2015 NPDES
SELF-MONITORING PROGRAM
ANNUAL REPORT

NPDES PERMIT NO. CA0037869

East Bay Dischargers Authority
City of San Leandro
Oro Loma Sanitary District
Castro Valley Sanitary District
City of Hayward
Union Sanitary District

January 30, 2016
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Section 1: Annual Compliance Summary Table of Treatment Plant Performance

There was one permit exceedance in January 2015, due to construction to replace some of the old infrastructure at the San Leandro plant. EBDA submits all its data electronically into CIWQS, and this information is captured electronically by the CIWQS summary violation reports.

Section 2. Comprehensive Discussion of Treatment Plant Performance and Compliance

Significant construction has been underway for the last three years at the Sea Leandro Plant. The construction there is essentially complete, and plant performance there is essentially similar to the other plants (Section 4). Projects at the San Leandro plant and the others are summarized in Section 8.

Section 3. Biosolids Compliance

Biosolids reporting data are submitted separately to EPA. A summary of the amount and landfills to which biosolids were sent is below:

- OLSD transported 9,339 wet tons to Altamont landfill for Alternate Daily Cover (ADC).
- USD produced a total of 19,232 US wet tons of Class B biosolids. A total of 13,312.45 tons were transferred to Synagro for land application 3,469.89 tons of class B biosloids were composted to Class A by Synagro, and 2,449.99 tons were transferred to Landfill
- CSL did not truck any biosolids off site in 2015.
- Hayward hauled 2395.54 tons of biosolids to the Altamont landfill.

Section 4. Tabular and Graphical Summaries

Since EBDA submits all its data electronically into CIWQS, this section simply summarizes performance on the major contaminants for which there are permit limits. Most all other contaminants are found at concentrations below detection limits. Any evaluation of trends must consider that overall flows through the EBDA system are declining. EBDA’s Member Agencies recycled approximately 1.7 billion gallons of effluent last year. Including the LAVWMA agencies, water recycling accounted for more than 10% of EBDA’s total flows.
Performance-Based Limits

All EBDA’s members’ treatment plants are effectively complying with secondary treatment requirements. The TSS and BOD data show a reasonably large safety margin between monthly limits and performance. None of the plants have discharged above 21 ppm of TSS (compared to the NPDES limit of 30 ppm) nor CBOD (compared to the NPDES limit of 25 ppm). This plant performance was achieved at the City of San Leandro (CSL) despite extensive ongoing plant upgrades during the past two years.
Bacterial Limits
Historically, the significant temporal trend in the data was seasonal peaks of fecal coliform concentrations during the summer when water temperature was highest and pipe transport time longest, probably due to seasonal regrowth in the pipe that peaks in hot weather. Investigative sampling found that this trend was largely an artifact of regrowth in the sampling pipe, and EBDA began conducting more intensive pipe cleaning activities in hot weather in 2012, which dramatically reduced data variability. There is still some random variability in the bacterial data, which still may be more of an artifact of sample tube cleaning frequency. Overall, EBDA bacterial concentrations are far below NPDES permit limits.
Toxics Limits
EBDA's permit regulates toxicity through individual chemical limits for total residual chlorine, cyanide, and copper, and watershed-based permit limits for mercury and PCBs. Cyanide is rarely detected and the total residual chlorine limit is zero, so graphics are not presented for those parameters.

Long-term temporal trends for the other toxic contaminants continue to show that EBDA's discharge of PCB's, mercury and copper easily complies with its permit limits. In general, though, temporal trends have been flattening out. Copper effluent concentrations averaged <10 ppb versus a permit limit of 53 ppb. EBDA's mercury load was 0.42 kg/yr compared to its 2020 watershed permit goal of 2.2 kg/yr with effluent concentrations consistently below 0.010 ppb compared to its permit limit of 0.066 ppb. EBDA's PCBs load was 0.2 kg/yr versus its goal of 0.3 kg/yr. Further information and graphics are presented below in Section 9 on watershed permitting.
The toxics chemistry data are supplemented by monthly toxicity tests. There does not seem to be a correlation of toxicity results with chemical measurements. Toxicity tests could be indicative of unmonitored chemicals causing problems or an artifact of the test procedures themselves. Growing fish in a treatment plant back room is not a trivial undertaking. EBDA’s long-term data do not show a particular trend. Given the 80-fold initial dilution, these data show there is no risk from either acute nor chronic toxicity associated with EBDA’s discharge.
EBDA also conducts extensive nutrient monitoring as part of its watershed nutrients permit. These data were extensively summarized in the BACWA watershed nutrient report.
Section 5. List of Analyses for Which the Discharger Is Certified

