



Agency Correspondence




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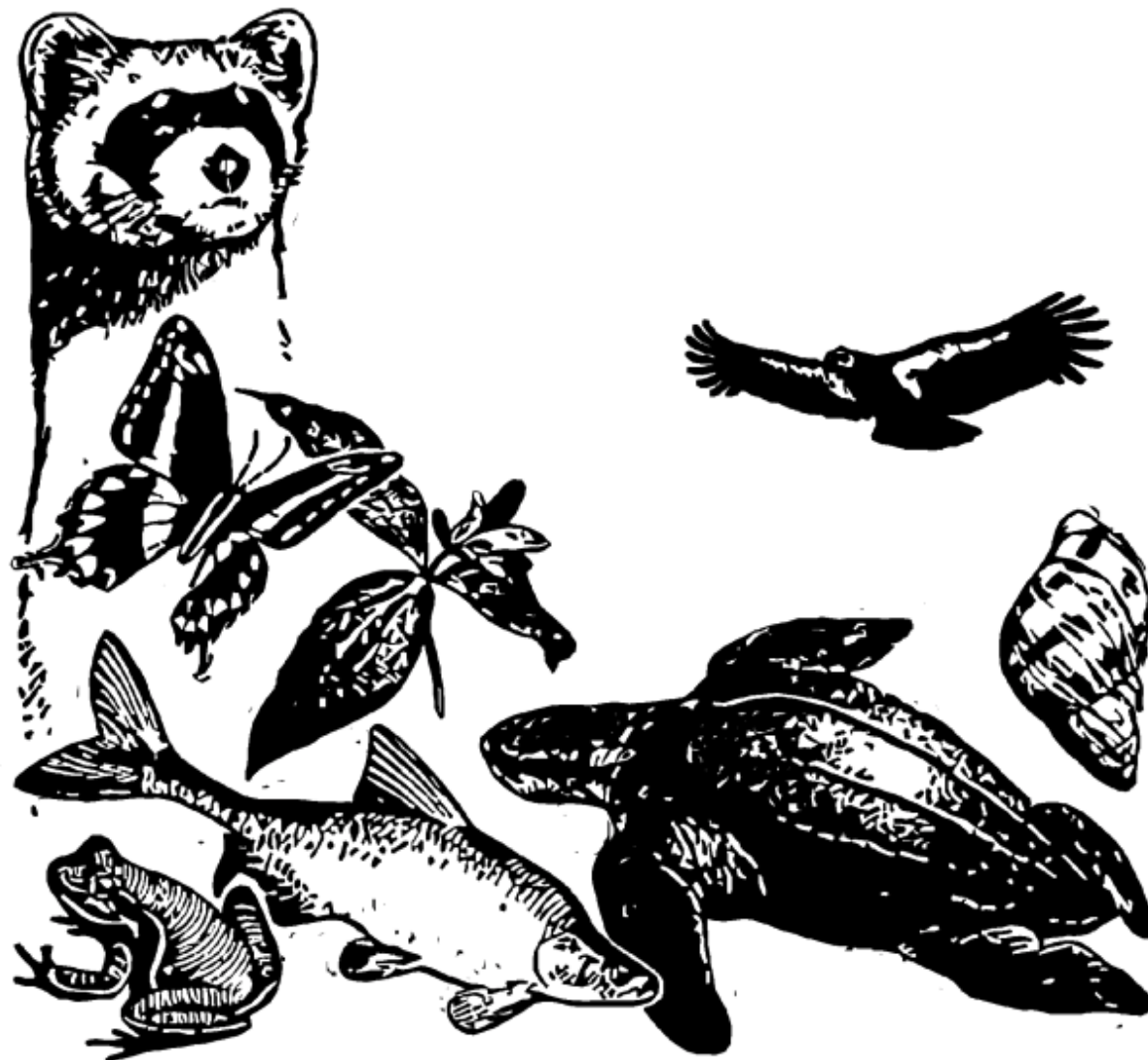
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G-1 United States Fish and Wildlife Service

IPaC Trust Resources Report

Generated August 16, 2016 10:27 AM MDT, IPaC v3.0.8

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (<https://ecos.fws.gov/ipac/>): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

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U.S. Fish & Wildlife Service

IPaC Trust Resources Report



LOCATION

Chautauqua County, New York

IPAC LINK

<https://ecos.fws.gov/ipac/project/4GMLN-XZFPJ-D63LR-FZTSM-ZBRFRA>



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

New York Ecological Services Field Office

3817 Luker Road

Cortland, NY 13045-9349

(607) 753-9334

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the [Endangered Species Program](#) of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

[Section 7](#) of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Mammals

Northern Long-eared Bat *Myotis septentrionalis* Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=A0JE

Reptiles

Bog (=muhlenberg) Turtle *Clemmys muhlenbergii* Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=C048

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the [Bald and Golden Eagle Protection Act](#).

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.^[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data
<http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The following species of migratory birds could potentially be affected by activities in this location:

American Bittern <i>Botaurus lentiginosus</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0F3	
Bald Eagle <i>Haliaeetus leucocephalus</i>	Bird of conservation concern
Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B008	
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HI	
Black-crowned Night-heron <i>Nycticorax nycticorax</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0EU	

Blue-winged Warbler <i>Vermivora pinus</i> Season: Breeding	Bird of conservation concern
Canada Warbler <i>Wilsonia canadensis</i> Season: Breeding	Bird of conservation concern
Common Tern <i>Sterna hirundo</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B09G	Bird of conservation concern
Golden-winged Warbler <i>Vermivora chrysoptera</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B0G4	Bird of conservation concern
Least Bittern <i>Ixobrychus exilis</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B092	
Olive-sided Flycatcher <i>Contopus cooperi</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B0AN	Bird of conservation concern
Peregrine Falcon <i>Falco peregrinus</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B0FU	Bird of conservation concern
Pied-billed Grebe <i>Podilymbus podiceps</i> Season: Breeding	Bird of conservation concern
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> Season: Breeding	Bird of conservation concern
Short-eared Owl <i>Asio flammeus</i> Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B0HD	Bird of conservation concern
Upland Sandpiper <i>Bartramia longicauda</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B0HC	Bird of conservation concern
Willow Flycatcher <i>Empidonax traillii</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B0F6	Bird of conservation concern
Wood Thrush <i>Hylocichla mustelina</i> Season: Breeding	Bird of conservation concern

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This location overlaps all or part of the following wetlands:

Freshwater Emergent Wetland

[PEM5C](#)

[PEM5E](#)

Freshwater Forested/shrub Wetland

[PFO1/SS1C](#)

[PFO1/SS1E](#)

[PFO1A](#)

[PFO1C](#)

[PFO1E](#)

[PFO4/1C](#)

[PFO5Hb](#)

[PFO5Hh](#)

[PSS1C](#)

[PSS1E](#)

Freshwater Pond

[PUBH](#)

[PUBHh](#)

[PUBHx](#)

Riverine

[R3UBH](#)

[R4SBC](#)

[R5UBH](#)

A full description for each wetland code can be found at the National Wetlands Inventory website: <http://107.20.228.18/decoders/wetlands.aspx>

G-2 Federal Aviation Administration



Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8079-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T1
 Location: Hamlet, NY
 Latitude: 42-23-56.89N NAD 83
 Longitude: 79-10-13.11W
 Heights: 1519 feet site elevation (SE)
 499 feet above ground level (AGL)
 2018 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2018 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8079-OE.

Signature Control No: 273432842-301612340

(DNE -WT)

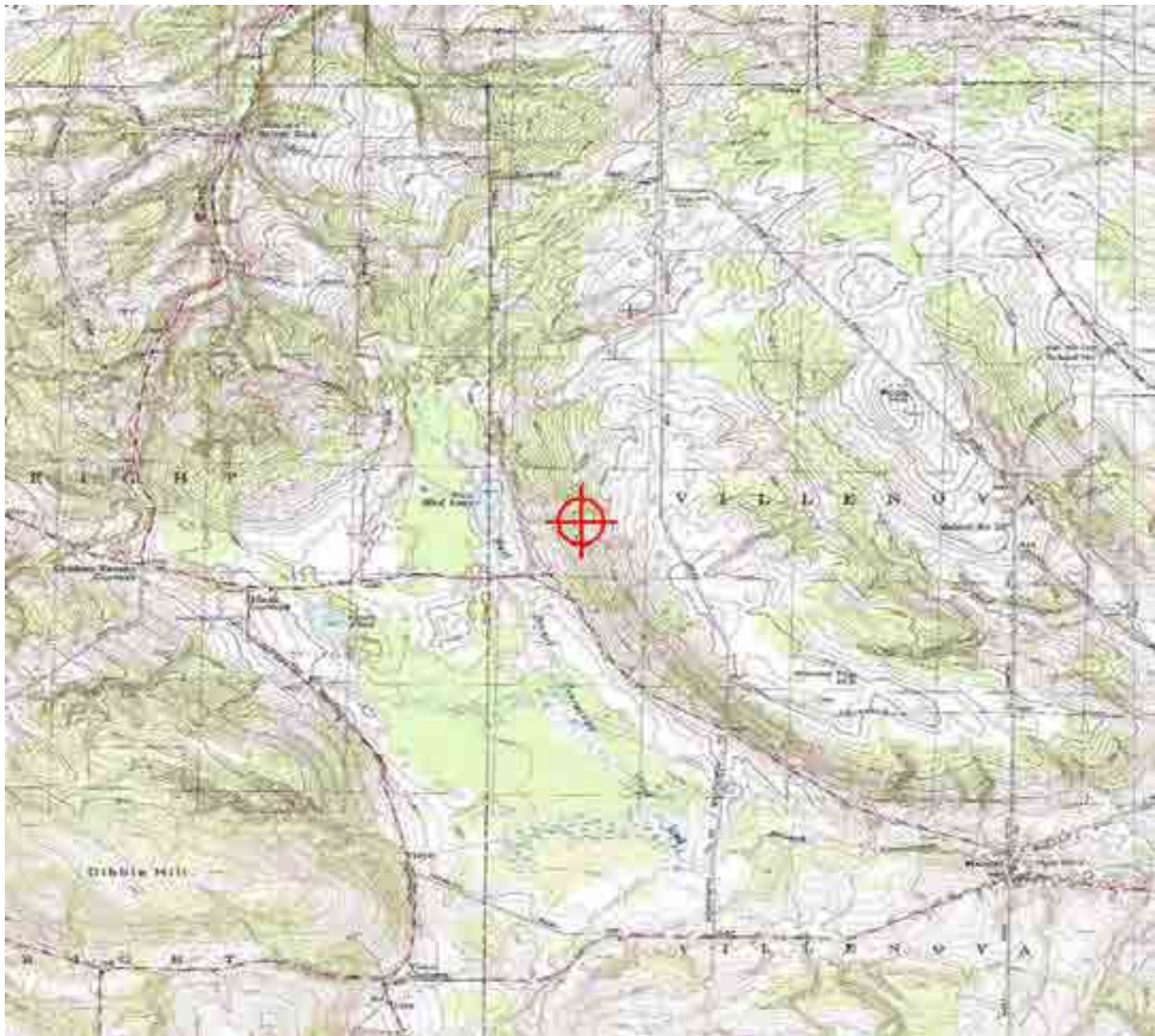
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8079-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8080-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T2
 Location: Hamlet, NY
 Latitude: 42-24-42.29N NAD 83
 Longitude: 79-10-17.74W
 Heights: 1541 feet site elevation (SE)
 499 feet above ground level (AGL)
 2040 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2040 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
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Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

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This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8080-OE.

Signature Control No: 273432843-301612352

(DNE -WT)

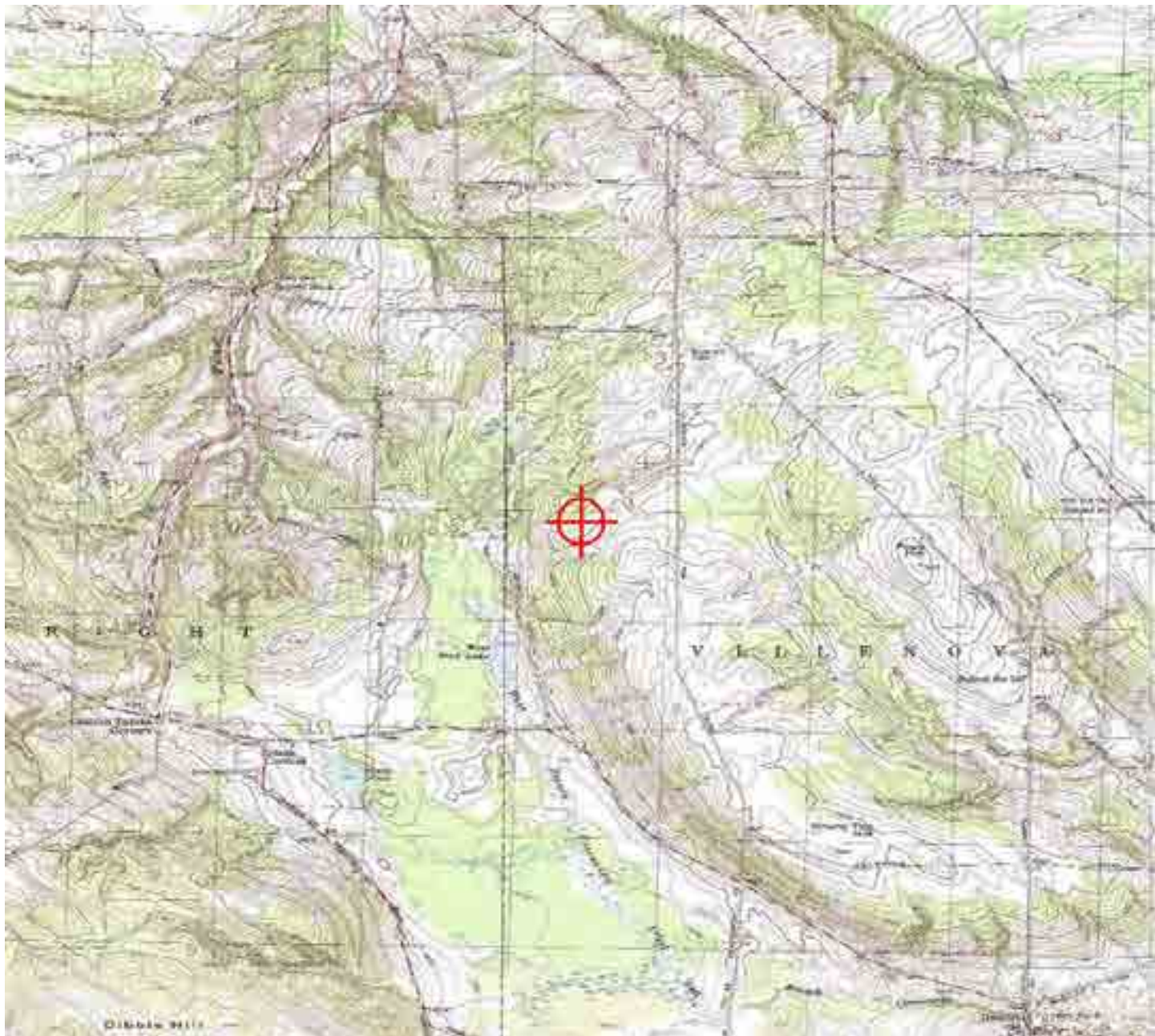
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8080-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8081-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T3
 Location: Hamlet, NY
 Latitude: 42-22-48.64N NAD 83
 Longitude: 79-08-19.95W
 Heights: 1618 feet site elevation (SE)
 499 feet above ground level (AGL)
 2117 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

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See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2117 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

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Signature Control No: 273432844-301612339

(DNE -WT)

