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AGENDA REPORT

TO: Sabrina B. Landreth
City Administrator

FROM: Jason Mitchell
Director OPW

SUBJECT: Sanitary Sewer Program Informational
Report

DATE: March 16, 2018

City Administrator Approval

Date:

4/12/18

RECOMMENDATION

Staff Recommends That the City Council Receive An Informational Report Summarizing And Attaching The 2015, 2016, and 2017 Annual Reports Submitted According To Section 5.3 Of The Asset Management Implementation Plan and Sanitary Sewer Management Plan; And Detailing (1) Compliance With Overflow Protocols Including Public And Outside Agency Notice; (2) Oversight of Sanitary Sewer Contractor Performance; And (3) Usage of Fund 3100 As It Relates To Sewers.

EXECUTIVE SUMMARY

At the request of Councilmember Kalb and co-sponsored by Vice Mayor Campbell Washington, staff has prepared this informational report to summarize the 2015, 2016, and 2017 Sewer Collection System Consent Decree Annual Reports. This report also focuses on the protocols and procedures related to instances of sanitary sewer overflows (SSO), oversight and management of the performance of sanitary sewer contractors, usage of the Sanitary Sewer Fund 3100, and the overall operation, maintenance, and administration of the Sewer Collection System and Program.

BACKGROUND / LEGISLATIVE HISTORY

City of Oakland Sewer System

The City of Oakland owns and operates a sanitary sewage collection system that serves approximately 400,000 people within the City. The collection system includes approximately 930 miles of gravity main, less than one mile of pressure force main, and seven sewage pump stations. There are approximately 102,000 private lateral sewer connections to the collection system. Some of the City's first sanitary sewer pipes were installed around 1852 (166 years ago) when Oakland was incorporated as a town.

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The operation of the Sewer Collection System is regulated at the federal and state level. The City is required to maintain at all times a National Pollutant Discharge Elimination System ("NPDES") permit which regulates commercial and residential intake and sanitary sewer transport as well as overflows and reporting. Part of the NPDES permit seeks to diminish stresses on downstream treatment facilities caused by "inflow and infiltration" from each Sewer Collection System as well as flows from private lateral pipes serving homes or commercial properties. These NPDES permits are issued by the Regional Water Quality Control Board (RWQCB) as part of its regulation of the water quality in the Bay Area generally. As described below, the requirements of the NPDES Permit and related State Waste Discharge Requirements have become significantly more stringent over the years, and the RWQCB (and United States Environmental Protection Agency or "EPA") have utilized administrative and judicial remedies against the City from time to time to enforce compliance with NPDES requirements, the State discharge regulations, and the federal Clean Water Act statutory provisions. Certain litigation described below addresses overflows and future repair/capacity planning efforts related to the City's permit conditions, as well as the permits of other East Bay cities and agencies.

Cease-And-Desist Order (CDO)

Oakland and six other East Bay communities (Alameda, Albany, Berkeley, Emeryville, Piedmont, and Stege Sanitary District, which serves El Cerrito, Kensington, and Richmond Annex) each maintain and operate separate sanitary sewer collection systems, referred to as the "East Bay Sewer Collection Service Providers." These systems are served by the East Bay Municipal Utility District ("EBMUD") main sewer treatment plant. EBMUD also owns and operates three wet-weather facilities ("WWFs") and the interceptor pipes that collect all sewage from the collection systems and takes it to the treatment plant. These EBMUD wet weather facilities were part of an initial regional solution designed in the mid 1980's to accept and handle any extra wet-weather flows from the collection systems during rainy seasons, hold or provide modified primary treatment only, and then, if necessary, discharge the primarily-treated material into the San Francisco Bay. In combination with these facilities, East Bay Sewer Collection Service Providers were also required to implement a targeted infiltration/inflow ("I/I") correction program that was designed to reduce the region's uncontrolled wet-weather overflows.

A Cease-And-Desist order (CDO) from the RWQCB relating to the then-current NPDES permit in the 1980's started a regional program in which by 2007, reduced flows to the EBMUD facilities by over 29 percent. The City of Oakland's program originally commenced in 1986 and through 2014 had completed rehabilitation of 25% of our collection system at a cost of approximately \$190 million. These improvements were part of a capital improvement program that consisted of projects that rehabilitate or replace the sanitary sewer collection system in areas that were determined at the time to have the highest sources of I/I.

Stipulated Order for Preliminary Relief (Stipulated Order)

Prior to the completion of the CDO in 2009, EPA and RWQCB changed direction with EBMUD and no longer permitted discharges from the WWFs. EPA and the RWQCB worked with the East Bay Sewer Collection Service Providers to further reduce wet-weather flows with an ultimate goal of eliminating all wet-weather discharges from EBMUD facilities and the collection system. In

2009, EPA conducted facility inspections of the collection systems. The inspections were followed by Administrative Orders ("AOs") issued in late November 2009, requiring the East Bay Sewer Collection Service Providers to fully participate and cooperate with EBMUD in the development and implementation of measures to further reduce wet-weather flows. The EPA inspection report and the RWQCB review of its records identified a number of sanitary sewer overflows ("SSOs") from the City's Sewer System, many of which were dry-weather overflows caused by grease, roots, debris, and other blockages.

Similar to the other East Bay Sewer Collection Service Providers, Oakland was required to develop and implement aggressive maintenance and long-term capital improvement programs with the goal of minimizing the risk of sanitary sewer overflows and wet-weather discharges. The AO requirements included development and implementation of a comprehensive asset management program that delineates schedules and methods for routine inspection and cleaning of the entire system; a private sewer lateral inspection and repair program; certain flow monitoring; inflow identification program to identify and eliminate non-sewer (storm drain) connections to the Sewer Collection System; pump station reliability program to renovate and upgrade the facilities; and sewer inspection programs that implement high priority sewer inspection and cleaning programs on a schedule not to exceed 10 years.

In December 2009, during the renewal of the NPDES permit, the EPA and the RWQCB filed a federal complaint against the City and the other East Bay Sewer Collection Service Providers, alleging that each discharged pollutants during wet weather periods in violation of their respective NPDES Permits. The State of California, as well as the San Francisco Baykeeper, a local environmental group, intervened and were added as parties to the litigation.

As necessary to provide funds to pay the increased costs resulting from the requirements described above, as well as future anticipated requirements and related cost increases, the City Council in 2010 adopted Resolution No. 83161 C.M.S., to significantly raise the Sewer Service Charge rates for the repair, upgrades, and maintenance of the Sewer Collection System.

In September of 2011, all parties to the EPA/RWQCB litigation (including the City) entered into a Stipulated Order for Preliminary Relief which required the City and the other East Bay Sewer Collection Service Providers to implement certain specified measures to, among other things, improve asset management of their sewer systems, and to address SSOs. The Stipulated Order required the City to continue and enhance the implementation of the activities of the type set forth in the AO, which are collected in an Asset Management Implementation Plan approved by EPA, to work with EBMUD to reduce I&I, and to have private property owners improve any damaged or ineffective sewer laterals through regional and local ordinances. The Stipulated Order included specific milestone dates by which the City was required to complete identified actions. Failure to comply with the milestones, or to violate other regulatory requirements, could have resulted in the imposition of fines payable from revenues of the Sewer Collection System. Some of the requirements were (i) to finalize the City's Asset Management Implementation Plan; (ii) to pass a city ordinance with respect to owners testing and repair of their private sewer laterals if they sold their property or applied for permits to remodel above \$100,000 in cost; (iii) to comply with sewer pump station plans; and (iv) to file certain information in Annual Reports with the EPA and

RWQCB. There were never any fines or letters issued to the City, with respect to the Stipulated Order.

By its terms, the Stipulated Order acknowledged that it was a partial remedy, and the plaintiffs were permitted to seek additional remedies. EBMUD had a similar case filed in 2009 against it, and the two cases were consolidated in June 2013. The plaintiffs (including the EPA and the RWQCB), the intervenors, EBMUD, and the seven East Bay Sewer Collection Service Providers, including the City, entered settlement discussions to resolve the issues not resolved in the Stipulated Order and EBMUD's similar Stipulated Order.

Sewer Consent Decree

Subsequent negotiations among the cities and districts, state and federal regulators, and local environmental groups have resulted in a Sewer Consent Decree that was finalized on September 22, 2014. This settlement gives EBMUD and the seven Satellite Agencies (the Cities of Alameda, Albany, Berkeley, Emeryville, Oakland, Piedmont, and Stege Sanitary District) until 2036 to repair and replace sewer lines, reduce the amount of inflow and infiltration and reduce discharges into San Francisco Bay during heavy storms. The cities and districts must continue and expand activities of the type required by the AO and Stipulated Order. The City and each separate entity must submit an annual progress report (Annual Report) by September 30th of each Fiscal Year to the regulatory agencies and the plaintiff local groups.

Additionally, EBMUD must perform mid-course check-in WWF output tests of all seven WWFs in 2022 and 2030. If the collective activities of all the defendants (EBMUD and the seven Providers) do not yield the predicted progress towards slowing flows to the WWFs by the check-in periods of 2022 and 2030, a strategic Performance Evaluation Plan would need to be developed and implemented.

Asset Management Implementation Plan (AMIP) and Sanitary Sewer Management Plan (SSMP)

All entities, including the municipalities, that own or operate sanitary sewer systems greater than one mile in length and convey wastewater to a publicly owned treatment facility in the State of California are required to comply with the orders issued by the Regional and State Water Boards related to managing sanitary sewer systems and addressing Sanitary Sewer Overflows (SSO).

Sanitary sewer systems experience periodic failures resulting in SSOs. Major causes of SSOs include: grease blockages, root blockages, debris blockages, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow/infiltration, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity, and contractor caused damages. Many SSOs are preventable with adequate and appropriate source control measures and operation and maintenance of the sanitary sewer system.

A proactive approach to reduce the number and frequency of SSOs is to develop and implement a system-wide operation, maintenance, and management plan to facilitate proper

funding and management of sanitary sewer systems. Sanitary sewer collection system entities are required to develop and implement a system-specific Sewer System Management Plan (SSMP). To be effective, SSMPs must include provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, an SSMP must contain a spill response plan that establishes standard procedures for immediate response to an SSO in a manner designed to minimize water quality impacts and potential nuisance conditions.

In addition to the above State Water Board's requirement, the Sewer Consent Decree requires the City to develop an Asset Management Implementation Plan (AMIP) that is similar to the SSMP. Oakland Public Works have begun using the Cityworks Maintenance Management System to track service requests and maintenance activities since March 26, 2008. In response to the above dual requirements, the City revised its SSMP and incorporated to it additional components as required by the Sewer Consent Decree. The combined document is entitled the City of Oakland's Asset Management Implementation Plan and Sanitary Sewer Management Plan (AMIP/SSMP.) This plan is responsive to both the requirements of the US EPA's Sewer Consent Decree and the State Water Boards' Statewide General Wastewater Requirements for Sanitary Sewer Systems. The AMIP/SSMP was first developed in 2012 and was last revised in October of 2014 after the Sewer Consent Decree's final approval. On March 3, 2015, City Council passed Ordinance No. 85437 C.M.S., to adopt the AMIP/SSMP.

Documents and information related to the EPA 2014 Consent Decree, including the full Asset Management Implementation Plan and Sewer System Management Plan can be found on the City's website through the following link:

<http://www2.oaklandnet.com/government/o/PWA/s/Sewer/ConsentDecree/index.htm>

Standards (Regional and Local)

On June 30, 2016, EBMUD and the seven Satellite Agencies submitted the Regional Standards to EPA. The Regional Standards are construction specifications for sewer installation, rehabilitation, and repair. As required by the Sewer Consent Decree, updates and revisions of the Regional Standards are to be submitted for EPA's review and approval every five years. EPA has not provided any comments or expressed any concerns to-date of the Regional Standards.

On October 3, 2017, City Council adopted Ordinance No. 13455 C.M.S., to adopt the 2015 Edition of the GREENBOOK and repeal Ordinance No. 13039 C.M.S., which adopted the 2009 Edition of the GREENBOOK. Adoption of the 2015 Edition provides consistency with the requirements of the Regional Standards.

ANALYSIS AND POLICY ALTERNATIVES

I. Consent Decree/Annual Reports

Since the Consent Decree's final approval in 2014, the City has submitted the required Annual Reports to the EPA for FY 2014-15, 2015-16, and 2016-17. The City is in overall compliance

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with the Consent Decree. Sanitary Sewer Overflows (SSOs) do continue to occur but the number of system SSOs is decreasing. The City is addressing the time to repair acute defects (that took over a year) and eliminating delays in sending Notice-To-Abate letters to homeowners with defective private sewer laterals. No comments or exceptions were provided to the City for the 2014-15 or 2015-16 Annual Reports. Comments for the 2016-17 Annual Report noted some minor variations in the numbers that were reported.

The Annual Reports highlight and summarize work performed for which Oakland is held responsible for by the Sewer Consent Decree. A detailed summary of Annual Reports FY14-17 is shown in **Attachment A**. Annual Reports fiscal years 2014-15, 2015-16, and 2016-17 are in **Attachment B, Attachment C, and Attachment D**, respectively. The following listing summarizes the requirements and progress by the City:

- A. Rehabilitate an average of 13 miles of sewer pipes per year
 - o The City is ahead of schedule by an aggregate of 18.9 miles.
- B. Complete cleaning of entire system by June 30, 2018
 - o The City is ahead of the projected schedule by 2.5 months.
- C. Inspect entire sewer system on a 10-year cycle
 - o The City is ahead of the projected schedule by 23 miles.
- D. Root foam 50 miles of sewer pipes per year
 - o The City is ahead of the projected schedule by 32 miles.
- E. Renovate all 7 sewer pump stations by 2022
 - o The City completed renovation of 3 pump stations. 1 pump station is currently under construction. 3 pump stations are planned for construction in FY 2018-2019. The City is ahead of the projected schedule by 3 years.
- F. Eliminate high priority storm water inflow sources and infiltration within 2 years wherever found
 - o 1 private high priority source was abated within 2 years. 2 private high priority sources were identified in FY 2016-17 and letters were sent within 90 days. Status of abatement is pending.
- G. Repair acute defects in pipes within one year
 - o 91 acute defects were found: 73 were repaired within one year; 4 City-responsible sites were repaired but not within one year; 2 private-responsible sites were repaired but not within one year; 8 City-responsible sites identified in FY 2016-17 were reported as outstanding; 3 private-responsible sites identified in FY 2016-17 were reported outstanding; 1 private-responsible sites identified in FY 2015-16 was reported outstanding.
- H. Maintain a list of 'hot spots' and clean annually for at least 3 years
 - o The City maintains a 'hot spot' cleaning list for pipes that are cleaned on a 3-month; 6-month; or 12-month frequency.
- I. Require private sewer Lateral (PSL) rehabilitation
 - o Initiated program in 2012.
- J. Report defective sewer laterals owned by Local, State, or federal entities to EPA
 - o None were found to-date.
- K. Rehabilitate sewer laterals owned by the City within 10 years at targeted locations

- 95 City facilities were identified in the Consent Decree. 26 City-owned sewer laterals have been inspected and completed thus far in first 3 Fiscal Years.
- L. Notify owners of private defective sewer laterals within 90 days
 - Refer to **Attachment A**, Table 4-11 regarding abatement letters.
- M. Assist EBMUD in development of sewer lateral education program
 - The City continues to work with EBMUD in the Regional Private Sewer Lateral Program.
- N. Implement a fat, oil, and grease (FOG) Control Program
 - The City continues to work with EBMUD in the FOG Control Program and coordinate EBMUD's FOG activities within the City.
- O. Monitor water level for capacity assurance in Maintenance Holes at 12 designated locations
 - 7 locations were added to the Capital Improvement Program for engineering design and construction for pipe upsizing (capacity upgrades).

The cumulative sanitary sewer pipeline rehabilitation work is well ahead of schedule. The cleaning, inspection, and root foam programs are also ahead of schedule. SSO's have been reduced from 230 SSO events in 2008 to 95 SSO events in FY 2014 to 84 SSO events in FY 2017. Total volumes of SSOs did increase in FY 2017 as a direct consequence of three large wet-weather storm events.

I/I Reductions Demonstrated by the City

According to the "2016/2017 Flow Model Calibration, WWF Output Ratios and Output Test Results" submitted to the EPA by EBMUD, the FY2017 three-year-average output of both the Oakport (OAK) WWF and San Antonio Creek (SAC) WWF show that the I/I reductions are on track to meet the First Mid-Course Check-In in 2022. The City of Oakland contributes to OAK WWF and SAC WWF. The FY2017 three-year-average output of Point Isabel (PI) WWF associated with Stege Sanitary District, City of Berkeley, and City of Albany appears to be behind schedule with respect to flow reductions for the First Mid-Course Check-In. System-wide, there has been an I/I reduction of 6.1% in flow into EBMUD's Treatment Plant from sanitary sewer system rehabilitation and PSL Certifications. The reductions are on target with the Sewer Consent Decree.

If this trend continues for the full duration of the 22-year program, WWFs are no longer anticipated to be utilized for the design storm and smaller events. SAC WWF will no longer be needed by 2028 and OAK WWF will no longer be needed by 2036.

EPA/RWQCB Inspection of the City

A Consent Decree compliance inspection was conducted in July of 2017 and January of 2018. Both the EPA and RWQCB staff interviewed sewer maintenance and engineering staff. The inspection focused on a review of the City's compliance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS WDR), overall SSO response in particular with regards to overflows that affect Lake Temescal and Lake Merritt, SSO records management, quality assurance of contractor work through inspections, and an overview of the capital improvement and pipeline inspection and maintenance programs. A final assessment

and recommendations have not yet been received by the City and are not anticipated to be provided for several more months.

II. Operations and Maintenance/Sanitary Sewer Overflows

Sewer Pipeline Inspection, Maintenance, and Repair Programs

The City's maintenance and inspection programs are primarily designed to reduce the occurrence of preventable sewer blockages, and provide condition assessment of each pipeline in the system. The Consent Decree mandates a minimum amount of preventative maintenance and inspection work to be completed annually, and to be calculated on a cumulative basis. Maintenance and inspection activity has consistently met the Consent Decree cumulative total requirements over the past four years.

In addition to consistent performance of maintenance and inspection activity, the City has modified its programs to include expansion of its criteria for identifying problem pipelines, and the methodology used for determining the appropriate maintenance and monitoring needed to minimize service interruptions. Specifically, pipelines in which operational defects are observed are placed on an accelerated maintenance cycle to prevent blockages and/or other service interruptions.

A Maintenance Planner/Scheduler position was developed to facilitate coordination, coordinate work flow, and coordinate work order management between several distinct activity groups within the Sewer Services Division, and is the primary point of contact for ensuring that work is scheduled appropriately for each pipeline. Labor staffing has also been increased by 50 percent, and the City continues to work with personnel to ensure that opportunities for training and skill development are available.

Figure 1 Annual Cleaning and Inspections

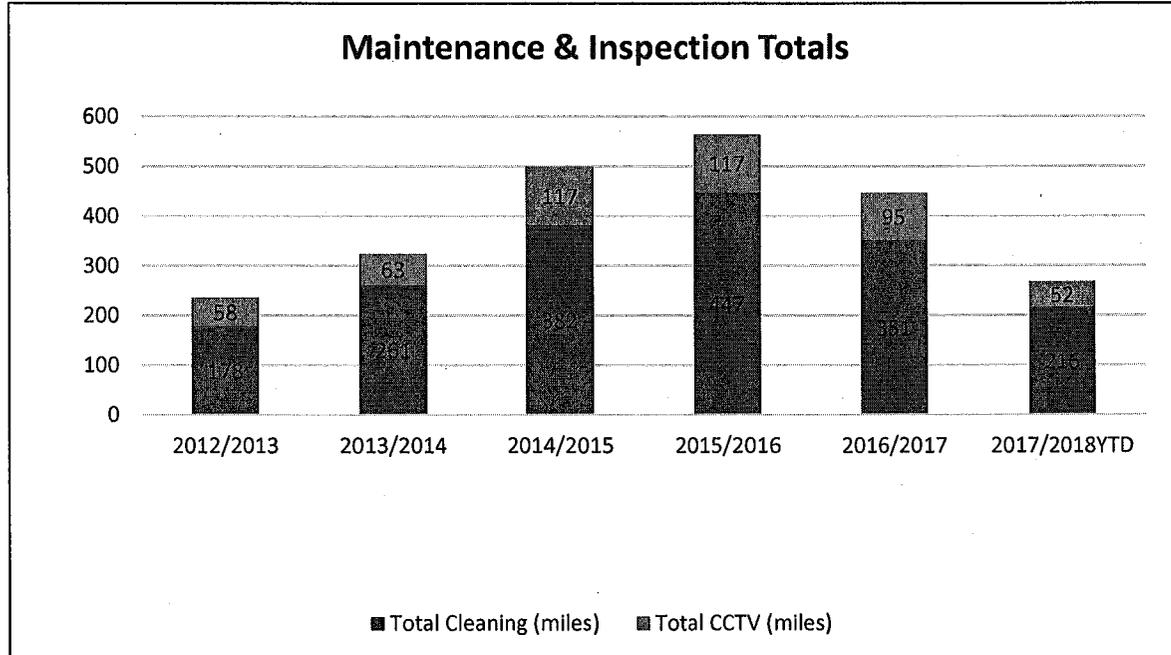


Figure 2 - Approximately 60% of total annual cleaning, and 85% of annual inspections, are preventive. The remaining work is done in reaction to system emergencies and/or imminent failure that could result in overflows.

Sanitary Sewer Overflows (SSO)

Prior to, and in accordance with provisions of the Consent Decree, the City has implemented an aggressive program to reduce and prevent the occurrence of sewer overflows. The program largely consists of targeted maintenance of pipelines that have known and recurring operational deficiencies (i.e. root intrusion, excessive fats, oils, and grease (FOG) loading, and prevalence of sediment/debris). The overall trend of SSO occurrence of SSOs has decreased over the last ten years. The decrease is largely attributed to a change from mostly reactive maintenance activity, to pro-active preventive maintenance and inspection.

Figure 2 10-year Sewer Overflow Totals

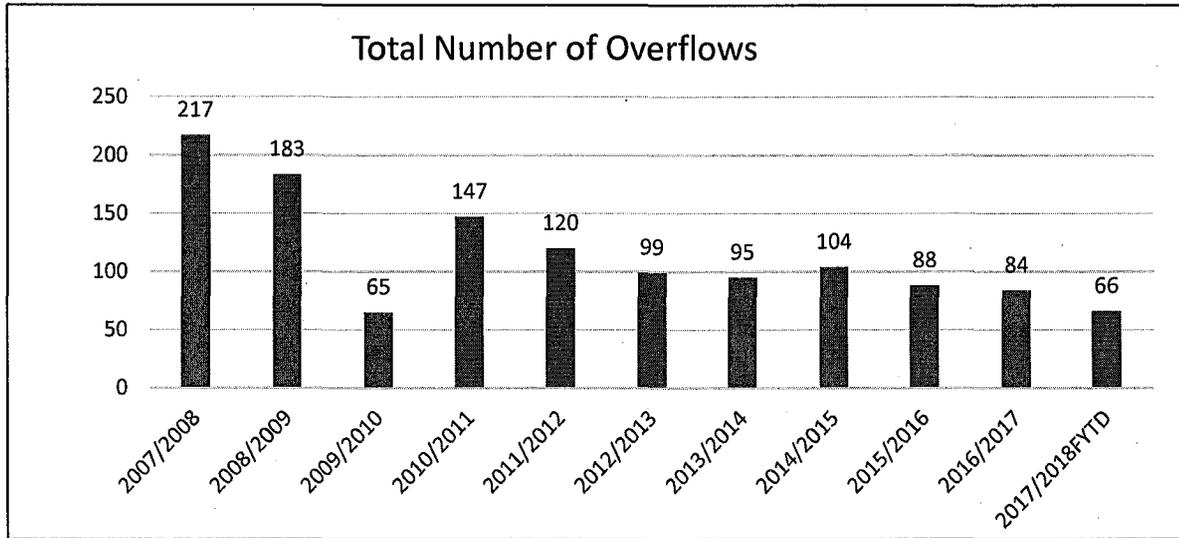


Figure 3 - Sewer overflows have steadily declined since the inception of the Consent Decree in 2014. Roots and FOG are the greatest causes of blockages that result in sanitary sewer overflows throughout the wastewater collection system. (Note: City of Oakland Consent Decree Annual Report listed 83 overflow events for FY 2016-17. Actual total number as shown is 84 overflows – one minor Category 3 spill was reported after finalization of the Annual Report. Correction will be referenced as part of the next (FY 2017-18) report.)

The City has developed and implemented an SSO Reduction program under the reasonable assumption that not all sewer overflows can be prevented. Available historical records, and institutional knowledge, are leveraged to focus preventive cleaning in areas (and pipelines) where known operational deficiencies exist. However, unforeseen conditions, such as damage by other utilities, vandalism, and failure due to natural disaster continue to present risks of sewer overflows. The program is designed to ensure that the City is able to mitigate and/or contain sewer overflows effectively. Staff are provided with training and resources needed to handle the most common scenarios under which sewer overflows typically occur.

It should be noted that both the Federal EPA, and State Water Resources Control Board's water policy do not differentiate between preventable and unpreventable sewer overflows. Each instance of sewer overflow (and/or any regulatory discrepancy related to a sewer overflow) is subject to penalty. Penalties range from informal enforcement (i.e. Notice of Violation) to formal enforcement action (i.e. Stipulated Order or Consent Decree). Under the current Consent Decree, the City has negotiated a penalty fee schedule as follows:

Penalty per SSO for SSOs totaling:		
Less than 1,000 gallons	1,000 – 9,999 gallons	10,000 gallons or more
\$200	\$1,000	\$25,000

The potential penalty fee applies only to instances where the SSOs which are not contained and reach waters of the State (e.g. SF bay, local creeks, and/or other local water ways/bodies), also known as a Category 1 SSO. The total estimated volume of SSOs in FY 2016-17 was 203,560 gallons, and was a significant increase from the prior year. The increase in last year's volume is attributed to the consequences of an extremely heavy wet-weather season, including three individual severe storm events. Five SSO events that occurred between January 10, 2017 and March 20, 2017 account for 75% of the spill total estimated volume for FY 2016-17. In FY 2016-17 of the total 84 SSOs identified, 16 occurrences reached the drainage system and were not contained and/or re-captured. Based on reported overflow volume estimates for the past 3 fiscal years and as indicated in the FY 2016-17 Annual Report, the City is subject to potential stipulated penalties of up to \$191,600.

Recently, the EPA along with the State Water Resources Board have indicated that for the first time as part of the Consent Decree, stipulated penalties to EBMUD and all the satellite agencies, including the City of Oakland, will be assessed very soon. The City's only potential stipulated penalties are related to SSOs. Other agencies are also subject to penalties due to SSOs as well as other possible violations related to WWF discharges, failure to rehabilitate sewer mains in a timely, scheduled manner, failure to inspect/clean sewer mains within the prescribed timelines, etc.

Figure 3 10-Year Sewer Overflow Volumes

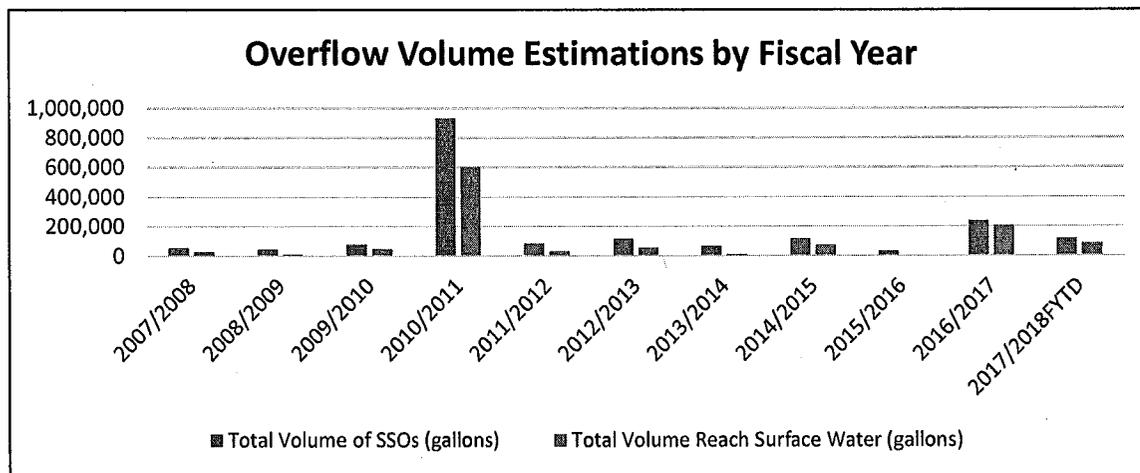


Figure 4 - Sewer overflow volumes are calculated by using visual observation and estimated duration. Geometric analysis may be used when an overflow has been completely contained. All volume calculations are best estimates only. Efforts are made to ensure that volume calculations are documented and defensible.

The City has clearly defined protocols for responding to, documenting, and reporting sewer overflows. Staff are regularly provided with training, and/or reference material, on how to appropriately respond to, make notification of, and document overflow events. Records for each overflow event are reviewed by management and/or supervisory staff, and a detailed report of all events are submitted, under penalty of perjury, to the State Water Resources Control Board. As primary responders, Sewer Maintenance Leaders are responsible for making initial volume

estimates and impact assessments, safeguarding the public right-of-way, restoration of service, and performing clean-up or mitigation, as necessary. Support and oversight of these activities is provided by first-line and second-line supervision. Review and analysis, inter/intra-agency notification(s), and any/all final reporting is handled by registered Supervisory/Management staff. Record checks and reviews are performed periodically to identify and correct errors/omissions, and ensure that all records meet regulatory compliance.

III. Capital Improvement Program

Sewer Rehabilitation/Sewer Capacity Assurance and Pipe Upgrades

The Sewer Capital Improvement Program (CIP) address two objectives: 1) I/I correction; and 2) emergency and major defect repair/rehabilitation. As part of the Sewer Consent Decree, the CIP Program prioritize sewer main rehabilitation located within targeted sub-basins identified to have high rainfall-dependent infiltrations factor and high peaking factors. It is the City's goal to have 300 miles of sewer main rehabilitation performed by the end of the 22-year Sewer Consent Decree. A 10-year CIP program has been established since the Sewer Consent Decree. The estimated budget at the time was approximately \$175,658,200. The 10-Year Financial Plan is in the AMIP.

As reported in the FY 2016-17 Annual Report, the City completed 8 Rehabilitation Projects totaling over 11 miles of sewer main, with a construction cost of over \$10 million (Table 4-2). For the current FY 2017-18, the City plans to complete 7 Rehabilitation Projects totaling over 15 miles of sewer mains with a projected construction cost of over \$9 million (Table 4-6). All appurtenant sewer structures are also rehabilitated, when needed, as part of these projects. Lower private sewer laterals are typically rehabbed as well, with the exception of laterals located in private easements. The City grants a waiver for lower lateral work for those seeking a PSL Certificate.

Figure 4 Sewer Main Rehabilitation Projects Completed in FY 2016-17

Project Number	Description	SubBasin Number	Lateral Connections	Structure	Length (Feet)	Length (Miles)	Construction Costs
C329145	21st Avenue, 17th St, 24th Ave, and 27th Ave	60-06	208	39	12,452	2.36	\$1,959,328
C329151	24th St, 19th Ave, Beaumont Ave, and 33rd St	58-02,58-04	366	88	22,455	4.25	\$3,357,010
C329149	Campus Dr, Mountain Blvd, Knoll Ave, and Access	83-502	65	58	7,484	1.42	\$1,825,790
C329148	Rehabilitation of Sanitary Sewers Subbasin 83-501	83-501	69	43	5,784	1.10	\$1,194,839
C329147	Rehabilitation of Sanitary Sewers Subbasin 83-013	83-013	84	65	7,223	1.37	\$1,205,179
C482950	Rehabilitation of Sanitary Sewers Subbasin 60-04	60-04	0	14	2,623	0.50	\$456,569
C329143	Rehabilitation of Sanitary Sewers Subbasin 54-16	54-16	36	117	786	0.15	\$120,329
BRT	AC Transit Bus Rapid Transit Utility Relocation	60-04	0	0	157	0.03	N/A
C228910	On-Call Sanitary Sewer Manholes	81-102, 83-002, 52-08	0	3	0	0	\$30,000
Total			828	427	58,964	11.2	\$10,149,044

Figure 5 FY 2017-18 Proposed Sewer Main Rehabilitation Projects

No.	Project No.	Description	Length (Miles)
1	1001173 Task 2	Sanitary Sewer Upgrade Park Blvd	0.7
2	1001173 Task 3	Sanitary Sewer Upgrade Trestle Glen Rd	0.1
3	1000980	Rehab of SS Chelton Dr, Ascot Dr, HolyRood Dr, and Castle Dr (Subbasin 56-07)	2.91
4	1001039	Rehab of SS Castle Dr, Chelton Dr, Ascot Dr, and Mountain Blvd (Subbasin 56-07)	2.83

5	1000668	Rehabilitation of Sanitary Sewer in the Area bounded by Chelton Dr, Skyline Blvd, Holyrood Dr, and Ascot Dr. (56-07)	4.21
6	1000654	Rehabilitation of Sanitary Sewer in the Area bounded by E Wetmore Road, MacArthur Boulevard, Mountain Boulevard, and Reinhardt Drive (83-012)	1.71
7	1000673	Rehabilitation of Sanitary Sewer in the Area bounded by Seminary Avenue, Avenal Avenue, Bancroft Avenue, 65th Avenue, and International Boulevard (83-103)	2.81
Total			15.27

The CIP Program also includes capacity assurance monitoring on 12 targeted maintenance hole locations. In the event that the City at any of the locations determines that the water level reaches within one foot of the rim due to lack of capacity, except during a rain event that is greater than the December 5, 1952 Storm, the City has 24 months to implement improvements by upsizing the associated sewer mains.

7 locations have had high water levels reached in which the sewer main needs to be upsized. The following are all the locations monitored, with construction updates of the 7 locations:

- I. San Pablo at 60th Street – Currently in Construction
- II. San Pablo at 62nd Street – Currently in Construction
- III. Stanford Avenue at Gaskill Street – High level water not reached
- IV. 27th Street at Vernon Street – High level water not reached
- V. Harrison Street at 27th Avenue - High level water not reached
- VI. Grand Avenue at Harrison Street – Construction completed
- VII. 19th Street at Jackson Street - High level water not reached
- VIII. Park Boulevard at Spruce Street – Construction planned for Fall 2018
- IX. 18th Avenue at 4th Avenue – Construction Completed
- X. Maybelle Avenue at Masterson Street - Phase I Construction completed. Phase II will be considered as the location is being monitored.
- XI. 76th Avenue at Garfield Avenue - High level water not reached
- XII. Trestle Glen at Creed Road – Construction planned for Fall 2018

The City's collection system has 7 pump stations and requires renovation by 2022. The following is the status of each pump station:

- ❖ Denton Place – Construction in FY 2018/2019
- ❖ Fallon Street – Renovation completed in 2018
- ❖ Hegenberger Road – Currently in construction
- ❖ Parkridge Drive – Construction in FY 2018/2019
- ❖ Tidewater Avenue – Renovation completed in 2012
- ❖ Shepherd Canyon Road – Renovation completed in 2018
- ❖ Skyline Blvd - Construction in FY 2018/2019

Root Foaming

The CIP Program manages root foam contracts in which 50 miles of root foaming are required each year by the Sewer Consent Decree. The City has been meeting the targets each year. The Root Foam Program chemically treats sewer mains that are filled with excessive roots. The minimum amount of sewer mains root foamed may be reduced as lines are rehabilitated or CCTV assessment indicated there are no longer excessive roots requiring treatment.

City Facility Sewer Laterals

On June of 2016, the City awarded two on-call construction contracts with two Contractors to inspect and, where necessary, repair or rehabilitate defective City-owned Sewer Laterals of 95 City facilities identified in the Consent Decree. In FY 2016-17, the City has inspected and completed 26 Sewer Laterals Rehabilitation locations. The City expects to complete the inspection and repair of City-owned Sewer Laterals well ahead of the September 21, 2024, completion date specified in the Consent Decree. Location are provided in Appendix G of the FY 2016-17 Annual Report as attached.

Capital Improvement Program – Dynamic Master Planning

The CIP Program has plans to develop a master plan that not only meets the Sewer Consent Decree requirements but also provides a comprehensive strategy to address deficiencies of the entire sewer network. The CIP program may request EPA recommended changes to the Sewer Consent Decree if the changes can address I/I reductions and SSOs more efficiently.

A significant effort has been made to update the Geographical Information System (GIS) sewer network from reviewing as-builts and CCTV. The Wastewater Engineering Management Division purchased InfoMaster, a complete GIS-based asset management and capital planning software and InfoSWMM, also GIS-based but used for hydraulic modeling. With the use of both software, existing GIS data and advanced modelling can lead to sophisticated predictive analytics for more informed decision making. Though this technology is currently being utilized, we expect to have a more robust plan when the condition assessment through CCTV of the entire network is completed by 2024. Currently approximately 44% of the network has been CCTV'd.

Master planning can be achieved with the understanding that the output of the recommended capital work is an iterative process as the data is refined. In the near future, by incorporating upcoming storm events into the model, maintenance staff can be better informed of additional locations.

Private Sewer Lateral Program

On July 6, 2010, City Council adopted Ordinance No. 13026 C.M.S. to adopt East Bay Municipal Utility District's (EBMUD) Private Sewer Lateral Regional (PSL) Ordinance to establish requirements for property owners to inspect and certify private sewer laterals at the time of property transfer, major remodel and change in water service.

Oakland expanded the PSL program on January 16, 2012, in collaboration with the EPA Mandated Regional PSL Program administered by EBMUD.

The City requires that persons seeking building permits which require certificates of occupancy for construction or remodeling exceeding \$100,000 test and, where necessary, replace defective private sewer laterals and obtain Compliance Certificates from EBMUD before being issued certificates of occupancy. Public Works coordinates with the Planning and Building Department for the annual reporting to ensure that building permits are not finalized prior to the applicant of receiving a Compliance Certificate from EBMUD.

In collaboration with City sewer maintenance and EBMUD, the PSL Program sends Notice To Abate letters to homeowners with defective sewer laterals attributable to infiltration and cross connections attributable to inflow. Defective sewer laterals are found from City sewer maintenance and EBMUD's smoke test program. Cross connections are found through dye testing and smoke testing from EBMUD. EBMUD provides the City by September 30th of each year an Annual Satellite Notification in which the City determines high priority locations and provides a formal response to EBMUD and EPA by the end of each calendar year.

Award of Contracts

In compliance with the Oakland Municipal Code and the Public Works Contract code, construction contracts are awarded to the lowest, responsive, and responsible bidder. The bidder must meet the City's mandatory policies and programs such as the Local and Small Local Business Enterprise Program (L/SLBE), Equal Benefits Ordinance, bid security, and bid bonds.

Construction Inspection and Procedures

The City of Oakland provides construction management and inspection oversight on all Sewer CIP Projects. Resident Engineers adhere to the Construction Management/Inspection Procedures covered under the Public Works Construction Management Manual, the Public Works Standards Inc. Standard Specifications for Public Works Construction (the GREENBOOK), and individual Project Special Provisions/Specifications. Samples of construction oversight include but are not limited to:

- Contractor's daily Inspection activities documented on a Daily Report prepared by the Resident Engineer.
- Leakage (pressure) testing report reviews for the newly constructed/repared pipelines and structures after installation.
- Material submittal reviews to certify compliance to the project plans and specifications.
- Post Closed Circuit Television (CCTV) Inspection of rehabilitated sewer mains.

Acceptance of Work

Acceptance of Work is prescribed under the GREENBOOK and contract Special Provisions specifications, the document signifying acceptance is the Record of Completion. Prior to the acceptance of work, the Construction Management staff invites Maintenance staff and Facility Owners for a walk-thru and to collect comments. The comments are incorporated into punch list items for the Contractor to repair/correct as part of the requirement for acceptance of the work. Once staff determines that the punch list items and project scope has been completed in accordance with the plans and specifications, a Report of Completion and Acceptance Notice will be issued to signify contractually that the construction project is complete.

Quality Assurance & Quality Control

The Construction Management quality assurance (QA) and testing requirements are governed by the GREENBOOK and contract Special Provisions specifications. They are established to assure that facilities were being constructed in accordance with specifications and were within reasonable tolerances by utilizing core processes of inspection, sampling, and testing. Quality Assurance aims to eliminate defective construction and continuously evaluates the process to improve on infrastructure installed. The goal is to provide assurance that materials and workmanship incorporated in each sewer construction project are in conformance with the contract specifications which mimic the Regional Standards, plans, and City Standards. Quality Assurance is planned and systematic activities implemented to ensure quality of the delivered infrastructure.

Quality Control (QC) is essentially the regulation of the Quality Assurance Program, it is a check on whether the QA is being implemented or not. QC includes submittal review in conformance of the project specifications, testing of materials in the field, and inspection of work performed. Inspection and testing requirements includes observation of connections to private sewer laterals, documentation of leakage testing results for the sewer mains and structures, post-Closed Circuit Television (CCTV) Inspection of sewer main installed, compaction tests on pavement restoration, and visual inspection of the materials used.

Warranty of Work

Sewer work completed and accepted is typically protected by warranties against defective workmanship and materials per the specifications. All work involving underground construction such as for sewer pipe and associated repair is warranted by the Contractor against defective workmanship and materials for a period of two (2) years. Likewise, all other work unless specified would have the same warranty against defective workmanship and materials for a period of one (1) year. In certain situations, latent or hidden defects allow for the City to pursue repairs up to 10 years after construction.

There are surety bonds including bid, performance and payment bonds posted by the Contractor at time of contract execution. Per standard specifications of the GREENBOOK, Special Provisions, Section 2-4, a percentage of the performance bond shall remain in effect until the end of the warrantee periods. Also, the performance bond shall guarantee that

workmanship and materials are free from original or developed defects during the time prescribed.

Per standard specifications of the GREENBOOK, Special Provisions, Section 2-12, prior to the expiration of the warranty period, the contractor and engineer shall meet in the project site and perform re-inspection of the completed work. If any warranty items are discovered, corrective work shall be completed within 60 calendar days.

A contractor is called back to perform warranty work on rare occasions. An example is when a sewer lateral is not reconnected after the sewer main was rehabilitated. The contractor may miss locating and marking the lateral when reviewing the pre-construction CCTV. Another reason is when the contractor assumes the lateral is inactive when no flow is visible and the lateral appears to be inactive. Normally, these types of issues aren't detected until an affected property owner notifies the city of a plumbing problem or maintenance encounters the situation as part of their preventive maintenance. The City counts the number of connections as it correlates to the number of homes and visually accesses them in the field and in the post-CCTV in construction. If the work is determined to be under warranty, the Resident Engineer will be notified. Once this occurs, further field investigation would be made with the contractor that performed the work. If necessary and deemed to be warranty work, the contractor would make the necessary repair at no cost to the City.

Construction Coordination with Maintenance

Coordination with maintenance staff is structured to occur at many stages in the project. At the start of the construction project, the Resident Engineer conducts a preconstruction meeting that involves the design, maintenance staff and contractor. Once construction work is underway, the Resident Engineer works closely with the design staff and the contractor. Maintenance staff may be involved on an as-needed basis.

Prior to project acceptance, the post-CCTV videos of the completed pipes provided by the contractor are shared with the Design and Maintenance staff for review. When all sewer rehabilitation work is completed, Design and Maintenance staff are typically invited to a Final Walk-Through to perform site inspection of the completed work. Certified maintenance personnel may enter manhole structures for a closer look of the interior linings and connections. Punchlist items would be compiled from the group at the end of the site meeting and forwarded to the contractor for corrections.

It is challenging to detect defective work particularly for sewer pipes and connections below ground that may present itself during the life of the warranty period. Preventative Maintenance can at times detect warranty issues. However, most problems detected are complaint-driven from the public and fielded by the Public Call Center. With the assistance from Maintenance or Public Works Call Center, the responsible Resident Engineer would be notified to investigate and contact the Contractor for repair if necessary.

As part of the quality assurance effort, staff continually evaluates improvement in hand-off procedures for sewer projects. A standard operation procedure (SOP) is being developed to

improve communication amongst various groups within Public Works involving sewer construction and maintenance. The SOP would include provisions to have all pre and post CCTV videos of all sewer pipes stored in a centralized location and tied to a GIS database. With the GIS database, users can easily identify pertinent information of a sewer pipe and determine when it was last rehabilitated, accepted, and when the warranty ends and its as-built information. For sewer pipes that are near the warranty expiration date, Maintenance staff would be notified to perform CCTV inspections to find any possible defects of workmanship.

IV. Fund 3100: Sewer Service Fund

The Sewer Services Fund was established by Title 13.04 of the City Charter which outlines the uses of the funding in section 13.04.060:

- **13.04.060 - Sewer service charge fund.**

A. The fund theretofore established and known as the "sewer service charge fund" is continued. All moneys received from the charges established by this chapter shall be deposited in such fund. The moneys in this fund shall be used only for the payment of the costs in connection with acquisition, construction, reconstruction, relocation, maintenance, operation, and repair of the sewer facilities of the city and for the administration of this chapter; provided, however, that the moneys in said fund shall not be used for the acquisition or construction of new sewer facilities in unsewered areas.

B. The moneys received from the charges established by this chapter, after deposit in the sewer service charge fund, shall be distributed as follows:

At least ninety-five (95) percent shall be for the sanitary sewer system; and, up to five percent shall be for the storm sewer system.

The intent of this provision is to have the distribution made on the basis of the amount collected. For accounting purposes, the division of moneys collected may occur at the time that such moneys are deposited in said fund. However, the establishment of separate funds or accounts shall not be required.

In accordance with the City Charter, the Sewer Service fund is used for the construction and maintenance of the City's sanitary sewer infrastructure. This use includes all the mandates placed on the City by the EPA 2014 Consent Decree to address Sanitary Sewer Overflows and to reduce Infiltration and Inflow of stormwater into the sewer system. The below table outlines the recent FY 2017-18 Adopted Budget for the appropriation of Fund 3100 and outlines how the Sewer Fund is distributed and for what purpose.

FY 2017-18 Adopted Budget for Fund 3100

<u>Department</u>	<u>Appropriation</u>	<u>Percentage</u>	<u>Purpose of Funding</u>
City Attorney	796,520	1%	Representation for CD and Litigation
Finance Department	2,331,877	4%	Fee to EBMUD for collection
Fire Department	330,384	0.5%	Emergency Call Dispatcher
Oakland Public Works	29,448,013	46%	Sewer and Storm Maintenance Storm Maintenance and Street Repair after Sewer work
Depart. of Transportation	3,323,911	5%	GIS personnel for CD reporting
Information Technology	227,854	0.4%	Debt Service and Franchise Fee
Non-Departmental and Port	9,626,445	15%	Sewer Design & Rehabilitation
OPW Capital Improv.	<u>17,309,400</u>	27%	
Grand Total	\$63,394,404		

Summary

As described in the Background/Legislative History section, the requirements of the NPDES Permit and related State Waste Discharge Requirements have become significantly more stringent over the years, and the RWQCB (and EPA) have utilized administrative and judicial remedies against the City from time to time to enforce compliance with NPDES requirements, the State discharge regulations, and the federal Clean Water Act statutory provisions. The current Consent Decree aims to reduce sanitary sewer overflows and further reduce wet-weather flows with the ultimate goal of eliminating all wet-weather discharges from EBMUD facilities and the collection system into the Bay waters.

The Consent Decree is a mandated plan of action over a 22-year period. Improvements to the City's Sewer System are progressing and the City is currently in general compliance with the Consent Decree. Sanitary Sewer Overflows continue to occur but enhancements are being made to improve the trends. The causes of SSO's are numerous and cannot all be prevented through capital improvements, capacity upgrades, and/or increased maintenance. Debris, and fats/oils/grease (FOG) from public sources contribute to overflows and must be reduced/eliminated through education and compliance.

Staff's objective is to properly convey sewage, prevent the system to be inundated during wet-weather events, to keep sewage out of the public waterways and water bodies, maintain the health and welfare of the public, and to comply with the mandates of the Consent Decree. The City seeks continuous improvement in all aspects of the Sanitary Sewer Program as staff

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evaluates best management practices and strategies to improve the sewer network. Improving procedures and communications is a continual effort.

FISCAL IMPACT

No fiscal impacts are associated with this informational report.

PUBLIC OUTREACH / INTEREST

This item did not require public outreach other than the required posting on the City's website.

COORDINATION

This report developed in coordination with:

- Oakland Public Works – Bureau of Infrastructure and Operations
- Oakland Public Works – Bureau of Design and Construction

In addition, the following offices have reviewed this report:

- Office of the City Attorney
- City Budget Office

SUSTAINABLE OPPORTUNITIES

Economic: Although the informational report has no direct economic opportunities, the continued efforts of maintaining the sanitary sewer infrastructure delivers an essential sewer service for residents and businesses.

Environmental: Although the informational report has no direct benefit to the environment, the report provides information on regulatory requirements and compliance to a long-term plan to eliminate wastewater discharges and overflows to the bay.

Social Equity: Although the informational report has no direct benefit to social equity, the Sanitary Sewer Program strives to eliminate wastewater discharges and overflows to the bay, thereby, benefiting all Oakland residents.

ACTION REQUESTED OF THE CITY COUNCIL

Receive this Informational Report summarizing the attached 2015, 2016, and 2017 Annual Reports submitted according to section 5.3 of the Asset Management Implementation Plan and Sanitary Sewer Management Plan; and detailing (1) Compliance with overflow protocols including public and outside agency notice; (2) Oversight of Sanitary Sewer contractor performance; and (3) Usage of Fund 3100 as it relates to sewers.

For questions regarding this report, please contact Danny Lau, Assistant Director at (510) 238-7211.

Respectfully submitted,



Jason Mitchell
Director, Oakland Public Works

Reviewed by:
Danny Lau, Assistant Director

Reviewed by:
Tom Morgan, Agency Administrative Manager

Prepared by:
Jimmy Mach, Principal Civil Engineer
Mathew Lee, Principal Civil Engineer
Tyree Jackson, Operations Manager

Attachments (4):

- A: Annual Report Summary
- B: Consent Decree Annual Report FY 2014-2015
- C: Consent Decree Annual Report FY 2015-2016
- D: Consent Decree Annual Report FY 2016-2017

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Attachment A

Annual Reports FY14-17 Summary

The Annual Reports summarize work performed for which Oakland is responsible for in the following:

- A. Rehabilitate 13 miles of sewer pipes per year
- B. Clean the entire sewer system by 2018 and 140 miles per year thereafter
- C. Inspect 92 miles of sewer pipes per year
- D. Root foam 50 miles of sewer pipes per year
- E. Renovate all 7 sewer pump stations by 2022
- F. Eliminate high priority storm water inflow and infiltration sources within 2 years wherever found
- G. Repair acute defects in pipes within one year
- H. Inspect and clean sewer hot spots annually for 3 years
- I. Require private sewer Lateral (PSL) rehabilitation (initiated in 2012)
- J. Report defective sewer laterals owned by Local, State, or federal entities to EPA
- K. Rehabilitate sewer laterals owned by the City within 10 years at targeted locations
- L. Notify owners of private defective sewer laterals within 90 days
- M. Assist EBMUD in development of sewer lateral education program
- N. Implement a fat, oil, and grease control program
- O. Monitor water level for capacity assurance in Maintenance Holes at 12 designated locations

A. As of June 30, 2017, the City of Oakland had Rehabilitated 322,914 feet (61.2 miles) of Sewer Main as shown in Table 4-1. This exceeds the Consent Decree requirement to rehabilitate 221,760 feet (42 miles) by June 30, 2017. The City's Sewer Main Rehabilitation Program is ahead of schedule.

**Table 4-1
Length of Rehabilitated Sewer Mains**

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement **
1/11/14-6/30/14	131,653' (24.9 miles)	131,653' (24.9 miles)	-----
FY 2014-15	60,546' (11.5 miles)	192,199' (36.4 miles)	-----
FY 2015-16	71,751' (13.6 miles)	263,950' (50.0 miles)	158,400' (30 miles)
FY 2016-17	58,964 (11.2 miles)	322,914' (61.2 miles)	221,760' (42 miles)

**Cumulative total beginning 01/01/14

**Table 4-4 (Revised)
Additional Sewer Mains Rehabilitated**

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement
FY 2014-15	5,539' (1.0 mile)	5,539' (1.0 mile)	5,280 (1.0 mile)
FY 2015-16	5,424' (1.0 mile)	10,963' (2.1 miles)	10,560' (2.0 miles)
FY 2016-17	3,360' (0.64 miles)*	14,323 (2.71 miles)*	15,840' (3.0 miles)

*Next Annual Report will revise mileage to report 1.0 miles to be taken from Table 4-1.

B. As shown in Table 5-4a, 4,402,534 unique feet (834 miles) of Sewer Main have been cleaned. This exceeds the Consent Decree requirement of 4,118,400 feet (780 miles).

**Table 5-4a
Feet of Sewer Main Cleaned (Unique Feet)**

Fiscal Year	Mains Cleaned*	Cumulative Total**	CD Requirement
FY 2013-14	544,051' (103 miles)	2,085,969' (395 miles)	1,900,800' (360 miles)
FY 2014-15	778,526' (147 miles)	2,864,495' (543 miles)	2,640,000' (500 miles)
FY 2015-16 ***	941,179' (178 miles)	3,777,533' (715 miles)	3,379,200' (640 miles)
FY 2016-17	625,001' (118 miles)	4,402,534' (834 miles)	4,118,400' (780 miles)
Since Effective Date (September 22, 2014)****	2,107,897' (399 miles)	n/a	n/a

*Newly-unique feet cleaned during the FY (feet that had no previous cleaning between January 1, 2010 and the start of the FY)

**Cumulatively-unique feet starting January 1, 2010

*** Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

****Newly-unique feet cleaned starting September 22, 2014 (feet that had no previous cleaning between January 1, 2010 and September 21, 2014). Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16

C. As shown in Table 4-7, 1,911,585 feet (362 miles) of sewer mains have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 1,700,160 feet (322 miles) by June 30, 2017.

**Table 4-7
Length of Sewer Mains Inspected and Assessed**

Fiscal Year	Mains Assessed **	Cumulative Total ***	CD Requirement
FY 2013-14*	182,935' (35 miles)	182,935' (35 miles)	242,880' (46 miles)
FY 2014-15	618,991' (117 miles)	801,926' (152 miles)	728,640' (138 miles)
FY 2015-16****	619,913' (117 miles)	1,408,769' (267 miles)	1,214,400' (230 miles)
FY 2016-17	502,816' (95 miles)	1,911,585 (362 miles)	1,700,160' (322 miles)

*Six months, January 1, 2014 – June 30, 2014

**Newly-unique feet assessed during the FY (feet that had no previous assessment between January 1, 2014 and the start of the FY)

***Cumulatively-unique feet starting January 1, 2014

****Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

D. As of June 30, 2017, the City had root foamed 1,227,132 feet (232.4 miles) of Sewer Mains, which meets the Consent Decree cumulative requirement. Results of the City's root-cleaning program are as follows:

Table 5-5 Root Control Program Implementation

Fiscal Year	Mains Assessed	Cumulative Total	CD Requirement
FY 2013-14	304,811' (57.7 miles)	304,811' (57.7 miles)	264,000' (50 miles)
FY 2014-15	352,176' (66.7 miles)	656,987' (124.4 miles)	528,000' (100 miles)
FY 2015-16	146,784' (27.8 miles)	803,771' (152.2 miles)	792,000' (150 miles)
FY 2016-17	423,361' (80.2 miles)	1,227,132' (232.4 miles)	1,056,000' (200 miles)

E. The city's collection system has seven (7) pump stations required of renovation by 2022. The following is the status of each pump station:

- ❖ Denton Place – Construction in 2018/2019
- ❖ Fallon Street – Renovation completed in 2018
- ❖ Hegenberger Road – Currently in construction
- ❖ Parkridge Drive – Construction in 2018/2019
- ❖ Tidewater Avenue – Renovation completed in 2012
- ❖ Shepherd Canyon Road – Renovation completed in 2018
- ❖ Skyline Blvd - Construction in 2018/2019

F. Eliminate high priority storm water inflow sources and infiltration within 2 years wherever found by EBMUD

By September 30th of each year, EBMUD notifies the City of all identified I/I sources for the previous fiscal year.

Below is a summary of high priority sources:

Table 4-12 Inflow and Rapid Infiltration Identification

EBMUD Notification FY	High Priority Sources	Number of Locations Identified	# of Notices Sent Within 90 Days	# of Notices Sent Beyond 90 Days	# of Locations Abated	# of Locations Abated Beyond Time Requirement
					Within Time Requirement	
FY 2016-17	Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Non-Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Private High Priority Sources	2	2	N/A	*TBA	N/A
FY 2015-16	Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Non-Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Private High Priority Sources	1	1	0	1	0

*Status update will be provided in the next RTSP Notification Response report due December 31, 2018.

G. Acute Defects are by definition, failure in a sewer pipe in need of an urgent response to address an imminent risk of an SSO.

**Table 5-3a
Acute Defect Summary**

Fiscal Year	# Of Acute Defects Found	# Of Acute Defects Repaired Within One Year of Identification	# Of Acute Defects Repaired Not Within One Year of Identification		# Of Acute Defects Not Repaired	
			City Responsibility	Private Responsibility	City Responsibility	Private Responsibility
FY15	40	36	4	0	0	0
FY16	24	21	0	2	0	1
FY17	27	16	n/a	n/a	8	3

H. Hot spot are by definition, sewer main locations in which more than one SSO occurs within a 3-year period. Hot spots are cleaned every three (3) to twelve (12) months.

Hot Spot Cleaning

Fiscal Year	Mains In Hot Spot Program	Total Cleaned
FY 2014-15	86,187' (16.32 miles)	116,107' (22 miles)
FY 2015-16	108,384' (20.5 miles)	322,333' (61 miles)
FY 2016-17	116,741' (22.11 miles)	340,406' (64 miles)

I. The City requires that persons seeking building permits which require certificates of occupancy for construction or remodeling exceeding \$100,000 test and, where necessary, replace defective private sewer laterals and obtain Compliance Certificates from EBMUD before being issued certificates of occupancy.

Table 4-10 below shows the City's compliance with the CD requirement to have "...permittees to submit Compliance Certificates before being issued certificates of occupancy for construction or remodeling permits in excess of \$100,000." (Paragraph 84.c).

**Table 4-10
Permits Finalized, with EBMUD Certificates of Compliance**

Fiscal Year	# Permits Finalized	# with Compl Cert	# w/o Compl Cert
FY 2014-15	49	49	0
FY 2015-16	257	257	0
FY 2016-17	318	318	0

J. No defective sewer laterals owned by Local, State, or federal entities to EPA were found by the City and EBMUD.

K. On June of 2016, the City awarded two on-call construction contracts with two Contractors to inspect and, where necessary, repair or rehabilitate defective City-owned Sewer Laterals of 95 City facilities identified in the Consent Decree. In FY 2016-17, the City have inspected and completed 26 Sewer Laterals Rehabilitation locations. The City expects to complete inspection and repair of City-owned Sewer Laterals well ahead of the September 21, 2024, completion date specified in the Consent Decree.

L. The Consent Decree requires the City notify owners of private defective sewer laterals within 90 days. Defective sewer laterals are found by either EBMUD’s smoke tests or City maintenance staff.

**Table 4-11
Defective Sewer Laterals**

Fiscal Year	# of Defective Sewer Laterals Identified in Fiscal Year 2016-17	# of Defective Sewer Laterals Repaired	# of Defective Sewer Laterals Not Repaired	# Of Notices Sent Within 90 Days Or Repaired Within 90 Days	# Of Notices Sent Beyond 90 Days	# Of Notices Not Sent
FY 2014-15	11	10	1	10	1	0
FY 2015-16	62	14	48	16	36	10
FY 2016-17	47	37	10	40	*5	**2

*1 have been repaired

**2 have been repaired

M. The City provides information on its website a link to EBMUD’s Regional Private Sewer Lateral Program describing the program. The City provides EBMUD’s sewer lateral education and outreach materials in the permit counter. The City assisted EBMUD in the development of the Sewer Lateral education and outreach program by participating in a meeting with EBMUD in January 2015, when the development of the program and educational materials was reviewed and discussed. Additional review and comments occurred in February 2015, prior to EBMUD’s submittal of the plan to EPA for review and comment in March 2015. The City will continue to work with EBMUD in the Regional Private Sewer Lateral Program.

N. The City identifies and reports Fat Oil Grease (FOG) problems to EBMUD. EBMUD investigates and inspects FOG sources and works with food service establishments (FSEs) to correct FOG problems. Non-compliant FSEs are referred to the City for enforcement action. EBMUD has not referred any FSEs to the City for enforcement action.

O. The City have been providing reports of high alarm triggers in any of the 12 designated Maintenance Hole locations that triggered for capacity assurance. Causes of high alarm triggers and a description of maintenance activities performed to prevent SSO’s for each location have been provided. 7 locations were added to the Capital Improvement Program for engineering design and construction for pipe upsizing. The following is a summary progress report on all seven locations:

- San Pablo Avenue at 60th Street – Currently in Construction
- San Pablo Avenue at 62nd Street - Currently in Construction
- Grand Avenue and Harrison Street – Construction completed
- Park Blvd and Spruce Street - Construction planned for Fall 2018
- East 18th Avenue at 4th Avenue - Construction completed
- Maybelle Avenue and Masterson Street – Phase I Construction completed. Phase II will be considered as location is being monitored
- Trestle Glen Road at Creek Road –Construction planned for Fall 2018

Furthermore, in FY 2015-16, the City completed a large sewer rehabilitation project downstream of three triggered locations: 27th Avenue & Vernon Street, Grand Ave and

Harrison St, and 19th Street and Jackson Street. That project rehabilitated approximately 1,079 linear feet of existing 60" conduit sewer pipes with Centrifugally Cast, Fiberglass-Reinforced, Polymer Mortar (CCFRPM) pipes and applied coating for approximately 342 linear feet of existing 3'x 4'-10" conduit sewer pipes. That project is expected to improve the hydraulic conditions of the sewer system in the downtown area and lower the overall hydraulic gradient line in sewer pipes upstream.

Attachment A

Annual Reports FY14-17 Summary

The Annual Reports summarize work performed for which Oakland is responsible for in the following:

- A. Rehabilitate 13 miles of sewer pipes per year
- B. Clean the entire sewer system by 2018 and 140 miles per year thereafter
- C. Inspect 92 miles of sewer pipes per year
- D. Root foam 50 miles of sewer pipes per year
- E. Renovate all 7 sewer pump stations by 2022
- F. Eliminate high priority storm water inflow and infiltration sources within 2 years wherever found
- G. Repair acute defects in pipes within one year
- H. Inspect and clean sewer hot spots annually for 3 years
- I. Require private sewer Lateral (PSL) rehabilitation (initiated in 2012)
- J. Report defective sewer laterals owned by Local, State, or federal entities to EPA
- K. Rehabilitate sewer laterals owned by the City within 10 years at targeted locations
- L. Notify owners of private defective sewer laterals within 90 days
- M. Assist EBMUD in development of sewer lateral education program
- N. Implement a fat, oil, and grease control program
- O. Monitor water level for capacity assurance in Maintenance Holes at 12 designated locations

A. As of June 30, 2017, the City of Oakland had Rehabilitated 322,914 feet (61.2 miles) of Sewer Main as shown in Table 4-1. This exceeds the Consent Decree requirement to rehabilitate 221,760 feet (42 miles) by June 30, 2017. The City's Sewer Main Rehabilitation Program is ahead of schedule.

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1/11/14-6/30/14	131,653' (24.9 miles)	131,653' (24.9 miles)	-----
FY 2014-15	60,546' (11.5 miles)	192,199' (36.4 miles)	-----
FY 2015-16	71,751' (13.6 miles)	263,950' (50.0 miles)	158,400' (30 miles)
FY 2016-17	58,964 (11.2 miles)	322,914' (61.2 miles)	221,760' (42 miles)

**Cumulative total beginning 01/01/14

Table 4-4 (Revised)
Additional Sewer Mains Rehabilitated

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement
FY 2014-15	5,539' (1.0 mile)	5,539' (1.0 mile)	5,280 (1.0 mile)
FY 2015-16	5,424' (1.0 mile)	10,963' (2.1 miles)	10,560' (2.0 miles)
FY 2016-17	3,360' (0.64 miles)*	14,323 (2.71 miles)*	15,840' (3.0 miles)

*Next Annual Report will revise mileage to report 1.0 miles to be taken from Table 4-1.

B. As shown in Table 5-4a, 4,402,534 unique feet (834 miles) of Sewer Main have been cleaned. This exceeds the Consent Decree requirement of 4,118,400 feet (780 miles).

**Table 5-4a
Feet of Sewer Main Cleaned (Unique Feet)**

Fiscal Year	Mains Cleaned*	Cumulative Total**	CD Requirement
FY 2013-14	544,051' (103 miles)	2,085,969' (395 miles)	1,900,800' (360 miles)
FY 2014-15	778,526' (147 miles)	2,864,495' (543 miles)	2,640,000' (500 miles)
FY 2015-16 ***	941,179' (178 miles)	3,777,533' (715 miles)	3,379,200' (640 miles)
FY 2016-17	625,001' (118 miles)	4,402,534' (834 miles)	4,118,400' (780 miles)
Since Effective Date (September 22, 2014)****	2,107,897' (399 miles)	n/a	n/a

*Newly-unique feet cleaned during the FY (feet that had no previous cleaning between January 1, 2010 and the start of the FY)

**Cumulatively-unique feet starting January 1, 2010

*** Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

****Newly-unique feet cleaned starting September 22, 2014 (feet that had no previous cleaning between January 1, 2010 and September 21, 2014). Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16

C. As shown in Table 4-7, 1,911,585 feet (362 miles) of sewer mains have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 1,700,160 feet (322 miles) by June 30, 2017.

**Table 4-7
Length of Sewer Mains Inspected and Assessed**

Fiscal Year	Mains Assessed **	Cumulative Total ***	CD Requirement
FY 2013-14*	182,935' (35 miles)	182,935' (35 miles)	242,880' (46 miles)
FY 2014-15	618,991' (117 miles)	801,926' (152 miles)	728,640' (138 miles)
FY 2015-16****	619,913' (117 miles)	1,408,769' (267 miles)	1,214,400' (230 miles)
FY 2016-17	502,816' (95 miles)	1,911,585 (362 miles)	1,700,160' (322 miles)

*Six months, January 1, 2014 – June 30, 2014

**Newly-unique feet assessed during the FY (feet that had no previous assessment between January 1, 2014 and the start of the FY)

***Cumulatively-unique feet starting January 1, 2014

****Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

D. As of June 30, 2017, the City had root foamed 1,227,132 feet (232.4 miles) of Sewer Mains, which meets the Consent Decree cumulative requirement. Results of the City's root-cleaning program are as follows:

Table 5-5 Root Control Program Implementation

Fiscal Year	Mains Assessed	Cumulative Total	CD Requirement
FY 2013-14	304,811' (57.7 miles)	304,811' (57.7 miles)	264,000' (50 miles)
FY 2014-15	352,176' (66.7 miles)	656,987' (124.4 miles)	528,000' (100 miles)
FY 2015-16	146,784' (27.8 miles)	803,771' (152.2 miles)	792,000' (150 miles)
FY 2016-17	423,361' (80.2 miles)	1,227,132' (232.4 miles)	1,056,000' (200 miles)

E. The city's collection system has seven (7) pump stations required of renovation by 2022. The following is the status of each pump station:

- ❖ Denton Place – Construction in 2018/2019
- ❖ Fallon Street – Renovation completed in 2018
- ❖ Hegenberger Road – Currently in construction
- ❖ Parkridge Drive – Construction in 2018/2019
- ❖ Tidewater Avenue – Renovation completed in 2012
- ❖ Shepherd Canyon Road – Renovation completed in 2018
- ❖ Skyline Blvd - Construction in 2018/2019

F. Eliminate high priority storm water inflow sources and infiltration within 2 years wherever found by EBMUD

By September 30th of each year, EBMUD notifies the City of all identified I/I sources for the previous fiscal year.

Below is a summary of high priority sources:

Table 4-12 Inflow and Rapid Infiltration Identification

EBMUD Notification FY	High Priority Sources	Number of Locations Identified	# of Notices Sent Within 90 Days	# of Notices Sent Beyond 90 Days	# of Locations Abated Within Time Requirement	# of Locations Abated Beyond Time Requirement
FY 2016-17	Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Non-Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Private High Priority Sources	2	2	N/A	*TBA	N/A
FY 2015-16	Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Non-Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Private High Priority Sources	1	1	0	1	0

*Status update will be provided in the next RTSP Notification Response report due December 31, 2018.

- G. Acute Defects are by definition, failure in a sewer pipe in need of an urgent response to address an imminent risk of an SSO.

**Table 5-3a
Acute Defect Summary**

Fiscal Year	# Of Acute Defects Found	# Of Acute Defects Repaired Within One Year of Identification	# Of Acute Defects Repaired Not Within One Year of Identification		# Of Acute Defects Not Repaired	
			City Responsibility	Private Responsibility	City Responsibility	Private Responsibility
FY15	40	36	4	0	0	0
FY16	24	21	0	2	0	1
FY17	27	16	n/a	n/a	8	3

- H. Hot spot are by definition, sewer main locations in which more than one SSO occurs within a 3-year period. Hot spots are cleaned every three (3) to twelve (12) months.

Hot Spot Cleaning

Fiscal Year	Mains In Hot Spot Program	Total Cleaned
FY 2014-15	86,187' (16.32 miles)	116,107' (22 miles)
FY 2015-16	108,384' (20.5 miles)	322,333' (61 miles)
FY 2016-17	116,741' (22.11 miles)	340,406' (64 miles)

- I. The City requires that persons seeking building permits which require certificates of occupancy for construction or remodeling exceeding \$100,000 test and, where necessary, replace defective private sewer laterals and obtain Compliance Certificates from EBMUD before being issued certificates of occupancy.

Table 4-10 below shows the City's compliance with the CD requirement to have "...permittees to submit Compliance Certificates before being issued certificates of occupancy for construction or remodeling permits in excess of \$100,000." (Paragraph 84.c).

**Table 4-10
Permits Finalized, with EBMUD Certificates of Compliance**

Fiscal Year	# Permits Finalized	# with Compl Cert	# w/o Compl Cert
FY 2014-15	49	49	0
FY 2015-16	257	257	0
FY 2016-17	318	318	0

- J. No defective sewer laterals owned by Local, State, or federal entities to EPA were found by the City and EBMUD.

K. On June of 2016, the City awarded two on-call construction contracts with two Contractors to inspect and, where necessary, repair or rehabilitate defective City-owned Sewer Laterals of 95 City facilities identified in the Consent Decree. In FY 2016-17, the City have inspected and completed 26 Sewer Laterals Rehabilitation locations. The City expects to complete inspection and repair of City-owned Sewer Laterals well ahead of the September 21, 2024, completion date specified in the Consent Decree.

L. The Consent Decree requires the City notify owners of private defective sewer laterals within 90 days. Defective sewer laterals are found by either EBMUD’s smoke tests or City maintenance staff.

**Table 4-11
Defective Sewer Laterals**

Fiscal Year	# of Defective Sewer Laterals Identified in Fiscal Year 2016-17	# of Defective Sewer Laterals Repaired	# of Defective Sewer Laterals Not Repaired	# Of Notices Sent Within 90 Days Or Repaired Within 90 Days	# Of Notices Sent Beyond 90 Days	# Of Notices Not Sent
FY 2014-15	11	10	1	10	1	0
FY 2015-16	62	14	48	16	36	10
FY 2016-17	47	37	10	40	*5	**2

*1 have been repaired

**2 have been repaired

M. The City provides information on its website a link to EBMUD’s Regional Private Sewer Lateral Program describing the program. The City provides EBMUD’s sewer lateral education and outreach materials in the permit counter. The City assisted EBMUD in the development of the Sewer Lateral education and outreach program by participating in a meeting with EBMUD in January 2015, when the development of the program and educational materials was reviewed and discussed. Additional review and comments occurred in February 2015, prior to EBMUD’s submittal of the plan to EPA for review and comment in March 2015. The City will continue to work with EBMUD in the Regional Private Sewer Lateral Program.

