

## **Cloewood Draft Environmental Impact Statement**

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### **3.16 CONSTRUCTION AND RELATED IMPACTS**

The Scoping Document requires consideration of the short-term construction impacts on the following resource areas: geology, soils, and topography; water resources; traffic systems; noise; and air quality. The existing conditions of each are fully discussed in the sections dedicated to each resource: Sections 3.7, 3.8, 3.11, 3.12, and 3.13, respectively.

#### **3.16.1 Geology, Soils, and Topography**

The Project's existing conditions and potential impacts relating to geology, soils and topography are discussed fully in Section 3.7, which detail measures which would be incorporated into the Project as part of its design to prevent any potential significant adverse impacts in this regard, including construction.

Most of the soils that would be affected by construction consist of glacial till composed of silt and sand with some gravel and clay, and the recommendations provided and summarized in Section 3.7 focus on this type of soil. Relatively minor amounts of sandy granular soils may be affected, and different procedures for working with these soils are provided when appropriate. There would be no different impacts to these or any soils than as detailed in Section 3.7.

#### **3.16.2 Water Resources**

The Project's wells have already been drilled and developed. No additional water well drilling or development would be required as part of the Project's construction. The Project's wells would not be utilized during construction. Therefore, there would be no adverse impacts upon water supply during construction. Likewise, there would be no impacts upon sewer/wastewater during Project construction as it would not be utilized.

Potential impacts related to the SWPPP include soil erosion during construction, which would be prevented by implementation of the erosion control plan are summarized in Appendix H and in Section 3.7. Stormwater quantity management, run-off reduction practices, stormwater quality control measures and erosion control measures have been designed and would be implemented in conformance with NYS SPDES Permit GP-0-15-002 requirements. The text of the SPDES Permit, together with associated Permit Forms, can be found in Appendix H of this DEIS. The specific best management practices to be implemented are based on standardized criteria as set forth in the NYS Stormwater Design Manual, (Jan. 2015 ed., hereinafter referred to as the Manual) and the NYS Standards for Erosion and Sediment Control, (Nov. 2016 ed.).

As there would be no significant adverse impacts to water resources during construction no mitigation is necessary.

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### **3.16.3 Traffic Systems**

The estimated 300 annual onsite construction jobs would generate traffic; however, the volume of construction traffic would be far less than would be the case following the completion of the Project. Construction would take place Monday through Saturday, 7:00 AM to 6:00 PM, exclusive of holidays. There would be no additional construction entrance to the Project. Access by construction vehicles would be via the existing access off Clove Road, which previously accommodated the traffic of the existing 135 seasonal housing units (which currently lie vacant). When the seasonal units were occupied, the traffic was 1,350 vehicles per day, a level which greatly exceeds the anticipated daily construction traffic that would be expected during development of the Project.

During the construction of the Project's road improvements, there would be approximately twenty workers per day on the Project Site. With respect to material deliveries relating to this construction, it is expected that sixty triaxle dump trucks per day would be required to deliver the necessary materials. However, these delivery trips by triaxle dump trucks are expected to occur over only three days total.

During the time of the construction of the Project's dwelling units, there would be approximately forty workers per day on the Project Site. With respect to material deliveries relating to this construction, it is projected that the deliveries of building materials, concrete, pipe structures and other such materials would not exceed approximately ten trucks per day throughout construction.

Construction worker trips would not be during peak hours. Construction workers would arrive to the Project Site prior to the Peak AM Highway Hour on NYS Route 208 and depart the site prior to the Peak PM Highway Hour and therefore their trips would result in any significant impact on traffic. As part of the NYSDOT Highway Work Permit, a Maintenance and Protection of Traffic (MPT) plan for conditions during construction, including any temporary traffic control measures such as flagmen, signing or other requirements of NYSDOT, would be implemented to ensure no significant impacts to the traveling public. In addition, traffic during construction would be monitored and any necessary traffic mitigation would be implemented.

As there would be no significant adverse impacts on traffic related to construction, no mitigation is necessary.

### **3.16.4 Noise**

Construction of the Project would result in noise from construction activity, onsite construction equipment, and vehicles traveling to and from the development Site. This subsection describes the potential noise levels related to construction activity, the location of noise-generating activities

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in relation to sensitive receptor locations, and mitigation measures to minimize those potential impacts.

