

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 8
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www.dec.ny.gov

January 22, 2019

Thomas Biamonte
Eagle Harbor Sand and Gravel, Inc.
10830 Blair Road
Medina, NY 14103

Re: Notice of Incomplete Application: DEC ID# 8-3422-00003/00001
Eagle Harbor Sand and Gravel Pit (Mine ID #80171)
Town of Barre, Orleans County

Dear Mr. Biamonte,

Your application for permit modification is incomplete. The following items need to be addressed:

- 1.** Additional hydrogeological information is needed to determine the possible effects dewatering the mine has on residential wells, provide the following:
 1. Identification of each adjacent well within 1000' of the proposed quarry, in addition each individual well's depth and their stratigraphic unit.
 2. Provide a map of all residential and agricultural wells within 1000' of the proposed quarry.
 3. Perform Residential Well Survey for all wells within 1000' of the proposed quarry and provide the Residential Well Survey to DEC. The baseline information will consist of:
 - a. Ground Water elevation in each well
 - b. Ground Water quality in each well including Turbidity, Hardness, Alkalinity, Total Dissolved Solids, Total Suspended Solids, Chloride, Sulfide, and Iron.
 - c. Property owner's denial of access to their wells will also be submitted to the Department.
 4. Evaluation of potential for impacts on those wells.
 5. Discussion of mitigation plan in case of negative impacts to adjacent well users.
 6. List pumping rate maximum at the quarry during maximum dewatering and discuss if the dewatering pump be metered.
 7. MLUP section 3.3.1 pg. 10. States that the dewatering area of influence to be within 400 feet of the quarry, please explain how the area of influence was determined.

8. Please detail the potential hydrologic impacts to the neighboring freshwater wetland KN-9 (to the south) and KN-13 (to the north). In conjunction with the pump test outlined below, an Article 24 permit maybe required if there is potential for influence on the wetlands.
2. Water Withdrawal Permit must be issued prior to pumping/dewatering of groundwater, therefore the applicant must apply for a Water Withdrawal Permit. All Water Withdrawal Applications must include a well pumping test and be performed as described in the Water Withdrawal Supply Permit Programs Application Processing, Appendix 10, TOG 3.2.1. This procedure is attached to the Notice of Incomplete Application for your convenience.

Prior to conducting the well pumping test, please provide the copy of the proposed pump test procedure for the Department's review and approval. The pump test should be in the vicinity of the proposed sump location and take into account the wells between the proposed quarry, the residential water wells and the neighboring wetlands.

3. The dewatering outflow proposed in section 3.6 of the MUP states that the farm field downstream of the outflow will flood during a 25-year storm without the additional water from the dewatering operation. The flooding of another person's property is not an acceptable activity.
 1. Please explain how the quarry will be operated during a 25-year storm or greater, to not increase flooding downstream. Provide how the quarry dewatering will be manipulated to negate any flooding of downstream properties including pump shut down, use of weir/check dams and any other means to control the outflow to not affect lands downstream.
 2. Explain the handling of large precipitation events, possible flooding, and any plan to mitigate flooding down stream of discharge point.
 3. The MLUP pg. 13, mentions that replacing/modifying the culvert at the edge of the farmers field could reduce or eliminate the overtopping of the access road. Please provide a definitive statement as to if the culvert is to be modified or replaced. If so, Eagle Harbor must get the landowner's approval to enter the farm property to re-engineer the culvert. This approval must be signed by the landowner and submitted to DEC.
4. Pre-blast surveys must be provided to the Department prior to any blasting activity. Property owner's denial of access to their properties will also be submitted to the Department prior to any blasting activity.
5. Please provide a cross section of the proposed berm around the quarry, include height, width, and slope.
6. Truck Traffic: provide maximum per hour exiting the mine site.

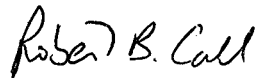
7. The tracking of materials onto Eagle Harbor road from hauling of materials offsite must be controlled so that no materials are being left on the road surface. Please explain how Eagle Harbor will control mud and dust from being tracked onto the public road and routine maintenance to be performed.
8. The Reclamation Plan states that the final lake level will not be reached until 34 years after mining ceases. Please describe the reclamation of the lake prior to lake levels reaching maximum depth. How will site be stabilized for the 34 years prior to lake level reaching equilibrium? Provide all "temporary" reclamation so the site is useable, safe and environmentally sound for 34 years prior to final reclamation. Provide final slopes, topsoil amounts, seed and seed rate to be used for pre-final reclamation. Describe how the temporary reclamation (mine closure to final reclamation 34 years later) will be performed and maintained prior to lake being filled to max level.

Please be advised that Department staff are continuing to review the application and may have additional comments upon the receipt of the requested information.

The project is classified as a Type 1 Action under the State Environmental Quality Review Act (SEQR) and must be reviewed pursuant to SEQR. Before we can consider your permit application complete, the Lead Agency must be designated and issue a "Negative Declaration", or issue a "Positive Declaration" and accept a Draft Environmental Impact Statement. The DEC will circulate copies of your permit application materials to all other involved agencies in the near future for the purpose of designating the Lead Agency. Therefore, please provide an electronic copy of the proposed addendum and the SEQR Environmental Assessment Form so we can distribute the entire application package to all involved agencies. We anticipate that DEC will be designated as the Lead Agency under SEQR. Additional project information may be necessary to make a well-reasoned Determination of Significance under SEQR. This information will be requested once the Lead Agency designation is made.

When submitting the required additional information, please provide at least three (3) hard copies, one with original signatures and one (1) in electronic format on CD, using the enclosing resubmission slip. If you have any questions about this notice or prefer to discuss your response prior to resubmission, please contact me at (585) 226-5396 or Robert.call@dec.ny.gov.

Sincerely,



Robert B. Call
Environmental Analyst

cc: D. Sek – NYSDEC Minerals
B. Milliman - SMS

August 2018

PUMPING TEST PROCEDURES FOR WATER WITHDRAWAL APPLICATIONS

Department regulations require that pumping test results be submitted as part of any Water Withdrawal Application involving new or additional groundwater sources or reassessment of previously permitted wells. In reviewing any such application, the Department must determine if the proposed well(s) will adequately meet the needs of the applicant and if others who may rely on the same aquifer will be adversely affected. The requirements that follow have been designed to produce the accurate and complete information that is vital to these determinations and whether modifications to the application or conditions in a potential permit are required.

Applicants are advised to submit their pumping test plans to DEC prior to conducting a pumping test if the proposed test will deviate from these procedures in a substantive way.

FOR INFORMATION AND ASSISTANCE

Water Quantity Management Section (518) 402-8238
Email: DOWinformation@dec.ny.gov

IMPORTANT NOTE: Before starting construction, it is advisable to submit a location map of the proposed new wells and any related construction to the Division of Environmental Permits in the appropriate DEC Regional office for a determination for whether that construction requires any other DEC permits, such as for disturbance of protected streams, protected freshwater wetlands, or for storm water runoff from a construction site. Other factors to consider when siting a project include flood plain location, agricultural districts, conceptual wellhead protection/recharge areas, existing or potential groundwater contamination sources, and existing subsurface utility corridors whose location could provide a preferential path for groundwater flow or contamination.

1. **TIME OF YEAR** – The pumping test of unconfined sand and/or gravel aquifer wells must be conducted during a time of average or below average seasonal stream flow conditions; that is, when "normal" groundwater gradients have not been reversed or significantly altered. Typically, this eliminates the months of March, April, and May. Tests conducted during the winter must not be affected by snow melt. Pumping tests for rock wells or confined sand and/or gravel wells not significantly influenced by overlying unconsolidated ground or surface water may be conducted during any month of the year, however the applicant must demonstrate that the test well(s) will not be affected by spring recharge.
2. **TEST PUMPING RATE** – NYS DEC's expectation is that a constant pumping rate will be a fundamental part of the test design. Any deviation from this philosophy must be discussed with NYS DEC prior to carrying out the test. Therefore, major changes in pumping rate must not occur as part of a **72-hour constant rate pumping test** unless prior agreement with the Department is obtained.

Varying the pumping rate may diminish the usefulness of early-time data. The early data can be used to determine transmissivity, satisfy various test assumptions, reveal delayed yield, well storage, problems with the pump, and more. Significant changes in pumping rates will mask these effects. Later changes in pumping rate could cause inaccuracy in long term drawdown projections.

During the first hour of the test, **failure to pump within 10 percent of the test pumping rate for any reason will require termination of the test**, recovery of water levels to static, and a restart of the test. Later pump failures must be demonstrated to have no significant effect on the data or a similar termination and restart will be necessary.

When the most efficient or maximum design pumping rate is uncertain, a **step-drawdown test** must be conducted prior to the 72-hour constant rate test. Before proceeding to the 72-hour test, water levels must be allowed to recover to static levels. The scientific literature is unequivocal on this point.

The **pumping test must be performed at or above the pumping rate for which approval will be sought** in the water supply application. If **multiple wells** are to be pumped simultaneously to achieve the necessary yield, the test must incorporate such a pumping plan. To reproduce the anticipated stress on the aquifer, the pumping test must take place when **nearby wells** normally in operation are active. Other pumping wells in the test area must be **monitored**. For complex tests it is highly recommended that the Department be consulted prior to finalizing the pumping test plan.

The pumping rate must be **measured accurately and recorded frequently**. A decrease in discharge from a pump will normally occur with increasing drawdown as the pump works against a greater hydraulic head and increasing friction in the system. This effect must be compensated for during the test. Pumps and generators must be **inspected and known to be in good operating condition** prior to test start. Interruption of a test will require an extension of test time or may

invalidate the results thus requiring a repeat of the test.

NYS DEC recognizes that occasionally minor variation is unavoidable. For example, when water levels in the pumping well decline at a rate faster than expected, changes in the pumping rate can result. Thus, for the purposes of determining whether a given yield is sustainable (the primary goal of a NYS DEC pumping test) some variation in pumping rate may be acceptable. Even so, the test analysis report must address this variation in a scientifically disciplined manner including the impact on the ability of the pumping test to determine the test well's sustainable yield.

Measurement of pumping rate must be carried out in accordance with Section 6.b.

3. **LENGTH OF TEST** – Regardless of the type of aquifer, pumping tests shall be conducted for a minimum of 72 hours at a constant pumping rate. The following points must be addressed.

a. A minimum of six hours of **stabilized drawdown** must be displayed at the end of the test. Stabilized drawdown is defined herein as:

- i. a water level that has not fluctuated by more than plus or minus 0.5 foot for each 100 feet of water in the well over at least a six-hour period of constant pumping flow rate. The water column is measured from pre-test static water level to the top of the deepest water bearing fracture that contributes at least 10% of total well yield,

and,

- ii. plotted measurements that have not shown a trend of decreasing water level.

Note: Stabilization can often be incorrectly attributed to hydrogeologic factors such as precipitation or snowmelt recharge, a recharge boundary due to a minor surface water body (e.g., small headwater streams or ponds), or limited leakage from overlying or underlying formations. In these cases, the test must be extended as per Section 3.c, below.

b. If **stabilized drawdown is not achievable during the 72-hour test period** other methods may be employed to demonstrate the ability of the aquifer to meet withdrawal demands.

