Pacific Environmental Resources Corp.
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July 29, 2007

Mr. Bert Rapp, P.E.
Public Works Director
City of Fillmore
Fillmore, California 93015

Subject: **Fillmore Water Recycling Facility**
Response to Email dated July 24, 2007

Dear Mr. Rapp:

Per your request, we have provided the following background information of the Tracy plant (known as the Mountain House Water Reclamation Facility) including two plan sheets, five photographs and certain pages of the Global Water Intelligence International Water Awards. For the ease of following your questions and comments, we have incorporated our responses directly into your Email of July 24, 2007 shown in red and underlined - see below.

Mr. Rapp, as I mentioned to you last Monday, we have no desire to solicit the DBO project for Fillmore and our motives are straightforward and professional. We are not seeking to replace the existing qualified DBO team. We are only presenting our approach and costs as comparison information in response to requests by Fillmore citizens.

The information and costs that we have provided are legitimate and defensible. We intend to stand by them. We look forward to continuing our professional relationship with your neighbors at Santa Paula and hope that your incorrect statements and recent comments do not negatively affect our efforts with Santa Paula. We at PERC wish you all the best with your wastewater project.

Sincerely,

PERC

Brian D. Cullen
President

Cc: Mr. Steven D. Owen, PERC

From: Bert Rapp [mailto:brapp@ci.fillmore.ca.us]
Sent: Tuesday, July 24, 2007 12:12 PM
To: Steve; lauriejanehernandez@yahoo.com; scottlee@vcss.k12.ca.us; Cuevas, Cecilia (OXNARD, CA.); walker@thegrid.net
Cc: Steve Owen; Brian Cullen; Glen Hille; Tom Ristau; Chris.Alario@amwater.com; Gayle Washburn; BJStroh@prodigy.net; Chris Egedi; info@thefillmoregazette.com
Subject: PERC: Water Recycling Facility

City Council:

At the July 10th Council Meeting the City Council directed me to meet with PERC to explore their potential $20 million savings.

Brian Cullen has submitted the attached response to the Mayor's letter of July 6th asking many questions about PERC'S assertion that they could save the City $20 million. The letter does not answer those questions and Mr. Cullen is not prepared to meet with the City or provide a more precise cost estimate until they have completed a $95,000 preliminary engineering study that PERC will not pay for **[This is not a study; its a Conceptual Design Report containing conceptual drawings, equipment details, a basis of design, outline specifications, guaranteed design/build costs, guaranteed design/build schedule, guaranteed O&M cost and a performance guaranty of water quality]**. Mr. Cullen would also like to take us to visit their plant in Tracy before a meeting to discuss potential cost savings. **[Mr. Rapp, in our discussion last Monday you stated that you did not want to meet with PERC on July 27, 2007, however you stated that you would like to tour our Mountain House facility in Tracy and it would be a more beneficial and productive use of time than meeting on July 27, 2007]**

Glen Hille does not concur that there is a $9 million savings that he and Mr. Cullen have identified as indicated in the attached letter. Glen's recollection is that they identified $9 million of items that were missing from the PERC cost estimate **[This is an incorrect recollection – Mr. Hille and myself calculated the current total "plant cost" at $36.1 million derived from Mr. Hille's analysis of July 18, 2007 which is $9.1 million higher than PERC's not-to-exceed estimate of $27 million. Also, our estimate of $27 million includes the design and engineering for the facility]**. If Glen is correct this would make PERC'S cost for just the "plant": $27 + $9 = $36 million compared to about $32 million in the American bid for just the "plant." If Mr. Cullen is correct the savings have now dropped from $20 million to $9 million **[Mr. Rapp, as we discussed on Monday this potential saving does not consider additional savings of phasing the membranes or potential savings from relocating the plant site]**. But we wont' know better costs until PERC completes their $95,000 preliminary engineering study.

With the other contractors the Council would not pay for up front preliminary engineering and cost estimating but required the contractors to pay that expense if they were confident in their ability to win the project. I have every reason to believe that once the $95,000 study was complete and the missing components are added in the cost would be very similar to the publicly bid prices we have already obtained.

Mr. Cullen believes the primary cost effectiveness comes from the vertical style of construction IE: building a multi story plant **[Mr. Rapp, as we discussed on Monday the savings are realized by using common wall construction for the tanks therefore reducing yard piping costs and concrete costs, and constructing the operations buildings above the tanks. See attached aerial photograph and plans]**. We saw this style plant back east on our tour of treatment plants so I asked the contractors who were bidding on our plant if they were going to propose a low footprint, multistory plant for us. I also indicated that they would receive a credit lowering their bid price for reduced acreage based on the purchase price of our land. Their response was that the labor costs in California made this style of plant uneconomical in California. Mr. Cullen of course has a different opinion from the contractors who bid on our project **[PERC designs and builds all of its water reclamation facilities with common wall**

construction and operations buildings above the tanks – the Mountain House facility is constructed in that manner and was not cost prohibitive to do so. The Mountain House facility is 3.0 mgd with "total" tank structure dimensions of 260' long x 130' feet wide, 24' deep (16' below grade and 8' feet above grade) on a site that has groundwater at 8' – See attached aerial photograph].

