



Cassadaga Wind Project

Case No. 14-F-0490

1001.25 Exhibit 25

Effect on Transportation

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EXHIBIT 25 EFFECT ON TRANSPORTATION

During construction of the proposed Facility, there will be a temporary increase in truck traffic on area roadways served by the Project. Construction vehicles for the Project will include conventional construction trucks, crane transporters, concrete trucks, and oversized semi-trailers. In order to evaluate the existing transportation conditions in the Project area, and to identify probable local traffic routes, constraints, and proposed improvements, a Transportation Effect and Route Evaluation Study (Transportation Study) was prepared by C&S Companies Inc. (C&S), and is included as Appendix WW to this Application.

The Transportation Study initially identifies two general transportation routes that could be used to deliver materials to the Facility Site. One of the routes allows access to the Facility Site from the north, and utilizes State Route 60 southbound, starting at the Interstate 90 (I-90) Throughway Exit 59, just east of the City of Dunkirk. The second route allows access to the Facility Site from the south, and utilizes State Route 60 northbound, starting at the Interstate 86 (I-86) Exit 12. However, for the purposes of the Transportation Study, it was determined by the Applicant that all deliveries to the Facility Site will utilize I-90 and travel south on State Route 60 to access construction locations. I-90 is the largest freeway that is closest to the project site and is the preferred access for large turbine components that will be coming from other states and major cities with ports. Once delivery and construction vehicles are within the vicinity of the Facility Site, local roads (county and town) in the Towns of Stockton, Charlotte, Cherry Creek, Arkwright, and Villenova are to be utilized from State Route 60 to reach the wind turbine construction locations. The Transportation Study provides an evaluation of all possible delivery routes and construction vehicle transport routes that may be utilized for the construction of the Facility, the results of which are provided in Appendix WW and summarized in the sections below.

(a) Conceptual Site Plan

For the purposes of this Application, the preliminary design drawings prepared in association with Exhibit 11 serve as the conceptual site plan, and these drawings identify access road locations and widths, and the number of turbines to be accessed per road. The Transportation Study, which identifies public road constraints (e.g., inadequate turning radii/intersections and road widths) and anticipated haul routes, were used to inform the preliminary design drawings through haul route identification and associated access to various turbines. The anticipated haul routes are depicted on Figure 25-1.

(b) Description of the Pre-construction Characteristics of Roads in the Area

The Transportation Study (Appendix WW) includes an extensive analysis of existing traffic conditions within the vicinity of the Facility area. Data on traffic volumes, accident frequency, school bus routes, emergency service responder information, load restrictive bridges/culverts, and roadway permits are presented in Section 2.0 of Appendix WW, and summarized below.

(1) Traffic Volume and Accident Data

Traffic volume data was obtained from the NYSDOT Traffic Viewer as well as updated County and Local Road listing from the NYSDOT Highway Data Services Website. Most of the county roads and all of the state roads had available traffic volume data. The data consists of some segments with total Annual Average Daily Traffic (AADT) and other segments showing AADT for both directions of travel. Most of the local town roads do not have traffic volume data, so estimated volumes, based on the surrounding traffic counts, were added to these roadways. Appendix B of the Transportation Study includes a table, which is also provided below, summarizing existing traffic volume data within the vicinity of the Facility Site.

Accident data was acquired through a FOIL request to the NYSDOT Regional Office in Buffalo, as well as the NYSDOT Accident Location Information System (ALIS). The data included information for State Route 60 as well as the six County Routes that are proposed for use during construction of the Facility. Accident data from the ALIS dated from August, 2012 to July, 2014 showed that the segment of State Route 60 in the study area had the most accidents at 152 for the two year study period, while County Route 64 had the least amount of accidents at 2 within the same study period. State Route 60 had eight Safety Deficient Locations (SDL) and one Priority Intersection Location (PIL) within the 25 mile segment between I-90 near Fredonia and I-86 near Jamestown. The accident data from the FOIL request did not show any SDL's or PIL's on the County Roads. Based on the existing accident data and Annual Average Design Traffic (AADT) for the roadway segments, the annual Accident Rates can be established and compared to the New York Statewide Average Rate which is 2.81 accidents/million vehicle miles (acc/mvm) for 2-lane Rural Arterials (segment and juncture accidents). State Route 60, County Route 64, County Route 75 and County Route 77 fall below the Statewide Average while County Route 66, County Route 72 and County Route 85 are just above the Statewide Average. The higher accident rates for the three county roads may be attributed to having lower AADT for their segments. At this time, there is no accident data available for local town roads. Appendix C of the Transportation Study includes a table summarizing the accident rates within the vicinity of the Facility Site.

(2) School District Bus Routes

To obtain school bus route information, a request was sent to Dunkirk City, Fredonia City, Cassadaga Valley, Falconer, and Pine Valley school districts asking for identification of school bus routes, number of buses and pickup/drop off times along the possible haul roads needed for delivery trucks and construction vehicles. Only the Dunkirk City, Fredonia City, Falconer and Pine Valley school districts have responded back with the requested school bus information. A total of three requests were sent to the Cassadaga Valley School District, but at this time, no response has been received. Despite this, some assumptions regarding school bus routes for the Cassadaga Valley School District can be made. While the exact number of school buses involved in morning and afternoon pick-ups is unknown, it is likely that the buses operate between 6:30 am and 8:30 am in the morning, and between 2:20 pm and 4:00 pm in the afternoon. The Applicant will continue to reach out to the Cassadaga Valley School District for more information on their school bus routes. The information that has been received has shown that most of the roads along the proposed transportation route have at least one school bus in the morning and one school bus in the afternoon. Appendix D of the Transportation Study includes a table detailing existing school bus routes along the proposed transportation route. For each length of road along the possible haul route, the table provides information on the associated school district, the number of bus stops, and the times of day of bus stops.

(3) Emergency Service Providers

In order to acquire information pertaining to emergency service responders, a request with maps showing suggested emergency response routes to the Facility was sent to all of the emergency responders (Stockton, Cassadaga, Sinclairville, and Cherry Creek volunteer fire departments, ALSTAR private ambulance service, Chautauqua County Sherriff, and New York State Troopers) within and around the Facility vicinity. The request asked for verification of the routes that they would take to the Facility when responding to a possible emergency. Responses to the request have been received from the Sinclairville, Cassadaga, and Cherry Creek Volunteer Fire Departments, Chautauqua County Sheriff Department and one of two New York State Trooper Stations. The Sinclairville Fire Department has also confirmed that they provide an ambulance service and will transport patients to the WCA Hospital in Jamestown, NY and/or Brooks Memorial Hospital in Dunkirk, NY. Maps depicting the locations of emergency service provider stations (police, fire, ambulance, and hospitals) as well as the potential emergency routes for all local emergency responders are provided in Appendix E of the Transportation Study. These maps are also included as Figure 25-2 to this Application.

Additionally, to date, the Applicant has consulted with the following emergency service providers:

- Sinclairville Fire Department on June 22nd and July 13th, 2015
- Stockton Fire Department on July 7th, 2015
- Cassadaga Fire Department on July 20th, 2015
- Cherry Creek Fire Department on July 21st, 2015

These consultations have resulted in educating fire departments about the Facility, the Article 10 process, and how EverPower typically interacts with fire and emergency service providers during construction and operation. The Applicant alerted all Fire Departments that there will be a fire and emergency training and communication plan developed as part of the Article 10 Application. The Stockton, Cassadaga, and Cherry Creek fire departments had no major questions and did not raise any issues, but asked to be kept informed as the Article 10 process and Project progressed. The Sinclairville fire department had a couple of questions regarding liability and responsibility if there is an emergency situation in a portion of the tower that cannot be easily accessed by fire and emergency personnel. The Applicant indicated that it would have employees trained in emergency situations including uptower evacuation and that it could provide training to fire and emergency personnel on this evacuation if desired. The Applicant also indicated that there would be no liability regarding fire and emergency personnel not being able to get to a portion of the tower than cannot be easily accessed.

(4) Load Bearing and Structural Rating Information

With regard to load restrictive bridges and culverts, existing bridge posting data was acquired from the R-Posted Bridge and Posted Bridge listing dated October 28, 2015 at the NYSDOT Highway Data Services online website. From these data, one bridge on the R Posted in the Town of Charlotte was identified as restricted. The Bridge Identification Number (BIN) is 3323900 and it is located on Hooker Road over a tributary of Mill Creek, 0.5 mile west of Charlotte Center. This bridge will be unable to accommodate overwidth/overweight delivery vehicles. Consequently, this section of Hooker Road shall not be considered as a part of the designated haul route. Based on a conceptual evaluation using the heaviest load and shortest truck length (Nacelle loading, 380,000 lbs. (190 Tons), 115 feet long), two of the remaining bridge structures (BIN 1027860, and BIN 3325930) along the potential construction routes appear to be adequate for overwidth/overweight vehicle loading, but will be checked for adequacy during the Special Hauling Permit Application process. A map of existing bridges, as well as a table of bridge rating information including the HS ratings, condition ratings, sufficiency ratings, and bridge inspection dates are included in Appendix J of the Transportation Study. Additionally, a table of potential roadway restrictions along

the potential haul route is provided in Appendix G of the Transportation Study. The map of existing bridges is also included as Figure 25-3 to this Application.

(c) Facility Trip Generation Characteristics

(1) Number, Frequency, and Timing of Vehicle Trip

The construction of each wind turbine will require the use of approximately 11 overwidth/overweight trucks. For the purposes of impact calculations, it is assumed that up to 58 wind turbines will be constructed. The exact construction vehicles have not yet been determined; however, it is known that transportation of turbine components and associated construction material involves numerous conventional and specialized transportation vehicles. A summary of the wind turbine components and the types of construction vehicles that will be utilized for Facility construction is provided below:

Wind Turbine Equipment

- Blade Sections – Blades are transported on trailers with one blade per vehicle. Blades typically control the length of the design vehicle, and the radius of the curves along the travel route to the site. Specialized transport vehicles are designed with articulating (manual or self-steering) rear axles to allow maneuverability through curves.
- Tower Sections – Typically transported in three to four sections depending on the supplier (one section per truck). Towers generally control the height and width of the design vehicle dimensions.
- Nacelle – The turbine and related nacelle elements are typically the heaviest component transported.
- Hub and Nose Cone – Typically transported with one or more of the same element on a vehicle. These elements are not critical elements related to design vehicle dimensions.
- Escort Vehicles

Construction Equipment and Materials

- Gravel trucks with capacity of approximately 10 cubic yards (cy) per truck and an estimated gross weight of 75,000 pounds (lbs.), for access road construction (currently the total length of the access roads is 93,000 feet long (17.6 miles) and a minimum of 20 feet wide, with gravel 12 inches deep.