The Authority conducts no analyses of its own. Each member agency is certified by the State Department of Health Services for standard water quality tests such as BOD, TSS, pH, DO, enterococcus, and fecal coliform. City of San Leandro staff performs these analyses on the combined effluent as well as acute toxicity testing.

All metals and organics analyses are performed by the Authority’s contract laboratory, East Bay Municipal Utility District (EBMUD), Laboratory Services Division. EBMUD’s lab is certified by the State Department of Health Services for these analyses. EBMUD subcontracts for analytical work on some items, including dioxin and furan compounds.

Pacific Eco-Risk Laboratory (PERL), also a certified laboratory, conducts the quarterly chronic toxicity testing for the Authority.

Each laboratory has separately submitted the required documentation to the Regional Water Board in the past. Therefore, this documentation is not resubmitted with this report. Copies of all laboratory reports are maintained on file at the Authority’s office and are available for review upon request. Said reports are not included in this report.
Section 6. Plan View Drawing or Map Showing the Discharger’s Facility, Flow Routing, Sampling and Observation Station Locations
San Leandro Plant
Oro Loma WWTP

PLANT
INFLUENT
SAMPLE POINT

PLANT
EFFLUENT
SAMPLE POINT
TREATMENT PLANT CAPACITY:
Design: 20 mgd
Average Dry Weather Flow: 12 mgd

ORO LOMA SANITARY DISTRICT
FLOW/PROCESS DIAGRAM
Section 7. Results of Annual Facility Inspection

Given that all the member agency treatment plants treat their storm water, this section is waived.
Section 8. Results of Facility Report Reviews
Status report for reviewing and updating the following documents: O&M Manual, Contingency Plan, Spill Prevention Plan, and Wastewater Facilities Status Report

Union Sanitary District

<table>
<thead>
<tr>
<th>Document</th>
<th>Review Date</th>
<th>Review Procedures</th>
<th>Planned Actions</th>
<th>Schedule</th>
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</thead>
<tbody>
<tr>
<td>O&amp;M Manual</td>
<td>Ongoing</td>
<td>Plant O&amp;M documents are incorporated into the District’s Competency-Based Training Program. USD utilizes Microsoft Sharepoint software to track document review.</td>
<td>Plant management reviews training documents and SOP’s as changes occur (i.e., following construction) or as scheduled.</td>
<td>Each individual training module and SOP has a review frequency of 1-3 years.</td>
</tr>
<tr>
<td>Contingency Plan</td>
<td>December 2015</td>
<td>Plant Manager reviews and updates the Contingency Plan annually.</td>
<td>None. Contingency Plan was updated in December 2015.</td>
<td>Complete next review by December, 2016.</td>
</tr>
<tr>
<td>Spill Prevention Plan</td>
<td>December 2015</td>
<td>Spill Prevention Plan is incorporated into our Contingency Plan and is reviewed at the same time.</td>
<td>None. Spill Prevention Plan was reviewed in December 2015.</td>
<td>Complete next review by December, 2016.</td>
</tr>
</tbody>
</table>
# Hayward Water Pollution Control Facility

