California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obsipo, CA 93401
Submit this Self Monitoring Report to: centralcoast@waterboards.ca.gov

Document Date: 1/31/2023

FACILITY NAME: Carmel Area Wastewater District Wastewater Treatment Plant
FACILITY ADDRESS: 26900 State Route One
Carmel, CA 93922

CONTACT PERSON: Edward Waggoner
JOB TITLE: Operations Superintendent
PHONE NUMBER: (831) 257-0437
EMAIL: waggoner@cawd.org
WDR ORDER (Permit) Number: R3-2014-0012
WDID NUMBER: 3 270101001
PERMITTED FLOW (see facility WDR Permit): 3,000,000 gpd
AVERAGE WASTEWATER FLOW (over monitoring period): 1,207,000* gpd

TYPE OF REPORT: ■ Annual ☐ Semiannual ☐ Quarterly ☐ Monthly ☐ Other:

REPORTING PERIOD: 01/01/2022 **TO** 12/31/2022

MONITORING PERFORMED DURING THIS PERIOD (check all that apply):

☐ Groundwater	☐ Lab Reports	☐ Recycled Water
■ Treatment System Effluent	■ Solids Disposal	☐ Disposal Area
■ Treatment System Influent	■ Water Supply	☐ Use Area
☐ Source Water Monitoring	■ Other: Outfall Inspection	

Violation(s) during this monitoring period? ☐ YES ☐ NO

Parameter(s) in Violation: *Pursuant to Standard Provisions[1] see footnote on next page, monitoring reports must contain date of violation, explanation of cause and corrective actions planned or taken to prevent recurrence. Please include parameter(s) and date(s) of violation in space provided below. If space is insufficient, include an independent discussion containing explanation of cause and corrective action within monitoring report.*

See Section B: Compliance and Performance

Discharger Comments:

* Influent Plant Flow, note CAWD has two seprate discharge permits R3-2014-0012 for ocean discharge and #93-72 for reclamation discharge. Average GPD ocean discharge average was 248,000 GPD for 2022, and average daily reclamation discharge to golf course irrigation storage was 982,000 GPD for 2022.

Submit this self-monitoring report to centralcoast@waterboards.ca.gov in searchable PDF format. Include attached cover sheet and signature page. DO NOT submit via US mail.

In accordance with the Standard Provisions[1] and Reporting Requirements, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision following a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my knowledge of the person(s) who manage the system, or those directly responsible for data gathering, 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.

Print Name: Edward Waggoner Title: Operations Superintendent

Signature:* Edward Waggoner Date: 01/31/2023

*All reports shall be signed by one of the following:

a. For a corporation: by a principle executive officer of at least the level of vice president.

b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.

c. For a public agency: by either a principle executive officer or ranking elected official.

d. For a LLC: either a member or manager given signing authority by the operating agreement of LLC.

e. a "duly authorized representative" of one of the above.

Table of Contents

Introduction

Facility Objective: Carmel Area Wastewater District protects public health and enhances the environment by collecting and treating wastewater while recycling valuable resources for golf course irrigation in the Carmel Bay region.

Treatment Technologies Used

The CAWD Wastewater Treatment Plant (WWTP) has a permitted capacity of 3.0 million gallons per day (MGD) of dry weather flow. Current average dry weather flow (ADWF) is approximately 1.1 MGD which represents 37% of the permitted capacity. Of the 1.1 MGD, approximately two-thirds are from CAWD customers, and the remaining one-third is from Pebble Beach Community Service District customers.

During large storm events the inflows can increase up to eight times the dry-weather rates. This requires the plant equipment and processes designed to handle large hydraulic loads during the winter months.

Influent Pumping

The purpose of influent pumping is to lift the incoming untreated sewage from the terminus of the several interceptor sewers up and into the headworks from where the sewage can flow by gravity through the other treatment processes. Approximately 97% of the influent sewage is pumped at the influent pump station; the remaining 3% is discharged directly into the headworks from the Calle La Cruz pump station in the Carmel Meadows subdivision.

During power outages, a dual standby generator system automatically provides backup power to all three influent pumps. There is always at least a 7-day supply of fuel onsite to power the standby generator.

Headworks

The headworks structure, together with the adjacent influent manhole, contains essentially all the pretreatment processes of the plant. Unit processes located within the headworks are influent flow measuring, mechanical bar screening, grit removal and washing.

The mechanical bar screen removes rags and other large solids from the raw sewage and into a hopper which stores the screenings until they are removed and disposed of at the landfill.

Grit (i.e. sand, coffee grounds, etc.) is removed from the raw sewage by means of settling in an agitated tank. The agitation keeps the lighter organic solids in suspension and allows the heavier solids to drop out and be removed by pumping the contents from the bottom of the tank into a grit classifier and washer. The grit washer further separates the heavier grit particles from the lighter organic matter and the grit is then disposed of into a bin for disposal at the landfill.

Primary Sedimentation Tanks

The Primary Clari-Thickener tanks remove the majority of suspended solids from the wastewater by gravity settling. CAWD has two primary Clari-Thickener tanks for redundancy. The Clari-Thickener combines the feature of a Primary clarifier for removing settleable solids and floating matter (scum) and a thickening well for concentrating sludge prior to withdrawal for further treatment. Each tank has a mechanical scraper which rotates around the sloping bottom and pushes settled sludge to a sludge thickening zone and a sludge sump. Sludge is withdrawn from the tanks and is transported to the anaerobic digestion tanks. Floating matter is mechanically skimmed into collecting hoppers and is also transported to the anaerobic digestion tanks.

The primary sedimentation process is basically a physical process utilizing gravitational forces. Settleable and suspended solids, which are the major components of sludge and are heavier than water, settle out of the sewage along with any grit carryover from the headworks. Scum, which is lighter than water, floats to the surface and is removed by skimming. Approximately 60 to 65 percent of the suspended solids will be removed by gravitational forces as part of primary sedimentation.

Effluent from the primary sedimentation tanks overflows into double sided circumferential launders and then flows into either the primary equalization system or the aeration basins.

Primary Equalization

The flow equalization basins are designed to reduce flow to the treatment plant during daytime periods of high influent flow. Wastewater stored in the flow equalization basins is reintroduced into the normal wastewater stream at the option of the operator in order to maintain operation of the Reclamation facility when influent flows are low. This operation also ensures that influent flow can be prioritized for reclamation uses over discharge to the outfall.

The reintroduced flow is pumped back to the Headworks.

Diffusers are located in the basin to prevent stored wastewater from becoming septic.

Anoxic Selector

The Anoxic Selector mixes the return activated sludge (RAS) from the secondary clarifiers with effluent from the primary clarifiers and equally distributes the combined flow to Aeration Basins No. 4, 5, and 6.

Aeration (Biological Activated Sludge Process)

The aeration structures (basins) are designed to promote the growth of helpful bacteria organisms which consume the nutrients in the sewage. This is called the "activated sludge" process. By injecting large amounts of oxygenated air, these bacteria thrive and consume the

biological oxygen demand, ammonia, carbohydrates, fats, etc. in the sewage and convert it into bacterial mass or "sludge" for removal in the Secondary Sedimentation Tanks.

The aeration structures can hold about 1.15 million gallons total divided into three separate basins. The helpful bacteria population is maintained in the basins by returning a portion of the sludge separated out of the water downstream in the Secondary Sedimentation Tanks back to the front of the Aeration Basins. This allows the helpful bacteria to live out their life cycle in the treatment process, all the while providing a beneficial service to the treatment process.

CAWD utilizes A2O process which creates different zones in the aeration basins, some with oxygen (aerobic), and some without oxygen (anoxic/anaerobic). The different zones allow for selecting the types of bacteria that are the most beneficial and to enhance the nitrification process.

Aeration in each basin is accomplished by air blowers feeding fine bubble diffusers at the bottom of each basin. Air flow is regulated by automatic dissolved oxygen (DO) control systems.

Mixed Liquor Distribution Structure

The Mixed Liquor Distribution Structure receives and combines the flows exiting the Aeration Basins. Combined flow is then gravity-fed to the Secondary Clarifiers. Two gates are used to control flow to each of the two Secondary Clarifiers.

Secondary Sedimentation Tanks

The Secondary Sedimentation Tanks are similar to the Primary Sedimentation Tanks except they are designed to remove lighter suspended solids. There are two tanks, each equipped with rotating mechanical sludge and scum collectors. The effluent from the Aeration Basins enters each tank through the bottom, rises up through the center column, and then is distributed into the sedimentation zone. Settled sludge is removed from the tank and clean water flows over weirs to the next step in the process (disinfection). The sludge is pumped back to the Aeration process to maintain the helpful microorganism population or wasted to the solid’s treatment process. Scum is collected from the surface of the wastewater in each tank and returned to a sump in the Aeration Structure, from which it is then pumped to the solid’s treatment process.

The clean water coming out of the Secondary Sedimentation Tanks is clear and has very low concentrations of bacteria and ammonia. The water is so nice it is common to see ducks enjoying the water in the clarifier! Disinfection/Dechlorination is next and is the final treatment step before this water is sent to the Reclamation Facility or to the Ocean.

Secondary Effluent Diversion Structure

The Secondary Effluent Diversion Structure serves two purposes:

1. Aiding in downstream disinfection - Secondary flow enters the structure where an injection of chlorine gas and aqueous ammonia is used for disinfection leading into the chlorine contact

channels at the Chlorination Building. When ammonia is introduced under the appropriate conditions, it reacts with hypochlorous acid to produce monochloramine. Monochloramine is used as a disinfectant rather than free chlorine because free chlorine is detrimental to the Reverse Osmosis membranes at the Reclamation Facility. The amount of chlorine and ammonia required to produce monochloramine is based on the ideal weight ratio of 5:1.The desired ratio is controlled, monitored, and driven by programmable logic controllers at the gas chlorine system in the Chlorination Building and the ammonia injection system at the Tertiary Facilities.

2. Flow Management – The Secondary Diversion Structure also receives the effluent flow from the Chlorination Building and either directs the flow to the holding basin at the Tertiary Building prior to reclamation or to the Outfall Building for ocean discharge.

Disinfection/Dechlorination

The final step to clean the water is disinfection/dechlorination. Disinfection is accomplished using liquid chlorine (i.e. bleach) which kills bacteria and deactivates viruses and protozoa that may be harmful to human health. A small concentration of chlorine is maintained in the water for about 2 hours to make sure all of the harmful pathogens are killed or deactivated. The residual chlorine is then removed using liquid sodium bisulfite. At this point the water is safe to send out to the ocean, but most of the time it is sent to the Reclamation Facility for further treatment to allow the water to be reused for irrigating golf courses in Pebble Beach.

Treated Water Pump Station and Ocean Outfall

The treated water is pumped to Carmel Bay, or it is treated further in the Reclamation Facility and sent to Pebble Beach golf courses. The water that is pumped to the ocean the majority of the year is concentrated brine which is the water left after treatment through the Reverse Osmosis (RO) system in the Reclamation Facility. The RO system removes dissolved solids (i.e. salts), which are collected in the brine. This brine is then pumped to the ocean. The salt content of the brine is lower than the salt content in the ocean and so there are no detrimental effects associated with the brine. During winter storms, when flows increase, a portion of the treated water is not sent to the Reclamation Facility and goes directly out of the outfall.

A pipeline carries the treated water or brine to the ocean. The existing ocean outfall is a 24-inch diameter, concrete encased pipe with 10 diffuser ports along the pipe. Each port has a rubber “duckbill” type valve to prevent debris from entering the outfall pipe during periods of low flow. The diffusers are designed to quickly disperse the treated water into the receiving water so that there is no environmental degradation around the outfall.

Solids Treatment and Disposal

There are several individual processes that are utilized to handle and treat the solids generated from the wastewater treatment process. These are: Sludge Thickening, Anaerobic Digestion, and Dewatering.

Sludge Thickening

The lighter sludge generated by the Secondary Sedimentation Tanks and the Microfiltration Membranes (Reclamation) are sent to the Dissolved Air Flotation Sludge Thickener to thicken the sludge before sending it to the Anaerobic Digesters.

Thickening is achieved by adding fine air bubbles into a tank containing the light sludge. The air lifts the sludge particles to the surface so they can coalesce at the surface and be skimmed off in a more concentrated/thick state. This thicker sludge that is collected is sent to the Anaerobic Digesters. The liquid that the solids are separated from is returned to the Headworks to be treated again through the plant.

This is not required for the sludge from the Primary Sedimentation Tanks which is already thick enough to send straight to the digesters.

Anaerobic Digestion

The solids treatment process takes sludge and other solids and places them in an anaerobic digester where the sludge is kept at about 95 degrees and anaerobic bacteria are utilized to stabilize the sludge and remove pathogens. The detention time in the anaerobic digesters is maintained at around 20 days or more.

A byproduct of the anaerobic digestion process is methane. CAWD uses the methane produced to generate electricity using two microturbines. The microturbines can produce about 15% of the power demand required by the wastewater treatment plant (not including the Reclamation Facility).

After the solids have been stabilized sufficiently by the digestion process the solids are held in a holding tank before they are sent to the dewatering equipment.

Dewatering and Land Application

Dewatering is a physical/mechanical process used to reduce the moisture in digested sludge (biosolids). There are several reasons for dewatering sludge. In general, it is more economical to dispose of the dewatered sludge than it is to pump or haul liquid sludge to disposal sites because by reducing the moisture content, the sludge volume and weight are reduced.

The CAWD plant uses a belt filter press or a screw press to dewater the digested sludge. This equipment presses out the moisture from the sludge to create a dry material that is essentially dirt that can be land applied.

The dewatered sludge is hauled by truck to Kern County where it is used as a compost amendment for nonfood crops.

Targeted Removals of Main Pollutants

- BOD target removal 85% of influent average BOD per month.
- TSS target removal 85% of influent average TSS per month.

- Oil and Grease target removal 85% of influent average SS per month.

Overview of Any Liquid or Solid Waste Produced

- Liquids see Section C Flow Evaluation
- Solid Waste see Section G Sludge Management

Upgrades Since the 2014 Permit was Issued

New Structures:

- Anaerobic Digester #2 -450,000 gallons.
- Control Building for Anerobic Digester #2 with future space for cogeneration equipment.
- Ferric Chloride Storage and Dosing for Sulfide control in digesters.
- Sodium Hypochlorite/Sodium Bisulfite storage 9,000 gallons of each product, new chemical dosing pumps (with redundancy).
- Storm water pump station to retain all storm water collected on facility site and treated in the plant flow stream.
- Waste gas burner to meet the stricter clean air requirements.

Existing Structures that Received Upgrades

- Dewatering Building received new screw-press and polymer systems.
- Blower Building received new energy blower and air diffuser membranes.
- Dissolved Air Floatation Thickener received new solids collector and drive, sludge pumps, and air compression systems.
- Operations Building received new Motor Control Center, Programable Logical (PLC) Computer and Supervisory Control and Data Acquisition System (SCADA).
- Fresh Water System (#1 water system) Air Gap System with dual repressurization pumps.
- Return Activated Sludge (RAS)/Waste Activated Sludge (WAS) building received new Motor Control Center, Programable Logical (PLC) Computer and Supervisory Control and Data Acquisition System (SCADA).
- The Chlorination Building removed all Chlorine (CL_2) gas system.

