

## SEWER SYSTEM MANAGEMENT PLAN AUDIT YEAR 2007-2009

- May 2, 2006 – State Water Resources Control Board adopted Statewide General Waste Discharge Requirements (WDRs).
- January 1, 2007 – Electronic reporting of Sanitary Sewer Overflows (SSO).
- May 6, 2008 – Sewer System Management Plan (SSMP) adopted by the Board.
- May 6, 2010 - First SSMP audit due and every two years thereafter, per subsection D.13.x of the WDR, and Section 10.1 of the Districts' SSMP.
- Date of SSMP Audit **March 16, 2010**.

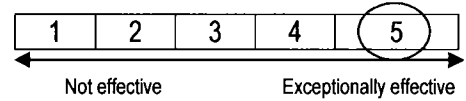
### Elements of the SSMP

1. **Goals** – description of the Districts'/City's SSMP goals.
2. **Organization** – description of the Districts'/City's organizational structure
3. **Legal Authority** – description of the Districts'/City's legal rights, including codes and ordinances, to enforce the requirements of the WDRs.
4. **Operation and Maintenance Program** – outlines the Districts'/City's maintenance schedule and methodology to ensure proper management and maintenance of the sewer facilities are properly designed and installed.
5. **Design and Performance Provisions** – description of methods by which the Districts/Cities ensure that new and rehabilitated sewer facilities are properly designed and installed.
6. **Overflow Emergency Response Plan** – describes how the Districts/Cities respond to, report, and document SSO events within the Districts.
7. **Fat, Oil, and Grease (FOG) Control Program** – describes how the Districts/Cities prevent or minimize the discharge of fats, oils, and grease into the sewer lines, which is known to contribute to SSO.
8. **System Evaluation and Capacity Assurance** – How we ensure adequate capacity is available for new and existing developments.
9. **Monitoring, Measurement, and Program Modifications** – details the Districts'/Cities' plan to continually monitor and assess the performance of each element of the SSMP in achieving the goals and objectives of the SSMP and updating them as necessary.
10. **SSMP Program Audit and Certification** – describes the Districts'/Cities' plans to periodically assess the effectiveness of the SSMP based mainly on the plan's ability in reducing SSO.
11. **Communication Program** – summarizes the Districts' plans to ensure that all stakeholders are aware of the Districts' SSMP.

# SEWER SYSTEM MANAGEMENT PLAN AUDIT FOR THE MARINA AND THE CONSOLIDATED SEWER MAINTENANCE DISTRICTS

## A. Goals and Objectives

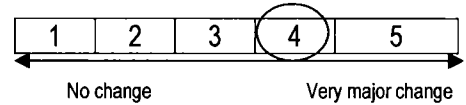
To what extent, on a scale of 1 to 5, has the SSMP been effective in reducing SSO Districtwide?



## B. Organization

How would you describe the changes in the Districts organizational structure for a scale from 1 to 5? Please specify.

(Creation of two new maintenance yards and the addition of more field personnel and support equipments.)



## C. Legal Authority

Give the year of adoption of the latest version of the following County Codes/Ordinances.

1) Industrial Waste Ordinance  
Date 2002

2) County Plumbing Code  
Date 2008

3) County Building Code  
Date 2008

## D. Operation and Maintenance Program

1) What was the actual expenditure on each of these elements of the Districts' O&M programs for the last three Fiscal Years?

