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June 18, 2015

VIA EMAIL

Tim Miller Associates, Inc.
10 North Street, Cold Spring, N.Y. 10516
Tim Miller, AICP

Re: 507-Acre Annexation
Town of Monroe to Village of Kiryas Joel
Route 32, Cornwall, New York
MC Project VCT011

Dear Mr. Miller:

On behalf of the Village of Cornwall-on-Hudson and the Town of Cornwall, Maser Consulting P.A. is providing the following comments and analyses regarding the above-referenced application. We have reviewed the GDEIS for the Proposed 507-Acre Annexation to Village of Kiryas Joel (KJ).

Draft Generic Environmental Impact Statement Comments

No response to the letter written on behalf of the Village of Cornwall on Hudson and the Town of Cornwall, originally dated April 16, 2014 and submitted to the NYSDEC as part of the public hearing for the DEC Application No.: 3-3399-00065/00001 Water Withdrawal, Village of Kiryas Joel Proposed Mountainville Well No. 1 have ever been received. Yet the GDEIS for this proposed 507-Acre Annexation proceeds without any consideration of the impacts noted in this letter. Response to the impacts repeated herein need to be addressed prior to proceeding with this process, or the GDEIS must be declared incomplete.

The apparent intent in the GDEIS is to utilize the Mountainville well as a potentially permanent water supply, rather than a secondary water supply, which contradicts KJ's prior statements and analysis. I refer to KJ's DEC application and their neg dec where there were repeated statements that the Mountainville well was part of the connection to the Aqueduct. Now, the most KJ is saying is that one year after the Mountainville well will be placed into service, KJ must identify a potential secondary source. Obviously KJ's intent is to use the Mountainville well as likely permanent water supply. Given the apparent change in use of the Mountainville well as a primary water supply, we request that KJ must rescind its prior neg dec according to the criteria set forth in 6 NYCRR 617.7(f). Should KJ not rescind its prior neg dec, KJ must address the environmental impacts associated with the primary use of the Mountainville well as part of the GEIS process, including responses to all outstanding comments made to the DEC as part of the water supply legislative hearing.

These comments and concerns, which relate to environmental impacts, have never been addressed by KJ, given that their neg dec was cursory and that KJ has voluntarily suspended the DEC permit proceeding.

KJ has improperly segmented the environmental review of its proposed expanded water supply and the annexation.

Page 3.5-3 states: "The addition of the Mountainville well field would enable the Village to meet this maximum daily demand and serve as an interim supply while the remainder of the pipeline connection to the Aqueduct is constructed."

What guarantees do the Village of Cornwall on Hudson and the Town of Cornwall have that KJ will complete the pipeline to the NYC aqueduct?

If a permit is granted to KJ to complete the pipeline to the NYC aqueduct, what is the NYSDEC perceived expiration date for this permit to ensure timely construction to get the Aqueduct connection into service and maintain the Mountainville Wells as a backup supply.

Page 3.5-3 states: "The draft consolidated permit would allow the Village to withdraw up to 2.54 mgd once the draft permit is finalized and Mountainville Well 1 is placed into service."

What controls or limits if any would be placed on the KJ Mountainville Well to maintain a sustainable withdrawal of water as to not adversely cause the impacts noted in this letter?

What is the status of the Orange County review and permit for the continuation of the installation of the watermains for the NYC aqueduct and the Mountainville Wells?

What is the plan for KJ should the NYCDEP deny the request to connect to the NYC aqueduct, if as noted on page 3.5-4 "Excessive groundwater withdrawals may affect neighbors to the Village who depend on the same groundwater resources"?

On page 3.5-4 the GDEIS states: "In September 2000, the Village of Kiryas Joel filed an official request with the New York City Department of Environmental Protection (NYCDEP) for conceptual approval to connect to the aqueduct." Further the GDEIS on the same page states "The City of New York must still provide final engineering approval for the proposed Village connection to the Catskill Aqueduct."

What is the status of this NYCDEP permit and plan review, give these plans were submitted 15 years ago? Correspondence between KJ and the NYCDEP should be provided as part of the record.

