

City of Morro Bay Cayucos Sanitary District

**WASTEWATER TREATMENT PLANT
UPGRADE PROJECT
APPEAL NO. A-3-MRB-11-001**

**CCC Briefing Booklet
April 2012**

A copy of this briefing booklet has been provided to the Central Coast District Staff.

Project Description

- City of Morro Bay and Cayucos Sanitary District (MBCSD) propose to upgrade existing wastewater treatment plant (WWTP) to full secondary treatment and provide tertiary filtration capacity of 1.5 mgd.
 - Per 2008 Settlement Agreement w/RWQCB, plant required to meet full secondary requirements and be completely operational and in full compliance with state and federal permits by March 31, 2014.
 - Morro Bay and Cayucos have voluntarily chosen to surpass the requirements for full secondary treatment by also including tertiary filtration into the treatment process.

Project Description

continued...

- Wastewater will be highly treated using oxidation ditch biological process with filtration, surpassing requirements of EPA and State Water Resources Control Board.
- Tertiary filtered effluent to meet standards for disinfected secondary recycled water and could be used for limited beneficial uses.
- Proposed project downsizes WWTP; does not accommodate new growth.

Project Location



SOURCE: GlobeExplorer; ESA, 2010

Morro Bay Cayucos Wastewater Treatment Plant EIR . 208013

Figure 2-1
Project Vicinity

Project Timeline

- **May 2007**– MBCSD Approves Upgrade of Wastewater Treatment Plant to Achieve Tertiary Treatment Standards
- **December 2008** – Regional Water Quality Control Board and MBCSD Settlement Agreement for Plant Upgrade by March 31, 2014
- **January 2009** – CCC Federal Consistency certification for reissuance of 301(h) NPDES modified discharge permits for the WWTP and ocean outfall
- **January 11, 2011** – Final EIR Adopted and Coastal Development Permit Approved by Morro Bay City Council
- **January 18 - 31, 2011** – Coastal Commission (CCC) Appeals Filed
- **March 11, 2011** – CCC Hearing & Finding of Substantial Issue
- **June 27 & 28, 2011** – Public Workshops to Review/ Comment on Work Plan, Identify Potential Alternative Sites, and Discuss Proposed Criteria for Draft Rough Screening Alternative Site Analysis
- **August 25, 2011** – Meeting with CCC Staff to Discuss Work Plan, Alternative Sites Identified, and Fatal Flaw Analysis Preliminary Results
- **September 1, 2011** – Draft Rough Screening Alternative Site Evaluation Released for Public Review
- **September 9, 2011** – JPA Hearing on Draft Rough Screening Alternative Site Evaluation
- **September 19, 2011** – Public Workshop to Review/ Comment on Draft Rough Screening Alternative Site Evaluation and Proposed Criteria for Fine Screening Analysis
- **November 11, 2011**— JPA Hearing on Fine Screening Alternative Site Evaluation
- **December 9, 2011** — Meeting with CCC Staff to Discuss Results of Fine Screening Alternative Site Evaluation and Next Steps
- **Jan.-June 2012** —Coordination w/CCC staff and Preparation of Addendum to Flood Study, Tsunami Flood Study, Highest and Best Use Analysis, Visual Simulation, and Recycled Water Feasibility Study
- **March 2012**—Release of public draft 2012 Recycled Water Feasibility Study
- **June 2012**—CCC consideration of Project (anticipated)

Current WWTP Site



100-Year Flood Zones

- **A** Areas subject to a one percent or greater annual chance of flooding in any given year. Because no detailed hydraulic analyses have been performed on these areas, no base flood elevations are shown.
- ▨ **AE** Areas subject to a one percent or greater annual chance of flooding in any given year. Base flood elevations are shown as derived from detailed hydraulic analyses.
- ▨ **A0** Areas subject to a one percent or greater annual chance of flooding in any given year. Flooding is usually in the form of sheet flow with average depths between one and three feet. Average flood depths are shown as derived from detailed hydraulic analyses.

▬ Soil Type Boundary
Slope = Less than 10% on site

- Parcel Boundary
- Project Boundary
- Existing Gravity Sewers
- Existing Outfall
- ▨ Conceptual Site Design
- ▨ Proposed Influent Foremain



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FIGURE 2
SITE 1 - Current WWTP Site Constraints and Conceptual Site Plan

MORRO BAY-CAYUCOS SANITARY DISTRICT WASTEWATER TREATMENT PLANT UPGRADE

CCC Federal Consistency Certification

- In Jan. 2009, Federal Consistency Certification CC-007-06 approved for reissuance of 301(h) NPDES modified discharge permits for WWTP and ocean outfall
 - CCC made determination based on extensive EPA and RWQCB findings that commercial/recreational fishing and other public access and recreational resources would be protected with the planned upgrade consistent with Coastal Act policies.
 - CCC's review of modified discharge permit for plant on existing site found that, with MBCSD's performance and monitoring results, as conditioned by the RWQCB, and its commitment to upgrade to full secondary and to pursue tertiary treatment by March 2014, the WWTP discharge would be **"consistent with the water quality, marine resources, commercial and recreational fishing, and public access and recreation policies...of the Coastal Act."**