- i. Continue the test period until stabilization occurs, or
- ii. Construct a semi-logarithmic plot showing a 180-day projection of the time-drawdown curve. See Sections 13.b and 13.e. Water level in the test well must remain above the intake plus a margin of 5% but no less than 5 feet of the pre-test water column, or

- iii. For other methods, pre-approval by the Division of Water is highly recommended to ensure acceptance of the test. All methods must be described in the final test report.
 - c. Positive (recharge) or negative (barrier) **boundary conditions** encountered during the test must have a record of at least 24 hours.
 - d. Excessive **rainfall** normally will require extension or rescheduling of the test unless it can be clearly demonstrated that it provided no immediate recharge to the aquifer in which the test wells are located.
 - e. For **multiple wells** in close proximity to each other, a rigorous 72-hour test must be performed on at least one well. After the initial test, additional tests on the other nearby wells may be **shortened to 24 hours** if all the following conditions are met:
 - i. All wells are in a relatively "homogenous" sand and gravel aquifer;
 - ii. Results of the first test are unambiguous;
 - iii. Well logs prove the wells are in the same formation;
 - iv. The wells are of substantially identical construction (e.g., diameter, depth, and screened section);
 - v. All other nearby production wells were monitored during the first test.
 - vi. Wells that must be pumped simultaneously to meet anticipated demand must be tested simultaneously. See Section 8 for additional detail.
4. **PRE-TEST CONDITIONS** – No pumping should be conducted at or near the test site for at least 24 hours prior to the test. If on-site or nearby pumping cannot be curtailed due to system supply needs or other factors, this must be noted and discussed in the final report as it relates to the test accuracy. Static water levels at the pumping well and observation wells must be measured at least daily for one week prior to the start of the test, including immediately prior to the start of the test.
5. **DISCHARGE OF WATER** – Water discharged during the pumping test must be conducted away from the pumping well in a down gradient direction and at sufficient distance (at least 300 feet away) to eliminate recharge of this water to the aquifer. The discharge line and discharge point must be shown on the site plan referenced in Section 14(i). If the aquifer is confined or if it can be otherwise demonstrated that discharged water will not recharge the aquifer being tested, a more convenient method of discharge can be used (within the caveats of Section 15).

6. MEASURING SCHEDULE –

- a. Water levels in observation wells and at the pumping well must be measured to provide at least ten observations of drawdown within each log cycle of time, beginning one minute after the start of pumping. A suggested schedule of measurements at all wells is as follows:

<u>Time After Pumping Started</u>	<u>Time Intervals</u>
0 to 15 minutes	1 minute
15 to 50 minutes	5 minutes
50 to 100 minutes	10 minutes
100 to 500 minutes	30 minutes
500 to 1000 minutes	1 hour
1000 to 5000 minutes	4 hours

- b. Test discharge pumping rate – **during the first hour of the test the pumping rate must be measured, adjusted, and recorded continuously.** Following this period measurements can be recorded less often if the drawdown rate has slowed and pumping has stabilized. At all times during the test, pumping rate observations and recordings must be conducted at least every hour.
- c. Recovery period measurements – see Section 9.
- d. Weather measurements – see Section 10.
- e. Surface water measurements – see Section 11.
- f. Water quality sampling – see Sections 12 and 13.
7. **OBSERVATION WELLS** – Whenever possible, at least three observation wells should be monitored during the pumping test. The horizontal distance between each observation well and the pumping well shall be measured to the nearest 0.1 foot. The vertical elevation of a fixed reference point on each observation well and on the pumping well (e.g., "top of casing") must be established to the nearest 0.01 foot and reported in NAVD 1988 (or in NGVD of 1929 if this is the standard at the test site). If three or more observation wells are available, one observation well must be located outside of the expected influence of the pumping well; this observation well will serve to monitor background conditions during the pumping test. The remaining observation wells must be placed to best define the hydrogeologic characteristics of the aquifer with respect to the pumping well. In some circumstances a representative sample of nearby homeowner wells must be monitored during the pumping test including nearby wells that may be outside the anticipated zone of influence.

Observation wells should be just large enough to allow accurate and rapid measurement of water levels. **Small diameter wells are recommended** because the volume of water contained minimizes time lag during ongoing drawdown. Existing, larger diameter wells can be utilized if they are in good condition and were

properly installed.

For **unconfined aquifers**, one well should be located approximately 30 feet from the pumping well, a second well should be no farther than 300 feet from the pumping well, and at least one additional observation well should be placed beyond the 300-foot radius. For thick confined aquifers that are considerably stratified, at least two observation wells should be placed within 700 feet of the pumping well and at least one observation well located further than 700 feet from the pumping well.

Observation wells must be screened in, or open to, the same formation as the pumping well. When appropriate, additional observation wells beyond the specified minimum number may be screened in, or open to, formations above or below the one tapped by the pumping well to determine if there is any hydraulic connection between formations. Water levels in nearby water bodies must be measured prior to and during the test. Weir flow measurements must be conducted for small streams (see Section 11).

8. **MULIPLE PRODUCTION WELLS** – For cases in which an applicant is seeking approval for multiple production wells, all such wells must be monitored during the test. In addition, the test must be conducted in a way that will obtain information pertinent to the operational needs of the wellfield. If wells might have to be operated simultaneously to meet demand, the test must be designed to produce data representative of these conditions. See Section 3.e for additional detail about multiple wells.
9. **RECOVERY PERIOD** – Water level measurements must be collected during the recovery period for all wells using the same procedure and time pattern followed at the beginning of the pumping test (see Section 6). Measurement must commence at least one minute prior to shutdown of the pumping well and continue for at least 12 hours or recovery to the static water level. Water level measurements should be made to the nearest 0.01 foot. To obtain accurate data during the recovery period, a check valve must be installed at the base of the pump column pipe in the pumping well to eliminate backflow of water into the well. Water level measurements must also be collected during the recovery period in all potentially affected offsite monitoring wells, such as homeowner wells.
10. **RAINFALL MEASUREMENT** – Rainfall must be measured to the nearest 0.01 inch and recorded daily at or near the site for one week preceding the pumping test, during the test, and during the recovery period. A log of weather conditions during this period must also be kept, including barometric pressure recorded on the same schedule as rainfall. Weather station data available from within a reasonable distance of the test site can be utilized. Current precipitation must be compared to historic precipitation records to determine impact on the test results.
11. **SURFACE WATER MEASUREMENTS** – Fluctuations in surface water stages (or stream flow) for all surface waters within 500 feet of the pumping well should be measured to the nearest 0.01 foot. Measurements must be made using, as appropriate: weirs, staff gages (with stilling wells as necessary), nested piezometers,

etc. Weir flow measurements must be conducted for small streams. The horizontal distance between each observation point and the pumping well must be measured to the nearest 0.1 foot. The vertical elevation of a fixed reference point on each observation point must be established to the nearest 0.01 foot and reported in NAVD 1988 (or in NGVD of 1929, if this is the standard at the test site). Measurements must be read and recorded at least once daily for one week prior to the start of the test and at least twice per log cycle after the first ten minutes for the duration of the test. Measurements should be made more frequently if surface water levels are changing rapidly. The degree and nature of hydraulic connection with the surface water body must be quantified.

12. FOR PUBLIC WATER SUPPLIES The NYS Department of Health (NYS DOH) must be consulted on all issues related to the following:

- a. **WATER QUALITY SAMPLES** - Comprehensive water samples must be obtained from the pumping well during the last hour of pumping. Samples must be analyzed to establish acceptable quality as per NYS DOH requirements.
- b. **WELLS UNDER THE DIRECT INFLUENCE OF SURFACE WATER** - If the pumping well is or may be hydraulically connected to a surface water body, water samples from the well must be analyzed in the field at least once every four hours for the following parameters: pH, temperature, conductivity, and hardness. Further, representative water samples from the surface water body must be measured at both the beginning and the end of the pumping test and analyzed for the same parameters. For public water supplies, the NYS DOH must be consulted on all issues related to groundwater under the influence of surface water.
- c. **REDUNDANCY** - The total developed groundwater source capacity, unless otherwise specified by the reviewing authority, shall equal or exceed the design maximum day demand with the largest producing well out of service.

13. ANALYSIS OF PUMPING TEST DATA – In order to accurately analyze pumping test data it is necessary to use the methods and formulae appropriate for the hydrogeologic and test conditions encountered at, and specific to, the pumping test site. Knowledge of the hydrogeologic conditions of the area is necessary to ensure the use of appropriate techniques of analysis. Accordingly, analysis of pumping test data must be carried out by a hydrogeologist, professional engineer with hydrogeologic training, or other appropriately trained evaluator.

- a. **Data Correction** - Water level data, graphs, and interpretations must be corrected as appropriate or deemed significant for the effects of ambient water level trends; partially penetrating production well(s); partially penetrating observation wells; delayed yield from unconsolidated aquifers; aquifer thickness, recharge and/or impermeable boundaries; barometric pressure changes; changes in stage in nearby surface water bodies; recharge events

(rainfall, snow melt) during the week preceding the test, during the test, or during the recovery period; influence from nearby pumping wells; and any other hydrogeologic influences. All such data and calculations must be included in the test information report.

- b. Theoretical **time drawdown graphs** must be prepared from the recorded drawdown by setting time equal to the length of the pumping test and groundwater withdrawal equal to the pumping test production rate. The graphs must be constructed on semi-logarithmic scale with time plotted on the log scale. Additionally, a semi-logarithmic plot showing a 180-day projection of the time-drawdown curve must be constructed on semi-logarithmic scale with time plotted on the log scale. Based on these graphs and the remaining standing water in the well at the end of the pumping test, a maximum safe pumping rate (yield) must be established for each production well or for the well field if simultaneous pumping of multiple production wells is planned (taking into account well interference). Water level in the test well must remain above the intake plus a margin of 5% but no less than 5 feet of the pre-test water column.
- c. Theoretical **distance-drawdown graphs** must be prepared by plotting the drawdown in each observation well versus the distance of those wells from the pumping well. The graphs must be set time equal to the length of the pumping test and groundwater withdrawal equal to the pumping test production rate. The theoretical cone of depression so determined should be used to establish the area of influence of the well(s). It is highly recommended that the following **wellhead protection areas** be delineated using all available information (e.g., published hydrogeologic information, local knowledge, pumping test results, etc.) and best professional judgment: 60-day time of travel area, zone of contribution area or recharge areas (for confined or bedrock aquifers), and aquifer boundary area. Note that for bedrock wells (which do not normally hold to porous principles) the zone of contribution is often an irregular shape extending much farther in some directions than others. Thus it is difficult to delineate a zone of contribution for bedrock wells. Estimates should be made based on contributing watershed, gradient, the nature and orientation of fractures/lineaments, and best professional judgment. Some bedrock aquifers if extensively fractured can be treated or simulated as an unconsolidated aquifer.
- d. Recovery data must be analyzed in a manner similar to that used for drawdown data.
- e. All graphs must be annotated to contain pumping rates, time of pump start and finish, depth of pump intake, record of precipitation, and other useful information. The scale of the Y-axis (water level/drawdown) must be expanded as much as reasonable to allow better resolution of small-scale water level fluctuations and slope.

14. SUBMISSION OF DATA – Data submitted in support of a requested

groundwater withdrawal must include:

- a. **raw pumping test data** (preferably in electronic format) with the following included:
 - i. identification of tested well(s)
 - ii. identification of observation well(s)
 - iii. date, clock time, and elapsed time (minutes)
 - iv. measuring point (top of casing) elevation
 - v. water level measurements including static water level
 - vi. calculated drawdown
 - vii. depth of pump intake
 - viii. pumping rate measurements of tested well

If possible, superfluous data points should be reduced. For example, presenting data points collected once per second or once per minute after the first hour unnecessarily clutters reports and spreadsheets and does not contribute to efficient analysis.

