



December 20, 2006

City Council  
City of Fillmore  
250 Central Avenue  
Fillmore, CA 93015

Dear Mayor, Mayor Pro-Tem and Council Members:

Mr. Bert Rapp, your Public Works Director, met with us last Friday, December 15<sup>th</sup>, and has requested that MicroMedia Filtration submit a summary of the financial benefits that City could expect utilizing the CleanStream Filtration System, including the CleanStream Primary Separator and CleanStream Vessel Filters at its wastewater plant. This summary will outline in gross detail both the installation and annual operating costs of the CleanStream system.

The current wastewater facility treats an average of 1 million gallons of wastewater per day (1 MGD). To allow for treatment of the current usage plus allow for growth and excess capacity, we have priced a 1.5 MGD system to be constructed either at the current facility or at the planned new facility. The costs for construction of both facilities will vary based on the existing infrastructure at the current plant that would need to be duplicated at the new facility. In as much as we have not had the time to fully design and price the cost of the various infrastructure components, we have provided estimates as to their pricing, and have indicated such next to the price. The pricing for the CleanStream system is actual and fixed for a 90 day period.

#### **RETROFICATION OF EXISTING WASTEWATER FACILITY**

The current location has various infrastructures in place that can be utilized for a temporary remodel/retrofit. By temporary, it is our estimation that the facility can be upgraded to provide an additional 5 – 10 years of useful life before a complete renovation or relocation is necessary. According to our discussions with the plant operator and Mr. Rapp, the existing headwork screen is in need of repair, including pumps and some concrete work. Based on our engineering work done at another location which processes roughly double the flow of your plant, we would estimate that new screening equipment would cost \$500,000 to \$1 million dollars to install. We would then install the CleanStream System after the gross screening process. Use of the existing grit chamber would be continued, but is not required for our system. The existing primary clarifiers would be utilized for equalization between the Primary Separator and Vessel filters. The effluent from the Vessel filters would be disinfected with chlorine for ultimate reuse within the community.

The installed CleanStream system would be capable of handling up to 1.5 MGD, well in excess of the current capability of 1.1 MGD and about 10% greater than the projected capacity of 1.3 MGD in the next 5 - 10 year timeframe. Since the CleanStream system is built on a modular design, should the need for additional capacity be required, we could add another filtration train which would increase the capacity of the plant by .25 MGD to 1.75 MGD. To insure that the odors from the facility are eliminated, we would propose enclosing the CleanStream system within an industrial building. Due to the compact design of the System, the anticipated structure would need approximately 2,500 square feet of space to house the full 1.5 MGD system. The existing clarifiers that would be used for equalization would be covered with either a fabric or metal cover to eliminate odors from their basins. The installed cost of the CleanStream system would be \$7,737,000 including enclosures, disinfection and coverings of the equalization clarifiers. If the new facility is built in the future, all of the equipment and electronics would be movable to the new facility. Obviously, the foundation and building would be lost, but the separators, vessels and electronics could be systematically moved to the new facility and reused.

Lastly, the solids removed from the Primary Separator will need to be processed. There are a few options for this removal. The first is the CleanScreen gasification unit which will convert the solids to a synthetic gas comparable to methane. This gas can be used to drive a turbine and create electricity to be used at the plant. The cost of this unit is approximately \$1,500,000. Another option is the use of co-generation equipment whereby the solids are combined with green waste to produce electricity. We have partnered with a company that installs and operates 5 mW co-generation plants with no odors. They would be prepared to install and operate the unit at no cost to the City. The third option is the disposal of the solids to local landfills. The cost of this option is not known since the location, trucking and tipping fees for Ventura County are not at our disposal. However, we would estimate this cost to be approximately \$100,000 - \$125,000 per year.

This system would produce Title 22 certified water that would be available for reuse within the community. Our recommendation would be to use the current digesters as storage basins for the effluent prior to its distribution. We have not priced the cost of removing the water from the facility and distributing it in the community. The complete timeline for the retrofit of the existing plant is 6 – 9 months from the date of contract. As completion, the plant will be guaranteed to meet the permitted discharge requirements.

## **CONSTRUCTION OF A NEW WASTEWATER PLANT**

As discussed with Mr. Rapp, we can indicate the cost of our equipment for use in the new facility, including the cost to install our equipment. At this time, we cannot quote the cost to both design and construct the complete plant since there are components that we are not familiar with and have not had the time to accurately design and bid with our engineering and construction people. That said we are prepared to indicate what is needed and the cost for our system. Mr. Rapp has requested that we prepare this proposal on a 1.8 MGD facility.

The new facility will require gross screening similar to that of the old plant. We will defer to the city's engineering consultants and bids received as to the proper cost for this section of the plant. Since equalization is not available at the new plant, this would need to be installed to accommodate the installation. We have not priced this part of the facility, but would recommend a 300,000 - 500,000 gallon basin that could be constructed within an enclosed area. The CleanStream system would be built within a 3,500 square foot facility that would be enclosed in an industrial building. Since we would have the opportunity to install the filtration vessels before piping is in place, the design would include partially burying the vessels so that the largest vessel would be less than 12 feet in height. Therefore, the system could be enclosed within a two story building without any problem. Again, in order to comply with the requirements of Title 22 for disinfection, a chlorine contact facility would need to be constructed to handle the processed water. The cost for the installed CleanStream system, including design, enclosure and disinfection, would be \$9,593,000.

