APPENDIX 26

TRAFFIC NOISE IMPACT ASSESSMENT

PARTNERS
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Creighton Manning

August 17, 2012

Mr. Kevin Franke
The LA Group
40 Long Alley
Saratoga Springs, New York 12866

RE: Response to Comments, Belleayre Resort at Catskill Park, Towns of Shandaken and Middletown, Ulster and Delaware Counties, NY; CME Project No. 111-164

Dear Mr. Franke:

In response to comments from the New York State Department of Environmental Conservation (NYSDEC, page 4 of their June 4, 2012 letter to you), Creighton Manning has conducted ambient noise measurements during summer conditions to supplement the data presented in the *Noise Impact Assessment* prepared for the subject project (Part B SDEIS, Appendix 26). Below is a summary of the supplemental data.

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Summer Ambient Noise

Field measurements were obtained at the three noise measurement sites included in the initial *Noise Impact Assessment* completed for the project (see attached Figure). The measurements were obtained using a Quest Technologies Model 2900 (ANSI Type II) noise level meter. The meter is a battery-powered instrument, which was field tested for proper calibration before and after each measurement. Measurement were taken on Thursday, August 2, 2012 and the weather was partly cloudy with temperatures ranging from low 70's to low 80's throughout the day and wind speeds less than 5 mph. Humidity levels ranges from approximately 60 to 70% in the morning and 45 to 55% during the afternoon. These meteorological conditions are within the parameters for accurate operation, as recommended by the manufacturer. A minimum of 15-minutes of data was recorded at each site, with the meter paused during each session when vehicles were present during the measurements without traffic.

Site A

Measurements were taken at Site A at 9:55 AM, 12:45 PM, and 4:35 PM. The morning and late afternoon measurements were taken to exclude any traffic related noise consistent with the measurements recorded in the initial *Noise Impact Assessment.* The mid-day measurement included traffic related noise, although it is noted that only one vehicle passed by during the measurement. Table 1 summarizes the measurements.

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Table 1- Site A Measurement Summary
Ambient Noise Levels (decibels)

	November 2007 (w/o traffic)	August 2012		
		AM (w/o traffic)	Mid-day (w/ traffic)	PM (w/o traffic)
Site A	36	44	38	42

Note that measurements without traffic were taken at a distance of 15 feet from the edge of roadway and measurements with traffic were taken at a distance of 50 feet from the roadway.

Site A is located near a field where insects were loud during the morning and afternoon measurements resulting in higher ambient noise levels. During the mid-day measurement the insect noise was noticeably quieter which is reflected in the resulting decibel levels, which are comparable to the measurements taken in November when the insect noise was also very low. In general, all of the noise measurement levels are low indicating relatively quiet conditions exist in the study area.

In the initial *Noise Impact Assessment* the Traffic Noise Model (TNM) results showed existing condition noise levels (with traffic) of 36 decibels (dBA) and 34 dBA at Receivers 1 and 2 which are closest to Site A. The results of the modeling are comparable to the current mid-day measurement with traffic of 38 dBA. The future noise levels with the project (Build condition) predicted an increase of 1 dBA over the existing conditions at Receivers 1 and 2. Similar increases in the noise level would be expected in the Build condition of the summer season, even during times of the day when the background noise is elevated due to insect noise. However, it is noted that traffic volumes associated with the development are expected to be less during the summer months since the peak operations at the proposed resort will be during the winter when the Belleayre Ski Center is operational.

Site B

Measurements were taken at Site B at 9:15 AM, 12:11 PM, and 3:54 PM. The morning and late afternoon measurements were taken to exclude any traffic related noise consistent with the measurements recorded in the initial *Noise Impact Assessment*. The mid-day measurement included traffic related noise and included four vehicles passing by the measurement site. Table 2 summarizes the measurements.

Table 2- Site B Measurement Summary
Ambient Noise Levels (decibels)

	November 2007 (w/o traffic)	August 2012		
		AM (w/o traffic)	Mid-day (w/ traffic)	PM (w/o traffic)
Site B	34	36	47	45

Note that measurements without traffic were taken at a distance of 15 feet from the edge of roadway and measurements with traffic were taken at a distance of 50 feet from the roadway.

Site B is located in a wooded area unlike Site A which is located adjacent to a field where insect noise is more prevalent. During the morning measurement at Site B the noise was mostly related to dew dripping from the trees and some birds chirping. During the mid-day and afternoon measurements the ambient noise levels were increased due to leaves rustling on the trees and some insect noise. Similar to the Site A measurement results, during the measurements when the environmental noises were minimal (mid-day at Site A, morning at Site B), the decibel levels recorded were comparable to the November 2007 measurements. In general, all of the noise measurement levels are low indicating relatively quiet conditions exist in the study area.

In the initial *Noise Impact Assessment* the Traffic Noise Model (TNM) results showed existing condition noise levels (with traffic) of 53 decibels (dBA) and 58 dBA at Receivers 7 and 8 which are closest to Site B. The results of the modeling are considerably higher than the summer ambient measurements at Site B since this site is within the influence area of the ski center and the traffic volumes included in the TNM model included volumes associated with the peak ski day. The future noise levels with the project (Build condition) predicted an increase of 2 to 3 dBA for Receivers 7 and 8 over existing conditions and represent the worst case conditions in this area when traffic related noise is at its peak. The summer conditions with lower ambient noise and lower traffic volumes will not exceed the worst case conditions.

Site C

Measurements were taken at Site C at 8:36 AM, 11:39 PM, and 3:18 PM. The morning and late afternoon measurements were taken to exclude any traffic related noise consistent with the measurements recorded in the initial *Noise Impact Assessment.* The mid-day measurement included traffic related noise and included seven vehicles passing by the measurement site. Table 3 summarizes the measurements.

Table 3- Site C Measurement Summary
Ambient Noise Levels (decibels)

	November 2007 (w/o traffic)	August 2012		
		AM (w/o traffic)	Mid-day (w/ traffic)	PM (w/o traffic)
Site C	37	37	53	41

Note that measurements without traffic were taken at a distance of 15 feet from the edge of roadway and measurements with traffic were taken at a distance of 50 feet from the roadway.

During the morning measurement at Site C, the noise was mostly related to dew dripping from the trees, birds chirping, and distant noise from NY Route 28 traffic. During the mid-day and afternoon measurements the ambient noise levels were increased due to leaves rustling on the trees and some insect noise. Similar to the Site A measurement results, during the measurements when the environmental noises were minimal (mid-day at Site A, morning at Site C) the decibel levels recorded were comparable to the November 2007 measurements. In general, all of the noise measurement levels are low indicating relatively quiet conditions exist in the study area.