Staff Report, p. 3

Substantial Issue Background

- In March 2011, SI found based on concerns related to:
 - Coastal Hazards
 - Public Access and Recreation
 - Visual Resources
 - Archaeological Resources
 - Sustainability/Water Reclamation

- CCC suggested additional project sites be analyzed (beyond Current WWTP site and alternative sites considered in EIR)

- Applicant contracted with outside firm to conduct:
 - Alternative Sites Evaluation with input from CCC staff and members of public
 - Additional water reclamation feasibility & disposal option analysis

Alternative Sites Evaluation

As requested by CCC staff, applicant conducted extensive Alternative Sites Evaluation, including:

- Phase 1 –Rough Screening Alternative Sites Evaluation
 - Fatal flaw assessment of potential alternative sites identified through public input and site evaluation
 - Seventeen (17) sites initially considered; six (6) dismissed due to fatal flaws
 - Rough screening evaluation of eleven (11) alternative sites

- Phase 2 –Fine Screening Alternative Sites Evaluation
 - Detailed analysis of potential alternative sites identified through rough screening evaluation, additional site evaluation and technical study
 - Additional site-specific coastal hazard assessment conducted
 - Three (3) sites considered

Alternative Sites Evaluation



Alternative Sites Evaluation

Fine Screening criteria grouped into three weighted issue areas:

1. Avoid and Minimize Env. Impacts & LCP Policy Consistencies (40%)

- Coastal Hazards
- Public Access, Recreation, and Visitor-Serving Uses
- Visual Resources
- Sustainable Use of Public Resources
- Coastal-Dependent Development
- Cultural Resources
- ESHA
- Agricultural Resources

2. Project Implementation (30%)

- Complies with NPDES Requirements
- Minimizes Project Schedule Delays
- Ease of Property Acquisition

3. Economic Factors (30%)

- Minimizes Capital Cost
- Minimizes Operating Cost
- Minimizes Project Delivery (Soft) Costs

Alternative Sites Evaluation

Project Implementation / Schedule Comparison

- **Complies with NPDES Requirements**
 - All three sites would meet NPDES Water Quality and Basin Plan requirements
 - Chevron and Righetti sites would necessitate development of a Regional Salt and Nutrient Management Plan
 - Only Current WWTP site achieves full compliance with "Settlement Agreement for Issuance of Permits to and Upgrade of Morro Bay Cayucos Wastewater Treatment Plant"

- **Anticipated Project Completion Dates**
 - Current WWTP – December 2015
 - Chevron Facility– March 2023
 - Righetti Property– April 2022

- **Property Considerations/Estimated Project Cost**
 - Current WWTP – No Acquisition Necessary (\$61,970,000)
 - Chevron Facility– Acquisition from Private Owner Required (\$105,600,000)
 - Righetti Property– Acquisition from Private Owner Required (\$89,730,000)

- **Recycled Water**
 - All three sites could accommodate recycled water in the future, when determined to be economically feasible.
 - Recycled water feasibility not a distinguishing factor in treatment plant siting.
 - Additional costs for wastewater conveyance and treatment infrastructure far exceeds recycled water system costs.

Alternative Sites Evaluation

- Current WWTP site determined to be preferred alternative.
- Site Recommendation:

“Based on the analysis contained herein, it is therefore recommended that the Current WWTP (Site 1) be brought back before the CCC during its de novo review hearing as the most feasible alternative site for development of the MBCSD’s WWTP facilities in accordance with its consistency with applicable City LCP and CCA policies, its ability to reduce environmental impacts to a less than significant level, and because it presents the most streamlined project implementation schedule, while being the most cost-effective option for the rate payer within the MBCSD service area.”

City LCP and Coastal Act Consistency Analysis

- Current WWTP site can be found consistent with City's LCP and Coastal Act policies related to:
 - ***Coastal Hazards***
 - ***Public Access and Recreation***
 - ***Visual Resources***
 - ***Archaeological Resources***
 - ***Sustainability/Water Reclamation***

Coastal Hazards

- ***Minimize risks to life and property; ensure structural stability; limit grading to extent feasible.***
- Low tsunami potential at Current WWTP site
- In 100-year floodplain, project reduces facility footprint by 50%, mitigation feasible to reduce risk
- Facility improvements not affected by long-term shoreline erosion, storm surge or wave run-up, or sea level rise for a 100-year time period (well beyond design life of project)

Public Access and Recreation

- ***Maximize public access; protect oceanfront land for public access.***
 - No impacts to existing public access in surrounding area
 - Existing and proposed treatment plant consistent with LCP land use designation and surrounding land uses
 - No adverse traffic impacts

