




# CITY OF BEACON New York

Anthony J. Ruggiero, M.P.A.  
City Administrator

OFFICE OF CITY ADMINISTRATOR

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**To:** Mayor and City Council

**From:** Anthony Ruggiero, MPA, City Administrator 

**Re:** City of Beacon Well #2

**Date:** June 7, 2019

In 2018 the City of Beacon retained the services of WSP (formerly LBG Hydrogeologic & Engineering Services) in order to perform a Comprehensive Water Supply Plan (Plan) for the City of Beacon (City). The Plan included evaluating the storage capacity of the three City reservoirs to estimate the safe yield of the reservoirs; conducting an extended yield test on the existing bedrock water-supply wells to determine the safe yield of the bedrock wells; conducting a groundwater exploration program at the City's Pump House Road well field to evaluate the potential to develop a high yielding sand and gravel production well; and the evaluation of current and projected City build-out population to determine if the City has an adequate supply of drinking water to meet the current and projected water demand.

The conclusion of the report was that the City had an adequate water supply to meet the 2018 current and 2035 projected production with the existing resources. The City's current daily water demand is 2.88 mgd.

For your reference again, the City Water Supply is made up of the following resources:

Water Supply	Water Supply Capacity (Million Gallons Per Day-MGD)
Meltingah Reservoir	0.38 mgd
Mount Beacon Reservoir	0.43mgd
Cargill Reservoir	0.60 mgd
Well #1	.58 mgd
Well #2	1.15 mgd
Village of Fishkill	1.20 mgd
<b>Total Water Production</b>	<b>4.34 mgd</b>

Beginning in September of 2018, Well #2 began to experience a drastic drop in flow from the well and it was determined that the pump was in operation, but not pumping. The pump was found to be missing half of the bowls required for pumping, but there were no structural issues with the well. At this time, there was no evidence of excessive silting.

In December of 2018 a new pump was delivered, installed and running normally. Around late January 2019, Well #2 was tested in preparation for the summer months, and high turbidity from silting was noticed. Since early February, the Water Department has been working with the City's Consultants, WSP and Subsurface Technologies in order to determine the cause of the silting and the appropriate mitigation options. The Well has been off line since about this time.

The excessive Silting was determined to be entering the well from a fracture at about 240 feet down. It should be stressed that Well #2 is usable and this is not a water quality issue. The water plant can process the silt; however, the excessive silt could burn up and destroy the well pump. At this time, Staff would like to discuss and present the course of action to correct the silting and bring Well #2 back on line.

<b>Course of Action</b>	<b>Estimated Cost</b>
Surge Development	\$35,000
Install Submersible Pump and Pump to Waste	\$35,000
Spinner Test	\$20,000
Stent/swage	\$76,000
72-hour pump test	\$9,000
<b>TOTAL</b>	<b>\$175,000</b>

Furthermore, the City's Consulting Hydrogeologist performed a Water Supply Adequacy review with Well #2 out of service, including projects being built, already approved and in front of the Planning Board. It was determined that there is an adequate supply of water and an approximate surplus of 170,000 gpd (Gallons Per Day).

The City's Consulting Hydrogeologist will be present to discuss the above plan of action on Monday. It is estimated that the above work will take approximately 3 months.

If you have any questions with regard to the above, please feel free to contact me.