### Existing Ambient Noise Levels

Existing ambient noise levels were measured on November 25, 2016 at seven locations, both on- and offsite. Further discussion of existing noise is described in Section 3.12. The construction activities would comply with all Village Code noise regulations as well as use DEC's "Assessing and Mitigating Noise Impacts" policy document as a guide. Both are summarized in Section 3.12, as they apply to the Project generally, and are discussed in more detail below where they specifically pertain to construction noise assessment and mitigation.

### Village Code

The Project would comply with the Village regulations for soil removal, filling, and grading (Chapter 124), and machinery would be operated only within the permitted time windows. The Project would meet the Village Code requirements for construction noise.

Village Code Chapter 73 (Noise), limits construction noise as follows:

- (1) No person shall operate or permit to be operated any tools, machinery or equipment used in construction, drilling or demolition work:*
  - (a) between sunset and 8:00 a.m. the following day on weekdays or at any time on Sunday or legal holidays, such that the sound therefrom creates an unreasonable noise<sup>1</sup> across a residential real property boundary.*
  - (2) at any other time such that the sound level at or across a real property boundary exceeds an L-10 of 60 dB(A) for the daily period of operation.*  
*normal sensitivities or which causes injury to animal life or damage to property or business.*

### NYSDEC Noise Policy

The construction noise analysis utilized methods from the DEC "Assessing and Mitigating Noise Impacts" policy document to assess potential noise impacts. The analysis utilized for the Project confirmed that ambient daytime noise levels would increase in the immediate vicinity of construction operations during Project construction.

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<sup>1</sup> Recall from the Noise discussion in Chapter 3.12 that the Village defines an "unreasonable noise" as: "Any excessive or unusually loud sound or any sound which either annoys, disturbs, injures or endangers the comfort, repose, health, peace of safety of a reasonable person of normal sensitivities or which causes injury to animal life or damage to property or business."

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Construction activities and operation of construction equipment have been the subject of numerous noise studies completed for various projects in the region. Table 3161 shows representative maximum sound levels for diesel-powered equipment and other activities at a range of receptor distances.

Table 3161				
Typical Construction Noise Levels (dBA)				
Equipment/ Activity	Maximum Sound Levels			
	50 Feet	200 Feet	500 Feet	1,000 Feet
Backhoe	82-84	70-72	62-64	56-58
Concrete Pump	74-84	62-72	54-64	48-58
Generator	71-87	59-75	51-67	45-61
Loader	86-90	74-78	66-70	60-64
Trucks	81-87	69-75	61-67	55-61
Rock Processing	81-89	69-77	63-71	57-65

Source: Tim Miller Associates, 2005

### Noise from Construction

To the average person, an increase in the ambient noise level of 2 to 3 dBA is barely perceptible, an increase of 5 dBA is noticeable, and an increase of 20 dBA is perceived as a dramatic change. Annoyance frequently results from increases of 10 dBA or more, depending on the frequency and duration of the noise events.

The extent of the potential impacts to the nearby community from construction equipment noise depends on the type and number of pieces of equipment being operated, as well as the distance between the offsite receptor and the onsite noise generator. For the purposes of this construction noise assessment, sensitive receptors are defined as the existing homes in residential developments and single-family homes near the Project Site. There are no other sensitive receptors located within the vicinity of the Site, such as schools, day care centers, nursing homes, or hospitals.

Sensitive receptors are identified as follows:

- The Capitol Hill residential development southwest and adjacent to the property;
- The Orchard Lake residential development southwest of the Site;
- Several single-family homes near the northeast Project entrance, including homes on Round Hill Road, and approximately seven homes on the south side of Clove Road; and
- Single-family homes on the northwest side of Clove Road, across from the property frontage.

The potential effects of noise from construction on each of these receptors are described below.

Generally, existing residences located near or in the vicinity of the Project Site would experience temporarily elevated noise levels at occasional periods during the construction of the proposed Project. The period of most active construction-generating noise would occur in the initial phases

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of construction when the Project Site would be brought to grade with bulldozers, excavators, and trucks, as well as when concrete and building materials are transported to the Project Site. These activities would not occur during the majority of the construction period.