In the initial *Noise Impact Assessment* the Traffic Noise Model (TNM) results showed existing condition noise levels (with traffic) of 60 decibels (dBA) and 57 dBA at Receivers 9, 10 and 11 which are closest to Site C. The existing condition results from the model are reflective of the higher ambient noise level obtained at the mid-day measurement with traffic of 53 dBA. However, the TNM model results were higher since Site C is within the influence area of the ski center and included peak ski day traffic. The future noise levels with the project (Build condition) predicted an increase of 2 to 3 dBA for Receivers 9, 10 and 11 over existing conditions and represent the worst case conditions in this area when traffic related noise is at its peak. Similar or less of an increase in the noise levels would be expected as a result of the development during the summer months when resort traffic associated with the ski center will be minimal.

Conclusion

The noise measurements obtained at the three measurement locations during August had some results that were consistent with measurements taken in November 2007 and some results that reflected higher ambient noise levels due to active environmental conditions (insects, birds) that were absent in the November measurements. The results obtained at each receiver in August were compared to the modeling results presented in the initial *Noise Impact Assessment* and verified that the results presented in the report show the worst case impacts associated with the development of the site with increases of three dBA or less along CR 49A. In our professional capacity we find that the additional data collected supports the findings of the SDEIS and that our original conclusions regarding traffic noise can be made with reasonable certainty.

Please call with any questions or comments.

Respectfully submitted,
Creighton Manning Engineering, LLP

Wendy C. Holsberger, P.E., PTOE
Associate

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February 9, 2012

Mr. Kevin Franke
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RE: Modified Belleayre Resort at Catskill Park, Towns of Shandaken and Middletown, Ulster and Delaware Counties, NY; CME Project No. 111-164

Dear Mr. Franke:

Creighton Manning Engineering, LLP is in receipt of the updated site plan entitled "The Modified Belleayre Resort at Catskill Park", dated March 30, 2011, prepared by the LA Group. We have reviewed the modified plan in regard to noise and offer the following:

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Site Plan Modifications

The preferred alternative has been modified from the previous site plan to eliminate the upper portion of the Highmount Spa Resort with removal of 24 fractional units. The removal of these units does not result in a net decrease in the development size as these units are relocated to the Wildacres Resort adding ten fractional units to the Front 9 and fourteen fractional units to the West Village.

Appendix 26- Traffic Noise Assessment

Appendix 26 of the latest SDEIS dated April 2011 presented a detailed traffic noise assessment of the proposed Belleayre Resort at Catskill Park. The 2011 study was an update from the initial noise assessment completed in 2002 based on modifications to the development location, a reduction in the overall units, and removal of a golf course and was based on traffic volume data found in an updated traffic impact study completed concurrently. The results of the 2011 noise assessment indicates that traffic related noise levels were expected to increase by a maximum of 3 dBA along CR 49A on a Saturday during the ski season peak one-hour traffic period. No noise related mitigation was recommended as the noise levels experienced did not create a noise impact.

A review of the modifications to the site plan will result in a relocation of one vehicle trip and two shuttle bus users from the Highmount Spa Resort to the Wildacres Resort. This magnitude of change in traffic volumes will not alter the results of the noise assessment.

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Please call with any questions or comments.

Respectfully submitted,
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NOISE IMPACT ASSESSMENT

BELLEAYRE RESORT AT CATSKILL PARK
TOWNS OF SHANDAKEN AND MIDDLETOWN
ULSTER AND DELAWARE COUNTIES

FEBRUARY 2011
(Revised April 3, 2012)

PREPARED BY:

Creighton Manning

PROJECT NO. 99-057

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This revision to the Noise Impact Assessment prepared April 3, 2012 is to provide supplemental background data to support the analysis that was completed in February of 2011. It is acknowledged that since the February 2011 submission, the New York State Department of Transportation (NYSDOT) has updated the Noise Analysis Policy and Procedures found in the Environmental Manual (Section 4.4.18). The updated procedures provide updates to the Activity Categories and Noise Abatement Criteria as well as modifications to the Abatement procedures. As the updated procedures would not change the results of the 2011 study, the revisions herewith are limited to the addition of background and support data for the already completed noise analysis.

NOISE IMPACT ASSESSMENT

This report summarizes the results of the noise evaluation completed for the proposed *Belleayre Resort at Catskill Park* located in the Town of Shandaken, Ulster County, New York and the Town of Middletown, Delaware County, New York. The purpose of the study is to assess the potential environmental noise impacts resulting from the proposed development. The proposed project includes the development of two recreational resort facilities along County Road 49A (CR 49A). The Highmount Spa Resort, located west of the Belleayre Mountain Ski Center consists of a 120-room hotel with 120 fractional lodging units, a spa/fitness center, and a wellness center. The Wildacres Resort located on the north side of CR 49A across from the Belleayre Mountain Ski Center will include an 18-hole golf course, a 208-room hotel with a conference center and ballroom, and 181 fractional housing units. Access to the site is proposed via driveways located on CR 49A and on Gunnison Road.

This noise study compares the potential changes in the noise environment (if any) due to the project and compares them to the Codes of the Towns of Shandaken and Middletown, and to the New York State Department of Environmental Conservation Program Policy; "Assessing and Mitigating Noise Impacts" (February 2001, NYSDEC Noise Policy).

A traffic noise assessment was completed as part of the initial studies completed early in the project process (2001/2002). This revised Noise Analysis was completed to supersede the initial traffic noise evaluations as the previous studies focused more on NY Route 28 adjacent to the location of the Big Indian Resort, which no longer exists as part of the development plan. The noise analysis presented herewith, for the current site plan, is a more detailed and comprehensive study of noise in the project corridor.

The Noise Analysis was conducted for the worst-case winter traffic volume condition, using traffic volumes outlined in the Traffic Impact Study. It is noted that the initial traffic study completed for the project (January 2002), provided extensive assessment of the seasonal nature of the study areas as it relates to traffic; resulting in the winter season representing the worst case conditions. The scope of the noise study was prepared with the knowledge that similar worst case traffic noise results would be experienced during the winter season. It is noted; however, that southwest of the Belleayre Ski Center driveway on CR 49A, existing traffic volumes are very low during all seasons since no destination currently exists in this direction beyond the ski center. The introduction of the Highmount Spa resort will result in increases in peak hour volumes of approximately 200% on this stretch of CR 49A (a winter Saturday PM peak hour increase from 62 vehicles to 116 vehicles). This worst case increase in traffic volumes that is analyzed in this report and similar large volume increases, with similar noise impacts, would be expected on this section of CR 49A during other seasons.

