NORTH SAN MATEO COUNTY SANITATION DISTRICT
a subsidiary of the City of Daly City
OPERATION OFFICES
153 Lake Merced Blvd., Daly City, California 94015
(650) 991-8200
(650) 991-8220 (Fax)

January 30, 2020

Mr. William Burrell
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400

Oakland, CA 94612

Dear Mr. Burrell

The attached 2019 Annual Self-Monitoring Report is submitted in accordance with the requirements of NPDES Permit Number CA0037737 Order Number R-2017-0026 for the North San Mateo County Sanitation District. The entire year has been submitted electronically through CIWQS.

I certify under penalty of perjury that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on this inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, 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 violations. {40 CRF 122.22(d)}

All correspondence regarding this transmittal or other matters concerning the North San Mateo County Sanitation District, should be addressed as follows:

Shawnna Maltbie
City Manager/District General Manager
333 – 90th Street
Daly City, CA 94015

A copy of all such correspondence shall be sent to the plant at the following address:

Thomas Piccolotti, Director
Water and Wastewater Resources Department
153 Lake Merced Boulevard
Daly City, CA 94015

Questions of a technical nature may be directed to me at (650) 991-8204, Monday through Friday, between the hours of 5:30 a.m. and 3:00 p.m.

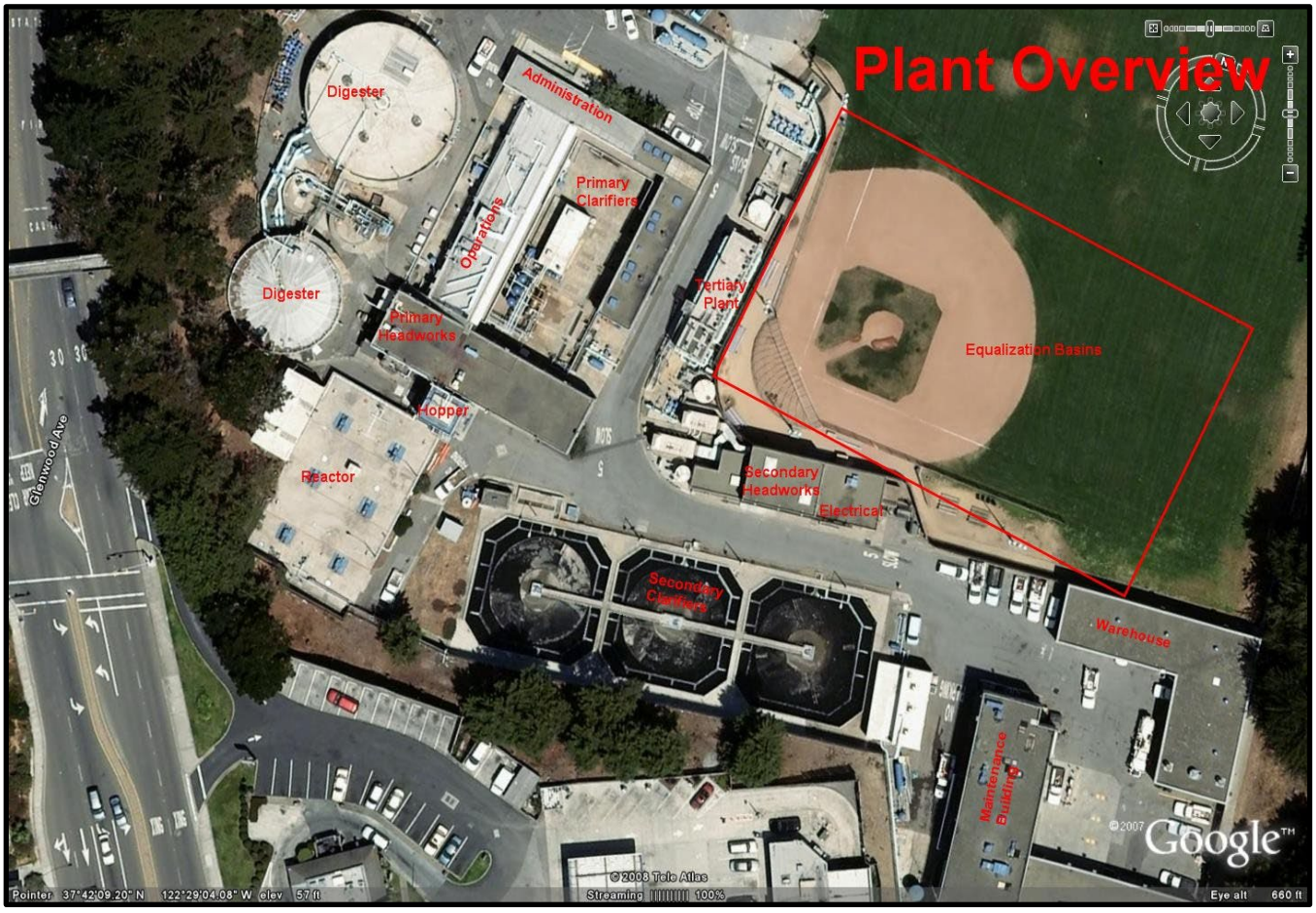
Sincerely yours,

Gregory M Krauss
Chief of Operations
L20-009
Attachments
cc: State Waterboard
Shawnna Maltbie, City Manager/District General Manager

