



TOWN OF KINGSTON
Office of the Sewer Commission/Wastewater Department
26 Evergreen Street
Kingston, MA 02364

781-585-4058
781-585-5874 FAX

Elaine A. Fiore
Peter C. Cobb
Thomas W. Taylor, Jr.

Minutes
November 2, 2009

A Special Meeting of the Board of Sewer Commissioners was held today at 2:00 PM at the Wastewater Treatment Facility to discuss expansion plans. Members in attendance were Elaine Fiore and Peter Cobb. Also present were Superintendent, Ken Vandal as well as Tom Morgan, Don Freeman and Ben Mosher from CDM. The meeting was called to order at 2:00 PM by Elaine Fiore.

Mr. Mosher reviewed the plans for the design of the Expansion of the Wastewater Treatment Facility (WWTF). He explained that the 4-bay garage was planned to be located in the current location of the biofilter cell that is closest to the WWTF. Construction will be the same as materials used for the WWTF. There are some measures that could be taken to reduce the cost of this building if need be. There will be storage space for spare parts and racks along the back wall for additional storage capabilities. Construction at this location assumes that this biofilter will be abandoned and a new package biofilter cell will replace the remaining second cell.

Mr. Mosher continued by pointing out an area on the plan that has been proposed as a drying bed for material that is screened from the treatment process. He also reviewed a new septage receiving area, with an enclosed lakeside unit that will be described in detail later on. The expansion of the WWTF has been reconfigured in order to allow for the relocation of 6 parking spaces. The slip ramp and wind turbine are not shown on the plans.

The administration space will be located adjacent to the lab where the outside door in the hallway is currently located. A new door to the outside will be installed in the new space. The current shower room and ladies room will be converted into a women's locker room by combining the 2 spaces. A new men's locker room will be added next to the new GBT expansion. Another stairwell will be provided next to the new men's locker room area.

CDM has looked into the BioMag process and has concern with the vendors for this product. Mr. Vandal reminded them that the supports for the diffusers have been replaced in one SBR and the diffusers have been replaced in the second SBR. If lift-out units are put into the new SBR then the same retrofit should be done in the other 2 SBRs. Mr. Mosher added that it would be possible to put additional SBRs in the hillside next to the current 2 SBRs. There would be a tunnel to access them. CDM is looking into providing a tunnel access between SBR 2 and the new SBR 3. Mr. Vandal commented that the problem with placing SBRs on the hill would be providing enough access for a crane to get in for maintenance purposes. Could a portable crane unit be an alternative? Mr. Vandal also asked that CDM consider placing the influent line for the 3rd SBR in the opposite corner as the decanter.

Discussion returned to the new septage receiving area and treatment process. The height inside the building will be 19 feet due to the size of the lakeside unit. There will be an expanded storage tank for septage holding. The new septage tank unit will screen and degrit material eliminating the need to access the tank as much for cleaning. The area should accommodate up to a 20 foot long roll-off, although a 10 foot unit is shown on the



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diagram. The elevations at septage receiving will require that septage be unloaded from the trucks under pressure. A drain can be provided for the carpet cleaning vehicles that do not unload under pressure. Mr. Vandal will check with the haulers to see if they all are capable of unloading under pressure. The effluent pumps are on a variable frequency drive. It will not be possible to replace the impellers with a larger size. The blowers will run longer for aeration but they will not need more power to do so. A third waste sludge pump will not be needed as only one tank will be wasting at a time. The TWAS tank might need some upgrades. The blowers might need some additional work. Mr. Vandal asked that any new tanks installed have the maximum possible access hatches provided. Mr. Mosher stated that the TWAS tank will be extended. Two holes will be cut into the wall to allow material to flow into the expanded tank. The access hatch has to be located outside of the building.

There will be new filtrate tanks and pumps. Filtrate flow from septage will be taken over to a new holding tank operated by 2 small pumps which will bleed the water back into the process.

Mr. Vandal asked that a ramp be provided at the double access doors so that a truck can be backed up to them so they are able to load pumps onto the trucks when they need maintenance. Mr. Mosher said CDM might be able to extend the monorail if it will only carry a load of about 900 pounds. Mr. Cobb suggested that they ramp the slab so that a truck can be pulled right into the building without needing special sized doors. CDM said it might be an additional cost to ramp the slab but they would look into this and other options for a ramp.

Instrumentation plans were reviewed. Part 1 reviews current conditions and part 2 overlays the new controls over the existing controls. Kingston may want to consider an Ethernet system in order to allow for a full network upgrade, which will allow for additional equipment to be added in the future.

Mr. Vandal asked if the 13,000 gallons per day of septage estimated for the expansion is considered the maximum amount the expansion will be capable of handling or if the plant can take more. The current system is rated for 7000 gallons per day but is capable of taking much more. Mr. Freeman said it will still be possible to take more as long as the staff can maintain the same process.

Mr. Freeman stated that he will put together a memo regarding the diffusers. The Sanitaire system uses bubble diffusers. CDM feels that the Aqua-aerobics, lift-out system, is not as efficient. The lift-out units would cost about \$11,000 more annually to operate them over the cost of operating the bubble diffusers. The oxygen transfer is not as good. CDM will look into the capital costs but expect the lift-out units to have a higher capital cost and operating cost. Mr. Vandal wanted to know what kind of problems the Sanitaire units experience. Will they be like the diffusers currently used in the existing SBRs? Mr. Freeman said that CDM has never heard of any problems with them but the system will not be like what Kingston is currently using. The question is will Massachusetts require multiple vendors to bid on the diffusers if the project is not SRF funded. CDM can provide a letter to the Chief Procurement Officer (Town Administrator) to specify that specific equipment is needed and include the reasoning for the specific equipment along with the cost estimate.



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Mr. Morgan mentioned a security system for the facility. It might be a good idea to install cameras as part of the expansion. Mr. Vandal questioned whether the current Simplex system would work with the upgrades.

Ms. Fiore asked about the discharge site, where the Transfer Station is located, that was approved as part of the original Facilities Plan. Mr. Freeman replied that the site was approved as a discharge site but that there was never a Groundwater Discharge Permit approved or issued. It was approved for up to 350,000 gallons per day, which took up the whole area. It would still need to be permitted as a discharge site. Leaching fields could be put under the transfer station as long as there were no permanent structures put on top of it. The compactors might be questionable as they require concrete slabs and underground wiring. About 90% of the permitting work is already done. It could take up to 18 months to permit the site and cost between \$300,000 and \$400,000. Pipes and materials for the site would be about \$750,000 for the full 350,000 gallons but the site probably would only be suitable for about 125,000 gallons. Mr. Freeman referred to the 1998 Facilities Plan which has a map showing the layout of the leaching fields at the Transfer Station site. There is also a plan that Thorndike Development had prepared for the Transfer Station.

Mr. Freeman said that CDM would look into a by-pass for the influent tank, on the discharge side of the influent tank as Mr. Vandal requested. They would have to pump from the influent tank, around the building, with 2, 8 inch raw wastewater lines. Any changes discussed today will be incorporated into the drawings for final Sewer Commission approval. Once a final set of drawings is established a cost estimate for everything will be provided and then if any cost reductions are needed they can be achieved through revisions of the complete expansion plans.

Ms. Fiore motioned to conclude the meeting at 4:00 PM. The motion was seconded by Mr. Cobb and so voted.

Suzanne Richards
Administrative Assistant