1.0 Noise Fundamentals

Noise can be generally defined as unwanted sound in and around our environment. When speaking of noise in relation to sound, any activity may be referred to as noisy. Aircraft, neighbors playing loud music, a conversation, a child crying, or traffic can also be considered noise if the receptor (person) does not want to hear the sound. Sound waves contain energy in the form of pressure and are measured along a scale in units called decibels. On this scale, the normal range of human hearing extends from about 0 dB (roughly the sound of a mosquito flying approximately 10 feet away) to about 140 dB. Zero (0) dB is not an absence of sound, and it is possible for people with exceptionally good hearing to hear sounds at -10 dB, however, this is rare and the 0 to 140 dB range is what is used in acoustical (or noise) studies related to human hearing.

1.1 Human Response to Sound

Experimentation has determined that the frequency response of the human ear results in a perceived doubling of loudness with every 10 dB increase; whereas a 5 dB increase is a noticeable change and a 3 dB increase is barely noticeable to most people. Sound levels above 85 dB are considered harmful, 120 dB is unsafe, and 150 dB causes physical damage to the human body. Windows break at approximately 163 dB. Jet airplanes create sound levels at approximately 133 dB at 100 feet, or 100 dB at approximately 500 feet. The following table is from the NYSDEC Noise Policy and summarizes the general human reaction to increased sound pressure.

Table 1 – Human Reaction to Increases in Sound Pressure Level

Increase in Sound Pressure (dB)	Human Reaction
Under 5	Unnoticed to tolerable
5-10	Intrusive
10-15	Very noticeable
15-20	Objectionable
Over 20	Very objectionable to intolerable

NYSDEC Program Policy “Assessing and Mitigating Noise Impacts”.

The frequency of a sound wave is the number of complete waves or cycles occurring in a unit of time, most commonly seconds. Frequency, when measured in terms of "cycles per second", is expressed in hertz (Hz) with the lower, deeper sounds such as a bass drum having a lower frequency, and higher pitched sounds having a higher frequency. The human ear is sensitive to a large range of frequencies, with the typical frequency range being 20 Hz to 10,000 Hz, however, in some cases it can reach as high as 20,000 Hz.

Important to understand is that human hearing is not equally sensitive along the 20 Hz to 20,000 Hz range of frequencies. It is more sensitive to sound in the higher frequencies than to sounds in the lower frequencies. The A-scale weighting network was devised to measure noise in a way that closely resembles human hearing and its response to different frequencies. Through the A-scale network, a noise level meter with A-weighting capabilities electronically adjusts the lower, middle and higher frequencies when noise is measured. Greater emphasis is placed on the middle to high frequencies where humans are most “noise” sensitive. This is important since the overall sound we hear is not composed of just one single mono-tone sound wave, but a summation of a number of separate sound waves, each with a different frequency. These overall sound waves, or “frequency distribution”, are what is measured in most environmental noise studies. The summation of these frequencies and their weighted sound pressure levels are often expressed as dB(A) (or dBA). The A-scale weighting is used in this study consistent with the NYSDEC Noise Policy.

Another property of noise is the time varying pattern of the intensity of the noise. Since sound levels (and pressures) fluctuate, the equivalent sound level, Leq, was developed to quantify the time varying pattern of noise by providing a single sound pressure level that represents hundreds and many times 1000’s of samples taken over a specified period of time. From this sampling data, a single value of sound for the period measured is developed. This is useful in establishing ambient (background) sound levels and to develop the equivalent sound pressure exposure over a period of time. For example: a one (1) second exposure to an 80 dBA sound will not likely result in hearing damage, but exposure to 80 dBA over a continuous 8 hour period may result in permanent hearing damage. In studying traffic noise, the equivalent exposure time that may constitute a noise impact is 1-hour and is represented by the one-hour equivalent noise level or Leq(1). Other methods of quantification in relation to time are also available to help describe the noise environment. For instance, the $L_{(90)}$ descriptor is used to represent the existing background (ambient) sound levels by providing a single sound pressure level that is exceeded 90% of the time (NYSDEC Noise Policy). What this simply means is that this level is the typical background noise level present in the existing area and does not depend on a distance from any source, since the noise level will be relatively constant at any point in the area.

For this study, the one-hour L_{eq} descriptor was used for traffic noise, the $L_{(90)}$ was used to determine existing background sound levels and the Lmax was used to represent maximum noise levels present in the existing environment.

1.2 Multiple Noise Sources

The total sound pressure created by multiple sound sources does not create a mathematical additive effect. For instance, two proximal noise sources that are 65 dBA each do not have a combined noise level of 130 dBA. In this case the combined noise level is 68 dBA. A mathematical formula was used in this study to precisely calculate the additive effect.

Where L_T = combined noise level and $L_{1,2,...n}$ = noise level in decibels The formula is:

$$L_T = 10*\log_{10}(10\hat{}(L_1/10) + 10\hat{}(L_2/10) + 10\hat{}(L_3/10) + \ldots.10\hat{}(L_n/10))$$

The following table provides the guidelines that summarize the mathematical equation.

Table 2 – 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
10 dBA or more	0 dBA

NYSDEC Program Policy “Assessing and Mitigating Noise Impacts”.

Since the difference between the two sound levels is 0 dBA, the table tells us to add 3 dBA to the higher of the two sound levels to compensate for the additive effects of the sound. For several sources of noise, present at the same time, the difference between the two lowest sound pressure levels (SPLs) is calculated first and that result is added to the next highest source. Follow this process until all the sound levels are accounted for. As an example, if noise sources of 65 dBA, 67 dBA, 72 dBA and 74 dBA were to be added, the resultant sound level would be:

65 dBA + 67 dBA = 69 dBA ⇒ 69 dBA + 72 dBA = 74 dBA ⇒ 74 dBA + 74 dBA = 77 dBA

or

65 + 67 + 72 + 74 = 77 dBA

1.3 Sound Level Reduction Over Distance

It is important to have an understanding of the way noise decreases with distance. The decrease in sound pressure changes with the 1/r of the distance. That is, the sound pressure changes in inverse proportion to the distance from the sound source. At distances greater than 50 feet from a sound source, every doubling of the distance produces a 6 dBA reduction in the sound pressure for point sources such as air conditioners, compressors, a rock concert, slow moving vehicle, or a rock crusher. Therefore, a sound level of 70 dBA at 50 feet would have a sound level of approximately 64 dBA at 100 feet. At 200 feet, sound from the same source would have a sound level of approximately 58 dBA. When dealing with a “line source”, such as moving traffic stream along a major highway, the sound levels will decrease approximately 3 dBA every time the distance is doubled over hard surfaces such as water, asphalt, or concrete and between 5 and 6 dBA per distance doubled over grass or other soft surfaces.