The majority of tree clearing, excavation, and grading would occur in the interior portion of the Site, owing to the cluster subdivision design and layout. As shown in the Grading Plan, undisturbed open space and parkland would be located along much of the property frontage on Clove Road and along the southwest and northeast property boundaries.

No noise would result from blasting and rock drilling, as these activities are not be anticipated for the Project, given the soil types mapped onsite and the lack of bedrock outcrops in the proposed area of development. Furthermore, in accordance with the Village Filling and Grading regulations, construction equipment would only be operated between 8:00 AM and 5:00 PM weekdays and between 9:00 AM and 5:00 PM on Saturdays, and not operated on Sundays and legal holidays. Although no blasting or rock hammering would be anticipated, any required rock processing would occur a minimum of 1,000 feet from adjacent residences, which meets NYSDEC guidelines.

It is assumed that, during grading for residential lots, the equipment used may include backhoes, loaders, and dump trucks, with typical noise between 81-90 dBA within 50 feet of the equipment (*see* Table 3161, above). The use of such equipment would be limited to a few weeks to establish grades and to prepare residential foundations at any location along the perimeter of the Project Site. Moreover, the Village's limitations on hours of operation will serve to mitigate any impacts on residences.

*Capitol Hill Residential Development:* Several residences in the Capitol Hill development are close to or adjacent to the Project's property line. These include residences on Virginia Avenue and on Orchard Drive. No development would be located within approximately 1,130 feet of the southwest property line; this area would remain as undisturbed open space and parkland. Therefore, construction-related noise from grading and equipment is calculated to range from 45-65 dBA (at the houses), given the distance between the area of grading and residential receptors.

*Orchard Lake Residential Development:* The closest existing residences on Evergreen Drive, Orchard Lake Drive, and Hilltop Drive are a minimum of 800-1,000 feet from the northeast property line of the Project Site. Grading in this area of the property would, at its closest, be about 100 feet inside the property line for the proposed single-family residences and internal roads. Given the distance of the vegetated area proposed to remain between the existing residences and proposed graded area, construction noise would range from 45-65 dBA while those development areas are graded.

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*Northeast Property Corner:* The closest residences near the northeast property corner are 150 to 300 feet from the Project, including a house on Round Hill Road and two houses on the north side of Clove Road opposite the site. These residences are approximately 500-700 feet from the proposed area of grading in the northeast corner of the property. Noise levels are calculated to range from 62-70 dBA while the perimeter development area is graded. One residence on the north side of Clove Road is within 150 feet of Clove Road and opposite the proposed northeast entrance. This residence would experience construction noise in the range of 75-85 dBA, for the limited time while the entrance is being constructed.

*Clove Road Residences:* Approximately seven homes are located on the northwest side of Clove Road opposite the property. Proposed grading for residential development would occur within 865-1,200 feet of these properties. Construction noise at these receptors can be expected to range between 48-68 dBA during the grading at the perimeter of the development.

Two existing homes are located on Clove Road, northeast of the Blooming Grove Plaza Shopping Center, and one home is located on Clove Road, southwest of the Shopping Center. These residences would experience construction noise during the construction of the southwest entrance and the sewage treatment area behind the Shopping Center. These residences are between 450-650 feet from proposed grading. Construction noise for these receptors would range from 62-72 dBA during the grading in that area.

### Other Factors Influencing the Amount of Noise at Receptor Sites

The estimates of construction noise at the different receptor locations listed above account for the typical amount of noise loss over distance. Other factors would influence the construction noise experienced at any receptor location, including: topography, vegetation, the type and number of construction equipment operating at one time, and the duration of construction activity at specific locations.

### Vegetation

As discussed in Section 3.12, vegetation generally does not provide substantial noise reduction, unless the vegetation is relatively dense and in sufficient depth; according to DEC guidance, dense vegetation that is at least 100 feet in depth would reduce sound levels by 3-7 dBA.

Given the vegetative buffers that would be maintained on-site and the existing vegetation off-site, construction noise at many receptor locations would be reduced below the above-cited values by this substantial vegetation. Construction at any specific location would be temporary and periodic. Therefore, the estimates listed above would be the maximum construction noise levels experienced for limited periods at the different receptor locations.

