

**CITY OF ORANGE
SEWER SYSTEM MANAGEMENT PLAN
INTERNAL AUDIT REPORT**

Page 1

GUIDELINES

State Water Resources Control Board adopted Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Order No. 2006-0003-DWQ, and revised by Order No. WQ 2008-0002-EXEC. Such Order requires all “Enrollees” to develop a Sewer System Management Plan (SSMP) per Section D.13, and to conduct periodic internal audits every 2 years per Section D.13(x). An audit report must be prepared and be kept on file.

This audit covers the 2-year period from May 2, 2009 to May 1, 2011 .

ELEMENTS OF THE SSMP

This audit examines the following elements of the SSMP.

- I. **Goals** – City's SSMP goals.
- II. **Organization** – City's organizational structure.
- III. **Legal Authority** – City's codes and ordinances, and other legal authorities.
- IV. **Operation and Maintenance Program** – Map of sewer system; operation & maintenance budget; summary of total regular visual and TV inspections; summarize total sewer condition ranking; list of priority rehabilitation and replacement; and list staff training.
- V. **Design and Performance Provisions** – Identify City’s design and construction standards and specifications; and City’s construction inspection and testing procedures.
- VI. **Overflow Emergency Response Plan** – Identify City’s Overflow Emergency Response Plan; list SSO events and response procedures.
- VII. **Fat, Oil, and Grease (FOG) Control Program** – Identify public education outreach program; plan and schedule of FOG disposal; legal authority; inventory of grease removal devices; inspection list of grease producing facilities; and list of high maintenance sewer segments due to FOG.
- VIII. **System Evaluation and Capacity Assurance** – Identify capital improvement plan (CIP) projects related to SSO including methods for identifying deficient sewer lines.
- IX. **Monitoring, Measurement, and Program Modifications** – Identify how records are maintained and any trend analysis is made for preventative maintenance.
- X. **SSMP Program Audit and Certification** – Identify previous audits, rating, and were audit reports kept on file.
- XI. **Communication Program** – List public communication methods.

SSMP AUDIT

0. SSMP Report Format and Contents

Is there a SSMP report on file? Yes No
Does the SSMP cover all elements as required by the WDR? Yes No

Comments: Revise cover page: The report title should be changed from "Sanitary Sewer Management Plan" to "Sewer System Management Plan".

I. Goals and Objectives

Personnel Interviewed: Jamie Herbon, Michael Wolfe, Gene Estrada

Date of the current SSMP May 2, 2009
Is the report dated within the last 5 years? Yes No
Is the SSMP report available to the public? City Internet In office on request
Has the SSMP been effective in reducing and preventing SSO citywide? Yes No

Comments: Assigned maintenance cleaning frequencies of sewer system has resulted in fewer SSO's. Total public SSO's has reduced from 16 in year 2006 to 9 in 2010.

II. Organization

Personnel Interviewed: Jamie Herbon, Michael Wolfe, Gene Estrada

Is there an organization structure for SSMP Yes No
Does the organization chart show chain of communications, including names, phone numbers, and person responsible for reporting SSO to the State? Yes No

Comments: Some names in the org chart need to be updated.

III. Legal Authority

Personnel Interviewed: Jamie Herbon, Michael Wolfe, Gene Estrada

Is the legal authority established and correctly identified? Yes No
Is the legal authority sufficiently to control Inflow & Infiltration (I/I)? Yes No
Code Section: Orange Municipal Code Chapter 13.56
Is the legal authority sufficiently to control discharge of Yes No

Fats, Oils, and Grease (FOG)?

Code Section: City Ordinance No. 17-04 was established.

Is the legal authority sufficiently to enforce violations? Yes No

Code Section: OCSD Ordinance OCSD-37

Comments: Orange Municipal Code Chapter 13.56 does not sufficiently address the I/I issue and enforcement.
Revise SSMP Section III Item 1: Change "OMC13.56" to "OMC 7.01".
Revise SSMP Section III Item 4: Change "OMC 17.04" to "OMC 13.66".

IV. Operation and Maintenance Program

Personnel Interviewed: Jamie Herbon, Michael Wolfe

1) Map of Sewer System

Is the map complete? Yes No

Map Revision Date: April 2009

Are the maps maintained by a GIS system Yes No

Are applicable stormwater conveyance facilities shown? Yes No

If not, is a separate stormwater map available Yes No

2) Visual and Video Inspections

Total miles of sewer pipe in the City 312.5 Miles

Total # of Lift Stations..... 2

For the time period of 5/2/09-5/1/11 % Completed

Total length of sewer pipe cleaned	<u>167.71 miles</u>	<u>53.7%</u>
Total length of sewer pipe video inspected & rated	<u>29.93</u>	<u>9.6%</u>
# of lift stations inspected	<u>2</u>	<u>100%</u>

