SEWAGE COLLECTION SYSTEM INSPECTION FORM
City of Emeryville

GENERAL INFORMATION

Inspection Date: April 6, 2009

Utility Name: City of Emeryville
Address: 1333 Park Avenue, Emeryville, CA 94608
Contact Person: Maurice Kaufman Public Works Director/City Engineer
Phone: 510-596-4334 Cell: Fax: 510-596-4389
Email: mkaufman@ci.emeryville.ca.us

Inspectors Names	Agency/Contractor
Michelle Moustakas	EPA Region 9
Anna Yen	EPA Region 9
Russell Norman	SWRCB
Bill Hahn	SAIC
Dianne Stewart	SAIC

Utility personnel who accompanied inspectors

Name	Title
Maurice Kaufman	Public Works Director/City Engineer
Mike Mahoney	Street Superintendant
Michael Roberts	Sr. Civil Engineer

SYSTEM OVERVIEW

Population: 9,800 Service Area (Sq. Miles): 1.3
Service Area Description: City of Emeryville (excluding bay)

	Residential	Commercial	Industrial	Total
Number of service connections	518	240	144	902

Combined Sewers (% of system): 0

Name and NPDES permit number for WWTP(s) owned or operated by the collection system utility: NA

Name and NPDES permit number for WWTP(s) that receive flow from the collection system utility: East Bay Municipal Utility District (EBMUD). Order No. 01-072, NPDES Permit No. CA0037702

Names of upstream collection systems sending flow to the collection system utility:
City of Oakland

Names of downstream collection systems receiving flow from the collection system utility:
EBMUD
City of Oakland

Do any interagency agreements exit with upstream collection systems? No

Does the utility maintain the legal authority to limit flow from upstream satellite collection systems? No

SYSTEM INVENTORY *(list only assets owned by utility)*

Miles of gravity main	Miles of force main	Miles of Laterals	Number of maintenance access structures	Number of pump stations	Number of siphons
15.6	0.06	9.8	349	1	0

Utility responsibility for laterals (none, whole, lower) None

Size Distribution of Collection System: (Info from GIS that still needs confirmation)

Diameter in inches	Gravity Sewer (miles)	Force Mains (miles)
Unknown	0.13	0
6 inches or less	0.98	0
8 inches	7.74	0
9 - 18 inches	5.59	0
19 - 36 inches	1.19	0
> 36 inches	0.00	0

Age Distribution of Collection System

Age	Sewer Mains, miles	# of Pump Stations
Unknown		1
0 - 25 years	75%	
26 - 50 years		
51 - 75 years	25%	
> 76 years		

Comment

The inspection team visited the Marina pump station (Photos 1 – 4). This is the City's only pump station, and it serves a large restaurant and some bathrooms. There was some grease visible in the wet well. A visible alarm is present, and alarms are also sent to City staff. The station does not have a backup generator onsite, but the City does have a portable generator that can be brought out in case of power loss. According to City staff, there has never been a spill from this pump station.

SYSTEM FLOW CHARACTERISTICS

Collection System (Estimate from hydraulic model)

LOCATION	OUTLET TO	Average Daily Dry Weather Flow (MGD)	Peak Daily Wet Weather Flow (MGD)	Peak Instantaneous Wet Weather Flow - Existing (MGD)
65th St. East of Hwy 80	EBMUD	0.10	0.18	0.29
Lacoste and 64th @ Clausen	EBMUD	0.72	3.00	6.37
Powell St. East of Hwy 80	EBMUD	0.58	1.36	3.73
Powell St. West of Hwy 80	EBMUD	0.19	0.26	0.33
Shellmound St. South of Ohlone Way	EBMUD	0.44	0.78	1.42
Beach St. after 40th overpass	EBMUD	0.21	0.54	1.02
Shellmound St. South of Bay St.	EBMUD	0.03	0.05	0.12
Adeline St. and 40th	OAKLAND	0.01	0.03	0.07
San Pablo Ave. and Adeline St.	OAKLAND	0.01	0.03	0.05

Wastewater Treatment Plant		
Average Daily Dry Weather Flow (MGD)	Peak Daily Wet Weather Flow (MGD)	Peak Instantaneous Wet Weather Flow (MGD)
NA		