## Document Details

### O&M Manual
- **Review Date**: January 2016
- **Review Procedures**: COH WPCF electronic O&M manuals, including SOP’s, are reviewed and updated annually by staff. Revisions are made to sections and SOP’s.
- **Planned Actions**: 29 NEW SOPS WERE WRITTEN IN 2015. Channel Flush, Digester 1 partial take-down, Headworks changing pump a-in control, HEPS turbidimeter cleaning, HEPS turbidimeter cal, H2S gas sampling, pH buffer solution for H2S vessels, Master control re-set cogen, cogen operation guide, cogen startup from PG&E loss, PLC reset at GBT, PLC reset at primaries, returning FC back into service, Utility loss of power (rev.), wet weather flow management (rev.), Testing boiler loop water, DO probe calibration, Depot Rd flush to pond #3, ESC skid fill methane tank, FC take-down, North vac take-down, PLC reset at 12kV, Primary clarifier take-down, Site waste info, TF snail kill, Solids thickening bypass, TF pH probe calibration, Total alkalinity-volatile acid (rev.), Headworks bypass. In addition, our Digester SOP binder was revised in 3 sections.
- **Schedule**: SOP's and O&M sections are reviewed periodically and updated no less than on an annual basis. Updates occurred throughout 2015.

### Contingency Plan
- **Review Date**: January 2016
- **Review Procedures**: The entire plan is reviewed by the WPCF manager with updates and edits made by the Senior Secretary.
- **Planned Actions**: Contingency Plan was updated in January 2016. Edits and or updates were made to the following areas:
  - Emergency phone numbers
  - WPCF Employee phone list
  - Standby and emergency call lists
  - Critical Emergency procedures
  - Emergency contact list
  - F.O.G. supplier list
  - EBDA wet weather S.O.P.
- **Schedule**: Reviewed and completed annually every January.

### Spill Prevention Plan
- **Review Date**: January 2016
- **Review Procedures**: Plant Manager reviewed and edited this plan January 2016.
- **Planned Actions**: Manager statement of approval was signed and dated following this year’s review, in appendix A; emergency phone numbers were updated, Emergency contact list was updated, source control staff notification memo was updated, appendix G; map B was updated.
- **Schedule**: Plan is reviewed each January.

### Facilities Status
- **Review Date**: January 2016
- **Review Procedures**: Master Plan Update completed in October, 2014. A comprehensive CIF plan developed to address optimization, future capacity needs, and potential new regulations. A new $10M Cogeneration system was substantially completed with beneficial use in December 2014.
- **Planned Actions**: Phase Two WPCF improvements construction has begun with a new fourth primary clarifier. Other elements of the Phase Two WPCF Improvements are already in CIF plans for next few fiscal year budgets. Rehabilitation was started on the northwest primary clarifier and north vacuum processes. $100,000 of miscellaneous coatings/improvements were completed. The effluent channel section south of Depot Rd. was fortified. The Digester Improvement project design phase was initiated and is at the 100% design level. A reclaimed water project was started to double capacity. A recycled water project has begun and a SRF loan application is in progress.
- **Schedule**: 10 YEAR MASTER PLAN CIF planning adjusted each year.
### Oro Loma Sanitary District Treatment Plant