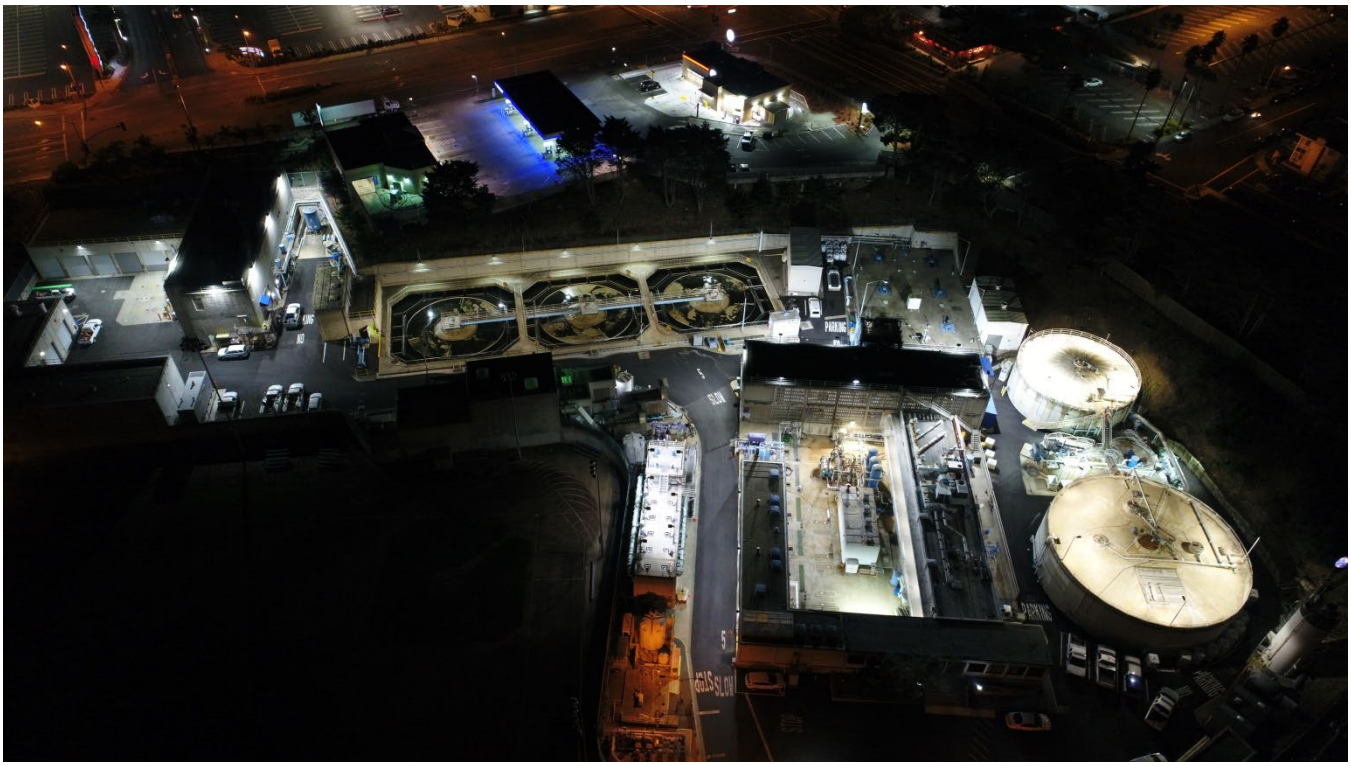
North San Mateo County Sanitation District – Annual Self-Monitoring Report (SMR)

NPDES Permit CA0038369

Order Number R2-2017-0026



January 2020



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FACILITY DESCRIPTION

Facility Overview

The North San Mateo County Sanitation District (District), a subsidiary of the City of Daly City, owns and operates a secondary wastewater treatment facility (Facility) that treats domestic wastewater from the City of Daly City, portions of San Mateo County, the Town of Colma, San Francisco County Jail, and the Westborough Water District within the City of South San Francisco. The combined service population is approximately 120,000.

The Facility treatment system consists of screening, compaction, primary clarification, flow equalization, activated sludge aeration, secondary clarification, chlorination by sodium hypochlorite, and dechlroniation by sodium bisulfate. Biosolids generated during the treatment process are processed with de-gritting, gravity and air flotation thickening, anaerobic digestion, and dewatering by centrifuge. The treated biosolids are then hauled off-site for disposal.

The District conveys a portion of its treated wastewater through the Vista Grande Tunnel structure and a 27 inch force main located at Fort Funston in San Francisco County. Treated effluent is then discharged through a submerged diffuser extending 2,500 feet from the shoreline and terminating at a depth of approximately 32 feet (-32 MLLW). The remaining treated wastewater receives tertiary treatment and is recycled for reclamation projects.

Wastewater Treatment Process

Flow into the Facility is measured with a Parshall flume, and then flows through two micro-screens where it is dispersed evenly to six primary basins. Two additional primary basins (no. 7 and 8) are only brought into service when needed during wet weather flows. The primary effluent is then split with 70% of the flow pumped to the two pure oxygen activated sludge reactors that each has three turbine mixers. The other 30% of the flow is stored in equalization basins until the late evening when it is then pumped back into the secondary system for treatment. Flow from the activated sludge basins is then dispersed between three secondary clarifiers for settling. The effluent flow then flows over the weirs into the chlorine contact mixing chamber.

During all times of the year, treated effluent may then be discharged through the ocean outfall. Additionally, during the dry season, approximately 2.77 MGD of treated effluent can be pumped to the tertiary treatment system to support reclamation activities.

Biosolids Treatment Process

During the wastewater treatment process, the primary basins collect settable solids in a sump and then pumped to two gravity thickeners where ferrous chloride is added. The thickened solids are then removed and pumped to two anaerobic digesters. Overflow from the gravity thickeners flows back to the headworks.

Primary and secondary scum is pumped to an air flotation tank along with the waste activated sludge and treated with a polymer. The thickened sludge is then pumped to an anaerobic digester while the overflow discharges into the primary effluent sump and is pumped to the secondary system.

Digester temperatures are kept at 95° to 100°F. The laboratory performs total solids and volatile solids test each day to confirm vector reduction. The digested solids are then treated with polymer and centrifuged. The centrate from the centrifuge discharges into the headworks. Dewatered biosolids are then pumped to a storage silo were the contract hauler fills their trailer for disposal.