- b. **The time scale** of these measurements should approximate the logarithmic scale although **for later in the test the time between measurements should be increased**. It is recommended that a spreadsheet file of this raw data be submitted in place of a written record.
- c. **pre-test water levels** of the pumping well, observation wells, surface water;
- d. **recovery** and other post-test water level measurements;
- e. **pumping rate(s) of nearby wells** including times on and off, surface water level and stream flow measurements, rainfall and weather information;
- f. **engineering diagrams** showing construction details (e.g. well casing, screen setting and casing stickup, etc.) and depths of pumping wells and observation wells;
- g. **geologic logs** must be submitted. For potable water supplies, completed NYS DEC well registration reports must also be included. For bedrock wells the depth of primary fractures must be noted in the log;
- h. **graphs, formulae, and calculations** used to estimate transmissivity, storage coefficient, and safe yield^[1];
- i. **scaled site plan** showing:
 - i. water level elevation controls (e.g., top of casing)
 - ii. grade elevation for all wells
 - iii. staff gages and other water measuring points
 - iv. pumping test discharge piping and discharge point
 - v. the location of nearby surface water bodies

- vi. and, if applicable, the 100-year flood plain and elevation;
- j. **coordinates** presented in either latitude and longitude (in degrees, minutes, seconds, tenths of second) or UTM's for all production wells and any observation wells which are to remain, preferably in NAD 1983 (specify the method and datum used to locate the wells);
- k. **a topographic map** showing the locations of existing or potential groundwater contamination threats. Delineation of a wellhead protection area is recommended; and
- l. **interpretations** including methodology, references and rationale. All documentation submitted must be legible and professionally presented. Plans and maps should use shading, cross hatch patterns, symbology, etc., such that features are readily distinguishable and remain readable when photocopied in black and white.

15. **CONTROL OF DISCHARGED WATER** – Please note, it is not legal to discharge water into any water body or wetland if such discharge results in turbidity or erosion leading to turbidity or downstream flooding. Accordingly, if it is anticipated that discharged water will create flooding, erosion and/or turbidity, water must be directed to a holding area and released in a controlled manner to prevent such problems. The discharge of water in the act of drilling and testing a well is covered under NYS DEC Regulations, Subpart 750-01:

Obtaining a SPDES Permit, §750-1.5 Exceptions: *Paragraph 11. Discharges of yield test, well test and cutting water from water well drilling operations provided such discharges are handled in accordance with best management practices and are for limited duration during well development only.*

[1] Note for bedrock investigations -- transmissivity and storage calculations in bedrock aquifers may be misleading due to failure of the media to meet the assumptions necessary for carrying out such calculations. However it may be legitimate to treat or simulate extensively fractured bedrock as an unconsolidated aquifer. These matters should be discussed in the pumping test report. In addition, any de-watering of major fractures must be noted and the consequences discussed.

jdg 8/18

June 6, 2019

Mr. Robert B. Call
Environmental Analyst
NYS Department of Environmental Conservation
Division of Environmental Permits, Region 8
6274 East Avon-Lima Road
Avon, New York 14414-9516

RE: Notice of Incomplete Application: DEC ID# 8-3422-00003/00001
Eagle Harbor Sand and Gravel Pit (Mine ID #80171)
Town of Barre, Orleans County

Dear Mr. Call:

The following are responses to comments raised by the NYSDEC in a letter dated January 22, 2019, regarding the Eagle Harbor Sand and Gravel, Inc. Mined Land Reclamation Permit Modification. Each of the January 2019 letter's comments are broken out and addressed individually below.

1. *Additional hydrogeological information is needed to determine the possible effects dewatering the mine has on residential wells, provide the following:*
 - 1.1. *Identification of each adjacent well within 1000' of the proposed quarry, in addition each individual well's depth and their stratigraphic unit.*

Response:

A map showing all the water supply wells within 1000 ft of the proposed quarry is provided as Figure 1. Individual well depths and stratigraphic units at the base of each well, to the extent that the information is known, is provided in Table 1.

- 1.2. *Provide a map of all residential and agricultural wells within 1000' of the proposed quarry.*

Response:

A map showing all the water supply wells within 1000 ft of the proposed quarry is provided as Figure 1. There are 10 water supply wells within the 1000 ft radius. Four residences have no wells and obtain water from wells at neighboring residences (Table 1).

1.3. *Perform Residential Well Survey for all wells within 1000' of the proposed quarry and provide the Residential Well Survey to DEC. The baseline information will consist of:*

- a. *Ground Water elevation in each well*
- b. *Ground Water quality in each well including Turbidity, Hardness, Alkalinity, Total Dissolved Solids, Total Suspended Solids, Chloride, Sulfide, and Iron.*
- c. *Property owner's denial of access to their wells will also be submitted to the Department.*

Response:

Alpha Geoscience (Alpha) sent well questionnaires to all 14 residences within 1000 ft of the quarry, as well as the owners of the properties if they lived elsewhere. Alpha received questionnaires back from 7 of the residences. The responses to the mailed well questionnaires are included as Attachment 1.

Attempts were made to contact all 14 residences by telephone and schedule time on April 4 to collect well information and water samples in person, regardless of whether a questionnaire was received. Alpha conducted the residential well survey in the field on April 4, 2019. All 14 residences were visited during the field survey. Interviews with the homeowners or tenants determined that two homes (4720 and 4816 - Pine Hill Rd) receive their water from the well at 4764 Pine Hill Rd. Two other homes (4763 and 4803 - Pine Hill Rd) were supplied by the well at 4779 Pine Hill Rd.

There was only one well (4872 Pine Hill Rd), of the ten well locations visited by Alpha, where Alpha could not obtain any information. The tenant of the rental property at 4872 Pine Hill Rd did not know anything about the well characteristics or its location. The tenant gave permission to look for the well, but it was not found. No well questionnaire was returned from the owner of the property. The tenant informed Alpha that they would contact the owner, who would contact Alpha if they chose to grant permission to access the well. Alpha has not been contacted by the owner of 4872 Pine Hill Rd to date.

Table 1 includes well information such as well elevation, well depth, depth to water and ground water elevation. Several of the wells were inaccessible due to pump configurations, or being buried.

Alpha measured Total Dissolved Solids, Specific Conductivity, pH, Temperature and Turbidity in the field from either an outdoor spigot, a garden hose, or the tap. Water samples were collected, where permission was granted, and the samples were submitted for laboratory testing of Alkalinity, Chloride, Sulfide, Total Suspended Solids, Hardness, Iron and Manganese. The laboratory results are included in Attachment 2. Table 2 summarizes the field and laboratory water quality data collected for each well.

1.4. *Evaluation of potential for impacts on those wells.*

Response:

As discussed in the response to DEP comment 1.7, the horizontal extent of drawdown impacts is anticipated to approximately 400 ft. The residential wells are all over 400 ft from the

proposed quarry; consequently, none of the wells are anticipated to be impacted by the proposed quarry. The closest residential well (4779 Pine Hill Rd) is 500 ft west of the quarry. The owner of that well is also the owner of the land that Eagle Harbor is leasing for the quarry.

Resolutions were passed by the Board of the Town of Barre on April 10, 2019 to create, fund, and construct a new water district (Water District #9). Water District #9 will include all of the residences within 1000 feet of the quarry. The resolution begins on page 3 of the minutes of the April 10, 2019 Board Meeting (Attachment 3). According to the map that accompanies the Board minutes, the water line will be extended westward along Maple St from Kams Rd to Pine Hill Rd, and then south all the way down Pine Hill Rd (Attachment 3). The water line was already in place along Maple St east of Kams Rd, and along Kams Rd north of Maple St.

1.5. Discussion of mitigation plan in case of negative impacts to adjacent well users.

Response:

A Residential Water Supply Agreement will be incorporated as a permit condition. The following permit condition is proposed:

PERMIT CONDITION: Residential Well Supply Agreement

Without restricting the right of the Department to take any other alternative action it is authorized by law to take, if, after an initial assessment by the Department, it is suspected that mining operations have impacted the quantity or quality of groundwater at and in the vicinity of the mine site, the Department may direct the permittee to take any or all of the following steps to address the situation:

- a. The permittee must immediately supply water at its expense to the impacted property or properties, and must continue to supply water to the impacted property or properties unless and until the permittee can demonstrate to the satisfaction of the Department that the mining operation is not a contributing cause to the identified impacts. In the event that the impacted water supply is utilized as a drinking water source, potable water must be supplied.
- b. The permittee shall undertake tests or investigations as deemed necessary by the Department to aid in determining the cause of the identified impacts.
- c. If the Department concludes that the mining operation has negatively impacted a groundwater supply at and in the vicinity of the mine site, the permittee must, at its expense, provide an alternate permanent source of water to the impacted property or properties. In the event the impacted water supply is utilized as a drinking water source, the permittee must connect any impacted property or properties to a municipal water supply system, if available, or, if a municipal water supply is not available to the impacted property or properties, a permanent potable water source must be supplied for any impacted property.

1.6. List pumping rate maximum at the quarry during maximum dewatering and discuss if the dewatering pump be metered.

Response:

The pumping system will have the capacity to pump 700 gpm from the sump to keep the quarry floor dry. The pumping system will be metered. Please see further discussion on quarry pump-out rates in the response to DEP comment 2.

1.7. MLUP section 3.3.1 pg. 10. States that the dewatering area of influence to be within 400 feet of the quarry, please explain how the area of influence was determined.

Response:

The December 2018 report by Alpha Geoscience (Alpha) entitled “Hydrogeologic Evaluation of the Proposed Eagle Harbor Aggregate Mine” (Hydrogeologic Report) discussed how the drawdown extent was determined in Section 3.3 - Future Aquifer Conditions at the End of Mining:

The maximum drawdown of ground water is predicated on the interpretation that the base of the aquifer is defined by the deepest fractures associated with the aquifer and that the ground water cannot be drawn down lower than the base of the aquifer. The vast majority of water-bearing fractures that were observed in the core were in the dolostones above the Rochester Shale. Although the Rochester shale is quite fissile, natural fractures are rare. The base of the bedrock aquifer is interpreted to be at the contact between the dolostones and the underlying Rochester Shale.

The maximum drawdown is also based on the premise that ground water will enter the mine through a seepage face on the quarry wall that extends upward from the aquifer base. The predicted seepage face around the quarry walls is anticipated to be approximately one third the vertical distance between the base of the aquifer and the elevation of the existing potentiometric surface. This is a conservative estimate because seepage is often seen coming from quarry faces at elevations higher than one third the way up the wall. The effect of this is that the maximum drawdown, and the extent of drawdown away from the mine, likely would be less than predicted herein. The structural contours for the top of the Rochester Shale (aquifer base) are presented in Figure 6. The proposed mine floor is roughly coincident with the top of the Rochester Shale in most areas around the perimeter.

The elevation of the aquifer base and the existing potentiometric surface vary slightly around the perimeter of the mine; consequently, the height of the seepage face is expected to vary slightly around the perimeter of the mine. The gradient of the potentiometric surface is assumed to be steeper close to the quarry walls and flatten with distance away from the quarry until it approaches and merges with the original potentiometric surface. The response of the water table aquifer within the surficial deposits above bedrock is anticipated to behave similarly to the bedrock potentiometric surface.

The seasonal low ground water elevation contour map for the bedrock aquifer (Plate 4) was used as a starting point to construct the predicted seasonal low ground water contours at full mine buildout (Plate 6) (i.e., the last day of mining). Plate 6 was constructed as described in the previous paragraphs. The future seasonal low bedrock aquifer

potentiometric surface is also illustrated in the cross sections on Plate 5. Most of the drawdown impacts are projected to occur within approximately 400 ft of the quarry's edge, with minor impacts beyond 400 ft to the nearest future ground water divide (Plate 6).

The water levels in the bedrock aquifer will be drawn down adjacent to the quarry as it is developed, then return close to the original levels once mining is completed and the quarry fills with water. The greatest potential drawdown could occur when the quarry is at its maximum vertical and lateral extent. As discussed in the above excerpt, knowledge of the existing hydrogeologic conditions was used to project the extent of this drawdown and to assess potential impacts to nearby wetlands and residential wells.

