

**APPENDIX B**  
**DETAILED RESPONSES TO COMMENTS**

**A. WATER SUPPLY PERMIT ISSUES**

**1. Impact on Quantity or Quality of Water Source**

Comments under this category relate to (a) aquifer impacts; (b) impacts on neighboring wells, groundwater availability, and groundwater quality; (c) impact on nearby surface waters; (d) impacts on Moodna Creek; (e) impacts on Woodbury Creek; and (f) impacts on Ramapo River. Specifically, comments expressed concern that the pump test performed on the well was inadequate to assess the impact on these resources in times of heavy draw or low recharge. Comments questioned the methodology of the pump test and its adequacy in assessing impacts on existing neighboring wells, including the Town and Village of Woodbury's Trout Brook Road wellfield. Finally, comments expressed concern that the well would negatively impact nearby surface waters, including Woodbury and Moodna Creek because of hydrologic connection to the aquifer, and the Ramapo River.



**a. Aquifer Impacts**

*In response to comments about impacts on the aquifer, comprehensive standard testing performed on behalf of the Village pursuant to State pumping test standards supports the conclusion that no impacts to the principal aquifer will result from the Village's use of the Mountainville well field. Leggette, Brashears & Graham, Inc. (LBG) completed a 72-hour pumping test on Well 1 located on the Village of Kiryas Joel's Mountainville pump station and well field parcel on Route 32 in Cornwall, New York in June 2011. The pumping test was conducted with strict adherence to the New York State Department of Environmental Conservation (NYSDEC) pumping test standards ("Recommended Pump Test Procedures for Water Supply Application," TOGS 3.2.1, Appendix 10). The NYSDEC pumping test standards are designed to determine the safe yield of proposed wells and potential impacts to neighboring wells and surface-water features. As Appendix 10 to TOGS states, the pump test procedures "have been designed to produce the accurate and complete information that is vital to these determinations." Proper methodologies for this test were also confirmed by NYSDEC Division of Water in Albany. Data from the pumping test were included in Exhibits II and III to the Village's water supply permit dated November 17, 2011 and prepared by LBG.*

*The 72-hour pumping test included a demonstration of stabilized yield and water-level drawdown in Well 1 for a minimum of six hours at the end of the test period as required by the TOGS section 3.<sup>1</sup> Water-level data were collected from onsite monitoring wells completed in the*

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<sup>1</sup> Citations to "TOGS Section \_\_\_\_" refer to the specific sections of TOGS 3.2.1 Appendix 10 (2011).

*stratified-drift aquifer. Water-level measurements were collected from three piezometer locations, one in the onsite intermittent stream, one in the onsite wetland and one in nearby Woodbury Creek (TOGS section 10). Water-level measurements were also collected from offsite neighboring observation wells located within 2,000 feet of the pumping well (TOGS section 7). Water-quality samples were collected from the pumping well near the end of the 72-hour test period (TOGS section 12). A 180-day water-level drawdown projection was completed for Well 1 using the water-level data collected during the pumping test and aquifer parameters were calculated (TOGS section 13). No legitimate basis has been suggested for extending the length of this test nor are any identified by TOGS, which expressly provides for a 72-hour test “[r]egardless of the type of aquifer” (TOGS Section 3). Likewise, no legitimate basis has been suggested for limiting the length of the permitted withdrawal to 72 hours to match the test duration. Stabilization was not attributed to hydrogeological factors such as precipitation or snowmelt recharge, a recharge boundary due to a minor surface water body or limited leakage from overlying or underlying formations (TOGS section 13[a]).*

*The results of the 72-hour pumping test using the methodology specified in TOGS Sections 3 and 8 demonstrated stabilized yield and water-level drawdown in Well 1 at a pumping rate of 425 gallons per minute (gpm). The 180-day water-level drawdown projection showed the water level in the well was above the pump intake setting as well as above the top of screen in the well. Water-level recovery in the well was rapid and 90-percent recovery was achieved within one hour of shutdown of the well. The data support the safe yield of 425 gpm.*

*Using the methodology and standards in TOGS Section 10, there was no water-level drawdown measured in the piezometers during the test, including no surface-water or groundwater level drawdown in Woodbury Creek.*

*The water-quality results collected and analyzed according to TOGS Section 11 meet all New York State Department of Health (NYSDOH) drinking water standards with the exception of the presence of total coliform. The well will need to be disinfected and resampled prior to being placed in service for potable use. Additionally, the microscopic particulate analysis (MPA) sample collected from Well 1 reported a low-risk potential for groundwater under the influence of surface water (GWUDI) for the well.*

*The results from the 72-hour pumping test showed no outstanding issues of concern related to well stabilization, water-level recovery and water quality.*

*An assessment of the groundwater recharge to the stratified-drift aquifer underlying the Mountainville parcel from the upgradient watershed area was completed. The watershed area located downgradient of the Town of Woodbury Trout Brook Road wellfield parcel and upgradient of the Mountainville parcel is comprised of a total of 2.08 mi<sup>2</sup> (square miles). Within*

*this area, stratified-drift deposits underlie 0.76 mi<sup>2</sup> of the total watershed area and glacial till underlies 1.32 mi<sup>2</sup>.*

*To calculate the groundwater recharge to this watershed area, LBG used a recharge rate for stratified drift of 0.8 to 1.1 mgd/mi<sup>2</sup> (million gallons per day per square mile) and for glacial till 0.3 to 0.41 mgd/mi<sup>2</sup>. The calculated recharge for the upgradient watershed area to the aquifer underlying the Mountainville parcel is provided in the table below:*

	<b>Watershed Area (mi<sup>2</sup>)</b>	<b>Recharge Rate Multiplier (mgd/mi<sup>2</sup>)</b>	<b>Recharge (mgd)</b>
<i>Stratified Drift</i>	<i>0.76</i>	<i>0.8-1.1</i>	<i>0.61-0.84</i>
<i>Glacial Till</i>	<i>1.32</i>	<i>0.3-0.41</i>	<i>0.40-0.54</i>
<i>Total</i>	<i>2.08</i>	<i>--</i>	<i>1.00-1.38</i>

*mi<sup>2</sup> square mile*

*mgd/mi<sup>2</sup> million gallons per day per square mile*

*mgd million gallons per day*

*The recharge total for the watershed area located downgradient of the Town of Woodbury well field and upgradient of the Mountainville parcel of 1.00 to 1.38 mgd exceeds the yield of Mountainville Well 1 of 425 gpm (0.612 mgd).*

*The results of the 72-hour pumping test demonstrated a stabilized yield and water-level drawdown on Well 1 at a rate of 425 gpm (gallons per minute); rapid water-level recovery following shutdown of the test (90% within one hour); adequate groundwater recharge (1.00 to 1.38 mgd) to support the taking of up to 425 gpm from Well 1 and this withdrawal will have no significant impacts on the aquifer. There was no water-level drawdown measured in the piezometers during the test, including no surface-water or groundwater level drawdown in Woodbury Creek. Therefore, contrary to comments, the data collected pursuant to State TOGS standards demonstrate that no additional pumping tests, such as long-term testing, are required.*

*The Town of Woodbury challenged the adequacy of the Village's SEQRA review, including the pumping test and its resulting conclusion of no impact on wells in the area, in a CPLR Article 78 proceeding commenced in April 2013. Justice Lefkowitz of the Ninth Judicial District's Environmental Claims Part issued a decision on April 7, 2014 dismissing Woodbury's petition. The judge held that the pumping test supported the Village's negative declaration under SEQRA, and that Woodbury had failed to submit data or studies sufficient to demonstrate that Woodbury's planned Trout Brook well would be adversely affected, or that the Village's negative declaration should otherwise be annulled. The court's decision is included in this submission as Appendix I.*