If Mr. Cullen will provide me the background of the Tracy plant I will do a cost comparison between the cost of the Tracy plant and the Fillmore plant to see if there is a difference in the two bid prices. See my list of parameters below.

Mr. Cullen is talking about building a Sequential Batch Reactor (SBR) plant that can be retrofitted with membranes in the future **[This is an incorrect statement. As we discussed on Monday, the Mountain House facility was designed and built as a hybrid-SBR with future consideration for micro-filtration. The developer and District chose to defer the capital cost of installing the membrane process until the permit requirements mandated the need to make such modifications. We have not talked about doing this for Fillmore, and if we did prepare a Conceptual Design Report, the design would be an MBR]**. Our EIR, WDR permit from the Regional Board and the Bond Covenants do not include this technology and would have to be modified to allow a SBR. The SBR technology was deliberately excluded on the recommendation of Parsons and Boyle early in this project because of the delicate nature SBR's. Dr. Madan Arora with Parsons performed the engineering of the 2003 modifications to the old plant. He did his master's thesis in support of the SBR's and advocated them early in his career, but now recommends MBR's because of their robust performance. When we went to Cumming Georgia we visited a MBR plant that had been a SBR but the owner had abandoned the SBR because it was so difficult and expensive to operate. I am not confident the Bond Covenants could be modified to allow a switch to SBR, the investors were very comfortable with the MBR technology **[PERC would design an MBR if the City of Fillmore authorized a Conceptual Design Report. In addition, if the City or American Water authorized a Conceptual Design Report, the associated cost of the Conceptual Design Report would be credited towards our Design/Build cost]**.

We are now one month into the construction of the new plant; some of the first pipes are in place and will be pouring the first concrete next week.

At this time I don't expect to be meeting with PERC unless they decide to do the preliminary engineering on their nickel or if the Council gives me new direction at a future Council Meeting.

Tracy **[Mountain House]** characteristics:

1. Year bid? **[Mountain House was not bid, it was a negotiated transaction. The project was contracted in March 2003 and design commenced immediately]**. Year construction completed? **[July 2005]**
2. Private construction or built under public contract code requirements such as prevailing wages **[It was built under public contract code requirements with prevailing wages]**, disadvantaged business enterprises **[No]** and sub contract limitations **[This is vague, please be more specific]**, etc? **[Mountain House was contracted and financed with a private developer however it was built for public agency ownership (Mountain House Community Services District). The Developer conveyed the facility to the District following completion. Due to the District's eventual ownership, the prevailing wages were required]**
3. What is the fully constructed capacity? **[3.0 mgd facility with all components for that capacity]** Our plant is 2.4 mgd with 1.8 built now **[It is our understanding the current City 1.8 mgd initial phase will not contain 1.8 mgd of membranes as they will be phased]** with a minor expansion to 2.4 in about 2018 planned. What is Tracy? **[3.0 mgd fully built now. See attached pictures]**

