Hanson Aggregates New York LLC

HONEOYE FALLS QUARRY

TOWNS OF RUSH AND AVON
MONROE AND LIVINGSTON COUNTIES

AMENDED MINED LAND USE PLAN

PREPARED FOR
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Prepared By:

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TABLE OF CONTENTS

FIGURES

1 INTRODUCTION

Hanson Aggregates New York LLC ("Hanson") has proposed to add approximately 63.6 acres to the current life of mine at the Honeoye Falls Quarry. The proposed expansion is necessary to allow the facility to remain in business and continue to meet the local demands for construction aggregates. In conjunction with the proposed mine permit modification request, Hanson, prepared and submitted a Draft Environmental Impact Statement (DEIS) in compliance with Article 8 of the *Environmental Conservation Law,* also known as the New York State Environmental Quality Review Act (SEQRA), and its implementing regulations (6 NYCRR Part 617).

As a matter of completeness, the following is an "Amended Mined Land Use Plan" that has been updated to be consistent with the information contained in the DEIS.

1.1 GEOGRAPHIC LOCATION

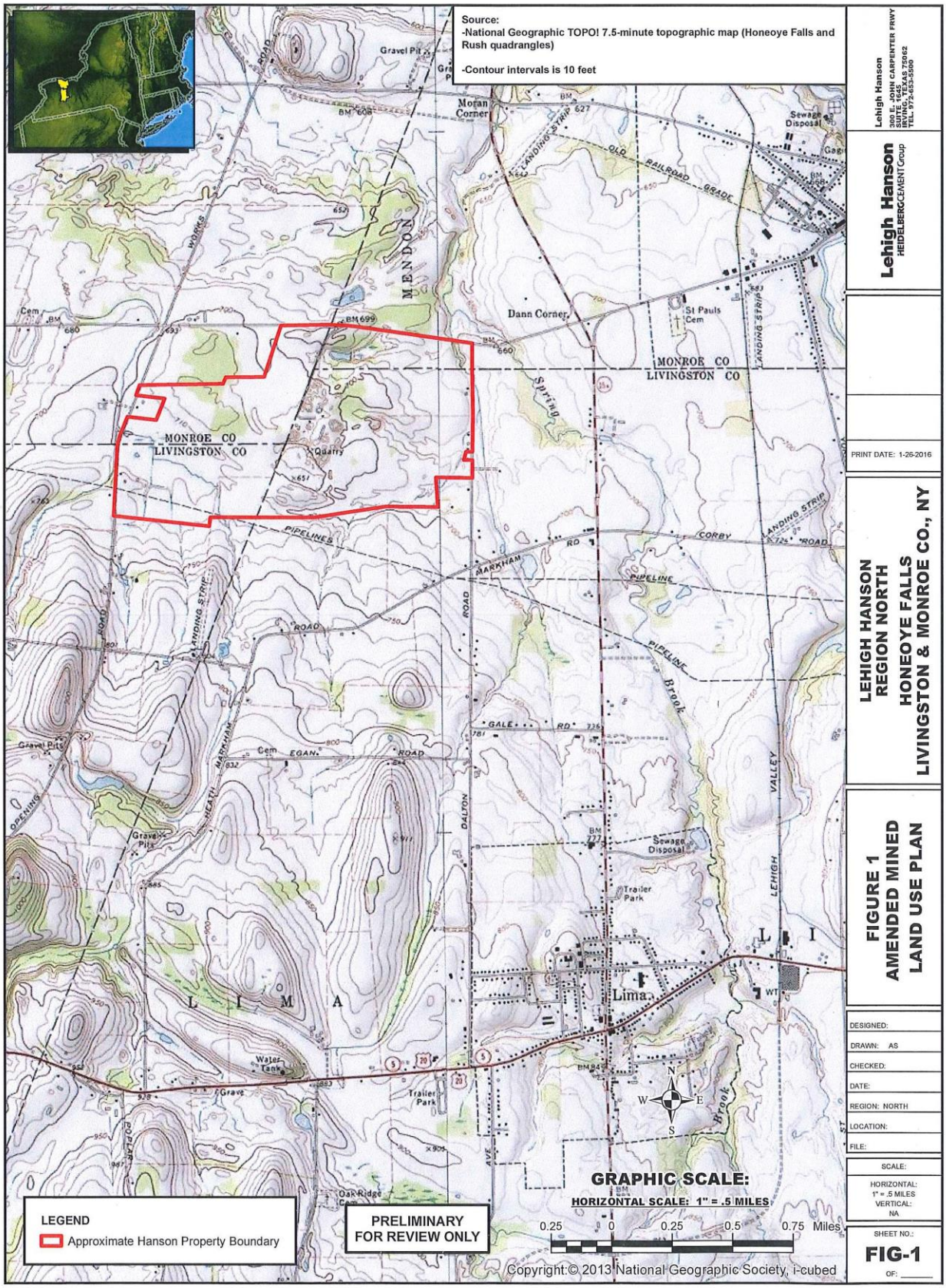
Hanson Aggregates New York LLC (Hanson) currently operates a consolidated limestone quarry at 2049 Honeoye Falls No. 6 Road, Honeoye Falls, NY 14472, approximately 2 miles west of the Village of Honeoye Falls. Hanson owns and leases approximately 594.6 acres of land at the site, which is located in both Monroe and Livingston Counties. Currently, approximately 429 acres of land have been permitted to mine by the New York State Department of Environmental Conservation (NYSDEC)

1.2 LOCATION & ADJACENT LAND USE

The Hanson – Honeoye Falls Quarry site is located within the Towns of Avon, Lima, Mendon, and Rush, New York approximately two miles west of the Village of Honeoye Falls as shown on the Site Location Map (Figure 1). The Honeoye Falls Quarry is located on the south side of Honeoye Falls No. 6 Road and east of Oak Openings Road and west of Dalton Road, in the Counties of Livingston and Monroe. The customer entrance is located off of Honeoye Falls No. 6 Road.

The town and county boundary lines are shown on the Mine Plan Map (Figure 2).

Nearby land-uses are: mining, agriculture, woodland, and rural-residential.


Source:
-National Geographic TOPO! 7.5-minute topographic map (Honeoye Falls and Rush quadrangles)
-Contour intervals is 10 feet
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HEIDELBERGCEMENT Group
PRINT DATE: 1-26-2016
LEHIGH HANSON
REGION NORTH
HONEOYE FALLS
LIVINGSTON & MONROE CO., NY
FIGURE 1
AMENDED MINED
LAND USE PLAN
DESIGNED:
DRAWN: AS
CHECKED:
DATE:
REGION: NORTH
LOCATION:
FILE:
SCALE:
HORIZONTAL:
1" = .5 MILES
VERTICAL:
NA
SHEET NO.:
FIG-1
OF:
MONROE CO
LIVINGSTON CO
MENDON
LIMA
Dann Corner
Moran Corner
Lima
Quarry
Gravel Pits
Sewage Disposal
Trailer Park
Water Tank
Oak Ridge Cem
St Pauls Cem
PIPELINES
LANDING STRIP
OLD RAILROAD GRADE
CORBY ROAD
MARKHAM RD
GALE RD
EGAN ROAD
DALTON ROAD
LEHIGH VALLEY
Spring Brook
LEGEND
Approximate Hanson Property Boundary
PRELIMINARY
FOR REVIEW ONLY
GRAPHIC SCALE:
HORIZONTAL SCALE: 1" = .5 MILES
0.25 0 0.25 0.5 0.75 Miles
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2 EXISTING CONDITIONS

2.1 PAST MINING HISTORY

The Honeoye Falls Site is a consolidated surface mine. Limestones of the Onondaga Formation are quarried and processed for use as construction aggregate at the currently permitted mining operation to the east of the proposed expansion, on the south side of Honeoye Falls No. 6 Road.

Mining in the Honeoye Falls area is reported to have occurred as early as the 1830s. Mining at the Honeoye Falls Quarry site began in 1959, preceding the Mined Land Use Law enacted in 1975. The existing Hanson – Honeoye Falls Quarry has held a NYSDEC mining permit since the phased in mining regulations took effect in 1978. Between 1967 and 1988, the quarry was owned by the Koppers Company under the name General Crushed Stone Company. The General Crushed Stone Company was acquired by Beazer East Corporation in 1988. Hanson Aggregates acquired the site from Beazer in 1991. As stated above, the current quarry has been operated under the authority of a valid New York State Mined Land Reclamation Permit since 1978. Since acquiring the site in 1991, Hanson Aggregates has continually operated in accordance with its mining permits.