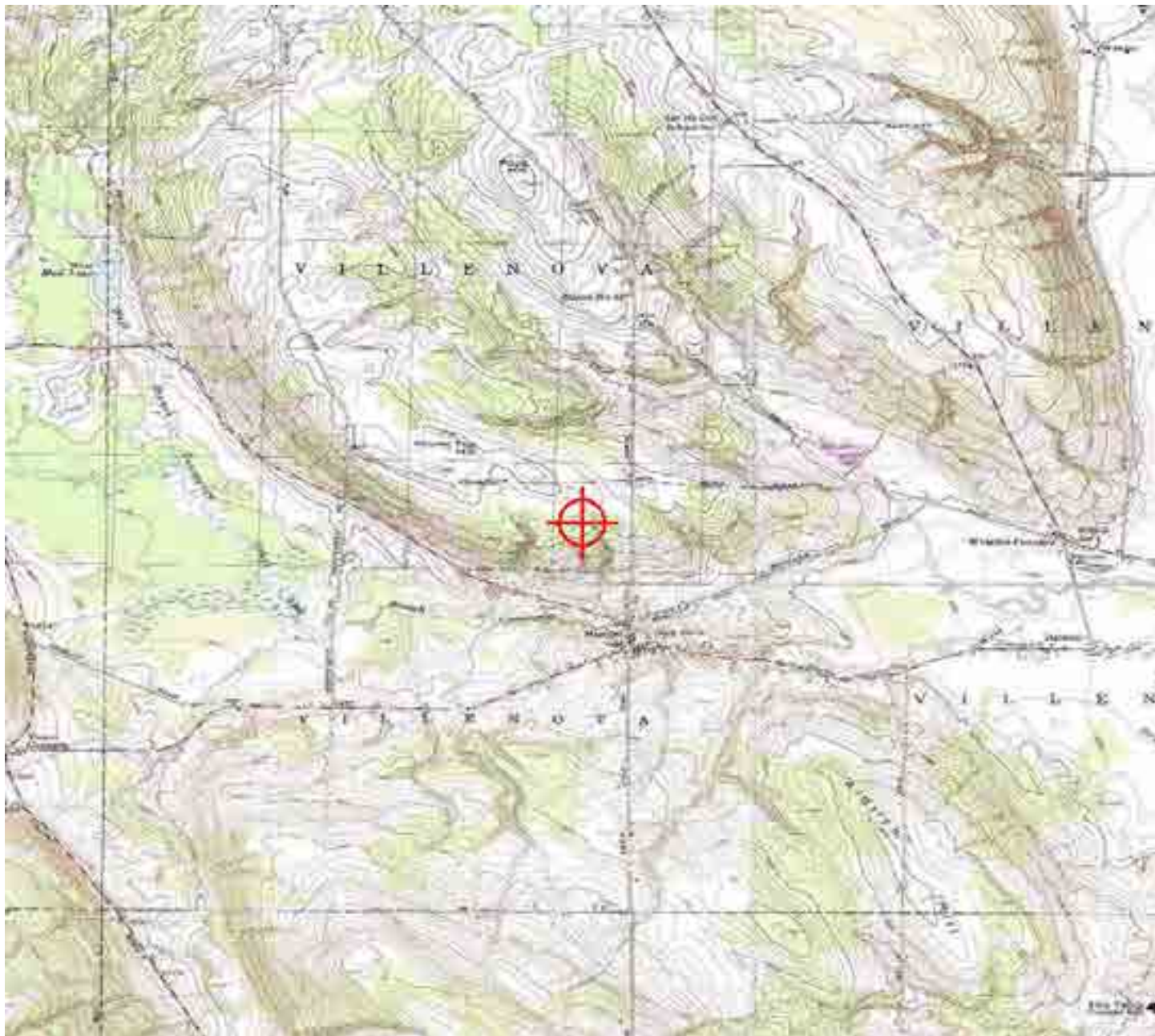
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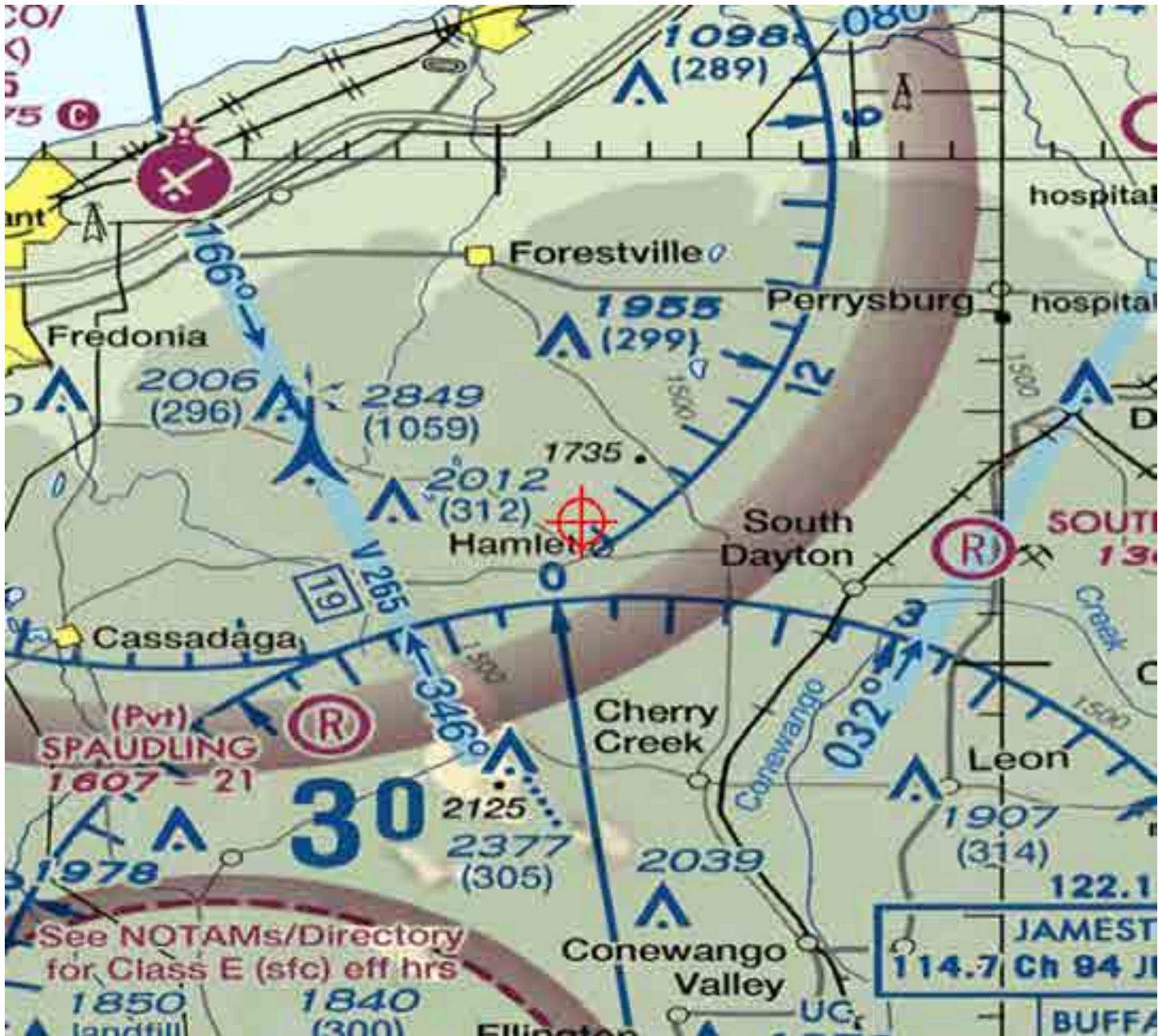
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 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8082-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T4
 Location: Hamlet, NY
 Latitude: 42-23-08.19N NAD 83
 Longitude: 79-08-29.54W
 Heights: 1632 feet site elevation (SE)
 499 feet above ground level (AGL)
 2131 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2131 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8082-OE.

Signature Control No: 273432845-301612342

(DNE -WT)

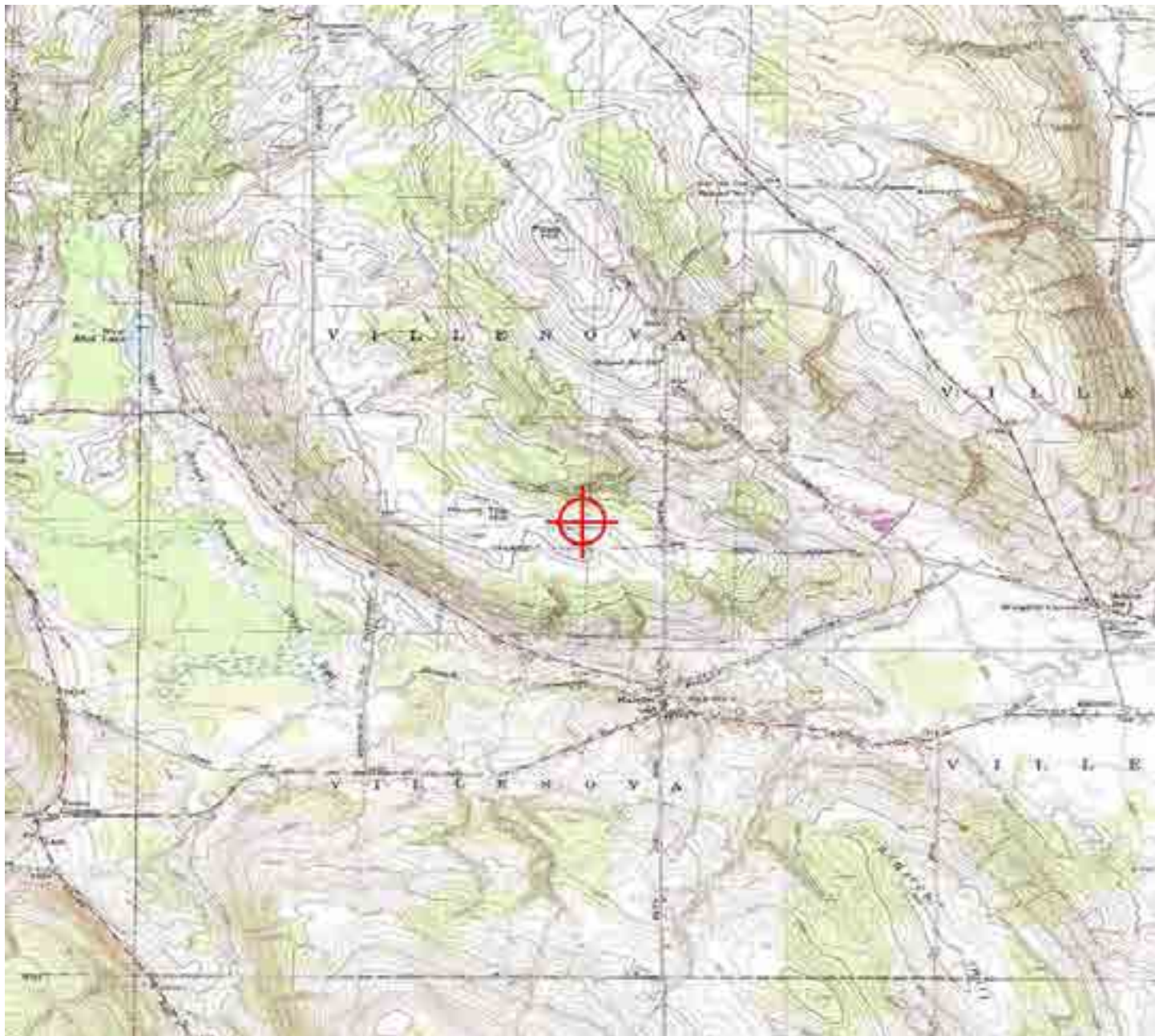
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8082-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8083-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T5
 Location: Hamlet, NY
 Latitude: 42-23-22.69N NAD 83
 Longitude: 79-08-46.67W
 Heights: 1631 feet site elevation (SE)
 499 feet above ground level (AGL)
 2130 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2130 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8083-OE.

Signature Control No: 273432846-301612350

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8083-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8084-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T6
 Location: Hamlet, NY
 Latitude: 42-23-34.10N NAD 83
 Longitude: 79-08-54.31W
 Heights: 1622 feet site elevation (SE)
 499 feet above ground level (AGL)
 2121 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2121 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8084-OE.

Signature Control No: 273432847-301612348

(DNE -WT)

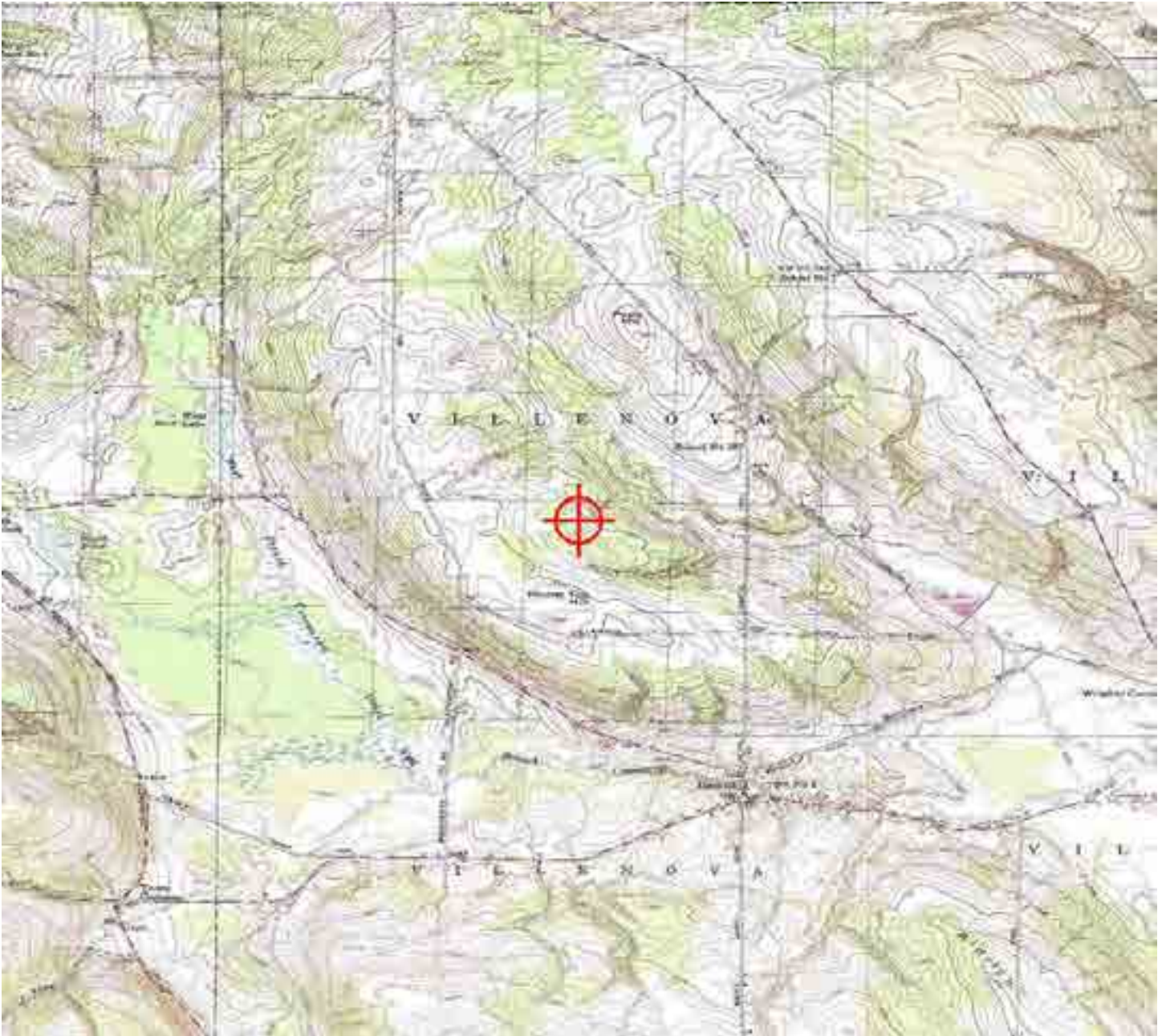
Brenda Mumper
Specialist

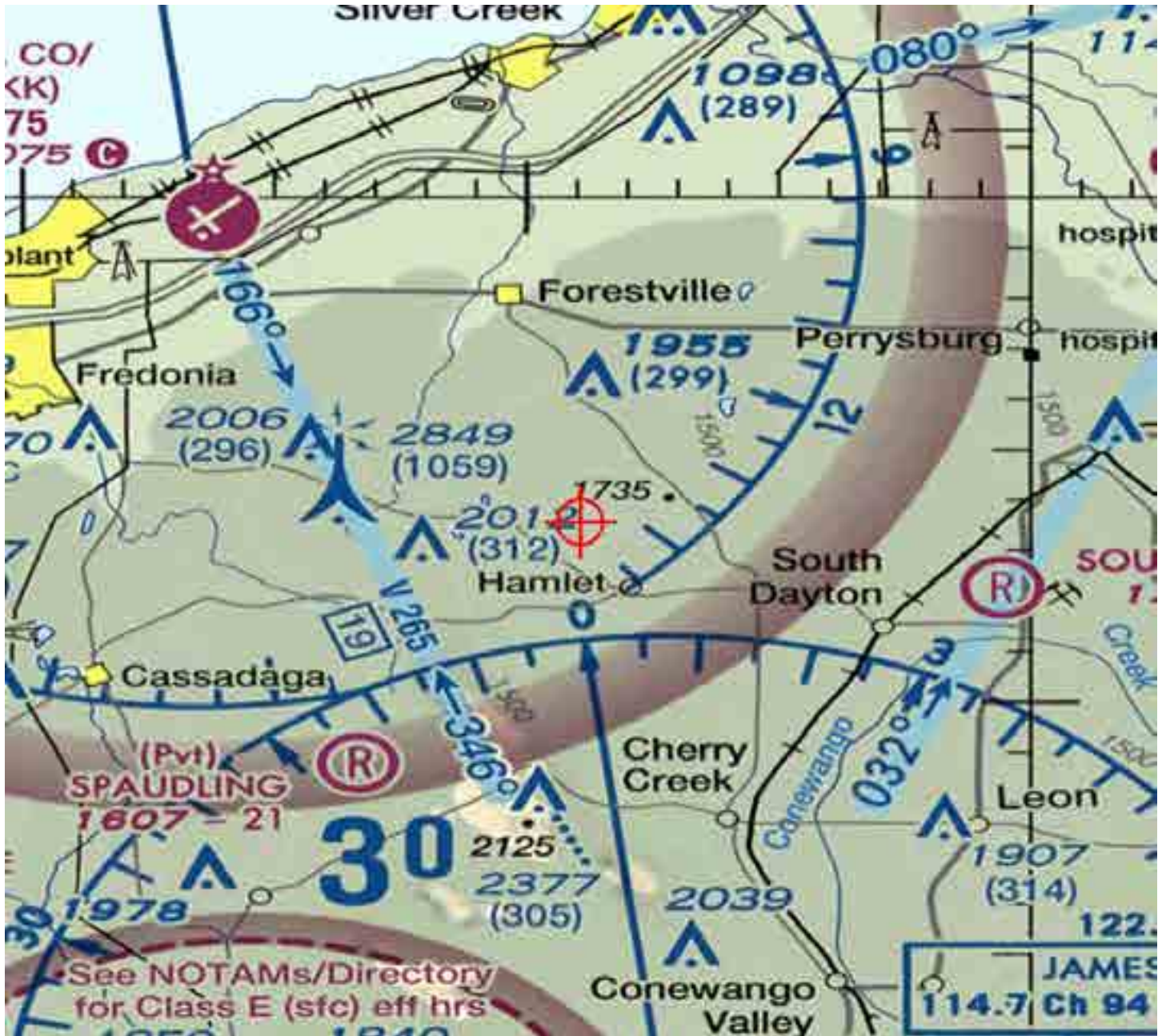
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8084-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8085-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T7
 Location: Hamlet, NY
 Latitude: 42-23-47.93N NAD 83
 Longitude: 79-09-01.51W
 Heights: 1605 feet site elevation (SE)
 499 feet above ground level (AGL)
 2104 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2104 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8085-OE.

Signature Control No: 273432848-301612355

(DNE -WT)

Brenda Mumper
Specialist

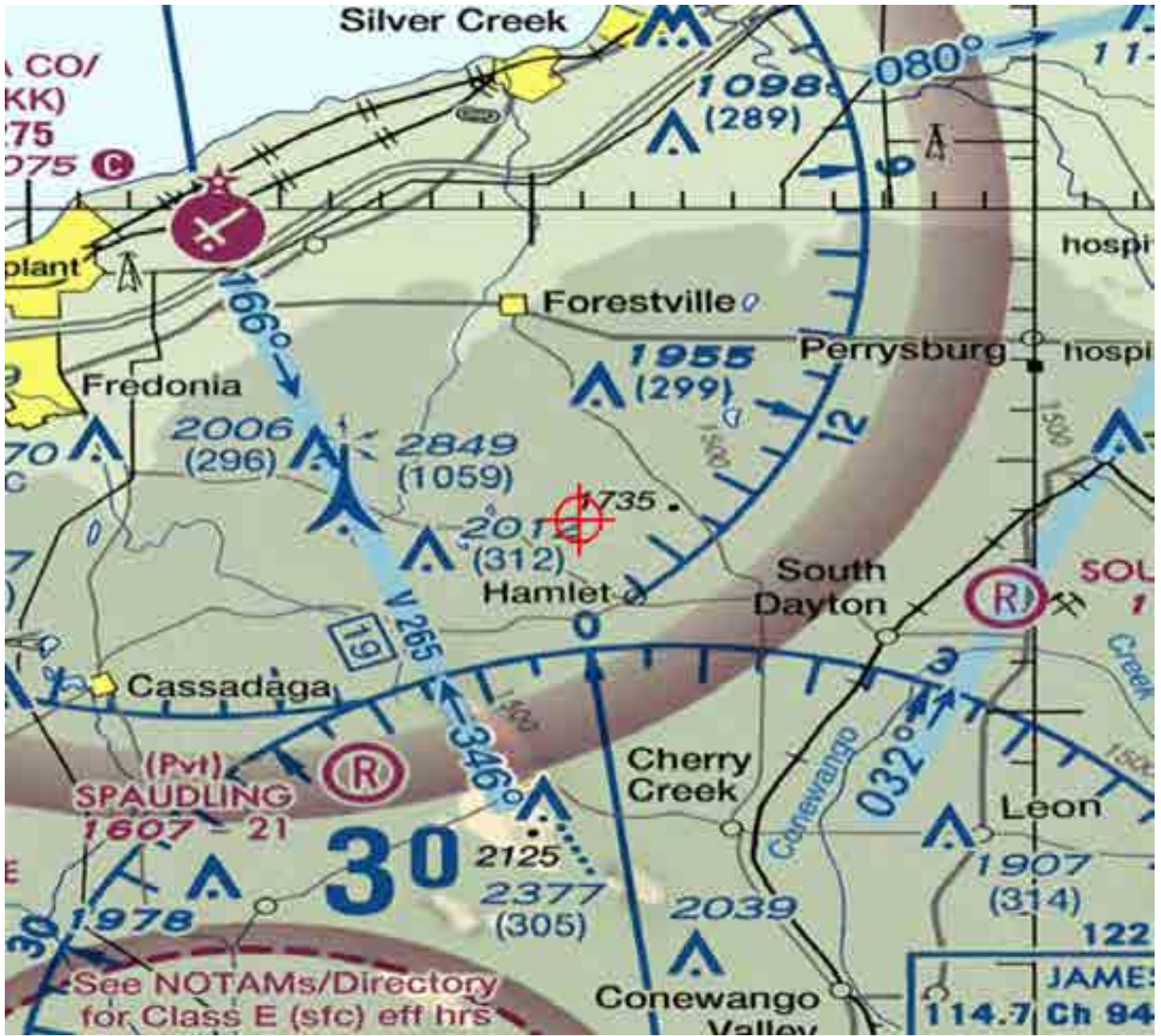
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8085-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8086-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T8
 Location: Hamlet, NY
 Latitude: 42-24-06.15N NAD 83
 Longitude: 79-09-17.25W
 Heights: 1605 feet site elevation (SE)
 499 feet above ground level (AGL)
 2104 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2104 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8086-OE.