N. The City identifies and reports Fat Oil Grease (FOG) problems to EBMUD. EBMUD investigates and inspects FOG sources and works with food service establishments (FSEs) to correct FOG problems. Non-compliant FSEs are referred to the City for enforcement action. EBMUD has not referred any FSEs to the City for enforcement action.

O. The City have been providing reports of high alarm triggers in any of the 12 designated Maintenance Hole locations that triggered for capacity assurance. Causes of high alarm triggers and a description of maintenance activities performed to prevent SSO’s for each location have been provided. 7 locations were added to the Capital Improvement Program for engineering design and construction for pipe upsizing. The following is a summary progress report on all seven locations:

- San Pablo Avenue at 60th Street – Currently in Construction
- San Pablo Avenue at 62nd Street - Currently in Construction
- Grand Avenue and Harrison Street – Construction completed
- Park Blvd and Spruce Street - Construction planned for Fall 2018
- East 18th Avenue at 4th Avenue - Construction completed
- Maybelle Avenue and Masterson Street – Phase I Construction completed. Phase II will be considered as location is being monitored
- Trestle Glen Road at Creek Road –Construction planned for Fall 2018

Furthermore, in FY 2015-16, the City completed a large sewer rehabilitation project downstream of three triggered locations: 27th Avenue & Vernon Street, Grand Ave and

Harrison St, and 19th Street and Jackson Street. That project rehabilitated approximately 1,079 linear feet of existing 60" conduit sewer pipes with Centrifugally Cast, Fiberglass-Reinforced, Polymer Mortar (CCFRPM) pipes and applied coating for approximately 342 linear feet of existing 3'x 4'-10" conduit sewer pipes. That project is expected to improve the hydraulic conditions of the sewer system in the downtown area and lower the overall hydraulic gradient line in sewer pipes upstream.

Attachment B

Annual Report FY 2014-2015

CITY OF OAKLAND



Sanitary Sewer Collection System

Annual Report

July 1, 2014 to June 30, 2015

Consent Decree, Consolidated Case Nos. C 09-00186-RS and C 09-05684-RS

CITY OF OAKLAND



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Director

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September 30, 2015

Mr. Ken Greenberg
Chief, Clean Water Act
Water Section I, (ENF 3-1)
Enforcement Division
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Mr. Bruce Wolfe
Executive Officer
San Francisco Bay Regional
Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Patricia Hurst
Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-1-1-09361/2

Ms. Yuri Won
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Water Quality Control Board
1515 Clay Street, Suite 1400
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Mr. Thomas Howard
Executive Director
State Water Resources Control Board
P.O. Box 100
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Mr. Daniel S. Harris
Deputy Attorney General
455 Golden Gate Avenue, Suite 11000
San Francisco, CA 94102

RE: Consent Decree--City of Oakland Annual Report

Dear Mr. Greenberg, et al.:

In accordance with the 2014 Consent Decree, enclosed is the City of Oakland's Annual Report for the period from July 1, 2014 to June 30, 2015.

If you have any questions about this report, please contact Mr. Gus Amirzehni, Principal Civil Engineer, at 510-238-6601.

Sincerely,

Brooke A. Levin
Director, Public Works

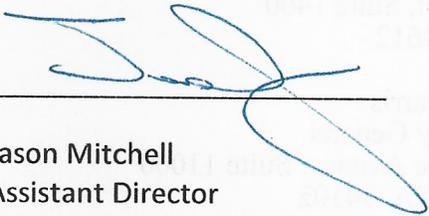
cc: Nicole C. Sasaki (Bay Keeper)
Christopher A. Sproul (Environmental Advocates)
Christopher Dinsmore (EBMUD)
Chris Chan (Port of Oakland)

Attachments: 2014-15 Annual Report

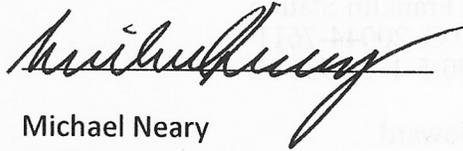
Certification

I certify under penalty of law that this document and its attachments were prepared either by me personally or under my direction or supervision in a manner designed to assure that qualified and knowledgeable personnel properly gathered and presented the information contained herein. I further certify, based on my personnel knowledge or on my inquiry of the individuals immediately responsible for obtaining the information, that to the best of my knowledge and belief the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing and willful submission of a materially false statement.

Reviewed by:



Jason Mitchell
Assistant Director
Bureau of Infrastructure & Operations



Michael Neary
Assistant Director
Bureau of Engineering & Construction



Brooke A. Levin
Director of Public Works

9-30-15

Date

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Appendix Summary

Appendix	Table Name	Table Number
A	List of Sanitary Sewer Overflows (SSOs) in FY 2014-15	Table 2-1
B	Collection System Spot Repair Work (July 1, 2014 – June 30, 2015)	Table 4-5
C	Notice to Abate Sample Letter	Table 4-3
D	Acute Defect Lists	Table 5-3a & Table 5-3b
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Executive Summary

The City of Oakland's Consent Decree for operation and maintenance of its Sewer Collection System was approved by state and federal regulatory agencies with an Effective Date of September 22, 2014. The City is pleased to submit this Annual Report as required by the Consent Decree (CD) for Fiscal Year 2014-15 (July 1, 2014 to June 30, 2015).

Sanitary Sewer Overflows (SSO). The City of Oakland's Sewer Collection System had 104 SSO events during FY 2014-15. This is a 29% reduction compared to the number of SSO events in FY 2010-11.

Asset Management Implementation Program (AMIP). On October 31, 2014, the City submitted a new AMIP which had been revised to comply with the new Consent Decree. The AMIP provided new maintenance, construction and rehabilitation schedules, as well as a revised financial plan. The City is implementing both the new AMIP and the Consent Decree.

Sewer Main and Maintenance Hole Rehabilitation. As of June 30, 2015, the City of Oakland had Rehabilitated 194,434 feet (36.8 miles) of Sewer Main. This exceeds the Consent Decree requirement to rehabilitate 158,400 feet (30 miles) by June 30, 2016. The City's Sewer Main Rehabilitation Program is ahead of schedule.

Sewer Main and Maintenance Hole Inspection. As of June 30, 2015, 801,926 feet (151.9 miles) of sewer mains in the City of Oakland have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 728,640 feet (138 miles) by June 30, 2015. The City of Oakland is in full compliance in regards to maintenance hole inspections. Between July 1, 2014 and June 30, 2015, 3,001 maintenance hole inspections were performed.

Development of Regional Standards. The City bases its construction plans and specifications on The "Greenbook": Standard Specifications for Public Works Construction, a statewide standard for the municipal construction industry. The Greenbook is updated every three years.

A Regional Standards committee (RSC) was formed in May 2015 by all Defendants for the review and development of Regional Standards regarding the work on sewer mains, manholes, and sewer laterals. In April 2015 a consultant (Humphrey Consulting) was contracted to assist the Defendants and the RSC in the development of standards. The City (District) has assigned a representative to the RSC and has actively participated in the first two meetings of the RSC, held in June and July 2015. The City will continue participation in the development of Standards through attendance at these RSC meetings, which will be held on generally a monthly basis until Regional Standards are completed. Completion of a report on recommended standards will be submitted to EPA by the June 30, 2016 deadline as required in the Consent Decree.

EBMUD's Sewer Lateral education and Outreach Program. The City assisted EBMUD in the development of the Sewer Lateral education and outreach program. The City participated in a meeting with EBMUD in January 2015, when the development of the program and educational materials was reviewed and discussed. Additional review and comments occurred in February 2015, prior to EBMUD's submittal of the plan to EPA for review and comment in March 2015. The City will continue to work with EBMUD in implementation of the program.

Sewer Lateral Inspection and Repair. In FY 2014-15, the City finalized 49 building permits which required certificates of occupancy for construction or remodeling permits in excess of \$100,000, 49 of which had Compliance Certificates issued by EBMUD. This met the Consent Decree requirement to limit the number of building permits issued without Compliance Certificates to less than 25 per Fiscal Year.

Inflow and Rapid Infiltration Identification and Elimination. By a letter dated January 20, 2015 EBMUD provided a draft of its Regional Technical Support program (RTSP) plan to the East Bay Collection System Advisory Committee (EBCSAC) for review and comment. EBCSAC's comments on the EBMUD draft RTSP were provided to EBMUD by a letter dated February 19, 2015. EBMUD submitted the RTSP Plan to EPA, RWQCB, SWRCB, and DOJ on March 23, 2015. Based on comments from EPA received on May 19, 2015, EBMUD resubmitted a revised RTSP Plan on July 20, 2015. As of the date of preparing this report, the revised RTSP Plan has not been approved. EBCSAC agencies have also discussed RTSP issues with EBMUD at monthly meetings from January 2015 to the present time. The City of Oakland will continue to work with EBMUD in implementation of the program.

Capacity Assurance. The Consent Decree requires the City to increase sewer capacity in certain locations when sewer flows reach within one foot of the Maintenance Hole rim. There were a total of five locations that reached within one foot of the Maintenance Hole rim. Three locations were suspected to be capacity related and two locations were suspected of existing sags. The City is currently providing design work to increase pipe diameters and correct sags. Capacity upgrade projects are scheduled to be completed within twenty four (24) months of the time an alarm was first triggered.

Acute Defects. In FY 2014-15, 35 Acute Defects were Identified. The City repaired 8 Acute Defects within the required twelve (12) months. Remaining 27 Acute Defects will be repaired within One Year of Identification. Improvements to the City's processes were implemented. It should be noted that no Sanitary Sewer Overflows occurred because of delays in Repair of Acute Defects.

Sewer Main Cleaning. As of June 30, 2015, 2,864,495 unique feet (543 miles) of sewer mains in the City of Oakland have been cleaned. This exceeds the Consent Decree requirement of 2,640,000 feet (500 miles).

Root Cleaning (Foaming). As of June 30, 2015, the City had root foamed 656,987' (124.4 miles) of Sewer Mains, which exceeds the Consent Decree requirement of 528,000' feet (100 miles).

Hot Spot Cleaning. The Consent Decree changed both the definition of "Hot Spot" and the cleaning requirements. In anticipation of the CD, staff reviewed City records and created a new High Frequency Preventive Maintenance List in a three year period (Hot Spots) and other locations identified by staff. The list now contains 99 locations. Each of these locations was cleaned at least once in FY 2014-15.

Fats, Oil and Grease (FOG) Control. In FY 2014-15, 40 SSOs were thought to be associated with FOG. These locations were referred to EBMUD for investigation.

Pump Station Renovation. The City is significantly ahead of schedule with its Pump Station Improvement Program, with completion planned for 2018, five years ahead of schedule.

Known Noncompliance with Consent Decree. The City is well ahead of schedule in sewer rehabilitation, sewer cleaning, root control, CCTV inspection, and pump station rehabilitation and is fully compliant with the Consent Decree. The City has increased its sewer service budget, staffing, and equipment and intends to continue to meet its obligations under the Consent Decree.

Assessment of Stipulated Penalties. In FY 2014-15, the City added seven new sewer service positions through the budget process and is now fully staffed. The City added eight new pieces of equipment to enhance collection maintenance. Funding was provided and allocated for proper handling and disposal of sewer spoils. Additional funding was also provided and allocated for the City to enter into contracts for Contractors to perform Closed Circuit Television (CCTV) and sewer main cleaning. The City moved the Sewer Services Unit from within the Infrastructure Division to create a new Sewer Service Division and assigned a new Operations Manager solely committed to the Sewer Service Division. The production rate of cleaning increased by 43% and CCTV inspection productivity increased 69%. This increase in production has contributed to a positive trend of reducing sanitary sewer over flows in the City's collection system. The City believes that it is fully compliant with the Consent Decree and that no penalties should be assessed for the City's Collection System. If Plaintiffs disagree with this position, the City would appreciate the opportunity to discuss potential penalties and provide additional explanations of its position.

Recommended Changes to Required Work. The City has no recommendations for changes to this Consent Decree.

Section 1. Introduction

Paragraph 139 of the Consent Decree (Case Nos. C09-00186 and C09-05684) requires:

“By September 30th of each Fiscal Year...each Defendant shall submit to Plaintiffs, with a copy to Intervenors, an annual progress report (“Annual Report”) covering the period July 1st through June 30th of the prior Fiscal Year.”

This Annual Report has been prepared pursuant to the requirements of the Consent Decree. The following sections of this report present the required information for Fiscal Year 2014-15 (July 1, 2014 to June 30, 2015):

- Section 1. CD Para 139 Introduction, p.6
- Section 2. CD Para 144 Annual Report of Sanitary Sewer Overflows (SSO), p.7
- Section 3. CD Para 165 Asset Management Implementation Plan Status, p.10
- Section 4. CD Para 166 Infiltration and Inflow Reduction Work, p.11
 - 4.1 CD Para 166.a.i Sewer Main and Maintenance Hole Rehabilitation
 - 4.2 CD Para 166.a.ii Sewer Main and Maintenance Hole Inspection
 - 4.3 CD Para 166.a.iii Development of Regional Standards
 - 4.4 CD Para 166.b Sewer Lateral Inspection and Repair
 - 4.5 CD Para 166.c I&RI Identification and Elimination
- Section 5. CD Para 167 SSO Reduction Work, p.24
 - 5.1 CD Para 167.a Capacity Assurance
 - 5.2 CD Para 167.b Post SSO Inspection
 - 5.3 CD Para 167.c Acute Defects
 - 5.4 CD Para 167.d Sewer Main Cleaning
 - 5.5 CD Para 167.e Root Cleaning
 - 5.6 CD Para 167.f Hot Spot Cleaning
 - 5.7 CD Para 167.g Fats, Oil and Grease (FOG) Control
 - 5.8 CD Para 167.h Pump Station Renovation
- Section 6. CD Para 141 Deliverables, p.36
- Section 7. CD Para 142 Known Noncompliance with Consent Decree, p.36
- Section 8. CD Para 172 Assessment of Stipulated Penalties, p.36
- Section 9. CD Para 143 Recommended Changes to Required Work, p.36

Section 2. Annual Report of Sanitary Sewer Overflows

Paragraph 144 of the Consent Decree requires:

“A Sanitary Sewer Overflow Report that includes the location of SSOs; the start and end date and time of each SSO; the SSO volume including gross volume, amount recovered, and amount not recovered; the destination of each SSO; the probable cause(s) of the SSOs; the location(s) of repeat SSOs; a list of any SSOs at locations where the Sewer Main had been Rehabilitated in the previous ten (10) Fiscal Years; and a description of measures taken to help prevent these SSOs in the future.”

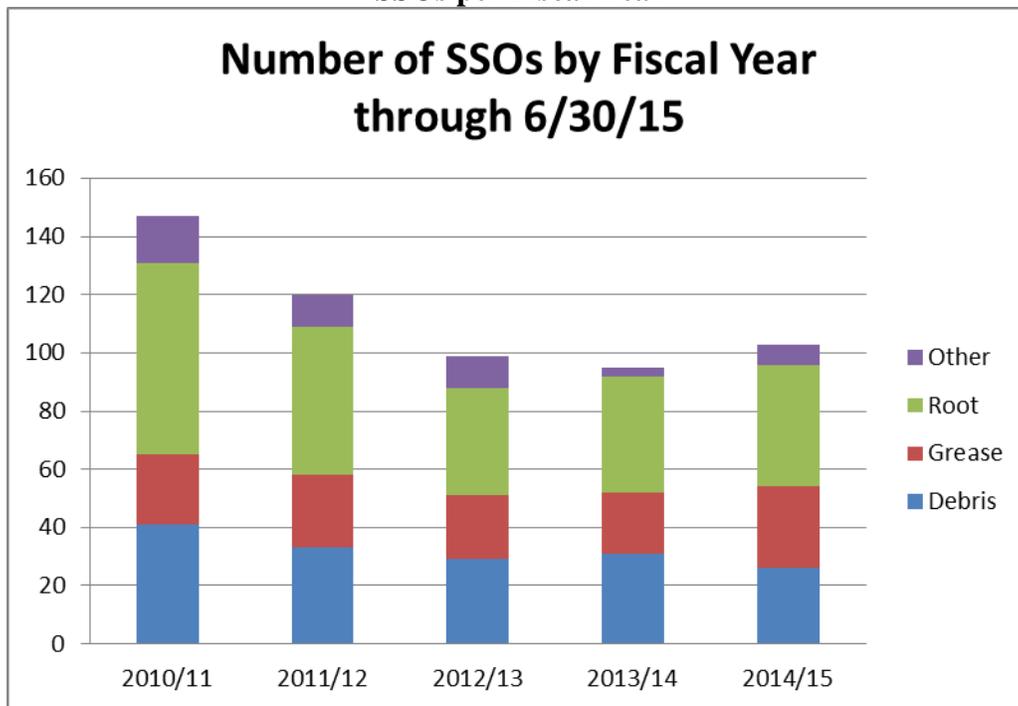
Number of SSOs

The City of Oakland’s Sewer Collection System had 104 SSO events during FY 2014-15. This is a 29% reduction compared to the 147 SSO events in FY 2010-11.

The total volume spilled in FY 2014-15 was 115,876 gallons, representing a 72% increase in volume compared to the previous Fiscal Year. Of the total amount spilled, 30% was contained and returned to the system.

Figure 2-1 shows the number of SSO events by Fiscal Year for the last 5 Fiscal Years, as well as the primary cause of the SSO.

Figure 2-1.
SSOs per Fiscal Year



A detailed list of SSOs is shown in Table 2-1 of **Appendix A**.

The City has made many improvements to its sewer program in order to continue reducing sanitary sewer overflows.

In FY 2014-15, the City added seven new sewer service positions through the budget process and is now fully staffed. The City added eight new pieces of equipment to enhance collection maintenance. Funding was provided and allocated for proper handling and disposal of sewer spoils. Additional funding was also provided and allocated for the City to enter into contracts for Contractors to perform Closed Circuit Television (CCTV) and sewer main cleaning. The City moved the Sewer Services Unit from within the Infrastructure Division to create a new Sewer Service Division and assigned a new Operations Manager solely committed to the Sewer Service Division. The production rate of cleaning increased by 43% and CCTV inspection productivity increased 69%. This increase in production has contributed to a positive trend of reducing sanitary sewer over flows in the City’s collection system.

The City increased the annual budget beginning in FY 2015-16 to clean major sewers which are beyond staff capabilities.

Number and Location of Repeat Overflows

In Fiscal Year 2014-15, the City had 6 locations in which a second sewer overflow occurred within a three year period. Table 2-2 below lists the number and location of overflows occurring at repeat locations along with a description of measures taken to prevent future SSO’s at these locations. All locations below have been added to the High Frequency Cleaning List ‘Hot Spots’.

**Table 2-2
Repeat SSO Locations**

SSO Location	CWIQS #	Cause	Date	Measure(s) to prevent SSO
3712 Loma Vista Ave [also shows as 3624 Loma Vista Ave, 3627 Loma Vista Ave; it’s all the same pipe]	814362, 807715, 779126	Debris Grease Roots	3/25/12, 4/2/2015, 7/7/2014	Added to 12 month high frequency PM schedule.
6975 Charing Cross Rd / 1801 Tunnel Rd (3 reaches)	813138, 809678, 797746	Roots	9/27/2014, 2/13/2015, 7/07/2015,	Added to 6 month high frequency PM schedule.
642 El Dorado Ave [also shows as “625 El Dorado”, it’s the same pipe]	814652, 792179	Roots	2/25/13, 10/5/14	Added to 12 month high frequency PM schedule.
5959 Westover Dr (2 reaches) [also shows as 5955 Westover, it’s all the same pipe]	815261, 784312	Debris Roots	7/24/2012, 5/12/2015	Added to 12 month high frequency PM schedule.

83 rd Ave & Iris St [8301 Iris St]	8113390, 788745	Roots	9/23/2014, 12/11/14	Added to 3 month high frequency PM schedule.
2058 Rosedale Ave	812884, 792740	Debris	3/18/13, 1/31/15	Added to 6 month high frequency PM schedule.

Sewer Overflows in Rehabilitated Areas

In FY 2014-15, 2 SSOs occurred in areas rehabilitated since July 1, 2005 (within the last ten years) as shown in Table 2-3 below. Of these locations, 2 SSO's were caused by debris or FOG related problems, and 1 location experienced SSOs due to root intrusion. Corrective actions, as detailed below, include cleaning, CCTV inspection, and addition to the "Hot Spot" list.

**Table 2-3
SSO Locations within Rehabilitated Areas**

SSO Location	CWIQS #	Cause	Date	Measure(s) to prevent SSO	Rehab Year
1225 Fallon St. (2 reaches)	809333	Grease, Roots	8/25/2015	Power rod, cleaned, and flushed Grease reported to EBMUD	2010
1520 Lakeside Dr.	813217	Heavy Grease	2/16/2015	Grease reported to EBMUD Added to 3 month high frequency PM schedule.	2011

Section 3. Implementation of Asset Management Implementation Plan (AMIP)

Paragraph 165 of the Consent Decree requires:

“The City shall summarize implementation of each element of its AMIP. The summary shall include any proposed revisions to the AMIP, including, but not limited to, revisions to maintenance, construction, and Rehabilitation schedules, along with any associated changes to its financial plan, and an explanation of how those revisions are consistent with its obligations under the Consent Decree.”

On October 31, 2014, the City submitted a new AMIP which had been revised to comply with the new Consent Decree. The AMIP provided new maintenance, construction and rehabilitation schedules, as well as a revised financial plan. The City is implementing both the new AMIP and the Consent Decree.

Chapter 1, Introduction, of the new AMIP presented revised goals, organization and responsibilities for implementation of the AMIP and CD.

Chapter 2, Condition Assessment, revised Sewer Main and Maintenance Hole inspection, Sewer Lateral inspection and capacity monitoring. Sections 4.2, 4.4 and 5.1 of this Annual Report describe work in these areas implemented during FY 2014-15.

Chapter 3, Operations and Maintenance, revised sewer maintenance, hot spot cleaning, root control, and FOG control. Sections 5.4, 5.5, 5.6 and 5.7 of this report describe work in these areas implemented during FY 2014-15.

Chapter 4, Capital Improvements, described revision of design and construction standards, Sewer Main Rehabilitation, elimination of Acute Defects, pump station and capacity improvements, Rehabilitation of City owned Sewer Laterals, and provided a ten year CIP and financial plan. Sections 4.1, 4.3, 5.3 and 5.8 of this report describe work implemented during FY 2014-15.

The City will continue to update the AMIP as necessary.

Section 4. Infiltration and Inflow Reduction Work

Oakland's previous Annual Report stated:

“A letter has been sent to the Regional Water Board informing them that Oakland has successfully completed its 25-year Compliance Plan. Work consisted of rehabilitating 75 sewer basins and adding additional capacity at over 120 locations at a cost of approximately \$300 million. This work resulted in a 29% reduction in flows to EBMUD's Wastewater Treatment Plant.”

On November 12, 2014, the Regional Water Board rescinded its Cease and Desist Order. Henceforth, the City's Annual Report will contain solely items required by the Consent Decree.

Paragraph 166 of the CD requires:

“The City shall summarize its work to reduce I&I in its service area in the reporting Fiscal Year.”

Work done by the City in FY 2014-15 to reduce Infiltration and Inflow is described below.

4.1 Sewer Main and Maintenance Hole Rehabilitation

Paragraph 166.a.i. of the Consent Decree requires that the Annual Report contain:

“Rehabilitation: all Sewer Main and Maintenance Hole Repair and Rehabilitation activities completed...”

Paragraph 83.a. of the Consent Decree requires:

“Between January 1, 2014 and June 30, 2016, the City of Oakland shall rehabilitate 158,400 feet [30 miles] of Sewer Main....When the City rehabilitates a Sewer Main, it shall also Rehabilitate, as needed, all Maintenance Holes associated with the Sewer Main and ensure that abandoned Sewer Laterals are not connected to that Sewer Main.”

Sewer Mains Rehabilitated

As of June 30, 2015, the City of Oakland had Rehabilitated 192,199 feet (36.4 miles) of Sewer Main as shown in Table 4-1. This exceeds the Consent Decree requirement to rehabilitate 158,400 feet (30 miles) by June 30, 2016. The City’s Sewer Main Rehabilitation Program is ahead of schedule.

Table 4-1
Length of Rehabilitated Sewer Mains

Fiscal Year Requirement **	Mains Rehabilitated	Cumulative Total	CD
1/11/14-6/30/14	131,653’ (24.9 miles)*	131,653’ (24.9 miles)*	-----
FY 2014-15	60,546’ (11.5 miles)	192,199’ (36.4 miles)	-----
FY 2015-16	n/a	n/a	158,400’ (30 miles)

* From previous Annual Report

**Cumulative total beginning 01/01/14

Table 4-2 provides details of projects completed in FY 2014-15.

Table 4-2
Sewer Main Rehabilitation Projects Completed in FY 2014-15

Project No	Description	SubBasi n No	Lateral Connections	Structure	Length (feet)	Length (Miles)	Construction Cost
C227230	RHS-20th St, San Pablo Ave, Telegraph Ave, Alice St, and 12th St	52-05	208	108	25,137	4.8	\$ 4,691,955
C329128	Rehabilitation of Sanitary Sewers in Rosedale Ave	81-101	119	21	3,392	0.6	\$ 395,071
C329129	Rehabilitation of Sanitary Sewers in Bridge Ave	81-002, 81-101	112	15	2,530	0.5	\$ 307,924
C329132	SS Rehab Easement Bet. Delmont Ave and Edgemoor Pl, Easement Bet. Majestic Ave and Laird Ave, and Easement Bet. Modesto St and Madera Ave	83-302, 83-401 & 83-403	50	18	2,137	0.4	\$ 283,569
C329134	SS Rehab By Broadway, Golden Gate Ave and Contra Costa Rd	50-16	170	62	5,402	1.0	\$ 957,035
C329135	SS Rehab Easement Bet. Clarendon Crescent Ave and Sunny Hills Rd	54-16	85	27	4,281	0.8	\$ 445,081
C329137	SS Rehab Ostrander Rd and Broadway Terr., Easement by Margarido Dr and Acacia Ave, and in the area by Broadway and Golden Gate Ave	50-17	78	17	1,563	0.3	\$ 293,452

Project No	Description	SubBasi n No	Lateral Connections	Structure	Length (feet)	Length (Miles)	Construction Cost
C329143 *	REHAB SS bounded by Park Blvd, Hollywood Ave, Sunnyhills Rd, and Brighton Ave	54-16	40	23	12,648	2.4	\$ 2,576,053
C461810	SS Rehab 57th Ave	83-001	25	19	2,694	0.5	\$ 397,305
C455610	SS On-Call: 3934 Brown Ave, I-880 Lisbon	81-015, 62-02	7	16	762	0.1	\$ 386,555
Total			894	326	60,546	11.5	\$ 10,734,000

Additional Sewer Mains Rehabilitated

Paragraph 83.b. of the Consent Decree requires:

“...In addition to the Work required under paragraph 83(a), beginning on July 1, 2014, the City shall complete, by the end of each Fiscal Year, Rehabilitation of no less than 5,280 feet of Sewer Main, anywhere within the City’s Collection System, based on a cumulative total (i.e., 5280 feet by June 30, 2015; 10,560 feet by June 30, 2016; 15,840 feet by June 30, 2017; etc.) for the duration of the Consent Decree.”

The City rehabilitated an additional 5,539 feet of Sewer Main under Paragraph 83.b. as shown in Tables 4-3 and 4-4.

Table 4-3
Length of Additional Sewer Mains Rehabilitated

Fiscal Year Requirement	Mains Rehabilitated	Cumulative Total	CD
FY 2014-15	5,539’ (1.0 miles)	5,539’ (1.0 miles)	5280’ (1 mile)

Table 4-4
Additional Sewer Mains Rehabilitated in FY 2014-15

Project No	Description	Completion Date	SubBasin No	Lateral Connections	Structure	Length (feet)	Length (Miles)	Construction Cost
227230	RHS-20th St, San Pablo Ave, Telegraph Ave, Alice St, and 12th St	6/30/2015	85-011	0	2	151	0.03	\$ 47,790
C329134	SS Rehab By Broadway, Golden Gate Ave and Contra Costa Rd	6/30/2015	17,50-14,54-07	14	3	856	0.16	\$ 117,979
C329138	SS Rehab Easement Bet. Shepherd Canyon Rd and Moore Dr and in Larry Lane Bet. Ascot Dr and Maslands Dr	6/18/2015	56-05, 56-07	37	23	2,524	0.48	\$ 516,406
C455610	SS On-Call: 3640 Grand Ave, Perkins, 52nd & Telegraph, Fire Station No. 5, 6449 Chabot, Mills College, , 1020 Galvin, Glen Manor & Tunnel Rd, 1037 89th Ave, I-880 23rd Ave, 5521 Golden Gate Ave, 8647 Thermal	6/30/2015	54-09, 50-16,83-304,85-305,50-1985-201,50-15,85-212	35	14	2,008	0.38	\$ 310,855
Total				86	42	5,539	1.0	\$ 993,030

Maintenance Holes

Paragraph 166.a.i.C. of the Consent Decree requires that the Annual Report contain:

“...the number of Maintenance Holes associated with Rehabilitated Sewer Mains and the number of Maintenance Holes Rehabilitated;”

As shown in Tables 4-2 and 4-4, as part of its Sewer Main Rehabilitation Program in FY 2014-15 the City encountered 573 Maintenance Holes and Repaired or Rehabilitated 368 of them. Remaining Maintenance Holes were inspected and did not require Rehabilitation.

Abandoned Sewer Laterals

Paragraph 166.a.i.D. of the Consent Decree requires that the Annual Report contain:

“...a statement that the City did not reconnect any abandoned Sewer Laterals that the City found to be connected to the Sewer Main;”

The City sealed off any abandoned sewer laterals which were encountered during construction. No abandoned laterals were reconnected to Sewer Mains. Abandoned or inactive house connection sewers shall be cut back two feet from the main and plugged with Class C mortar, at least six inches into the abandoned/inactive house connection sewer.

Sewer Main Rehabilitation Budget and Expenditures

Paragraph 166.a.i.F. of the Consent Decree requires that the Annual Report contain:

“...the Rehabilitation budget and dollars spent on Sewer Main Rehabilitation;”

During FY 2014-15, the City budgeted \$14,360,000 for capital improvements of the sewer collection system. Improvements include rehabilitating or replacing sewer mains, lower laterals, and associated sewer structures. This budgeted amount is intended to cover hard construction costs and soft costs associated with design and construction management. During the same period, total expenditures spent on sewer capital improvements was \$13,538,988. It must be noted that capital budget is not typically spent in one fiscal year as project activities and expenditures span over 2 to 3 years.

2015-16 Proposed Sewer Main Rehabilitation Projects

Paragraph 166.a.i.G of the Consent Decree requires that the Annual Report contain:

“...the Sewer Mains targeted to be Rehabilitated in the next Fiscal Year;”

In FY 2015-16, the City plans to complete 6 Sewer Main Rehabilitation projects as listed in Table 4-6 below. These projects will rehabilitate approximately 12.8 miles of sewer mains. All appurtenant sewer structures will also be rehabilitated as needed as part of these projects. The locations of these projects are selected from Appendix H of the Consent Decree and various locations for the 1 mile of sewer main rehabilitation required under Paragraph 83.b. The locations for the 1 mile will be developed in response to complaints and requests from the acute defect list. Appendix H lists Oakland's Collection System sub-basin priorities.

**Table 4-6
FY 2015-16 Proposed Sewer Main Rehabilitation Projects**

No.	Project No.	Description	Length (Miles)
1	C329151	The Rehabilitation of SS in the Area Bounded by E24th St, 19th Ave, Beaumont, Ave, and E33rd St (58-02)	5.65
2	C329145	Rehabilitation of Sanitary Sewer in the Area bounded by 21st Avenue, 17th Street, 24th Avenue, and 27th Avenue (60-06)	3.58
3	C329149	Rehabilitation of Sanitary Sewer in the Area Bounded by Mountain Boulevard, Bernves Ct, Terrabella Way, and Redwood Rd (83-502)	2.73
4	C228920	Rehabilitation of Sanitary Sewer in the Easement by 4300 Sequoyah Rd	0.41
5	C228930	Rehabilitation of Sanitary Sewers at Potter St and Renwick St between Fairfax Ave and Brookdale Ave	0.22
6	C228940	Rehabilitation of Sanitary Sewers at 904 Alvarado Rd	0.21

Revisions to Appendix H

Paragraph 166.a.i.H. of the Consent Decree requires that the Annual Report contain:

“...an explanation of any revisions that were made to Appendix H, or the financial plan associated with future Sewer Main Repair and Rehabilitation...”

In FY 2014-15, no revisions were made to Appendix H. A new financial plan was developed and included in the City’s AMIP as described in Section 2 of this report.

4.2 Sewer Main and Maintenance Hole Inspection

Paragraph 83.c. of the Consent Decree requires:

“For the duration of this Consent Decree, the City of Oakland shall inspect, using CCTV or other equally effective methods, and document condition assessment of, its Collection System at an annual rate of no less than 10 percent of its Sewer Mains per Fiscal year (at least 485,760 feet of Sewer Mains per Fiscal Year) on a cumulative basis (i.e., 242,880 feet by June 30, 2014; 728,640 feet by June 30, 2015; 1,214,400 feet by June 30, 2016; etc.).”

Paragraph 166.a.ii. of the Consent Decree requires the Annual Report to contain:

“Inspections: inspections and condition assessment completed...”

Sewer Main Condition Assessment

As shown in Table 4-7, 801,926 feet (151.9 miles) of sewer mains have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 728,640 feet (138 miles) by June 30, 2015.

**Table 4-7
Length of Sewer Mains Inspected and Assessed**

Fiscal Year Requirement	Mains Assessed	Cumulative Total	CD
FY 2013-14	182,935' (34.7 miles)*	182,935' (34.7 miles)*	242,880' (46 miles)
FY 2014-15	618,991 (117.2 miles)**	801,926' (151.9 miles)***	728,640' (138 miles)

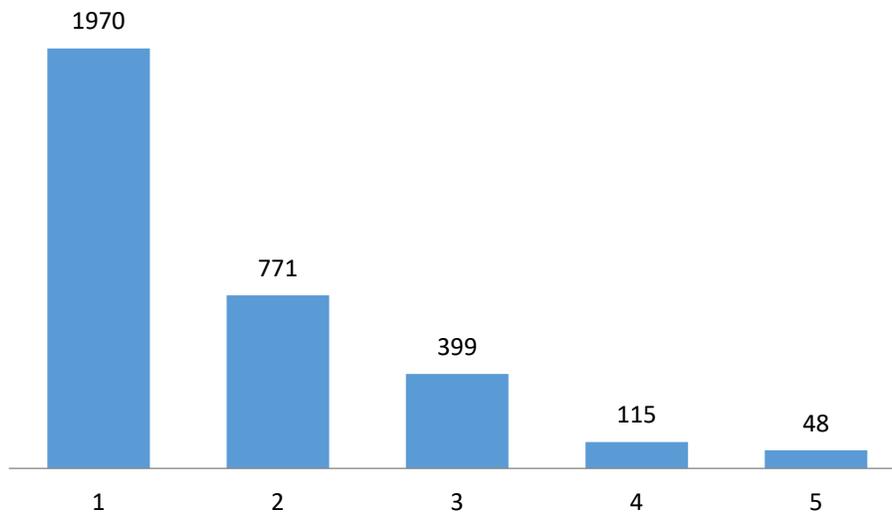
*Six months, January 1, 2014 – June 30, 2014

**Newly-unique feet

***Cumulatively-unique feet

Results of the inspections are summarized in Figure 4-1.

**Figure 4-1
Sewer Main Condition Grades (FY 2014-15)**



From a total of 3,330 pipe segments inspected, 1,970 segments were found to be in acceptable structural condition (Grade 1), 771 segments were found to be in minimal collapse risk condition (Grade 2), 399 segments were in collapse unlikely in near future condition (Grade 3), 115 segments were found to be in collapse likely in foreseeable future condition (Grade 4); and 48 segments were found to be in danger of imminent collapse (Grade 5).

Grade 5 defects are considered Acute Defects and are treated as described in Section 5-3.

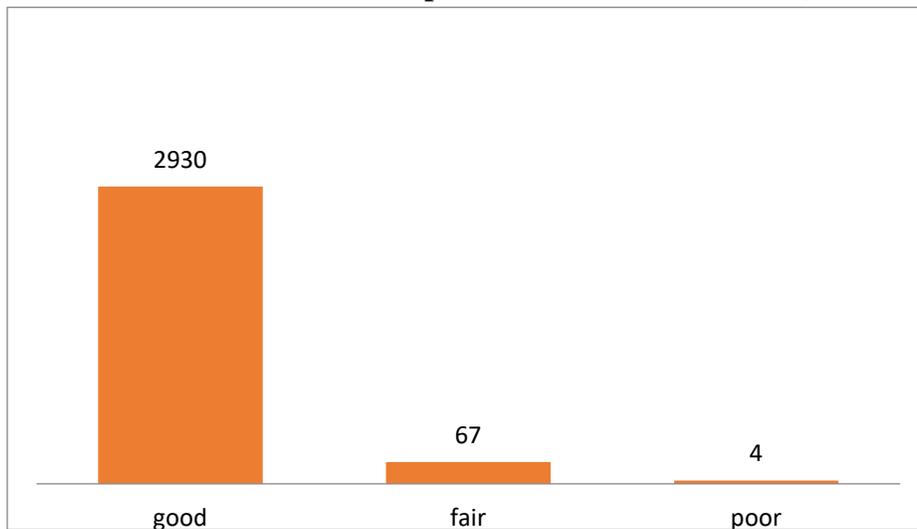
Maintenance Hole Inspection

Paragraph 83.c of the Consent Decree also requires:

“When the City inspects a Sewer Main, it shall also inspect all Maintenance Holes associated with that Sewer Main.”

Between July 1, 2014 and June 30, 2015, 3,001 maintenance-hole inspections were performed. Inspectors used a modified Manhole Assessment Certification Program (MACP) where field staff visually inspected the barrel of every maintenance hole and completed a computerized maintenance hole inspection form. Results of the inspections are summarized in Figure 4-2 below.

Figure 4-2
Maintenance Hole Inspection Results (FY 2014-15)



Of 3,001 Maintenance Hole inspections, 2,930 inspections found Maintenance Holes in good condition, 67 found Maintenance Holes in fair condition, and 4 found Maintenance Holes in poor condition. Table 4-8 contains a list of Maintenance Holes in poor condition.

**Table 4-8
Maintenance Holes in Poor Condition**

Inspection ID#	WO#	Inspection Type	Location	Condition	Depth
7229	676372	v2 Maintenance Hole Inspection	3039 WEBSTER STREET	Poor	10
7210	675991	v2 Maintenance Hole Inspection	2540 63RD AV	Poor	35
4932	626274	v2 Maintenance Hole Inspection	16TH ST AND POPLAR	Poor	6
4726	623264	v2 Maintenance Hole Inspection	102ND AV & PLYMOUTH ST	Poor	6

9 maintenance holes were found to be in poor condition in the last Annual Report (January 1, 2013 to June 30, 2014). 4 maintenance holes were found to be in poor condition this Fiscal Year. All are scheduled for repair in FY 2015-16.

4.3 Development of Regional Standards

Paragraph 166.1.iii. of the Consent Decree requires the Annual Report to contain:

“Regional Standards: a description of the activities to develop...Regional Standards.”

Paragraph 83.d. further requires:

“The City shall work with other Defendants to create Regional Standards for sewer installation, Rehabilitation and Repair and participate in submitting a group report of the recommended standards for EPA’s review and approval by June 30, 2016, and for review, every five years thereafter.”

The City bases its construction plans and specifications on The “Greenbook”: Standard Specifications for Public Works Construction, a statewide standard for the municipal construction industry. The Greenbook is updated every three years.

A Regional Standards committee (RSC) was formed in May 2015 by all Defendants for the review and development of Regional Standards regarding the work on sewer mains, manholes, and sewer laterals. In April 2015 a consultant (Humphrey Consulting) was contracted to assist the Defendants and the RSC in the development of standards. The City (District) has assigned a representative to the RSC and has actively participated in the first two meetings of the RSC, held in June and July 2015. The City will continue participation in the development of Standards through attendance at these RSC meetings, which will be held on generally a monthly basis until Regional Standards are completed. Completion of a report on recommended standards will be submitted to EPA by the June 30, 2016 deadline as required in the Consent Decree.

4.4 Sewer Lateral Inspection and Repair

Paragraph 166.b.i. of the Consent Decree requires the Annual Report to contain:

“Sewer Laterals: a description of the activities taken and materials used to notify property owners of defective sewer Laterals...”

Regional Private Sewer Lateral (PSL) Program

Paragraph 84.c of the Consent Decree requires:

“The City, to satisfy the requirements of this subparagraph, shall document, in spreadsheet format, the building permits issued during the Fiscal Year, the certificates of occupancy issued, and whether a Compliance Certificate was submitted prior to issuance of the certificate(s) of occupancy.”

Oakland started its PSL program on January 16, 2012, in collaboration with the Regional PSL Program administered by the East Bay Municipal Utility District (EBMUD).

The City requires that persons seeking building permits which require certificates of occupancy for construction or remodeling exceeding \$100,000 test and, where necessary, replace defective private sewer laterals and obtain Compliance Certificates from EBMUD before being issued certificates of occupancy.

Table 4-3 below shows the City's compliance with the CD requirement to have “...permittees to submit Compliance Certificates before being issued certificates of occupancy for construction or remodeling permits in excess of \$100,000.” (Paragraph 84.c). Between January 16, 2012 and June 30, 2015, the City finalized 282 building permits for construction over \$100,000 as shown in Table 4-10 below.

Table 4-10
Permits Finalized, with EBMUD Certificates of Compliance

Fiscal Year	# Permits Final'ed	# with Compl Cert	# w/o Compl Cert
FY 2012-13	119	99	20
FY 2013-14	114	87	27
FY 2014-15	49	49	0

In FY 2014-15, the City finalized 49 building permits which required certificates of occupancy for construction or remodeling permits in excess of \$100,000, all of which had Compliance Certificates issued by EBMUD. This met the Consent Decree requirement to limit the number of building permits issued without Compliance Certificates to less than 25 per Fiscal Year. The City continues to share data with EBMUD and sends spreadsheets detailing Oakland’s activities.

Other Privately Owned Defective Sewer Laterals

Paragraph 85.a. of the Consent Decree requires:

“Within 90 days of identifying a Sewer Lateral as defective the City of Oakland shall notify the owner in writing.”

Paragraph 166.b.i. of the Consent Decree requires the Annual Report to contain:

- A. the number of sewer Laterals identified as defective;*
- B. the number of property owners notified that their Sewer Laterals are defective;*
- C. a copy of a representative notice that was sent to property owners notifying them that their Sewer Lateral is defective;*
- D. a description and the number of administrative enforcement actions taken against property owners for defective Sewer Laterals;”*

As shown in Table 4-11, during FY 2014-15 City crews identified an additional 48 defective Sewer Laterals. 41 property owners have corrected their defective Sewer Laterals. 7 property owners have not corrected the defect after notices were sent.

Table 4-11
Defective Sewer Laterals

# of Defective Sewer Laterals Identified in Fiscal Year 2014-15	# of Defective Sewer Laterals Repaired	# of Defective Sewer Laterals Not Repaired
11	8	3

Additional enforcement action is being taken against the 3 property owners who had not responded to the City’s letter directing them to take action to correct inflow problems in their private Sewer Laterals. Figure 4-3, shown on **Appendix C**, shows a sample notice to property owners.

Oakland Owned Sewer Laterals

Paragraph 166.b.i.E requires the Annual Report to contain:

“...the number of Oakland-owned Sewer Laterals inspected and Repaired or Rehabilitated and the cumulative number of Oakland-owned Sewer Laterals inspected and Repaired or rehabilitated from the Effective Date;”

On October of 2015, the City is planning to advertise bids to inspect and, where necessary, Repair or Rehabilitate defective City owned Sewer Laterals of 95 City facilities identified in Appendix H-1 of the Consent Decree. The City expects to complete inspection and repair of City owned Sewer Laterals well ahead of the September 21, 2024, completion date specified in the Consent Decree.

Defective Sewer Laterals Owned by Other Public Entities or Government Agencies

Paragraph 166.b.i.F. requires the Annual Report to contain:

“...the address and name of any property owned by a Public Entity, or the State or federal government, that has an identified defective Sewer Lateral, including a description of the defect;”

During FY 2014-15, the city did not identify any defective Sewer Laterals owned by other Public Entities or the State or federal government.

Sewer Lateral Education and Outreach Program

Paragraph 166.b.i.G. requires the Annual Report to contain:

“... a summary of the City’s assistance to EBMUD in the development of a Sewer Lateral education and outreach program.”

The City assisted EBMUD in the development of the Sewer Lateral education and outreach program. The City participated in a meeting with EBMUD in January 2015, when the development of the program and educational materials was reviewed and discussed. Additional review and comments occurred in February 2015, prior to EBMUD's submittal of the plan to EPA for review and comment in March 2015. The City will continue to work with EBMUD in implementation of the program.

Lower Sewer Laterals

Paragraph 166.b.i.G. requires the Annual Report to contain:

“Lower Sewer Laterals: the number of Sewer Laterals connected to the Rehabilitated Sewer Mains and the number of Lower Sewer Laterals Repaired or Rehabilitated.”

As shown in Table 4-2 and Table 4-3, as part of its Sewer Main Rehabilitation, the City reconnected all 980 encountered Sewer Lateral connections which included connections to laterals within easements. The City Repaired or Rehabilitated 557 Lower Sewer Laterals as part of the construction projects. Laterals within easements are within private properties and are not considered Lower Sewer Laterals.

4.5 Inflow and Rapid Infiltration Identification and Elimination

Paragraph 166.c.i. of the Consent Decree requires the Annual Report to contain:

“a description of the City’s cooperation with EBMUD’s implementation of the RTSP;...”

By a letter dated January 20, 2015, EBMUD provided a draft of its Regional Technical Support program (RTSP) plan to the East Bay Collection System Advisory Committee (EBCSAC) for review and comment. EBCSAC’s comments on the EBMUD draft RTSP were provided to EBMUD by letter dated February 19, 2015. EBMUD submitted the RTSP Plan to EPA, RWQCB, SWRCB, and DOJ on March 23, 2015. Based on comments from EPA received on May 19, 2015, EBMUD resubmitted a revised RTSP Plan on July 20, 2015. As of the date of preparing this report, the revised RTSP Plan has not been approved. EBCSAC agencies have also discussed RTSP issues with EBMUD at monthly meetings from January 2015 to the present time. The City will continue to work with EBMUD in implementation of the program.

Section 5. SSO Reduction Work

Paragraph 167 of the Consent Decree requires:

“The City shall summarize its Work to reduce SSOs in its service area in the reporting Fiscal Year.”

A summary of the City’s work is described below:

5.1 Capacity Assurance

Paragraph 167.a. of the Consent Decree requires that the Annual Report contain:

“Capacity Assurance: a description of the activities performed in order to monitor the locations in Paragraph 89(a) during rain events...”

During FY 2014-15, the City monitored water levels in Maintenance Holes listed in Paragraph 89(a) of the Consent Decree. Table 5-1 shows each location monitored, the highest water level recorded, and instances where the water level reached within one foot of the Maintenance Hole rim due to a lack of capacity.

**Table 5-1
Capacity Monitoring Results**

The City responded to water level alarms triggered when the water level reached within three (3) feet of the Maintenance Hole rim and took all steps necessary to prevent an SSO, as described in the SSO Response Plan in the City’s AMIP. In FY 2014-15 the City experienced a total of five locations that reached within one foot of the Maintenance Hole rim. Three locations were suspected to be capacity related and two locations were suspected of existing sags. The City is currently providing design work to increase pipe diameters and correct sags. One (1) foot water alarms were triggered at locations listed in Paragraph 89.a. on the dates shown in Table 5-1.

**Table 5-2
Capacity Related Alarms Triggered in FY 2014-15**

No.	Location	Event First Occurrence Time	Event	Reasons for High Level Alarm	Comment
i.	San Pablo Avenue at 60th Street	11 Dec 2014 08:23	High Level Alarm	Capacity	Planned for 2016 Construction
ii.	San Pablo Avenue at 62nd Street	NO HIGH LEVEL ALARM			N/A
iii.	Stanford Avenue at Gaskill Street	NO HIGH LEVEL ALARM			N/A
iv.	27th Avenue at Vernon Street	11 Dec 2014 08:13	High Level Alarm	Capacity	Planned for 2016 Construction
v.	Harrison Street at 27th Avenue	11 Dec 2014 08:16	High Level Alarm	Grease	N/A
vi.	Grand Avenue at Harrison Street	11 Dec 2014 08:16	High Level Alarm	Sag	Planned for 2016 Construction
vii.	19th Street at Jackson Street	NO HIGH LEVEL ALARM			N/A
viii.	Park Blvd at Spruce Street	11 Dec 2014 08:10	High Level Alarm	Capacity	Planned for 2016 Construction
ix.	East 18th Avenue at 4th Avenue	11 Dec 2014 08:19	High Level Alarm	Capacity	Planned for 2016 Construction
x.	Maybelle Avenue at Masterson Street	12 Dec 2014 00:15	High Level Alarm	Sag	Planned for 2016 Construction
xi.	76th Avenue at Garfield Avenue	NO HIGH LEVEL ALARM			N/A
xii.	Trestle Glen road at Creed Road	11 Dec 2014 08:33	High Level Alarm	Debris	N/A

The Consent Decree requires the City to increase sewer capacity in certain locations when sewer flows reach within one foot of the Maintenance Hole rim. The City has created a new capital improvement project (C329154 Citywide Sanitary Sewer Capacity Upgrades) to address the six locations where this occurred. Design work has begun. Capacity upgrade projects are scheduled to be completed within twenty four (24) months of the time an alarm was first triggered.

5.2 Post SSO Inspection

Paragraph 167.b. of the Consent Decree requires that the Annual Report contain:

“Inspections: a statement that Oakland completed CCTV inspections downstream of each SSO location.”

During FY 2014-15, the City completed CCTV inspections downstream of each SSO.

5.3 Acute Defects

Paragraph 167.c. of the Consent Decree requires that the Annual Report contain:

“Acute Defects: a description of the activities to Repair Acute Defects...”

Paragraph 91 further provides:

“Acute Defects. The City of Oakland shall continue to repair Acute Defects as soon as possible, but no later than within one Year of identification.”

In FY 2014-15, the City merged its list of Grade 5 defects identified by condition assessment of Sewer Mains with other Sewer Main defects identified by staff which could result in imminent risk of an SSO. This resulted in a new list of Acute Defects shown in Table 5-3a and Table 5-3b of **Appendix D**. Table 5-3a shows location of Acute Defect locations identified after the Consent Decree (July 1, 2014). For information only, Table 5-3b shows locations of Acute Defect locations identified prior to the Consent Decree.

As shown in Table 5-3a, the following is a list of activities related to acute defects.

- 35 New Acute Defects were found.
- 8 Acute Defects were repaired.
- Remaining 27 acute defects will be repaired within one Year of Identification.

Minor repairs are shown in page 19.

Most of the Acute Defects that took more than one year to correct occurred before the City revised its processes. In the past, maintenance personnel would work on the defect as long as they could. Once they realized the defect was beyond their capabilities, they would refer the problem to Engineering to be repaired by contract. This referral frequently happened too late to meet the twelve month goal. Maintenance personnel are now required to make an initial determination within 120 days as to whether they can repair the defect.

Between July 1, 2014 and January 31, 2015, the median time to correct an Acute Defect was 348 days; between February 1, 2015 and June 30, 2015, the median time had decreased to 322. It should be noted that delays in repairing Acute Defects did not result in any Sanitary Sewer

Overflows. All Acute Defects identified prior to the Consent Decree shown on Table 5-3b have been repaired.

Minor Repairs Completed

In addition to the Sewer Main Rehabilitation described above, between July 1, 2014 and June 30, 2015, the City's Sewer Maintenance Section responded to 116 spot repair work orders. These spot repairs consisted of excavating damaged sewer lines and installing new segments of sewer line or repairing structures. The list of repair locations is shown in Table 4-5 of **Appendix B**.

As of June 30, 2015, maintenance crews have 37 minor repairs to be completed within this fiscal year.

5.4 Sewer Main Cleaning

Paragraph 167.d. of the Consent Decree requires that the Annual Report contain:

“Sewer Main Line Cleaning: a description of activities conducted under its sewer cleaning program...”

Paragraph 92.a. further provides:

“The City of Oakland shall complete the cleaning of its entire Collection System program which began in 2010, by June 30, 2018. By June 30, 2014, the City shall have cleaned 1,900,800 feet of Sewer Mains. Beginning July 1, 2014, the City shall clean its remaining Sewer Mains at the rate of 739,200 feet per Fiscal Year on a cumulative basis (i.e., 2,640,000 feet by June 30, 2015; 3,379,200 feet by June 30, 2016; etc.).”

As shown in Table 5-4a, 2,864,495 unique feet (543 miles) of Sewer Main have been cleaned. This exceeds the Consent Decree requirement of 2,640,000 feet (500 miles).

**Table 5-4a
Feet of Sewer Main Cleaned (Unique Feet)**

Fiscal Year	Mains Cleaned*	Cumulative Total**	CD Requirement
FY 2013-14	544,051' (103 miles)	2,085,969' (395 miles)	1,900,800' (360 miles)
FY 2014-15	778,526' (147 miles)	2,864,495' (543 miles)	2,640,000' (500 miles)
Since Effective Date (September 22, 2014)	548,272' (104 miles)	2,864,495' (543 miles)	n/a

*Newly-unique feet cleaned during the FY (feet that had no previous cleaning between January 1, 2010 and the start of the FY)

**Cumulatively-unique feet starting January 1, 2010

Reference: Paragraph 92.a., Paragraph 167.d.i.

**Table 5-4b
Feet of Sewer Main Cleaned More Than Once**

Per Paragraph 167.d.ii., in this Table 5-4b, the length of a Sewer Main is counted once regardless of the number of times it is cleaned.

Fiscal Year	Mains Cleaned	Cumulative Total*	CD Requirement
FY 2014-15	379,663' (72 miles)	1,508,005' (286 miles)	n/a

*Starting January 1, 2010

**Table 5-4c
Feet of Sewer Main Cleaned, Including Repeat Cleanings**

Per Paragraph 167.d.iii., in this Table 5-4c, the length of a Sewer Main is multiplied by the number of times it is cleaned.

Fiscal Year	Mains Cleaned	Cumulative Total*	CD Requirement
FY 2014-15	2,017,932' (382 miles)	6,486,856' (1,229 miles)	n/a

*Starting January 1, 2010

A summary of the cleaning by Sub-Basin is shown in Figure 5-1 of **Appendix E**.

5.5 Root Cleaning (Foaming)

Paragraph 167.e. of the Consent Decree requires that the Annual Report contain:

“Root Cleaning: a description of the activities conducted under Oakland’s root control program, including the feet of Sewer Main treated for root control cumulatively and in each Fiscal Year beginning July 1, 2013.”

Paragraph 92.e. further provides:

“For the first three Fiscal Years, the City of Oakland shall treat a minimum of 264,000 feet of Sewer Mains per Fiscal Year on a cumulative basis (i.e., 264,000 feet by June 30, 2014; 528,000 feet by June 30, 2015; and 792,000 feet by June 30, 2016.)”

The City has used various root-foaming contractors to treat sewer pipes for root control. The root-foaming program uses an herbicide which penetrates root cell walls and causes them to decay and die. This treatment kills roots that can cause stoppages and pipe destruction in City Sewer Mains.

Figure 5-1 contains a location map showing subbasins root-foamed in 2012, 2013-14, and 2014-15. All pipes in the subbasins were root foamed. Also shown in the map are subbasins planned for FY 2015-16 in which targeted pipes were selected in each of the subbasins. The selection criteria for root foaming are in the following:

1. All pipes that have root intrusion as indicated in CCTV inspections.
2. All pipes along easements.
3. All pipes in the subbasin if a significant number of pipes were affected by root intrusion as indicated in CCTV inspections.
4. Pipes will not be selected for root foaming if the pipe will be rehabilitated within five years or the pipe resides in the hot spot list.

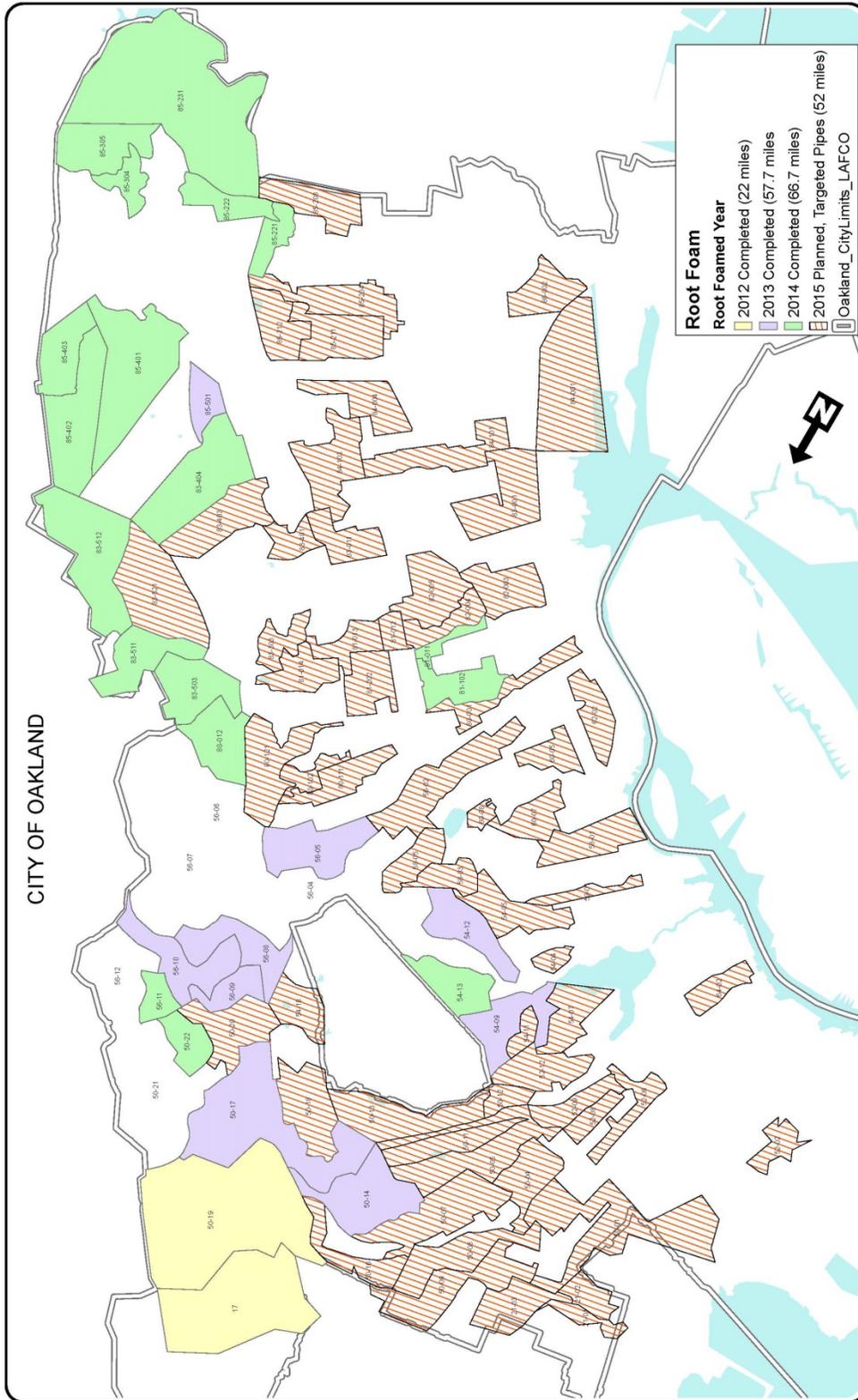
Results of the City’s Root Control are as follows:

Table 5-5.
Root Control Program Implementation

Fiscal Year Requirement	Mains Assessed	Cumulative Total	CD
FY 2013-14	304,811’ (57.7 miles)	304,811’ (57.7 miles)	264,000’ (50 miles)
FY 2014-15	352,176’ (66.7 miles)	656,987’ (124.4 miles)	528,000’ (100 miles)

As of June 30, 2015, the City had root foamed 656,987’ (124.4 miles) of Sewer Mains, which exceeds the Consent Decree requirement of 528,000’ feet (100 miles).

Figure 5-1 Root Foaming Areas



Paragraph 92.e. further provides:

“By December 31, 2016, the City shall submit an evaluation of its root control program to EPA for review and approval. The evaluation shall consider the need to treat additional or fewer Sewer Mains to address results from cleaning and CCTV. The evaluation shall propose refinements to the City’s root control program in order to ensure excessive roots in the Collection System are controlled.”

On June 2, 2015 the City hired V&A Consulting Engineers to evaluate the City’s Root Foaming Program and recommend refinements to the program. The City is on schedule to meet the December 31, 2016 deadline.

5.6 Hot Spot Cleaning

Paragraph 167.f. of the Consent Decree requires that the Annual Report contain:

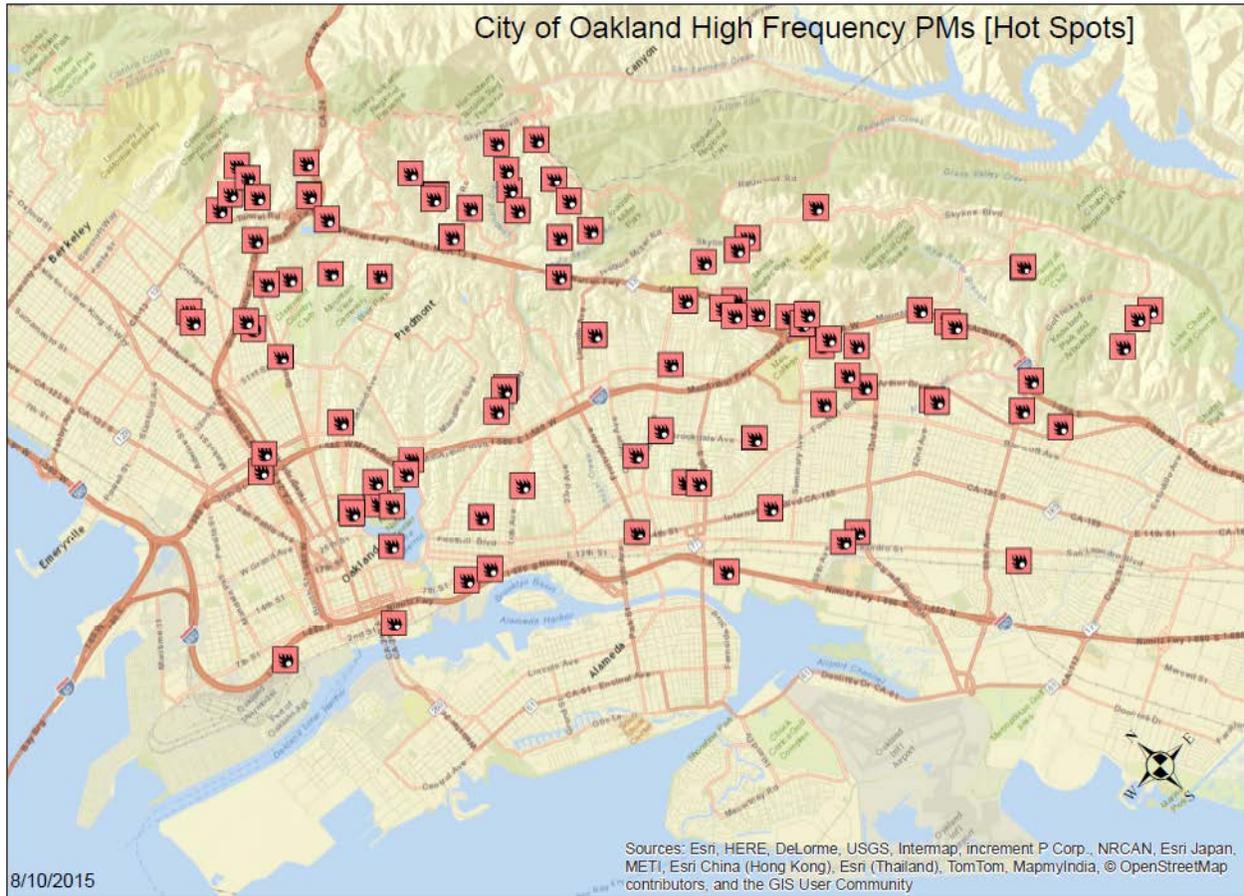
“Hot Spot Cleaning: description of activities conducted under its hot spot program, including feet of Sewer Main in the hot spot cleaning program and the range of cleaning frequencies for Sewer Main in the hot spot cleaning program;”

The Consent Decree changed both the definition of “Hot Spot” and the cleaning requirements. In anticipation of the CD, staff reviewed City records and created a new High Frequency Preventive Maintenance List (Hot Spots) containing both locations having more than one SSO in a three year period (Hot Spots) and other locations identified by staff. The list now contains 99 locations. Each of these locations was cleaned at least once in FY 2014-15. Table 5-5 of Appendix F contains the new High Priority PM List (as of June 30, 2015). Figure 5-2 contains a map of these locations.

The City reviewed its data for risk factors such as pipe age, size, slope and materials of construction, and found no correlation between SSOs and those factors.

The hot spot cleaning program contains 86,187 feet (16.32 miles) of Sewer Mains which are cleaned every three (3) to twelve (12) months as shown. Between July 1, 2014 and June 30, 2015, the City’s sewer crews cleaned 116,107 feet (22 miles) of Sewer Mains as part of the hot spot sewer cleaning program.

Figure 5-2
High Frequency PM Locations



5.7 Fats, Oil and Grease (FOG) Control

Paragraph 167.g. of the Consent Decree requires that the Annual Report contain:

“FOG: a description of activities to control FOG in the Collection System; a list of any SSOs that were thought to be associated with FOG or excessive buildup of grease, a list of FOG locations referred to EBMUD for investigation, and any actions that were taken against food service establishments related to inadequate FOG controls.”

The City’s FOG Control Program is described in Section 3.3 of its AMIP. The City identifies and reports FOG problems to EBMUD. EBMUD investigates and inspects FOG sources and works with food service establishments (FSEs) to correct FOG problems. Non-compliant FSEs are referred to the City for enforcement action.

In FY 2014-15, 40 SSOs were thought to be associated with FOG as listed in Table 2-1. These locations were referred to EBMUD for investigation as shown in Table 5-6.

EBMUD has not referred any FSEs to the City for enforcement action.

Table 5-6

FOG-Related SSOs Reported to EBMUD With CIWQS #s.			
Address	Street	Date Reported to EBMUD	CIWQWS #
10543	STELLA ST	7/25/2014	807766
1414	86TH AV	7/25/2014	807991
2852	68th Ave	9/23/2014	808641
40	LARRY LN	9/23/2014	808452
1225	FALLON ST	9/23/2014	809333
	81st Ave & Birch St	9/26/2014	809435
	College Ave & Taft Ave	10/3/2014	809679
	82ND AV & IRIS ST	10/10/2014	809806
1731	Gouldin Rd	10/10/2014	809807
	69th Ave & Snell St	11/20/2014	810394
1818	90th Ave	11/20/2014	810561
1020	87th Av	12/8/2014	811268
3625	Fruitvale Ave	11/25/2014	810880
5400	College Ave	12/3/2014	811173
1108	60th Ave	12/3/2014	811782
485	105th Ave	12/3/2014	814765
550	West Macarthur Blvd	12/11/2014	811301
950	77th Ave	12/30/2014	811659
4326	Virginia Ave	12/30/2014	811441

Address	Street	Date Reported to EBMUD	CIWQWS #
6040	Bancroft Ave	12/30/2014	811480
279	Lee St.	12/30/2014	811656
	5TH ST & UNION ST	1/5/2015	812129
581	Valle Vista Ave	1/1/2015	812046
3816	Whittle Ave	1/5/2015	812055
2929	Holyrood Dr	1/13/2015	812115
11212	Monan St	1/15/2015	812268
2058	Rosedale Ave	2/10/2015	812884
	G St. & 85th Ave	2/10/2015	812920
5560	Fremont St.	2/10/2015	812903
1200	Westview Dr	2/19/2015	813932
1520	Lakeside Dr	2/19/2015	813217
4900	Shattuck Av	2/19/2015	813208
8432	International Blvd	3/10/2015	813615
6430	Girving Dr	4/20/2015	813674
3933	Woodruff Av	4/20/2015	663243
3712	Loma Vista Av	4/20/2015	814362
3271	Kempton Av	6/26/2015	815335
6020	Aspinwall Rd	6/26/2015	815146
	Grand Av & Santa Clara Av	6/26/2015	814795
6319	Pinehaven Rd	6/26/2015	815999

5.8 Pump Station Renovation

Paragraph 167.g of the Consent Decree requires that the Annual Report contain:

“Pump Stations: a description of pump station renovation and upgrades required by the Pump Station Reliability Plan during the previous Fiscal Year and a description of projects to be completed in the following Fiscal Year.”

Paragraph 94 further requires:

“The City shall complete improvements described in the Plan by October 15, 2022.”

The city's collection system has eight (7) small pump/lift stations:

- ❖ Denton Place
- ❖ Fallon Street
- ❖ Hegenberger Road
- ❖ Parkridge Drive
- ❖ Tidewater Avenue
- ❖ Shepherd Canyon Road
- ❖ Skyline Blvd

Work on the Tidewater Pump Station was completed in 2012.

On February 27, 2014 consulting firm, Schaaf & Wheeler, began to design and prepare construction plans and specifications for improvements to the remaining pump stations. Final design plans of all pump/lift stations will be completed in November 2015. Construction at locations Fallon Street, Hegenberger Road, and Shepherd Canyon Road are scheduled to begin in summer 2016. Construction at locations Denton Place, Parkridge Drive, and Skyline Blvd are scheduled to begin in summer 2017.

The City is significantly ahead of schedule with its Pump Station Improvement Program, with completion planned for 2018, four years ahead of schedule.

Section 6. Deliverables

The only Deliverable required during FY 2014-15 was submittal of an Annual Report for January 1, 2013 – June 30, 2014 (18 months) by September 30, 2014. The Deliverable was submitted ahead of schedule.

Section 7. Known Non-Compliance with Consent Decree

The City is fully compliant with the programmatic requirements of the Consent Decree and has fully embraced both the letter and spirit of the Consent Decree.

In FY 2014-2015 the City added seven new sewer service positions and eight pieces of equipment in the reporting period. The City provided additional funding for standby contracts for CCTV and sewer cleaning. The City reorganized the Sewer Services Maintenance Division under a new Operations Manager to provide optimal oversight of all sewer-related maintenance activities. The production rate of cleaning increased by 43% and CCTV inspection increased 69%. The City is well ahead of schedule in sewer rehabilitation, sewer cleaning, root control, CCTV inspection, and pump station rehabilitation. The City has increased its sewer service budget, staffing, and equipment for FY 2015-16 and intends to continue to meet its obligations under the Consent Decree.

Section 8. Assessment of Stipulated Penalties

Paragraph 172 of the Consent Decree provides:

"If the Annual Report documents that any of the obligations subject to stipulated penalties may not have been complied with, and a Defendant takes the position that potentially applicable stipulated penalties should not be assessed, that Defendant may include in the Annual Report an explanation as to why Plaintiffs should forego collecting such penalties; ... "

The City believes that it is fully compliant with the Consent Decree and that no penalties should be assessed for the City's Collection System. The City has used all reasonable methods to prevent Sanitary Sewer Overflows and is unaware of any areas of non-compliance with the programmatic requirements of the Consent Decree.

If Plaintiffs disagree with this position, the City requests the opportunity to provide additional supporting documentation and explanations beyond the information provided in this annual report for consideration.

Section 9. Recommended Changes to Required Work

Paragraph 165 of the Consent Decree requires the City to summarize implementation of its AMIP. Since the AMIP has now been revised to comply with the Consent Decree, reporting under paragraph 165 is redundant and should be eliminated. . I

The City has no recommendations for changes to this Consent Decree at this time.