2.2 PREVIOUS LAND USE

Because mining began at the site more than 50 years ago, it is difficult to know the exact nature of the previous land use for much of the currently permitted site. It is believed that previous land use at the site was similar to that of the proposed expansion area (i.e., agricultural/pasture and/or woodland). It is noted that a US Geological Survey Quadrangle (Rush, NY), dated 1951, does not show the presence of any mining activity at the site.

2.3 VEGETATION

Much of the land within the current life of mine to the south of Honeoye Falls No. 6 Road and west of Dalton Road has been stripped of overburden with at least the top limestone bench mined through. A portion of land near the center of the quarry that has not been stripped consists of shrubs and small-to-medium sized deciduous trees. Unstripped land to the east of the current quarry is mainly used as cropland. Approximately one-half of the unstripped land north of the current quarry consists of relatively dense, mature woodland, with the other half used for pasture/cropland.

As shown on the Mine Plan Map (Figure 2), the majority of the area proposed to be added to the life-of-mine to the west of the quarry is used for agricultural crops. A relatively small amount of wooded area is located in the northwestern portion of the proposed area.

A phased mine plan within the proposed modification area, has been designed to limit disturbance to a progressive series of defined areas of the site during the life-of-mine. This pattern will ensure that subsequent areas to be mined are left vegetated and available for wildlife habitat and agricultural land until needed for the mining operation. Refer to Figure 3, Modification Area Phase Plan.

2.4 TOPOGRAPHY

The Honeoye Falls Quarry is located near the northern edge of the Allegheny Plateau physiographic province. The Helderberg Escarpment forms the northern and northeastern boundary of the plateau and is formed of erosion-resistant limestones of the Helderberg Group and Onondaga Formation. The quarry site is located on the northernmost edge of this escarpment south of Rochester. The Allegheny Plateau in the vicinity of Honeoye Falls is underlain by sedimentary rocks formed during the Late Silurian to Middle Devonian time (421-340 million years ago).

The site is situated within the Great Lakes Lowland. The quarry is within a subdivision of this province that is characterized by end moraines, till plains, and drumlins between the beach ridge of the lake plain proper and the Finger Lakes Hills. The slightly rolling project area has elevations ranging from approximately 700 feet (213 meters) above mean sea level (AMSL) at its western edge along Oak Openings Road, to approximately 720 ft. (219 m) AMSL in the center of the proposed new area.

Topography in the immediate area is relatively flat with gentle rolling hills to the south. Topography of the currently unexcavated areas in the existing quarry slopes gradually to the north-northeast. The land surface in the proposed expansion area is relatively flat, with a slight mound toward its central portion. Topography slopes gently (1-2%) to the southwest and northeast from this topographic divide as shown on the Mine Plan Map.

The quarry is mined in one to three benches dependent on quality designations and market demands. When mined as one lift, the face height is approximately 110-feet. Due to the variation of the chert content in the limestone mined at the quarry, there are times when multiple benches are used. These benches have varying heights but generally are 30-40 feet for the top bench, 15-20 feet for the middle bench and 40-50 feet for the lower bench. The benches are nearly vertical and portrayed on the Mine Plan Map (Figure 2). Due to folding and faulting within the quarry, the floor is undulatory with a maximum 30-foot (approx.) change in relief from the quarry floor to top-of-sump in the eastern portion of the quarry. Geology dictates the height of the faces and slope of the floor.

2.5 DRAINAGE

Drainage is dictated by changes of relief within and surrounding the site. Storm water and/or meltwater drains internally within the current quarry area. This water evaporates, percolates into the ground, or flows from north-northwest to east-southeast into low areas, including the existing dewatering sump at the east end of the quarry. Surface water and ground water are pumped from the sump in the eastern part of the quarry to a weir box located in the northeastern portion of the life-of-mine. The discharge from the weir box (Outfall 002, SPDES Permit No. 002992) flows through a small series of settling basins then, across an open field, and then enters an unnamed tributary passing under Dalton Road, flowing easterly toward Spring Creek. A portion of the water from the sump is recirculated via pipe to a fresh-water pond located north of the main aggregate processing plant. Water from this pond is pumped to the wash plant for use in processing during the production season (e.g., late April through mid-November).

Storm water within the main aggregate plant and stockpile area is directed outwards from the plant and stockpile area to collect in a retention basin east of the plant with no potential for discharge via surface water from the site. Water used to rinse aggregate at the wash plant is sent via a pipe (below ground) and a channel north of the welding shop to the settling pond system. Water passing through the settling ponds is clarified by settlement of the particles. Then the water evaporates, percolates into the ground or, is discharged to the east of the pond system through SPDES Discharge Point 001. Water for washing is obtained from the dewatering sump within the quarry and/or the freshwater pond located just east of the maintenance shop.

The area in and surrounding the HMA plants is generally flat with a slight grade to the north. No storm water channels within the industrial area leave the site. Water in this area evaporates and/or infiltrates the ground. Undisturbed areas to the west of the access road are relatively flat with no distinct drainage channels.

An unnamed Class “C” designated stream, and a federally mapped wetland are located in the western-most land owned by Hanson Aggregate at the site. The wetland is not designated as a New York State wetland. No mining activity is proposed within the wetland or within 25 feet of the stream. Additional discussion of these waterbodies is provided in Section 4.3 of this Mined Land Use Plan.

2.5.1 Change in Drainage Due To Expansion

The majority of surface water within the area proposed to be added to the life-of-mine drains by sheet flow to the southwest and northeast. No changes in site drainage patterns are proposed. Drainage within the area to be added will be internal to the mine. As mining progresses into the proposed expansion area, the quarry floor will continue to be pitched to flow southeasterly toward the existing quarry area. Therefore, seepage from the quarry walls and stormwater within the proposed area will continue to be directed south and southeast across the quarry floor. This water will pond against the southwestern wall until the water rises to the elevation needed for gravity flow (approximately 576-feet amsl) toward the current sump (easterly). If needed, a temporary portable pump would be used to transfer water from the expansion area floor that flows into the southwestern portion of the existing quarry toward the current sump in the eastern part of the quarry.

No changes to the current sump are proposed at this time. No new sump is proposed.

2.6 MAN-MADE FEATURES

Man-made features at the site primarily consist of the sediment settling ponds located in the northern portion of the site, and the dewatering sump located in the eastern portion of the quarry. Earthen berms have also been constructed around the quarry.

3 DESCRIPTION OF MINERAL AND MINING METHOD

3.1 TYPE OF DEPOSIT AND MINERAL MINED

The Honeoye Falls Quarry is a surface consolidated mine with limestones from the Onondaga Formation of the Heldeberg Group being excavated using the open pit, bench method. This formation is underlain by the dolomites of the Bertie Group. In general, the vertical extent (bottom) of mining at the site ends at the interface with the underlying Akron Formation.

Bedrock underlying the project area formed in bands oriented east-west during the early stages of the Devonian period (400 to 360 million years ago). The Onondaga limestone is a dense, hard limestone which is dark when freshly broken and weathers to a bluish gray. Black and bluish layers of chert are included in the upper layers, and beds of the limestone may be separated by carbonaceous shale.

3.2 MINING METHOD

Consolidated material (bedrock) is mined using standard industry practices as described below.

3.2.1 Stripping

Prior to mining of previously undisturbed areas, topsoil and overburden will be stripped, stockpiled separately, and/or used to construct perimeter berms around the mine site. Area to be stripped is typically limited to only uncover enough area for ease of excavation for one to two years. Trees will be harvested for sale or cut for firewood. Brush and stumps will either be mulched or buried in the quarry and/or within the perimeter berms. Overburden in the form of soils and minor cap rock is removed by front-end loader, excavator or equivalent, and placed in perimeter berms or stockpiles within the mining area. At times a bulldozer will be used to push soils and/or minor cap rock into perimeter berms. Also, a bulldozer or excavator may be used to shape the perimeter berms. Perimeter berms will be graded to the angle of repose of the material (typically 1.5 horizontal : 1 vertical) and seeded within 30 days of final construction or as soon as practicable following their construction.