Signature Control No: 273432850-301612344

(DNE -WT)

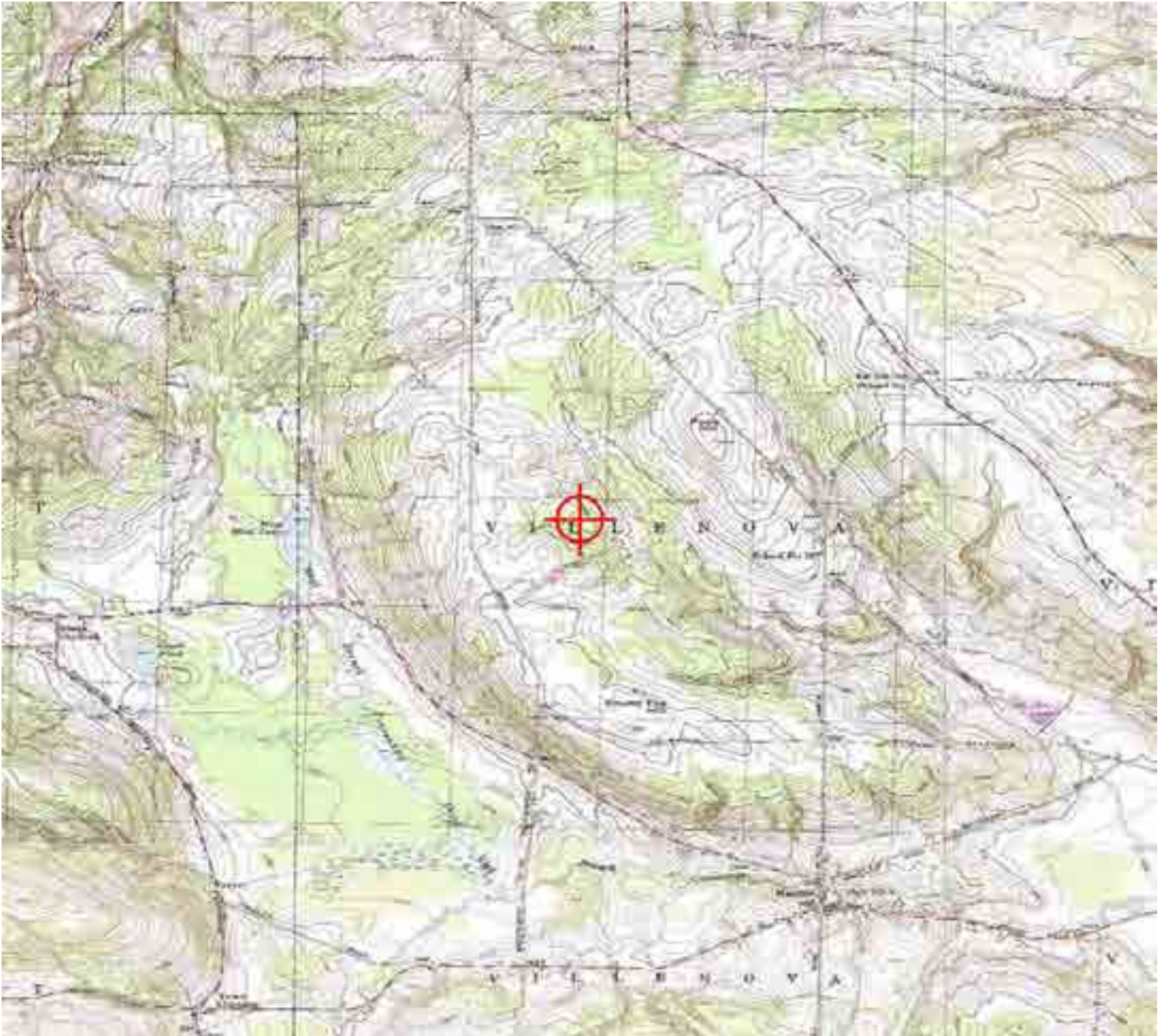
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8086-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8087-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T9
 Location: Hamlet, NY
 Latitude: 42-23-56.70N NAD 83
 Longitude: 79-08-28.54W
 Heights: 1555 feet site elevation (SE)
 499 feet above ground level (AGL)
 2054 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2054 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8087-OE.

Signature Control No: 273432851-301612351

(DNE -WT)

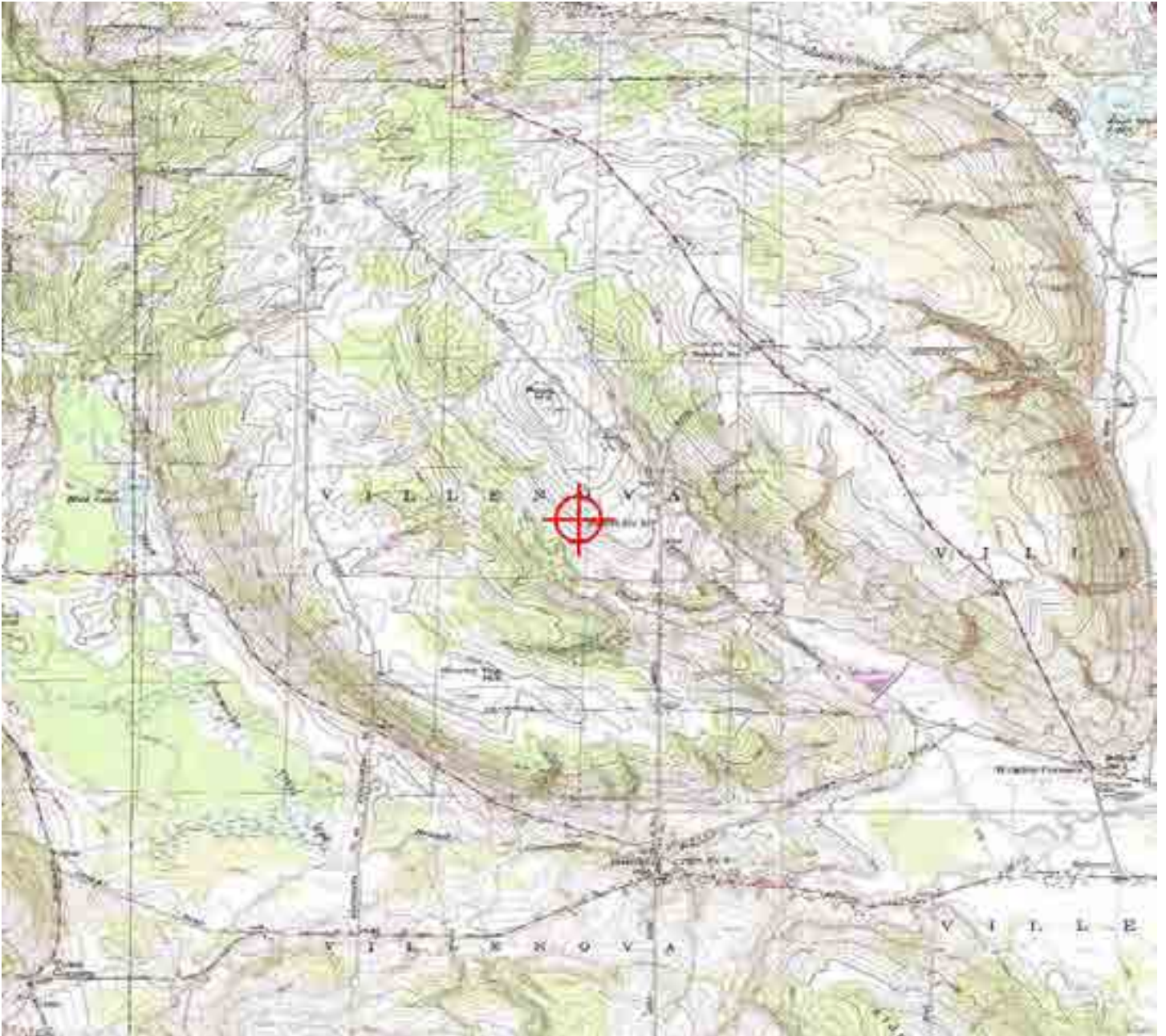
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8087-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.





Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8088-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T11
 Location: Hamlet, NY
 Latitude: 42-24-29.14N NAD 83
 Longitude: 79-08-56.63W
 Heights: 1590 feet site elevation (SE)
 499 feet above ground level (AGL)
 2089 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2089 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8088-OE.

Signature Control No: 273432852-301612349

(DNE -WT)

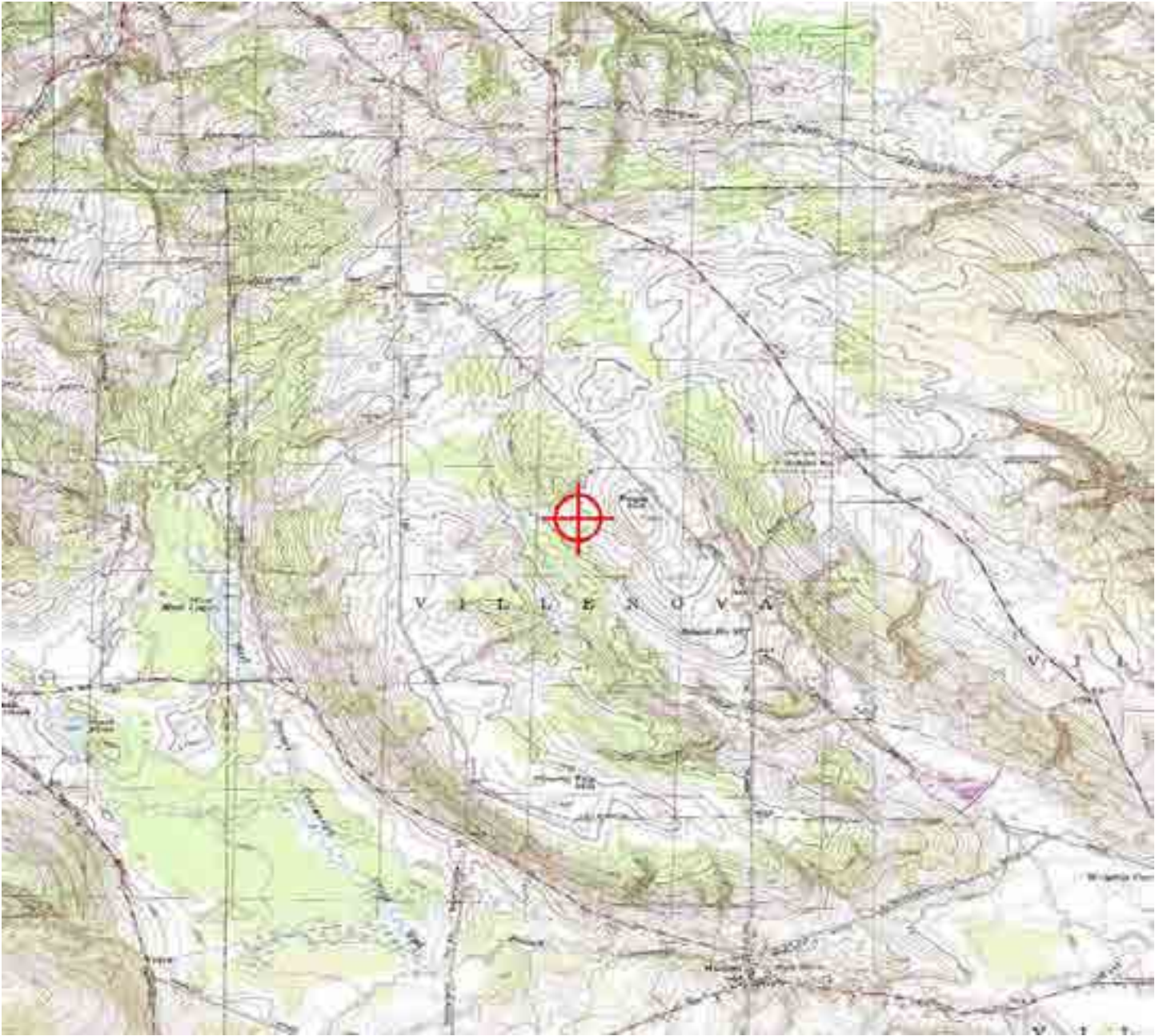
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8088-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.





Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8089-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T12
 Location: Hamlet, NY
 Latitude: 42-23-42.01N NAD 83
 Longitude: 79-06-58.79W
 Heights: 1620 feet site elevation (SE)
 499 feet above ground level (AGL)
 2119 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2119 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8089-OE.

Signature Control No: 273432853-301612345

(DNE -WT)

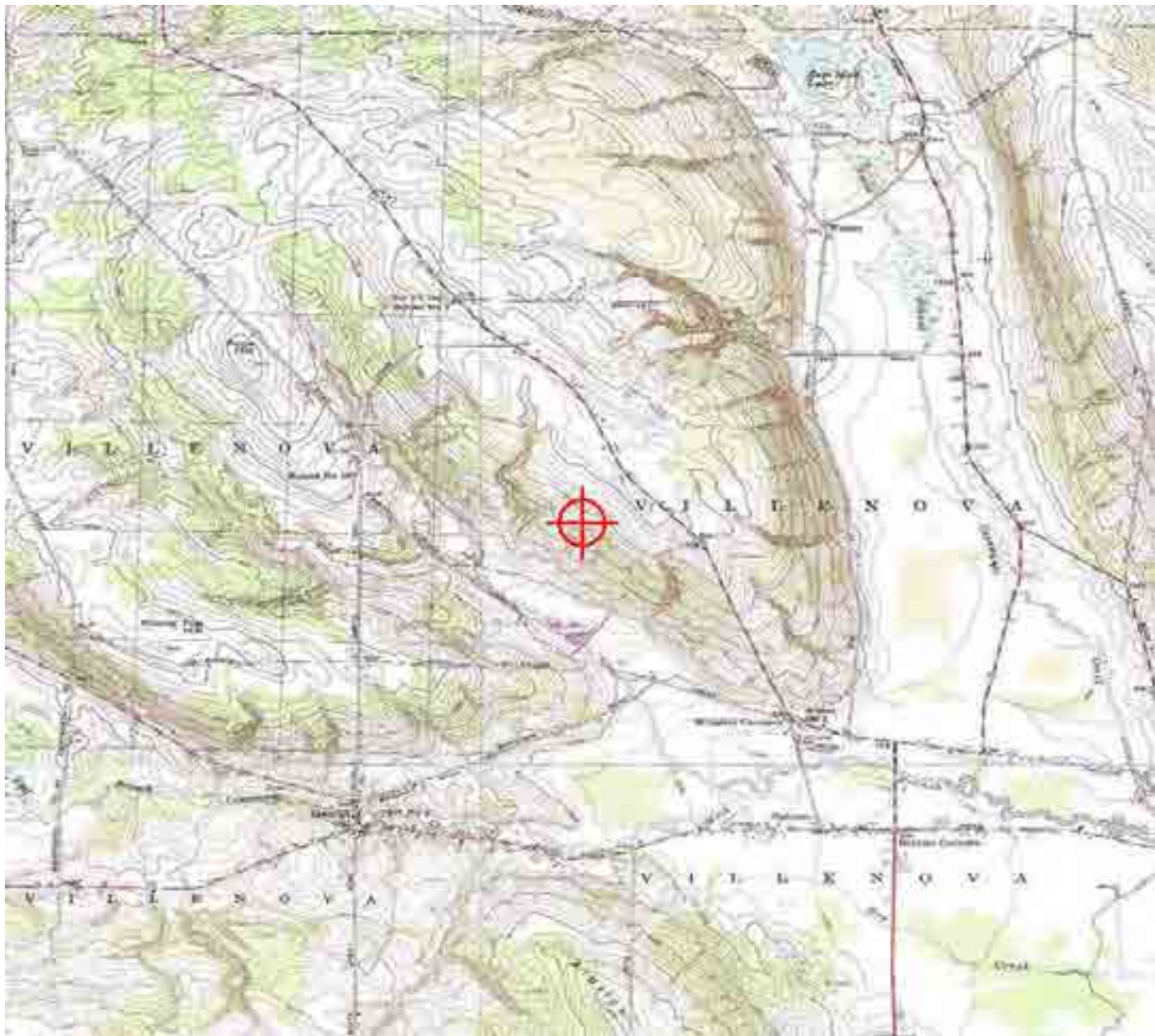
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8089-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8090-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T13
 Location: Hamlet, NY
 Latitude: 42-23-52.64N NAD 83
 Longitude: 79-07-11.91W
 Heights: 1643 feet site elevation (SE)
 499 feet above ground level (AGL)
 2142 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2142 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8090-OE.