Appendix Summary

Appendix	Table Name	Table Number
A	List of Sanitary Sewer Overflows (SSOs) in FY 2014-15	Table 2-1
B	Collection System Spot Repair Work (July 1, 2014 – June 30, 2015)	Table 4-5
C	Notice to Abate Sample Letter	Table 4-3
D	Acute Defect Lists	Table 5-3a & Table 5-3b
E	Cleaning by Sub-Basin	Figure 5-1
F	High Frequency PM Locations	Table 5-5
G	Port of Oakland Sewer Collection System Annual Report for July 1, 2014 – June 30, 2015.	-

Appendix A

Table 2-1
List of Sanitary Sewer Overflows (SSOs) in FY 2014-15

**Table 2-1
List of Sanitary Sewer Overflows (SSOs) in FY 2014-15**

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC_OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EXPL
# 1 Westview Pl. Oakland Ca	2015.02.26 18.00.00	2015.02.26 20.15.00	135	135	0	Other (specify below)	Street/Curb & Gutter
1020 87th Ave Oakland,CA, 94621	2014.11.12 17.00.00	2014.11.12 19.00.00	2244	2244	0	Building or Structure	2244 gallons overflowed from an 8 vcp sewer line into a basement. Staff recovered all 2244gallons.
1029 55th St	2015.01.01 15.30.00	2015.01.01 17.00.00	90	70	0	Building or Structure; Unpaved surface	8 sanitary main sewer plugged due to debris in the main and overflowed in and outside of the building structure.
1050 Portal Ave Oakland Ca,	2015.02.15 09.30.00	2015.02.15 12.00.00	150	150	0	Street/Cur b and Gutter	Sanitary main sewer plugged due to roots and overflowed out of the manhole in the street. Staff contained the overflow . Staff rodded the main sewer to unplug stoppage and return the flow. Staff cleaned all affected areas of the overflow and returned all portions of spill back to the sanitary main sewer.
10520 Sheldon street Oakland California, 94621	2014.10.24 17.30.00	2014.10.24 19.45.00	270	0	0	Unpaved surface	8 VCP sanitary sewer main overflowed due to tree roots obstructing the sewer main. 270 gallons spilled on to the gorund at this location.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
10536 Stella St Oakland CA, 94605	2014.07.17 08.30.00	2014.07.17 10.30.00	600	600	0	Street/Curb and Gutter	600 gallons overflowed from an 8 vcp sewer line into the curb and gutter area. Staff recovered all 600 gallons.
1108 60th avenue Oakland Ca,94621	2014.12.29 14.30.00	2014.12.29 19.30.00	720	720	0	Street/Curb and Gutter	720 gallons overflowed from an 8 VCP sanitary sewer main on to the curb and gutter at this location. The cause of this overflow was debris obstructing the line. 720 gallons was recovered and returned back to the collection system.
11212 Monan St Oakland,CA 94605	2015.01.13 09.05.00	2015.01.13 11.05.00	120	120	0	Street/Curb and Gutter	120 gallons overflowed from 8 vcp sewer line into the curb and gutter area. Staff reovered all 120 gallons.
1200 Westview Dr. Oakland Ca,94721	2015.02.19 11.15.00	2015.02.19 13.30.00	540	0	0	Building or Structure	540 gallons spilled from a 8 VCP sanitary sewer main into the property at this location. Grease was the cause of this blockage.
1221 Stanford Oakland Ca.	2015.02.04 11.00.00	2015.02.04 15.00.00	240	240	0	Building or Structure	null
1225 Fallon St Oakland, CA 94612	2014.08.25 11.00.00	2014.08.25 13.45.00	200	200	0	Street/Curb and Gutter;Unpaved surface	200 gallons overflowed from a 10 cip sewer line into the curb and gutter area. Staff contained all 200 gallons of the spill and returned it to the collection system.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC_OVER	SPILL_VOL_REACH_SURFACE	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EXPL
1370 Grand View Dr Oakland,CA, 94618	2014.11.30 10.00.00	2014.11.30 13.00.00	900	0	0	Unpaved surface	900 gallons overflowed from an 8 vcp sewer line on an easement into the ground.
1414 86th ave Oakland ca	2014.07.20 10.30.00	2014.07.20 12.00.00	60	60	0	Other (specify below)	Staff used Hydro Flusher to vacuum spilled sewage and returned to sanitary system.
165 Marlow Dr Oakland Ca	2014.10.24 11.00.00	2014.10.24 13.30.00	150	125	0	Street/Curb and Gutter	Staff contained spill and used Hydro Flusher to vacuum sewage and returned to sanitary system.
165 Roble Rd Oakland Ca.	2015.03.20 15.35.00	2015.03.20 17.35.00	240	0	0	Other (specify below)	8" main sewer discharged out onto the street and soaked into the dirt.
1701 Mountain Blvd.	2014.11.09 11.30.00	2014.11.09 13.30.00	1200	1000	1200	Surface Water	Sewer main overflow at 1701 Mountain Blvd. due to debris, roots and rags obstructing the main. 1200 gallons spilled into nearby storm drain, 1000 gallons captured from drainage channel and 200 gallons reached surface water body.
1707 Gouldin Rd Oakland ca	2014.11.01 10.30.00	2014.11.01 12.30.00	600	0	0	Building or Structure	Building structure.
1731 Gouldin Rd Oakland, CA 94611	2014.10.07 18.00.00	2014.10.07 19.30.00	450	0	0	Unpaved surface	450 gallons spilled from an 8 vcp main sewer into a dry creek bed and soaked into the ground.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
1768 Manzanita Dr Oakland Ca	2014.10.23 07.30.00	2014.10.23 10.00.00	100	100	0	Other (specify below)	Staff contained spill at gutter with sand bags, then used Hydro Flusher to vacuum sewage and return to sanitary system.
1818 90th Ave Oakland, CA, 94603	2014.11.05 18.00.00	2014.11.05 20.30.00	750	750	0	Unpaved surface	750 gallons overflowed from a 10 vcp sewer line into the front yard.
1901 Tunnel Rd	2014.09.27 16.30.00	2014.09.27 18.30.00	120	120	0	Other (specify below)	Main sewer discharged from a man hole and pooled in the rear of 1901 Tunnel Rd.
1901 Tunnel Rd Oakland,CA 94611	2014.11.11 07.00.00	2014.11.11 10.00.00	900	500	0	Street/Curb and Gutter	900 gallons overflowed from an 8 vcp sewer line in the rear yard into the curb and gutter area. Staff recovered 500 gallons and returned it to the collection system. 400 gallons soaked into the ground.
1943 Seminary Ave Oakland, CA, 94621	2015.02.08 10.00.00	2015.02.08 14.00.00	720	0	720	Separate Storm Drain	720 gallons spilled from a 16 vcp sanitary sewer main. All 720 gallons went into the storm line and down to SF Bay.
20 Evirel Pl Oakland ca	2014.08.31 16.30.00	2014.08.31 18.40.00	130	130	0	Other (specify below)	Staff contained spill and used Hydro Flusher to vacuum sewage and returned to sanitary system.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
200 Caldecott Ln. Oakland Ca	2014.08.04 08.00.00	2014.08.04 11.00.00	360	360	0	Other (specify below)	Staff contained sewage by using matts & sand bags, then using Hydro Flusher to vacuum spilled sewage and return to sanitary system.
2037 Pleasant Valley Ave Oakland, CA, 94609	2014.08.26 08.30.00	2014.08.26 10.30.00	240	0	0	Other (specify below)	240 gallons overflowed from an 8 vcp sewer line into the ground in the rear yard. 0 gallons were recovered.
2058 Rosedale Oakland Ca.	2015.01.30 21.00.00	2015.01.31 03.00.00	360	360	0	Building or Structure	null
2134 Melvin Rd Oakland Ca 94801	2014.12.29 13.30.00	2014.12.29 16.30.00	1000	0	1000	Other (specify below)	8" Main sewer broke down and discharged out into a storm line.
2205 40th Ave Oakland CA, 94601	2014.08.15 08.00.00	2014.08.15 10.00.00	240	240	0	Building or Structure	240 gallons overflowed from an 8 vcp sewer line into the basement of the residence. Staff recovered all 240 gallons.
244 Lakeside Dr. Oakland California	2014.12.11 10.00.00	2014.12.11 11.30.00	450	0	450	Surface Water	The storm drain were the sewage entered at lead to Lake Merritt.
2477 Monterey Blvd Oakland Ca	2014.07.04 13.15.00	2014.07.04 16.00.00	120	120	0	Other (specify below)	Staff contained sewage spill with sandbags and used Hydro Flusher to vacuum sewage and returned to Sanitary System.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC_OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EXPL
279 Lee St Oakland Ca, 94610	2014.12.22 09.30.00	2014.12.22 11.30.00	120	120	0	Separate Storm Drain	8 VCP sanitary main sewer plugged due to grease intrusion and overflowed out of the lanphole in the street. Staff contained the overflow. Staff flushed the main sewer unplug the stoppage and retuen the flow. Staff cleaned all affected area and returned all porsions of the overflow back to the sanitary sewer collection system.
2820 London Rd Oakland,CA, 94602	2015.02.18 14.17.00	2015.02.18 17.30.00	905	0	0	Unpaved surface	905 gallons overflowed from an 8 vcp sewer line into the ground on an easement.
2852 68th avenue Oakland Ca,94621	2014.08.10 11.30.00	2014.08.10 17.00.00	8250	8250	0	Street/Cur b and Gutter	8250 gallons overflowed from a 8 VCP sanitary sewer main. Grease was the cause of the overflow. 8250 gallons spilled on to the street curb and gutter at this location
2929 Hollyrood	2014.12.30 13.15.00	2015.01.06 13.10.00	2016 0	0	20160	Other (specify below)	8" Main Sewer Discharged out into Scott Creek
2950 LakeShore Ave Oakland Ca	2015.06.27 06.45.00	2015.06.27 09.45.00	900	0	900	Other (specify below)	8" Main Sewer discharged out from a clean out into a storm inlet and discharged into Lake Merritt.
3001 Broamoor View dr Oakland Ca	2014.10.23 22.30.00	2014.10.24 01.00.00	75	0	0	Other (specify below)	75 gallons soaked into dirt area on side of hill.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC_OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EXPL
319 Marlow Dr	2015.02.21 08.00.00	2015.02.21 13.00.00	200	0	0	Other (specify below);Un paved surface	Sanitary main sewer plugged and overflowed onto the ground in the rear of the property.
3271 Kempton Oakland Ca	2015.05.14 21.00.00	2015.05.14 23.00.00	240	240	0	Other (specify below)	8" Main sewer discharged from the house bathroom out the back door and onto the ground.
3290 Revere Ave	2015.05.23 10.40.00	2015.05.23 14.42.00	242	242	0	Building or Structure	8 sanitary main sewer plugged due to root intrusion and overflowed into the building structure. Staff rodded the main sewer to unplug stoppage and return the flow. Sewage was collected and returned to the collection system by the contractor.
3500 Mountain Blvd	2015.02.19 19.20.00	2015.02.19 22.50.00	840	840	0	Other (specify below)	8" Main Sewer discharged out from a man hole and out onto the ground and contained in a parking lot.
3624 Loma Vista st. Oakland Ca,94621	2014.07.07 20.00.00	2014.07.07 22.00.00	120	120	0	Other (specify below)	120 gallons spilled on to the dirt at this location. Water soaked in to the dirt at this location. The remaining debris were cleaned and properly disposed off.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
3625 Fruitvale Ave Oakland,CA, 94602	2014.11.22 09.30.00	2014.11.22 11.30.00	120	120	0	Unpaved surface	120 gallons overflowed from a cleanout onto an unpaved surface. Staff recovered all 120 gallons of wastewater and returned it to the collection system.
3712 Loma Vista Ave	2015.04.02 08.00.00	2015.04.02 11.00.00	360	360	0	Building or Structure	Sanitary main sewer plugged and overflowed into the building. Staff rodded the main sewer to unplug stoppage and return the flow. Overflow was contained and put back into the sanitary sewer collection system,
37th St and West MacArthur Blvd	2014.12.08 12.10.00	2014.12.08 13.50.00	2500	2500	0	Other (specify below); Street/Curb and Gutter	8 sanitary main sewer plugged due to grease and overflowed out of the manhole in the middle of the street into the curb and gutter and storm inlet.
3816 Whittle ave Oakland ca	2015.01.01 11.00.00	2015.01.01 13.00.00	120	120	0	Other (specify below)	Staff contained sewage in gutter and used Hydro Flusher to vacuum sewage. Also cleaned and disinfected area in driveway.
3824 Park BL	2014.11.07 17.30.00	2014.11.07 18.45.00	75	75	0	Building or Structure	8" Main Sewer Plugged up and Backed up into the Basement at 3824 Park. The Owner pumped the gray water back into the sewer system and cleaned the Basement. staff will return to check.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
3920 Wilda Ave Oakland, CA, 94611	2014.11.22 10.00.00	2014.11.22 13.00.00	900	800	0	Building or Structure	null
3982 Turnley Ave	2014.12.12 11.00.00	2014.12.12 14.00.00	180	180	0	Unpaved surface	Sanitary main sewer plugged and overflowed out of manhole on easement in the rear of the property. Staff contained all portions of the overflow and returned back to the collection system. Staff rodded the main sewer to restore the flow and cleaned all portions of the overflow. Staff will CCTV the main sewer.
40 Larry Lane Oakland, CA 94611	2014.08.13 09.00.00	2014.08.13 11.00.00	600	400	0	Other (specify below)	600 gallons spilled from an 8 vcp main sewer into a dry creek bed. Staff recovered 400 gallons and returned it to the collection system. 200 gallons soaked into the ground.
4000 Woodruff	2015.03.01 11.00.00	2015.03.01 14.30.00	540	540	0	Other (specify below)	Staff returned all the gray water that leaked into the basement, back to the Main sewer system.
4032 Coolidge Ave Oakland,CA, 94602	2015.02.11 07.00.00	2015.02.11 09.30.00	750	0	0	Unpaved surface	750 gallons overflowed from an 8 vcp sewer line into the ground on an easement.
4061 Fairway Ave	2015.03.12 11.30.00	2015.03.12 14.30.00	360	360	0	Other (specify below)	8" Main discharged into the gutter area and contained and returned to the sewer system.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC_OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EXPL
411 Santa Clara Ave Oakland Ca	2014.07.08 19.00.00	2014.07.08 20.30.00	90	90	0	Building or Structure; Other (specify below)	Staff used Hydro Flusher to vacuum sewage that spilled into building, then returned to Sanitary System.
4166 Whittle Ave	2014.09.23 09.30.00	2014.09.23 10.45.00	150	150	0	Other (specify below)	Main Sewer plugged and discharged from the lateral and soaking into the ground.
4168 Greenwood Ave Oakland,CA, 94602	2015.02.22 07.45.00	2015.02.22 10.00.00	270	270	0	Street/Curb and Gutter	6 vcp main sewer overflowed into the curb and gutter area. Staff recovered all 270 gallons of wastewater and returned to sanitary main sewer.
4326 Virginia ave Oakland ca.	2014.12.11 18.00.00	2014.12.11 21.00.00	900	900	0	Other (specify below)	Main sewer discharged from clean out due to plugged main, staff opened the Main and the gray water in the basement drained back into the sewer system.
4400 Whittle Ave Oakland ca	2015.03.29 09.00.00	2015.03.29 13.00.00	720	720	0	Other (specify below)	Gutter area, vacuumed by staff
4469 Carson St	2014.12.11 08.50.00	2014.12.11 10.50.00	1000	0	0	Unpaved surface	12 VCP sanitary main sewer overflowed and soaked into the ground due to heavy rain surcharging and root intrusion.
4490 Malcolm ave Oakland ca	2014.10.21 14.30.00	2014.10.21 16.00.00	50	15	0	Other (specify below)	50 gallons spilled at this location, 35 gallons soaked into the ground and 15 gallons were recovered. Staff cleaned solids and disinfected area around lamphole.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
468 Perkins St Oakland,CA, 94610	2015.05.07 08.30.00	2015.05.07 10.30.00	120	120	0	Street/Curb and Gutter	120 gallons overflowed from an 8 vcp main sewer into the street and into the curb and gutter area. Staff recovered all 120 gallons and returned it to the collections system.
485 105th Ave	2014.11.30 17.30.00	2014.11.30 19.00.00	20	20	0	Building or Structure	Sanitary main sewer plugged due to grease and overflowed into the building structures basement.
4900 Shattuck ave Oakland ca	2015.02.12 18.30.00	2015.02.12 21.00.00	300	300	0	Building or Structure;Paved Surface	Staff used Hydro Flusher to vacuum spilled sewage and returned it to sanitary system. Also staff cleaned and disinfected area where sewage spilled.
5056 Proctor Ave	2015.03.06 14.30.00	2015.03.06 22.30.00	480	480	0	Building or Structure	8 VCP sanitary main sewer plugged and overflowed into the building structure. Staff rodded the main sewer to unplug stoppage and return the flow. Sewage was contained and returned to the sewer collection system. Staff cleaned all affected areas of the overflow.
5400 College Ave Oakland,CA, 94618	2014.11.22 07.30.00	2014.11.22 09.15.00	150	150	0	Building or Structure	150 gallons backed up from an 8 vcp sewer line into a building. Staff recovered all 150 gallons and returned it to the collection system.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
5692 Cabot Dr Oakland ca	2015.06.23 08.48.00	2015.06.23 10.48.00	120	120	0	Street/Curb and Gutter	Staff contained sewage spill in gutter and used Hydro Flusher to vacuum sewage and return to sanitary system. Staff cleaned and disinfected area.
581 Vallevista ave Oakland ca	2015.01.01 13.00.00	2015.01.01 15.00.00	120	120	0	Other (specify below)	Staff used Hydro Flusher to vacuum spilled sewage and returned to main sewer line. Used Hydro Flusher to clear main sewer. Cleaned and disinfected area.
5959 Westover Dr Oakland CA,94611	2015.05.12 07.30.00	2015.05.12 10.30.00	900	200	0	Unpaved surface	900 gallons overflowed from an 8 vcp sewer line on an easement. 200 gallons were recovered and returned to the collection system. 700 gallons soaked into the ground.
5th ST & Union St Oakland Ca	2014.12.31 14.30.00	2014.12.31 16.30.00	120	120	0	Other (specify below)	Staff contained sewer spill at gutter and used Hydro Flusher to vacuum sewage. Returned sewage to Sanitary System.
600 Hegenberger Rd Oakland Ca 94621	2015.06.27 11.00.00	2015.06.27 13.00.00	240	240	0	Other (specify below)	SSO was contained to the curb and gutter and the waste was discharged back into the collection system.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
6020 Aspinwall rd Oakland ca	2015.05.05 10.05.00	2015.05.05 01.05.00	120	120	0	Other (specify below)	sewage spilled onto gutter, staff used sandbags to contain spill, then used Hydro Flusher to vacuum sewage and return to sanitary system.
6040 Bancroft Blvd. Oakland Ca,94621	2014.12.12 13.00.00	2014.12.12 15.00.00	120	120	0	Unpaved surface	120 gallons overflowed from a10 VCP sanitary sewer onto the unpaved surface. 120 gallons soaked into the ground. Debris and setiment was the cause of the overflow.
6066 Chelton Dr. Oakland Ca 94801	2015.01.17 08.30.00	2015.01.17 11.00.00	1500	0	1500	Other (specify below)	8" Main Sewer discharged out into Scout Creek
6205 Westwood Way	2015.01.07 11.30.00	2015.01.07 18.30.00	420	10	0	Unpaved surface	420 gallons overflowed out of the manhole on the easement onto the ground. 410 gallons soaked in and 10 gallons was captured and put back into the collection system.
6261 Fairlane Dr Oakland ca	2014.11.07 16.30.00	2014.11.07 19.30.00	200	150	0	Other (specify below)	200 gallons spilled at this location, 150 gallons were recovered and 50 gallons soaked into the ground.
6319 Pinehaven rd Oakland ca	2015.06.17 07.00.00	2015.06.17 09.00.00	600	400	0	Unpaved surface	600 gallons spilled at this location, 400 gallons were recovered and returned to sanitary sewer system, 200 gallons soaked into the ground.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC_OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EXPL
6320 Swain Land Rd. Oakland Ca,94621	2015.02.22 08.45.00	2015.02.22 10.45.00	600	100	500	Surface Water	600 gallons overflowed from an 8 VCP sanitary sewer main, into a storm inlet at this location. 500 gallons was lost into a creek at this location. 100 gallons was captured and returned back in the collection system. Debris was the cause of this overflow.
638 Alvarado Rd Oakland Ca	2015.04.11 08.50.00	2015.04.11 11.35.00	3300	80	3220	Other (specify below)	8" Main plugged and discharged from a man hole and spilled into the storm catch basin and down to the bay.
642 El Dorado Ave Oakland,CA, 94611	2014.10.05 18.15.00	2014.10.05 20.45.00	180	180	0	Street/Curb and Gutter	8 vcp main sewer overflowed onto the street into the curb and gutter area. Staff recovered all 180 gallons of wastewater and returned it to the collection system.
6430 Girvin Dr. Oakland,CA, 94611	2015.02.28 07.00.00	2015.02.28 10.35.00	60	0	0	Unpaved surface	60 gallons overflowed from an 8 vcp sewer line into the ground next to a hillside.
6854 Ridgewood Dr.	2014.12.03 12.59.00	2014.12.03 13.30.00	30	0	0	Other (specify below)	4" lateral discharged 30 gallons of gray water out onto the ground and soaked into the ground.
6975 Charing Cross Rd Oakland Ca	2015.02.13 14.30.00	2015.02.13 17.30.00	180	0	0	Other (specify below)	180 gallons spilled on side of hill and 180 gallons soaked into ground.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
69th avenue & Snell street. Oakland Ca,94621	2014.10.25 19.15.00	2014.10.25 21.05.00	1100	0	1100	Surface Water	1,100 gallons of wastewater overflowed from an 8 VCP sanitary sewer main into two storm drain inlets at this location. 1,100 gallons was lost into Lyons creek. Grease was the cause of the overflow. The blockage was cleared, the site was cleaned, the flow was returned back to its normal flow. Signs were posted.
7280 Woodrow Dr Oakland CA, 94611	2015.02.08 15.30.00	2015.02.08 17.30.00	75	75	0	Street/Curb and Gutter	8 vcp main sewer overflowed onto the street into the curb and gutter area. Staff recovered all 75 gallons of wastewater and returned to sanitary main sewer.
72nd ave & Hawley st Oakland ca	2015.06.07 10.40.00	2015.06.07 12.20.00	500	100	0	Drainage Channel	Staff used Hydro Flusher to vacuum sewage from curb and gutter, and return to sanitary sewer system.
7569 Greenly Dr Oakland Ca	2015.05.11 16.30.00	2015.05.11 18.30.00	600	0	0	Other (specify below)	8 " Main Sewer discharged from a man hole and out and soaked into the ground.
80 Eucalyptus Rd Oakland Ca	2015.04.27 16.12.00	2015.04.27 18.30.00	140	120	0	Other (specify below)	Main Sewer discharged out onto the ground, staff contained 120 gallons and returned to the system, 20 gallons soaked into the ground.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC_OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EXPL
8000 Birch st	2014.09.25 08.00.00	2014.09.25 12.00.00	1200	1200	0	Other (specify below)	8" Main Sewer discharged from a clean out onto the ground.
8251 Fontaine St Oakland,CA, 94605	2015.03.05 12.45.00	2015.03.05 14.45.00	360	300	0	Unpaved surface	360 gallons overflowed from an 8 vcp sewer line. 300 gallons were recovered and returned to the collection system. 60 gallons soaked into the ground.
82nd Ave & Iris St. Oakland CA, 94605	2014.10.04 10.30.00	2014.10.04 11.20.00	750	750	0	Street/Curb and Gutter	750 gallons overflowed from an 8 vcp sewer line into the curb and gutter area. Staff recovered all 750 gallons and returned it to the collection system.
83 & Iris	2014.12.11 09.05.00	2014.12.11 12.05.00	3600 0	0	36000	Other (specify below)	The Main Sewer discharged into Arroyo Viejo Creek and down into the SF Bay.
8432 Internationa l Blvd Oakland Ca.	2015.02.28 18.00.00	2015.02.28 19.30.00	450	450	0	Other (specify below)	8" Main discharged from the cleanout inside the building onto the floor, staff contained the overflow inside the building , staff returned the gray water to the system.
85th & G Street Oakland Ca. 96621	2015.02.04 11.00.00	2015.02.04 13.30.00	210	210	0	Other (specify below)	Main Sewer discharged out onto the street and into the gutter Area.
866 Northvale Rd Oakland Ca	2015.03.28 09.00.00	2015.03.28 12.00.00	180	180	0	Other (specify below)	8" Main discharged from a man hole and out into the street and in the gutter area.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC_OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EXPL
8750 Mountain Blvd. Oakland Ca,94621	2014.12.13 12.40.00	2014.12.13 14.30.00	550	200	550	Surface Water	550 gallons overflowed from 8 VCP sanitary sewer overflow into a storm drain at this location. Tree roots was the cause of this overflow. 200 gallons was recovered and returned back in the collection system.
950 77 th Ave Oakland Ca	2014.12.09 09.21.00	2014.12.09 13.00.00	200	200	0	Paved Surface	Main sewer seeped out from a man hole and onto the ground and gutter area, staff vacuumed the gray water from the gutter area and returned it to the sanitary sewer system.
College Ave & Taft Ave Oakland,CA, 94618	2014.09.30 13.00.00	2014.09.30 16.00.00	900	900	0	Separate Storm Drain	900 gallons overflowed from a 10 vcp sewer line into a storm drain. Staff recovered all 900 gallons down stream, then cleaned affected areas.
Frye Ave & London Rd Oakland Cal	2015.04.24 14.30.00	2015.04.24 18.00.00	210	210	0	Other (specify below)	Main Sewer spilled out onto the ground and contained in the gutter area.
Grand Ave & Santa Clara Ave Oakland Ca.	2015.04.27 19.30.00	2015.04.27 20.30.00	1800	100	1700	Other (specify below)	8" Main Sewer plugged and discharged into a storm line and down to Lake Merritt.
Keller Ave & Sequoyah Rd	2014.11.10 13.00.00	2014.11.10 17.00.00	240	0	0	Unpaved surface	On the ground in the rear of the property.

SPILL_LOC_NAME	START_DT	EST_END_DT	SPILL_VOL	SPILL_VOL_REC OVER	SPILL_VOL_REACH_SURF	FINAL_SPILL_DEST	FINAL_SPILL_DEST_EX PL
Larry Ln & Ascot Rd Oakland Ca	2014.11.14 14.50.00	2014.11.14 19.05.00	765	700	0	Other (specify below)	Staff contained spilled sewage using sandbags to dam spill and vacuumed sewage with Hydro Flusher. 765 gallons spilled, 700 were recovered and 65 gallons soaked into the ground.
MC GURRIN & SEQUOYAH RD	2014.11.28 20.35.00	2014.11.28 22.40.00	1830	100	1730	Other (specify below)	8 sanitary sewer discharge from manhole in street out into storm inlet down to Arroyo Viejo creek
Redwood rd & Crestmont dr Oakland ca 94605	2015.01.28 08.15.00	2015.01.28 10.15.00	1800	0	1800	Other (specify below)	Horseshoe Creek

Appendix B

Table 4-5
Collection System Spot Repair Work (July 1, 2014 – June 30, 2015)

**Table 4-5
Collection System Spot Repair Work (July 1, 2014 – June 30, 2015)**

WO #	Description	Address	Repair Length
610254	Sewer Spot Repair (LnFt)	9333 PLYMOUTH ST	6
610256	Sewer Spot Repair (LnFt)	620 WALAVISTA AVE	6
610525	Sewer Spot Repair (LnFt)	1537 94TH AV	10
610613	Sewer Spot Repair (LnFt)	291 MATHER ST	8
611134	Sewer Spot Repair (LnFt)	29TH AV & GLASCOCK ST	6
611833	Sewer Spot Repair (LnFt)	19TH ST & WEST ST	4
612222	Sewer Spot Repair (LnFt)	2315 83RD AV	6
612322	Sewer Spot Repair (LnFt)	1620 E 32ND ST	3
612623	Sewer Spot Repair (LnFt)	PARK BLVD & HADDON RD	6
612881	Sewer Spot Repair (LnFt)	1139 70TH AV	3
613814	Sewer Spot Repair (LnFt)	10TH ST & WOOD ST	3
613893	Sewer Spot Repair (LnFt)	1449 AUSEON AV	3
613895	Sewer Spot Repair (LnFt)	1125 82ND AV	6
614477	Sewer Spot Repair (LnFt)	1125 82ND AV	3
614847	Sewer Spot Repair (LnFt)	4720 MOUNTAIN BLVD	6
615430	Sewer Spot Repair (LnFt)	1700 87TH AV	3
615460	Sewer Spot Repair (LnFt)	601 WESLEY AV	3
615747	Sewer Spot Repair (LnFt)	6137 MACARTHUR BLVD	3
616116	Sewer Spot Repair (LnFt)	5566 MARSHALL ST	4
616224	Sewer Spot Repair (LnFt)	1015 24TH ST	10
616552	Sewer Spot Repair (LnFt)	1700 87TH AV	1
616732	Sewer Spot Repair (LnFt)	5600 COLLEGE AV	1
617185	Sewer Spot Repair (LnFt)	1662 AUSEON AV	1
617500	Sewer Spot Repair (LnFt)	7026 LOCKWOOD ST	8
617923	Sewer Spot Repair (LnFt)	1663 AUSEON AV	1
618165	Sewer Spot Repair (LnFt)		0
618300	Sewer Spot Repair (LnFt)	2400 RANSOM AV	8
618537	Sewer Spot Repair (LnFt)	5726 E 16TH ST	1
618902	Sewer Spot Repair (LnFt)	1452 48TH AV	1
618951	Sewer Spot Repair (LnFt)	2497 COLE ST	15
619254	Sewer Spot Repair (LnFt)	1614 81ST AV	14
620170	Sewer Spot Repair (LnFt)	7006 WELD ST	10
620347	Sewer Spot Repair (LnFt)	1434 56TH AV	12
620522	Sewer Spot Repair (LnFt)	4834 CONGRESS AV	13
621195	Sewer Spot Repair (LnFt)	2355 RANSOM AV	10
621929	Sewer Spot Repair (LnFt)	959 70TH AV	11
622111	Sewer Spot Repair (LnFt)	4069 MERA ST	10
622193	Sewer Spot Repair (LnFt)	3831 MERA ST	8
622196	Sewer Spot Repair (LnFt)	3483 WILSON AV	11
623758	Sewer Spot Repair (LnFt)	51RST. & BROADWAY AV TERRACE PARK	1
623821	Sewer Spot Repair (LnFt)	1409 3RD AV	1
623879	Sewer Spot Repair (LnFt)	849 29TH ST	15
624644	Sewer Spot Repair (LnFt)	2037 PLEASANT VALLEY AV	1
625198	Sewer Spot Repair (LnFt)	2037 PLEASANT VALLEY AV	14
625359	Sewer Spot Repair (LnFt)	6237 BROADWAY TER	14

WO #	Description	Address	Repair Length
625404	Sewer Spot Repair (LnFt)	6249 BROADWAY TER	12
626614	Sewer Spot Repair (LnFt)	5546 BALBOA DR	10
626745	Sewer Spot Repair (LnFt)	1430 51ST AV	12
626746	Sewer Spot Repair (LnFt)	1475 81ST AV	12
628210	Sewer Spot Repair (LnFt)	208 JOHN ST	12
628297	Sewer Spot Repair (LnFt)	6356 BROADWAY TER	14
628298	Sewer Spot Repair (LnFt)	6347 BROADWAY TER	12
628623	Sewer Spot Repair (LnFt)	206 JOHN ST	10
629250	Sewer Spot Repair (LnFt)	4160 WHITTLE AV	14
629867	Sewer Spot Repair (LnFt)	3245 HELEN ST	11
630075	Sewer Spot Repair (LnFt)	2788 FRAZIER AV	14
631416	Sewer Spot Repair (LnFt)	20 STONEWALL RD	20
631842	Sewer Spot Repair (LnFt)	5615 HARMON AV	1
632116	Sewer Spot Repair (LnFt)	4157 WHITTLE AV	10
633074	Sewer Spot Repair (LnFt)	8700 BIRCH ST	10
633091	Sewer Spot Repair (LnFt)	1606 85TH AV	10
633286	Sewer Spot Repair (LnFt)	1923 85TH AV	1
633293	Sewer Spot Repair (LnFt)	1939 83RD AV	10
633574	Sewer Spot Repair (LnFt)	864 27TH ST	10
633862	Sewer Spot Repair (LnFt)	3060 BUTTERS DR	10
634487	Sewer Spot Repair (LnFt)	926 72ND AV	12
634812	Sewer Spot Repair (LnFt)	714 SYCAMORE ST	15
634897	Sewer Spot Repair (LnFt)	2450 E 20TH ST	1
635871	Sewer Spot Repair (LnFt)	817 30TH ST	1
636424	Sewer Spot Repair (LnFt)	4433 FLEMING AV	10
637010	Sewer Spot Repair (LnFt)	3939 RANDOLPH AV	12
637152	Sewer Spot Repair (LnFt)	6337, 6349 ,& 6356 BROADWAY TERRACE	3
637647	Sewer Spot Repair (LnFt)	320 CHESTER ST	1
638553	Sewer Spot Repair (LnFt)	400 CAPISTRANO DRIVE	10
638668	Sewer Spot Repair (LnFt)	1166 ELMHURST AV	12
642508	Sewer Spot Repair (LnFt)	1901 TUNNEL RD	14
642581	Sewer Spot Repair (LnFt)	3701 PARK BLVD WAY	10
642888	Sewer Spot Repair (LnFt)	6217 SEMINARY AVE	10
644523	Sewer Spot Repair (LnFt)	34TH ST & SAN PABLO AV	1
645792	Sewer Spot Repair (LnFt)	1467 HAMPEL ST	6
647815	Sewer Spot Repair (LnFt)	3501 SAN PABLO AV	12
648413	Sewer Spot Repair (LnFt)	1617 81ST AV	10
648586	Sewer Spot Repair (LnFt)	3431 SAN PABLO AV	12
650081	Sewer Spot Repair (LnFt)	4555 SEQUOYAH RD	10
651448	Sewer Spot Repair (LnFt)	5501 GOLDEN GATE AV	10
651917	Sewer Spot Repair (LnFt)	584 VALLE VISTA AV	10
653621	Sewer Spot Repair (LnFt)	4011 OAKMORE RD	20
654342	Sewer Spot Repair (LnFt)	5 HUMPHREY PL	10
654346	Sewer Spot Repair (LnFt)	2364 100TH AV	10
655369	Sewer Spot Repair (LnFt)	1945 E 30TH ST	15
655519	Sewer Spot Repair (LnFt)	1945 E 30TH ST	10
656361	Sewer Spot Repair (LnFt)	4601 FLEMING AV	1
657116	Sewer Spot Repair (LnFt)	1900 87TH AV	5
659175	Sewer Spot Repair (LnFt)	7481 WOODROW DR	6
660491	Sewer Spot Repair (LnFt)	1900 87TH AV	10

WO #	Description	Address	Repair Length
660622	Sewer Spot Repair (LnFt)	8019 STERLING DR	10
661014	Sewer Spot Repair (LnFt)	2947 BARRETT ST	12
661485	Sewer Spot Repair (LnFt)	3438 MAGNOLIA ST	10
662186	Sewer Spot Repair (LnFt)	1215 23RD AV	20
662485	Sewer Spot Repair (LnFt)	1215 23RD AV	10
662886	Sewer Spot Repair (LnFt)	4309 GREGORY ST	10
663016	Sewer Spot Repair (LnFt)	1150 WESTVIEW DR	10
663123	Sewer Spot Repair (LnFt)	1624 E 38TH ST	10
663779	Sewer Spot Repair (LnFt)	62ND AV & FOOTHILL BLVD	10
665151	Sewer Spot Repair (LnFt)	2239 AUSEON AV	10
665349	Sewer Spot Repair (LnFt)	6203 FOOTHILL BLVD	10
665351	Sewer Spot Repair (LnFt)	2255 AUSEON AV	10
666368	Sewer Spot Repair (LnFt)	5056 PROCTOR AV	10
673103	Sewer Spot Repair (LnFt)	2246 86TH AV	8
675641	Sewer Spot Repair (LnFt)	1425 LEIMERT BLVD	1
686508	Sewer Spot Repair (LnFt)	7531 GREENLY DR	6
687075	Sewer Spot Repair (LnFt)	SHEFFIELD AV & E 29TH ST	3
688118	Sewer Spot Repair (LnFt)	3357 MADERA AV	1
689949	Sewer Spot Repair (LnFt)	809 WALAVISTA AV	10
690386	Sewer Spot Repair (LnFt)	8400 SKYLINE BLVD	6
692064	Sewer Spot Repair (LnFt)	TRASK ST & KINGSLAND AV	1

Appendix C

Figure 4-3 14 Day Notice to Abate



Oakland Public Works • Design, Engineering and Construction • Right of Way Management

Sewer & Sidewalk Division • 250 Frank H. Ogawa Plaza, Suite # 4314 • Oakland, California 94612 • (510)238-3651

14 Day Notice to Abate

Date

Name

Address

Oakland, CA 94607-2225

Re: Sewer Lateral at Address, Oakland

Dear Property Owner,

You are hereby notified that under the provisions of Section 13.08.540 of the Oakland Municipal Code¹ and in the opinion of the Director of Public Works Agency, the public health, safety, and welfare require repairs to your building sewer lateral.

The dye test conducted on **date** from the caved in area of the street at **address** by the City's Sewer Maintenance Division noted that the dye did appear in the City sewer main which indicates that the private sewer lateral servicing your home is in need of repair. This is a public health hazard and must be corrected. You are required to repair or replace your building's private sewer lateral no later than **date**.

The completed repairs must restore the subject-building sewer to a watertight condition, free of breaks or separations and constructed to proper grade and alignment. An inspection must be performed by the Construction Inspector to assure that the repairs meet the code requirements.

Prior to repairing or replacing a sewer lateral, you must have a Building Sewer Inspection Permit and/or a Street Excavation Permit if the repairs are to be completed in the public right-of-way.

If you have already made the repairs please provide proof of the repairs, you may fax it to 510-238-6632.

Questions concerning this matter should be directed to Fred Loeser, Construction Inspection Supervisor, at (510) 238-6348 or email floeser@oaklandnet.com.

Sincerely,

Fred Loeser,
Supervisor, Construction Inspection

/ts

¹ SEC. 13.08.540 EMERGENCY WORK BY CITY, NOTICE, LIABILITY FOR COST OF WORK

Whenever, in the opinion of the Director of Public Works Agency, the Public Health, safety, or welfare shall require that repairs or protective measures to a building sewer be made or instituted immediately, the Director is hereby authorized to proceed with all necessary work to abate the condition and may enter upon private property for such purposes. The City may erect and maintain all necessary barricades, warning lights, and the protective devices upon public or private property. The City will give the owner of the premises upon which the repairs are to be made, or the protective measures to be instituted, such notice, if any, and by such means as the circumstances shall permit.

The owner of the property upon which the condition exists and the person creating such condition shall be jointly and severally liable to the City of Oakland for all costs incurred by it in abating said emergency condition and erecting and maintaining said protective devices.

The cost of abating such condition shall constitute a special assessment against the real property on which said condition was abated. The special assessment shall be made in the manner set forth in Section 13.08.280 of the Oakland Municipal Code using the Notice of Lien as found in Section 13.08.330.

(As added by Ordinance No. 10877 C.M.S., passed June 23, 1987)

Appendix D

Table 5-3a and Table 5-3b Acute Defect Lists

**Table 5-3a
Acute Defect List - Identified after Consent Decree (July 1, 2014)**

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi9561	7/3/2014	BIO	3/22/2015	14/15	259	6232	HILLMONT DR	668247	DSGV, Deposits Settled Gravel
SEPi9604	7/9/2014	BIO	5/20/2015	14/15	311	4002	RUSTING AV	683364	OBZ, Obstacle Other, CMP
SEPi20603	7/21/2014	BIO	8/29/2014	14/15	38		GLENDOME CIR	623778	DPZ, Deposits Settled Other
SEPi30284	7/30/2014	BEC	9/30/2014	14/15	60		CHABOT RD		BVV, Broken Void Visible
SEPi1752	8/7/2014	BIO	6/3/2015	14/15	296		100TH AV	687138	B, Broken
SEPi27226	8/20/2014	BIO	4/16/2015	14/15	236		STANFORD AV	no W/O	Not Cat 5
SEPi20609	8/22/2014	BIO	5/18/2015	14/15	266		GLENDOME CIR/4609 ElCentro	682793	DSGV, Deposits Settled Gravel
SEPi25802	8/28/2014	BIO	9/4/2014	14/15	6		PLEASANT VALLEY AV		BVV, Broken Void Visible
SEPi1475	9/8/2014	BIO	4/21/2015	14/15	223		100TH AV	no W/O	TBI, Tap Break In-truding
SEPi20723	9/16/2014	BIO	7/29/2015	15/16	313		LEIMERT BLVD	700591	B, Broken
SEPi4796	9/23/2014	BIO	4/21/2015	14/15	208		57TH AV	no W/O	AMH

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi3742	10/1/2014	BIO	10/1/2014	14/15	1		SAN LEANDRO ST	630947	DSGV, Deposits Settled Gravel
SEPi7052	10/7/2014	BEC	4/13/2015	14/15	186		NIMITZ FWY I-880 & 23RD AVE	no W/O	BVV, Broken Void Visible
SEPi5258	10/14/2014	BEC	no repair		-		STERLING DR		XP, Collapsed Pipe Sewer
SEPi18748	10/16/2014	BIO	10/27/2014	14/15	11		BURDECK DR	636440	RBB, Root Ball Barrel
SEPi15005	11/7/2014	BIO	no repair		-		14TH ST		BSV, Broken Soil Visible
SEPi13421	11/14/2014	BIO	9/14/2015	15/16	300		13TH AV	709069	IG, I NFLOW Gusher
SEPi24613	11/17/2014	BIO	no repair		-		MOUNTAIN BLVD		BVV, Broken Void Visible
SEPi15298	11/19/2014	BIO	9/24/2015	15/16	305		PARK BLVD	711318	XP, Collapsed Pipe Sewer
SEPi11537	11/19/2014	BIO	no repair		-		23RD ST E		TBI, Tap Break In-truding, BVV
SEPi20074	11/20/2014	BIO	11/24/2014	14/15	4		LAKE SHORE AV		BSV, Broken Soil Visible

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi13465	11/20/2014	BIO	no repair		-		21ST AV		BVV, Broken Void Visible
SEPi22528	12/1/2014	BIO	12/18/2014	14/15	17		SAN PABLO AV		BSV, Broken Soil Visible
SEPi13378	12/2/2014	BIO	no repair		-		WALLACE ST		XP, Collapsed Pipe Sewer
SEPi15485	12/5/2014	BIO	no repair		-		33RD ST E		B, Broken
SEPi21908	12/13/2014	BIO	no repair		-		MONTEREY BLVD		D, Deformed
SEPi26916	12/26/2014	BIO	no repair		-		WOODROW DR		BSV, Broken Soil Visible
SEPi13485	1/15/2015	BIO	no repair		-		30TH ST E		XP, Collapsed Pipe Sewer
SEPi3013	1/27/2015	BIO	no repair		-		77TH AVE		D, Deformed
SEPi6346	1/29/2015	BIO	no repair		-		OAKLAND		TBI, Tap Break In-truding
SEPi9530	2/21/2015	BIO	no repair		-		SEMINARY AV		BVV, Broken Void Visible
SEPi29370	2/24/2015	BIO	no repair	2/25/15	1		BROADWAY		BSV, Broken Soil Visible
SEPi13384	2/25/2015	BIO	no repair		-		25TH ST E		BSV, Broken Soil Visible
SEPi10673	3/2/2015	BIO	no repair		-		REINHARDT DR		BSV, Broken Soil Visible

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi5190	3/10/2015	BIO	no repair		-		PARKER AV		BVV, Broken Void Visible
SEPi24234	3/10/2015	BIO	no repair		-		42ND ST		BVV, Broken Void Visible
SEPi18293	3/13/2015	BIO	no repair		-		OAKMORE RD		BVV, Broken Void Visible
SEPi21714	4/3/2015	BIO	no repair		-		JEAN ST		BSV, Broken Soil Visible
SEPi6452	4/9/2015	BIO	no repair		-		61ST AV		BVV, Broken Void Visible
SEPi9369	4/15/2015	BIO	no repair		-		MILLS COLLEGE		XP, Collapsed Pipe Sewer
SEPi6394	4/22/2015	BIO	no repair		-		63RD AV		BVV, Broken Void Visible
SEPi6013	4/23/2015	BIO	no repair		-		12TH ST E		BSV, Broken Soil Visible
SEPi4635	4/29/2015	BIO	no repair		-		INVERNESS CT		BVV, Broken Void Visible
SEPi11561	4/29/2015	BIO	no repair		-		26TH ST E		BSV, Broken Soil Visible
SEPi7039	4/29/2015	BIO	no repair		-		10TH ST E		B, Broken
SEPi5462	6/9/2015	BIO	no repair		-		Outlook Av		TRI, Tap Rehabilitated Intruding

**Table 5-3b (For Information Only)
Acute Defect List - Identified Prior To Consent Decree (July 1, 2014)**

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi28045	1/31/2013	BIO	9/10/2014	14/15	580		BROADWAY TER	625359, 625404	BVV, Broken Void Visible
SEPi18163	2/7/2013	BEC	11/19/2014	14/15	642		GALVIN ST.	N/A	TFI, Tap Factory Protruding
SEPi9573	4/5/2013	BIO	11/25/2014	14/15	590		SEMINARY AV	520684	BSV, Broken Soil Visible
SEPi19563	5/15/2013	BIO	8/5/2014	14/15	440		BAY PL	617724	RBB, Roots Ball Barrel
SEPi30941	7/22/2013	BIO	9/22/2014	14/15	420		WEST VIEW DR	540015	RBB, Roots Ball Barrel
SEPi19691	8/2/2013	BIO	8/7/2014	14/15	365		SCOTT ST	617752	OPM Object Pipe Material
SEPi24374	8/5/2013	BIO	9/19/2014	14/15	404		JOHN ST	628623	BSV, Broken Soil Visible
SEPi22407	9/19/2013	BIO	9/26/2014	14/15	367		HELEN ST	629867	BSV, Broken Soil Visible

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi19642	10/15/2013	BIO	10/22/2014	14/15	367		JAYNE AV	635407	D, Deformed
SEPi29520	10/18/2013	BEC	1/8/2015	14/15	440	6370	BROOKSIDE AV	no W/O	D, Deformed
SEPi19779	11/21/2013	BIO	10/28/2014	14/15	337		SANTA CLARA AV	636615	BVV, Broken Void Visible
SEPi19780	11/21/2013	BIO	10/29/2014	14/15	338		SANTA CLARA AV	N/A	D, Deformed
SEPi29532	12/16/2013	BEC	1/8/2015	14/15	382	6351	BROOKSIDE AV	no W/O	BSV, Broken Soil Visible
SEPi124	12/19/2013	BIO	11/5/2014	14/15	316		EL PASEO DR	638553	BSV, Broken Soil Visible
SEPi13846	1/10/2014	BIO	11/19/2014	14/15	309		CALIFORNIA ST	641199	RBB, Root Ball Barrel
SEPi5740	1/10/2014	BIO	1/5/2015	14/15	355		SEQUOYAH RD	no W/O	CH3, Crack Longitudinal
SEPi3740	1/15/2014	BIO	10/9/2014	14/15	264		JULIE ANN WY	633049	DAZ, Deposits Attached Other
SEPi29492	1/21/2014	BIO	1/9/2015	14/15	348		GOLDEN GATE AV	651448	BVV, Broken Void Visible

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi2871	1/27/2014	BEC	12/19/2014	14/15	322		GLEN MANOR PL	no W/O	BSV, Broken Soil Visible
SEPi2870	1/27/2014	BEC	12/19/2014	14/15	322		GLEN MANOR PL	no W/O	BSV, Broken Soil Visible
SEPi2873	1/27/2014	BEC	12/19/2014	14/15	322		GLEN MANOR PL	no W/O	D, Deformed
SEPi31086	1/30/2014	BEC	1/23/2015	14/15	353		TUNNEL RD	no W/O	OBZ, Obstacle Other, CMP
SEPi11560	2/10/2014	BIO	1/12/2015	14/15	332		23RD ST E	651825	DSGV, Deposits Settled Gravel
SEPi2557	2/11/2014	BIO	1/20/2015	14/15	339		100TH AVE	654346	BSV, Broken Soil Visible
SEPi6346	2/19/2014	BEC	4/13/2015	14/15	414		67TH AVE	no W/O	TBI, Tap Break In-truding
SEPi5534	3/6/2014	BIO	2/19/2015	14/15	343		STERLING DR	660622	BVV, Broken Void Visible
SEPi17714	3/21/2014	BEC	9/30/2014	14/15	189		TRESTLE GLEN RD	no W/O	BSV, Broken Soil Visible

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi1231	4/24/2014	BIO	4/24/2015	14/15	360		OAKPORT ST	596180	DAG, Deposits Attached Grease
SEPi6386	4/30/2014	BIO	3/3/2015	14/15	303		FOOTHILL BLVD	663779	B, Broken
SEPi4166	6/10/2014	BEC	3/24/2015	14/15	284	8665	THERMAL ST	no W/O	D, Deformed
SEPi29633	6/12/2014	BIO	3/18/2015	14/15	276		MARGARIDO DR	667427	DSZ, Deposits Settled
SEPi15587	6/30/2014	BIO	4/28/2015	14/15	298		EXCELESIOR AV	677819	BVV, Broken Void Visible

Appendix E

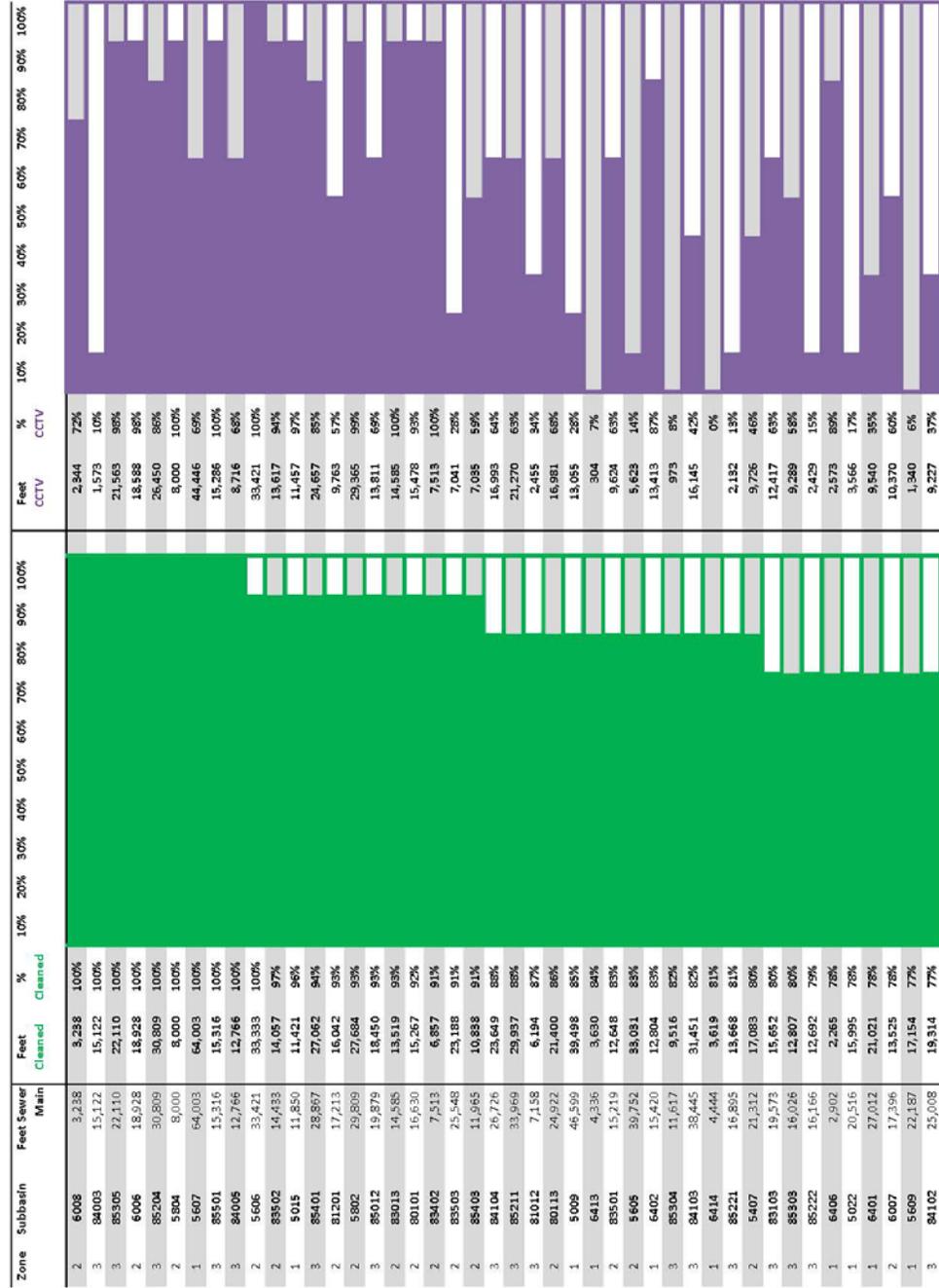
Figure 5-1 Cleaning by Sub-Basin

Through 6/30/15

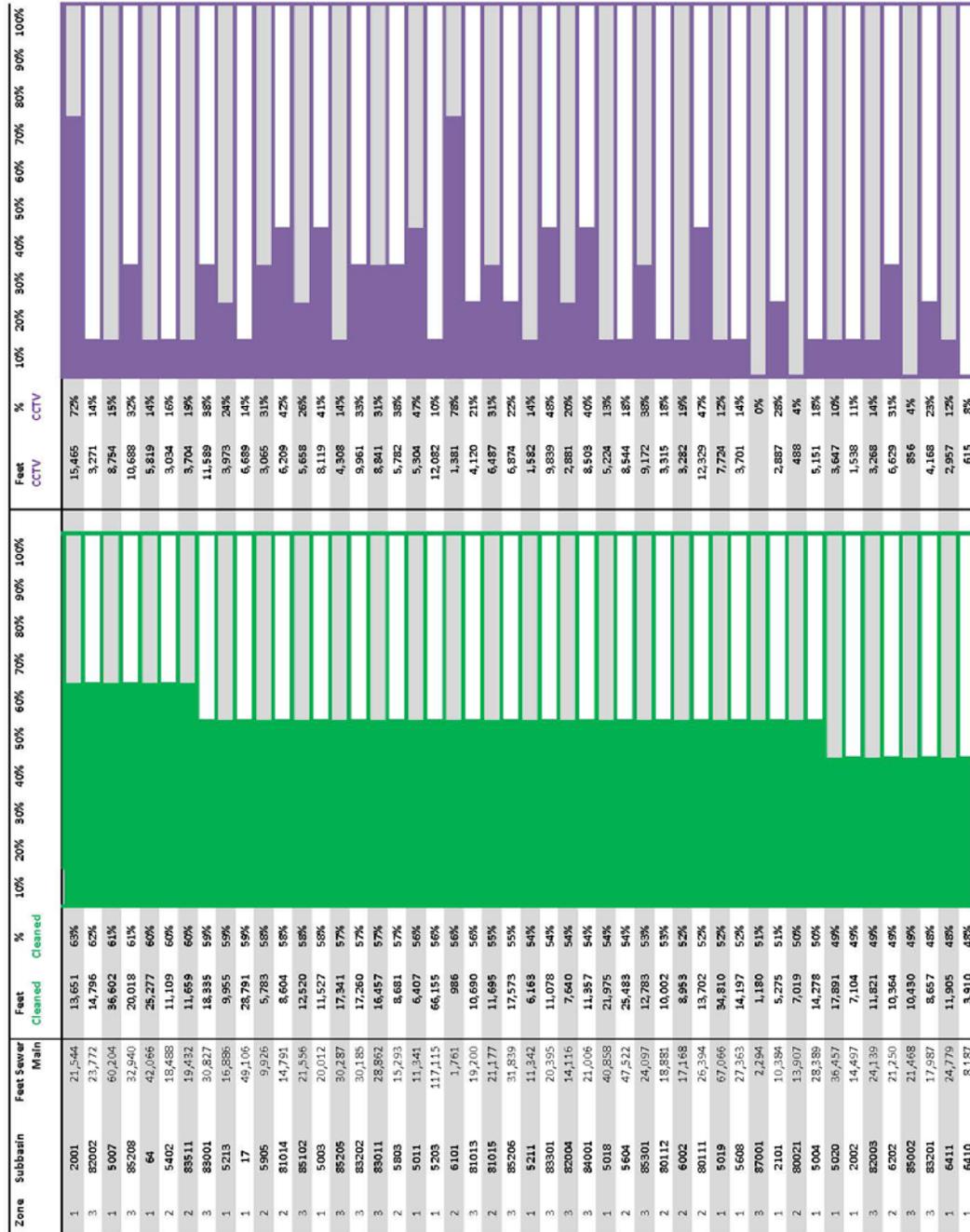
Data Date: 7/13/15

Sewer Subbasin
Cleaning Tracking

Sewer Subbasin
CCTV Tracking



Zone	Subbasin	Feet Sewer Main	Feet Cleaned	% Cleaned	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Feet CCTV	% CCTV	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
3	82005	38,019	29,206	77%											17,112	45%										
3	85003	20,002	15,259	76%											9,253	46%										
1	5010	10,643	8,109	76%											10,298	97%										
2	80012	18,768	14,231	76%											1,702	9%										
2	5416	37,867	28,570	75%											29,746	79%										
2	5612	52,366	39,316	75%											5,583	11%										
3	85004	19,768	14,740	75%											8,482	50%										
1	5610	40,349	30,072	75%											13,592	69%										
1	5016	25,044	18,493	74%											3,723	9%										
2	81002	30,796	22,626	73%											8,314	33%										
2	6004	11,286	8,220	73%											21,475	70%										
2	5904	7,066	5,128	73%											10,550	93%										
3	85232	19,818	14,381	73%											3,428	49%										
2	6005	15,774	11,423	72%											9,792	49%										
3	85201	22,184	16,043	72%											2,890	19%										
3	84101	26,499	18,950	72%											4,006	18%										
3	86006	23,305	16,629	71%											11,443	43%										
2	5411	5,690	4,054	71%											17,722	76%										
3	83012	11,382	8,107	71%											2,862	50%										
1	2102	15,415	10,909	71%											9,419	83%										
2	5409	49,356	34,330	70%											5,129	33%										
1	5017	98,136	67,728	69%											32,147	65%										
1	6412	10,286	7,063	69%											16,912	17%										
2	6204	11,114	7,616	69%											1,362	13%										
1	5006	9,519	6,512	68%											5,239	47%										
3	85231	30,172	20,519	68%											1,655	17%										
2	6203	13,360	9,071	68%											4,856	16%										
3	86002	18,379	12,435	68%											6,954	29%										
1	5611	15,201	10,223	67%											4,289	32%										
2	81202	22,720	15,277	67%											3,525	19%										
3	84004	31,412	20,987	67%											1,229	8%										
3	83102	14,635	9,756	67%											5,891	26%										
2	5805	25,181	16,768	67%											14,404	46%										
2	5902	18,012	11,981	67%											6,530	45%										
3	85203	13,679	9,092	66%											10,088	40%										
2	81102	26,740	17,729	66%											6,517	36%										
3	85302	17,087	11,154	65%											2,189	16%										
2	81101	21,430	13,988	65%											4,420	17%										
3	85207	17,284	11,280	65%											13,439	79%										
3	86004	13,510	8,804	65%											5,811	27%										
1	5014	49,009	31,864	65%											6,606	36%										
1	5021	63,593	41,242	65%											3,459	26%										
3	83002	23,945	15,510	65%											19,466	40%										
3	83101	11,317	7,321	65%											6,666	10%										
2	85502	24,069	15,379	64%											7,810	33%										
2	80022	16,591	10,587	64%											2,810	25%										
															14,913	62%										
															2,891	17%										



Zone	Subbasin	Feet Sewer Main	Feet Cleaned		%										Feet CCTV		
			Cleaned	% Cleaned	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	CCTV	% CCTV	
1	5001	75,112	95,551	47%												16,460	22%
2	5601	14,195	6,718	47%												585	4%
1	5210	6,039	2,855	47%												1,637	27%
1	5008	32,667	15,360	47%												5,156	16%
2	6008	11,500	5,896	47%												3,858	29%
2	5404	7,493	3,509	47%												1,685	22%
2	80108	18,282	8,503	47%												12,499	68%
3	85101	32,459	14,975	46%												2,476	8%
2	6201	11,458	5,280	46%												1,757	15%
2	6001	3,224	1,466	45%													0%
2	5603	10,540	4,785	45%												965	3%
1	5002	22,976	10,395	45%												2,410	10%
2	81011	15,210	6,818	45%												1,917	13%
2	5401	48,711	21,804	45%												5,551	11%
1	5005	37,518	16,657	44%												8,825	24%
2	5602	58,217	25,742	44%												8,125	14%
3	84105	14,372	6,257	44%												4,844	30%
2	5412	43,389	18,688	43%												7,621	18%
1	5207	14,668	6,314	43%												1,843	13%
2	5901	11,193	4,769	43%												1,462	13%
3	85212	24,246	10,330	43%												6,148	25%
1	5212	23,886	10,108	42%												6,873	29%
1	5012	12,353	5,220	42%												1,994	16%
1	5202	16,370	6,850	42%												108	1%
2	83403	25,863	10,816	42%												12,043	47%
3	86001	11,021	4,587	42%													0%
1	6408	10,316	4,287	42%												652	6%
2	80121	35,178	14,597	41%												11,014	31%
3	86008	15,539	6,423	41%												3,908	25%
2	5405	34,884	14,390	41%												9,957	29%
2	5908	9,021	3,707	41%												1,727	10%
2	85402	20,300	8,282	41%												844	9%
3	85011	16,302	6,623	41%												8,504	42%
3	87002	9,148	3,705	41%												1,739	11%
3	83304	9,320	3,751	40%												1,860	20%
2	61	3,186	1,259	40%												4,765	51%
1	5201	30,845	12,123	39%												311	10%
2	81002	5,662	2,209	39%												1,686	5%
2	81001	24,815	9,669	39%												4,800	85%
2	5403	16,451	6,389	39%												2,104	8%
1	5205	62,862	24,175	38%												1,500	9%
2	5801	34,360	13,113	38%												11,510	18%
2	80001	22,854	8,902	37%												7,769	23%
2	83303	16,121	5,857	36%												3,232	14%
2	83321	16,894	6,105	36%												3,651	23%
2	83104	45,083	16,034	36%												4,507	27%
																7,084	16%

Appendix F

**Table 5-5
High Frequency PM Locations**

Work Order Id	Description	Pipe ID #	Address
682147	Sewers - Clean PM - Hi-Freq 6 Month	20983	2598 MONTEREY BLVD
668202	Sewers - Clean PM - Hi-Freq 3 Month	6883, 6884, 6886, 6162	8100 FONTAINE ST
608237	Sewers - Clean PM - Hi-Freq 12 Month	30724, 30721, 30722, 30725, 30723	81 ALVARADO RD
669030	Sewers - Clean PM - Hi-Freq 3 Month	24802, 24803, 24804, 24805, 24801, 24800, 24799	1957 ASILOMAR DR
608358	Sewers - Clean PM - Hi-Freq 12 Month	31394, 31373, 31374	25 DARTMOUTH DR
669825	Sewers - Clean PM - Hi-Freq 3 Month	17964, 17987, 15469, 17989	1125 FLEET RD
670151	Sewers - Clean PM - Hi-Freq 3 Month	25870, 25805, 25844, 25779, 22174, 25810	5200 BROADWAY
649191	Sewers - Clean PM - Hi-Freq 6 Month	6566	7018 MACARTHUR BLVD
669922	Sewers - Clean PM - Hi-Freq 3 Month	12163, 12162, 12161, 12166, 12149, 12148	4330 MOUNTAIN BLVD
669965	Sewers - Clean PM - Hi-Freq 3 Month	5740, 5739, 5746	4550 SEQUOYAH RD
670935	Sewers - Clean PM - Hi-Freq 3 Month	3087	110 GRAVATT DR

Work Order Id	Description	Pipe ID #	Address
663647	Sewers - Clean PM - Hi-Freq 6 Month	2843, 2838, 2837	11212 MONAN ST
650656	Sewers - Clean PM - Hi-Freq 6 Month	12002, 11995, 12003, 11994	3624 LOMA VISTA
655325	Sewers - Clean PM - Hi-Freq 6 Month	19704, 19724, 17359, 17413	500 LAKE PARK AV
673363	Sewers - Clean PM - Hi-Freq 3 Month	6837, 6830, 6833, 6831, 6897, 6898, 6899	7844 MOUNTAIN BLVD
652259	Sewers - Clean PM - Hi-Freq 3 Month	4249, 4251, 4250	83RD AV & IRIS ST
652389	Sewers - Clean PM - Hi-Freq 6 Month	19580, 19583, 19581, 19566, 19565, 19564	2336 HARRISON ST
653419	Sewers - Clean PM - Hi-Freq 6 Month	14671, 32340, 14670, 14651,14668, 14667	339 UNION ST
653715	Sewers - Clean PM - Hi-Freq 6 Month	20992, 20989, 20991, 20990	6260 CASTLE DR
678393	Sewers - Clean PM - Hi-Freq 3 Month	14137, 14138, 14283, 141157, 14139	4300 ATLAS AV
678268	Sewers - Clean PM - Hi-Freq 3 Month	20744, 20743, 20751, 20734, 20733, 21058, 32481, 20720, 20717, 31548, 20747	2600 LEIMERT BLVD
683060	Sewers - Clean PM - Hi-Freq 12 Month	26574	6020 ASPINWALL RD

Work Order Id	Description	Pipe ID #	Address
683064	Sewers - Clean PM - Hi-Freq 12 Month	23736, 23824, 23822, 23735	6730 LONGWALK DR
683077	Sewers - Clean PM - Hi-Freq 12 Month	9563, 9533, 9532	6167 OVERDALE AV
661213	Sewers - Clean PM - Hi-Freq 6 Month	5740, 5741	SEQUOYAH RD & MCGURRIN RD
668336	Sewers - Clean PM - Hi-Freq 6 Month	30942, 30958, 30688, 30686	1200 WESTVIEW DR
669192	Sewers - Clean PM - Hi-Freq 6 Month	17297, 17296, 17295	290 GRAND AV
666647	Sewers - Clean PM - Hi-Freq 6 Month	9570	6288 SUNNYMERE AV
663677	Sewers - Clean PM - Hi-Freq 6 Month	4236, 4197, 4239, 4241, 4235, 4198	82ND AV & IRIS ST
688780	Sewers - Clean PM - Hi-Freq 3 Month	17429, 17441, 31918, 17427, 17428	600 GRAND AV
688789	Sewers - Clean PM - Hi-Freq 3 Month	30446, 30447, 30440, 30445	6929 CHABOT RD
689447	Sewers - Clean PM - Hi-Freq 3 Month	8149, 8134, 8132, 8133, 8152, 8153, 8155, 8151	3914 EDGEMOOR PL
667300	Sewers - Clean PM - Hi-Freq 6 Month	11019, 12850, 12849, 11021, 11020, 11022, 12853	220 ALICE ST
690899	Sewers - Clean PM - Hi-Freq 3 Month	15954, 16014, 16013, 15958	4122 LAGUNA AVE

Work Order Id	Description	Pipe ID #	Address
690903	Sewers - Clean PM - Hi-Freq 6 Month	25257	6245 WESTOVER DR
667324	Sewers - Clean PM - Hi-Freq 6 Month	22039, 22038, 22036, 22037, 22035	6000 ASCOT DR
668264	Sewers - Clean PM - Hi-Freq 3 Month	31496, 31493, 31494, 31497 31498	1520 LAKESIDE DR
668449	Sewers - Clean PM - Hi-Freq 3 Month	22607, 22606, 22605	36TH ST & MARTIN LUTHER KING JR WY
668261	Sewers - Clean PM - Hi-Freq 6 Month	30842, 30844, 31131, 30845, 30841, 30840, 31057, 30843, 31133	1801 TUNNEL RD
692123	Sewers - Clean PM - Hi-Freq 3 Month	2718, 2717, 2720, 2719, 2716, 2695, 2694, 1924, 1923	11110 KERRIGAN DR
693428	Sewers - Clean PM - Hi-Freq 3 Month	26947, 26946, 26910, 26823, 26822, 26896, 26945	7295 SARONI DR
693456	Sewers - Clean PM - Hi-Freq 3 Month	2982, 2986	72ND AV & HAWLEY ST
693514	Sewers - Clean PM - Hi-Freq 3 Month	28577, 28573, 28572, 28576, 28574, 28563, 28513, 28623, 28512, 28627, 28626, 28514, 28578	6330 PINEHAVEN RD

Work Order Id	Description	Pipe ID #	Address
674212	Sewers - Clean PM - Hi-Freq 6 Month	27809, 27866	1 MORRILL CT
674160	Sewers - Clean PM - Hi-Freq 12 Month	5518, 5517	8251 FONTAINE ST
662167	Sewers - Clean PM - Hi-Freq 6 Month	25182, 25183	7280 WOODROW DR
678147	Sewers - Clean PM - Hi-Freq 6 Month	25918, 25921, 25919, 25920, 25917, 25922	25 STARK KNOLL PL
678414	Sewers - Clean PM - Hi-Freq 6 Month	26568	1731 GOULDIN RD
679624	Sewers - Clean PM - Hi-Freq 6 Month	10836, 10835	5425 LEONA ST
639210	Sewers - Clean PM - Hi-Freq 12 Month	11129, 11059, 11097, 11095, 11088, 11098	740 E 8TH ST
680157	Sewers - Clean PM - Hi-Freq 3 Month	17963, 17962, 18001, 17998, 18000, 17961, 17956, 17955, 18055	800 CREED RD
683084	Sewers - Clean PM - Hi-Freq 12 Month	9596, 9595, 9593, 9592, 9591, 9589	5815 LEONA ST
680520	Sewers - Clean PM - Hi-Freq 6 Month	30251, 30223, 30252, 30220, 30253	439 ALCATRAZ AV
682002	Sewers - Clean PM - Hi-Freq 6 Month	27511, 27525, 27523, 27522, 27512, 27529, 27526, 27530	COLLEGE AV & TAFT AV

Work Order Id	Description	Pipe ID #	Address
683091	Sewers - Clean PM - Hi-Freq 6 Month	10791, 10792, 10790, 10794, 10793	4210 KNOLL AV
641763	Sewers - Clean PM - Hi-Freq 12 Month	18025, 18026, 18028, 18030, 18029, 18027	1301 HOLMAN RD
642824	Sewers - Clean PM - Hi-Freq 12 Month	4239, 4235, 4241	8301 IRIS ST
685103	Sewers - Clean PM - Hi-Freq 6 Month	29751, 29752, 29755, 29756, 29754, 29753	451 MOUNTAIN BLVD
686563	Sewers - Clean PM - Hi-Freq 6 Month	2444, 2446, 2439, 2438, 2442, 2431, 2568, 2443, 2440, 2561	98TH AV & BURR ST
677946	Sewers - Clean PM - Hi-Freq 12 Month	13226, 13225	9TH AV & E 20TH ST
686572	Sewers - Clean PM - Hi-Freq 6 Month	13373, 13436, 13374, 13381, 13385, 13435, 13383, 13384, 13386, 13434	2524 14TH AV
643548	Sewers - Clean PM - Hi-Freq 12 Month	12124, 12126, 12125	4515 ELINORA AV
643776	Sewers - Clean PM - Hi-Freq 12 Month	1044, 881, 1054, 1056, 800	823 105TH AV

Work Order Id	Description	Pipe ID #	Address
687286	Sewers - Clean PM - Hi-Freq 6 Month	30625, 30624, 30632, 30626, 31179, 31178, 30855, 30854, 30495, 31128, 31127, 31126, 31081, 30617, 30623, 30622, 30621	200 CALDECOTT LN
687750	Sewers - Clean PM - Hi-Freq 12 Month	12451, 12452, 12465, 12466, 12467, 12468, 12471, 12469, 12472, 12473, 12474	12580 BROOKPARK RD
689162	Sewers - Clean PM - Hi-Freq 6 Month	22665, 22666, 24078, 24118, 22587, 24079, 22672, 22673, 22669, 22668, 24080, 24081, 24075	37TH ST & W MACARTHUR BLVD
690494	Sewers - Clean PM - Hi-Freq 6 Month	8986, 7376, 7375, 8988, 8987, 8841, 8840, 8838, 8853, 8852, 8883, 8877	2058 ROSEDALE AV
690602	Sewers - Clean PM - Hi-Freq 3 Month	27692, 27693, 27697	74 BEECHWOOD DR
690880	Sewers - Clean PM - Hi-Freq 6 Month	8772, 8770, 8771	1479 FRUITVALE AV
690890	Sewers - Clean PM - Hi-Freq 6 Month	2968, 2971	69TH AV & SNELL ST

Work Order Id	Description	Pipe ID #	Address
693491	Sewers - Clean PM - Hi-Freq 6 Month	14292, 14291, 14461, 14479, 14478, 14290	5707 REDWOOD RD
693521	Sewers - Clean PM - Hi-Freq 6 Month	27518	5600 COLLEGE AVE
650089	Sewers - Clean PM - Hi-Freq 12 Month	7508, 9072	4216 CARRINGTON ST
660363	Sewers - Clean PM - Hi-Freq 12 Month	10425, 10419, 10424	2633 ABBEY ST
666667	Sewers - Clean PM - Hi-Freq 12 Month	9576, 9562, 9533, 9541, 9534, 9560	4228 MOUNTAIN VIEW AV
665716	Sewers - Clean PM - Hi-Freq 12 Month	14133, 14368, 14370, 14369, 32471, 32408, 31614, 14132, 14399, 14398, 14371, 14374, 16219, 16403, 16402, 14372, 14129	353 CRESTMONT DR
667100	Sewers - Clean PM - Hi-Freq 3 Month	8269, 8268, 8267, 8270	6636 LAIRD AV
667899	Sewers - Clean PM - Hi-Freq 12 Month	14339, 14340, 14338, 14341, 14348, 14349, 14351, 14347, 14346, 14344, 14343, 14342, 14387, 14378, 14375, 16388, 14373, 16218, 16364, 16284	297 RISHHELL DR

Work Order Id	Description	Pipe ID #	Address
668188	Sewers - Clean PM - Hi-Freq 12 Month	22955, 22954, 22953, 22952	642 EL DORADO AV
669044	Sewers - Clean PM - Hi-Freq 12 Month	25433, 25344, 25343, 25307, 25431, 27009, 25338	7047 EXETER DR
681051	Sewers - Clean PM - Hi-Freq 12 Month	11242, 11252, 11174, 11175	745 11TH AVE
680414	Sewers - Clean PM - Hi-Freq 12 Month	29175, 29176, 29172, 30192, 30197, 30191, 29134, 29223, 29226	469 63RD ST
680868	Sewers - Clean PM - Hi-Freq 12 Month	29274, 29275, 29273, 29596, 29272, 29271, 29276	6098 ROCKRIDGE BLVD
682827	Sewers - Clean PM - Hi-Freq 12 Month	1729, 1703, 1704, 1726, 1721, 1705, 1702, 1730, 1697, 1701	10306 FOOTHILL BLVD
683122	Sewers - Clean PM - Hi-Freq 12 Month	19647, 19660, 19648, 19646, 19541, 17313, 17311, 19644	347 PERKINS ST
684121	Sewers - Clean PM - Hi-Freq 12 Month	4847, 6109, 6132, 6131, 4853	55TH AV & INTERNATIONAL BLVD
683771	Sewers - Clean PM - Hi-Freq 12 Month	6318, 6461, 6319, 7982, 7976	6334 CAMDEN ST

Work Order Id	Description	Pipe ID #	Address
684868	Sewers - Clean PM - Hi-Freq 12 Month	19608, 19609, 19613, 17345, 19614, 19615, 19610, 19606, 19611, 17357	GRAND AVE & HARRISON ST
686360	Sewers - Clean PM - Hi-Freq 12 Month	4696, 4697	488 LESSER ST
688750	Sewers - Clean PM - Hi-Freq 12 Month	3519, 3465	9777 GOLF LINKS RD
690592	Sewers - Clean PM - Hi-Freq 12 Month	7769, 7764	2646 COLE ST
693414	Sewers - Clean PM - Hi-Freq 12 Month	10285, 11913	2300 HUMBOLDT AV
695601	Sewers - Clean PM - Hi-Freq 12 Month	23634, 23635	5959 WESTOVER DR
695612	Sewers - Clean PM - Hi-Freq 12 Month	31552, 23790, 23791	2922 HOLYROOD DR
697187	Sewers - Clean PM - Hi-Freq 6 Month	2790, 2789	11177 ELVESSA ST
697185	Sewers - Clean PM - Hi-Freq 6 Month	12107, 12105, 12106, 12104	4445 SHEPHERD ST
697201	Sewers - Clean PM - Hi-Freq 12 Month	24578, 24577	5692 CABOT DR
698182	Sewers - Clean PM - Hi-Freq 12 Month	20983	1480 WESTVIEW DR
699228	Sewers - Clean PM - Hi-Freq 3 Month	17342, 17340, 17339, 17341, 17325	PERKINS & BELLVIEW

Appendix G

Port of Oakland Sewer Collection System Annual Report for July 1, 2014 – June 30, 2015



PORT OF OAKLAND

Port of Oakland
Sanitary Sewer Collection System
Annual Report

September 2015

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Section 1. Introduction

The Port of Oakland (“Port”), established under the City Charter in 1927, is an autonomous department of the City of Oakland (“City”) under the governance of a seven-member Board of Port Commissioners appointed by the mayor of Oakland. The Port manages a container seaport, a passenger/cargo/general aviation airport, and waterfront properties for commercial and recreational purposes.