## **b. Impacts on Neighboring Wells**

### **i. Groundwater Availability**

*In response to comments about ground water availability, pursuant to NYSDEC pumping test standards, water-level measurements were collected from onsite and offsite observational wells located within 1,500 feet of the test well (TOGS section 7). Most of the land within 1,500 feet of Well 1 is undeveloped and subject to a conservation easement that limits future development. The portion of the radius east and southeast of Well 1 encompasses a limited number of residences. All eight offsite properties were solicited for permission to collect water-level data from their wells. Four property owners granted permission to collect measurements from their wells. Two of the four wells (250 and 280 Old Route 32) were located in well pits, and the wells could not be opened to collect water-level measurements without creating a sanitary risk. The other two, 230 Old Route 32 and 1470 Old Route 32, were monitored as described below.*

*Water-level data, including water-level drawdown, were collected from two additional onsite monitoring wells completed in the stratified-drift aquifer (MW-1 and MW-2) that were drilled near Well 1. The water-level data collected during the pumping test allows for the calculation of aquifer parameters and the assessment of potential regional water-level impact from pumping of the test well. See site plan depicting the location of the monitoring wells in Appendix G.*

*The onsite Monitor Wells MW-1 and MW-2 were constructed 51 feet and 94 feet, respectively, from Well 1, consistent with TOGS Section 7. Based on the data collected during the pumping test, the drawdown in MW-1 and MW-2 at the end of the test was 9.26 feet and 0.42 foot, respectively. As expected, the drawdown data showed that pumping-related impact to the shallow portion of the aquifer decreased with distance.*

*Water-level data were collected from the two offsite residential wells located at 230 Old Route 32 and 1470 Old Route 2 at approximately 1,150 feet and 870 feet, respectively, away from Well 1. The water-level data from these wells showed no drawdown impact attributed to the pumping of Well 1 on the Mountainville parcel. Therefore, it was concluded that these wells appear to be outside the area of influence of Well 1.*

*Comments by the Town and Village of Woodbury that LBG and the Village of Kiryas Joel neglected to consider the potential for impact on the Village of Woodbury's Trout Brook well field when it assessed the Mountainville Well site are inaccurate. LBG was well aware of and considered the potential for impacts by the Mountainville Well on offsite wells, including the up gradient and distant Trout Brook well. The Mountainville Well is too far away and down gradient from the Trout Brook well field to have any impact on it.*

*Based on the hydrogeological setting and the results from the aquifer testing program at the Mountainville site, LBG determined that the proposed Mountainville Well Field would not adversely affect the yield of the Village of Woodbury's well fields. The Trout Brook well is located over a mile from the Mountainville site. It is also located upgradient, which means that the Mountainville Well would not affect the recharge potential of the Village of Woodbury's wellfields.*

*As shown in the LBG report, the hydrogeologic testing and analysis of the Mountainville Well data indicated that there was no discernible impact beyond 1,500 feet of the proposed Mountainville Well site. Thus, contrary to certain comments, additional testing to assess potential pumping related impacts on wells beyond 1,500 feet, including the Village of Woodbury's wellfields (over 5,600 feet away and upgradient of the Mountainville site), is not necessary.*

*As noted above, groundwater recharges to the stratified drift and glacial till aquifer underlying the Mountainville parcel. The recharge values for the 2.08 square mile watershed area located downgradient of the Trout Brook parcel and upgradient of the Mountainville parcel is 1.00 to 1.38 mgd, which far exceeds the yield of the Mountainville Well of 425 gpm (0.612 mgd). This demonstrates that the Mountainville Well is a self-sustaining well and, thus, would not impact the recharge potential of the Village of Woodbury's well fields.*

*To further support the conclusions above, LBG completed additional analysis on the data derived from the June, 2011 aquifer test. The additional analysis was completed to assess the effect of potential aquifer boundary conditions and determine if the distance drawdown effect from the pumping of Well 1 would potentially affect the proposed Trout Brook Road wells. The transmissivity (T) (38,720 gpd/ft (gallons per day per foot)) and the storage coefficient (S) (0.38) were calculated using drawdown versus time data in the test well during the aquifer test. The T was derived using the Theis match point method (Theis, 1935). The drawdown data were corrected utilizing the corrections presented in Kruseman and DeRidder, 1990 so that the solution is applicable for unconfined aquifers (See Appendix G).*

*The curve shown on the plot is a fitted type curve and the points represent the measured drawdown in the well. The type curve was generated by adjusting the aquifer parameters presented in the solution portion on the plot until there is a good match between the type curve and the measured data (i.e., the aquifer parameters have been calculated). This process is expedited with the aid of an aquifer parameter estimation program called AQTESOLVE (Duffield, 2002). AQTESOLVE allows the user to use visual curve matching or an automated method to minimize the difference between the type curve and the observed data. In addition, AQTESOLVE allows boundary effects (such as the stratified drift boundaries observed in the study area) to be incorporated in to the analysis by automatically generating image wells to simulated specified boundary conditions and locations.*

*The calculated T and S were used along with AQTESOLVE to develop the theoretical drawdown versus distance plot for Well 1. The theoretical drawdown versus distance plot was developed assuming PW-1 was pumping at a constant rate of 425 gpm for approximately 22 days. As stated above, data from the June 2011 aquifer test of Well 1 show that the water level in the well had reached a near stabilized level after three days of pumping. Twenty two (22) days was used for the construction of the drawdown versus distance plot to be conservative. The 22-day timeframe was necessary because the analytical equation used to construct theoretical curve does not simulate the effects of leakage, river and/or wetland recharges, which are the causes of stabilization. The stratified-drift boundaries were accounted for in the development of the theoretical plot using boundary features in AQTESOLVE.*

*The drawdown versus distance plot shows that the Village of Woodbury well field is located beyond the expected area of influence of Well 1 (2,980 feet) even if the stratified drift till boundaries are incorporated into the analysis. Note, for this analysis the area of influence of Well 1 was conservatively defined as the area of land in which the water table or potentiometric surface was lowered by 0.01 foot.*

*Furthermore, in response to the Town and Village of Woodbury's comments that LBG's standard testing was somehow an inadequate basis alone for reaching the conclusion that there would be no influence on wells as far away as the Trout Brook well, one need only consider the self-sustaining nature of the Mountainville Well site to further support this fact. As such, it is clear that, as a self-sustaining well which is capable of fully recharging without any impact on the recharge potential of Woodbury's well fields, the Mountainville Well will have no impact on Woodbury's yet undeveloped wells.*

*As noted in the Introduction and above, the Town and Village of Woodbury raised these very same issues in their unsuccessful Article 78 challenge to Kiryas Joel's SEQRA review for this application. Based, in large part, on these very same data and analyses, Supreme Court (Environmental Claims Part) granted Kiryas Joel's motion to dismiss that proceeding, finding that the testing provided a rational basis for the SEQRA determination and that the Town and Village of Woodbury's expert's opinion regarding recharge for the Trout Brook well was insufficient to annul Kiryas Joel's negative declaration. There was no appeal of this decision (See Appendix I).*

## **ii. Groundwater Quality**

*In response to comments regarding the potential for water quality impacts on neighboring wells from the proposed groundwater withdrawals from Well 1, the following response is provided. Historically, water-quality impacts rarely occur from groundwater supply withdrawals. The only instance in which potential pumping-related impacts would result in water-quality problems*

*in neighboring wells would be if significant water-level interference (drawdown) effects occurred. Significant water-level interference effects can disturb water-bearing zones and/or the bottom of the well and the disturbance may result in the circulation of sediment in the discharged water under pumping conditions. No significant water-level interference was observed in either the on-site or offsite wells monitored during the 72-hour pumping test performed in strict compliance with NYSDEC standards. Accordingly, the test and data support the conclusion that no anticipated water-quality impacts are expected in neighboring wells in the region. In the unlikely event any unanticipated impacts occur, Special Condition 14 of the draft permit will require the Village to mitigate such impacts.*

*Finally, certain public comments claimed that there was well interference during the pump test. These comments appear to have been misdirected. Review of the comments indicated that rather than pertaining to the Mountainville Well Field site, these comments are related to potential impacts to residential wells along Taylor Road. It appears that these homeowners were referring to the Star Mountain Well Field also located on Taylor Road. This site and nearby wells are nearly 2.1 miles away from the Mountainville site. The application for the Star Mountain Well Field was withdrawn by the Village. It is clear that no impacts to wells along Taylor Road occurred as a result of the pump-test at the Mountainville site.*

## **2. Impact on Nearby Surface Waters**

Comments questioned the potential impacts of a 425 gpm inter-basin transfer removing water from the Woodbury Creek Tributary watershed and its downstream Moodna Creek watershed. More specifically, the comments related to the impact on stream flows in Woodbury Creek. Other comments expressed concerns about impacts to the Ramapo River and questioned whether the Village's Wastewater Treatment Plant and the County's Harriman Plant could handle increased sewer flow alleged to be caused by the well.