The projection of the ground water elevations outward from the seepage face into the surrounding region relies on the knowledge gained from the existing ground water contour map (Alpha 2018 report, Plate 4), and reported hydraulic pressure gradients for the Lockport dolostones in the region. The existing condition of the area around the mine does not have any large dewatering projects; consequently, the existing ground water pressure gradients are shallow (0.0036 ft/ft). Miller and Kappel (1987) report hydraulic gradients of between 0.053 ft/ft and 0.095 ft/ft in the Lockport dolostones near the Niagara Gorge in the area of the Niagara pump-storage power project. The Niagara information provides empirical data on the ground water pressure gradients that can be sustained around the Eagle Harbor bedrock quarry away from the quarry face. Steeper gradients are assumed within the first 100 ft of the quarry face.

The resulting drawdown curves are shown on the cross sections on Plate 5 of the Hydrogeologic Report for the Eagle Harbor Mine. Both the existing and future elevations of the piezometric surface are shown on the cross sections (Plate 2). The horizontal extent of drawdown impacts around the quarry is approximately 400 ft.

1.8. Please detail the potential hydrologic impacts to the neighboring freshwater wetland KN-9 (to the south) and KN-13 (to the north). In conjunction with the pump test outlined below, an Article 24 permit maybe required if there is potential for influence on the wetlands.

Response:

State-regulated Wetland KN-13 was referred to in the Hydrogeologic Report as the northern wetland. Wetland KN-13 is over 500 ft north of Maple St, according to the NYSDEC's Environmental Resource Mapper, and over 900 feet north of the proposed quarry. Alpha provided an approximate southern boundary of the wetland on Figure 5 and Plate 1 of the Hydrogeologic Report based on mapped soil types and topography. Alpha's approximate southern boundary of the wetland is 340 ft north of Maple St (at its closest) and over 760 ft north of the proposed quarry, which is closer than indicated by the Environmental Resource Mapper. Regardless of which wetland boundary is more accurate, Wetland KN-13 is located more than 350 ft beyond the anticipated extent of horizontal drawdown impacts, which, as discussed in the response to DEP comment 1.7, is approximately 400 ft. No impacts to this wetland will occur.

Wetland KN-9 was referred to in the Hydrogeologic Report as the southeastern wetland. The northern boundary of wetland KN-9 was delineated by North Country Ecological

Services, as discussed in Section 3.2.1 of the Hydrogeological Report. The delineated northern boundary of KN-9 is shown on Figures 5 and 7, and Plates 1,3,4 and 6, and on Cross Section D-D' on Plate 5 of the Hydrologic Report.

The Hydrogeologic Report discussed the potential for influence on wetland KN-9 (the southeastern wetland) in Section 3.2.1 - Surface Water and Wetlands:

The original plan for the proposed quarry had the southeastern corner of the bedrock excavation approaching to within approximately 150 ft of the southeastern wetland. Alpha performed a preliminary evaluation of potential drawdown impacts from the original quarry plan. The results indicated that the wetland was potentially within the extent of drawdown from the quarry. The proposed excavation boundary of the quarry was subsequently adjusted to be approximately 425 ft away from the delineated wetland boundary in an effort to mitigate this potential concern. No drainage or water pumped from the quarry will enter this wetland.

Also, as described elsewhere in Section 3.2.1, “Most of this wetland is mapped in Bradford et al. (1977) as the Carlisle Muck, which is indicated to be poorly drained and underlain by silt. The silt layer is likely a lacustrine deposit and limits, or retards, percolation. The wetland drains toward the south.” In February, 2019, Alpha directed the excavation of two test pits (TP-1 and TP-2) along the northern boundary of Wetland KN-9 to confirm the soil survey descriptions. The locations of the two test pits are shown on Figure 1. Both test pits had similar soil profiles, with dark brown, moist to wet, organic soils in the upper one to 1.5 feet, underlain by dry to moist, varved, silty very fine sand to silt, to approximately 6.5 ft. At approximately 6.5 ft, a layer of saturated fine to coarse sand with rounded gravel and cobbles was encountered. While the test pits were open, seepage at the base of the dark brown organic layer at the top was observed entering the pit. No seepage was observed from the underlying very fine sand and silt.

Soil samples of the dark brown organic layer (0.5'-1.0'), the silty, very fine sand layer (1.5'-2.5'), and the silt layer (4.0'-5.0') were collected from test pit TP-2. These samples were submitted to Atlantic Testing Laboratories (ATL) for sieve analysis and the laboratory results are included as Attachment 4. The samples confirm the presence of the Carlisle Muck soil for Wetland KN-9, as described in the Soil Survey of Orleans County (Bradford et al., 1977), and the underlying lacustrine silt. The results from the test pit excavations at Wetland KN-9 confirm what the Hydrogeologic Report discussed in Section 3.3.2 - Potential Impacts to Neighboring Wetlands:

...the quarry drawdown is not anticipated to impact the southeastern wetland or the northern wetland due to their distance from the quarry edge and the underlying silt layers that cause them to be perched, or semi-perched, above the water table. All of these wetlands typically experience seasonal draw down based on precipitation rates, temperature, evapotranspiration and other factors. The southern wetland was dry in September, for example, when North Country delineated its northern boundary. No physical disturbance of these wetlands will occur.

The conclusion that Wetland KN-9 will not be impacted by the drawdown from the quarry is consistent with observations at the Shelby Stone Quarry (Shelby) located 8 miles west of the proposed Eagle Harbor Quarry. At Shelby, there is a large wetland (MD-9) located approximately 100 ft south of the southern quarry high wall. The Soil Survey maps the

wetland as being the Carlisle Muck, just like at Eagle Harbor. Seepage is observed approximately half way up the face on the southern high wall. The wetland is still very much a wetland, being quite wet and mucky with no observable impact related to the drawdown at the quarry.

2. *Water Withdrawal Permit must be issued prior to pumping/dewatering of groundwater, therefore the applicant must apply for a Water Withdrawal Permit. All Water Withdrawal Applications must include a well pumping test and be performed as described in the Water Withdrawal Supply Permit Programs Application Processing, Appendix 10, TOG 3.2.1. This procedure is attached to the Notice of Incomplete Application for your convenience.*

Prior to conducting the well pumping test, please provide the copy of the proposed pump test procedure for the Department's review and approval. The pump test should be in the vicinity of the proposed sump location and take into account the wells between the proposed quarry, the residential water wells and the neighboring wetlands.

Response:

Steve Trader, of Alpha Geoscience (Alpha), spoke with Mr. Jim Garry (NYSDEC Division of Water) on March 27, 2019 about the requirement for a pumping test in order to obtain a Water Withdrawal Permit. Mr. Garry agreed with Mr. Trader's opinion that a pumping test on a well at the Eagle Harbor site would provide no benefit in simulating the impact of the mine on surrounding water supply wells because, at 700 gpm (see response to DEP comment 1.6), the well would likely go dry in a matter of minutes and no useful information would result from such a test. It is Alpha's understanding that Mr. Garry was going to inform Mr. Robert Call (DEP) of his concurrence that the Hydrogeologic Report, and satisfactory responses to the NOIA, would substitute for the pumping test in this case.

Some discussion is warranted here on the applicability of the The Pumping Test Procedures for Water Withdrawal Applications (Pumping Test Procedures) to simulate impacts from quarry drawdowns. As written, the Pumping Test Procedures are clearly designed for water withdrawals associated with applications for water supply wells, not for water withdrawals associated with mining applications. The Pumping Test Procedures require that "The pumping test must be performed at or above the pumping rate for which approval will be sought in the water supply application" (emphasis added). First, Eagle Harbor will not be applying for a water supply application as part of this mining application (Eagle Harbor will be applying for a Water Withdrawal Permit). Second, the Water Withdrawal Permit would have to be for the mine dewatering system's maximum pumping rate, which must be based on the capability of the pumping system that will be installed at the quarry sump. The pumping system is designed to maintain a dry mine floor during significant rain events and to quickly remove water that has accumulated in the quarry while the mine has been shut down for a period of time. The water budget analysis that is presented in Sections 2.6 and 3.4 of the Hydrogeologic Report indicates that the total annualized pump-out rate to keep the quarry dry is approximately 288 gpm at full mine expansion. This rate is based on 80 gpm of ground water in-flow from the seepage faces on the quarry walls and 208 gpm of direct precipitation to the quarry. This amount will vary throughout the year based on precipitation patterns and can be much

higher during significant storm events. Realistically, the mine would only need to pump 700 gpm for short periods of time to handle the large amounts of water that would accumulate in the mine during a significant rainstorm, or to quickly remove water that has collected in the mine during an extended shut down. This is in contrast to a water supply application for a well, in which the well could be pumping at the maximum daily rate for extended periods of time to meet the maximum daily demand of the well.

Mr. Trader also discussed with Mr. Garry the need for a water withdrawal permit during the first 5 years (Phase I), during which the pumping rate will be well below the threshold that requires a permit. A water budget analysis was conducted for the 6.5-acre Phase I portion of the mine in the southeast corner. The description of that analysis and the results are included in a letter to Mr. Tom Biamonte from Mr. Trader (Attachment 5). The results indicate that by the end of Phase 1 (5 years), the quarry pump-out rate will be approximately 32 gpm, much less than the 69 gpm permit threshold. Mr. Trader proposed that, rather than apply for a water withdrawal permit now, use the 5-year Phase I period to monitor water level response to the early quarry excavation, and to get a true measure of pump-out rates by using flow meters installed on the discharge lines. Mr. Garry agreed that this sounded like a reasonable approach and that he would support the idea and pass it along to Mr. Call. Mr. Garry noted, however, that DEP would still want to have a hard cut-off time in which the need for a permit will kick in. Eagle Harbor considers the end of Phase 1 to be an appropriate time for that cut-off.

3. *The dewatering outflow proposed in section 3.6 of the MLUP states that the farm field downstream of the outflow will flood during a 25-year storm without the additional water from the dewatering operation. The flooding of another person's property is not an acceptable activity.*

Response:

The Hydrogeologic report does not state that the farm field floods currently, or will flood in the future. The fourth paragraph of Section 3.6 of the Hydrogeologic Report states that “The model indicated that the flow at the farmers field culverts near the edge of the woods north of the quarry (see plate 2) overtops the access roads along the edge of the field at the 25-yr or greater storm events (with, or without, the quarry discharge). The flooding is restricted to the wooded area west of Kams Rd, between Kams Rd and the edge of the field.” The wooded area south of the farm field (and south of the access road at the edge of the wooded area) is the area that the model indicated is subjected to flooding during a 25-yr or greater storm event. Flooding will not occur in the farm field downstream of the culverts during such an event because the swale that runs through the field is sufficient to contain the flow.

Please see response to Comment 3.1, 3.2 and 3.3 for further information regarding the reduction of the potential for flooding in the area upstream (south) of the farmers field culverts.

- 3.1. *Please explain how the quarry will be operated during a 25-year storm or greater, to not increase flooding downstream. Provide how the quarry dewatering will be manipulated to negate any flooding of downstream properties including pump shut down, use of weir/check dams and any other means to control the outflow to not affect lands downstream.*

Response:

According to the HydroCAD model, the natural peak storm runoff occurs approximately 12 to 14 hrs after the storm begins - for all modeled storm events (1 yr through 100 yr storms) and at all model nodes (culverts) (see Appendix A of Attachment 6). It takes hours before the quarry discharge reaches the various model nodes due to the ditch, the proposed sediment basin, and the ponds/wetlands within the LOM that the discharge has to travel through before it reaches the outfall at the Maple Street culvert and joins the normal storm water runoff. The proposed sediment basin will have a weir/check-dam system in place so that water can be retained for a while if necessary. The operator also will have the option to divert some water from quarry discharge to the onsite fresh water ponds for use in the wash plant. All of these features significantly reduce the travel time for storm water quarry discharge to reach the downstream culverts and negate additional flooding beyond which naturally occurs.

Please see the responses to Comments 3.2 and 3.3, which discuss how existing and potential flooding also will be reduced through the replacement of a culvert at the edge of the farm field.

