

MINUTES OF A MEETING OF THE
ENGINEERING/EQUIPMENT COMMITTEE
OF THE VALLECITOS WATER DISTRICT
THURSDAY, JUNE 1, 2017 AT 10:00 A.M.
AT THE DISTRICT OFFICE, 201 VALLECITOS DE ORO,
SAN MARCOS, CALIFORNIA

Director Hernandez called the meeting to order at the hour of 10:00 a.m.

Present: Director Hernandez
Director Elitharp
General Manager Pruim
District Engineer Gumpel
Executive Secretary Posvar

Others Present: Dennis Williams, PhD, PG, CHG, Geoscience
Brian Villalobos, PG, CHG, CEG, Geoscience
Mark William, PhD, PE, Geoscience

ITEM FOR DISCUSSION

GROUNDWATER OPPORTUNITIES IN THE VALLECITOS WATER DISTRICT
SERVICE AREA

Mr. Williams provided an overview of the firm and provided preliminary hydrogeologic data for the District's service area. Should the District pursue groundwater, Mr. Williams recommended a very detailed water balance which is basically inflow/outflow. He further stated there are much better techniques today to estimate within the watershed what is the actual sustainable recharge.

Director Hernandez stated he would like to be able to use groundwater, if there is any, as a resource to add to the District's portfolio and minimize water purchased from other sources.

Principle Engineer stated it was his understanding from the current rules and regulations that groundwater cannot be taken out and put directly into a potable water system without treating it.

Mr. Williams stated that there has to be at least tertiary treatment water and sometimes advanced treatment, a certain amount of residence time and recycled water contribution, and would have to go through the Department of Drinking Water. He further stated this is popular and that they are getting more and more of these types of projects.

Mr. Williams further reviewed the various services his firm provides which includes basin management services, groundwater and surface water modeling services, water wells and well field optimization, desalination subsurface intakes, recent projects and legal support.

Mr. Villalobos reviewed the District's service area boundaries and DWR groundwater basins. He continued review of other projects they have completed such as brackish water for San Luis Rey River, completed a safe yield study and finished a harbor study and ground water model for the City of Oceanside. He further stated he conducted research on the San Marcos groundwater basins and DWR basin 932. San Marcos has a shallow groundwater basin with crystal and bedrock underneath - looking at 170-175 feet, which is a low yield situation. If they can get water level data over a period of time, they can see what the safe yield is in a very simplistic way. This process takes years to complete. The District would need to hire a Water Rights Attorney to determine any impacts on other water wells in the area. Mr. Villalobos reviewed the boundaries of the geologic map and water level data. Ultimately, a perennial yield study would be conducted. The plan would be to characterize the extent of the groundwater basin, begin to develop preliminary hydrogeologic information, and estimate how much is being pumped out of the basin.

Director Hernandez asked how long it would take to complete the study and what the cost would be. Mr. Williams stated they would provide a proposal. He requested bullet points of what is wanted be emailed to him so that the scope is not overdeveloped.

General Manager Pruim asked Mr. Williams at what point in the process do they conduct a legal water rights analysis. Mr. Williams indicated they could do a phase 1 study that shows a safe yield of the groundwater basin.

Mr. Williams stated that staff would most likely want to have a water rights attorney to determine if the District is intercepting underflow that is going downstream.

General Manager Pruim asked the committee members if they want the scope to include anything with recycled water augmentation. Director Hernandez stated he hoped the study will tell how big our area is, how much is there, and how much more can be put into the existing aquifers in order to determine if this is a resource that can be relied on.

The Committee directed staff to put together a scope of services to look at the District's groundwater basin.

Mr. Hunsaker, member of the public, addressed Mr. Williams stating alluvial doesn't sound very permeable. There is a lot of nitrate and fertilizer contamination. He asked Mr. Williams what it would take to cleanse the basin of these two. Mr. Williams stated well head treatment would be conducted.

Mr. Hunsaker stated there are a number of citizens who have had a well for many years and the golf course is draining them dry. He asked if Geoscience's study would provide a legal basis for them to claim senior rights.

General Manager Pruim responded stating we would be looking for the District's ability to claim water rights, not trying to solve private parties' rights.

Mr. Hunsaker asked if injection wells could be recharged. Mr. Williams responded yes, however, injection is pretty costly and injection wells are the last resort for recharging.

DISCUSSION RELATING TO THE OPERATIONS OF THE MEADOWLARK RECLAMATION FACILITY

General Manager Pruim stated an inquiry had been made in a recent Board meeting if the Meadowlark Reclamation Facility (MRF) is as efficient cost-wise in treating wastewater as Encina Wastewater Authority (EWA) and that MRF should be shut down and flows be diverted to EWA. Mr. Pruim discussed what would need to take place to accomplish this, i.e. constructing infrastructure, building a pump station and pipelines. There would also be ongoing operations and maintenance costs. The flows from Lake San Marcos and the local flows that get to MRF would have to be collected, pumped, and conveyed to EWA and there is a cost associated with this. Staff would also have to look at what capacity rights we have for treatment at EWA. Over time, VWD bought into capacity at EWA assuming MRF was up and running. If MRF were to be shut down and not used as it was historically used, staff would have to determine what would have to take place at EWA to get the equivalent amount of treatment capacity.

General Manager Pruim stated he and District Engineer Gumpel met with Mr. Scott Goldman of RMC and asked him to develop a proposal that will convey what it would take to start looking at what the cost effectiveness would be, what the treatment cost at MRF would be, what the cost would be to treat at EWA, what it would cost to bypass MRF to go elsewhere and compare those.