Upstream Satellite Name	Avg. Dry Weather Flow		Peak Flow (MGD)	Flow based on meter or estimate?
	(MGD)	% of total flow		
City of Oakland	0.66	27.6	Varies (there are multiple inflows that peak at different time periods)	Estimated

Constructed Relief Points		
Relief Point	Location	Number of Discharges/Year
NA		

REGULATORY BACKGROUND

Does the system operate under the provisions of an NPDES permit (either their own or under provisions of another agencies permit)? Yes

Permit holder City of Emeryville NPDES Permit No. CA0038792

List provision of the permit that apply (If permit holder is other than the agency being inspected)
_____
_____
_____

Does the system operate under a state permit? Yes
Are there any spill reporting requirements? Yes
Which agency (or agencies) promulgates the spill reporting requirements? RWQCB and SWRCB

Outline the spill reporting requirements (summarize spill reporting requirement for each applicable statute, regulation and permit): See copy of NPDES Permit and Spill Response Plan

Comments:

In February 2008, SWRCB issued new SSO notification requirements in Order No. WQ 2008-0002-EXEC. On May 1, 2008, RWQCB 2 sent a letter to permitted dischargers explaining the new reporting requirements. The letter contains the following summary table showing these requirements:

Communication Type (all are required)	**Agency Being Contacted**	**Timeframe Requirements**	**Method for Contact**
1. Notification	Office of Emergency Services	As soon as possible, but not later than **2 hours** after becoming aware of the SSO.	Telephone – (800) 852-7550 (obtain a control number from OES)
	Local health department	As soon as possible, but not later than **2 hours** after becoming aware of the SSO.	Depends on local health dept.
	Regional Water Board	As soon as possible, but not later than **2 hours** after becoming aware of the SSO.	Electronic www.r2esmr.net/ sso_login2.asp
2. Certification	Regional Water Board	As soon as possible, but not later than **24 hours** after becoming aware of the SSO.	Electronic www.r2esmr.net/ sso_login2.asp
3. Reporting State Water Board	State Water Board (CIWQS)	Category 1 SSO: initial report within **3 business days**, final report within **15 calendar days** after response activities have been completed.	Electronic (only) to CIWQS
		Category 2 SSO: within **30 calendar days** after the end of the calendar month in which the SSO occurs.	Electronic (only) to CIWQS

The City's spill reporting and spill response plan, titled *City of Emeryville Sanitary Sewer Overflow Maintenance Procedure*, is dated August 30, 2006. This is before the State issued the latest requirements.

SPILLS

Sanitary Sewer Overflows From and Caused by Utility									
Note: Spill Rate = number of SSOs/100 miles of sewer pipe/year									
Year	Mains (Miles of Mains 15.5)			Laterals (Miles of Laterals 0)			Totals (Total Miles 15.5)		
	#SSO's	Spill Rate	Gross Spill Volume	#SSO's	Spill Rate	Gross Spill Volume	Total SSO's	Total Spill Rate	Total Gross Spill Volume
2009	2	12.8	6,000+				2	12.8	6,000+
2008	1	6.4	1,500				1	6.4	1,500
2007	1	6.4	75				1	6.4	75
Total	4		7,575+				4		7,575+

Spill Cause

Time Period	Blockage								Gravity Pipe Break		Force Main Break		Pump Station		Capacity	
	Grease		Roots		Debris		Multiple									
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2009							1	100								
2008					1	100										
2007	1	100														
Total	1				1		1									

BUILDING BACKUPS (list only backups caused by problems in sewer mains)		
Year	Number of backups	Cost of Settled Claims
None		
TOTAL		

Comments

Discussions with City staff and review of State databases indicate the following spills:

Date	Address	Volume (gal.)	Cause
4/10/09	5760 N. Shellmound St.	Not stated	Not stated
2/15/09	63rd & Vallejo	6,000	Blockage/possible capacity
6/17/08	6291 Vallejo	1.500	Debris
11/16/07	1480 65th	75	FOG

As of 8/7/09, the two spills in 2009 had not been certified. The 4/10/09 spill occurred after the EPA inspection.