Signature Control No: 273432855-301612354

(DNE -WT)

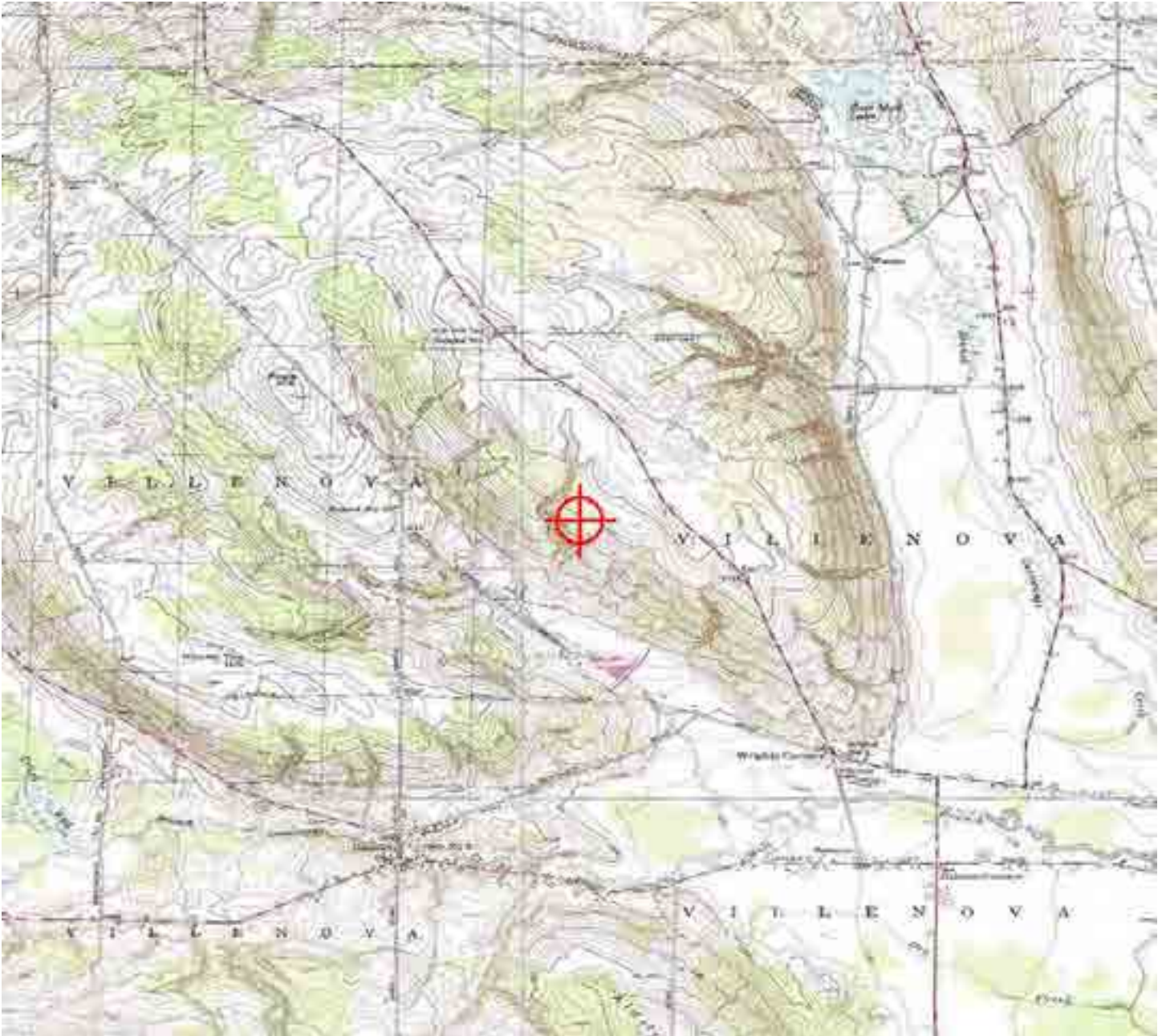
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8090-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8091-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T14
 Location: Hamlet, NY
 Latitude: 42-24-13.49N NAD 83
 Longitude: 79-07-19.91W
 Heights: 1705 feet site elevation (SE)
 499 feet above ground level (AGL)
 2204 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2204 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8091-OE.

Signature Control No: 273432856-301612338

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8091-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8092-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T15
 Location: Hamlet, NY
 Latitude: 42-24-23.23N NAD 83
 Longitude: 79-07-35.11W
 Heights: 1700 feet site elevation (SE)
 499 feet above ground level (AGL)
 2199 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2199 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8092-OE.

Signature Control No: 273432857-301612353

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8092-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8093-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T16
 Location: Hamlet, NY
 Latitude: 42-24-46.73N NAD 83
 Longitude: 79-08-07.68W
 Heights: 1640 feet site elevation (SE)
 499 feet above ground level (AGL)
 2139 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2139 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8093-OE.

Signature Control No: 273432858-301612347

(DNE -WT)

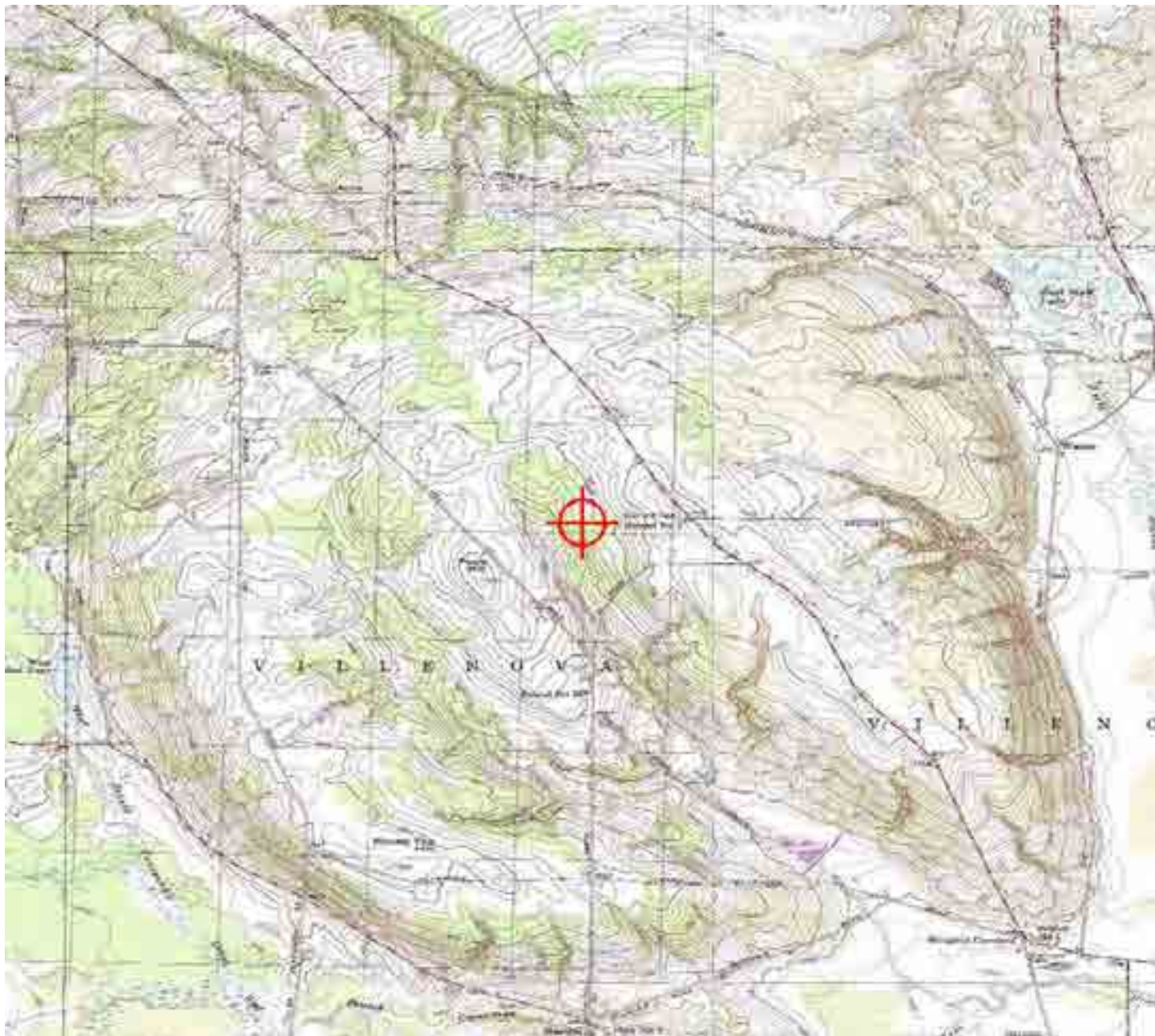
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8093-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8094-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T17
 Location: Hamlet, NY
 Latitude: 42-25-00.39N NAD 83
 Longitude: 79-08-21.83W
 Heights: 1632 feet site elevation (SE)
 499 feet above ground level (AGL)
 2131 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2131 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8094-OE.

Signature Control No: 273432860-301612357

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8094-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8095-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T18
 Location: Hamlet, NY
 Latitude: 42-25-19.11N NAD 83
 Longitude: 79-08-28.15W
 Heights: 1660 feet site elevation (SE)
 499 feet above ground level (AGL)
 2159 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2159 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before September 10, 2016. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on September 20, 2016 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Brenda Mumper, at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8095-OE.

Signature Control No: 273432861-301594060

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2015-WTE-8095-OE

The proposed structures noted in this letter are part of a proposed wind farm that would be located near Hamlet, New York. They would be located from 6.35 to 7.21 nautical miles (NM) southeast of the airport reference point for the Chautauqua County/Dunkirk Airport (DKK) in Dunkirk, New York. The determinations for each of the structures will be available upon issuance on the website, <http://oeaaa.faa.gov>.

Following are the Aeronautical Study Numbers, coordinates, site elevation, above ground level and above mean sea level heights for each of the proposals:

2015-WTE-8095-OE 42-25-19.11N / 79-08-28.15W 1660 / 499 / 2159

2015-WTE-8117-OE 42-25-28.86N / 79-08-55.62W 1640 / 499 / 2139

2015-WTE-8118-OE 42-25-51.55N / 79-09-21.52W 1605 / 499 / 2104

2015-WTE-8119-OE 42-25-45.90N / 79-09-02.69W 1622 / 499 / 2121

OBSTRUCTION STANDARD(S) EXCEEDED

Section 77.17(a)(3): A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

The proposals would exceed this obstruction standard as noted as applied to DKK:

2015-WTE-8095-OE

Obstacle penetrates Runway 15 Diverse A departure area 14 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8117-OE

Obstacle penetrates Runway 15 Diverse A departure area 46 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8118-OE

Obstacle penetrates Runway 15 Diverse A departure area 87 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8119-OE

Obstacle penetrates Runway 15 Diverse A departure area 71 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

The proposal was circularized on July 29, 2016, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. No comments were received as a result of the circularization.

Aeronautical study disclosed that the structure would have no significant effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures. Further study did not

indicate that the IFR impacts noted above would affect a significant number of aircraft operations; therefore, those impacts would not create substantial adverse effect.

Study for possible visual flight rules (VFR) effect disclosed that the proposal would have no effect on any existing or proposed arrival or departure VFR operations or procedures. It would not conflict with airspace required to conduct normal VFR traffic pattern operations at DKK or any other known public-use or military airports. At 499 ft. AGL, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

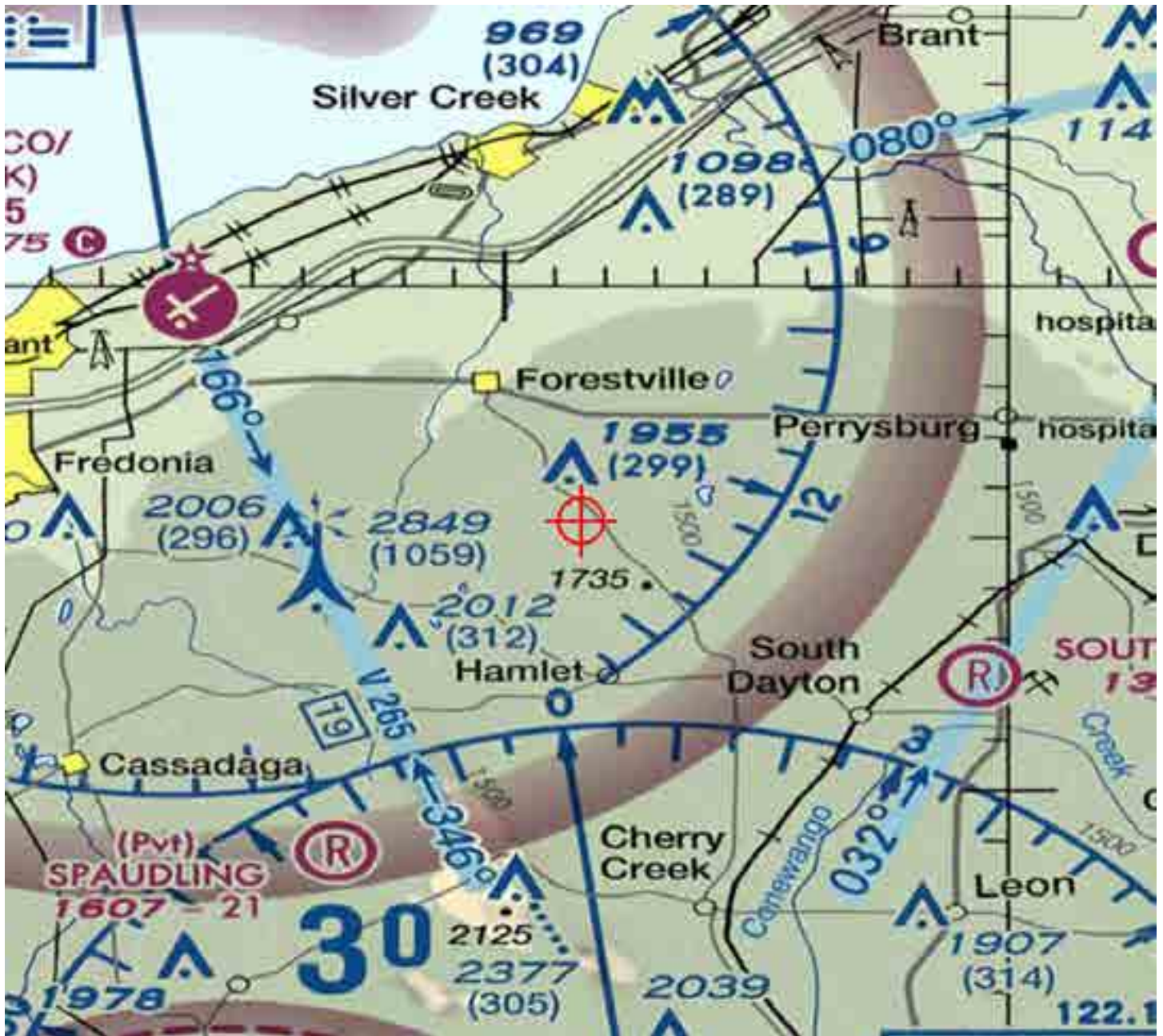
The cumulative impact of the structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposal affect the capacity of any known existing or planned public-use or military airport. The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

All determinations will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.

NOTE: IT IS IMPERATIVE THAT PART 1 OF THE 7460-2 FORM IS SUBMITTED AT LEAST 10 DAYS PRIOR TO BEGINNING CONSTRUCTION SO IFR ALTITUDES MAY BE AMENDED AS REQUIRED.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8096-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T19
 Location: Hamlet, NY
 Latitude: 42-23-55.14N NAD 83
 Longitude: 79-06-18.89W
 Heights: 1703 feet site elevation (SE)
 499 feet above ground level (AGL)
 2202 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2202 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8096-OE.

Signature Control No: 273432862-301612346

(DNE -WT)

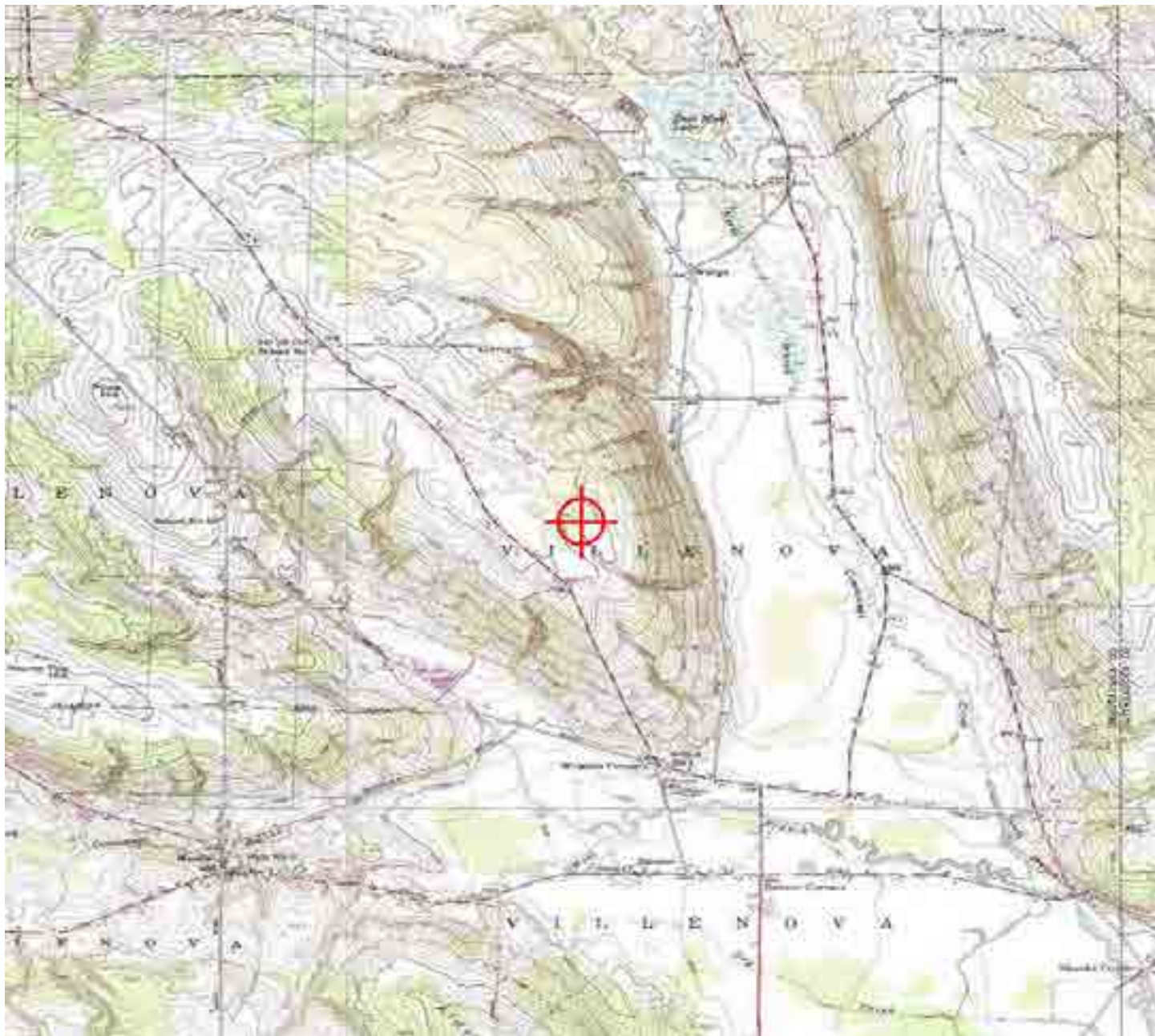
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8096-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8097-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T20
 Location: Hamlet, NY
 Latitude: 42-24-04.09N NAD 83
 Longitude: 79-06-27.97W
 Heights: 1708 feet site elevation (SE)
 499 feet above ground level (AGL)
 2207 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2207 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8097-OE.