The Port owns, operates and maintains a sanitary sewer collection system which consists of lateral pipes, trunk lines, manholes, lift and ejector stations, triturator, and other sewer appurtenances that delivers sewage to the City’s wastewater collection system and to East Bay Municipal Utility District (“EBMUD”) wastewater interceptors and treatment facilities.

The FY 2014-15 Sanitary Sewer Collection System Annual Report was prepared at the request of the Oakland Public Works. The following sections in this report present information pertaining to the following sanitary sewer programs for Fiscal Year 2014-15 (July 1, 2014 to June 30, 2015):

- Sanitary Sewer Overflow (SSO)
- Asset Management Implementation Plan
- Infiltration and Inflow Reduction Work
- SSO Reduction Work

Section 2. Sanitary Sewer Overflow (SSO)

Number and Size of SSOs

For the reporting period from July 1, 2014 to June 30, 2015, the Port’s sanitary sewer collection system had two (2) SSO events, all of which were reported to California Integrated Water Quality System (CIWQS). One SSO was associated with construction of a box culvert at the former Oakland Army Base and occurred during dry weather condition. The other SSO was a private sewer lateral force main located at the Oakland International Airport. The size of the SSO is summarized in **Table 1**.

Table 1. Number of SSOs

Size of SSO (gallons)	Number	Percent of Total
Greater than or equal to 1,000	2	100%
From 100 to 999	0	0%
From 10 to 99	0	0%
Less than 10	0	0%
Total	2	100%

The total volume released is estimated to be approximately 2,341 gallons. The volume of spills contained and returned to the sewer system, as well as the volume reaching waters of the State is shown in **Table 2**.

Table 2. Volume of SSOs

	Volume (gallons)	Percent of Total
Total volume contained and returned to sewer system for treatment	0	0%
Total volume reaching waters of the State	0	0%
Total volume not contained but not reaching waters of the State (everything else)	2,341	100%
Total	2,341	100%

This report may not include all SSOs that occurred from private sewer service laterals within the Port's jurisdiction that were caused by conditions in privately-owned laterals or on private property. The property owners are responsible for the condition and the operation of those sewer service laterals.

Cause of SSOs

The causes of SSOs during the reporting period were due to infrastructure failure and construction damage, none of which was associated with Port operations. The distribution of SSOs by cause is shown in **Table 3**.

Table 3. Causes of SSOs

Cause of SSO	Number	Percent of Total
Blockage:	0	0
Roots	0	0
Grease	0	0
Debris	0	0
Debris from Laterals	0	0
Vandalism	0	0
Animal Carcass	0	0
Construction Debris	0	0
Multiple Causes	0	0
Subtotal for Blockage	0	0
Infrastructure Failure	1	50%
Inflow & Infiltration	0	0
Electrical Power Failure	0	0
Flow Capacity Deficiency	0	0
Natural Disaster	0	0
Bypass	0	0
Construction Damage	1	50%
Cause Unknown	0	0
Total	2	100%

Location of SSOs and Measures to Prevent Future Spills

Table 4. Locations of SSOs

SSO Event ID	Location	Causes	Measures to Prevent Future SSO
812335	College of Alameda Aviation School/Oakland International Airport	Force main break located on Airport property but connected to sanitary sewer lift station located on College of Alameda Aviation School	Notify Peralta Community College District who owned, operated, and maintained the lift station
815387	Chungking Street	Sewer line was damaged during construction of Chungking St box culvert	Notify the City contractor

SSO Trends

The number of SSO events is the same for FY 2013-14 and 2014-15 (i.e., two SSO events each fiscal year). Although the sewage overflow volume increased significantly from 366 gallons in FY 13-14 to 2,341 gallons in FY 2014-15, no spill amount reached the surface water body. These SSOs occurred on the Port properties and were caused by uncontrollable external factors as mentioned above.

Section 3. Asset Management Implementation Plan

The Port has begun the implementation of the Asset Management Implementation Plan (AMIP) since August 2012. The AMIP is similar to Sewer System Management Plan (SSMP). In fact, many elements of the AMIP can be found in the Port's SSMP, which is available at <http://portoakland.com/environment/programs.aspx>.

In addition, on July 9, 2015, the Board of Port Commissioners, by Resolution 15-073, approved and adopted the 2015 SSMP Update. The SSMP Update provides compliance with the Statewide General Waste Discharge Requirements (Sanitary Sewer Order No. 2006-0003-DWQ) and addresses changes in Port staff and organizational structure and changes in State regulations since the original adoption of the SSMP in 2010.

Section 4. Infiltration and Inflow Reduction Work

4.1 Sewer Main and Lateral Repair, Rehabilitation and Replacement

FY 2014-15 Sanitary Sewer Pipeline Projects Completed

- Approximately 2204 feet of 15-in and 18-in sewer mains on 7th Street and Ferry Street was rehabilitated with cured-in-place pipe (CIPP). Four (4) manholes were also lined to reduce the amount of inflow and infiltration into the sewer collection system;

- Minor repairs and lateral replacements throughout the Port.

FY 2015-16 Sanitary Sewer Pipeline Projects Proposed

- Perform sewer lateral inventory and mapping;
- Perform pipeline condition assessment to select appropriate rehabilitation methodology for sewer main on Earhart Road in the Aviation area and other areas as resources allowed;
- Continue with the sewer lateral repair and replacements in conjunction with tenant improvements and new development.

4.2 Sewer Main Inspection

The Port utilized outside contractors to inspect sanitary sewer lines within all three revenue areas (i.e., Aviation, Maritime, and Commercial Real Estate). For the reporting period, approximately one mile of sewer line was inspected.

Section 5. SSO Reduction Work

5.1 Capacity Assurance

No capacity improvement is necessary at this time since sewer pipelines within the Port contain sufficient capacity to accommodate existing design flows without exceeding the established capacity criteria. Future development at the Port will be subject to engineering review and evaluation to determine if capacity enhancement is necessary.

5.2 Sewer Main Cleaning

The Port utilized outside contractors to clean sanitary sewer lines within all three revenue areas. For the reporting period, approximately one mile of sewer line was flushed and/or jetted to remove grease buildups and to prevent potential blockages. In addition, preventive maintenance activities at all sewer lift stations and grease interceptors were performed on a routine schedule.

5.3 Pump Station Renovation and Upgrade

FY 2014-15 Lift Station Improvement Projects Completed

- Completed the condition assessment and performance evaluation study of nine (9) sanitary sewer lift and ejector stations at the Airport and developed the capital funding program for rehabilitation of these lift stations;
- Completed the design for rehabilitation of LS AP01P;
- Other improvements including installation of a new pump and check valve at LS R36P and new remote monitoring devices for LS D10P and R80P – all of which are located in the Maritime area.

FY 2015-16 Lift Station Improvement Projects Proposed

- SCADA system for Airport sewer lift station;
- Rehabilitate Airport sewer lift stations LS AP01P & LS AP02P and Maritime sewer lift station LS D09P.

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi13465	11/20/2014	BIO	no repair		-		21ST AV		BVV, Broken Void Visible
SEPi22528	12/1/2014	BIO	12/18/2014	14/15	17		SAN PABLO AV		BSV, Broken Soil Visible
SEPi13378	12/2/2014	BIO	no repair		-		WALLACE ST		XP, Collapsed Pipe Sewer
SEPi15485	12/5/2014	BIO	no repair		-		33RD ST E		B, Broken
SEPi21908	12/13/2014	BIO	no repair		-		MONTEREY BLVD		D, Deformed
SEPi26916	12/26/2014	BIO	no repair		-		WOODROW DR		BSV, Broken Soil Visible
SEPi13485	1/15/2015	BIO	no repair		-		30TH ST E		XP, Collapsed Pipe Sewer
SEPi3013	1/27/2015	BIO	no repair		-		77TH AVE		D, Deformed
SEPi6346	1/29/2015	BIO	no repair		-		OAKLAND		TBI, Tap Break In-truding
SEPi9530	2/21/2015	BIO	no repair		-		SEMINARY AV		BVV, Broken Void Visible
SEPi29370	2/24/2015	BIO	2/25/2015	14/15	1		BROADWAY		BSV, Broken Soil Visible
SEPi13384	2/25/2015	BIO	no repair		-		25TH ST E		BSV, Broken Soil Visible
SEPi10673	3/2/2015	BIO	no repair		-		REINHARDT DR		BSV, Broken Soil Visible

Through 6/30/15

Data Date: 8/10/15

Sewer Subbasin

Cleaning Tracking

Unique feet cleaned starting 1/1/10 (Paragraph 167.d.i and 92.a)

Zone	Subbasin	Feet Sewer Main	Feet Cleaned	% Cleaned	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
2	6008	3,238	3,238	100%	[Green bar]									
3	84003	15,122	15,122	100%	[Green bar]									
3	85305	22,110	22,110	100%	[Green bar]									
2	6006	18,928	18,928	100%	[Green bar]									
3	85204	30,809	30,809	100%	[Green bar]									
2	5804	8,000	8,000	100%	[Green bar]									
1	5607	64,003	64,003	100%	[Green bar]									
3	85501	15,316	15,316	100%	[Green bar]									
3	84005	12,766	12,766	100%	[Green bar]									
2	5606	33,421	33,333	100%	[Green bar]									
2	83502	14,433	14,057	97%	[Green bar]									
1	5015	11,850	11,421	96%	[Green bar]									
3	85401	28,867	27,062	94%	[Green bar]									
2	81201	17,213	16,042	93%	[Green bar]									
2	5802	29,809	27,684	93%	[Green bar]									
3	85012	19,879	18,450	93%	[Green bar]									
2	83013	14,585	13,519	93%	[Green bar]									
2	80101	16,630	15,267	92%	[Green bar]									
2	83402	7,513	6,857	91%	[Green bar]									
2	83503	25,548	23,188	91%	[Green bar]									
2	85403	11,965	10,838	91%	[Green bar]									
3	84104	26,726	23,649	88%	[Green bar]									
3	85211	33,969	29,937	88%	[Green bar]									
3	81012	7,158	6,194	87%	[Green bar]									
2	80113	24,922	21,400	86%	[Green bar]									
1	5009	46,599	39,498	85%	[Green bar]									
1	6413	4,336	3,630	84%	[Green bar]									
2	83501	15,219	12,648	83%	[Green bar]									
2	5605	39,752	33,031	83%	[Green bar]									
1	6402	15,420	12,804	83%	[Green bar]									
3	85304	11,617	9,516	82%	[Green bar]									
3	84103	38,445	31,451	82%	[Green bar]									
1	6414	4,444	3,619	81%	[Green bar]									
3	85221	16,895	13,668	81%	[Green bar]									
2	5407	21,312	17,083	80%	[Green bar]									
3	83103	19,573	15,652	80%	[Green bar]									
3	85303	16,026	12,807	80%	[Green bar]									
3	85222	16,166	12,692	79%	[Green bar]									
1	6406	2,902	2,265	78%	[Green bar]									
1	5022	20,516	15,995	78%	[Green bar]									
1	6401	27,012	21,021	78%	[Green bar]									
2	6007	17,396	13,525	78%	[Green bar]									
1	5609	22,187	17,154	77%	[Green bar]									
3	84102	25,008	19,314	77%	[Green bar]									

Sewer Subbasin

CCTV Tracking

Unique feet televised starting 1/1/14 (Paragraph 83.c)

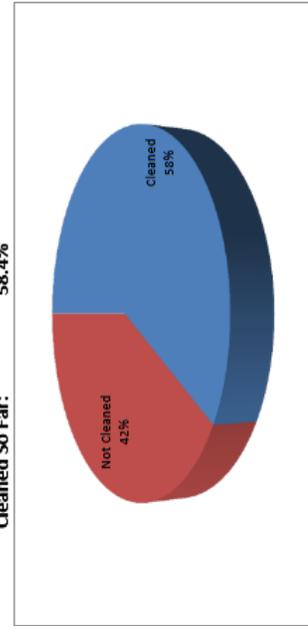
Zone	Subbasin	Feet CCTV	% CCTV	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
2	6008	2,344	72%	[Purple bar]									
3	84003	1,254	8%	[Purple bar]									
3	85305	7,895	36%	[Purple bar]									
2	6006	17,577	93%	[Purple bar]									
3	85204	5,117	17%	[Purple bar]									
2	5804	6,448	81%	[Purple bar]									
1	5607	5,621	9%	[Purple bar]									
3	85501	2,607	17%	[Purple bar]									
3	84005	7,213	56%	[Purple bar]									
2	5606	32,237	96%	[Purple bar]									
2	83502	11,802	82%	[Purple bar]									
1	5015	7,260	61%	[Purple bar]									
3	85401	808	3%	[Purple bar]									
2	81201	9,054	53%	[Purple bar]									
2	5802	27,111	91%	[Purple bar]									
3	85012	1,208	6%	[Purple bar]									
2	83013	14,585	100%	[Purple bar]									
2	80101	13,984	84%	[Purple bar]									
2	83402	7,357	98%	[Purple bar]									
2	83503	5,553	22%	[Purple bar]									
3	84104	13,986	52%	[Purple bar]									
3	85211	9,941	29%	[Purple bar]									
3	81012	2,263	32%	[Purple bar]									
2	80113	7,319	29%	[Purple bar]									
1	5009	5,535	12%	[Purple bar]									
1	6413	0	0%	[Purple bar]									
2	83501	7,227	47%	[Purple bar]									
2	5605	2,310	6%	[Purple bar]									
1	6402	2,448	16%	[Purple bar]									
3	85304	342	3%	[Purple bar]									
3	84103	10,924	28%	[Purple bar]									
1	6414	0	0%	[Purple bar]									
3	85221	113	1%	[Purple bar]									
2	5407	2,632	12%	[Purple bar]									
3	83103	12,417	63%	[Purple bar]									
3	85303	3,549	22%	[Purple bar]									
3	85222	1,361	8%	[Purple bar]									
1	6406	0	0%	[Purple bar]									
1	5022	1,592	8%	[Purple bar]									
1	6401	5,880	22%	[Purple bar]									
2	6007	7,596	44%	[Purple bar]									
1	5609	316	1%	[Purple bar]									
3	84102	7,254	29%	[Purple bar]									

Zone	Subbasin	Feet Sewer Main	Feet Cleaned	% Cleaned	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Feet CCTV	% CCTV
3	82005	38,019	29,206	77%											15,543	41%
3	85003	20,002	15,259	76%											7,886	39%
1	5010	10,643	8,109	76%											1,793	17%
2	80012	18,768	14,231	76%											907	5%
2	5416	37,867	28,570	75%											3,472	9%
2	5612	52,366	39,316	75%											1,329	3%
3	84111	16,835	12,618	75%											7,624	45%
3	85004	19,768	14,740	75%											12,900	65%
1	5610	40,349	30,072	75%											303	1%
1	5016	25,044	18,493	74%											2,758	11%
2	81002	30,796	22,626	73%											824	3%
2	6004	11,286	8,220	73%											10,205	90%
2	5904	7,066	5,128	73%											2,227	32%
3	85232	19,818	14,381	73%											1,486	9%
2	6005	15,774	11,423	72%											1,211	5%
3	85201	22,184	16,043	72%											8,849	33%
3	84101	26,499	18,950	72%											15,895	68%
3	86006	23,305	16,629	71%											117	2%
2	5411	5,690	4,054	71%											9,419	83%
3	83012	11,382	8,107	71%											5,129	33%
1	2102	15,415	10,909	71%											4,084	8%
2	5409	49,356	34,330	70%											11,190	11%
1	5017	98,136	67,728	69%											322	3%
1	6412	10,286	7,063	69%											4,905	44%
2	6204	11,114	7,616	69%											957	10%
1	5006	9,519	6,512	68%											3,658	12%
3	85231	30,172	20,519	68%											6,412	27%
3	85202	23,617	16,055	68%											684	5%
2	6203	13,360	9,071	68%											2,903	16%
3	86002	18,379	12,435	68%											491	3%
1	5611	15,201	10,223	67%											3,137	14%
2	81202	22,720	15,277	67%											2,383	8%
3	84004	31,412	20,987	67%											5,601	38%
3	83102	14,635	9,756	67%											5,256	21%
2	5805	25,181	16,768	67%											4,652	26%
2	5902	18,012	11,981	67%											1,039	8%
3	85203	13,679	9,092	66%											168	1%
2	81102	26,740	17,729	66%											12,882	75%
3	85302	17,087	11,154	65%											3,501	16%
2	81101	21,430	13,988	65%											6,038	35%
3	85207	17,284	11,280	65%											2,639	20%
3	86004	13,510	8,804	65%											5,739	12%
1	5014	49,009	31,864	65%											3,844	6%
1	5021	63,593	41,242	65%											7,116	30%
3	83002	23,945	15,510	65%											2,548	23%
3	83101	11,317	7,321	65%											2,373	10%
2	85502	24,069	15,379	64%											1,899	11%
2	80022	16,591	10,587	64%												

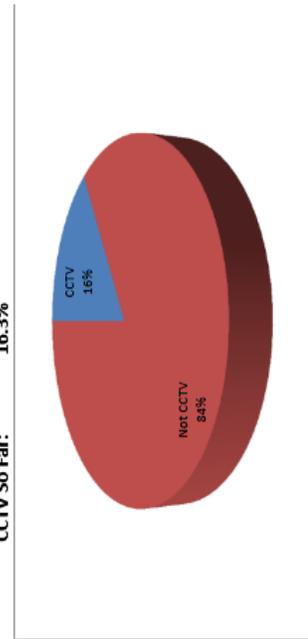
Zone	Subbasin	Feet Sewer Main	Feet Cleaned	% Cleaned	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Feet CCTV	% CCTV
1	2001	21,544	13,651	63%											14,429	67%
3	82002	23,772	14,796	62%											599	3%
1	5007	60,204	36,602	61%											3,461	6%
3	85208	32,940	20,018	61%											8,637	26%
1	64	42,066	25,277	60%											4,944	12%
2	5402	18,488	11,109	60%											185	1%
2	83511	19,432	11,659	60%											330	2%
3	83001	30,827	18,335	59%											9,100	30%
1	5213	16,886	9,955	59%											1,421	8%
1	17	49,106	28,791	59%											4,487	9%
2	5905	9,926	5,783	58%											2,142	22%
2	81014	14,791	8,604	58%											2,663	18%
3	85102	21,556	12,520	58%											5,012	23%
1	5003	20,012	11,527	58%											6,499	32%
3	85205	30,287	17,341	57%											2,526	8%
3	83202	30,185	17,260	57%											9,176	30%
3	83011	28,862	16,457	57%											6,720	23%
2	5803	15,293	8,681	57%											2,764	18%
1	5011	11,341	6,407	56%											5,304	47%
1	5203	117,115	66,155	56%											3,717	3%
2	6101	1,761	986	56%												0%
3	81013	19,200	10,690	56%											1,731	9%
2	81015	21,177	11,695	55%											939	4%
3	85206	31,839	17,573	55%											2,915	9%
1	5211	11,342	6,163	54%											1,582	14%
3	83301	20,395	11,078	54%											4,890	24%
3	82004	14,116	7,640	54%											2,436	17%
3	84001	21,006	11,357	54%											7,853	37%
1	5018	40,858	21,975	54%											2,353	6%
2	5604	47,522	25,483	54%											6,379	13%
3	85301	24,097	12,783	53%											7,898	33%
2	80112	18,881	10,002	53%											1,969	10%
2	6002	17,168	8,953	52%											1,766	10%
2	80111	26,394	13,702	52%											9,287	35%
1	5019	67,066	34,810	52%											4,116	6%
1	5608	27,363	14,197	52%											439	2%
3	87001	2,294	1,180	51%												0%
1	2101	10,384	5,275	51%											2,600	25%
2	80021	13,907	7,019	50%											307	2%
1	5004	28,389	14,278	50%											2,752	10%
1	5020	36,457	17,891	49%											1,169	3%
1	2002	14,497	7,104	49%											877	6%
3	82003	24,139	11,821	49%											1,958	8%
2	6202	21,250	10,364	49%											5,470	26%
3	85002	21,468	10,430	49%											705	3%
3	83201	17,987	8,657	48%											1,387	8%
1	6411	24,779	11,905	48%											2,052	8%
1	6410	8,187	3,910	48%											582	7%

Zone	Subbasin	Feet Sewer Main	Feet Cleaned	% Cleaned	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Feet CCTV	% CCTV	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
2	83512	20,853	7,113	34%											861	4%											
2	80011	17,510	5,958	34%											1,540	9%											
2	80002	6,414	2,108	33%											255	4%											
1	5208	5,347	1,710	32%											227	4%											
3	85013	19,605	6,126	31%											1,611	8%											
3	82001	8,354	2,519	30%												0%											
1	6407	5,605	1,689	30%											3,248	13%											
1	2103	24,417	7,173	29%											520	3%											
3	83302	20,314	5,611	28%												0%											
2	5415	14,677	3,972	27%											1,223	3%											
2	5413	41,334	11,092	27%											301	2%											
1	5209	17,856	4,764	27%											484	2%											
2	5408	20,941	5,373	26%											180	1%											
2	5406	14,628	3,625	25%											698	4%											
2	6102	17,633	4,197	24%											1,706	4%											
	(blank)	40,148	9,225	23%											1,895	20%											
1	6409	9,534	2,107	22%											1,232	5%											
2	5414	27,110	5,361	20%											673	5%											
1	5013	14,783	2,814	19%												0%											
1	5206	8,401	1,550	18%												0%											
2	5410	3,901	715	18%												0%											
1	6408	3,399	617	18%											198	1%											
1	6404	16,353	2,824	17%												0%											
1	6415	2,412	395	16%												0%											
3	85001	13,066	1,996	15%											853	5%											
3	84112	16,041	2,258	14%											873	2%											
1	5204	36,439	4,866	13%												0%											
1	64?	30,526	3,761	12%											226	1%											
3	84002	15,294	1,859	12%												0%											
1	5418	16,985	1,588	9%												0%											
1	5417	16,162	1,507	9%												0%											
1	6405-1	5,323		0%												0%											
	220	4,907,490	2,864,495	58.4%											801,926	16.3%											
	Miles:	929	543												152												

Cleaned So Far: 58.4%



CCTV So Far: 16.3%



Attachment C

Annual Report FY 2015-2016

CITY OF OAKLAND



Sanitary Sewer Collection System

Annual Report

July 1, 2015 to June 30, 2016

Consent Decree, Consolidated Case Nos. C 09-00186-RS and C 09-05684-RS

CITY OF OAKLAND



250 FRANK H. OGAWA PLAZA OAKLAND, CALIFORNIA 94612-2033

Oakland Public Works Department
Brooke A. Levin
Director

(510) 238-3961
FAX (510) 238-6428
TDD (510) 238-7644

September 30, 2016

Mr. Ken Greenberg
Chief, Clean Water Act
Water Section I, (ENF 3-1)
Enforcement Division
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Mr. Bruce Wolfe
Executive Officer
San Francisco Bay Regional
Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Patricia Hurst
Chief, Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Box 7611 Ben Franklin Station
Washington, D.C. 20044-7611
Re: DOJ No. 90-5-1-1-09361/2

Marnie Ajello
Legal Counsel
San Francisco Bay Regional
Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Thomas Howard
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

Mr. Daniel S. Harris
Deputy Attorney General
455 Golden Gate Avenue, Suite 11000
San Francisco, CA 94102

RE: Consent Decree--City of Oakland Annual Report

Dear Mr. Greenberg, et al.:

In accordance with the 2014 Consent Decree, enclosed is the City of Oakland's Annual Report for the period from July 1, 2015 to June 30, 2016.

If you have any questions about this report, please contact Mr. Gus Amirzehni, Principal Civil Engineer, at 510-238-6601.

Sincerely,

Brooke A. Levin
Director, Public Works

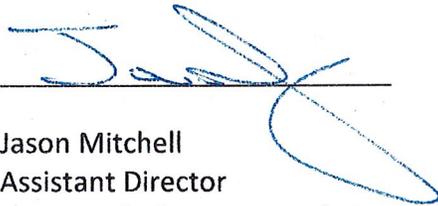
cc: Nicole C. Sasaki (Bay Keeper)
Christopher A. Sproul (Environmental Advocates)
Christopher Dinsmore (EBMUD)
Chris Chan (Port of Oakland)

Attachments: 2015-16 Annual Report

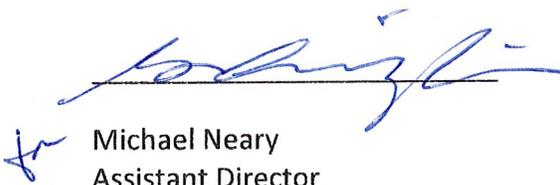
Certification

I certify under penalty of law that this document and its attachments were prepared either by me personally or under my direction or supervision in a manner designed to assure that qualified and knowledgeable personnel properly gathered and presented the information contained herein. I further certify, based on my personnel knowledge or on my inquiry of the individuals immediately responsible for obtaining the information, that to the best of my knowledge and belief the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing and willful submission of a materially false statement.

Reviewed by:



Jason Mitchell
Assistant Director
Bureau of Infrastructure & Operations



for Michael Neary
Assistant Director
Bureau of Engineering & Construction



Brooke A. Levin
Director of Public Works

9/30/16
Date

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Appendix Summary

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Executive Summary

The City of Oakland's Consent Decree for operation and maintenance of its Sewer Collection System was approved by state and federal regulatory agencies with an Effective Date of September 22, 2014. The City is pleased to submit this Annual Report as required by the Consent Decree (CD) for Fiscal Year 2015-16 (July 1, 2015 to June 30, 2016).

Sanitary Sewer Overflows (SSO). The City of Oakland's Sewer Collection System had 88 SSO events during FY 2015-16. This is an 18% reduction compared to the 104 SSO events in FY 2014-15.

Asset Management Implementation Program (AMIP). The City is implementing its revised AMIP dated October 31, 2014.

Sewer Main and Maintenance Hole Rehabilitation. As of June 30, 2016, the City of Oakland has Rehabilitated 261,704 feet (50 miles) of Sewer Main. This exceeds the Consent Decree requirement to rehabilitate 158,400 feet (30 miles) by June 30, 2016. An additional 10,963 feet (2.1 miles) of Sewer Main was Rehabilitated which meets the Consent Decree requirement to rehabilitate 10,560 feet (2.0 miles) by June 30, 2016. The City's Sewer Main Rehabilitation Program is ahead of schedule.

7 maintenance holes were found to be in poor condition in the FY 2015-16. All manholes will be replaced by end of calendar year 2016.

Sewer Main and Maintenance Hole Inspection. As of June 30, 2016, 1,408,769 feet (267 miles) of sewer mains in the City of Oakland have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 1,214,400 feet (230 miles) by June 30, 2016. The City of Oakland is in full compliance in regards to maintenance hole inspections. Between July 1, 2015 and June 30, 2016, 2,318 maintenance hole inspections were performed. The City's Sewer Main Rehabilitation Program is ahead of schedule.

Development of Regional Standards. The City bases its construction plans and specifications on The "Greenbook": Standard Specifications for Public Works Construction, a statewide standard for the municipal construction industry. The Greenbook is updated every three years.

A Regional Standards committee (RSC) was formed in May 2015 by all Defendants for the review and development of Regional Standards regarding the work on sewer mains, manholes, and sewer laterals. In April 2015 a consultant (Humphrey Consulting) was contracted to assist the Defendants and the RSC in the development of standards. The City has assigned a representative to the RSC and has actively participated in the meetings of the RSC, held throughout the fiscal year. On June 30, 2016, Humphrey Consulting on behalf of all Defendants submitted to EPA the Regional Standards, as required in the Consent Decree.

EBMUD's Sewer Lateral education and Outreach Program. The City assisted EBMUD in the development of the Sewer Lateral education and outreach program. The City participated in a meeting with EBMUD in January 2015, when the development of the program and educational materials was reviewed and discussed. Additional review and comments occurred in February 2015, prior to EBMUD's submittal of the plan to EPA for review and comment in March 2015. The City continues to work with EBMUD in implementation of the program.

Sewer Lateral Inspection and Repair. In FY 2015-16, the City finalized 249 building permits which required certificates of occupancy for construction or remodeling permits in excess of \$100,000. 245 building permits received Compliance Certificates issued by EBMUD and 4 have not. This met the Consent Decree requirement to limit the number of building permits issued without Compliance Certificates to less than 25 per Fiscal Year.

Inflow and Rapid Infiltration Identification and Elimination. By a letter dated January 20, 2015, EBMUD provided a draft of its Regional Technical Support program (RTSP) plan to the East Bay Collection System Advisory Committee (EBCSAC) for review and comment. EBCSAC's comments on the EBMUD draft RTSP were provided to EBMUD by letter dated February 19, 2015. EBMUD submitted the RTSP Plan to EPA, RWQCB, SWRCB, and DOJ on March 23, 2015. Based on comments from EPA received on May 19, 2015, EBMUD resubmitted a revised RTSP Plan on July 20, 2015. The revised RTSP Plan received a condition of approval by EPA on April 14, 2016. EBCSAC agencies have also discussed RTSP issues with EBMUD at monthly meetings from January 2015 to the present time. The City will continue to work with EBMUD in implementation of the program.

On September 29, 2016, EBMUD submitted to the City FY 2015-16 Annual Satellite Notification. The City will review the Notification and continue to participate with EBMUD on the RTSP inspections performed.

Capacity Assurance. The Consent Decree requires the City to increase sewer capacity in certain locations when sewer flows reach within one foot of the Maintenance Hole rim. In FY 2015-16 the City experienced a total of ten locations that reached within one foot of the Maintenance Hole rim. All flows were contained within the system and no SSO event occurred at any of these ten locations. Four locations were suspected to be capacity related. Four locations were non-capacity related. Two were triggered by maintenance staff during CCTV operations.

The December 11, 2014 rain event triggered a high sewer level alarm at six locations. Analysis showed this event was greater than the December 5, 1952 storm, with a full classification of a 10-year, 21-hour storm. Although this event exceeds the December 5, 1952 storm, the City plans improvements at these locations in a good-faith effort to improve the robustness of the sewer system.

Acute Defects. In FY 2015-16, 25 Acute Defects were Identified. The City has repaired 12 Acute Defects. Remaining 13 Acute Defects will be repaired within One Year of Identification. All 25 Acute Defects Identified in FY 2014-15 met the one year requirement. It should be noted that no Sanitary Sewer Overflows occurred because of delays in Repair of Acute Defects.

Sewer Main Cleaning. As of June 30, 2016, 3,777,533 unique feet (715 miles) of sewer mains in the City of Oakland have been cleaned. This exceeds the Consent Decree requirement of 3,379,200 feet (640 miles).

Root Cleaning (Foaming). As of June 30, 2016, the City had root foamed 803,771 feet (152.2 miles) of Sewer Mains, which exceeds the Consent Decree requirement of 792,000 feet (150 miles).

Hot Spot Cleaning. As of June 30, 2016, 134 locations were identified as hot spots by staff. Each of these locations was cleaned at least once in FY 2015-16.

Fats, Oil and Grease (FOG) Control. In FY 2015-16, 39 SSOs were thought to be associated with FOG. These locations were referred to EBMUD for investigation.

Pump Station Renovation. The City is significantly ahead of schedule with its Pump Station Improvement Program. One pump station was completed in 2012. Three pump stations are scheduled to begin construction in October 2016. Three more pump stations, in which design has been completed, are scheduled to begin in 2018. The completion of all pump stations will be completed by 2019, three years ahead of schedule.

Known Noncompliance with Consent Decree. The City is well ahead of schedule in sewer rehabilitation, sewer cleaning, root control, CCTV inspection, and pump station rehabilitation and is compliant with the Consent Decree. The City has increased its sewer service budget, staffing, and equipment and intends to continue to meet its obligations under the Consent Decree. The City sent out defective lateral notices to properties in accordance with the requirement described in Paragraph 85a of the Consent Decree. This section states that *“Within 90 Days of identifying a Sewer Lateral as defective the City of Oakland shall notify the affected owner in writing.”* The City sent out defective lateral notices to properties in accordance with the requirement described on Paragraph 85a of the Consent Decree. The City is currently aggregating all lateral related reports and complaints in one database. The City sent out notices to property owners including those with lateral defects and those with only temporary blockages. Of the 62 defective sewer laterals identified, 16 notices were sent within the 90-day requirement. 36 notices were sent beyond the 90-day requirement, and 10 have not been sent notices. 10 of the defective sewer laterals were protruding laterals. Of these, all were sent a notice. The City is adding additional staff to handle and follow up on defective laterals within the 90 days of identification in order to be compliant.

The City believes that it is compliant with the Consent Decree and that no penalties should be assessed for the City’s Collection System. If Plaintiffs disagree with this position, the City would appreciate the opportunity to discuss potential penalties and provide additional explanations of its position.

Assessment of Stipulated Penalties. In FY 2015-2016, The City augmented its equipment resources through the acquisition of nine additional equipment which will be utilized to increase collection maintenance efficiency. Budgetary allocation to facilitate this augmentation was \$ 1,180,444.07 clearing the way to acquire the following: 1 Vactor 2100 Plus combo Flusher w/Excavator (SEofA) CCTV Flusher, 1 Catch Basin Cleaner, 1 Construction Truck, 1 Backhoe compactor attachment for JD 710 & 310, 1 Auto Rewind for our Vactor contingent, 20 Ton Heavy Transport Trailer, 1 6x10 Cargo Trailer, and 1 5x8 ATV Transport Trailer.

The City has also instituted supplementary funding for Contractors in the amount of \$ 2,000,000.00 per year to perform Closed Circuit Television (CCTV) as well as trunk line and easement maintenance.

Recommended Changes to Required Work. The City has no recommendations for changes to this Consent Decree.

Section 1. Introduction

Paragraph 139 of the Consent Decree (Case Nos. C09-00186 and C09-05684) requires:

“By September 30th of each Fiscal Year...each Defendant shall submit to Plaintiffs, with a copy to Intervenors, an annual progress report (“Annual Report”) covering the period July 1st through June 30th of the prior Fiscal Year.”

This Annual Report has been prepared pursuant to the requirements of the Consent Decree. The following sections of this report present the required information for Fiscal Year 2015-16 (July 1, 2015 to June 30, 2016):

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Section 2. Annual Report of Sanitary Sewer Overflows

Paragraph 144 of the Consent Decree requires:

“A Sanitary Sewer Overflow Report that includes the location of SSOs; the start and end date and time of each SSO; the SSO volume including gross volume, amount recovered, and amount not recovered; the destination of each SSO; the probable cause(s) of the SSOs; the location(s) of repeat SSOs; a list of any SSOs at locations where the Sewer Main had been Rehabilitated in the previous ten (10) Fiscal Years; and a description of measures taken to help prevent these SSOs in the future.”

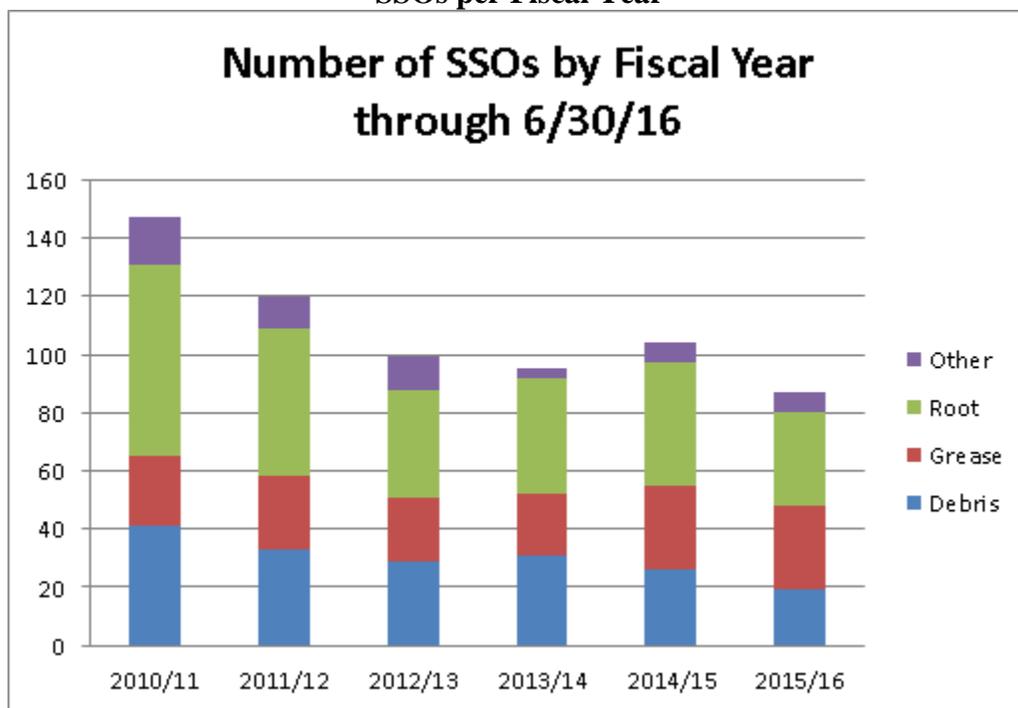
Number of SSOs

The City of Oakland’s Sewer Collection System had 88 SSO events during FY 2015-16. This is an 18% reduction compared to the 104 SSO events in FY 2014-15.

The total volume spilled in FY 2015-16 was 28,343 gallons, representing a 75% decrease in volume compared to the previous Fiscal Year. Of the total amount spilled, 58% was contained and returned to the system.

Figure 2-1 shows the number of SSO events by Fiscal Year for the last 6 Fiscal Years, as well as the primary cause of the SSO.

Figure 2-1.
SSOs per Fiscal Year



A detailed list of SSOs is shown in Table 2-1 of **Appendix A**.

The City has made many improvements to its sewer program in order to continue reducing sanitary sewer overflows.

In FY 2015-2016, The City augmented its equipment resources through the acquisition of nine additional equipment which will be utilized to increase collection maintenance efficiency. Budgetary allocation to facilitate this augmentation was \$ 1,180,444.07 clearing the way to acquire the following: 1 Vactor 2100 Plus combo Flusher w/Excavator (SEofA) CCTV Flusher, 1 Catch Basin Cleaner, 1 Construction Truck, 1 Backhoe compactor attachment for JD 710 & 310, 1 Auto Rewind for our Vactor contingent, 20 Ton Heavy Transport Trailer, 1 6x10 Cargo Trailer, and 1 5x8 ATV Transport Trailer.

The City has also instituted supplementary funding for Contractors in the amount of \$2,000,000.00 per year to perform Closed Circuit Television (CCTV) as well as trunk line and easement maintenance.

Number and Location of Repeat Overflows

In Fiscal Year 2015-16, the City had 16 locations (18 SSO’s) in which a second sewer overflow occurred within a three year period. Table 2-2 below lists the number and location of overflows occurring at repeat locations along with a description of measures taken to prevent future SSO’s at these locations. All locations below have been added to the High Frequency Cleaning List ‘Hot Spots’.

Table 2-2 Repeat SSO Locations, FY 2015-16

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Pipe ID
3628 Loma Vista Av (3712 Loma Vista Av, 3624 Loma Vista Av) (all same pipe)	821269, 814362, 807715	Protruding Tap	1/18/16, 4/2/15, 7/7/14	Added to High Frequency PM list on 1/13/2016. Contractor upsized 6 inch pipe to 8 inch on 3/30/16. Removed from High Frequency list on 4/25/2016	11995
1225 Fallon St	821377, 809333	Grease	1/20/16, 8/25/14	Added to High Frequency PM List 12 month on 2/16/2016	13107
297 Rishell Dr	820979, 805359	Roots and Grease	1/8/16, 3/23/14	On High Frequency List changing from 12 Month to 6 Month on 3/19/2015, Root foaming 3/20/15	14338
3228 Guido St	820124, 794304	Roots	12/5/15, 5/18/13	Added to High Frequency PM list. 3/17/2016, Root foaming 6/9/16	16131

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Pipe ID
102 Crest Rd	821379, 817782	Roots	1/18/16, 8/31/15	Added to High Frequency PM List 6 Month on 1/18/2016	23085
895 47 th St	818777, 793721	Sag in Pipe	10/1/15, 4/26/13	Added to High Frequency PM List 6 Month on 10/09/2015 Pipe has been lined	25585
6861 Saroni Dr	819411, 793432	Roots	11/6/15, 4/15/13	Added to High Frequency PM List 6 Month on 4/15/2013, Root foaming 3/20/15	26690
6205 Westwood Way	819559, 812284	Roots	11/15/15, 1/7/15	Added to High Frequency PM List 12 Month on 2/17/2016	28737
171 Roble Rd (2 pipes)	821746, 822213, 814026	Roots	2/3/16, 2/2/16, 3/20/15	Added to High Frequency PM List 6 Month on 3/7/2016	30415, 30480
7401 Claremont Av (also 2646 Claremont Av) (2 pipes)	818644, 818151	Roots	10/2/15, 9/15/15	Spot repair scheduled also added to High Frequency PM List on 2/10/2016	31208, 31209
7283 Claremont Av	819439, 798678	Roots	11/7/15, 9/10/13	Added to High Frequency PM List 12 Month on 2/10/2016	31311
1902 90 th Ave (1818 90 th Ave) (same pipe)	818775, 810561	Grease	10/1/15, 11/5/14	Added to High Frequency PM List 6 Month on 3/7/2016	3199
6205 Westwood WY	819559, 812284	Roots	11/15/15, 1/7/15	Added to High Frequency PM List 12 Month on 2/17/2016	32368
6401 Eastlawn St (1280 64 th Av) (same pipe)	825641, 796416	Grease	5/20/16, 6/30/13	Added to High Frequency PM List 12 Month on 6/20/2016	3854

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Pipe ID
2058 Rosedale Av	821398, 735435, 812884, 792740	Grease and Roots	1/23/16, 1/19/16, 1/31/15, 3/18/13	Added to High Frequency PM List 6 Month on 1/31/2015	8986

Sewer Overflows in Rehabilitated Areas

In FY 2015-16, 3 SSOs occurred in areas rehabilitated since July 1, 2005 (within the last ten years) as shown in Table 2-3 below. Of these locations, all 3 SSO's were FOG related problems. Corrective actions, as detailed below, include cleaning, CCTV inspection, and addition to the "Hot Spot" list.

**Table 2-3
SSO Locations within Rehabilitated Areas, FY 2015-16**

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Rehab Year	Pipe ID
308 Jackson St	821721	Grease	2/1/16	Added to High Frequency List 12 Month on 2/1/2016 used grease dissolving chemical when serviced.	2010	12921
1225 Fallon St	821377	Grease	1/20/16	Added to High Frequency List 12 Month on 2/16/2016	2010	13107
6401 Eastlawn St	TBD	Grease	5/20/16	Added to High Frequency PM List on 6/20/2016	2011	3851, 3854, 3880

Section 3. Implementation of Asset Management Implementation Plan (AMIP)

Paragraph 165 of the Consent Decree requires:

“The City shall summarize implementation of each element of its AMIP. The summary shall include any proposed revisions to the AMIP, including, but not limited to, revisions to maintenance, construction, and Rehabilitation schedules, along with any associated changes to its financial plan, and an explanation of how those revisions are consistent with its obligations under the Consent Decree.”

On October 31, 2014, the City submitted a new AMIP which had been revised to comply with the new Consent Decree. The AMIP provided new maintenance, construction and rehabilitation schedules, as well as a revised financial plan. The City is implementing both the new AMIP and the Consent Decree.

Chapter 1, Introduction, of the new AMIP presented revised goals, organization and responsibilities for implementation of the AMIP and CD.

Chapter 2, Condition Assessment, revised Sewer Main and Maintenance Hole inspection, Sewer Lateral inspection and capacity monitoring. Sections 4.2, 4.4 and 5.1 of this Annual Report describe work in these areas implemented during FY 2015-16.

Chapter 3, Operations and Maintenance, revised sewer maintenance, hot spot cleaning, root control, and FOG control. Sections 5.4, 5.5, 5.6 and 5.7 of this report describe work in these areas implemented during FY 2015-16.

Chapter 4, Capital Improvements, described revision of design and construction standards, Sewer Main Rehabilitation, elimination of Acute Defects, pump station and capacity improvements, Rehabilitation of City owned Sewer Laterals, and provided a ten year CIP and financial plan. Sections 4.1, 4.3, 5.3 and 5.8 of this report describe work implemented during FY 2015-16.

Section 4. Infiltration and Inflow Reduction Work

4.1 Sewer Main and Maintenance Hole Rehabilitation

Paragraph 166.a.i. of the Consent Decree requires that the Annual Report contain:

“Rehabilitation: all Sewer Main and Maintenance Hole Repair and Rehabilitation activities completed...”

Paragraph 83.a. of the Consent Decree requires:

“Between January 1, 2014 and June 30, 2016, the City of Oakland shall rehabilitate 158,400 feet [30 miles] of Sewer Main....When the City rehabilitates a Sewer Main, it shall also Rehabilitate, as needed, all Maintenance Holes associated with the Sewer Main and ensure that abandoned Sewer Laterals are not connected to that Sewer Main.”

Sewer Mains Rehabilitated

As of June 30, 2016, the City of Oakland had Rehabilitated 261,704 feet (50 miles) of Sewer Main as shown in Table 4-1. This exceeds the Consent Decree requirement to rehabilitate 158,400 feet (30 miles) by June 30, 2016. The City’s Sewer Main Rehabilitation Program is ahead of schedule.

Table 4-1
Length of Rehabilitated Sewer Mains

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement **
1/11/14-6/30/14	131,653’ (24.9 miles)*	131,653’ (24.9 miles)*	-----
FY 2014-15	60,546’ (11.5 miles)	192,199’ (36.4 miles)	-----
FY 2015-16	71,751’ (13.6 miles)	263,950’ (50.0 miles)	158,400’ (30 miles)

* From previous Annual Report

**Cumulative total beginning 01/01/14

Table 4-2 provides details of projects completed in FY 2015-16.

Table 4-2
Sewer Main Rehabilitation Projects Completed in FY 2015-16

Project Number	Description	SubBasin Number	Lateral Connections	Structure	Length (Feet)	Length (Miles)	Construction Costs
C329145	21st Avenue, 17th St, 24th Ave, and 27th Ave	60-06	215	62	8,510	1.61	\$ 1,002,775
C329151	24th St, 19th Ave, Beaumont Ave, and 33rd St	58-02	194	52	10,465	1.98	\$ 1,094,519
C329144	REHAB SS MNTN, JOAQ	56-06, 50-18, 52-04, 85-501	435	296	33,104	6.27	\$ 4,240,620
C329142	REHAB SS in West Grand Ave between Wood St and San Pablo Ave, and in 20th St between Broadway and Harrison St	52-05, 52-04, 52-03, 52-01	33	48	7,481	1.41	\$ 5,927,577
C329149	Campus Dr, Mountain Blvd, Knoll Ave, and Access	83-502	100	67	6,767	1.28	\$ 545,365
C329143	REHAB SS bounded by Park Blvd, Hollywood Ave, Sunnyhills Rd, and Brighton Ave	54-16	0	29	3,178	1.00	\$644,013
Total			977	525	69,505	13.56	\$ 13,454,869

Proposed projects C228920, C228930, and C228940 listed from last year's Annual Report has been combined to next year's project to C329136 listed on Table 4-6.

Additional Sewer Mains Rehabilitated

Paragraph 83.b. of the Consent Decree requires:

"...In addition to the Work required under paragraph 83(a), beginning on July 1, 2014, the City shall complete, by the end of each Fiscal Year, Rehabilitation of no less than 5,280 feet of Sewer Main, anywhere within the City's Collection System, based on a cumulative total (i.e., 5280 feet by June 30, 2015; 10,560 feet by June 30, 2016; 15,840 feet by June 30, 2017; etc.) for the duration of the Consent Decree."

The City rehabilitated an additional 5,424 feet of Sewer Main under Paragraph 83.b. as shown in Tables 4-3 and 4-4.

Table 4-3
Length of Additional Sewer Mains Rehabilitated

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement
FY 2014-15	5,539' (1.0 mile)	5,539' (1.0 mile)	5280' (1 mile)
FY 2015-16	5,424' (1.0 mile)	10,963' (2.1 miles)	10,560' (2 miles)

Table 4-4
Additional Sewer Mains Rehabilitated in FY 2015-16

Project No	Description	Completion Date	SubBasin No	Lateral Connections	Structure	Length (feet)	Length (Miles)	Construction Cost
C455620	On-Call Sanitary Sewer	6/30/2016	80-001, 50-19, 85-401, 84-002, 52-01, 83-521, 83-402	71	54	5,277	1.0	\$ 1,285,825
C461810	SS Rehab 57th Ave	6/30/2016	83-001	0	2	147	0.03	\$45,536
Total				71	56	5,424	1.03	\$ 1,331,361

Maintenance Holes

Paragraph 166.a.i.C. of the Consent Decree requires that the Annual Report contain:

“...the number of Maintenance Holes associated with Rehabilitated Sewer Mains and the number of Maintenance Holes Rehabilitated;”

As shown in Tables 4-2 and 4-4, as part of its Sewer Main Rehabilitation Program in FY 2015-16 the City Repaired or Rehabilitated 581 Maintenance Holes.

Abandoned Sewer Laterals

Paragraph 166.a.i.D. of the Consent Decree requires that the Annual Report contain:

“...a statement that the City did not reconnect any abandoned Sewer Laterals that the City found to be connected to the Sewer Main;”

The City sealed off any abandoned sewer laterals which were encountered during construction. No abandoned laterals were reconnected to Sewer Mains. Abandoned or inactive house connection sewers shall be cut back

two feet from the main and plugged with Class C mortar, at least six inches into the abandoned/inactive house connection sewer.

Sewer Main Rehabilitation Budget and Expenditures

Paragraph 166.a.i.F. of the Consent Decree requires that the Annual Report contain:

“...the Rehabilitation budget and dollars spent on Sewer Main Rehabilitation;”

During FY 2015-16, the City budgeted \$17,873,000 for capital improvements of the sewer collection system. Improvements include rehabilitating or replacing sewer mains, lower laterals, and associated sewer structures. This budgeted amount is intended to cover hard construction costs and soft costs associated with design and construction management. It must be noted that capital budget is not typically spent in one fiscal year as project activities and expenditures span over 2 to 3 years.

2015-16 Proposed Sewer Main Rehabilitation Projects

Paragraph 166.a.i.G of the Consent Decree requires that the Annual Report contain:

“...the Sewer Mains targeted to be Rehabilitated in the next Fiscal Year;”

In FY 2015-16, the City plans to complete 5 Sewer Main Rehabilitation projects as listed in Table 4-6 below. These projects will rehabilitate approximately 12.8 miles of sewer mains. All appurtenant sewer structures will also be rehabilitated as needed as part of these projects. The locations of these projects are selected from Appendix H of the Consent Decree and various locations for the 1 additional mile of sewer main rehabilitation required under Paragraph 83.b. The locations for the 1 mile will be developed in response to complaints and requests from the acute defect list. Appendix H lists Oakland's Collection System sub-basin priorities.

**Table 4-6
FY 2016-17 Proposed Sewer Main Rehabilitation Projects**

No.	Project No.	Description	Length (Miles)
1	C329147	Rehabilitation of Sanitary Sewer in the Area bounded by Campus Drive, Mountain Boulevard, Knoll Avenue, and Access (83-013)	3.71
2	C329148	Rehabilitation of Sanitary Sewer In the Area bounded by Hwy 13, Reinhardt Dr, 39th Ave, and Aliso Ave (83-501)	2.88
3	C482960	Rehabilitation of Sanitary Sewer in the Area bounded by 14th Avenue, MacArthur Boulevard, Ardley Avenue, and E 31st Street (58-04)	1.52
4	C329155	Various Locations SS Rehab: Auseon Ave (Plymouth & Birch), 85th Ave (Plymouth & Birch), 83rd Ave (Holly & Plymouth)	0.33
5	C329136	SS Rehab Renwick and Potter bet. Fairfas & Brookdale Ave. Alerado Rd and Silver Pl and Easement of off Sequoyah Rd	0.82
6	C482940	Rehabilitation of Sanitary Sewer in the Area bounded by Mountain View Avenue, Leona Street, Sunnymere Avenue, and Seminary Avenue (83-402)	1.42
7	C482950	Rehabilitation of Sanitary Sewer in the Area bounded by 23rd Avenue, International Boulevard, 26th Avenue, and E 12th Street(60-04)	2.14
8	C329136	SS Rehab Renwick and Potter bet. Fairfax & Brookdale Ave. Alvarado Rd and Silver Pl and Easement of off Sequoyah Rd	0.82

Revisions to Appendix H

Paragraph 166.a.i.H. of the Consent Decree requires that the Annual Report contain:

“...an explanation of any revisions that were made to Appendix H, or the financial plan associated with future Sewer Main Repair and Rehabilitation...”

In FY 2015-16, no revisions were made to Appendix H. A new financial plan was developed and included in the City’s AMIP as described in Section 2 of this report.

4.2 Sewer Main and Maintenance Hole Inspection

Paragraph 83.c. of the Consent Decree requires:

“For the duration of this Consent Decree, the City of Oakland shall inspect, using CCTV or other equally effective methods, and document condition assessment of, its Collection System at an annual rate of no less than 10 percent of its Sewer Mains per Fiscal year (at least 485,760 feet of Sewer Mains per Fiscal Year) on a cumulative basis (i.e., 242,880 feet by June 30, 2014; 728,640 feet by June 30, 2015; 1,214,400 feet by June 30, 2016; etc.).”

Paragraph 166.a.ii. of the Consent Decree requires the Annual Report to contain:
“Inspections: inspections and condition assessment completed...”

Sewer Main Condition Assessment

As shown in Table 4-7, 1,408,769 feet (267 miles) of sewer mains have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 1,214,400 feet (230 miles) by June 30, 2016.

**Table 4-7
 Length of Sewer Mains Inspected and Assessed**

Fiscal Year	Mains Assessed **	Cumulative Total ***	CD Requirement
FY 2013-14*	182,935' (35 miles)	182,935' (35 miles)	242,880' (46 miles)
FY 2014-15	618,991' (117 miles)	801,926' (152 miles)	728,640' (138 miles)
FY 2015-16****	619,913' (117 miles)	1,408,769' (267 miles)	1,214,400' (230 miles)

*Six months, January 1, 2014 – June 30, 2014

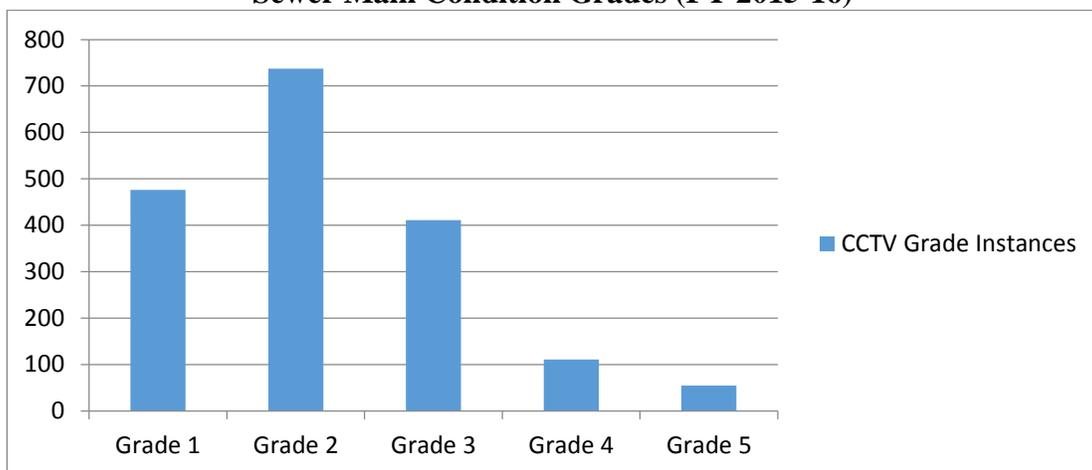
**Newly-unique feet assessed during the FY (feet that had no previous assessment between January 1, 2014 and the start of the FY)

***Cumulatively-unique feet starting January 1, 2014

****Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

Results of the inspections are summarized in Figure 4-1.

**Figure 4-1
 Sewer Main Condition Grades (FY 2015-16)**



From a total of 1,790 pipe segments inspected, 476 segments were found to be in acceptable structural condition (Grade 1), 737 segments were found to be in minimal collapse risk condition (Grade 2), 411 segments were in

collapse unlikely in near future condition (Grade 3), 111 segments were found to be in collapse likely in foreseeable future condition (Grade 4, and 55 segments were found to be in danger of imminent collapse or were found to have unusually large pipe blockage (i.e., roots) (Grade 5).

Grade 5 pipe blockages are addressed immediately. Grade 5 structural defects are considered Acute Defects and are treated as described in Section 5-3.

From the FY 2014-15 Annual Report, please find the following corrected numbers: From a total of 2,116 pipe segments inspected, 690 segments were found to be in acceptable structural condition (Grade 1), 823 segments were found to be in minimal collapse risk condition (Grade 2), 414 segments were in collapse unlikely in near future condition (Grade 3), 115 segments were found to be in collapse likely in foreseeable future condition (Grade 4); and 74 segments were found to be in danger of imminent collapse or were found to have unusually large pipe blockage (i.e., roots) (Grade 5).

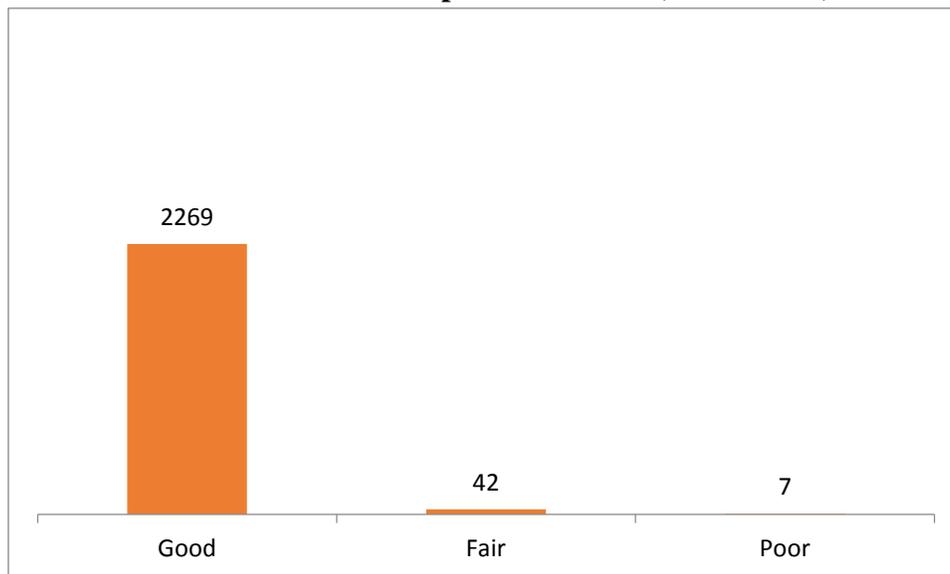
Maintenance Hole Inspection

Paragraph 83.c of the Consent Decree also requires:

“When the City inspects a Sewer Main, it shall also inspect all Maintenance Holes associated with that Sewer Main.”

Between July 1, 2015 and June 30, 2016, 2,318 maintenance-hole inspections were performed. Inspectors used a modified Manhole Assessment Certification Program (MACP) where field staff visually inspected the barrel of every maintenance hole and completed a computerized maintenance hole inspection form. Results of the inspections are summarized in Figure 4-2 below.

**Figure 4-2
Maintenance Hole Inspection Results (FY 2015-16)**



Of 2,318 Maintenance Hole inspections, 2,269 inspections found Maintenance Holes in good condition, 42 found Maintenance Holes in fair condition, and 7 found Maintenance Holes in poor condition. Table 4-8 contains a list of Maintenance Holes in poor condition.

**Table 4-8
Maintenance Holes in Poor Condition (FY 2015-16)**

Inspection ID#	WO#	Inspection Type	Location	Condition	MH #
8743	748885	v2 Maintenance Hole Inspection	PORTER & HIGH ST	Poor	9510
8660	745833	v2 Maintenance Hole Inspection	743 ROSEMONT	Poor	15161
8659	745833	v2 Maintenance Hole Inspection	812 ROSEMONT	Poor	15100
8190	720673	v2 Maintenance Hole Inspection	MARKET ST & 19TH ST	Poor	16639
9735	767424	v2 Maintenance Hole Inspection	EDWARDS AV & MOUNTAIN BLVD	Poor	7566
9636	766111	v2 Maintenance Hole Inspection	MOUNTAIN BLVD AND BERNEVE COURT	Poor	10931
9539	763909	v2 Maintenance Hole Inspection	34TH ST & MARKET ST	Poor	19381

9 maintenance holes were found to be in poor condition in the first Annual Report (January 1, 2013 to June 30, 2014). 4 maintenance holes were found to be in poor condition in the previous Annual Report (July 1, 2014 to June 30, 2015). 7 maintenance holes were found to be in poor condition in the FY 2015-16. Repairs on all manholes will have been completed by end of the 2016 calendar year.

4.3 Development of Regional Standards

Paragraph 166.1.iii. of the Consent Decree requires the Annual Report to contain:

“Regional Standards: a description of the activities to develop...Regional Standards.”

Paragraph 83.d. further requires:

“The City shall work with other Defendants to create Regional Standards for sewer installation, Rehabilitation and Repair and participate in submitting a group report of the recommended standards for EPA’s review and approval by June 30, 2016, and for review, every five years thereafter.”

The City bases its construction plans and specifications on The “Greenbook”: Standard Specifications for Public Works Construction, a statewide standard for the municipal construction industry. The Greenbook is updated every three years.

A Regional Standards committee (RSC) was formed in May 2015 by all Defendants for the review and development of Regional Standards regarding the work on sewer mains, manholes, and sewer laterals. In April 2015 a consultant (Humphrey Consulting) was contracted to assist the Defendants and the RSC in the development of standards. The City actively participated in the meetings of the RSC, held from May 2015 through June 2016. On June 30, 2016, Humphrey Consulting submitted the Regional Standards to EPA for review and approval and to the Plaintiffs on behalf of all Defendants, as required in the Consent Decree.

4.4 Sewer Lateral Inspection and Repair

Paragraph 166.b.i. of the Consent Decree requires the Annual Report to contain:

“Sewer Laterals: a description of the activities taken and materials used to notify property owners of defective sewer Laterals...”

Regional Private Sewer Lateral (PSL) Program

Paragraph 84.c of the Consent Decree requires:

“The City, to satisfy the requirements of this subparagraph, shall document, in spreadsheet format, the building permits issued during the Fiscal Year, the certificates of occupancy issued, and whether a Compliance Certificate was submitted prior to issuance of the certificate(s) of occupancy.”

Oakland started its PSL program on January 16, 2012, in collaboration with the Regional PSL Program administered by the East Bay Municipal Utility District (EBMUD).

The City requires that persons seeking building permits which require certificates of occupancy for construction or remodeling exceeding \$100,000 test and, where necessary, replace defective private sewer laterals and obtain Compliance Certificates from EBMUD before being issued certificates of occupancy.

Table 4-10 below shows the City's compliance with the CD requirement to have “...permittees to submit Compliance Certificates before being issued certificates of occupancy for construction or remodeling permits in excess of \$100,000.” (Paragraph 84.c).

Table 4-10
Permits Finalized, with EBMUD Certificates of Compliance

Fiscal Year	# Permits Finalized	# with Compl Cert	# w/o Compl Cert
FY 2015-16	249	245	4

In FY 2015-16, the City finalized 249 building permits which required certificates of occupancy for construction or remodeling permits in excess of \$100,000. 245 building permits received Compliance Certificates issued by EBMUD and 4 have not. This met the Consent Decree requirement to limit the number of building permits issued without Compliance Certificates to less than 25 per Fiscal Year. The City continues to share data with EBMUD and sends spreadsheets detailing Oakland's activities.

Other Privately Owned Defective Sewer Laterals

Paragraph 85.a. of the Consent Decree requires:

“Within 90 days of identifying a Sewer Lateral as defective the City of Oakland shall notify the owner in writing.”

Paragraph 166.b.i. of the Consent Decree requires the Annual Report to contain:

- A. the number of sewer Laterals identified as defective;*
- B. the number of property owners notified that their Sewer Laterals are defective;*

C. a copy of a representative notice that was sent to property owners notifying them that their Sewer Lateral is defective;

D. a description and the number of administrative enforcement actions taken against property owners for defective Sewer Laterals;”

As shown in Table 4-11, during FY 2015-16 City crews identified 62 defective Sewer Laterals. 14 property owners have corrected their defective Sewer Laterals. 48 property owners have not corrected the defect after notices were sent.

The City sent out defective lateral notices to properties in accordance with the requirement described on Paragraph 85a of the Consent Decree. The City is currently aggregating all lateral related reports and complaints in one database. The City sent out notices to property owners including those with lateral defects and those with only temporary blockages. Of the 62 defective sewer laterals identified, 16 notices were sent within the 90-day requirement. 36 notices were sent beyond the 90-day requirement, and 10 have not been sent notices. 10 of the defective sewer laterals were protruding laterals. Of these, all were sent a notice. The City is adding additional staff to handle and follow up on defective laterals within the 90 days of identification in order to be compliant.

**Table 4-11
Defective Sewer Laterals**

# of Defective Sewer Laterals Identified in Fiscal Year 2015-16	# of Defective Sewer Laterals Repaired	# of Defective Sewer Laterals Not Repaired	# Of Notices Sent Within 90 Days	# Of Notices Sent Beyond 90 Days	# Of Notices Not Sent
62	14	48	16	36	10

From last year’s Annual Report, 3 defective sewer laterals were reported as not repaired. After the investigation, 1 did not have a defective sewer lateral, 1 was repaired, and 1 was not repaired in which the City have sent two letters to the homeowner. Additional enforcement action is being taken against this property owner. Figure 4-3, shown on **Appendix C**, shows a sample notice to property owners.

Oakland Owned Sewer Laterals

Paragraph 166.b.i.E requires the Annual Report to contain:

“...the number of Oakland-owned Sewer Laterals inspected and Repaired or Rehabilitated and the cumulative number of Oakland-owned Sewer Laterals inspected and Repaired or rehabilitated from the Effective Date;”

On June of 2016, the City awarded an on-call construction contracts with two Contractors to inspect and, where necessary, Repair or Rehabilitate defective City owned Sewer Laterals of 95 City facilities identified in Appendix H-1 of the Consent Decree. Construction is scheduled to begin in fall 2016. The City expects to complete inspection and repair of City owned Sewer Laterals well ahead of the September 21, 2024, completion date specified in the Consent Decree.

