

Town of Discovery Bay WW Master Plan Summary



WW Master Plan Summary

- Stantec Consulting Engineers has completed preparation of the 2019 Wastewater Master Plan Update.
- This updated plan has been in development for more than 1 year.
- The Wastewater Master Plan Update was prepared to primarily answer the following questions.

WW Master Plan Questions

- What is the best way to achieve recently adopted permit limits for Town's NPDES permit that require the Town to denitrify the wastewater to less than 10 mg/l total nitrogen by December 31, 2023?
- What should the Town do with Plant No. 1?
- Do lower flows at WWTP offer an opportunity to reduce costs in achieving NPDES permit compliance and do the lower flows affect the decisions about Plant No. 1?

Master Plan Recommendations

- The most cost-effective way to achieve the new NPDES permit limit is to install anoxic basins in front of each oxidation ditch. Three total basins in front of each ditch at Plant No. 1 and No. 2 are required.
- Plant No.1 is still needed by the Town for maintenance and reliability reasons and occasionally during peak loadings in the middle of winter.
- It is cheaper to repair Plant No. 1 to the level of a backup facility than it is to construct it new at Plant No. 2. The plan therefore provides costs for repairs to Plant No. 1 in lieu of moving it to Plant No. 2.

Master Plan Recommendations

- Recent wastewater influent flows are lower than found in the previous Master Plan. However, the biological loading from the wastewater flows has not changed significantly and the recommended facility sizes have also not changed significantly in this Master Plan Update.
- Improvement recommendations for Wastewater Plants No. 1 and No.2 were broken down into essential and non-essential items for reliable compliance with the NPDES permit.

Master Plan Essential Project Costs

- Dentirification Project -- \$ 7,844,000
 - Plant 1 Rehabilitation -- \$ 3,452,000
 - Other MP Projects -- \$ 1,772,000
 - Total \$ 13,068,000
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- Costs are Mid 2019, ENR 20 Cities CCI = 11,300
 - Financing plan for the project was previously set at \$13,368,000

Project Cost Breakdown 2019 \$

Town of Discovery Bay		
Essential Project Cost Breakdown		
Project No.	Project Description	Total Project Cost
1	Geotechnical Report	\$ 30,200
2	CEQA Permitting	\$ 10,000
3	Surveying	\$ 25,000
4	Rate Study	\$ 25,000
5	Influent Sampling Testing	\$ 30,000
6	Oxygenation Study	\$ 35,000
7	Engineering Design	\$ 838,060
8	DBCSD Administrative Staff	\$ 30,000
9	DBCSD Project Management Staff	\$ 105,000
10	Construction Management, Engineering Support, & Inspection	\$ 857,650
11	Geotechnical Inspection During Construction	\$ 25,000
	Subtotal	\$ 2,010,910
	Master Plan Construction Cost	\$ 10,500,000
	Project Contingency (6.5% of total)	\$ 875,090
	Total Project Cost (2019 \$)	\$ 13,386,000
	Inflation to mid point of Construction (5%)	\$ 669,300
	Total Project Cost (mid 2021 \$)	\$ 14,055,300

Project Schedule

Town of Discovery Bay Essential Master Plan Project Schedule

Date	Action Item
January 2020	Begin Design
May 2020	30% Submittal and Review
March 2021	100% Submittal and Review
April 2021	Bid project
May 2021	Award Project
June 2021	Begin Construction
June 2022	UV Phase Startup
December 31, 2022	UV Title 22 Required
June 2023	Construction Complete
June 2023	Denitrification Startup
December 2023	Construction completed.

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