- (i) New Equipment Purchase
- (ii) Capital Improvement – (ACO) and Marina
- (iii) Travel and Training

2006-07	2007-08	2008-09
\$1,978,994	\$431,553	\$863,120
\$1,733,282	\$4,315,279	\$3,128,645
\$67,092	\$77,964	\$21,043

2) Expenditures/Revenues Data

- (i) Total Budget Amount
- (ii) Actual Expenditures on Closed Circuit Television (CCTV)
- (iii) Total O&M expenditure
- (iv) Sewer Service Charge Rates – Consolidated
- (v) Sewer Service Charge Rates – Marina  
(includes City of Los Angeles' disposal charges)

\$35,539,000	\$39,673,000	\$40,872,000
\$1,710,773	\$2,943,652	\$3,700,123
\$20,357,384	\$24,057,390	\$24,683,502
\$35.50	\$35.50	\$40.50
\$120	\$120	\$190

## E. Design and Performance Provision

1) What dollar amount of the District's expenditure went into

- (i) Sewer Plan Check
- (ii) Construction Management and Inspection
- (iii) Project Design

2006-07	2007-08	2008-09
\$191,928	\$163,030	\$179,868
\$407,965	\$615,306	\$376,053
\$277,871	\$319,285	\$308,832

2) Has there been any major change in the District's design standard? If so, specify and indicate fiscal year in which it occurred?

Yes		No	✓
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**F. Overflow Emergency Response Plan**

- (i) Total number of SSOs (private lateral SSO not included).
- (ii) Percentage responded to within 2 hours.

2007	2008	2009
226	149	82
86.2%	92.6%	90.2%

**G. Fat, Oils, and Grease Control Program**

- 1) Was annual report with information on FOG published and/or mailed out to the Districts' property owners?

<b>Yes</b>	✓	<b>No</b>	
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- 2) What was the percentage of SSOs due to
  - (i) FOG
  - (ii) Roots
  - (iii) Combination of Roots and FOG
  - (iv) Other causes

2007	2008	2009
28.3%	23.4%	28%
53.9%	49.6%	54.8%
7.5%	4.6%	4.8%
10.1%	22.1%	12.1%

- 3) What was the percentage of decrease or increase of SSOs from prior years?

N/A	- 34.1%	- 45%
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**H. System Evaluation and Capacity Assurance**

- 1) What is the total length (ft) of sewer line rehabilitated by lining or reconstructed?

2007	2008	2009
52,600	66,700	50,400

- 2) What percentage of sewer lines televised was rated as being in severely deteriorated structural condition?

2%	1.8%	1.6%
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- 3) What percentage of SSO was due to a sewer capacity issue?

0%	0%	0%
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**I. Monitoring, Measurement, and Program Modifications**

- 1) When was the last audit conducted per the WDR certified?

N/A
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- 2) Were any changes recommended?

<b>Yes</b>	N/A	<b>No</b>	N/A
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- 3) Percentage of recommended changes in the last audit adopted.

N/A
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**J. SSMP Program Audit and Certification**

- 1) What was the overall effectiveness rating of the last audit?

1	2	3	4	5
poor	fair	good	very good	excellent

- 2) What is the overall effectiveness rating of this audit?

1	2	3	4	5
poor	fair	good	very good	excellent

**K. Communication Program**

List all communication methods utilized in disseminating information on FOG to stakeholders with implementation dates.

✓	Method	Date Last Implemented
✓	Newsletter	2008
✓	Door Hangers	on going
✓	Internet	2009
✓	EPD/CSD Posters	on going

**L. \*List of identified deficiencies and planned corrective actions if any.**

1. We are behind schedule in meeting our goal to completely televise the entire Districts' sewer lines to assess the structural condition of the pipes at least once every 10 years. This is due to an expected slow start resulting from the needed training for our CCTV staff and contractors on methods and strategies and in determining the best rating method for our sewer system. There were also unanticipated delays caused by governing Board policy changes to the Department's contracting process. To address this, we are recommending increasing our annual CCTV output by an additional 72 miles each year for the next 6 years.
2. Of the 1,330 miles televised, to date, about 93 percent of sewer pipes are in good to excellent structural condition. Fewer than 2 percent are found to be in poor structural condition. Ten percent of the latter category has been repaired through our emergency repair program or by District forces. The rest have been prioritized, based on degree of deterioration, and added to our list of future ACO projects.
3. The number of SSOs in the City of Rancho Palos Verdes was slightly less in the year 2009 from the previous two years. However, compared to the other cities the total number (12) of SSOs recorded was relatively high. This is attributable to severe tree root problems and inaccessibility of certain sewers in easements due to rough terrain. To mitigate these problems, extensive root foaming and sewer line cleaning programs are recommended.