3.2.2 Drilling and Blasting

Standard drill and blast methods will be followed. To optimize blasting at the site, the licensed blaster will pre-design each shot to produce the appropriate fracture of the rock while minimizing vibration. Borehole diameter, burden, spacing, stemming, delays and other facets of the blast design will be determined by the licensed blaster for each planned shot. Holes are advanced in the bedrock using tracked or wheeled drills. A blasting agent, typically ANFO (ammonia nitrate and fuel oil), is loaded into the holes and detonated to break the rock in a predetermined manner as prescribed by the licensed blaster.

A minimum of one seismograph will be used at the nearest residential receptor giving permission in line with the blast location to record the vibration and air blast created by the shot. The information gained from the seismograph readings are used to plan future blasts.

Additional details on minimizing blasting impacts are provided in Section 4.5 of this Mined Land Use Plan.

3.2.3 Haulage and Processing

Broken rock is loaded by front-end loaders or equivalent into haul trucks and moved to the primary crusher at the main processing plant, the crusher run plant, and/or portable aggregate processing plant(s). Stone from the crushers is transported via conveyors to the secondary and tertiary sections of the plant for further crushing, screening, washing, and stockpiling. Oversize rocks unable to be dumped into the primary crusher hopper are broken by pneumatic hammer or segregated to be sold as heavy stone fill.

3.2.4 Stockpiles

Various sizes of crushed aggregates are stockpiled using stacking conveyors within the quarry. Finished product aggregate stockpiles will be constructed within the life of mine, typically within the processing area and mined area, added to, and removed from, on a regular basis. Stockpiled aggregates are loaded into customer vehicles via pit loader(s) within the stockpile areas. (See Mine Plan Map, Figure 2.) Stockpiles will be removed or graded into the floor during reclamation upon depletion of the reserves.

3.3 CURRENT AND PROPOSED MINING SEQUENCE

The Mine Plan Map (Figure 2) shows the approximate locations of the current quarry faces. Mining is continuing to advance southward and westward to the limits of excavation. Prior to drilling and blasting, vegetation, topsoil, and overburden are removed using a bulldozer, excavator, and/or front-end loader. Overburden is used to construct berms along the limits of mining and/or stockpiled for future reclamation.

3.3.1 Proposed New Area Mining Sequence

As indicated on Figure 3, Modification Area Phase Plan, mining will occur in a series of five (5) phases in the modification area. A phased approach to mining and a concurrent reclamation plan will be implemented to the maximum extent practicable. It is noted that mining will continue to occur in the currently approved quarry until all resources are depleted. An earthen berm will be constructed along the perimeter of Phase 1 starting in the northern end and continuing southward along the western perimeter of the proposed modification area. Starting the berm construction in the north first is intended to establish a sound and visual barrier for residences early on as work in the proposed area commences. It is noted, however, that mining in the proposed new area will begin in the southern portion, away from any residences. The location and height of the berm is indicated on the Modification Area Phase Plan (Figure 3). The typical profile of the berm including tree location and seeding requirements is shown below (Figure 5). Mining will commence in Phase 1 from the southeast and continue northwesterly to the proposed limits as indicated on the Modification Area Phase Plan (Figure 3).

Temporary safety berms will be constructed along the northern boundaries of each mine phase as mining advances from Phase 1 through Phase 5. Once the permanent berm along the western edge of the proposed modification area has been fully constructed, and as mining progresses northward through each phase, construction of the permanent berm along the northern perimeter will commence as overburden becomes available from stripping activities. Prior to commencing construction of the northern berm, a written request to add the necessary area to the bonded affected acreage will be submitted to NYSDEC. Although it is uncertain at this time, construction of the northerly perimeter berm is anticipated to be completed as part of mining in Phase 3, including a portion of the berm within the previously approved life-of-mine (Figure 3). It is noted that the area along the western border of the proposed modification area has been included in the affected acreage for the upcoming permit term.

Stripping within Phase 1, along with the construction of a permanent earthen berm along the western border of the modification area will occur concurrently while the limestone within the currently approved area is being depleted. The mining sequence for continued excavation of the quarry will be initiated by stripping and stockpiling topsoil and overburden in on-site stockpiles and construction of berms. Soil material stored will eventually be used as needed for reclamation purposes. It is anticipated that removal of unconsolidated overburden will be sequenced in advance of active mining faces. Area to be stripped is typically limited to only uncover enough area for ease of excavation for one to two years.

A drop cut will be advanced in the southeastern corner of Phase 1. Mining will proceed to the north and west towards Phase 2. Mining will continue to proceed to the north and west behind the mine faces. Upon near depletion of limestone in Phase 1, mining will advance into Phase 2 (upon receipt of NYSDEC approval), and then the subsequent Phases 3 through Phase 5. The rate at which Hanson will advance from one phase to the next is dependent upon market demand. However, in general, the phase areas have been delineated to coincide with each 5-year permit term. Hanson will not progress into subsequent phases without prior approval from NYSDEC.

Perimeter berms will be constructed, both permanent and temporary, as stripping commences in each associated phase.

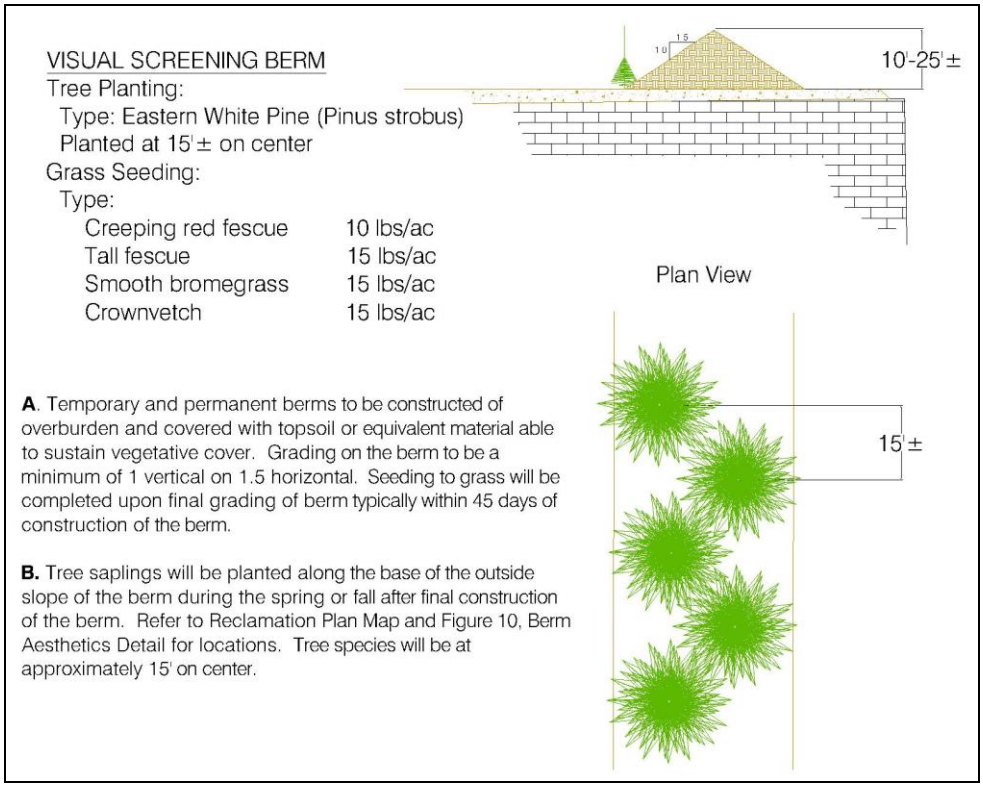

FIGURE 5. Typical Perimeter Berm

3.4 SETBACKS

In the area of proposed expansion, no mining activity will take place within 25 feet of the property line. The crest of the vertical quarry walls will be a minimum of 1.25 times the face height plus 25 feet from the property lines as proscribed by the NYSDEC setback requirements. This setback ("excavation limit") will vary in width due to the changing topography along the perimeter of the site and on the floor of the quarry as portrayed by the final crest locations on the Reclamation Plan Map. Figure 6 portrays the general orientation of the benches dictated by the geology of the site and as allowed by the setback regulations.