Section A: Data Tables and Graphs

TABULAR AND GRAPHICAL SUMMARY OF 2022 NPDES REPORTABLE DATA

	Influent Flows			BOD			Suspended Solids		
Month	Total	CAWD total	PBCSD total	Influent mg/l	Effluent mg/l	Effluent lb/day	Influent mg/l	Effluent mg/l	Effluent lb/day
Jan	40.807	26.530	14.277	537	13	19	699	11	46
Feb	31.191	21.369	9.822	573	8	21	657	9	24
Mar	34.430	23.496	10.934	418	10	19	575	21	31
Apr	35.101	23.329	11.772	484	12	18	618	16	30
May	35.091	23.071	12.020	634	14	18	681	17	21
Jun	33.717	22.656	11.061	512	13	16	648	10	11
Jul	36.043	24.579	11.464	514	18	18	581	11	12
Aug	35.881	24.412	11.469	458	12	13	746	6	6
Sep	33.941	23.173	10.768	409	15	16	649	8	8
Oct	31.961	22.411	9.550	442	11	11	609	8	8
Nov	34.002	22.641	11.361	367	10	10	628	5	6
Dec	57.963	33.771	24.192	356	15	13	593	12	12

Lab Data 1

					pH			
	Sett Solids	CL2 Residual	Removal Efficiency		Effluent Units		O&G	
Month	Effluent ml/l	Effluent mg/l	BOD %	T.S.S. %	Min	Max	Effluent mg/l	Effluent lb/day
Jan	NODI(B)	0.00	98	98	6.6	7.5	NODI(B)	NODI(B)
Feb	NODI(B)	0.00	99	99	6.8	7.5	NODI(B)	NODI(B)
Mar	0.1	0.00	98	96	7	7.5	NODI(B)	NODI(B)
Apr	NODI(B)	0.00	98	97	7	7.4	NODI(B)	NODI(B)
May	NODI(B)	0.00	98	98	6.8	7.6	NODI(B)	NODI(B)
Jun	0.11	0.00	97	98	7.2	7.6	NODI(B)	NODI(B)
Jul	NODI(B)	0.00	96	98	7.2	7.5	NODI(B)	NODI(B)
Aug	NODI(B)	0.00	97	99	7.1	7.6	NODI(B)	NODI(B)
Sep	0.1	0.00	96	99	6.8	7.7	NODI(B)	NODI(B)
Oct	0.1	0.00	98	99	7.1	7.3	NODI(B)	NODI(B)
Nov	NODI(B)	0.00	97	99	7	7.4	NODI(B)	NODI(B)
Dec	NODI(B)	0.00	96	98	6.6	7.3	NODI(B)	NODI(B)

NODI(B) = NO DETECTION

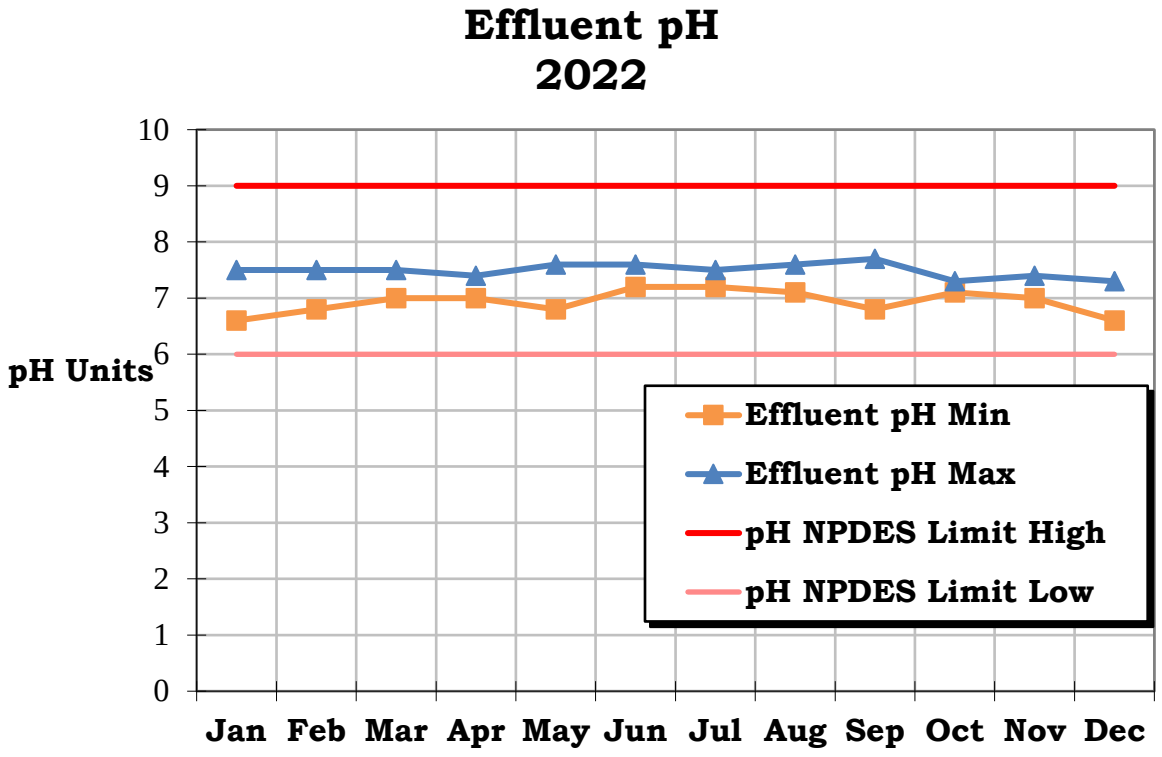
Lab Data 2

	Turbidity	Ammonia Effluent ug/l	Nitrate Effluent mg/l	Effluent	Sludge Cake	Effluent Coliform	Urea Effluent mg/l	Silicate Effluent mg/l
Month	Effluent NTU's			Temp Deg. F	Total Cu.Yds.	Bacteria mpn/100 ml		
Jan	2.66	16.8	145	66.2	101.3	1	207	184
Feb	1.69	26.9	134	66.6	135.5	1	137	139
Mar	2.2	34.9	160	67.3	167.4	1	148	209
Apr	1.7	47	164	68.7	123.9	1	158	194
May	1.6	34.8	163	70.3	154.8	1	137	209
Jun	1.29	26.9	179	72.3	168.2	1	129	246
Jul	1.48	23.6	175	72.5	152.3	1	92	223
Aug	1.92	27.3	194	73.6	138.9	1	114	180
Sep	1.28	31.53	154	74.48	159.2	1	167	203
Oct	1.49	31.4	157	72.5	132.1	1	134	209
Nov	1.36	37.4	151	66.7	150.6	1	187	50
Dec	1.52	31.2	217	65.8	135.9	1	139	198

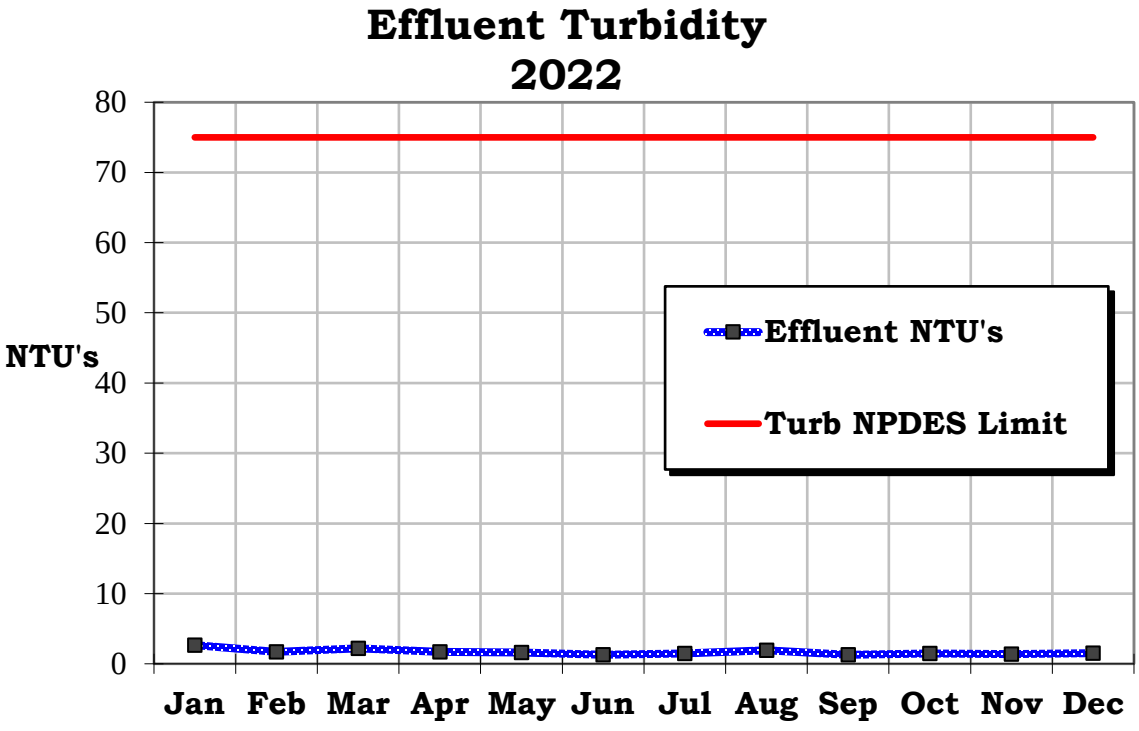
Lab Data 3

	Receiving Waters								
	Total Coliform			Fecal Coliform			Entero. Org.		
Month	K-4 mpn/ 100 ml	K-5 mpn/ 100 ml	K-6 mpn/ 100 ml	K-4 mpn/ 100 ml	K-5 mpn/ 100 ml	K-6 mpn/ 100 ml	K-4 mpn/ 100 ml	K-5 mpn/ 100 ml	K-6 mpn/ 100 ml
Jan	NA	NA	NA	NA	NA	NA	NA	NA	NA
Feb	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mar	NA	NA	NA	NA	NA	NA	NA	NA	NA
Apr	NA	NA	NA	NA	NA	NA	NA	NA	NA
May	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jun	NA	NA	NA	NA	NA	NA	NA	NA	NA
Jul	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aug	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sep	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oct	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nov	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dec	NA	NA	NA	NA	NA	NA	NA	NA	NA

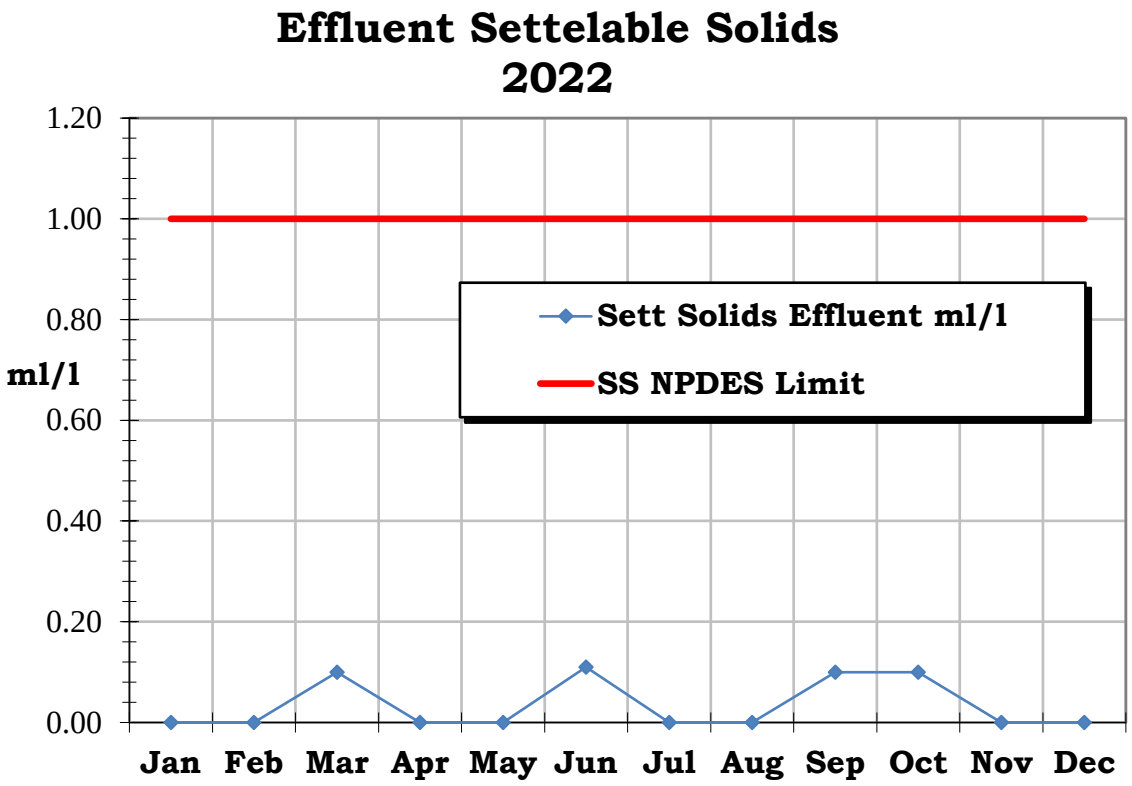
Lab Data 4



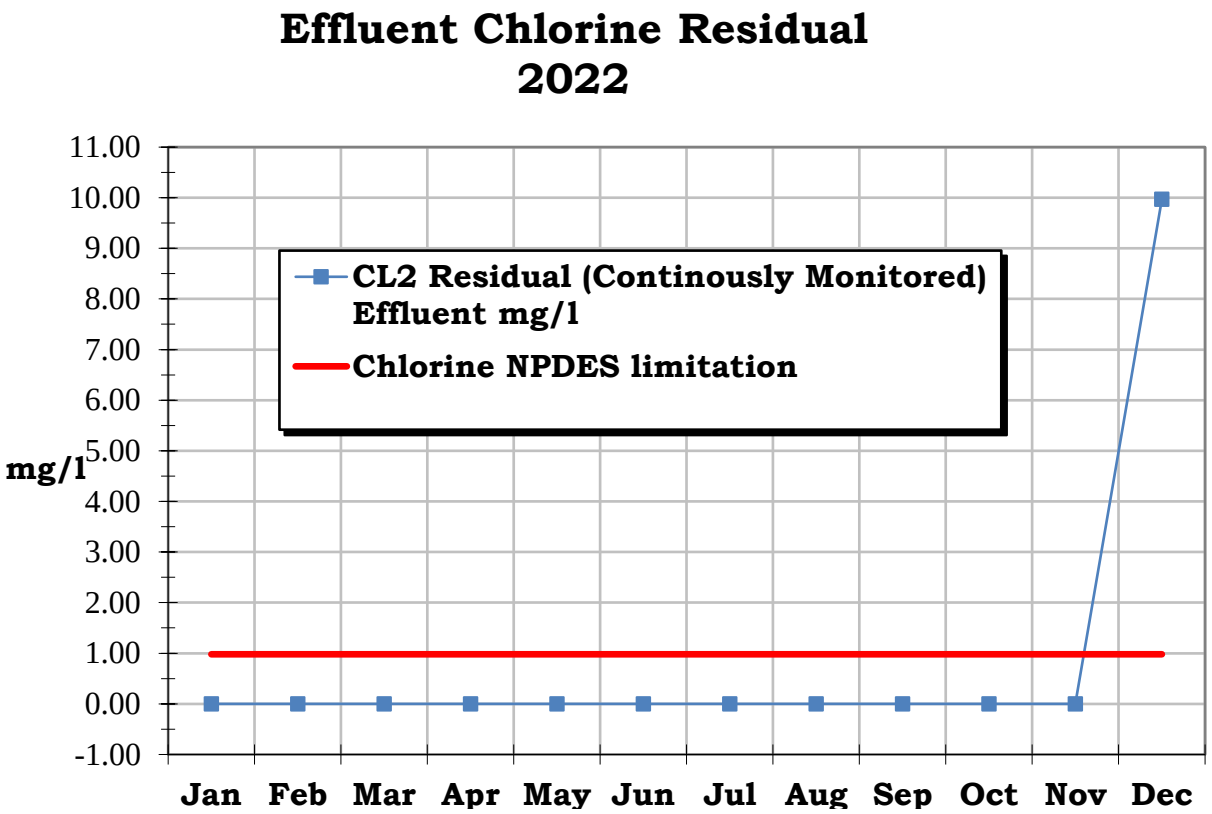
Graph 1



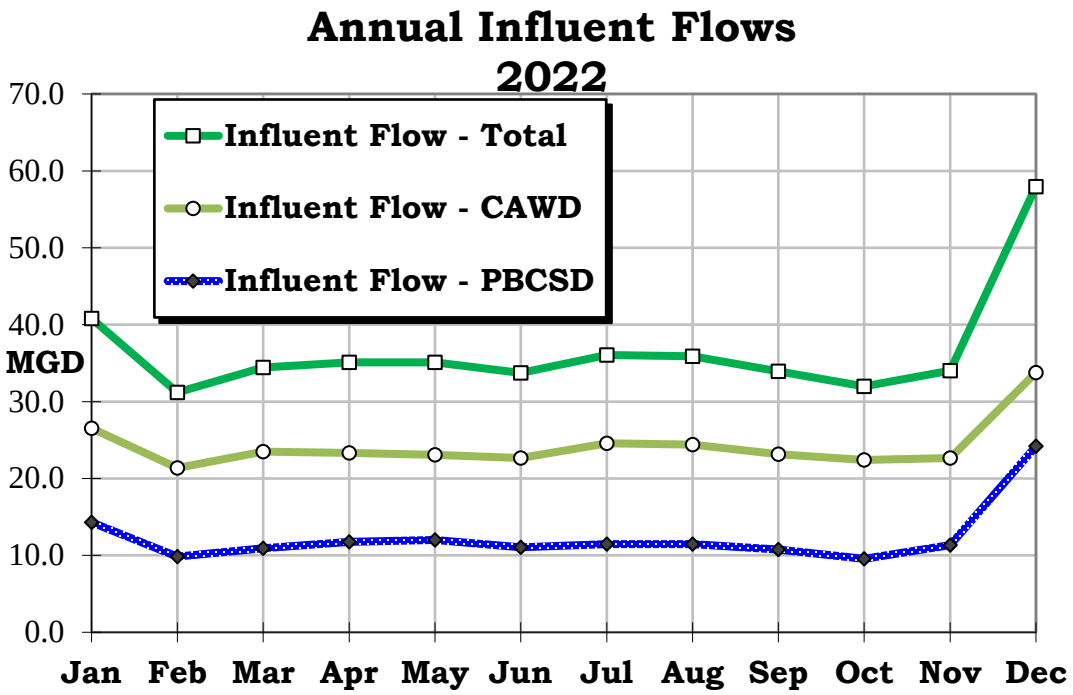
Graph 2


Effluent Settelable Solids
2022
1.20
1.00
0.80
ml/l
0.60
0.40
0.20
0.00
Sett Solids Effluent ml/l
SS NPDES Limit
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