Defective Sewer Laterals Owned by Other Public Entities or Government Agencies

Paragraph 166.b.i.F. requires the Annual Report to contain:

“...the address and name of any property owned by a Public Entity, or the State or federal government, that has an identified defective Sewer Lateral, including a description of the defect;”

During FY 2014-15, the city did not identify any defective Sewer Laterals owned by other Public Entities or the State or federal government.

Sewer Lateral Education and Outreach Program

Paragraph 166.b.i.G. requires the Annual Report to contain:

“... a summary of the City’s assistance to EBMUD in the development of a Sewer Lateral education and outreach program:”

The City assisted EBMUD in the development of the Sewer Lateral education and outreach program. The City participated in a meeting with EBMUD in January 2015, when the development of the program and educational materials was reviewed and discussed. Additional review and comments occurred in February 2015, prior to EBMUD's submittal of the plan to EPA for review and comment in March 2015. The City will continue to work with EBMUD in implementation of the program.

Lower Sewer Laterals

Paragraph 166.b.i.G. requires the Annual Report to contain:

“Lower Sewer Laterals: the number of Sewer Laterals connected to the Rehabilitated Sewer Mains and the number of Lower Sewer Laterals Repaired or Rehabilitated.”

As shown in Table 4-2 and Table 4-4, as part of its Sewer Main Rehabilitation, the City reconnected all 1048 encountered Sewer Lateral connections which included connections to laterals within easements. The City Repaired or Rehabilitated 659 Lower Sewer Laterals as part of the construction projects. Laterals within easements are within private properties and are not considered Lower Sewer Laterals.

4.5 Inflow and Rapid Infiltration Identification and Elimination

Paragraph 166.c.i. of the Consent Decree requires the Annual Report to contain:

“a description of the City’s cooperation with EBMUD’s implementation of the RTSP;...”

By a letter dated January 20, 2015, EBMUD provided a draft of its Regional Technical Support program (RTSP) plan to the East Bay Collection System Advisory Committee (EBCSAC) for review and comment. EBCSAC’s comments on the EBMUD draft RTSP were provided to EBMUD by letter dated February 19, 2015. EBMUD submitted the RTSP Plan to EPA, RWQCB, SWRCB, and DOJ on March 23, 2015. Based on comments from EPA received on May 19, 2015, EBMUD resubmitted a revised RTSP Plan on July 20, 2015. The revised RTSP Plan received a condition of approval by EPA on April 14, 2016. EBCSAC agencies have also discussed RTSP issues with EBMUD at monthly meetings from January 2015 to the present time. The City will continue to work with EBMUD in implementation of the program.

On September 29, 2016, EBMUD submitted to the City FY 2015-16 Annual Satellite Notification. The City will review the Notification and continue to participate with EBMUD on the RTSP inspections performed.

Section 5. SSO Reduction Work

Paragraph 167 of the Consent Decree requires:

“The City shall summarize its Work to reduce SSOs in its service area in the reporting Fiscal Year.”

A summary of the City’s work is described below.

5.1 Capacity Assurance

Paragraph 167.a. of the Consent Decree requires that the Annual Report contain:

“Capacity Assurance: a description of the activities performed in order to monitor the locations in Paragraph 89(a) during rain events...”

During FY 2015-16, the City monitored water levels in Maintenance Holes listed in Paragraph 89(a) of the Consent Decree. Table 5-1 provides information required in Paragraph 167a of the Consent Decree.

Paragraph 167ai requires the City to show the *“highest water level in relation to the Maintenance Hole observed in the reporting Fiscal Year”*.

Table 5-1 is a cumulative list of all locations that received high water level alarms in FY 2014-15 and FY 2015-16. In FY 2015-16 the City experienced a total of ten locations that reached within one foot of the Maintenance Hole rim. All flows were contained within the system and no SSO event occurred at any of these ten locations. Four locations were suspected to be capacity related. Four locations were non-capacity related. Two were triggered by maintenance staff during CCTV operations.

Paragraph 167aii requires the City to identify any *“capacity-related SSO or instance of the water level reaching within one (1) foot of the Maintenance Holes rim due to a lack of capacity and whether the event(s) occurred during a rain event that was greater than the December 5, 1952 Storm”*.

As shown in Table 5-1 high water levels were experienced in six locations that were triggered by the December 11, 2014 storm event. Our analysis shows that the December 11, 2014 storm to be a storm event exceeded the December 5, 1952 storm. This event surpassed a 5-year classification with a full duration classification of a 10-year, 21-hour event. Despite this, and out of an abundance of caution, the City has begun design of upgrades at all locations where high water levels were triggered. A full detail of the City’s progress on the planned upgrades is provided below.

Paragraph 167aiii requires the City to provide *“a description of all activity the City performed to prevent an SSO from occurring at a location where the City had reason to believe a capacity-related SSO was likely to occur”*.

Table 5-1 includes a description of maintenance activities performed to prevent SSO’s for each location.

Paragraph 167aiv requires the City to provide *“a description of activities to address locations that do not have sufficient capacity”*.

Table 5-1 includes a description of maintenance activities performed to prevent SSO’s for each location. In addition, as stated above, the City is proceeding with preparing construction plans for capacity

upgrades at all six (6) locations. This work started last year; however, due to the complexity of the project location and encountering physical challenges in the existing field conditions, our project has been delayed. The following is a summary progress report on all six locations:

- San Pablo Avenue at 60th Street – Design 100% Completed. Construction planned for 2017.
- San Pablo Avenue at 62nd Street - Design 100% Completed. Construction planned for 2017.
- Grand Avenue and Harrison Street – Design 100% Completed. Construction planned for 2017.
- Park Blvd and Spruce Street - Design 65% Completed. Construction planned for 2017.
- East 18th Avenue at 4th Avenue - Design 65% Completed. Construction planned for 2017.
- Maybelle Avenue and Masterson Street - Design 100% Completed. Construction planned for 2017.

The City’s plan is to complete design on all six locations and advertise for bids in November 2016 with construction expected to begin in 2017.

Furthermore, in FY 2015-16, the City completed a large sewer rehabilitation project downstream of three triggered locations: 27th Avenue & Vernon Street, Grand Ave and Harrison St, and 19th Street and Jackson Street. That project rehabilitated approximately 1,079 linear feet of existing 60” conduit sewer pipes with Centrifugally Cast, Fiberglass-Reinforced, Polymer Mortar (CCFRPM) pipes and applied coating for approximately 342 linear feet of existing 3’x 4’-10” conduit sewer pipes. That project is expected to improve the hydraulic conditions of the sewer system in the downtown area and lower the overall hydraulic gradient line in sewer pipes upstream.

Paragraph 167av requires the City to provide *“a list of sewer segments improved pursuant to Paragraph 89(b) including the date the capacity was improved, and certification that any improved Sewer Main has sufficient capacity”*.

There are no activities to report.

Paragraph 167avi requires the City to provide *“identification of any capacity-related SSOs and the SSO date and location”*.

In FY 2015-16, no Sanitary Sewer Overflows occurred in any of the Maintenance Holes listed in Paragraph 89(a) of the Consent Decree.

**Table 5-1
Capacity Related High Level Alarms Triggered in FY 2015-16**

No. Listed from Consent Decree	Location	Event First Occurrence Time	Reasons for High Level Alarm	Maintenance Performed to Prevent SSO's	Comment
i.	San Pablo Avenue at 60th Street	* 12/11/2014 & 1/19/2016	Grease & Capacity	Televised on 5-29-14 Cleaned on 4-28-16	**Planned for 2017 Construction. Design 100% Completed.
ii.	San Pablo Avenue at 62 nd Street	9/23/2015, Not a rain event	Maintenance staff triggered sensor	Televised on 4-29-14 Cleaned on 9-23-15	Planned for 2017 Construction. Design 100% Completed.
iii.	Stanford Avenue at Gaskill Street	9/23/15, Not a rain event	Maintenance staff triggered sensor	Cleaned on 10-06-15. Inspected and reset surcharge alarm unit 9-23-15, Televised on 8-20-14	Upsizing not needed.
iv.	27th Avenue & Vernon Street	* 12/11/2014 & 1/19/2016	Unknown	Televised on 4-29-14 and 12-16-14 Cleaned on 8-25-16 On High Frequency Cleaning List Every 6 Months	Upsizing not needed. Existing pipe size is 10" instead of 8" listed in the Sewer System Hydraulic Modeling and Capacity Analysis Report dated November 2012. The location is placed on the High Frequency 6-month cleaning list.
vi.	Grand Avenue and Harrison Street	* 12/11/2014 & 1/06/2016	Grease & Sag	Televised on 4-28-14 Cleaned on 6-8-16 On High Frequency Cleaning List every 12 Months	**Planned for 2017 Construction. Design 100% Completed. Downstream hydraulic condition was improved by a 54" slip line project in 2016.
vii.	19th Street and Jackson Street	12/13/2015	Capacity	Televised 5-27-14 Cleaned 11-21-14	Planned for 2017 Construction. Design 25% Designed.

No.	Location	Event First Occurrence Time	Reasons for High Level Alarm	Maintenance Performed to Prevent SSO's	Comment
viii.	Park Blvd and Spruce Street	1/17/2016	Capacity	Televised 11-14-14 Cleaned on 7-8-16	**Planned for 2017 Construction. 65% Designed. Resolving utility/private improvements conflicts, utility poles, telecommunication conduits, etc.
ix.	East 18th Avenue at 4th Avenue	* 12/11/2014 & 12/13/2015	Capacity	Televised on 12-26-14 & 8-14-15 Cleaned on 8-09-16 On High Frequency Cleaning list every 6 Months	**Planned for 2017 Construction. 65% Designed. Resolving utility/private improvements conflicts, utility poles, telecommunication conduits, etc. Downstream hydraulic condition was improved by a 54" slip line project in 2016.
x.	Maybelle Avenue and Masterson Street	* 12/11/2014 & 1/17/2016	Sag	Televised on 1-2-15 Cleaned on 12-27-15	**Planned for 2017 Construction. 100% Designed.
xii.	Trestle Glen road and Creed Road	* 12/11/2014 & 1/17/2016	Debris & Sag	Televised on 1-26-16 Cleaned on 5-10-16 Location on High Frequency Cleaning List Every 3 Months	Sag will be corrected in 2017. 25% Designed.

*Locations in which the water level reached within one foot of the Maintenance Hole rim during the December 11, 2014 rain event. Rain event exceeded 1952 Storm.

** Project C329154

5.2 Post SSO Inspection

Paragraph 167.b. of the Consent Decree requires that the Annual Report contain:

“Inspections: a statement that Oakland completed CCTV inspections downstream of each SSO location.”

During FY 2014-15, the City completed CCTV inspections downstream of each SSO.

5.3 Acute Defects

Paragraph 167.c. of the Consent Decree requires that the Annual Report contain:

“Acute Defects: a description of the activities to Repair Acute Defects...”

Paragraph 91 further provides:

“Acute Defects. The City of Oakland shall continue to repair Acute Defects as soon as possible, but no later than within one Year of identification.”

Acute Defects are shown in Table 5-3 of **Appendix D**. Table 5-3 shows location of Acute Defect locations identified after the Consent Decree (July 1, 2014).

As shown in Table 5-3, the following is a list of activities related to acute defects.

- 25 New Acute Defects were found in FY 2015-16.
- 12 FY 2015-16 identified Acute Defects were repaired. 25 FY 2014-15 identified Acute Defects were repaired within one Year of Identification.
- Remaining 13 acute defects will be repaired within one Year of Identification.

Between July 1, 2015 and June 30, 2016, the median time to correct an Acute Defect was 266 days. It should be noted that delays in repairing Acute Defects did not result in any Sanitary Sewer Overflows.

Minor Repairs Completed

In addition to the Sewer Main Rehabilitation described above, between July 1, 2015 and June 30, 2016, the City’s Sewer Maintenance Section performed 54 spot repair work orders. These spot repairs consisted of excavating damaged sewer lines and installing new segments of sewer line or repairing structures. The list of repair locations is shown in Table 4-5 of **Appendix B**.

As of June 30, 2016, maintenance crews have 120 minor repairs to be completed.

5.4 Sewer Main Cleaning

Paragraph 167.d. of the Consent Decree requires that the Annual Report contain:

“Sewer Main Line Cleaning: a description of activities conducted under its sewer cleaning program...”

Paragraph 92.a. further provides:

“The City of Oakland shall complete the cleaning of its entire Collection System program which began in 2010, by June 30, 2018. By June 30, 2014, the City shall have cleaned 1,900,800 feet of Sewer Mains. Beginning July 1, 2014, the City shall clean its remaining Sewer Mains at the rate of 739,200 feet per Fiscal Year on a cumulative basis (i.e., 2,640,000 feet by June 30, 2015; 3,379,200 feet by June 30, 2016; etc.).”

As shown in Table 5-4a, 3,777,533 unique feet (715 miles) of Sewer Main have been cleaned. This exceeds the Consent Decree requirement of 3,379,200 feet (640 miles).

**Table 5-4a
Feet of Sewer Main Cleaned (Unique Feet)**

Fiscal Year	Mains Cleaned*	Cumulative Total**	CD Requirement
FY 2013-14	544,051' (103 miles)	2,085,969' (395 miles)	1,900,800' (360 miles)
FY 2014-15	778,526' (147 miles)	2,864,495' (543 miles)	2,640,000' (500 miles)
FY 2015-16 ***	941,179' (178 miles)	3,777,533' (715 miles)	3,379,200' (640 miles)
Since Effective Date (September 22, 2014)****	1,482,896' (281 miles)	n/a	n/a

*Newly-unique feet cleaned during the FY (feet that had no previous cleaning between January 1, 2010 and the start of the FY)

**Cumulatively-unique feet starting January 1, 2010

*** Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

****Newly-unique feet cleaned starting September 22, 2014 (feet that had no previous cleaning between January 1, 2010 and September 21, 2014). Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16

Reference: Paragraph 92.a., Paragraph 167.d.i.

**Table 5-4b
Feet of Sewer Main Cleaned More Than Once**

Per Paragraph 167.d.ii., in this Table 5-4b, the length of a Sewer Main is counted once regardless of the number of times it is cleaned.

Fiscal Year	Mains Cleaned	Cumulative Total*	CD Requirement
FY 2014-15	379,663' (72 miles)	1,508,005' (286 miles)	n/a
FY 2015-16 **	411,287' (78 miles)	1,960,753' (371 miles)	

*Starting January 1, 2010

** Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data. The pipes that are cleaned more than once in a fiscal year may be the same or different in each fiscal year, and the calculation is specific to each fiscal year. For example, pipe A may have been cleaned twice in FY2014-15 and twice in 2015-16, so its feet are included in each fiscal year's calculation; whereas pipe B may have been cleaned once in FY 2014-15 and twice in FY2015-16, so its feet are only included in the FY 2015-16 calculation. The cumulative total would include pipe A only once and pipe B only once, which is why the current cumulative total cannot be calculated as the prior cumulative total plus the total for the current fiscal year.

Table 5-4c Feet of Sewer Main Cleaned, Including Repeat Cleanings

Per Paragraph 167.d.iii., in this Table 5-4c, the length of a Sewer Main is multiplied by the number of times it is cleaned.

Fiscal Year	Mains Cleaned	Cumulative Total*	CD Requirement
FY 2014-15	2,017,932' (382 miles)	6,486,856' (1,229 miles)	n/a
FY 2015-16 **	2,361,494' (447 miles)	8,799,050.32' (1,666 miles)	

*Starting January 1, 2010

** Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

A summary of the cleaning by Sub-Basin is shown in Figure 5-1 of **Appendix E**.

5.5 Root Cleaning (Foaming)

Paragraph 167.e. of the Consent Decree requires that the Annual Report contain:

“Root Cleaning: a description of the activities conducted under Oakland’s root control program, including the feet of Sewer Main treated for root control cumulatively and in each Fiscal Year beginning July 1, 2013.”

Paragraph 92.e. further provides:

“For the first three Fiscal Years, the City of Oakland shall treat a minimum of 264,000 feet of Sewer Mains per Fiscal Year on a cumulative basis (i.e., 264,000 feet by June 30, 2014; 528,000 feet by June 30, 2015; and 792,000 feet by June 30, 2016.)”

The City has used various root-foaming contractors to treat sewer pipes for root control. The root-foaming program uses an herbicide which penetrates root cell walls and causes them to decay and die. This treatment kills roots that can cause stoppages and pipe destruction in City Sewer Mains.

Figure 5-1 contains a location map showing subbasins root-foamed in 2012, 2013-14, and 2014-15. All pipes in the subbasins were root foamed. Also shown in the map are subbasins planned for FY 2015-16 in which targeted pipes were selected in each of the subbasins. The selection criteria for root foaming are in the following:

1. All pipes that have root intrusion as indicated in CCTV inspections.
2. All pipes along easements.
3. All pipes in the subbasin if a significant number of pipes were affected by root intrusion as indicated in CCTV inspections.
4. Pipes will not be selected for root foaming if the pipe will be rehabilitated within five years or the pipe resides in the hot spot list.

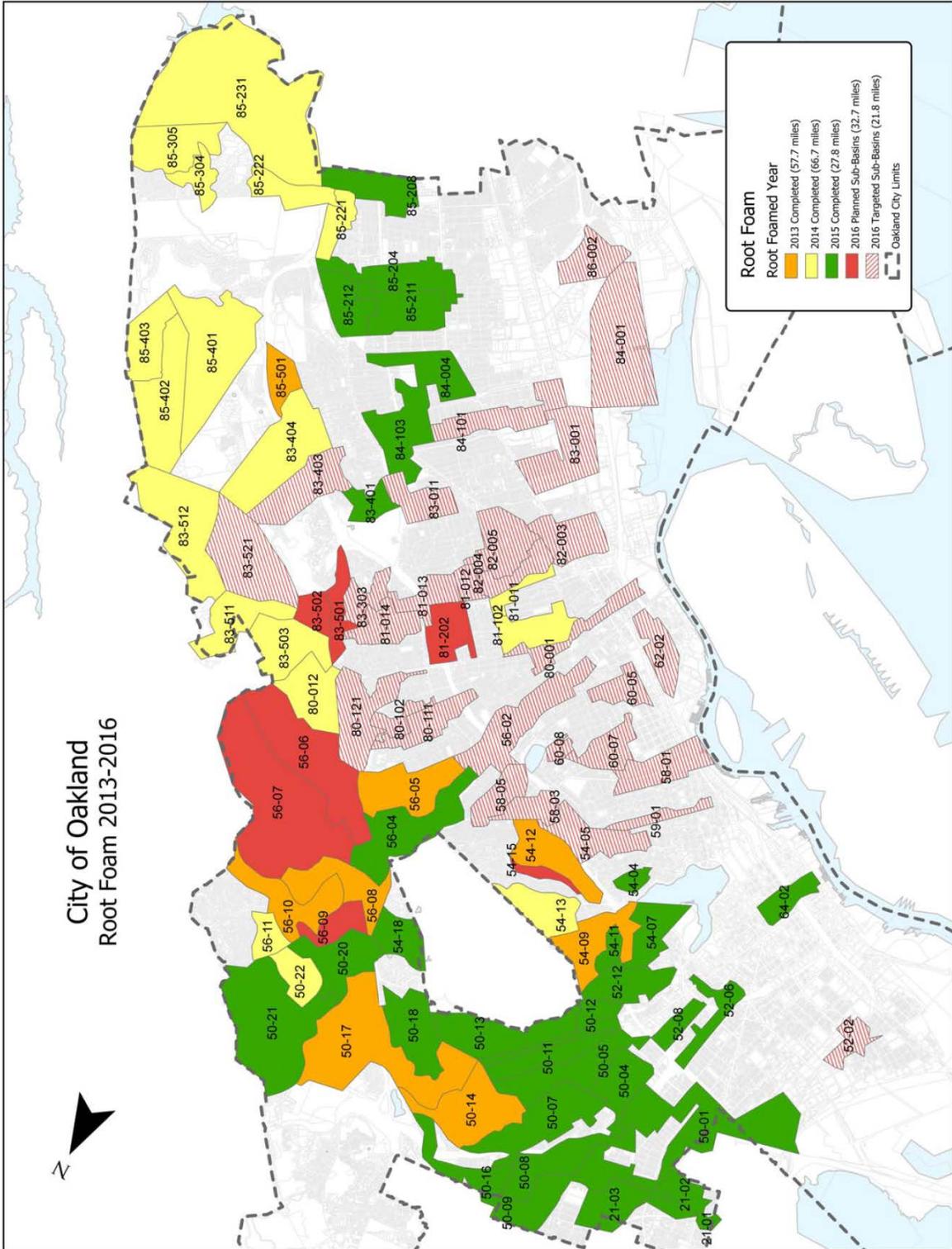
Results of the City’s Root Control are as follows:

**Table 5-5.
Root Control Program Implementation**

Fiscal Year	Mains Assessed	Cumulative Total	CD Requirement
FY 2013-14	304,811’ (57.7 miles)	304,811’ (57.7 miles)	264,000’ (50 miles)
FY 2014-15	352,176’ (66.7 miles)	656,987’ (124.4 miles)	528,000’ (100 miles)
FY 2015-16	146,784’ (27.8 miles)	803,771’ (152.2 miles)	792,000’ (150 miles)

As of June 30, 2016, the City had root foamed 803,771 feet (152.2 miles) of Sewer Mains, which meets the Consent Decree requirement of 792,000 feet (150 miles).

Figure 5-1 Root Foaming Areas



Paragraph 92.e. further provides:

“By December 31, 2016, the City shall submit an evaluation of its root control program to EPA for review and approval. The evaluation shall consider the need to treat additional or fewer Sewer Mains to address results from cleaning and CCTV. The evaluation shall propose refinements to the City’s root control program in order to ensure excessive roots in the Collection System are controlled.”

On June 2, 2015 the City hired V&A Consulting Engineers to evaluate the City’s Root Foaming Program and recommend refinements to the program. A report will be submitted by December 31, 2016.

5.6 Hot Spot Cleaning

Paragraph 167.f. of the Consent Decree requires that the Annual Report contain:

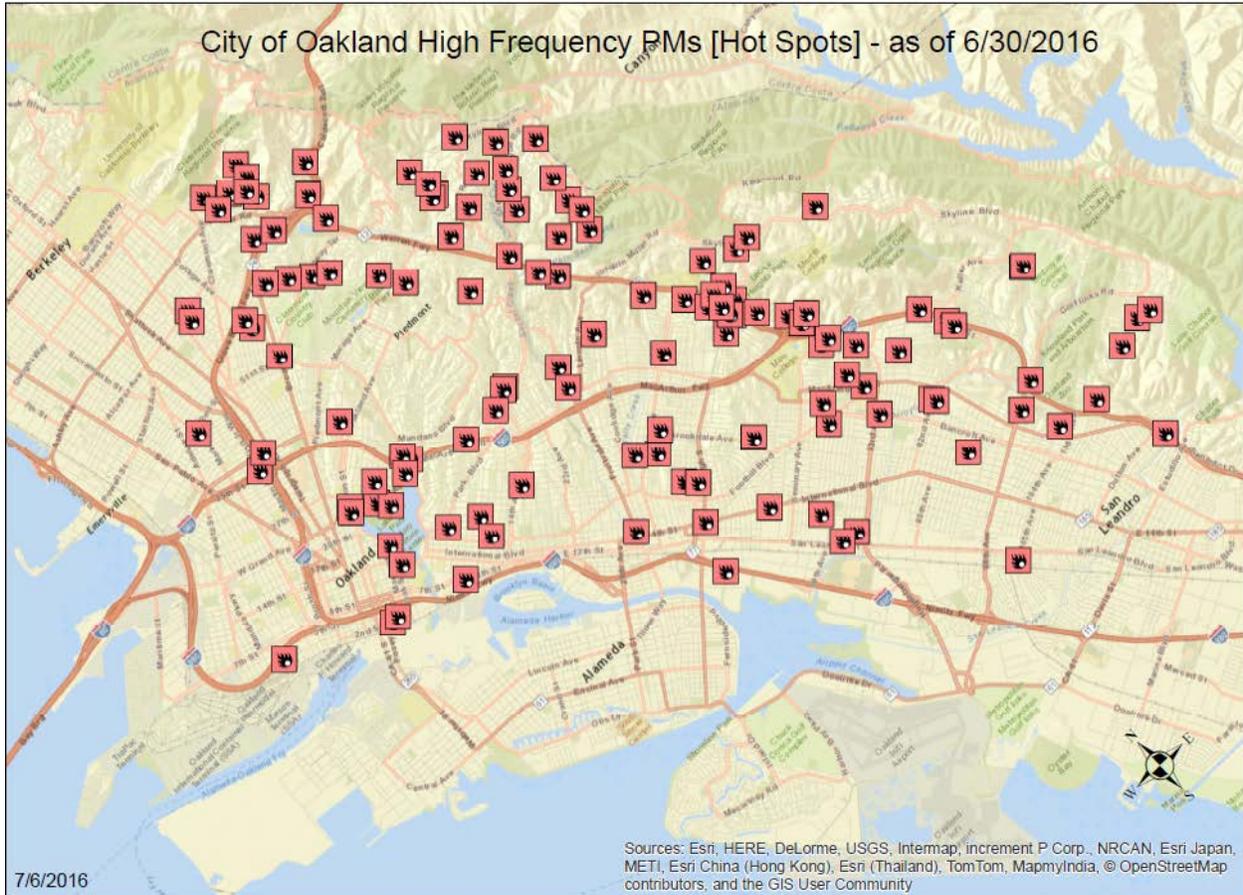
“Hot Spot Cleaning: description of activities conducted under its hot spot program, including feet of Sewer Main in the hot spot cleaning program and the range of cleaning frequencies for Sewer Main in the hot spot cleaning program;”

The Consent Decree changed both the definition of “Hot Spot” and the cleaning requirements. In anticipation of the CD, staff reviewed City records and created a new High Frequency Preventive Maintenance List (Hot Spots) containing both locations having more than one SSO in a three year period (Hot Spots) and other locations identified by staff. The list now contains 134 locations. Each of these locations was cleaned at least once in FY 2015-16. Table 5-5 of Appendix F contains the new High Priority PM List (as of June 30, 2016). Figure 5-2 contains a map of these locations.

The City reviewed its data for risk factors such as pipe age, size, slope and materials of construction, and found no correlation between SSOs and those factors.

The hot spot cleaning program contains 108,384 feet (20.5 miles) of Sewer Mains which are cleaned every three (3) to twelve (12) months as shown. Between July 1, 2015 and June 30, 2016, the City’s sewer crews cleaned 322,333 feet (61 miles) of Sewer Mains as part of the hot spot sewer cleaning program.

Figure 5-2
High Frequency PM Locations, as of 6/30/2016



5.7 Fats, Oil and Grease (FOG) Control

Paragraph 167.g. of the Consent Decree requires that the Annual Report contain:

“FOG: a description of activities to control FOG in the Collection System; a list of any SSOs that were thought to be associated with FOG or excessive buildup of grease, a list of FOG locations referred to EBMUD for investigation, and any actions that were taken against food service establishments related to inadequate FOG controls.”

The City’s FOG Control Program is described in Section 3.3 of its AMIP. The City identifies and reports FOG problems to EBMUD. EBMUD investigates and inspects FOG sources and works with food service establishments (FSEs) to correct FOG problems. Non-compliant FSEs are referred to the City for enforcement action.

In FY 2015-16, 39 SSOs were thought to be associated with FOG as listed in Table 2-1. These locations were referred to EBMUD for investigation as shown in Table 5-6.

EBMUD has not referred any FSEs to the City for enforcement action.

Table 5-6

FOG-Related SSOs Reported to EBMUD With CIWQS #s.			
Address	Street	Date Reported to EBMUD	CIWQWS #
2950	Lakeshore Av	8/18/2015	816254
600	Hegenburger Rd	8/18/2015	816257
	14th St & Castro St	8/18/2015	816634
4616	Mattis Ct	8/18/2015	816449
	Perkins St & Bellevue Av	8/18/2015	816854
550	Grand Av	8/18/2015	817393
411	E. 18th St.	8/18/2015	817392
1902	90th Ave.	9/30/2015	818775
895	47th St.	10/1/2015	818777
6520	Bancroft Ave	10/2/2015	818245
4183	Fruitvale Ave.	10/2/2015	817121
4374	Terra Bella Way	10/2/2015	818251
2477	Monterey Blvd.	10/2/2015	817627
4400	International Blvd.	10/2/2015	818252
2800	68th Ave	10/5/2015	818575
3642	International Blvd.	11/2/2015	819502
	Mountain Blvd. & Moraga Ave.	11/6/2015	819382
392	11th St.	11/25/2015	819914
3228	Guido St.	12/5/2015	820124
48	Spyglass Hill	12/8/2015	820123
2960	Peralta Oaks Ct.	12/13/2015	820415
9855	St. Elmo Dr.	12/30/2015	820669

Address	Street	Date Reported to EBMUD	CIWQWS #
297	Rishell Dr.	1/8/2016	820979
	La Salle Ave. & Moraga Ave.	1/18/2016	821108
2501	75th Ave.	1/23/2016	821326
3220	87th Ave.	2/9/2016	821935
1225	Fallon St.	1/20/2016	821377
2127	11th Ave.	2/11/2016	822036
5440	La Salle Ave.	3/1/2016	822557
7867	Bancroft Ave.	2/26/2016	822553
2591	Leimert Blvd.	3/11/2016	823081
	37th Ave. & E. 12th St.	3/15/2016	823080
454	Santa Clara Ave.	4/7/2016	823698
	Mauritania Ave. & Seminary Ave.	4/23/2016	824143
6784	Paso Robles Dr	6/28/2016	825634
387	9th St	6/28/2016	825277
6401	Eastlawn St	6/28/2016	825641
7535	Sunkist Dr	6/28/2016	823964
2221	Broadway	7/13/2016	824719

5.8 Pump Station Renovation

Paragraph 167.g of the Consent Decree requires that the Annual Report contain:

“Pump Stations: a description of pump station renovation and upgrades required by the Pump Station Reliability Plan during the previous Fiscal Year and a description of projects to be completed in the following Fiscal Year.”

Paragraph 94 further requires:

“The City shall complete improvements described in the Plan by October 15, 2022.”

The city's collection system has seven (7) small pump/lift stations:

- ❖ Denton Place
- ❖ Fallon Street
- ❖ Hegenberger Road
- ❖ Parkridge Drive
- ❖ Tidewater Avenue
- ❖ Shepherd Canyon Road
- ❖ Skyline Blvd

Work on the Tidewater Pump Station was completed in 2012.

Schaaf & Wheeler, the consultant have completed the design plans and specifications for improvements all pump/lift stations. Construction at locations Fallon Street, Hegenberger Road, and Shepherd Canyon Road are scheduled to begin in October, 2016. Construction at locations Denton Place, Parkridge Drive, and Skyline Blvd are scheduled to begin in 2018. Design has been completed.

The City is significantly ahead of schedule with its Pump Station Improvement Program, with completion planned for 2019, three years ahead of schedule.

Section 6. Deliverables

On June 30, 2016, Humphrey Consulting on behalf of all Defendants submitted to EPA the Regional Standards, as required in the Consent Decree. The Deliverable was submitted ahead of schedule.

As required from Paragraph 92e of the Consent Decree, the City plans to submit by December 31, 2016 an evaluation report of the root control program to EPA for review and approval.

Section 7. Known Non-Compliance with Consent Decree

The City is well ahead of schedule in sewer rehabilitation, sewer cleaning, root control, CCTV inspection, and pump station rehabilitation and is compliant with the Consent Decree. The City has increased its sewer service budget, staffing, and equipment and intends to continue to meet its obligations under the Consent Decree. The City sent out defective lateral notices to properties in accordance with the requirement described in Paragraph 85a of the Consent Decree. This section states that *“Within 90 Days of identifying a Sewer Lateral as defective the City of Oakland shall notify the affected owner in writing.”* The City is currently aggregating all lateral related reports and complaints in one database. The City sent out notices to all property owners including those with lateral defects and those with only temporary blockages. 65 of those notices were sent beyond the 90-day requirement; however, it is not known how many out of those are subject to the above requirement. The City is adding additional staff to handle and follow up on defective laterals within the 90 days of identification.

The City believes that it is compliant with the Consent Decree and that no penalties should be assessed for the City’s Collection System. If Plaintiffs disagree with this position, the City would appreciate the opportunity to discuss potential penalties and provide additional explanations of its position.

Section 8. Assessment of Stipulated Penalties

Paragraph 172 of the Consent Decree provides:

"If the Annual Report documents that any of the obligations subject to stipulated penalties may not have been complied with, and a Defendant takes the position that potentially applicable stipulated penalties should not be assessed, that Defendant may include in the Annual Report an explanation as to why Plaintiffs should forego collecting such penalties; ... "

The City believes that it is fully compliant with the Consent Decree and that no penalties should be assessed for the City's Collection System. The City has used all reasonable methods to prevent Sanitary Sewer Overflows and is unaware of any areas of non-compliance with the programmatic requirements of the Consent Decree.

If Plaintiffs disagree with this position, the City requests the opportunity to provide additional supporting documentation and explanations beyond the information provided in this annual report for consideration.

Section 9. Recommended Changes to Required Work

The City has no recommendations for changes to this Consent Decree at this time.

Appendix Summary

Appendix	Table Name	Table Number
A	List of Sanitary Sewer Overflows (SSOs) in FY 2015-16	Table 2-1
B	Collection System Spot Repair Work (July 1, 2015 – June 30, 2016)	Table 4-5
C	Notice to Abate Sample Letter	Figure 4-3
D	Acute Defect Lists	Table 5-3
E	Cleaning by Sub-Basin	Figure 5-1
F	High Frequency PM Locations	Table 5-5
G	Port of Oakland Sewer Collection System Annual Report for July 1, 2015 – June 30, 2016.	-

Appendix A

**Table 2-1
List of Sanitary Sewer Overflows (SSOs) in FY 2015-16**

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
816538	4616 Mattis Ct. Oakland, CA, 94619	2015.07.06 10.09.00	2015.07.06 11.30.00	40	40	40	Building or Structure	8 vcp main sewer overflowed into a building spilling 40 gallons. Staff recovered all 40 gallons of wastewater and returned it to the collection system.
110700	14th st & Castro st oakland ca	2015.07.03 14.00.00	2015.07.03 16.00.00	240	240	240	Other (specify below)	Main sewer plugged in street and sewage came out from ground under overpass. Staff used Hydro Flusher to vacuum sewage and return to sanitary system.
270183	7287 Sayre St Oakland,CA,94611	2015.07.16 08.00.00	2015.07.16 09.00.00	60	60	60	Street/Curb and Gutter	8 vcp main sewer overflowed from a manhole in the street. Staff recovered 60 gallons of wastewater and returned it to the sanitary main sewer.
955916	Perkins St & Bellevue Ave Oakland,CA,94610	2015.07.25 10.30.00	2015.07.25 12.15.00	180	150	150	Street/Curb and Gutter;Surface Water	8 vcp main sewer overflowed onto the street and into the curb and gutter area. Staff recovered 150 gallons of wastewater and returned it to the collection system. 30 gallons went into the storm drain and into Lake Merritt.
253773	491 30th St	2015.07.31 18.15.00	2015.07.31 20.00.00	86	86	86	Street/Curb and Gutter	8 VCP sanitary main sewer had plugged and overflowed out of the manhole in the street and into the gutter area. Staff blocked street curb and gutter.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
581851	4183 Fruitvale Ave	2015.08.03 20.00.00	2015.08.03 21.20.00	160	0	160	Building or Structure;Unpaved surface	8 VCP sanitary main sewer plugged due to grease and debris and discharged sewage into house and out of property clean-out.
736879	411 E 18th St	2015.08.12 08.00.00	2015.08.12 10.30.00	1050	1050	1050	Building or Structure;Street/Curb and Gutter	8' sanitary main sewer plugged due to grease and overflow into the building and onto the street curb and gutter. Staff contained all portions of the overflow. Staff flushed the main sewer to restore the flow. Staff cleaned all affected areas and returned all portions of the overflow back to the sewer collection system. Staff will CCTV the main sewer.
722559	550 Grand Ave	2015.08.11 17.10.00	2015.08.11 20.30.00	200	200	200	Building or Structure	8 VCP sanitary main sewer plugged due to grease and backed up into the building. Staff contained all portions of the spill. Staff flushed the main sewer to unplug stoppage and return the flow. Staff cleaned and returned all portions of the overflow back to the collection system. Staff will CCTV the sanitary main sewer.
265451	2012 Melvin Rd. Oakland Ca	2015.08.14 18.00.00	2015.08.14 21.00.00	100	25	100	Unpaved surface	Staff recovered 25 gallons and 75 gallons soaked into the ground.
127254	2477 Monterey Blvd Oakland Ca	2015.08.24 09.00.00	2015.08.24 12.00.00	360	0	360	Other (specify below)	Main discharged from a main hole onto the dirt and soaked into the ground
216822	102 Crest Rd Oakland, CA, 94611	2015.08.31 17.00.00	2015.08.31 21.00.00	600	0	600	Unpaved surface	600 gallons overflowed from an 8 sewer line and soaked into the ground.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
311016	9879 Lawlor St, Oakland, CA, 94605	2015.09.08 11.50.00	2015.09.08 12.35.00	10	10	10	Building or Structure	8 vcp main sewer overflowed into a downstairs bathroom. Staff recovered all 10 gallons of wastewater and returned it to sanitary main sewer.
265519	11900 Campus Dr. Oakland,CA, 94619	2015.09.15 03.30.00	2015.09.16 19.00.00	930	0	930	Unpaved surface	930 gallons overflowed from an 8 vcp sewer line on an easement and soaked into the ground.
172456	2646 Claremont ave Oakland ca	2015.09.15 07.50.00	2015.09.15 10.00.00	650	0	650	Unpaved surface	null
466010	6520 Bancroft Ave Oakland ca	2015.09.13 11.30.00	2015.09.13 14.00.00	150	150	150	Street/Curb and Gutter	Staff contained spill at gutter area and used Hydro Flusher to vacuum sewage and return to Sanitary sewer line. Staff cleaned and disinfected area where spill occurred.
532570	4374 Terrabella Way Oakland,CA94619	2015.09.19 07.00.00	2015.09.19 09.30.00	300	0	300	Unpaved surface	300 gallons overflowed from an 8' vcp sewer line onto an easement and soaked into the ground.
540826	4400 International Blvd Oakland ca	2015.09.12 12.00.00	2015.09.12 14.30.00	150	150	150	Street/Curb and Gutter	Staff contained spill at inlet and used Hydro Flusher to vacuum sewage and return to Sanitary System.
276427	5978 Ascot Dr Oakland,CA,94611	2015.09.21 10.45.00	2015.09.21 18.30.00	930	200	930	Unpaved surface	930 gallons overflowed from an 8 vcp sewer line on an easement. 200 gallons were recovered and returned to the collection system. 730 gallons soaked into the ground.
454926	2800 68th Ave Oakland, CA, 94605	2015.10.05 08.30.00	2015.10.05 11.00.00	300	300	300	Street/Curb and Gutter	8 vcp main sewer overflowed onto the street and into the curb and gutter area. Staff recovered all 300 gallons of wastewater and returned it to the collection system.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
876600	6327 Broadway Terr	2015.10.04 07.00.00	2015.10.04 08.30.00	450	0	450	Unpaved surface	8 Sanitary main sewer plugged due to root intrusion and overflowed out of the manhole in the rear of the property onto the ground.
989323	7401 Claremont Ave Oakland,CA, 94618	2015.10.02 09.00.00	2015.10.02 12.30.00	210	210	210	Street/Curb and Gutter	8 vcp main sewer overflowed onto the sreet and gutter area. Staff recovered all 210 gallons of wastewater and returned it to the collection system.
949064	700 Trestle Glen Rd Oakland, CA, 94610	2015.10.01 10.00.00	2015.10.01 14.00.00	360	300	360	Unpaved surface	360 gallons overflowed from an 8 vcp sewer line onto an easement in a backyard. 300 gallons were revcovered and returned to the collection system. 60 gallons soaked into the ground.
726230	1902 90th ave Oakland ca	2015.09.30 19.35.00	2015.09.30 21.08.00	465	300	465	Street/Curb and Gutter	Staff contained sewer spill in gutter using sandbags and matts, then used Hydro Flusher to vaccuum sewage and return to Sanitary main sewer.
790780	895 47th st Oakland ca	2015.09.30 20.30.00	2015.10.01 12.45.00	10	0	10	Building or Structure	null
797271	264 Capricorn Ave Oakland CA. 94611	2015.10.13 15.28.00	2015.10.13 20.00.00	8	0	8	Unpaved surface	8 gallons overflowed from a crack in walkway on an easement. 0 gallons were recovered.
687318	1515 Market St Oakland,CA, 94607	2015.10.21 07.20.00	2015.10.21 10.00.00	600	0	600	Unpaved surface	600 gallons overflowed from an 8 vcp sewer line into the ground.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
312102	Mountain Blvd & Moraga Ave Oakland, CA, 94511	2015.11.06 08.00.00	2015.11.06 10.00.00	600	600	600	Street/Curb and Gutter	600 gallons overflowed from an 8 vcp sewr line onto the sreet and into the curb / gutter area. Staff recovered all 600 gallons and returned it to the collection system.
233740	6861 Saroni Dr	2015.11.06 11.00.00	2015.11.06 19.30.00	500	500	500	Unpaved surface	8 VCP Sanitary Main Sewer overflowed from lamp hole structure at the rear of the property. Staff contained overflow, hand rodded main sewer to break blockage and return flow to all portion of sanitary main sewer.
677656	162 Cross Rd	2015.11.07 10.30.00	2015.11.07 12.30.00	100	100	100	Street/Curb and Gutter	8 VCP sanitary main sewer plugged due to root intrusion and overflowed out of a water meter box in the side walk gutter area.
185717	7283 Claremont	2015.11.07 13.15.00	2015.11.07 15.45.00	150	0	150	Other (specify below);Unpav ed surface	8 VCP sanitary main sewer plugged and overflowed out of the manhole and soaked into the ground.
278429	3642 International Boulevard	2015.11.02 13.15.00	2015.11.02 17.00.00	450	450	450	Building or Structure	null
322650	92 Gravett Dr	2015.11.01 12.20.00	2015.11.01 14.30.00	65	0	65	Unpaved surface	8inch Sanitary Sewer located in the middle of a street, consisting of Vitrified Clay Pipe was blocked. Water was exiting from m/h located on street. Runoff had spilled into side of road and had soaked back into the earth.
837630	4308 Harbord Dr	2015.11.03 20.15.00	2015.11.03 21.15.00	65	65	65	Paved Surface	8inch sanitary sewer that consists of vitrified clay pipe became plugged and is located withing the front yard of a residence. Wastewater ran down paved driveway and collected at the base of the driveway.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
626886	6769 Estates Dr.	2015.10.26 11.00.00	2015.10.26 13.00.00	120	100	120	Unpaved surface	Final spill destination consisted of an unpaved surface and had soaked into the ground.
207892	6205 Westwood way Oakland ca	2015.11.14 13.30.00	2015.11.14 16.30.00	240	240	240	Other (specify below)	Staff used Hydro Flusher to vacuum sewage from dirt on side of hill and return to sanitary system. cleaned and disinfected area.
165122	392 11th St Oakland,CA,94607	2015.11.25 14.30.00	2015.11.25 16.30.00	540	540	540	Building or Structure	540 gallons overflowed from an 8 vcp sewer line into the basement of the building. Staff recovered all 540 gallons and returned it to the collection system.
881861	48 Spy Glass Hill Street, Oakland Ca,	2015.12.08 13.18.00	2015.12.08 16.40.00	202	0	202	Unpaved surface	Two hundred and two gallons soaked in to the dirt at this location. This spill ocured on an easement. Tree roots and grease was the call of this overflow.
343239	3228 Guido Street, Oakland Ca,	2015.12.05 08.00.00	2015.12.05 11.20.00	200	0	200	Unpaved surface	Two hundred gallons spilled from an 8 VCP sewer main. Two hundred gallons soaked in the dirt at this location. Tree roots and grease was the cause of this spill. The spill ocured on an easement.
965784	1294 Holman Rd Oakland CA, 94610	2015.12.04 09.15.00	2015.12.04 14.00.00	285	0	285	Unpaved surface	285 gallons overflowed from an 8 vcp sewer line into the ground in the rear yard.
891904	3501 Calafia Ave Oakland, CA, 94605	2015.12.15 08.00.00	2015.12.15 10.00.00	240	0	240	Unpaved surface	240 gallons overflowed from an 8 vcp sewer line and soaked into the ground .
276067	5109 Saddle Brook Dr oakland, CA, 94619	2015.12.22 12.30.00	2015.12.22 14.30.00	3000	0	3000	Unpaved surface	3000 gallons overflowed from an 8 vcp sewer line into a broken strom line and soaked into the ground on an easement.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
997028	2960 Peralta Oaks Oakland Ca	2015.12.13 14.00.00	2015.12.13 18.00.00	600	0	600	Unpaved surface	null
814956	9855 St Elmo St Oakland,CA,94503	2015.12.30 10.30.00	2015.12.30 11.30.00	60	60	60	Street/Curb and Gutter	60 gallons overflowed from a cleanout into the curb and gutter area. Staff recovered all 60 gallons.
187191	297 Rishell Dr Oakland,CA, 94619	2016.01.08 07.00.00	2016.01.08 09.30.00	60	60	60	Unpaved surface	60 gallons overflowed from a lamphole in the backyard. All 60 gallons were recovered and returned to the collection system.
889612	3745 Brookdale ave Oakland ca	2015.12.02 08.00.00	2015.12.02 12.30.00	135	135	135	Other (specify below)	Staff used Hydro Flusher to vacuum sewage that spilled onto driveway, returned sewage water back into our sanitary system.12
382935	2289 Melin Rd	2016.01.14 08.00.00	2016.01.14 12.00.00	240	0	240	Unpaved surface	8 sanitary main sewer located on the easement in the rear of the property plugged and overflowed out of the manhole onto the ground.
588823	LA SALLE AVE & MORAGA AVE Oakland,CA, 94611	2016.01.18 11.00.00	2016.01.18 14.00.00	900	100	0	Separate Storm Drain	900 gallons spilled from an 8 vcp sanitary sewer main. 100 gallons were captured and returned to the collection system.
371387	3628 Loma Vista ave Oakland ca	2016.01.18 12.40.00	2016.01.18 07.00.00	340	340	340	Building or Structure	null
889764	2501 75th Ave Oakland,CA,94605	2016.01.23 17.45.00	2016.01.23 22.30.00	285	285	285	Street/Curb and Gutter	285 gallons overflowed from a cleanout into the curb and cutter area. Staff recovered all 285 gallons.
513653	3627 Virden Ave Oakland,CA,94619	2016.01.25 08.00.00	2016.01.25 10.00.00	125	125	125	Building or Structure	125 gallons overflowed from an 8 vcp sewer line into a building. Staff contained sewage and returned all 125 gallons to collection system.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
149325	1225 fallon st oakland ca	2016.01.20 08.15.00	2016.01.20 10.15.00	360	300	360	Unpaved surface	null
106387	2344 Harrington Ave Oakland, CA,94601	2016.01.27 10.30.00	2016.01.27 13.30.00	10	10	10	Paved Surface	10 gallons overflowed from a 6 vcp sewer line in the front yard clean out. Staff recovered all 10 gallons.
616881	102 crest rd oakland ca	2016.01.18 14.00.00	2016.01.18 17.30.00	450	0	450	Other (specify below)	Dirt on easement.
821743	2058 Rosedale Ave	2016.01.23 13.00.00	2016.01.23 18.00.00	1496	1496	1496	Building or Structure	6 sanitary main sewer plugged and overflowed into the building basement.
523261	10712 Mark st oakland ca	2016.01.21 11.30.00	2016.01.21 13.30.00	120	120	120	Paved Surface	Staff used Hydro Flusher to vacuum sewage and return to sanitary system.
998446	414 Balfour Ave Oakland, CA,94610	2016.01.29 07.50.00	2016.01.29 11.20.00	210	10	210	Unpaved surface	210 gallons overflowed from an 8 vcp sewer line. 10 gallons were recovered. 200 gallons soaked into the ground.
759780	308 Jackson Street Oakland, California	2016.02.01 15.30.00	2016.02.01 20.00.00	1080	1080	1080	Street/Curb and Gutter	8 VCP Sanitary sewer main overflowed due to debris obstructing the main line. One thousand eighty gallons spilled at this location onto the curb and gutter. One thousand eighty gallons was captured and returned to collection system.
811385	171 Roble Rd Oakland, CA,94618	2016.02.03 07.45.00	2016.02.03 09.15.00	900	150	0	Surface Water	900 gallons spilled from an 8 VCP sanitary sewer main. 150 gallons were captured and returned to the collection system. 750 gallons went into the storm inlet down to Temescal Creek to SFO Bay.
997140	2330 87th Ave Oakland,CA,94605	2016.02.09 10.00.00	2016.02.09 12.00.00	480	480	480	Unpaved surface	480 gallons overflowed from an 8 vcp sewer line into the rear yard. Staff recovered all 480 gallons and returned it to the collection system.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
138858	400 Hawthorne Ave Oakland, CA,94605	2016.02.10 12.20.00	2016.02.10 15.50.00	210	210	0	Separate Storm Drain;Street/Curb and Gutter	210 gallons overflowed from an 8 vcp sewer line into the curb and gutter area and down the storm drain. Staff blocked off the storm line downstream and recovered all 210 gallons.
414858	2127 11th Ave Oakland,CA,94606	2016.02.11 12.07.00	2016.02.11 13.40.00	93	93	0	Separate Storm Drain	93 gallons overflowed from a cleanout into the storm drain. Staff blocked off the storm line downstream and recovered all 93 gallons.
211254	15 Somerset Rd	2016.02.16 12.25.00	2016.02.16 13.48.00	56	40	56	Unpaved surface	8 Sanitary main sewer plugged and overflowed out of the manhole and soaked into the ground.
553862	171 Roble Dr.	2016.02.02 12.15.00	2016.02.02 15.00.00	495	495	495	Drainage Channel	8 VCP sanitary main sewer plugged due to root intrusion and debris. The main sewer overflowed out of the manhole in the drainage channel. Staff blocked inlet and collected sewage from overflow. Staff rodded the main sewer to unplug stoppage and return the flow. Staff returned all portions of the overflow back to the collection system. Staff will CCTV the sanitary main sewer.
864587	3115 Middleton Street Oakland Ca,	2016.02.22 08.10.00	2016.02.22 10.10.00	120	0	120	Unpaved surface	Eight inch VCP overflowed due to debris blocking sewer main. One hundred and twenty gallons overflowed at this location on to the ground at this location. This overflowed occurred on an easement. One hundred and twenty gallons spilled on to the ground. Zero gallons were recovered.
538458	947 Hillcroft Circle	2016.02.22 14.45.00	2016.02.22 18.40.00	10	2	10	Unpaved surface	8 VCP sanitary main sewer overflowed out of the manhole and soaked into the ground.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
132918	1071 Alcatraz Oakland Ca,	2016.02.20 13.30.00	2016.02.20 14.00.00	30	30	30	Unpaved surface	Six inch VCP overflowed due to debris obstructing the pipe. Thirty gallons overflowed on to the curb and gutter at this location. This occurred on the street. Thirty gallons were captured and returned back to collection system.
789717	# 74 Castle Park Way Oakland ca	2016.02.27 11.30.00	2016.02.27 12.35.00	6	6	6	Street/Curb and Gutter	Staff contained sewer spill at gutter and used Hydro Flusher to vacuum spill and return to Sanitary System.
357155	7867 bancroft ave oakland ca	2016.02.26 16.36.00	2016.02.26 19.00.00	31	31	31	Street/Curb and Gutter	Staff contained spill at gutter and used Hydro Flusher to vacuum sewage and return to Sanitary System.
732338	5440 la salle ave oakland ca	2016.03.01 10.30.00	2016.03.01 12.30.00	240	240	240	Street/Curb and Gutter	Sewer spill was contained at storm inlet and vacuumed then returned to our sanitary system.
253461	37th ave & E-12th st oakland ca	2016.03.15 09.00.00	2016.03.15 11.00.00	120	120	120	Street/Curb and Gutter	Staff recovered sewage at downstream inlet using Hydro Flusher to vacuum spilled sewage.
242426	2591 Leimert ave oakland ca	2016.03.11 12.00.00	2016.03.11 15.00.00	180	0	180	Other (specify below)	Sewage soaked into the ground, staff cleaned solids around manhole and disinfected area.
150654	2960 Peralta Oaks Ct Oakland, CA, 94506	2016.03.29 08.30.00	2016.03.29 11.30.00	900	800	900	Unpaved surface	900 gallons overflowed from an 8 vcp sewer lamp hole onto the ground. 800 gallons were recovered and returned to the collection system. 100 gallons soaked into the ground.
938786	Edwards Ave & Mountain Blvd Oakland,CA,94605	2016.04.03 09.15.00	2016.04.03 11.15.00	360	360	360	Street/Curb and Gutter	8 vcp main sewer overflowed into the street/curb and gutter area. Staff recovered all 360 gallons of wastewater and returned it to the collection system.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
633696	454 Santa Clara Ave Oakland, CA, 94610	2016.04.07 07.00.00	2016.04.07 10.00.00	540	540	540	Street/Curb and Gutter	8 vcp main sewer overflowed into the street/curb and gutter area. Staff recovered all 540 gallons of wastewater and returned it to the collection system.
635687	466 Cresent Street Oakland Ca,94612	2016.04.06 14.30.00	2016.04.06 16.30.00	720	500	720	Building or Structure;Other (specify below)	Sewage overflowed on to the citizens property at this location. 500 gallons was captured and returned back in the collection system. 120 gallons soaked into the dirt.
542472	7353 Sunkist Dr Oakland, CA, 94605	2016.04.18 09.50.00	2016.04.18 12.50.00	180	0	180	Unpaved surface	180 gallons overflowed from an 8 vcp sewer line into the ground on a easement.
667717	Mauritania ave & Seminary ave oakland ca	2016.04.23 19.35.00	2016.04.23 21.20.00	210	210	210	Street/Curb and Gutter	Staff contained sewage at storm inlet using sandbags and mats, they vacuumed sewage using Hydro Flusher and also flushed storm line and vacuumed sewage and returned to sanitary system.
615780	2058 Rosedale ave oakland ca	2016.01.19 09.50.00	2016.01.19 14.00.00	673	673	673	Building or Structure	The reason for the late report is there were two overflows which occurred at this location. we found our error during our quarterly inspection of our reporting records. we successfully reported on of the two incidents however because one was reported the other was confused to have been reported because they were both at the same location. Once our oversight was discovered we contacted CIWQS and after speaking with a representative we were instructed to report incident and include this explanation of why our report was late.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
648070	6038 Mauritania ave oakland ca	2016.04.28 07.00.00	2016.04.28 17.40.00	10	10	10	Street/Curb and Gutter	null
865560	1171 72nd avenue Oakland Ca, 94621	2016.05.15 11.00.00	2016.05.15 01.00.00	50	50	50	Street/Curb and Gutter	Debris obstructed the sewer main at this location. Fifty gallons spilled on to the curb and gutter at this location. Fifty gallons was captured and returned back to collection system. This overflow occurred on an eight inch sanitary sewer main.
671149	2221 Broadway Street Oakland Ca,94601	2016.05.21 03.30.00	2016.05.21 14.30.00	480	480	480	Building or Structure	Large amounts of grease obstructed the sewer main at this location. This was a twenty four inch sewer main. Four hundred and eighty gallons overflowed from the main into the basement. Four hundred and eighty gallons was captured and returned to collection system.
309241	3115 Holyrood Dr	2016.05.20 10.10.00	2016.05.20 14.10.00	240	0	240	Unpaved surface	Waste-water was absorbed by hillside. Staff hand rodded main sewer to remove roots and restore flow. Staff will CCTV Main Sewer.
774782	387 9th St Oakland,CA, 94607	2016.06.06 10.00.00	2016.06.06 13.00.00	180	180	180	Building or Structure	8 vcp main sewer overflowed into a basement. Staff recovered all 180 gallons of wastewater and returned it to the sanitary main sewer through the floor drain.
360801	1836 Gaspar dr oakland ca	2016.05.27 15.00.00	2016.05.27 17.00.00	15	0	15	Other (specify below)	Sewage soaked into the ground.

Cert ID	Spill Loc Name	Start DT	Est End DT	Spill Vol	Spill Vol Recover	Spill Vol Reached Land	Final Spill Dest	Final Spill Dest Expl
603499	2200 11th Ave	2016.06.08 13.30.00	2016.06.08 16.30.00	360	360	360	Other (specify below)	8 VCP sanitary main sewer line had a separated joint causing sewage to leak out of the pipe into the storm drain system. Staff blocked off storm drain. Staff removed all sewage out off the storm drain pipe and returned it back to the collection system. Staff cleaned all affected areas of the overflow. Staff made all repairs on the 8 sanitary main sewer. Staff CCTV the main sewer.
621075	6784 Paso Robles Dr	2016.06.21 13.30.00	2016.06.21 19.30.00	360	0	360	Unpaved surface	8 PVC sanitary main sewer plugged and overflowed out of the manhole and soaked into the ground. Staff flushed the main sewer to unplug stoppage and return the flow. Staff cleaned all affected areas of the overflow. Staff will CCTV the sanitary main sewer.
805983	6401 Eastlawn Street Oakland Ca,94601	2016.05.19 20.30.00	2016.05.19 22.30.00	120	120	120	Street/Curb and Gutter	One hundred and twenty gallons overflowed due to grease and rags obstructing the main. One hundred and twenty gallons spilled on to the curb and gutter at this location. One hundred and twenty gallons was captured and returned to the collection system. This overflow occurred on a eight inch VCP main. Line was televised by CCTV crew for further inspection. Flow was restored back to normal. Staff cleaned up site.
743172	1035 Grand View Dr. Berkeley, CA, 94705	2016.06.30 09.20.00	2016.06.30 14.00.00	280	0	280	Unpaved surface	280 gallons spilled from an 8 vcp main sewer main into the dirt on an easement. 0 gallons were recovered.

Appendix B

Table 4-5

Collection System Spot Repair Work (July 1, 2015 – June 30, 2016)

WO#	Description	Address	Repair Length
694458	Sewer Spot Repair (LnFt)	5043 HARBORD DR	15
695626	Sewer Spot Repair (LnFt)	5403 HARBORD DR	10
696934	Sewer Spot Repair (LnFt)	85TH AV & INTERNATIONAL BLVD	10
704124	Sewer Spot Repair (LnFt)	2406 RITCHIE ST, OAKLAND, CA	6
704320	Sewer Spot Repair (LnFt)	OAKLAND AV & SANTA CLARA AV	9
704918	Sewer Spot Repair (LnFt)	835 CHESTER ST	1
706050	Sewer Spot Repair (LnFt)	9908 MADDUX DR	6
709082	Sewer Spot Repair (LnFt)	66 MACARTHUR BLVD	10
709988	Sewer Spot Repair (LnFt)	2701 13TH AV	5
710665	Sewer Spot Repair (LnFt)	3257 HELEN ST	3
711937	Sewer Spot Repair (LnFt)	587 MIRA VISTA AV	10
713251	Sewer Spot Repair (LnFt)	5843 BUENA VISTA AV	12
716526	Sewer Spot Repair (LnFt)	1021 BROOKWOOD RD	12
717462	Sewer Spot Repair (LnFt)	2477 MONTEREY BLVD	10
717466	Sewer Spot Repair (LnFt)	195 PERRY PL	10
718769	Sewer Spot Repair (LnFt)	1515 MARKET ST	1
723423	Sewer Spot Repair (LnFt)	2720 108TH AV	10
724804	Sewer Spot Repair (LnFt)	211 CAPRICORN	3
726603	Sewer Spot Repair (LnFt)	6101 ACACIA AV	12
727591	Sewer Spot Repair (LnFt)	2837 21ST AV	20
728349	Sewer Spot Repair (LnFt)	1971 ARROWHEAD DR	6
729485	Sewer Spot Repair (LnFt)	6111 ACACIA AV	10
733752	Sewer Spot Repair (LnFt)	7283 CLAREMONT AV	6
734959	Sewer Spot Repair (LnFt)	1442 102ND AV	10
736800	Sewer Spot Repair (LnFt)	2121 41ST AV	3
738175	Sewer Spot Repair (LnFt)	2045 41ST AV	10
738311	Sewer Spot Repair (LnFt)	85TH AVE & INTERNATIONAL BLVD	134
738479	Sewer Spot Repair (LnFt)	2101 41ST AV	6
738658	Sewer Spot Repair (LnFt)	3201 GRAND AV	8
738667	Sewer Spot Repair (LnFt)	3201 GRAND AV	10
738684	Sewer Spot Repair (LnFt)	3201 GRAND AVENUE	5
738745	Sewer Spot Repair (LnFt)	478 SANTA CLARA AV	3
739537	Sewer Spot Repair (LnFt)	2055 41ST AV	10
739871	Sewer Spot Repair (LnFt)	8530 INTERNATIONAL BLVD	15
742243	Sewer Spot Repair (LnFt)	1257 101ST AV	8
742666	Sewer Spot Repair (LnFt)	8909 SAGE RD	14
744399	Sewer Spot Repair (LnFt)	947 HILLCROFT CIR	8
745284	Sewer Spot Repair (LnFt)	2330 87TH AV	6
749298	Sewer Spot Repair (LnFt)	2177 MANZANITA DR	20
750288	Sewer Spot Repair (LnFt)	427 HADDON RD	10
751310	Sewer Spot Repair (LnFt)	983 LONGRIDGE RD	10
751835	Sewer Spot Repair (LnFt)	1060 LONGRIDGE RD	15
756020	Sewer Spot Repair (LnFt)	1939 MELVIN RD	10
760160	Sewer Spot Repair (LnFt)	2 STANTONVILLE CT	6
762818	Sewer Spot Repair (LnFt)	2831 ATWELL AV	1
763372	Sewer Spot Repair (LnFt)	2945 57TH AV	1
763397	Sewer Spot Repair (LnFt)	4354 39TH AV	1
768559	Sewer Spot Repair (LnFt)	355 GLENDALE AV	14

WO#	Description	Address	Repair Length
768961	Sewer Spot Repair (LnFt)	359 GLENDALE AV	6
769033	Sewer Spot Repair (LnFt)	2200 11TH AV	8
770548	Sewer Spot Repair (LnFt)	1836 GASPAR DR	100
772482	Sewer Spot Repair (LnFt)	WAYNE AV & WESLEY AV	8
772717	Sewer Spot Repair (LnFt)	4436 MASTERSON ST	12
774139	Sewer Spot Repair (LnFt)	5372 HILLTOP CREST	4

Appendix C

Figure 4-3 14 Day Notice to Abate



Oakland Public Works • Design, Engineering and Construction • Right of Way Management

Sewer & Sidewalk Division • 250 Frank H. Ogawa Plaza, Suite # 4314 • Oakland, California 94612 • (510)238-3651

14 Day Notice to Abate

Date

Name

Address

Oakland, CA 94607-2225

Re: Sewer Lateral at Address, Oakland

Dear Property Owner,

You are hereby notified that under the provisions of Section 13.08.540 of the Oakland Municipal Code¹ and in the opinion of the Director of Public Works Agency, the public health, safety, and welfare require repairs to your building sewer lateral.

The dye test conducted on **date** from the caved in area of the street at **address** by the City's Sewer Maintenance Division noted that the dye did appear in the City sewer main which indicates that the private sewer lateral servicing your home is in need of repair. This is a public health hazard and must be corrected. You are required to repair or replace your building's private sewer lateral no later than **date**.

The completed repairs must restore the subject-building sewer to a watertight condition, free of breaks or separations and constructed to proper grade and alignment. An inspection must be performed by the Construction Inspector to assure that the repairs meet the code requirements.

Prior to repairing or replacing a sewer lateral, you must have a Building Sewer Inspection Permit and/or a Street Excavation Permit if the repairs are to be completed in the public right-of-way.

If you have already made the repairs please provide proof of the repairs, you may fax it to 510-238-6632.

Questions concerning this matter should be directed to Fred Loeser, Construction Inspection Supervisor, at (510) 238-6348 or email floeser@oaklandnet.com.

Sincerely,

Fred Loeser,
Supervisor, Construction Inspection

/ts

SEC. 13.08.540 EMERGENCY WORK BY CITY, NOTICE, LIABILITY FOR COST OF WORK

Whenever, in the opinion of the Director of Public Works Agency, the Public Health, safety, or welfare shall require that repairs or protective measures to a building sewer be made or instituted immediately, the Director is hereby authorized to proceed with all necessary work to abate the condition and may enter upon private property for such purposes. The City may erect and maintain all necessary barricades, warning lights, and the protective devices upon public or private property. The City will give the owner of the premises upon which the repairs are to be made, or the protective measures to be instituted, such notice, if any, and by such means as the circumstances shall permit.

The owner of the property upon which the condition exists and the person creating such condition shall be jointly and severally liable to the City of Oakland for all costs incurred by it in abating said emergency condition and erecting and maintaining said protective devices.

The cost of abating such condition shall constitute a special assessment against the real property on which said condition was abated. The special assessment shall be made in the manner set forth in Section 13.08.280 of the Oakland Municipal Code using the Notice of Lien as found in Section 13.08.330.

(As added by Ordinance No. 10877 C.M.S., passed June 23, 1987)

Appendix D

Table 5-3 Acute Defect Lists

**Table 5-3
Acute Defect List - Identified Fiscal Year 2015-16 (July 1, 2015 – June 30, 2016)**

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
UNKNOWN	6/9/16	BEC/ROW	no repair		64	-	861	37TH STREET		TBI, Tap break intruding
SEPI2292	5/21/16	BIO	7/7/16	16/17	-	46	2045	98TH AV	775994	
SEPI22619	5/13/16	BEC/ROW	no repair		91	-		WEST ST		TBI, Tap break intruding
SEPI15291	5/9/16	BEC/ROW	no repair		95	-		PARK BLVD		TBI, Tap break intruding
SEPI14359	5/3/16	BIO	7/17/16	16/17	-	74		CREIGHTON WY		
SEPI25847	4/12/16	BIO	5/19/16	15/16	-	37		GLENDALE AV	764665	BSV, Broken Soil Visible
SEPI31522	3/29/16	BEC	no repair		136	-		HANOVER AV		BSV, Broken Soil Visible
SEPI10156	3/21/16	BEC	no repair		144	-		26TH AV		B, Broken
SEPI26119	3/15/16	BEC	no repair		150	-		ESTATES DR		TBI, Tap Break In-truding
SEPI26117	3/15/16	BIO	6/1/16	15/16	-	76	5566	ESTATES DR	767329	BSV, Broken Soil Visible
SEPI8007	3/7/16	BIO	5/24/16	15/16	-	77		BRANN ST	765595	BVV, Broken Void Visible
SEPI23085	2/19/16	BEC	no repair		175	-		PERSHING DR		LFZ Lining Failure Other
SEPI1558	2/3/16	BEC/ROW	no repair		191	-		103RD AV		TBI, Tap Break In-truding
SEPI8003	1/8/16	BIO	5/12/16	15/16	-	124		57TH AV	763372	BVV, Broken Void Visible
SEPI27692	12/22/15	BEC	no repair		234	-		BEECHWOOD DR		XP, collapsed Pipe Sewer
SEPI26690	11/23/15	BEC	no repair		263	-	6861	SARONI DR		BVV, Broken Void Visible
SEPI2961	11/23/15	BEC	no repair		263	-		73RD AV		BVV, Broken Void Visible

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi26159	11/20/15	BEC	no repair		266	-		CAPRICORN AV		D, Deformed
SEPi3335	11/18/15	BEC	4/26/16	15/16	-	158		CHEROKEE AV		BVV, Broken Void Visible
SEPi14169	11/3/15	BEC/ROW	no repair		283	-		ATLAS AV		TRI, Tap Rehabilitated Intruding
SEPi12206	10/28/15	BEC	9/16/16		-	318		ADELAIDE ST		XP, Collapsed Pipe Sewer
SEPi29482	10/1/15	BEC	9/22/16		-	351		GOLDEN GATE AV		XP, Collapsed Pipe Sewer
SEPi31918	8/17/15	BEC	6/27/16	15/16	-	310		Grand AV		BSV, Broken Soil Visible
SEPi14124	8/3/15	BIO	5/10/16	15/16	-	277		VICTOR AV	762556	BSV, Broken Soil Visible
SEPi10734	7/8/15	BEC	6/9/16	15/16	-	331		FAIR AV		XP, Collapsed Pipe Sewer
SEPi5462	6/9/15	BEC	10/26/15	15/16	-	137		Outlook Av		TRI, Tap Rehabilitated Intruding
SEPi4635	4/29/15	BIO	4/4/16	15/16	-	335		INVERNESS CT	753802	BVV, Broken Void Visible
SEPi11561	4/29/15	BIO	4/16/16	15/16	-	347		26TH ST E	757069	BSV, Broken Soil Visible
SEPi6013	4/23/15	BIO	4/2/16	15/16	-	339		12TH ST E	753404	BSV, Broken Soil Visible
SEPi6394	4/22/15	BIO	3/20/16	15/16	-	328		63RD AV	750340	BVV, Broken Void Visible
SEPi9369	4/15/15	BEC	4/11/16	15/16	-	356		MILLS COLLEGE		XP, Collapsed Pipe Sewer
SEPi21714	4/3/15	BIO	3/30/16	15/16	-	357		JEAN ST	752746	BSV, Broken Soil Visible
SEPi18293	3/13/15	BIO	3/22/16	15/16	-	369		OAKMORE RD	750918	BVV, Broken Void Visible
SEPi5190	3/10/15	BIO	3/16/16	15/16	-	366		PARKER AV	749832	BVV, Broken Void Visible
SEPi24234	3/10/15	BIO	2/16/16	15/16	-	336		42ND ST	741605	BVV, Broken Void Visible

Asset ID	Date Identified	Bureau Responsible	Date Completed	Completions by FY	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi10673	3/2/15	BIO	10/17/15	15/16	-	225		REINHARDT DR	716217	BSV, Broken Soil Visible
SEPi13384	2/25/15	BIO	2/10/16	15/16	-	345		25TH ST E	740999	BSV, Broken Soil Visible
SEPi29370	2/24/15	BIO	2/25/15	14/15		1		BROADWAY	712308	BSV, Broken Soil Visible, XP
SEPi9530	2/21/15	BEC	2/1/16	15/16	-	340		SEMINARY AV		BVV, Broken Void Visible
SEPi3013	1/27/15	BEC	1/29/16	15/16	-	362		77TH AVE		D, Deformed
SEPi13485	1/15/15	BIO	10/12/15	15/16	-	267		30TH ST E	715168	XP, Collapsed Pipe Sewer
SEPi26916	12/26/14	BIO	11/10/15	15/16	-	314		WOODROW DR	659175	BSV, Broken Soil Visible
SEPi15485	12/5/14	BEC	11/19/15	15/16	-	344		33RD ST E		B, Broken
SEPi13378	12/2/14	BIO	10/27/15	15/16	-	325		WALLACE ST	718137	XP, Collapsed Pipe Sewer
SEPi13465	11/20/14	BIO	10/3/15	15/16	-	313		21ST AV	713103	BVV, Broken Void Visible
SEPi15298	11/19/14	BIO	9/24/15	15/16	-	305		PARK BLVD	711318	XP, Collapsed Pipe Sewer
SEPi24613	11/17/14	BIO	10/28/15	15/16	-	341		MOUNTAIN BLVD	718427	BVV, Broken Void Visible
SEPi13421	11/14/14	BIO	9/14/15	15/16	-	300		13TH AV	709069	IG, I NFLOW Gusher
SEPi15005	11/7/14	BEC	8/3/15	15/16	-	266		14TH ST		BSV, Broken Soil Visible
SEPi5258	10/14/14	BEC	10/15/15	15/16				STERLING DR		XP, Collapsed Pipe Sewer

Appendix E

Figure 5-1 Cleaning by Sub-Basin, through June 30, 2016

Through 6/30/16

Data Date: 7/6/16

Effective 6/2/16: Reflects GIS data updated 5/19/16 (258 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasins.

