

WLSD Annual Meeting – April 21, 2012

Facilities Plan Update

The last update to taxpayers was in a letter and broadcast email that went out at the end of March. To briefly recap, the Sewer District operates under a Consent Order with the State which authorizes us to treat and dispose of a maximum of 100,000 gallons of wastewater per day. The base flow of wastewater to the plant has been estimated at 80,000 to 100,000 gallons per day, although in the current dry period it has been running as low as 50 to 60,000 gpd. However, the flow varies considerably after precipitation, during periods of high groundwater and seasonally since many homes are occupied on a seasonal basis.

The DEEP has resisted increasing the 100,000 gallon limit and has been particularly insistent that we demonstrate that our groundwater disposal system (some 88 beds spread over 98 acres) is capable of absorbing the wastewater from our treatment plant and holding it underground as required for 21 days. If we cannot demonstrate this capacity, the DEEP is likely to require that we construct a pipeline and pumping stations to send our sewage to Torrington's treatment plant, an expensive proposition.

As a result of DEEP's position, many months of time, effort and expense went into negotiating an appropriate test of the groundwater disposal system. After finally reaching agreement early this year, we prepared four of our filter beds for testing. This involved scraping off the surface vegetation, building berms around the portion of the bed to be tested, installing wells in each bed to be tested and as required elsewhere on site to provide 2 down gradient wells for each bed tested. Transducers were installed in the wells for groundwater monitoring. After sand was placed on the surface of each bed, a pressure distribution system was set up in the bed to be tested. Testing began at the end of March on the first bed and continues today.

Our consultants and staff monitor wastewater flow to each bed to be sure we consistently apply the target flow rate of up to 1.2 gallons per day per square foot. Wastewater is applied until there is equilibrium of the mounding of groundwater under the bed while maintaining a 1.5 foot separation between ground surface and ground water. Flows are reduced, if necessary, to maintain the target separation.

The first bed tested (F-5) had to have flow reduced to maintain separation and was graded by our consultants to provide 7,700 gpd capacity. The second bed tested (A-8) took the full targeted flow rate while reaching equilibrium and is

graded to provide 14,700 gpd capacity. The 3rd bed (A-11) is being tested this week and the test on the fourth (G-1) will start next week.

What do these early test results mean? Applying these capacity calculations to similar beds would show a potential upper capacity of 82,000 gpd for six A Beds (A-4, 6, 8, 10, 12 and 13) and potential upper capacity of 23,000 gpd for four F beds. While these are preliminary and upper limit capacity calculations and have not been discussed or agreed with DEEP, they do show that we have the basis for further discussions with DEEP over the continued use of our disposal fields.

As a result of the protracted negotiations with DEEP we expect to exceed the approved budget in this area by the time the tests are actually completed.

Another major effort has gone into identifying sources of Inflow and Infiltration (I/I) of water into the District's collection system so that we may reduce the volume of effluent flowing to our treatment plant. Not only do we want to get under the 100,000 gallons per day currently permitted, but we also do not want to be required to construct a treatment plant with a larger capacity than necessary. To that end, the Facilities Plan Scope of Work includes a plan to find and minimize I/I into the system.

Thus far we have identified an estimated excess of 60,000 to 100,000 gallons per day of potential I/I in the system based on manhole inspections, physical inspections, smoke and dye testing, flow isolation testing of 5.5 miles of sewer line and 2.2 miles of CCTV inspections.

The most successful part of our search thus far involved flow isolation of 5.5 miles of selected 1,000 foot segments of the 16 miles of sewage pipe in our system and CCTV inspection of segments of pipe in that area with disproportionate flow. As a result of this process a contractor installed new liners in pipe in the Paxton Court area and fixed joints and leaks. This resulted in an immediate reduction of over 10,000 gallons per day at this location at a cost of \$21,000.

The Board is continuing to perform flow isolation testing throughout the system and CCTV tests in the high flow areas identified and will take remedial action to minimize I/I. We all need to recognize that going forward we need an efficient collection system. As you will recall, from time to time we experience spikes of much greater than 100,000 gallons per day because of the I/I problems. The Board has voted to spend \$110,750 to complete the inspection of the collection system. Very preliminary estimates to repair the identified I/I indicate a possible cost of more than \$1 million and the Board is currently considering how much to budget for I/I repairs in the 2013 budget.

As many of you know, during the last few months we cleared the rights of way belonging to the District around the lake to expose all of our manholes and

conducted a manual examination of all of our manholes. A number of these manholes are significant sources of I/I. We will have estimated costs at the budget meeting for a contractor to perform the more difficult remedial work on the manholes.

Manual inspections of hook-ups to the system, broken connections or sump pumps, smoke and dye testing have thus far not revealed major sources of I/I. We do expect that broken pump chambers, broken or missing chamber covers and broken clean-outs for the pipes from homes to the collection system will likely be sources of I/I. Thus far letters have been sent to some thirty property owners explaining that they must fix these problems and laying out options for resolving them.

Our consultants will soon begin work on the evaluation of our treatment plant (recommending necessary upgrades), explore the Torrington alternative and develop a comparison of the costs of these options.

I'm happy to take any questions.

Ken Green

Chairman

WLSD Planning Committee