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March 20, 2009

Ms. Cecile DeMartini
California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

Re: City of San Juan Bautista Treatment Plant – Recycled Water Engineering Report 2008
Response to Comments by Department of Public Health, Letter Dated March 13, 2009

Dear Ms. DeMartini:

I reviewed the March 13, 2009 letter from the Department of Public Health (DPH) relative to the August 2008 revised Engineering Report for the Production, Distribution, and Use of Recycled Water and discussed the comments with Jeff Stone of the Recycled Water Unit to ensure the following responses would be sufficient:

Page 2, Section 2.2

The reference that “the City will develop procedures, restrictions and other requirements for the storage and use of recycled water...” was referring to the later parts of the engineering report that discusses in greater detail the proposed procedures to be followed. The primary document yet to be created will be a “Rules of Service” or “Guidelines for the Use of Recycled Water” that specifically addresses all required issues such as but not limited to conditions of service, training of personnel, emergency procedures, recycled water distribution system construction requirements, etc. This document will be based on the requirements for storage and use of recycled water in title 22 adopted in 2000 and will be submitted to DPH for approval and before any recycled water will be delivered for use at any site. Already drafted is a Recycled Water Utilities Ordinance to be adopted by the City Council once the Water Board issues a recycled water permit to the City. A copy of this draft ordinance is attached review and approval by DPH.

Figure 3 and discussion on Pages 5, 6, and 11:

UV is used as the primary disinfection process as it has been for the last 16 years so that all effluent not used for reclamation will not have been chlorinated and therefore will not have to be dechlorinated before discharge to surface water. This also eliminates the possibility of a discharge violation due to a chlorine residual in the plant discharge. However, the existing UV disinfection system was not designed for compliance with T22 and so chlorine has to be used to disinfect the effluent to be recycled in order to meet the T22 450 mg/L-min CT requirement.

The chlorine contact detention system consists of 24 inch diameter pipes in a serpentine configuration with a volume of 11,000 gallons. At the recycled effluent pumping rate of 100 gpm, the nominal detention time in the contact piping system would be 110 minutes but I assumed the pipe would be derated by 10% or 99 minutes as was done at Rancho Larios for a

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similar recycled water disinfection system. No dye tracer study was required there as DPH determined that a plug flow derating factor of 90% was all that was required for this type of chlorine contact piping configuration. I have attached the Engineering Report Amendment by Fuog Water Resources from 2003 which makes reference to this on page 2 in the paragraph just below the "Disinfection" title. The original letter to Mr. Fuog from the Health Department is not available to me but I had discussed this issue with Jan Sweigert around 2005 and she confirmed there had been a study on plug flow in piping systems and that was where the 10% derating factor had come from. I had assumed the same plug flow derating factor would apply to San Juan Bautista. If DPH still feels that a dye tracer study is required then we shall do so but it would seem to be overkill since the effluent is already disinfected using UV before it even reaches the chlorine contact piping system.

Page 15, Section 4.1

According to our records, the irrigation piping drawings for Creekbridge were to have been included in the submittal in August 2008 and why they were missing is unclear. Nevertheless, when the copy of this letter and the revised Engineering Report is mailed to DPH, a set of those drawings will be included. The "common areas" referred to are the strip of grass between the sidewalk and the street curb and the small park. There is no public access to the purple pipe irrigation system as there are no hose bibs anywhere and all piping is buried.

Page 16, 1st paragraph

The Cemetery has decided to do their own recycled water irrigation piping system. They do not want the City to do it because of concerns about disturbing grave sites. We do not know when they will undertake this project but they will not be allowed to connect to the purple pipe we installed at their property line until their design drawings have been submitted to DPH for approval and they have obtained a Recycled Water Use permit from the City per the City's to be adopted Recycled Water Utilities Ordinance.

Page 16, 2nd paragraph

The reference to faucets meant that if any faucets were left in areas of public access using recycled water they would have both keyed access and signage. I don't see a conflict in this requirement and I am not aware that faucets using recycled water are not allowed.

Page 16 (2nd to last paragraph)

The City is required to comply with the conditions in the Water Board reclamation part of the discharge permit regarding discharge standards and monitoring requirements. The reference by DPH to "Rules of Service..." refers to the "Guidelines for the Use of Recycled Water" that has yet to be created because we have been waiting to see what conditions were going to be in the Water Board's reclamation part of the discharge permit. This Guidelines document will be submitted to DPH once it is prepared. As noted earlier, the City already has a draft Recycled Water Utilities Ordinance that is being submitted with this letter for review and approval by DPH.

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Section 4.1

Issues associated with abandonment of the existing cemetery irrigation and cross-connection prevention will be dealt with sometime in the future when the Cemetery applies to the City to connect to the recycled water system. At that time their application and documentation will be submitted to DPH for approval.

The City has recently been installing new sewer pipes at the west end of the City and taken the opportunity to also install purple pipe. This will make it possible to extend the use of recycled effluent for landscape irrigation at two City properties within several blocks of the treatment plant within the next few years as soon as funding permits to finish extending the purple piping system to reach these properties.

Attached is a revised Engineering Report which clarifies that it is not currently known when the Cemetery will participate in the recycled water project plus a few other clarifications regarding the recycled water documentation required and how the recycled water disinfection system will work.

Please do not hesitate to contact me if you have any questions about these responses to the Health Department's comment letter of March 13, 2009.

Respectfully submitted,
BRACEWELL ENGINEERING, INC.



Lloyd W. Bracewell, PhD, RCE
Plant Engineer

cc: BEI Office
Jan Sweigert, Department of Public Health
Jeff Stone, Recycled Water Unit