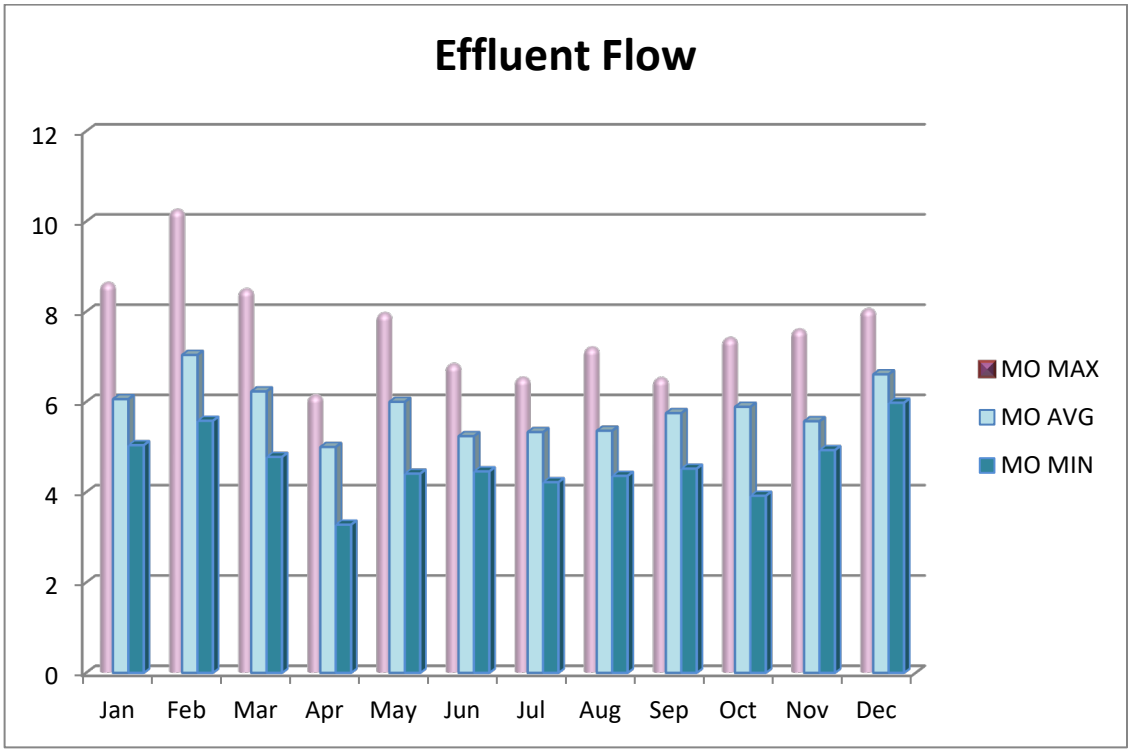
SUMMARY OF PLANT PERFORMANCE

The NSMCSD maintained a high level of performance over the entire reporting period, all NPDES permit requirements were met for 2019. A description of Plant Performance follows.

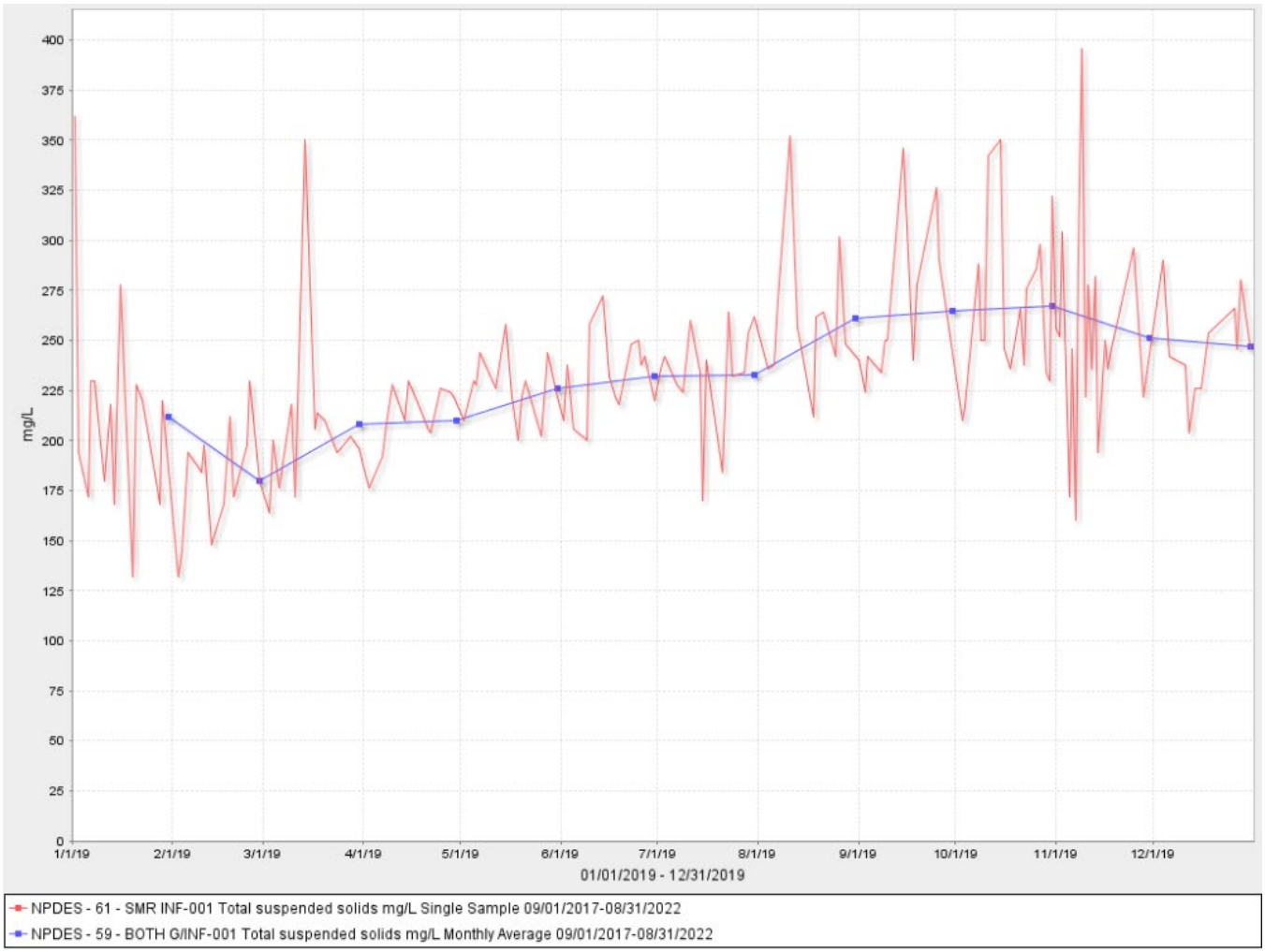
NSMCSD Wastewater Flows

The NSMCSD is permitted for an average dry weather flow of 8.0 million gallons per day (MGD) and the facility design flow is 10.3 million gallons per day (MGD). The average annual effluent flow rates for the reporting period were 5.83 respectively.