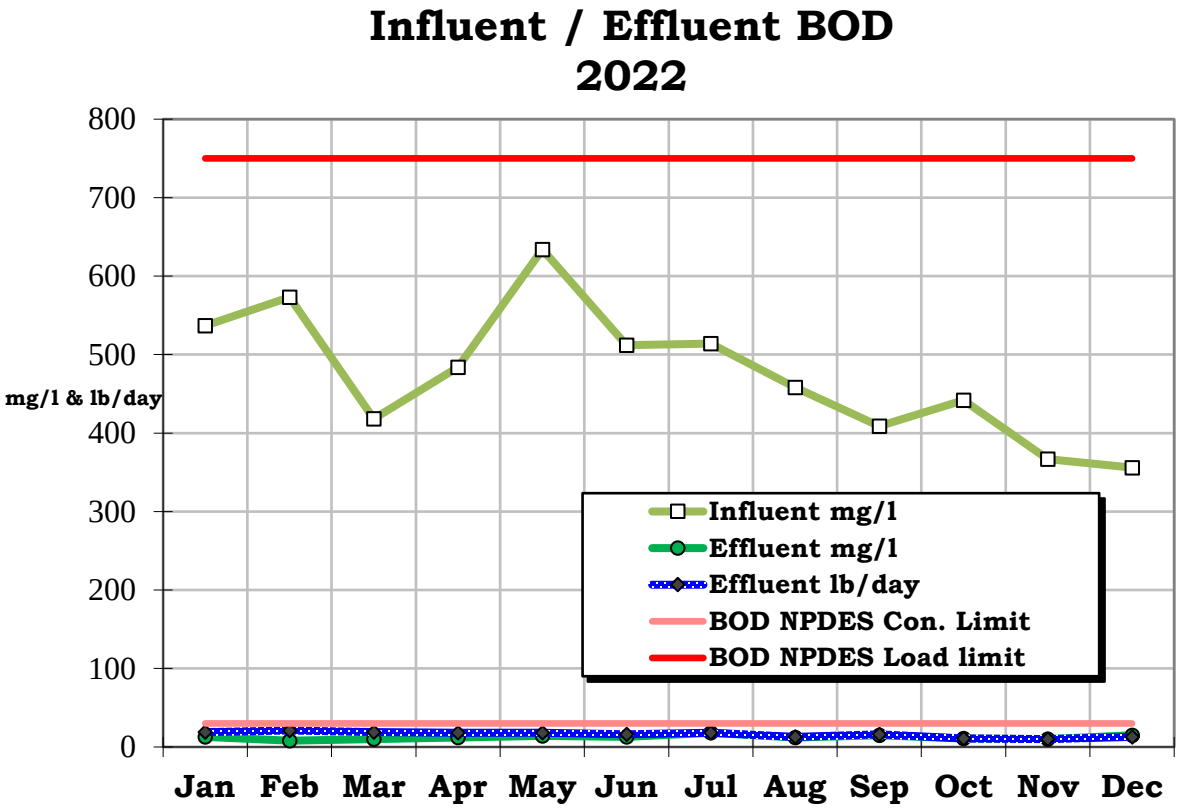
Graph 3


Effluent Chlorine Residual
2022
11.00
10.00
9.00
8.00
7.00
6.00
5.00
mg/l
4.00
3.00
2.00
1.00
0.00
-1.00
CL2 Residual (Continously Monitored) Effluent mg/l
Chlorine NPDES limitation
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