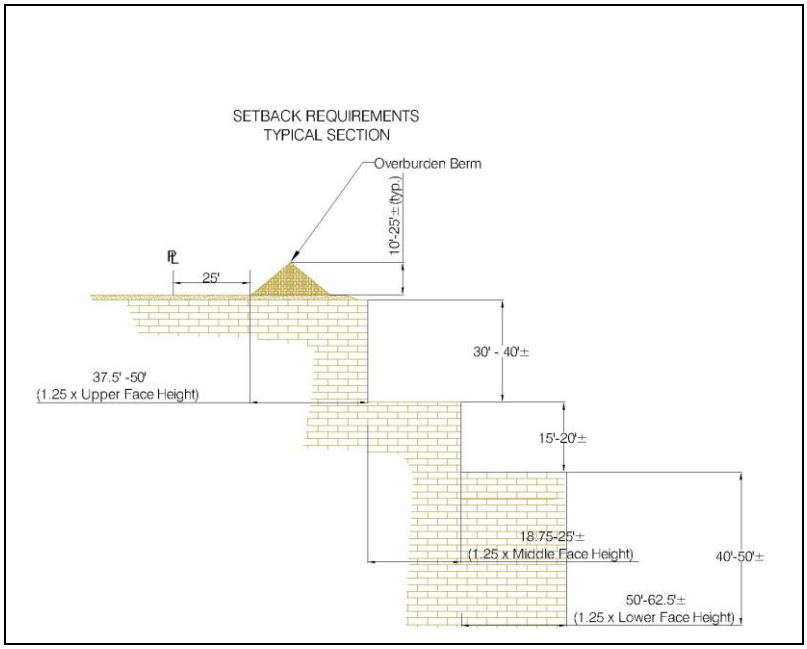

FIGURE 6. Typical Setback Requirements and Benching Scheme

3.5 INTERIM AND FINAL GRADES AND ELEVATIONS

Mining of consolidated material will continue to advance towards the perimeter of the quarry behind a series of three (3) vertical faces as indicated in Figure 6. The faces will be advanced to the limits as detailed above (Section 3.4). The current quarry floor has a lowest elevation of approximately 565 feet above mean sea level (amsl) in the southeastern portion of the quarry, rising to approximately 600 feet amsl in the north; and approximately 665 feet amsl in the western portion.

As shown on the updated Reclamation Plan Map (Figure 4), the final floor elevation in the southeastern corner of the current life-of-mine will be approximately 550 feet amsl. From here, the final floor elevations will gradually rise as the floor progresses north and northwesterly to a high-point of approximately 625 feet amsl in the northernmost portion of the site. This final grade is a function of the geology in this portion of the mine. The depth of DOT-quality limestone generally decreases from east to west within the life-of-mine. Therefore, the final floor elevation will gradually increase from west to east and south to north as shown on the updated Reclamation Plan Map. Grading the final floor in this manner, as mining occurs, will also facilitate the continued easterly stormwater drainage toward the existing sump.

3.6 PROCESSING

Shot rock is moved by haul trucks to the main aggregate processing plant in the central portion of the quarry for crushing, sizing and stockpiling. Sized aggregate is loaded into commercial trucks and removed from the site for use as construction material, or used for the production of hot-mix asphalt (HMA) concrete (blacktop) on site. Oversized rocks, unable to be dumped into the crusher hoppers, are broken by pneumatic hammer or segregated to be sold as heavy stone fill. Periodically a portable processing plant with an associated generator set is brought in to augment the processing equipment at the facility. As needed, a portable plant is intermittently located on the top of the lowest lift in the southeastern portion of the quarry in order to re-crush stone into certain sizes based on customer demand and product inventory.

Hot mix asphalt concrete is produced within the Honeoye Falls facility at two plants (drum and batch) located to the west of the aggregate processing plant (see Mine Plan Map).

Washing of the aggregate takes place at the main aggregate processing plant. A settling pond system is used to clarify the process ("wash") water prior to discharge to the pond system just north of the processing plant. Sediment-laden wash water flows through the settling pond system via gravity. Clarified process water either evaporates, infiltrates, and/or is discharged via gravity flow at SPDES Outfall 001.

3.7 HAULAGEWAYS

Haulageways have been constructed within the quarry and plant area as well as a perimeter road gaining access to the top of the high wall as shown on the Mine Plan Map (Figure 2). Principle haulage is the transport of shot rock from the working face and muck pile to the primary crusher. Haulageways are composed of crushed stone or are over bedrock. Primary access to the site is from Honeoye Falls No. 6 Road. No new site entrances/exists are proposed.

An existing auxiliary access driveway off of Oak Openings Road will be maintained in the area proposed to be added to the life-of-mine. Refer to the Mine Plan Map (Figure 2). This access-way will continue to only be used by plant vehicles intermittently as needed to enter the new area for various operational functions. This route will not be used for customer vehicles, nor as a main access for quarry equipment. This access-way currently exists in the form of a "farm road" over the grass. Due to the infrequent traffic, this grassed surface is to be kept as is, unless future conditions warrant the surfacing with crushed stone over some or all portions of the access-way.

3.8 DISPOSITION OF STOCKPILES AND WASTE MATERIALS

3.8.1 Refuse/Solid Waste

Full development of the Honeoye Falls mine site will not generate significant waste. Refuse and solid waste will continue be removed from the site and disposed of in accordance with applicable rules and regulations relative to solid waste management.

3.8.2 Trees and Stumps

Most of the area within the life of mine had been fields with minimum forestation. A portion of the new area proposed to be mined will have harvestable trees removed from the site. Consistent with approved industry practices, stripped materials such as brush, shrubs, and trees will be chipped for reclamation purposes, will be chipped, buried with other vegetation and overburden in the center of perimeter berms or piles within the life of mine, or removed to an approved landfill. Stumps will be stockpiled within the mine or perimeter for later burial during reclamation.

4 POLLUTION CONTROL AND PREVENTION OF ENVIRONMENTAL DAMAGE

4.1 AIR QUALITY

4.1.1 Existing Conditions

Mining has occurred in Honeoye Falls since the 1830s, and at the Hanson Aggregates – Honeoye Falls Quarry, since 1959. The plant will operate in accordance with applicable NYSDEC air pollution control regulations and its current State Air Facility Permit (#8-9908-00113/00033).

Particulate matter produced during stone quarrying and processing is typically of relatively large particle size. The chemical composition of the dust from stone mining activities is generally homogeneous since its ancestry is the rock formation from which the rock deposit was mined. Since essentially all of the emissions from a stone plant are

formed due to the mechanical action of one material ground into another ("attrition"), aggregate plants are generally not significant sources of ultrafine particulate matter.

Fugitive emissions ("fine particulate matter") from operations within the expansion area represent a continuing condition of the current operation. Since there are no proposed changes in the current quarry operation, there will be no changes in the air resources within and in proximity of the proposed expansion area.

In addition to maintaining compliance with applicable air pollution control regulations, the following best management practices (BMPs) and engineering controls are currently used and will continue to be used to prevent dust pollution. They are summarized below.

Best Management Practices

- Dust from haulage-ways and stockpile areas are controlled by water spray;
- Vehicular speed is reduced with limits posted;
- Shut down idle and unloaded equipment;
- Careful loading of trucks;
- Maintain equipment through daily inspections and repairs as needed;
- Extents of stripping ahead of production are carefully controlled and kept to a minimum in advance of working faces;

Engineered Controls

- Dust from the equipment at the aggregate processing plants and haul roads is controlled by water spray;
- Operations are largely confined below grade and much of the operation is surrounded by perimeter berms;
- Overburden berms around the quarry perimeter are vegetated to prevent wind erosion and help trap fugitive dust within the property boundaries;
- The main customer access road is paved with bituminous concrete to minimize the tracking of material onto the public road;
- Hanson requires all trucks to comply with the NYS Tarp Law, and has signage in place to notify all independent or non-Hanson trucks visiting the site to comply as well.

Current practices employed to maintain the air quality at the facility such as those listed above will be continued, resulting in no significant impacts to areas outside the facility.

Temporary dust emissions from blasting of the stone will continue to be controlled by the following practices:

- removing excess stone and cuttings to greatest extent practical on the burden,
- wetting the stone in front of the shot as necessary, and
- wetting the stone on top of the burden to greatest extent practical taking safety measures into consideration.