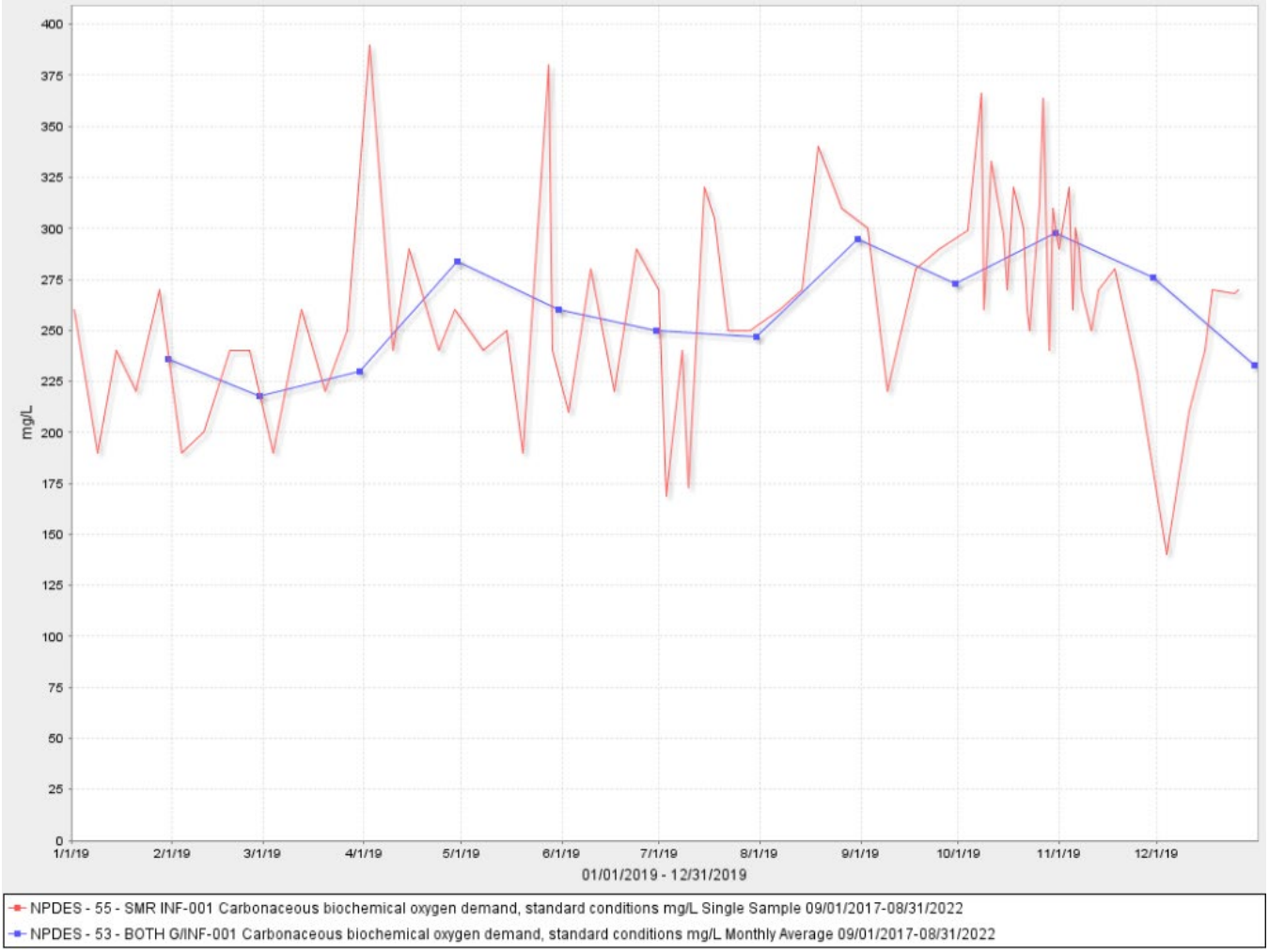
GRAPHICAL COMPLIANCE SUMMARY



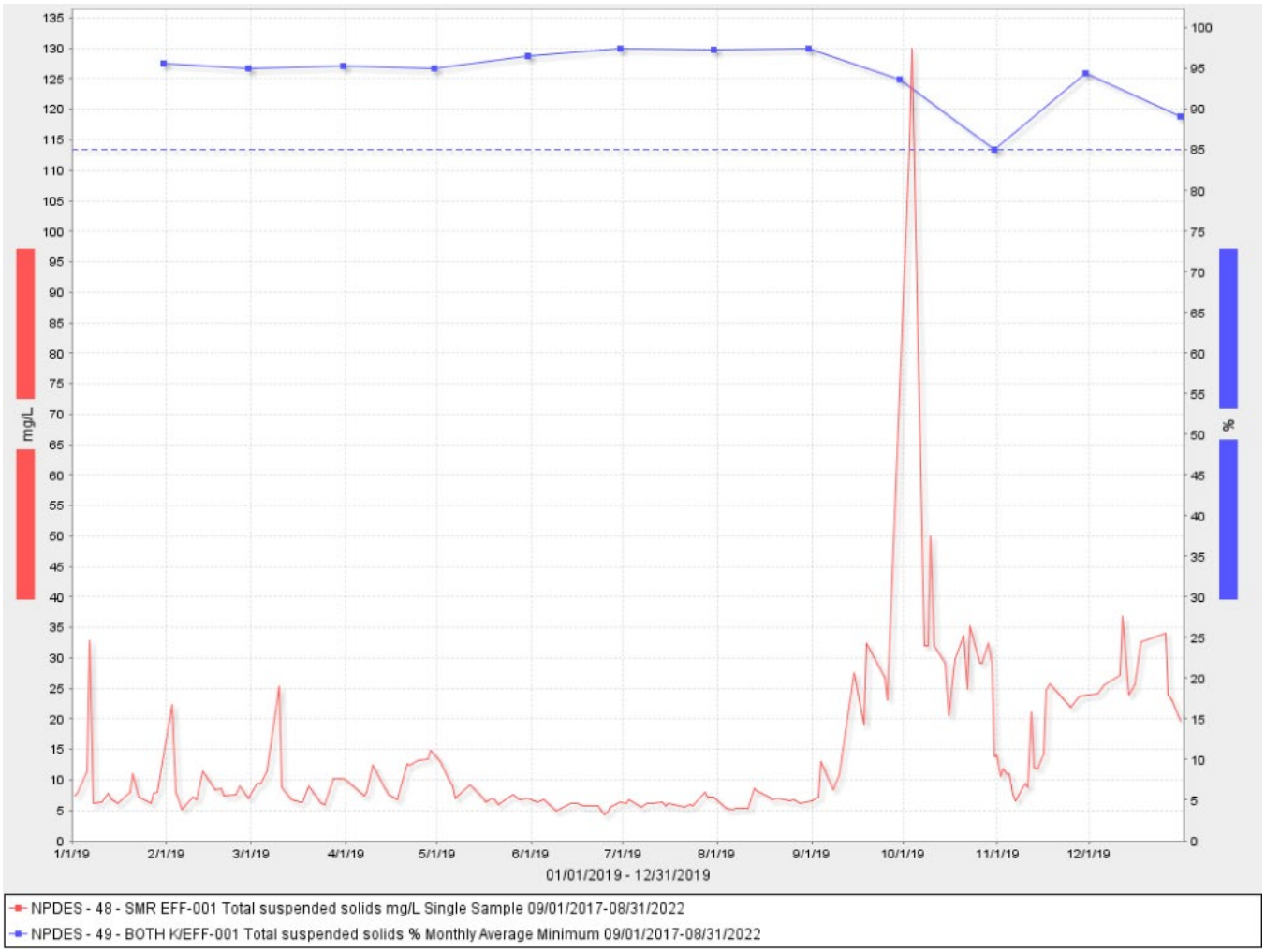
Influent Total Suspended Solids