Sewer Subbasin
Cleaning Tracking

Unique feet cleaned starting 1/1/10 (Paragraph 167.d.i and 92. a)
Unique feet abandoned w.d. 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasins.

Sewer Subbasin
CCTV Tracking

Unique feet televisied starting 1/1/14 (Paragraph 83.c)

Zone	Subbasin	Main		Cleaned		%	CCTV	Feet	%
		Feet	Ma in	Feet	Ma in				
1	5607	64,003	64,003	100%	100%		23,570	37%	
3	85401	28,867	28,867	100%	100%		3,857	13%	
2	6007	17,398	17,398	100%	100%		8,379	48%	
2	81201	17,213	17,213	100%	100%		9,100	53%	
2	83402	7,513	7,513	100%	100%		7,357	98%	
3	84003	15,122	15,122	100%	100%		11,217	74%	
3	85305	22,110	22,110	100%	100%		7,895	36%	
1	2101	10,384	10,384	100%	100%		4,518	44%	
1	5009	46,599	46,599	100%	100%		9,830	21%	
2	5402	18,488	18,488	100%	100%		4,752	26%	
2	5411	5,690	5,690	100%	100%		1,115	20%	
2	6003	11,500	11,500	100%	100%		6,533	57%	
2	6101	1,761	1,761	100%	100%		479	27%	
1	6406	2,902	2,902	100%	100%		485	17%	
3	85211	33,969	33,969	100%	100%		22,256	66%	
1	2103	24,417	24,417	100%	100%		19,579	80%	
1	5010	10,643	10,643	100%	100%		3,669	34%	
1	5015	11,850	11,850	100%	100%		8,191	69%	
2	5905	9,930	9,930	100%	100%		3,786	38%	
1	6413	4,336	4,336	100%	100%		566	13%	
3	83304	9,320	9,320	100%	100%		5,206	56%	
2	5406	14,628	14,628	100%	100%		8,209	56%	
2	5804	8,000	8,000	100%	100%		6,448	81%	
2	5901	11,193	11,193	100%	100%		4,471	40%	
2	5904	7,062	7,062	100%	100%		3,919	55%	
2	6008	3,238	3,238	100%	100%		2,344	72%	
2	83303	16,121	16,121	100%	100%		5,409	34%	
2	83501	15,219	15,219	100%	100%		14,128	93%	
2	83502	14,433	14,433	100%	100%		14,373	100%	
3	85204	30,809	30,809	100%	100%		9,387	30%	
1	6414	4,444	4,444	100%	100%		0	0%	
2	80101	16,630	16,630	100%	100%		15,204	91%	
3	83103	19,573	19,573	100%	100%		19,573	100%	
3	85501	15,316	15,316	100%	100%		2,607	17%	
3	82004	14,116	14,116	100%	100%		2,436	17%	
2	83013	14,585	14,585	100%	100%		14,585	100%	
3	84005	12,766	12,766	100%	100%		8,831	69%	
	84111	16,835	16,835	100%	100%		8,965	53%	
2	5902	18,010	18,010	100%	100%		10,633	59%	
3	85012	19,879	19,879	100%	100%		1,498	8%	
2	5606	33,425	33,425	100%	100%		32,422	97%	
1	5007	60,204	59,364	99%	99%		13,447	22%	
3	85206	31,839	31,218	98%	98%		9,665	30%	
2	6006	18,928	18,556	98%	98%		17,218	91%	

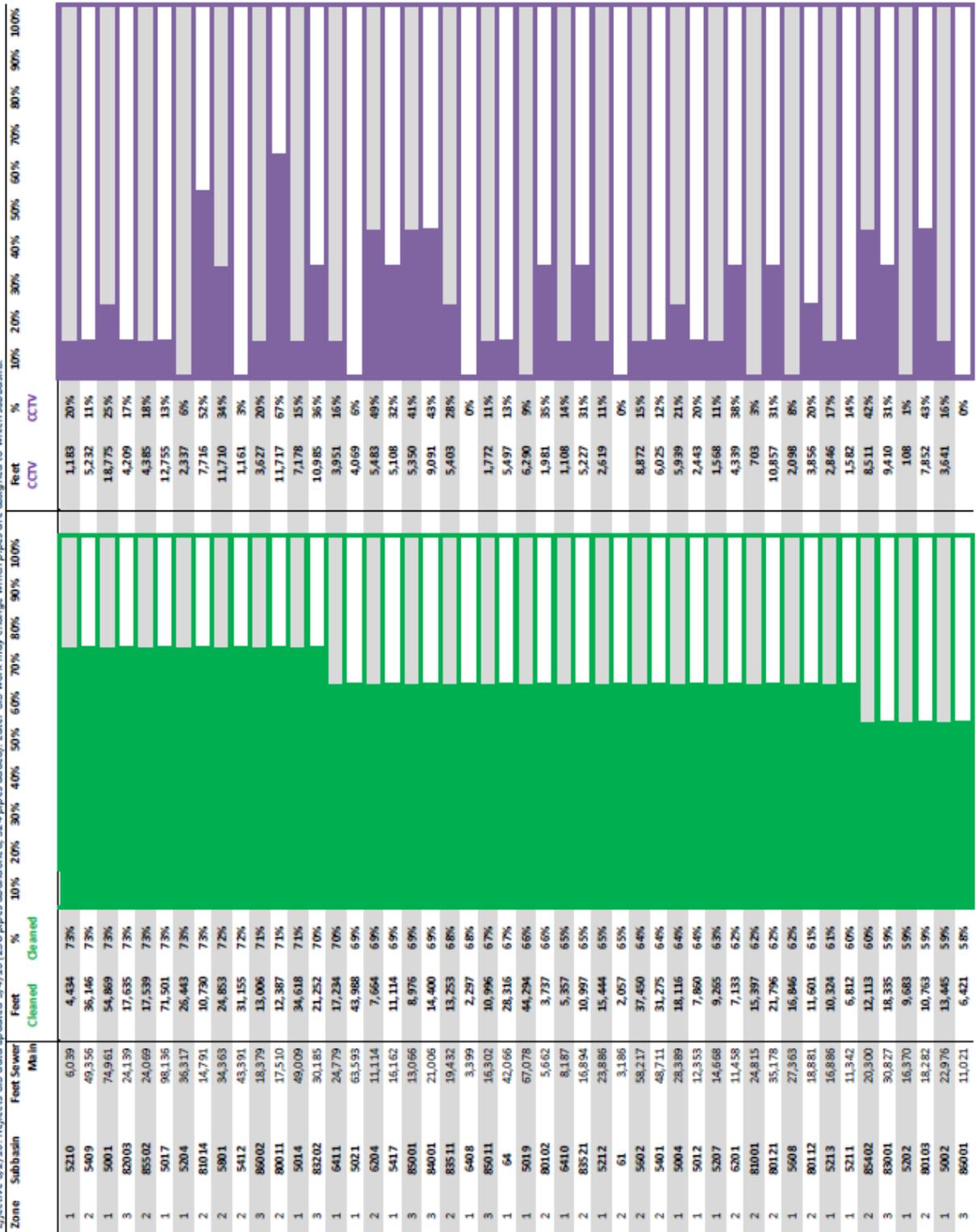
Effective 6/2/16: Reflects GIS data updated 5/4/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasins.



Effective 6/2/16: Reflects GIS data updated 5/4/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasin.



Effective 6/2/16: Reflects GIS data updated 5/6/16 (258 pipes abandoned, 324 pipes added). Later GIS work may change which pipes are assigned to which subbasins.

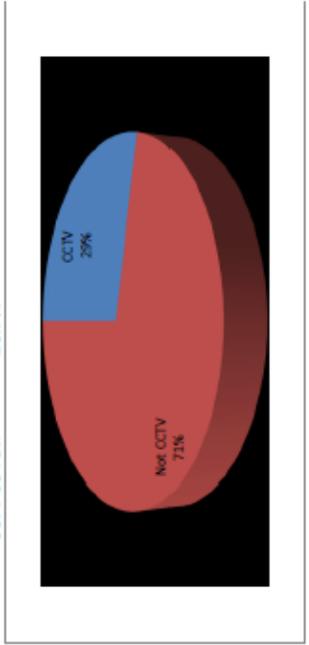
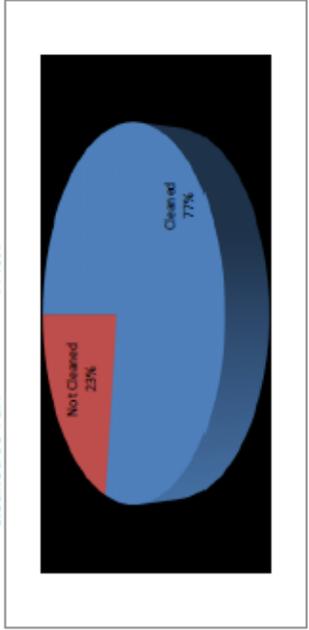


Effective 6/2/16: Reflects GIS data updated 5/4/16 (258 pipes abandoned, 324 pipes added). Later GIS work may change which pipes are assigned to which subbasins.

Zone	Subbasin	Feet Sewer Ma In	% Cleaned										Feet CCTV	% CCTV
			10%	20%	30%	40%	50%	60%	70%	80%	90%	100%		
3	85101	32,469	18,867	58%										
2	54114	26,408	15,180	57%										
2	5604	47,464	27,248	57%										
1	54118	16,985	9,682	57%										
1	5201	30,845	17,150	56%										
1	5403	10,316	5,695	55%										
1	5020	36,457	19,929	55%										
2	80002	6,414	3,475	54%										
2	83404	45,083	23,899	53%										
1	2002	14,497	7,510	52%										
3	87001	2,294	1,180	51%										
2	83403	25,863	13,100	51%										
2	80001	22,854	11,191	49%										
2	5601	14,195	6,949	49%										
2	6202	21,250	10,364	49%										
1	5205	62,912	30,319	48%										
3	84002	15,294	7,281	48%										
1	6407	5,605	2,569	46%										
2	5403	16,451	7,490	46%										
3	83302	20,314	9,062	45%										
(blank)		41,059	17,458	43%										
2	5415	11,664	4,866	42%										
3	87002	9,148	3,705	41%										
1	5208	5,347	2,089	39%										
1	5209	17,856	6,425	36%										
1	6404	16,353	5,824	36%										
3	82001	8,354	2,519	30%										
1	5206	8,401	2,486	30%										
1	647	30,526	7,156	23%										
1	6415	2,412	395	16%										
1	6405-1	5,323	0%	0%										
220	4,903,672	3,777,533	77.0%											
		929	715											
		1,408,769	28.7%											

Cleaned So Far: 77.0%

CCTV So Far: 28.7%



Appendix F

**Table 5-5
High Frequency PM Locations [134]**

WO#	Description	Pipe ID #	Address	Feet
682147	Hi-Freq 6 Month	20983	2598 MONTEREY BLVD	63
668202	Hi-Freq 3 Month	6883, 6884, 6886, 6162	8100 FONTAINE ST	644
608237	Hi-Freq 12 Month	30724, 30721, 30722, 30725, 30723	81 ALVARADO RD	875
669030	Hi-Freq 3 Month	24802, 24803, 24804, 24805, 24801, 24800, 24799	1957 ASILOMAR DR	934
608358	Hi-Freq 12 Month	31394, 31373, 31374	25 DARTMOUTH DR	227
669825	Hi-Freq 3 Month	17964, 17987, 15469, 17989	1125 FLEET RD	699
670151	Hi-Freq 3 Month	25870, 25805, 25844, 25779, 22174, 25810	5200 BROADWAY	1250
649191	Hi-Freq 6 Month	6566	7018 MACARTHUR BLVD	163
669922	Hi-Freq 3 Month	12163, 12162, 12161, 12166, 12149, 12148	4330 MOUNTAIN BLVD	674
669965	Hi-Freq 3 Month	5740, 5739, 5746	4550 SEQUOYAH RD	601
670935	Hi-Freq 3 Month	3087	110 GRAVATT DR	424
663647	Hi-Freq 6 Month	2843, 2838, 2837	11212 MONAN ST	273
650656	Hi-Freq 6 Month	12002, 11995, 12003, 11994	3624 LOMA VISTA	1465
655325	Hi-Freq 6 Month	19704, 19724, 17359, 17413	500 LAKE PARK AV	746
673363	Hi-Freq 3 Month	6837, 6830, 6833, 6831, 6897, 6898, 6899	7844 MOUNTAIN BLVD	745
652259	Hi-Freq 3 Month	4249, 4251, 4250	83RD AV & IRIS ST	511
652389	Hi-Freq 6 Month	19580, 19583, 19581, 19566, 19565, 19564	2336 HARRISON ST	770
653419	Hi-Freq 6 Month	14671, 32340, 14670, 14651, 14668, 14667	339 UNION ST	899
653715	Hi-Freq 6 Month	20992, 20989, 20991, 20990	6260 CASTLE DR	187
678393	Hi-Freq 3 Month	14137, 14138, 14283, 14157, 14139	4300 ATLAS AV	647
678268	Hi-Freq 3 Month	20744, 20743, 20751, 20734, 20733, 21058, 32481, 20720, 20717, 31548, 20747	2600 LEIMERT BLVD	2180
683060	Hi-Freq 12 Month	26574	6020 ASPINWALL RD	217

WO#	Description	Pipe ID #	Address	Feet
683064	Hi-Freq 12 Month	23736, 23824, 23822, 23735	6730 LONGWALK DR	426
683077	Hi-Freq 12 Month	9563, 9533, 9532	6167 OVERDALE AV	505
661213	Hi-Freq 6 Month	5740, 5741	SEQUOYAH RD & MCGURRIN RD	315
668336	Hi-Freq 6 Month	30942, 30958, 30688, 30686	1200 WESTVIEW DR	639
669192	Hi-Freq 6 Month	17297, 17296, 17295	290 GRAND AV	951
666647	Hi-Freq 6 Month	9570	6288 SUNNYMERE AV	83
663677	Hi-Freq 6 Month	4236, 4197, 4239, 4241, 4235, 4198	82ND AV & IRIS ST	1373
688780	Hi-Freq 3 Month	17429, 17441, 31918, 17427,17428	600 GRAND AV	941
688789	Hi-Freq 3 Month	30446, 30447, 30440, 30445	6929 CHABOT RD	340
689447	Hi-Freq 3 Month	8149, 8134, 8132, 8133, 8152, 8153, 8155, 8151	3914 EDGEMOOR PL	1370
667300	Hi-Freq 6 Month	11019, 12850, 12849, 11021, 11020, 11022, 12853	220 ALICE ST	1190
690899	Hi-Freq 3 Month	15954, 16014, 16013, 15958	4122 LAGUNA AVE	502
690903	Hi-Freq 6 Month	25257	6245 WESTOVER DR	71
667324	Hi-Freq 6 Month	22039, 22038, 22036, 22037, 22035	6000 ASCOT DR	453
668264	Hi-Freq 3 Month	31496, 31493, 31494, 31497, 31498	1520 LAKESIDE DR	1022
668449	Hi-Freq 3 Month	22607, 22606, 22605	36TH ST & MLK JR WY	770
668261	Hi-Freq 6 Month	30842, 30844, 31131, 30845, 30841, 30840, 31057, 30843, 31133	1801 TUNNEL RD	601
692123	Hi-Freq 3 Month	2718, 2717, 2720, 2719, 2716, 2695, 2694, 1924, 1923	11110 KERRIGAN DR	1542
693428	Hi-Freq 3 Month	26947, 26946, 26910, 26823, 26822, 26896, 26945	7295 SARONI DR	620
693456	Hi-Freq 3 Month	2982, 2986	72ND AV & HAWLEY ST	765
693514	Hi-Freq 3 Month	28577, 28573, 28572, 28576, 28574, 28563, 28513, 28623, 28512, 28627, 28626, 28514, 28578	6330 PINEHAVEN RD	1739
674212	Hi-Freq 6 Month	27809, 27866	1 MORRILL CT	194
674160	Hi-Freq 12 Month	5518, 5517	8251 FONTAINE ST	597

WO#	Description	Pipe ID #	Address	Feet
662167	Hi-Freq 6 Month	25182, 25183	7280 WOODROW DR	279
678147	Hi-Freq 6 Month	25918, 25921, 25919, 25920, 25917, 25922	25 STARK KNOLL PL	597
678414	Hi-Freq 6 Month	26568	1731 GOULDIN RD	71
679624	Hi-Freq 6 Month	10836, 10835	5425 LEONA ST	208
639210	Hi-Freq 12 Month	11129, 11059, 11097, 11095, 11088, 11098	740 E 8TH ST	959
680157	Hi-Freq 3 Month	17963, 17962, 18001, 17998, 18000, 17961, 17956, 17955, 18055	800 CREED RD	1065
683084	Hi-Freq 12 Month	9596, 9595, 9593, 9592, 9591, 9589	5815 LEONA ST	684
680520	Hi-Freq 6 Month	30251, 30223, 30252, 30220, 30253	439 ALCATRAZ AV	856
682002	Hi-Freq 6 Month	27511, 27525, 27523, 27522, 27512, 27529, 27526, 27530	COLLEGE AV & TAFT AV	2430
683091	Hi-Freq 6 Month	10791, 10792, 10790, 10794, 10793	4210 KNOLL AV	594
641763	Hi-Freq 12 Month	18025, 18026, 18028, 18030, 18029, 18027	1301 HOLMAN RD	755
642824	Hi-Freq 12 Month	4239, 4235, 4241	8301 IRIS ST	835
685103	Hi-Freq 6 Month	29751, 29752, 29755, 29756, 29754, 29753	451 MOUNTAIN BLVD	572
686563	Hi-Freq 6 Month	2444, 2446, 2439, 2438, 2442, 2431, 2568, 2443, 2440, 2561	98TH AV & BURR ST	1441
677946	Hi-Freq 12 Month	13226, 13225	9TH AV & E 20TH ST	349
686572	Hi-Freq 6 Month	13373, 13436, 13374, 13381, 13385, 13435, 13383, 13384, 13386, 13434	2524 14TH AV	1791
643548	Hi-Freq 12 Month	12124, 12126, 12125	4515 ELINORA AV	292
643776	Hi-Freq 12 Month	1044, 881, 1054, 1056, 800	823 105TH AV	1203
687286	Hi-Freq 6 Month	30625, 30624, 30632, 30626, 31179, 31178, 30855, 30854, 30495, 31128, 31127, 31126, 31081, 30617, 30623, 30622, 30621	200 CALDECOTT LN	2518
687750	Hi-Freq 12 Month	12451, 12452, 12465, 12466, 12467, 12468, 12471, 12469, 12472, 12473, 12474	12580 BROOKPARK RD	1783

WO#	Description	Pipe ID #	Address	Feet
689162	Hi-Freq 6 Month	22665, 22666, 24078, 24118, 22587, 24079, 22672, 22673, 22669, 22668, 24080, 24081, 24075	37TH ST & W MACARTHUR BLVD	2911
690494	Hi-Freq 6 Month	8986, 7376, 7375, 8988, 8987, 8841, 8840, 8838, 8853, 8852, 8883, 8877	2058 ROSEDALE AV	2466
690602	Hi-Freq 3 Month	27692, 27693, 27697	74 BEECHWOOD DR	574
690880	Hi-Freq 6 Month	8772, 8770, 8771	1479 FRUITVALE AV	608
690890	Hi-Freq 6 Month	2968, 2971	69TH AV & SNELL ST	487
693491	Hi-Freq 6 Month	14292, 14291, 14461, 14479, 14478, 14290	5707 REDWOOD RD	1108
693521	Hi-Freq 6 Month	27518	5600 COLLEGE AVE	129
650089	Hi-Freq 12 Month	7508, 9072	4216 CARRINGTON ST	1258
660363	Hi-Freq 12 Month	10425, 10419, 10424	2633 ABBEY ST	705
666667	Hi-Freq 12 Month	9576, 9562, 9533, 9541, 9534, 9560	4228 MOUNTAIN VIEW AV	1002
665716	Hi-Freq 12 Month	14133, 14368, 14370, 14369, 32471, 32408, 31614, 14132, 14399, 14398, 14371, 14374, 16219, 16403, 16402, 14372, 14129	353 CRESTMONT DR	2357
667100	Hi-Freq 3 Month	8269, 8268, 8267, 8270	6636 LAIRD AV	546
667899	Hi-Freq 12 Month	14339, 14340, 14338, 14341, 14348, 14349, 14351, 14347, 14346, 14344, 14343, 14342, 14387, 14378, 14375, 16388, 14373, 16218, 16364, 16284	297 RISHHELL DR	2737
668188	Hi-Freq 12 Month	22955, 22954, 22953, 22952	642 EL DORADO AV	1228
669044	Hi-Freq 12 Month	25433, 25344, 25343, 25307, 25431, 27009, 25338	7047 EXETER DR	649
681051	Hi-Freq 12 Month	11242, 11252, 11174, 11175	745 11TH AVE	703
680414	Hi-Freq 12 Month	29175, 29176, 29172, 30192, 30197, 30191, 29134, 29223, 29226	469 63RD ST	3034
680868	Hi-Freq 12 Month	29274, 29275, 29273, 29596, 29272, 29271, 29276	6098 ROCKRIDGE BLVD	1478

WO#	Description	Pipe ID #	Address	Feet
682827	Hi-Freq 12 Month	1729, 1703, 1704, 1726, 1721, 1705, 1702, 1730, 1697, 1701	10306 FOOTHILL BLVD	1891
683122	Hi-Freq 12 Month	19647, 19660, 19648, 19646, 19541, 17313, 17311, 19644	347 PERKINS ST	1625
684121	Hi-Freq 12 Month	4847, 6109, 6132, 6131, 4853	55TH AV & INTERNATIONAL BLVD	1679
683771	Hi-Freq 12 Month	6318, 6461, 6319, 7982, 7976	6334 CAMDEN ST	1371
684868	Hi-Freq 12 Month	19608, 19609, 19613, 17345, 19614, 19615, 19610, 19606, 19611, 17357	GRAND AVE & HARRISON ST	1884
686360	Hi-Freq 12 Month	4696, 4697	488 LESSER ST	522
688750	Hi-Freq 12 Month	3519, 3465	9777 GOLF LINKS RD	409
690592	Hi-Freq 12 Month	7769, 7764	2646 COLE ST	401
693414	Hi-Freq 12 Month	10285, 11913	2300 HUMBOLDT AV	556
695601	Hi-Freq 12 Month	23634, 23635	5959 WESTOVER DR	49
695612	Hi-Freq 12 Month	31552, 23790, 23791	2922 HOLYROOD DR	273
697187	Hi-Freq 6 Month	2790, 2789	11177 ELVESSA ST	690
697185	Hi-Freq 6 Month	12107, 12105, 12106, 12104	4445 SHEPHERD ST	528
697201	Hi-Freq 12 Month	24578, 24577	5692 CABOT DR	222
698182	Hi-Freq 12 Month	20983	1480 WESTVIEW DR	63
699228	Hi-Freq 3 Month	17342, 17340, 17339, 17341, 17325	PERKINS & BELLVIEW	942
713181	Hi-Freq 6 Month	17738, 17739, 17740, 17741, 17742, 17721	1021 BROOKWOOD RD	600
713182	Hi-Freq 12 Month	5905, 5906	4332 INTERNATIONAL BLVD	270
713187	Hi-Freq 6 Month	13164	411 E 18TH ST	196
713191	Hi-Freq 6 Month	6417, 6418, 6420, 6423	6502 BANCROFT AV	983
719317	Hi-Freq 12 Month	21966	2477 MONTEREY BLVD	287
719315	Hi-Freq 12 Month	25585	895 47th ST.	356
719294	Hi-Freq 12 Month	13902, 11946, 12021, 12061	3770 35TH AV	948
719289	Hi-Freq 6 Month	14229	4020 REINHARDT DR	257
719285	Hi-Freq 12 Month	12111, 12110, 12109	4425 CARSON ST	361

WO#	Description	Pipe ID #	Address	Feet
719281	Hi-Freq 12 Month	12242, 12241, 12240, 12266, 12243	HUNTINGTON ST & FAIR AV	852
732054	Hi-Freq 6 Month	27835	4308 HARBORD DR	139
728196	Hi-Freq 3 Month	1857, 1858, 1595	PERALTA OAKS CT	521
738319	Hi-Freq 3 Month	23085	102 CREST	30
738339	Hi-Freq 12 Month	5244, 5243	BANCROFT AV AND 74TH AV	504
741625	Hi-Freq 12 Month	12819, 13107, 15114, 15112, 15098, 31497, 31498, 31494, 31496	1225 FALLON ST	2177
739991	Hi-Freq 12 Month	28737, 32368, 28735, 28736, 28727, 28728, 28726, 26545	6205 WESTWOOD WY	936
739994	Hi-Freq 12 Month	30480, 30415	171 ROBLE RD	196
739996	Hi-Freq 12 Month	31209, 31208, 31311	7351 Claremont	533
739999	Hi-Freq 6 Month	3199, 3198, 2168	1902 90th Av	1110
743184	Hi-Freq 12 Month	12912, 12926, 12925, 12762, 12920, 12936, 11027, 11010, 11011, 12778	308 Jackson	1950
747480	Hi-Freq 6 Month	26690	6861 SARONI	50
747490	Hi-Freq 6 Month	16131, 16138	GUIDO ST	213
751442	Hi-Freq 3 Month	15828, 15827, 15724	3826 LYMAN	683
751862	Hi-Freq 3 Month	23188	2345 SCOUT RD	282
766859	Hi-Freq 6 Month	22335	3072 HOLYROOD DR	62
764714	Hi-Freq 12 Month	15729, 15728	3577 FRUITVALE AVE	616
764673	Hi-Freq 6 Month	14244, 14245, 14238, 14239, 14246	4120 MOUNTAIN BLVD	642
764446	Hi-Freq 6 Month	6675, 6676	7575 SUNKIST DR	208
764444	Hi-Freq 3 Month	14408, 14418, 12356, 12325, 12326	REDWOOD RD & TERRABELLA	592
759125	Hi-Freq 6 Month	24396, 24395, 24529, 26145, 25850, 25897, 26146	5527 MORAGA AVE	1107
759150	Hi-Freq 6 Month	1864, 1863	2960 PERALTA OAKS CT	166
759449	Hi-Freq 6 Month	10237, 9368	2344 HARRINGTON AV	356
763261	Hi-Freq 12 Month	30673, 30685, 30674	GRAND VIEW DR & VINCENTE RD	769
763314	Hi-Freq 6 Month	606	3115 MIDDLETON	158
771527	Hi-Freq 6 Month	3854, 3852, 3851	EASTLAWN ST & 65TH AV	708

Appendix G

Port of Oakland Sewer Collection System Annual Report for July 1, 2015 – June 30, 2016



September 7, 2016

Brooke A. Levin
Director of Public Works
Oakland Public Works Agency
250 Frank H. Ogawa Plaza, Suite 4314
Oakland, CA 94612-2033

Chris Chan
Director of Engineering

Phone: (510) 627-1331
Fax: (510) 763-8287
Email: cchan@portoakland.com

**Subject: Port of Oakland Sanitary Sewer Collection System
2015-16 Annual Report**

Dear Ms. Levin:

Enclosed is the Port of Oakland Sanitary Sewer Collection System Annual Report for the period from July 1, 2015 to June 30, 2016. The annual report has been prepared at the request of Oakland Public Works' staff.

If you have any questions, please contact Liem Nguyen at (510) 627-1636 or myself at (510) 627-1331.

Sincerely,

Chris Chan
Director of Engineering

Attachment

cc: Thanh Vuong, Port Supervising Engineer



Port of Oakland
Sanitary Sewer Collection System
Annual Report

September 2016

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Section 4.	Infiltration and Inflow Reduction Work
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	4.2 Sewer Main Inspection
Section 5.	SSO Reduction Work
	5.1 Capacity Assurance
	5.2 Sewer Main Cleaning
	5.3 Pump Station Renovation and Upgrade

Section 1. Introduction

The Port of Oakland (“Port”), established under the City Charter in 1927, is an autonomous department of the City of Oakland (“City”) under the governance of a seven-member Board of Port Commissioners appointed by the mayor of Oakland. The Port manages a container seaport, a passenger/cargo/general aviation airport, and waterfront properties for commercial and recreational purposes.

The Port owns, operates and maintains a sanitary sewer collection system which consists of lateral pipes, trunk lines, manholes, lift and ejector stations, triturators, and other sewer appurtenances that delivers sewage to the City’s wastewater collection system and to East Bay Municipal Utility District (“EBMUD”) wastewater interceptors and treatment facilities.

The FY 2015-16 Sanitary Sewer Collection System Annual Report was prepared at the request of the City Public Works. The following sections in this report present information pertaining to the following sanitary sewer programs for Fiscal Year 2015-16 (July 1, 2015 to June 30, 2016):

- Sanitary Sewer Overflows
- Asset Management Implementation Plan
- Infiltration and Inflow Reduction Work
- SSO Reduction Work

Section 2. Sanitary Sewer Overflows

Number and Size of Sanitary Sewer Overflows (“SSOs”)

For the reporting period from July 1, 2015 to June 30, 2016, the Port’s sanitary sewer collection system had five (5) SSO events, all of which were reported to California Integrated Water Quality System (CIWQS). Two SSOs were associated with construction activities at the former Oakland Army Base on City’s properties but were reported by the Port. The other three SSOs were located at the Oakland International Airport. The size of the SSO is summarized in **Table 1**.

Table 1. Number of SSOs

Size of SSO (gallons)	Number	Percent of Total
Greater than or equal to 1,000	2	40%
From 100 to 999	3	60%
From 10 to 99	0	0%
Less than 10	0	0%
Total	5	100%

The total volume released is estimated to be approximately 3,530 gallons. The volume of spills contained and returned to the sewer system as well as the volume reaching waters of the State is shown in **Table 2**.

Table 2. Volume of SSOs

	Volume (gallons)	Percent of Total
Total volume contained and returned to sewer system for treatment	50	1.4%
Total volume reaching waters of the State	30	0.8%
Total volume not contained but not reaching waters of the State (everything else)	3,450	97.8%
Total	3,530	100%

This report may not include all SSOs that occurred from private sewer service laterals within the Port's jurisdiction that were caused by conditions in privately-owned laterals or on private property. The property owners are responsible for the condition and the operation of those sewer service laterals.

Causes of SSOs

The causes of SSOs during the reporting period were due to infrastructure failures and construction damage. The distribution of SSOs by cause is shown in **Table 3**.

Table 3. Causes of SSOs

Cause of SSO	Number	Percent of Total
Blockage:	0	0
Roots	0	0
Grease	0	0
Debris	0	0
Debris from Laterals	0	0
Vandalism	0	0
Animal Carcass	0	0
Construction Debris	0	0
Multiple Causes	0	0
Subtotal for Blockage	0	0
Infrastructure Failure	3	60%
Inflow & Infiltration	0	0
Electrical Power Failure	0	0
Flow Capacity Deficiency	0	0
Natural Disaster	0	0
Bypass	1	20%
Construction Damage	1	20%
Cause Unknown	0	0
Total	5	100%

Location of SSOs and Measures to Prevent Future Spills

During the reporting period there were two SSOs occurred in the Maritime area and three SSOs occurred at the Oakland International Airport.

Table 4. Locations of SSOs

SSO Event ID	Location	Causes	Measures to Prevent Future SSO
817211	Maritime Street	Contractor working on the redevelopment of the former Oakland Army Base accidentally hit a 10" sewer main during excavation to construct a storm drain line on Maritime Street	New sewer gravity and force mains are being constructed on Maritime Street
820784	Oakland International Airport, Ron Cowan Pkwy off-ramp	Pump controls instrumentation failure (bubblers) at Lift Station #1	Control panel will be replaced during the LS #1 Rehabilitation Project
821198	Former Oakland Army Base, W Burma Rd	Pipe coupling failure during temporary pumping bypass of Lift Station #18	Inspection & monitoring frequency were increased during construction
823541	Oakland International Airport, Gate 7	Failure to properly monitor lift station #7 during replacement of one of the two pumps	Inspection & monitoring frequency were increased during repair work
824304	Oakland International Airport, Ron Cowan Pkwy off-ramp	Pump controls instrumentation failure (relays) at Lift Station #1	Control panel will be replaced during the LS #1 Rehabilitation Project

SSO Trends

The number of SSOs increased from two (2) incidents in FY 2013-14 from July 1 to June 30 to five (5) incidents for the same period in FY 2015-16. The sewage overflow volume also increased slightly from 2,341 gallons in FY 2014-15 to 3,530 gallons in FY 2015-16, of which 30 gallons reached the surface water body. The SSOs associated with sewer lift stations will be significantly reduced once the upgrades and improvements at these lift stations are completed in FY 2016-17.

Section 3. Asset Management Implementation Plan

The Port prepared and submitted the Asset Management Implementation Plan (“AMIP”) in 2012. Many programs set forth in the AMIP to reduce SSOs and infiltration/inflow (“I/I”) are very similar to the required elements in the Sewer System Management Plan (“SSMP”), which was updated in July 2015. The SSMP can be found on the Port of Oakland’s website at: <http://www.portoakland.com/community/environmental-stewardship/programs/>

Section 4. Infiltration and Inflow Reduction Work

4.1 Sewer Main and Lateral Repair, Rehabilitation and Replacement

FY 2015-16 Sanitary Sewer Pipeline Projects Completed

- New gravity and force mains were constructed on Maritime Street and Burma Road as part of the former Oakland Army Base redevelopment.
- Minor repairs and lateral replacements throughout the Port areas.

FY 2016-17 Sanitary Sewer Pipeline Projects Proposed

- Continue with the sewer main and lateral repair and replacements in conjunction with tenant improvements and/or new development projects.

4.2 Sewer Main Inspection

The Port utilized outside contractors to inspect sanitary sewer lines within the Port areas. For the reporting period, approximately two (2) miles of sewer mains and laterals (in the Outer Harbor Berths 20-24, most of Port properties in Jack London Square and Airport Business Park, and 12-inch gravity main along Airport Drive) were inspected.

Section 5. SSO Reduction Work

5.1 Capacity Assurance

No capacity improvement is necessary at this time since sewer pipelines within the Port appears to contain sufficient capacity to accommodate existing design flows without exceeding the established capacity criteria. Future development at the Port will be subject to engineering review and evaluation to determine if capacity enhancement is necessary.

5.2 Sewer Main Cleaning

The Port utilized outside contractors to clean sanitary sewer lines within all three Port areas (i.e., Aviation, Maritime, and Commercial Real Estate). For the reporting period, approximately two miles of sewer line was flushed and/or jetted to remove grease buildups and to prevent potential

blockages. In addition, preventive maintenance activities at all sewer lift stations and grease interceptors were performed on a routine schedule.

5.3 Pump Station Renovation and Upgrade

FY 2015-16 Lift Station Improvement Projects Completed

- Repaired/replaced pumps at lift stations D03P, R18P, B01P in the Maritime area.
- Refurbished and installed RACO remote alarm monitoring at D06P and C07P in the Maritime area.
- Completed the design for rehabilitation of Airport sewer lift station AP01P.

FY 2016-17 Lift Station Improvement Projects Proposed

- Rehabilitate and upgrade Airport sewer lift station AP01P.
- Design for rehabilitation of Airport sewer lift station AP02P.

Attachment D

Annual Report FY 2016-2017

CITY OF OAKLAND



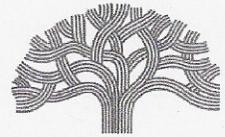
Sanitary Sewer Collection System

Annual Report

July 1, 2016 to June 30, 2017

Consent Decree, Consolidated Case Nos. C 09-00186-RS and C 09-05684-RS

CITY OF OAKLAND



250 FRANK H. OGAWA PLAZA OAKLAND, CALIFORNIA 94612-2033

Oakland Public Works Department
Jason Mitchell
Director

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September 28, 2017

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Chief, Clean Water Act
Water Section I, (ENF 3-1)
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Re: DOJ No. 90-5-1-1-09361/2

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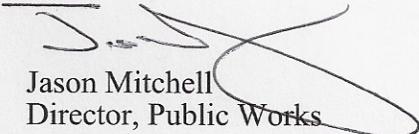
RE: Consent Decree--City of Oakland Annual Report

Dear Mr. Greenberg, et al.:

In accordance with the 2014 Consent Decree, enclosed is the City of Oakland's Annual Report for the period from July 1, 2016 to June 30, 2017.

If you have any questions about this report, please contact Mr. Jimmy Mach, Principal Civil Engineer, at 510-238-3303.

Sincerely,


Jason Mitchell
Director, Public Works

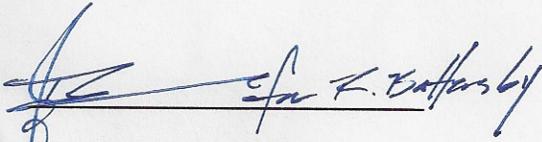
cc: Nicole C. Sasaki (Bay Keeper)
Christopher A. Sproul (Environmental Advocates)
Christopher Dinsmore (EBMUD)
Chris Chan (Port of Oakland)

Attachments: 2016-17 Annual Report

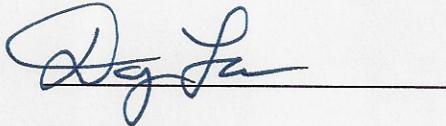
Certification

I certify under penalty of law that this document and its attachments were prepared either by me personally or under my direction or supervision in a manner designed to assure that qualified and knowledgeable personnel properly gathered and presented the information contained herein. I further certify, based on my personnel knowledge or on my inquiry of the individuals immediately responsible for obtaining the information, that to the best of my knowledge and belief the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing and willful submission of a materially false statement.

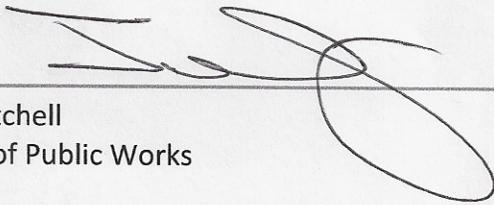
Reviewed by:



Richard Battersby
Acting Assistant Director
Bureau of Infrastructure & Operations



Danny Lau
Assistant Director
Bureau of Design & Construction



Jason Mitchell
Director of Public Works

9/28/17

Date

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Appendix Summary

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H	Port of Oakland Sewer Collection System Annual Report for July 1, 2016 – June 30, 2017.	-

Executive Summary

The City of Oakland's Consent Decree for operation and maintenance of its Sewer Collection System was approved by state and federal regulatory agencies with an Effective Date of September 22, 2014. The City is pleased to submit this Annual Report as required by the Consent Decree (CD) for Fiscal Year 2016-17 (July 1, 2016 to June 30, 2017). The City of Oakland is in overall compliance with the Consent Decree. The cumulative sewer rehabilitation work is significantly ahead of schedule and the City's sewer budget, staffing, and equipment have increased this Fiscal Year. It is the City's full intent to continue to meet its obligations under the Consent Decree.

Sanitary Sewer Overflows (SSO): The City of Oakland's Sewer Collection System had 83 SSO events during FY 2016-17. This is a 6% reduction compared to the 88 SSO events in FY 2015-16. In FY 2016-17, the total volume reached surface water was 203,560 gallons from 16 SSO events.

Asset Management Implementation Program (AMIP): The City has implemented its revised AMIP dated October 31, 2014.

Infiltration And Inflow Reduction Work:

Sewer Main and Maintenance Hole Rehabilitation. As of June 30, 2017, the City of Oakland has Rehabilitated 322,914 feet (61.2 miles) of Sewer Main. This exceeds the Consent Decree requirement to rehabilitate 221,760 feet (42 miles) by June 30, 2017.

As of June 30, 2017, the City of Oakland had Rehabilitated an additional 16,385 feet (3.1 miles) of Sewer Main as shown in Table 4-3. This exceeds the Consent Decree requirement to rehabilitate 15,840 feet (3 miles) by June 30, 2017. The City have included sewer mains rehabilitated from both the capital improvement program and minor repairs performed by City crews.

The City's Sewer Main Rehabilitation Program is ahead of schedule.

One maintenance hole was found to be in poor condition in FY 2016-17. This maintenance hole was replaced in December of 2016. There are no outstanding maintenance holes in poor condition identified that needs replacement.

Sewer Main and Maintenance Hole Inspection. As of June 30, 2017, 1,911,585 feet (362 miles) of sewer mains have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 1,700,160 feet (322 miles) by June 30, 2017.

The City of Oakland is in compliance regarding maintenance hole inspections. Between July 1, 2016 and June 30, 2017, 1,704 maintenance hole inspections were performed.

Development of Regional Standards. The City bases its construction plans and specifications on The “Greenbook”: Standard Specifications for Public Works Construction, a statewide standard for the municipal construction industry.

In this reporting period, the City has begun incorporating these Standards in the design of its capital projects. The Defendants have and will continue to discuss the Regional Standards, its effectiveness, and potential revisions and improvements at coordination meetings.

EBMUD’s Sewer Lateral education and Outreach Program. The City continues to work with EBMUD in implementation of the program.

Sewer Lateral Inspection and Repair. In FY 2016-17, the City finalized 318 building permits which required certificates of occupancy for construction or remodeling permits in excess of \$100,000. All 318 building permits received Compliance Certificates issued by EBMUD which met the Consent Decree requirement to limit the number of building permits issued without Compliance Certificates to less than 25 per Fiscal Year.

Inflow and Rapid Infiltration Identification and Elimination. The City will continue to work with EBMUD in implementation of the program.

On September 29, 2016, EBMUD submitted to the City FY 2015-16 Annual Satellite Notification. The City provided a response on December 16, 2016. EBMUD did not find any linear and non-linear high priority sources. 24 private sources were found. Of those 24, the City has determined one to be a high priority source. The one location was abated within the required twenty-four months of making the designation.

SSO Reduction Work:

Capacity Assurance. The Consent Decree requires the City to increase sewer capacity in certain locations when sewer flows reach within one foot of the Maintenance Hole rim. In FY 2016-17 the City experienced a total of seven locations that reached within one foot of the Maintenance Hole rim. All flows were contained within the system and no SSO event occurred at any of these six locations. One location was suspected to be capacity related. Six locations were non-capacity related.

Acute Defects.

- 27 New Acute Defects were found in FY 2016-17.
- 16 FY 2016-17 identified Acute Defects were repaired.
- 3 FY 2014-15 and 2 FY 2015-16 repaired Acute Defects did not meet the one-year requirement.
- 1 FY 2014-15 and 1 FY 2015-16 remains not repaired. The City will continue to work with the private parties to abate the defects.
- No Sanitary Sewer Overflows occurred because of delays in Repair of Acute Defects.
- The status of each repair pertains to the FY initially identified. Outstanding repairs for each FY will be updated annually until repaired in which the record will be added to the associated repaired reporting.

Sewer Main Cleaning. As of June 30, 2017, 4,402,534 unique feet (834 miles) of Sewer Main have been cleaned. This exceeds the Consent Decree requirement of 4,118,400 feet (780 miles).

Root Cleaning (Foaming). As of June 30, 2017, the City had root foamed 1,227,132 feet (232.4 miles) of Sewer Mains, which exceeds the Consent Decree requirement of 1,056,000 feet (200 miles).

On December 9, 2016, the City submitted an evaluation report of the root control program to EPA for review and approval. On February 27, 2017, EPA rejected the City’s proposal to foam 23.4 miles of sewer mains per year and directed to continue treating 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree. The City requests for a more substantial response and its reconsideration for a conditional approval.

Hot Spot Cleaning. As of June 30, 2017, 155 locations were identified as hot spots by staff. Each of these locations was cleaned at least once in FY 2016-17.

Fats, Oil and Grease (FOG) Control. In FY 2016-17, 39 SSOs were thought to be associated with FOG. These locations were referred to EBMUD for investigation.

Pump Station Renovation. The City is significantly ahead of schedule with its Pump Station Improvement Program. One pump station was completed in 2012. One construction contract which consists of three pump stations begun construction in November 2016. Three more pump stations, in which design has been completed, are scheduled to begin in 2018. The completion of all pump stations will be completed by 2019, three years ahead of schedule.

Known Noncompliance with Consent Decree. Paragraph 91 of the Consent Decree provides:

“Acute Defects. The City of Oakland shall continue to repair Acute Defects as soon as possible, but no later than within one Year of identification.”

3 FY 2014-15 and 2 FY 2015-16 repaired Acute Defects did not meet the one-year requirement. 1 FY 2014-15 and 1 FY 2015-16 remains not repaired. The City will continue to work with the private parties to abate the defects.

In the Consent Decree, the City is required to comply in accordance with the requirement described in Paragraph 85a of the Consent Decree in which *“Within 90 Days of identifying a Sewer Lateral as defective the City of Oakland shall notify the affected owner in writing.”*

5 notices were sent beyond the 90-day requirement, one of which was repaired. 2 notices were not sent, two of which have been repaired.

Assessment of Stipulated Penalties. Paragraph 186 of the Consent Decree: For each SSO that reaches waters of the United States, a stipulated penalty may be assessed as follows, with “gallons” referring to the total size of the overflow, spill or release:

Penalty Per SSO for SSOs totaling:		
Less than 1,000 gallons	1,000 to 9,999 gallons	10,000 gallons or more
\$200	\$1,000	\$25,000

In FY 2016-17, the total volume reached surface water was 203,560 gallons from 16 SSO events. Table 2-1 provides the number of SSOs for SSOs totaling in each of the three categories of volume.

The total potential assessed stipulated penalty from FY 2014-17 for SSOs Reached Waters of United States is \$191,600 as detailed below.

The City believes that Stipulated Penalties should not be assessed for the SSO events that reached surface waters. The spills were caused by a variety of reasons such as grease deposits, root intrusion, debris, and heavy storms

and are considered non-point sources. The City has been meeting the cleaning and rehabilitation goals annually since FY 2014 and have responded quickly to SSOs. A penalty would impact the ability of the City to meet future goals as the rehabilitation costs have significantly increased due to market conditions. If Plaintiffs disagree with this position, the City would appreciate the opportunity to discuss potential penalties and provide additional explanations of its position.

Recommended Changes to Required Work. The City proposed to foam 23.4 miles of sewer mains per year instead of the 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree.

Section 1. Introduction

Paragraph 139 of the Consent Decree (Case Nos. C09-00186 and C09-05684) requires:

“By September 30th of each Fiscal Year...each Defendant shall submit to Plaintiffs, with a copy to Intervenors, an annual progress report (“Annual Report”) covering the period July 1st through June 30th of the prior Fiscal Year.”

This Annual Report has been prepared pursuant to the requirements of the Consent Decree. The following sections of this report present the required information for Fiscal Year 2016-17 (July 1, 2016 to June 30, 2017):

		Page
Section 1.	CD Para 139 Introduction	8
Section 2.	CD Para 144 Annual Report of Sanitary Sewer Overflows (SSO)	9
Section 3.	CD Para 165 Asset Management Implementation Plan Status	13
Section 4.	CD Para 166 Infiltration and Inflow Reduction Work	
4.1	CD Para 166.a.i Sewer Main and Maintenance Hole Rehabilitation	14
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4.4	CD Para 166.b Sewer Lateral Inspection and Repair	21
4.5	CD Para 166.c I&I Identification and Elimination	24
Section 5.	CD Para 167 SSO Reduction Work	
5.1	CD Para 167.a Capacity Assurance	25
5.2	CD Para 167.b Post SSO Inspection	31
5.3	CD Para 167.c Acute Defects	31
5.4	CD Para 167.d Sewer Main Cleaning	32
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5.8	CD Para 167.h Pump Station Renovation	40
Section 6.	CD Para 141 Deliverables	41
Section 7.	CD Para 142 Known Noncompliance with Consent Decree	41
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Section 9.	CD Para 143 Recommended Changes to Required Work	43

Section 2. Annual Report of Sanitary Sewer Overflows

Paragraph 144 of the Consent Decree requires:

“A Sanitary Sewer Overflow Report that includes the location of SSOs; the start and end date and time of each SSO; the SSO volume including gross volume, amount recovered, and amount not recovered; the destination of each SSO; the probable cause(s) of the SSOs; the location(s) of repeat SSOs; a list of any SSOs at locations where the Sewer Main had been Rehabilitated in the previous ten (10) Fiscal Years; and a description of measures taken to help prevent these SSOs in the future.”

Number of SSOs

The City of Oakland’s Sewer Collection System had 83 SSO events during FY 2016-17. This is a 6% reduction compared to the 88 SSO events in FY 2015-16.

The total volume spilled in FY 2016-17 was 234,934 gallons, representing a 729% increase in volume compared to the previous Fiscal Year. Of the total amount spilled, 11% was contained and returned to the system. The total volume reached surface water was 203,560 gallons from 16 SSO events. Table 2-1 provides the number of SSOs for SSOs totaling in each of the three categories of volume as described in Paragraph 186 of the Consent Decree.

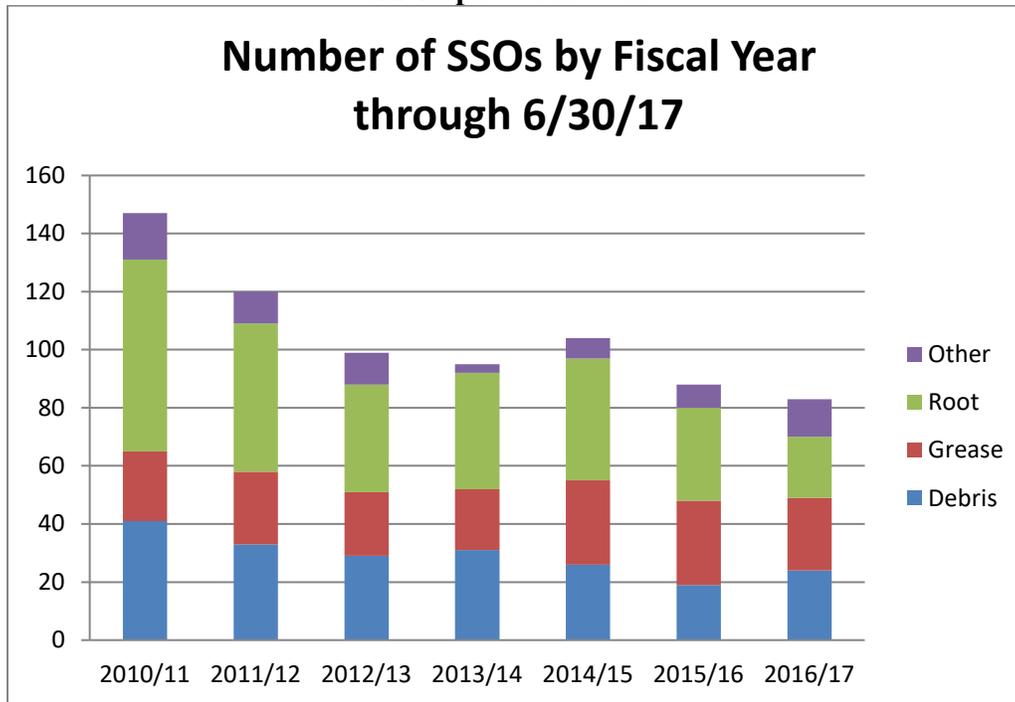
Table 2-1 SSOs Reached Waters of United States

FY	# of SSOs for SSOs totaling Less than 1,000 gallons	# of SSOs for SSOs totaling 1,000 to 9,999 gallons	# of SSOs for SSOs totaling 10,000 gallons or more
FY 2014-15	6	7	2
FY 2015-16	3	0	0
FY 2016-17	4	7	5

There was unusually high precipitation in the winter of 2016-17, resulting in higher amount of wet weather discharge. Five SSO events between January 10, 2017 and March 20, 2017 account for 75% of the spill volume for FY 2016-17.

Figure 2-1 shows the number of SSO events by Fiscal Year for the last 7 Fiscal Years, as well as the primary cause of the SSO.

**Figure 2-1.
SSOs per Fiscal Year**



A detailed list of SSOs is shown in Table 2-1 of **Appendix A**.

Number and Location of Repeat Overflows

In Fiscal Year 2016-17, the City had 14 locations (14 SSO’s) in which a second sewer overflow occurred within a three-year period. Table 2-2 below lists the number and location of overflows occurring at repeat locations along with a description of measures taken to prevent future SSO’s at these locations. All locations below have been added to the High Frequency Cleaning List ‘Hot Spots’. Additionally, the City is analyzing root-related pipes for potential pipe rehabilitation.

Table 2-2 Repeat SSO Locations, FY 2016-17

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Pipe ID
3759 Brookdale Av, 3745 Brookdale Av (same pipe)	830288,	FOG	11/29/16,	Repaired - Project # C228910 12/16/16	10414
	820985	Pipe Structural Failure	12/2/15		
400 Capistrano Dr, 116 Catron Dr (same pipe)	826602,	Debris General	7/19/16,	Added to the 6 month PM list on 1/23/2016	124
	799319	Debris General	9/29/13		
4100 Redwood Rd, 4120 Redwood Rd (same pipe)	833823,	Rags, Debris,	3/21/17,	Added to the 6 month PM list on 6/20/2017	14243
	804902	Roots, Root Intrusion	3/24/14		

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Pipe ID
3822 Whittle Av, 3816 Whittle Av (same pipe)	830735, 812055	Root Intrusion Grease Dispostion, FOG	12/10/16, 1/1/15	Added to the 6 month PM list on 1/26/2017	15829
3500 Mountain Blvd	829670, 806722	Root Intrusion, Root Intrusion	11/6/16, 6/3/14	Added to the 6 month PM list on 11/16/2016	16341
2289 Melvin Rd	831789, 821016	Root Intrusion Debris General	1/14/17, 1/14/16	Added to the 6 month PM list on 1/25/2017	18651
84th Av & G St, 85th Av & G St (same pipe)	826584, 812920	Debris General FOG	7/19/16, 2/4/15	Added to the 6 month PM list on 1/19/2017	2077
83 Castle Park Way, 74 Castle Park Way (same pipe)	830918, 822546	Debris general Root Intrusion	12/14/16, 2/27/16	Added to the 6 month PM list on 1/19/2017	21002
345 Pershing Dr	827401, 804297	Root Intrusion Root Intrusion	7/28/16, 1/28/14	Added to the 12 month PM list on 1/19/2017	21865
885 69th Av, 69th Av & Snell St (same pipe)	831762, 810394	Surcharged Pipe Wet Weather, FOG	1/10/17, 10/26/14	Added to the 6 month PM list on 1/05/2016	2971
8420 International Blvd, 8432 International Blvd (same pipe)	835768 813615	FOG Debris General	5/19/17, 2/28/15	Added to the 12 month PM list on 6/20/2017	3148
8701 Hillside St, 2320 87th Av (same pipe)	835360, 821935	Pipe Structure Problem Failure, FOG	5/19/17, 2/9/16	Repaired on 5/20/2017 Work order # 845316	3243
5741 Elizabeth St	831770, 831394	Rainfall exceeded design, Surcharged due to heavy rain event	1/10/17, 12/15/16	Added to the 6 month PM list on 2/15/2017	6205
7415 Circle Hill Dr, 7420 Circle Hill Dr (same pipe)	828915, 800508	Root Intrusion FOG	10/7/16, 10/31/13	Added to the 12 month PM list on 1/26/2017	8336

Sewer Overflows in Rehabilitated Areas

In FY 2016-17, 3 SSOs occurred in areas rehabilitated since July 1, 2006 (within the last ten years) as shown in Table 2-3 below. Of these locations, all 3 SSO's were FOG related problems. Corrective actions, as detailed below, include cleaning, CCTV inspection, and addition to the "Hot Spot" list.

**Table 2-3
SSO Locations within Rehabilitated Areas, FY 2016-17**

SSO Location	CIWQS #	Cause	Date	Measure(s) to prevent SSO	Rehab Year	Pipe ID
601 Webster St	830730	Grease	12/14/16	Hydro Flushed 12/16/2016 Televised 12/16/2016 Added to High Frequency cleaning list 12 months 8/08/2017	2010	12760
2201 Valley St	829105	Grease	10/15/16	Televised 10/18/2016 Power Rod 2/22/2017 Hydro Flush 2/22/2017 Added to High Frequency cleaning list 12 months 8/08/2017	2010	19471, 19472
1115 62nd Av	835188	Grease	5/15/17	Hydro Flush 5/15/17 Televised 5/18/2017 Added to High Frequency cleaning list 12 months 8/08/2017	2011	3789 3729 3726

Section 3. Implementation of Asset Management Implementation Plan (AMIP)

Paragraph 165 of the Consent Decree requires:

“The City shall summarize implementation of each element of its AMIP. The summary shall include any proposed revisions to the AMIP, including, but not limited to, revisions to maintenance, construction, and Rehabilitation schedules, along with any associated changes to its financial plan, and an explanation of how those revisions are consistent with its obligations under the Consent Decree.”

On October 31, 2014, the City submitted a new AMIP which had been revised to comply with the new Consent Decree. The AMIP provided new maintenance, construction and rehabilitation schedules, as well as a revised financial plan. The City is implementing both the new AMIP and the Consent Decree.

Chapter 1, Introduction, of the new AMIP presented revised goals, organization and responsibilities for implementation of the AMIP and CD.

Chapter 2, Condition Assessment, revised Sewer Main and Maintenance Hole inspection, Sewer Lateral inspection and capacity monitoring. Sections 4.2, 4.4 and 5.1 of this Annual Report describe work in these areas implemented during FY 2016-17.

Chapter 3, Operations and Maintenance, revised sewer maintenance, hot spot cleaning, root control, and FOG control. Sections 5.4, 5.5, 5.6 and 5.7 of this report describe work in these areas implemented during FY 2016-17.

Chapter 4, Capital Improvements, described revision of design and construction standards, Sewer Main Rehabilitation, elimination of Acute Defects, pump station and capacity improvements, Rehabilitation of City owned Sewer Laterals, and provided a ten-year CIP and financial plan. Sections 4.1, 4.3, 5.3 and 5.8 of this report describe work implemented during FY 2016-17.

Section 4. Infiltration and Inflow Reduction Work

4.1 Sewer Main and Maintenance Hole Rehabilitation

Paragraph 166.a.i. of the Consent Decree requires that the Annual Report contain:

“Rehabilitation: all Sewer Main and Maintenance Hole Repair and Rehabilitation activities completed...”

Paragraph 83.a. of the Consent Decree requires:

“Between January 1, 2014 and June 30, 2016, the City of Oakland shall rehabilitate 158,400 feet [30 miles] of Sewer Main....When the City rehabilitates a Sewer Main, it shall also Rehabilitate, as needed, all Maintenance Holes associated with the Sewer Main and ensure that abandoned Sewer Laterals are not connected to that Sewer Main.”

Sewer Mains Rehabilitated

As of June 30, 2017, the City of Oakland had Rehabilitated 322,914 feet (61.2 miles) of Sewer Main as shown in Table 4-1. This exceeds the Consent Decree requirement to rehabilitate 221,760 feet (42 miles) by June 30, 2017. The City’s Sewer Main Rehabilitation Program is ahead of schedule.

Table 4-1
Length of Rehabilitated Sewer Mains

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement **
1/11/14-6/30/14	131,653’ (24.9 miles)	131,653’ (24.9 miles)	-----
FY 2014-15	60,546’ (11.5 miles)	192,199’ (36.4 miles)	-----
FY 2015-16	71,751’ (13.6 miles)	263,950’ (50.0 miles)	158,400’ (30 miles)
FY 2016-17	58,964 (11.2 miles)	322,914’ (61.2 miles)	221,760’ (42 miles)

**Cumulative total beginning 01/01/14

Table 4-2 provides details of projects completed in FY 2016-17.

Table 4-2
Sewer Main Rehabilitation Projects Completed in FY 2016-17

Project Number	Description	SubBasin Number	Lateral Connections	Structure	Length (Feet)	Length (Miles)	Construction Costs
C329145	21st Avenue, 17th St, 24th Ave, and 27th Ave	60-06	208	39	12,452	2.36	\$1,959,328
C329151	24th St, 19th Ave, Beaumont Ave, and 33rd St	58-02,58-04	366	88	22,455	4.25	\$3,357,010
C329149	Campus Dr, Mountain Blvd, Knoll Ave, and Access	83-502	65	58	7,484	1.42	\$1,825,790
C329148	Rehabilitation of Sanitary Sewers Subbasin 83-501	83-501	69	43	5,784	1.10	\$1,194,839
C329147	Rehabilitation of Sanitary Sewers Subbasin 83-013	83-013	84	65	7,223	1.37	\$1,205,179
C482950	Rehabilitation of Sanitary Sewers Subbasin 60-04	60-04	0	14	2,623	0.50	\$456,569
C329143	Rehabilitation of Sanitary Sewers Subbasin 54-16	54-16	36	117	786	0.15	\$120,329
BRT	AC Transit Bus Rapid Transit Utility Relocation	60-04	0	0	157	0.03	N/A
C228910	On-Call Sanitary Sewer Manholes	81-102, 83-002, 52-08	0	3	0	0	\$30,000
Total			828	427	58,964	11.2	\$10,149,044

Additional Sewer Mains Rehabilitated

Paragraph 83.b. of the Consent Decree requires:

“...In addition to the Work required under paragraph 83(a), beginning on July 1, 2014, the City shall complete, by the end of each Fiscal Year, Rehabilitation of no less than 5,280 feet of Sewer Main, anywhere within the City’s Collection System, based on a cumulative total (i.e., 5280 feet by June 30, 2015; 10,560 feet by June 30, 2016; 15,840 feet by June 30, 2017; etc.) for the duration of the Consent Decree.”

As of June 30, 2017, the City of Oakland had Rehabilitated 16,385 feet (3.1 miles) of Sewer Main as shown in Table 4-3. This exceeds the Consent Decree requirement to rehabilitate 15,840 feet (3 miles) by June 30, 2017. The City have included sewer mains rehabilitated from both the capital improvement program and minor repairs performed by City crews.

Table 4-3
Length of Additional Sewer Mains Rehabilitated

Fiscal Year	Mains Rehabilitated	Cumulative Total	CD Requirement
FY 2014-15	*5,539'+946'=6,485' (1.2 miles)	6,485' (1.2 miles)	5280' (1 mile)
FY 2015-16	*5,424'+673'=6,097' (1.2 miles)	12,582' (2.4 miles)	10,560' (2 miles)
FY 2016-17	3,803' (0.7 miles)	16,385' (3.1 miles)	15,840' (3 miles)

*Updated length rehabilitation by adding minor repairs summarized in Table 5-2.

Table 4-4
Additional Sewer Mains Rehabilitated in FY 2016-17

Project No	Description	Completion Date	SubBasin No	Lateral Connections	Structure	Length (feet)	Length (Miles)	Construction Cost
C455620	On-Call Sanitary Sewer	6/30/2017	50-18, 85-204, 82-003	54	22	3,360	0.64	\$ 249,743
-	FY 2016-17 Minor Repairs	Varies	Varies	N/A	N/A	443	0.08	N/A
Total				54	22	3,803	0.7	\$ 249,743

Maintenance Holes

Paragraph 166.a.i.C. of the Consent Decree requires that the Annual Report contain:

"...the number of Maintenance Holes associated with Rehabilitated Sewer Mains and the number of Maintenance Holes Rehabilitated;"

As shown in Tables 4-2 and 4-4, as part of its Sewer Main Rehabilitation Program in FY 2016-17 the City Repaired or Rehabilitated 449 Maintenance Holes.

Abandoned Sewer Laterals

Paragraph 166.a.i.D. of the Consent Decree requires that the Annual Report contain:

"...a statement that the City did not reconnect any abandoned Sewer Laterals that the City found to be connected to the Sewer Main;"

The City sealed off any abandoned sewer laterals which were encountered during construction. No abandoned laterals were reconnected to Sewer Mains. Abandoned or inactive house connection sewers shall be cut back two feet from the main and plugged with Class C mortar, at least six inches into the abandoned/inactive house connection sewer.

Sewer Main Rehabilitation Budget and Expenditures

Paragraph 166.a.i.F. of the Consent Decree requires that the Annual Report contain:

“...the Rehabilitation budget and dollars spent on Sewer Main Rehabilitation;”

During FY 2017-18, the City budgeted \$17,309,400 for capital improvements of the sewer collection system. Improvements include rehabilitating or replacing sewer mains, lower laterals, and associated sewer structures. This budgeted amount is intended to cover hard construction costs and soft costs associated with design and construction management. It must be noted that capital budget is not typically spent in one fiscal year as project activities and expenditures span over 2 to 3 years.

2017-18 Proposed Sewer Main Rehabilitation Projects

Paragraph 166.a.i.G of the Consent Decree requires that the Annual Report contain:

“...the Sewer Mains targeted to be Rehabilitated in the next Fiscal Year;”

In FY 2017-18, the City plans to complete 7 Sewer Main Rehabilitation projects as listed in Table 4-6 below. These projects will rehabilitate approximately 15.27 miles of sewer mains. All appurtenant sewer structures will also be rehabilitated as needed as part of these projects. The locations of these projects are selected from Appendix H of the Consent Decree and various locations for the 1 additional mile of sewer main rehabilitation required under Paragraph 83.b. The locations for the 1 mile will be developed in response to complaints and requests from the acute defect list. Appendix H lists Oakland's Collection System sub-basin priorities.

**Table 4-6
FY 2017-18 Proposed Sewer Main Rehabilitation Projects**

No.	Project No.	Description	Length (Miles)
1	1001173 Task 2	Sanitary Sewer Upgrade Park Blvd	0.7
2	1001173 Task 3	Sanitary Sewer Upgrade Trestle Glen Rd	0.1
3	1000980	Rehab of SS Chelton Dr, Ascot Dr, HolyRood Dr, and Castle Dr (Subbasin 56-07)	2.91
4	1001039	Rehab of SS Castle Dr, Chelton Dr, Ascot Dr, and Mountain Blvd (Subbasin 56-07)	2.83
5	1000668	Rehabilitation of Sanitary Sewer in the Area bounded by Chelton Dr, Skyline Blvd, Holyrood Dr, and Ascot Dr. (56-07)	4.21
6	1000654	Rehabilitation of Sanitary Sewer in the Area bounded by E Wetmore Road, MacArthur Boulevard, Mountain Boulevard, and Reinhardt Drive (83-012)	1.71
7	1000673	Rehabilitation of Sanitary Sewer in the Area bounded by Seminary Avenue, Avenal Avenue, Bancroft Avenue, 65th Avenue, and International Boulevard (83-103)	2.81

Revisions to Appendix H

Paragraph 166.a.i.H. of the Consent Decree requires that the Annual Report contain:

“...an explanation of any revisions that were made to Appendix H, or the financial plan associated with future Sewer Main Repair and Rehabilitation...”

In FY 2016-17, no revisions were made to Appendix H.

4.2 Sewer Main and Maintenance Hole Inspection

Paragraph 83.c. of the Consent Decree requires:

“For the duration of this Consent Decree, the City of Oakland shall inspect, using CCTV or other equally effective methods, and document condition assessment of, its Collection System at an annual rate of no less than 10 percent of its Sewer Mains per Fiscal year (at least 485,760 feet of Sewer Mains per Fiscal Year) on a cumulative basis (i.e., 242,880 feet by June 30, 2014; 728,640 feet by June 30, 2015; 1,214,400 feet by June 30, 2016; etc.).”

Paragraph 166.a.ii. of the Consent Decree requires the Annual Report to contain:

“Inspections: inspections and condition assessment completed...”

Sewer Main Condition Assessment

As shown in Table 4-7, 1,911,585 feet (362 miles) of sewer mains have been inspected and assessed using CCTV inspection. This exceeds the Consent Decree requirement to inspect 1,700,160 feet (322 miles) by June 30, 2017.

**Table 4-7
Length of Sewer Mains Inspected and Assessed**

Fiscal Year	Mains Assessed **	Cumulative Total ***	CD Requirement
FY 2013-14*	182,935' (35 miles)	182,935' (35 miles)	242,880' (46 miles)
FY 2014-15	618,991' (117 miles)	801,926' (152 miles)	728,640' (138 miles)
FY 2015-16****	619,913' (117 miles)	1,408,769' (267 miles)	1,214,400' (230 miles)
FY 2016-17	502,816' (95 miles)	1,911,585 (362 miles)	1,700,160' (322 miles)

*Six months, January 1, 2014 – June 30, 2014

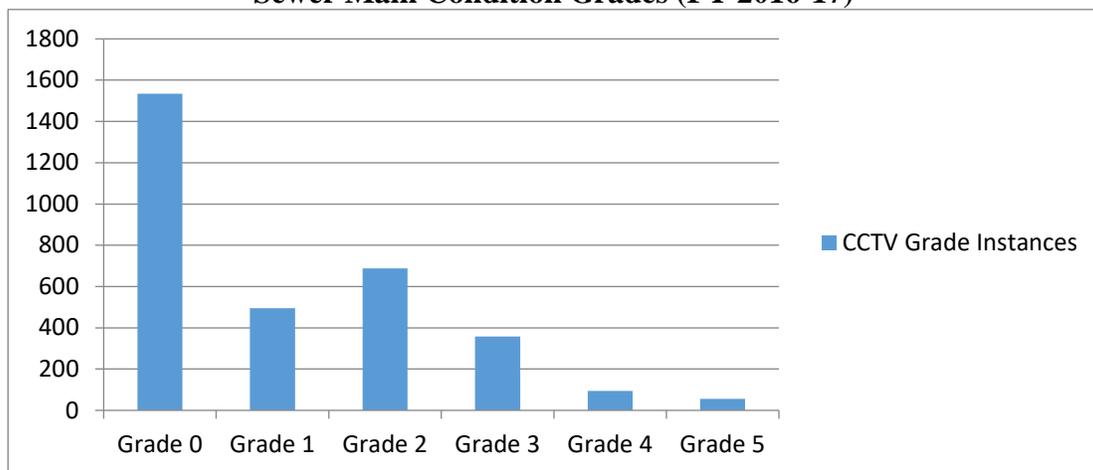
**Newly-unique feet assessed during the FY (feet that had no previous assessment between January 1, 2014 and the start of the FY)

***Cumulatively-unique feet starting January 1, 2014

****Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

Results of the inspections are summarized in Figure 4-1.

**Figure 4-1
Sewer Main Condition Grades (FY 2016-17)**



From a total of 3,224 pipe segments inspected, 1,534 segments were found to be in excellent structural condition (Grade 0), 495 segments were found to be in acceptable structural condition (Grade 1), 688 segments

were found to be in minimal collapse risk condition (Grade 2), 358 segments were in collapse unlikely in near future condition (Grade 3), 94 segments were found to be in collapse likely in foreseeable future condition (Grade 4), and 55 segments were found to be in danger of imminent collapse or were found to have unusually large pipe blockage (i.e., roots) (Grade 5).

Grade 5 pipe blockages are addressed immediately. Grade 5 structural defects are considered Acute Defects and are treated as described in Section 5-3.

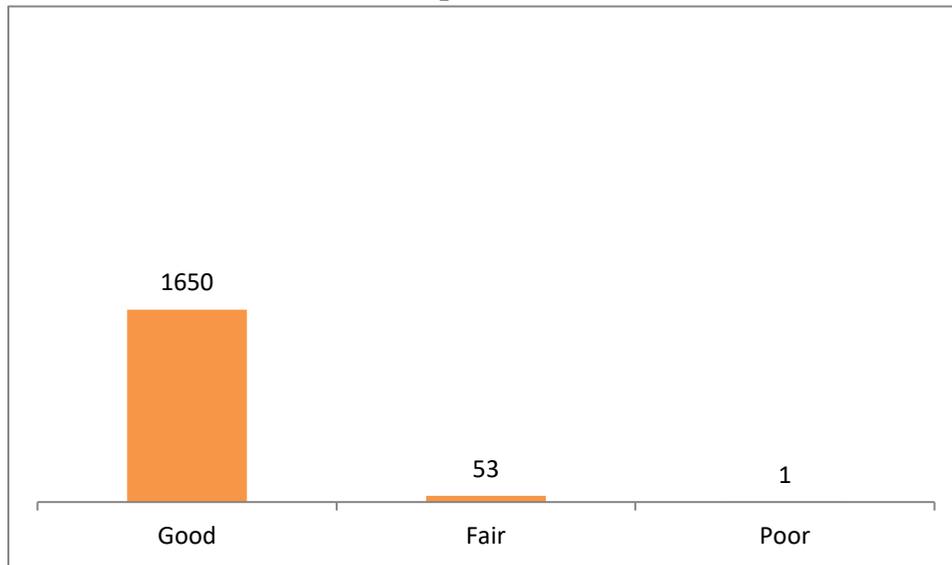
Maintenance Hole Inspection

Paragraph 83.c of the Consent Decree also requires:

“When the City inspects a Sewer Main, it shall also inspect all Maintenance Holes associated with that Sewer Main.”