- Concrete trucks for construction of turbine foundations and transformer pads with capacity of approximately 10 cy per truck and an estimated gross weight of 96,000 lbs. The concrete may range from 500 tons to 900 tons depending on the model and size of turbine selected per location.
- Variety of conventional semi-trailers for delivery of reinforcing steel (two per turbine foundation) and small substation components and interconnection facility material (approximately 116 trucks).
- Variety of conventional semi-trailers for delivery of substation, turbine and O&M facility components and materials.

Trucks and cars for transporting construction workers, equipment and tools are not included in the above list because they are not significant in regard to traffic volumes and causing any damage to the roads.

The following table represents an order-of-magnitude estimate of the total number of loaded truck trips entering the project site associated with construction of the towers.

Table 25-1. Estimated Total Number of Loaded Truck Trips Required for Facility Construction

Component/Truck Type	Assumption	Trips
Blades	One blade per truck	174
Towers	4 tower sections per tower	232
Nacelle and Hub	2 truck trips per turbine	116
Road Construction	Gravel trucks 10 cubic yards per truck, plus other construction equipment.	4,019
Crane	Several trips per access point depending on the degree of disassembly	116
Concrete	250 to 450 cubic yards per foundation, 8 cubic yards per truck. Assume 40 trips per tower.	2,320
Total Heavy Vehicle Trips		6,977

Note: Trips should be doubled to account for exiting

While oversized/overwidth vehicles are traveling within the project area and delivery route roadways, the existing traffic may experience minor delays as escort vehicles and/or flag persons stop traffic to allow the safe passage of the overwidth/overweight vehicles. Appendix I of the Transportation Study also includes maps (Figure 25-4 of this Exhibit) and a table of construction vehicle routes/volumes for each construction phase, which is also provided below.

Table 25-2. Construction Vehicle Volumes

Construction Routes	Gravel (Cubic Yards)	Gravel Truck Volume	Concrete Mix (Cubic Yards)	Concrete Truck Volume	Number of Turbines per Access Route	Turbine Delivery Flatbed Truck Volume	Crane Volume
Access Route #1	2451	245	2000	200	5	45	10
Access Route #2	2389	239	1200	120	3	27	6
Access Route #3	4321	432	2800	280	7	63	14
Access Route #4	6827	683	3200	320	8	72	16
Access Route #5	10677	1068	6400	640	16	144	32
Access Route #6	3167	317	2400	240	6	54	12
Access Route #7	3107	311	1200	120	3	27	6
Access Route #8	7232	724	4000	400	10	90	20
Volume Totals		4019		2320	58	522	116

(2) Approach and Departure Routes for Trucks Carrying Water, Fuels, or Chemicals

During Project construction, all trucks carrying water, fuels, or chemicals will utilize the same delivery routes used by other construction vehicles/component delivery haulers.

(3) Cut and Fill Activity

Based on the Preliminary Design Drawings prepared in association with Exhibit 11, it is estimated that approximately 347,981 cubic yards of material will be excavated for Facility construction. Additionally, approximately 133,028 cubic yards of fill material (of which 55,375 cubic yards will be gravel) will be utilized for construction of the Facility. With the exception of gravel, fill material will be derived from excavated material, and no fill will need to be imported for construction of the Facility. Furthermore, it will not be necessary for materials to be removed from the Facility Site. Stockpiled soils along the construction corridors will be used in site restoration, and all such materials will be re-graded to approximate pre-construction contours. Please see Exhibit 11 for the Preliminary Design Drawings and Exhibit 21 for additional information on cut and fill activity.

(4) Conceptual Haul Route and Approach and Departure Routes for Workers and Employees

When evaluating viable transportation routes for delivery vehicles and construction vehicles going to the Facility locations, several items were considered, which include:

- The roadway characteristics and condition
- The number of bridges along a designated route
- The condition of the bridges and culverts that are along the route
- The number of intersections needing turning movements
- Roadways with minimal sharp curves to avoid additional mitigation and/or safety issues
- Various potential restrictions such as narrow bridges, low overhead clearances and impacts from small intersection radii affecting the turning movements.

Based on this assessment, the following are recommended routes to the various Turbine locations:

Access Route #1 - To Wind Turbine Sites T28, T39, and T45/T46/T44: Use Exit 59 off ramp from the Thruway (I-90). Turn left onto NY 60 and travel southbound through the Towns of Pomfret, Stockton and Charlotte. Turn left onto Roberts Road, then right onto CR 75 Nelson Road. Travel southbound on CR 75 Nelson Road and turn left for Turbine Site T28. Across from Turbine Site T28, turn right onto Andrews Road and continue southbound, turn right for T45/T46/T44 site, continue further on Andrews Road and turn right for the T39 site. See Appendix M of the Transportation Study for the map of potential haul routes.

Other routes evaluated for turning off of NY 60 to reach these sites were studied. The High Street/Barnum Road/CR 75 Nelson Road route from NY 60 was considered, but determined to be not viable because of various intersection radii restrictions at the NY 60/High Street intersection. These restrictions included having to replace the NYSDOT signal because of the poles being close to the road and relocating utility poles at this intersection. High Street is also a residential area with numerous low wires between the poles and houses and large trees close to the road with some low hanging branches. Barnum Road is in poor condition and has a bridge structure with 21 feet of horizontal clearance, pavement settlement near the bridge, and it is unknown whether the bridge can accommodate the turbine delivery truck loads.

The CR 75 Nelson Road route from NY 60 was considered, but determined not to be viable as there is a bridge located between NY 60 and Barnum Road, at this time it is unknown whether the bridge can accommodate the delivery truck loads. Also this option has the delivery trucks traveling on a longer segment of CR 75, whereas the Roberts Road route utilizes NY 60 for that additional segment, which is in better condition. Other intersections

along NY 60, south of Roberts Road, congregate through the Village of Sinclairville, but it is preferable to keep construction vehicles away from the village, so those roads were not included as alternate transportation routes to the project area.

Access Route #2 - To Wind Turbine Site T38/T43/T33: Use Exit 59 off ramp from the Thruway (I-90). Turn left onto NY 60 and travel southbound through the Towns of Pomfret and Stockton. Turn left onto CR 72 Bard Road, travel eastbound, turn right onto Hall Road. Travel southbound on Hall Road, after Hooker Road, turn right into the T38/T43/T33 site. See Appendix M for the map of potential haul routes.

An alternate route using Roberts Road from NY 60 and utilizing CR 75 Nelson Road/Hooker Road to get to Hall Road involves two additional turning movements and intersection mitigation. This route is approximately 2.6 miles shorter and involves staying longer on NY 60 and avoiding CR 72 Bard Rd and the majority of Hall Road (CR 72 is still a major route for the other access routes and the northern portion of Hall Road is being used for Access Route #3). It may also eliminate any possible mitigation to the portion of Hall Road from Cassadaga Road to Hooker Road. This route could be considered as an alternate route.

Access Route #3 – To Wind Turbine Sites T7/T11/T3 and T20/T19/T21/T36: Use Exit 59 off ramp from the Thruway (I-90). Turn left onto NY 60 and travel southbound through the Towns of Pomfret and Stockton. Turn left onto CR 72 Bard Road, travel eastbound, turn right onto Hall Road. Travel southbound on Hall Road to the Cassadaga Road intersection, turn left onto Cassadaga Road. Proceed eastbound on Cassadaga Road to the North Hill Road intersection, turn left onto North Hill Road. Travel northbound, turn left for the T7/T11/T3 site. For the T20/T19/T21/T36 Site, from eastbound on Cassadaga Road, turn right at the North Hill Road intersection and proceed southbound on North Hill Road, then turn left into the T20/T19/T21/T36 site. See Appendix M for the map of potential haul routes.

Tarbox Road was considered as another route from CR 72 Bard Road or as a turn at the Hall Road intersection, but this road has a 6 Ton weight limit between CR 72 Bard Road and Hall Road with additional mitigation needed to eliminate the posting limit (since CR 72 is already being used for access routes for other sites). Additionally, it is winding with three sharp curves to the east of Hall Road prior to arriving at the turbine site access roads which could involve using the whole width of the road and possibly beyond the roadway when navigating the curves. Additional mitigation, such as widening the roadway, could be necessary to ensure safe traveling through the curve areas.

Griswold Road was also considered but there is an existing bridge near the intersection of CR 72 which will be affected by required intersection widening to accommodate the turning movements. Neither of these roads are considered a viable alternative route.

Access Route #4 – To Wind Turbine Sites T57/T56/T35, T53/T48, T4 and T58/T54: Use Exit 59 off ramp from the Thruway (I-90). Turn left onto NY 60 and travel southbound through the Towns of Pomfret and Stockton. Turn left onto CR 72 Bard Road, travel eastbound, turn right onto CR 77 Rood Road. Travel southbound on CR 77 Rood Road (bridge with guide rail located 0.2 miles south of CR 72 Bard Road), going past the Cook Road intersection, turn left for the T53/T48 site, continue further on CR 77 Rood Road and turn right for the T57/T56/T35 site.

For the T4 site, same directions as above and reaching the point of traveling southbound on CR 77 Rood Road, turn left onto Cook Road, proceed eastbound on Cook Road to the Lewis Road intersection, the access road for Turbine Site T4 is straight after the intersection.

For the T58/T54 site, same directions as above and reaching the point of traveling southbound on CR 77 Rood Road, turn left onto Cook Road. Travel eastbound on Cook Road and turn right onto Lewis Road. Continue southbound on Lewis Road to the Mill Creek Road intersection. Turn left onto Mill Creek Road and proceed south, then turn left for the T58/T54 site. See Appendix M for the map of potential haul routes.

Another route to consider is using the same directions as above and reaching the point of traveling eastbound on CR 72 Bard Road and turning right onto Hall Road. Proceed southbound on Hall Road to the Cassadaga Road intersection and turn left. Travel eastbound on Cassadaga Road, past the North Hill Road intersection, turn right at the CR 77 Rood Rd intersection. Proceed southbound on CR 77 Rood Road, going past the Cook Road intersection, turn left for the T53/T48 site and then right for the T57/T56/T35 site. The other sites would be the same directions as for the above preferred route and reaching the point of going southbound on CR 77 Rood Road past the Cassadaga Road intersection. The alternate route would eliminate going over a bridge/culvert (BIN 3323450) on CR 77 Rood Road just south of CR 72 Bard Road and eliminate an easement mitigation at the CR 72 and CR 77 intersection. But another intersection mitigation will be needed at the Cassadaga Road intersection and this route will also involve two extra turns (at intersections that need to be mitigated under the previous access routes). Under the preferred route, CR 77 Rood Road has a seasonal 6 Ton Weight Limit from CR 72 Bard Rd to the Town Line, which is about 70% of the road segment between CR 72 Bard Road and Cassadaga Road, so a roadway mitigation may be needed here. This can be eliminated by using this alternate route, but Cassadaga

Road, which has a Very Good (New) rating, may or may not need an additional asphalt overlay for the construction traffic. This route could be considered as an alternate route.