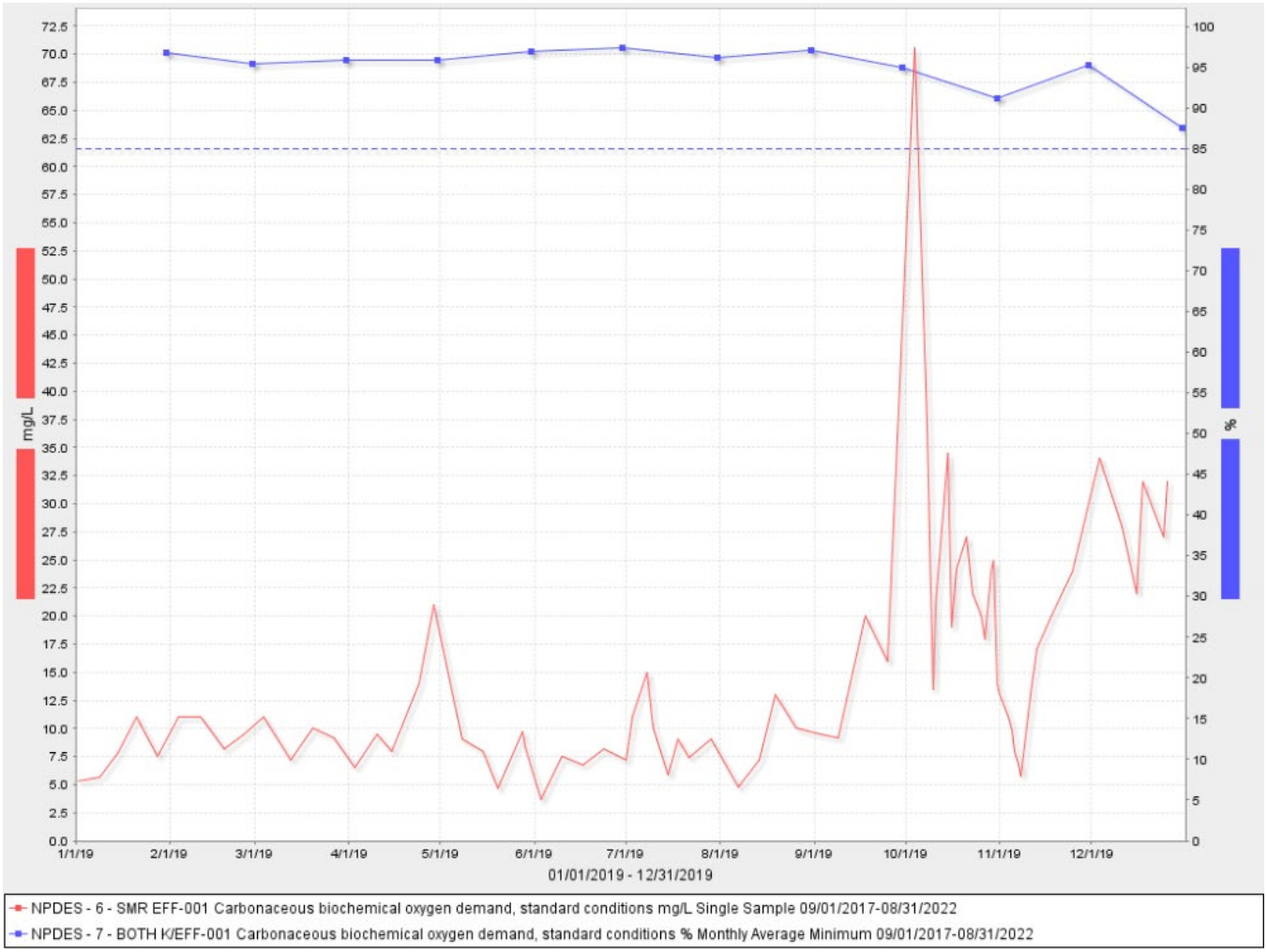
Influent Biochemical Oxygen Demand



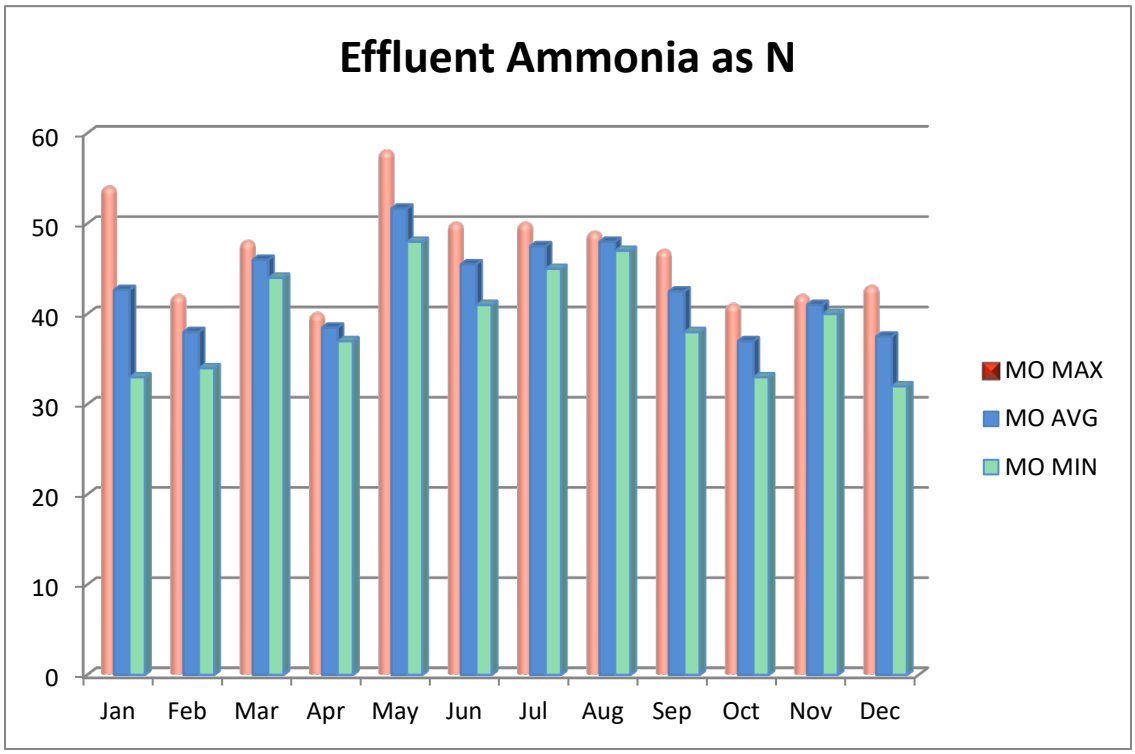
Effluent Total Suspended Solids & % Removal