- 3.2. *Explain the handling of large precipitation events, possible flooding, and any plan to mitigate flooding down stream of discharge point.*

Response:

As discussed in the response to Comment 3, the HydroCAD model indicated that the only area that undergoes flooding under the existing conditions is the wooded area west of Kams Rd and south of the farm field. This area is downstream of the Maple Street quarry discharge point. To avoid further flooding of this area, as discussed in the response to Comment 3.1, the proposed sediment basin will have a weir/check-dam system in place so that water can be retained for a while if necessary. The operator also will have the option to divert some water from quarry discharge to the onsite fresh water ponds for use in the wash plant. All of these features significantly reduce the travel time for storm water quarry discharge to reach the downstream culverts and negate additional flooding beyond which naturally occurs.

As discussed in the following response to Comment 3.3, the revised HydroCAD model (Attachment 6), which considers the replacement of the 16-in culvert at the edge of the farm field north of the wooded area, results in diminished flood levels south of the farm field access road and eliminates overtopping of the access road, with or without the addition of the quarry discharge.

- 3.3. *The MLUP pg. 13, mentions that replacing/modifying the culvert at the edge of the farmers field could reduce or eliminate the overtopping of the access road. Please provide a definitive statement as to if the culvert is to be modified or replaced. If so, Eagle Harbor must get the landowner's approval to enter the farm property to re-engineer the culvert. This approval must be signed by the landowner and submitted to DEC.*

Response:

Alpha Geoscience revised the HydroCAD model to include a scenario in which the existing 16-inch diameter downstream culvert (Culvert 1) at the edge of the farm field is replaced by two, side-by-side, 18-inch diameter culverts. The report entitled "Hydrologic Modeling of the Proposed Eagle Harbor Mine Discharge (Revised)" is included in Attachment 6. A second scenario in which the existing pipe was replaced with a single 24-inch culvert was also modeled. The models assumed that the access road would be raised by approximately 0.5 feet to accommodate the larger pipes. The resulting access road elevation would be 2.5 feet above the invert of the new culvert pipe(s). The elevation of the invert of the pipe(s) would remain the same as it is for the existing 16-inch pipe. Both scenarios (double 18-inch pipes or a single 24-inch pipe) eliminated the existing overtopping of the access road, which is projected to occur with the existing 16-inch culvert at the 10, 25, 50 and 100-yr storm event, even without mine discharge (See Table 2 of Attachment 6). The model results for both modified scenarios indicate that the culvert(s) will convey the runoff plus the 700 gpm mine discharge and eliminate the overtopping of the access road for all modelled precipitation events (1-yr through 100-yr). The elevation of the flooding in the wooded area south of the access road (upstream of the access roads) is also diminished with both culvert replacement scenarios (with, or without, mine discharge) in all modeled storm events except for the 100-yr event.

The model indicates that the 100-yr storm event results in a 0.22-ft increase in water level in the wooded area, even with the modified culvert. The sediment basin with a weir/check dam, the ditch leading to the sediment basin, and the ability of the operator to divert discharge water to the fresh water ponds will offset the 0.22 ft rise in water level in the wooded area south of the access road during the 100-yr storm event due to the time delay for the quarry discharge to reach the outfall and subsequent culverts.

Verbal permission from the landowner, Tom Decker, has been given to Eagle Harbor to enter the property to research the proper culvert size needed (double 18-inch or single 24-inch). Eagle Harbor will review the plans with Mr. Decker prior to conducting any work on his property. Written permission from Mr. Decker will be forwarded to the NYSDEC, as requested, once it has been obtained.

4. *Pre-blast surveys must be provided to the Department prior to any blasting activity. Property owner's denial of access to their properties will also be submitted to the Department prior to any blasting activity.*

Response:

Pre-blast surveys will be conducted prior to any blasting activity and provided to NYSDEC as requested. A copy of the pre-blast request letter template that will be used is included as Attachment 7. Request letters will be sent certified mail with return receipt to all property owners with structures within 1000 feet of the quarry. Copies of all correspondence, including certified mail receipts, as well as acceptance and denial of access notifications will be sent to NYSDEC prior to any blasting activity.

5. *Please provide a cross section of the proposed berm around the quarry, include height, width, and slope.*

Response:

The Mining Plan Map has been updated to include a typical berm cross-section. Copies of updated Mining Plan Map are enclosed in the map pocket.

6. *Truck Traffic: provide maximum per hour exiting the mine site.*

Response:

There are limited permitted sand and gravel reserves left on-site and Eagle Harbor Sand & Gravel anticipates that the modification area sand and crushed stone sales will replace the existing sand and gravel sales. They anticipate continued sales of approximately 120,000 to 140,000 tons of construction aggregate per year. That works to approximately 128 21-ton standard dump truck loads/week on average which will not impact the level of service on County Route 5/Eagle Harbor Road.

The theoretical maximum number of trucks that could exit the mine site is 24 trucks/hour based on physical limitations with loadout and the scalehouse. Actual truck traffic will be closer to 5 trucks/hour based on past construction season sales.

7. *The tracking of materials onto Eagle Harbor road from hauling of materials offsite must be controlled so that no materials are being left on the road surface. Please explain how Eagle Harbor will control mud and dust from being tracked onto the public road and routine maintenance to be performed.*

Response:

Tacking onto Eagle Harbor Road will continue to be kept to a minimum by through the following methods:

- ⊗ Loaded trucks leaving the site are covered as necessary to prevent spillage, as required by law.
- ⊗ Eagle Harbor is swept as often as necessary to control fugitive dust and trackage off-site.

- ✘ On road trucks will be restricted to the stockpile area and will not co-mingle with or use the haul roads of the off-road haul trucks to minimize trackage.
- ✘ A water truck equipped with spray nozzles will continue to wet down access roads in regular use as needed to control fugitive dust.

8. *The Reclamation Plan states that the final lake level will not be reached until 34 years after mining ceases. Please describe the reclamation of the lake prior to lake levels reaching maximum depth. How will site be stabilized for the 34 years prior to lake level reaching equilibrium? Provide all "temporary" reclamation so the site is useable, safe and environmentally sound for 34 years prior to final reclamation. Provide final slopes, topsoil amounts, seed and seed rate to be used for pre-final reclamation. Describe how the temporary reclamation (mine closure to final reclamation 34 years later) will be performed and maintained prior to lake being filled to max level.*

Response:

Once the pumps are turned off, the floor of the quarry will flood and the water level in the quarry will rise over time. As the water level rises in the quarry, the rate of water level rise will decrease, leaving the upper sand stripping slope exposed for an extended period of time.

To address this, as part of the pre-final reclamation all exposed unconsolidated surfaces, including the stripping slope down to the bedrock surface will be¹:

1. Graded to a stable slope
2. Have topsoil replaced and
3. Be seeded and mulched per the Mined Land-Use Plan

The exposed quarry faces will be stabilized by pre-splitting, controlled blasting, scaling or equivalent. Excess unsaleable fine sand and silt will be placed in the mined-out areas of the quarry to create shallow shoaling areas within the reclamation lake area. These shoaling areas will provide habitat as well as shallow safety access points.

Please feel free to contact me with any questions or comments you may have.

Thank you,



Brian Milliman
Consulting Geologist

enc

ecc Thomas Biamonte, Eagle Harbor Sand and Gravel, Inc.
Kevin Brown, Esq., Brown, Duke & Fogel, P.C.

¹ From Section 5.0 of the December 18, 2018 Mined Land Use Plan.

References

Bradford, A.H., P.S. Puglia, and T.D. Yoakum; 1977; Soil Survey of Orleans County, New York; USDA, Soil Conservation Service, in cooperation with Cornell University Agricultural Experiment Station; 140 p.

Miller, T.S., and Kappel, W.M., 1987, Effect of Niagara power project on ground-water flow in the upper part of the Lockport Dolomite, Niagara Falls area, New York, Water-Resources Investigations Report 86-4130, USGS, 32 p.

Residential Well Survey (Tables 1 & 2, Figure 1 and Attachments 1 & 2) are Located in DEIS Appendix 5

Attachment 3

Town of Barre Board Meeting Minutes 4-10-2019

Town of Barre
Board Meeting
April 10, 2019

Present: Supervisor Sean Pogue
Councilman Richard Bennett
Councilman Lynn Hill
Councilman Larry Gaylard
Councilman Tom McCabe

Others present: Maureen Beach; Town Clerk, Dale Brooks; Highway Superintendent, Lance Mark, Esq., Bill Eick, Orleans County Legislator, Eli Pask, Karl Driesel, Bradley Driesel, Margaret Swan, Chris Loss, Matthew Rowcliff, Alex Nacca, Richard Cox, John Metzler, Robin Nacca, Iva McKenna, George McKenna, Kerri Richardson, Alice Mathes, Kirk Mathes, George Kingston, Mary Jo Kingston, Cynthia Van Lieshout, Michael Van Lieshout, Karl White, Thomas Bentley, Frank Moyer, Janice Grabowski, LuAnn Tierney, Jerry Solazzo, Gary Palmer, Brittany Maxwell, Maura Curtis Moy, Chad Ebbs, Laura Bomyea, Jessica Walsh.

Meeting was called to order at 7:08pm by Supervisor Pogue with the salute to the flag.

Minutes

The minutes for the March, 2019 Town Board meeting were submitted and approved.

SUPERVISOR'S FINACIAL REPORT

REVENUES: Major receipts were:

Town Clerk Fees	706.00
Justice Fees (Feb)	1,965.00
Franchise Fees-Charter	14,798.11
Town/Albion Cost Share-Bal	441.15
Town/Albion Cost Share-Ins	764.59
Bulk Water	1,723.03
Metered Sales	3,454.64
Maintenance Fees	931.75
Water Penalty Fees	334.76
Other Revenues	<u>441.49</u>

Total receipts for the month were: \$ 25,820.52

EXPENSES:

General Fund Townwide: Year to date expenses are \$134,551.41
Highway Townwide: Year to date expenses are \$235,739.83

HIGHWAY SUPERINTENDENT REPORT

Stake out request completed, equipment repair and maintenance completed as needed, sign and mailbox repairs in process, water samples and readings completed, snow and ice operations in affect and (ending soon?). Shared services with Orleans County Highway and Town of Albion. Cleaning up branches from cemeteries, hauled grit for mixing with salt, LED lighting completed in Green storage barn, submission of 284 agreements.

RESOLUTION #14 Highway Agreement/Section 284, Hwy Law
Lynn Hill made a motion to allow the Highway Superintendent, Dale Brooks, to sign and submit to Orleans County, the Agreement for the Expenditure of Highway Moneys, pursuant to provisions of Section 284 of the Highway Law. The motion was seconded by Larry Gaylard

TOWN CLERK'S REPORT

The monthly report was submitted to Supervisor Pogue at the meeting, along with the check for the local share. Water bills were mailed out last week, seconded notices for unpaid taxes were mailed out this week, taxes will be returned to the county at the end of this month.

ASSESSOR'S REPORT

No Report

ZONING OFFICER'S REPORT

There was 1 Building Permits issued in the month of March.

BILLS

General Funds	\$ 68,769.13
Highway - Town Wide	\$ 82,500.29
Special District-Water	<u>1,472.73</u>
Total Outflow	152,742.15

PAY BILLS

RESOLUTION #15 Pay Bills
Larry Gaylard made a motion to approve and pay the bills, seconded by Lynn Hill. Vote 5-0, passed.
Town Board/Town of Barre

BOOKKEEPER'S REPORT

Account	Ending Balance
General Fund	\$569,100.84
Highway Fund	844,072.74
Highway Equip.	195,908.43
Water Dist. #1 Oper,	267,668.57
Water Dist. #2 Oper,	17,203.82
Water Dist. #3 Oper,	14,903.22
Water Dist. #4 Oper,	42,078.83
Water Dist. #5 Oper	47,915.25
Water Dist. #6 Oper.	24,232.19
Water Dist. #7 Oper.	15,547.82
Water Dist. #8 Oper.	45,914.12

Planning Board

The Town of Barre Planning Board had another meeting with Mr. Whittier regarding drainage issues, Mr. Whittier will withdrawal his application for a Special Use Permit at this time. There will be a Public Hearing by the Planning Board for Zosh Baird on April 15, 2019 at 7pm. The Planning Board submitted a Local Law on Solar for review by the Town Board.

