

CEDARWOOD ENGINEERING SERVICES PLLC

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MEMO

August 26, 2013

To: Ed Hatch
Supervisor, Town of Willsboro

From: Tom Suozzo, P.E.
Jim Suozzo, P.E.

Re: RBC Condition and Movement in Media Support

Ed,

On August 23rd, Bob Murphy contacted Cedarwood regarding a clicking or knocking sound in the RBC. Following a site visit, Cedarwood concluded that this sound can be produced by a number of issues including broken support arms, media separation from support rods, along with many other possible sources. This noise is a legitimate concern as a broken support arm cause extensive damage due to total RBC failure. It is impossible to speculate how long the RBC can operate in this condition before total failure. This can occur within two months or last in excess of two years, but failure is certain.

Repairing the RBC includes removal of two to four media sections, welding the arms, and replacing the media. The reason for assuming media replacement is that it is difficult to know the current condition in most cases the sections have likely deteriorated and cannot be reinstalled.

To commence repairs of the RBC, the RBC tank will have to be chlorinated to remove the biomass from the media. This is done to prevent shaft failure from excess weight during disassembly. To maintain SPDES compliance during the repair process (one week for repairs and an additional three weeks for regrowth of the biomass), Cedarwood is looking at obtaining a rental sand filter form Warrensburg for \$5,000 month that will handle flows up to approximately 130,000 gpd, which will work for the short term. The estimated costs for the repairs are summarized below:

Media	\$10,000
Arm Repair	\$1,500
Labor Repair	\$12,000
Temperature Treatment Rental	\$10,000
Miscellaneous Equipment	\$7,000
Temporary Storage	\$5,000
Miscellaneous Item	\$5,000
DEC/Coordination	<u>\$5,000</u>
Total	\$55,500

It is believed that the bonding resolution could cover this item, however, this repair should be considered an emergency. A copy of this memo is being sent to Bob Hafner to make him aware of the situation.

Cedarwood looked further into the condition of the existing RBC and pondered whether it would be cost effective to perform additional repairs to the RBC. Koester Associates was contacted and they recommended a full inspection and bearing replacement. It was pointed out that the shaft was likely at the end of its useful services life and cannot be warrantied. A full replacement of the RBC (including a new shaft) would be about \$220,000 installed. There is not enough in the current bonding resolution to cover this cost.

In any event, a decision on which direction to pursue needs to be made by the Town. The lowest cost option is to repair the arms and provide temporary treatment, compared to a full RBC replacement, which would be the costliest).

Another area of concern is that even after the Town potentially spends \$250,000 (assuming full replacement) into a system that is outdated technology while still not having redundancy within the treatment process. Cedarwood is available to discuss the possible solutions with the Town Board, and have obtained quotes and delivery times for any solution that is agreed upon. Tom Suozzo will be discussing this issue with NYSDEC later this week. Hopefully you and Tom Suozzo can discuss this prior to the DEC notification. Also Mark Koester said he would undertake the project under an emergency declaration is willing to provide the Town with what is decided.

Please give Tom Suozzo a call after you receive this memo for further discussion.

Cc: Bob Murphy, Operator
Willsboro Town Board
Mike Mascarenas, Essex County
Bob Hafner, Town Attorney
Dominic Fontana, NYSDEC Ray Brook
Tamara Venne, NYSDEC Ray Brook

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MEMORANDUM

TO: Edward P. Hatch, Supervisor

FROM: Robert H. Hafner, Esq., Town Counsel

DATE: August 30, 2013

RE: Wastewater Treatment Plant Proposed Improvements

Yesterday, you informed us that on August 28, 2013, the Town Board held its Public Hearing and passed its Resolution authorizing the Project. We assume that Beverly arranged for the publication of the Summary of Board Resolution. We need to know when it was published in the Town's official newspaper. As you will recall, the Town Board modified our proposed Resolution to expand the Project to include wastewater improvements that, prior to the Town Board meeting, we were unaware may be necessary. Based on Cedwarwood Engineering's August 26, 2013 memo to you, this was a perfect modification as it appears the RBC needs immediate repairs.

Assuming the Resolution authorizing the Project in the form which we provided you was published on August 28th then:

1. The Town Board is authorized to make the necessary repairs to the RBC that Cedwarwood outlines, which can include the new shaft if you determine it is necessary.
2. The Bond Resolution which the Town Board passed on July 31, 2013 authorized you, as Town Supervisor/Chief Financial Officer, to determine how much to borrow for the Project which includes repairs at the RBC.

However, the Resolution authorizes a maximum estimate cost of the Project of \$450,000 and you cannot borrow or spend more than \$450,000 for this Project currently. If this new information from Cedwarwood means the maximum estimated cost and the amount you may wish to borrow are to be increased, the Town should obtain an updated report from Cedarwood with details of costs. We will need to go through this process again to authorize the increased cost of the project.



Edward Hatch, Town Supervisor
Re: Wastewater Treatment Plant Proposed Improvements
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The bottom-line is you are authorized to perform the needed repairs to the RBC as well as to the clarifiers, but if you expect to spend more than \$450,000, you should go through this process again to authorize any increased costs so that you do not have any delays in order to meet State Law requirements.

Please let us know in advance of when you wish to borrow funds so we can prepare the necessary documents and work out the necessary bank arrangements.

cc: Beverly Moran, Town Clerk
Tom Suozzo, Town Engineer