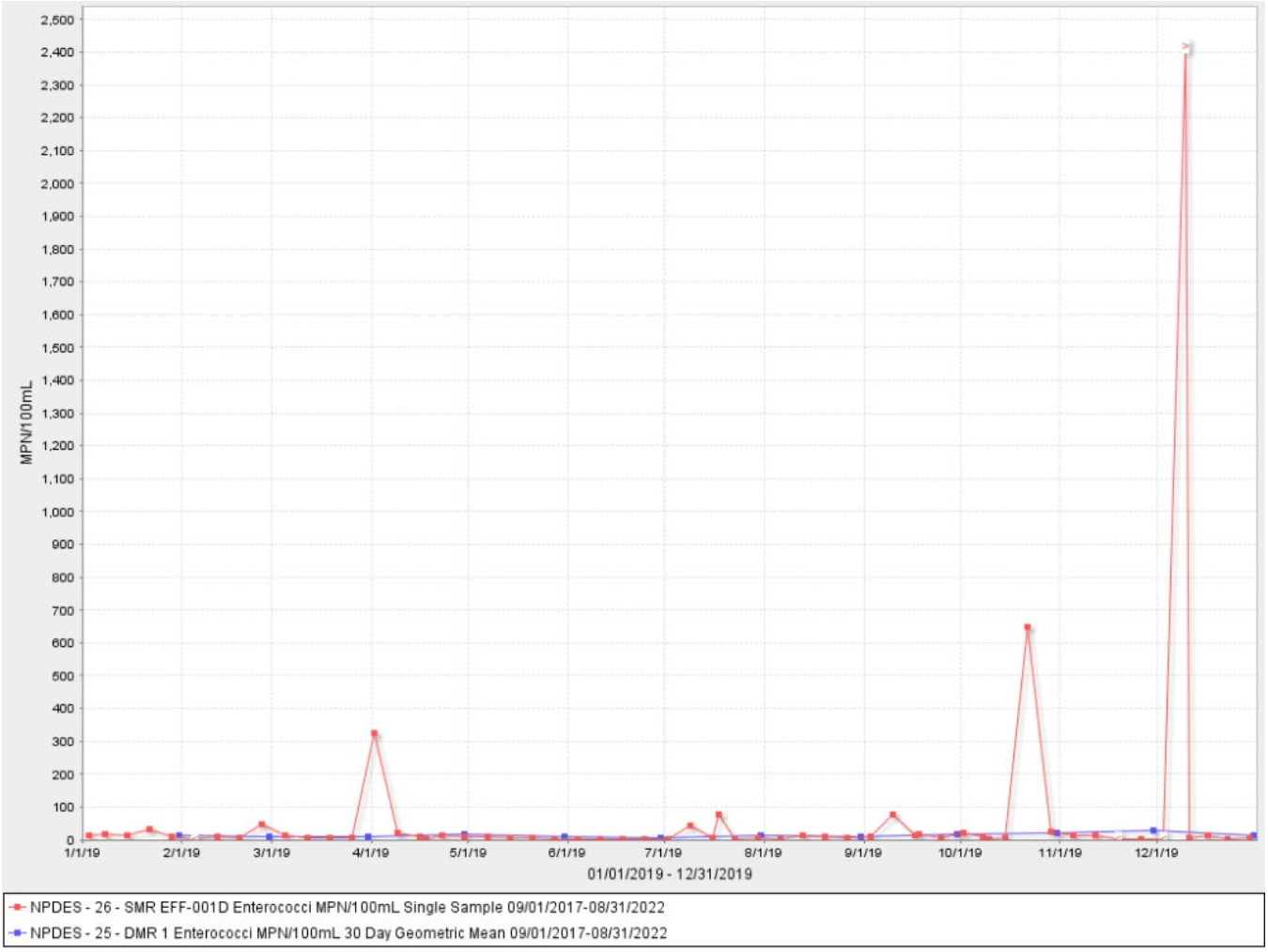
Effluent Biochemical Demand & % Removal



Effluent Ammonia



Effluent Enterococci Single Sample and 30 Day Geometric Mean

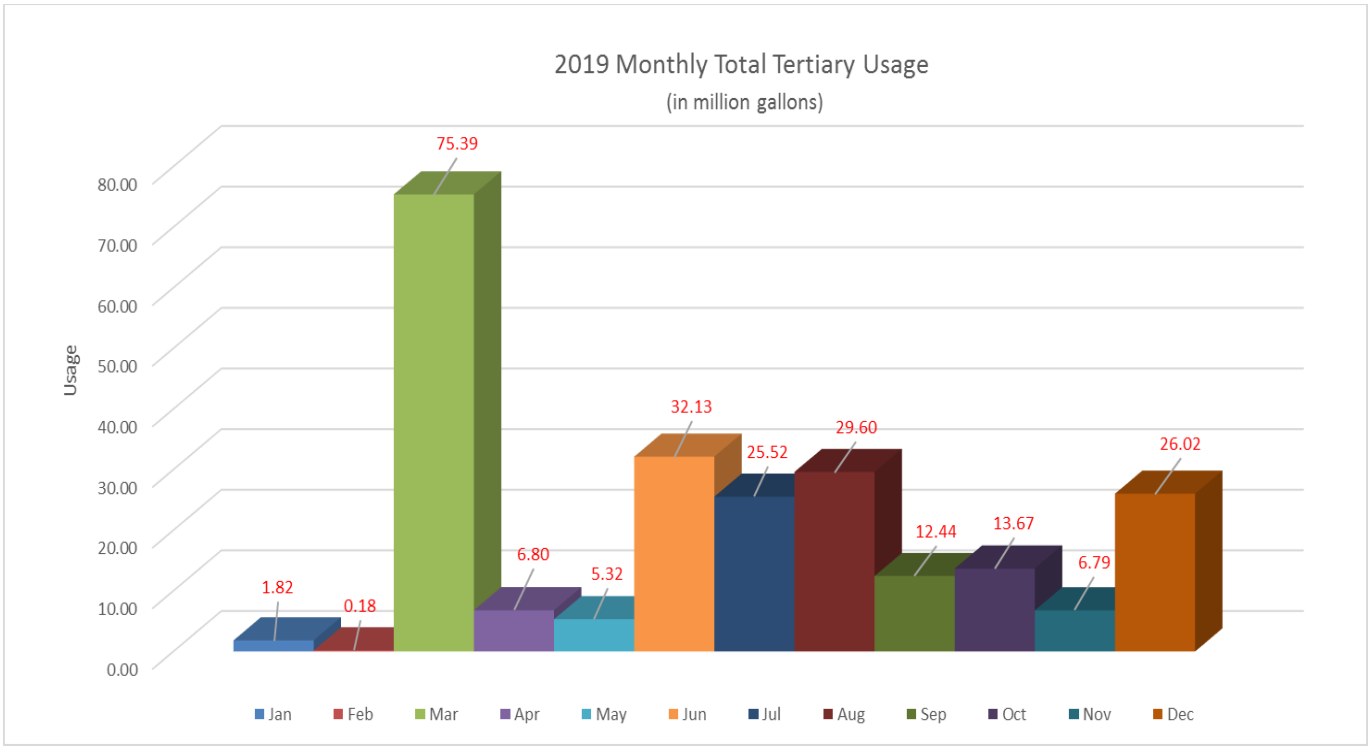


SLUDGE AND BIOSOLIDS MANAGEMENT

The Biosolids produced at the NSMCSD produced a total of approximately 5410.00 wet tons. The biosolids treatment and disposal was in compliance with regulations set forth in 40 CFR, Part 503. All 5410.00 wet tons of biosolids were disposed of at Synagro's Silva Ranch and Composting facility both located in Sacramento County, California, per contract with Synagro Inc. The average solids content for year 2019 was 27.45%

TERTIARY RECYCLED WATER ANNUAL PRODUCTION