*In response, please see discussions by topic, below.*

### **a. Impacts on Moodna Creek**

*Please see Response A.2.b.*

### **b. Impacts on Woodbury Creek**

*In response to comments by Chazen and others concerning impacts to Woodbury Creek, the pumping test was conducted with strict adherence to the NYSDEC pumping test standards, which are also designed to determine potential impacts to surface water features as discussed in Responses A.1.a (impacts on aquifer) and A.1.b (impacts on neighboring wells, groundwater availability, and groundwater quality).*

*Extensive hydrogeological testing in accordance with NYSDEC standards indicated that there is no direct hydrologic connection with nearby surface water features, including no direct impact on water levels in and below Woodbury Creek.*

*A 72-hour pumping test on the proposed well was completed in June 2011 in accordance with NYCDEC pumping test standards (TOGS 3.2.1, Appendix 10) to determine the viability and production value of the proposed well site, and also to determine whether the well could be developed without any undue impacts on the aquifer, other existing wells and surface waters in the area. Please see Responses A.1.a. and A.1.b for discussion of the pumping test and its compliance with NYSDEC standards in Appendix 10 to TOGS 3.2.1.*

*To measure surface water impact, water level measurements were collected from three piezometer locations. Piezometers are regularly used during such tests to measure water levels (see TOGS Section 10), and were installed near Well 1 for the pumping test to assess potential surface water interconnection with the test well under pumping conditions. Piezometers were installed in an on-site intermittent stream, in an on-site wetland, and in and below Woodbury Creek to the northwest of the parcel.*

*No water-level drawdown interference was discernible in the piezometers monitored during the test period as a result of the pumping of Well 1. This indicates that there was no direct hydrologic connection with nearby surface water features during the testing, including no impact on water levels in and below Woodbury Creek. The applicant acknowledges that a scenario might exist where prolonged drawdown during times of extreme drought or other compromised natural condition could result in potential indirect impact to the surface water resource. It is reasonably expected that under such conditions, mitigation or other conservation measures could be required to minimize any such impacts. Such measures might include source reduction; time limitations on withdrawals; and, in severe circumstances, complete closure of the well until circumstances moderate. Such measures could reasonably be incorporated as conditions in the permit. Moreover, it is also reasonable to implement a stream gauging program to continuously monitor and record stream flows which would be useful for identifying any change to existing conditions that might relate to use of the well field. Again, provisions for such ongoing monitoring could readily be incorporated as a condition in the permit.*

### **c. Impact on Ramapo River**

*In response to comments about wastewater, the quantity and quality of wastewater treatment effluent discharged to New York watersheds is regulated by the State through State Pollutant Discharge Elimination System (“SPDES”) permitting. Any additional wastewater generated from the Village of Kiryas Joel will be treated at its own plant or at the County’s Harriman treatment plant and would be subject to each plant's respective permit limits. These limits serve to reduce the impact on water quality based on the regulated uses of a receiving water body. The impact of wastewater effluent on area streams has been studied in the SPDES permit*

*applications for the development and expansion of the wastewater treatment plants to which Kiryas Joel wastewater will be discharged. These limits are also regularly considered for the need for modification. No modifications to these permits are anticipated to directly result from this project. Therefore, there are no additional significant adverse impacts anticipated from treated wastewater effluent and no supplemental studies warranted. (See Response A.4, Interbasin Diversion Impacts).*

*Even before the most recent Harriman WWTP 2.0 mgd expansion, it was evident that there was adequate capacity between the Village WWTP and the Harriman WWTP to accommodate the potential increase in wastewater generated by the New York City aqueduct connection project. Subsequent to the completion of the FEIS and Findings Statement for the pipeline project, on March 9, 2005, NYSDEC approved a new groundwater well (Well #27) that increased the Village's water supply (and corresponding potential wastewater production) by 135,000 gpd (125 gpm @ 18 hrs/day). In addition, on August 17, 2005, NYSDEC approved another new groundwater well for the Village (Well #28) with an output of 486,000 gallons per day. In total, both approvals by NYSDEC represented an addition of 621,000 gpd of new water supply to the Village. As a result of the addition of these two wells, the Village currently has approval to draw in excess of 1.9 mgd from its existing wells, with a corresponding potential volume of wastewater generated. Despite such an increase in the Village's water supply and corresponding waste water generation potential, NYSDEC expressly determined in its approvals that this new water supply would have no adverse impact on the Harriman WWTP or the Ramapo River. In response to public comments regarding the potential impact of this additional water supply on growth, wastewater and the Ramapo River, NYSDEC stated:*

*In regards to the concern about growth impacts, particularly upon the sewage treatment capacity in the Ramapo River Basin, this Department carefully reviewed its files in regards to the capacity of both the Village' Sewage Treatment Plant and Orange County's Harriman Sewage Treatment Plant to treat this additional wastewater. We determined that there is sufficient excess capacity to treat this additional water, without adverse impacts on the Ramapo River.*

*In addition, Orange County engaged Camp Dresser & McKee in 2006 to complete the "Harriman Wastewater Treatment Facility Membrane Bioreactor Pilot Study" pursuant to a grant from the New York State Energy Research and Development Authority ("NYSERDA Study"). The NYSERDA Study assessed the feasibility, effectiveness, and cost of implementing a membrane bioreactor treatment system at the Harriman WWTP. The study concluded that facility treatment capacity could be cost effectively increased by an additional 3.0 mgd, from 6.0 mgd to 9.0 mgd. Additionally, the study's results demonstrated that the anticipated discharge permit standards for such an increase are readily achievable and technologically feasible for the Harriman WWTP and will also actually increase the quality of the effluent discharged to the Ramapo River. The County has currently engaged another consultant to develop a final plan to expand the County's sewage treatment capacity by an additional 3 mgd. This plan and any*

*subsequent SPDES permit or amendment to the existing permit will include limits protective of the receiving water body.*

### **3. Project Justification/Need**

Comments questioned the need for additional water supply to the Village and whether the 601 factors justify it.

*Please see the discussion of the 601 factors in the Introductory Memorandum.*

### **4. Interbasin Diversion Impacts**

Comments questioned the assessment of NYSDEC Part 601 factors, especially considering the interbasin transfer of water from the Lower Hudson Basin to the Ramapo Basin.

*In response, 6 NYCRR Part 601 “Water Withdrawal Permitting, Reporting and Registration,” subpart 601.18, requires that a diversion of water or wastewater over 1,000,000 gpd (gallons per day) across New York State Major Drainage Basin watershed boundaries must be reported to and approved by NYSDEC. The interbasin transfer of water from the Mountainville Well 1 located in the Lower Hudson Basin of 425 gpm (gallons per minute) or 612,000 gpd to the Ramapo River watershed does not exceed the threshold volume of 1,000,000 gpd. Accordingly, the fact that the transfer is significantly below the regulatory threshold implies that it will not result in a significant impact and is thus permissible. Please see the Introductory Memorandum for full discussion of the Part 601 factors.*

*The Ramapo watershed is a federally-designated, sole source aquifer. Thirty percent of Rockland County and two million residents in New Jersey receive their drinking water from the Ramapo Valley aquifer (source: DEIS – Western Ramapo Wastewater Treatment Plant, 2002). As such, the residents and users of the watershed place high importance on preserving their water resources, including preserving both the quality and quantity of water in the River. Toward this end, Rockland County through the auspices of Rockland County Sewer District No. constructed a new advanced wastewater treatment plant to return high quality effluent to the Ramapo River basin in lieu of utilizing existing infrastructure that would result in an out of basin discharge to the Hudson River. Moreover, Rockland County has publicly expressed encouragement for Kiryas Joel’s Aqueduct Connection Project as it will result in a positive inter-basin transfer of water into the Ramapo watershed.*