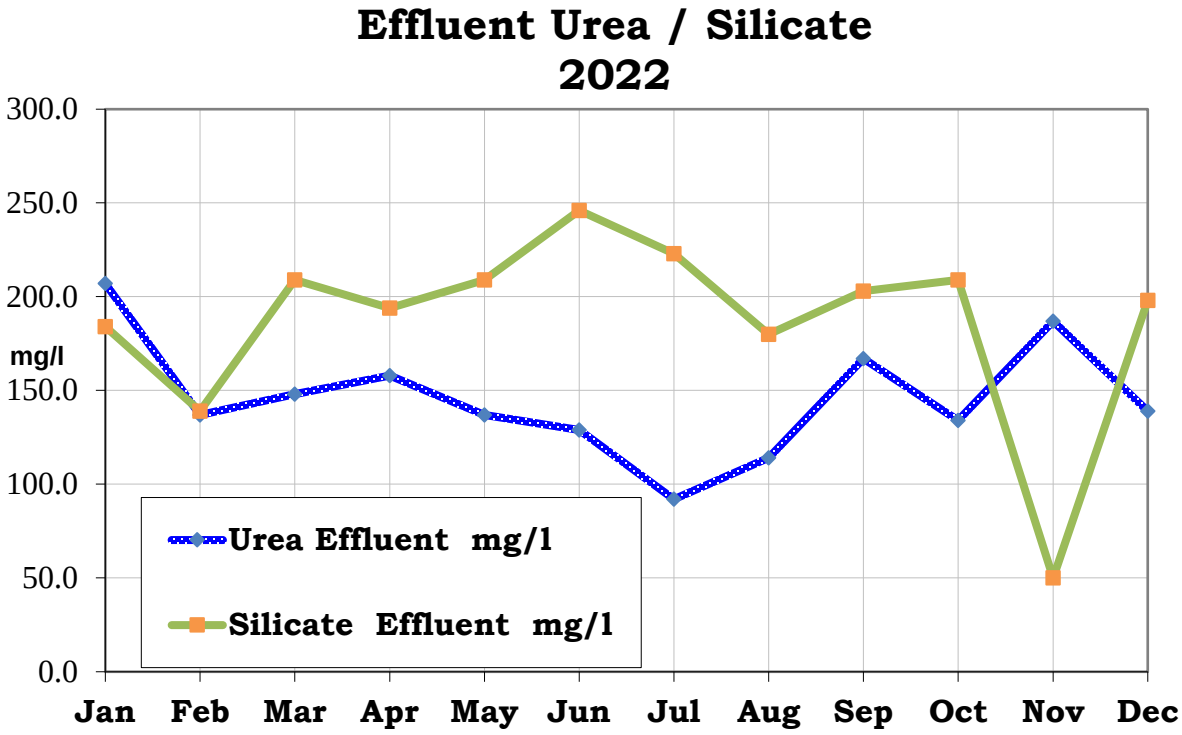
Graph 4



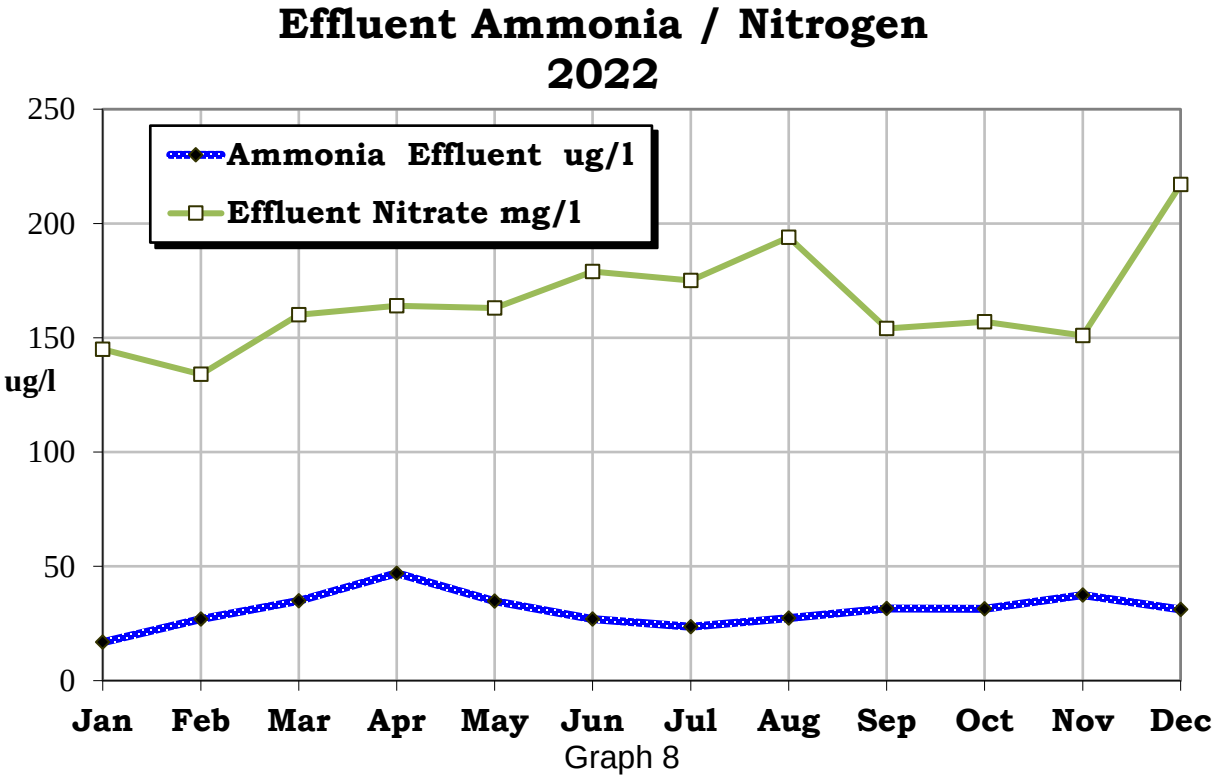
Graph 5



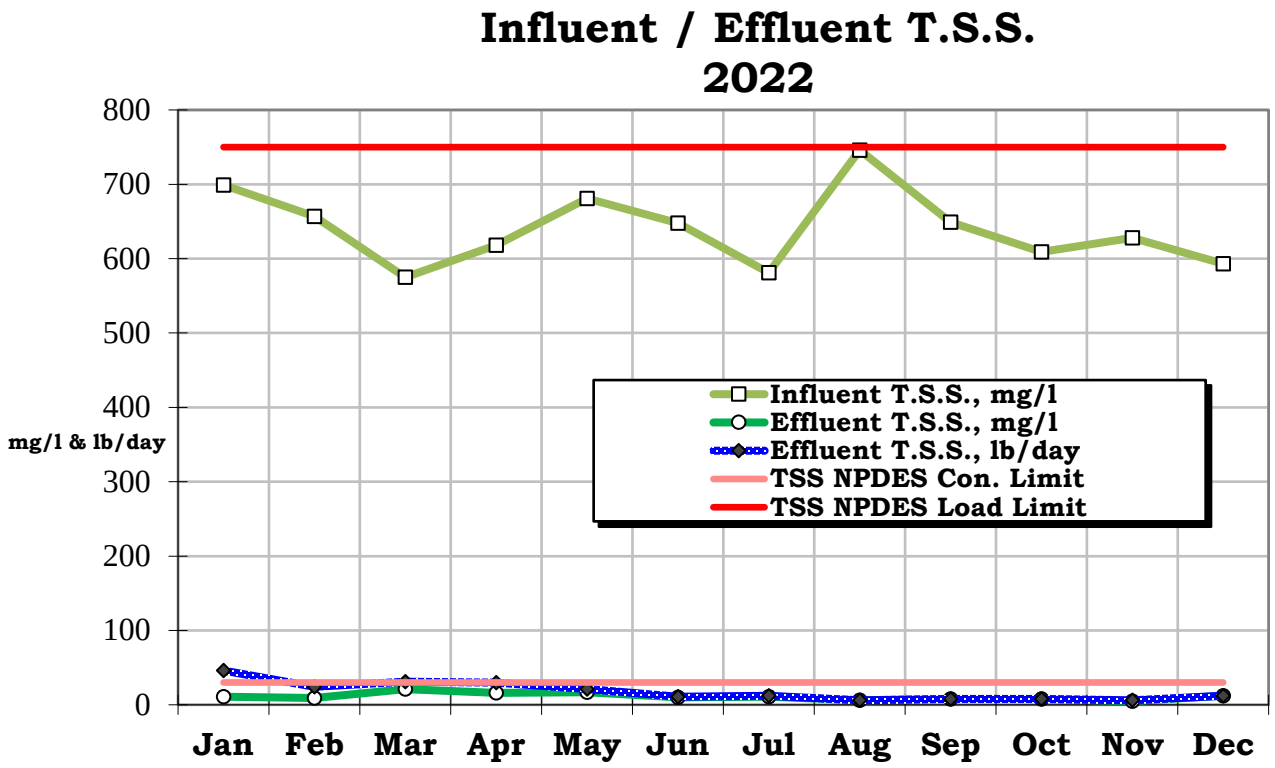
Graph 6



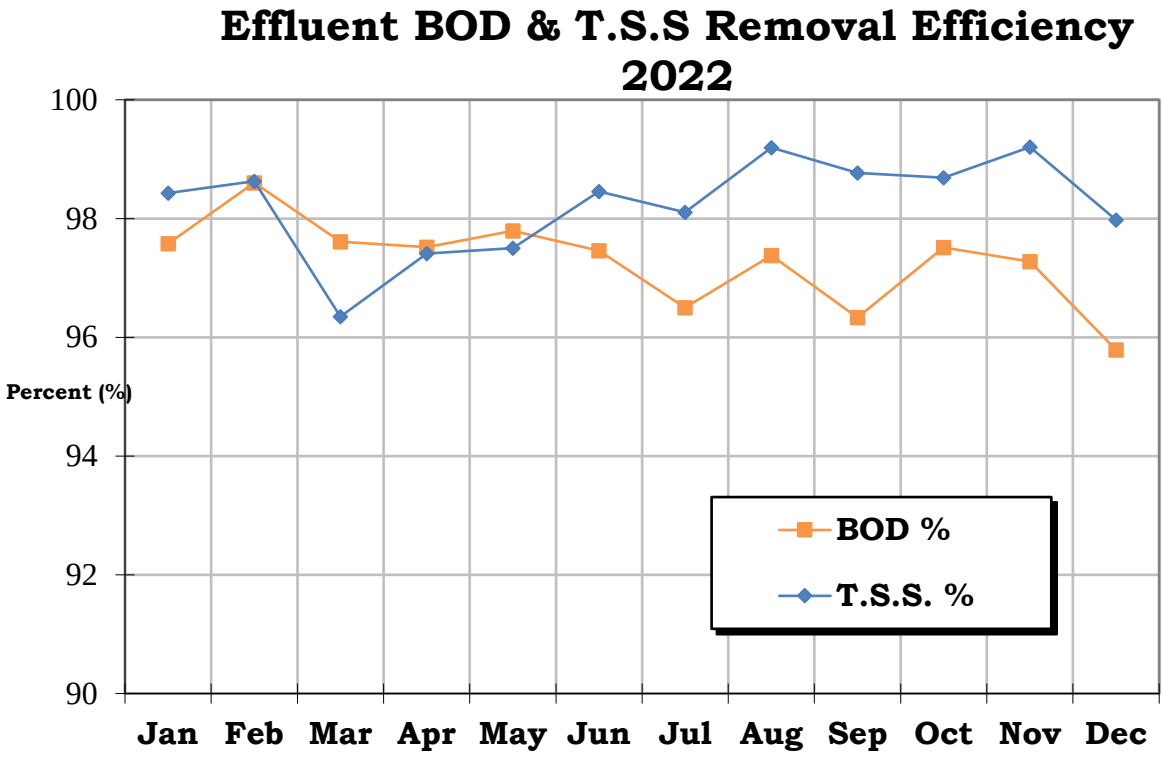
Graph 7



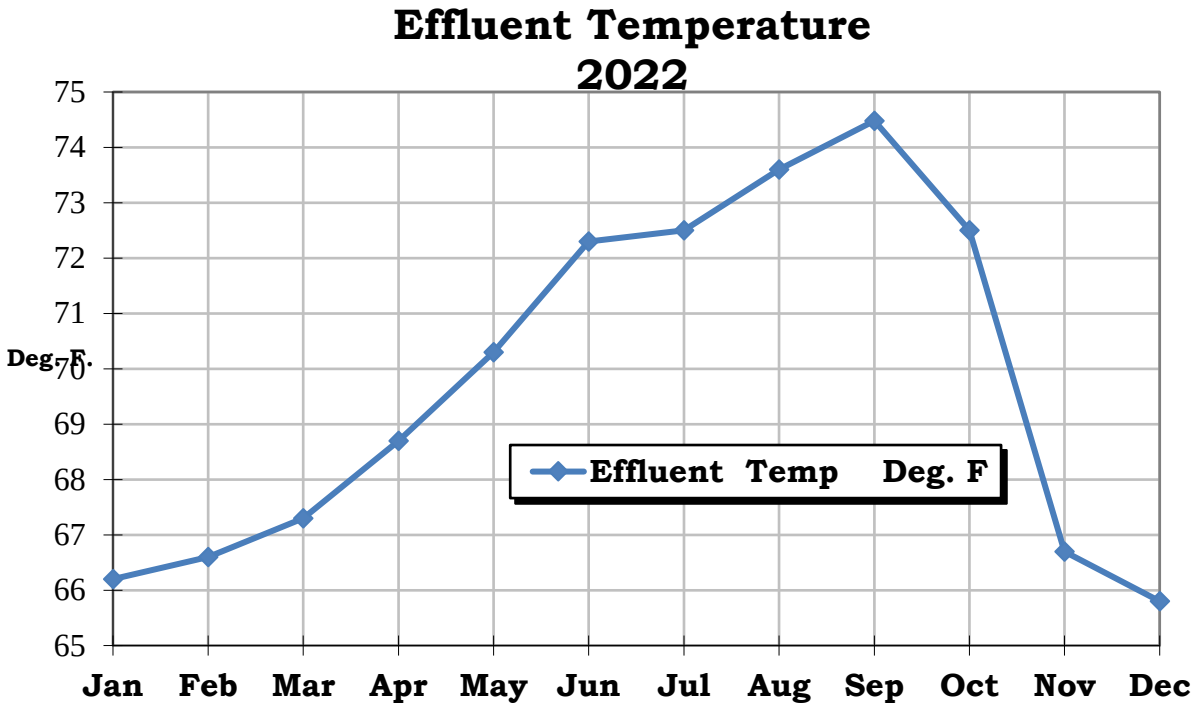
Graph 8



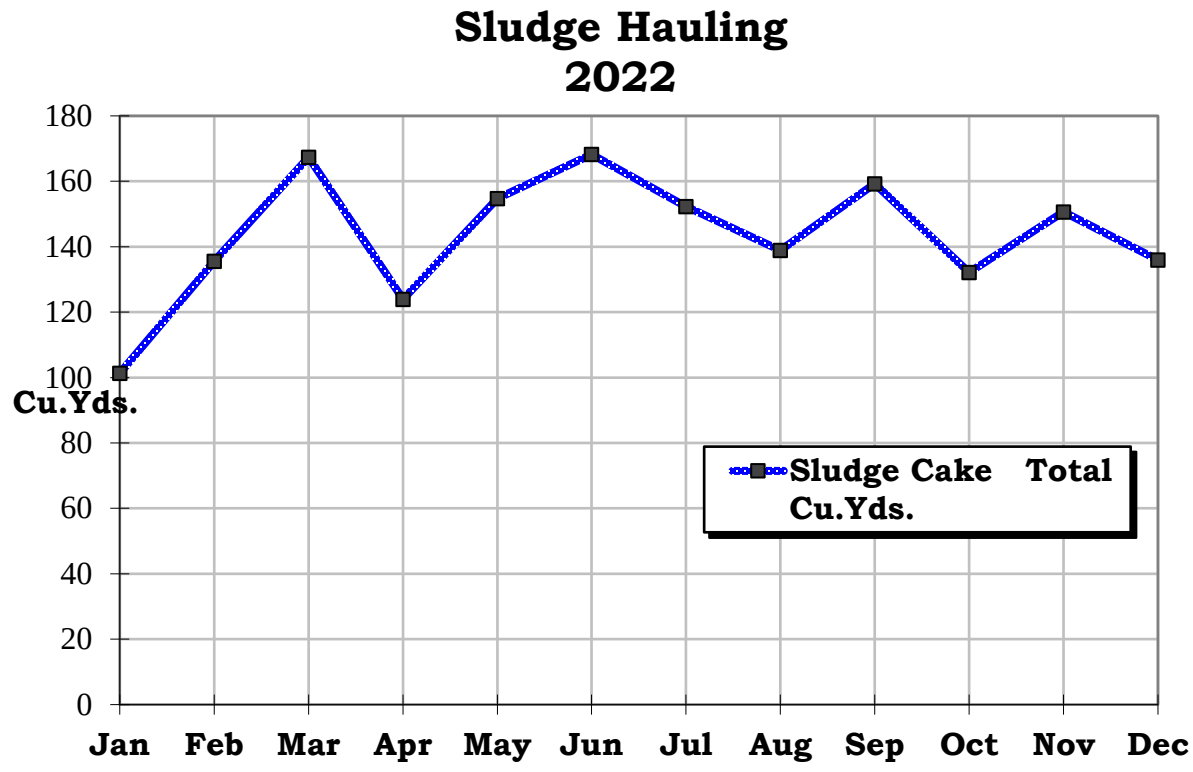
Graph 9



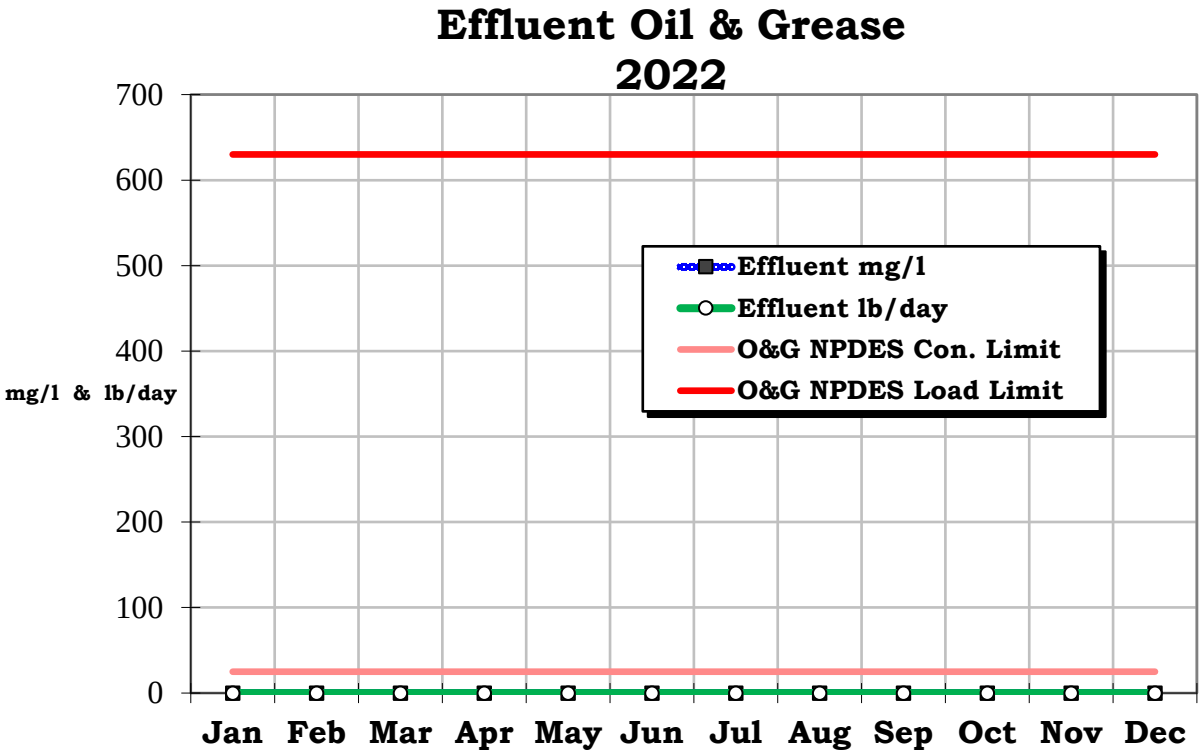
Graph 10



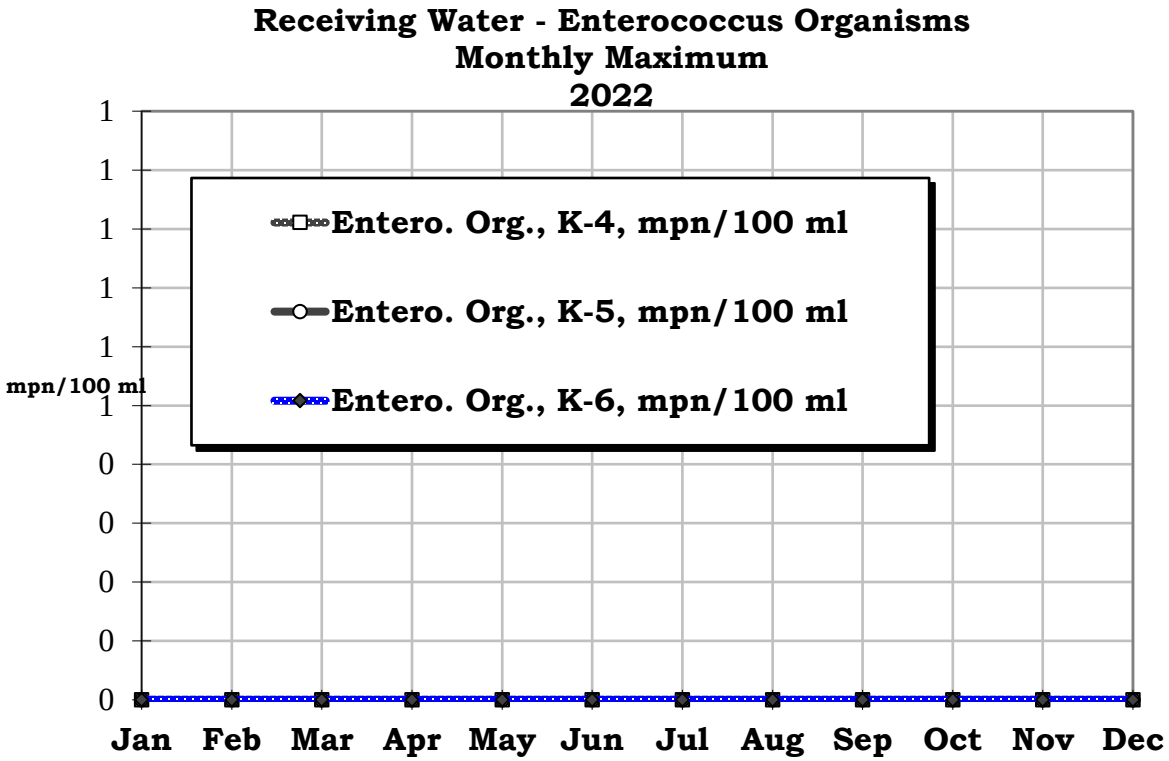
Graph 11



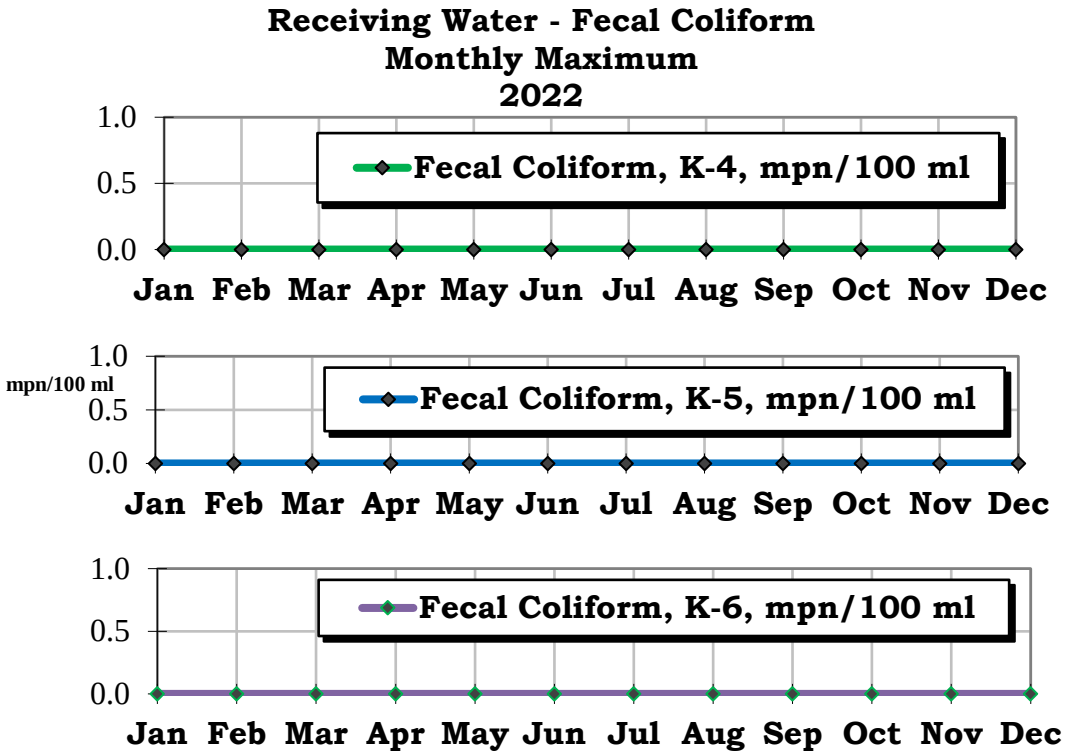
Graph 12



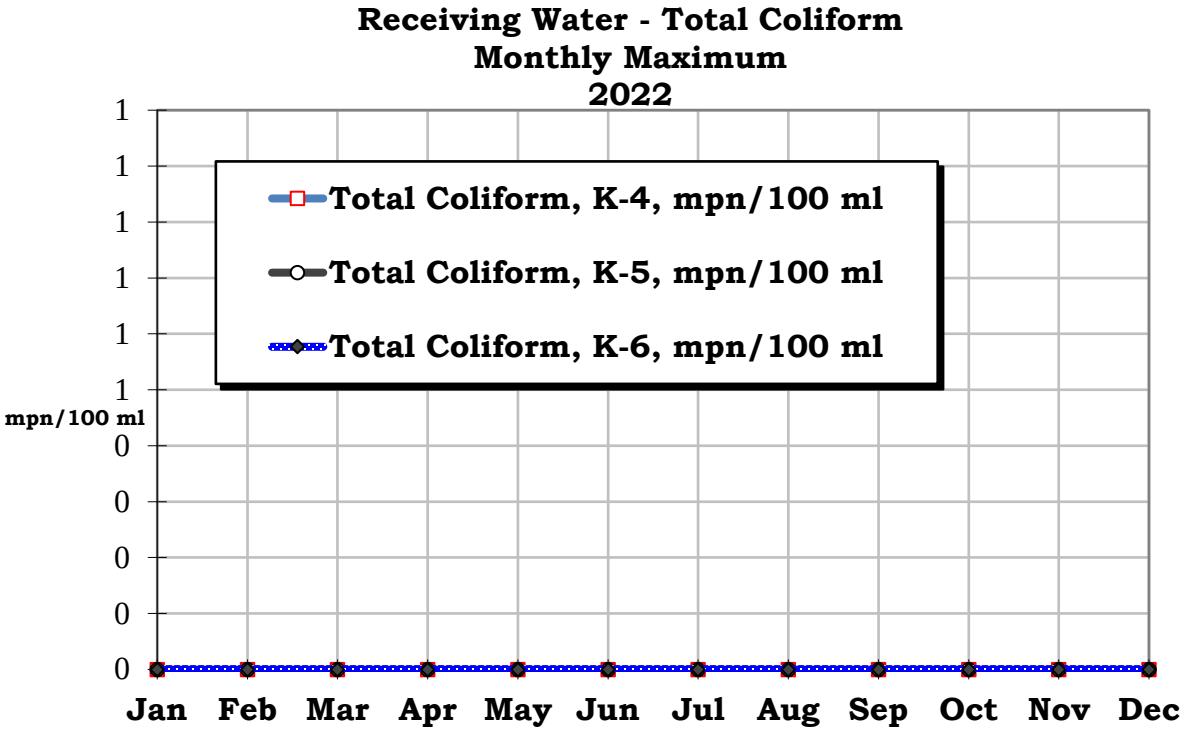
Graph 13



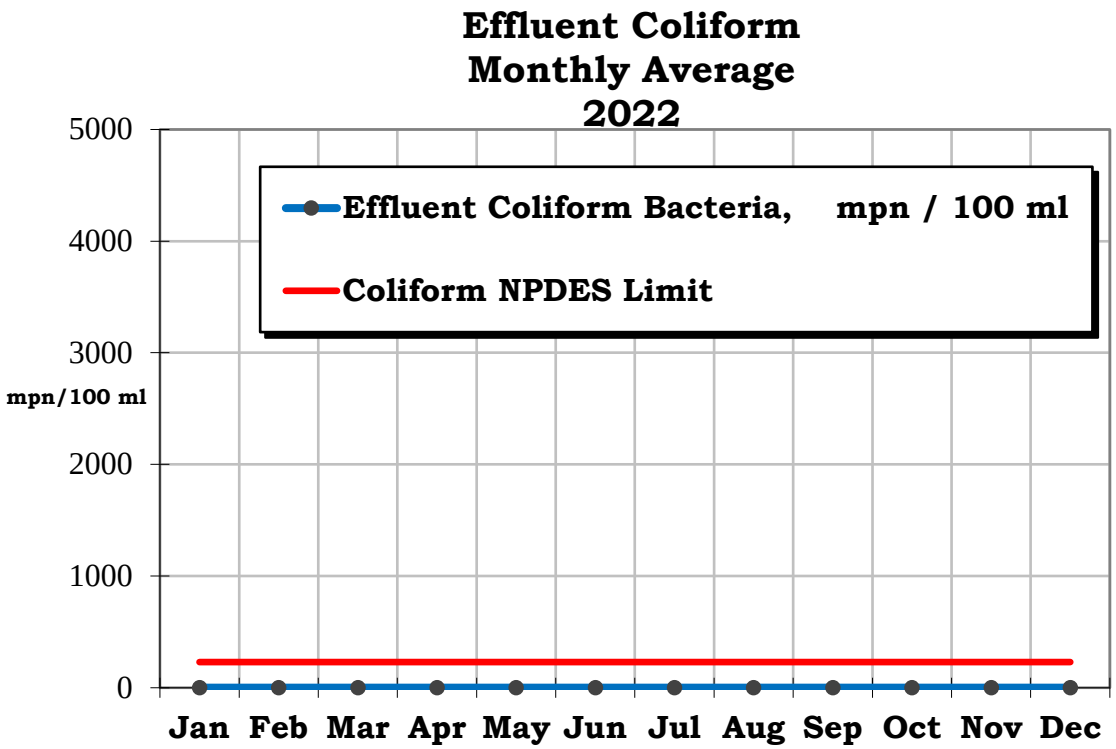
Graph 14



Graph 15



Graph 16



Graph 17

Water Supply Data

Please see the attached Water Supply Data; Water quality report.

