
Q.5 - ENVIRONMENTAL ANALYSIS

As explained in the Section Q.3, the LOWWP Preferred Project selected by the County is a modification of Proposed Project 4. The project components from Proposed Project 4 that were carried over to the Preferred Project include locating the wastewater treatment plant (WWTP), effluent storage and effluent disposal sprayfields at the Tonini site, implementing water conservation measures, and constructing a gravity wastewater collection system, a leachfield at Broderson, and the raw wastewater and treated effluent conveyance systems to connect them. The primary change that improves the environmentally superior characteristics is that an extended aeration treatment process (e.g., oxidation ditch or Biolac®) has replaced the facultative ponds from Proposed Project 4. This change also shifts the biosolids processing from dredging the facultative ponds and processing the biosolids every 15 to 20 years to dewatering biosolids daily and hauling the resulting Sub-Class B biosolids to a landfill for disposal.

Other elements of the Preferred Project have evolved as the LOWWP preliminary design has continued towards the Design/Build process and the Coastal Development Permit application was prepared. The County and its engineering, architectural, and environmental consultants have refined the conceptual design that provided the basis for the Draft EIR.

This environmental analysis section focuses on analyzing impacts of the Preferred Project elements that are different from the Proposed Project 4 elements that were analyzed comprehensively in the Draft EIR. Table Q.5-1 compares the Preferred Project described in Section Q.3 and Proposed Project 4 from the Draft EIR.

Differences between the two projects fall into three categories:

1. Different combination of project components,
2. Refined or modified project design elements as the LOWWP moved from conceptual to final design, and
3. Project design elements that were added in response to operating requirements or site conditions.

The subsequent sections in Section Q.5 evaluate the impacts in each resource area for the Preferred Project in comparison to Proposed Project 4. If the project elements and impacts are the same, then no additional analysis was completed. If the project elements are different or more detailed design information is available, then additional analysis was conducted to assess the corresponding environmental impacts and their level of significance.

One of the assumptions in the Preferred Project environmental analysis for the Tonini sprayfields is a design sprayfield capacity of 3.7 acre feet per year (AFY) per acre. A recent hydrogeological evaluation of evapotranspiration (ET) only rates by Cleath - Harris Geologists, Inc. (CHG 2009)

provides an updated Tonini sprayfield capacity of 3.7 AFY/acre in wet years and 3.9 AFY/acre in normal years. This would reduce the required sprayfield acreage to 228 acres of the 248 acres available for sprayfields at Tonini.

Table Q.5-1: Differences between Proposed Project 4 and the Preferred Project

Project Features	Proposed Project 4	Preferred Project
<p>Wastewater Collection System</p>	<ul style="list-style-type: none"> • 5 duplex pump stations • 2 triplex pump stations • 12 pocket pump stations • New standby power station provided onsite for each duplex and triplex pump station. 	<ul style="list-style-type: none"> • 6 duplex pump stations <ul style="list-style-type: none"> ○ Add Solano pump station and force main along Solano Street and Skyline Drive • 2 triplex pump stations • 13 pocket pump stations <ul style="list-style-type: none"> ○ Add sewage gravity collection line, pocket pump, and a force main along Palisades Avenue to collect sewage and convey back to the Mid-town Pump Station along Los Osos Valley Road. • Pump station standby power stations. <ul style="list-style-type: none"> ○ Baywood and West Paso pump stations will share a single new standby power station located at existing LOCSO water yard near the corner of 8th Street and El Moro Street. Provide electrical connection from standby power station to two pump stations. ○ Mountain View pump station has electrical connection to its new standby power station located offsite at nearby LOCSO South Bay well site. • Updated design details of the nine submersible pump stations, including pump and valve vault locations; water, gas and electrical connections; and above ground standby power stations and electrical panels or transformers. • Provide all pump stations will include design features to minimize release of odors during operation.
<p>Raw Wastewater Conveyance System</p>	<ul style="list-style-type: none"> • Creek crossings <ul style="list-style-type: none"> ○ Construct 500 foot Los Osos Creek Crossing with open cut in creek. ○ Construct 500-foot Warden Creek crossing with open cut in creek. • Raw wastewater effluent line location is on north side of Los Osos Valley Road from Los Osos Creek to Turri Road. • Mid-town Pump Station <ul style="list-style-type: none"> ○ Pump Station site is 0.1 acre. 	<ul style="list-style-type: none"> • Creek crossings <ul style="list-style-type: none"> ○ Construct 100 foot Los Osos Creek Crossing by installing conventional pipe hangers on Los Osos Valley Road. ○ Construct 100-foot Warden Creek crossing by installing conventional pipe hangers on Turri Road bridge. • Raw wastewater effluent line location is on south side of Los Osos Valley Road from Los Osos Creek to Turri Road. • Mid-town Pump Station <ul style="list-style-type: none"> ○ Pump Station site is 0.25 acre.