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\*Based on interview of field personnel/cities/other agencies, analysis of back-up data (enclosed), and audit.

**M. COMMENTS**

1. The establishment of the Lawndale and the Santa Clarita maintenance sub yards, during audit period, has helped in reducing emergency sewer response time.
2. Districtwide there is a significant declining trend in the total number of SSOs. This could be attributed to the effectiveness of our condition assessment, FOG, sewer cleaning, ACO, and public education outreach programs.
3. A Pump Station Condition Assessment Program was established during this period. The cost of any necessary pump station rehabilitations would be financed by the ACO fund in the Consolidated Sewer Maintenance District (CSMD) or by the Marina Sewer Maintenance District fund.
4. Ninety percent of the 39 cities currently served by the CSMD and the unincorporated County saw a significant reduction in SSOs during this period. The remaining 10 percent of the cities saw no to very low number of SSOs. The City of Rancho Palos Verdes experiencing the most overflows at an average of 13 SSOs per year.
5. Acquisition of new and replacement equipment for Fiscal Year 2009-10 has been delayed due to Countywide budget issues and Air Quality Management District regulations.

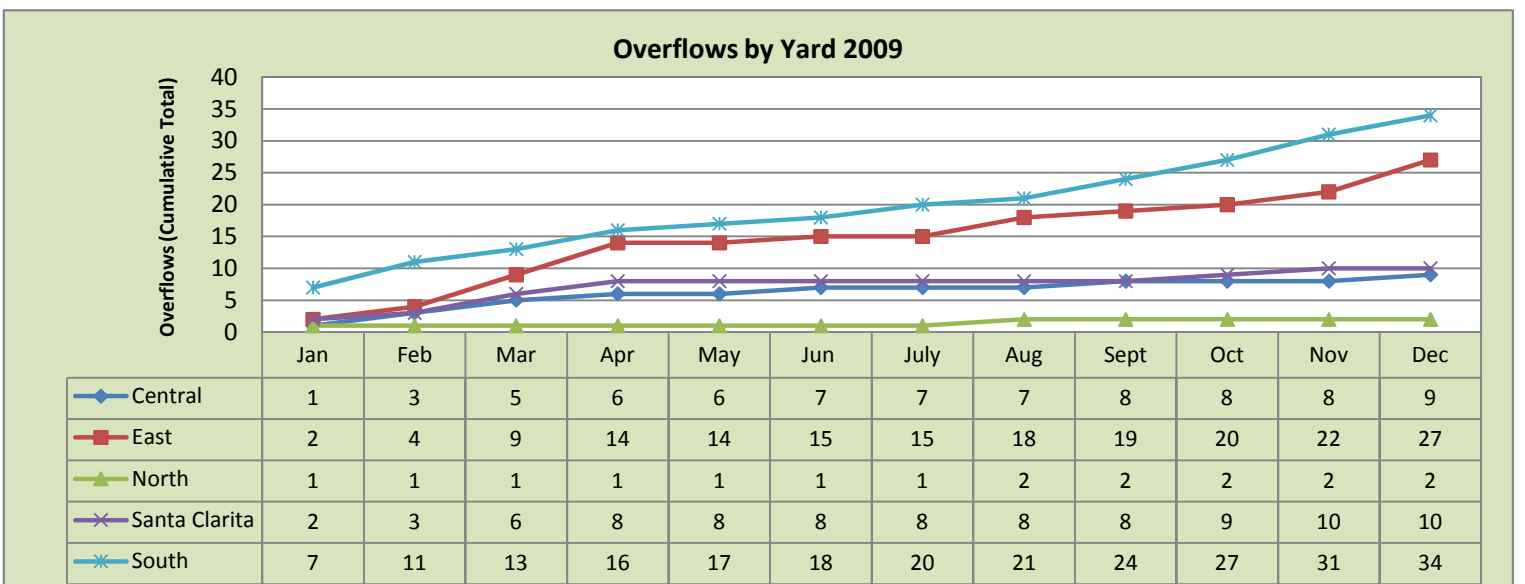
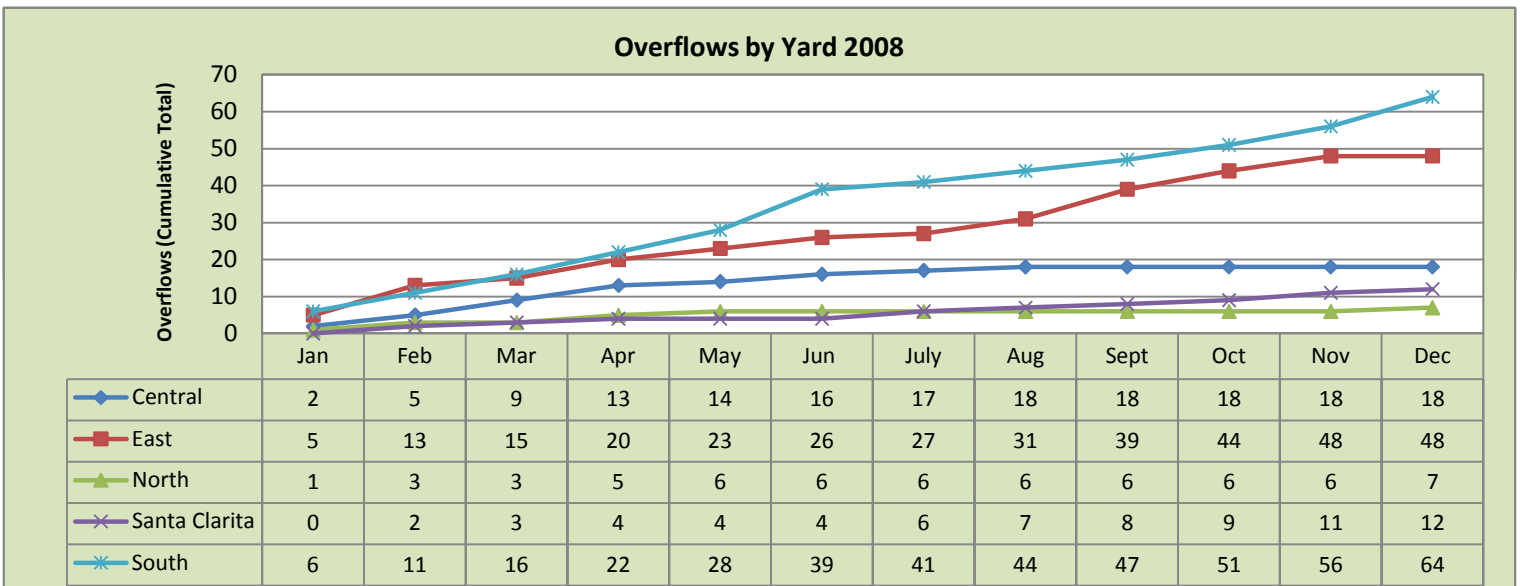
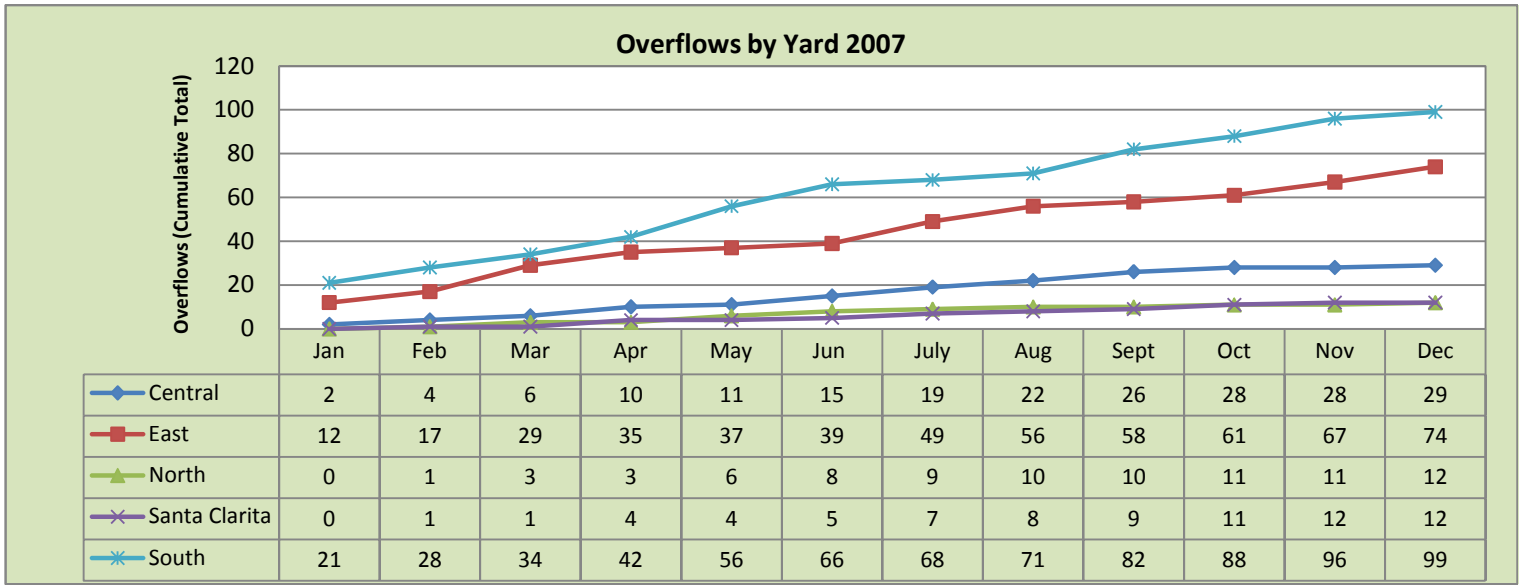
**N. CERTIFICATION**