Between July 1, 2016 and June 30, 2017, 1,704 maintenance-hole inspections were performed. Inspectors used a modified Manhole Assessment Certification Program (MACP) where field staff visually inspected the barrel of every maintenance hole and completed a computerized maintenance hole inspection form. Results of the inspections are summarized in Figure 4-2 below.

**Figure 4-2
Maintenance Hole Inspection Results (FY 2016-17)**



Of 1,704 Maintenance Hole inspections, 1,650 inspections found Maintenance Holes in good condition, 53 found Maintenance Holes in fair condition, and 1 found Maintenance Holes in poor condition. Table 4-8 contains a list of Maintenance Holes in poor condition.

**Table 4-8
Maintenance Holes in Poor Condition (FY 2016-17)**

Inspection ID#	WO#	Inspection Type	Location	Condition	MH#	Structure #
11444	810593	v2 Maintenance Hole Inspection	450 30th St	Poor	52-803-15	18356

1 maintenance hole was found to be in poor condition in FY 2016-17. This maintenance hole was replaced in December of 2016.

4.3 Development of Regional Standards

Paragraph 166.1.iii. of the Consent Decree requires the Annual Report to contain:

“Regional Standards: a description of the activities to develop...Regional Standards.”

Paragraph 83.d. further requires:

“The City shall work with other Defendants to create Regional Standards for sewer installation, Rehabilitation and Repair and participate in submitting a group report of the recommended standards for EPA’s review and approval by June 30, 2016, and for review, every five years thereafter.”

The City bases its construction plans and specifications on The “Greenbook”: Standard Specifications for Public Works Construction, a statewide standard for the municipal construction industry.

In this reporting period, the City has begun incorporating these Standards in the design of its capital projects. The Defendants have and will continue to discuss the Regional Standards, its effectiveness, and potential revisions and improvements at coordination meetings.

4.4 Sewer Lateral Inspection and Repair

Paragraph 166.b.i. of the Consent Decree requires the Annual Report to contain:

“Sewer Laterals: a description of the activities taken and materials used to notify property owners of defective sewer Laterals...”

Regional Private Sewer Lateral (PSL) Program

Paragraph 84.c of the Consent Decree requires:

“The City, to satisfy the requirements of this subparagraph, shall document, in spreadsheet format, the building permits issued during the Fiscal Year, the certificates of occupancy issued, and whether a Compliance Certificate was submitted prior to issuance of the certificate(s) of occupancy.”

Oakland started its PSL program on January 16, 2012, in collaboration with the Regional PSL Program administered by the East Bay Municipal Utility District (EBMUD).

The City requires that persons seeking building permits which require certificates of occupancy for construction or remodeling exceeding \$100,000 test and, where necessary, replace defective private sewer laterals and obtain Compliance Certificates from EBMUD before being issued certificates of occupancy.

Table 4-10 below shows the City's compliance with the CD requirement to have "...permittees to submit Compliance Certificates before being issued certificates of occupancy for construction or remodeling permits in excess of \$100,000." (Paragraph 84.c).

**Table 4-10
Permits Finalized, with EBMUD Certificates of Compliance**

Fiscal Year	# Permits Finalized	# with Compl Cert	# w/o Compl Cert
*FY 2015-16	257	257	0
FY 2016-17	318	318	0

*Numbers updated from last year's reporting.

In FY 2016-17, the City finalized 318 building permits which required certificates of occupancy for construction or remodeling permits in excess of \$100,000. All 318 building permits received Compliance Certificates issued by EBMUD which met the Consent Decree requirement to limit the number of building permits issued without Compliance Certificates to less than 25 per Fiscal Year. The City continues to share data with EBMUD and sends spreadsheets detailing Oakland's activities.

Other Privately Owned Defective Sewer Laterals

Paragraph 85.a. of the Consent Decree requires:

"Within 90 days of identifying a Sewer Lateral as defective the City of Oakland shall notify the owner in writing."

Paragraph 166.b.i. of the Consent Decree requires the Annual Report to contain:

- "A. the number of sewer Laterals identified as defective;*
- B. the number of property owners notified that their Sewer Laterals are defective;*
- C. a copy of a representative notice that was sent to property owners notifying them that their Sewer Lateral is defective;*
- D. a description and the number of administrative enforcement actions taken against property owners for defective Sewer Laterals;"*

As shown in Table 4-11, during FY 2016-17 City crews identified 47 defective Sewer Laterals. 37 property owners have corrected their defective Sewer Laterals. 10 property owners have not corrected the defect.

The City sent defective lateral notices to properties in accordance with the requirement described on Paragraph 85a of the Consent Decree. The City aggregated all lateral related reports and complaints in one database. The City sent notices to property owners including those with lateral defects and those with only temporary blockages. 25 notices were sent within the 90-day requirement. 5 notices were sent beyond the 90-day requirement, one of which was repaired. 2 notices were not sent, two of which have been repaired.

**Table 4-11
Defective Sewer Laterals**

# of Defective Sewer Laterals Identified in Fiscal Year 2016-17	# of Defective Sewer Laterals Repaired	# of Defective Sewer Laterals Not Repaired	# Of Notices Sent Within 90 Days Or Repaired Within 90 Days	# Of Notices Sent Beyond 90 Days	# Of Notices Not Sent
47	37	10	40	*5	**2

*1 have been repaired

**2 have been repaired

Oakland-Owned Sewer Laterals

Paragraph 166.b.i.E requires the Annual Report to contain:

“...the number of Oakland-owned Sewer Laterals inspected and Repaired or Rehabilitated and the cumulative number of Oakland-owned Sewer Laterals inspected and Repaired or rehabilitated from the Effective Date;”

On June of 2016, the City awarded an on-call construction contracts with two Contractors to inspect and, where necessary, repair or rehabilitate defective City-owned Sewer Laterals of 95 City facilities identified in Appendix H-1 of the Consent Decree. In FY 2016-17, the City have inspected and completed 26 Sewer Laterals Rehabilitation locations as listed in Table 4-12 on **Appendix G**. The City expects to complete inspection and repair of City-owned Sewer Laterals well ahead of the September 21, 2024, completion date specified in the Consent Decree.

Defective Sewer Laterals Owned by Other Public Entities or Government Agencies

Paragraph 166.b.i.F. requires the Annual Report to contain:

“...the address and name of any property owned by a Public Entity, or the State or federal government, that has an identified defective Sewer Lateral, including a description of the defect;”

During FY 2016-17 and FY 2015-16, the city did not identify any defective Sewer Laterals owned by other Public Entities or the State or federal government.

Sewer Lateral Education and Outreach Program

Paragraph 166.b.i.G. requires the Annual Report to contain:

“... a summary of the City’s assistance to EBMUD in the development of a Sewer Lateral education and outreach program.”

The City will continue to work with EBMUD in implementation of the program.

Lower Sewer Laterals

Paragraph 166.b.i.G. requires the Annual Report to contain:

“Lower Sewer Laterals: the number of Sewer Laterals connected to the Rehabilitated Sewer Mains and the number of Lower Sewer Laterals Repaired or Rehabilitated.”

As shown in Table 4-2 and Table 4-4, as part of its Sewer Main Rehabilitation, the City reconnected all 1,227 encountered Sewer Lateral connections which included connections to laterals within easements. The City Repaired or Rehabilitated 882 Lower Sewer Laterals as part of the construction projects. Laterals within easements are within private properties and are not considered Lower Sewer Laterals.

4.5 Inflow and Rapid Infiltration Identification and Elimination

Paragraph 166.c.i. of the Consent Decree requires the Annual Report to contain:

“a description of the City’s cooperation with EBMUD’s implementation of the RTSP;...”

The City will continue to work with EBMUD in implementation of the program.

On September 29, 2016, EBMUD submitted to the City FY 2015-16 Annual Satellite Notification. The City provided a response on December 16, 2016. EBMUD did not find any linear and non-linear high priority sources. 24 private sources were found. Of those 24, the City has determined one to be a high priority source. The one location was abated within the required twenty-four months of making the designation.

Table 4-12 Inflow and Rapid Infiltration Identification

EBMUD Notification FY	High Priority Sources	Number of Locations Identified	# of Notices Sent Within 90 Days	# of Notices Sent Beyond 90 Days	# of Locations Abated Within Time Requirement	# of Locations Abated Beyond Time Requirement
FY 2015-16	Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Non-Linear High Priority Sources	0	N/A	N/A	N/A	N/A
	Private High Priority Sources	1	1	1	1	0
	Private Low Priority Sources	23	23	0	*TBA	N/A

*Status update will be provided in the next RTSP Notification Response report.

Section 5. SSO Reduction Work

Paragraph 167 of the Consent Decree requires:

“The City shall summarize its Work to reduce SSOs in its service area in the reporting Fiscal Year.”

A summary of the City’s work is described below.

5.1 Capacity Assurance

Paragraph 167.a. of the Consent Decree requires that the Annual Report contain:

“Capacity Assurance: a description of the activities performed in order to monitor the locations in Paragraph 89(a) during rain events...”

During FY 2016-17, the City monitored water levels in Maintenance Holes listed in Paragraph 89(a) of the Consent Decree. The high water level alarm sensors were installed 12” below the rim of the manhole cover. The low water level alarm sensors were installed 17” below the rim of the manhole cover. Table 5-1 provides information required in Paragraph 167a of the Consent Decree.

Paragraph 167ai requires the City to show the *“highest water level in relation to the Maintenance Hole observed in the reporting Fiscal Year”*.

Table 5-1 is a cumulative list of all locations that received high water level alarms in FY 2014-15, FY 2015-16, and FY 2016-17. In FY 2016-17 the City experienced a total of seven locations that reached within one foot of the Maintenance Hole rim. All flows were contained within the system and no SSO events have occurred at any of these six locations. One location were suspected to be capacity related. Six locations were non-capacity related.

Paragraph 167aii requires the City to identify any *“capacity-related SSO or instance of the water level reaching within one (1) foot of the Maintenance Holes rim due to a lack of capacity and whether the event(s) occurred during a rain event that was greater than the December 5, 1952 Storm”*.

As shown in Table 5-1, high water levels were experienced in six locations that were triggered by the December 11, 2014 storm event. Our analysis shows that the December 11, 2014 storm was a storm event have exceeded the December 5, 1952 storm. This event surpassed a 5-year classification with a full duration classification of a 10-year, 21-hour event. Despite this, and out of an abundance of caution, the City has begun design of upgrades at all locations where high water levels were triggered. A full detail of the City’s progress on the planned upgrades is provided below.

Paragraph 167aiii requires the City to provide *“a description of all activity the City performed to prevent an SSO from occurring at a location where the City had reason to believe a capacity-related SSO was likely to occur”*.

Table 5-1 includes a description of maintenance activities performed to prevent SSO’s for each location.

Paragraph 167aiv requires the City to provide “*a description of activities to address locations that do not have sufficient capacity*”.

Table 5-1 includes a description of maintenance activities performed to prevent SSO’s for each location. In addition, as stated above, the City is proceeding with preparing construction plans for capacity upgrades at all seven (7) locations. This work started FY 2014-15; however, due to the complexity of the project location and encountering physical challenges in the existing field conditions, our project has been delayed. The following is a summary progress report on all seven locations:

- San Pablo Avenue at 60th Street – Currently in Construction
- San Pablo Avenue at 62nd Street - Currently in Construction
- Grand Avenue and Harrison Street – Currently in Construction
- Park Blvd and Spruce Street - Design 95% Completed. Construction planned for Spring 2018.
- East 18th Avenue at 4th Avenue - Construction planned for Fall 2017.
- Maybelle Avenue and Masterson Street - Currently in Construction
- Trestle Glen Road at Creek Road – Design 95% Completed. Construction planned for Spring 2018.

Furthermore, in FY 2015-16, the City completed a large sewer rehabilitation project downstream of three triggered locations: 27th Avenue & Vernon Street, Grand Ave and Harrison St, and 19th Street and Jackson Street. That project rehabilitated approximately 1,079 linear feet of existing 60” conduit sewer pipes with Centrifugally Cast, Fiberglass-Reinforced, Polymer Mortar (CCFRPM) pipes and applied coating for approximately 342 linear feet of existing 3’x 4’-10” conduit sewer pipes. That project is expected to improve the hydraulic conditions of the sewer system in the downtown area and lower the overall hydraulic gradient line in sewer pipes upstream.

Paragraph 167av requires the City to provide “*a list of sewer segments improved pursuant to Paragraph 89(b) including the date the capacity was improved, and certification that any improved Sewer Main has sufficient capacity*”.

There are no activities to report.

Paragraph 167avi requires the City to provide “*identification of any capacity-related SSOs and the SSO date and location*”.

In FY 2016-17, no Sanitary Sewer Overflows occurred in any of the Maintenance Holes listed in Paragraph 89(a) of the Consent Decree.

**Table 5-1
Capacity Related High Level Alarms Triggered in FY 2016-17**

No. Listed from Consent Decree	Location	Event Occurrence			Reasons for High Level Alarm	Maintenance Performed to Prevent SSO's	Comment
		Date of Occurrence	Rain Event?	Exceeded 1952 Storm?			
i.	San Pablo Avenue at 60th Street	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 5-29-14, 2-18-15, 9-20-16	**Planned for Fall 2017 Construction.
		1/19/2016	Yes	No	Grease & Capacity	Cleaned: 2-18-15, 4-28-16, 9-20-16	
		3/5/2016	Yes	No	Grease & Capacity	On Hot Spots List	
ii.	San Pablo Avenue at 62 nd Street	9/23/2015	No	N/A	Maintenance staff triggered sensor	Televised: 4-29-14, 10-17-16 Cleaned: 9-23-15, 8-30-16 On Hot Spots List	**Planned for Fall 2017 Construction.
iii.	Stanford Avenue at Gaskill Street	9/23/2015	No	N/A	Maintenance staff triggered sensor	Televised: 8-20-14, 10-06-16. Cleaned: 10-06-15, 10-06-16.	Upsizing not needed.
		8/25/2016	No	N/A	Maintenance staff triggered sensor	Inspected and reset surcharge alarm unit 9-23-15.	
iv.	27th Avenue & Vernon Street	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 4-29-14, 12-16-14, 9-19-2016	Upsizing not needed. The current hydraulic model shows there is sufficient capacity. The location is placed on the High Frequency 6-month cleaning list.
		1/19/2016	Yes	No	Grease	Cleaned: 4-29-14, 6-2-14, 1-13-15, 7-27-15, 2-8-16, 8-10-16, 9-19-15, 2-14-17	
		12/15/2016	Yes	No	Grease	On High Frequency Cleaning List Every 6 Months	
		2/20/2017	Yes	Yes	Exceeded 1952 Storm		
v.	Grand Avenue and Harrison Street	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 4-28-14 Cleaned: 4/28/14, 5/27/2015, 6-8-16, 6/13/17	**Planned for Fall 2017 Construction. Downstream hydraulic condition was improved by a 54" slip line project in 2016.
		1/06/2016	Yes	No	Grease & Sag		
		1/17/2016	Yes	No	Grease & Sag	On High Frequency Cleaning List every 12 Months	
		1/19/2016	Yes	No	Grease & Sag		
		1/22/2016	Yes	No	Grease & Sag		

No.	Location	Event Occurrence			Reasons for High Level Alarm	Maintenance Performed to Prevent SSO's	Comment
		Date of Occurrence	Rain Event?	Exceeded 1952 Storm?			
		3/5/2016	Yes	No	Grease & Sag		
		12/10/2016	Yes	No	Grease & Sag		
		12/15/2016	Yes	No	Grease & Sag		
		1/9/2017	Yes	No	Grease & Sag		
		1/10/2017	Yes	No	Grease & Sag		
		1/18/2018	Yes	No	Grease & Sag		
		1/20/2017	Yes	No	Grease & Sag		
		1/22/2017	Yes	No	Grease & Sag		
		2/20/2017	Yes	Yes	Exceeded 1952 Storm		
		3/4/2017	Yes	No	Grease & Sag		
		4/7/2017	Yes	No	Grease & Sag		
vi.	19th Street and Jackson Street	† 12/13/2015	Yes	No	Downstream sewer construction by-pass and cleaning triggered sensor	Televised: 5-27-14, 10-3-16, 11-18-16, 5/15/2017 Cleaned: 11-21-14, 9-19-16, 11-16-16, 5/2/2017 Inspection every 6 months	Revised conclusion that the trigger was not capacity related. Additionally, a sewer relief line was constructed in 2010.
vii.	Park Blvd and Spruce Street	1/17/2016	Yes	No	Capacity	Televised: 11-14-14, 8-3-16	***Planned for Spring 2018 Construction. 95% Designed. Resolving utility/private improvements conflicts, utility poles, telecommunication conduits, etc.
		3/5/2016	Yes	No	Capacity	Cleaned: 1/23/14, 7-8-16	
		3/12/2016	Yes	No	Capacity	On High Frequency Cleaning List every 12 Months	

No.	Location	Event Occurrence			Reasons for High Level Alarm	Maintenance Performed to Prevent SSO's	Comment
		Date of Occurrence	Rain Event?	Exceeded 1952 Storm?			
viii.	East 18th Avenue at 4th Avenue	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 12-26-14, 8-14-15 Cleaned: 8-09-16 On High Frequency Cleaning list every 6 Months	**Planned for Fall 2017 Construction. Downstream hydraulic condition was improved by a 54" slip line project in 2016.
		12/13/2015	Yes	No	Capacity		
		12/21/2015	Yes	No	Capacity		
		1/06/2016	Yes	No	Capacity		
		1/17/2016 & 1/19/2016	Yes	No	Capacity		
		3/05/2016 & 3/10/2016	Yes	No	Capacity		
		12/10/2016 & 12/15/2016	Yes	No	Capacity		
		2/20/2017	Yes	Yes	Exceeded 1952 Storm		
ix.	††Maybelle Avenue and Masterson Street	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 1-2-15, 9-22-16, 1-10-17 Cleaned: 12-27-15, 3-15-16, 1-2-17	**Planned for 2018 Construction.
		1/17/2016 & 1/19/2016	Yes	No	Sag		
		3/5/2016 & 3/10/2016	Yes	No	Sag		
		3/13/2016 & 1/10/2017	Yes	No	Sag		
		2/20/2017	Yes	Yes	Exceeded 1952 Storm		
x.	†††Trestle Glen road and Creed Road	* 12/11/2014	Yes	Yes	Exceeded 1952 Storm	Televised: 1-26-15 Cleaned: 5-6-15, 11-9-15, 5-10-16, 12-5-16, 6-6-17 Location on High Frequency Cleaning List Every 3 Months	***Sag will be corrected and 606 linear feet of pipe will be upsized in 2018.
		1/17/2016 & 1/19/2016	Yes	No	Debris & Sag		
		3/5/2016	Yes	No	Debris & Sag		
		12/10/2016 & 12/15/2016	Yes	No	Debris & Sag		

		1/10/2017	Yes	No	Debris & Sag	
		2/20/2017	Yes	Yes	Exceeded 1952 Storm	
xi.	76 th Avenue and Bancroft Avenue	8/25/2016	No	N/A	Maintenance staff triggered sensor	Televised: 12-18-14 Cleaned: 5-28-14, 6-3-2015, 2-9-16, 6-22-16, 2-15-17
		2/20/2017	Yes	Yes	Exceeded 1952 Storm	Location on High Frequency Cleaning List Every 12 Months

* Locations in which the water level reached within one foot of the Maintenance Hole rim during the December 11, 2014 rain event. Rain event exceeded 1952 Storm.

** Project 1001173

*** Project 1001173 Task #2 and Task #3

† The following information was not included in FY2015-16’s Annual Report, because of a recent finding. The City re-evaluated the 12/13/2015 trigger event and revised a conclusion that the trigger was not capacity related. The trigger was caused by construction activities on a sewer project downstream between December 7, 2015 and December 17, 2015. The construction activities included a sewer bypass, sewer pipe cleaning, and CIPP preparation setup for a 48" sewer line rehabilitation at San Pablo and West Grand Avenue. The bypass pump was set up between San Pablo Ave and West Grand Ave.

Additionally, a sewer relief line was constructed from City Project No. C59310 in 2010 to increase sewer capacity near the intersection of Jackson Street and 19th Street. The project split the sewer flows running north on Jackson Street; diverting a portion of the flow to continue north towards Lakeside Drive. Prior to the construction of these improvements, the sewer manhole 50-904-24 would experience high flow levels during high-intensity rain events. The constructed relief line added an alternative flow path from Jackson Street and 19th Street to the 60” trunk sewer line located on 20th Street to the north. The increased capacity provided by the new relief line have reduced the chance of a sanitary sewer overflow (SSO) at this location.

The City have undergone hydraulic analysis to determine the benefit the relief line provides. The City’s hydraulic model was run under two scenarios, (1) without improvements and (2) with the relief line constructed. In both instances a 5yr-7hr design storm was used to evaluate sewer performance during a rainfall event. Under scenario (1), the hydraulic grade line (HGL) rose above the rim elevation at manhole 50-904-24, indicating that a SSO would occur. Under scenario (2), with the relief line constructed, the HGL lowered from 8.38 to 7.63 and below the manhole rim.

†† To mitigate the capacity deficiencies in the sewer pipes between Maybell Avenue and Masterson Street, City is currently in construction to upsize the existing 10-inch VCP sewer pipe to 14-inch HDPE pipe along Maybelle Avenue between Masterson Street and MacArthur Boulevard. These improvements substantially reduce the risk of a sanitary sewer overflow during wet-weather.

††† To mitigate the capacity deficiencies and correct the sags in the trunk sewer along Trestle Glen Road, the City evaluated several capacity improvement options. Of the scenarios evaluated, the preferred option is to up-size pipes along Trestle Glen Road between Creek Road and Humphrey Place from a 12-inch to 16-inch diameter. Modeling results show these improvements are able contain local sewer flows within the system for the 5-year, 7-hour storm. These improvements substantially reduce the risk of a sanitary sewer overflow during wet-weather. The up-sized lines will allow sufficient relief upstream while not overwhelming the system downstream.

5.2 Post SSO Inspection

Paragraph 167.b. of the Consent Decree requires that the Annual Report contain:

“Inspections: a statement that Oakland completed CCTV inspections downstream of each SSO location.”

During FY 2016-17, the City completed CCTV inspections downstream of each SSO.

5.3 Acute Defects

Paragraph 167.c. of the Consent Decree requires that the Annual Report contain:

“Acute Defects: a description of the activities to Repair Acute Defects...”

Paragraph 91 further provides:

“Acute Defects. The City of Oakland shall continue to repair Acute Defects as soon as possible, but no later than within one Year of identification.”

Acute Defects are shown in Table 5-3 of **Appendix D**. Table 5-3 shows location of Acute Defect locations identified after the Consent Decree (July 1, 2014).

As shown in Table 5-3, the following is a list of activities related to acute defects.

- 27 New Acute Defects were found in FY 2016-17.
- 16 FY 2016-17 identified Acute Defects were repaired.
- 3 FY 2014-15 and 2 FY 2015-16 repaired Acute Defects did not meet the one-year requirement.
- 1 FY 2014-15 and 1 FY 2015-16 remains not repaired. The City will continue to work with the private parties to abate the defects.
- No Sanitary Sewer Overflows occurred because of delays in Repair of Acute Defects.
- The status of each repair pertains to the FY initially identified. Outstanding repairs for each FY will be updated annually until repaired in which the record will be added to the associated repaired reporting.

Between July 1, 2016 and June 30, 2017, the median time to correct an Acute Defect was 105 days.

**Table 5-3a
Acute Defect Summary**

Fiscal Year	# Of Acute Defects Found	# Of Acute Defects Repaired Within One Year of Identification	# Of Acute Defects Repaired Not Within One Year of Identification		# Of Acute Defects Not Repaired	
			City Responsibility	Private Responsibility	City Responsibility	Private Responsibility
FY 2014-15	41	36	3	0	0	1
FY 2015-16	24	21	0	2	0	1
FY 2016-17	27	16	n/a	n/a	8	3

Minor Repairs Completed

In addition to the Sewer Main Rehabilitation described above, between July 1, 2016 and June 30, 2017, the City’s Sewer Maintenance Section performed 78 spot repair work orders. These spot repairs consisted of excavating damaged sewer lines and installing new segments of sewer line or repairing structures. The list of repair locations is shown in Table 4-5 of **Appendix B**. As of June 30, 2017, maintenance crews have 159 minor repairs to be completed.

**Table 5-2
Length of Additional Sewer Mains Rehabilitated from Minor Repairs**

Fiscal Year	Mains Rehabilitated
FY 2014-15	946’ (0.18 mile)
FY 2015-16	673’ (0.13 mile)
FY 2016-17	443’ (0.08 mile)

5.4 Sewer Main Cleaning

Paragraph 167.d. of the Consent Decree requires that the Annual Report contain:

“Sewer Main Line Cleaning: a description of activities conducted under its sewer cleaning program...”

Paragraph 92.a. further provides:

“The City of Oakland shall complete the cleaning of its entire Collection System program which began in 2010, by June 30, 2018. By June 30, 2014, the City shall have cleaned 1,900,800 feet of Sewer Mains. Beginning July 1, 2014, the City shall clean its remaining Sewer Mains at the rate of 739,200 feet per Fiscal Year on a cumulative basis (i.e., 2,640,000 feet by June 30, 2015; 3,379,200 feet by June 30, 2016; etc.).”

As shown in Table 5-4a, 4,402,534 unique feet (834 miles) of Sewer Main have been cleaned. This exceeds the Consent Decree requirement of 4,118,400 feet (780 miles).

**Table 5-4a
Feet of Sewer Main Cleaned (Unique Feet)**

Fiscal Year	Mains Cleaned*	Cumulative Total**	CD Requirement
FY 2013-14	544,051' (103 miles)	2,085,969' (395 miles)	1,900,800' (360 miles)
FY 2014-15	778,526' (147 miles)	2,864,495' (543 miles)	2,640,000' (500 miles)
FY 2015-16 ***	941,179' (178 miles)	3,777,533' (715 miles)	3,379,200' (640 miles)
FY 2016-17	625,001' (118 miles)	4,402,534' (834 miles)	4,118,400' (780 miles)
Since Effective Date (September 22, 2014)****	2,107,897' (399 miles)	n/a	n/a

*Newly-unique feet cleaned during the FY (feet that had no previous cleaning between January 1, 2010 and the start of the FY)

**Cumulatively-unique feet starting January 1, 2010

*** Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

****Newly-unique feet cleaned starting September 22, 2014 (feet that had no previous cleaning between January 1, 2010 and September 21, 2014). Numbers reflect updates to sewer GIS data, the updates were done in FY 2015-16

Reference: Paragraph 92.a., Paragraph 167.d.i.

**Table 5-4b
Feet of Sewer Main Cleaned More Than Once**

Per Paragraph 167.d.ii., in this Table 5-4b, the length of a Sewer Main is counted once regardless of the number of times it is cleaned.

Fiscal Year	Mains Cleaned	Cumulative Total*	CD Requirement
FY 2014-15	379,663' (72 miles)	1,508,005' (286 miles)	n/a
FY 2015-16 **	411,287' (78 miles)	1,960,753' (371 miles)	n/a
FY 2016-17 **	325,672' (62 miles)	2,269,887' (430 miles)	n/a

*Starting January 1, 2010

** Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data. The pipes that are cleaned more than once in a fiscal year may be the same or different in each fiscal year, and the calculation is specific to each fiscal year. For example, pipe A may have been cleaned twice in FY2014-15 and twice in 2015-16, so its footage are included in each fiscal year's calculation; whereas pipe B may have been cleaned once in FY 2014-15 and twice in FY2015-16, so its footage are only included in the FY 2015-16 calculation. The cumulative total would include pipe A only once and pipe B only once, which is why the current cumulative total cannot be calculated as the prior cumulative total plus the total for the current fiscal year.

Table 5-4c Feet of Sewer Main Cleaned, Including Repeat Cleanings

Per Paragraph 167.d.iii., in this Table 5-4c, the length of a Sewer Main is multiplied by the number of times it is cleaned.

Fiscal Year	Mains Cleaned	Cumulative Total*	CD Requirement
FY 2014-15	2,017,932' (382 miles)	6,486,856' (1,229 miles)	n/a
FY 2015-16 **	2,361,494' (447 miles)	8,799,050.32' (1,666 miles)	n/a
FY 2016-17 **	1,854,591 (351 miles)	10,656,915' (2,018 miles)	n/a

*Starting January 1, 2010

** Numbers reflect updates to sewer GIS data; the updates were done in FY 2015-16. Totals for prior fiscal years were not re-calculated based on the newer updates to sewer GIS data; therefore, the current cumulative total may not equal the prior cumulative total plus the total for the current fiscal year.

A summary of the cleaning by Sub-Basin is shown in Figure 5-1 of **Appendix E**.

5.5 Root Cleaning (Foaming)

Paragraph 167.e. of the Consent Decree requires that the Annual Report contain:

“Root Cleaning: a description of the activities conducted under Oakland’s root control program, including the feet of Sewer Main treated for root control cumulatively and in each Fiscal Year beginning July 1, 2013.”

Paragraph 92.e. further provides:

“For the first three Fiscal Years, the City of Oakland shall treat a minimum of 264,000 feet of Sewer Mains per Fiscal Year on a cumulative basis (i.e., 264,000 feet by June 30, 2014; 528,000 feet by June 30, 2015; and 792,000 feet by June 30, 2016.)”

The City has been treating sanitary sewer mains to reduce instances of excessive root infiltration. The root-foaming program uses an herbicide which penetrates root cell walls and causes them to decay and die. This treatment destroys roots that have infiltrated sewer mains that can cause stoppages and damages.

From 2011 to 2015, the root-cleaning program selected pipes for treatment based on a non-targeted, basin-wide approach. Beginning in FY 2015-16, the City revised its pipe selection process to more efficiently target pipes and avoid treating pipes known to be clear of roots. Selection of pipes within the system treatment is based primarily on observation of roots from CCTV inspections. Other selection criteria include:

1. Priority is given to pipes within easements.
2. All pipes in a sub-basin are treated if a significant number of pipes are affected by root intrusion as indicated in CCTV inspections.
3. Pipes will not be selected for root foaming if the pipe has been rehabilitated within the last five years.
4. Pipes will not be selected for root foaming if the pipe will be rehabilitated within five years or the pipe resides in the hot spot list.

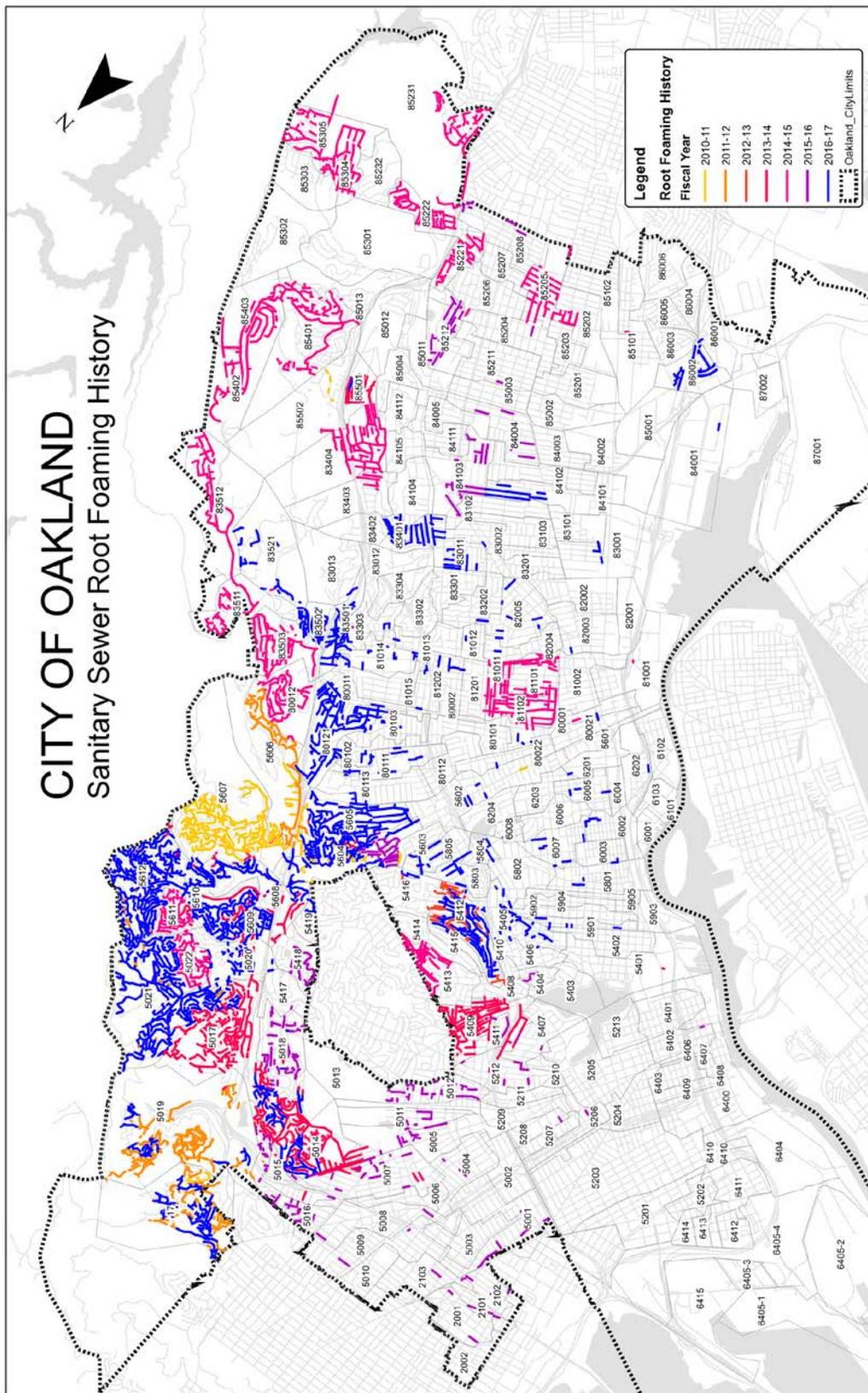
As of June 30, 2017, the City had root foamed 1,227,132 feet (232.4 miles) of Sewer Mains, which meets the Consent Decree cumulative requirement. Results of the City’s root-cleaning program are as follows:

Table 5-5 Root Control Program Implementation

Fiscal Year	Mains Assessed	Cumulative Total	CD Requirement
FY 2013-14	304,811’ (57.7 miles)	304,811’ (57.7 miles)	264,000’ (50 miles)
FY 2014-15	352,176’ (66.7 miles)	656,987’ (124.4 miles)	528,000’ (100 miles)
FY 2015-16	146,784’ (27.8 miles)	803,771’ (152.2 miles)	792,000’ (150 miles)
FY 2016-17	423,361’ (80.2 miles)	1,227,132’ (232.4 miles)	1,056,000’ (200 miles)

Figure 5-1 contains a location map showing sub-basins root-foamed from 2011 to June 30, 2017.

Figure 5-1 Root Foaming Areas



Paragraph 92.e. further provides:

“By December 31, 2016, the City shall submit an evaluation of its root control program to EPA for review and approval. The evaluation shall consider the need to treat additional or fewer Sewer Mains to address results from cleaning and CCTV. The evaluation shall propose refinements to the City’s root control program in order to ensure excessive roots in the Collection System are controlled.”

On December 9, 2016, the City submitted an evaluation report of the root control program to EPA for review and approval. On February 27, 2017, EPA rejected the City’s proposal to foam 23.4 miles of sewer mains per year and was directed to continue treating 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree. On February 28, 2017, the City requested for technical feedback and reconsideration since there was no substantial reasons provided. The City is waiting for the Water Board and EPA to provide a more substantial response and its reconsideration for a conditional approval. The root foam evaluation was data-driven in which 23.4 miles of pipe treatment was derived. It will not be the best use of the sewer service funds for the City to treat pipes that are not needed for the remainder of the Consent Decree.

5.6 Hot Spot Cleaning

Paragraph 167.f. of the Consent Decree requires that the Annual Report contain:

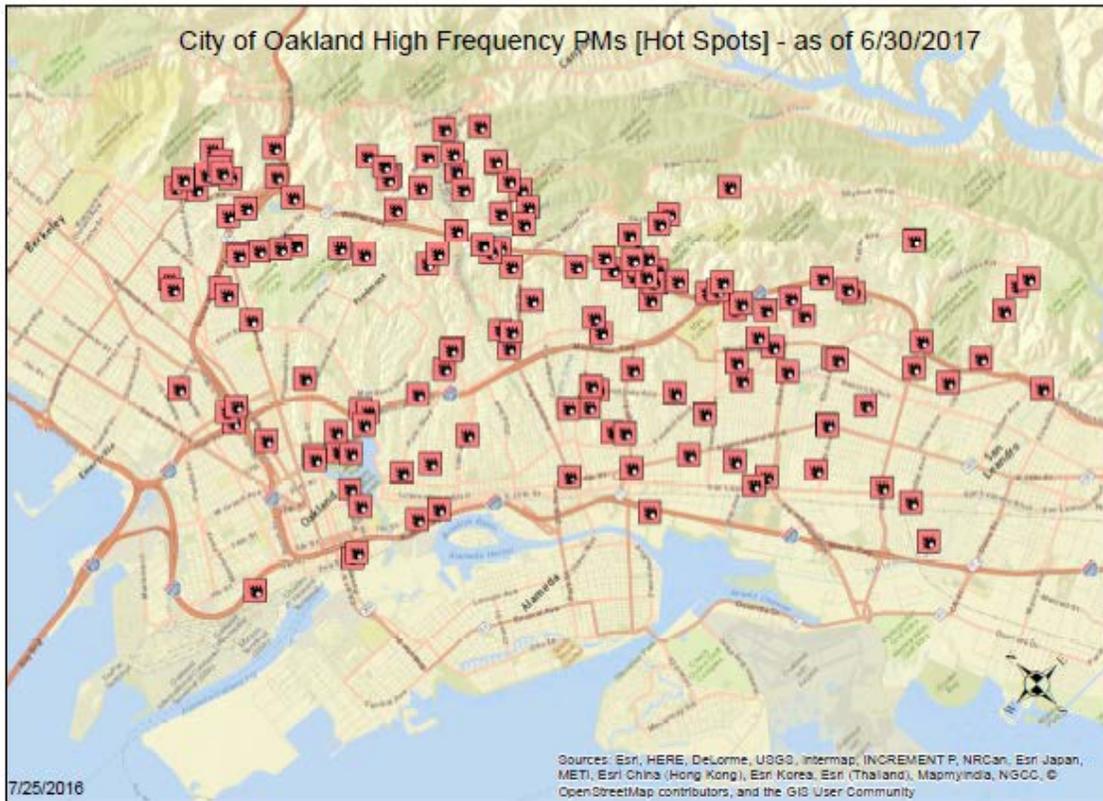
“Hot Spot Cleaning: description of activities conducted under its hot spot program, including feet of Sewer Main in the hot spot cleaning program and the range of cleaning frequencies for Sewer Main in the hot spot cleaning program;”

The Consent Decree changed both the definition of “Hot Spot” and the cleaning requirements. In anticipation of the CD, staff reviewed City records and created a new High Frequency Preventive Maintenance List (Hot Spots) containing both locations having more than one SSO in a three-year period (Hot Spots) and other locations identified by staff. The list now contains 155 locations. Each of these locations was cleaned at least once in FY 2016-17. Table 5-5 of Appendix F contains the new High Priority PM List (as of June 30, 2017). Figure 5-2 contains a map of these locations.

The City reviewed its data for risk factors such as pipe age, size, slope and materials of construction, and found no correlation between SSOs and those factors.

The hot spot cleaning program contains 116,741 feet (22.11 miles) of Sewer Mains which are cleaned every three (3) to twelve (12) months as shown. Between July 1, 2016 and June 30, 2017, the City’s sewer crews cleaned 340,406 feet (64 miles) of Sewer Mains as part of the hot spot sewer cleaning program.

Figure 5-2
High Frequency PM Locations, as of 6/30/2017



5.7 Fats, Oil and Grease (FOG) Control

Paragraph 167.g. of the Consent Decree requires that the Annual Report contain:

“FOG: a description of activities to control FOG in the Collection System; a list of any SSOs that were thought to be associated with FOG or excessive buildup of grease, a list of FOG locations referred to EBMUD for investigation, and any actions that were taken against food service establishments related to inadequate FOG controls.”

The City’s FOG Control Program is described in Section 3.3 of its AMIP. The City identifies and reports FOG problems to EBMUD. EBMUD investigates and inspects FOG sources and works with food service establishments (FSEs) to correct FOG problems. Non-compliant FSEs are referred to the City for enforcement action.

In FY 2016-17, 38 SSOs were thought to be associated with FOG as listed in Table 2-1. These locations were referred to EBMUD for investigation as shown in Table 5-6.

EBMUD has not referred any FSEs to the City for enforcement action.

Table 5-6

FOG-Related SSOs Reported to EBMUD With CIWQS #s.			
Address	Street	Date Reported to EBMUD	CIWQWS #
2221	Broadway	7/13/2016	824719
7345	Snake Road	9/20/2016	826486
	84th Av & G St	9/20/2016	826584
2705	Ritchie St	9/20/2016	827439
5726	International Blvd	9/20/2016	827624
8701	Hillside St	9/20/2016	827839
1418	84th Ave	9/20/2016	828104
10489	Royal Oak Rd	9/20/2016	828173
51	Stark Knoll Pl	9/20/2016	828204
	69th Ave & International BL	9/20/2016	828320
9915	Bernhardt Drive	10/21/2016	828443
2201	Valley Street	10/21/2016	829105
5500	International BLVD	10/21/2016	829123
4335	Virginia Ave	11/4/2016	829548
7101	Spencer St	11/22/2016	829782
2000	Oakview Dr	11/22/2016	829691
3500	Mountain Blvd	11/22/2016	829670
2450	E 20th St	11/22/2016	829762
1080	8th St	11/22/2016	829863
	37TH ST & MARTIN LUTHER KING JR WAY	11/22/2016	829974
1422	45th Ave	12/9/2016	829684
2258	41st Ave	12/9/2016	830141
3759	Brookdale Ave	12/9/2016	830288
	SEMINARY AV & MAURITANIA AV	12/16/2016	830971
601	Webster St	12/16/2016	830730
3511	International Blvd	12/22/2016	831396
1949	94th Ave	1/27/2017	831792
601	5th Ave	1/27/2017	831945
	HIGH ST & AQUA VISTA ST	1/27/2017	831994
1125	Fleet Rd	1/27/2017	832147
2350	26th Av	3/20/2017	832527
2171	Rosedale Ave	3/20/2017	839563
	MLK & W Macarthur BL	3/20/2017	833807
533	Kenmore Ave	6/30/2017	835069
8414	Holly St	6/30/2017	835080
3336	E. 16th St	6/30/2017	834738

Address	Street	Date Reported to EBMUD	CIWQWS #
8824	International BLVD	6/30/2017	834300
4740	Congress Ave	6/30/2017	833973

5.8 Pump Station Renovation

Paragraph 167.g of the Consent Decree requires that the Annual Report contain:

“Pump Stations: a description of pump station renovation and upgrades required by the Pump Station Reliability Plan during the previous Fiscal Year and a description of projects to be completed in the following Fiscal Year.”

Paragraph 94 further requires:

“The City shall complete improvements described in the Plan by October 15, 2022.”

The city's collection system has seven (7) small pump/lift stations:

- ❖ Denton Place
- ❖ Fallon Street
- ❖ Hegenberger Road
- ❖ Parkridge Drive
- ❖ Tidewater Avenue
- ❖ Shepherd Canyon Road
- ❖ Skyline Blvd

Work on the Tidewater Pump Station was completed in 2012.

Schaaf & Wheeler, the consultant has completed the design plans and specifications for improvements all pump/lift stations. One construction contract which consists of three pump stations (Fallon Street, Hegenberger Road, and Shepherd Canyon Road One) begun construction in November 2016 and planned for completion in December of 2017. Construction at locations Denton Place, Parkridge Drive, and Skyline Blvd are scheduled to begin in 2018.

The City is significantly ahead of schedule with its Pump Station Improvement Program, with completion planned for 2019, three years ahead of schedule.

Section 6. Deliverables

Date Submitted	Description	Comments Received
9/30/15	Annual Report FY14/15	N/A
10/02/15	Annual Report FY14/15 Amendment	7/18/16, Comments addressed on 9/19/16
6/30/16	Regional Standards	None
9/30/16	Annual Report FY15/16	8/29/17, Comments addressed as part of Annual Report FY16/17
12/9/16	Root Control Program Evaluation Report	2/28/17. Requests for a 2 nd Response
12/16/16	RTSP Notification Response (Non-Linear High Priority Source Plan)	None

On December 9, 2016, the City submitted an evaluation report of the root control program to EPA for review and approval. On February 27, 2017, EPA rejected the City’s proposal to foam 23.4 miles of sewer mains per year and directed to continue treating 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree. The City requests for a more substantial response and its reconsideration for a conditional approval.

On December 16, 2016, the City submitted the City of Oakland’s response to EBMUD’s 2015/2016 RTSP Annual Satellite Notification for the period of July 1, 2015 to June 30, 2016 to EPA and EBMUD. The response provides the Non-Linear High Priority Source Plan.

Section 7. Known Non-Compliance with Consent Decree

Paragraph 91 of the Consent Decree provides:

“Acute Defects. The City of Oakland shall continue to repair Acute Defects as soon as possible, but no later than within one Year of identification.”

3 FY 2014-15 and 2 FY 2015-16 repaired Acute Defects did not meet the one-year requirement. 1 FY 2014-15 and 1 FY 2015-16 remains not repaired. The City will continue to work with the private parties to abate the defects.

In the Consent Decree, the City is required to comply in accordance with the requirement described in Paragraph 85a of the Consent Decree in which *“Within 90 Days of identifying a Sewer Lateral as defective the City of Oakland shall notify the affected owner in writing.”*

5 notices were sent beyond the 90-day requirement, one of which was repaired. 2 notices were not sent, two of which have been repaired.

Section 8. Assessment of Stipulated Penalties

Paragraph 186 of the Consent Decree: For each SSO that reaches waters of the United States, a stipulated penalty may be assessed as follows, with “gallons” referring to the total size of the overflow, spill or release:

Penalty Per SSO for SSOs totaling:		
Less than 1,000 gallons	1,000 to 9,999 gallons	10,000 gallons or more
\$200	\$1,000	\$25,000

In FY 2016-17, the total volume reached surface water was 203,560 gallons from 16 SSO events. Table 2-1 provides the number of SSOs for SSOs totaling in each of the three categories of volume.

The total potential assessed stipulated penalty from FY 2014-17 for SSOs Reached Waters of United States is \$191,600 as detailed below.

Table 8-1 SSOs Reached Waters of United States

FY	# of SSOs for SSOs totaling Less than 1,000 gallons	# of SSOs for SSOs totaling 1,000 to 9,999 gallons	# of SSOs for SSOs totaling 10,000 gallons or more
FY 2014-15	6	7	2
FY 2015-16	3	0	0
FY 2016-17	4	7	5
Potential Assessed Stipulated Penalty	\$2,600	\$14,000	\$175,000
Total Potential Assessed Stipulated Penalty from FY 2014-17	\$191,600		

Paragraph 172 of the Consent Decree provides:

"If the Annual Report documents that any of the obligations subject to stipulated penalties may not have been complied with, and a Defendant takes the position that potentially applicable stipulated penalties should not be assessed, that Defendant may include in the Annual Report an explanation as to why Plaintiffs should forego collecting such penalties; ... "

The City believes that Stipulated Penalties should not be assessed for the SSO events that reached surface waters. The spills were caused by a variety of reasons such as grease deposits, root intrusion, debris, and heavy storms

and are considered non-point sources. The City has been meeting the cleaning and rehabilitation goals annually since FY 2014 and have responded quickly to SSOs. A penalty would impact the ability of the City to meet future goals as the rehabilitation costs have significantly increased due to market conditions. If Plaintiffs disagree with this position, the City would appreciate the opportunity to discuss potential penalties and provide additional explanations of its position.

Section 9. Recommended Changes to Required Work

The City proposed to foam 23.4 miles of sewer mains per year instead of the 50 miles of sewer mains per year as specified in paragraph 92(e) of the Consent Decree.

Appendix Summary

Appendix	Table Name	Table Number
A	List of Sanitary Sewer Overflows (SSOs) in FY 2016-17	Table 2-1
B	Collection System Spot Repair Work (July 1, 2016 – June 30, 2017)	Table 4-5
C	Notice to Abate Sample Letter	Figure 4-3
D	Acute Defect Lists	Table 5-3
E	Cleaning by Sub-Basin	Figure 5-1
F	High Frequency PM Locations	Table 5-5
G	City-Owned Sewer Laterals	Table 4-12
H	Port of Oakland Sewer Collection System Annual Report for July 1, 2016 – June 30, 2017.	-

Appendix A

Table 2-1
List of Sanitary Sewer Overflows (SSOs) in FY 2016-17

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
826063	486071	936 Mountain Blvd Oakland CA, 94611	2016.07.06 09.00.00	2016.07.06 11.00.00	2016.07.08 00.00.00	120	120	0	Street/ Curb and Gutter	Debris-General	8 vcp main sewer overflowed into the curb and gutter area. Staff recovered 120 gallons of wastewater and returned to sanitary main sewer.
826486	584467	7345 Snake Rd. Oakland Ca 94611	2016.07.19 11.00.00	2016.07.19 14.30.00	2016.07.22 00.00.00	150	150	0	Buildin g or Structu re	Debris-General	8 VCP Main sewer backed up into building structure. Staff recovered all 150 gallons of waste water. They also returned waste water to the sanitary sewer collection system.
826550	579357	8009 Fontaine St. Oakland ca	2016.07.21 14.15.00	2016.07.21 14.47.00	2016.08.04 00.00.00	960	960	0	Street/ Curb and Gutter	Sand & Sediment being discharged from EBMUD Reservoir at 7707 Greenly Ave	Staff contained spilled at storm inlet at Fontaine St & Holmes Ave. Using Hydro Flusher they vacuumed sewage and returned it to our sanitary system. Staff cleaned & disinfected area.
826584	768143	84th Ave & G Street Oakland ca	2016.07.19 18.40.00	2016.07.19 20.02.00	2016.07.28 00.00.00	78	78	0	Paved Surfac e	Debris-General	null
826602	306300	400 Capistrano Drive Oakland Ca,94621	2016.07.18 16.45.00	2016.07.18 22.43.00	2016.07.27 00.00.00	249	249	0	Other (specif y below)	Debris-General	Sewage spilled onto the asphalt on a school yard.
826639	727756	4120 Patterson Ave Oakland ca	2016.07.20 16.00.00	2016.07.20 18.30.00	2016.07.27 00.00.00	20	5	0	Buildin g or Structu re	Root Intrusion	20 gallons spilled into bathroom and drained to basement.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
827132	622405	1968 Gouldin Rd. Oakland ca. 94611	2016.07.29 10.00.00	2016.07.29 19.00.00	2016.08.11 00.00.00	270	270	0	Drainage Channel	Root Intrusion	Final destination was a drainage channel. waste water was absorbed by leaves and eventually blocked by leaves.
827401	684547	345 Pershing Dr	2016.07.27 10.00.00	2016.07.27 17.00.00	2016.08.23 00.00.00	420	0	0	Unpaved surface	Root Intrusion	null
827439	178390	2705 Ritchie Street Oakland Ca. 94605	2016.08.19 20.15.00	2016.08.19 22.15.00	2016.08.24 00.00.00	600	600	0	Street/Curb and Gutter	Grease Deposition (FOG)	null
827624	464253	5726 International Blvd Oakland ca 94621	2016.08.26 21.30.00	2016.08.27 00.15.00	2016.09.01 00.00.00	412	412	0	Building or Structure	Debris-General	null
827839	549541	8701 Hillside St Oakland, CA, 94605	2016.08.30 11.00.00	2016.08.30 13.00.00	2016.09.01 00.00.00	240	240	0	Street/Curb and Gutter	Grease Deposition (FOG)	240 gallons overflowed from and 8 vcp sewer line into the curb and gutter area. Staff contained and recovered all 240 gallons,

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
828104	801577	1418 84th avenue, Oakland Ca,94621	2016.09.06 18.40.00	2016.09.06 21.35.00	2016.09.12 00.00.00	352	352	0	Drainage Channel	Grease Deposition (FOG)	Three hundred and fifty-two gallons overflowed from an 8 vitrified clay pipe in our sanitary sewer main. Three hundred and fifty-two gallons spilled into a storm drain near 1418 84th avenue. Grease was the cause the blockage. The grease blockage was cleared, the flow was restored back to normal in the sewer main. Three hundred and fifty-two gallons was recovered from the storm inlet were sewage entered the system.
828114	309042	5344 Golden Gate Ave. Oakland Ca,94621	2016.09.07 08.45.00	2016.09.07 10.30.00	2016.10.18 00.00.00	60	0	0	Unpaved surface	Debris-General	Sixty gallons overflowed from a vitrified clay pipe at this location. Sand and rock obstructed the line causing an overflow at this location. Sixty gallons soaked into the dirt, zero gallons were recovered. Blockage was cleared, the flow was returned back to normal. When staff arrived on site, the line was not overflowing.
828173	971410	10489 Royal Oak Dr Oakland Ca. 94605	2016.09.12 12.20.00	2016.09.12 18.00.00	2016.09.14 00.00.00	3200	1500	1500	Surface Water	Debris-General	Viejo Arroyo Creek.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
828204	735807	51 Stark Knoll Place	2016.09.14 12.30.00	2016.09.14 20.30.00	2016.09.16 00.00.00	56	56	0	Building or Structure	Root Intrusion	8 VCP sanitary main sewer plugged and overflowed into the bathroom due to root intrusion and pipe failure.
828274	789872	7736 Outlook Avenue Oakland Ca,94621	2016.09.18 17.00.00	2016.09.18 19.00.00	2016.09.22 00.00.00	240	240	0	Drainage Channel	Debris from Lateral	Two hundred and forty gallons overflowed from a six inch vitrified clay pipe at this location. A side sewer test plug was the cause the of the overflow. Two hundred and forty gallons spilled into a storm drain at this location. Storm line was back flushed, all two hundred and forty gallons was captured and returned back to collection system. The side sewer plug was removed from the line. The flow was returned to normal.
828320	224361	69th Ave and International Blvd	2016.09.16 07.50.00	2016.09.16 09.15.00	2016.09.21 00.00.00	85	85	0	Street/Curb and Gutter	Grease Deposition (FOG)	8 VCP sanitary main sewer plugged due to grease and overflowed out of the manhole in the street and curb and gutter.
828443	913406	9915 bernhardt Dr Oakland ca	2016.09.21 19.00.00	2016.09.21 23.00.00	2016.09.26 00.00.00	960	960	0	Separate Storm Drain	Grease Deposition (FOG)	Sewage spilled on to gutter, Staff contained sewage at inlet using Mats & Sandbags while vacuuming sewage with Hydro Flusher.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
828915	550681	7415 Circle Hill Dr Oakland, CA 94605	2016.10.06 07.37.00	2016.10.06 09.30.00	2016.10.11 00.00.00	113	93	0	Street/Curb and Gutter	Root Intrusion	null
828953	857127	1980 Leimert Blvd. Oakland Ca. 94606	2016.10.10 07.52.00	2016.10.10 09.42.00	2016.10.12 00.00.00	330	230	0	Paved Surface	Fallen dust cover which was removed.	null
829105	499732	2201 Valley St	2016.10.15 09.00.00	2016.10.15 11.15.00	2016.10.24 00.00.00	135	135	0	Separate Storm Drain	Grease Deposition (FOG)	8 VCP sanitary main sewer plugged and overflowed out of the manhole in the middle of the street and flowed into the storm drain. Staff plugged off storm drain to contain the overflow. Staff flushed the main sewer to unplug stoppage and return the flow. Staff removed all portions of the overflow out of the storm line and returned back to the collection system. Staff cleaned all affected areas. Staff will CCTV the sanitary main sewer.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
829123	997590	5500 International Blvd	2016.10.17 14.30.00	2016.10.17 18.00.00	2016.10.25 00.00.00	150	150	0	Other (specify below)	Grease Deposition (FOG)	10 VCP sanitary main sewer plugged and overflowed out of the manhole in the middle of the street into the storm inlet. Staff plugged off storm line to contain the sewage. Staff flushed the main sewer to unplug the stoppage and restore the flow. Staff removed all sewage from the storm drain and returned all portions of the overflow back to the collection system. Staff cleaned all portions of the overflow. Staff will CCTV the sanitary main sewer.
829134	408645	7380 Claremont Ave Oakland ca.	2016.10.08 13.00.00	2016.10.08 16.00.00	2016.10.18 00.00.00	360	0	0	Other (specify below)	Root Intrusion	360 gallons spilled at this location, none was recovered 360 gallons soaked into the ground.
829548	690999	4335 Virginia Ave Oakland, CA, 94619	2016.10.30 10.10.00	2016.10.30 12.50.00	2016.11.04 00.00.00	1280	380	900	Separate Storm Drain	Grease Deposition (FOG)	1,280 gallons spilled from a cleanout in front of the property. 380 gallons were captured and returned to the collection system. 900 gallons went down the storm drain to SF Bay.
829601	262790	3727 Coolidge Ave Oakland, CA 94602	2016.11.01 10.40.00	2016.11.01 13.00.00	2016.11.04 00.00.00	420	210	210	Combined Storm Drain (Combined CS only)	Debris-General	8 vcp sanitary main sewer overflowed due to debris in the line. 420 gallons overflowed. 210 gallons went into the storm drain.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
829670	501559	3500 Mountain Blvd Oakland Ca 94619	2016.11.06 17.00.00	2016.11.06 18.44.00	2016.11.08 00.00.00	1040	1000	40	Drainage Channel	Root Intrusion	null
829684	596875	1422 45th avenue Oakland Ca,94621	2016.10.30 11.00.00	2016.10.30 16.50.00	2016.11.08 00.00.00	310	310	0	Building or Structure; Street/Curb and Gutter	Debris-General	Three and hundred and ten gallons overflowed from eight inch vitrified clay pipe at two locations in front of the property. The first location was inside of the home. The second location was from a manhole in close proximity of the property. Debris was the cause of the spill. Three hundred gallons spilled inside of the home. The home owners cleaned the home before our staff arrived. There were several wet spots on the carpet indicating the length and width of the spill. Pictures were taken. A claim packet was given to the citizen. The citizen stated the waste water was returned back to collection system. The sewer staff captured the ten gallons in the curb and gutter area and returned back in the collection system.
829687	874780	3416 Brunell Dr. Oakland ca 94602	2016.11.06 13.00.00	2016.11.06 16.00.00	2016.11.08 00.00.00	20	20	0	Unpaved surface	Root Intrusion	null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
829691	120141	2000 Oakview Drive Oakland California	2016.10.23 12.00.00	2016.10.23 14.00.00	2016.11.08 00.00.00	50	0	0	Other (specify below)	Debris-General	Fifty gallons overflowed from an eight inch verified clay pipe on to the dirt at this location. A spot repair was made to return the normal flow. Site was cleaned and made safe.
829762	640843	2450 E 20th St Oakland, CA, 94601	2016.11.09 10.00.00	2016.11.09 13.00.00	2016.11.23 00.00.00	120	120	0	Street/Curb and Gutter	Grease Deposition (FOG)	120 gallons overflowed from an 8 vcp sewer line into the curb and gutter area. Staff recovered all 120 gallons and returned it to the collection system.
829782	863401	7101 Spencer St Oakland, CA, 94621	2016.11.14 19.10.00	2016.11.14 21.10.00	2016.11.23 00.00.00	200	200	0	Street/Curb and Gutter	Grease Deposition (FOG)	20 gallons overflowed from an 8 vcp sewer line into the curb and gutter area. Staff recovered all 200 gallons and returned it to the collection system.
829863	392190	1080 8th St Oakland ca	2016.11.12 11.50.00	2016.11.12 14.15.00	2016.11.23 00.00.00	725	725	0	Street/Curb and Gutter	Grease Deposition (FOG)	Staff contained spill at inlet using mats & sandbags, vacuumed spilled sewage and returned to sanitary system.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
829974	202070	37th Martin Luther King Way, Oakland California	2016.11.20 16.40.00	2016.11.20 20.20.00	2017.07.14 00.00.00	100	30	100	Drainage Channel; Surface Water	Grease Deposition (FOG)	One hundred gallons overflowed from an 8 PVC sanitary sewer main. Grease and roots obstructed the pipe causing an overflow. Seventy gallons spilled into a storm inlet at thirty six and Martin Luther King. Thirty gallons was captured in the gutter and returned to the collection system. Sewer staff cleared the blockage and returned the normal flow.
830141	775254	2258 41 avenue	2016.11.24 11.12.00	2016.11.24 15.30.00	2016.12.01 00.00.00	50	50	0	Building or Structure	Debris-General	Fifty gallons overflowed from an eight inch vitrified clay pipe. Fifty gallons overflowed into the basement at this residence. Debris obstructed the pipe causing the overflow. Pipe was broken in several locations. A did tag was wrote to have the main repaired.
830244	241545	5733 Colton Blvd Oakland ca	2016.11.27 09.50.00	2016.11.27 13.20.00	2016.12.01 00.00.00	210	189	0	Paved Surface; Street/Curb and Gutter	Root Intrusion	210 gallons spilled at this location, 189 gallons were recovered and 11 gallons soaked into the ground. Staff contained spill and used Hydro Flusher to vacuum sewage and return to sanitary system.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
830288	647816	3759 Brookdale Ave Oakland, CA 94619	2016.11.29 09.05.00	2016.11.29 13.05.00	2016.12.15 00.00.00	240	240	0	Paved Surface	Grease Deposition (FOG)	240 gallons overflowed from an 8 vcp sewer line onto a paved surfaced area. Staff recovered all 240 gallons and returned it to the collection system.
830376	369239	12006 Broadway Terr. Oakland ca	2016.12.01 21.06.00	2016.12.01 23.23.00	2016.12.14 00.00.00	30	20	0	Unpaved surface	Debris-General	30 gallons spilled and 20 gallons were recovered, 10 gallons soaked into the ground.
830657	535203	3535 Pierson Street, Oakland Ca,94621	2016.12.11 11.45.00	2016.12.11 13.45.00	2016.12.14 00.00.00	6000	0	6000	Surface Water	Grease Deposition (FOG)	Six thousand gallons overflowed from an 8 Vitrified Clay Pipe in to a storm drain at this location. A grease blockage was the cause of the overflow.
830730	579543	601 Webster St Oakland, CA, 94607	2016.12.14 14.30.00	2016.12.14 19.30.00	2016.12.20 00.00.00	6732	6732	0	Building or Structure	Grease Deposition (FOG)	6,732 gallons overflowed from an 8 vcp line into the basement. Staff rodded and flushed main sewer. All 6,732 gallons of wastewater drained from a floor lateral back into the main sewer.
830735	449892	3822 Whittle Ave Oakland ca	2016.12.10 12.30.00	2016.12.10 14.27.00	2016.12.16 00.00.00	23	0	0	Street/Curb and Gutter	Root Intrusion	Null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
830918	497627	83 Castle Park Way Oakland, CA 94611	2016.12.14 10.00.00	2016.12.14 11.30.00	2016.12.22 00.00.00	180	0	0	Buildin g or Structu re	Debris- General	180 gallons overflowed from an 8' vcp line into the bathroom. This was caused a blockage in the main line causing a sub pump to not pump the sewage into the line. A restoration company was on scene and cleaned up the spill.
830971	453936	Seminary Ave & Mauritania Ave Oakland ca	2016.12.12 21.00.00	2016.12.12 23.30.00	2017.02.09 00.00.00	100	100	0	Street/ Curb and Gutter	Grease Deposition (FOG)	Staff used Hydro Flusher to vacuum sewage and return to sanitary system, contained sewage at inlet with sandbags.
831108	238458	6000 Rockridge Blvd Oakland, CA, 94618	2016.12.22 08.30.00	2016.12.22 10.30.00	2016.12.29 00.00.00	240	240	0	Separate Storm Drain	Root Intrusion	240 gallons overflowed from an 8 vcp sewer line into the storm line. Staff went down stream and recovered all 240 gallons.
831210	994213	6115 Snake Rd Oakland, CA, 94611	2016.12.27 11.00.00	2016.12.27 13.30.00	2016.12.29 00.00.00	750	750	0	Separate Storm Drain	Debris- General	null
831394	422169	5741 Elizabeth Street Oakland Ca 94621	2016.12.15 16.10.00	2016.12.15 20.10.00	2017.01.04 00.00.00	240	240	0	Buildin g or Structu re	Rainfall Exceeded Design, I and I (Separate CS Only)	null
831396	340779	3511 international Blvd. Oakland ca	2016.12.20 17.00.00	2016.12.20 18.40.00	2017.02.09 00.00.00	100	100	0	Street/ Curb and Gutter	Grease Deposition (FOG)	null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
831739	963410	73 Alvarado Rd Oakland, CA, 94605	2017.01.11 14.30.00	2017.01.11 16.20.00	2017.01.25 00.00.00	1650 0	3000	13500	Separate Storm Drain	Root Intrusion	null
831762	242493	885 69th Avenue Oakland Ca,94621	2017.01.10 14.56.00	2017.01.11 14.30.00	2017.01.25 00.00.00	4700 0	0	47000	Surface Water	Surcharged Pipe (Combined CS Only)	94,500 gallons overflowed from an eight inch vitrified clay pipe into several storm drains at this location. Severe rain fall was the cause of the overflow. The pipe could not accommodate the volume of water in the pipe. Surcharging occurred for four pm, until two thirty am the next day
831763	545589	819 35th Ave	2017.01.10 16.00.00	2017.01.10 22.15.00	2017.01.25 00.00.00	3900 0	0	39000	Drainage Channel; Street/ Curb and Gutter	Rainfall Exceeded Design, I and I (Separate CS Only)	8 VCP sanitary main sewer overflowed due to heavy rain causing the main sewer to surcharging. Sewage overflowed out of the manhole located in the street and into the storm inlet.
831764	706034	814 Mandana Blvd Oakland ca 94610	2017.01.10 14.54.00	2017.01.10 17.00.00	2017.01.25 00.00.00	3300	0	3300	Separate Storm Drain	Rainfall Exceeded Design, I and I (Separate CS Only)	Null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
831770	780600	5741 Harmond Street Oakland, Ca 94621	2017.01.10 14.06.00	2017.01.10 17.00.00	2017.01.25 00.00.00	6000	0	6000	Surface Water	Surcharged Pipe (Combined CS Only)	30,000 gallons overflowed from an eight inch VCP. The overflowed occurred due to pipe capacity. Surcharging was the cause of the overflow. 6,000 gallons overflowed into a storm drain at this location. Zero gallons was captured.
831789	494285	2289 Melvin Rd Oakland 94602	2017.01.14 12.46.00	2017.01.14 17.16.00	2017.01.25 00.00.00	255	0	0	Unpaved surface	Root Intrusion	255 gallons overflowed from an 8 vcp sewer line on an easement into the ground in the rear yard.
831792	817461	1949 94th Ave	2017.01.16 18.30.00	2017.01.16 20.45.00	2017.01.25 00.00.00	270	270	0	Street/Curb and Gutter	Debris-Rags	8 VCP sanitary main sewer plugged and overflowed out of the manhole on to the street, curb and gutter area. Staff contained all portions of the spill. Staff rodded and flushed the main sewer to unplug stoppage and return the flow. Staff returned all portions of the spill and cleaned all affected areas of the overflow. Staff will CCTV the sanitary main sewer.
831893	452691	5900 Bagshotte Dr. Oakland Ca 94611	2017.01.15 16.30.00	2017.01.15 22.00.00	2017.01.25 00.00.00	6510	0	6510	Surface Water	Dirt from mudslides	Sausal Creek.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
831945	256832	601 5th Ave Oakland, CA, 94606	2017.01.19 10.48.00	2017.01.19 12.50.00	2017.01.25 00.00.00	610	410	0	Unpav ed surface	Grease Deposition (FOG)	610 gallons spilled from a 14 vcp main sewer onto an unpaved surface. 410 gallons were recovered. 200 gallons soaked into the ground.
831994	383336	High Street & Aqua Vista Avenue Oakland, Ca 94621	2017.01.22 08.00.00	2017.01.22 10.00.00	2017.07.14 00.00.00	90	90	0	Street/ Curb and Gutter	Grease Deposition (FOG)	Ninety gallons overflowed from an eight inch VCP sewer main on to the curb and gutter. The waste water overflowed due to a large grease obstruction in the pipe. Ninety gallons was captured and returned to collection system.
832147	740728	1125 Fleet Rd Oakland, CA 94610	2017.01.26 12.00.00	2017.01.26 14.00.00	2017.02.09 00.00.00	120	120	0	Street/ Curb and Gutter	Grease Deposition (FOG)	120 gallons spilled from an 8 vcp sewer line into the curb and gutter area. Staff recovered all 120 gallons and returned it to the collection system.
832187	767659	5895 Bagshotte Dr Oakland Ca 94611	2017.01.27 11.00.00	2017.01.27 13.30.00	2017.02.09 00.00.00	1500	0	1500	Surfac e Water	Debris- General	Shepherd Creek.
832428	767968	200 Beauforest Dr Oakland, CA, 94611	2017.02.01 09.21.00	2017.02.01 12.00.00	2017.02.09 00.00.00	320	160	0	Buildin g or Structu re; Unpav ed surface	Root Intrusion	null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
832437	440267	6502 Broadway Terrace Oakland, Ca 94618	2017.01.31 14.00.00	2017.01.31 17.00.00	2017.02.15 00.00.00	4500	0	4500	Drainage Channel; Other (specify below)	Debris from Construction	24 VCP sanitary main sewer plugged and overflowed out of a square box structure on the easement into a storm drain that flows into Lake Temescal.
832527	448553	2350 26th Ave Oakland, CA, 94601	2017.02.06 22.00.00	2017.02.07 00.00.00	2017.02.09 00.00.00	240	240	0	Building or Structure	Grease Deposition (FOG)	240 gallons overflowed from an 8 vcp line into basement. Staff flushed main line. Staff recovered all 420 gallons.
832705	500925	6502 Broadway Terrace Oakland Ca,94621	2017.02.08 08.00.00	2017.02.08 22.00.00	2017.02.21 00.00.00	3600 0	0	36000	Surface Water	Surcharged Pipe (Combined CS Only)	null
832811	934075	4057 Mera Street Oakland Ca. 94601	2017.02.06 08.45.00	2017.02.06 10.28.00	2017.07.14 00.00.00	103	103	0	Paved Surface	Debris-General	null
833751	219045	9943 Lawlor Street Oakland Ca 94605	2017.03.15 09.52.00	2017.03.15 18.52.00	2017.07.14 00.00.00	270	0	0	Unpaved surface	Root Intrusion	Null

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
833781	896422	6292 Clive Ave	2017.03.17 15.30.00	2017.03.17 19.00.00	2017.03.20 00.00.00	210	210	0	Street/ Curb and Gutter; Unpav ed surface	Root Intrusion	8 VCP sanitary main sewer plugged and overflowed out of the lamp-hole on the side of hill next to the road. Sewage went down the curb and gutter back into the sewer collection system at the downstream manhole located in the gutter area. Staff flushed and rodded to unplug stoppage and return the flow. Staff returned all portions of the overflow back to the sewer collection system. Staff cleaned all affected areas of the overflow. Staff will CCTV the sanitary main sewer.
833807	599723	Martin Luther King Jr way & W. Macarthur Blvd Oakland ca	2017.03.18 18.30.00	2017.03.18 21.15.00	2017.04.11 00.00.00	825	825	0	Street/ Curb and Gutter	Grease Deposition (FOG)	Null
SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation

833823	329797	4100 Redwood Rd	2017.03.21 16.00.00	2017.03.21 20.00.00	2017.03.24 00.00.00	960	500	0	Other (specify below); Unpaved surface	Debris-Rags	8 sanitary main sewer plugged and discharged out of the manhole onto the ground. An estimated portion (460 Gallons) soaked into the ground on the easement. Staff recovered 500 gallons and returned to the sanitary sewer collection system. Staff removed the rags and debris in the manhole, serviced the main sewer, unplug the stoppage and return the flow. Staff cleaned the affected area of the discharge. Staff will CCVT the sanitary main sewer.
833857	936056	4349 Arden Pl. Oakland Ca,94621	2017.03.20 15.15.00	2017.03.20 21.30.00	2017.04.03 00.00.00	3750 0	0	37500	Surface Water	Debris-General	Thirty-seven thousand five hundred gallons overflowed from a ten inch vitrified clay pipe. General debris was the cause of the overflow. The sewage overflowed from a manhole down the hillside directly into Sausal creek.
833895	704895	4326 Arden Pl. Oakland ca	2017.03.23 15.30.00	2017.03.23 17.15.00	2017.04.03 00.00.00	525	525	0	Street/Curb and Gutter	Root Intrusion	Null
SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation

833973	928598	4740 Congress Ave Oakland, Ca 94601	2017.03.25 10.00.00	2017.03.25 13.00.00	2017.04.12 00.00.00	10	10	0	Other (specify below); Unpaved surface	Root Intrusion	6 VCP sanitary main sewer plugged and overflowed out of the ground onto the sidewalk and front lawn area. Staff flushed the main sewer to unplug stoppage and return the flow. Staff contained and returned all portions of the overflow. Staff cleaned all affected areas of the overflow. Staff will CCTV the sanitary main sewer.
834300	698136	8824 International Blvd Oakland, CA, 94621	2017.04.05 09.15.00	2017.04.05 12.15.00	2017.06.01 00.00.00	360	0	0	Building or Structure; Unpaved surface	Debris-General	null
834559	823172	11 Ascot Pl Oakland, CA, 94611	2017.04.15 11.30.00	2017.04.15 16.30.00	2017.07.14 00.00.00	300	50	0	Unpaved surface	Root Intrusion	300 gallons spilled from an 8 vcp main sewer into the dirt on an easement. 50 gallons were recovered.
834738	376208	3336 E 16th St	2017.04.22 13.00.00	2017.04.22 17.00.00	2017.04.26 00.00.00	480	480	0	Building or Structure	Grease Deposition (FOG)	6 sanitary main sewer plugged due to grease and overflowed in to the garage and Drive way. Staff flushed the sanitary main sewer to unplug stoppage and return the flow. Sewage from overflow drained back into the collection system from floor drain. Staff will CCTV the sanitary main sewer.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
835069	866532	533 Kenmore Ave Oakland ca	2017.05.08 07.30.00	2017.05.08 10.30.00	2017.05.19 00.00.00	180	100	0	Street/ Curb and Gutter	Root Intrusion	Staff setup containment at inlet on Lakeshore Ave & Walavista using Hydro flusher to vacuum spilled sewage and return to sanitary system. 80 Gallons seeped into the ground in the rear yard.
835077	122582	5700 La Salle	2017.05.03 14.30.00	2017.05.03 19.30.00	2017.05.11 00.00.00	20	0	0	Unpaved surface	Pipe Structural Problem/Failure	8 VCP sanitary main sewer plugged on the easement and overflowed out of the pipe and soaked into the ground.
835080	878990	8414 Holly St	2017.05.06 12.00.00	2017.05.06 17.00.00	2017.05.11 00.00.00	300	300	0	Building or Structure	Grease Deposition (FOG)	8 sanitary main sewer plugged and overflowed into the building's basement.
835106	111930	9636 Bancroft Avenue Oakland Ca,954621	2017.05.11 15.30.00	2017.05.11 20.30.00	2017.07.14 00.00.00	300	0	0	Street/ Curb and Gutter	Debris-General	Three hundred gallons overflowed from an eight inch VCP sewer main. Sewer main was obstructed due general debris in the line. Three hundred gallons spilled on to the ground in the curb and gutter area. Three hundred gallons was captured and returned to the collection system.
835188	684851	1115 62nd Ave Oakland, CA 94621	2017.05.15 09.00.00	2017.05.15 12.00.00	2017.05.16 00.00.00	360	360	0	Street/ Curb and Gutter	Grease Deposition (FOG)	360 gallons overflowed from a cleanout into the curb and gutter area. Staff recovered all 360 gallons and returned it to the collection system.