#### **a. Impacts on Lower Hudson River Basin**

*Please see Response A.2.b—Impacts to Woodbury Creek. The interbasin transfer is projected at less than 1 mgd, significantly below the NYSDEC threshold requiring NYSDEC approval in 6 NYCRR Part 601.18.*

## **b. Impacts on Passaic-Newark (Ramapo River) Basin**

*The water withdrawn from Mountainville Well 1 in the Lower Hudson Basin will ultimately be discharged into the Ramapo River Basin through either the Village of Kiryas Joel Wastewater Treatment Plant or the Harriman Wastewater Treatment Plant. The water from the use of Mountainville Well 1 will not cause either wastewater treatment plant to exceed their permitted discharge capacity and, in fact, will ultimately increase the quantity of flow in the river; consequently there will be no significant impacts to the Ramapo River.*

## **5. Water Conservation**

### **a. Water Conservation**

*A water conservation plan was included in the water supply permit application. Please see Appendix G.*

### **b. Drought Management**

*The Village's consultant, LBG, has drafted and submitted for comment an "Emergency Response Plan" to the Orange County Department of Health. This plan (which incorporates a drought management plan) is not yet approved, and LBG and the Village are presently engaged in responding to comments provided by Orange County DOH. It is anticipated that this plan will be in place by the time the Mountainville Well is activated.*

## **6. Impact on Water-Dependent Natural Resources**

Comments inquired about assessment of water-dependent natural resources, including (a) aquatic life, (b) flora, (c) fauna, and (d) recreational uses.

*In response to comments from Chazen that wildlife, including trout, will be impacted by falling water levels, the lack of demonstrable direct impact on Woodbury Creek demonstrated by the pumping test addresses these concerns. The pumping test confirmed that water levels in Woodbury Creek will not be affected by the safe yield levels of withdrawal from the well. Provisions for implementing a stream gauging program to continuously monitor and record stream flows could readily be incorporated as a condition in the permit together with other conservation measures during times of extreme drought or other compromised natural condition that could result in potential indirect impact to the surface water resource. Please see the response to comments on surface water impacts in Response A.2. above.*

## **7. Well construction impacts**

Comments questioned whether the pipeline will pass over private property. Other comments inquired whether the construction impacts for the wells will be similar to those from the pipeline

along Route 32, such as increased traffic. Similarly, one commenter expressed concern about environmental upheaval from construction that would impact wildlife in the area, including fish in Woodbury Creek. One comment expressed concern that construction would proceed without permits, or in violation of state and local laws.

**a. Property Ownership, Construction Impacts, and Permit Concerns**

*i. Property ownership*

*The Village owns the well property. The line connecting the Mountainville Well #1 to the Village's transmission main will not pass over private property. The Aqueduct pipeline is being constructed and installed in the public right-of-way in both County and State highways that pass directly in front of the well field parcel. Authority for location of the pipeline in the public right-of-way is found in NY Village Law Article 11, the New York City Administrative Code, and New York Highway Law sections 52 and 136.*

*ii. Construction impacts*

*The SEQRA negative declaration for the well project considered noise and construction impacts from the wells, finding they will be limited due to the nature of the site and the relatively small scale of actual construction on the site. The project will use an existing curb cut and gravel access road off of New York State Route 32. Construction at the well field will be temporary, with only limited construction vehicles and negligible ongoing traffic from operation and maintenance of the well and pump station. The onsite well construction will take place generally during the daytime in an area of the site with limited visibility from the road. There are no private residences directly adjacent to the site. Construction impacts related to the pipeline project are beyond the scope of this permit application and have been extensively addressed in the pipeline project DEIS, FEIS, and AFEIS.*

*iii. Permit Concerns*

*The Village will not commence construction of the Mountainville wells until all necessary permits are secured. Indeed, the subject of the legislative hearing that yielded these comments was the Village's application for such permits from the NYSDEC. The Village has proceeded with construction of the main pipeline in accordance with all state and local laws, and will do so when constructing the Mountainville wells and associated connecting pipeline.*

**8. Deficiencies in Hydrogeological Testing**

Comments raised concerns about the methodology of the pump test used by the Village's consultant, the resulting safe yield determination, and potential sites or effects not monitored. Comments also questioned the independence of the Village's consultant and asked for an

independent study. Comments also questioned whether the Village is understating its intended withdrawal rate.

**a. Pumping Test Deficiency**

*None of the comments identified specific deficiencies in the pumping test as compared to the State guidelines. In response to comments about the pumping test, Leggette, Brashears & Graham, Inc. (LBG) completed a 72-hour pumping test on Well 1 located on the Village of Kiryas Joel's Mountainville Pump Station Parcel on Route 32 in Cornwall, New York in June 2011. The pumping test was conducted in strict accordance with the NYSDEC pumping test standards. The NYSDEC pumping test standards are designed to determine the safe yield of proposed wells and potential impacts to neighboring wells and surface-water features. The pumping test methodology was confirmed by NYSDEC Division of Water in Albany. Based on the application materials submitted, responses to agency comments and after numerous discussions and meetings with NYSDEC water supply program staff from the Department's Albany headquarters and Region 3, NYSDEC issued a Draft Permit (3-3340-00284/0001; WSA No. 11,609) on January 23, 2013. It is fair to assume that in issuing the draft permit, NYSDEC concluded the test was conducted in accordance with NYSDEC pumping test standards.*

**b. Safe Yield Determination**

*The 72-hour pumping test conducted by LBG included the demonstration of stabilized yield and water-level drawdown in Well 1 for a minimum of six hours at the end of the test period. Water-level data were collected from onsite monitoring wells completed in the stratified drift aquifer. Water-level measurements were collected from three piezometer locations, one in the onsite intermittent stream, one in the onsite wetland and one in nearby Woodbury Creek. Water-level measurements were also collected from offsite neighboring wells located within 2,000 feet of the pumping well. Water-quality samples were collected from the pumping well near the end of the 72-hour test period. A 180-day water-level drawdown projection was completed for Well 1 using the water-level data collected during the pumping test and aquifer parameters were calculated. Other than disagreement with the outcome of the test, no comments identified any specific deficiency in the actual test or testing protocols.*

**c. Need for Independent Study**

*No legitimate basis has been set forth for the need of an independent study other than what was prepared by LBG.*

*LBG is one of the oldest firms in the country to provide consulting services in the specialized field of Hydrogeology. LBG was founded in 1944 by R.M. Leggette, one of the earliest employees of the Groundwater Branch of the U.S. Geological Survey (USGS). Early consulting services focused on groundwater development for public supply and industrial growth, as well as*

*mine dewatering. By the mid-1950's, prior to the existence of most environmental regulations in place today, the firm had taken on its first contamination projects.*

*For more than half a century, LBG has worked closely with public water suppliers and authorities, private, industrial and commercial companies and government agencies to locate, develop, monitor and protect groundwater resources, to investigate and remediate a variety of soil and groundwater problems, and to address a wide range of water-related issues.*

*LBG also has extensive experience completing hydrogeologic investigations in Southeastern New York State including large scale aquifer studies in Orange County. The history and long standing water-supply experience provides it with a unique understanding of the value of water resources, as well as the expertise clients need to manage those resources.*

*Thomas Cusack is a Hydrogeologist with nearly 30 years of experience in the water-supply development field specializing in large-scale groundwater exploration, groundwater contamination issues, aquifer protection, well field management, impacts related to development, and regulatory approvals and permitting. His experience includes conducting groundwater exploration and feasibility studies, oversight responsibilities, data evaluation, reporting, client/regulatory interaction and expert testimony. Mr. Cusack has successfully permitted over 30 mgd in the State of New York.*

*Likewise, NYSDEC technical staff responsible for review of the application materials is also comprised of well-experienced engineers and hydrogeologists with expertise in reviewing such materials. No basis exists in the ECL or NYSDEC regulations for requiring an independent study.*

**d. Neighboring Wells Not Monitored**

*See Response A.1.b - Impacts to Neighboring Wells*

**e. Neighboring Stream Not Monitored**

*See Response A.2.b - Impacts to Woodbury Creek.*

**f. Withdrawal Limits Understated**

*The withdrawal limits are not understated. The Village is requesting the taking of 425 gpm (610,560 gpd). LBG evaluated the sustainable yield if additional wells were completed at the Mountainville Well Field. The sustainable yield analysis of up to three wells indicated a theoretical yield of up to 1,212 gpm (1.7 mgd). The draft permit issued by the NYSDEC limits the taking of Well 1 to 425 gpm. Any action to increase the taking limits for the well field will require an amendment to the water supply permit. (See Draft Permit Condition #3).*

## **9. Impact on local community**

Comments addressed the impacts of the well on other supplies and the potential of expanding the need for other public infrastructure such as sewage treatment. Other comments expressed concern that the well would impact the Town of Cornwall's ability to manage its own water resources and would infringe on its home rule authority. Several comments expressed concern that the well would limit various communities' ability to grow and develop economically. Other comments expressed concern that the well would impact other municipalities' wells that would only begin producing after the Village's well was built.