Signature Control No: 273432863-301612356

(DNE -WT)

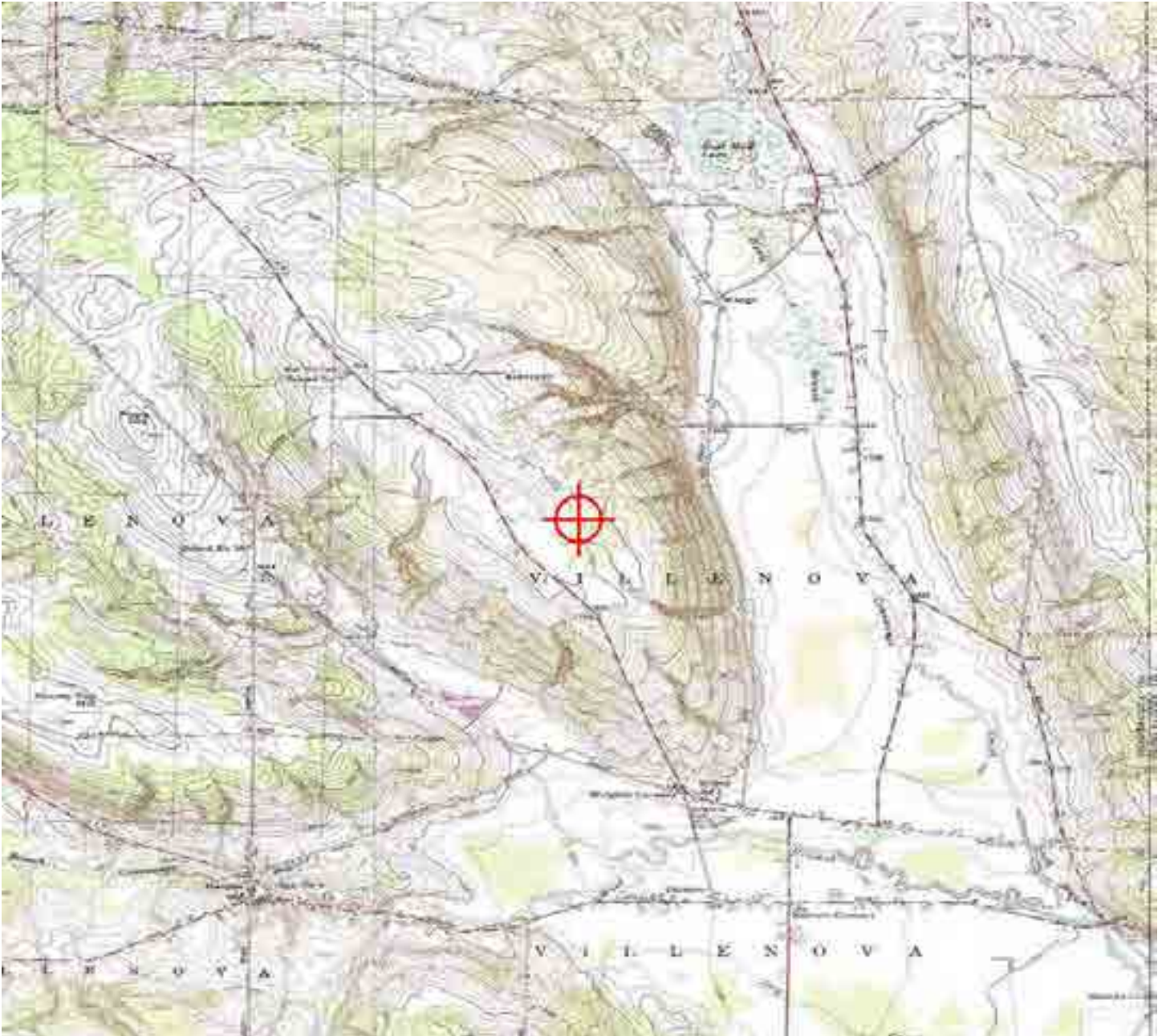
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8097-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8098-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T21
 Location: Hamlet, NY
 Latitude: 42-23-45.81N NAD 83
 Longitude: 79-06-01.68W
 Heights: 1670 feet site elevation (SE)
 499 feet above ground level (AGL)
 2169 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2169 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8098-OE.

Signature Control No: 273432866-301612343

(DNE -WT)

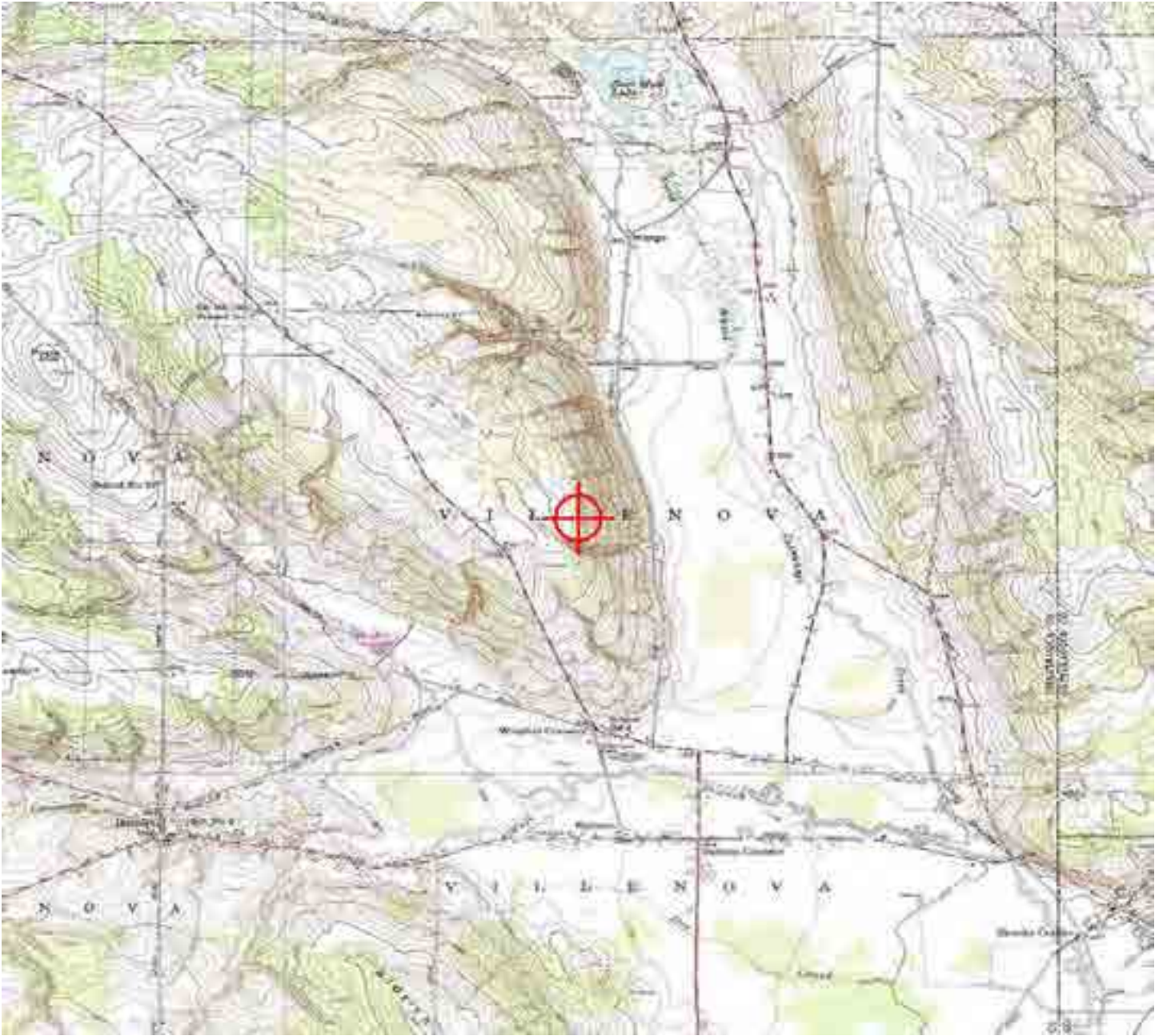
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8098-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8099-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T23
 Location: Hamlet, NY
 Latitude: 42-24-33.78N NAD 83
 Longitude: 79-06-40.44W
 Heights: 1648 feet site elevation (SE)
 499 feet above ground level (AGL)
 2147 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2147 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8099-OE.

Signature Control No: 273432867-301612341

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8099-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8100-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T25
 Location: Hamlet, NY
 Latitude: 42-25-20.72N NAD 83
 Longitude: 79-06-36.20W
 Heights: 1615 feet site elevation (SE)
 499 feet above ground level (AGL)
 2114 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2114 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8100-OE.

Signature Control No: 273432868-301612362

(DNE -WT)

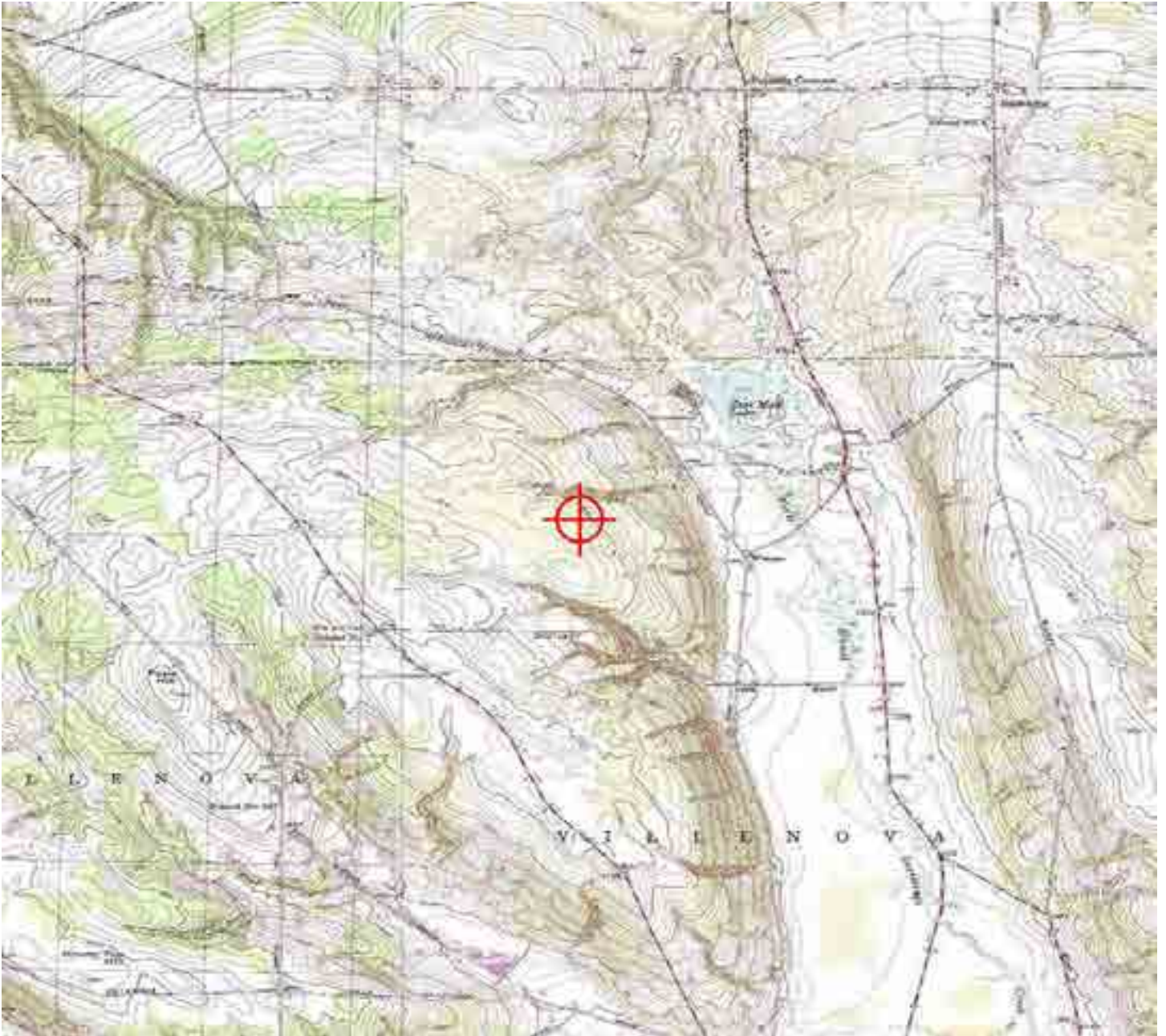
Brenda Mumper
Specialist

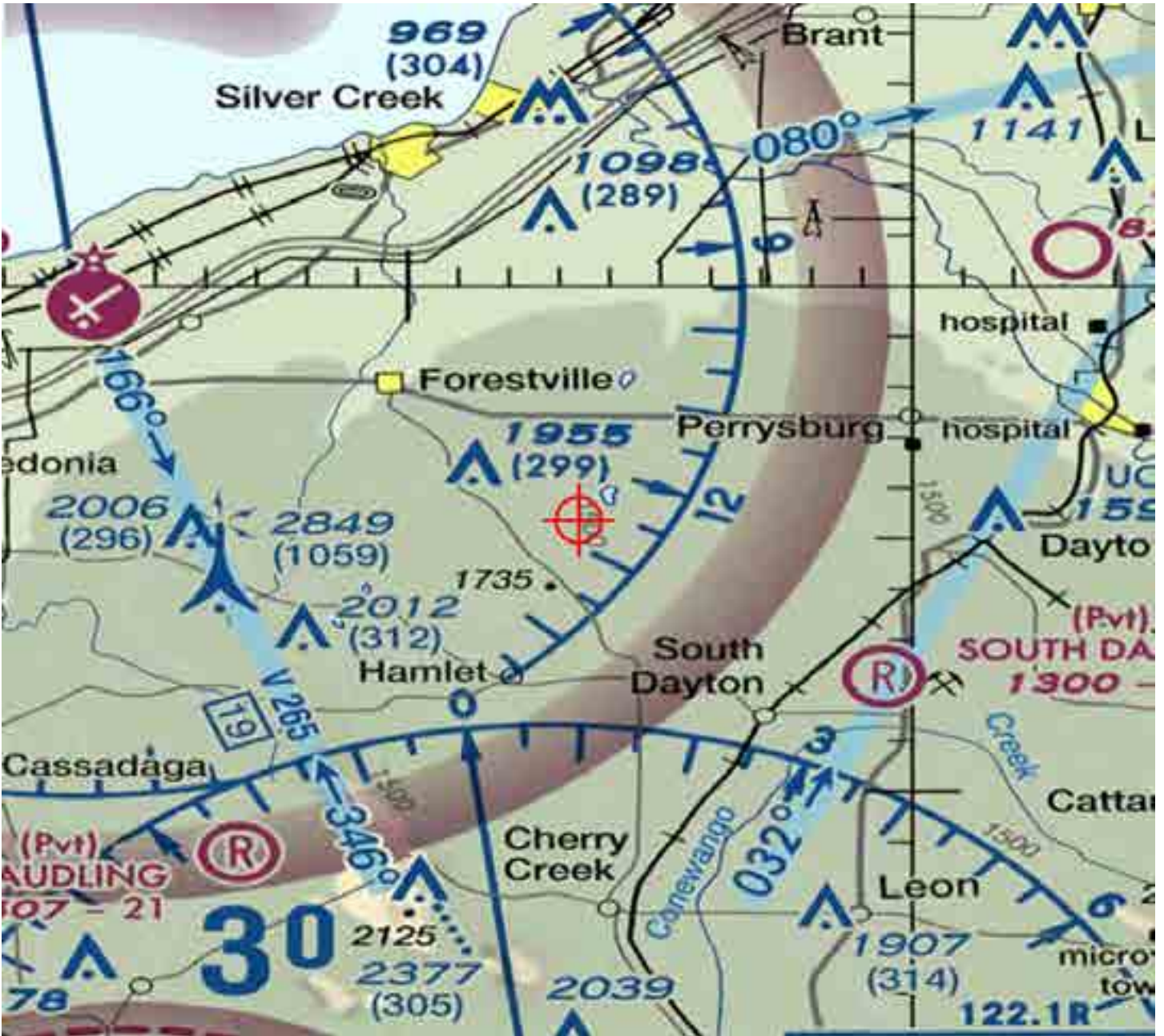
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8100-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8101-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T26
 Location: Hamlet, NY
 Latitude: 42-25-34.69N NAD 83
 Longitude: 79-06-52.33W
 Heights: 1622 feet site elevation (SE)
 499 feet above ground level (AGL)
 2121 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2121 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8101-OE.

Signature Control No: 273432870-301612365

(DNE -WT)