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### Duration of Construction Activity at Specific Locations

The construction noise levels described above represent instantaneous, peak levels and not average noise levels over time. The Village Noise Code limits construction noise as follows: “No person shall operate [construction equipment] at any other time such that the sound level at or across a real property boundary exceeds an L-10 of 60 dB(A) for the daily period of operation.” An “L-10 of 60 dB(A)” is defined by the Code as the sound level that is exceeded 10 percent of the time (90<sup>th</sup> percentile). Therefore, according to the Code, construction noise at the property line cannot exceed 60 dBA for more than 10 percent of the construction workday. This requirement would be met, given the buffer distances provided and the varied nature of construction.

### Impact of Noise on Wildlife

Construction noise would affect wildlife sensitive to noise, including birds and mammals. The construction noise would be temporary and would vary across the property, depending upon the type of construction activity underway. It is likely that during construction, noise-sensitive wildlife would move to other locations (either on- or offsite) to avoid noise and human activity.

As shown in the Site Plan in Appendix A, large areas of vegetated buffers are provided onsite where wildlife can move to for cover, feeding, and habitat. Moreover, in addition to the Project’s open space, much of the property surrounding the Project Site is undeveloped, or features green corridors within existing concentrated development, allowing wildlife to move to other areas. Therefore, the anticipated construction noise would be a short-term non-significant impact on wildlife that would result in temporary wildlife relocation, and which would cease upon the completion of construction.

According to the noise analysis detailed above, neighboring residential properties would be subjected to short-term increases in noise during construction of the proposed Project. Due to the size of the property and the Project’s layout and design, the majority of construction activity, including storage and staging areas would occur in the interior of the site.

As shown in the Grading Plan, open space or parkland consisting of existing vegetation would be preserved along all of the property boundaries. This vegetated buffer is a minimum of 860 feet along the northwest, southwest and southeast property borders. In the northeast corner of the development, the buffer would be a minimum of 100 feet. This buffer provides distance between proposed construction activity and nearby residential noise receptors.

Vegetation generally does not provide noise reduction, unless the vegetation is relatively dense and in sufficient depth. According to the NYSDEC Assessing and Mitigating Noise Impacts guidance document, dense vegetation that is at least 100 feet in depth would reduce sound levels

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by 3 to 7 dBA. Given the vegetated buffers provided, noise at many of the residential receptor locations would be attenuated by the intervening vegetative buffers. Accordingly, the Project's construction would not have the potential to generate any significant adverse noise impacts and no further mitigation would be necessary.

### **3.16.5 Air Quality**

Potential short-term air quality impacts that may result from the construction of the Project include fugitive dust and particulate matter from the clearing of the site and movement of equipment and vehicles across the site and emissions from the operation of the construction equipment and vehicles.

#### Fugitive and Airborne Dust

Construction activities on the Project Site would have a potential impact on the local air quality through generation of fugitive or airborne dust. Fugitive dust is generated during ground clearing and excavation activities, and generally when soils are exposed during dry periods. Throughout the construction period, passage of delivery trucks and other vehicles over temporary dirt roads and other exposed soil surfaces may also generate fugitive dust. Residences on the north side of Clove Road and the existing residential subdivisions southwest and northeast of the Project Site, closest to the proposed areas of grading would have the greatest potential to be impacted by dust.

As shown in the Grading Plan, the majority of grading will occur to the interior of the Project Site. Buffers of existing vegetation would remain along the southwest and northeast property lines, eliminating or significantly reducing the potential impact of dust upon nearby residences.

With the planned Project Site maintenance and attention to construction activities, including periodic spraying of water on unpaved roads, impacts from fugitive dust would be minimized at off-site properties to the point that they would be almost nonexistent. Standard construction dust control methods would be employed by the Project to ensure that construction generated dust would not impact off-site residents. These methods include:

- Minimizing the area of grading at any one time and stabilizing all exposed areas, including areas where work would not occur for periods longer than two weeks, with mulch and seed immediately;
- Minimizing vehicle movement over areas of exposed soil, and covering all trucks transporting soil; and
- Unpaved areas subject to traffic would be sprayed with water to reduce dust generation.