Visual Resources

- ***Protect scenic and visual qualities; site development to protect views from public vantage points and along the ocean.***
- Current WTPP facility minimally visible from Highway 1 and beach area; minimal public view blockage toward ocean
- Compatible with surrounding development
- Mitigation and design measures available to further reduce visibility

Archaeological Resources

- ***Preserve and protect archaeological resources.***
 - No significant resources identified at Current WWTP site; site fully developed
 - Additional site survey conducted during Fine Screening Evaluation
 - Impacts to cultural resources unlikely; feasible mitigation measures and monitoring program to reduce potential risk

Sustainability/Water Reclamation

- ***Maintain long-term and sustainable groundwater resources.***
 - Comprehensive Recycled Water Study conducted in 1999
 - Study concluded that recycled water was not economically viable at that time.
 - Continuing efforts to update customer list and seek previously unidentified uses
 - Potential recycled water demands re-evaluated
 - Updated 2012 Recycled Water Feasibility Study
 - Major components considered included: water reclamation initiatives, groundwater basin recharge feasibility, potential irrigation demands, and salt/nutrient loading on stream flow and groundwater basin.

Updated Recycled Water Feasibility Study

➤ Findings

- City of Morro Bay and Cayucos area have adequate potable water supplies through State Water Project (SWP), groundwater, and local surface water to meet projected demands.
- Recycled water cannot feasibly offset significant potable water demands.
- Treatment for salt and nutrients would likely be required to protect inland surface and groundwater supplies and to make water usable for certain potential users (i.e., avocado trees).
- Direct reuse (i.e., irrigation) would cost in excess of \$2,500/AFY, far exceeding the cost of other readily available water supplies.
- Significant groundwater recharge is not feasible due to limited aquifer storage capacity and high cost of advanced treatment to meet State groundwater replenishment requirements.
- A project for stream enhancement of Chorro Creek could cost between \$1,000/AFY and \$1,500/AFY, but the benefit would not likely be realized as a potable water supply since City is already committed to SWP.

Updated Recycled Water Feasibility Study

➤ Recommendations

- MBCSD should continue with proposed project to upgrade to full disinfected secondary treatment in accordance with Settlement Agreement.
 - Immediately implement recycled water use within the WWTP site.
 - Pursue expansion of recycled water system to areas immediately surrounding the WWTP.
 - City should collaborate with other stakeholders to develop a regional Salt & Nutrient Management Plan.
 - Explore opportunities to serve Morro Bay Golf Course water in exchange for reduced pumping of existing non-potable well water.
 - Continue to investigate funding programs that may help offset high costs of recycled water project implementation.
 - Continue with current, pro-active, multi-faceted water conservation program.
 - Review and update water supply and demand data as part of routine Urban Water Management Plan (UWMP) preparation.
- *Based on results of Recycled Water Feasibility Study, MBCSD is applying for Prop 84 grant funds to develop more precise and detailed infrastructure plans.*

Los Osos Comparison - Water Supply

- *What is the difference between the MBCSD project and the Los Osos project in terms of water supply?*
- Significant differences in the water supplies for the two communities:
 - **Los Osos** has two aquifers, the lower aquifer which is being over pumped, causing irreversible sea water intrusion, and the upper aquifer which is being polluted with septic tank effluent. Los Osos has no other sources of supply except for these two impacted basins, necessitating reuse of their wastewater to balance basin in and out flows. Their type of reuse and recharge necessitates a higher level of treatment and standard of care.
 - **Morro Bay** implemented a project in the 1990's to import State water. This imported source is used conjunctively with the two groundwater basins. The multiple sources of supply in Morro Bay reduce the impacts to the local resources providing adequate supply for Morro Bay's projected build-out population.

Los Osos Comparison – Wastewater Treatment

- *What is the difference between the MBCSD wastewater plant project and the Los Osos project?*
 - Significant differences in the wastewater systems for the two communities:
 - In **Los Osos**, the County is building both collection and treatment systems from the ground up. Los Osos needs to reuse treated wastewater to balance basin supply and demand in order to protect potable water supplies. With the selected plant location and geography, they will be pumping raw sewage several miles out to the plant and pumping treated effluent several miles back, leading to a more expensive and energy intensive plant.
 - Plant in **Morro Bay** was constructed in the 1950's with a major renovation in the 1980's, and needs to be rebuilt to continue to provide reliable service. Morro Bay's collection system was designed so that much of the effluent reaches the plant by gravity, making the system both low on energy usage and more reliable. MBCSD project was designed to replace existing facilities with new ones, keeping the plant operational during construction. The existing systems and their need to operate during the upgrade are perhaps the most significant difference between the two projects.

Conclusion

- Proposed project will upgrade Current WWTP to full secondary treatment and provide tertiary filtration capacity of 1.5 mgd.
- Will improve wastewater quality consistent with CCC Federal Consistency Certification approved in 2009 for reissuance of 301(h) NPDES modified discharge permits for Current WWTP and ocean outfall.
- Current WWTP site determined to be least environmentally impactful of all sites considered and can be found consistent with City's LCP and Coastal Act policies.