Park Committee

Supervisor Pogue and Councilman Hill met with Jason Foote and Greg Bennett. They have reviewed the park regulations and put usage forms on the Town of Barre's Website. There will be an under 10 baseball tournament and soccer will be back.

OLD BUSINESS

Water District WD #9

RESOLUTION #16 WD #9/FINAL ORDER ESTABLISHING WD NO.9
A petition dated May 3, 2017 has been duly presented to the Town Board of the Town of Barre, New York (the "Town"), with the necessary map and plan attached thereto according to law, requesting that a water district, as hereinafter described, be established in the Town, and A resolution having been previously and duly adopted by the Town Board of the Town of Barre (the "Town"), on June 14, 2017, directing the Town Engineer to supervise the preparation of a map, plan and report for providing the facilities, improvements or services in a portion of the Town

wherein a water district, hereinafter described, was proposed to be established, and said map, plan and report having duly been filed in the office of the Town Clerk on January 16, 2017, and an order having been duly adopted by said Town Board on June 14, 2017, reciting the description of the boundaries of the proposed district, the maximum amount proposed to be expended for the improvement, the proposed method of financing to be employed, the fact that a plan, map and report describing the same are on file in the Town Clerk's office for public inspection, and specifying that said Town Board shall meet at the Town Hall, 14317 West Barre Road, Albion, New York, on the June 29, 2017, for the purpose of conducting a public hearing on such proposal to establish the water district with the specified improvements and to hear all persons interested in the subject thereof concerning the same, and a hearing having been duly held by said Board at such time and place, and it having been duly resolved and determined following such hearing that the notice of hearing was published and posted as required by law and otherwise sufficient, that all the property and property owners within the proposed district were benefitted thereby, that all property and property owners benefitted were included within the limits of the proposed district, and that it was in the public interest to grant in whole the relief sought, and it having been then and there further duly resolved that the establishment of such district as proposed be approved, and application having been thereafter and on July 17, 2018, duly made in duplicate to the State Department of Audit and Control at Albany, New York, for permission to create such district as more fully provided for by Town Law §209-e, and the State Comptroller having duly made an order in duplicate dated April 10, 2019, granting permission for the creation of the district in all respects as petitioned for and approved by the Town Board as aforesaid; and one copy of such order having been duly filed in the office of the State Department of Audit and Control at Albany, New York, and the other in the office of the Town Clerk of this Town, and the Town Clerk having duly presented such order to this Board at this meeting, being its first meeting held after the said order was filed with her; it is hereby **ORDERED**, that a Water District be established in the said Town as described in the order of the State Comptroller, to be designated as Water District No. 9 of the Town and to be of the following description and boundaries, to wit: **DESCRIPTION ATIACHED**; and it is further **ORDERED**, that the following improvements in said district be constructed upon the required funds being made available or provided for: installation of approximately 27,000 linear feet of 8" water main, valves, hydrants, and appurtenances along the various roads set forth above. The proposed Water District will connect to the existing water mains in the Town of Barre Water District No.5 on Hemlock Ridge Road west of Eagle Harbor Road and at the intersection of Gray Road and Eagle Harbor Road, as well as Water District No.8 at the intersection of Mix Road and Kams Road. The Town of Barre receives its water from the Village of Albion. The source of the water for the Village of Albion is Lake Ontario. The cost of water charged to the Town of Barre by the Village of Albion is currently \$2.94 per 1,000 gallons. It is anticipated that the Town of Barre will charge property owners and residents of Water District No.9. the amount on 5.00 per 1,000 gallons to cover the cost of purchasing water and associated operation and maintenance of the system, and \$ 60.00 per year per benefitted parcel to cover future water storage tank painting; and it is further **ORDERED**, that the proposed improvements, including costs of rights of way, construction costs, legal fees and other expenses, which shall be a maximum on 1,201,000.00, shall be financed as follows: \$ 493,000.00 to be derived from a United States Department of Agriculture (USDA) Rural Development Direct Grant. The approximate balance on 708,000.00 would be financed in the form of loans from the USDA Rural Development Agency or the New York State Drinking Water Revolving Fund, or bond anticipation notes and bonds issued by the Town of Barre. Any

OLD BUSINESS Con't

Water District WD #9

RESOLUTION #16 WD #9/FINAL ORDER ESTABLISHING WD NO.9 (Con't)

bonds required to be issued by the Town for construction of the project would carry a 38-year repayment term, and it is further **ORDERED**, that the Town Clerk is hereby authorized and directed to cause a certified copy of this order to be duly recorded in the office of the Clerk of Orleans County in which the Town is located, within ten (10) days after the adoption of this Order, and it is further **ORDERED**, that the Town Clerk is hereby authorized and directed to file a certified copy of this Order in the Office of the State Department of Audit and Control, Albany, New York, within ten (10) days after the adoption of this Order.

Councilman McCabe made a motion to approve the foregoing resolution, seconded by Larry Gaylard. Vote 5-0, passed.

RESOLUTION #17 WD #9/USDA RURAL DEV. PROJECT MANAGEMENT SERVICES

The Project Management Services consists of two phases. Phase I Includes the compilation and submittal of the documentation, forms and certifications specified in the Letter of Conditions and Prior to Bid letter issued by Rural Development for this project Phase 2 includes activities relating to bidding, construction, compliance and reporting once the Town has satisfied the requirements of the Letter of Conditions and Prior to Bid letter. A. Phase 1: Address Letter of Conditions and prior to Bid Requirements In order to assist the Town of Barre in satisfying the requirements specified in the Letter of Conditions and Prior to Bid letter issued by USDA Rural Development for the construction of Town of Barre Water District No.9, the Consultant will compile and submit the required documents and other materials. These include documentation of district formation, budget forms, service agreements, certifications and other documents that may be requested. B. Phase 2: Project Management Services In order to assist the Town of Barre In the Implementation of the project to be assisted with funding from the USDA Rural Development for the construction of Town of Barre Water District No.9, Improvements, the Consultant will carry out the following administrative activities. 1. Assist the Town in developing and maintaining the financial management system required to carry out the project 2. Assist the Town in complying with all applicable Federal and State rules and regulations in carrying out the project 3. Review all requests for payment and prepare monthly Form Es for submission to Rural Development. 4. Coordinate all project activities in accordance with program guidelines and provide reports to the Town throughout the project. 5. Serve as the agent of the Town in dealing with the Project Engineer, contractors and other project participants. 6. Advise the Town regarding procurement procedures, including the selection of the firm to prepare the single audit and the purchase of materials and contractual services. 7. Attend pre-construction meetings, define Federal and State requirements and define the contractor's responsibilities. 8. Maintain contact with representatives of USDA Rural Development to insure the effective administration of the project. 9. Assist the Town to prepare the necessary documents to obtain long term financing from Rural Development . 10. Assist the Town to prepare closing documents for submission to USDA

OLD BUSINESS Con't

Water District WD #9

RESOLUTION #17 WD #9/USDA RURAL DEV. PROJECT MANAGEMENT (Con't)

Rural Development . C. General Provisions – 1. If the Town cancels the project for any reason, the Consultant will cease work immediately and bill for work completed to date based on an hourly rate of \$100/ hour for professional staff not to exceed a total of \$3,500 for Phase 1 and \$12,000 for Phase 2. 2. Under no circumstances shall the Town be obligated to pay for any services that may be performed under B. Phase 2 above until such time as USDA Rural Development has obligated funds for the project improvements and the Town has authorized the consultant, in writing to provide these services. 3. The Consultant shall maintain the necessary staff to insure the orderly and efficient administration of the program. 4. The Consultant shall submit periodic progress reports to the Town summarizing the status of the program. Problem areas will be identified and actions taken to resolve these problems reported. 5. The Town shall pay the Consultant the not to exceed sum of \$12,000 for the completion of B. Phase 2 Project Management Services. Progress payments for the completion of these tasks shall be made in five equal installments consistent with the schedule of milestones appended hereto as Attachment A and incorporated into this agreement. 6. The Consultant acknowledges and agrees that the fee for Its services indicated in Paragraphs C.1 and C. 5 above shall not be increased for any reason without the prior written consent of the Town. 7. This contract shall terminate upon the acceptance by Rural Development of the final closeout report or upon thirty (30) days written notice from one party to the other. Within thirty (30) days of the termination of the contract, the Consultant shall receive compensation for those project milestones which have been completed by the end of the thirty (30) day notice period.

Councilman Hill made a motion to approve the foregoing resolution, seconded by Councilman McCabe. Vote 5-0, passed.

RESOLUTION #18 WD #9/Loan Resolution

A RESOLUTION OF THE Town Board of the Town of Barre AUTHORIZING AND PROVIDING FOR THE INCURRENCE OF INDEBTEDNESS FOR THE PURPOSE OF PROVIDING A PORTION OF THE COST OF ACQUIRING, CONSTRUCTING, ENLARGING, IMPROVING, AND/OR EXTENDING ITS Water FACILITY TO SERVE AN AREA LAWFULLY WITHIN ITS JURISDICTION TO SERVE. WHEREAS, it is necessary for the Town of Barre (herein after called Association) to raise a portion of the cost of such undertaking by issuance of its bonds in the principal amount of **Seven Hundred Eight Thousand & 00/100** pursuant to the provisions of Subject to NYS Municipal Finance Law ; and WHEREAS. the Association intends to obtain assistance from the United States Department of Agriculture, (herein called the Government) acting under the provisions of the Consolidated Farm and Rural Development Act (7 U.S.C. 1921 et seq.) in the planning, financing, and

supervision of such undertaking and the purchasing of bonds lawfully issued, in the event that no other acceptable purchaser for such bonds is found by the Association: NOW THEREFORE, in consideration of the premises the Association hereby resolves:

1. To have prepared on its behalf and to adopt an ordinance or resolution for the issuance of its bonds containing such items and in such forms as are required by State statutes and as are agreeable and acceptable to the Government.
2. To refinance the unpaid balance, in whole or in part, of its bonds upon the request of the Government if at any time it shall appear to the Government that the Association is able to refinance its bonds by obtaining a loan for such purposes from responsible cooperative or private sources at reasonable rates and terms for loans for similar purposes and periods of time as required by section 333(c) of said Consolidated Farm and Rural Development Act (7 U.S.C. 1983(c)).
3. To provide for, execute, and comply with Form RD 4004, "Assurance Agreement," and Form RD 400-1, "Equal Opportunity Agreement," including an "Equal Opportunity Clause," which clause is to be incorporated in, or attached as a rider to, each construction contract and subcontract involving in excess of \$10,000.
4. To indemnify the Government for any payments made or losses suffered by the Government on behalf of the Association. Such indemnification shall be payable from the same source of funds pledged to pay the bonds or any other legally permissible source.
5. That upon default in the payments of any principal and accrued interest on the bonds or in the performance of any covenant or agreement contained herein or in the instruments incident to making or insuring the loan, the Government at its option may (a) declare the entire principal amount then outstanding and accrued interest immediately due and payable, (b) for the account of the Association (payable from the source of funds pledged to pay the bonds or any other legally permissible source), incur and pay reasonable expenses for repair, maintenance, and operation of the facility and such other reasonable expenses as may be necessary to cure the cause of default, and/or (c) take possession of the facility, repair, maintain, and operate or rent it. Default under the provisions of this resolution or any instrument incident to the making or insuring of the loan may be construed by the Government to constitute default under any other instrument held by the Government and executed or assumed by the Association, and default under any such instrument may be construed by the Government to constitute default hereunder.
6. Not to sell, transfer, lease, or otherwise encumber the facility or any portion thereof, or interest therein, or permit others to do so, without the prior written consent of the Government.