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- Truck vehicle washing pads would be constructed at all construction entrances to avoid the tracking of soil onto paved surfaces.

When conditions are favorable for dust generation, dust control would be provided through appropriate measures to reduce off-site impacts as well as improve on-site working conditions. During dry weather conditions, spraying water on unpaved areas subject to heavy construction vehicle traffic would help control dust. Paved areas would also be kept clear of loose dirt that could be re-entrained into the air during vehicle passage. The use of stone tracking pads at access points to the site and washing of vehicle tires would greatly lessen the tracking of soil onto adjacent roadways.

Upon Project construction, the Project Site would be covered with landscaping, turf, residences and pavement, or remain in its natural state thereby eliminating the potential for dust generation from the Project's disturbed areas long-term.

### Equipment and Vehicle Emissions

Construction-related air emissions would result from the use of diesel fuel as a source of energy for construction vehicles and equipment. On-site control measures would be implemented proposed as a part of the Project during construction to limit dispersal of particulate matter. Well maintained diesel engines are more fuel efficient than gasoline engines; however, they are a source of some air pollutants. Pollution from these engines comes from the combustion process in the form of exhaust. The major pollutants resulting from diesel fuel include the following:

- Hydrocarbons - Unburned or partially burned fuel molecules consist of hydrocarbons that can react in the atmosphere to form ground-level ozone, a major component of smog.
- Carbon monoxide - Emissions from diesel engines contain very low levels of carbon monoxide in comparison to gasoline engines. Carbon monoxide is the result of incomplete combustion of fuel.
- Nitrogen oxides - Because diesel engines consume fuel and air, and create heat, nitrogen from the air can be transformed into nitrogen oxides. Nitrogen oxides react with hydrocarbons in the atmosphere to form ground-level ozone. Nitrogen oxides also contribute to acid rain.
- Particulate matter – Exhaust from diesel engines contains microscopic airborne carbon particles that result from fuel combustion. The exhaust from properly maintained diesel engines should not be visible. Exhaust fumes that are thick and black occur when diesel engines are poorly maintained or maintained improperly.

Construction related vehicle emissions would be generated by construction equipment used on the property during the entire construction period. Contributing equipment would include: generators,

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diesel-powered construction worker vehicles on the Project Site, chainsaws, heavy equipment such as bulldozers and excavators, and trucks delivering materials to the Project Site. The number and type of construction equipment on the Project Site at any one time would vary, depending upon the specific activity. Heavy equipment such as bulldozers and excavators would be utilized more during the initial clearing and grading phase. As shown in the Grading Plan, the majority of grading would occur interior to the 708-acre property with buffers of existing vegetation along the southwest and northeast property lines.

Air quality impacts cannot be precisely quantified, given the variability in the type and number of construction equipment that will be on-site over the 18 to 24-month construction period. A detailed construction schedule is provided in DEIS Section 2.15 and in the SWPPP in Appendix H. The construction schedule and size of the Project confirm that there would not be a sufficient number of sources of diesel exhaust to create any significant adverse air quality impacts, especially given the large size of the Project Site, the relatively few close off-site receptors, and the absence of existing local air quality pollution.

Particulate matter from diesel exhaust emission would be controlled through proper tuning of the vehicle engines and maintenance of each engine's air pollution controls. This will minimize additional contribution to site-generated particulate emissions during construction. Through the incorporation of dust control measures and construction vehicle maintenance measures to control emissions, no short- or long-term significant adverse air quality impacts as a result of construction operations would occur.

Accordingly, there are no potential air quality impacts as a result of the Project's construction that would need to be mitigated.

### **3.16.6 Conclusions**

There are multiple measures which are incorporated into the Project which would prevent construction activities from generating any significant adverse environmental impacts.

Thus, as detailed above, the Project's construction would not have the potential to generate any significant adverse impacts upon geology, soils, and topography; water resources; traffic systems; noise; and air quality. The Project would implement best management practices, including erosion and sediment control measures, monitor traffic levels during construction, ensure compliance with applicable regulations with regards to each resource area and possess enough open space and vegetative buffers to offer shelter for any displaced wildlife and reduce noise to those few residences which may hear construction noise. Therefore, no further mitigation would be necessary.