The City reported a spill on 12/13/07 to RWQCB, but this spill occurred on private property and was not caused by problems in the City's collection system. Prior to 2007, the City stated that there were a few spills due to overflowing grease interceptors, including one due to Chevy's in 2005 and a spill due to the Hong Kong restaurant in 2004. These were not reported by the City as they were not caused by problems in the City's collection system.

City staff noted that their hydraulic model indicates that the main where the 2/15/09 spill occurred may be undersized. This spill occurred during a rainfall event. The City plans to replace this main. The inspection team visited this spill site (Photos 7 and 8). The inspection team also visited the location of the spill on 11/16/07 (Photos 5 and 6).

STAFFING

Indicate Number of Staff
Management and Administrative: 2
Maintenance: 8
Electricians and Mechanical Technicians: 0
Operators: 0
Engineering: 3
Number of Certified Collection System Operators/Certification Program: 0
Number of Sewer Cleaning Crews: 1
Sewer Cleaning Crew Size: 2

Contractor Services	Contractor Name(s) (NA if contractors not used)	Cost ($/year)
Sewer Cleaning	Roto Rooter	$5,000
Chemical Root Control	No	
Spot Repairs	Sierra Construction	$14,000
CCTV	Roto Rooter	$2,000
Spill Response	Roto Rooter/Staff	$2,000
Other:		

Comments

Maintenance staff are also responsible for parks, grounds, streets, and storm drains.

The sewer cleaning crew does emergency response only, not routine cleaning. Routine cleaning is contracted out.

Spot repair services mainly pertain to storm drains.

EQUIPMENT

List Major Equipment Owned by the Utility:

Equipment	Number	Number in Service
Combination Trucks (hydroflush and vactor)	1	1
Hydroflusher	0	0
Mechanical Rodder	1	1
CCTV Truck	0	0
Utility Truck	5	5
Portable Pumps	4	4
Portable Generator	3	3

FINANCIAL

REVENUES	
Revenue Source	Annual Revenue ($/year)
User Fees	$ 666,668
Connection Fees	$ 275,000
Grants	
Bonds	
SRF Loans	
TOTAL	$941,668

EXPENSES		
Expense	Annual Cost ($/year)	Cost / Mile of Pipe (Total Pipe Mileage: 15.6)
Maintenance	$ 117,355	$7,522.76
Operations (electric, fuel, etc.)	$ 600,823	$38,514.29
Salaries and Benefits	$ 160,687	$10,300.45
Capital Improvements	$ 470,000	$30,128.21
Debt payments	$ 25,000	$1,602.56
TOTAL	$ 1,373,865	$88,068.27

Average Monthly Household User Fee for Sewage Collection: $8
Wastewater Treatment: EBMUD Fees
Total Wastewater Fees: $8 + EBMUD Fees

Sewer Fee Rate Basis (i.e. water consumption, flat rate, etc.): Single Family = flat rate. Multiple family or Commercial = per 100 cu ft used.

Last Fee Increase (Date): January 1, 1995. Resolution # 94-164

Planned Fee Increases: None

Capital Improvement Fund: $5,413,000 for 5 years (2006 – 2010)

Comments

The expense figures represent an average over the past five years. Operations expenses include contractors, insurance, litigation, general fund transfers, etc.

Capital expenses for 2006 to 2010 are: $2.2 million for pipes, and $543,000 for the pump station.

SPILL RESPONSE, NOTIFICATION AND REPORTING

Does the Utility Have a Written Spill Response Plan? Yes
Is the Plan Carried by Maintenance/Spill Response Crews? Yes

