

## I. Noise Impacts

### 1. Existing Conditions

The Village of Bloomingburg is subject to Town of Mamakating Noise Ordinance which restricts the decibel level of noise generated from a site. Specifically, the creation of any noise which exceeds 75 decibels at the adjoining property line is prohibited. The ordinance limits “the erection including excavation, demolition, alteration or repair, of any building other than between 7:00 A.M. and 9:00 P.M.” The ordinance also prohibits the creation of any loud and/or excessive noise in connection with the loading or unloading of any vehicle or the opening and destruction of bales, boxes, crates, and containers in such a manner as to create an unreasonable or unnecessary noise of unreasonable extent and duration.

Additionally, noise levels requisite to protect public health and welfare against hearing loss, annoyance and activity interference were identified by the U.S. Department of Housing and Urban Development (HUD). This federal agency is responsible for providing guidelines related to noise impacts. HUD’s goal is that exterior noise levels do not exceed 55 decibels in residential areas. This level is also recommended by the United States Environmental Protection Agency (USEPA) as a goal for outdoor noise levels in a residential area, but in areas with mixed land use, a higher level of 70 dBA is held as the acceptable level by the agencies. Therefore, sites with a reading of 70 decibels or below are considered “acceptable,” and do not require additional attenuation measures. These noise levels are contained in EPA document, "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety."

The document identifies a 24-hour exposure level of 70 decibels as the level of environmental noise which will prevent any measurable hearing loss over a lifetime. Likewise, levels of 55 decibels outdoors and 45 decibels indoors are identified as preventing activity interference and annoyance. These levels of noise are considered those which will permit spoken conversation and other activities such as sleeping, working and recreation, which are part of the daily human condition.

The levels are not single event or "peak" levels. Instead, they represent averages of acoustic energy over periods of time such as 8 hours or 24 hours, and over long periods of time such as years. For example, occasional higher noise levels would be consistent with a 24-hour energy average of 70 decibels, so long as a sufficient amount of relative quiet is experienced for the remaining period of time.

**Typical average decibel levels (dBA) of some common sounds.**

Threshold of hearing	0 dBA	Motorcycle (30 feet)	88 dBA
Rustling leaves	20 dBA	Food blender (3 feet)	90 dBA
Quiet whisper (3 feet)	30 dBA	Subway (inside)	94 dBA
Quiet home	40 dBA	Diesel truck (30 feet)	100 dBA
Quiet street	50 dBA	Power mower (3 feet)	107 dBA
Normal conversation	60 dBA	Pneumatic riveter (3 feet)	115 dBA
Inside car	70 dBA	Chainsaw (3 feet)	117 dBA
Loud singing (3 feet)	75 dBA	Amplified Rock and Roll (6 feet)	120 dBA
Automobile (25 feet)	80 dBA	Jet plane (100 feet)	130 dBA

When assessing new source impacts, it is important to note that the addition of a new noise source into the environment does not necessarily have a mathematical additive effect. When evaluating the impact of additive noise to an existing setting, the key factor for consideration is the differences between the two sound levels. The table below, provided by the New York State Department of Environmental Conservation (NYSDEC), in a document entitled “*Assessing and Mitigating Noise Impacts*,” assists in calculating combined noise levels. For example, if two noise sources are each 70dBA, they do not have a combined noise level of 140dBA, but rather 73dBA. Since the difference between the two sound levels is 0dBA, the table says to add 3dBA to the sound level to compensate for the additive effects.

**Table A**  
**Approximate Addition of Sound Levels**

Difference Between Two Sound Levels	Add to the Higher of the Two Sound Levels
1 dBA or less	3 dBA
2 to 3 dBA	2 dBA
4 to 9 dBA	1 dBA
10dBA or more	0 dBA

(USEPA, Protective Noise Levels, 1978)

NYSDEC recommends assessing the cumulative Sound Pressure Level (SPL) by starting with the two lowest readings and working up to the difference between two highest readings.