4.2 NOISE POLLUTION

Noise currently generated during mining activity originates from drilling and blasting; the use of equipment to remove material atop the bedrock and from the active face(s); haul trucks transporting materials; and the processing facilities. The following methods are currently used and will continue to be used to attenuate noise levels at the mine site:

a) Motor driven equipment is muffled to meet MSHA standards,

b) Processing equipment (e.g., crushers, screens, etc.) is significantly removed from residential structures limiting noise emanation to potentially sensitive residential receptors. No new processing equipment is proposed for the existing quarry or area to be added to the life of mine.

c) Quarry operations are confined largely below grade which reduces noise transmitted off-site.

d) Additional barrier attenuation from vegetated berms surrounding the mining site.

e) Noise is attenuated by vegetative cover that is retained outside the areas that are not actively being mined or being prepared for mining.

f) Equipment is routinely maintained.

g) Vehicle speeds are controlled to reduce engine noise during interior transport of material. Speed limits are posted within the quarry.

Noise mitigation measures to be implemented with respect to the proposed modification area are summarized below:

a) An earthen berm will be constructed around the perimeter of the proposed modification area. Berm heights have been designed to attenuate potential noise increases at Receptor locations for the noisiest equipment activities to less than 3 dBA, which has been shown to be imperceivable to the human ear.

b) During initial berm construction, the back-up alarms on all involved mobile equipment [e.g., loader(s) and haul truck(s)] will be disabled and MSHA-compliant silent strobe-light back-up indicators will be installed to reduce equipment noise.

c) Construction of perimeter earth berms will be limited to the hours of 9 a.m.-5 p.m., Monday through Friday.

d) Since mining will gradually progress from the southeast to northwest toward Receptors, almost all noise will be unperceived because mobile equipment will be operated below Receptor elevations and behind quarry faces for nearly the entire lifespan of the proposed modification area. (The exceptions to this are the initial construction of perimeter berms and drill-rig operation atop the upper bench as the mine nears full build-out, which are both temporary and of relatively brief durations.)

e) No processing equipment is proposed to be operated within the modification area, thereby, keeping it below Receptor elevations and behind quarry faces, far removed from Receptors.

f) Mining operations within the proposed modification area will be completed in multiple phases beginning at the furthest point from the closest Receptors.

4.3 WATER RESOURCES

4.3.1 Surface Water

No NYSDEC regulated wetlands are within or immediately adjacent to the areas proposed to be added to the current life of mine. There is one federally mapped wetland and one unnamed, NYSDEC classified stream adjacent to the southern portion of the proposed area to be added (refer to Sections 4.3.1.1 and 4.3.1.2). No mining activity is proposed within a minimum of 25-feet of these two waterbodies.

Quarry activities will continue to have a minimal effect on natural surface drainage. As mining continues to progress westerly into the proposed expansion area, surface water in the form of sheet flow will continue to flow in an easterly direction. Precipitation falling on the quarry floor will continue to evaporate, percolate into fractures in the quarry floor, or accumulate on the floor to eventually flow towards and into the existing sump

at the far eastern end of the quarry. Accumulation of precipitation on the quarry floor typically happens only during the winter and spring months.

Surface water flow within the plant area will not change and will continue to be channeled to the pond system for clarification prior to discharge as described in Section 2.5. Discharges from the settling pond system (outfall 001) and sump (outfall 002) are covered under SPDES Permit No. 002992. The proposed expansion will not have any impact on the facility's existing SPDES permit since no changes to the operation or nor any modifications water drainage and discharge systems will be necessary. No new stormwater or process water discharge points will be created as a result of the proposed modification.

Stormwater runoff and internal drainage will continue to be directed to the quarry sump. No changes to current stormwater management practices will be required in conjunction with the proposed project. Stormwater and process water will continue to be managed as stated in the facility's "Best Management Practices (BMPs)/Stormwater Pollution Prevention Plan (SWPPP)."

Temporary and permanent berms will be seeded as soon as practical upon completion to minimize erosion. Any silt laden water is directed to low areas in the southern portion of the quarry. These low areas within the quarry, as well as the sump, act as settling ponds to clarify any potential turbid conditions prior to discharge from the site. Upon depletion of the reserves the site will be reclaimed to a lake as described in Section 5.0. The reclaimed site will be internally draining and will be allowed to naturally fill with water.

4.3.1.1 Wetland Avoidance

There is one federally mapped wetland adjacent to the southern portion of the proposed area to be added. The federal designation of this wetland is "PEM1A," which is designated as a palustrine emergent, persistent, temporarily flooded wetland. Hanson Aggregates contracted with The Environmental Collaborative (TEC) to complete a wetland delineation to identify the northern most extent of the wetland. The Environmental Collaborative performed the delineation on July 1, 2010. A copy of the TEC's summary report was included in Appendix X of the DEIS.

The wetland boundary markers set by TEC were surveyed shortly after the wetland delineation and are shown on the Mine Plan Map (Figure 2). The U.S. Army Corps of Engineers has jurisdiction over the federal (PEM1A) wetland. A minimum 25-foot off-set from the delineated northern wetland boundary, adjacent to the proposed expansion, has been scaled off from these surveyed markers on the updated Mine Plan Map.

4.3.1.2 Stream Avoidance

An unnamed tributary flows northwesterly to the south of the proposed expansion area. This tributary flows through the above-referenced federal wetland, and is designated by NYSDEC as "Class C." As shown on the Mine Plan Map, the proposed life-of-mine boundary to be added does not include this stream. Along most of the southern border of the proposed expansion boundary, this stream is approximately 500-600 feet away. In some locations, toward the southernmost extent of the proposed area to be added, the new life of mine boundary would be within 100-feet of the stream. Vegetated berms will be constructed around the perimeter of the proposed expansion. These berms, combined with the quarry faces, will contain stormwater and direct it away from the stream toward the internal portions of the quarry.

During berm construction, silt fence will be placed down-gradient in between the berm and/or wetland to prevent sediment runoff anywhere the berm is within 100-feet of these waters. The silt fence will be installed as stripping/excavation progresses into undisturbed areas adjacent to the wetland and stream, ahead of these earth-moving activities. The silt fence will remain in place until the vegetation on the berm has stabilized. Figure 7 is a standard silt fence installation detail that will be followed according to the New York State Standards for Sediment and Erosion Control Manual (August, 2005). The locations of silt fence are shown on the Mine Plan Map.

A second unnamed "Class C" tributary flows northerly across the eastern portion of the existing life of mine. (Refer to the Mine Plan Map.) No disturbance to the unnamed tributaries is proposed as part of the expansion.

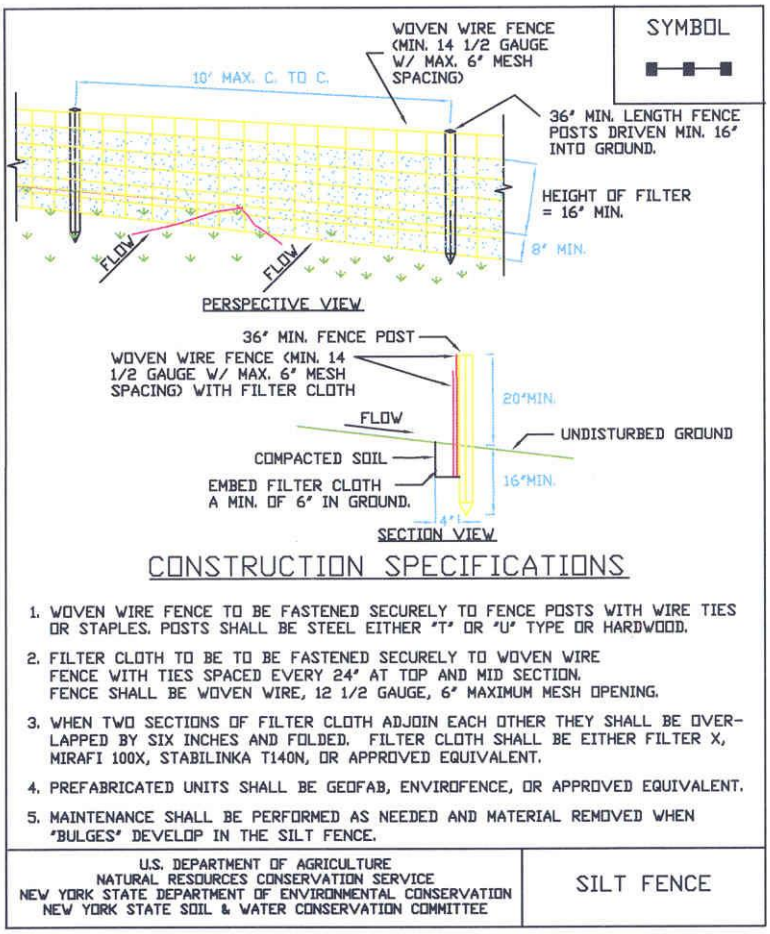

FIGURE 7: Typical Silt Fence Installation Detail

4.3.2 Petroleum and Chemical Storage

All current petroleum tanks are registered pursuant to the NYSDEC Petroleum Bulk Storage regulations as required. There are no regulated chemical bulk storage tanks at the facility.