Access Route #5 – To Wind Turbine Sites T8/T29/T47/T16/T25/T30/T10/T42/T51/T55/T49, T13 and T23/T17/T14/T5: Use Exit 59 off ramp from the Thruway (I-90). Turn left onto NY 60 and travel southbound through the Towns of Pomfret and Stockton. Turn left onto CR 72 Bard Road, travel eastbound, turn right onto South Hill Road. Travel southbound on South Hill Road, continue straight, road becomes Plank Road, turn right for the T8/T29/T47/T16/T25/T30/T10/T42/T51/T55/T49 site, turn left at the same location for the T13 site. For the T23/T17/T14/T5 site, continue south on Plank Road after the T13 access road, turn left onto Weaver Road. Travel eastbound on Weaver Road, then turn right for the T23/T17/T14/T5 site. See Appendix M for the map of potential haul routes.

The CR 85 Farrington Hollow Road route from CR 72 Bard Road was considered but, extensive easements and improvements would be needed at the CR 72 Bard Road intersection and the Plank Road intersection. At the CR 72 Bard Road intersection, there is a farm building and a house situated at the intersection that may be within the large turning radius needed, as well as a 115 feet long, 8 feet x 5 feet concrete box culvert located diagonally across the intersection that will need total replacement. At the Plank Road intersection, a large radius will be needed for the CR 85 southbound turn onto the Plank Road northbound direction, which will require a large easement. There is a house within this area which will be part of the mitigation as well as a 40 foot long, 5 feet x 2 feet concrete box culvert under CR 85 Farrington Hollow Road and a 30 foot long, 48 inch corrugated metal pipe under Plank Road, both will have to be replaced under this mitigation. Also the road is considered winding, presenting a safety issue when the turbine delivery truck may need to encroach into the opposite direction travel lane and possibly off the road to navigate around the curves. There could be possible additional mitigation at the curve areas to eliminate this safety issue. It was decided that this route will involve a costly mitigation and was not considered viable.

Access Route #6 – To Wind Turbine Sites T31 and T15/T32/T26/T34/T40: Use Exit 59 off ramp from the Thruway (I-90). Turn left onto NY 60 and travel southbound through the Towns of Pomfret and Stockton. Turn left onto CR 72 Bard Road, travel eastbound, turn right onto South Hill Road. Travel southbound on South Hill Road, continue straight, road becomes Plank Road, turn left onto CR 85 Farrington Hollow Road. Travel southbound on CR 85 Farrington Hollow Road, then turn right onto Boutwell Hill Road. Proceed westbound on Boutwell Hill Road, turn right for the T31 site, continue westbound on Boutwell Hill Road, then turn right for the T15/T32/T26/T34/T40 site. See Appendix M for the map of potential haul routes.

From CR 72, the CR 77 Rood Road/Cook Road/Lewis Road/Mill Creek Road/East Road/Boutwell Hill Road route was considered but there would be an additional three turns (one involving additional mitigation, the other two have mitigation under the other access routes), so this route was not preferred. Another route is to travel along Housington Road instead of Mill Creek Road/East Road. This road is rated Good, but there are 4 curves, one which is very sharp and will need mitigation. Also two additional intersections with restricted radii will require mitigation too, so this road was not considered viable. The CR 85 Farrington Hollow Rd. route was considered, but is not viable due to the reasons mentioned under Access Route #5.

Access Route #7 – To the Collector Substation and West Laydown Area, Wind Turbine Sites T41 and T52/T50: Use Exit 59 off ramp from the Thruway (I-90). Turn left onto NY 60 and travel southbound through the Towns of Pomfret and Stockton. Turn left onto CR 72 Bard Road, travel eastbound, turn right onto South Hill Road. Travel southbound on South Hill Road., continue straight, road becomes Plank Road, turn left onto CR 85 Farrington Hollow Road. Travel southbound on CR 85 Farrington Hollow Road, then turn right onto Boutwell Hill Road. Proceed westbound on Boutwell Hill Road, past a sharp curve (may or may not require widening), turn right onto Cleland Road. Proceed northbound on Cleland Road, turn left for the Collector Substation and West Laydown area site. Continue through the West Laydown area site to the northwest corner for the access road to the T52/T50 sites. For the T41 site, again continue through the West Laydown area site to the northwest corner for the access road to the T52/T50 sites, stay on the access road, passing the T50 and T52 sites until the intersection of East Road. Turn right at the East Road intersection and proceed eastbound on East Road, past the Cleland Road intersection and then turn left for the T41 site. See Appendix M for the map of potential haul routes.

The CR 77 Rood Road/Cook Road/Lewis Road/Mill Creek Road/East Road route was considered but there was one additional turn at a skewed intersection with a tight turn from Mill Creek Road southbound to East Road westbound that would involve a large easement, so this route was not preferred. Another route using Roberts Road from NY 60, then utilizing CR 75 Nelson Rd, Hooker Road and CR 77 Charlotte Center Road to get to East Road involved using the same five turns as the preferred route, but there is an R Posted Bridge on Hooker Road, between Hall Road and CR 77 Charlotte Hill Road, so this route is not viable. Another route to take from NY 60 involved CR 72 Bard Road/Hall Road/Cassadaga Road/North Hill Road to get to East Road. It had the same amount of turns, but North Hill Road had a condition rating of Poor, one bridge along the route, and the segment needed to travel on is 2.6 miles long which could lead to an expensive mitigation, so this route was dropped. The CR 85 Farrington Hollow Rd. route was considered, but was not viable due to the reasons mentioned under Access Route #5. Other roads from NY 60 (Charlotte Hill Rd, Sylvester Road to CR 66 Sinclair Drive, CR 77 Jamestown

Road) that go through the Village of Sinclairville and lead to CR 66 Thornton Road, then to Boutwell Road to get to Cleland Road were not acceptable because of the avoidance of construction traffic in the village.

Access Route #8 – To Wind Turbine Site T37/T12/T18/T27/T9/T2/T1/T6/T24/T22: Use Exit 59 off ramp from the Thruway (I-90). Turn left onto NY 60 and travel southbound through the Towns of Pomfret and Stockton. Turn left onto CR 72 Bard Road, travel eastbound, turn right onto South Hill Road. Travel southbound on South Hill Road., continue straight, road becomes Plank Road, turn left onto CR 85 Farrington Hollow Road. Travel southbound on CR 85 Farrington Hollow Road, then turn right onto Boutwell Hill Road. Proceed westbound on Boutwell Hill Road, past the East Road intersection, to the Cleland Road intersection. Turn left onto Cleland Road and proceed southbound until the CR 66 Thornton Road intersection. Turn left onto CR 66 Thornton Road and proceed southbound to the CR 85 Erwin Road intersection. Turn left onto CR 85 Erwin Road and proceed northbound, turn right into the T37/T12/T18/T27/T9/T2/T1/T6/T24/T22 site. See Appendix M for the map of potential haul routes.

A more direct route, using the directions above and reaching the point of going southbound on CR 85 Farrington Hollow Road, past Boutwell Hill Road (CR 85 becomes Erwin Road) and turning left for the wind turbine site was considered. But the portion of CR 85 Erwin Road between Boutwell Hill Road and the turbine site is extremely winding with at least four low speed curves in this area. This portion of the roadway creates a hazard when the turbine delivery truck may need to encroach into the opposite direction travel lane to navigate around the curves. There is also a falling rock zone in this general vicinity. This area also has 3 to 4 mid-size concrete box culverts with possible deteriorating conditions, one culvert consists of soldier piles and lagging walls at least 10 feet high and is at a minimum distance of 8 feet from the pavement. It is unknown whether the culvert crossings can support the delivery truck loading. Because of the hazardous conditions around the curves and possible additional mitigation for the culverts, this portion of CR 85 is not a viable route.

The CR 77 Rood Road/Cook Road/Lewis Road/Mill Creek Road/East Road/Boutwell Road/Sanford Road to CR 85 Erwin Road involves 3 additional turns, one at a skewed intersection with a tight turn from East Road eastbound to Boutwell Hill Road westbound which is worse than the Mill Creek Road/East Road intersection evaluated under Access Route #7. There is also a house within this tight curve area where the proposed turning radius is likely to be, involving an expensive easement. Also there are three curves on Sanford Road, two that may require additional mitigation due to the sharpness of the curves, so this route is not viable.

Another route using Roberts Road from NY 60, then utilizing CR 75 Nelson Rd, Hooker Road, CR 77 Charlotte Center Road and East Road to get to Cleland Road involves one extra turn, but was eliminated under Access Route #7 because of the R Posted bridge on Hooker Road.

The CR 85 Farrington Hollow Rd. route was considered, but is not viable due to the reasons mentioned under Access Route #5.

Another route to take from NY 60 involved CR 72 Bard Road/Hall Road/Cassadaga Road/North Hill Road/East Road/Cleland Road/Thornton Road to get to CR 85 Erwin Road, but this route is not viable based on the reasons from Access Route #7. Swanson Road, which is located east of Cleland Road and somewhat parallel with this road was considered as a connection from Boutwell Hill Road to CR 66 Thornton Road instead of Cleland Road. Swanson Road would have the same amount of restricted intersections as the Cleland Road route but Swanson Road is mostly a gravel road with a Fair condition, while Cleland Road is 75% paved with a fair condition. Swanson Road also has two curves, low tree branches present and is considered a seasonal road, not maintained from Nov. 1st to May 1st, so this roadway segment was not viable. Other roads from NY 60 (Charlotte Hill Rd, Sylvester Road to CR 66 Sinclair Drive, CR 77 Jamestown Road) that go through the Village of Sinclairville and lead to CR 66 Thornton Road or CR 64 Edson/Bates Road, to get to CR 85 Erwin Road were not acceptable for reasons under Access Route #7.

Any workers and employees in regular vehicles (pick-up truck size and smaller) will access the construction site and worker parking areas through use of whichever public road route is most logical and efficient for the respective individual/vehicle. Employees and workers accessing the site with heavy haul/construction equipment (i.e., dump trucks or larger), or anything that exceeds the posted weight limits on public roads, will follow the final haul routes.

Please note that the final haul routes cannot be definitely determined until the turbine manufacture has been selected and has reviewed and approved, or amended, the haul routes. Therefore, the final haul routes will be provided to the Siting Board prior to Project construction.