## 2. Temporary Noise Impacts

Temporary impacts in the immediate vicinity of the site will occur during construction of roads, utilities and buildings. The extent and duration of the construction noise will depend on the type of equipment and the schedule of work chosen by the contractor. It is not possible to predict the exact magnitude of this impact on ambient noise levels in the areas that border the project site due to the variability in many of the factors needed to make such an assessment. The construction noise is generally intermittent and depends on the type of the operation and location. Construction noise is usually limited to daytime hours. Construction related noise impacts could be limited by confining noise generating activities to normal working hours.

Construction equipment will be required to be equipped with noise attenuation devices and mufflers. All exhaust systems shall be maintained in good working order. Properly designed engine enclosures and intake silencers will be required. Regular maintenance will be required. Stationary equipment will be placed as far away from sensitive receptors as possible. Disposal sites and haul routes will be chosen to minimize objectionable noise impacts. Shielding mechanisms will be employed where possible.

Typically, construction equipment generates noise levels (when measured from 50 feet) that range from 70 to 95 dBA's. These levels can be compared to a shouting voice at 6 feet (70 dBA) or to a lawn mower at 3 feet (95 dBA). This noise level would decrease over distance through attenuation of the sound consistent with the "inverse square law". That is, sound pressure level (SPL) changes in an inverse proportion to the square of the distance from the sound source. For example, at distances greater than 50 feet from a sound source, every doubling of the distance produces a 6 dBA reduction in the sound. Therefore, a sound level of 70 dBA at 50 feet would have a sound level of approximately 64 dBA at 100 feet and 58 dBA at 200 feet. Absorption or deflection by vegetation also attenuates noise levels significantly.

### 3. Permanent Noise Impacts

It is reasonable to assume that residents and their visitors accessing the site, normal day-to-day residential activities such as the occasional delivery truck and garbage pick-up, will be similar in make and variety to those found presently on the road system, thus producing similar levels of sound.

Typical noises expected to be generated from the site include traffic noises from predominately from passenger cars, and occasional truck activity. Since the adjacent land uses include other residential properties, it is anticipated that new noise levels will be consistent with existing levels for the area.

Ambient sound levels in the vicinity of the site can be attributed to the existing noise generated by automobile traffic on the local road (Winterton Road CR 62). The existing noise impacts directly attributed to the project can be mitigated by the use of measures such as, but not limited to, alternative construction methods, equipment maintenance, physical barriers, placement of buildings and activities, landscaped earthen berms, vegetative screening and setbacks.

Permanent noise related impacts for this site are associated with vehicular traffic. The highest level of traffic noise will be at the main entrances onto Winterton Road, due to the stopping and turning movements in this location and because the majority of the site traffic will travel between the site and Main Street. Based upon estimated trip generation, assuming the project will have both passenger car and occasional truck trips, projected ambient average daytime noise level associated with additional vehicular movements are anticipated to be at or below the 55 dBA at the nearest property line. This level falls within the typical range of existing ambient noise levels, the HUD recommendation for residential areas and the town ordinance limitation, therefore has no significant impacts.

### Conclusion

Typical noise provisions state that the outdoor day/night sound level (DNL) in decibels at the property line should not exceed seventy (70) decibels in a 24-hour period. Construction related noise is an unavoidable impact of the development. However, it is short-term in duration and construction activities, consistent with local ordinances, will be limited to 7:00 A.M. to 9:00 P.M. to prevent noise impacts at night.

The future development of the remaining lands will be consistent with current zoning regulations and is not anticipated to exceed ambient levels. Typical noises expected to be generated from the site include traffic noises from passenger cars, and occasional trucks within the site. It is anticipated that new noise levels will be consistent with existing levels for the area.

There are no identified permanent features that will exceed thresholds discussed herein. Preliminary estimations indicate that the permanent noise level will not exceed 70 dBA at the property line, however, as part of the SEQRA process for the site, sensitive receptors will be identified and project specific SPL measurements will be taken. The developer/contractor shall be responsible for assuring that applicable regulations are upheld.

### 3. Air Quality

The proposed site, *Village of Chestnut Ridge*, is located in the Village of Bloomingburg, Town of Mamakating, Sullivan County, NY. The Town of Mamakating Zoning Ordinance has no identifiable criteria with regard to air quality; however, there are general industry air quality preservation standards set forth both on state and federal levels. The National Ambient Air Quality Standard (NAAQS) was utilized as a comparison for purposes of evaluating if the proposed site poses a threat to ambient air quality levels.