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

Name (s)	Position	Signature	Date
Nicholas Agbobu	Senior Civil Engineer	<i>Nicholas A. Agbobu</i>	
Robert Swartz	Senior Civil Engineer	<i>[Signature]</i>	
Jeff Bouse	Senior Civil Engineer	<i>[Signature]</i>	
John Feese	Regional Sewer Maintenance Supt	<i>John D Feese</i>	
Robert Hinojosa	Regional Sewer Maintenance Supt	<i>Robert S Hinojosa</i>	
Michael Garcia	Regional Sewer Maintenance Supt	<i>Michael Garcia</i>	
James Pryor	Regional Sewer Maintenance Supt	<i>James Pryor</i>	
Mark Ramirez	Electro-Mechanic Supervisor	<i>Mark Ramirez</i>	

**ENCLOSURE A**

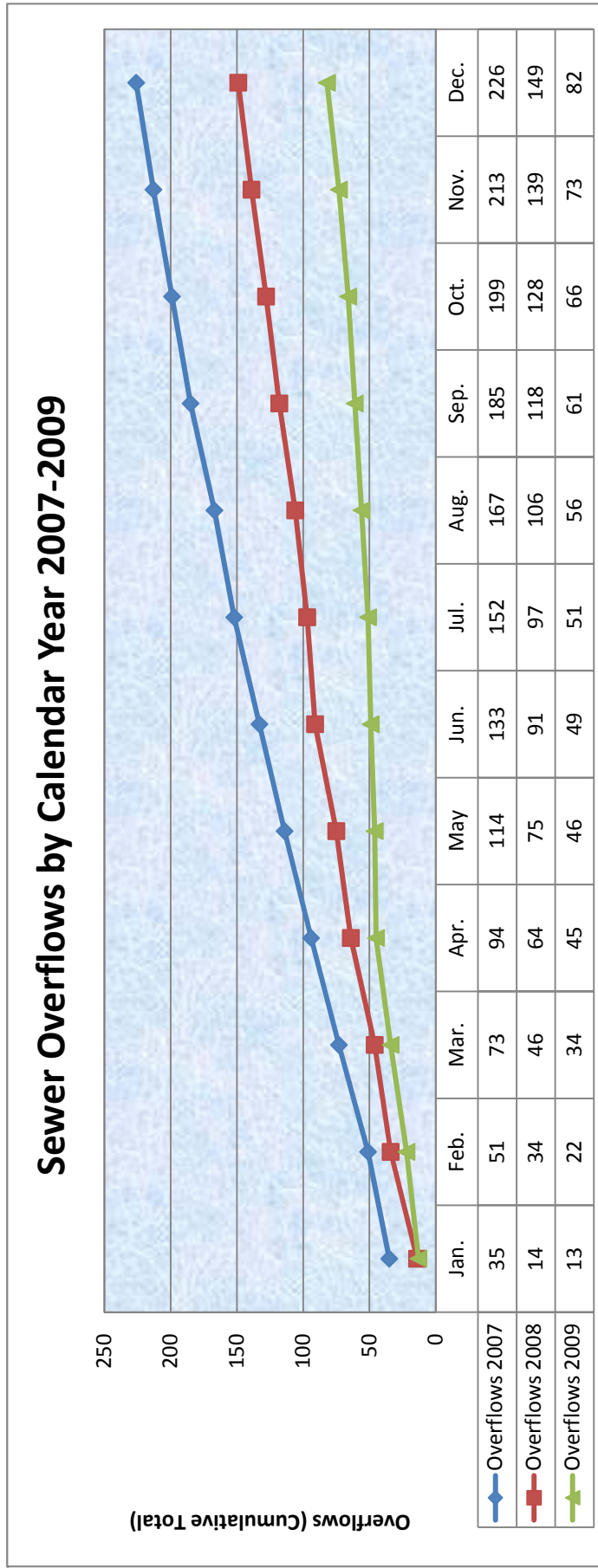
**SEWER MAINTENANCE DIVISION**  
Overflows by Yard 2007-2009



Note: Excludes private SSOs

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
<b>Overflows 2007</b>	35	16	22	21	20	19	19	15	18	14	14	13
<b>Cumulative</b>	35	51	73	94	114	133	152	167	185	199	213	226
<b>Overflows 2008</b>	14	20	12	18	11	16	6	9	12	10	11	10
<b>Cumulative</b>	14	34	46	64	75	91	97	106	118	128	139	149
<b>Overflows 2009</b>	13	9	12	11	1	3	2	5	5	5	7	9
<b>Cumulative</b>	13	22	34	45	46	49	51	56	61	66	73	82

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
<b>Overflows 2007</b>	35	51	73	94	114	133	152	167	185	199	213	226
<b>Overflows 2008</b>	14	34	46	64	75	91	97	106	118	128	139	149
<b>Overflows 2009</b>	13	22	34	45	46	49	51	56	61	66	73	82



Excludes private lateral spills.