(d) Traffic and Transportation Impacts

(1) Levels of Service along Linear Segments of Highway

An analysis was performed using both HCS (Highway Capacity Software) and Synchro software to estimate the construction route Level of Service during the construction phase. It was assumed that all the turbine sites had

the same start and completion date, along with 12 hour work days, 6 days a week, 4 weeks per month for a duration of 7 months. The analysis showed that there was very little increase from the Existing Peak Hour Volume compared to the Future Construction Phase Peak Hour Volume. Thus, the Future Construction Phase Level of Service is the same as the Existing Level of Service. Along the access route, State Route 60, between I-90 Thruway Exit 59 and US Route 20, had a Level of Service "C" (Existing and Future), while the remaining access route segments had a Level of Service "A" (Existing and Future). As the existing traffic volumes are low, local traffic flow should not be significantly impacted by the normal construction traffic or during the turbine delivery vehicles. As mentioned previously, local traffic may experience minor delays due to slow moving construction vehicles and increased traffic related to the construction activities. To minimize any delays to local traffic during the construction phase, the Applicant will be required to coordinate with the State, County and local Municipalities to respond to any locations that may experience any traffic flow or capacity issues. Appendix B of the Transportation Study includes a table summarizing the Levels of Service information described above.

(2) Route Evaluation Study

Section 3.0 and Appendix F of the Transportation Study details a field evaluation of the potential delivery and construction vehicle haul routes to and within the Project area that was conducted from October 29, 2015 to November 5, 2015. The condition of the roads were evaluated by visual inspection and rated with a very good (new)/good/fair/poor designation. The visual pavement condition ratings were based on the criteria from the NYSDOT 2014 Pavement Report, under the section "Pavement Condition Measures" on page 4. Additionally, any roadside features, bridge and roadway horizontal/vertical restrictions, bridge/culvert locations, hazardous roadway areas and possible restricted radii locations were also included in the evaluation.

State Route 60 between I-90 and I-86 generally provides 12 foot lanes with shoulders that vary from 6 to 10 feet in width. This section of road covers rolling to flat terrain, and it has been determined that this state highway is adequate to handle traffic loads required for Facility construction operations.

With respect to County roads, CR 64, CR 66, CR 72, CR 75, CR 77, and CR 85, all have travel lanes that vary from 9 to 11 feet and shoulders that vary from 3 to 8 feet in width. These roads cover mostly rolling terrain with some roads having roadside hazards such as steep banks, unprotected areas at culverts, falling rock areas, non-standard guide rail, trees close to the roadway, low tree branches, and low speed curves as well as various restrictions. Numerous requests for information (e-mail and verbal) pertaining to these roads have been sent to the Chautauqua County Engineer. The county responded on December 17, 2015 by providing information on posted bridges, posted roads and other roadway information including traffic volumes, pavement thicknesses,

widths, utilities, construction history, etc., but no condition information for any bridges or culverts. Pavement thicknesses range from 3.5 inches (portion of CR 85) to 19.5 inches (portion of CR 66, Sinclair Drive), including asphalt and concrete layers.

With respect to local town roads, the various town roads along the evaluation routes have roadway surfaces comprised of either asphalt, oil and stone, or gravel. The travel lane widths range from 8 to 10 feet, with some roads consisting of only a 12 foot single lane. Shoulder widths vary from 3 to 6 feet along these roads. The terrain covered by these roads include rolling, mountainous, and flat. There are numerous roads with roadside hazards, low speed curves, and various other restrictions. Multiple conversations with the respective Town Highway Supervisors have indicated that paved roads within these Towns consist of a thin layer of asphalt over their sub base material. Generally, existing oil and stone roads may have at least a 3 inch or less asphalt layer over gravel, while an asphalt road may have a thickness of 3 to 5 inches of asphalt over a gravel subbase. Multiple Town supervisors have also noted that some of the gravel roads are in bad shape, which has been confirmed by the Transportation Study. Multiple areas with potholes, erosion, and loss of gravel material have been identified within the vicinity of the Facility. In general, the town roads evaluated by the study are 20 feet or less in width, consist of thin pavement or gravel, and most likely will require some sort of stabilization to support the vehicle loads during construction. Additional conversations with the town representatives have confirmed that there is no documented information on the conditions of town road culverts and all bridges on town roads are under the jurisdiction of the county.

The following is a more descriptive evaluation, including visual pavement ratings of each state, county, and town road being considered and/or projected to be used as a haul road, construction vehicle route or providing access to a potential facility location. See Appendix F of the Transportation Study for the Table of Roadway Field Evaluation showing a condensed version of the field evaluation. See Appendix L of the Transportation Study for Roadway Rating Photos.

NY 60, I-90 to I-86 – The length of this segment is 25 miles. The asphalt pavement condition ranges from Good to Very Good between I-90 and Sinclairville and from Fair to Good from Sinclairville to I-86. There is heavy truck traffic between the intersections of the I-90 ramps and US 20 near Fredonia, NY. Speed limits vary from 45 mph to 50 mph between I-90 and US 20, 55 mph between US 20 and just north of Cassadaga, 35 mph around Maple Avenue/High Street in Cassadaga, 55 mph again from just south of Cassadaga to the school zone near Sinclairville, where it is 45 mph. After the school zone, the speed increases to 55 mph again until just north of the intersection of CR 50/65, changes to 35 mph around the CR 50/65 intersection and then back to 55 mph until the I-86 ramps. Most bridges along this route have non-conforming bridge rail. On one bridge between US 20 and

NY 83, the shoulders narrow down to 4 feet. The I-86 EB and WB bridges over NY 60 near Jamestown, NY have minimum vertical clearances on NY 60 of 15 feet and 14 feet respectively. The total horizontal clearance under each of the I-86 bridges is 54 feet. The minimum width between any bridge/culvert rails along this route is 35 feet and is located just north of NY 83. A majority of culverts are in good shape, a few have shallow coverage while others are in deep fill. There are a few culverts between Maple Avenue in Cassadaga and Sylvester Road in Sinclairville that have spalling headwalls. There are overhead traffic signals at:

- The I-90 ramp intersection near Fredonia (span wire)
- Walmart driveway near Fredonia (span wire)
- US 20 intersection near Fredonia (span wire)
- Maple Avenue/High Street intersection in Cassadaga (span wire)
- A flashing light on mast arm poles at the CR 50/65 intersection
- A flashing light on span wires at the CR 380 intersection
- A flashing light on span wires at the I-86 WB ramp intersection (north) near Jamestown

The height between the top of roadway to the bottom of the NYSDOT signal heads can vary from 15.5 feet to 17 feet as per the NYSDOT Traffic Signal Standard Sheets. The actual heights were not verified in the field.

CR 64, CR 66/77 Main Street to CR 66 Thornton Road - The length of this segment is 5.9 miles. The pavement condition for this road is considered Good. The travel lanes are 10 feet and shoulder widths are 4 feet. The eastern portion of the roadway is located in the Village of Sinclairville with sidewalks, utility poles near the road, overhead wires present and possible intersection radii restrictions. Speed limits are 30 mph in the village and 55 mph in the rural areas. The minimum width between any bridge/culvert rails along this route is 26 feet and is at a location just east of Harris Hill Road. There is some pavement settlement for an approach slab at a bridge about 0.5 miles west of the CR 66 intersection. Most of the culverts have 2 feet or less of coverage over the roadway with one culvert showing pavement settlement. Also there are various lower speed curves along this roadway.

CR 66, NY 60 Bridge/Access Road to CR 64 Bates Road - The length of this segment is 8 miles. The pavement along this road is in Fair condition. The travel lanes are 10 feet and shoulder widths vary from 4 to 5 feet with additional parking lanes in the village. The eastern portion of the roadway is located in the Village of Sinclairville with sidewalks, utility poles near the road, overhead wires present and possible intersection radii restrictions. This route overlaps with CR 77 in the Village of Sinclairville for 0.4 mile. Speed limits are 30 mph in the village and 55 mph in the rural areas. There is a sharp curve in the village with a posted warning speed of 10 MPH. The NY 60 bridge over CR 66 Sinclair Drive has a minimum vertical clearance on CR 66 of 16 feet and a total horizontal clearance of 39 feet. The minimum width between any bridge/culvert rails along this route is 28 feet which is

located just south of CR 85. The bridge between Main Street and Sylvester Road has non-conforming bridge rail. Within the section between Sylvester Road and the access road to NY 60, there is an overhead bridge (NY 60 over CR 66) where the minimum vertical clearance is 16 feet and the total horizontal clearance is 39 feet along CR 66. There is some shoulder erosion and severely cracked/spalled headwall for a small box culvert just west of the CR 85 intersection. At least 40% of the culverts have 2 feet or less of coverage over the roadway and two of these large box culverts among the 40% have less than 1 foot of thickness. One of the culverts along this route (closer to CR 85) has a non-conforming culvert rail. Also there are various lower speed curves along this roadway.

CR 72, NY 60 to South Hill Road – The length of this segment is 9.9 miles. The pavement condition for this road is mostly Good with a Fair condition between CR 85 and South Hill Road. The travel lanes are 11 feet and shoulder widths vary from 5 feet to 8 feet. Speed Limits are 45 mph between NY 60 and Shumla Road and 55 mph between Shumla Road and just east of South Hill Road, then lowered to 45 mph at the South Hill Road intersection. Some of the bridges along this route have non-conforming bridge rail and bridge transition rail. The minimum width between any bridge/culvert rails along this route is 25 feet and is located at a bridge between CR 85 and Hamlet Road. At least 60% of the culverts along this route have 1 to 3 feet of coverage. Most culverts seem to be in good shape as per the field evaluation, but some deep culverts do not have any culvert rail. The shoulder between CR 77 and CR 85 on the south side of the road narrows down to 1 to 2 feet. This road also has several lower speed curves along with some blind hill locations. The intersections of NY 60, Barnum Road, Tarbox Road, Hall Road, Griswold Road CR 77, CR 85 and South Hill Road have intersection radii turning restrictions based on the wind turbine delivery vehicles. An 8 feet x 5 feet concrete box culvert at the CR 85 Farrington Hollow Road intersection will be part of the mitigation needed when increasing the radius for the delivery vehicle movement. At the South Hill Road intersection, an easement will be required to increase the turning radius. Just east past the Griswold Road intersection, there are some areas with steep unprotected slopes on both sides of the roadway (one side had gabion baskets next to the shoulder). There is also steep slopes on the south side of the road near the CR 85 intersection. There is also a soldier pile and lagging wall consisting of railroad rails, whalers and 2x4 timbers in fair condition near the shoulder between CR 85 and South Hill Road.