Indicate Elements Included In the Spill Response Plan		
Element	Y/N	Comment
Identification of Responsible Staff	Y	By title, not by name
DISPATCH		
System for Becoming Aware of Spills	N	Not in the written plan. Police Dept., trouble calls
System for Receiving Public Calls	N	Not in the written plan. Public Works, Police Dept.
Dispatch Procedures – Normal Hours	N	Not in the written plan. Upon receipt of call
Dispatch Procedures – After Hours		Police dispatch
Coordination with First Responders (police, fire department)	Y	
Response Time Goal	N	Not in the written plan.
SPILL CONTROL/MITIGATION		
Spill Response Activity Sequence	Y	
Spill Site Security	Y	
Procedures for Stopping Spills	Y	
Spill Containment	Y	
Protection of Storm Drains	Y	
Cleanup/Mitigation	Y	
DOCUMENTATION		
Spill Volume Estimation (list methods in comment field)	N	Not in the written plan. Standard photos
Determination of Spill Start Time	N	Not in the written plan.
Spill Sampling	N	
Receiving Water Sampling	N	
Photographing Spill Site	N	Plan to do this in the future
Field Notes Form	Y	
Spill Report Form	Y	

Indicate Elements Included In the Spill Response Plan		
NOTIFICATION		
Notification of Affected Public (schools, recreational users, etc.)	Y	
Posting Warning Signs	Y	
Sanitation Information re: building backups	Y	
REPORTING		
Reporting Procedures	Y	Hasn't been updated to include February 2008 procedures
Spill Report Forms	Y	
Persons Responsible for Filing Reports	Y	Peter Allen

Are all spills reported regardless of volume? Yes
Are Contractors Required to Follow Spill Response Procedures? Yes
Average Spill Response Time (normal work hours): 0.25 hours
Average Spill Response Time (after hours/holidays): 0.50 hours
Does the Utility CCTV Pipes Following Spill? Frequently
Are Cleaning Schedules Adjusted in Response to Spills? Yes, but not always; for instance, not at the 63rd and Vallejo spill site.

Comments

The City's spill reporting and spill response plan, titled *City of Emeryville Sanitary Sewer Overflow Maintenance Procedure*, is dated August 30, 2006. Thus, it appears not to have been updated to include the notification, certification, and reporting requirements called for in the February 20, 2008 SWRCB order and described in the RWQCB2 memorandum of May 1, 2008. For instance, the City's plan does not mention that spills must be reported to the California Integrated Water Quality System (CIWQS).

SEWER CLEANING AND MAINTENANCE

Does the Utility Have Detailed Sewer System Maps? Yes
Are Maps on GIS Database? Yes, in progress
Are Maps Available to Maintenance Crews? Yes
Does the Utility Have a Written Maintenance Management System? Yes
Does the Utility Have a Computerized Maintenance Management System? In progress

ANNUAL SEWER CLEANING – Include hydroflushing, mechanical and hand rodding		
Pipe Cleaning excluding repeats		Pipe Cleaning Including Repeats
(miles/year)	% of system/year	(miles/year)
2	13	2

System Cleaning Frequency (years to clean entire system): Planning a 4 yr cycle
Hot Spots subject to more frequent cleaning: 2 locations; 1.4 miles of pipe
Types of problems subject to hot spot cleaning? Grease

HOT SPOT CLEANING SCHEDULE			
Cleaning Frequency	Number of Locations	Pipe length excluding repeats (miles)	Pipe length including repeats (miles)
1/month			
6/year			
4/year	2	1.4	5.6
2/year			
1/year			

Chemical Root Treatments
Length of pipe subject to chemical root treatments (miles/year): 0
Chemical treatment frequency: _____
Root treatment chemicals used: _____

Spot Repairs
Spot repairs completed annually: 1 per year; _____ (miles/year)
Spot repair budget ($/year): _____
Spot repair expenditures last year: $_____; year: _____

Odors
Annual number of complaints: 0
Odor hot spot locations: _____
Odor treatment facilities: _____

Easement Pipe Cleaning
Total length of easement pipes (miles): Easement pipes are present in two locations
Annual easement pipe cleaning (miles/year): _____
Do maintenance workers have access to all easements? Yes

Comments

Quarterly cleaning focuses on the 65th Street, Powell Street, and Peninsula to Frontage pipes. The 65th Street main serves condominiums and restaurants. The Powell Street main has a sag, and there are some restaurants without interceptors present.

Taken together, the routine cleaning and the hot spot cleaning include 3.4 miles per year (22% of system pipes) without repeats, and 7.6 miles with repeats. There are six historic hotspots based on EBMUD's inspections of FSEs and calls to the City about blockages.

