



Regional Water Quality Control Plant Phase I Rehabilitation & Expansion Project Construction Completion (BID 6983)

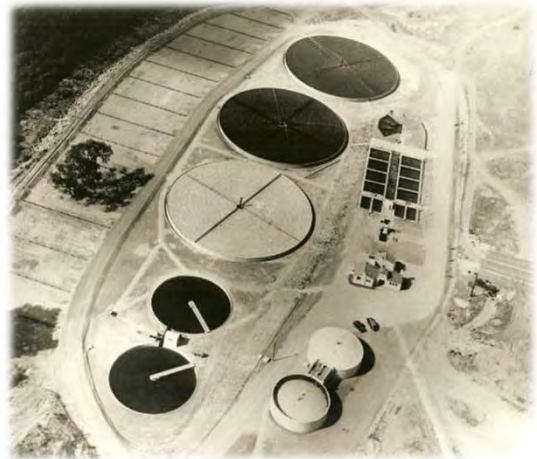
Public Works Department

City Council
October 24, 2017

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REGIONAL WATER QUALITY CONTROL PLANT

1. Service population 320,000, plus three Community Service Districts
2. About 93,000 customers
3. Treatment capacity of 46 MGD
4. 800 miles of wastewater pipeline
5. 400 miles of City wastewater lateral lines
6. RWQCP operation staffed 24/7/365



First Plant 1947 - 6 MGD capacity ²



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PHASE 1 CONSTRUCTION COMPLETE – Infrastructure Grade

1. Project Summary

- \$192M Infrastructure Investment
- Over four years of construction
- Came in under budget with only 3.1% change order authority used

2. Riverside 2.1 Strategic Objectives

- Regulatory Compliance
- Customer Service
- Sustainability & Resource Recovery
- Technology integration



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MEMBRANE BIOREACTOR TREATMENT SYSTEM (MBR)



1. Advanced treatment provides cleaner water to comply with existing & future regulatory requirements
2. Uses an engineered membrane barrier that only allows certain particle sizes to pass through



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ODOR CONTROL

1. Tank covers for odor control have been installed on the plant's eight primary clarifiers
2. Foul air from the eight clarifiers is scrubbed clean using a biological air filter instead of chemical treatment



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NEW ORGANICS RECEIVING STATION



1. The facility can accept used grease & food waste from restaurants & food processing facilities
2. Reduces waste sent to landfills & increases production of bio-methane that can be stored & reused as a fuel to produce energy

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DIGESTER BIO-METHANE GAS STORAGE

1. Bio-methane gas is used as fuel for digester heating & the new 1.4 mega-watt Fuel Cell (40% of electrical demand)
2. Storage allows for excess fuel to be stored & used when needed instead of purchasing natural gas



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DIGESTER MIXING SYSTEM



1. The four digester tanks treat & break down organic matter removed from the wastewater
2. The new tank mixers use less than a quarter of the electricity of typical mixing systems

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WASTEWATER FLOW EQUALIZATION BASINS



1. Basins allow for wastewater to be stored & pumped into the plant at a steady rate
2. Increases plant performance & energy efficiency



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PROJECT CLOSE OUT AND BUDGET

Project Schedule

1. Original construction completion – December 9, 2015
2. Actual construction completion – June 30, 2017

Project Budget

1. Construction contract amount \$192,202,921- PCL Construction, Inc.
2. Authorized project change order authority was 6.5% - \$12,493,190
3. 296 extra work items were issued totaling \$6,345,469
4. Extra work items represents 3.1% of change order authority
5. Overall, the project was completed \$6,147,721 under budget



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RECOMMENDATIONS

That City Council:

1. Receive and file the construction completion report on the RWQCP Phase 1 Rehabilitation and Expansion Project (Bid 6983); and
2. Authorize a project Open House event in early November 2017



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