<table>
<thead>
<tr>
<th>Review Date</th>
<th>Review Procedures</th>
<th>Planned Actions</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2016</td>
<td>Operations Supervisor</td>
<td>The O&amp;M Manual was recently updated to reflect the newly added Digestion Facilities. The O&amp;M manual will be updated to reflect the addition of an equalization basin when the work is completed.</td>
<td>April 2017</td>
</tr>
<tr>
<td>January 2016</td>
<td>Operations Supervisor</td>
<td>Contingency plan updated most recently in December 2015.</td>
<td>Performed annually</td>
</tr>
<tr>
<td>January 2016</td>
<td>Operations Supervisor</td>
<td>No Changes Planned</td>
<td>An overhaul of the document was completed in August 2015.</td>
</tr>
<tr>
<td>January 2015</td>
<td>NA</td>
<td>The District completed its planned construction of a $12M upgrade to its anaerobic digestion facilities. The project provided 2MG of capacity, while retiring an existing digester with 0.65 MG. The project replaced aging facilities and provides increased process redundancy. A new, 8 MG equalization facility and horizontal levee demonstration is currently under construction. The majority of Capital Spending in the next five years will be on renewal of collection system assets.</td>
<td>New 8MG equalization facility and ecotone slope demonstration project. The horizontal levee was completed in December 2016. The equalization basin will be completed in April 2017.</td>
</tr>
<tr>
<td>San Leandro Treatment Plant</td>
<td>REVIEW DATE</td>
<td>REVIEW PROCEDURES</td>
<td>PLANNED ACTIONS</td>
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<tr>
<td>O&amp;M Manual SOPs</td>
<td>Jan, 2016</td>
<td>O&amp;M manuals and SOPs are reviewed and updated annually by staff and approved by management. As the construction project comes to an end, plant staff will optimize the operation of the new process equipment (new headworks, grit facility, fixed film reactor, FFR lift station, EQ basin, EQ pumping station, EQ return pump station, Preliminary biofilter, Fixed film reactor biofilter, new 12 KV standby generator, new 12 KV electrical loop). Plant staff will then be writing and editing O&amp;M manual chapters and SOPs on the new processes.</td>
<td>Review O&amp;M chapters per schedule. Continue developing new SOPs as gaps are found. SOPs completed recently are: Manual power transfer SOP, Rotating influent channel and wet well flushing, 12 KV generator exercise SOP. O&amp;M chapters finalized are: Huber rotary screw thickener, Operating procedures, Design criteria, Process control, WPCP effluent irrigation system, Troubleshooting guide, FOG receiving station, Functional description, Sieve drum concentrator Laboratory processes, Equipment list. New SOPs assigned to operators are: Update accidental discharge from Safeway and coke SOP, Digesters start up SOP, Boiler operation SOP, Mixing &amp; pumping PC1&amp;2 scum pit, Mixing &amp; pumping PC3 scum pit Safely dumping the grit and rag hoppers Digester transfer 1,2, Spirac spiral conveyor Rotomat Screening wash press, Tuesday testing EBDA effluent pump station PM’s to include Chemical pump test, Oxidation pond valve exercise, and Emergency outfall gate exercise. New O&amp;M manual chapters assigned to operators are: New headworks O&amp;M manual New Grit facility O&amp;M manual A new electronic and interactive WPCP O&amp;M</td>
</tr>
<tr>
<td>Contingency Plan</td>
<td>Jan 2016</td>
<td>WPCP Management reviews, edits and approves.</td>
<td>Plan reviewed annually and updated as needed. Updates to be made in 2015 based on process changes created by the Plant construction.</td>
</tr>
<tr>
<td>Spill Prevention Plan</td>
<td>Jan 2016</td>
<td>WPCP Management reviews, edits and approves.</td>
<td>Plan reviewed and updated. Training and review done annually, including: new employee orientation; 8 hour on-site level 1 responder training, and tailgate review on plan and emergency spill kits.</td>
</tr>
<tr>
<td><strong>Wastewater Facilities Status Report</strong></td>
<td><strong>Jan, 2016</strong></td>
<td><strong>The City has nearly completed a $48.8M rehabilitation project. All facilities are currently operational and substantially complete; staff is currently reviewing operation of new facilities and creating operation and maintenance procedures. Plant staff reviews status of all facilities on a weekly basis. A facilities audit was completed prior to the project to identify plant needs. Collection System CIP is reviewed and revised annually. A sanitary sewer capacity study and master plan was completed in October 2015</strong></td>
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<tr>
<td><strong>Wastewater Rates and Capacity Charges</strong></td>
<td><strong>are reviewed and approved annually.</strong></td>
<td><strong>Plant rehabilitation is being completed and all processes are functional: new electrical system/standby generator servicing existing plant processes, completion of diurnal flow diversion process, a odor scrubbing bio filter and new fixed film reactor. Rehab on two existing primary clarifiers.</strong></td>
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<td><strong>Planned design/build projects:</strong></td>
<td></td>
<td><strong>Planned in-house projects:</strong></td>
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<tr>
<td>• Solar panel energy production</td>
<td>• Installation of an emergency backup generator at our second largest sewer lift station (Neptune)</td>
<td>• Plant piping upgrades for several drains, sludge transfer lines, and #2 water.</td>
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<td>• Cogeneration energy production</td>
<td>• Replacement of WAS pumping facilities at secondary clarifiers</td>
<td>• Upgrade of Digester 1 &amp; 2 flare and pressure regulators</td>
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<td><strong>Planned in-house projects:</strong></td>
<td>• Upgrade of Digester 4 mixing facilities (adding new pump and retaining existing pump for redundancy)</td>