The City is developing an asset management plan and plans to clean and televise pipes on a regular basis in the future. They have started developing a GIS, but it is not complete.

City staff stated that there may be some odors due to the EBMUD interceptor.

The area at 63rd and Vallejo where there have been blockages due to debris thought to be coming from Oakland is not on the hotspot schedule. The debris contained beer cans, so there is also concern that a cross connection might be involved. City staff did not contact Oakland about this issue.

FATS, OILS AND GREASE (FOG) CONTROL

Does the Utility have a FOG source control ordinance?

- EBMUD has a Wastewater Control Ordinance

Ordinance Citation: East Bay Municipal Utility District Wastewater Control Ordinance, Ordinance 311A-03

Agency responsible for implementing the FOG control program:

- Collection System Agencies and EBMUD for respective program components

Number of Food Service Establishments (FSEs) in service area:

- Approximately 3,000

Number of FSEs subject to FOG ordinance:

- Same as number of FSEs

Indicate Elements Included In the Food Service Establishment FOG Source Control Program		
Element	**Y/N**	**Comment**
FSE Permits	Y	
FSE inspections	Y	
FSE enforcement	Y	
Oil & grease discharge concentration limit		EBMUD's Ordinance has an O&G limit; however, the FOG program focuses on GRD installation and appropriate maintenance
Grease removal device (GRD) requirements:		
traps		
interceptors	Y	
Automatic cleaning traps		
FSEs subject to GRD installation:		
all FSEs (new and existing)		
new FSEs	Y	
remodeled FSEs	Y	Remodels > $75,000
for cause at existing FSEs	Y	
GRD maintenance requirements:		
Cleaning frequency	Y	Every 3 months or more as needed
25% rule (grease and solids accumulation)	Y	EBMUD requires increased pumping frequency if >25% grease/solids
Kitchen BMP Requirements (list required BMPs below)		
		BMPs are recommended, not required (BMP information attached)

Indicate Elements Included In the Food Service Establishment FOG Source Control Program		
Element	**Y/N**	**Comment**
Allowance for chemical additives?		See BMPs ("Do not use emulsifiers or solvents…")
Allowance for biological additives?		Not recommended
FOG Disposal Requirements		See permit for maintenance and disposal requirements
FOG Disposal Manifest System		See permit for documentation/manifest requirements

Number of FOG Program staff:
Inspectors 10
Permit writers 1
Other 4

FSE Inspection frequency: Every 5 years for routine inspections, as needed for Hotspot Response
Annual number of FSE inspections: _____
Does Utility use CCTV to identify FOG sources? Yes

Does sewer maintenance staff coordinate with FOG source control program staff? Yes.
Collection system agencies report hotspots to EBMUD Staff
Cleaning targeted to FOG hot spots? _____
Maintenance crew referrals to FOG program? _____
Pipe repairs at FOG hot spots? _____

Describe program for public outreach and education related to residential FOG sources:

- EBMUD conducts outreach to businesses (FSEs), universities and residents, both throughout the year and during the holidays. EBMUD has expanded its multi-lingual targeted outreach in residential areas that have SSOs and blockages.
  - EBMUD includes outreach with permit issuances and inspections via BMPs, posters, and brochures, most in multiple languages (English, Chinese, Spanish, Korean, and Vietnamese).
  - EBMUD has coordinated with UC Berkeley for targeted outreach to the university's residential areas
  - EBMUD has general residential outreach including *Customer Pipeline* articles, articles in other newsletters, and information on the EBMUD website. EBMUD also targets residential outreach to hotspot areas in coordination with the collection system communities, via distribution of doorhangers with information in English, Chinese, and Spanish.
  - EBMUD has a container at the entrance to its wastewater treatment plant for residents to bring used grease. This bin collected approximately 2,400 gallons in 2008.
  - EBMUD has a hotline phone number and email address for customers to contact us for additional information regarding FOG.
- EBMUD also partners with the nongovernmental organization Baykeeper to expand its FOG control message to residential customers. Information on FOG control is on Baykeeper's website. EBMUD and Baykeeper collaborate to expand the FOG-control

message by working with "big box" retailers that sell turkey fryers and with grocers during the holiday season. We provide information to go on the turkey fryers and pull-off tags for use at grocery stores to communicate not to put FOG down the drain and with contact information for EBMUD for additional information.