Section B: Compliance and Performance

- Treatment facility performance through percent removal of main pollutants.
  - BOD removal for the year percentage wise for 2022 was 97.17%
  - TSS removal for the year percentage wise for 2022 was 97.99%
  - CBOD removal for the year percentage wise for 2022 was 97.34%
  - Oil and Grease removal for the year percentage wise for 2022 was 99.99+%.
  - Coliform inactivation for the year percentage wise for 2022 was 99+%
- Discussion of the previous year's compliance record.

  Carmel Area Wastewater District (CAWD) had one incident of noncompliance for the year 2022 for National Pollutant Discharge Elimination System (NPDES) No. CA0047996, Order No. R3-2014-0012. For the following constitution for ocean discharge as listed under Table 5 Effluent Limitations, pollutant "Instantaneous Maximum-Total Chlorine Residual" this is located on page 6 of CAWD's WDR permit.

  1. Instantaneous Maximum Chlorine Residual of 7300 micrograms per liter or

7.3 milligrams per liter (mg/L). Chlorine Residual at time of Supervisory Control and Data Acquisition alarm condition at 0851 hours by laboratory titration was 9.7 mg/L.

At 0851 hours on December 15, 2022, the plant SCADA system alarmed with a low Sodium Bisulfide alarm the for the effluent pump station wet well. The alarm set point is 1.5 mg/L of Sodium Bisulfide. Normal operation is to have a Sodium Bisulfide residual of at least 10 mg/L which assures neutralization of all the Sodium Hypochlorite used for disinfection. Operations staff immediately performed a chlorine residual test and discovered that the residual chlorine in the plant effluent was 9.97 mg/L. This result of 9.97 mg/L exceeded the Instantaneous Maximum for ocean discharge of 7.3 mg/L.

Operations staff shut off plant flow and stored incoming wastewater in the equalization basins until the cause of the high chlorine residual was discovered and the systems repaired. At the same time the operations staff manually adjusted the Sodium Bisulfide pumping system to neutralize the chlorinated effluent still in the final effluent wet well pump station.

- Identify the possible situations that contributed to the noncompliance of the system.

  At 0851 hours on December 15, 2022, the plant SCADA system alarmed with a low Sodium Bisulfide alarm the for the effluent pump station wet well. The alarm set point is 1.5 mg/L of Sodium Bisulfide. Normal operation is to have a Sodium Bisulfide residual of at least 10 mg/L which assures neutralization of all the Sodium Hypochlorite used for disinfection. Operations staff immediately performed a chlorine residual test and discovered that the residual chlorine in the plant effluent was 9.97 mg/L. This result of 9.97 mg/L exceeded the Instantaneous Maximum for ocean discharge of 7.3 mg/L.

  Operations staff shut off plant flow and stored incoming wastewater in the equalization basins until the cause of the high chlorine residual was discovered and the systems repaired. At the same time the operations staff manually adjusted the Sodium Bisulfide pumping system to neutralize the chlorinated effluent still in the final effluent wet well pump station.

  Upon review of the SCADA system and the DEOX/2000 Residual Analysers operations staff determined that Reverse Osmosis reject DEOX/2000 Residual Analyser chemical feed pump was rotating backwards. By the DEOX/2000 Residual Analyser chemical feed pump running backwards it was causing to not read correctly and transmitting false data to the Sodium Bisulfide neutralization feed pump which caused the pump to not dispense enough Sodium Bisulfide to

neutralize the Sodium Hypochlorite. By Reverse Osmosis reject DEOX/2000 Residual Analyser not reading correctly there was no alarm notification to alert the on-call operator of the failure.

The effluent pump station also has a DEOX/2000 Residual Analyser to allow a second chlorine neutralization system to dechlorinate if the Reverse Osmosis reject DEOX/2000 Residual Analyser fails. All the DEOX/2000 Residual Analyser are calibrated daily and records for December 14, 2022, indicated all units calibrated to within their limits. Operations staff is investigating why the effluent pump station DEOX/2000 Residual Analyser was so far off of calibration to the actual chlorine residual.

Operations staff corrected the Reverse Osmosis reject DEOX/2000 Residual Analyser pump by replacing the chemical feed pump. Then recalibrated the effluent pump station DEOX/2000 Residual Analyser.

Final Effluent discharge met the permit compliance for Chlorine Residual at 1020 hours and ocean discharge was resumed at that time.

- Any nuisance conditions or system problems.
  - None at this time.

- Corrective actions
  1. Operations staff contacted the vendor of the DEOX/2000 Residual Analyser (Borges & Mahoney) the vendor indicated there was a problem with some of the chemical feed pump motors for the analysers. (Causing the backwards pumping conditions) Borges & Mahoney's recommendation is to purchase new chemical feed pump motors. Which CAWD staff has done.
  2. Review the Standard Operating Procedure (SOP) for the daily calibration of all DEOX/2000 Residual Analysers. In addition retrain the operation staff on calibration steps in the SOP.

- Are there any changes or that were made to improve plant performance?

  Installing a Wallace & Tiernan Micro/2000 Chlorine Analyzer in the effluent wet well pump station to detect chlorine residuals above 0.5 mg/L and send an alarm through the SCADA system.

For Facilities That Measure Groundwater

This Facility does not have requirements to perform groundwater measurements – Not applicable.

Section C: Flow Evaluation

2020	INF Max Monthly Daily Flow MGD	INF Monthly Flow Total MG
January	1.848	43.21
February	1.415	34.316
March	3.495	53.642
April	4.387	50.713
May	1.269	36.331
June	1.286	34.884
July	1.323	37.211
August	1.287	36.386
September	1.269	33.559
October	1.173	32.551
November	1.206	31.644
December	1.178	30.572
Total annual flow		455.019

Inf. Flow Data 1

2021	INF Max Monthly Daily Flow MGD	INF Monthly Flow Total MG
January	3.873	37.781
February	1.584	36.638
March	1.472	35.896
April	1.251	34.571
May	1.31	35.889
June	1.251	35.322
July	1.277	37.117
August	1.299	36.578
September	1.203	31.8
October	3.049	35.625
November	1.224	33.282
December	3.358	55.861
Total annual flow		446.36

Inf. Flow Data 2

2022	INF Max Monthly Daily Flow MGD	INF Monthly Flow Total MG
January	2.019	40.807
February	1.281	31.191
March	1.317	34.43

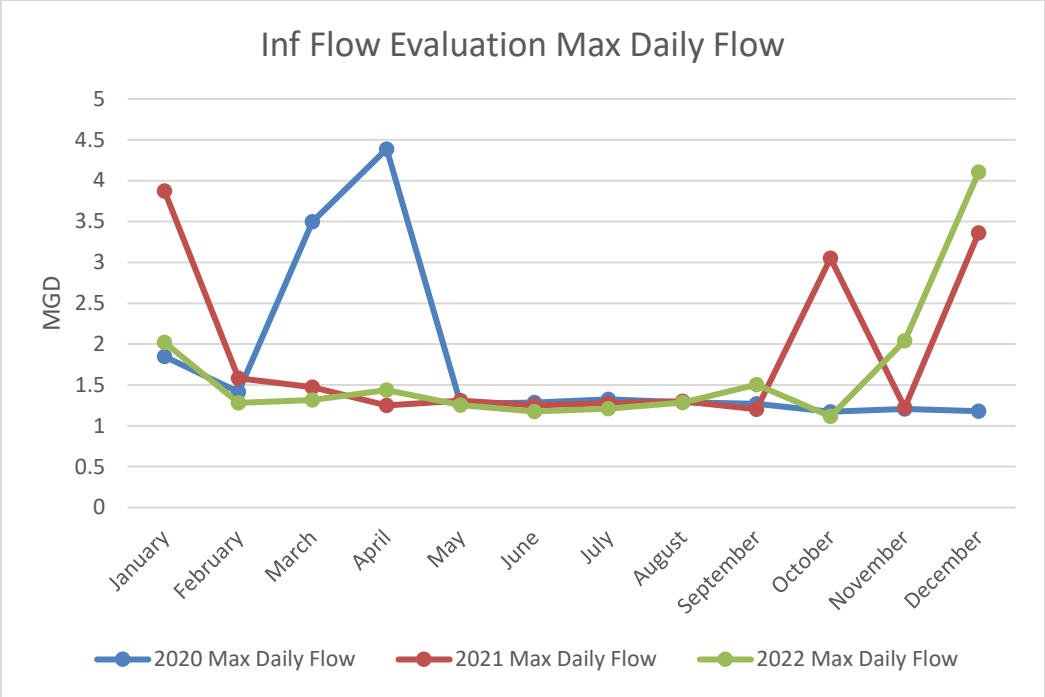
April	1.439	35.101
May	1.254	35.091
June	1.176	33.717
July	1.209	36.043
August	1.283	35.881
September	1.503	33.941
October	1.116	31.961
November	2.04	34.002
December	4.102	57.963
Total annual flow		440.128

Inf. Flow Data 3

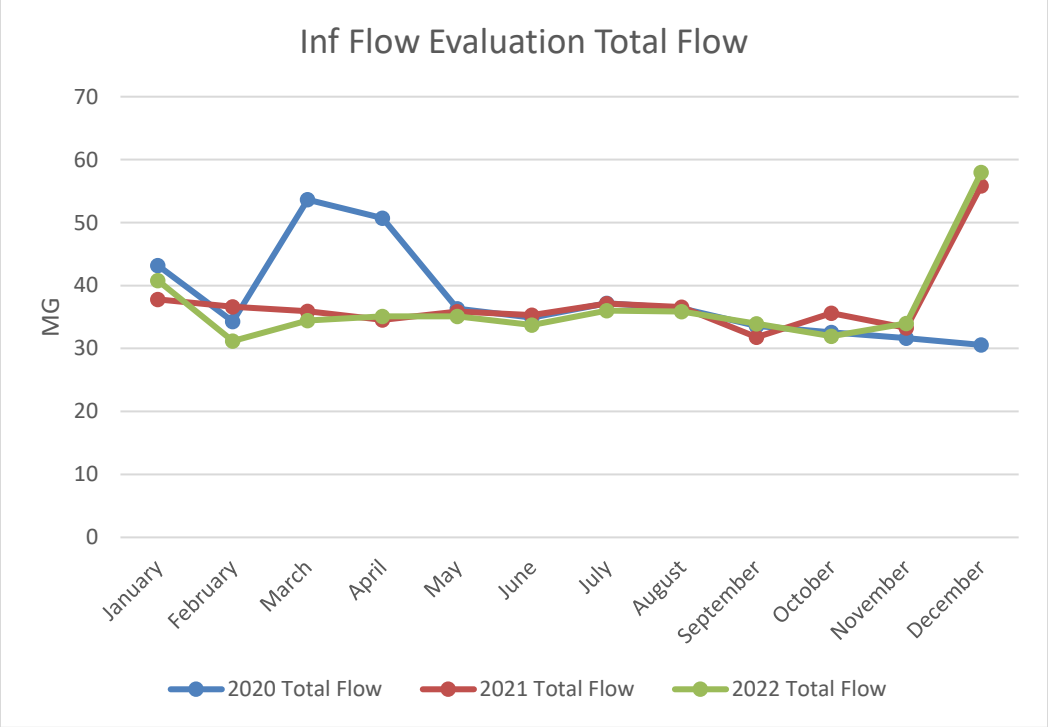
2020
Average Inf. monthly dry weather flow
34.373 MG
Average Inf. monthly wet weather flow
41.464 MG
2021
Average Inf. monthly dry weather flow
34.954 MG
Average Inf. monthly wet weather flow
39.439 MG

2022
Average Inf. monthly dry weather flow
34.2575 MG
Average Inf. monthly wet weather flow
39.097 MG

* Order No. R3-2014-0012 defines: dry weather June-Nov, wet weather Dec-May



Graph 18



Graph 19

	Eff Monthly Flow Totals (MG)		
	2020	**2021**	**2022**
Jan	19.373	11.216	15.525
Feb	21.188	6.569	10.278
Mar	51.938	24.09	6.519
Apr	38.674	4.008	9.026
May	4.27	4.343	4.66
Jun	4.085	4.088	4.069
Jul	4.721	4.198	4.033
Aug	4.33	4.435	3.992
Sep	3.483	3.937	3.596
Oct	3.729	5.888	3.489
Nov	3.664	3.843	4.016
Dec	3.502	18.934	21.414

Eff Flow Evaluation 1

	Eff. Max Daily Flow Monthly (MGD)		
	2020	**2021**	**2022**
Jan	1.915	3.172	1.594
Feb	1.589	0.567	0.916
Mar	3.645	1.933	0.96
Apr	4.733	0.204	1.124
May	0.175	0.179	0.4
Jun	0.158	0.157	0.329
Jul	0.232	0.16	0.213
Aug	0.167	0.169	0.189
Sep	0.146	0.242	0.158
Oct	0.143	1.982	0.13
Nov	0.151	0.153	0.294
Dec	0.143	2.22	3.184

Eff Flow Evaluation 2

Annuals flow totals (MG)		
2020	2021	2022
162.957	95.5484	90.6166
Average dry weather flow (MGD)		
2020	2021	2022
0.131	0.144	0.126749
Peak daily average-monthly wet weather flow (MGD)		
2020	2021	2022
0.759	0.380	0.370

Eff Totals, Avg Dry Weather Flow, and Peak Wet Weather Evaluation

2020	BOD Loading lb/day	TSS Loading lb/day
January	44	69
February	32	79
March	154	130
April	90	133
May	19	26
June	20	30
July	20	26
August	14	21
September	10	12
October	12	14
November	16	13
December	13	12

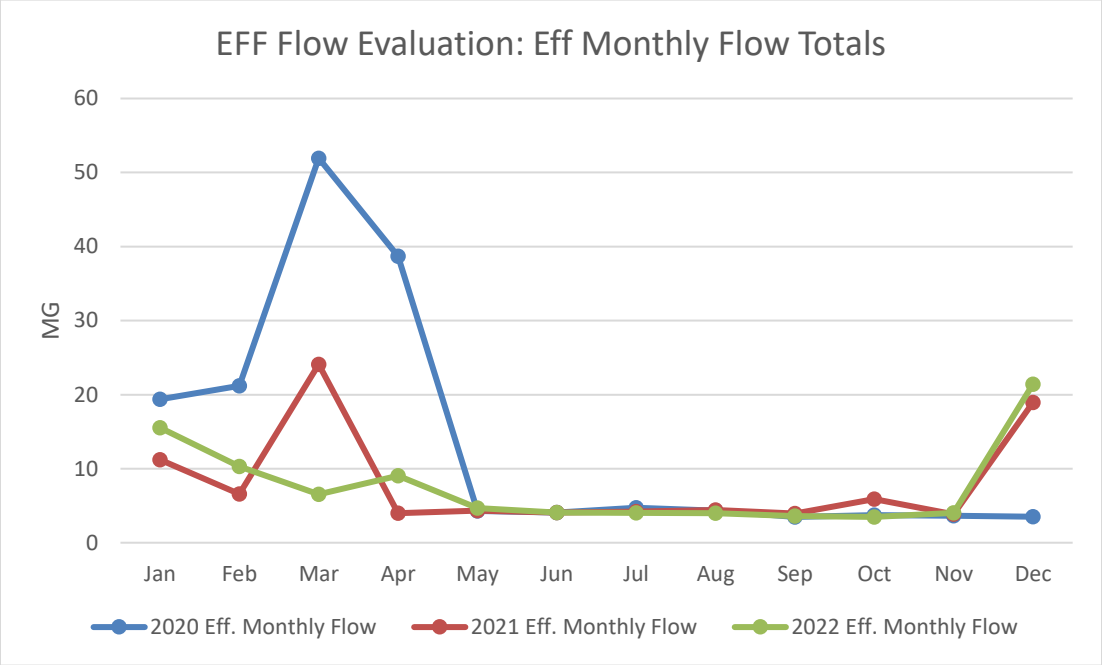
Eff Loading Data 1

2021	BOD Loading lb/day	TSS Loading lb/day
January	62	30
February	28	16
March	75	85
April	15	13
May	18	18
June	17	20
July	14	29
August	15	16
September	15	15
October	18	36
November	7	9
December	38	76

