appropriate flow summary?			
2. Have evaluations continued with respect to the inflow and infiltration?			
Section IX (Monitoring, Measurement, & Program Modifications)			
1. Has the checklist evaluation been completed for the fiscal year?			
2. Are there changes that need to be made to the Spill Review Procedures?			
3. Are there changes that need to be made to the evaluation checklist?			
a. If yes, are the changes substantial enough such that the SSMP needs to be revised? SSMP revisions will typically occur on a 5-year basis. The			

SSMP Evaluation Checklist				
Date Evaluation Completed:				
Last Date Checklist Revised: July 31, 2014				
	Monitoring, Measurement, and Modification Question	**Yes**	**No**	**Update Needed in SSMP? ***
	following is a list of items which would trigger a revision of the SSMP prior to the standard 5-year cycle update. Other minor changes within the District's organization, procedures, & activities would not necessitate an SSMP revision, but would be captured in the next revision cycle.			
	i. A substantial change in organization such that the chain of command for spill response or reporting are altered.			
	ii. A substantial change in the regulations such that the District's legal authority (Standard Spec) is deemed by District counsel to provide insufficient authority to the District.			
	iii. A substantial change in regional board reporting policy (or other regulatory agency) such that standard operating procedures for spill response must be substantially re-written.			
	iv. Review SSO causes deems a formal FOG Control Program must be implemented.			
	v. The ongoing monitoring of District flow results indicates that the current conclusion that sufficient capacity exists in the District collection system to accommodate buildout flows is no longer valid.			
Section X Evaluation (SSMP Program Audits)				
	1. Has the SSMP Program Audit been completed for the fiscal year?			
	2. Are there changes that need to be made to the Audit checklist?			
Section XI Evaluation (Communication Program)				
	1. Is the SSMP section of the District website up-to-date? And has the SSMP status been relayed to the public?			
	2. Has the District continued to attend meetings with Encina Wastewater Authority, the City of Carlsbad, and the City of Encinitas as appropriate?			
	3. In review of the spill causes and environmental impacts (if any), would additional ongoing communication with the Encina Wastewater Authority, the City of Carlsbad, or the City of Encinitas lessened or eliminated the spill cause and environmental impact?			

*** If an update is needed in the SSMP,**

1. Determine if the update is significant enough to warrant re-development and re-adoption of the SSMP prior to the 5-year re-adoption schedule and

2. Describe the update needed below.

Sect.	Description of Update Needed for Next SSMP	Re-adopt prior to 5 year schedule?		

Section X – SSMP Program Audits

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify that the District shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. These audits must occur at a minimum of every two years and a report must be prepared and kept on file. The audit shall focus on evaluating the effectiveness of the SSMP and the District's compliance with the SSMP requirement, including the identification of any deficiencies in the SSMP and the steps to correct them.

Leucadia Wastewater District Actions

The District performs its SSMP Audit (Attachment A) on an annual basis in concert with the Section IX – Monitoring, Measurement, and Program Modifications checklist. A report is generated which incorporates both of these items and will include the identification of any deficiencies identified and the steps to correct them. The findings of the audit are reported to the Board and the audit report is received and filed. Additionally, the audit report is posted on the District's website for public review.

The District has conducted annual audits of the 2009 SSMP. These audits are included by reference. Audits of this 2014 SSMP shall be subsequently included in the next SSMP revision.

District Documents Included In This Section

- SSMP Audit Checklist

District Documents Referenced By This Section

- LWD FY10 SSMP Audit Report
- LWD FY11 SSMP Audit Report
- LWD FY12 SSMP Audit Report
- LWD FY13 SSMP Audit Report

ATTACHMENT A

SSMP Audit Checklist			
Section	**Requirement**	**SSMP Current**	**SSMP Implemented**
I - Goals	Reduce, prevent, and mitigate SSOs		
II - Organization	Designate Legal Responsible Oversight		
	Organizational Chart		
	Contact info for SSMP implementation		
III - Legal Authority	Prevent illicit discharges		
	Require proper design and construction		
	Ensure access to facilities		
	Limit FOG		
	Enforce violations		
IV - O&M Program	Up to date mapping		
	Describe routine PM program		
	Rehabilitation and replacement plan		
	Proper training		
	Equipment and replacement part inventories		
V - Design and Performance Provisions	Design and construction standards for new facilities		
	Design and construction standards for rehab and replacement facilities		
	Procedures and standards for inspection and testing of new facilities		
	Procedures and standards for inspection and testing of rehab facilities		
VI - Overflow Emergency Response Plan	Notification procedures		
	Response plan		
	Appropriate training		
	Procedures for emergency operations		
	Program to contain and prevent SSOs from reaching waters		
VII - FOG Control Program	Determine if applicable		
VIII - System Capacity Assurance	Capacity evaluation up to date		
	Design criteria in place		
	Capacity enhancement measures		
	Schedule		
IX - MMM	Maintain relevant info		
	Monitor implementation		
	Assess success of PM program		
	Update program elements		
	Identify and illustrate SSO trends		
X - SSMP Audits	Conduct annual audit		
	Prepare audit report		
	Record changes made/corrective action taken		
XI - Communication Program	Communicate regarding preparation		
	Communicate regarding performance		
	Communicate with surrounding agencies		

Section XI – Communication Program

Background and Regulatory Requirements

The Statewide WDRs governing sanitary sewers specify that the District shall communicate on a regular basis with the public on the development, implementation, and performance of its Sewer System Management Plan (SSMP). The communication system shall provide the public the opportunity to provide input to the District as the program is developed and implemented. The District shall also create a plan of communication with systems that are tributary or satellite to the District's sanitary sewer system.

Leucadia Wastewater District Actions

The District maintains an approach of open and direct communication with its customers and community. Additionally, the District regularly interacts with the cities served by the District, namely the City of Carlsbad and the City of Encinitas. Finally, as a member agency of the Encina Wastewater Authority, which treats the wastewater generated within the District, staff of both agencies are in frequent contact. The District's communication efforts are further described below.

Communication with the Community

The District maintains two key communication tools to interact with its customers and surrounding community. These include the District's website and newsletter.

Website. The District's website www.lwwd.org, updated in 2014 to improve transparency, provides information on the District ranging from the organizational structure and board meeting minutes to capital improvement projects and planning documents. The District's Asset Management Plan, Financial Plan, SSMP and most recent annual SSMP Audit are posted on the website for public review.

Newsletter. The semi-annual newsletter that the District distributes within its service area is used to announce the completion of the annual SSMP audit and any modification to the SSMP.

Communication with Surrounding Cities

The District service area includes portions of the City of Encinitas and the City of Carlsbad, in addition to co-owning wastewater pumping and/or transmission facilities. The District maintains open communication with both cities as necessary in addition to notifying storm water officials of any SSOs.

Communication with Encina Wastewater Authority

As a member of the jointly owned Encina Water Pollution Control Facilities, which treat the wastewater generated within the District service area, the General Manager attends monthly

Encina Wastewater Authority Board of Directors meeting and Member Agency Managers meeting. Additionally, two members of the District Board represent the District on the Encina Wastewater Authority Board of Directors. Agencies also occasionally contract and share resources as appropriate.

Opportunity for Public Comment

The District's SSMP webpage and newsletter provide the community with avenues to contact the District with any questions they may have regarding the SSMP.

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

http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.shtml

Performance updates are provided in the form of the Operations Report given to the Board, and included in the public meeting minutes, as part of the Section IX – Monitoring, Measurement, and Program Modifications and the Section X – SSMP Program Audits sections.