Project Features	Proposed Project 4	Preferred Project
	<ul style="list-style-type: none"> ○ Central pump station at southeast corner of Mid-town site ○ Pump Station with 3 75-hp pumps and 0 40-hp pumps. ○ Emergency power source not available. ○ Detailed site plan unavailable. 	<ul style="list-style-type: none"> ○ Central pump station at southwest corner of Mid-town site. ○ Pump Station with two 75-hp pumps and two 40-hp pumps ○ Install enclosed 250 KW standby generator. ○ Add above ground chemical storage building to store an odor control chemical, which is typically ferric chloride. Spill containment measures will be included. ○ Add berm around the site to contain pump station site stormwater. ○ Preliminary landscaping plan depicts how Mid-town pump station will be blended into project area.
<p>Treated Effluent Conveyance System</p>	<ul style="list-style-type: none"> ● Creek Crossings <ul style="list-style-type: none"> ○ Construct 500 foot Los Osos Creek Crossing with open cut in creek. ○ Construct 500-foot Warden Creek crossing with open cut in creek. ● Effluent pump station at Tonini with 75 hp pump 1000 gpm. 	<ul style="list-style-type: none"> ● Creek Crossings <ul style="list-style-type: none"> ○ Construct Los Osos Creek crossing using existing 24-inch utility sleeve in Los Osos Valley Road bridge. ○ Construct Warden Creek crossing by installing conventional pipe hangers on Turri Road bridge. ● Effluent pump station at Tonini with three 50 hp variable frequency drive (VFD) pumps, (2 duty and 1 standby.)
<p>Wastewater Treatment Process</p>	<ul style="list-style-type: none"> ● Facultative Ponds ● About 20-acre wastewater treatment facility site. ● Energy consumption will be about 1.24 million kWhr/year. ● Nitrogen removal with limited carbon addition (methanol) ● 2.0 FTE (full-time equivalent) employees for O&M. ● WWTP facilities construction excavation requirement is 83,000 cubic yards. ● WWTP site plan and storm drainage details unavailable. 	<ul style="list-style-type: none"> ● Oxidation Ditch or Biolac® system ● About 20-acre wastewater treatment facility site, including WWTP, storage ponds, access road, drainage facilities and ancillary facilities. ● Energy consumption will be about 1.36 million kWhr/year. ● Nitrogen removal without carbon addition (methanol) ● 2.5 FTE employees for O&M. ● WWTP facilities construction excavation requirement is 26,000 cubic yards, including biosolids processing facility and access road. ● Arrange treatment facilities onsite so that wastewater flows by gravity during treatment process for energy savings. ● Realign treatment plant access road intersection with Turri Road to be perpendicular for better sight distance. ● Potential well to replace existing agricultural well if it cannot provide potable water supply. ● Add 30,000-gallon fire and potable water storage tank and