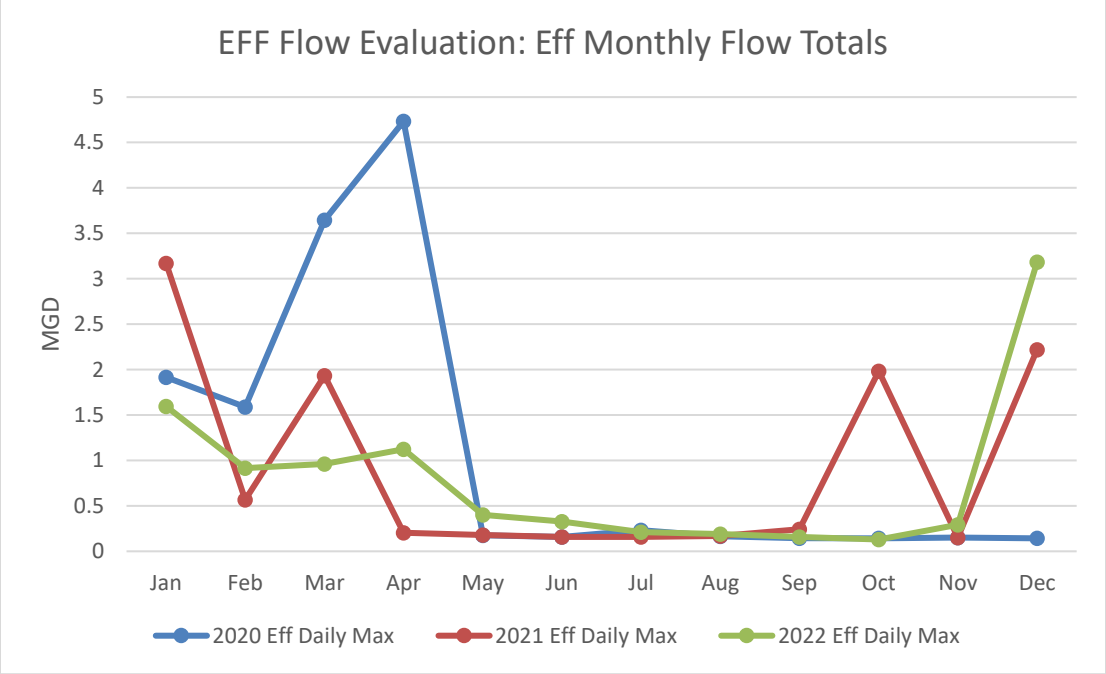
Eff. Loading Data 2

2022	BOD Loading lb/day	TSS Loading lb/day
January	19	46
February	21	24
March	19	31
April	18	30
May	18	21
June	16	11
July	18	12
August	13	6
September	16	8
October	11	8
November	10	6
December	13	12

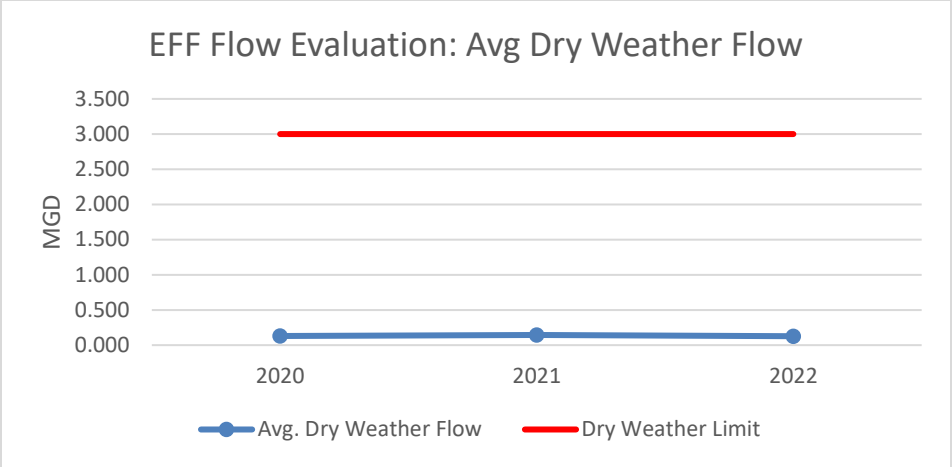
Eff Loading Data 3



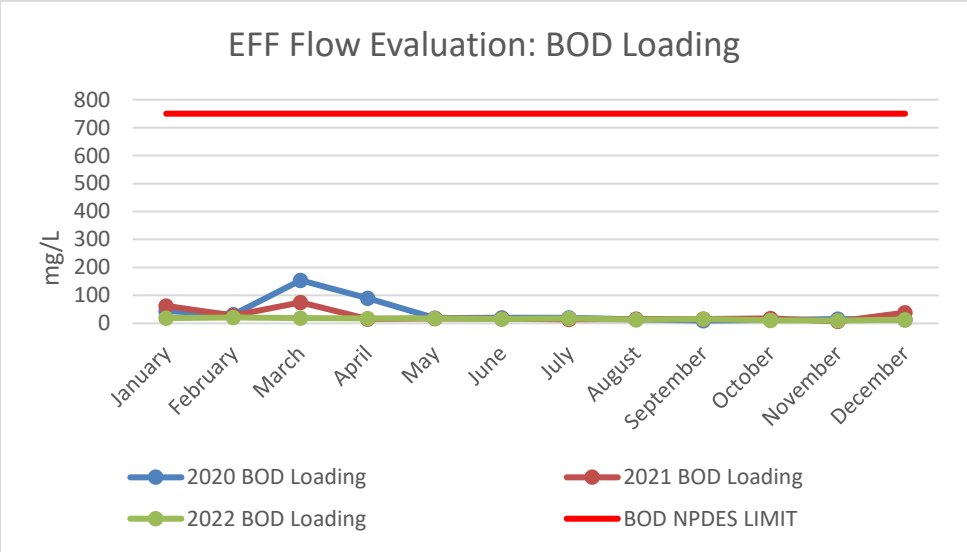
Graph 20



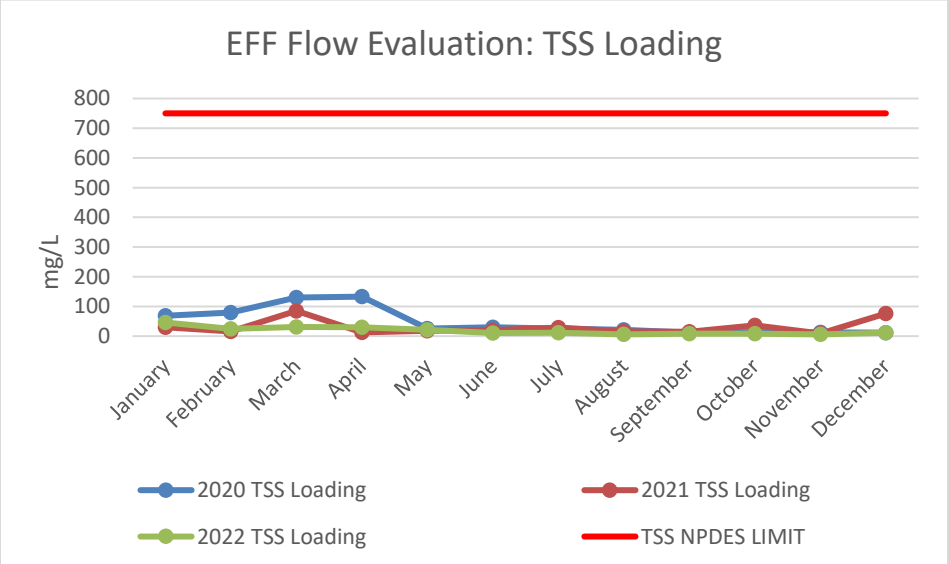
Graph 21



Graph 22



Graph 22



Graph 23

To date there are no capital improvement projects current or forecasted that would increase flows to the wastewater treatment plant which would cause the plant effluent flows to reach 80% of permitted capacity. Based on the three-year trends our evaluation indicates the wastewater treatment plant will not reach the permitted capacity in the next four years. The wastewater treatment plant is designed for effluent flows of 4.0 MGD and permitted for 3 MGD (monthly average dry weather flow).

Section D: Operator Certification

Name	Operations Position	SWRCB Certification Level Maintained	License No.
Edward Waggoner	Operations Superintendent	V	4011
Kevin Young	Operations Supervisor	V	9660
Christian Schmidt	Senior Operator	III	28643
Chris Dixon	Senior Operator	III	40697
Michael Hooks	Senior Operator	III	41183
Michael Garrison	Operator II	III	10674
Charles DayEngel	Operator II	II	41894
Rommel Lopez	OIT	OIT	
Greg Ange	Staff	III	43245
Fanny Mui	Staff	III	41872

Section E: Operation and Maintenance

The Carmel Area Wastewater District's Operation and Maintenance Manual was written and submitted to the District in 1987 following a large expansion project which was completed in 1986.

Modifications to the existing secondary treatment facility in support of tertiary filtration required modifications and updates to the Operations and Maintenance Manual. These modifications were completed, and the manual submitted to the District in 1996

Updates to the Operations and Maintenance Manual were completed in 2018 by Engineering Firm Kennedy Jenks for the facility capital improvement project which was completed also in 2018.

- Standard Provisions A. 27

Contingency plans and equipment are constantly being reviewed and upgraded as staff recognize deficiencies in Standard Operating Procedures or new Federal or State Regulations that deem further additions to the current contingency plans.

CAWD currently has alternative power sources, standby-by generators, retention capacity, emergency operating procedures to protect against power outages, fire, earthquakes, flooding and tsunami conditions.

An example is alternative power sources is a second standby generator to provide power to the treatment facility in case of a power outage. The second generator automatically runs in tandem with the main standby generator until the second generator verifies the main generator is providing power to the treatment facility. At that point the second standby generator will go into a standby mode.

Section F: Laboratory Information

1 Monterey Bay Analytical Services
4 Justin Court, Suite D
Monterey , CA 93940

CA ELAP # 2385

2 Aquatic Bioassay & Consulting Laboratories, Inc.
29 North Olive Street
Ventura, CA 93001

CA ELAP# 1907

3 Carmel Area Wastewater Distrct (CAWD)
Highway One & Carmel River
Carmel, CA 93923
(831) 257-0432 -Phone
(831) 624-1478 -Fax

CA ELAP # 1804

4 Fruit Growers Laboratories (FGL)
853 Corporation St
San Luis Obispo, CA 93401

CA ELAP # 1573

Section G: Sludge Management

- Discussion of any solids waste generated at CAWD's Treatment Facility
  - There are three main types of solid waste generated at the Carmel Area Wastewater District's Treatment Facility.
    - Rags, rocks, and other large solids from the influent flow
    - Grit (i.e., sand, coffee grounds, eggshells, bone chips, and possible large organic particles such as food waste from the influent flow.
    - Class B Biosolids from anaerobic digestion.
- Technologies/Process prior to disposal of solid waste.
  - Rags: The mechanical bar screen removes rags and other large solids from the raw sewage and puts it into a compactor that washes and dry's the material before being stored in a hopper which stores the screenings until they are removed and disposed of at the landfill.
  - Grit: is removed from the raw sewage by means of settling in an agitated tank. The agitation keeps the lighter organic solids in suspension and allows the heavier solids to drop out and be removed by pumping the contents from the bottom of the tank into a grit classifier and washer. The grit washer further separates the heavier grit particles from the lighter organic matter and the grit is then disposed of into a bin for disposal at the landfill.
  - Class B Biosolids: The solids treatment process takes sludge and other solids and places them in an anaerobic digester where the sludge is kept at about 95 degrees and anaerobic bacteria are utilized to stabilize the sludge and remove pathogens. The detention time in the anaerobic digesters is maintained at around 20 days or more.

    A byproduct of the anaerobic digestion process is methane. CAWD uses the methane produced to generate electricity using two microturbines. The microturbines can produce about 15% of the power demand required by the wastewater treatment plant (not including the Reclamation Facility).

    After the solids have been stabilized sufficiently by the digestion process the solids are held in a holding tank before they are sent to the dewatering equipment.

- Dewatering and Land Application
  Dewatering is a physical/mechanical process used to reduce the moisture in digested sludge (biosolids). There are several reasons for dewatering sludge. In general, it is more economical to dispose of the dewatered sludge than it is to pump or haul liquid sludge to disposal sites because by reducing the moisture content, the sludge volume and weight are reduced.
  The CAWD plant uses a belt filter press or a screw press to dewater the digested sludge. This equipment presses out the moisture from the sludge to create a dry material that is essentially dirt that can be land applied.

- Ultimate Destination of Solid Waste Material
  - Rag and Grit Material Destination
    - Re Gen (Monterey Regional Waste Management District Landfill) at 14201 Del Monte Blvd, Salinas, CA 93908
  - Class B Biosolids Destination
    - Liberty Composting, Inc.
      1241 Holloway Road
      Po Box 5
      Lost Hills, California 93249-0005

	Sludge Cake
Month	Total Cu.Yds.
Jan	101.3
Feb	135.5
Mar	167.4
Apr	123.9
May	154.8
Jun	168.2
Jul	152.3
Aug	138.9
Sep	159.2
Oct	132.1
Nov	150.6
Dec	135.9

Sludge Quantity

Analysis of chemical and moisture content.

Period: January 2022 – March 2022

Sample Date: 4-Jan-22

		EPA 503 pollution limits for land application	
Name POLLUTANTS	Concentration (mg/kg) Dry Weight unless indicated	Pollutant Concentrations (40 CFR 503.13) (monthly avg.)	Ceiling Concentrations (40 CFR 503.13) (daily maximum)
Antimony	ND		
Arsenic	46.1	41 mg/Kg	75 mg/Kg
Barium	75.8		
Beryllium	0.2		
Boron	9.9		
Cadmium	0.5	39 mg/Kg	85 mg/Kg
Chromium	6.1		
Cobalt	1.2		
Copper	182.0	1500 mg/Kg	4300 mg/kg
Lead	7.7	300 mg/Kg	840 mg/kg
Molybdenum	2.8		
Nickel	5.9		
Phosphorus	6,070	420 Mg/Kg	420 mg/Kg
Selenium	1.4	100 mg/Kg	100 mg/Kg
Silver	ND		
Thallium	ND		
Vanadium	3.9		
Zinc	507.0	2800 mg/Kg	7500 mg/Kg
Ammonia Nitrogen	829		
Cyanide, Total	ND		
Nitrate Nitrogen	0.7		
Nitrogen, Total Kjeldahl	7,540		
pH	6.86		
% Solids	19.0%		
Mercury	0.1	17 mg/Kg	57 mg/Kg
Grease/Oil	ND		
Hex Chromium	ND		

Biosolids Data 1st Quarter

Period: April 2022-June 2022
Sample Date: 20-Apr-22

Name POLLUTANTS	Concentration (mg/kg) Dry Weight unless indicated	EPA 503 pollution limits for land application: Pollutant Concentrations (40 CFR 503.13) (monthly avg.)	EPA 503 pollution limits for land application: Ceiling Concentrations (40 CFR 503.13) (daily maximum)
Antimony	ND		
Arsenic	47.2	41 mg/Kg	75 mg/Kg
Barium	79.7		
Beryllium	ND		
Boron	15.3		
Cadmium	0.6	39 mg/Kg	85 mg/Kg
Chromium	5.2		
Cobalt	2.6		
Copper	249.0	1500 mg/Kg	4300 mg/kg
Lead	4.4	300 mg/Kg	840 mg/kg
Molybdenum	3.1		
Nickel	4.7		
Phosphorus	9,670	420 Mg/Kg	420 mg/Kg
Selenium	1.2	100 mg/Kg	100 mg/Kg
Silver	ND		
Thallium	ND		
Vanadium	2.7		
Zinc	428.0	2800 mg/Kg	7500 mg/Kg
Ammonia Nitrogen	1600		
Cyanide, Total	ND		
Nitrate Nitrogen	0.4		
Nitrogen, Total Kjeldahl	5,540		
pH	7.61		
% Solids	22.9%		
Mercury	0.0	17 mg/Kg	57 mg/Kg
Grease/Oil	0.07		
Hex Chromium	ND		

Biosolids Data 2nd Quarter

Period: July 2022 - September 2022
Sample Date: 5-Jul-22

Name POLLUTANTS	Concentration (mg/kg) Dry Weight unless indicated	EPA 503 pollution limits for land application: Pollutant Concentrations (40 CFR 503.13) (monthly avg.)	EPA 503 pollution limits for land application: Ceiling Concentrations (40 CFR 503.13) (daily maximum)
Antimony	ND		
Arsenic	554.0	41 mg/Kg	75 mg/Kg
Barium	366.0		
Beryllium	2.4		
Boron	54.8		
Cadmium	2.3	39 mg/Kg	85 mg/Kg
Chromium	7.4		
Cobalt	5.9		
Copper	814.0	1500 mg/Kg	4300 mg/kg
Lead	91.4	300 mg/Kg	840 mg/kg
Molybdenum	34.4		
Nickel	12.4		
Phosphorus	52,700	420 Mg/Kg	420 mg/Kg
Selenium	ND	100 mg/Kg	100 mg/Kg
Silver	ND		
Thallium	ND		
Vanadium	11.8		
Zinc	1830.0	2800 mg/Kg	7500 mg/Kg
Ammonia Nitrogen	7040		
Cyanide, Total	ND		
Nitrate Nitrogen	40800		
Nitrogen, Total Kjeldahl	54,700		
pH	7.26		
% Solids	17.3%		
Mercury	0.0	17 mg/Kg	57 mg/Kg
Grease/Oil	640		
Hex Chromium	ND		

Biosolids Data 3rd Quarter

Period: October 2022 - December 2022
Sample Date: 4-Oct-22

Name POLLUTANTS	Concentration (mg/kg) Dry Weight unless indicated	EPA 503 pollution limits for land application: Pollutant Concentrations (40 CFR 503.13) (monthly avg.)	EPA 503 pollution limits for land application: Ceiling Concentrations (40 CFR 503.13) (daily maximum)
Antimony	ND		
Arsenic	198.0	41 mg/Kg	75 mg/Kg
Barium	402.0		
Beryllium	7.3		
Boron	76.7		
Cadmium	0.8	39 mg/Kg	85 mg/Kg
Chromium	29.1		
Cobalt	3.0		
Copper	924.0	1500 mg/Kg	4300 mg/kg
Lead	47.1	300 mg/Kg	840 mg/kg
Molybdenum	30.0		
Nickel	35.6		
Phosphorus	49,600	420 Mg/Kg	420 mg/Kg
Selenium	ND	100 mg/Kg	100 mg/Kg
Silver	ND		
Thallium	ND		
Vanadium	9.3		
Zinc	1960.0	2800 mg/Kg	7500 mg/Kg
Ammonia Nitrogen	5020		
Cyanide, Total	ND		
Nitrate Nitrogen	1230		
Nitrogen, Total Kjeldahl	20,600		
pH	7.2		
% Solids	19.8%		
Mercury	0.4	17 mg/Kg	57 mg/Kg
Grease/Oil	ND		
Hex Chromium	ND		