Comments:

City staff do not know how many FSEs are present within the city. However, there are six locations where problems due to grease have historically occurred (hotspot response sites). EBMUD has required increased frequency of interceptor cleaning at several of the FSEs.

The 10 inspectors identified as FOG program staff are also responsible for pollution prevention and industrial user inspections in addition to FOG. One of these staff is a senior inspector whose primary job responsibility is FOG.

It does not appear that there is a consistent feedback mechanism between the satellite and EBMUD on such issues as enforcement actions against non-complying FSEs and feedback on follow-up to FSEs referred to EBMUD.

PIPE INSPECTION AND CONDITION ASSESSMENT

Gravity Main Inspection

Describe Pipe Inspection Methods: City staff state that they haven't begun a new cycle of sewer inspections, since most of the pipes in the system have been recently replaced. The City is planning to implement a program to video the entire system on a 4 year cycle.

Miles of Pipe Inspected in the Last 10 Years and Planned Inspection Next 10 Years				
Date Range	Inspection Method	Miles of Pipe without repeats	Useable Condition Assessment	
			Miles of Pipe (without repeats)	% of System (System miles: 15.5)
1985 to present	CCTV	75 % of system		
19__ to present	Other			
Present to 2014	CCTV	3 – 4 mi/yr	3 – 4 mi/yr	20 – 25%
Present to 20__	Other			

Describe Planned Pipe Inspection:
Video inspection to date has been isolated to pre-rehabilitation projects and final inspection of work. Also, inspections have been made at hot spot locations. When the GIS system is implemented videos will be compatible with the system and will include a condition assessment of the pipe.

Summary of Condition Assessment Findings: NA

Force Mains

Describe Force Main Inspection Methods: When the lift station was rehabilitated, they checked the force main at the point of connection to the station and found that it was pristine.

Describe Program for Inspecting Air Relief Valves: Air relief valves are not present

Private Laterals

Does the Utility Inspect Private Laterals? The entire lateral is privately owned, but when mains are replaced, lower laterals are included.

Number of Private Laterals Inspected 1985 to Present: 700

Summary of Inspection Findings: Replaced lower laterals only

Number of Private Laterals Planned for Inspection Present to 20__ : Depends on the main replacement schedule

Comment

Pipes are televised before and after a rehabilitation project.

CAPACITY ASSURANCE

List Locations and Dates of Repeats Capacity Spills: None. All historical spill locations were corrected as part of the I/I Correction Program as required by the CDO

List Locations of Known Capacity Bottlenecks:

Dry Weather:

None

Wet Weather (5-year event):

Pipes from MH 20.000.27 to MH 20.000.19 (five pipes along 63rd St.)

Describe I/I Assessments Completed by the Utility (dates, area covered, findings, etc.): An SSES was completed in the 1980s; partial studies have been done since that time. The Master Plan will be updated based on new flow data acquired since 2005.

Flow Meters (number, locations):

Eight meters for years 2005, 2006 and 2009

Manhole Number	Basin/Site	Location
20-000-31	20-002	Vallejo and 61st St.
20-102-33	20	Shellmound St. and 65th St.
20-000-01	20-001	Lacoste and 64th at Clausen

Manhole Number	Basin/Site	Location
21-000-31	21-003	Vallejo and 55th St.
21-000-01	21-001	Powell St. east of Hwy 80
21-100-01	21-101	Powell St. west of Hwy 80
22-000-01	22	Shellmound St. south of Ohlone Way
23-000-06	23	Beach St. after 40th overpass

The City placed the meters in 2005; during 2006 and 2009 the meters were placed by EBMUD.

Describe Flow Model Used by the Utility: EPA SWMM-EXTRAN

Inflow

Does the Utility Prohibit Storm Water Connections to the Sanitary Sewer (roof drains, sump pumps, etc.)? Yes, except for 10 feet surrounding the circumference of swimming pools.

Describe Program for Enforcing Ban on Illicit Connections: Inspections are performed at the time of sewer main rehabilitation projects.