As required under its industrial SPDES permit, Hanson maintains and implements a Stormwater Pollution Prevention / Best Management Practices Plan to prevent or reduce the potential for release of pollutants to waters of the State. The facility also follows an oil Spill Prevention, Control and Countermeasure (SPCC) plan as required under U.S. Environmental Protection Agency (EPA) regulations.

The potential for petroleum spills is controlled by the following methods:

- Petroleum tanks at the site are double-walled, in secondary containment, and/or located indoors.
- Bulk petroleum tanks are equipped with high-level alarms, level gauges, and/or automatic shut-off valves.
- Bulk petroleum tanks are visually inspected at least monthly.
- Personnel are trained and refreshed yearly on procedures to limit petroleum spills, as well as containment and clean-up of spills.
- Spill kits are maintained throughout the site and on many of the plant vehicles such as loaders and pickup trucks.
- When not in use, mobile equipment is parked near the garage on flat areas removed from any surface water drainage channels.

4.3.3 Ground Water

4.3.3.1 Groundwater and Surface Water Monitoring Program

Since 2005, Hanson has regularly monitored water levels in eleven (11) piezometers located within its current quarry property. An additional five (5) new monitoring wells were installed in and around the proposed expansion area in 2009 and 2010. Additionally, Hanson began monitoring the water levels in two (2) adjacent residents' wells plus the office supply well in 2009. At the request of NYSDEC, additional piezometers and staff gauges were installed in 2014. Piezometer locations are shown on the Mine Plan Map (Figure 2).

Hanson currently monitors groundwater elevations quarterly at existing wells, and the quarry sump, as listed in the December 31, 2000 "Long-Term Monitoring Plan." As described above, Hanson installed five (5) new wells in 2009 and 2010 and several wetland piezometers and staff gauges, within the vicinity of the proposed modification area. These wells (and piezometers) have been added to the quarterly well elevation monitoring program, and will continue to be monitored on a quarterly basis, as long as they are accessible, with the original wells listed in the December 31, 2000 "Long-Term Monitoring Plan." Several additional wells within the quarry have also been incorporated into the monitoring program. Below is an updated list of the twenty-nine (29) groundwater (and surface water) elevation monitoring locations included in the quarterly monitoring program. The approximate well locations are shown on Figure 2 (Mine Plan Map).

Groundwater Monitoring Locations:

Oak Openings Road Culverts (2)
Honeoye Falls No.6 Rd Culverts (2)
Quarry Wash Plant Well (Well #17)
Quarry Garage Well (Well #18)

Sump
Well 1-99
Well 1A-99
Well 2-99
Well 3-99
Well 4-99
Well 5-99
Campier Well
Wetland Piezometers (P1-P3)
Stream staff gauges (SG1-SG3)
Quarry Crusher Run Plant Well (Well #20)
Quarry Primary Crusher Well (Well #21)
Office Well
Well 09-001
Well 09-002
Well 09-003
Well 10-001
Well 10-002
Dalton Road Silo Well

4.3.4 Uncontaminated Ground Water and Surface Water Discharge

Current operations allow the pumping of ground water and surface water from the sump located in the eastern portion of the existing quarry to a weir located beyond the high-wall in the northeastern portion of the life-of-mine. Water from the weir passes through a rip-rap lined channel and small filtering pond system prior to flowing northwesterly overland via surface channels to an unnamed tributary of Spring Creek. This discharge is currently identified as Outfall 002 under SPDES Permit #NY-0002992. There is no limitation on discharge flow rate in the SPDES permit. A portion of the water from the sump is recirculated via an overland pipe to a fresh-water pond located north of the main aggregate processing plant (Mine Plan Map, Figure 2). Water from this pond is pumped to the wash plant for use in processing during the production season (e.g., late April through mid-November).

Washing of the aggregate takes place at the main aggregate processing plant. Water used to rinse aggregate at the wash plant is sent via a pipe (below ground) and a channel north of the welding shop to the settling pond system (Mine Plan Map, Figure 2). A settling pond system is used to clarify the process ("wash") water prior to discharge in the pond system just north of the processing plant. Sediment-laden wash water flows through the settling pond system via gravity. Water passing through the settling ponds is clarified by settlement of the particles. Then the water evaporates, percolates into the ground or is discharged from the pond system through a culvert pipe to the north of the existing quarry via SPDES Discharge Point 001. Discharged water then flows overland via surface channels to an unnamed tributary of Spring Creek.

4.4 VISUAL SCREENING

The majority of mining activity (i.e. loading and hauling) will take place below grade, behind a 36- to 101-foot face. The current quarry is visually screened by a perimeter berm. Mining activity, except for intermittent berm construction, will continue to take place behind a vegetated permanent berm a *minimum* of 10-feet high that will ultimately surround the three sides of the proposed modification area. As previously mentioned in Section 3.3.1, additional visual screening will be provided by the temporary safety berms along the northern edges of each mining phase. The continuation of perimeter berms and the high face behind which the equipment will shield views into the operating areas of the quarry from outside locations. It is noted that Hanson owns (or controls) all of the adjacent land to the east (existing quarry). A forested area to the south of the proposed expansion area, will provide visual screening. In addition to the vegetated berms to be constructed around the perimeter of the proposed expansion area, the quarry is visually screened from residences on adjacent properties to the north by mature woodland vegetation. There are currently views into the existing quarry from the south along HeathMarkham Road and atop a drumlin on North Avon Road. These views have existed for many years.

Upon completion of the perimeter berm around the proposed expansion area, Eastern White Pine (*Pinus strobus)* tree saplings will be planted in single rows on the outer side of the proposed berms near several adjacent residences to the north and west of the proposed project area, as shown on the Reclamation Plan Map. Eastern White Pine trees have been found to grow well in the northeast and will provide an aesthetic improvement to the constructed berm. The proposed locations of the tree plantings are shown in Figure 8, "Berm Aesthetics Detail."