Biosolids Data 4th Quarter

Month	Detention Time (days)	Temperature (F)	Volatile Solids Reduction (%)
Jan	37	40.7	60
Feb	27	27.7	57
Mar	30	33.7	59
Apr	28	100.4	68
May	29	96.0	58
Jun	28	89.2	62
Jul	28	103.1	67
Aug	26	102.9	64
Sept	22	95.5	63
Oct	30	99.9	45
Nov	23	95.2	63
Dec	24	102.1	61

Biosolids Data Class B Requirements

Section H: Pretreatment

1	Influent Characteristics	Date	Result	Date	Result	Units
	Arsenic	**2/8/2022**	1.87	**8/2/2022**	2.12	ug/L
	Cadmium	**2/8/2022**	2.05	**8/2/2022**	0.115	ug\L
	Total Chromium	**2/8/2022**	3.11	**8/2/2022**	8.86	ug\L
	Lead	**2/8/2022**	1.44	**8/2/2022**	1.1	ug\L
	Copper	**2/8/2022**	95.5	**8/2/2022**	68.3	mg/L
	Mercury	**2/8/2022**	ND	**8/2/2022**	ND	ug\L
	Nickel	**2/8/2022**	5.98	**8/2/2022**	9.34	ug\L
	Silver	**2/8/2022**	0.138	**8/2/2022**	0.2	ug\L
	Zinc	**2/8/2022**	263	**8/2/2022**	388	ug\L

2 Number of Inspections Performed:
Pretreatment Inspections annual-(109)

Number of Enforcement Actions:
Notice of Violations of the Pretreatment Ordinance – (2 Warnings)

3 Number of Major Industry Contributors- None (0)

4 All New dischargers- (0)

5 All New Dischargers constitute a Major Industry- None (0)

6 Man power and funds to run Source Control Program
Environmental Compliance Supervisor (1)
Environmental Compliance Inspectors (2)
Funds for Source Control Program are from User Fees (Connection Permit, Construction Fees, and Source Control Application/ Permit, and Source Control Fines). -$450

WARNING NOV		No fee	
Class IV	Appl Permit	$150 x 98 =	$14,700
Class IV CMO	Appl Permit	$150 x 10 =	$1,500
Class III	Appl Permit	$150 x 1 =	$150
		Total	$14,400

7 Summary of changes to Pretreatment Program

A new Carmel Area Wastewater District Pretreatment Ordinance 2022-02 was adopted on March 31, 2022 and in effect on April 22, 2022.

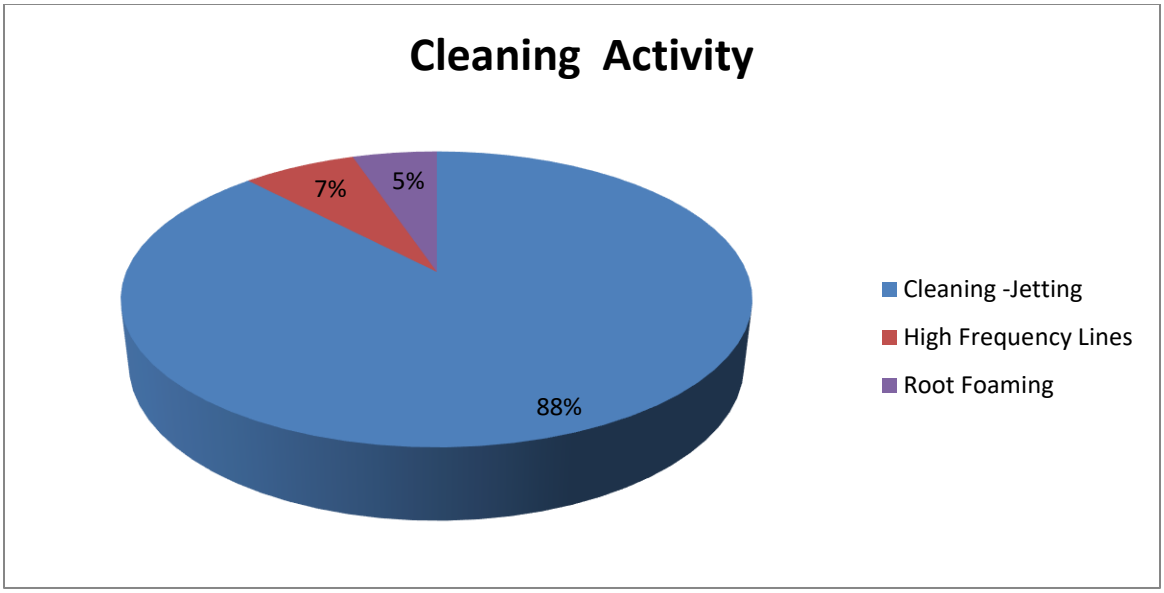
Section I: Salt and Nutrient Management Plan

This facility does not need a salt and nutrient management plan. – Not Applicable.

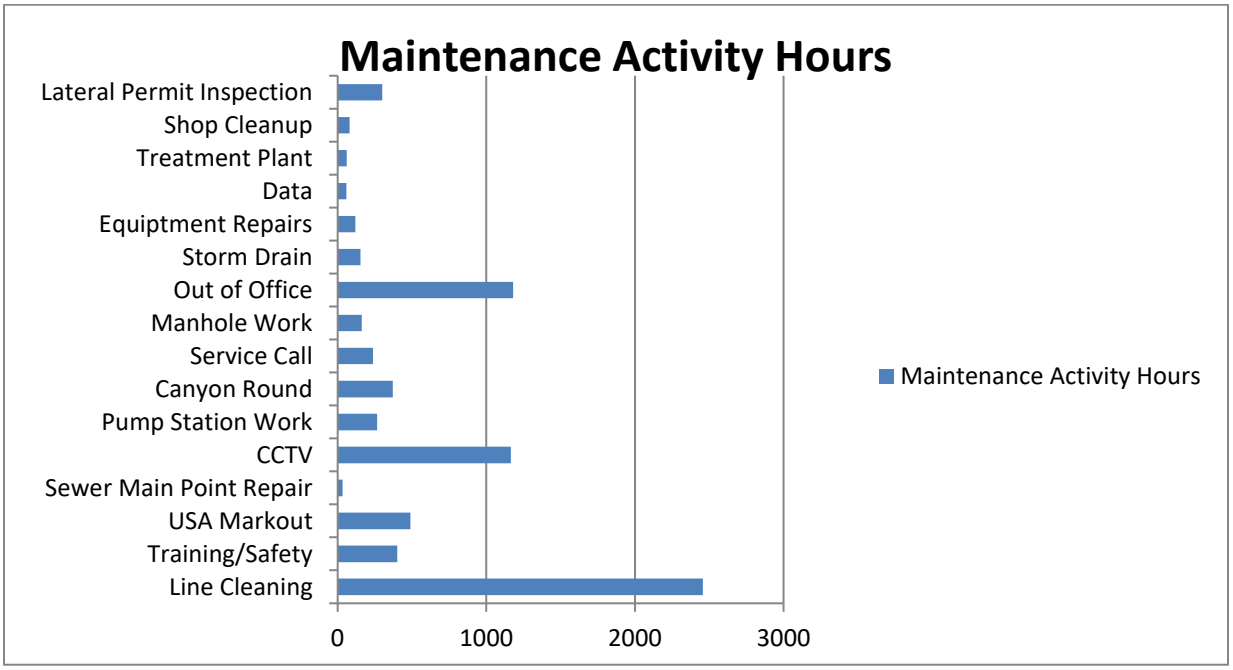
Section J: Collection System Management Plan

Cleaning Activity: The collection crew maintains 408,581 feet of gravity sewer lines and 21,600 feet of force mains in the district. During 2022, staff cleaned the entire system in a little over 8 months. The cleaning methods used were hydro-cleaning and root foaming.

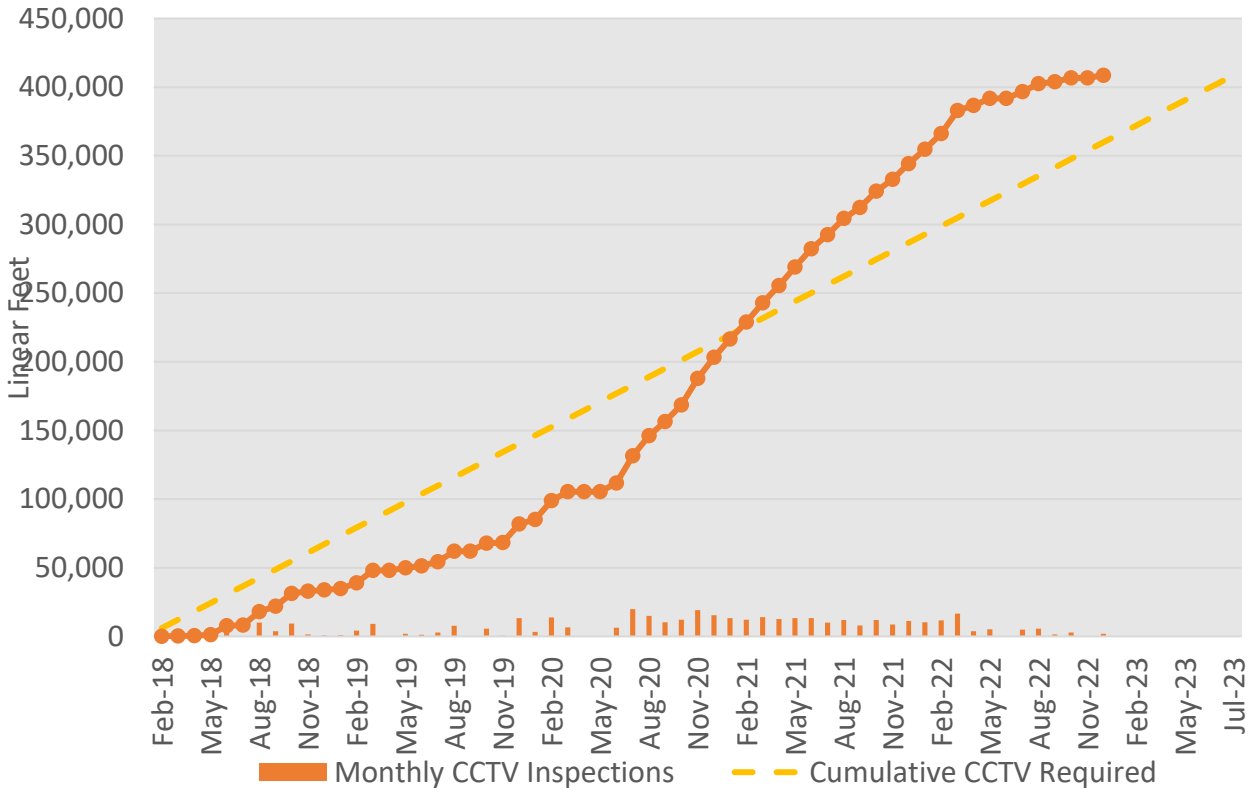
Activity	**Feet Cleaned**
Cleaning - Jetting	526,671 ft.
High Frequency Lines	41,577 ft.
Root Foaming	30,955 ft.
Total	**599,203 ft.**



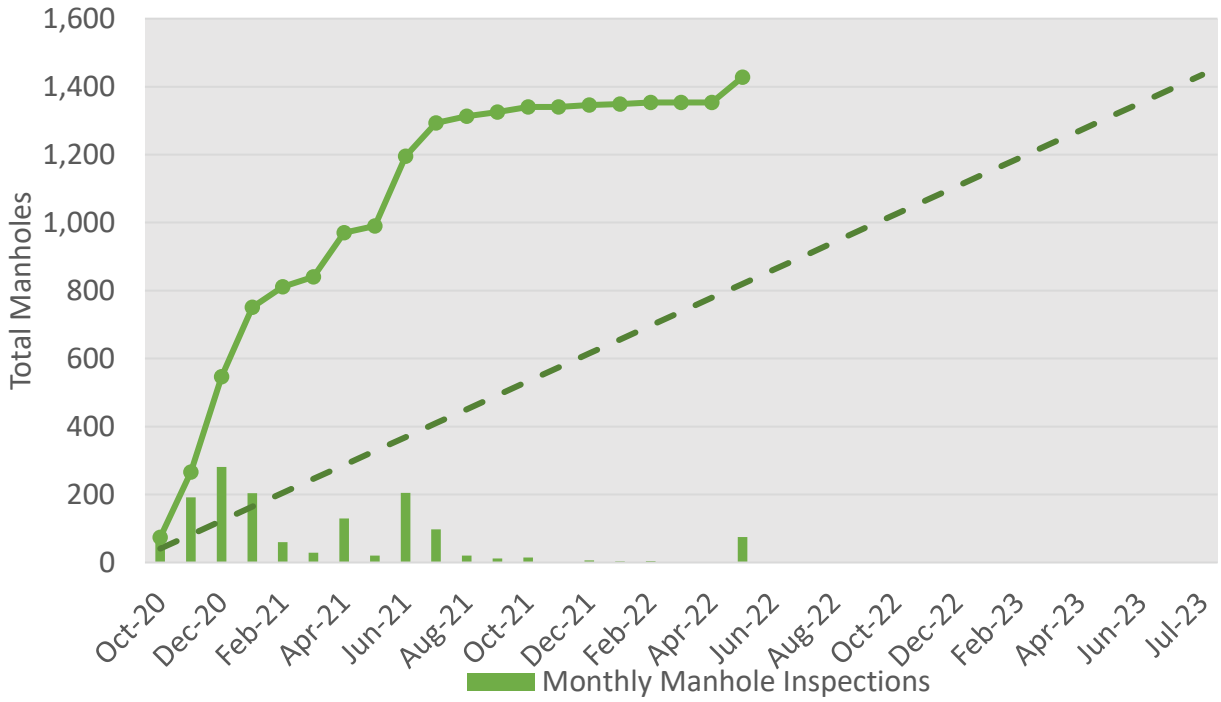
Maintenance Activity: Collection crews responded to 46 service calls in 2022, with private lateral problems being the majority of the calls. The remaining calls were for odor complaints, pump station related problems, backed up plumbing, and rattling manholes. There were 1,679 Underground Service Alerts calls for marking sewer locations for 2022. Collection crews were able to CCTV inspect 69,981 feet of sewer line. The District's root foaming program treated 30,955 feet of problematic lines with roots.



Riverwatch Settlement Agreement Activity: In the beginning of 2020, CAWD accepted a settlement agreement with the NGO (Non-Governmental Organization) California River Watch (CRW). As part of the settlement, CAWD agreed to perform a complete collection system condition assessment. The condition assessment includes the evaluation of all the sewer lines, manholes and pump stations in the District and the results of the condition assessment will be provided in a report to CRW due by the end of 2023. After 2023, all sewer lines with a Pipeline Assessment and Certification Program Rating (PACP) of 3 and above are required to be video inspected every 5 years and all manholes and the remaining sewer lines inspected every 10 years. See charts below for the system wide total, to date, of inspected sewer line footage and manholes. Pump station assessments were completed in 2022.



Total Required amount (Linear Feet)	Cumulative Complete (Linear Feet)	Remaining (Linear Feet)
408,672	408,672	0



Total Manholes in District	Completed Manhole Inspections	Remaining Manholes
1,428	1,428	0

Construction Activity:

Additionally, surveying and environmental studies were completed for the proposed Carmel Meadows pump station (Project ID # 19-03). When construction of the project is complete, it will eliminate most of the easement lines that run along and over the Carmel River Lagoon. This project is slated to begin construction in budget year 23-24.

Preliminary engineering, environmental investigations and surveying has been completed for the Scenic Road Pipe Bursting Project (Project ID # 20-08). Due to the discovery that there are cultural resources within the alignment of the project, it has been determined that a Coastal Development Permit and a mitigated negative declaration will be required for the project. When completed, this project will replace the sewer line on Scenic from Ocean Ave to the Bay & Scenic pump station. This project is slated to begin in budget year 22-23.