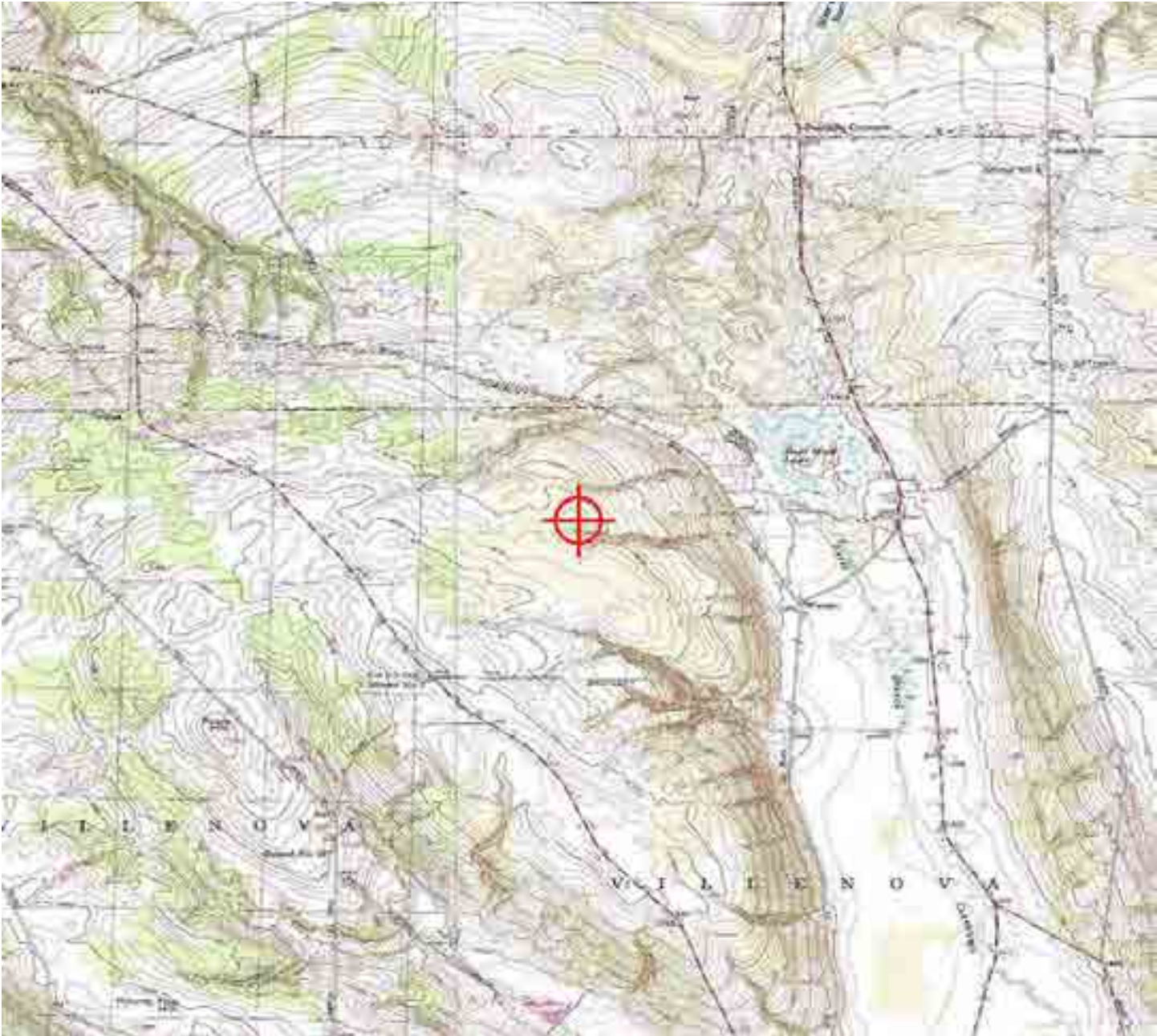
Brenda Mumper
Specialist

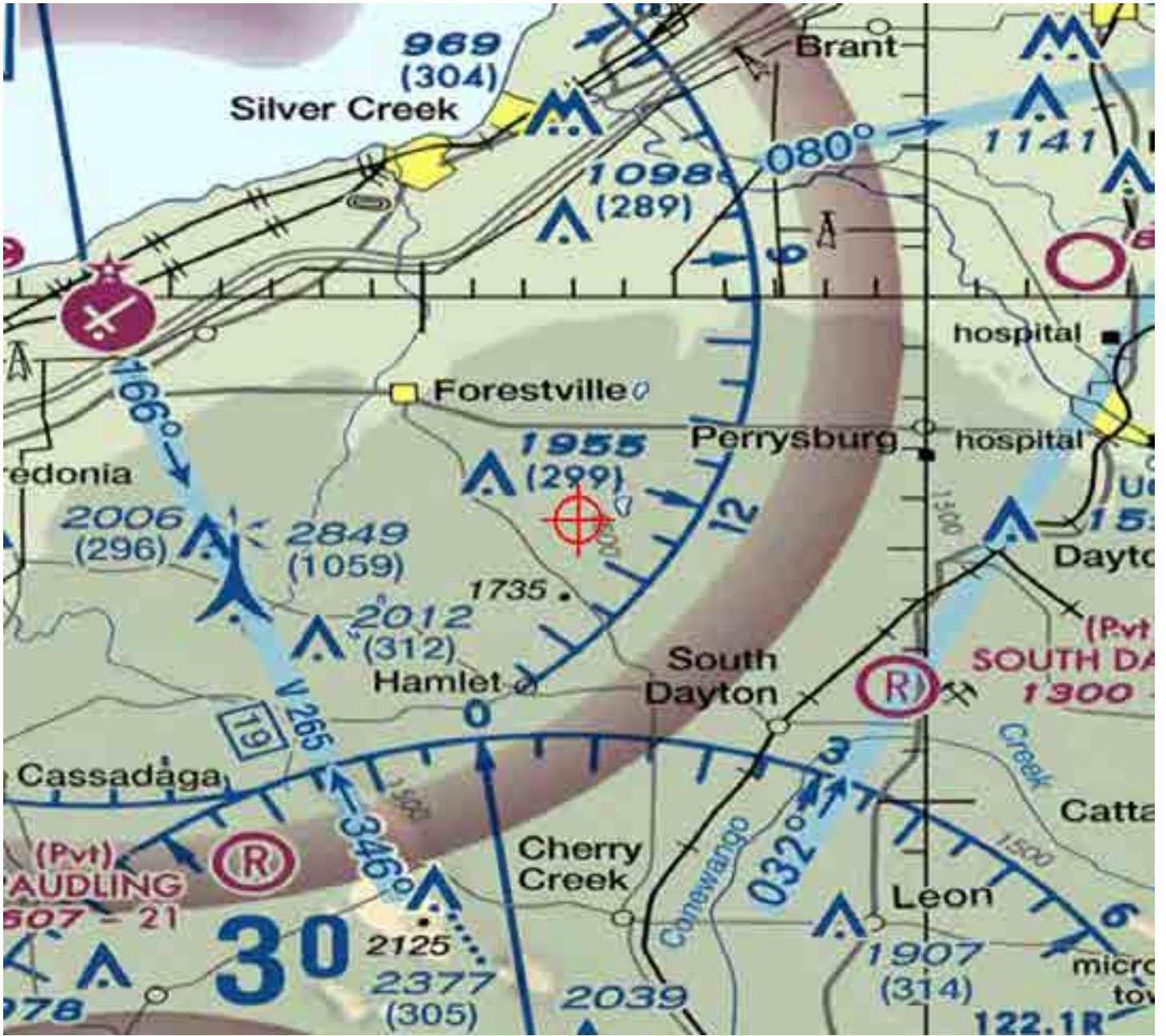
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8101-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8102-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T27
 Location: Hamlet, NY
 Latitude: 42-25-40.48N NAD 83
 Longitude: 79-07-07.42W
 Heights: 1605 feet site elevation (SE)
 499 feet above ground level (AGL)
 2104 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2104 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8102-OE.

Signature Control No: 273432873-301612369

(DNE -WT)

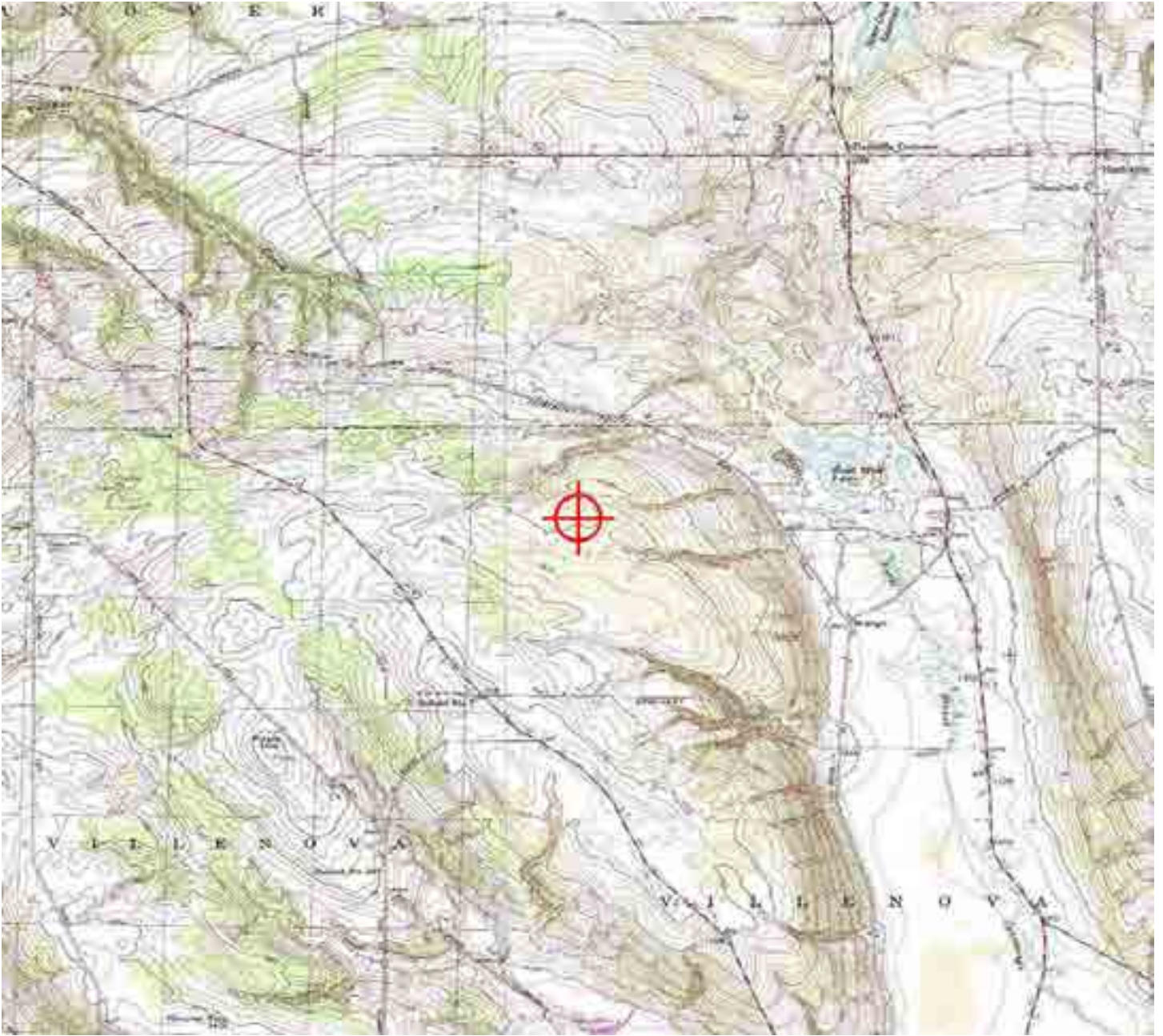
Brenda Mumper
Specialist

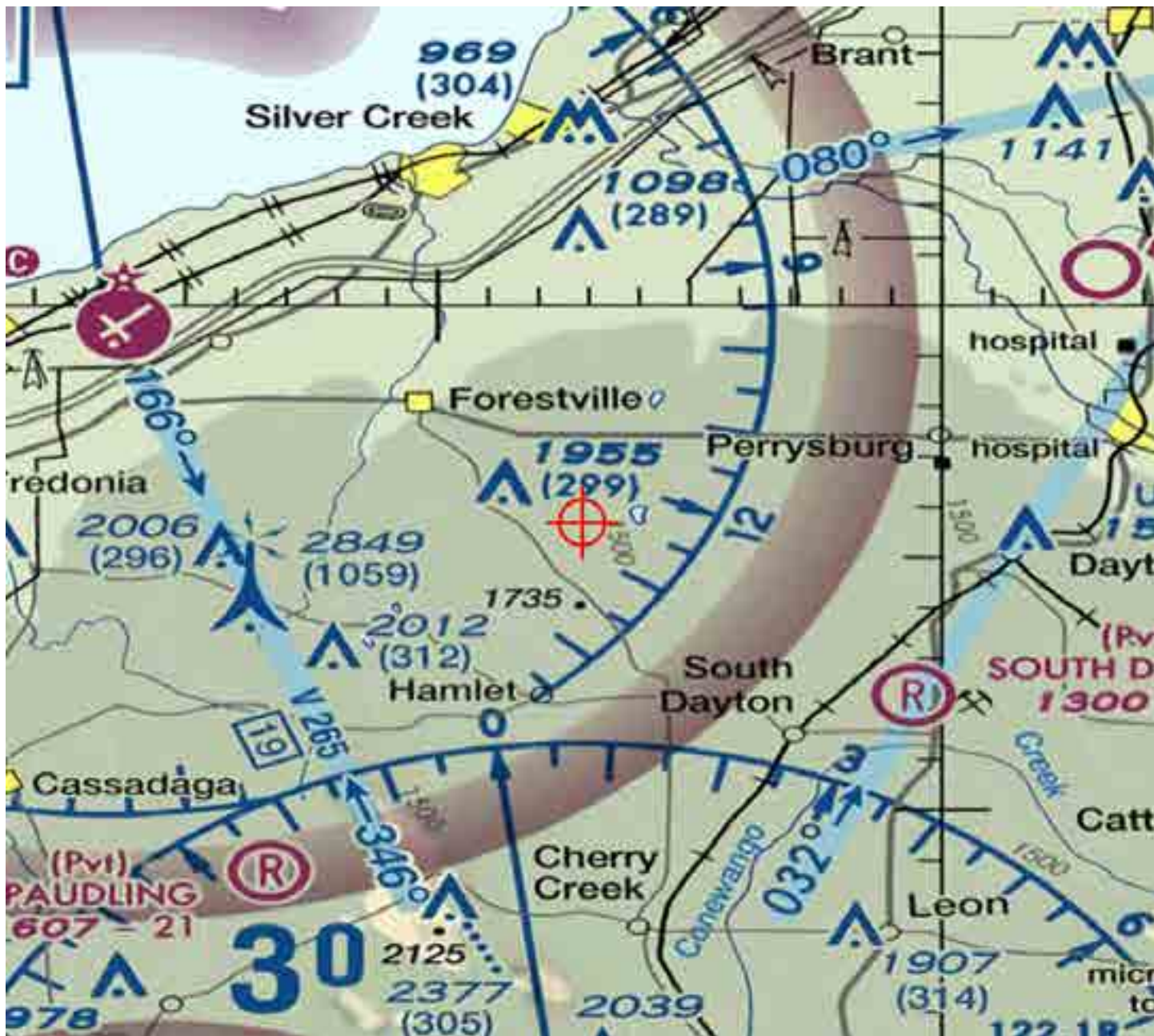
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8102-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8103-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T28
 Location: Hamlet, NY
 Latitude: 42-25-44.39N NAD 83
 Longitude: 79-07-30.76W
 Heights: 1600 feet site elevation (SE)
 499 feet above ground level (AGL)
 2099 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2099 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8103-OE.

Signature Control No: 273432874-301612372

(DNE -WT)

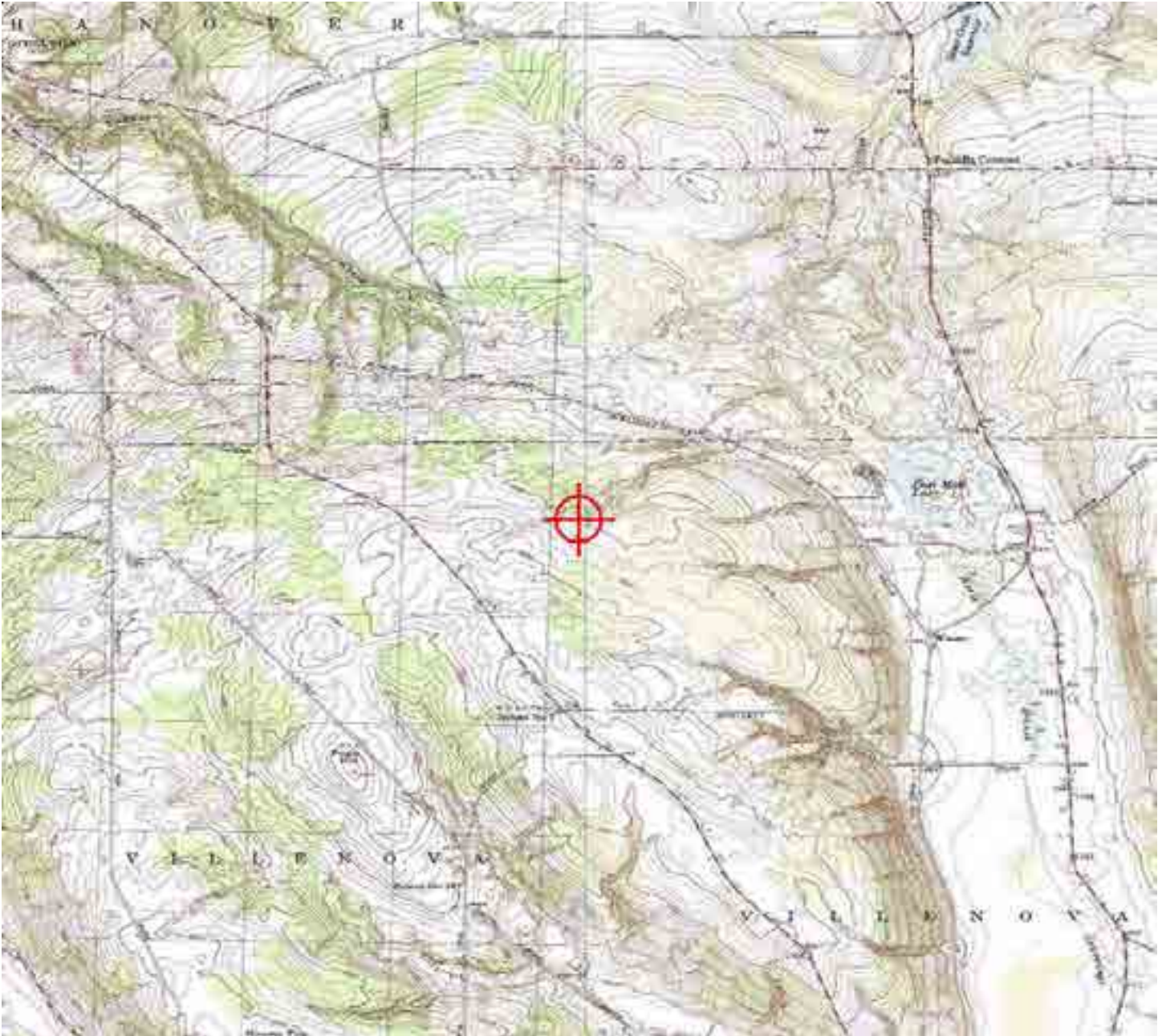
Brenda Mumper
Specialist

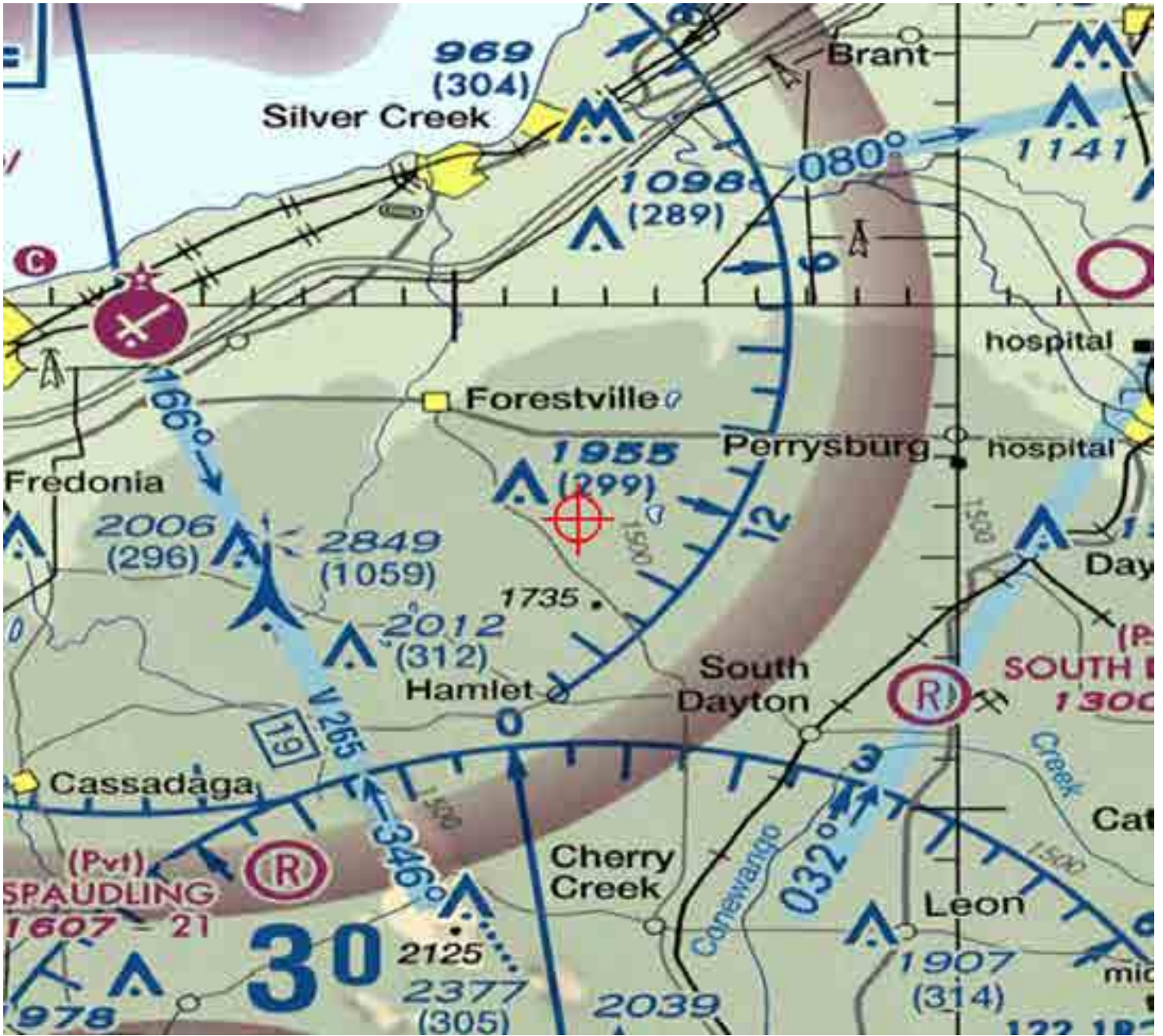
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8103-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8104-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T29
 Location: Hamlet, NY
 Latitude: 42-25-52.45N NAD 83
 Longitude: 79-07-42.47W
 Heights: 1595 feet site elevation (SE)
 499 feet above ground level (AGL)
 2094 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2094 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8104-OE.