1.4 Temperature and Humidity

Sound energy is absorbed in the air as a function of temperature, humidity and the frequency of the sound. This attenuation can be up to 2 dBA over 1,000 feet. Such attenuation is short term and, since it occurs over a great distance, is not considered in calculations. Higher temperatures tend to increase sound velocity but do not have an effect on the SPL and sound waves bend towards cooler temperatures. Temperature inversions may cause temporary problems when cooler air is next to the earth allowing for more distant propagation of sound. Similarly, sound waves will bend towards water when it is cooler than the air and bounce along the highly reflective surface. Consequently large water bodies between the sound source and the receptor typically reduce the effect of noise attenuation over distances when compared to grass surfaces.

1.5 Vegetation

If high enough, wide enough, and dense enough (cannot see through it), vegetation can decrease highway traffic noise. A 200-foot width of dense vegetation can reduce noise by 10 decibels, which cuts the loudness of traffic noise in half. However, it is often impractical to plant enough vegetation to achieve such reductions. Even though relatively narrow strips of vegetation cannot provide any (noise) shielding effects, it can provide at least some psychological relief. For example:

Loudness Cut in Half

No Noise Reduction
(Potential Psychological Benefit)

1.6 Traffic Volume Increases

Traffic Noise studies have shown that a 20-25% increase in traffic volumes will result in a 1 dBA increase of noise levels while a 50% increase in traffic can results in a 2 dBA increase. This correlation holds true when the vehicle distribution remains the same such as the number of medium and heavy trucks increase at the same rate as passenger cars. Table 3 below quantifies increases in traffic volumes as they relate to traffic noise levels.

Table 3 – Potential Increase in Traffic Noise with Increase in Traffic Volumes

Traffic Volume Increase	Increase in Traffic Noise Level (dBA)
0 – 25%	0 to 1
26 – 50%	1 to 2
51 – 100%	2 to 3
100 – 200%	3 to 4
200 – 300%	4 to 5

1.7 Common Noise Levels

Table 4 presents examples of typical noise levels in our environment.

Table 4 – Common Noise Levels

Common Outdoor Noise Levels	Noise Level (dBA)			Common Indoor Noise Levels
	--	110	--	Rock Band
Jet Fly over at 1,000 ft.				
	--	100	--	
				Inside Subway Train (New York)
Gas Lawn Mower at 3 ft.				
	--	90	--	Food Blender at 3 ft.
Heavy Truck at 50 ft. (50 mph)				
				Garbage Disposal at 3 ft. Shouting at 3 ft.
Noisy Urban (Daytime)	--	80	--	
Gas Lawn Mower at 100 ft.	--	70	--	Vacuum Cleaner at 10 ft.
Commercial Area				Normal Speech at 3 ft.
Heavy Traffic at 300 ft.	--	60	--	
				Large Business Office
Quiet Urban (Daytime)	--	50	--	Dishwasher Next Room
Quite Urban (Nighttime)	--	40	--	
				Small Theater (Background)
Quiet Suburban (Nighttime)				Library
	--	30	--	
				Bedroom at Night Concert Hall (Background)
Quite Rural (Nighttime)	--	20	--	
				Broadcast and Recording Studio
	--	10	--	
				Threshold of Hearing
	--	0	--	

2.0 Town Code and Related Guidance

The criteria used in determining the potential for traffic related noise impacts for this project are in accordance with the Code of the Town of Shandaken which regulates noise under Chapter 116 – Zoning. Article VI Supplementary Regulations, Section 116-23, Part A of the Code states the following:

> *"A. Noise. 1) No person shall operate or cause to be operated any source of sound in such a manner as to create a sound level which exceeds the limits set forth for the receiving land use category stated below when measured at or within the property boundary of the receiving land use: [Amended 12-28-1992 by L.L. No. 3-1992]*

Receiving Land Use Category	*Time*	*Sound Level Limit*
Residential zones	*7:00 a.m. to 7:00 p.m.*	*57 dBa*
(R5, R3, R1.5, HR)	*7:00 p.m. to 7:00 a.m.*	*53 dBa*
Commercial zones	*7:00 a.m. to 9:00 p.m.*	*64 dBa*
(HC, HB and CLI)	*9:00 p.m. to 7:00 a.m.*	*60 dBa*

2) For any source of sound which emits a pure tone, a discrete tone or impulsive sound, the maximum sound limits set forth above shall be reduced by five dBa."

Since a part of the project is located in the Town of Middletown, the criteria used must also be in accordance with the Town of Middletown's Code which states that 70 dBA must not be exceeded at the property line.

The application of these criteria pertains to site developments since they are stating a maximum instantaneous sound level and not to noise levels associated with traffic which is calculated over 1-hour equivalent time periods. Therefore, the above noted noise codes are not applicable to noise related to traffic on public roadways.

2.1 Other SEQR Considerations

As a result of the proposed project, traffic volumes will increase along the roadways in and adjacent to the project area. As traffic volumes increase, traffic related noise may increase at residences and businesses along these roadways. While peak noise level criteria is covered by the town codes, the codes do not specify what changes in noise levels may constitute an impact or a violation. Since traffic related noise impacts have the potential for environmental impacts, they need to be considered and documented as part of the SEQR review process. When the municipal code does not provide criteria in determining what changes in traffic noise levels may constitute a noise impact, the NYSDEC Noise Policy can provide the appropriate guidance. The NYSDEC Noise Policy states that increases in 0 to 3 dBA are not noticeable while increases in 3 to 5 dBA have the potential for an impact in only the most sensitive of locations. The Policy goes on to state that sound pressure increases of more than 6 dBA may require a closer analysis of impact potential depending on existing traffic noise levels and the character of surrounding land use. For comparison purposes, the Federal Highway Administration (FHWA) and the New York State Department of Transportation (NYSDOT) consider an increase in traffic noise of 6 dBA a substantial increase and the level where noise impacts may occur.