As part of the SEQR process, the site is required to meet or exceed all state, federal and municipal air quality regulations. Typical outdoor air pollutants generated from the average residential use include carbon monoxide, nitrogen oxides and volatile organic compounds (VOC). These substances are most commonly associated with vehicular emissions, but can be emitted from heat sources like furnaces and HVAC systems. New state-wide UCC construction codes and EPA standards require energy efficiency rating on items like furnaces, which will minimize their impacts. It has

been found that combustion byproducts of natural gas and propane contain very little pollution. These types of fueling sources will be carefully considered during future site planning efforts. Since the intended use meets current zoning standards, typical air emissions related to this type of use have been addressed within the Township Master Plan and zoning regulations.

A preliminary assessment, which considered maximum build-out potentials for the project site, was performed by Reilly Associates Engineering. By utilizing the traffic modeling software, Synchro, which does a basic mesoscale analysis, Existing, Build-year and Future (10-year) traffic conditions were assessed and levels of CO, NOx and VOC emissions were evaluated. These values proved significantly less than regulatory thresholds (see Appendix D). No significant, unmitigated delays or Level of Service (LOS) drops resulted from the increased volume generated by the proposed development.

In general, pollutants are released when:

- Fuel is burned in the internal combustion engine and the air /gasoline residuals are emitted through the tailpipe.
- Heat causes fuel to evaporate from under the hood and throughout the fuel system. Hot, sunny days and engines warmed by running provide heat to vaporize fuel into the air.
- Refueling at the service station where gasoline vapors escape into the air.

Currently, expected pollutant sources are limited to vehicle emissions, both passenger car and occasional trucks, and discharges from homes HVAC units.

New York State's new vehicle technology program is modeled after the California Low Emission Vehicle (CAL-LEV) program. New York State was the first state outside of California to adopt the CAL-LEV standards, which are more stringent than federal standards. The CAL-LEV program requires all new passenger cars and light duty trucks (6,000 pounds and under) sold in New York State to have been certified as meeting one of five certification levels. In addition, the program stipulates that manufacturer's sales must meet an established fleet average.

New York State Environmental Conservation Law (ECL) prohibits heavy-duty vehicles, including diesel trucks and buses, from idling for more than five minutes at a time.

Less idling time is good for the environment because it reduces air pollution, noise and fuel use. It also saves money for diesel operators and consumers and contributes to a cleaner atmosphere. It is not anticipated that truck idling will occur for more than five minutes at a time on this site, since anticipated truck traffic include only those items such as delivery truck, and garbage collection vehicles.

The diesel idling regulation is found in Title 6 NYCRR, Subpart 217-3 and will be enforced by DEC Conservation Officers.

During construction, the air quality may be affected by dust during dry periods and construction vehicle emissions. The potential construction-related impacts will be temporary. The vehicle emissions will be controlled by proper maintenance of construction vehicles. Construction contracts will require dust control through watering of disturbed surface areas. Disturbed areas will be required to be seeded or stabilized with stone as quickly as possible in accordance with an approved Erosion and Sedimentation Control Plan and SPDES permit.

## 7. Conclusion

Temporary construction-related air quality issues will be controlled by proper maintenance of construction equipment. Vehicular-related emissions are regulated by the Clean Air Act and enforced statewide through inspection agencies. Emission concentrations are generally higher in areas of significant congestion where consistent idling occurs. A preliminary traffic assessment, which considered maximum build-out potentials for the project site, demonstrated no extensive delays on the adjacent roadway network and, therefore, no significant congestion is expected. There will be no significant, unmitigated delays or LOS drops as a result of the increased volume generated by the development. The calculated levels of vehicle CO, NO<sub>x</sub> and VOC emissions evaluated were significantly less than regulatory thresholds. Additionally, it is anticipated that other site emissions, such as those from HVAC units, will be minimized by utilizing “green” building principles and energy efficient apparatus to the greatest extent possible.