CR 75, NY 60 to CR 77 Park Street - The length of this segment is 5.5 miles. There is one wind turbine access road located near the Andrews Road intersection. The pavement condition for this road is mostly Fair with a Good rating in the short section between NY 60 and Barnum Road. The travel lanes are 9 feet and shoulder widths are 5 feet. The southern portion of the roadway is located just inside the Village of Sinclairville with intersection radii restrictions. Intersection radii restrictions also exist at other locations outside of the village. The pavement exhibits some transverse cracking and longitudinal cracking along the edge, but the pavement maintains a Good rating in the village. Speed limits are 30 mph in the village and 55 mph in the rural areas. The minimum width between any

bridge/culvert rails along this route is 28 feet which is located between NY 60 and Barnum Road. This bridge also has shoulders that narrow down to 2 feet and has some shoulder approach settlement and significant pavement cracking (bridge ends). There is also non-conforming bridge rail at this location. The roadway outside of the village has gravel shoulders with utility poles located at the edge of the shoulder. This road also has several lower speed curves. A little more than half of the culverts along this route have 2 feet or less of coverage and some show signs of pavement settlement over top.

CR 77, NY 60 to CR 72 Bard Road - The length of this segment is 11.6 miles. There are two wind turbine access roads located between Cook Road and Mill Creek Road. The pavement condition for this road is mostly Good with a Fair rating between CR 72 and Rutenbur Road. The travel lanes range from 10 to 11 feet and shoulder widths vary 3 to 6 feet (3 foot shoulders only along Jamestown Road portion in Sinclairville). The portion between Rutenbur Road and Mill Creek Road is oil and stone with crack sealant. The southern portion of the roadway is located in the Village of Sinclairville with sidewalks, utility poles near the road and possible intersection radii restrictions. This route overlaps with CR 66 in the Village of Sinclairville for 0.4 miles. Speed Limits are 30 mph in the village, 45 mph between the village and a mile south of Mill Creek Road and 55 mph for the remainder of the segment. Utility poles are located near the shoulder. The minimum width between any bridge/culvert rails along this route is 29 feet which is located just south of East Road. Approximately 80% of the culverts along this route have 2 feet or less of coverage. One of these culverts between NY 60 and Main Street in Sinclairville has transverse cracking above it in the roadway. Another culvert between Rutenbur Road and Mill Creek Road requires guide rail. Low wires are present at the Cook Road intersection. One bridge along this route between Main Street and Hooker Road has non-conforming bridge rail and bridge rail transitions while another bridge between Hooker Road and Mill Creek Road has non-conforming bridge rail only. All the bridges have varying degrees of approach slab settlement and transverse cracking near the bridge joints. There is also turning radii restrictions at the Rutenbur Road intersection and the CR 72 intersection which may require easements and intersection modifications. Also there are various lower speed curves along this roadway.

CR 85, CR 72 Bard Road to CR 66 Thornton Road - The length of this segment is 8.9 miles. There is one wind turbine access road located between Sanford Road and CR 66. The pavement condition for this road is Fair from CR 72 to Plank Road and Good from Plank Rd. to CR 66 Thornton Road. The travel lanes are 10 feet and shoulder widths vary from 4 to 5 feet. The speed limit is 55 mph for this segment of roadway. The pavement between Plank Road and CR 72 has numerous areas with patching, wheel rutting, longitudinal and alligator cracking while the pavement between CR 66 and Plank Road had some patching, cracking and some shoulder erosion. The minimum width between any bridge/culvert rails along this route is 30 feet which is located between Boutwell Hill Road and Sanford Road. This bridge also has non-conforming bridge railing and pavement settlement at the

approaches. Low wires are present between the intersections of Plank Road and CR 72. There are also turning radius restrictions at the Boutwell Hill Road and Plank Road intersections. The restriction at Plank Road could involve a large easement with a house for turbine delivery traffic movements traveling southbound on CR 85 and turning left on to Plank Road northbound due to the geometry of the intersection. The alignment of this roadway is considered winding from a point 1.6 miles north of Plank Road to CR 66 Thornton Road. There is an existing soldier pile and lagging retaining wall made with railroad rails and 2x4 timbers near the shoulder between Plank Road and CR 66 Thornton Road. It was observed in the field that some of the deadman tie backs for this lagging wall may be under the roadway. There are numerous culverts along this route. Some of the concrete culverts between Boutwell Hill Road and CR 66 Thornton Road are showing signs of deterioration such as spalling headwalls, pavement settlement over the culvert, cracks in the concrete and one location where the 5'x5' culvert box shows signs of leaning. At least 80% of the culverts have 2 feet or less of coverage. One large box culvert near the CR 72 intersection has no culvert rail. Lower speed curves exist throughout the roadway segment along with a lower speed warning set at the Boutwell Hill Road intersection. There is also a falling rock zone approximately 2.5 miles south of the Plank Road intersection.

Ames Road, CR 75 Nelson Road to Hall Road - The length of this segment is 1.2 miles. This road has an asphalt surface with a condition rating of Fair. The travel lanes are 10 feet and shoulder widths are 5 feet. The pavement has various areas with alligator and longitudinal cracking and spot area patching. All the culverts along this route have at least 1 to 4 feet of coverage. There are no pavement markings along this roadway.

Andrews Road, CR 75 North to CR 75 South - The length of this segment is 1.3 miles. There are two wind turbine access roads located between CR 75 north intersection and CR 75 south intersection. This road has an asphalt surface with a condition rating of Good starting at the CR 75 South intersection and extends for about 0.6 miles north of until it transitions to a gravel surface for the remaining segment of the roadway with a condition rating of Poor. According to the field evaluation, the gravel portion is considered a seasonal road. The travel lanes are 9 feet and shoulder widths are 5 feet. The intersection of CR 75 (north) and Andrews Road will have a turning radius restriction. All the culverts along this route have 2 feet or less of coverage. One of the culverts near the CR 75 intersection is showing signs of settlement within the pavement. There are no pavement markings on the roadway.

Tarbox Road, CR 72 Bard Road to Griswold Road - The length of this segment is 3.2 miles. This road has a gravel surface with a condition rating of Fair. The travel lanes are 10 feet and shoulder widths are 5 feet. This road has several steep grades and blind hills. About 0.8 miles east of the Hall Road intersection, there is a very sharp curve with a warning speed of 15 mph. All the culverts along this route have 2 feet or more of coverage. Also, there are no pavement markings along this roadway.

Hall Road, CR 72 Bard Road to CR 77 Charlotte Center Road. - The length of this segment is 5.1 miles. There is one wind turbine access road located between Hooker Road and CR 77 Charlotte Center Road. This road has an asphalt surface from CR 72 to about 800 feet north of Tarbox Road, then gravel until the Town Line, then back to an asphalt surface for the remaining segment of the roadway with a condition rating of Fair. The travel lanes are 9 feet and shoulder widths are 5 feet. The gravel area of the roadway has numerous potholes and some washboard potholes near the asphalt transition areas. This roadway is posted for 45 mph from CR 72 to about 0.5 miles past Hooker Road, then reduced to 35 mph going to CR 77. This road has a blind hill located near the CR 72 intersection. The minimum width between any bridge/culvert rails along this route is 18 feet which is located just north of CR 77. Most of the culverts along this route have 2 feet or less of coverage. One culvert has a transverse crack along the centerline of the culvert near the gravel to asphalt transition area. Low tree branches exist on both sides of the roads along various sections of this road. There is also turning radii restrictions at most of the intersections and no pavement markings along this roadway. Also, lower speed curves exist with one sharp curve with a downhill grade just south of Cassadaga Road.

Housington Road, Lewis Road to Boutwell Hill Road - The length of this segment is 2.1 miles. This combination gravel/asphalt road has a condition rating of Good. Starting at Boutwell Hill Road, the road surface is asphalt for the first 500', then gravel to the Boutwell Hill Road intersection. The travel lanes are 8 feet and shoulder widths are 5 feet. The gravel road shows some minor rutting in places. There are no pavement markings along this roadway and the one culvert has 1 to 3 feet of cover. The intersection of Boutwell Hill Road and Housington Road has turning radius restrictions. There are four curves along this road with one at the town line being very sharp and possibly requiring additional roadway mitigation. The road portion from Lewis Road to the Cherry Creek Town Line is a seasonal road, not being maintained from December 1 to April 1.

North Hill Road, Griswold Road to CR 77 Rood Road - The length of this segment is 2.9 miles. There are two wind turbine access roads, one located just north of Cassadaga Road and the other located just south of Cassadaga Road. This asphalt road has a condition rating of Poor. The travel lanes are 9 feet and shoulder widths are 5 feet. This road has numerous pavement areas with alligator cracking, isolated patching, rutting and deteriorated shoulders. Most of the culverts along this route have 2 feet or less of coverage. There are several areas along this route that have low branches from the trees that line the roadway. At the Cassadaga Road intersection, there is also turning radii restrictions. It was noted on the evaluation form that farm vehicles also use this route. Additionally, lower speed curves exist and there are no pavement markings along this roadway.

Lewis Road, Rutenbur Road to Mill Creek Road - The length of this segment is 2.2 miles. There is one wind turbine access road location at the intersection of Cook Road. This road has a gravel surface with a condition rating of Poor. This single lane road is 12 feet wide with shoulder widths of 3 feet. This road is rough and rocky with some potholes with a steep slope and curve near the Mill Creek Road intersection. Lewis Road is considered a seasonal road. All the culverts along this route have 2 feet or less of coverage. There are no pavement markings along this roadway.

Mill Creek Road, CR 77 Rood Road to East Road - The length of this segment is 2.3 miles. There is one wind turbine access road located just south of Lewis Road. This combination gravel/asphalt road has a condition rating of Poor. Starting at CR 77, the road surface is asphalt for 0.2 mile, then gravel for another 0.6 mile, then back to asphalt until Lewis Road, then back to gravel again for the remaining road section. The travel lanes are 9 feet and shoulder widths are 4 feet. There was some washboarding observed in the gravel sections. The minimum width between any bridge/culvert rails along this route is 21 feet and is located just west of the Lewis Road intersection. Most of the culverts along this route have 1 foot or less of coverage, with one location 0.7 mile from CR 77 showing frost heave. There are also turning radii restrictions at all the intersections along this road. There are no pavement markings along this roadway.

East Road, CR 77 Charlotte Center Road. to Boutwell Hill Road. - The length of this segment is 3.2 miles. There are two wind turbine access roads locations, one just east of Cleland Road and the other just west of Cleland Road (which also has access from Cleland Road). This combination gravel/asphalt road has a condition rating of Fair. Starting at Boutwell Hill Road, the road surface is asphalt for 0.1 mile, then gravel for another mile, then back to asphalt again for the remaining road section ending at North Hill Road. There was some washboarding observed in the gravel sections. The subbase material under the asphalt pavement is baled whole tires (experimental section by the County and NYSDEC) starting at a location 1.1 miles west of Boutwell Hill Road and continuing east for a 1000 feet. The travel lanes are 10 feet and shoulder widths are 6 feet. Intersection radii restrictions exist at the Mill Creek Road and Cleland Road intersections. There are two wind turbine access roads locations, one just east of Cleland Road and the other just west of Cleland Road. One of the culverts along this route has 2 feet or less of coverage. Another culvert about 1 mile west of Boutwell Hill Road is new, but the pavement shows settlement around the pipe. There are low wires at one location and low branches at various locations along this route. Also, lower speed curves exist, and there are no pavement markings along this roadway.