Principal Engineer Gumpel stated there are 3 sub-basins or sewer-sheds: the Encina shed, local flows – MRF shed, and the little basin which is Lake San Marcos (LSM). He reviewed what actions would need to take place in order to get everything to go to EWA which would basically shut down Lift Station 1. The 16" bypass would have to be upgraded to get the LSM flows with consistent reliability, would need a pump station, some type of large wet well to help flow equalize, and a larger pipeline.

He further stated that Mr. Goldman provided a scope which was then tailored to get some information out. The substantive data was the data collection, everything District staff is supposed to be doing, what investments were already put into MRF, which would now be money already spent and what money would need to be spent on MRF which includes demolition and repurposing some facilities and an 8,000 foot pipeline to get the sewer from MRF to the closest point of the outfall. Mr. Goldman also looked at life cycle costs – what would it cost to treat sewer at MRF compared to what it would cost to treat sewer at EWA. The District has a little over 7.5 million gallons per day capacity rights at EWA for liquids and a little over 12 million gallons per day capacity rights for solids. The District would have to purchase another 5 million gallons per day capacity to make up the shortfall and would have to look at the additional O&M costs.

General Manager Pruim stated the cost to each agency varies depending on certain factors. VWD is well above all those because the District is the only scalping plant. The District also sends some liquids and solids. EWA's cost per million gallons is approximately \$1400. The cost for VWD is up over \$2,000 per million gallons treated. This is the liquids treatment and the extra cost for treating the solids that are being diverted out of MRF. Part of the study Mr. Goldman will do will be to determine which plant is more effective. The cost of secondary treatment at MRF is approximately \$1400. The liquids to liquids comparison is very close to EWA.

Principal Engineer Gumpel stated the final part is the capital investment costs. It will cost tens of millions of dollars of infrastructure just between decommissioning and building. Mr. Goldman explained to him that even if the District were 20% more expensive on the cost per million gallons, by the time the fact the District has a \$31 million treatment plant that has not gone through the depreciation cycle, and now the District is building \$30 million dollars of infrastructure, it will take up any difference. Mr. Goldman's scope is approximately \$49,900. This amount is for Mr. Goldman's effort and does not include staff time. The bullet items in the proposal needs to be provided by staff which includes all the mapping, infrastructure, layout, and the financial analysis. This will cost approximately \$15,000.

General discussion took place. During general discussion, Director Hernandez stated this item will need to be discussed during the Strategic Plan process as this is a \$30 million project.

The Committee directed staff to conduct an engineering study on this subject which would be far less expensive.

Mr. Mike Hunsaker, member of the public, commented that he went through an issue recently about not addressing pumping charges for so long. This question should have been raised three years ago. If going to go down this path, that should go in the Master Water Plan.

SOLAR ENERGY OPORTUNITIES RELATED TO VALLECITOS WATER DISTRICT OPERATIONS

Director Hernandez stated he heard that one can now put solar panels anywhere and power into the grid. There are two opportunities at the top of the District's reservoirs. He would like answers so he can safely and correctly inform ratepayers that staff looked at it and can convey what is and isn't possible.

General Manager Pruim stated that the concept of generating electricity at one site to be used to offset meters is called virtual aggregation and is acceptable now. Real estate is not an issue, the District has enough space to generate as much electricity as wanted. The District has 100+ acres if the Board wants to start building panels. However, solar is not as promising as it used to be.

Principal Engineer Gumpel stated that in 2012 staff did an energy management study for the entire district. He distributed a copy of the report on energy usage. SDG&E paid for the study to be performed but refused to pay for analysis of their rates. Staff hired Don H. King, an energy rate consultant, to complete the last part which is to tie in with rates and do strategies on tariff's, rates, and all the consequential and non-consequential charges. In the last part, SDG&E changed the rules. SDG&E has filed with the PUC which has accepted their new rate structure. The rate structure is in place but is not yet completed. SDG&E is de-incentivizing solar and are keeping the incentives on gas, hydro and some other components. They are also changing peak/off peak times, changing the rate structure, and are going to coincide summer and winter rates with daylight savings. SDG&E is going to phase this in over the next three years. Our systems are designed to pump during off peak, semi peak and can pump 24 hours

on holidays and weekends because it's all off-peak. There is the RESBCT program which means one can aggregate many meters for one solar. There is also a program through a power purchase agreement where one can aggregate up to 15 meters to one solar generation area. The consultant would put together a scope and fee of the project, find a builder and an owner of a 1 megawatt system and enter into a power purchase agreement or the District could do the RESBCT program which means the District owns it. If the District owns it, we are paying for the initial capital, we wouldn't pay for the power purchase agreement. There is a \$150,000 administrative fee from the initial consultant and the builder also has his costs. There is a guarantee we are purchasing power from them for a certain amount guaranteed for 25 years.

General discussion took place. Following general discussion, the Committee directed staff to obtain proposals from other consultants to place solar panels on the District's Twin Oaks Facility and any other appropriate District facilities.

Mike Hunsaker, member of the public, stated he attended a presentation at Rincon del Diablo Municipal Water District at which one of the things they're pointing out is that a lot of energy is not recovered. They were suggesting turbines instead of pressure breakers. You could pump during peak hours and offset a lot of that power. Staff indicated to him that this has been looked at.

OTHER BUSINESS

None.

ADJOURNMENT

There being no further business to discuss, the meeting was adjourned at the hour of 12:05 p.m.