As with the process summary for the retrofit of the existing plant, processing of the residual solids removed by the System will need to be included. The same alternatives as described above are available under this scenario again. The proposed gasification unit indicated above would be sufficient to process the solids from the larger plant proposed herein. The cost to dispose of the solids under the third option would be slightly higher, probably an additional \$25,000 per year.

Again, the new plant will also require a significant amount of paving, administration building, lighting and a method for holding and dispersing the processed water. We have not included any cost for these items. Mr. Rapp has indicated that he can compare our pricing to that of the bids received for an appropriate comparison. Remember, the actual land necessary to treat the wastewater using our system would be significantly reduced from that proposed under the previous design. We have eliminated digesters and dewatering equipment, as well as reduced the size of the primary clarification and actual filtration process. As such, the plant size could be reduced to enable additional savings on both construction and maintenance.

Operation of the CleanStream system is not comparable to standard wastewater plant equipment. As such, MicroMedia has partnered with Aquarion Operating Services, Inc., an international operator of water facilities, to be our preferred operator of the CleanStream System. They are familiar with the design parameters of the system and its operational requirements. They currently operate our industrial installation in Northern California. We have requested a proposal from them for the annual operating costs of a 1.8 MGD facility. They have indicated an operating budget of \$1,042,800 to fully staff, operate and insure compliance with the design parameters of the plant. This budget would include standard limits on R&M costs, which have been budgeted at \$50,000 per year. They have assumed an electrical component priced at \$.11 per kW/hr. This budget is submitted for the operation of the facility only and does not include maintenance of the collection or distribution systems of the city. Should you elect to go with renovation of the existing facility, the annual operating budget would be reduced slightly to \$993,700 due to the reduction in chemical and power utilization.

## **PILOT PROGRAM**

As you have probably been made aware, the CleanStream system has recently received Title 22 certification for tertiary water production from the California Department of Health Services. As such, we do not have several installations within California as requested by your consulting engineers. Mr. Rapp has requested a proposal to allow the city to test the CleanStream system prior to deciding to utilize it for your needs. We therefore present the following proposal to allow you to see the benefits of the system.

MicroMedia will install a 60,000 gallon per day system to treat a portion of the daily influent received at the C street plant. We will install the system to receive water that has passed through the gross screen and either before or after the existing grit chamber, depending on the easiest access point. This water will pass through the primary separator and will be treated by the filtration vessels. Your personnel will have complete access to the effluent from the vessels for whatever testing they wish to perform. The cost for these tests will be borne by the city. Any required permitting for disposal of the effluent would be the responsibility of the city. The solids removed from the processed water will be sent to the existing digesters for disposal within your facility. No gasification will be performed on the removed solids. Additionally, the pilot unit will not be enclosed. We will install the unit based on a temporary installation using schedule 40 PVC pipe. MicroMedia/Aquarion personnel will operate the pilot unit and the plant personnel will not be expected to spend any time operating the system. Naturally, we would welcome the opportunity to show the plant personnel how the system operates and teach them about our system.

Once the installed system operates for 7 consecutive days and produces effluent that meets the discharge requirements set by the existing discharge permit, the city will immediately pay MicroMedia \$425,000 for the pilot system. Included in this amount is the complete operation of the system, with the exception of electricity, by MicroMedia for a period of 30 days. Should the city wish to continue to operate the pilot unit after this time, the city will pay MicroMedia a monthly fee of \$15,000 to cover the cost of chemicals and personnel for a period of up to five months. After this time, should the city desire to operate the plant on its own, the city will agree to purchase the required chemical from MicroMedia in accordance with the standard provisions of MicroMedia's normal sale contract. Please note that we are making this system available to the city at less than ½ of the normal price of the equipment. Additionally, the electrical component of the system will be usable should the city decide to upgrade the pilot to either of the two above described options. At that time, the \$425,000 purchase price will be refunded to the city and applied against the total purchase price of the option selected.

We realize that the CleanStream technology is an exciting breakthrough in the processing of domestic sewage. As such, we also know that we do not have several multi-million gallon per day installations available for the city to review. The components of the CleanStream Filtration System have been used independently for years as both a primary clarifier and as a tertiary filter. We have taken this 20<sup>th</sup> Century technology and integrated it with a Program Logic Computer to automate what has previously been a manual operation. This automation has allowed us to use

the filtration vessels in a combined method to achieve filtration results not previously obtainable from an upflow media filter. Again, the proof of this technology rests solely in engineering studies and pilot programs. A full installation of the complete system only operates on industrial wastewater with contaminant levels 20 times greater than domestic sewage. As such, we are prepared to make the following offer as it pertains to the full installation of the facility. 35% of the installation price will be deferred until the completed facility operates and meets all discharge requirements for a period of 6 months. Additionally, MicroMedia has negotiated a financing package with a nationally rated finance company to provide financing to the city at current rates of between 4 ½ and 4 ¾ percent. Of course, since we do not control the financing institution, the actual rate will depend on the rating of the city and will be negotiated directly between the institution and the city. We will only provide the introduction to a lender who is confident in the operation of our system.

Finally, we welcome the opportunity to meet with the Council to present more details on the operational abilities of the CleanStream system and to answer any and all questions that the council may have about MicroMedia, the CleanStream Filtration System or our process partners. Thank you for your time in allowing us to present this proposal and we wish you all a very joyous holiday season and a Very Merry New Year.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'S. Luxenberg', written in black ink.

Sam Luxenberg  
Chief Executive Officer