Traffic related noise is typically described using a time weighted average (usually one hour) also known as the one-hour equivalent noise level abbreviated as $L_{eq(1)}$ (Source: NYSDOT, FHWA). To determine the $L_{eq(1)}$ for traffic noise, measurements are typically conducted continuously in 15 to 20 minute intervals by a noise meter capable of data logging (such as the meter used in this analysis). This one-hour weighted average equivalent noise level ($L_{eq(1)}$) can be used to determine the noise exposure one would experience over a one-hour period. However, the town noise codes do not specify a sound pressure level in relation to a time component or an average noise level to determine potential impacts. The codes specify only a maximum level during certain time periods.

The criteria used in determining the potential for traffic noise impacts for this project is based on guidance from the NYSDEC Noise Policy, The New York State Department of Transportation (NYSDOT) *Environmental Procedures Manual* (EPM) and the Federal Highway Administration (FHWA) Federal-Aid Policy Guide, Subchapter H, Part 772 (23 CFR 772), *Procedures for the Abatement of Highway Traffic Noise and Construction Noise*. The following bullets provide guidance on the procedures of noise analysis:

- Existing land uses are determined for the project corridor Residential, Commercial, Active Sports Areas, and Undeveloped.

- Noise measurements are taken at various sites along the existing highway system to determine existing noise levels.
- The existing and proposed highway alignments are modeled utilizing the FHWA Traffic Noise Modeling software (TNM 2.5).
- Predicted design year noise levels are compared to the existing noise levels and the guidance from the municipalities, NYSDEC, NYSDOT, and FHWA to determine if noise impacts may occur.
- Where an impact is expected to occur, noise abatement measures are examined and evaluated.

3.0 Land Use

Figure 1 depicts the location of 3 noise measurement sites along CR 49A. The measurement locations are in residential areas that are representative of the receptors in the project area. Existing land uses along CR 49A generally includes residences on the north side of the road and the Belleayre Mountain Ski Center on the south side of the road. In order to classify existing land uses, the following table (adapted from the FHWA) was used to assign a letter designation that generally describes the land and its associated use. The project area is made up of land uses with Activity Categories B and D. Since Activity Category D does not have any criteria, all of the receivers were placed in residential areas which fall under Activity Category B.

Table 5 – Noise Abatement Criteria Hourly A-Weighted Sound Level (dBA)

Activity Category	L_{eq}(h)	Description of Activity Category
A	57 dBA (Exterior)	Tracts of land which serenity and quiet are of extraordinary significance and serve an important public need, and where preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 dBA (Exterior)	Residences, motels, hotels, schools, churches, public meeting rooms, libraries, hospitals, picnic areas, recreation areas, playgrounds, active sports areas and parks.
C	72 dBA (Exterior)	Developed lands, properties or activities not included in Categories A and B above.
D	---	For undeveloped lands.
E	52 dBA (Interior)	Residences, motels, hotels, schools, churches, public meeting rooms, libraries, hospitals, and auditoriums.

4.0 Measured Noise Levels

Existing noise level measurements were conducted on November 13, 2007 at the 3 locations shown on Figure 1. These sites (A thru C) are a representation of the study area. The results of these measurements are shown in Table 6.

Noise levels at each of the noise measurement sites were determined in accordance with the procedures outlined in the NYSDOT EPM and in accordance with NYSDEC guidelines. Field measurements were obtained using a Quest Technologies Model 2900 (ANSI Type II) noise level meter. The meter is a battery-powered instrument, which was field tested for proper calibration before and after each measurement. The instrument was set up approximately five

(5) feet above the ground. The weather varied from overcast to clear with temperatures around 50 degrees Fahrenheit. The wind speeds varied between 0 - 2 mph and a wind screen was utilized. Humidity levels were approximately 58 percent. These meteorological conditions are within the parameters for accurate operation, as recommended by the manufacturer.

As previously mentioned, traffic related noise is typically described using a time weighted average ($Leq_{(1)}$) based on measurements typically conducted continuously in 15 to 20 minute intervals. Existing traffic on CR 49A was sporadic since the ski season had not begun yet; therefore, a 15 to 20 minute measurement would not be an accurate depiction of the environment. Instead, the ambient noise was measured along the project corridor when no vehicles were traveling on the road. Measurements were taken during the day at three different locations. One measurement was taken at each site during the "zero" traffic noise condition. Since little or no growth has occurred in the corridor since the measurements were taken in 2007, the measurements accurately represent current conditions in the study area. Creighton Manning's ongoing experience with this project and familiarity with the rural characteristic of the study area over the last 12 years, has given confidence that the ambient noise measurements accurately represent existing noise levels in the project corridor. The ambient noise levels, date, and primary source(s) of noise are shown in Table 6.

Table 6 – Noise Measurement Data

Measurement Site	Primary Source(s) of Noise	Time	Date	Ambient Noise Level
A	Birds, Other natural background noise	1:02 p.m.	11/13/07	36 dBA
B	Birds, Other natural background noise	1:15 p.m.	11/13/07	34 dBA
C	Birds, Other natural background noise	1:08 p.m.	11/13/07	37 dBA

Since the noise measurements did not include traffic noise on CR49A, the FHWA TNM 2.5 was utilized to analyze the existing noise levels due to existing traffic during a ski season weekend. The TNM 2.5 model is a state-of-the art, comprehensive noise prediction software accepted and used nationwide by transportation authorities for traffic noise prediction. Inputs to the TNM model include highway alignment and grade, traffic volumes and vehicle types, operating speeds, physical features such as existing ground surfaces embankment slopes, earth cut sections, retaining walls, and earth berms.