Boutwell Hill Road, CR 66 Thornton Road to CR 85 Erwin Road - The length of this segment is 5.8 miles. There are two wind turbine access road locations located between Housington Road and CR 85 Erwin Road. This combination gravel/asphalt road has a condition rating of Fair. Starting at CR 66 Thornton Road., the road surface

is asphalt for 0.7 miles, then gravel to the Cherry Creek Town Line (this portion is also a seasonal road from December 1 to April 1), then back to asphalt and continuing with this surface to CR 85 Erwin Road. The travel lanes are 10 feet and shoulder widths are 4 feet. Shoulder erosion was documented at a location 0.4 miles east of CR 66. The gravel section has some wheel rutting, isolated potholes and long gully erosion. All the culverts along this route have 2 feet or less of coverage with a few with only 6 inches or less of coverage. There are low wires just east of CR 66 Thornton Road at one location and low branches at various locations along this route. Blind hills are located approximately 0.2 mile and 0.7 mile east of the CR 66 Thornton Road intersection and 0.1 and 0.3 mile east of the Cleland Road intersection. The roadway narrows down to an 18 foot width, 0.3 miles east of Cleland Road. There is a sharp curve at approximately 0.25 mile east of Housington Rd with pine trees within the clear zone in an area just before the curve. A steep grade is located 1.8 miles east of the Housington Road intersection and there are no pavement markings along this roadway.

Plank Road, Dybkas Road to CR 85 Farrington Hollow Road - The length of this segment is 2.2 miles. There are two wind turbine access roads located between Dybkas Road and Weaver Road. This asphalt road has a condition rating of Good, it was recently resurfaced. The travel lanes are 9 feet and shoulder widths are 3 feet. The minimum width between any bridge/culvert rails along this route is 30 feet. Most of the culverts along this route have 2 feet or less of coverage. At the CR 85 Farrington Hollow Road and the Weaver Road intersections, easements are also required to increase the turning radii. There are several blind hills and no pavement markings along this roadway.

Ruttenbur Road, CR 77 Rood Road to CR 85 Farrington Hollow Road - The length of this segment is 1.6 miles. This gravel road has a condition rating of Poor. The single travel lane is 12 feet with shoulder widths of 5 feet. The narrow gravel road shows some wheel rutting and washboarding in places. Also, lower speed curves exist and there are no pavement markings along this roadway. The entire section has low branches and earthen banks on both sides of the road. Most of the culverts along this route have 1 foot or less of coverage. This road is considered a seasonal road.

Weaver Road, Plank Road to NY 83. - The length of this segment is 2.3 miles. There is one wind turbine access road located between Plank Road and Davidson Road. This asphalt road has a condition rating of Fair. The travel lanes are 10 feet and shoulder widths are 3 feet. The pavement has numerous longitudinal cracking with crack seal and the shoulders are low. At least half of the culverts along this route have 3 feet or more of coverage. A culvert closer to Plank Road has some pavement settlement. There is a posted warning speed of 15 MPH near the Davidson Road intersection and a steep hill near the Plank Road intersection. The turning radii at the Davidson/Aldrich Hill Road intersection are restricted. There are no pavement markings along this roadway.

Sanford Road, Boutwell Hill Road to CR 85 Erwin Road - The length of this segment is 2.5 miles. This road has an asphalt surface with a condition rating of Good. The travel lanes are 9 feet and shoulder widths are 4 feet. The pavement shows only minor wheel rutting. Two locations along this road have steep grades and another location has a blind hill. At a location 1.1 miles south of the Boutwell Hill Road intersection is a 1000 foot linear area of sub base consisting of baled tires. There are low overhead wires and no pavement markings along this roadway. The intersections with Boutwell Hill Road and Erwin Road both have turning radius restrictions.

Smith Road, Barnum Road to Hall Road - The length of this segment is 1.4 miles. This road has an asphalt surface with a condition rating of Fair. The travel lanes are 10 feet and shoulder widths are 5 feet. The pavement shows some patching and alligator cracking. The one culvert along this route has less than 1 foot of coverage. There are no pavement markings along this roadway. The intersection of Bernard Road and Smith Road has a turning radius restriction.

South Hill Road, Dybkas Road to CR 72 Bard Road/Cassadaga Road. - The length of this segment is 1.5 miles. This asphalt road has a condition rating of Poor. The travel lanes are 9 feet and shoulder widths are 3 feet. The pavement condition for the first mile after CR 72 has numerous patching, potholes, alligator cracking, crumbling shoulders and wheel rutting present, then the last 0.5 mile has new oil and stone. All the culverts along this route have 3 feet or less of coverage. There are no pavement markings along this roadway.

Swanson Road, CR 66 Thornton Road to Boutwell Hill Road - The length of this segment is 1.1 miles. This combination gravel/asphalt road has a condition rating of Fair. Starting at CR 66 Thornton Road., the road surface is asphalt with for 0.2 miles, then gravel to the Boutwell Hill Road intersection. The travel lanes are 9 feet and shoulder widths are 5 feet. At the transition from asphalt to gravel, the gravel surface has a longitudinal gully erosion spot in the center of the road. There are no pavement markings along this roadway. The intersections with Boutwell Hill Road and Thornton Road both have turning radius restrictions. There are two curves within this roadway section and low tree branches near the road at about 0.4 mile north of Thornton Road. The road is a seasonal road, not being maintained from November 1 to May 1.

Cleland Road, East Rd to CR 66 Thornton Rd. - The length of this segment is 2 miles. There is a sub-station and staging area located near the Boutwell Hill Road intersection. Also the access road to the sub-station/staging area is used to access the turbine sites located along East Road, west of Cleland Road intersection. This combination gravel/asphalt road has a condition rating of Fair. Starting at East Road, the road surface is gravel with some isolated potholes and centerline gully erosion for 1.3 miles, then transitions to asphalt for the remaining section to

CR 66 Thornton Road. The travel lanes are 9 feet and shoulder widths are 5 feet. There are low wires at approximately 1.5 miles from East Road and turning radii restrictions at the Boutwell Hill Road and Thornton Road intersections that may require easements. All the small culverts along this route have 2 feet or less of coverage with one only having 6 inches of cover. The culvert with 6 inches of cover is heavily corroded and collapsing and is located near the Thornton Road intersection. There is a blind hill located about 0.8 mile south of East Road; no pavement markings are present along this roadway.

Moon Road, NY 60 to CR 71 - The length of this segment is 1.1 miles. This road has an asphalt surface with a condition rating of Good. The travel lanes are 9 feet and shoulder widths are 5 feet. The shoulders are gravel. There is a sub-station located near the NY 60 intersection. There is an abandoned rail road track crossing in this segment of roadway and no pavement markings.

Roberts Road, NY 60 to CR 75 Nelson Road - The length of this segment is 0.5 mile. This road has a gravel surface with a condition rating of Fair. The travel lanes are 8 feet and shoulder widths are 5 feet. A 6 foot diameter corrugated metal pipe is located about 300 feet west of the CR 75 intersection with less than 1 foot of cover and no guide rail is present. The road is a seasonal road, not being maintained from Dec. 1st to Apr. 1st. There are low tree branches and no pavement markings along this roadway.

Cook Road, CR 77 Rood Road. to Lewis Road - The length of this segment is 0.7 mile. This combination gravel/asphalt road has a condition rating of Poor. Starting at CR 77, the road surface is asphalt for 250 feet, then gravel for another 0.5 mile, then back to broken asphalt with gravel shoulders until Lewis Road. The travel lanes are 9 feet and shoulder widths are 5 feet. There was some washboarding taken place in the gravel sections. Most of the culverts along this route have 2 feet or less of coverage. There are also turning radii restrictions at the intersections at either end of this road. There are no pavement markings along this roadway, which is considered a seasonal road.

Griswold Road, CR 72 Bard Road to North Hill Road - The length of this segment is 1.4 miles. This combination gravel/asphalt road has a condition rating of Fair. Starting at CR 72, the road surface is asphalt for 0.2 mile, then gravel for the remainder segment to North Hill Road. The travel lanes are 9 feet and shoulder widths are 5 feet. In the gravel portion there are isolated areas of potholes and eroded areas on the vertical curves. There is a bridge close to the CR 72 intersection that has non-conforming bridge rail and pavement cracks and minor approach settlement. The minimum width between the bridge rails at this location is 24 feet. This bridge location will create a turning radius restriction at this location. There are no pavement markings along this roadway.

Cassadaga Road, Barnum Road to CR 77 Rood Road - The length of this segment is 4.2 miles. This road has an asphalt surface with a condition rating of Poor between Barnum Road and Hall Road and a condition rating of Very Good (New) from Hall Road to CR 77 Rood Road. The travel lanes are 9 feet and shoulder widths are 5 feet. There are gravel shoulders and significant patching, alligator cracking and wheel rutting in the pavement between Barnum Road and Hall Road. The road has new oil and stone for pavement between Hall Road and North Hill Road and asphalt between North Hill Road and CR 77 Rood Road. This road has several steep grades and numerous blind hills. The bridge located between Barnum Road and Hall Road has non-conforming guide rail transitions to the bridge. The minimum width between the bridge rails at this location is 25 feet. All the culverts along this route have 2 feet or more of coverage. Also, lower speed curves exist and there are no pavement markings along this roadway.

High Street, NY 60 to Barnum Road - The length of this segment is 0.7 mile. This road has an asphalt surface with a condition rating of Good. The travel lanes are 9 feet and shoulder widths are 4 feet. The speed limit along this road is 30 to 35 mph. There is a signal at the NY 60 intersection and utility poles also near the road that are creating a turning radius restriction at this location. A sign indicating "Only Local Delivery Trucks Permitted" is present along this route. A new oil and stone surface was just placed within a year for this segment. Most of this segment is considered a residential neighborhood. Large 2 foot diameter trees exist about 5 feet away from the pavement edge with some low hanging branches. There are numerous low wires within the 30 mph zone and no pavement markings along this roadway.

Hooker Road, CR 75 Nelson Road to CR 77 Charlotte Hill Road - The length of this segment is 1.1 miles. This road has an asphalt surface with a condition rating of Good. The travel lanes are 9 feet and shoulder widths are 6 feet. The shoulders are gravel, the pavement shows some cracking and minor wheel rutting. The bridge located between Hall Road and CR 77 Charlotte Hill Road is an R Posted bridge with regulatory signs present indicating the posting. Low branches from trees are present at a few locations along this roadway. All the culverts along this route have at least 2 feet of coverage. There are no pavement markings along this roadway.