3) Training and Certifications

Position	SSMP Certificate
Maintenance Division Manager	None
Streets and Sanitation Superintendent	None
General / Sanitation Supervisor	CWEA Grade 2
Field support staff	CWEA Grade 1
Environmental Compliance Officer	CWEA Grade 1
Environmental Scientist	CWEA Grade 3
Sr. Civil Engineer (Surface Water Quality)	CWEA Grade 4

Comments: Suggest combining storm and sewer atlas into one by printing storm inlets on sewer atlas.
Revise SSMP Section IV-D: Change certificate levels to match actual.
Correct error in SSMP Section IV-D title: Change "training and a regular..." to "training on a regular".
Staffing changes in Public Works personnel changed SSMP certifications.
The Department is identifying additional personnel that will become CWEA certified

V. Design and Performance Provision

Personnel Interviewed: Majid Farhat

Last revision date of City Engineering Standard Plans & Specification January 2007

Most recent date any sewer design and construction specification was updated January 2007

Comments: (none)

VI. Overflow Emergency Response Plan

Personnel Interviewed: Jamie Herbon, Michael Wolfe, Gene Estrada

Is there an Overflow Emergency Response Plan..... Yes No

Is the Overflow Emergency Response Plan implemented Yes No

List SSO Occurrence (Attach list in **Attachment "A"**)

	2009-2010	2010-2011
Category 1 (≥1000 gallons)	2	0
Category 2 (<1000 gallons)	7	6
Private Lateral Discharge	7	9

Comments: (none)

VII. Fat, Oils, and Grease (FOG) Control Program

Personnel Interviewed: Gene Estrada

1) Public Education Outreach

Have posters and DVD been given to all new restaurants Yes No

Methods used to distribute information to general public.

Hand carried to facilities

2) Legal Authority
Legal authority established for enforcing FOG Yes No

3) Grease Removal Devices

	2009-2010	2010-2011
Number of restaurants inspected	93	105
Number with new grease removal devices installed	8	15

4) List of Sewer Sections Subject to FOG Blockage
A list of potential blockage sections is established Yes No

Comments:

VIII. System Evaluation and Capacity Assurance

Personnel Interviewed: Jamie Herbon, Michael Wolfe, Majid Farhat

1) Sewer Master Plan Study
Does the City have a Sewer Master Plan Study?..... Yes No
Date of the last Sewer Master Plan Study..... December 2003

2) CIP Plans

	2009-2010	2010-2011
Total CIP budget for sewer replacement and upgrade	\$400,000	\$400,000
Total sewer line in feet rehabilitated by lining or reconstructed	3,640'	0'

3) Pipe Condition Assessment

Total number of sewer pipe segments in the City 7133

	For the time period of 2009-2011	% Total
Total number of sewer pipe segments rated	2668	37%
Number of pipe segments with rating of 4 or 5	31	0.43%

Comments:

IX. Monitoring, Measurement, and Program Modifications

Personnel Interviewed: Jamie Herbon, Michael Wolfe, Majid Farhat, Gene Estrada

1) Maintain Relevant Information

Are there relevant information maintained that can be used to establish and prioritize appropriate SSMP activities Yes No

2) List Maintained Relevant Information and Explain How Do These Information Help Assess the Success of the Preventive Maintenance Program

Sewer line Hot Spots	Cleaning schedules, potential line replacements, and capital project prioritization
Sewer Condition by Segment	Supports line replacements and prioritizations
Sewer Master Plan	Addresses capacity shortfalls, which support line replacements and project prioritization
Maintenance Management System – MaintStar	Data for planning and conducting sewer maintenance
Sewer Videos	Data records, condition indexing and field issues

Comments: (none)

X. SSMP Program Audit and Certification

Personnel Interviewed: Auditors

Date last audit was completed..... N.A.

Due date of current audit..... May 2, 2011

Have all deficiencies listed in the last audit been corrected? (n.a.) Yes No

Due date of the next audit May 2, 2013

Comments: This is the first audit for the City.

XI. Communication Program

Personnel Interviewed: Jamie Herbon, Michael Wolfe, Gene Estrada

What method was utilized to allow the public to provide input the the SSMP program?

A section has been established in the city website, www.cityoforange.org, to describe the implementation and performance of the City's SSMP. The section can be found under Public Works Department, FOG/WDR Sanitary Sewer.

The SSMP is also adopted by City Council in a Public Hearing.

FINDINGS AND REMARKS

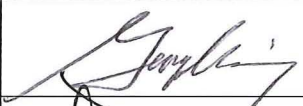
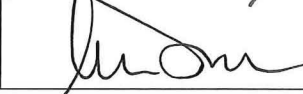
The SSMP report needs to be updated to reflect the current organization structure and names of personnel.