5.0 Predicted Future Noise Levels

5.1 Traffic Volume Increases

The Traffic Impact Study for the project has determined what traffic volume changes will occur due to the proposed project. Expected traffic volume increases and potential noise level increases along effected roadways are shown in Table 7. The correlation of traffic increase-to-noise level increase shown in Table 7 assumes the vehicle type distribution, such as the number of medium and heavy trucks, increase at the same rate as passenger cars. Table 7 outlines the approximate traffic volume increases on the study area roadways expected between the existing and no-build; and existing and build condition volumes

Table 7 – Expected Noise Increases Based on Traffic Increases

Roadway	Approximate Increase in Traffic		Approximate Noise Level Increase due to Project (dBA)
	No-Build Condition	Build Condition	
CR 49A			
West of Upper Belleayre Driveway	50%	150%	3-4 dBA
Between Upper and Lower Belleayre Driveway	75%	75%	2-3 dBA
Between Lower Belleayre Driveway and NY Route 28	75%	200%	3-4 dBA
NY Route 28			
Northwest of CR 49A	35%	35%	1-2 dBA
Southeast of CR 49A	75%	75%	2-3 dBA

The operating speeds used in the analysis for roadways within the project area represent typical operating speeds during peak traffic noise periods. These speeds were determined by driving in the traffic stream during the peak periods and by the data obtained by the Automatic Traffic Recorders (ATRs) used in the Traffic Analysis. As part of the project process, the NYSDOT has agreed to post a speed limit of 40 mph on CR 49A in acknowledgement that the statutory speed of 55 mph is not appropriate for much of this roadway. The noise analysis was based on actual field measurements that are not expected to substantially change with the project development or speed posting. The speeds are shown in Table 8.

Table 8 – Peak Traffic Noise Period Vehicle Operating Speeds

Roadway	Typical Operating Speed (mph)	Regulatory Speed Limit (mph)
NY Route 28	55	55
CR 49A (East of Upper Belleayre Driveway)	50	NOT POSTED (55 mph by default)
CR 49A (West of Upper Belleayre Driveway)	40	NOT POSTED (55 mph by default)

To provide a “picture” of the expected noise environment along the effected roadways, TNM 2.5 was utilized to analyze the expected change in noise levels from the existing conditions to the No-Build and Build Conditions. These results are shown in Table 9 below.

Table 9 – Saturday PM Peak Traffic Noise Levels

Receiver	Land Use Activity Category	Saturday PM Peak Noise Level L_{eq} (dBA)			
		Existing	Design Year (2015)		Increase in dBA (over Existing)
		Modeled Existing	No-Build Alternative	Build Alternative	
1	B	36	36	37	1
2	B	34	34	35	1
3	B	45	45	47	2
4	B	42	43	44	2
5	B	36	37	38	2
6	B	39	39	40	1
7	B	53	55	56	3
8	B	58	60	60	2
9	B	60	62	63	3
10	B	60	62	62	2
11	B	57	59	59	2

5.2 Off-Site Traffic Noise

The traffic noise study was completed to quantify the effect of the increase in traffic volumes on traffic noise in the study area. Traffic related noise levels are expected to increase to a maximum of three dBA over existing noise levels along CR 49A at 2 locations during the ski season Saturday one-hour peak traffic period. These predicted noise level increases will be gradual and slowly increase until full build-out in approximately 2015. Consistent with the NYSDEC Noise Policy, the predicted traffic noise increases from 0 to 3 dBA will be barely noticeable and will include increases in noise levels due to general traffic growth of the area. For these reasons, the increase in traffic volumes along effected roadways due to the proposed project will not create a noise impact. Further, the future noise levels do not approach or exceed the Noise Abatement Criteria for Activity Category B of 67 dBA.

It is noted that the Leach Conference Center located at the entrance to Highmount Spa Resort is for small gatherings and meetings. Larger events and conferences would be held within the Wildacres and Highmount Spa main sites. The traffic impact study includes the traffic volumes associated with all the resort amenities. The Leach Conference Center does not have parking; therefore, patrons of this center will be serviced via the shuttle bus system being provided by the resorts. The shuttle bus services are detailed and analyzed in the traffic study and therefore are also accounted for in the traffic volumes used in the noise analysis.

Another noise model was created with possible road realignments of CR 49A. Improvements to the horizontal curvature at the CR 49A intersection with Upper Belleayre Drive would involve minor relocations of the road from its existing location to meet current design standards. It is not expected that the roadway improvements will change the operating speeds recorded in the project corridor. Table 10 shows the noise levels at the receivers with realignment of the road and using the 2015 Build traffic volumes.

Table 10 – Saturday PM Peak Traffic Noise Levels With Road Improvements

Receiver	Land Use Activity Category	Saturday PM Peak Noise Level L_{eq} (dBA)			
		Existing	Design Year (2015)		Increase in dBA (over Existing)
		Modeled Existing	No-Build Alternative	Build Alternative	
1	B	36	36	37	1
2	B	34	34	35	1
3	B	45	45	47	2
4	B	42	43	44	2
5	B	36	37	38	2
6	B	39	39	40	1
7	B	53	55	55	2
8	B	58	60	60	2
9	B	60	62	63	3
10	B	60	62	62	2
11	B	57	59	59	2

As seen in Table 10, the build results with the roadway improvements are consistent with results in Table 9 with the exception of Receiver 7 which will have a 1 dBA lower noise level in the Build conditions with the roadway improvements. With the roadway improvements, traffic related noise levels are expected to increase to a maximum of three dBA over existing noise levels along CR 49A at one location during the ski season Saturday peak one-hour traffic period. The predicted traffic noise increases from 0 to 3 dBA will be barely noticeable and will include increases in noise levels due to general traffic growth of the area. For these reasons, the increase in traffic volumes along effected roadways due to the proposed project with road improvements will not create a noise impact.

Overall it is noted that the development of the project will result in small increases in the noise levels in the project area. It is also noted that the noise levels will remain low in the project area with build levels ranging between 35 dBA and 63 dBA. Overall, the character of the area surrounding CR 49A is unique in that there are few sensitive receiver locations and the rural character of the area places the receivers further back from the roadway than typical. Although large increases in volumes occur, such as the southwest segment of CR 49A, the resulting peak hour traffic volumes are still low, with less than 120 peak hour volumes. The magnitude of the volumes, versus the percent increase, results in overall low decibel levels in the study corridor as illustrated in Tables 9 and 10.

6.0 Noise Abatement Measures

Noise abatement measures are typically explored if noise impacts are identified. The proposed project will not create a noise impact along the existing roadways or at sensitive receptors bordering the project sites. Therefore, noise abatement is not necessary.

7.0 Conclusions

Field measurements were conducted and sound levels were recorded to determine the existing ambient noise environment in the project area. Predicted peak noise levels based on expected traffic volume increases, were considered and analyzed to determine the potential for noise impacts due to the development of the proposed project.

A traffic noise study was completed to quantify the effect of the increase in traffic volumes on traffic noise in the study area. Consistent with the traffic impact study, the traffic noise analysis focused on the peak winter condition. During the winter peak, the highest overall traffic volumes are expected to occur with corresponding high volume increases when compared to exiting traffic volumes; resulting in an overall worst case traffic noise condition. During other seasons it is expected that the overall noise impacts would be less.