**ENCLOSURE B**

**SEWER MAINTENANCE DISTRICTS**  
*Sanitary Sewer Overflow Summary*  
**2007-2009**

CITY	SMD SSO Total (2007)	SMD SSO Total (2008)	SMD SSO Total (2009)
Agoura Hills	2	2	1
Artesia	1	0	0
Baldwin Park	4	6	1
Bell Gardens	1	1	0
Bellflower	2	1	0
Bradbury	0	0	0
Calabasas	6	2	1
Carson	8	4	4
Commerce	2	0	0
Cudahy	0	1	0
Diamond Bar	3	6	2
Duarte	1	3	2
Glendora	13	1	3
Hawaiian Gardens	1	2	0
Hidden Hills	2	0	0
Industry	1	1	1
Irwindale	0	1	1
La Canada Flintridge	1	3	0
La Habra Heights	0	0	0
La Mirada	5	3	4
La Puente	2	1	0
Lakewood	3	2	0
Lancaster	7	5	0
Lawndale	1	2	4
Lomita	3	3	1
Malibu	1	1	2
Palmdale	4	1	1
Palos Verdes Estates	27	9	3
Paramount	2	2	0
Pico Rivera	1	0	3
Rancho Palos Verdes	14	18	12
Rolling Hills	0	0	0
Rolling Hills Estates	4	2	2
Rosemead	4	0	0
San Dimas	9	4	0
Santa Clarita	3	7	3
Santa Fe Springs	1	0	0
South El Monte	0	0	0

Temple City	3	2	2
Walnut	0	2	1
West Hollywood	9	10	3
Westlake Village	1	0	0
Unincorporated County	74	41	25
<b>TOTAL</b>	<b>226</b>	<b>149</b>	<b>82</b>

Note: Excludes private SSOs

**ENCLOSURE C**

**SEWER MAINTENANCE DISTRICTS  
SEWER MAINTENANCE DIVISION**

**PERFORMANCE MEASURES**

Overflow Prevention/Collection System Maintenance

<b>Performance Indicator</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
	<b>Actual</b>	<b>Actual</b>	<b>Actual</b>
<b>Input</b>			
Total number of Sewer Maintenance gravity sewer field personnel (1)	120	125	125
Total number of pumping plant field personnel (1)	28	28	28
Total number of scheduled manhole inspection	234,316	221,658	208,498
Total number of inspection crews	12	12	13
<b>Workload/Output</b>			
Total number of SSO responded to in 12-month period (2)	238	156	97
Total miles of sewer line maintained	5,247	4,962	4,632
Total number of pump stations maintained	155	153	153
Total number of manhole inspections completed	202,213	202,354	173,244
Total SSO > 1,000 gallons responded to	13	10	6
Total FOG related SSOs responded to	66	30	26
Total root related SSOs responded to	123	70	50
Total SSOs due to other causes (debris, vandalism, etc)	49	56	21
Total number of capacity related SSOs	0	0	0
Total number of SSOs due to pump station malfunction	6	6	4
Number of SSOs responded to within 2-hours or less	211	140	89
Total number of stoppages not resulting in SSOs	91	89	38
<b>Efficiency</b>			
Number of SSOs that reached waters of the United States	141	91	47
Number of pump stations per electro-mechanic crew	11	11	11
Miles of sewer per gravity sewer maintenance personnel	43.7	39.7	37
Average response time per SSO	1.2 hours	1.8 hours	1.9 hours
Average number of SSOs per pump station	.038	.039	.026
Number of inspections per inspection crew	16,851	16,863	13,326
<b>Effectiveness/Outcome</b>			
Percentage of SSOs > 1,000 gallons	5.5%	6.4%	6.2%
Percentage of SSOs due to FOG	27.7%	19.2%	26.8%
Percentage of SSOs due to roots	51.7%	44.9%	51.5%
Percentage of SSOs due to other causes	20.6%	35.9%	21.6%
Percentage of SSOs that reached waters of the United States	59.2%	53.3%	48.5%
Percentage of SSOs with response time 2-hours or less	88.7%	89.7%	97.8%
Percentage of scheduled Manhole inspection completed	86.3%	91.3%	83.1%
<b>Explanatory Notes</b>			
(1) Note: Number of field personnel excluding clerical staff.			
(2) Note: Including SSOs from house laterals not related to mainline sewer problems (2007/12, 2008/7, 2009/15) or SSOs at Treatment Plants.			