On page 3.5-4 the GDEIS states: "The allowable water taking from the aqueduct will be determined by the NYCDEP at a future time when approvals and infrastructure are in place to connect to the aqueduct. For example, the Village would be entitled to approximately 2.56 mgd from the aqueduct, based on the 2010 Census for the Village (20,175 population) and the 2010 NYC per capita water usage estimates (127 gpd). The Village would be required to maintain 100 percent back-up for the volume of its taking with existing and new groundwater wells. The Village intends to rely on its existing groundwater wells and new wells to be established in the future to meet this backup requirement."

Conversely, what is the 100% backup for KJ's highest yielding well (Mountainville) should there be an impact to adjoining properties or a failure at the well, assuming the NYCDEP Aqueduct is not online, permitted or available?

How is it that a connection to the NYC Aqueduct, requiring a 100% backup (the Mountainville well), has a findings statement prepared as noted on page 3.5-5 since the 100% backup Mountainville Well has not received any permits and the impacts elaborated in the public hearing process from April 2014 remain unanswered?

Page 3.5-5 states "The Village commenced the SEQRA coordinated review process for the Catskill Aqueduct Connection project in July, 2002. Amended Findings for the Catskill Aqueduct Connection project were adopted by the lead agency on March 31, 2009…"

Page 3-5.6, the GDEIS notes: "In addition to serving as a necessary backup to the City water, the Mountainville well will serve as an interim primary supply for the Village while the remainder of the pipeline is constructed."

The permit conditions need to be elaborated in order to quantify the impacts. How long will the Mountainville well serve as an interim primary supply for the Village? What limitations will be enacted to ensure KJ connects to the NYC Aqueduct or seeks another viable source of water should the NYC Aqueduct be unavailable or not permitted?

Page 3-5.7, the GDEIS notes: "A NYSDEC required 72 hour pumping test demonstrated that the Mountainville Well was self-sustaining and its use would not impact local nearby wells or other surface water bodies.

This statement is an opinion and should be removed from the GDEIS, especially given the complete lack of response to the letter written on behalf of the Village of Cornwall on Hudson and the Town of Cornwall, originally dated April 16, 2014 and submitted to the NYSDEC as part of the public hearing for the DEC Application No.: 3-3399-00065/00001 Water Withdrawal, Village of Kiryas Joel Proposed Mountainville Well No. 1.

Correct the typo stating "425 gallons per day" on page 3-5.7.

Page 3-5.14, "The draft consolidated water supply permit, WSA No. 11609, which includes Mountainville Well 1, will authorize a water withdrawal of 2.54 mgd".

This statement is an opinion and not based on a permitted withdrawal, and as such should be removed from the GDEIS.

Page 3.5-16, under a 'no annexation' scenario states: "Finally, the future use of Aqueduct water would be prohibited to outside users, unless special permission is granted by NYCDEP.

Without Annexation will the connection to the NYC Aqueduct be pursued? Will the Mountainville Wells be pursued? With a lesser population growth of 12,307 persons as compared to the with annexation population growth estimates, will the NYC and Mountainville connections be required? If so, to what extent?

On page 3-5.17, the statement "Once the Village is connected to the Catskill Aqueduct, it is intended to serve as the primary water source for the Village and groundwater wells will be in place as temporary back-up water supply during those periods when the Aqueduct water is unavailable due to maintenance. Therefore, after the aqueduct connection, the Village's wells will only be used on a temporary basis for testing or during those periods when the Aqueduct is unavailable." Assumes a permit will be issued.

If a permit is not issued for KJ, is the annexation feasible, given the existing wells and the impacts noted in this document? Without the Aqueduct we assume well permits will precede Annexation?

Page 3-5.19 states "Connection to the Catskill Aqueduct will also mitigate potential water supply source impacts."