### **a. Impact of the Village's Combined 2.4 mgd Withdrawal on Community**

*The primary aquifer that the Mountainville Well Field will tap into is a viable underutilized water supply. The Village's peak demand is 2.4 mgd, which occurs infrequently during any year. The Village's average daily demand in 2014 was 1.9 mgd. The Mountainville Well Field draft permit limits the Village's withdrawal to only 612,000 gpd, an amount sought to assist in meeting the maximum peak demand. The Village is not seeking sustained, long-term withdrawal of 2.54 million gpd, but rather authorization to provide for such capacity when maximum peak demand situations require it. The Village can meet its average demand with its existing wells. There has been no identified community impact from use of the Village's existing wells. In any event, the Village intends to reduce the impact of its water demand on the aquifer by constructing the pipeline and aqueduct connection. This will result in a positive impact on the groundwater resource and the community.*

*In response to comments about impacts to other water supplies and related concerns, safe yield testing demonstrated that the proposed well can yield 425 gpm without endangering other supplies. Please see Responses A.8.a - f, above. The Village's allotment of water from the Mountainville Well is not based on the land area of the actual well site, but rather the indicated municipal need, demonstrated safe yield, and NYSDEC's approval. In any event, the Mountainville Well is intended as a backup to surface water supplies that the Village will receive from the New York City Aqueduct system. Once the Aqueduct connection is completed, the Village plans to pump from the Mountainville Well when the primary supply from the Aqueduct is unavailable.*

*With the addition of the Mountainville Well Field, the Village is not seeking to immediately begin using 612,000 gpd more water than it presently uses, but rather to provide for its long-term need as its population expands. Expanded sewage treatment capacity will be required as population and water usage increase, as in any growing area, and as in other neighboring communities. As with the description of the maximum peak demand described above, operation under the permit will not lead to a significant immediate increase in wastewater corresponding to the 2.54 mgd permit limit. The Village is working with Orange County and its neighboring communities to*

*develop long-term solutions for sewage treatment, including expansion of the Harriman Sewage Treatment Plant in accordance with all local, state and federal laws and regulations.*

*Although several comments raised concern that the Mountainville Well would diminish the Town of Cornwall's ability to manage its own water resources, the Mountainville Well pump test indicated it would have no effect on the Town of Cornwall's water supplies. Water supply is a State resource. State law provides for municipalities to acquire and expand water supplies, subject to oversight and regulation by NYSDEC. The State water supply is not regulated by individual local governments. (See ECL § 15-0103 [1]). The Village has the same right to use or acquire a water supply based on need as does any other local community in New York State, subject to regulations and permit conditions. No community has a reserved right in the waters of the State or exclusive use of water that may flow under its municipal boundaries. No community has the right to prevent others from taking a water supply even if being removed from that community. Indeed, the New York courts have recently struck down a law passed by the Village of Woodbury seeking to prevent withdrawals of water from the Village on the grounds that State law preempts the field of water supplies. (See Woodbury Heights Estates Water Co. v. Vill. of Woodbury, 111 A.D.3d 699, 703 [2d Dept 2013]). The Village has fully complied with its obligations to seek NYSDEC approval and permitting for the Mountainville Well, and has completed all required SEQRA review.*

*In response to comments that the Well would infringe on the Town of Cornwall's home rule authority by allowing "annexation" of municipal property by the Village, the Village has not sought to annex the Mountainville property to the Village. Rather, the Village legitimately purchased this parcel, as is the right of any municipality or private individual. Here, the Village acquired the Mountainville parcel to serve as the site for the midway pump station for the pipeline. Only after it acquired this parcel did it identify the site as having the potential for a viable water source. Just as any other municipality is authorized to do under State law, the Village has sought NYSDEC approval to establish its well and take a water supply. State law preempts any local authority here with regard to water supplies. Therefore, there is no intrusion into any local home rule authority or any other property right of the Town.*

#### **b. Restrictions on Growth for Surrounding Communities**

- i. Several comments expressed concern that the Mountainville Well will leave less water available for the Town of Cornwall, Village of Cornwall-on-Hudson, and other communities, potentially limiting their future development and growth and expansion of businesses such as the Woodbury Commons Shopping Center. One comment noted that the Town of Cornwall has approximately 1000 acres of undeveloped land zoned residential, and that the Mountainville Well would make less water available on these parcels, changing the economics of developing them. A related comment stated that either NYSDEC or the Village had insufficiently examined the water needs from future potential build-out of West Cornwall, Cornwall-on-Hudson, and Mountainville.

*As noted above in Responses A.1 and A.8, the pump testing report in the Village's water supply permit application demonstrated that the Mountainville Well will have no significant impact on nearby private and municipal wells. There has been no demonstration that any residential development or business expansion would be limited by any water limitation related to the Mountainville Well. Moreover, at the suggestion of NYSDEC, the Village previously withdrew its application for an additional water supply at the Village's Star Mountain well field as this additional supply was determined not to be needed at the current time. The Village has examined all non-speculative potential impacts to the surrounding community in the course of its SEQRA review of this project, a process in which NYSDEC participated and which was upheld in court. By contrast, the Village is seeking to develop this water supply to meet the legitimate immediate needs of its residents for a safe and reliable water source.*

- ii. *Several comments stated that Mountainville Well will interfere with the Town of Cornwall's long-term plans to substantially expand provision of municipal water using local resources such as wells, and therefore the Mountainville Well would force the Town of Cornwall to begin using Aqueduct water.*

*The applicant is unaware of any permit applications for specific wells or takings for these speculative future uses. As noted above, no community has the authority to reserve a water supply source without approval of NYSDEC. In contrast, the Village of Kiryas Joel seeks to drill the Mountainville Well to address demonstrated, concrete present and future needs for an interim and backup supply once connected to the Aqueduct.*

- iii. *In response to comments about home rule, as discussed in Response A.9.a, above, the provision of water resources is a matter of State concern, subject to NYSDEC permitting and regulation. The Village's proposed Mountainville Well will not interfere with the Town of Cornwall's land use authority.*

#### **c. Impacts on New Municipal Wells Put into Production after Village's Application Complete**

Comments stated that the Village of Woodbury already has a permit to use a well or wells in the vicinity (the Trout Brook Road Wells). Other comments stated that the LBG report did not consider these wells and that New York City DEP was unaware of them. Finally, comments expressed concerns that the Village of Woodbury and a private investor or developer have invested substantial sums (approximately \$1.2 million) and several years of effort in developing the Trout Brook Road wells.

*See Response A.1.a. – Impacts to Aquifer, and A.1.b - Impacts to Neighboring Wells. The pumping test demonstrated that the Mountainville Well Field can safely yield 425 gpm without compromising aquifer recharge or affecting nearby private or municipal wells. The Village is*

*unaware of any water supply permit applications submitted in connection with any additional future wells, and thus speculative impacts to these hypothetical wells cannot be considered in evaluating the Village's water supply permit application.*

**d. Economic Impact on Community**

- i. Several comments expressed concerns that Town of Cornwall residents might have to pay for a clean-up if there is an “accident” at the well pump. The Cornwall Chamber of Commerce expressed concern about the economic development impacts to local businesses, farmers, and recreation businesses that rely on creeks, streams and waterfalls. Several comments stated that private wells would be harmed and landowners would lose property value because of no water, which would, in turn, lower the tax base of the Town of Cornwall or other municipalities. A related comment expressed concern that the Village would not provide adequate financial assurance to remedy any damage to private wells.