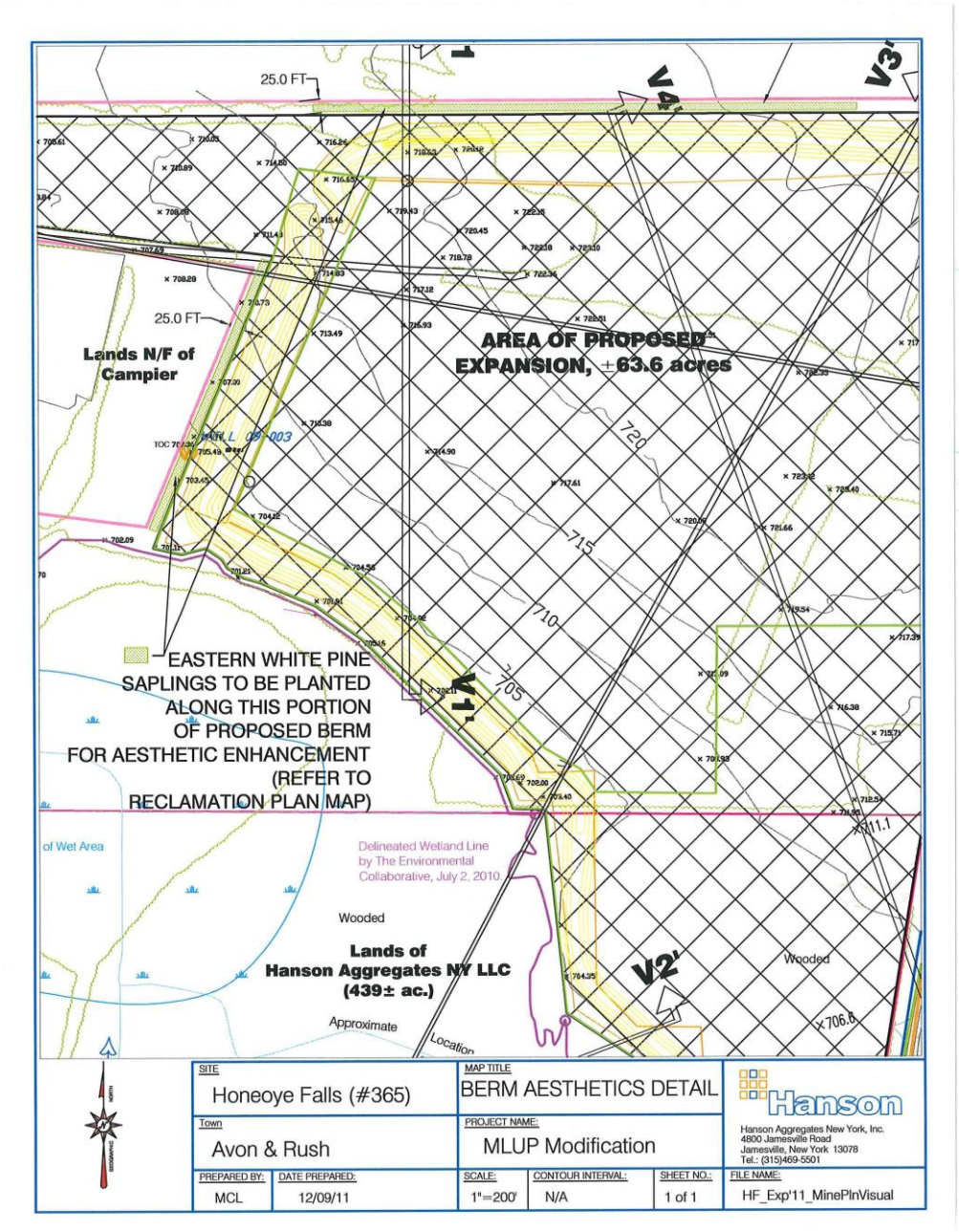

FIGURE 8: Berm Aesthetics Detail

4.5 GROUND VIBRATION FROM BLASTING

Blasting is currently the only cost-effective method available at the Honeoye Falls Quarry to fragment consolidated rock to a size small enough to crush through the aggregate processing plants. During a blast, the energy released from the expansion of gases produced by the detonation of the blasting agent breaks or fragments the consolidated material in the immediate vicinity of the charge. Energy introduced to the rock medium that is not permanently deformed travels as kinetic energy of particle motion and potential energy of particle displacement in the wave motion.

As a primary measure to mitigate the impacts of blasting to an insignificant level, Hanson will continue to design its blasts to conform the guidelines developed by the former United States Bureau of Mines (USBM), as well as the applicable NYSDEC Mining Permit conditions.

The USBM prepared three comprehensive reports over a period of 40 years that culminated in the publication of USBM Report of Investigation (RI) 8507 in 1980. This study involved new measurements and inspections that were combined with results of nine previous studies.

Figure 9 indicates the safe levels of blasting vibrations for houses as determined in USBM report RI 8507. Hanson Aggregates New York LLC has and will continue to design the blasts at the Honeoye Falls Quarry to maintain peak particle velocities below the limits as shown in Figure 9.

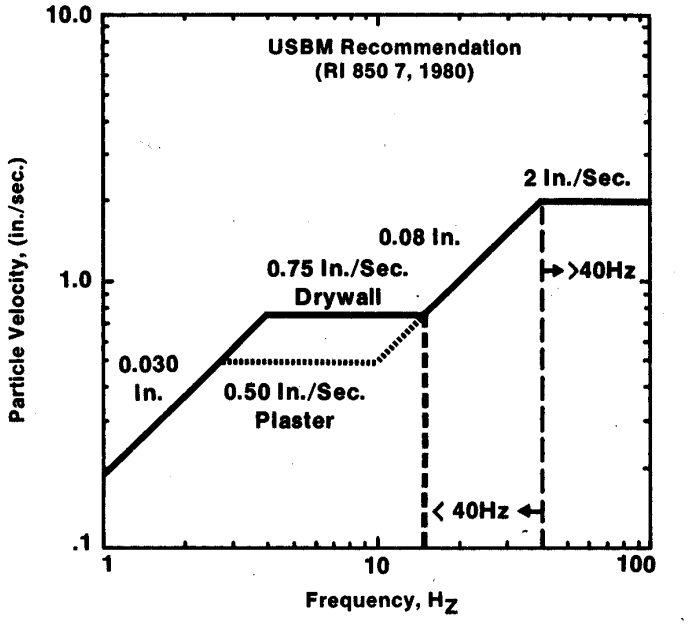

Figure 9: Frequency versus particle velocity graph developed by the U.S. Bureau of Mines to protect houses from vibration damage.

4.5.1 BLASTING PLAN

As stated in Section 3.2.2 of this Mined Land Use Plan, seismographs will be used to record the frequency and peak particle velocity measurements between the blast and closest residence to the blast during each occurrence at the Honeoye Falls Quarry. The results are compared with the chart in Figure 9 by the licensed blaster to help design the next blast. Since no two shots are identical, the design of the shot may change from the last dependent on location,

amount of burden, height of face, and distance to receptors. Information such as borehole size, burden, borehole spacing and delay vary from shot to shot. Using this method of blast design with seismograph evaluation after each shot, there has been and will continue to be no significant impact to structures outside the mining limit as mining continues into the expansion area and within closer proximity to residences.

As required under New York State regulations, only licensed blasters perform blasting and blast designs at the Honeoye Falls Quarry. As described above, each blast is designed separately and as blasting conditions change with respect to vibration and air-blast measurements. It is noted that mining in the expansion area will not approach nearby residences for many years and therefore, the blasting company will have much data upon which to base its blast designs when, ultimately, blasts are conducted near the outer reaches of the proposed new area.

A full description of the blasting plan and impact assessment upon nearby receptors (near the proposed expansion) are provided in Section 4.9.1 of the DEIS.

General measures that will be used to minimize off-site impacts due to blasting are:

- Adhere to all blasting conditions in the NYSDEC-issued mining permit;
- Continue to implement best management practices for drilling and blasting;
- Use of blasting patterns which optimize the energy to break the rock;
- Use of timing delays which sequence the blasting in a way that minimizes noise and vibration;
- Limit the number of blasts by increasing the yield of each blast to the extent practicable;
- Blasting between the hours of 9:00 a.m. and 5:00 p.m. when most people are likely to be at work;
- Blasting on days with the least amount of cloud cover, to the extent practicable, so that the reflection of blast noise is limited;
- Monitor all blasts with seismographs to aid in corrective blast design if needed;

4.5.2 PLAN FOR MINIMIZING OFF-SITE IMPACTS AT CLOSEST RECEPTORS

As noted in the previous section, the expansion will not approach nearby residences for many years and therefore, the blasting company will have much data upon which to base its blast designs when, ultimately, blasts are conducted near the outer reaches of the proposed new mine area.

There are nearly limitless components of blasting design that can be altered in efforts to control off site impacts. As mining approaches the outer limits of the mine, a combination of the current technologies (some of which may not exist today) available regarding the components of blast design as mining operation advances within the closest proximity to nearby residences.

In addition to reviewing and implementing the latest blasting technologies applicable and available for use at the site, the following measures will be implemented as mining approaches the outer limits of the proposed modification area:

- A record of continuous monitoring of ground vibrations will be maintained and used to identify any modifications to the blasting practice being used over time.

- Prior to blasting within 500-feet from a residential structure, a summary of the last twelve (12) months of shot reports will be submitted to the NYSDEC along with the blast design to be used for shots within 500-feet of a residential structure.
- As blasting is performed within 500-feet from residential structures each shot report will be submitted to the Department within 72 hours, continuing until blasting has reached its closest distance of approximately 250-feet from the residential structure.
- As the blasting location approaches 250-feet from the closest residential structure, a specific blasting plan will be designed, with the applicable components of blast design and current technology that can be altered in efforts to control off-site impact upon the closest receptor(s). These include, but are not limited to the following:
    - hole diameter,
    - number of holes,
    - hole depth,
    - hole pattern,
    - delays and pounds of explosives per delay,
    - pre-splitting,
    - other current technologies and techniques as applicable and available.
- A pre-blast survey performed by a qualified third-party will be offered free-of-charge to the owners of all structures within 1,500-feet of the blasting location, prior to commencement of blasting within 1,500-feet of those structures. Copies of the pre-blast surveys will be made available to the landowners and to the NYSDEC – Division of Mineral Resources.