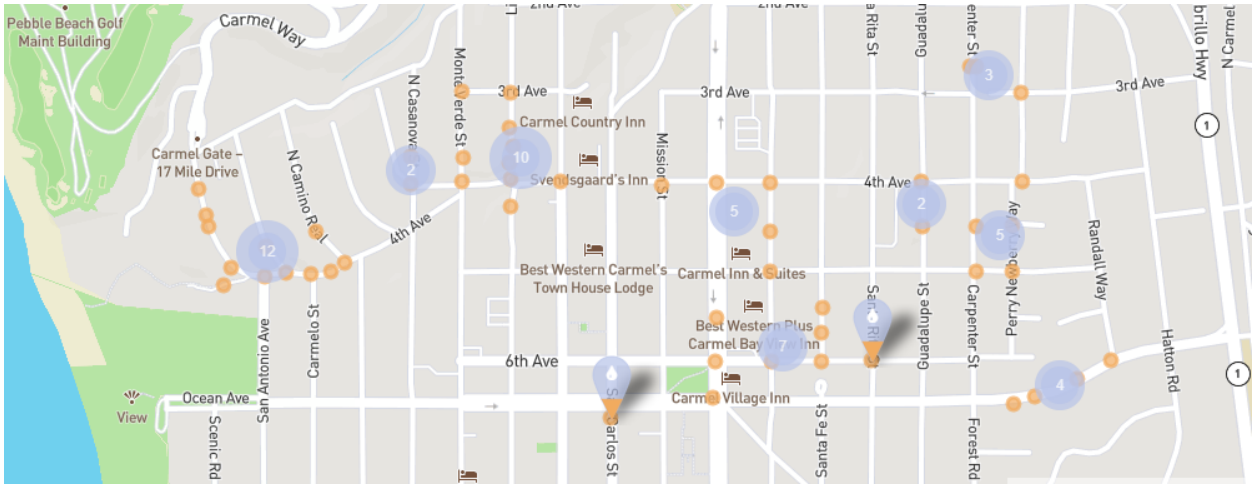
In February 2022, Mocon did an emergency replacement of the sewer main, line segment Q826-R818, that runs along the easement through the property of 26095 Dougherty Place. The old and broken vitrified clay pipe (VCP) was replaced with high density polyethylene pipe (HDPE) using the pipe bursting method. A previous spot repair was attempted at this location

in 2014, but due to the existing pipe depth, approximately 30 feet, the repair was called off before completed due to safety concerns.

In early 2022, Rooter King completed 16 planned spot repairs listed in the 2021-2022 Spot Repair Program (Project ID #21-02). Additionally, in 2022, Rooter King did six emergency spot repairs on district sewer main lines. Five were needed because of pipe defects that led to SSO's, and the last was due to a pipe condition that prevented the CCTV equipment from performing its duty to complete the CRW requirements.

Coastal Paving was awarded the contract for the 2022 Manhole Frame and Lid Replacement Project (Project ID #22-02). This project replaced 32 manhole frame and lids at select locations needing to comply with the CRW order.

Manhole Lining Activity: In 2022 the District contracted with Express Sewer & Drain to rehabilitate 52 manholes with a monolithic spray-application of a high-build, rigid and solvent-free polyurethane coating to eliminate infiltration, provide corrosion protection, repair voids and enhance structural integrity of the manhole structure. The selected manholes were noted in inspections to be in poor condition and are located on the map below.



The manhole lining process and quality were found to be excellent and the Principal Engineer plans to recommend using this product in the future. There are 263 inspected manholes that have been found to be in poor condition that will need to be replaced or lined in the near future. There are about 40 manholes that are within 200 feet of water bodies that need to be lined in fiscal year 2023/24 as part of the CRW agreement.

Other Notable Activity:

In 2019, a new ordinance was passed that required the PSL (Private Sewer Lateral) to be inspected and repaired as needed at the sale of the property, a remodel over $50,000.00 USD, or a violation of the ordinance. (Ordinance 2019-1.)

Year	PSL Compliance Certificate issued
2019	105
2020	335
2021	300
2022	261

There were 300 lateral permit inspections and 261 PSL certificate of compliance certificates issued in 2022.

The Collections Department attended all the required safety training in 2022. Staff attended both the CWEA Annual conference and the CSRMA Sewer Summit online. In 2022, Collections staff cleaned the storm drain interceptors and catchment ponds for the city of Carmel by the Sea in both the Spring and Fall. I would also like to congratulate the Collections staff for finishing the year 2022 with zero work time lost.

SSO Summary:

DATE	SPILL LOCATION	GALLONS	GALLONS	CAUSE OF SPILL
		SPILLED	RECOVERED	
6/10/2022	Carmel Meadows	90	0	Grit
9/19/2022	2nd & Lobos	20	0	Roots
10/06/2022	Pescadero Easement	1,896	0	Roots
10/28/2022	Pescadero Easement	5,625	53	Roots
11/01/2022	Santa Fe & 6th	129	24	Roots
11/10/2022	Guadalupe & 5th	131	3	Roots

SSO #1 occurred at manhole S622, in an easement located in Carmel Meadows. This manhole has a history of overflows caused by grit that collects in the main line due to a large sag. This line segment is scheduled to be replaced during the Carmel Meadows Replacement Project (Project ID #19-03).
SSO #2 occurred at manhole N761, located at 2nd & Lobos. The cause of the overflow was from roots growing in from an abandoned lateral connection. An emergency spot repair was done to remove the root and cap off the connection.

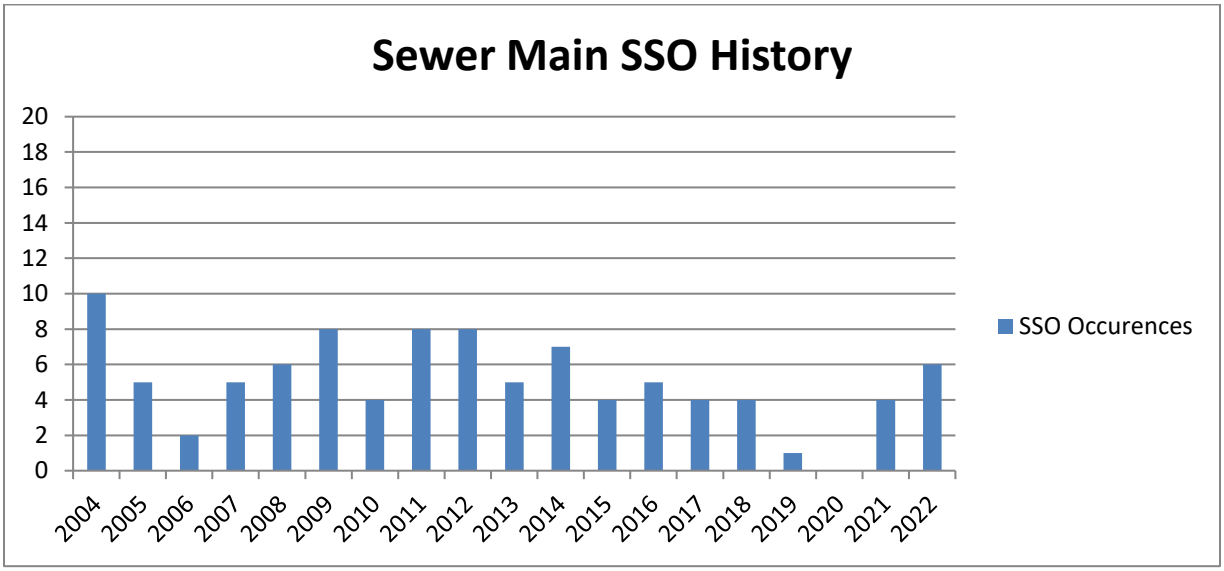
SSO #3 occurred at manhole N602, in an easement located behind Pescadero Road. This manhole has a history of overflows caused by roots in the main line. This line segment is scheduled to be replaced during the Pescadero Creek Area Pipe Relocation Project (Project ID #21-05).

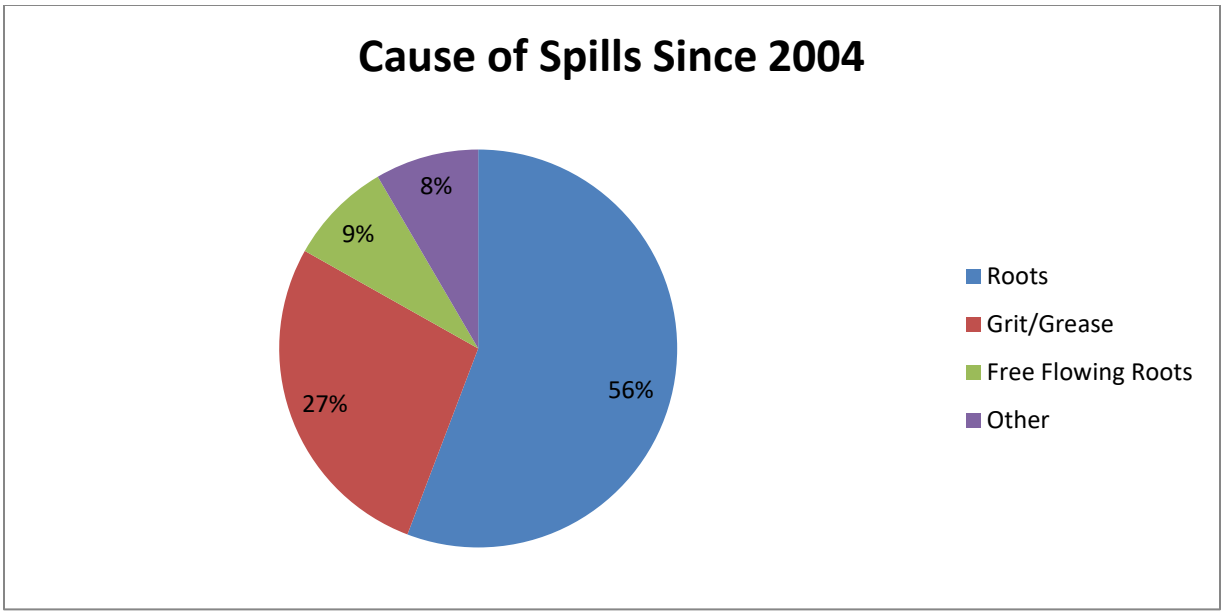
SSO #4 occurred from a private cleanout located at 24656 Pescadero Rd, in an easement located behind Pescadero Road. This line segment has a history of overflows caused by roots

in the main line. Three emergency spot repairs were made in line segment N602-N604 at lateral connections where roots were growing in. This line segment is scheduled to be replaced during the Pescadero Creek Area Pipe Relocation Project (Project ID #21-05).

SSO #5 occurred at 2 NW of 6th on Santa Fe. Line segment O778-O779 was where a root blockage occurred, the sewer line was backed up and spilled out of the SRV (Sewer Relief Valve) into the side yard of the property. This line segment has been added to the high frequency cleaning route until the replacement is made.

SSO #6 occurred at 4 NE of 5th on Guadalupe. Line segment O767-O768 was where a root blockage occurred, the sewer line was backed up and spilled out of the SRV (Sewer Relief Valve) into the front yard of the property. This line segment has been added to the high frequency cleaning route until the replacement is made.

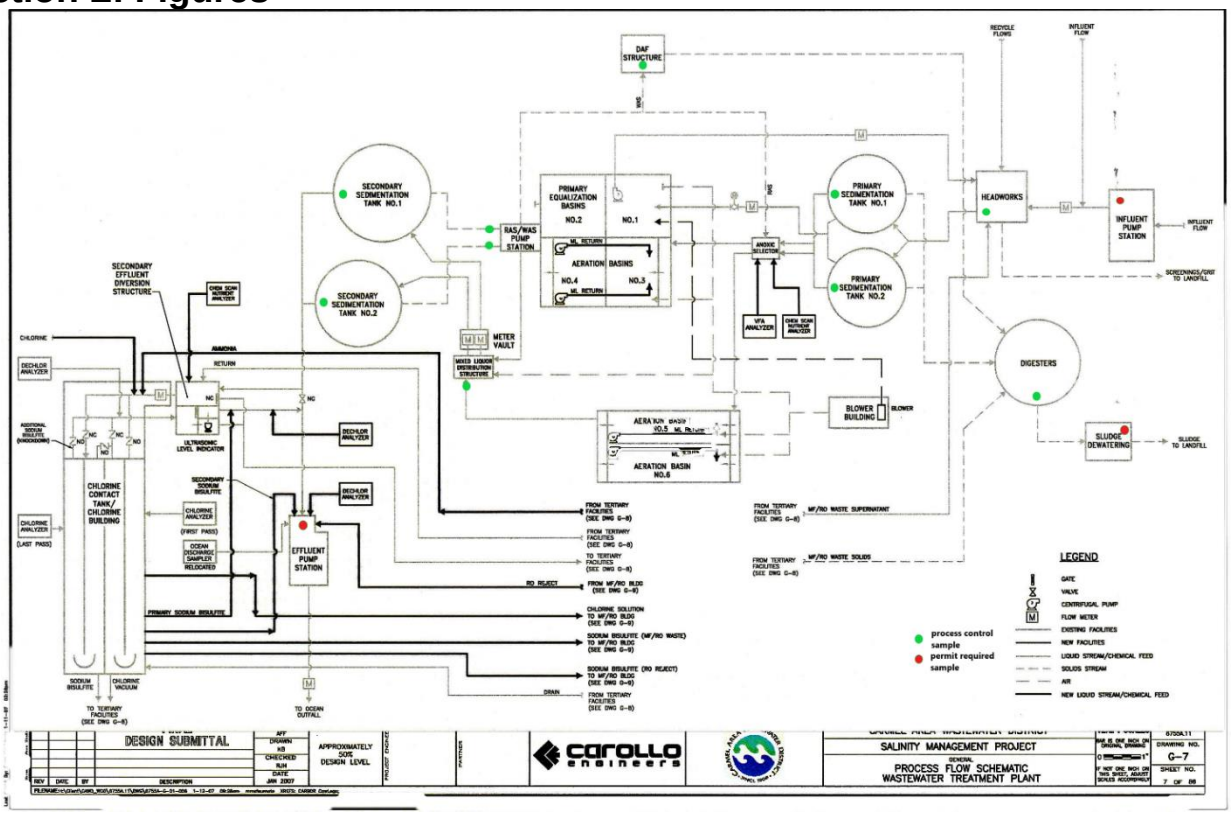




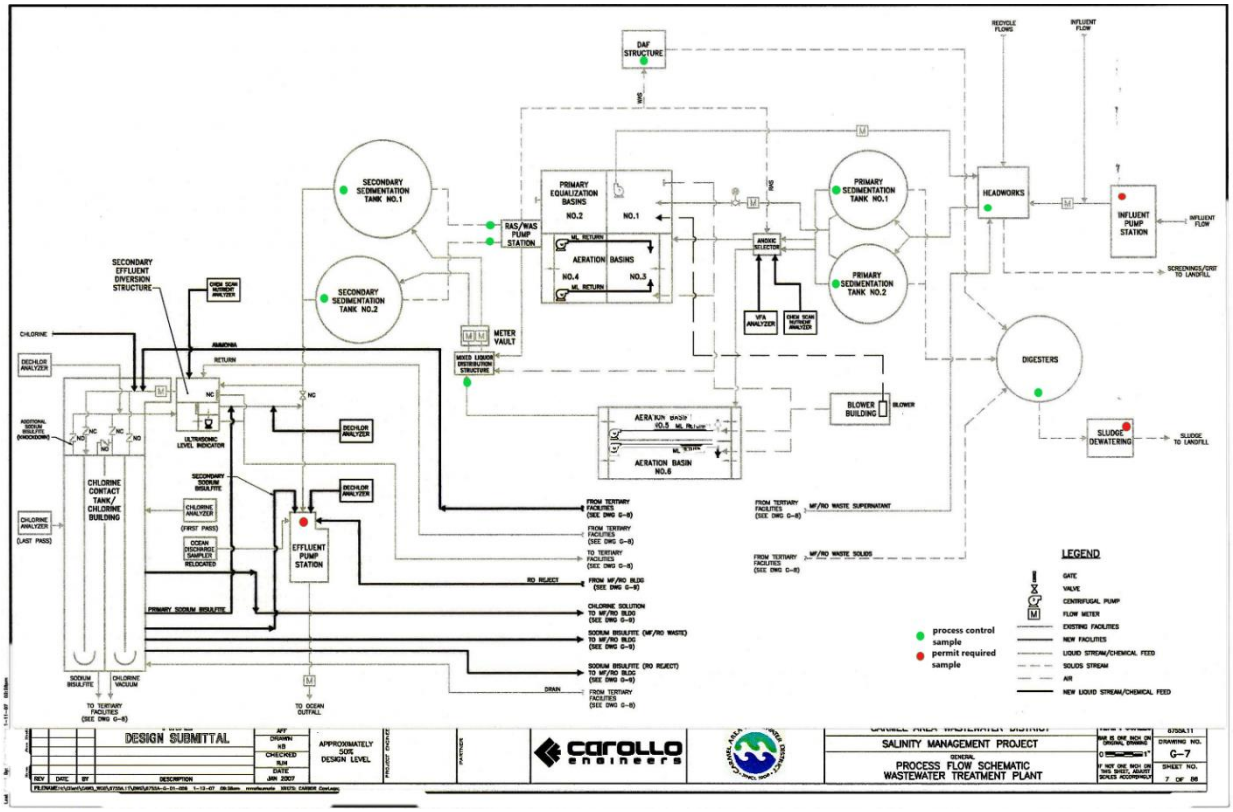
Section K: Mercury Seals

This facility does not use Mercury Seals – Not Applicable.

Section L: Figures



CAWD Plant Flow Schematic



CAWD PLANT SAMPLEING LOCATIONS

CAWD Building and Storage Locations

Lab Reports

This facility's Monitoring and Reporting Program requirements do not have specific annual monitoring.