The NSMCSD tertiary treatment facility includes flocculation, filtration through its Dina-sand filtration system, and disinfection producing recycled water in compliance with Title 22, disinfected tertiary. The plant is permitted for 2.77 MGD for distribution to four golf courses, two parks, and various median strips along John Daly Blvd. and Junipero Serra Blvd. within the City of Daly City. In calendar year 2019, the District delivered 235.68 million gallons of recycled water to its customers (see chart below).

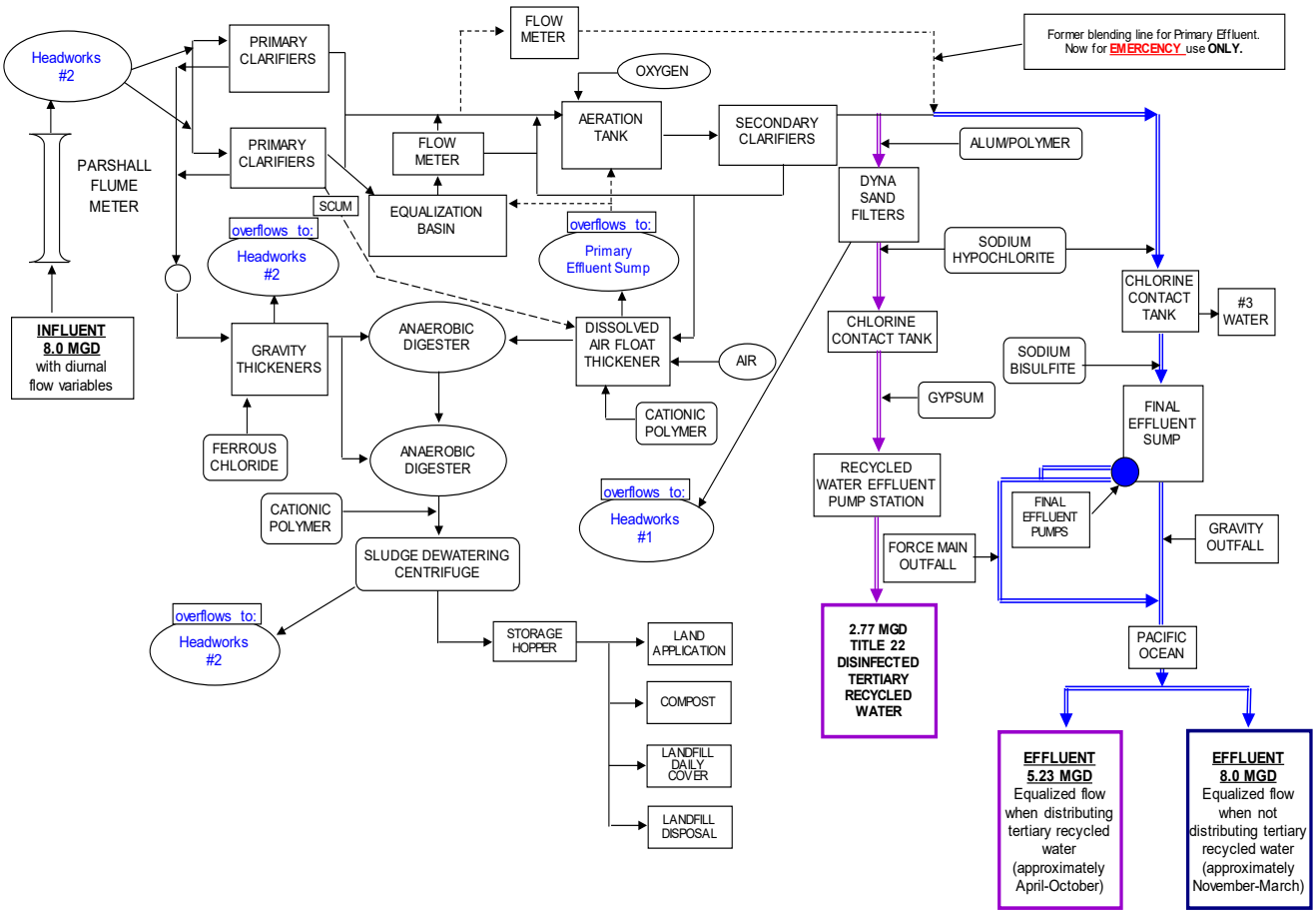

2019 Monthly Total Tertiary Usage
(in million gallons)
Usage
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
1.82
0.18
75.39
6.80
5.32
32.13
25.52
29.60
12.44
13.67
6.79
26.02
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