Orange Municipal Code needs to be enhanced to cover the Legal Authority of Inflow & Infiltration and enforcement of violations.



CERTIFICATION

We, the undersigned, do hereby certify that information contained in this audit report is to the best of our knowledge true.

Audit Conducted by:

Name	Position	Signature	Date
George Liang	Principal Civil Engineer		9/19/11
Son Tran	Senior Civil Engineer		9/19/11

Reviewed by:

Name	Position	Signature	Date
Joe DeFrancesco	Public Works Director		9/20/11
Frank Sun	Deputy Public Works Director / City Engineer		9/20/11

Attachment A

List of SSO Locations

SSO Spills FY 2009-2010

Month	Address	SSO Cause	Restaurant	Category I*				Category II*				Lat	Long
				Public		Private		Public		Private			
				Total Vol	Vol Rec	Total Vol	Vol Rec	Total Vol	Vol Rec	Total Vol	Vol Rec		
				Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons		
July													
7/10/2009	1931 E. Meats Ave.	Grease	No							300	300	33.49249	-117.50005
7/29/2009	1050 N. Batavia St.	Grease	No			350	300					33.80505	-117.863892
August													
8/3/2009	115 W. Rose Ave.	Vandalism	No	500	235							33.79694	-117.853303
8/3/2009	1931 E. Meats Ave.	Grease	No							900	900	33.49249	-117.50005
8/4/2009	1931 E. Meats Ave.	Grease	No							50	50	33.82403	-117.833,653
September													
9/9/2009	E. Palmyra Ave./ S. Shaffer St	Unk	No					10	10			33.78422	-117.848722
9/12/2009	100 W. Mayfair Ave.	Grease	No					50	50			33.79919	-117.85345
October													
	None												
November													
11/23/2009	275 S. Main St.	Paper Towels	No	1125	100							33.78469	-117.866717
December													
12/18/2009	Chapman Ave @ Lewis St.	Grease	No	372	362							33.78881	-117.897391
1/8/2010	Heim Ave @ Lisa Pl	grease		6320	1820							33.83028	-117.841625
February													
2/7/2010	2600 N. Waterford St	Roots		900	315							33.83318	-117.812494
2/7/2010	2420 W. Beaton Way	Paper Towels						40	40			33.79197	-117.87878
2/10/2010	831-833 E. LaVeta Ave	Roots								15	15	33.78058	-117.8453
March	N/A												
April													
4/12/2010	5535-5539 E. Patria Ct	Vandalism								45	45	33.80438	-117.79434
4/24/2010	1559 N. Santiago Blvd	Pump St. Failure						5	5			33.8138	-117.799086
May													
5/20/2010	2050 N. Highland St	Unknown								50	50	33.82199	-117.83307
June	N/A												
Total				9217	2832	350	300	105	105	1360	1360		

* Category 1: SSO resulting in a discharge to a drainpipe not fully captured. (Reached storm drain)
 Category 2: SSO fully captured. (Did not reach storm drain)

Sewer Spills FY 2010/11

Month	Address	SSO Cause	Restaurant	Category I*				Category II*			
				Public		Private		Public		Private	
				Total Vol	Vol Rec	Total Vol	Vol Rec	Total Vol	Vol Rec	Total Vol	Vol Rec
				Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons
July											
7/27/2010	201 W. Collins Ave	Cleanout backup				20	15				
August	N/A										
None											
September											
9/8/2010	875 N. Olive St	Cleanout backup								10	10
October	N/A										
None											
November											
11/2/2010	Canyon View Ave/Newpo	Rags		750	300						
11/9/2010	297 E. Linden Dr	Asphalt Debris								25	25
11/15/2010	282 S. Orange St	Roots						5	5		
11/21/2010	1127 W. Maple Ave	Rags		60	30						
11/27/2010	4740 E. Chapman Ave	Vandalism	1							5	5
11/30/2010	660 S. Glassell St	Grease		25	10						
December											
12/1/2010	1440 E. Lincoln Ave	Grease				1200	400				
12/2/2010	331 N. Bitterbush St	Roots								4	4
12/27/2010	Spinnaker St & Tiller Ave	Grease/Wipes		720	580						
January											
1/5/2011	5730 E. Rocking Horse W	Debris				8	0				
1/10/2011	180 S. Anita Dr	Grease		55	50						
February											
None											
March											
3/3/2011	1800 E. Collins Ave	Paper Towels				40	35				
April											
None											
May											
None											
June											
6/19/2011	144 S. Tustin St	Grease								10	8
Totals				1610	970	1268	450	5	5	54	52

*Category I : Reached storm drain; Category II: Did not reach storm drain