OLD BUSINESS Con't

Water District WD #9

RESOLUTION #18 WD #9/Loan Resolution Con't

7. Not to defease the bonds, or to borrow money, enter into any contractor agreement, or otherwise incur any liabilities for any purpose in connection with the facility (exclusive of normal maintenance) without the prior written consent of the Government if such undertaking would involve the source of funds pledged to pay the bonds,

8. To place the proceeds of the bonds on deposit in an account and in a manner approved by the Government. Funds may be deposited in institutions insured by the State or Federal Government or invested in readily marketable securities backed by the full faith and credit of the United States. Any income from these accounts will be considered as revenues of the system.

9. To comply with all applicable State and Federal laws and regulations and to continually operate and maintain the facility in good condition.

10. To provide for the receipt of adequate revenues to meet the requirements of debt service, operation and maintenance, and the establishment of adequate reserves. Revenue accumulated over and above that needed to pay operating and maintenance, debt service and reserves may only be retained or used to make prepayments on the loan. Revenue cannot be used to pay any expenses which are not directly incurred for the facility financed by USDA. No free service or use of the facility will be permitted.

11. To acquire and maintain such insurance and fidelity bond coverage as may be required by the Government.

12. To establish and maintain such books and records relating to the operation of the facility and its financial affairs and to provide for required audit there of as required by the Government, to provide the Government a copy of each such audit without its request, and to forward to the Government such additional information and reports as it may from time to time require.

13. To provide the Government at all reasonable times access to all books and records relating to the facility and access to the property of the system so that the Government may ascertain that the Association is complying with the provisions hereof and of the instruments incident to the making or insuring of the loan.

14. That if the Government requires that a reserve account be established. disbursements from that account(s) may be used when necessary for payments due on the bond if sufficient funds are not otherwise available and prior approval of the Government is obtained. Also, with the prior written approval of the Government, funds may be withdrawn and used for such things as emergency maintenance, extensions to facilities and replacement of short lived assets.

15. To provide adequate service to all persons within the service area who can feasibly and legally be served and to obtain USDA's concurrence prior to refusing new or adequate services to such persons. Upon failure to provide services which are feasible and legal, such person shall have a direct right of action against the Association or public body.

16. To comply with the measures identified in the Government's environmental impact analysis for this facility for the purpose of avoiding or reducing the adverse environmental impacts of the facility's construction or operation.

17. To accept a grant in an amount not to exceed \$493,000.00 under the terms offered by the Government; that the Town Supervisor and Town Board of the Association are hereby authorized and empowered to take all action necessary or appropriate in the execution of all written instruments as may be required in regard to or as evidence of such grant; and to operate the facility under the terms offered in said grant agreement(s).

The provisions hereof and the provisions of all instruments incident to the making or the insuring of the loan, unless otherwise specifically provided by the terms of such instrument, shall be binding upon the Association as long as the bonds are held or insured by the Government or assignee. The provisions of sections 6 through 17 hereof may be provided for in more specific detail in the bond resolution or ordinance; to the extent that the provisions contained in such bond resolution or ordinance should be found to be inconsistent with the provisions hereof, these provisions shall be construed as controlling between the Association and the Government or assignee.

NEW BUSINESS

The Town Board of the Town of Barre recognized Eli Nicholas Pask, a member of Boy Scout troop 175 in the Town of Barre, and of the Iroquois Trail Council in Batavia, for receiving his Eagle Scout Rank on March 14, 2019. The board presented Mr. Pask with a plaque and a Certificate of Achievement.

Amherst Alarms - The Amherst Alarm Company has been working on the new alarm system for the past three days

RESOLUTION #19 Special Town Board Workshop/Solar Law
Richard Bennett made a motion to hold a Special Town Board Workshop on May 7, 2019 at 6:00pm, for the purpose of discussing the proposed Solar Law, submitted by the Town of Barre Planning Board. This is for discussion only, no actions will be taken by the Town Board members. Larry Gaylard seconded the motion. Vote 5-0, passed.

Town Board/Town of Barre
April 10, 2019
Page 10

NEW BUSINESS Con't

RESOLUTION #20 Audit of Court Records
Councilman Gaylard reported that an audit of all court records have been completed and everything appears to be in order.
Tom McCabe made a motion to accept the report given by Councilman Gaylard, seconded by Richard Bennett. Vote 5-0, passed.

CORRESPONDENCE/DISCUSSION

Association of Municipalities Meeting

The April meeting of the Orleans County Association of Municipalities will be April 23, 2019 at the Tillman's Village Inn at 6:30pm. The guest speaker will be Paul Gister from National Grid. Paul will be speaking about: Current National Grid Municipal Light Options, LED Conversion, Asset Sale/Purchase, Opt In, Energy Efficiency Incentives - Streets lights, Insight into future Light Opportunities, National Grid 3 Year approved Rate Plan.

PUBLIC COMMENTS

The Barre Betterment Committee had a meeting on March 28th. They are planning to put flowers at the Welcome to Barre signs and the flag pole at the park. There will be teams of people to help care for the flowers. June 1, 2019 there will be a community garage sale at the Barre Center Presb. Church and a square dance at the park. The next meeting will be April 25 at VanLeishouts.

Jessica Welse - discussed the Visual Impact of Barre Sessions. There will be a tour of a Wind Farm on April 29, 2019. Sign up is necessary.

Karl White - read a letter in support of Wind Farms and listed several advantages and benefits of such.

Mike VanLieshout - spoke in favor of signing the Professional Fee Reimbursement with Apex.

Kerri Richardson - spoke about concerns with the Professional Fee Reimbursement, (PFR) conflict of interests, and she refuted some statements made by Karl White.

Town Board/Town of Barre
April 10, 2019
Page 11

Robin Nacca – She reported on the Rural Home Owner Committee, they need more members and sponsors to help with gift baskets for residents. They will have a meeting on April 13 at 2pm at Dunkin Dounuts.

Dr. George McKenna – He spoke on the new solar law, and the PFR and other issues regarding the Wind Turbines.

Iva McKenna – spoke on better communication, thanked the group “Know Your Facts” for the video taping of meetings. She asked Supervisor Pogue and Attorney Lance Mark to contact her. Also spoke about proper maps and property values.

Richard Cox – had questions on the solar law, zoning public hearing minutes and a survey done by Apex.

Maura Moy – she spoke on behalf of a focus group of citizens of Barre regarding issues with Wind Turbines; decommissioning, percentage for the Town of Barre.

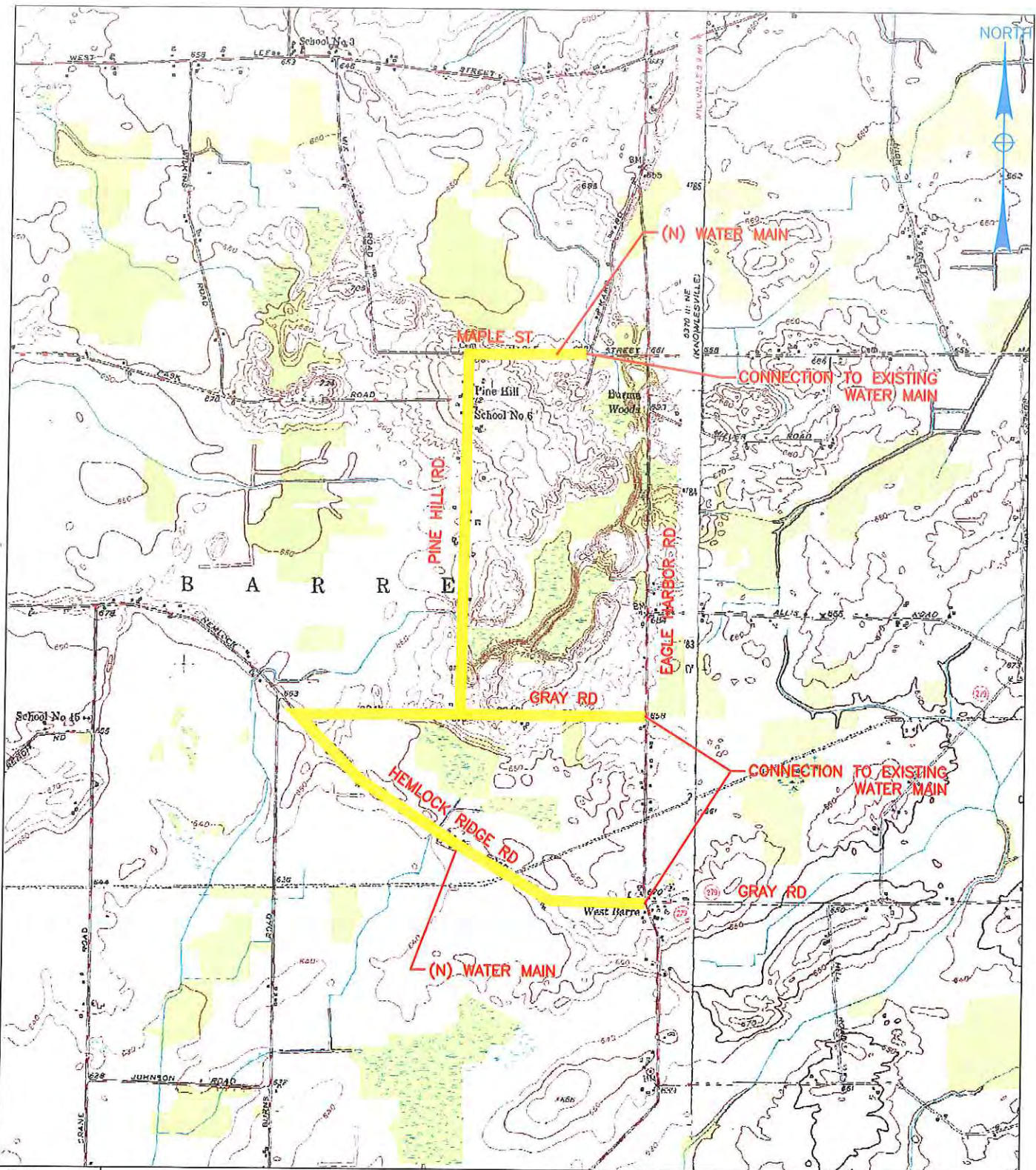
John Metzler – spoke on Wind Turbine people, destruction of personal property. He submitted photos of damage.

Kirk Mathes – asked the town board members to reconsider signing the PFR.

Meeting Adjourned at 9:00pm

Respectfully submitted,

Maureen Beach, Town Clerk



SCALE:
N.T.S.