*The pump testing confirmed that the Mountainville Well could safely yield at 425 gpm without significant impacts to surrounding wells. There is no reason to believe that surrounding properties will lose water and therefore decrease in value. Speculative impacts to unspecified future development are simply not within the scope of inquiry for this permit. In the unlikely event that surrounding wells are impacted, Special Condition 14 of the permit requires the Village to mitigate impacts to nearby residential wells, a condition that will be enforced by NYSDEC under the permit and State law.*

- ii. Several comments stated that the water the Village will get from the Mountainville Well has great value, and that the Village should therefore write the Town of Cornwall a large check, or that the Well would transfer wealth from Cornwall to the Kiryas Joel.

*The Village is not selling water for profit, but seeking to provide for its own residents' needs. As noted in Response 9.a.vii, ownership of water and provision of water to municipalities is fundamentally a matter of State concern.*

- iii. One comment expressed concern that allowing the Village to tap into New York City's water supply would threaten the City's future economic viability as a financial center.

*This comment is primarily aimed at the Village's connection to the Aqueduct, not the Mountainville Well. In any event, State law provides for connection to the Aqueduct by municipalities along its route to New York City, subject only to NYCDEP's regulation of the connection itself.*

#### **e. No Local Support for the Project**

Several comments noted the lack of local support for the project.

*State law provides for connection to the New York City Aqueduct, and New York City DEP requires back-up supplies, such as the Mountainville Well. Likewise, State law provides for municipalities of the State to obtain permits to secure a municipal water supply from the State's resource. Certain local opposition to the Well is noted; however, the permit must be evaluated primarily on the basis of its potential impacts to State water resources. The demonstrated need by the applicant is also an important factor. Here, testing specified by NYSDEC has demonstrated that the Well will not negatively impact this resource.*

### **10. Design / Engineering**

Comments expressed concerns about endangering the New York City water supply by connecting to it. Several comments also requested that the NYSDEC require the Village to reduce the size of the pipe connecting from the well to the transmission pipeline.

#### **a. Cross Connection Issues with Municipal Water Source**

*The water in the transmission main will be either from the New York City Aqueduct or the Mountainville Well, not both at the same time. The connection with the pipeline will have check valves and electric-actuated isolation valves. In addition, NYCDEP will require installation of a head tank at the tap that will break the siphon between the Aqueduct and the pipe and prevent backflow. Moreover, pursuant to the water supply agreement with NYCDEP, cross connections will be strictly prohibited*

#### **b. Reduce Size of Connection from Well to Transmission Pipe**

*The water main from the proposed Mountainville well to the Mountainville well pump station clear well is 8 inches in diameter. The American Water Works Association (AWWA) Manual of Water Supply Practices "Computer Modeling of Water Distribution Systems" (AWWA M32) states that water distribution systems are considered deficient if the head loss per 1,000 feet of pipe in pipes less than 16 inches is greater than 6 feet (per 1,000). At the well capacity of 425 gpm, the head loss per 1,000 in the 8-inch pipe is approximately 4 feet. The next standard size smaller than an 8-inch pipe is a 6-inch pipe. The head loss per 1,000 in 6-inch pipe is approximately 17 feet, which is greater than the 6 feet AWWA recommendation. Accordingly, the proposed 8 inch line is appropriately sized per the standard engineering practices set forth in the AWWA Manual.*

## **11. Consistency with all Applicable Municipal, State and Federal Laws**

Comments expressed concerns related to municipal approvals, compliance with NYSDEC regulations, and several plans and studies.

### **a. No Municipal Approvals**

Comments expressed concern that the project had not received land use approvals from the Town of Cornwall or its Planning Board. Several comments noted that the Well will be drilled in land formerly subdivided with limits on each lot for water withdrawals.

*Local land use restrictions are aimed primarily at regulating on-site development, not limiting water withdrawals by a NYSDEC-permitted well. As noted above, local governing boards are not authorized to regulate water withdrawals from the State resource; such authority is vested entirely with NYSDEC. Moreover, providing water supply is considered an essential government function for the Village, and New York courts have held that a municipality is immune from the land use authority of another municipality when performing such essential governmental functions. In addition, the Village is constructing the Mountainville pumping station and well field pursuant to its authority under New York City Administrative Code section 24-360, which is incorporated under State law, and which makes local municipalities within counties hosting the New York City Aqueduct “authorized and empowered to lay the necessary mains, pipes, valves, hydrants, supply pipes and other necessary appurtenances for the use of such water, without the consent of any board, officer, bureau, or department of the state or any subdivision thereof.” Finally, as has been done with the pipeline construction within state and county right-of-ways, where the Village has obtained and managed construction consistent with State and County work permits, the Village will secure a building permit for the on-site construction to ensure compliance with the technical standards of the State Building Code.*

### **b. Compliance with ECL 15-1501 et seq./6 NYCRR 601**

- i. One comment expressed concern that New York City DEP approval had not been obtained and thus the requirements of 6 NYCRR § 601.10 (k) (8) have not been met.

*NYCDEP’s approval is limited to the actual physical connection to the Aqueduct. NYCDEP has previously acknowledged the Village’s entitlement to connect to the Aqueduct and that it has no approval authority with regard to the Mountainville Well Field. NYCDEP requires a backup supply for municipalities seeking an Aqueduct connection, and has indicated that the Mountainville Well as proposed would satisfy this requirement. In fact, NYCDEP has repeatedly acknowledged this fact in light of the misstated argument on the need for a City permit to construct the pipeline, as well as the Village’s entitlement to an Aqueduct connection, and these arguments have all been considered and rejected by State courts.*

- ii. Several comments stated that the Village has not shown that the project is just and equitable to all affected municipalities or that the Well is not a “reasonable use”.

*The Village is only seeking to fulfill its actual, indicated needs. The Village is not seeking the Mountainville Well as a primary source of water, but instead only seeks to use it as an interim supply while the pipeline construction continues and to ensure a backup supply once connected when the Aqueduct is taken out of service. The doctrine of “reasonable use,” insofar as it applies, only requires that one municipality not unfairly impair other municipalities’ use of shared resources. Pump testing of the well according to the NYSDEC guidelines demonstrated no significant adverse impacts to the aquifer, surrounding wells, or water bodies from the safe yield withdrawals of 425 gpm. Consistent with these concepts, as noted above, at the suggestion of NYSDEC, the Village previously withdrew its application for an additional water supply at the Village’s Star Mountain well field as this additional supply was determined not to be needed at the current time. Thus, even operating at full safe yield, the Mountainville Well will not impair other municipalities’ ability to use the aquifer. A more detailed summary of the Part 601 consideration factors is included in the Introductory Memorandum.*

- iii. Several comments addressed compliance with 6 NYCRR Part 601, asserting that § 601.8 would not allow consolidation of this permit with other of Kiryas Joel’s permits because the Mountainville Well would not be part of a water supply existing as of February 15, 2012.

*The Village’s water system existed prior to 2012, including various groundwater wells. The Village is consolidating its water supply permits as a result of direction from NYSDEC pursuant to the recently amended Part 601 regulations. By consolidating all of its individual water supply permits into one, the Village is ensuring consistency across its water supply inventory which will serve to better protect the public health, safety and welfare and the environment and ensure the proper management of the State water resource. Related comments questioned whether NYSDEC could determine that this project is “environmentally sound” under Part 601. The Village completed a coordinated SEQRA review, in which NYSDEC participated as an involved agency, which fully considered potential impacts to all relevant areas of environmental concern. The Village’s SEQRA review was subsequently challenged and upheld in State court. Accordingly, the Village’s findings with regard to potential environmental impacts are now complete and binding on the current permit review.*

- iv. Comments expressed concern that wastewater impacts to the Ramapo River and decreased water levels in Woodbury Creek would violate NYSDEC’s anti-degradation policy in TOGS 1.3.9.