This is not true as wells are needed during Aqueduct shutdowns. The Mountainville wells have not been permitted. There are many potential impacts noted herein and as provided to the NYSDEC during the public hearing and as the written comment attests. The document has not addressed the sustainability of aquifer recharge supplying their existing wells. This issue still needs to be addressed for the Mountainville site as previously discussed.

Hydrogeologic Technical Report Comments

We have also reviewed the hydrogeologic technical report prepared by Leggette Brashears and Graham, Inc. (LBG) dated August 2011 and titled, "72-Hour Pumping Test Report for Well 1, Mountainville Pump Station Parcel, Route 32, Cornwall, New York". The following comments and analyses pertain to that report.

Background

The Village of Kiryas Joel (KJ) has applied to the New York State Department of Environmental Conservation (NYSDEC) for a Public Water Supply Permit for Mountainville Well #1 for total taking of 612,000 gallons per day (GPD) at a rate of 425 gallons per minute (GPM). The well is located along Route 32, adjacent to Woodbury Creek, in the Town of Cornwall and approximately 1.8 miles south of the Taylor Road well field owned by the Village of Cornwall on Hudson. Both the Town of Cornwall and the Village of Cornwall on Hudson have shared interests regarding maintaining the viability of water resources within their jurisdictions. The applicant has stated that they proposed to connect their Well #1 to the water transmission line to be located along Route 32, which has been proposed to connect the Village of Kiryas Joel to the New York City aqueduct in Newburgh, New York.

Well #1 is completed within saturated, stratified, sand and gravel deposits that occur in the creek valley, with a reported screen interval between 83 and 103 feet below grade. Observation wells included Wells MW-1 and MW-2, located 51 and 94 feet, respectively from Well #1. Well MW-1 is reported to be completed with a screen interval 36 to 46 feet below grade, and well MW-2 is reported to be completed with a screen interval between 20 and 30 feet below grade. In addition, three shallow piezometers were installed: adjacent to Woodbury Creek; adjacent to one of the intermittent streams tributary to Woodbury Creek; and at a location in the wetlands between Well #1 and Woodbury Creek. The 72-hour pumping test was conducted by LBG during June of 2011. The test involved pumping Well #1 at variable rates of 482, 449, 442, and 425 GPM over the 72-hour period.

Concerns Regarding Aquifer Testing Configuration and Procedures

Our review of the LBG report revealed several concerns regarding test procedures and analyses with respect to the required evaluation of environmental impacts. These concerns are discussed as follows.

1. Information regarding the shallow sediments is largely missing from the LBG report. This is important, because the potential impact on surface water resources has not been adequately addressed. From the Water Supply Standards: "the proposed water withdrawal will be implemented in a manner to ensure it will result in no significant individual or cumulative adverse impacts on the quantity or quality of the water source and water-dependent natural resources". Water dependent natural resources include streams and wetlands. During drilling of the test well, no formation samples were collected or described for the upper 35 feet. For the two monitoring wells, there are driller's descriptions for the shallow sediments, but these are not detailed. There are also no geologic logs for the shallow piezometers that were installed for the aquifer test. Therefore, the available site-specific geologic information is inadequate to evaluate the potential hydraulic connection between the aquifer and the adjacent streams and wetlands.

2. The shallow piezometers installed in the intermittent stream and the wetland were dry at the time of the testing. Because there are no geologic logs for the piezometers, it is unknown if they were installed at correct depths for monitoring potential impacts. Monitoring of Woodbury Creek itself has little value, as it would not be expected that a measureable decline in the stream stage would be observed for short-term pumping.

3. The monitoring wells only partially penetrate the aquifer. While geologic descriptions for the upper 35 feet of materials penetrated by Well #1 are missing, the geologic log indicates finer sand and some silt in the upper part of the formation where MW-1 and MW-2 are completed. This stratification within the aquifer could result in the actual drawdown impact at the observation wells being under represented by the aquifer test.

4. The pumping rate for the aquifer test was variable, rather than constant as required by NYSDEC "Pumping Test Procedures for Water Withdrawal Permitting". The variable pumping rate complicates interpretation of hydraulic boundary conditions, such as nearby streams and wetlands, and obscures drawdown responses that would be indicative of an unconfined aquifer.