Barnum Road, CR 72 Bard Road to CR 75 Nelson Road - The length of this segment is 2.2 miles. This road has an asphalt surface with a condition rating of Poor. The travel lanes are 9 feet and shoulder widths are 5 feet. The speed limit for this segment is 45 mph. There are gravel shoulders and significant patching, alligator cracking and wheel rutting in the pavement. A sign indicating "Only Local Delivery Trucks Permitted" is present along this route. A steep slope is also along this route. A 5 foot crushed culvert with less than 1 foot of cover is located between CR 72 and High Street. A bridge located just north of CR 75 has cracks at the bridge joint and approach pavement

settlement. The minimum width between the bridge rails at this location is 21 feet. All the culverts along this route have 2 feet or less of coverage. There are no pavement markings along this roadway.

Bernard Road, Smith Road to Hall Road - The length of this segment is 1.3 miles. This road has an asphalt surface with a condition rating of Good. The travel lanes are 10 feet and shoulder widths are 5 feet. There are scattered areas of transverse cracking at culvert locations. Most of the culverts along this route have at least 1 to 3 feet of coverage. There are no pavement markings along this roadway. The intersection of Bernard Road and Smith Road has a turning radius restriction and a low speed curve just east of this intersection.

(3) Potential Cumulative Impacts between the Arkwright, Ball Hill, and Cassadaga Wind Projects

Due to the distances between the proposed Cassadaga Wind Project, the proposed Arkwright Summit Wind Project, and the proposed Ball Hill Wind Project, cumulative transportation impacts resulting from construction and operation of the three projects are possible but not likely to be significant. Cumulative impacts to local roads and bridges could be possible due to construction-related transportation activities. Such impacts would only occur if the same transportation routes were used and if construction schedules overlapped. The Cassadaga Wind Project is scheduled to begin construction in winter of 2017/2018. According to its Final Environmental Impact Statement (FEIS), the Arkwright Summit Wind Project is scheduled to commence construction in the summer of 2016. According to its Supplemental Draft Environmental Impact Statement (SDEIS), The Ball Hill Wind Project is anticipated to commence construction in 2017, with completion in 2018. Consequently, there is some potential for overlapping construction schedules between the three projects

However, based on the relative locations of the three Projects, it is highly unlikely that construction of either the Arkwright or Ball Hill Wind Projects will utilize any of the same County or Town roads that will be used for the construction of the Cassadaga Wind Project. The proposed transportation route for the construction of the Arkwright Summit Wind Farm will utilize State Route 60 and Highway 20 to access the Arkwright project area from the north. As a consequence, State Route 60 is the only road that could be shared by construction traffic if the Arkwright project is undergoing construction at the same time as the proposed Facility. According to its SDEIS, a fully-developed transportation evaluation is not available for the Ball Hill Wind Project. However given the location of this project, and the fact that the proposed Ball Hill Wind Project site directly abuts I-90 to the north, and is located approximately eight miles east of State Route 60, it is unlikely that State Route 60 will be utilized for the transportation route for the Ball Hill Wind Project. Additionally, due to its location, it is extremely unlikely that the Ball Hill Wind Project will utilize any of the same County and Town roads that will be used for the construction of the Cassadaga Wind Project.

(4) Over-Size Load Deliveries and Roadway Restrictions

Existing roadway restrictions (height, width, weight) and deficient intersection radius locations were observed in the field by C&S and researched from NYSDOT resources during the preparation of the Transportation Study (Appendix WW). Height restrictions such as overhead span wire signal heads and vertical clearances under bridges along State Route 60 as well as low utility wires along various local roads as described under the roadway evaluation will prevent or make it difficult for access of overwidth/overweight vehicles. There are a few local roads within the project area that are considered narrow with only one lane. Some wind turbine access roads are located along these narrow roads, so it may be necessary to either widen the road or provide traffic control (contractor flag person or local police agency) for the overwidth/overweight delivery vehicles. The bridges along the potential construction routes appear to have sufficient width to accommodate the overwidth/overweight vehicles, but also will be checked during the Special Hauling Permit Application process. There are no weight restrictions along State Route 60, but the following local roads have load postings:

- County Route 64 is posted for a 6 Ton weight limit between Park Street in Sinclairville and County Route 66
- County Route 72 is posted for a seasonal 6 Ton weight limit (March 1 to May 31) between NY 60 and County Route 85, then posted for axle weight limit of 6 Tons from County Route 85 to South Hill Road.
- County Route 75 is posted for a 6 Ton weight limit between Park Street in Sinclairville and Barnum Road.
- County Route 77 is posted for a seasonal 6 Ton weight limit (March 1 to May 31) from Main Street in Sinclairville to Mill Creek Road and from Rutenbur Road to CR 72 Bard Road.
- Tarbox Road, located in the Town of Arkwright, is posted with a 6 Ton weight limit from County Route 72 to Hall Road.
- Weaver Road, located in the Town of Cherry Creek, is posted with a 6 Ton weight limit for the entire length.
- Plank Road located in the Town of Cherry Creek, is posted with a seasonal 6 Ton weight limit (November 1 to April 30) from CR 85 to Dybkas Road.
- South Hill Road, located in the Town of Arkwright, is posted with a seasonal 6 Ton limit (March 1 to June 1) from Dybkas Road to CR 72.
- Boutwell Hill Road, in the Town of Cherry Creek, has a seasonal posted weight limit (November 1 to April 30) of 6 Tons from the Town Line to CR 85 Erwin Road.

- Cleland Road, in the Town of Charlotte, has a posted weight limit of 5 Ton for all axles between Boutwell Road and Thornton Road.
- Sanford Road, in the Town of Cherry Creek, has a seasonal 6 ton weight restriction (November 1 to April 30) for the entire length.

For the deficient intersections, the path of the worst-case design vehicle using a 150 foot intersection radius was evaluated along the potential travel routes to the wind turbine sites to identify temporary intersection improvements required. See Appendix G of the Transportation Study for the Table of Roadway Restrictions and Table of Intersection Restrictions (along potential access road locations only).

It is anticipated that a combination of widening on the inside and the outside of the curve of certain intersections, and some widening of local town roads along the delivery routes will be necessary. The following construction activities will likely be required at the locations of road width and turning radii improvements:

- Clearing and grubbing of existing vegetation.
- Grading of the terrain to accommodate the improvement.
- Extension of existing drainage pipes and/or culverts.
- Re-establishment of ditch line (if necessary).
- Construction of a suitable roadway surface to carry the construction traffic (based on the existing geotechnical conditions).

Appendix H of the Transportation Study provides tables of proposed roadway and intersection improvements, a map showing the locations of these improvements, and detailed figures showing anticipated intersection turning movements. These figures are also included as Figure 25-6 to this Application. It is worth noting that all improvements identified in this Application will require verification and/or update following Certification when the final turbine supplier is identified.

Once the Project is commissioned and construction activities are officially concluded, traffic will be negligible and likely concentrated around the O&M building resulting from Project employees traveling to and from the O&M building. Some of these personnel will need to visit each turbine location and return to the O&M building. Each turbine typically requires routine maintenance visits once every 3 months, but certain turbines or other Project improvements may require periods of more frequent service visits should a maintenance issue arise. Such service visits typically involve 1 to 2 pick-up trucks. However, because all turbines and associated access road are located

on (and accessed from) private land, public road use due to routine maintenance activities will be very limited. If major maintenance is needed, such as maintenance involving a crane, the public roads to be used will be surveyed before and after the major maintenance work. If the survey demonstrates that the roads used were damaged, the roads will be repaired to their pre-maintenance activity condition. In any major maintenance scenario, the O&M site manager will contact the Highway Superintendent of the roads to be used prior to vehicles using the roads for major maintenance.

(5) Measures to Mitigate for Impacts to Traffic and Transportation

There are numerous roads that have posted seasonal and year-round weight limits along the various potential access routes to the Facility Site. In addition, there are at least five roads with a rating of "Poor" that are either identified as proposed access routes and/or have turbine access roads located along them. One of these roads in the Town of Charlotte is a single lane gravel road with two turbine access road locations along it. This road will likely need to be widened to accommodate overwidth/overweight delivery vehicles. However, the final turbine model to be used at the Facility will not be determined until after a certificate has been issued by the Siting Board, which will allow the Applicant to definitely determine which of the 58 turbine locations (and associated access roads) will be constructed.

The asphalt and gravel roads with a rating of "Fair" to "Very Good" in some cases may not be adequate to accommodate construction vehicle traffic without impacts. These potential access roads will be monitored during construction pot-holing and deterioration of the pavement to ensure that they remain safe for general construction and roadway traffic. The volume and weight of both the general construction traffic and turbine delivery (overwidth/overweight) vehicles may cause accelerated distress that could require temporary repair. These temporary repairs/improvements could include repaving with asphalt, adding gravel stone, painted pavement markings, and temporary traffic signs. Such repairs/improvements will be components of the Road Use Agreement with the local municipalities. Please see Appendix XX for the draft Road Use Agreement.

As discussed above, the existing widths of the county and town roads within the vicinity of the Facility range from approximately 12 to 22 feet wide. The existing radii of the edge of the pavement at a typical intersection along these roads ranges from approximately 25 to 50 feet. Typically, a radius of approximately 135 feet is necessary to accommodate the wheel paths of turbine component delivery vehicles while 150 feet is needed for the load clearance of these vehicles. Consequently, it is anticipated that temporary widening of the pavement surface with an aggregate roadway surface will be required to accommodate the turning movements of delivery vehicles in some locations.

After completion of construction activities, there may be permanent improvements needed after the Facility completion due to any damage caused by the heavy construction vehicle traffic (especially on any roads that had temporary repairs made during the Construction activities). The contractor might need to repair the roadways to pre-construction conditions using the appropriate treatments such as oil & stone, hot or cold mix asphalt or additional gravel as a condition for a Road Use Agreement. See Appendix H of the Transportation Study for a table of roadway improvements indicating the segment of road that may need temporary and/or permanent improvements along with suggested type for the mitigation and also for Map of Roadway/Intersection Improvement Locations.

In addition, the drainage pipes/culverts along the construction routes that have 2 feet or less of cover may have a potential to be damaged by construction activities causing delays to construction and local traffic. Each pipe will be analyzed during final design of the roadway improvements to determine the amount of cover over the pipe or necessary improvements/temporary treatments (steel plates) needed to accommodate the construction traffic. Any improvements needed will be addressed in the final Road Use Agreement with the local municipalities.

In regard to the bridge structures, the preferred access routes have been decided based on avoiding as many deficient bridges as possible. The New York State Department of Transportation and Chautauqua County Department of Public Facilities will be required to review and approve all bridges to be used along the access routes in the construction phase during the Special Hauling Permit application process.

Furthermore, at various locations along the construction access routes, there may be low overhead wires present that will need to be raised to accommodate the overwidth/overweight delivery vehicles due to their transport material heights. Coordination with the local utility companies will occur to obtain the necessary agreements to raise the wires.