Signature Control No: 273432875-301612376

(DNE -WT)

Brenda Mumper
Specialist

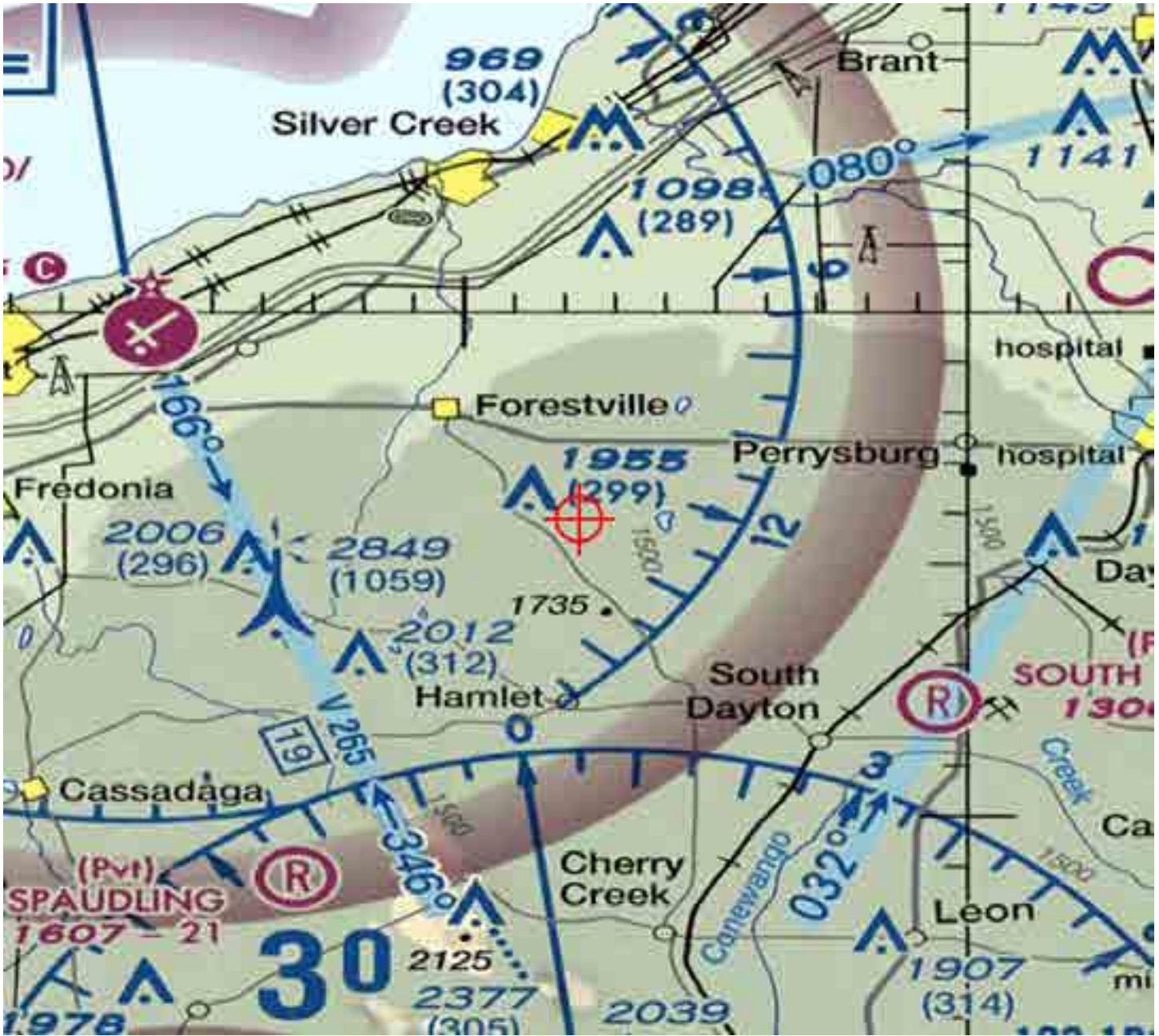
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8104-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8105-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T30
 Location: Hamlet, NY
 Latitude: 42-25-59.82N NAD 83
 Longitude: 79-08-00.17W
 Heights: 1610 feet site elevation (SE)
 499 feet above ground level (AGL)
 2109 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2109 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8105-OE.

Signature Control No: 273432877-301612379

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8105-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8106-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T31
 Location: Hamlet, NY
 Latitude: 42-26-26.82N NAD 83
 Longitude: 79-06-39.83W
 Heights: 1450 feet site elevation (SE)
 499 feet above ground level (AGL)
 1949 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (1949 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8106-OE.

Signature Control No: 273432878-301612383

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8106-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8107-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T32
 Location: Hamlet, NY
 Latitude: 42-26-36.87N NAD 83
 Longitude: 79-06-55.93W
 Heights: 1410 feet site elevation (SE)
 499 feet above ground level (AGL)
 1909 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (1909 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8107-OE.

Signature Control No: 273432884-301612386

(DNE -WT)

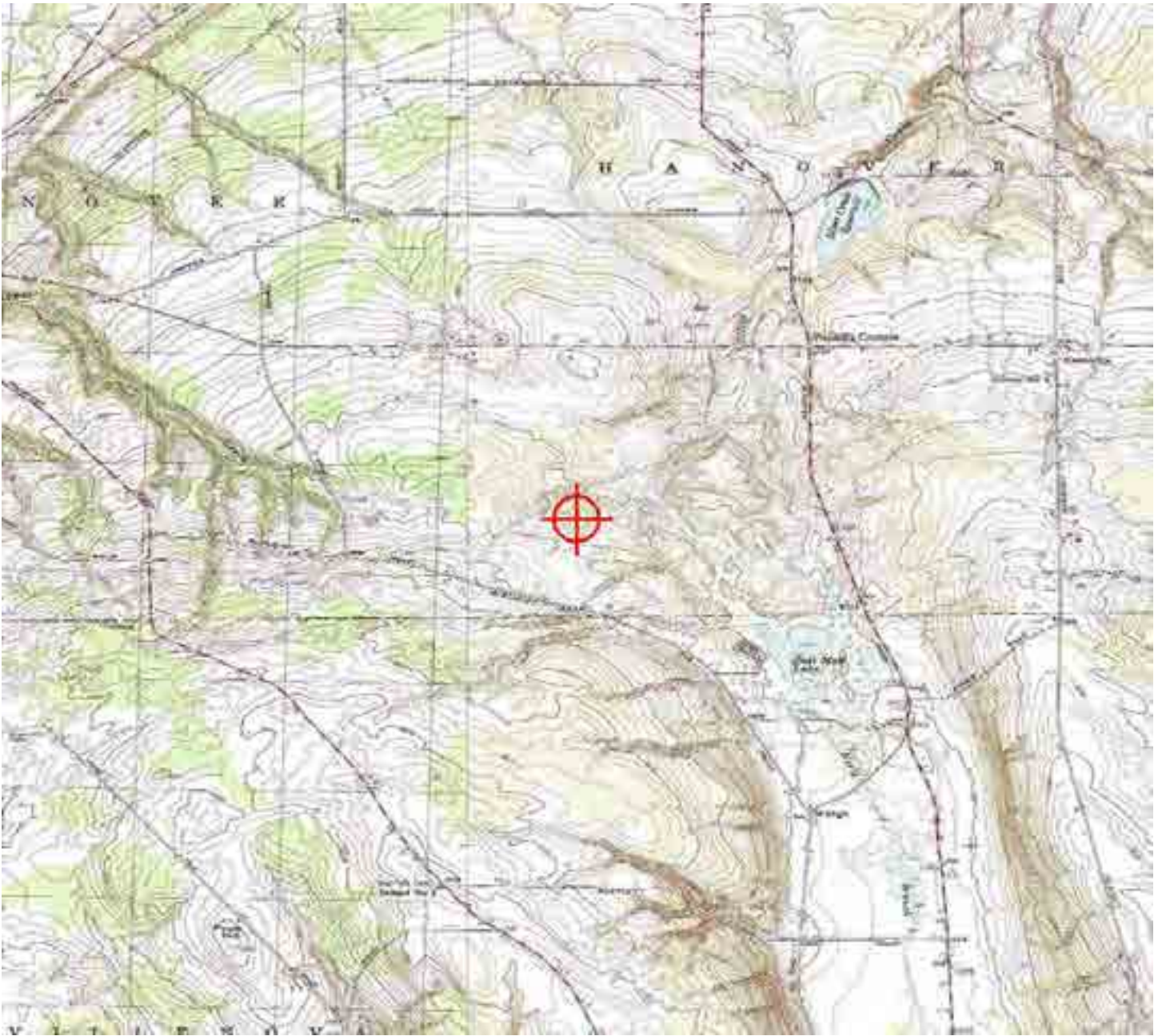
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8107-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8108-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T33
 Location: Hamlet, NY
 Latitude: 42-26-46.95N NAD 83
 Longitude: 79-07-12.22W
 Heights: 1440 feet site elevation (SE)
 499 feet above ground level (AGL)
 1939 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (1939 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8108-OE.

Signature Control No: 273432885-301612389

(DNE -WT)

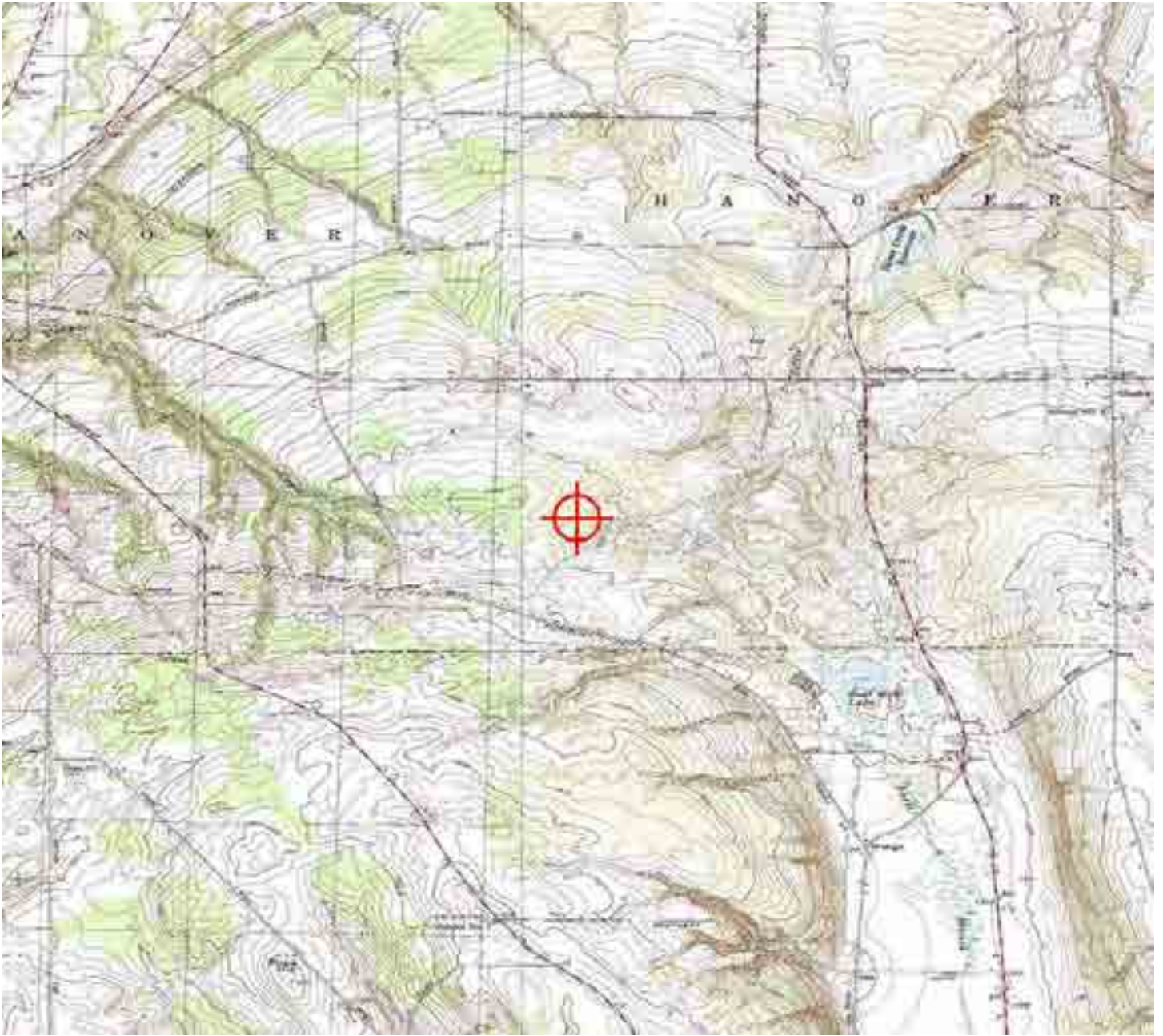
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8108-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8109-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T34
 Location: Hamlet, NY
 Latitude: 42-26-53.98N NAD 83
 Longitude: 79-07-30.58W
 Heights: 1458 feet site elevation (SE)
 499 feet above ground level (AGL)
 1957 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (1957 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8109-OE.

Signature Control No: 273432886-301612392

(DNE -WT)

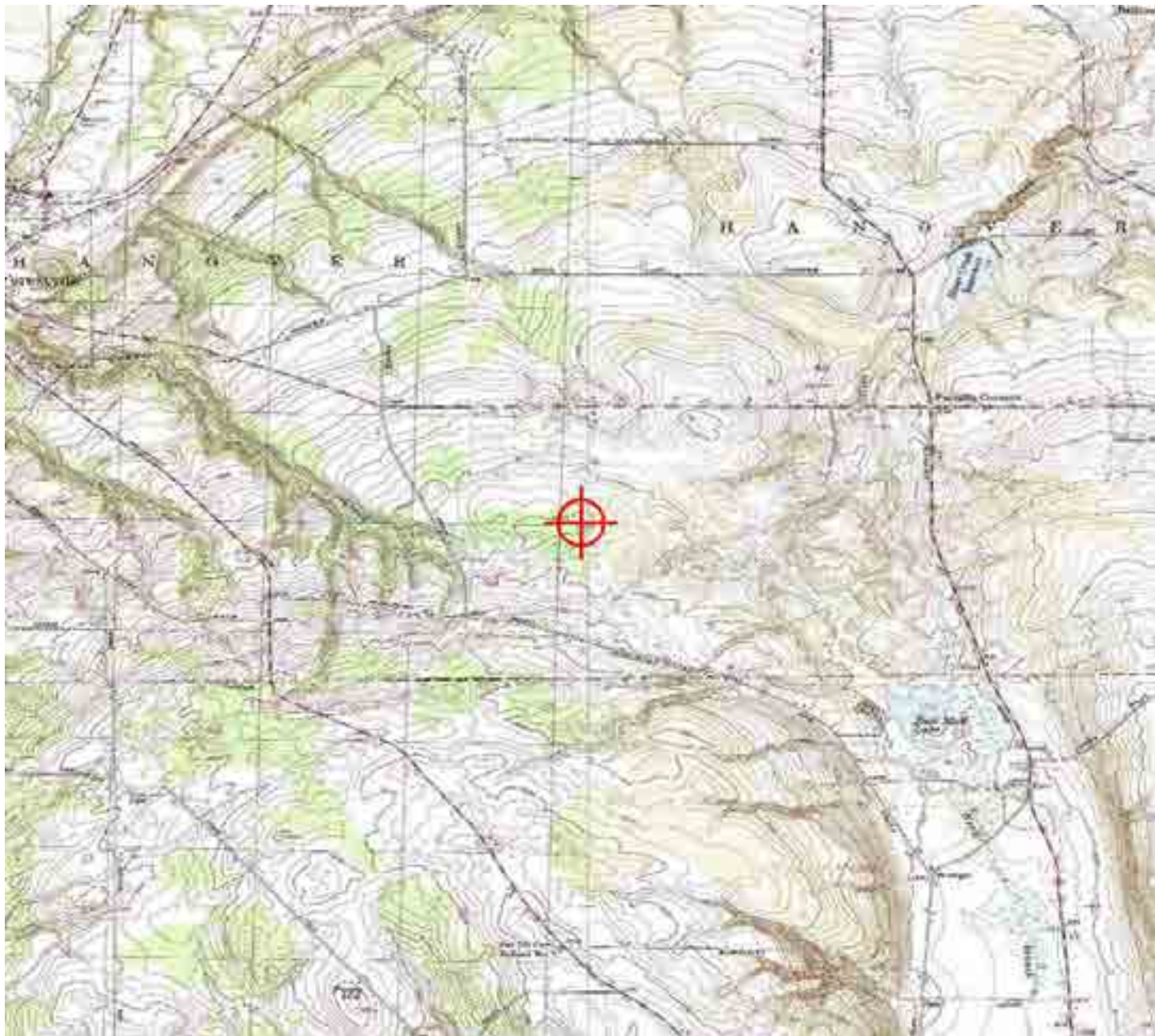
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8109-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8110-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T35
 Location: Hamlet, NY
 Latitude: 42-27-06.65N NAD 83
 Longitude: 79-07-51.51W
 Heights: 1422 feet site elevation (SE)
 499 feet above ground level (AGL)
 1921 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (1921 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8110-OE.

Signature Control No: 273432887-301612396

(DNE -WT)

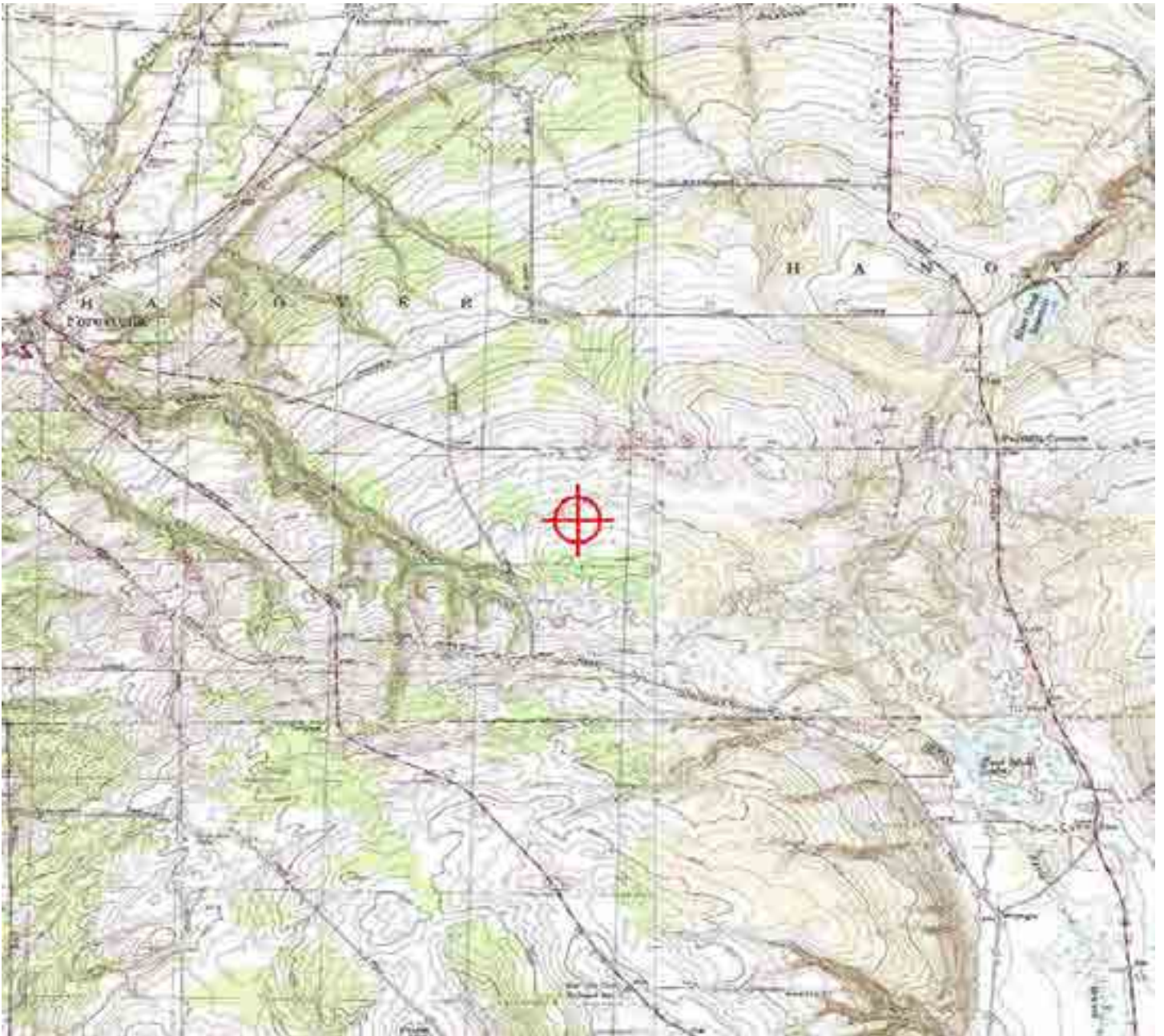
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8110-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8111-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T36
 Location: Hamlet, NY
 Latitude: 42-26-52.77N NAD 83
 Longitude: 79-06-15.90W
 Heights: 1365 feet site elevation (SE)
 499 feet above ground level (AGL)
 1864 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (1864 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8111-OE.