Traffic related noise levels are expected to increase to a maximum of three decibels along CR 49A during the ski season Saturday peak one-hour traffic period. These predicted noise level increases will be gradual and slowly increase until full build-out in approximately 2015. They also fall within the range of barely noticeable to most people and remain below the FHWA noise abatement criteria for the existing land use. For these reasons, the increase in traffic volumes along effected roadways due to the proposed project will not create a noise impact.

8.0 Glossary

1. Automobiles (A) - All vehicles with two axles and four wheels designed primarily for transportation of nine or fewer passengers (automobiles), or transportation of cargo (light trucks). Generally the gross vehicle weight is less than 4,500 kilograms.

2. Noise Abatement Criteria - The noise levels established for various activities or land uses which represent the upper limit of acceptable traffic noise level conditions.

3. Design Year - The future year used to estimate the probable traffic volume for which a highway is designed. A time of 10 years from the end of construction is used for this project.

4. Existing Noise Levels - The noise, made up of all the natural and man-made noises, considered to be usually present (unique noise events may be excluded) within a particular area's acoustical environment.

5. Heavy Trucks (HT) - All vehicles having three of more axles and designed for the transportation of cargo. Generally, the gross weight is greater than 13 tons.

6. L_{eq} - The equivalent steady state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same time period.

7. $L_{eq(1)}$ - The one-hour value of Leq.

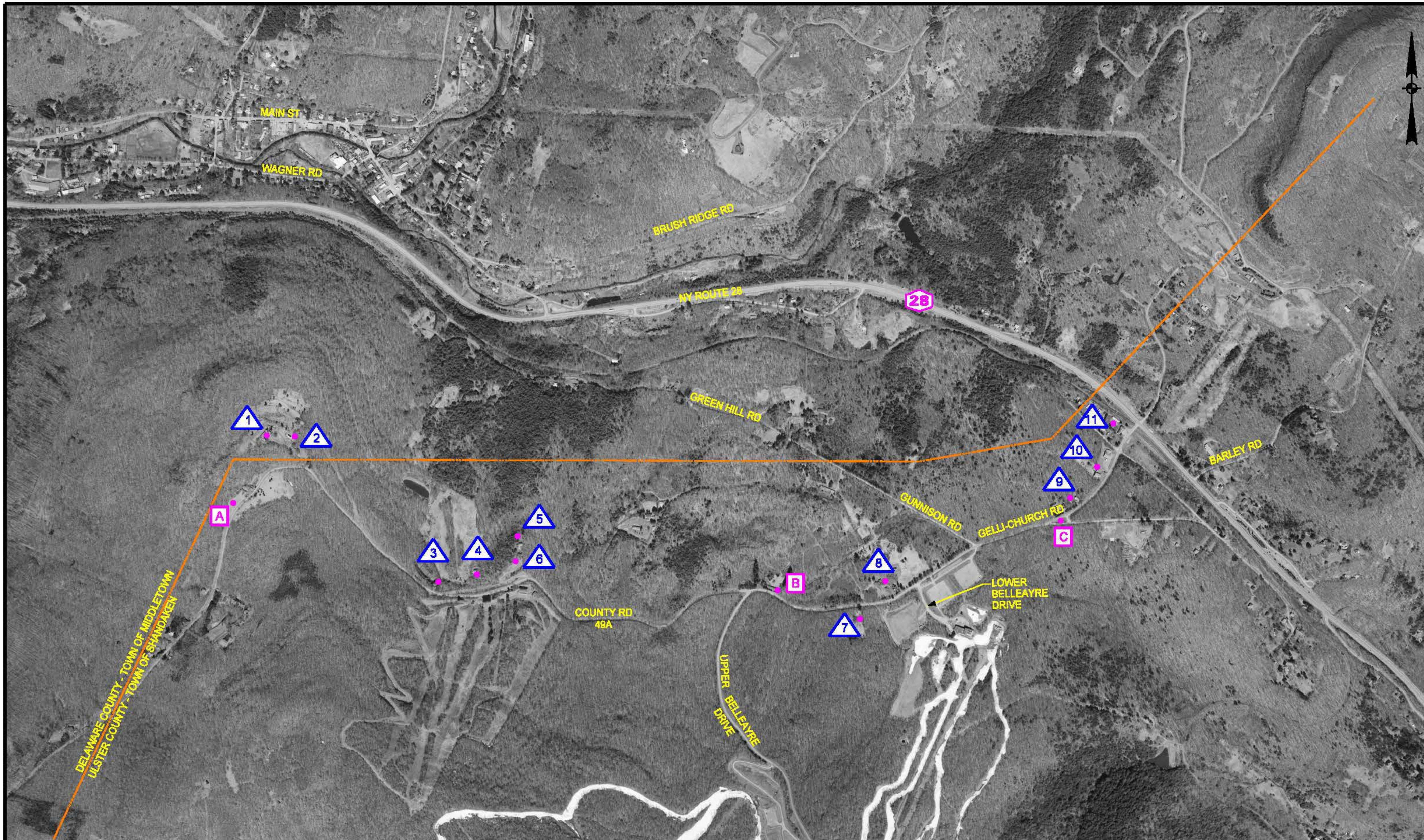
8. Medium Trucks (MT) - All vehicles having two axles and six wheels designed for the transportation of cargo. Generally, the gross vehicle weight is greater than 5 tons but less than 13 tons. For the purposes of this study, all buses and motorcycles were also

classified as medium trucks because of their similar noise generating characteristics.

9. Noise Level - The sound level obtained through use of A-weighting characteristics specified by the American National Standards Institute (ANSI) Standard S1.4-1971. The unit of measure is the decibel (dB), commonly referred to as dBA when A-weighting is used.

10. Operating Speed - The highest overall speed at which a driver can travel on a given highway under favorable weather conditions and under prevailing traffic conditions, without at any time exceeding the safe speed as determined by the design speed on a section-by-section basis.

11. Traffic Noise Impacts - Impacts which occur when traffic noise levels approach or exceed noise criteria, or when the predicted traffic noise levels substantially exceed the existing noise level.