SSO Event ID	Certification ID	Spill Location	Start Date	Est End Date	Certification Date	Spill Volume	Spill Volume Recovered	Spill Vol Reached Surf	Final Spill Destination	Spill Cause	Final Spill Destination Explanation
835360	814354	8701 Hillside St. Oakland Ca. 94605	2017.05.19 09.58.00	2017.05.19 11.30.00	2017.06.01 00.00.00	276	200	0	Unpaved surface	Pipe Structural Problem/Failure	null
835487	608769	14151 Skyline Bl. Oakland Ca. 94619	2017.05.24 14.30.00	2017.05.24 18.00.00	2017.06.01 00.00.00	300	0	0	Unpaved surface	Root Intrusion	null
835768	539925	8420 International Blvd Oakland, Ca. 94621	2017.05.19 08.00.00	2017.05.19 10.00.00	2017.07.19 00.00.00	120	120	0	Paved Surface	Debris-General	null
835770	662828	2154 Rosedale Ave Oakland Ca 94601	2017.06.02 08.00.00	2017.06.02 09.45.00	2017.07.17 00.00.00	100	100	0	Unpaved surface	Defect in 6' VCP	null
836373	219454	5841 MERRIEWOOD DR Oakland Ca 94611	2017.04.29 17.00.00	2017.06.29 20.00.00	2017.07.12 00.00.00	500	250	0	Other (specify below)	Sewer main broken by up-rooted tree. Volume estimate based on visual observations made from initial response.	Sewer spill captured in large void caused by up-rooted tree.

Appendix B
Table 4-5
Collection System Spot Repair Work (July 1, 2016 – June 30, 2017)

WorkOrderId	Description	Address	Linear Feet
776334	Sewer Spot Repair	5687 MERRIEWOOD DR	40
777264	Sewer Spot Repair	468 CREIGHTON WAY	1
777272	Sewer Spot Repair	5372 HILLTOP CRES	1
778266	Sewer Spot Repair	SKYLINE BLVD & CASTLE DR	4
778706	Sewer Spot Repair	468 CREIGHTON WAY	10
780315	Sewer Spot Repair	1035 GRAND VIEW DR	6
781210	Sewer Spot Repair	2363 LEIMERT BLVD	1
782525	Sewer Spot Repair	4800 WEBSTER ST	10
783222	Sewer Spot Repair	4839 WEBSTER ST	6
783456	Sewer Spot Repair	10814 BREED AV	1
784088	Sewer Spot Repair	418 49TH ST	1
785084	Sewer Spot Repair	10806 BREED AV	1
785639	Sewer Spot Repair	418 49TH ST	6
788264	Sewer Spot Repair	6 DORTHY PLACE	0
789337	Sewer Spot Repair	21ST ST & HARRISON ST	1
790216	Sewer Spot Repair	6 DOROTHY PL	1
791357	Sewer Spot Repair	3410 SALISBURY ST	31
791978	Sewer Spot Repair	5679 MERRIEWOOD DR	6
793157	Sewer Spot Repair	55 AGNES ST	6
794658	Sewer Spot Repair	21ST ST & HARRISON ST	1
796532	Sewer Spot Repair	3718 SANTA RITA ST	10
797502	Sewer Spot Repair	422 44TH ST	3
797942	Sewer Spot Repair	383 44TH ST	10
798090	Sewer Spot Repair	4238 BROADWAY	10
798987	Sewer Spot Repair	34TH ST & MARKET ST	1
800515	Sewer Spot Repair	1400 39TH AV	1
800519	Sewer Spot Repair	8909 SAGE RD	30
800860	Sewer Spot Repair	101ST AV & BIRCH ST	1
802832	Sewer Spot Repair	1400 39TH AV	1
803085	Sewer Spot Repair	8909 SAGE RD	1
803602	Sewer Spot Repair	2000 OAKVIEW DR	1
804282	Sewer Spot Repair	2000 OAKVIEW DR	1
805554	Sewer Spot Repair	101ST AV & BIRCH ST	1
806188	Sewer Spot Repair	39TH AVE & INTERNATIONAL	24
807113	Sewer Spot Repair	4362 WHITTLE AV	1
807188	Sewer Spot Repair	1400 39TH AVE	1
807389	Sewer Spot Repair	4362 WHITTLE AV	1
809808	Sewer Spot Repair	2228 41ST AV	10
810770	Sewer Spot Repair	2216 41ST AV	8
811377	Sewer Spot Repair	15 STARK KNOLL PL	1
812399	Sewer Spot Repair	25 STARK KNOLL PL	14
814288	Sewer Spot Repair	614 E 15TH ST	6
814555	Sewer Spot Repair	616 E 15TH ST	10
815423	Sewer Spot Repair	1100 34TH ST	1

WorkOrderId	Description	Address	Linear Feet
820007	Sewer Spot Repair	3152 HIGH ST	1
820010	Sewer Spot Repair	3152 HIGH ST	8
821360	Sewer Spot Repair	5219 MACARTHUR BLVD	12
822935	Sewer Spot Repair	505 34TH ST	6
825077	Sewer Spot Repair	1829 94TH AV	1
827617	Sewer Spot Repair	5881 ESCHER DR	10
828343	Sewer Spot Repair	66 MACARTHUR BLVD	6
829494	Sewer Spot Repair	1819 94TH AV	1
830756	Sewer Spot Repair	4367 ALLENDALE AV	6
831429	Sewer Spot Repair	658 HILLGIRT CIR	1
832051	Sewer Spot Repair	658 HILLGIRT CIR	10
833442	Sewer Spot Repair	621 MACARTHUR BLVD	1
833643	Sewer Spot Repair	3501 CALAFIA AV	1
834395	Sewer Spot Repair	3501 CALAFIA AV	1
834397	Sewer Spot Repair	22ND AV & E 31ST ST	1
834702	Sewer Spot Repair	6447 CHABOT RD	1
834703	Sewer Spot Repair	1724 89TH AV	1
835009	Sewer Spot Repair	1809 89TH AV	3
835369	Sewer Spot Repair	5506 THORNHILL DR	6
836060	Sewer Spot Repair	875 PARAMOUNT RD	1
837293	Sewer Spot Repair	1809 LINDEN ST	1
837760	Sewer Spot Repair	1827 89TH AV	1
837764	Sewer Spot Repair	295 STONEWALL RD	1
839011	Sewer Spot Repair	1382 EL CENTRO AV	1
839221	Sewer Spot Repair	1805 89TH AV	7
839437	Sewer Spot Repair	4338 ALLENDALE AV	1
841946	Sewer Spot Repair	2818 BELLAIRE PL	1
845316	Sewer Spot Repair	8701 HILLSIDE ST	16
846421	Sewer Spot Repair	2615 MONTICELLO AV	12
847170	Sewer Spot Repair	800 FILBERT ST	6
847920	Sewer Spot Repair	2175 41ST AV	6
848325	Sewer Spot Repair	5700 LA SALLE AV	4
850724	Sewer Spot Repair	84TH AV & INTERNATIONAL	16
852886	Sewer Spot Repair	5939 MARDEN LANE	10

Appendix C

Figure 4-3 14 Day Notice to Abate



Oakland Public Works • Design, Engineering and Construction • Right of Way Management

Sewer & Sidewalk Division • 250 Frank H. Ogawa Plaza, Suite # 4314 • Oakland, California 94612 • (510)238-3651

14 Day Notice to Abate

Date

Name

Address

Oakland, CA 94607-2225

Re: Sewer Lateral at Address, Oakland

Dear Property Owner,

You are hereby notified that under the provisions of Section 13.08.540 of the Oakland Municipal Code¹ and in the opinion of the Director of Public Works Agency, the public health, safety, and welfare require repairs to your building sewer lateral.

The dye test conducted on **date** from the caved in area of the street at **address** by the City's Sewer Maintenance Division noted that the dye did appear in the City sewer main which indicates that the private sewer lateral servicing your home is in need of repair. This is a public health hazard and must be corrected. You are required to repair or replace your building's private sewer lateral no later than **date**.

The completed repairs must restore the subject-building sewer to a watertight condition, free of breaks or separations and constructed to proper grade and alignment. An inspection must be performed by the Construction Inspector to assure that the repairs meet the code requirements.

Prior to repairing or replacing a sewer lateral, you must have a Building Sewer Inspection Permit and/or a Street Excavation Permit if the repairs are to be completed in the public right-of-way.

If you have already made the repairs please provide proof of the repairs, you may fax it to 510-238-6632.

Questions concerning this matter should be directed to Fred Loeser, Construction Inspection Supervisor, at (510) 238-6348 or email floeser@oaklandnet.com.

Sincerely,

Fred Loeser,
Supervisor, Construction Inspection

/ts

SEC. 13.08.540 EMERGENCY WORK BY CITY, NOTICE, LIABILITY FOR COST OF WORK

Whenever, in the opinion of the Director of Public Works Agency, the Public Health, safety, or welfare shall require that repairs or protective measures to a building sewer be made or instituted immediately, the Director is hereby authorized to proceed with all necessary work to abate the condition and may enter upon private property for such purposes. The City may erect and maintain all necessary barricades, warning lights, and the protective devices upon public or private property. The City will give the owner of the premises upon which the repairs are to be made, or the protective measures to be instituted, such notice, if any, and by such means as the circumstances shall permit.

The owner of the property upon which the condition exists and the person creating such condition shall be jointly and severally liable to the City of Oakland for all costs incurred by it in abating said emergency condition and erecting and maintaining said protective devices.

The cost of abating such condition shall constitute a special assessment against the real property on which said condition was abated. The special assessment shall be made in the manner set forth in Section 13.08.280 of the Oakland Municipal Code using the Notice of Lien as found in Section 13.08.330.

(As added by Ordinance No. 10877 C.M.S., passed June 23, 1987)

Appendix D

**Table 5-3
Acute Defect List - Identified Fiscal Year 2016-17**

Asset ID	Date Identified	Bureau Responsible	Date Completed	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPI19458	6/27/17	PRIVATE	no repair	80	-		25TH ST NEAR TELEGRAPH		BVV, Broken void visible
SEPI19453	6/26/17	BDC	no repair	81	-		BROADWAY - 26TH TO 27TH		BVV, Broken void visible
SEPI21318	6/23/17	BDC	no repair	84	-	814	29TH STREET		BVV, CONCRETE PIPE DETERIORATED
SEPI25768	6/22/17	BIO	no repair	85	-		52ND ST - SHATUCK TO TELEGRAPH		BVV, Broken void visible
SEPI29206	6/21/17	BIO	no repair	86	-		AYALA - MARTIN TO FOREST		BVV, Broken void visible
SEPI5743	6/19/17	BIO	no repair	88	-		SEQUOYAH RD NEAR HEAFEY		HSV, Hole punched through pipe
SEPI20162	6/5/17	BIO	no repair	102	-	534	WELDON		FH4, Broken pipe and lamphole
SEPI20176	6/5/17	BIO	8/18/17	-	74		WELDON & WARFIELD	864609	BVV, Broken void visible
SEPI29729	6/2/17	BIO	no repair	105	-		WARREN BLVD NEAR BROADWAY		B, Broken pipe
SEPI22902	5/22/17	BIO	7/25/17	-	64		LINDA AVE. & GLEN	859000	BVV, Broken void visible
SEPI3243	5/19/17	BIO	5/20/17	-	1	8701	HILLSIDE STREET	845316	BVV, Broken void visible
SEPI27664	5/15/17	BIO	no repair	123	-		5630 MARGARIDO DR		XP, Collapsed Pipe Sewer
SEPI31316	3/22/17	BIO	5/16/17	-	55		STONEWALL & CLAREMONT AVE		BVV, Broken void visible
SEPI10414	1/31/17	PRIVATE	12/16/17	-	319	3759	BROOKDALE AVE		TBI, Protruding Tap
SEPI8986	1/31/17	BIO	2/11/17	-	11	4066	MERA BETWEEN 41ST & ROSEDALE	824318	Void near manhole
SEPI15841	1/20/17	BIO	8/9/17	-	201		FOREST HILL AVE	862605	BVV, Broken void visible
SEPI18573	1/19/17	PRIVATE	no repair	239	-		CLEMENS ROAD	859538	BVV/TPI, Void broken pipe & Protruding Tap
SEPI6437	1/4/17	PRIVATE	7/28/17	-	205	6651	BANCROFT		TBI, Tap break intruding
SEPI9404	11/28/16	BIO	1/28/17	-	61	5219	MACARTHUR BLVD	821360	BVV, Broken Void Visible
SEPI8321	10/20/16	PRIVATE	12/15/16	-	56	6864, 6865	SUNNYMERE		TBI, Tap break intruding

Asset ID	Date Identified	Bureau Responsible	Date Completed	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPI1456	10/19/16	PRIVATE	no repair	331	-		98TH AVE & E STREET		
SEPI7416	10/17/16	BIO	11/10/16	-	24		39TH AVE & INTERNATIONAL		BVV, Broken Void Visible
SEPI8398	10/14/16	PRIVATE	no repair	336	-		BURCKHALTER		
SEPI25919	9/15/16	BIO	12/12/16	-	88	51	STARK KNOLL PL	812399	HVS, SOIL VISIBLE
SEPI22527	8/11/16	BIO	2/14/17	-	187	1100	34TH STREET	824686	BVV, Broken Void Visible
SEPI29134	7/20/16	BIO	10/12/16	-	84		COLBY STREET		BSV, SOIL VISIBLE
SEPI25645	7/1/16	BIO	8/23/16	-	53	322	49TH STREET	787767	OFFSET, HVV SOIL VISIBLE
UNKNOWN	6/9/16	PRIVATE	11/8/16	-	152	861	37TH STREET		TBI, Tap break intruding
SEPI2292	5/21/16	BIO	7/7/16	-	47	2045	98TH AV	775994	
SEPI22619	5/13/16	PRIVATE	no repair	490	-	3655	WEST ST		TBI, Tap break intruding
SEPI15291	5/9/16	PRIVATE	7/25/17	-	442	2339	PARK BLVD IVY DR		TBI, Tap break intruding
SEPI14359	5/3/16	BIO	7/17/16	-	75		CREIGHTON WY		
SEPI25847	4/12/16	BIO	5/19/16	-	37		GLENDALE AV	764665	BSV, Broken Soil Visible
SEPI10156	3/21/16	BDC	1/6/17	-	291	1921	26TH AV		B, Broken
SEPI26119	3/15/16	PRIVATE	9/20/16	-	189	5523	ESTATES DR		TBI, Tap Break Intruding
SEPI26117	3/15/16	BIO	6/1/16	-	78	5566	ESTATES DR	767329	BSV, Broken Soil Visible
SEPI8007	3/7/16	BIO	5/24/16	-	78		BRANN ST	765595	BVV, Broken Void Visible
SEPI23085	2/19/16	BDC	1/5/17	-	321	155	PERSHING DR		LFZ Lining Failure Other
SEPI1558	2/3/16	PRIVATE	8/9/17	-	553	1818	103RD AV		TBI, Tap Break Intruding
SEPI8003	1/8/16	BIO	5/12/16	-	125		57TH AV	763372	BVV, Broken Void Visible
SEPI27692	12/22/15	BDC	11/8/16	-	322	74	BEECHWOOD DR		XP, Collapsed Pipe Sewer
SEPI26690	11/23/15	BDC	10/6/16	-	318	6861	SARONI DR		BVV, Broken Void Visible
SEPI2961	11/23/15	BDC	9/16/16	-	298	728	73RD AV		BVV, Broken Void Visible
SEPI26159	11/20/15	BDC	9/8/16	-	293	250	CAPRICORN AV		D, Deformed
SEPI3335	11/18/15	BDC	4/26/16	-	160		CHEROKEE AV		BVV, Broken Void Visible
SEPI14169	11/3/15	PRIVATE	8/25/16	-	296	3667	ATLAS AV REDWOOD		TRI, Tap Rehabilitated Intruding

Asset ID	Date Identified	Bureau Responsible	Date Completed	Days Outstanding	Days to Completion	Address	Street	WO #	PACP Defect Code
SEPi12206	10/28/15	BDC	8/15/16	-	292	4320	ADELAIDE ST		XP, Collapsed Pipe Sewer
SEPi29482	10/1/15	BDC	9/26/16	-	361	5552	GOLDEN GATE AV		XP, Collapsed Pipe Sewer
SEPi31918	8/17/15	BDC	6/27/16	-	315		Grand AV		BSV, Broken Soil Visible
SEPi14124	8/3/15	BIO	5/10/16	-	281		VICTOR AV	762556	BSV, Broken Soil Visible
SEPi10734	7/8/15	BDC	6/9/16	-	337		FAIR AV		XP, Collapsed Pipe Sewer

Appendix E

Figure 5-1
Cleaning by Sub-Basin, through June 30, 2017

Through 6/30/17

Data Date: 7/12/17

Effective 6/2/16: Reflects GIS data updated 5/14/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasins.

Sewer Subbasin

Cleaning Tracking

Unique feet cleaned starting 1/1/10 (Paragraph 167.d.i and 92.a)

Sewer Subbasin

CCTV Tracking

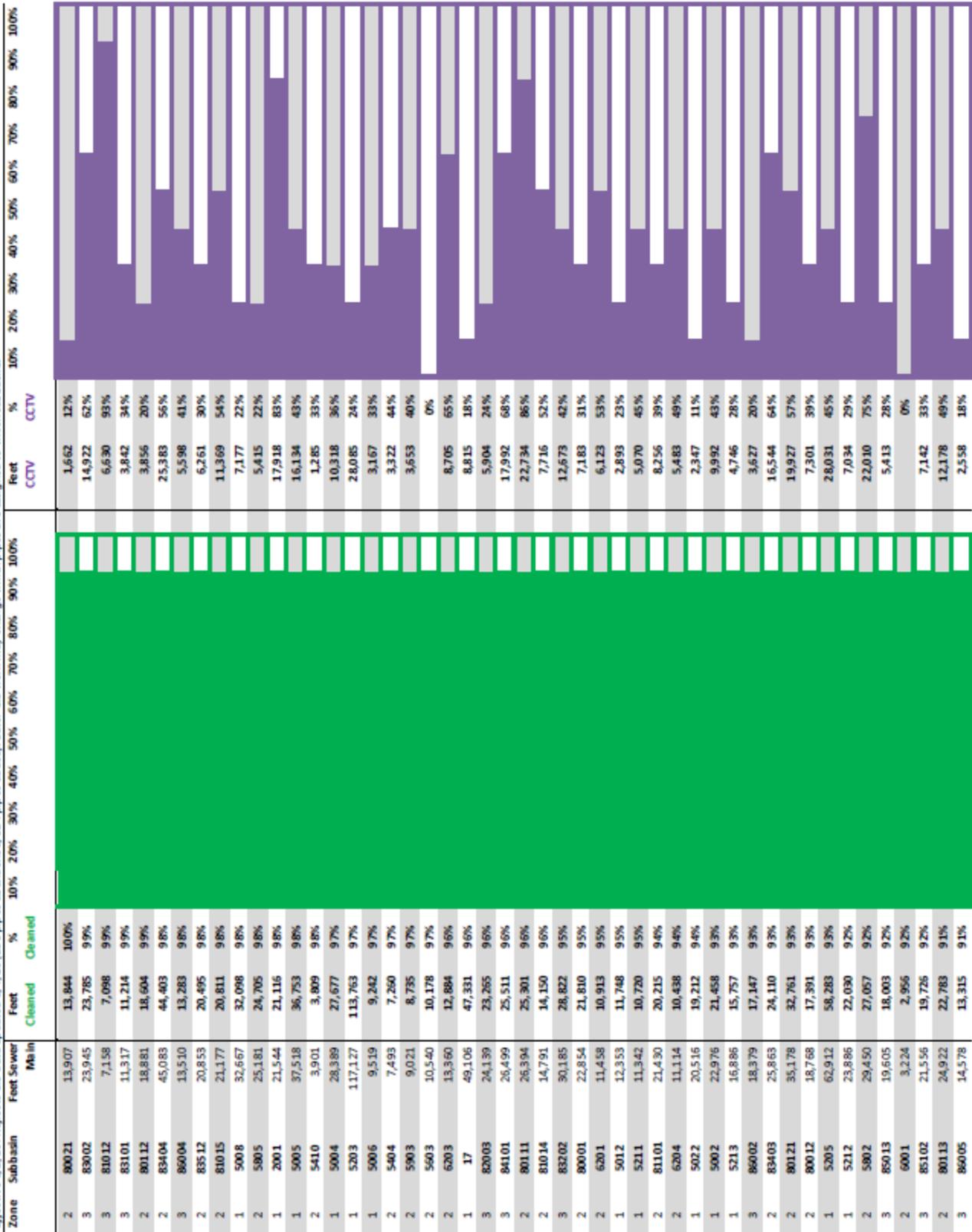
Unique feet televised starting 1/1/14 (Paragraph 83.c)

Zone	Subbasin	Feet Sewer MHI	Cleaned		Feet CCTV	CCTV	
			Feet	%		Feet	%
1	5607	64,003	64,003	100%	32,328	51%	
2	80002	6,414	6,414	100%	255	4%	
2	5402	18,488	18,488	100%	10,357	56%	
2	5803	15,293	15,293	100%	5,528	36%	
2	6005	15,774	15,774	100%	4,766	30%	
2	6007	17,398	17,398	100%	8,828	51%	
2	81201	17,213	17,213	100%	16,942	98%	
2	83402	7,513	7,513	100%	7,357	98%	
3	84004	31,412	31,412	100%	17,586	56%	
3	85004	19,768	19,768	100%	17,764	90%	
3	85303	16,026	16,026	100%	13,002	81%	
3	85305	22,110	22,110	100%	9,050	41%	
3	85401	28,867	28,867	100%	7,156	25%	
1	5009	46,599	46,599	100%	11,616	25%	
1	5015	11,850	11,850	100%	8,191	69%	
1	5207	14,668	14,668	100%	6,209	42%	
2	6003	11,500	11,500	100%	6,533	57%	
2	6006	18,928	18,928	100%	17,218	91%	
1	6413	4,336	4,336	100%	566	13%	
2	80022	16,591	16,591	100%	15,769	95%	
2	80102	5,662	5,662	100%	3,878	68%	
3	83201	17,987	17,987	100%	17,656	98%	
2	83303	16,121	16,121	100%	7,107	44%	
3	84003	15,122	15,122	100%	14,482	96%	
3	85205	30,287	30,287	100%	10,344	34%	
3	85212	24,246	24,246	100%	8,473	35%	
3	85302	17,087	17,087	100%	13,801	81%	
1	2101	10,384	10,384	100%	7,099	68%	
1	5208	5,347	5,347	100%	886	17%	
2	5406	14,628	14,628	100%	8,209	56%	
2	5411	5,690	5,690	100%	1,586	28%	
2	5904	7,062	7,062	100%	4,169	59%	
2	5905	9,930	9,930	100%	5,188	52%	
2	6008	3,238	3,238	100%	2,344	72%	
2	6101	1,761	1,761	100%	479	27%	
1	6402	15,420	15,420	100%	3,311	21%	
1	6406	2,902	2,902	100%	485	17%	
2	80103	18,282	18,282	100%	16,500	90%	
3	81013	19,200	19,200	100%	9,401	49%	
3	82005	38,019	38,019	100%	22,592	59%	
3	83012	11,515	11,515	100%	11,515	100%	
3	83304	9,320	9,320	100%	5,206	56%	
3	84102	25,008	25,008	100%	14,913	60%	
3	84105	14,372	14,372	100%	5,703	40%	

Effective 6/2/16: Reflects GIS data updated 5/4/16 (25.8 pipes abandoned, 324 pipes added). Later GIS work may change which pipes are assigned to which subbasin.

Zone	Subbasin	Feet Sewer Main	Cleaned						Feet CCTV	CCTV %	
			Feet	%	10%	20%	30%	40%			50%
3	85003	20,002	20,002	100%					12,122	61%	
3	85203	13,679	13,679	100%					4,500	33%	
3	85211	33,969	33,969	100%					24,760	73%	
3	85221	16,895	16,895	100%					6,509	39%	
3	85301	24,097	24,097	100%					10,089	42%	
2	85403	11,965	11,965	100%					8,537	71%	
1	2103	24,417	24,417	100%					19,579	80%	
2	5904	8,000	8,000	100%					6,448	81%	
2	5901	11,193	11,193	100%					4,471	40%	
2	81202	22,720	22,720	100%					14,271	63%	
2	83502	14,433	14,433	100%					14,373	100%	
3	84005	12,766	12,766	100%					8,831	69%	
3	84112	16,041	16,041	100%					9,831	61%	
3	85204	30,809	30,809	100%					10,935	35%	
3	85206	31,839	31,839	100%					13,522	42%	
1	2102	15,415	15,415	100%					6,659	43%	
1	5010	10,643	10,643	100%					4,010	38%	
1	6414	4,444	4,444	100%					0	0%	
2	81102	26,740	26,740	100%					8,166	31%	
3	83103	19,573	19,573	100%					19,573	100%	
3	83401	17,062	17,062	100%					14,908	87%	
2	83501	15,219	15,219	100%					15,183	100%	
3	84111	16,835	16,835	100%					8,965	53%	
3	85501	15,316	15,316	100%					3,141	21%	
1	2002	14,497	14,497	100%					11,114	77%	
3	82004	14,116	14,116	100%					7,474	53%	
2	83013	14,585	14,585	100%					14,585	100%	
3	83102	14,635	14,635	100%					10,490	72%	
3	84103	38,445	38,445	100%					18,721	49%	
3	85304	11,617	11,617	100%					1,937	17%	
2	80101	16,630	16,630	100%					15,439	93%	
2	83503	25,548	25,548	100%					25,548	100%	
3	84104	26,726	26,726	100%					14,913	56%	
3	85207	17,284	17,284	100%					9,138	53%	
3	85208	32,940	32,940	100%					18,761	57%	
2	5407	21,312	21,312	100%					11,305	53%	
2	5902	18,010	18,010	100%					10,633	59%	
3	83301	20,395	20,395	100%					16,917	83%	
3	85202	23,617	23,617	100%					10,389	44%	
3	85012	19,879	19,879	100%					9,618	48%	
1	5003	20,012	20,012	100%					11,018	55%	
1	5007	60,204	60,134	100%					22,172	37%	
3	82002	23,772	23,732	100%					11,142	47%	
3	83011	28,862	28,800	100%					19,924	69%	
3	85201	22,184	22,135	100%					5,736	26%	
2	5606	33,425	33,319	100%					32,422	97%	
1	5209	17,856	17,790	100%					12,088	68%	
1	5011	11,341	11,299	100%					10,681	94%	

Effective 6/2/16: Reflects GIS data updated 5/4/16 (258 pipes abandoned, 324 pipes added). Later GIS work may change which pipes are assigned to which subbasins.



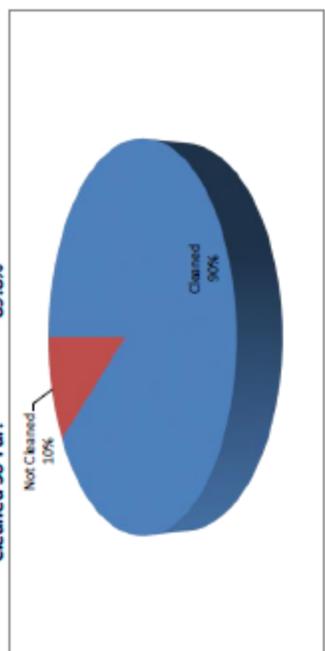
Effective 6/2/16: Reflects GIS data updated 5/14/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasin.

Zone	Subbasin	Feet Sewer Mn In	Feet Cleaned	% Cleaned	Feet CCTV	% CCTV
2	5605	39,714	36,222	91%	15,687	40%
2	80011	17,510	15,930	91%	12,947	74%
2	5405	34,864	31,700	91%	18,058	52%
3	83302	20,314	18,365	90%	6,320	31%
3	85101	32,469	29,205	90%	18,972	58%
1	6412	10,286	9,191	89%	2,153	21%
1	6409	9,534	8,484	89%	2,378	25%
1	5013	14,783	13,149	89%	2,742	19%
1	5210	6,039	5,365	89%	2,082	34%
2	81011	15,210	13,505	89%	2,793	18%
3	85011	16,302	14,310	88%	6,173	38%
3	85002	21,468	18,730	87%	9,169	43%
1	6401	27,012	23,354	86%	7,672	28%
1	5014	49,009	42,368	86%	8,575	17%
3	84001	21,006	18,141	86%	10,241	49%
3	86003	15,539	13,377	86%	6,822	44%
2	5409	49,356	42,413	86%	12,983	26%
1	5202	16,370	14,063	86%	108	1%
2	5602	58,217	49,713	85%	12,059	21%
2	81002	30,796	26,294	85%	4,247	14%
2	85402	20,300	17,313	85%	13,960	69%
1	5001	74,961	63,738	85%	20,493	27%
1	6403	10,316	8,739	85%	354	3%
3	85222	16,166	13,687	85%	5,709	35%
1	6411	24,779	20,926	84%	3,951	16%
2	6002	17,168	14,496	84%	7,331	43%
3	85231	30,172	25,395	84%	4,168	14%
2	5416	37,867	31,603	83%	3,614	10%
2	5413	41,334	34,272	83%	5,060	12%
1	5610	40,349	33,195	82%	1,532	4%
2	5414	26,408	21,534	82%	4,631	18%
2	5412	43,391	35,327	81%	3,326	8%
3	82001	8,354	6,791	81%	2,112	25%
2	5612	52,366	42,528	81%	3,697	7%
2	5801	34,363	27,686	81%	25,293	74%
1	5609	22,187	17,825	80%	737	3%
3	86001	11,021	8,853	80%	0	0%
3	86006	23,305	18,698	80%	17,345	74%
2	6004	11,286	9,021	80%	10,931	97%
1	6408	3,399	2,712	80%	0	0%
3	87002	9,148	7,289	80%	118	1%
2	5415	11,664	9,292	80%	1,353	12%
1	5016	25,041	19,914	80%	2,752	11%
2	6102	17,633	13,962	79%	6,649	38%
1	64	42,066	33,347	79%	5,539	13%
1	5019	67,078	53,147	79%	16,366	24%
2	5604	47,464	37,588	79%	9,146	19%
1	5204	36,317	28,698	79%	4,086	11%

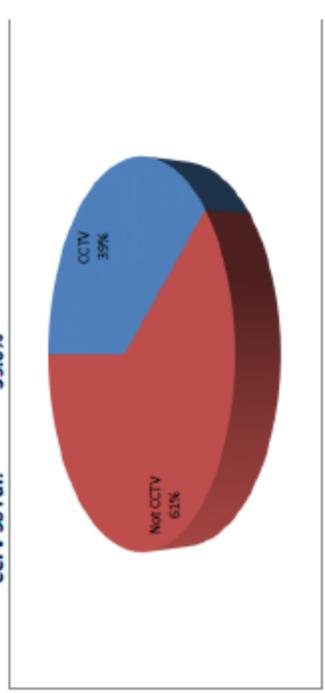
Effective 6/2/16: Reflects GIS data updated 5/14/16 (25.8 pipes abandoned, 32.4 pipes added). Later GIS work may change which pipes are assigned to which subbasins.

Zone	Subbasin	Feet Sewer		Cleaned		CCTV		
		M/in	Feet	%	Feet	%	Feet	%
1	5017	98,136	75,662	77%	16,006	16%		
1	5018	40,858	31,449	77%	6,573	16%		
1	6407	5,605	4,284	76%		0%		
	(blank)	41,059	31,253	76%	5,991	15%		
2	81001	24,815	18,660	75%	2,911	12%		
3	85232	19,818	14,779	75%	6,782	34%		
2	85502	24,069	17,866	74%	11,154	46%		
1	5608	27,363	20,182	74%	2,727	10%		
1	5611	15,201	11,199	74%	919	6%		
2	5408	20,442	14,742	72%	3,595	18%		
2	6202	21,250	15,295	72%	8,402	40%		
1	6410	8,187	5,852	71%	1,108	14%		
1	5021	63,593	44,909	71%	5,034	8%		
1	5020	36,457	25,602	70%	2,483	7%		
1	5417	16,162	11,218	69%	5,108	32%		
3	85001	13,066	8,976	69%	6,048	46%		
2	83511	19,432	13,253	68%	5,403	28%		
1	5206	8,401	5,717	68%	940	11%		
2	83521	16,894	11,240	67%	5,227	31%		
1	6404	16,353	10,857	66%	549	3%		
2	5601	14,195	9,372	66%	2,037	14%		
2	5401	48,711	31,966	66%	7,245	15%		
2	61	3,186	2,057	65%		0%		
3	83001	30,827	19,719	64%	10,078	33%		
1	5201	30,845	19,171	62%	4,482	15%		
3	84002	15,294	9,476	62%	2,323	15%		
3	87001	2,294	1,395	61%		0%		
1	5418	16,985	9,840	58%	2,129	13%		
2	5403	16,451	7,764	47%	4,538	28%		
1	6415	2,412	937	39%		0%		
1	647	30,526	7,534	25%	1,069	4%		
1	6405-1	5,323		0%		0%		
	220	4,903,672	4,402,534	89.8%	1,911,581	39.0%		
	Miles:	929	834		362			

Cleaned So Far: 89.8%



CCTV So Far: 39.0%



Appendix F

**Table 5-5
High Frequency PM Locations [155]**

WO#	Description	Pipe ID #	Address	Feet
682147	Hi-Freq 6 Month	20983	2598 MONTEREY BLVD	63
668202	Hi-Freq 3 Month	6883, 6884, 6886, 6162	8100 FONTAINE ST	644
608237	Hi-Freq 12 Month	30724, 30721, 30722, 30725, 30723	81 ALVARADO RD	875
669030	Hi-Freq 3 Month	24802, 24803, 24804, 24805, 24801, 24800, 24799	1957 ASILOMAR DR	934
608358	Hi-Freq 12 Month	31394, 31373, 31374	25 DARTMOUTH DR	227
669825	Hi-Freq 3 Month	17964, 17987, 15469, 17989	1125 FLEET RD	699
670151	Hi-Freq 3 Month	25870, 25805, 25844, 25779, 22174, 25810	5200 BROADWAY	1250
649191	Hi-Freq 6 Month	6566	7018 MACARTHUR BLVD	163
669922	Hi-Freq 3 Month	12163, 12162, 12161, 12166, 12149, 12148	4330 MOUNTAIN BLVD	674
669965	Hi-Freq 3 Month	5740, 5739, 5746	4550 SEQUOYAH RD	601
670935	Hi-Freq 3 Month	3087	110 GRAVATT DR	424
663647	Hi-Freq 6 Month	2843, 2838, 2837	11212 MONAN ST	273
650656	Hi-Freq 6 Month	12002, 11995, 12003, 11994	3624 LOMA VISTA	1465
655325	Hi-Freq 6 Month	19704, 19724, 17359, 17413	500 LAKE PARK AV	746
673363	Hi-Freq 3 Month	6837, 6830, 6833, 6831, 6897, 6898, 6899	7844 MOUNTAIN BLVD	745
652259	Hi-Freq 3 Month	4249, 4251, 4250	83RD AV & IRIS ST	511
652389	Hi-Freq 6 Month	19580, 19583, 19581, 19566, 19565, 19564	2336 HARRISON ST	770
653419	Hi-Freq 6 Month	14671, 32340, 14670, 14651, 14668, 14667	339 UNION ST	899
653715	Hi-Freq 6 Month	20992, 20989, 20991, 20990	6260 CASTLE DR	187
678393	Hi-Freq 3 Month	14137, 14138, 14283, 14157, 14139	4300 ATLAS AV	647
678268	Hi-Freq 3 Month	20744, 20743, 20751, 20734, 20733, 21058, 32481, 20720, 20717, 31548, 20747	2600 LEIMERT BLVD	2180
683060	Hi-Freq 12 Month	26574	6020 ASPINWALL RD	217

WO#	Description	Pipe ID #	Address	Feet
683064	Hi-Freq 12 Month	23736, 23824, 23822, 23735	6730 LONGWALK DR	426
683077	Hi-Freq 12 Month	9563, 9533, 9532	6167 OVERDALE AV	505
661213	Hi-Freq 6 Month	5740, 5741	SEQUOYAH RD & MCGURRIN RD	315
668336	Hi-Freq 6 Month	30942, 30958, 30688, 30686	1200 WESTVIEW DR	639
669192	Hi-Freq 6 Month	17297, 17296, 17295	290 GRAND AV	951
666647	Hi-Freq 6 Month	9570	6288 SUNNYMERE AV	83
663677	Hi-Freq 6 Month	4236, 4197, 4239, 4241, 4235, 4198	82ND AV & IRIS ST	1373
688780	Hi-Freq 3 Month	17429, 17441, 31918, 17427, 17428	600 GRAND AV	941
688789	Hi-Freq 3 Month	30446, 30447, 30440, 30445	6929 CHABOT RD	340
689447	Hi-Freq 3 Month	8149, 8134, 8132, 8133, 8152, 8153, 8155, 8151	3914 EDGEMOOR PL	1370
667300	Hi-Freq 6 Month	11019, 12850, 12849, 11021, 11020, 11022, 12853	220 ALICE ST	1190
690899	Hi-Freq 3 Month	15954, 16014, 16013, 15958	4122 LAGUNA AVE	502
690903	Hi-Freq 6 Month	25257	6245 WESTOVER DR	71
667324	Hi-Freq 6 Month	22039, 22038, 22036, 22037, 22035	6000 ASCOT DR	453
668264	Hi-Freq 3 Month	31496, 31493, 31494, 31497, 31498	1520 LAKESIDE DR	1022
668449	Hi-Freq 3 Month	22607, 22606, 22605	36TH ST & MLK JR WY	770
668261	Hi-Freq 6 Month	30842, 30844, 31131, 30845, 30841, 30840, 31057, 30843, 31133	1801 TUNNEL RD	601
692123	Hi-Freq 3 Month	2718, 2717, 2720, 2719, 2716, 2695, 2694, 1924, 1923	11110 KERRIGAN DR	1542
693428	Hi-Freq 3 Month	26947, 26946, 26910, 26823, 26822, 26896, 26945	7295 SARONI DR	620
693456	Hi-Freq 3 Month	2982, 2986	72ND AV & HAWLEY ST	765
693514	Hi-Freq 3 Month	28577, 28573, 28572, 28576, 28574, 28563, 28513, 28623, 28512, 28627, 28626, 28514, 28578	6330 PINEHAVEN RD	1739
674212	Hi-Freq 6 Month	27809, 27866	1 MORRILL CT	194

WO#	Description	Pipe ID #	Address	Feet
674160	Hi-Freq 12 Month	5518, 5517	8251 FONTAINE ST	597
662167	Hi-Freq 6 Month	25182, 25183	7280 WOODROW DR	279
678147	Hi-Freq 6 Month	25918, 25921, 25919, 25920, 25917, 25922	25 STARK KNOLL PL	597
678414	Hi-Freq 6 Month	26568	1731 GOULDIN RD	71
679624	Hi-Freq 6 Month	10836, 10835	5425 LEONA ST	208
639210	Hi-Freq 12 Month	11129, 11059, 11097, 11095, 11088, 11098	740 E 8TH ST	959
680157	Hi-Freq 3 Month	17963, 17962, 18001, 17998, 18000, 17961, 17956, 17955, 18055	800 CREED RD	1065
683084	Hi-Freq 12 Month	9596, 9595, 9593, 9592, 9591, 9589	5815 LEONA ST	684
680520	Hi-Freq 6 Month	30251, 30223, 30252, 30220, 30253	439 ALCATRAZ AV	856
682002	Hi-Freq 6 Month	27511, 27525, 27523, 27522, 27512, 27529, 27526, 27530	COLLEGE AV & TAFT AV	2430
683091	Hi-Freq 6 Month	10791, 10792, 10790, 10794, 10793	4210 KNOLL AV	594
641763	Hi-Freq 12 Month	18025, 18026, 18028, 18030, 18029, 18027	1301 HOLMAN RD	755
642824	Hi-Freq 12 Month	4239, 4235, 4241	8301 IRIS ST	835
685103	Hi-Freq 6 Month	29751, 29752, 29755, 29756, 29754, 29753	451 MOUNTAIN BLVD	572
686563	Hi-Freq 6 Month	2444, 2446, 2439, 2438, 2442, 2431, 2568, 2443, 2440, 2561	98TH AV & BURR ST	1441
677946	Hi-Freq 12 Month	13226, 13225	9TH AV & E 20TH ST	349
686572	Hi-Freq 6 Month	13373, 13436, 13374, 13381, 13385, 13435, 13383, 13384, 13386, 13434	2524 14TH AV	1791
643548	Hi-Freq 12 Month	12124, 12126, 12125	4515 ELINORA AV	292
643776	Hi-Freq 12 Month	1044, 881, 1054, 1056, 800	823 105TH AV	1203
687286	Hi-Freq 6 Month	30625, 30624, 30632, 30626, 31179, 31178, 30855, 30854, 30495, 31128, 31127, 31126, 31081, 30617, 30623, 30622, 30621	200 CALDECOTT LN	2518

WO#	Description	Pipe ID #	Address	Feet
687750	Hi-Freq 12 Month	12451, 12452, 12465, 12466, 12467, 12468, 12471, 12469, 12472, 12473, 12474	12580 BROOKPARK RD	1783
689162	Hi-Freq 6 Month	22665, 22666, 24078, 24118, 22587, 24079, 22672, 22673, 22669, 22668, 24080, 24081, 24075	37TH ST & W MACARTHUR BLVD	2911
690494	Hi-Freq 6 Month	8986, 7376, 7375, 8988, 8987, 8841, 8840, 8838, 8853, 8852, 8883, 8877	2058 ROSEDALE AV	2466
690602	Hi-Freq 3 Month	27692, 27693, 27697	74 BEECHWOOD DR	574
690880	Hi-Freq 6 Month	8772, 8770, 8771	1479 FRUITVALE AV	608
690890	Hi-Freq 6 Month	2968, 2971	69TH AV & SNELL ST	487
693491	Hi-Freq 6 Month	14292, 14291, 14461, 14479, 14478, 14290	5707 REDWOOD RD	1108
693521	Hi-Freq 6 Month	27518	5600 COLLEGE AVE	129
650089	Hi-Freq 12 Month	7508, 9072	4216 CARRINGTON ST	1258
660363	Hi-Freq 12 Month	10425, 10419, 10424	2633 ABBEY ST	705
666667	Hi-Freq 12 Month	9576, 9562, 9533, 9541, 9534, 9560	4228 MOUNTAIN VIEW AV	1002
665716	Hi-Freq 12 Month	14133, 14368, 14370, 14369, 32471, 32408, 31614, 14132, 14399, 14398, 14371, 14374, 16219, 16403, 16402, 14372, 14129	353 CRESTMONT DR	2357
667100	Hi-Freq 3 Month	8269, 8268, 8267, 8270	6636 LAIRD AV	546
667899	Hi-Freq 12 Month	14339, 14340, 14338, 14341, 14348, 14349, 14351, 14347, 14346, 14344, 14343, 14342, 14387, 14378, 14375, 16388, 14373, 16218, 16364, 16284	297 RISHELL DR	2737
668188	Hi-Freq 12 Month	22955, 22954, 22953, 22952	642 EL DORADO AV	1228
669044	Hi-Freq 12 Month	25433, 25344, 25343, 25307, 25431, 27009, 25338	7047 EXETER DR	649
681051	Hi-Freq 12 Month	11242, 11252, 11174, 11175	745 11TH AVE	703

WO#	Description	Pipe ID #	Address	Feet
680414	Hi-Freq 12 Month	29175, 29176, 29172, 30192, 30197, 30191, 29134, 29223, 29226	469 63RD ST	3034
680868	Hi-Freq 12 Month	29274, 29275, 29273, 29596, 29272, 29271, 29276	6098 ROCKRIDGE BLVD	1478
682827	Hi-Freq 12 Month	1729, 1703, 1704, 1726, 1721, 1705, 1702, 1730, 1697, 1701	10306 FOOTHILL BLVD	1891
683122	Hi-Freq 12 Month	19647, 19660, 19648, 19646, 19541, 17313, 17311, 19644	347 PERKINS ST	1625
684121	Hi-Freq 12 Month	4847, 6109, 6132, 6131, 4853	55TH AV & INTERNATIONAL BLVD	1679
683771	Hi-Freq 12 Month	6318, 6461, 6319, 7982, 7976	6334 CAMDEN ST	1371
684868	Hi-Freq 12 Month	19608, 19609, 19613, 17345, 19614, 19615, 19610, 19606, 19611, 17357	GRAND AVE & HARRISON ST	1884
686360	Hi-Freq 12 Month	4696, 4697	488 LESSER ST	522
688750	Hi-Freq 12 Month	3519, 3465	9777 GOLF LINKS RD	409
690592	Hi-Freq 12 Month	7769, 7764	2646 COLE ST	401
693414	Hi-Freq 12 Month	10285, 11913	2300 HUMBOLDT AV	556
695601	Hi-Freq 12 Month	23634, 23635	5959 WESTOVER DR	49
695612	Hi-Freq 12 Month	31552, 23790, 23791	2922 HOLYROOD DR	273
697187	Hi-Freq 6 Month	2790, 2789	11177 ELVESSA ST	690
697185	Hi-Freq 6 Month	12107, 12105, 12106, 12104	4445 SHEPHERD ST	528
697201	Hi-Freq 12 Month	24578, 24577	5692 CABOT DR	222
698182	Hi-Freq 12 Month	20983	1480 WESTVIEW DR	63
699228	Hi-Freq 3 Month	17342, 17340, 17339, 17341, 17325	BELLEVUE AVE & PERKINS ST	942
713181	Hi-Freq 6 Month	17738,17739,17740,17741,17742, 17721	1021 BROOKWOOD RD	600
713182	Hi-Freq 12 Month	5905, 5906	4332 INTERNATIONAL BLVD	270
713187	Hi-Freq 6 Month	13164	411 E 18TH ST	196
713191	Hi-Freq 6 Month	6417, 6418, 6420, 6423	6502 BANCROFT AV	983
719317	Hi-Freq 12 Month	21966	2477 MONTEREY BLVD	287
719315	Hi-Freq 12 Month	25585	895 47th ST.	356

WO#	Description	Pipe ID #	Address	Feet
719294	Hi-Freq 12 Month	13902, 11946, 12021, 12061	3770 35TH AV	948
719289	Hi-Freq 6 Month	14229	4020 REINHARDT DR	257
719285	Hi-Freq 12 Month	12111, 12110, 12109	4425 CARSON ST	361
719281	Hi-Freq 12 Month	12242, 12241, 12240, 12266, 12243	HUNTINGTON ST & FAIR AV	852
732054	Hi-Freq 6 Month	27835	4308 HARBORD DR	139
798033	Hi-Freq 3 Month	19776	SANTA CLARA AV & GRAND AV	277
738319	Hi-Freq 3 Month	23085	102 CREST	30
738339	Hi-Freq 12 Month	5244, 5243	BANCROFT AV AND 74TH AV	504
741625	Hi-Freq 12 Month	12819, 13107,15114, 15112,15098,31497,31498,31494,31496	1225 FALLON ST	2177
739991	Hi-Freq 12 Month	28737, 32368, 28735, 28736, 28727, 28728, 28726, 26545	6205 WESTWOOD WY	936
739994	Hi-Freq 12 Month	30480, 30415	171 ROBLE RD	196
739996	Hi-Freq 12 Month	31209, 31208, 31311	7351 Claremont	533
739999	Hi-Freq 6 Month	3199, 3198, 2168	1902 90th Av	1110
743184	Hi-Freq 12 Month	12912, 12926, 12925, 12762, 12920, 12936, 11027, 11010, 11011, 12778	308 Jackson	1950
747480	Hi-Freq 6 Month	26690	6861 SARONI	50
747490	Hi-Freq 6 Month	16131, 16138	3228 GUIDO ST	213
751442	Hi-Freq 3 Month	15828, 15827, 15724	3826 LYMAN	683
751862	Hi-Freq 3 Month	23188	2345 SCOUT RD	282
766859	Hi-Freq 6 Month	22335	3105 HOLYROOD DR	62
764714	Hi-Freq 12 Month	15729, 15728	3577 FRUITVALE AVE	616
764673	Hi-Freq 6 Month	14244, 14245, 14238, 14239, 14246	4120 MOUNTAIN BLVD	642
764446	Hi-Freq 6 Month	6675, 6676	7575 SUNKIST DR	208
764444	Hi-Freq 3 Month	14408, 14418, 12356, 12325, 12326	REDWOOD RD & TERRABELLA	592
759125	Hi-Freq 6 Month	24396, 24395, 24529, 26145, 25850, 25897, 26146	5527 MORAGA AVE	1107

WO#	Description	Pipe ID #	Address	Feet
759150	Hi-Freq 6 Month	1864, 1863	2960 PERALTA OAKS CT	166
759449	Hi-Freq 6 Month	10237, 9368	2344 HARRINGTON AV	356
763261	Hi-Freq 12 Month	30673, 30685, 30674	GRAND VIEW DR & VICENTE RD	769
763314	Hi-Freq 6 Month	606	3115 MIDDLETON	158
771527	Hi-Freq 6 Month	3854, 3852, 3851	EASTLAWN ST & 65TH AV	708
792642	Hi-Freq 6 Month	3165	1418 84TH AVE	260
793277	Hi-Freq 12 Month	30678	1035 GRAND VEIW DRIVE	165
807398	Hi-Freq 6 Month	16341, 16340	3500 MOUNTAIN	260
810193	Hi-Freq 3 Month	21369, 21376, 21374, 21375, 36112, 36345	30TH & TELEGRAPH	900
812874	Hi-Freq 3 Month	10465, 10635	4335 VIRGINA	1000
819564	Hi-Freq 6 Month	10414	3745 BROOKDALE	115
819570	Hi-Freq 12 Month	124	400 CAPISTRANO DR	230
819591	Hi-Freq 6 Month	15829	3822 WHITTLE AV	265
819603	Hi-Freq 6 Month	20980, 18651, 18650	2289 MELVIN RD	480
819609	Hi-Freq 6 Month	2077	84TH AV & G ST	230
819628	Hi-Freq 6 Month	21002, 21001, 21005, 21003, 21004, 21006	83 CASTLE PARK WAY	625
819641	Hi-Freq 12 Month	21865	345 PERSHING DR	150
819819	Hi-Freq 12 Month	8336	7415 CIRCLE HILL DR	150
819821	Hi-Freq 6 Month	6205	5741 ELIZABETH ST	320
836765	Hi-Freq 6 Month	23816	6751 CLIVE AV	129
841355	Hi-Freq 6 Month	24078	MARTIN LUTHER KING JR WAY & W MACARTHUR BLVD	351
841348	Hi-Freq 6 Month	23816	6292 CLIVE AV	130
841353	Hi-Freq 6 Month	31301, 31189, 31325, 31192, 31315, 31188, 31191, 31321, 31190, 31318, 31319, 31317	STONEWALL RD & CLAREMONT AV	1320
851365	Hi-Freq 6 Month	14243	4100 REDWOOD ROAD	227
851392	Hi-Freq 12 Month	3148	8432 INTERNATIONAL BLVD	324
851742	Hi-Freq 3 Month	937, 940, 941, 939, 984	MEDFORD AV & 98TH AV	1001

Appendix G
Table 4-12
Appendix H1 of Consent Decree
Oakland-Owned Facilities
For Sewer Lateral Rehabilitation

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
1	Sanborn (Carmen Flores) Recreation Center	1637 Fruitvale Ave	5601	25-722-26			
2	Dimond Branch Library	3565 Fruitvale Ave 94602	5602	29A-1302-14			
3	Fire Station #14	3459 Champion St	5602	28-905-13-2			
4	Fire Station #14 Storage Building	3460 Champion St	5603	28-905-13-3			
5	Fire Station #25	2795 Butters Dr	5606	29-1161-25			
6	Fire Station #25 Exercise Building	2795 Butters Dr	5606	29-1161-25			
7	Joaquin Miller Park-The Abbey	3082 Joaquin Miller Rd	5606	29-1200-6-3		5/9/2017	No Sewer Lateral
8	Joaquin Miller Park-Fire Circle Restroom	3540 Joaquin Miller Rd	5606	29-1200-6-3	371	5/9/2017	C329152-Task Order 1
9	Joaquin Miller Park-Sanctuary to Memory	3540 Joaquin Miller Rd	5606	29-1200-6-3	213	5/9/2017	C329152-Task Order 1
10	Joaquin Miller Community Center	3594 Sanborn Dr	5606	29-1200-6-3	216.5	5/9/2017	C329152-Task Order 1
11	Joaquin Miller Park-415 Society Trailer	3540 Joaquin Miller Rd	5606	29-1200-6-3		5/9/2017	No Sewer Lateral
12	Joaquin Miller Park-Meadow Restroom	3540 Joaquin Miller Rd	5606	29-1200-6-3		5/9/2017	Cesspool-Not connected to the City sewer system

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
13	Joaquin Miller Park-Shipping Container (2)	3540 Joaquin Miller Rd	5606	29-1200-6-3	363	5/9/2017	C329152-Task Order 1
14	Joaquin Miller Park-Storage	3540 Joaquin Miller Rd	5606	29-1200-6-3		5/9/2017	No Sewer Lateral
15	Joaquin Miller Park-Storage Barn	3540 Joaquin Miller Rd	5606	29-1200-6-3	50	5/9/2017	C329152-Task Order 1
16	Ranger Station	3590 Sanborn Dr	5606	29-1200-6-3	166	5/9/2017	C329152-Task Order 1
17	Sequoyah Lodge	2666 Mountain Blvd	5606	29-1200-6-3			
18	Joaquin Miller Park-Woodminster Cascades	Joaquin Miller Park, 3300 Joaquin Miller Road 94602	5606	29-1200-6-3	251	5/9/2017	C329152-Task Order 1
19	Woodminster Theater	3300 Joaquin Miller Park 94603	5606	29-1200-6-3	251	5/9/2017	C329152-Task Order 1
20	Woodminster Theater-Concession Booth	Joaquin Miller Park 94603	5607	29-1200-6-3		5/9/2017	No Sewer Lateral
21	Woodminster Theater - Restroom	3300 Joaquin Miller Rd	5606	29-1200-6-3	251	5/9/2017	C329152-Task Order 1
22	Joaquin Miller Park-PAL Cabin 1	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
23	Joaquin Miller Park-PAL Cabin 2	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
24	Joaquin Miller Park-PAL Cabin 3	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
25	Joaquin Miller Park-PAL Cabin 4	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
26	Joaquin Miller Park-PAL Cabin 5	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral
27	Joaquin Miller Park-PAL Cabin 6	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	No Sewer Lateral

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
28	Joaquin Miller Park-Redwood Glen Restroom	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
29	Joaquin Miller Park-Rotary	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
30	Joaquin Miller Park-Metropolitan Horseman's Association Clubhouse	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
31	Joaquin Miller Park-Rotary Day	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
32	Joaquin Miller Park-Rotary Day Camp	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
33	Joaquin Miller Park-Sequoia Arena Restroom	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
34	Joaquin Miller Park-Siniwak Cabin	10900 Skyline Blvd	5607	29-1200-7-3		5/9/2017	Cesspool-Not connected to the City sewer system
35	San Antonio Park Head Start Center	1701 East 19th St	6003	20-295-1			
36	San Antonio Recreation Center	1701 East 19th St	6003	20-295-1			
37	Manzanita Head Start Center	2701 – 22nd Ave	6008	22-364-21			
38	Manzanita Head Recreation Center	2701 – 22nd Ave	6008	22-364-21			
39	Union Point - South Parking Lot (haz mat under pavement)	2311 Embarcadero	6103	18-505-1			
40	Union Point - Union Hill (haz mat under hill)	2311 Embarcadero	6103	18-505-1			

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
41	Animal Shelter (new)	1101 – 29th Ave	6202	25-880-1-6			
42	Peralta House	2465 – 34th Ave	8002 2	27-878-2			
43	Coolidge House	2496 Coolidge Ave	8002 2	27-878-1			
44	Peralta Hacienda Park-Community Center	2500 - 34th Ave 94601	8002 2	27-878-2			
45	Peralta Hacienda Park-Restroom	2465 34th Ave	8010 1	27-899-1			
46	Peralta Hacienda Park-Restroom	2465 34th Ave	8010 1	27-899-1			
47	55th Avenue Head Start Center	1800 55th Ave	8200 4	38-3228-5-1			
48	Fremont Pool and Building	4550 Foothill Blvd 94601	8200 4	35-2401-2			
49	Fremont Pool - Locker Rooms & Mechanical Room	4550 Foothill Blvd 94601	8200 4	35-2401-2			
50	Melrose Branch	4805 Foothill Blvd 94601	8200 4	35-2384-1			
51	Fire Station #18	1700 – 50th Ave	8200 5	35-2386-18			
52	Rainbow Teen Center	5818 International Blvd	8300 2	38-3234-12-3			
53	Rainbow Recreation Center	5800 International Blvd 94621	8320 1	38-3234-7-1			
54	Burckhalter Park-Restroom	4060 Edwards Ave	8340 4	40A-3441-36-5			
55	McCrea Park Residence and Restroom	4460 Shepherd St	8350 1	37-2605-87			
56	McCrea Park-Fly Casting Pools	4460 Shepherd St 94619	8350 1	37-2605-87			

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
57	Redwood Heights Rec Center	3883 Aliso Ave 94619	8350 1	30-1869-58-3			
58	Leona Lodge	4444 Mountain Blvd	8350 2	37-2605-90			
59	81st Avenue Branch Library	1021 81st Ave	8400 3	41-4211-1-3			
60	Carter Gilmore Park - New Restroom	1390 – 66th Ave	8419 1	41-4132-15-3			
61	Fire Station #29	1016 – 66th Ave	8410 1	41-4062-12			
62	Fire Station #29 Garage	1016 – 66th Ave	8410 1	41-4062-12			
63	Martin Luther King Branch Library	6833 International Blvd 94621	8410 1	41-4132-15-1			
64	Officer Willie Wilkins Park - Restroom	9710 C Street	8520 2	44-4981-9			
65	Fire Station #20	1401 – 98th Ave	8520 5	46-5424-26			
66	Elmhurst Branch Library	1427 – 88th Ave 94621	8521 1	43-4580-8			
67	Dunsmuir House-Barn	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
68	Dunsmuir House-Carriage House	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
69	Dunsmuir House-Chauffeur's house	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
70	Dunsmuir House-Chicken Coop	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
71	Dunsmuir House-Dinkelspiel House	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
72	Dunsmuir House-	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
	Gardener's House						
73	Dunsmuir House-Mansion	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
74	Dunsmuir House-Milk House	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
75	Dunsmuir House -Pavilion	2958 Peralta Oaks Ct	8523 1	48-5658-3-2			
76	Dunsmuir House-Restroom	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
77	Dunsmuir House-Ticket Boot	2960 Peralta Oaks Ct	8523 1	48-5658-3-2			
78	Lake Chabot-Clubhouse	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
79	Lake Chabot-Fromer Cartaker's Mobile Home	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
80	Lake Chabot-Maintenance Building A	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
81	Lake Chabot-Maintenance Building B	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
82	Lake Chabot-Maintenance Building C	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
83	Lake Chabot-Maintenance Building D	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
84	Lake Chabot-Maintenance Building E	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
85	Lake Chabot-Maintenance Building F	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
86	Lake Chabot-Restroom #1	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
87	Lake Chabot-Restroom #2	near 11450 Golf Links Rd	8523 1	48-5813-3-4			

No.	Facility Name	Address	Sub-Basin No.	Parcel Number	Length (feet)	Completion Date	Remark
88	Lake Chabot- Restroom #3	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
89	Lake Chabot- Sewer Pump Station	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
90	Lake Chabot- Snack Bar	near 11450 Golf Links Rd	8523 1	48-5813-3-4			
91	Sheffield Village Rec Center	247 Marlow Dr 94605	8523 1	48-6140-1			
92	Columbian Gardens Tot Lot	Heskett Rd & Empire Rd	8600 1	45-5322-30			
93	Ira Jinkins (Brookfield) Rec Center	9175 Edes Ave 94603	8600 2	44-5053-1-6			
94	East Oakland Sports Center Complex	9175 Edes Ave	8600 2	44-5053-1-6			
95	Spunkmeyer Field Restroom	Harbor Bay Pkwy & Doolittle Dr	8700 1	42-4404-11-2			

Appendix H

Port of Oakland Sewer Collection System Annual Report for July 1, 2016 – June 30, 2017



Port of Oakland
Sanitary Sewer Collection System
Annual Report

September 2017

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Section 1. Introduction

The Port of Oakland (“Port”), established under the City Charter in 1927, is an autonomous department of the City of Oakland (“City”) under the governance of a seven-member Board of Port Commissioners appointed by the mayor of Oakland. The Port manages a container seaport, a passenger/cargo/general aviation airport, and waterfront properties for commercial and recreational purposes.

The Port owns, operates and maintains a sanitary sewer collection system which consists of lateral pipes, trunk lines, manholes, lift and ejector stations, triturators, and other sewer appurtenances that delivers sewage to the City’s wastewater collection system and to East Bay Municipal Utility District (“EBMUD”) wastewater interceptors and treatment facilities.

The Fiscal Year 2016-17 Sanitary Sewer Collection System Annual Report was prepared at the request of the City of Oakland Public Works Department. The following sections in this report present information pertaining to the following sanitary sewer programs for FY 2016-17 (July 1, 2016 to June 30, 2017):

- Annual Report of Sanitary Sewer Overflows (SSOs)
- Asset Management Implementation Plan
- Infiltration and Inflow Reduction Work
- SSO Reduction Work

Section 2. Annual Report of Sanitary Sewer Overflows

Number and Size of Sanitary Sewer Overflows (“SSOs”)

For the reporting period from July 1, 2016 to June 30, 2017, the Port’s sanitary sewer collection system had four (4) SSO events, all of which were reported to California Integrated Water Quality System (CIWQS). Two SSOs were associated with construction activities at the former Oakland Army Base on City’s properties but were reported by the Port. The other two SSOs were located at the Oakland International Airport. The size of the SSO is summarized in **Table 1**.

Table 1. Number of SSOs

Size of SSO (gallons)	Number	Percent of Total
Greater than or equal to 1,000	2	50%
From 100 to 999	0	0%
From 10 to 99	2	50%
Less than 10	0	0%
Total	4	100%

The total volume released is estimated to be approximately 9,535 gallons. The volume of spills contained and returned to the sewer system as well as the volume reaching waters of the State is shown in **Table 2**.

Table 2. Volume of SSOs

	Volume (gallons)	Percent of Total
Total volume contained and returned to sewer system for treatment	0	0%
Total volume reaching waters of the State	0	0%
Total volume not contained but not reaching waters of the State (everything else)	9,535	100%
Total	9,535	100%

This report may not include all SSOs that occurred from private sewer service laterals within the Port areas that were caused by privately owned and maintained sewer laterals.

Causes of SSOs

The causes of SSOs during the reporting period were due to infrastructure failures and construction damage. The distribution of SSOs by cause is shown in **Table 3**.

Table 3. Causes of SSOs

Cause of SSO	Number	Percent of Total
Blockage:	0	0
Roots	0	0
Grease	0	0
Debris	0	0
Debris from Laterals	1	25%
Vandalism	0	0
Animal Carcass	0	0
Construction Debris	0	0
Multiple Causes	0	0
Subtotal for Blockage	1	25%
Infrastructure Failure	3	75%
Inflow & Infiltration	0	0
Electrical Power Failure	0	0
Flow Capacity Deficiency	0	0
Natural Disaster	0	0
Bypass	0	0
Construction Damage	0	0
Cause Unknown	0	0
Total	4	100%

Location of SSOs and Measures to Prevent Future Spills

During the reporting period there were two SSOs occurred in the Maritime area and two SSOs occurred at the Oakland International Airport.

Table 4. Locations of SSOs

SSO Event ID	Location	SSO Volume (gallons)	Causes	Measures to Prevent Future SSO
826859	At former Oakland Army Base construction site on City of Oakland land, Maritime Street & E. Burma Road	2,000	Pump failure at Lift Station 18P	Old LS 18P was decommissioned and replaced with new Lift Stations No. 1 and No. 2 on E. Burma Road and Maritime Street respectively
828387	At former Oakland Army Base construction site on City of Oakland land, Maritime Street & E. Burma Road	7,500	Power failure to Lift Station 18P	Old LS 18P was decommissioned and replaced with new Lift Stations No. 1 and No. 2 on E. Burma Road and Maritime Street respectively
834465	Oakland International Airport, Terminal 1 Gate 6	15	Check valve not functioned at LS AP06P	Repair valve and adjust preventive maintenance schedule
835633	Oakland International Airport, Terminal 1 Gate 6	20	Pump impeller damage due to excessive amount of rags, towels, and other materials from Terminal 1 restrooms above	Repair pumps and adjust preventive maintenance schedule

SSO Trends

The number of SSOs reduced from five (5) incidents in FY 2014-15 to four (4) incidents for the same period in FY 2016-17. However, the sewage overflow volume increased from **3,530** gallons in FY 2015-16 to **9,535** gallons in FY 2016-17. None of the SSOs reached the surface water body. It is anticipated that the SSOs associated with sewer lift stations would be significantly reduced when the upgrades and improvements at these lift stations are completed in FY 2017-18.

Section 3. Asset Management Implementation Plan

The Port prepared and submitted the Asset Management Implementation Plan (“AMIP”) in 2012. Many programs set forth in the AMIP to reduce SSOs and infiltration/inflow (“I/I”) are very similar to the required elements in the Sewer System Management Plan (“SSMP”), which was updated in July 2015. The SSMP can be found on the Port of Oakland’s website at: <http://www.portofoakland.com/community/environmental-stewardship/programs/>

Section 4. Infiltration and Inflow Reduction Work

4.1 Sewer Main and Lateral Repair, Rehabilitation and Replacement

FY 2016-17 Sanitary Sewer Pipeline Projects Completed

- Completed construction of new gravity and force mains on Maritime Street and Burma Road as part of the former Oakland Army Base redevelopment.
- Minor spot repairs and lateral replacements throughout the Port areas.

FY 2017-18 Sanitary Sewer Pipeline Projects Proposed

- Continue with the sewer main and lateral repair and replacements as part of the Airport Development Plan (e.g., the new International Arrival Building) and in conjunction with tenant improvements and/or new development projects (e.g., Cool Port development).

4.2 Sewer Main Inspection

The Port utilized outside contractors to perform CCTV inspection of sanitary sewer lines within the Port areas. For the reporting period from July 1, 2016 to June 30, 2017, approximately 1.5 miles of sewer mains and laterals at the former Oakland Army Base in the Maritime area were inspected.

Section 5. SSO Reduction Work

5.1 Capacity Assurance

No capacity improvement is necessary at this time since sewer pipelines within the Port appears to contain sufficient capacity to accommodate existing design flows without exceeding the established capacity criteria. Future development at the Port will be subject to engineering review and evaluation to determine if capacity enhancement is necessary.

5.2 Sewer Main Cleaning

The Port utilized outside contractors to clean sanitary sewer lines within the Port areas. For the reporting period, approximately 1.5 miles of sewer line was flushed and/or jetted to remove grease

buildups and to prevent potential blockages. In addition, preventive maintenance activities at sewer lift stations and grease interceptors were performed on a routine schedule.

5.3 Pump Station Renovation and Upgrade

FY 2016-17 Lift Station Improvement Projects Completed

MARITIME

- Completed pump repairs at lift stations R18P, R80P.
- Replaced hardware and level probe at lift station D06P.
- Completed installation of RACO remote alarm monitoring and manual transfer switches for emergency generators at lift stations C07P and C08P.

AVIATION

- Completed rehabilitation of lift station AP01P.
- Replaced compressor at lift station AP02P.

FY 2017-18 Lift Station Improvement Projects Proposed

MARITIME

- Design and construction – Rehabilitation of D09P as part of the construction of the Cool Port development project and rehabilitation of former Oakland Army Base sewer lift station R63P as part of the Shipper Transport Express Phase 2 Improvement.

AVIATION

- Design – Rehabilitation of lift station AP02P at the Airport.
- Upgrade pumps and control systems at lift station AP06P.