Describe Program for Locating Illicit Connections (smoke testing, etc.): Smoke and dye testing

Locations Subject to Street Flooding: Overland Avenue, 63rd to 64th Street on a 100-year rain event

Has the Utility sealed manholes in locations subject to street flooding: No, but a flood control project is in the works to correct the problem.

I/I Control

Describe I/I Control Projects (miles of pipe rehabilitated or replaced for I/I Control):

Recently Completed Projects: City staff provided a list titled *Sanitary Sewer Reconstruction CDO Compliance Status*.

Planned Projects: Powell Street from Christie to I-80 – sags will be corrected and the pipe relined; 65th Street from Shellmound to Hollis – pipe replacement

Describe Capacity Control Measures (relief sewers, storage, WWTP expansion, etc.)

Recently Completed Projects: None

Planned Projects: A new capital improvement plan is under development.

INFRASTRUCTURE RENEWAL AND CAPITAL IMPROVEMENTS

Pipe Rehabilitation and Replacement Methods Used: Replacement, CIPP, Pipe bursting

Miles of Pipe Rehabilitated or Replaced: Last 20 Years and Planned Next 20 Years		
Date Range	Miles of Pipe	% of System (System miles: 15.6)
1985 to present	10.2	65%
Present to 20__		

Describe Capacity Improvement Program: They plan to replace the pipes in the vicinity of Powell Street to address the remaining capacity issues.

List Major Planned Improvements: Other improvements will depend on the outcome of the model and the Master Plan.

Describe Master Plan: The City provided a copy of a draft outline for the Master Plan study.

Comments

The list provided by the City (*Sanitary Sewer Reconstruction CDO Compliance Status*) shows that as of November 2008, 10.2 miles of the 13.6 miles of CDO projects (75%) had been constructed as of that date. The completed projects represent 65% of the total system. The list indicates that another 3.4 miles of projects remain to be completed.

PUMP STATIONS

Name and Location of Pump Station: Marina Lift Station

Pump Information

Pump #/Name	Dry or Submersible	Capacity	Constant or Variable	In Service?
2 Flight pumps	Submersible	10hp	Variable	Y

Pump Station Information:

A. Average flow: Unknown; it serves a restaurant and some bathrooms
B. Holding Time: Unknown; the wet well is 5,400 gallons
C. Does station have sufficient pumping capacity with the largest pump out of service during:
Peak Dry Weather Flow: Yes
Peak Wet Weather Flow: Yes
D. Dry weather capacity limitations? No
E. Wet weather capacity limitations? No
F. Number of failures resulting in overflows/bypass or backup, in the last five years: None
G. Total quantity of overflow/bypass: NA
H. Is dry well protected from wet well overflow? No dry well
I. How often is pump station inspected? Once a week
J. Back up power sources and type:

On-site generators	Portable Generators	Back-Up Line from same grid?	Back-up Line from different grid?	Other (describe)
Yes___No x	Yes x No____	Yes____No x	Yes____No x	

If generators onsite, describe testing and maintenance procedures: NA

K. Station Alarms:

Low Wet Well	High Wet Well	Power Loss	Unauthorized Entry	Other (Describe)
Yes x No___	Yes x No____	Yes x No____	Yes___No x	

a) Is there 24 hour coverage for alarms? Yes
b) Alarm signal sent to: Police Dispatch, Street Superintendant and Engineer

L. What equipment is available for emergency response? Emergency Generator, portable Trash pump for bypass system
M. Are there SCADA controls? No
If yes, ability to operate station remotely? NA

Emeryville Photo 1: Marina pump station wet well. Some grease visible.

Emeryville Photo 2: Safety cover over Marina pump station wet well.

Emeryville Photo 3: View of Hong Kong restaurant from Marina pump station.

Emeryville Photo 4: Marina pump station and controller box.

Emeryville Photo 5: Manhole outside 1400 65th Street, where grease blockage occurred.

Emeryville Photo 6: 1400 65th Street - manhole cover showing pickhole that wastewater came out of.

Emeryville Photo 7: Manhole that overflowed at 63rd Street due to debris. Oakland flow enters from left.

Emeryville Photo 8: 63rd Street spill site - Oakland boundary is just feet from the spill site.