NOISE MEASUREMENT/RECEIVER LOCATION PLAN

BELLEAYRE RESORT AT CATSKILL PARK
TOWNS OF SHANDAKEN AND MIDDLETOWN, NEW YORK

Creighton Manning

PROJECT: 99-057D | DATE: 1/11 | FIGURE: 1

Appendix A
TNM Model Outputs

Belleayre Resort at Catskill Park
Towns of Shandaken & Middletown, New York

Creighton Manning Engineering, LLP
JMK

20 January 2011
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Crossroads Development 99-057d
RUN: EXISTING CONDITION
BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 24 deg F, 69% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver													
Name	No.	#DUs	Existing LAeq1h	No Barrier					With Barrier				
				LAeq1h		Increase over existing		Type	Calculated	Noise Reduction			
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc	Impact	LAeq1h	Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver 1	1	1	0.0	35.8	67	35.8	10	----	35.8	0.0	8	-8.0
Receiver 2	2	1	0.0	34.0	67	34.0	10	----	34.0	0.0	8	-8.0
Receiver 3	6	1	0.0	44.6	67	44.6	10	----	44.6	0.0	8	-8.0
Receiver 4	8	1	0.0	42.2	67	42.2	10	----	42.2	0.0	8	-8.0
Receiver 5	10	1	0.0	36.0	67	36.0	10	----	36.0	0.0	8	-8.0
Receiver 6	11	1	0.0	38.5	67	38.5	10	----	38.5	0.0	8	-8.0
Receiver 7	13	1	0.0	53.4	67	53.4	10	----	53.4	0.0	8	-8.0
Receiver 8	15	1	0.0	57.7	67	57.7	10	----	57.7	0.0	8	-8.0
Receiver 9	17	1	0.0	59.5	67	59.5	10	----	59.5	0.0	8	-8.0
Receiver 10	20	1	0.0	59.5	67	59.5	10	----	59.5	0.0	8	-8.0
Receiver 11	22	1	0.0	56.7	67	56.7	10	----	56.7	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	11	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Creighton Manning Engineering, LLP
JMK

20 January 2011
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Crossroads Development 99-057d
RUN: NO BUILD CONDITION
BARRIER DESIGN: INPUT HEIGHTS

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

ATMOSPHERICS: 24 deg F, 69% RH

Receiver													
Name	No.	#DUs	Existing LAeq1h	No Barrier					With Barrier			
				LAeq1h		Increase over existing		Type	Calculated	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc	Impact	LAeq1h	Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver 1	1	1	0.0	36.2	67	36.2	10	----	36.2	0.0	8	-8.0
Receiver 2	2	1	0.0	34.3	67	34.3	10	----	34.3	0.0	8	-8.0
Receiver 3	6	1	0.0	45.3	67	45.3	10	----	45.3	0.0	8	-8.0
Receiver 4	8	1	0.0	42.9	67	42.9	10	----	42.9	0.0	8	-8.0
Receiver 5	10	1	0.0	36.6	67	36.6	10	----	36.6	0.0	8	-8.0
Receiver 6	11	1	0.0	39.1	67	39.1	10	----	39.1	0.0	8	-8.0
Receiver 7	13	1	0.0	55.0	67	55.0	10	----	55.0	0.0	8	-8.0
Receiver 8	15	1	0.0	59.8	67	59.8	10	----	59.8	0.0	8	-8.0
Receiver 9	17	1	0.0	62.0	67	62.0	10	----	62.0	0.0	8	-8.0
Receiver 10	20	1	0.0	62.1	67	62.1	10	----	62.1	0.0	8	-8.0
Receiver 11	22	1	0.0	59.0	67	59.0	10	----	59.0	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB
All Selected	11	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Creighton Manning Engineering, LLP
JMK

20 January 2011
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:	Crossroads Development 99-057d
RUN:	BUILD CONDITION
BARRIER DESIGN:	INPUT HEIGHTS
ATMOSPHERICS:	24 deg F, 69% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	No Barrier LAeq1h Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver 1	1	1	0.0	37.0	67	37.0	10	----	37.0	0.0	8	-8.0
Receiver 2	2	1	0.0	35.0	67	35.0	10	----	35.0	0.0	8	-8.0
Receiver 3	6	1	0.0	46.5	67	46.5	10	----	46.5	0.0	8	-8.0
Receiver 4	8	1	0.0	44.2	67	44.2	10	----	44.2	0.0	8	-8.0
Receiver 5	10	1	0.0	37.9	67	37.9	10	----	37.9	0.0	8	-8.0
Receiver 6	11	1	0.0	40.3	67	40.3	10	----	40.3	0.0	8	-8.0
Receiver 7	13	1	0.0	55.5	67	55.5	10	----	55.5	0.0	8	-8.0
Receiver 8	15	1	0.0	60.1	67	60.1	10	----	60.1	0.0	8	-8.0
Receiver 9	17	1	0.0	62.7	67	62.7	10	----	62.7	0.0	8	-8.0
Receiver 10	20	1	0.0	62.1	67	62.1	10	----	62.1	0.0	8	-8.0
Receiver 11	22	1	0.0	58.9	67	58.9	10	----	58.9	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	11	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

Creighton Manning Engineering, LLP
JMK

20 January 2011
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Crossroads Development 99-057d
RUN: BUILD CONDITION with Improvements
BARRIER DESIGN: INPUT HEIGHTS

ATMOSPHERICS: 24 deg F, 69% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	No Barrier LAeq1h Crit'n	Increase over existing Calculated	Increase over existing Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Noise Reduction Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver 1	1	1	0.0	37.0	67	37.0	10	----	37.0	0.0	8	-8.0
Receiver 2	2	1	0.0	35.0	67	35.0	10	----	35.0	0.0	8	-8.0
Receiver 3	6	1	0.0	46.5	67	46.5	10	----	46.5	0.0	8	-8.0
Receiver 4	8	1	0.0	44.2	67	44.2	10	----	44.2	0.0	8	-8.0
Receiver 5	10	1	0.0	37.8	67	37.8	10	----	37.8	0.0	8	-8.0
Receiver 6	11	1	0.0	40.3	67	40.3	10	----	40.3	0.0	8	-8.0
Receiver 7	13	1	0.0	55.4	67	55.4	10	----	55.4	0.0	8	-8.0
Receiver 8	15	1	0.0	60.1	67	60.1	10	----	60.1	0.0	8	-8.0
Receiver 9	17	1	0.0	62.8	67	62.8	10	----	62.8	0.0	8	-8.0
Receiver 10	20	1	0.0	62.1	67	62.1	10	----	62.1	0.0	8	-8.0
Receiver 11	22	1	0.0	58.9	67	58.9	10	----	58.9	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Noise Reduction Avg	Noise Reduction Max
		dB	dB	dB
All Selected	11	0.0	0.0	0.0
All Impacted	0	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0