

**Technical Memorandum Name: Effluent Reuse and Disposal, April 2008**  
**Commenter: Tom Ruehr**  
**Comments Date: June 9, 2008**  
**Responses Date: June 20, 2008**

The following comments were submitted in response to the above listed Technical Memorandum (TM). The TM was developed as part of the EIR process for the project, in order to help facilitate and broaden the discussion of project issues important to the community. The responses should be considered preliminary because the EIR process is not complete, and the information necessary to fully respond has not yet been developed. The project team is grateful to those citizens who took the time to review the TM and provide comments at this early stage in the process. The project team will endeavor to fully address the comments and concerns through the on-going project development process.

	<b>Comment</b>	<b>Response</b>
1	<p>According to the Fugro West 2004 report, the 30 gallons of waste water to be applied per square foot per day represents 48.1 inches of water per day. Morro Bay received 8.82 inches of rain in the entire month of March, 1959. The proposed infiltration rate at Broderson is 5.5 times the total rain for one month being applied <b>every single day</b>.</p> <p>The previous sewer project in 2001 called for 7 gallons per square foot per day equal to 11.2 inches per day. This is about the same as a tropical rain forest.</p>	<p>The actual infiltration capacity of the sandy soil at the Broderson site was determined, through prototype testing, to be 180 gpd/ft<sup>2</sup>.</p> <p>30 gpd/ft<sup>2</sup> is 1/6 of the tested infiltration capacity. It is the design application rate for the percolation trenches. This is a conservative design, with a safety factor of 6.</p> <p>7 gpd/ft<sup>2</sup> is the actual application rate to the overall effective area of the Broderson site based on the application of 800,000 gpd.</p>
2	<p>Despite spending millions of dollars on studies, the engineers continue to make the same errors because they are using the wrong sources of information. This EPA, 1981 manual (page 8-2) was the wrong one to use.</p>	<p>The EPA's <u>Process Design Manual, Land Treatment of Municipal Wastewater</u>, October, 1981, is the correct reference for a rapid infiltration system for treated municipal wastewater.</p>
3	<p>The AB 885 draft recommends a maximum rate of 1.2 gallons per square foot per day equal to 1.9 inches per day.</p>	<p>The draft AB 885 regulations recommend 1.2 gpd/ft<sup>2</sup> as the maximum rate for septic tank leach field disposal. It does not apply to the disposal of municipal wastewater that has been treated to meet all water quality standards in the Waste Discharge Requirements.</p>
4	<p>However, the EPA 1980 report (Page 4) Table 7-2 says coarse sand and gravels are not suitable for recharge. Fine loamy sands should not exceed 0.8 gallons per square foot per day. This corresponds to an application of 1.28 inches of water per day. Even this is too high for the Los Osos Dune sands.</p>	<p>The EPA's <u>Design Manual, On-Site Wastewater Treatment and Disposal Systems</u>, October, 1980, provides standards for septic tank leach field disposal for onsite systems. It is <b>not</b> the correct manual to apply to disposal of treated municipal wastewater.</p>
5	<p>These Los Osos sands are well rounded wind blown deposits. If high water loading rates are applied, the rounded nature of these sand grains will lubricate an earthquake seismic event (acting similar to</p>	<p>Geotechnical reports conclude that there is a low potential for liquefaction related to the Broderson site. In addition to granular soil and saturated conditions, the soil must be low to medium density. Low density soils occur near the surface</p>

	<p>marbles) resulting in liquifaction of the land down slope from the Broderson and other recharge sites destroying many homes in the process.</p>	<p>throughout Los Osos, but soils are dense under the Broderson site at the depth that will be saturated with mounded groundwater.</p>
6	<p>Waste water contains nitrogen. Instead of trying to eliminate it during the sewage treatment process, it makes much more sense to <b>work with nature</b> and allow plant vegetation to utilize this nitrogen for growth. In the past two years, the price of nitrogen fertilizer has increased over 5 fold. This makes any source of nitrogen for agriculture <b>a gold mine</b> and not a waste product requiring disposal.</p>	<p>It is expected that waste discharge requirements will mandate denitrification to 7mg/L for treated effluent that is reused or disposed of within the Prohibition Zone. Effluent that is reused elsewhere could contain higher levels as long as it is applied at agronomic rates.</p>
7	<p>We must <b>not waste</b> the water. Plants can use this water for normal growth. Nitrogen as a plant nutrient is <b>too valuable</b> to eliminate it.</p> <p>We must have a <b>reasonable water application rate</b> and it must prevent any possibility of <b>liquifaction</b> on the hillsides of Los Osos.</p> <p>The EIR must address these issues completely.</p>	<p>See above.</p>