Project Features	Proposed Project 4	Preferred Project
		<p>enclosed diesel water pump.</p> <ul style="list-style-type: none"> • Onsite stormwater will be collected and pumped to WWTP headworks for treatment. • Add LID drainage channel and pipe to carry stormwater runoff originating above WWTP and convey it around facility to creek outfall and energy dissipater. • Preliminary landscaping plan and architectural style renderings available to depict how WWTP will be blended into project area.
Treated Effluent Storage Ponds	<ul style="list-style-type: none"> • Construct one 46 acre foot (AF) seasonal storage pond • Pond depth 5-11 feet plus 4 feet of freeboard 	<ul style="list-style-type: none"> • Construct 3 seasonal storage ponds with combined 46 AF capacity. • Pond depths 12 to 20 feet plus 3 feet of freeboard
Biosolids Disposal	<ul style="list-style-type: none"> • Construction excavation requirement for biosolids processing facility is 1,000 CY. • Biosolids dredged from facultative ponds every 15-20 years and dewatered to meet Sub-Class B biosolids requirements with portable dewatering equipment. 	<ul style="list-style-type: none"> • Construction excavation requirement for biosolids processing facility is 1,900 CY. • Construct belt filter or screw press facilities to dewater 3600 lbs/day of biosolids to meet Sub-Class B biosolids requirements • Dewatered Sub-Class B biosolids hauled daily to Cold Canyon or Chicago Grade landfills for disposal.
Effluent Disposal	<ul style="list-style-type: none"> • Tonini Sprayfields <ul style="list-style-type: none"> ○ 175 acres of dedicated sprayfields required. ○ Percolation/Evaporation (Perc/ET) (4.8 AFY/acre) and Evapotranspiration only (3 AFY/acre) for sprayfield disposal rates. ○ Sprayfields limited to sites with 10 percent slope or less. ○ Berms constructed parallel to existing onsite drainages. ○ Potential for effluent ponding in Perc/ET areas. ○ Collect any sprayfield runoff accumulating within berms surrounding sprayfields and reapply to sprayfield. ○ 100-foot buffer from jurisdictional drainages. ○ No sprayfield setback from Turri Road or property to the south. 	<ul style="list-style-type: none"> • Tonini Sprayfields <ul style="list-style-type: none"> ○ 228 acres required of 248 acres of available dedicated sprayfields ○ Evapotranspiration only (3.7 AFY/acre) sprayfield design disposal rate. ○ Sprayfields limited to sites with 20 percent slope or less. ○ No berms constructed on sprayfields. ○ Lower spray rate will reduce effluent ponding potential. ○ Application rates will be monitored so effluent does not pool or runoff. ○ Spraying will stop at least 24 hours before forecasted rain to prevent runoff. ○ Provide 100-foot buffers from drainages, and cultural and biological ESHA sites on the Tonini property. ○ Provide 30-foot buffer from Turri Road and 100-foot buffer from adjoining property to the south.

Project Features	Proposed Project 4	Preferred Project
	<ul style="list-style-type: none"> ○ Nearest sprayheads to buffer zones set 15 feet inside sprayfield. ● Broderson Leachfield. <ul style="list-style-type: none"> ○ Berms constructed around Broderson leachfield. ○ Construction stormwater runoff management program unavailable. ● Operations groundwater monitoring program not previously identified. 	<ul style="list-style-type: none"> ○ Sprayheads located at edge of sprayfields (no 15-foot setback) will have 180 degree range or less focused inward so that sprayed effluent does not directly reach buffer zones or outside sprayfields. ● Broderson Leachfield. <ul style="list-style-type: none"> ○ No berms constructed around Broderson leachfield since effluent will not reach surface. ○ BMPs used at Broderson during revegetation process to control stormwater runoff and erosion. ● Operations groundwater monitoring program <ul style="list-style-type: none"> ○ Use 5 existing wells for vadose zone monitoring near Broderson leachfield. ○ Develop groundwater monitoring program using existing water supply and water quality monitoring wells to observe impacts to Los Osos area surface water features.
<p>Construction Staging</p>	<ul style="list-style-type: none"> ● One of several construction staging areas identified as 5-8 acre parcel south of Pismo Avenue between South Bay Boulevard and 18th Street. Other sites unknown. 	<ul style="list-style-type: none"> ● Two construction staging areas identified: <ul style="list-style-type: none"> ○ Southeast corner of Pismo Avenue and 18th Street intersection. (7 acres.) ○ Southwest of WWTP access road intersection with Turri Road. (1.5 acres.)