List of Analyses Performed for NSMCSD by Contract Certified Laboratory's

Method	Analysis	Lab
EPA 200.8	Metals	Alpha Analytical Laboratories, Inc.
10-204-00-1X	Cyanide	Alpha Analytical Laboratories, Inc.
EPA 624	Volatiles	Alpha Analytical Laboratories, Inc.
EPA 625	Semi Volatiles	Alpha Analytical Laboratories, Inc.
EPA 245.1	Mercury	Alpha Analytical Laboratories, Inc.
EPA 608	Pesticides, PCB	Alpha Analytical Laboratories, Inc.
SM 3500-Cr B	Hexavalent chromium	Alpha Analytical Laboratories, Inc.
EPA 900.0	Gross Alpha and Beta	Alpha Analytical Laboratories, Inc.
GC-FPD	Tributylin	Alpha Analytical Laboratories, Inc.
EPA 625SIM	Polycyclic Aromatic Hydrocarbons (PAH)	Alpha Analytical Laboratories, Inc.
SM 4500-NH3 C	Ammonia	Alpha Analytical Laboratories, Inc.
EPA 600/3-79-091	Unionized Ammonia	Alpha Analytical Laboratories, Inc.
EPA 1613 B	Dioxins	Alpha Analytical Laboratories, Inc.
EPA 1664 B	Oil & Grease	Alpha Analytical Laboratories, Inc.
SM 9221	Fecal Coliform MPN	Cel Analytical, Inc.
SM 9221	Total Coliform MPN	Cel Analytical, Inc.
EPA 1600	Enterococcus MF	Cel Analytical, Inc.
EPA/600/R-95-136 **Giant Kelp EPA Method Number 1009.0**	Chronic Toxicity	Pacific Eco Risk

Laboratory	Address	Website
Alpha Analytical Laboratories, Inc.	208 Mason Street Ukiah, CA 95482	http://www.alphalab.com/
Cel Analytical, Inc	82 Mary Street, Suite #2 San Francisco, CA 94103	http://www.celanalytical.com/
Pacific EcoRisk	2250 Cordelia Rd. Fairfield, CA 94534	http://www.pacificecorisk.com/

Plan View Drawings of Facilities with Flow Routing



OPERATOR CERTIFICATION SUMMARY CHART

Name	Certificate #	Renewal-Expiration Date	Grade
Gregory M Krauss	V-27969	6/19/20	**V**
Tharanga Abeysekera	130821-4421	9/30/19	**CWEA Lab IV**
Michael Popiel	V-28415	7/18/20	**V**
Brandon Wardle	IV-28888	1/19/21	**IV**
Tony Pereur	II-43056	9/20/21	**II**
Lawrence Eubanks	III-10823	6/30/20	**III**
Norman Mallari	V-28481	9/26/21	**V**
David Donatelli	III-10964	6/30/20	**III**
Christopher Broadway	II-43180	4/3/21	**II**
Miguel Espinoza	I-34451	12/30/21	**III**
Darin Schumacker	III-11027	12/31/20	**III**
Edward Burns	II-9647	6/30/20	**II**
Kevin Coen	II-42752	11/13/21	**II**
John Grumley	I-40516	9/8/20	**II**
Anh Dao	II-43152	7/23/22	**II**
Ernie Alvarez	ii-40684	1/02/21	**II**

SEWER IMPROVEMENT PROJECTS

During North San Mateo County Sanitation District sewer projects, all connections to the City mains are inspected for integrity. Residences are notified if there is a problem with their lateral. The project contractor can make cost effective repairs if the owner elects to have them make the repairs.

To combat this source of I & I from private laterals, the North San Mateo County Sanitation District has contracted with Service Line Warranties of America. Those residences that choose to sign up for this sewer lateral insurance policy pay less than $10/month. Serval mass mailings, with City letterhead, have taken place since September 2013 informing our customers of this low cost insurance program for maintaining their private sewer laterals.
In addition, the District recognized the opportunity to inspect and correct laterals through the building permit plan review process. Plan reviews require the applicant to state if they intent to keep or abandon the existing sewer lateral. If they intent to keep, they are required to CCTV their lateral with District staff present. If the lateral is found in bad condition, they are required to repair or replace as part of their work activity.
Lastly, collection staff keeps records of parcels that have had the Districts collection system crew respond to a blockage. District staff TV the owners lateral and documents the issues on an updated 'hot list'. Owners are sent a CCTV report of the lateral condition and the need to make repairs before a major incident occurs. If no repairs are made, the notice to repair remains on the City required Residential Requirement Report property record that is disclosed as part of any property sale. Moreover, the Sanitation District also adopted Ordinance # 90 on October 25, 2004. This Ordinance spells out owner responsibility on maintenance of their private service lateral and enables District staff to proactively enforce corrective actions on discharge of wastewater onto the public right of way as a public nuisance should the owner fail to heed identified corrective actions.

These are the total Capital Improvement Projects in 2019. Replacement sewers totaling 3024 feet. CIP locations in 2019 were on Park Plaza, Southgate, and San Fernando Way. This entailed R&R of existing VCP and replacement with PVC pipe. Park Plaza was the replacement of 8" VCP with 12" PVC from Belmar to Park Plaza 701 feet. Southgate was 10" to 12" from Escuela to Cerro (650 feet), and San Fernando was 10" to 10" from Alta Loma to Santa Paula (635 feet). Mariam St. between Vista Grande and Parkview 6" VCP with 534' PVC. Mariam St. between Parkview and Westlake Ave. 505' of 6" VCP with 6" PVC.

EMERGENCY RESPONSE AND SPILL PREVENTION CONTROL PLAN

In 2018, The District updated and revised its Spill Prevention and Control Plant for to include a revision of posable plant discharges in addition to updating its chemicals used and stored throughout the treatment plant. Additionally, emergency contact personnel with and responsibilities and procedures have been included in the spill plan. Also, we have made an agreement with NCR to provide assistance with spill mitigation and removal

CAPITAL IMPROVEMENT PROJECT SUMMARY

The District budgets CIPs in 2-year cycles working of a 20 year Master CIP plan. Below briefly described the completed projects for 2019

The rehabilitation of WWTP's primary digester. This included: Removing the tank from service, cleaning it, replacing all related valves (approximately 30), all roof hatches, flame arresters, gas/water separator, level sensors, view ports.