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To: Selectboard

From: Rocky Martin

Date: October 31, 2013

Re: Potential Mini-Hydro Electricity Generation, Cemetery Pump Station

CC: Joe Colangelo, Kayhon Bahar, CJ Hinchman

Background: Part of water system consists of water being pumped up to Piette Rd storage tank from village cemetery pump station (brick building at cemetery entrance) on Mechanicsville Rd. Piette Rd storage tank is approximately 500 feet higher than cemetery pump station. When storage tank is full, pumps shut off and water comes back down the hill through a pressure reducing valve in the pump station, water enters at 217 psi and is reduced to about 100 psi.

Proposal: In August 2012, the rules for permitting small hydro projects (less than 5 megawatts) were drastically reduced. Former Hinesburg Energy Committee member Deb Sachs discussed a potential hydro-electric project utilizing a turbine that would replace the pressure reducing valve. Deb is the principal of EcoStrategies, an environmental consulting firm with experience in small community hydro. Deb is now working on a very similar project in Barre, the first to be permitted under the new regulations. Obviously a lot of moving pieces but I'd like to look into this a little more, an initial assessment looks very promising. An assessment of flows will have to be done but we have plenty of head pressure. There are different technologies that might be utilized; there are pumps that reverse and act as reducing valves while producing electricity as well as turbines that work as reducing valves. All of this would have to be engineered and submitted to Water Supply for approval. A complete proposal would include cost of the project, potential funding sources (grants through Clean Energy Development Fund and loans through Water Supply revolving loan fund with possible partial loan forgiveness) and payback period. Power produced would be net metered, go back into the grid and provide a credit to Water system accounts, similar to the net metered solar trackers at the wastewater plant.

If the Selectboard approves this concept, Deb Sachs will develop a cost proposal for consideration at a future meeting.