DRAFTED BY:
CAH

CHECKED BY:
SDM

DATE:
1-13-17

PROJ. NO.:
17-1216



CHATFIELD ENGINEERS, P.C.
2800 Dewey Avenue
Rochester, New York 14616
(585) 227-6040 • Fax 227-4233

PROJECT:
TOWN OF BARRE
WATER DISTRICT NO. 9

TITLE:
FIGURE 2
PROJECT LOCATION MAP

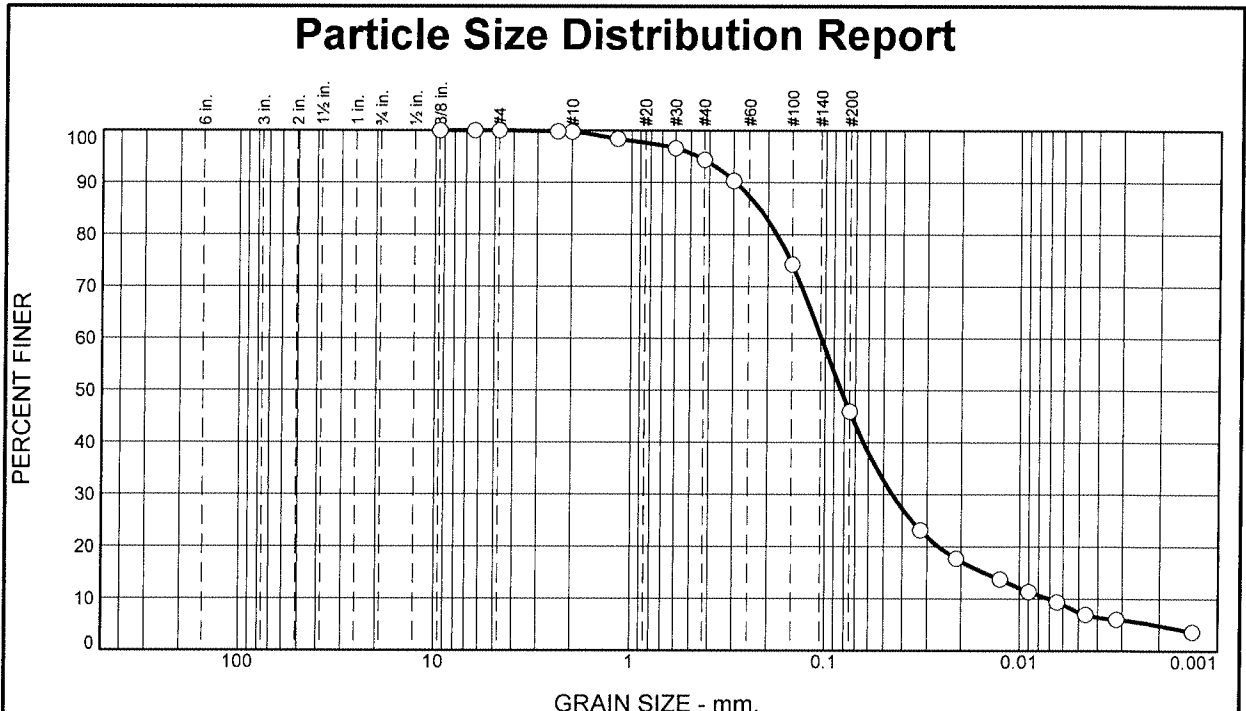
Attachment 4

Sieve Analysis Results from Test Pit TP-2



ATLANTIC TESTING LABORATORIES

WBE certified company



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	0	6	48	39	7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC (X)
.375	100		
.25	100		
#4	100		
#8	100		
#10	100		
#16	98		
#30	97		
#40	94		
#50	90		
#100	74		
#200	46		

Soil Description
TP-2 0.5-1.0

Atterberg Limits
 PL= --- LL= --- PI= ---

Coefficients
 D₈₅= 0.2218 D₆₀= 0.1051 D₅₀= 0.0831
 D₃₀= 0.0452 D₁₅= 0.0151 D₁₀= 0.0071
 C_u= 14.82 C_c= 2.74

Classification
 USCS= AASHTO=

Remarks
 Material delivered by client on 2/7/19
 ASTM D 422 with hydrometer

* (no specification provided)

Source of Sample: Project # 15139 Depth: N/A
 Sample Number: AT2874S03

ATLANTIC TESTING LABORATORIES, LIMITED Albany, New York	Client: Alpha Geoscience Project: Laboratory Analysis Report No: AT2874SL-03-02-19 Date: 2/14/19
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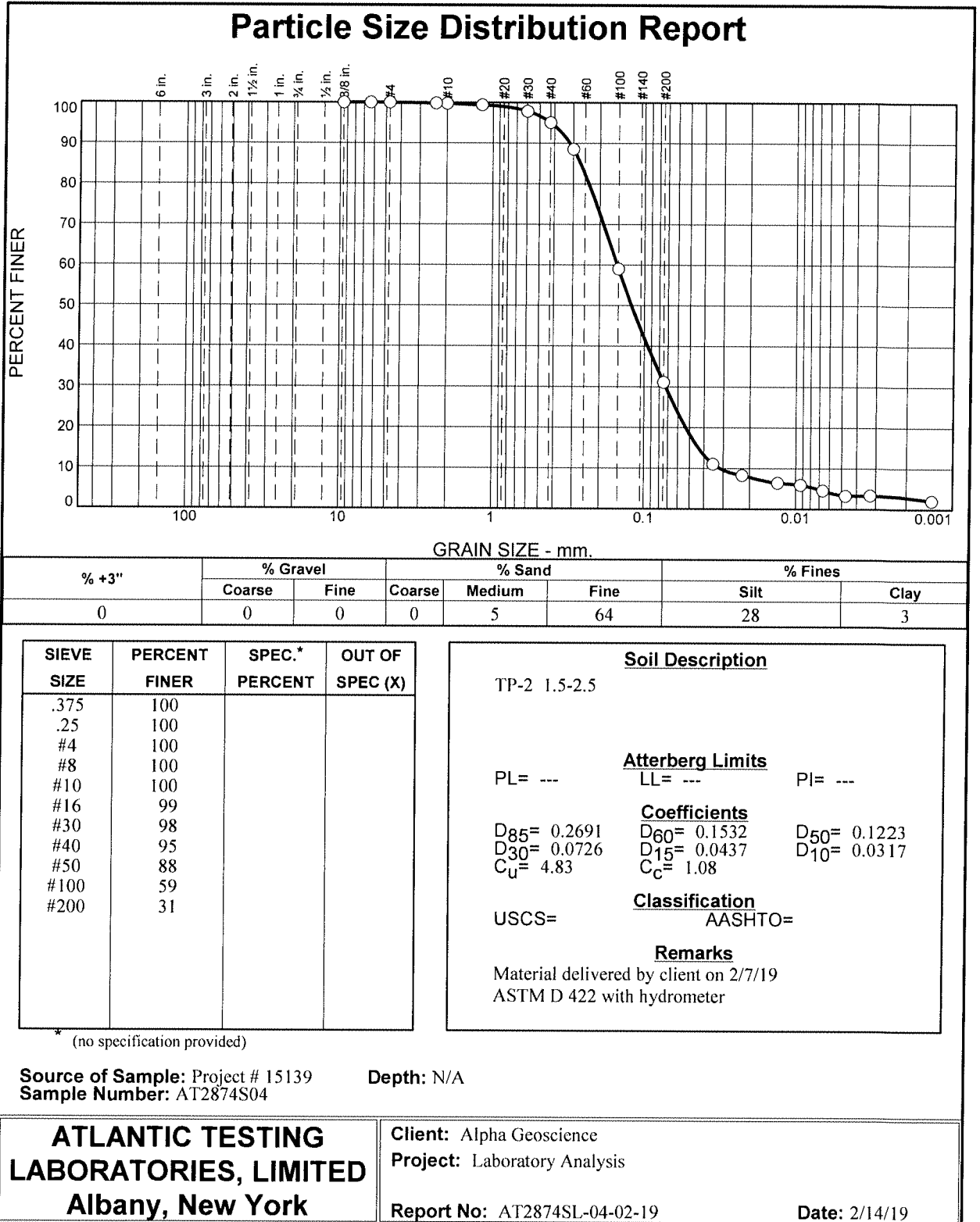
Tested by: RL
 Reviewed by: RF

Date: 2/11/19
 Date: 2/14/19



ATLANTIC TESTING LABORATORIES

WBE certified company



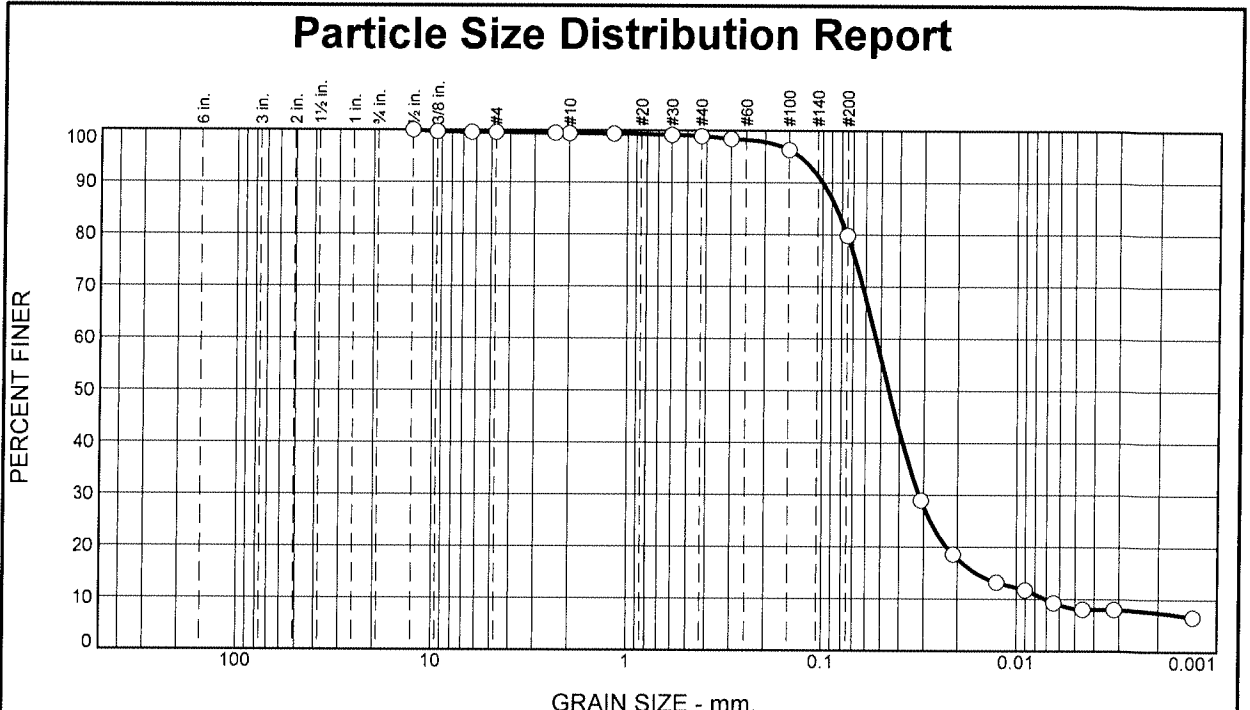
Tested by: RL
 Reviewed by: RF

Date: 2/11/19
 Date: 2/14/19



ATLANTIC TESTING LABORATORIES

WBE certified company



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	0	0	1	0	19	72	8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	OUT OF SPEC (X)
.5	100		
.375	100		
.25	100		
#4	100		
#8	99		
#10	99		
#16	99		
#30	99		
#40	99		
#50	98		
#100	96		
#200	80		

Soil Description

TP-2 4-5

Atterberg Limits

PL= --- LL= --- PI= ---

Coefficients

D₈₅= 0.0851 D₆₀= 0.0531 D₅₀= 0.0454
D₃₀= 0.0318 D₁₅= 0.0162 D₁₀= 0.0072
C_u= 7.42 C_c= 2.66

Classification

USCS= AASHTO=

Remarks

Material delivered by client on 2/7/19
ASTM D 422 with hydrometer

* (no specification provided)

Source of Sample: Project # 15139 Depth: N/A
Sample Number: AT2874S05

ATLANTIC TESTING LABORATORIES, LIMITED Albany, New York	Client: Alpha Geoscience Project: Laboratory Analysis Report No: AT2874SL-05-02-19 Date: 2/14/19
---	---

Tested by: RL
Reviewed by: RF

Date: 2/11/19
Date: 2/14/19

**Water Budget Analysis (Attachment 5) Included in DEIS
Appendix 5**

**Hydrologic Modeling of the Proposed Eagle Harbor Mine
Discharge (Attachment 6) Included in DEIS Appendix 6**