<td>• Installation of Reclaimed Water residential fill station</td>
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<tr>
<td>Current annual CIP projects for the Collection system are being completed. Near future Collection CIP has been planned based on in-house assessment. Future CIP planning will be based on In-house and current Master Plan assessments.</td>
<td>The San Leandro Water Pollution Control Plant is at the end of a $48.8 million rehabilitation project, with expected project acceptance in February 2016. New systems that became operational in 2015 are: fixed film reactor, odor control bio filters, and rehabilitated primary clarifiers. The new emergency generator and electrical system are operational and handle electrical requirements for all facilities via a redundant 12kv loop. Wet weather flow diversion pond is available for use and is now filled via a new diversion/pump station greatly increasing our storage capacity.</td>
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<tr>
<td><strong>The following Plant projects were completed in 2015:</strong></td>
<td></td>
<td>The San Leandro Water Pollution Control Plant is at the end of a $48.8 million rehabilitation project, with expected project acceptance in February 2016. New systems that became operational in 2015 are: fixed film reactor, odor control bio filters, and rehabilitated primary clarifiers. The new emergency generator and electrical system are operational and handle electrical requirements for all facilities via a redundant 12kv loop. Wet weather flow diversion pond is available for use and is now filled via a new diversion/pump station greatly increasing our storage capacity.</td>
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<tr>
<td>• Replacement of existing Plant hypo tanks and all hypo piping</td>
<td>• Replacement of existing Golf Course hypo tank with two tanks (for redundancy) and all hypo piping</td>
<td><strong>The following Plant projects were completed in 2015:</strong></td>
<td></td>
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<tr>
<td>• Installation of turbo type blower at the aeration facility</td>
<td>• Installation of a UPS battery backup system for a plant hypo pump</td>
<td>• Installation of new Digester 1&amp;2 gas handling equipment</td>
<td></td>
</tr>
<tr>
<td>• Installation of Reclaimed Water residential fill station</td>
<td>Collection System CIP projects are completed annually. Priority have been generated based on in house assessment and further projects will be added taking in to consideration our recently completed Master Plan.</td>
<td><strong>The San Leandro Water Pollution Control Plant is at the end of a $48.8 million rehabilitation project, with expected project acceptance in February 2016. New systems that became operational in 2015 are: fixed film reactor, odor control bio filters, and rehabilitated primary clarifiers. The new emergency generator and electrical system are operational and handle electrical requirements for all facilities via a redundant 12kv loop. Wet weather flow diversion pond is available for use and is now filled via a new diversion/pump station greatly increasing our storage capacity.</strong></td>
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<tr>
<td>REPORTS</td>
<td>REVIEW DATE</td>
<td>REVIEW PROCEDURES</td>
<td>PLANNED ACTIONS</td>
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<tr>
<td>O&amp;M Manual</td>
<td>Jan 2016</td>
<td>Updated on an as needed basis and reviewed annually by the EBDA O&amp;M Manager.</td>
<td>The Authority maintains a comprehensive O&amp;M Manual for the joint-use facilities. Chapters of the Manual are regularly reviewed and updated. Most recent revisions were made to appropriate chapters 2010, 2012 and 2013.</td>
</tr>
<tr>
<td>Contingency Plan</td>
<td>Jan 2016</td>
<td>Updated annually by EBDA O&amp;M Manager and EBDA Administrative Assistant. EBDA is included in the Alameda County’s Office of Emergency Service’s Utility Unit.</td>
<td>The Emergency Operating Contingency Plan is supported by Operations &amp; Maintenance Agreements between Member Agencies that are compatible with their existing plans and known to all other local and county agencies for emergency purposes. Operation and maintenance activities are contracted with the Member Agencies for routine work, emergency work and contracts with private specialty firms. Member Agencies have a mutual interest in the continuous uninterrupted use of the Authority force main and Bay Outfall system.</td>
</tr>
<tr>
<td>Spill Prevention Plan</td>
<td>Jan 2016</td>
<td>Updated annually by EBDA O&amp;M Manager</td>
<td>No major changes planned for 2016</td>
</tr>
<tr>
<td>Wastewater Facilities Status Report</td>
<td>Jan 2016</td>
<td>EBDA continues to maintain a comprehensive Replacement and Renewal Policy covering all of EBDA’s equipment above a $3,000 value. The Authority has an asset management program that covers all critical equipment. The program is reviewed monthly by EBDA staff and is reviewed semi-annually by the EBDA General and O&amp;M Managers</td>
<td>In 2015 the Authority completed several projects that provided upgrades to the EBDA system as follows: 1. Complete replacement of the utility water system at the Oro Loma Pump station. 2. Started the design project for the replacement of the Motor Control Center at the Hayward Pump Station. 3. Completed the complete replacement of the Programmable Automation Controller at the Oro Loma Pump Station. The project enhanced the reliability and redundancy in system operations. 4. Continued to upgrade SCADA data summaries and communications between agencies 6. Completed replacement of all chemical injection pumps at Marina Dechlorination Facility that provides consistent dechlorination agent dosing and reliable operation. 7. Started a detailed inspection of the Outfall Pipe. The inspection includes a bathymetric survey, Remote operate vehicle inspection and diver inspection of the diffuser section of the system.</td>
</tr>
</tbody>
</table>
Section 9: BACWA Watershed Permitting and Monitoring