*Wastewater impacts to the Ramapo River were extensively considered in Section 3 of the Pipeline AFEIS and addressed in the Village’s negative declaration for the well permit.*

*Wastewater from the Village is treated at Orange County's Harriman Wastewater Treatment Plant and at the Village's own treatment facility, both of which ultimately discharge to the Ramapo River. Both facilities are operated subject to NYSDEC permits, which insure that their impacts to the Ramapo River are within safe limits. The NYSDEC anti-degradation policy notes at page 2 that the SPDES permitting system, pursuant to which both treatment plants operate, is the means for implementation of the anti-degradation policy. Any consideration with regard to the identified TOGS would be more properly considered as part of any discharge permit for either of these facilities, not as a consideration for the Village's water supply permit. Impacts to Woodbury Creek were assessed as part of the pump test, which confirmed the lack of impacts from the Mountainville Well to the Creek at the safe yield level of withdrawal.*

**c. Orange County Water Plan**

- i. Comments expressed concern that allowing the Village to build the wells conflicts with the Orange County Water Plan.

*The Orange County Water Plan specifically recognizes that Kiryas Joel will have a water supply deficit in the next few years and anticipates that additional supplies will be needed. The Water Plan also calls for conservation measures and requires meeting certain standards specified in the 2010 New York State Smart Growth criteria. The Village meets these standards by demonstrating an identified need, feasibility as demonstrated by the pump and safe yield tests, and concentration of development in a priority growth area. Conservation measures have been put in place in the Village. Measures include community education, installation and replacement of water meters, a leak detection program, and the distribution of water conservation kits. The resident per capita water consumption rate in the Village is relatively low due to the Village's social practices, which do not include traditional high demand uses such as outdoor swimming pools, lawn watering, and car washes. Ultimately, through its connection to the Aqueduct, the Village will be reducing the competition between surrounding Orange County communities for water.*

- ii. Several organizations submitted a memorandum produced by Russell Urban-Mead, a noted hydrologist, expressing concern about the Moodna watershed.

*Safe yield analysis of the Mountainville Well was performed, which demonstrated no significant adverse impacts to the Moodna Watershed. Moreover, in response to dire predictions for the Moodna watershed, it is noteworthy that Mr. Urban-Mead has also publicly stated that the Hudson Valley is poised to become the "Saudi Arabia of water," with*

*substantial excess supplies available for export, thereby appearing to contradict the underlying premise of Mr. Urban-Mead's commentary.<sup>2</sup>*

**d. Town (Cornwall) Water Study**

Several comments expressed concern that the Mountainville Wells would affect the Town of Cornwall's ability to provide water needed for its own development and growth, as indicated in a 2002 water study.

*The pump test indicated that the Mountainville Well will have no significant adverse impacts to surrounding wells or water bodies. The water requirements of unspecified future development are simply too speculative to justify denial of a permit that is sought to fulfill an actual, present demonstrated need. As noted above, New York courts have rejected local municipalities' attempts to stockpile or restrict export of water. Please see Response A.9.b.ii.*

**e. Compliance with Permit Conditions**

- i. Comments expressed concern that the Village will not comply with permit conditions

*The NYSDEC water supply permit requires compliance with daily withdrawal limits, and contains mechanisms for monitoring, record-keeping and enforcement by NYSDEC. As with all of the Village's existing water supply permits, the Village is required by law to comply with all permit conditions and regulatory requirements in 6 NYCRR Part 601. No proof has been presented to suggest that the Village has not reasonably complied with its existing water supply permits. In response to comments questioning whether a larger pipe would allow the Village to withdraw a greater volume than permitted, please see Response A.10.b for explanation of the pipe size.*

- ii. Comments urged that NYSDEC should not permit the Village to connect its Well to the main pipeline until the Village begins using Aqueduct water.

*In addition to serving as a back-up resource when the Aqueduct is down for repair, the Well is intended for immediate interim use to meet the Village's current maximum daily demand. Using the pipeline to supply the Village with Mountainville water in the interim period will*

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<sup>2</sup> See Scott Cuppett and Russell Urban-Mead, "Hudson Valley Water: Opportunities and Challenges," Center for Research Regional Education & Outreach, Discussion Brief #4 (Fall 2010), at 2, available at [http://www.newpaltz.edu/crreo/brief4\\_water\\_online\\_version.pdf](http://www.newpaltz.edu/crreo/brief4_water_online_version.pdf) (accessed June 24, 2015).

*provide a benefit because it will not require construction of another parallel line or any other disturbance or impacts.*

- iii. Several comments asked what will happen to the gallons per day allowed after March 31, 2015.

*The NYSDEC draft permit requires a redundant well at the Mountainville site within a specified time period (based on anticipated completion of the primary well). This redundant well will support the Village's ability to meet the anticipated maximum daily demand with the greatest producing well out of service (Well 1), but is not intended to be an additional producing well. As discussed in the Introductory Memorandum, the draft permit excludes the Mountainville Well 1 in the total permitted yield capacity of the Village based on the redundancy requirement (best well out of service) of the regulatory agencies. With the Mountainville Well 1 volumes removed from the Village inventory, the Village is unable to demonstrate adequate capacity to meet its maximum peak daily demand which occurs on a few occasions during the year. Acknowledging the on-going effort by the Village to connect to the NYC Aqueduct to accommodate this peak demand and future demands of the Village, NYSDEC has provided a condition in the draft permit that would allow the Village to temporarily take up to 2.54 mgd utilizing the Mountainville Well 1 provided the Village can establish another redundant well at Mountainville or elsewhere within a reasonable time period. This can be accomplished at the Mountainville site, however, it must be noted that doing so will not increase the net taking permitted from these wells. Any increased taking from the overall Mountainville Well Field would require an amendment of the water supply permit in accordance with Special Condition # 3.*

#### **f. Enforcement for Non-Compliance with Permit Conditions**

- i. Comments expressed concern over past compliance and enforcement issues related to the Village's water supply.

*The comments have not identified any administrative or judicial judgment finding the Village in non-compliance with any of its water supply permits. With respect to alleged violations regarding other NYSDEC programs, any and all notices of violation have been addressed in cooperation with NYSDEC. In accordance with the NYSDEC Record of Compliance Policy (DEE-16), none of these issues negatively reflect on the Village's continued ability to manage its water supply and comply with the terms of its permits. According to the terms of the water supply permit, the Village will be required to comply with all permit limits and conditions established by NYSDEC. NYSDEC will retain all of its enforcement authority to monitor this compliance as it does with any other municipality with a State regulated water supply. Nothing presented by the comments suggests any need for different treatment here.*

- ii. The increased diameter of the main pipeline from 18 to 24 inches was raised in several comments, which expressed concern over whether this was properly done.

*This issue was comprehensively addressed in response to the legal challenge to the Village's SEQRA review for the well field. In its decision, the Court found that the Village had presented and received State approval for a 24-inch pipeline, and that it had adequately considered the same in its SEQRA review. (See Appendix I).*

- iii. Comments questioned the measures or remedies available if the Village's withdrawal of 612,000 gpd causes private wells to lose quantity or quality.

*As discussed above, the pump testing indicated that no degradation of surrounding wells will result from pumping the Mountainville Well at safe yield. The draft permit contains standard conditions requiring that the Village, as permittee, address any degradation of neighboring wells (see Special condition #14). This will be an ongoing responsibility of the Village as long as it operates under the permit.*

#### **g. Need for NYCDEP Approval**

Comments stated that NYCDEP approval was needed before NYSDEC could grant a permit.

*NYCDEP approval is, in fact, neither a prerequisite nor a condition for approval of a State water supply permit. Further, as explained elsewhere in this response, NYCDEP has no discretionary permit authority with respect to either the pipeline or the Mountainville Well. Rather, NYCDEP is responsible for approval of the final engineering plans for the Aqueduct connection and entering into a water supply agreement with the Village related to the terms and costs of the withdrawal. This issue too was fully addressed and dismissed in the litigation pertaining to the Village's SEQRA review for the Mountainville Well Field.*

## **B. SEQRA (NON-PERMIT) ISSUES**

### **1. Wastewater**

#### **a. Sewer Capacity**

Comments expressed concern about the capacity of the Harriman WWTP and the Village's WWTP to treat the increased volume of sewage that would result from the well withdrawals.