In summary, no new traffic control devices are anticipated to be necessary, and no damage to roads due to normal operation of the built Project are expected to occur. Any damage to local, County, or State roads caused by the construction and operation of the Project will be repaired at the Applicant's expense. Appendix H of the Transportation Study identifies locations where road improvements will likely be necessary to accommodate construction and delivery vehicles. These improvements will be made at the Applicants' expense prior to the arrival of oversized/overweight vehicles. Final transportation routing cannot be completed until the final turbine model is selected (post-certification), and ultimately will be designed in consultation with each Town's Highway Superintendent to avoid/minimize, to the extent practical, safety issues associated with the use of the approved

haul routes, which will confine the heavy truck travel to a few select roads. The Applicant will repair damage done to roads affected by construction within the approved haul route, at no expense to the Town, County, or State, thereby restoring the affected roads to be equal to or better than pre-construction conditions.

(6) Road Use and Restoration Agreements

The Applicant has had initial meetings with the following local road departments:

- Town of Charlotte Highway Department
- Town of Cherry Creek Highway Department
- Town of Arkwright Highway Department
- Town of Stockton Highway Department
- Town of Villenova Highway Department
- Chautauqua County Division of Transportation and Public Facilities

During these meetings the Applicant discussed the proposed Project, Article 10 process, road use agreements and general construction and transportation process when constructing a wind farm. No major road projects or future plans were identified by any of the above entities. All entities requested continued coordination and Cherry Creek requested that they be given the earliest possible notice for commencement of construction in order to adjust their ongoing maintenance program to take into account wind farm transportation and construction activities.

Due to the large dimensions of the wind turbine components and construction cranes, a variety of special hauling permits and road use agreements will be required or negotiated. The types of permits required depend on the characteristics of the vehicle and its cargo, number of trips, distance traveled, and duration. The NYSDOT Central Permit Office stipulates that when any vehicle exceeds 16 feet in width, 15-11" in height, 160' in length, or 200,000 pounds in gross weight; or any combination of those, a Type 1S – Superload Trip Permit is required from NYSDOT. For the Type 1S Permit, the Applicant will also fill out and submit a PERM 12 Form – Special Hauling Pre-Approval Form for a Future Permit. The permit process can be done online for Divisible and Non-Divisible Load Overweight Permits. The NYSDOT Website, www.dot.ny.gov/nypermits outlines the guidelines, types and fees for various special hauling permits. Referring to the website, additional Permit Forms include the Type 1S – Superload Trip Permit such as PERM 39 – Application for Special Hauling Permit. PERM 39-1VC – Vehicle Configuration Attachment, PERM 39-4 – Additional Trailer Attachment (Option 1), PERM 99 – Additional Trailer Attachment

(Option 2), PERM 85 – Special Hauling Route Survey and a Special Hauling Customer Guide is available under the PERM 30 form. The applicant or other responsible party such as the BOP Contractor or Turbine supplier will need to set up an account in order to complete the permit process online. Additional information can also be found at www.NYPermits.org. Additionally, Highway Work Permits will be required from the respective municipalities for intersection and roadway improvements within the NYSDOT (PERM 33 Form), County and Town right-of-ways.

Additionally, for the County and Towns where the local roads are being used for delivery and construction vehicle transport routes, Road Use Agreements with the affected municipalities are anticipated to be signed to memorialize the Applicant’s rights and obligations for road use and repair. See the following Table of Roadway Agreements and Permits for a complete list of State, County, and Town requirements. The Applicant is requesting that the Siting Board not preempt these requirements, and allow the State, County and Towns to approve the listed road or highway work permits.

Table 25-3. Roadway Agreement and Permit Table

Government Agency	Road Use Agreement	Highway Work Permit to Work Within ROW	Highway Utility Permit to Work Within ROW	Traffic Signal Permit to Work Within ROW	Special Haul Permit for Oversized/Overweight Vehicles	Permit to Exceed Posted Weight Limit Roads	Divisible Load Overweight Permit	Contact Information
Town of Arkwright	Yes	Yes	Include Under HWY	N/A	Yes	Include Under HWY	Not Available	Highway Superintendent Steve Mead, 716-679-6950
Town of Charlotte	Yes	Yes	Include Under HWY	N/A	Yes	Not Available	Not Available	Highway Superintendent Mark Lebaron, 716-665-8506, no paper copies of permits, need to contact Mark Lebaron
Town of Cherry Creek	Yes	Yes	Include Under HWY	N/A	Yes	Not Available	Not Available	Highway Superintendent Kenneth Chase, 716-499-5721, no paper copies of

Government Agency	Road Use Agreement	Highway Work Permit to Work Within ROW	Highway Utility Permit to Work Within ROW	Traffic Signal Permit to Work Within ROW	Special Haul Permit for Oversized/Overweight Vehicles	Permit to Exceed Posted Weight Limit Roads	Divisible Load Overweight Permit	Contact Information
								highway work permits, need to contact Kenneth Chase
Town of Stockton	Yes	*	*	N/A	*	*	*	Highway Superintendent Aaron Burnett, 716-640-3866
Town of Villenova	Yes	Yes	Include Under HWY	N/A	Yes	Yes	Not Available	Highway Superintendent Judith Rose (Until 1/1/16), then contact David Barnes after that date at 716-988-3678
Chautauqua County	Yes	Yes	Include Under HWY	Include Under HWY	Yes	Yes	Not Available	Apply online at: http://www.co.chatauqua.ny.us/339/engineering OR contact George Spanos, PE, 716-661-8400
NYSDOT	No	Yes	Yes	Yes	Yes	Not Available	Yes	NYSDOT Region 5 Traffic Safety & Mobility, Permit Engineering Greg Ruhland, 716-847-3289

* Several Phone Conversations with Highway Superintendent Aaron Burnett during November, 2015 indicated that all information for the above table had to be coordinated with the Town Superintendent. Aaron mentioned that they will provide permit information soon, but to date, there has been no response from the Town of Stockton.

(e) Description of Airspace Usage

There are numerous airports and airstrips located within a 20 mile radius from the outside of the wind farm project limits. Two municipal airports operated by Chautauqua County, one in Dunkirk, NY to the north and the other in Jamestown, NY, located to the south, are within 7.5 miles and 10 miles respectively. There is one private airstrip, Spaulding Aerodrome Airport, located on East Road, 0.5 miles east of CR 77 in the Town of Charlotte. This airport/airstrip location is configured in a north-south direction. The closest wind turbine locations are T52, at 0.7 miles and T50, at 0.9 miles, both southeast from the southern end of the airstrip. The Applicant has coordinated with the owner of the private Spaulding Aerodrome Airport and the owner had no issues with the location of the Facility with respect to the airport. See Appendix K of the Transportation Study for a list of airports with contact information and for a map of regional Airports.

(f) Federal Aviation Administration Review

The FAA is the organization in the United States government responsible for air traffic control and for evaluating and issuing determinations on petitions for objects that penetrate the nation's airspace. The Applicant has submitted the proposed facility layout to the FAA so that aeronautical studies of location of each proposed turbine, and permanent meteorological towers, if needed, can be conducted under the provisions of Title 49 of the U.S. Code, Section 44718. The FAA can issue two types of determinations, one that identifies a potential hazard and another that identifies no hazard. A letter is issued called a Notice of Presumed Hazard (NPH) if the proposed structure is over 499 feet or if a potential hazard to air navigation is identified based on the structure's location and/or height. Structures over 499 feet automatically receive an NPH and must be publicly circulated prior to a final FAA determination. Otherwise, this notification identifies a potential hazard that must be further studied and/or mitigated in some manner.

On November 18, 2015, the Facility received Determinations of No Hazard to Air Navigation (DNH) for 62 turbine locations from the FAA. The DNHs are valid until May 18, 2017 prior to which one 18-month extension can be filed. In addition, the FAA is one of the federal agencies represented in the Interdepartment Radio Advisory Committee (IRAC), which has reviewed the proposed Facility as part of the National Telecommunications and Information Administration (NTIA) review. The NTIA has reviewed the proposed Facility and no concerns with air

traffic control or other federal communication systems were identified. The response letter from NTIA is included in Appendix YY, along with recent correspondence from the Applicant.

Lighting of the nacelles shall be implemented as per the requirements and determinations of the FAA. Specifications for anticipated turbine lights will be in accordance with FAA's December 4, 2015 Advisory Circular 70/7460-1L, specifically Chapter 13 (Marking and Lighting Wind Turbines), which requires the use of FAA L-864 aviation lights (Chapter 13 of the FAA Circular is included in Appendix P). Because the Determinations of No Hazard to Air Navigation have already been received, which contemplate the use of white paint/synchronized red lights, radar-activated FAA marking lights will not be considered. Radar-activated FAA marking light systems are considerably more expensive than the traditional white paint/synchronized red light marking system. Furthermore, radar-activated lighting is more practical at wind farms with a smaller Facility area to reduce the number of radar locations needed to provide coverage for the Facility.

(1) Department of Defense Review

The Department of Defense (DoD), through its Siting Clearinghouse, can either respond informally or formally to a project. Informal consultations may be initiated by a project proponent. Formal consultations may be initiated either by the FAA or project proponent. The Applicant coordinated with the DoD, including NORAD, while the FAA was reviewing the turbine applications. In an e-mail dated October 6, 2015, NORAD confirmed it had no issues with the Facility, stating that: "We have reviewed the updated project (attached) and conclude that NORAD has no issues at this time". At the time, the Facility was proposed to have more turbines and at a taller height than what is currently proposed. No other DoD department raised any issues. Subsequently, the FAA issued DNHs for 62 turbine locations.

As described in Exhibit 26(9), the Applicant sent a written notification of the proposed Facility to the NTIA on February 23, 2015. Upon receipt of this notification, the NTIA provided plans for the proposed Facility to the federal agencies represented in the IRAC, which include the Department of Homeland Security, U.S. Air Force, U.S. Army, U.S. Navy, U.S. Coast Guard, and Department of Veteran Affairs. The NTIA has review the proposed Facility, and no concerns regarding military or other federal communication systems were identified. The response letter from NTIA is included in Appendix YY.

(2) Consultation with Nearby Airports/Heliports

The Applicant met with the manager, William Tucker of the Jamestown and Dunkirk airports on May 14, 2015. The Applicant discussed the Project, Article 10, and FAA process during this meeting and followed up with a map of the distance between the airports and the Facility. The manager appreciated the early consultation and will coordinate with the FAA as needed during the aeronautical study process. The Applicant met with the airport manager again on November 13, 2015 and the airport manager stated he has no questions or concerns about the Facility at its current location.

(3) Responses from the FAA and DoD

Please see Sections (f) and (f)1 above.