4. What is the peak hour capacity? **[7.8 mgd]**
5. What is the peak day capacity? **[5.4 mgd]**
6. The plant is currently operating at 10% capacity. Is all of the equipment and are all of the structures installed for its full capacity or something less? **[All equipment and structures are installed for its full capacity of 3.0 mgd]**
7. Is it fully Title 22 compliant with all required redundancy? Is it currently providing recycled water to customers? **[Mountain House has a permit for a Title 22 – 2.2 unrestricted recycling and a river discharge permit for Old River which is the first new permit for river discharge to the south Sacramento Delta granted by the RWQCB in over 10 years. The Old River discharge requirements are actually more stringent than Title 22 recycling requirements]**
8. Does it have a recycled water holding tank and if so what size? **[Yes, 3 x 18 AC ponds at 10' deep with an approximate storage volume of 480 AC-ft. This was not part of PERC's scope of work]**
9. Does is have a recycled water pump station and if so what size and what operating pressure? **[Yes, it has both a river discharge pumping station and recycled irrigation pump station. The river station is 5.4 mgd at approximately 20' of head. The irrigation is by canal flood diversion and has a pumping capacity of 3,500 gpm (5.0 mgd) at approximately 40' TDH].**
10. What nutrient levels is it required to treat to? Is the limit an instantaneous maximum or an annual average? **[Refer to the final permit at the following website] http://www.waterboards.ca.gov/centralvalley/adopted_orders/index.html#Search [To find the Mountain House permit, look under the San Joaquin County permits, and select "Mountain House Community Services District, Wastewater Treatment Facility"]**
11. What BOD, TSS and Turbidity? **[Influent design is 270/270/50] (BOD/TSS/TKN). Effluent design is <5/<5/<5/<2 (BOD/TSS/TN/Turbidity)]**
12. What type of disinfection is provided? **[IDI Aquaray 40 LPHO UV disinfection meeting CDHS Title 22 – 2.2 under NWRI 2003 (most current) specifications. This system is certified by CDHS as meeting the requirements for Title 22 unrestricted reuse]** Does it have Title 22 redundancy? **[Yes, as previously stated the facility is fully compliant with Title 22 unrestricted reuse requirements, including redundancy]**
13. What is the factor of safety for meeting the permit requirements? Is there a financial guarantee if limits are not met when the plant is at full capacity? **[Yes, the contract has a $500,000 performance holdback for permit violations – there have been no violations. PERC issued a project specific design team E&O policy with limits of $3 million with a 5 year extended reporting period]**
14. Is the bid price for strictly the "plant" or does it include other components such as: Storm Water NPDES treatment, site paving and drainage **[No, the site shall be completed when the next 3.0 mgd expansion is completed, scheduled for 2009]**, flood protection **[Yes]**, access road to the plant **[There was an existing access road to the original facility, however PERC installed an access road to the new PERC facility and a road around the tank structure – please see the attached photographs]** (if so how long? What size?), any offsite piping **[Not beyond facility site]**, utilities to the site **[Not beyond the facility site]**, recycled water SCADA system **[Yes]**, Vactor truck for collection system maintenance **[No, PERC was not contracted for the collection system]**, video truck for collection system **[No, PERC was not contracted for the collection system]**, laboratory **[Yes, see attached photographs]**, Class A sludge processing **[No, Class B as required by permit]**…..
15. What is the complete price including all change orders when construction was finished? **[Original contract was $15,500,000 and final contract was $15,519,810 for a 3.0 mgd facility. Total approved net Change Orders totaled $19,810]**

16. What is the guaranteed operating cost at full capacity? **[PERC does not have a long-term O&M contract with the District, however our estimated O&M cost submitted to the District is $912,000 (in 2007 costs) per annum excluding power and capital reserves]**
17. What is the annual guaranteed repair and replacement cost at full capacity? **[Repair is included in the O&M fee above, and is $135,000 per annum. Capital replacement has not been estimated]**
18. What is the guaranteed maximum energy usage per million gallons per day? **[Approximately 4,100 kwh of energy per day per 1 million gallons at 300mg/L BOD. This is for the entire facility including power for the operations buildings]**
19. Does the plant have flow equalization to minimize energy usage during Edison peak hour rate periods and to optimize solar energy efficiency? **[Mountain House has flow attenuation to reduce shock loading and peak hourly flows on secondary and tertiary processes. Operating cost for an SBR verses an MBR at full capacity would be approximately 30 to 35% less for the SBR. At half capacity, operating cost for the SBR vs MBR is approximately 40% less for SBR due to turn-down on ancillary equipment (i.e. RAS / Recycle systems). Please refer to Page 57 (Section 8) the following link for comparisons of SBRs and MBRs] http://www.nyserda.org/programs/Environment/NYSERDAreport04-04.pdf**
20. The plant is an SBR with provisions to add membranes in the future. What is already constructed for the membrane addition? What will be added when membranes are installed? **[Membrane separation tanks, piping and valving and aeration from the membrane tanks. Also, a membrane separation tank, circulation pump system, and additional digestion for increased flow/load]**...tankage? **[Yes]** blowers? **[Yes]** piping? **[Yes]** circulation system? **[Yes]** cranes? **[Yes]** membrane control systems? **[Yes]** Chemical systems for the membranes? **[Yes]** Cleaning systems for the membranes? **[Yes]**. **[This points out why the capital and operational cost is more for the MBR plant. However, when we add this tankage and equipment to the existing SBR facility, which is about the size of one SBR tank in foot print, we can almost triple the capacity of the original SBR facility]**
21. What components are included in the plant? **[Please see attached mechanical plan and tank layout]** Digester? **[Yes]** Office? **[Yes, see attached photographs]** Laboratory? **[Yes, see attached photographs]** Repair and maintenance shop? **[Yes]** Chemical storage? **[We do not require chemical storage or usage other than polymer for Title 22 filter design compliance and sludge dewatering]** Sludge handling? **[Yes, dewatering by centrifuge]** Odor control? **[Yes, please see attached photograph of Odor Control equipment located within the building]** Emergency generator for entire facility including recycled water pump station? **[Yes, all PERC facilities are supplied with generators capable of running the entire facility without the need to load-shed]**

The City of Clovis received bids on a 2.8 MGD plant in 2006 for both a MBR and a SBR, their bids were:

Membrane Bio Reactor $38M
Sequential Batch Reactor $52M

I will be greatly surprised if when all the facts are known that PERC could beat the publicly bid Fillmore price, much less lower the cost of the “plant” by $9 million or $20 million.

Bert