*The issue of adequate sewage treatment capacity to accommodate water withdrawn from the Mountainville well field was adequately addressed in the Village's SEQRA review and negative*

*declaration. The adequacy of that review was subject of a legal challenge that was dismissed by State court. Accordingly, as this review was deemed adequate, it is now controlling on any further permit proceedings and thus no further consideration of this issue is warranted or appropriate. Further, the issue of adequate sewage treatment capacity was also adequately addressed within the Village's SEQRA review for the pipeline project. Finally, Orange County is currently undertaking a comprehensive planning exercise directed at expansion of the Sewer District's treatment capacity by as much as an additional 3 mgd. As such, the Village, whose residents are District members, has a reasonable expectation that adequate sewer capacity exists now and into the future to accommodate its projected water supply under this permit.*

## **2. Growth Inducement**

Comments expressed concern that water from the well would spur additional growth of the Village population.

*Kiryas Joel's population increased 13.5 percent per year from 1980 to 1990. From 1990-2000, however, the Village's growth steadied at 5.9 percent per year and has remained consistent at or near this figure since. Current growth in Kiryas Joel is primarily internal and results from two principal factors: large family size and young women remaining in the Village to have families of their own. Both of these growth factors are responses to the obligations of Hasidic religious practice. The presence or lack of essential services, such as sewage treatment capacity or drinking water, has not affected population growth in Kiryas Joel one way or the other; growth figures demonstrate that such growth has remained consistent. Therefore, it is anticipated that the proposed well connection would not create significant impetus to spur new growth. The Village reviewed growth inducement for the 2 mgd pipeline in Appendix 9 to the Aqueduct Connection Project AFEIS, commissioning a study by AKRF that concluded that resources such as available water supply or sewage treatment capacity, whether more or less, would not affect growth, which is internal and natural and thus consistent regardless of outside influences such as these utilities. There is no new information that would lead one to believe that this water supply permit will have any different effect.*

## **3. Aqueduct/Pipeline**

Various comments were directed at SEQRA review of the main pipeline and its connection to the New York City Aqueduct.

*Comments directed at the SEQRA review completed for the Aqueduct pipeline project are beyond the scope of this permit review. Construction of the pipeline is now underway and is nearly 50% completed. Due to the proximity of the Mountainville well field to the pipeline, its completion will provide an added benefit enabling the Village to utilize this pipeline to transport*

*an interim water supply and back up water supply to the Village without the need for further construction.*

#### **4. SEQRA Procedural issues**

*Various comments questioned the procedure and substance of SEQRA review of the Mountainville well.*

*These included comments related to the sufficiency of the Environmental Assessment Form (“EAF”), the negative declaration and segmentation.*

*The adequacy of the Village’s compliance with the procedural and substantive requirements of SEQRA for the Mountainville Well has already been considered by State court which upheld the Village’s negative declaration on both substantive and procedural grounds. Accordingly, no further consideration of these issues is warranted or appropriate here.*

### **C. MISCELLANEOUS (NON-PERMIT) ISSUES**

#### **1. Village Wastewater Treatment Plant**

Comments expressed concern over the Village treatment plant’s capacity for handling increased flows. A related comment expressed concern over effluent flowing into the Ramapo River.

*Issues related to adequacy of wastewater treatment capacity have been addressed in Responses A.2.c, A.11.b.iv, and B.1.a, above. Additionally, the Pipeline project Amended FEIS Section 3 addressed in great detail a number of wastewater issues relating to treatment of effluent and the capacity of the Village and County’s wastewater treatment plants to accommodate future treatment demands after the completion of the pipeline and Aqueduct connection, as well as potential impacts to the Ramapo River. These issues were also sufficiently addressed in the negative declaration for the Mountainville well field and presented to NYSDEC prior to its issuance of the draft permit (See Appendix J). In addition, downstream user Rockland County has expressed support for the Village’s Aqueduct project since it will result in a net increase in water to the Ramapo Basin. Please see AFEIS 2-11 to 2-13 and Appendix G. Orange County has also examined the impacts of a “full build-out” scenario on available wastewater treatment capacity and concluded that even under the most aggressive assumptions, the OCSD#1 has sufficient capacity to meet current requirements with obligations to increase capacity when flows reach 85%, thus ensuring OCSD #1 will have the capacity to meet its future demands. In addition, plans are currently being studied for expansion of the Sewer Districts’ treatment capacity by an additional 3 mgd.*

## 2. Aqueduct Issues / Impact

Comments expressed concern about the growth inducing impacts of the Well project. One comment stated that the Village should not use water belonging to New York City and or the Town of Cornwall and should not expand when there is ample housing stock reminiscent of Brooklyn available in other communities.

*Expansion of the Village is not an appropriate topic for consideration on this permit application nor would it be appropriate for NYSDEC to consider or suggest where else future development should occur or to utilize the State's water supply as a social engineering tool. Further, with respect to the Village's entitlement to take a water supply from the NYC Aqueduct, State law provides that local municipalities located within counties that are host to the NYC Aqueduct are entitled by law to connect and take a water supply. Similarly, the groundwater that will be accessed by the Mountainville Well is a statewide resource for the benefit of all New York residents, subject to State regulation and control. It does not belong exclusively to the Town of Cornwall, the County of Orange, or any other local government. As referenced above, both the Aqueduct pipeline and Mountainville well field SEQRA reviews adequately assessed the growth inducing aspect of the Village's water supply.*

### **a. Deny Permit Based on Prior Non-compliance**

Comments expressed concern over past instances of alleged non-compliance with permits by the Village, stating that DEC should deny this permit on that basis.

*In response, as addressed elsewhere in this response, the draft permit includes strict limits and conditions and provides for NYSDEC oversight and enforcement of these requirements. Instances of alleged non-compliance with other, unrelated permits are not appropriate factors for consideration of the permit presently being considered.*

## 3. Climate change

Several comments expressed concern that SEQRA review did not adequately consider climate change impacts, including comments by Chazen's engineer that the Moodna basin was becoming drier as a result of a changing climate.

*The adequacy of the Village's compliance with the procedural and substantive requirements of SEQRA for the Mountainville Well has already been considered by State court which upheld the Village's negative declaration on both substantive and procedural grounds. Accordingly, no further consideration of these issues is warranted or appropriate here.*

*In New York State, climate change is expected to lead to an increase in temperature, increased annual precipitation, and sea level rise. These changes will likely result in other environmental changes. The increased temperature is expected to lead to an increase in evaporation rates and a decrease in the fraction of precipitation falling as snow, which may lead to shifts in seasonal*

*stream flows. The increased annual precipitation (possibly up to 3 to 6 inches per year) will likely occur with more heavy rainfall events and possible short-term (one- to three-month) droughts.<sup>3</sup>*

*Indeed, as noted in Response A.10.c.ii, Mr. Urban-Meade has also publically opined on global warming by promoting the notion that the convergence of robust rainfall, access to the Hudson River and climate change predictions all position eastern New York as a future global “Saudi Arabia of water,” thus seeming to contradict the underlying premise of his comments.*

#### **D. PROJECT JUSTIFICATION UNDER 6 NYCRR § 601.10(k)**

Comments questioned whether the project met the justification factors enumerated in 6 NYCRR Part 601.

*Please see detailed discussion of Part 601 factors included in the Introductory Memorandum.*

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<sup>3</sup> See Stephen Shaw, Rebecca Schneider, Andrew McDonald, Susan Riha, Lee Tyrhorn, Robin Leichenko, Peter Vancurra, Allan Frei, and Burrell Montz, “ClimAID – Responding to Climate Change in New York State,” Chapter 4: Water Resources; see also “2014 New York State Hazard Mitigation Plan,” Section 3.4: Climate Change (January 4, 2014).