5 RECLAMATION PLAN

5.1 LAND USE OBJECTIVE

Hanson Aggregates is in the business of removing stone for use in construction. Due to the longevity of the project it is not feasible to state an exact end use for the property when all reserves have been depleted. The end use will be determined by the needs of local community and/or the future owner. There are various possible end uses for mined out quarries, some of which are:

- Public water reservoir
- Recreational and resort area
- Industrial park
- Protection and enhancement of wildlife
- Housing developments

The probable end use for which the quarry will be prepared for is industrial, commercial, recreational, or residential with a water impoundment. As a producer of crushed stone, Hanson would most likely sell this land and the end use would be determined by the buyer.

5.2 RECLAMATION METHOD

5.2.1 Grading and Slope Treatment, Final Grades

5.2.1.1 Water Based Reclamation Areas

As shown on the currently approved Reclamation Plan Map, as well as the updated Reclamation Plan Map (Figure 4), the reclamation of nearly the entire quarry area will be water-based (i.e., lake). No significant changes to the reclamation plan are proposed other than the extension of the reclaimed area into the proposed modification area.

It is anticipated that the excavation area will replenish with water upon cessation of mining and associated dewatering activities. Based on the site historical data from piezometers around the perimeter (these are less likely to be influenced by the excavation area, quarry sump and associated pumping) of the quarry and geologic profiles, it is anticipated that the water elevation within the quarry will gradually rise from the southeastern portion to the northwestern portion. Water in the quarry is anticipated to reach an equilibrium level at approximately 625-635-feet amsl depending upon seasonal and annual precipitation amounts. This level is based on the average historical level found in wells in the eastern portion of the site, outside the current excavation area, west of the groundwater divide with the sump pump running. These wells are indicative of the natural groundwater conditions that will exist when the sump pump is no longer running and the quarry fills in with groundwater, creating a lake. Due to the topography at the site no discharge from the quarry is anticipated.

The water level within the northwestern part of the quarry will fluctuate with the natural variations found throughout the seasons but should not reach a dry level unless an atypical drought occurs. The lake will eventually range in depth from approximately 5-feet to 85-feet, getting more shallow from east to west. Seasonal fluctuation in groundwater levels in a limestone aquifer can often be 10-feet or more. Seasonal fluctuation in the water level of an open water body, however, are different than a limestone aquifer. Only minor (2-3 feet) fluctuations in the surface water elevation of the lake will result from seasonal dry periods.

The resulting lake will provide habitat for a variety of aquatic resources such as plants, fish, and amphibians, as well as providing temporary habitat for a variety of animals and birds. The property itself will remain private property upon completion of mining and will be posted as such.

Final grades on the floor of the quarry are approximately 2 percent to the south-southeast following the general dip of the bedrock as shown on the Reclamation Plan Map. Areas that are anticipated to be below water upon cessation of pumping will not be covered with overburden.

5.2.1.2 Above Water Level Reclamation

Quarry walls are currently mined in three faces: a 30- to 40-foot high upper limestone bench, a 15- to 20-foot high middle limestone bench, and a 40- to 50-foot high lower limestone bench. As shown on the Reclamation Plan Map, the mine faces will be mined back to the setback requirements required by the New York State Department of Environmental Conservation Mined Land Reclamation Law: 1.25 X Face Height plus 25 feet from the adjacent property line. Bedrock high-walls will be scaled, blasted, and/or pre-split and backfilled with rock, excess fine material (baghouse fines, settling pond fines, etc.), and overburden. Backfilled slopes will be graded to a 1 vertical on 1.5 horizontal. The “Final Bench Reclamation Typical Detail” provided on the updated Reclamation Plan Map shows the typical section of the final bench configuration.

Areas anticipated to remain above the natural water level will be covered with a minimum of 6” of overburden (material able to sustain vegetative cover) where needed and graded so as to blend areas

of sharply contrasting slopes. Some areas will be left as is (areas not shaded on the Reclamation Plan Map) to provide access to the quarry.

5.2.1.3 Wetland Development Area

To enhance wildlife diversity within the reclaimed quarry, a portion of the upland area in the northwest corner of the proposed expansion area will be reclaimed as wetland. This area is identified as "Wetland/Upland Transition Zone" on the updated Reclamation Map (Figure 4). This wetland will provide transitional habitat for a variety of plants and animals. Planting areas or areas that will naturally establish wetland vegetation will be developed after water levels have been monitored for a period of 2-3 years after final grading has been completed. A list of "Suggested Plants, Planting Depths, and Wildlife Benefits" is found at the end of Appendix XVII of the DEIS and will be used as a reference when determining what wetland plants will be planted and where. Plants that occur in the existing wetland to the south of the quarry will be given preference when acquiring plants for transplant[9] and or purchase. It is anticipated that wetland plants will spread and establish naturally with time.

5.2.1.4 Upland Areas

Quarry benches and upland areas will be covered with a minimum of 6-inches of overburden and vegetated to grass. Upland areas (e.g., settling ponds) will be covered with a minimum of 6-inches of overburden and vegetated with grasses. The following seed mix will be used:

Tall fescue	15 lbs./acre
Red Top	2 lbs./acre
Perennial Ryegrass	5 lbs./acre
Birdsfoot Trefoil	4 lbs./acre
Switchgrass	4 lbs./acre
Annual Ryegrass	10 lbs./acre

Soils will be tested for pH and the local Soil and Conservation District Office will be consulted for the proper lime, mulch, and fertilizer quantities. The seed mixture above has been proven to work well in the northeast when covering soils high in pond fines. Perimeter berms will be planted with scattered eastern white pine trees as shown on the updated Reclamation Plan Map.

5.3 MINING & RECLAMATION SCHEDULE

The chart below summarizes the general activities anticipated to take place at the quarry upon approval of the permit modification.

MINING	
Mining of current third bench to the western limits	Present – Fall 2018.
Excavation of lower lift	Present thru cessation of mining.
Stripping and mining in Phase I (Modification Area)	Upon NYSDEC approval through end of permit term (and possibly the following permit term)

[9] If material is transplanted from existing wetlands, all necessary permits will be obtained prior to removing vegetation from regulated wetlands.

RECLAMATION	
Placing and grading overburden throughout upland areas that have been disturbed, including settling ponds.	Concurrent with mining as space allows. To be completed 1 year after mining ceases.
Removal of aggregate processing plant, HMA plant, garage, ancillary buildings, and mining equipment.	Within 2 years of cessation of mining.
Cessation of pumping	When grading of overburden is complete.
Water levels will be monitored for 2-3 years after pumping ceases	
Upland vegetation planting	Concurrent with grading of overburden as noted above. To be completed within 2 years of cessation of mining.
Wetland vegetation planting	To be completed within 1 year after water level monitoring is complete.

5.3.1 Disposition of Waste, Residual Material, Junk Trash, and Personal Property

No material, either waste, junk, or personal property will remain upon reclamation within the mining area. The aggregate processing equipment and accessory equipment will be removed upon reclamation of the Plant and Stockpile Area.

5.3.2 Treatment of Haulageways

Ingress and egress to the reclaimed quarry will be retained as indicated on the updated Reclamation Plan Map. The unpaved access road around the perimeter of the quarry will be left as is to provide access to future users of the reclaimed site. All other interior haul roads will be mined through and/or inundated by water after cessation of pumping from the sump.

5.3.3 Water Impoundment Treatment

Upon exhaustion of the reserves the pumps draining the quarry will be removed and the water level will rise to the natural water table level as discussed in Section 5.2.1.1. The settling ponds will be filled in with fine material removing the ponded water. The settling ponds will then be graded and seeded to grass as described in Section 5.2.1.4.

5.3.4 Final Drainage

Final drainage within the quarry will continue to be internal as indicated on the Reclamation Plan Map.

6 REFERENCES

Morhard, Robert C., 1987, Explosives and Rock Blasting, Atlas Powder Company, pp. 321-347.

New York State Department of Environmental Conservation, 2001, "Assessing and Mitigating Noise Impacts," NYSDEC Program Policy DEP-00-3.

New York State Department of Environmental Conservation, December 29, 2003, "Policy CP-33: Assessing and Mitigating Impacts of Fine Particulate Matter Emissions."

Rau, John G. and Wooten, David C., 1980, Environmental Impact Analysis Handbook, McGraw-Hill, Inc., pp. 4.14-4.32.

Richards, John, Ph.D., P.E., and Brozell, P.E., February 2000, "$PM_{2.5}$, PM_{10}, and TSP Formation, Composition, and Deposition at a Stone Crushing Plant – Volume 1 Report."

FIGURES