

831730 - WPCP Oxidation Pond Levee Rehabilitation

Originating Year:	2016	Project Type:	Wastewater	Department:	270 - Environmental Services
Planned Completion Year:	Ongoing	Category:	Capital	Project Manager:	Matthew Hoang

Project Description/Scope/Purpose

The Water Pollution Control Plant (WPCP) Oxidation Pond Levee Rehabilitation project provides funding for site assessments, weed abatement, levee repairs, levee maintenance, levee road maintenance, and other levee related work to keep this critical asset sound for the next 20 years. These levees form the containment, flow paths, and pumping structures that make-up the WPCP Secondary Treatment Process. The levee roads allow the public to enjoy access to the lower south bay slough systems while keeping the Bay and Storm water from entering the WPCP Secondary Treatment process.

The oxidation ponds are contained by approximately eight miles of earthen levees formed by clamshell dredging and compaction. The WPCP levee system has not had any significant rehabilitation since the ponds were commissioned in the late 1960s. The network of levees has become significantly overgrown vegetation and significant erosion has occurred along the levee roads. The proposed weed abatement will remove all vegetation (estimated at approximately eight acres) from the levees and manage regrowth overtime. Also, this project will also rehabilitate sections of the levee roads which have become significantly worn and eroded.

Project Evaluation and Analysis

A City-wide condition assessment study was conducted of City structures. WPCP oxidation pond levees were included in this study. Areas along the levees were identified for repair in this condition assessment study. The information in the condition assessment was used to create the WPCP Pond Levee Operations and Maintenance manual. Rehabilitation projects may include, but are not limited to, structurally reinforcing the levees, repairing breaches and cracks, removing weeds, and raising subsided sections of the levees. On-call engineering firms will provide construction management support and outside contractors will perform the repair work. Segments with the highest likelihood of impact will be given priority.

Additional funding needed to complete repairs to South, West and completion of the East pond levees. Cost estimates have now been refined based on actual construction costs of one section of levee repair. Costs estimates for the West levee repair range from \$650,00 to \$1,820,033 depending on repair option chosen. The cost estimate to repair the remaining section of the East levee is \$4.5M given on page 6 of the HDR Engineers design memo. A rough cost estimate of \$4M for the repair of the south levee is based on in house repairs per Operations and Maintenance manual.

Fiscal Impact

The initial cost estimate indicated up to \$27 million would be needed for all repairs identified in the engineering report and the most urgent repair work is budgeted and underway. Additional funding would be required to address all repairs. The twenty-year budget is based on oxidation pond weed abatement costs and in house levee repair projections.

Funding Sources

Wastewater Management Fund

Plans and Goals

EM - Environmental Management - EM-7: Effective Wastewater Treatment

EM - Environmental Management - EM-8: Protection of Creeks and Bay

Project Financial Summary

	Project Costs	Revenues	Operating Costs
Prior Actual	1,492,903	-	-
2023-24	6,456,492	-	-
2024-25	3,030,447	-	-
2025-26	1,907,914	-	-
2026-27	1,123,233	-	-
2027-28	1,035,601	-	-
2028-29	1,037,025	-	-
2029-30	1,038,505	-	-
2030-31	1,040,046	-	-
2031-32	149,932	-	-
2032-33	43,313	-	-
2033-34	45,047	-	-
2034-35	46,848	-	-
2035-36	48,722	-	-
2036-37	182,415	-	-
2037-38	189,711	-	-
2038-39	197,299	-	-
2039-40	56,998	-	-
2040-41	58,754	-	-
2041-42	61,104	-	-
2042-43	63,548	-	-
2043-44	-	-	-
20 Year Total	11,356,463	-	-
Grand Total	19,305,857	-	-