Concerns Regarding Aquifer Test Data and Analyses

5. Test data for the monitoring wells, piezometers, and offsite wells (actual numeric data) is missing from the report, preventing independent analyses of the hydraulic impacts. Traditional time-drawdown plots of the monitoring well data are not provided. These would help to determine if the aquifer indicates an unconfined type of response that could indicate direct hydraulic impact to streams and wetlands.

6. The numbers used for the distance-drawdown analysis performed by LBG are not provided. Because of the partially-penetrating observation wells (MW-1 and MW-2), potential recharge effects a potential unconfined aquifer response, the distance-drawdown analysis is unlikely to be valid either for determining aquifer hydraulic properties or drawdown impacts.

7. The wide range of the scale of the vertical axes on the domestic well water-level responses makes it difficult to determine if there was actually any drawdown impact on the domestic wells.

8. The Conclusions section of the report indicates that two additional wells are planned. A total of three wells seem to be excessive if this is only planned for a backup supply.

9. LBG provides no analysis of the potential drawdown impact for the proposed future well field with a pumping capacity of approximately 1200 GPM. That analysis needs to be performed.

Concerns Regarding Water Availability

10. LBG provided a safe yield analysis using a proprietary computer program. Without being provided the details of that computer program, it is not possible to verify their conclusion. However, the safe yield analysis appears to be focused on the ability to pump three wells simultaneously (not just the one well referred to in the application). The analysis does not appear to take into account the water availability and sustainable recharge of the aquifer.

11. No analysis was provided regarding the long-term impact on stream baseflow within the Moodna Creek basin, which could ultimately affect water availability for the Village and the Town. The Town and Village have significant plans for the expansion of their water service within their jurisdiction. Planning for this expansion has been ongoing since 2002 and has included recent aquifer testing at the Taylor Road well field owned by the Village.

Summary

The aquifer test conducted by LBG for Mountainville Well #1 is inadequate for determination of impacts to water-dependent natural resources. Dry shallow piezometers during the aquifer test yield no practical data regarding direct impacts to streams and wetlands. Partially-penetrating observation wells and variable pumping rates obscure aquifer responses that could potentially indicate an unconfined aquifer in strong hydraulic connection with adjacent streams and wetlands. The lack of detailed geologic logs for the shallow sediments further obscures any interpretation of hydraulic connection to surface water resources.
The aquifer test analyses provided by LBG for Well #1 are inadequate to define impacts to water-dependent natural resources. While test analyses were likely limited by the problems with the test configuration and implementation, independent analyses were limited by the lack of numerical data provided in the report. Furthermore, conclusions regarding safe yield appear to be focused on expansion of the water taking to include two additional wells, rather than on the ability of the resources to sustain the proposed pumping without adverse environmental impacts.

Given the deficiencies identified with respect to the aquifer test configuration, implementation and analyses, it is recommend that the application be denied until the applicant can perform additional testing that sufficiently addresses these deficiencies and adequately addresses impacts to water-dependent natural resources, including stream baseflow within the Moodna Creek basin. If the applicant intends to withdraw from three wells at the proposed combined pumping rate of 1200 GPM, then additional testing needs to be performed at this rate.

In addition, any ground-water diversion approved for this site should be limited to emergency use only, during periods when water from the aqueduct is otherwise unavailable. The

Department should impose adequate safeguards to ensure that the wells are used solely for this purpose. Such safeguards should include, at a minimum, gauging and monthly monitoring reports to ensure that the water is not being taken in nonemergency situations. Copies of these reports should be provided simultaneously to the Village and the Town, given that they both rely on this water source for their own residents.

The Village and the Town's concerns are significant and substantive issues. If their concerns are not addressed by the applicant, The Village and the Town request that the DEC hold an adjudicatory hearing pursuant to 6 NYCRR Part 624, so that the concerns can be heard in a more formal forum and adjudicated.

Very truly yours,

MASER CONSULTING P.A.

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