EBDA participates in a number of group processes coordinated by BACWA to fulfill other permit requirements. BACWA Group Activities (attached), including Receiving Water Quality Monitoring, TMDL/SSO Support, Mercury and PCBs Watershed Permit Support, and Implementation of Copper Action. Participation in these items is described in an annual BACWA letter to Water Board.

Mercury and PCB Watershed Permit (CA 0038849)

EBDA participates in a watershed permit, CA0038849, with monthly limits of 0.066 ppb of mercury, an annual loading of 2.2 kg mercury, and annual PCB loadings of 0.3 kg. While formal permit reporting was discontinued in the renewal of the watershed permit, EBDA performance for these contaminants is summarized below:

- None of EBDA’s effluent samples exceeded the mercury nor PCB limits. In fact, mercury concentrations peaked at 0.0072 ppb, almost nine times less than the limit. The total mercury loading as shown in Section 4 was 0.42 kg/yr, less than one-quarter of the limit.
- Nonetheless, EBDA’s member agencies continued their emphasis on mercury reduction strategies. Dental Amalgam pretreatment is a continued emphasis with full participation by dentists in Union Sanitary District and Oro Loma Sanitary District, and Hayward. San Leandro has an unique approach that regulates dentists through building permits. Mercury recycling events in the agencies’ service areas continue to collect residential mercury-containing products including thermometers, thermostats, batteries and fluorescent lamps. In addition, some EBDA communities have purchasing policies that require product substitution for mercury-containing items, and a major mercury waste recycling facility that recycles several million fluorescent bulbs is located in the EBDA district in Hayward.
EBDA’s PCB loads have been estimated by using a special low-detection limit method (EPA 1668C) which has not been formally approved. Using this method, EBDA’s PCB loads remain below its allocation of 0.3 kg/yr. The data for the NOAA 40 congeners for the last five years are graphed below. Total concentrations are extrapolated to an annual load based on the effluent flow on the sampling day. The data show about three-fold variability that does not correlate with any known parameters.