Signature Control No: 273432888-301612399

(DNE -WT)

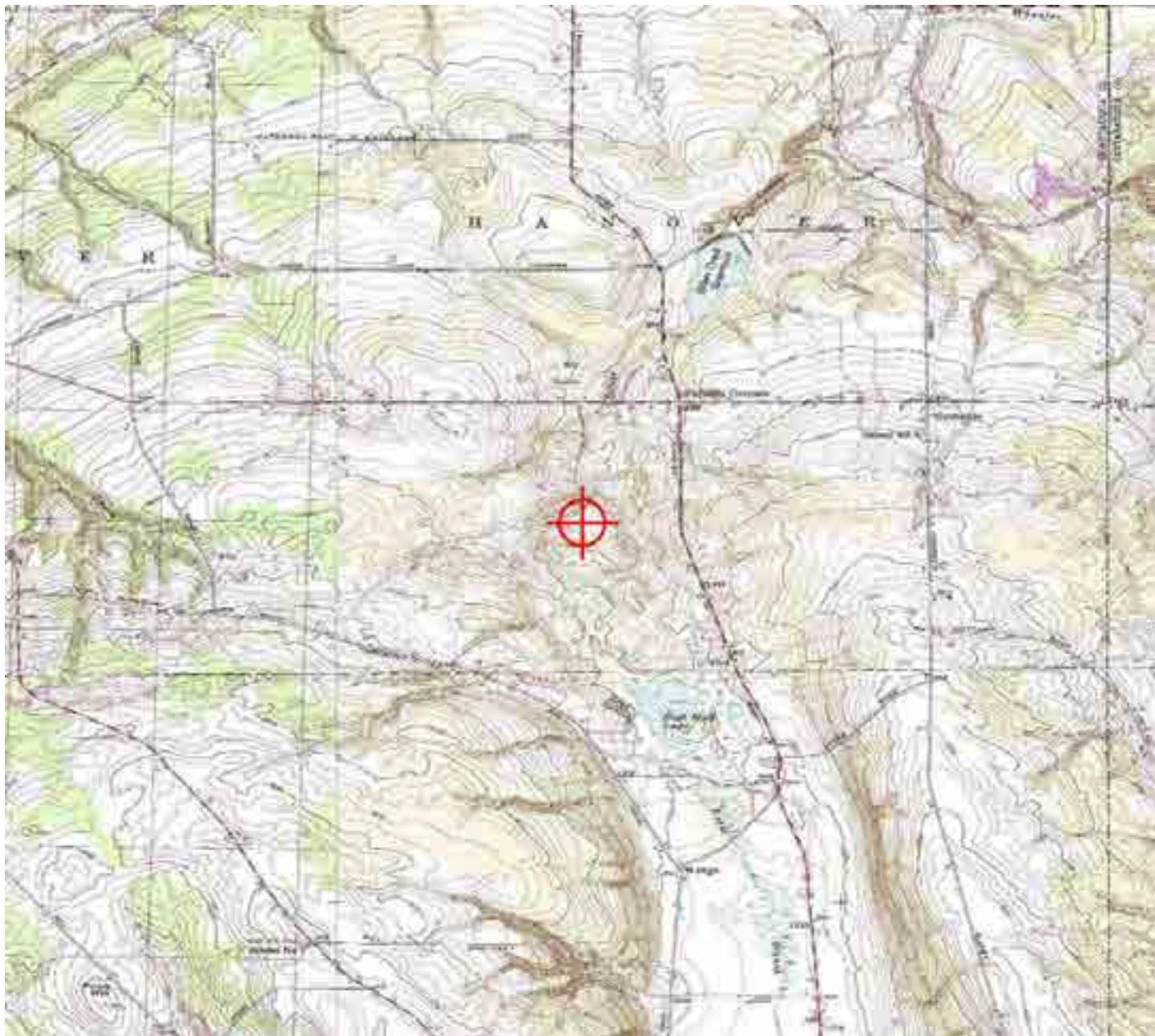
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8111-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8112-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T37
 Location: Hamlet, NY
 Latitude: 42-27-02.38N NAD 83
 Longitude: 79-06-38.87W
 Heights: 1375 feet site elevation (SE)
 499 feet above ground level (AGL)
 1874 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (1874 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8112-OE.

Signature Control No: 273432889-301612402

(DNE -WT)

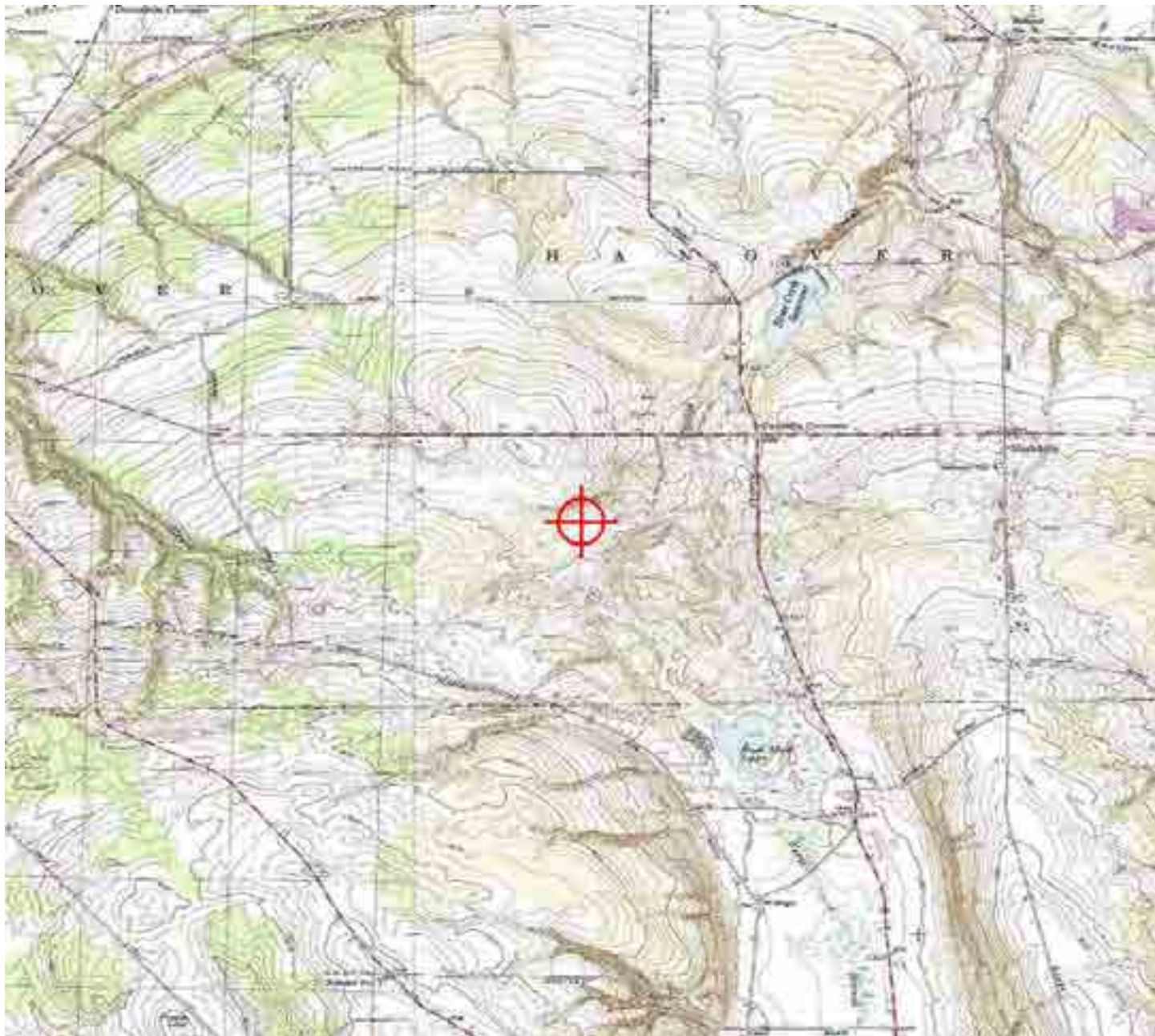
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8112-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8113-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T38
 Location: Hamlet, NY
 Latitude: 42-27-10.32N NAD 83
 Longitude: 79-07-10.39W
 Heights: 1380 feet site elevation (SE)
 499 feet above ground level (AGL)
 1879 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (1879 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8113-OE.

Signature Control No: 273432890-301612411

(DNE -WT)

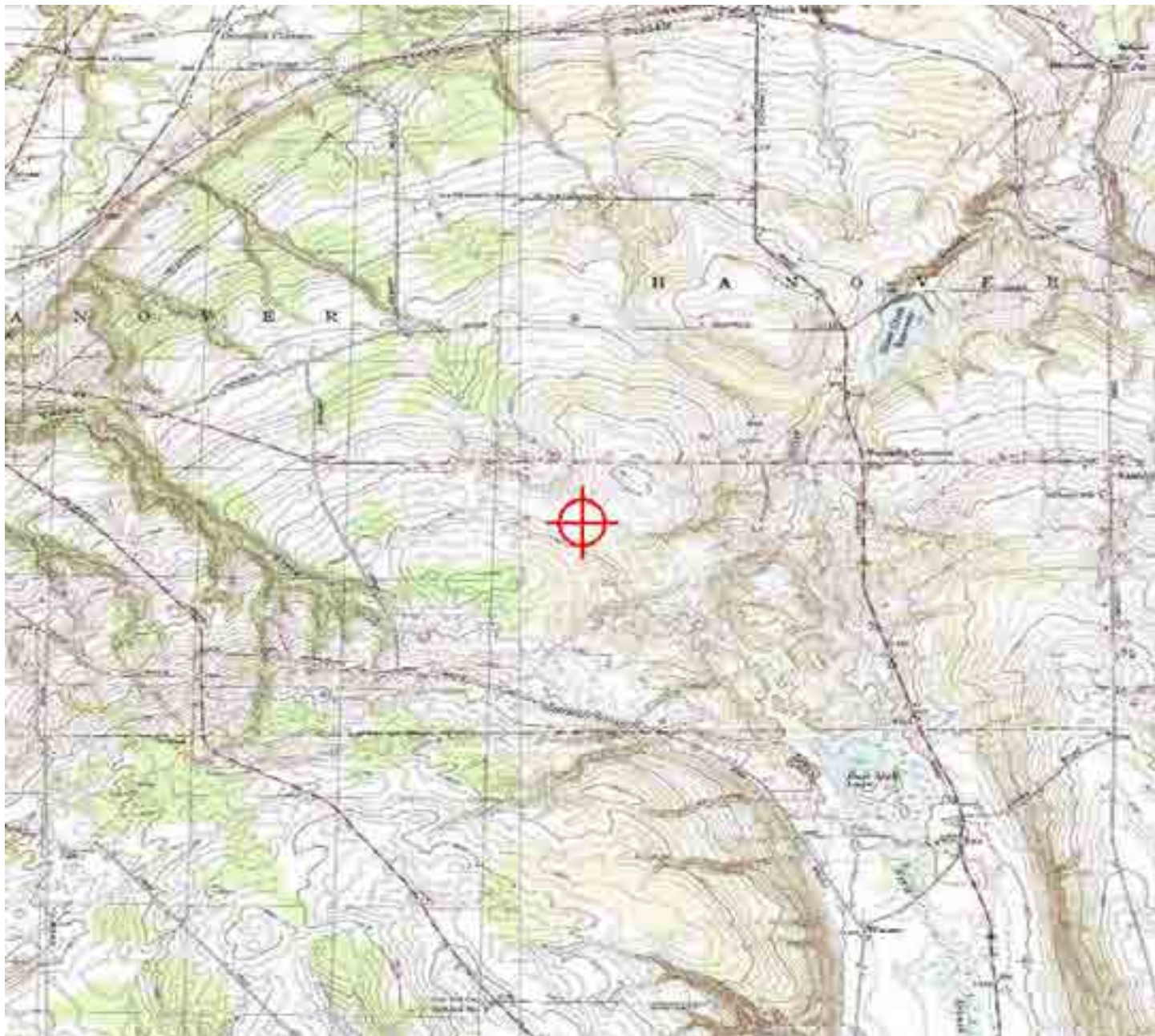
Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8113-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8114-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine T39
 Location: Hamlet, NY
 Latitude: 42-24-13.86N NAD 83
 Longitude: 79-10-11.26W
 Heights: 1569 feet site elevation (SE)
 499 feet above ground level (AGL)
 2068 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2068 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

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This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8114-OE.

Signature Control No: 273432891-301612416

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8114-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8115-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine A1
 Location: Hamlet, NY
 Latitude: 42-24-56.64N NAD 83
 Longitude: 79-10-14.80W
 Heights: 1530 feet site elevation (SE)
 499 feet above ground level (AGL)
 2029 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2029 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. This determination is based, in part, on the foregoing description which includes specific coordinates and heights . Any changes in coordinates will void this determination. Any future construction or alteration requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

If we can be of further assistance, please contact our office at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8115-OE.

Signature Control No: 273432892-301612418

(DNE -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-8115-OE

The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

All determinations in this project will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.



Sectional Map for ASN 2015-WTE-8115-OE





Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8117-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine A3
 Location: Hamlet, NY
 Latitude: 42-25-28.86N NAD 83
 Longitude: 79-08-55.62W
 Heights: 1640 feet site elevation (SE)
 499 feet above ground level (AGL)
 2139 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2139 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before September 10, 2016. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on September 20, 2016 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Brenda Mumper, at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8117-OE.

Signature Control No: 273432894-301594059

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2015-WTE-8117-OE

The proposed structures noted in this letter are part of a proposed wind farm that would be located near Hamlet, New York. They would be located from 6.35 to 7.21 nautical miles (NM) southeast of the airport reference point for the Chautauqua County/Dunkirk Airport (DKK) in Dunkirk, New York. The determinations for each of the structures will be available upon issuance on the website, <http://oeaaa.faa.gov>.

Following are the Aeronautical Study Numbers, coordinates, site elevation, above ground level and above mean sea level heights for each of the proposals:

2015-WTE-8095-OE 42-25-19.11N / 79-08-28.15W 1660 / 499 / 2159

2015-WTE-8117-OE 42-25-28.86N / 79-08-55.62W 1640 / 499 / 2139

2015-WTE-8118-OE 42-25-51.55N / 79-09-21.52W 1605 / 499 / 2104

2015-WTE-8119-OE 42-25-45.90N / 79-09-02.69W 1622 / 499 / 2121

OBSTRUCTION STANDARD(S) EXCEEDED

Section 77.17(a)(3): A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

The proposals would exceed this obstruction standard as noted as applied to DKK:

2015-WTE-8095-OE

Obstacle penetrates Runway 15 Diverse A departure area 14 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8117-OE

Obstacle penetrates Runway 15 Diverse A departure area 46 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8118-OE

Obstacle penetrates Runway 15 Diverse A departure area 87 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8119-OE

Obstacle penetrates Runway 15 Diverse A departure area 71 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

The proposal was circularized on July 29, 2016, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. No comments were received as a result of the circularization.

Aeronautical study disclosed that the structure would have no significant effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures. Further study did not

indicate that the IFR impacts noted above would affect a significant number of aircraft operations; therefore, those impacts would not create substantial adverse effect.

Study for possible visual flight rules (VFR) effect disclosed that the proposal would have no effect on any existing or proposed arrival or departure VFR operations or procedures. It would not conflict with airspace required to conduct normal VFR traffic pattern operations at DKK or any other known public-use or military airports. At 499 ft. AGL, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

The cumulative impact of the structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposal affect the capacity of any known existing or planned public-use or military airport. The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

All determinations will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.

NOTE: IT IS IMPERATIVE THAT PART 1 OF THE 7460-2 FORM IS SUBMITTED AT LEAST 10 DAYS PRIOR TO BEGINNING CONSTRUCTION SO IFR ALTITUDES MAY BE AMENDED AS REQUIRED.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8118-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine A4
 Location: Hamlet, NY
 Latitude: 42-25-51.55N NAD 83
 Longitude: 79-09-21.52W
 Heights: 1605 feet site elevation (SE)
 499 feet above ground level (AGL)
 2104 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2104 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before September 10, 2016. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on September 20, 2016 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Brenda Mumper, at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8118-OE.

Signature Control No: 273432895-301594057

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2015-WTE-8118-OE

The proposed structures noted in this letter are part of a proposed wind farm that would be located near Hamlet, New York. They would be located from 6.35 to 7.21 nautical miles (NM) southeast of the airport reference point for the Chautauqua County/Dunkirk Airport (DKK) in Dunkirk, New York. The determinations for each of the structures will be available upon issuance on the website, <http://oeaaa.faa.gov>.

Following are the Aeronautical Study Numbers, coordinates, site elevation, above ground level and above mean sea level heights for each of the proposals:

2015-WTE-8095-OE 42-25-19.11N / 79-08-28.15W 1660 / 499 / 2159

2015-WTE-8117-OE 42-25-28.86N / 79-08-55.62W 1640 / 499 / 2139

2015-WTE-8118-OE 42-25-51.55N / 79-09-21.52W 1605 / 499 / 2104

2015-WTE-8119-OE 42-25-45.90N / 79-09-02.69W 1622 / 499 / 2121

OBSTRUCTION STANDARD(S) EXCEEDED

Section 77.17(a)(3): A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

The proposals would exceed this obstruction standard as noted as applied to DKK:

2015-WTE-8095-OE

Obstacle penetrates Runway 15 Diverse A departure area 14 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8117-OE

Obstacle penetrates Runway 15 Diverse A departure area 46 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8118-OE

Obstacle penetrates Runway 15 Diverse A departure area 87 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

2015-WTE-8119-OE

Obstacle penetrates Runway 15 Diverse A departure area 71 feet requiring Take-off Minimum and (Obstacle) Departure Procedures, Runway 15, std. with a min climb gradient increase from 354 feet per NM to 2600 (an increase from 2000).

The proposal was circularized on July 29, 2016, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. No comments were received as a result of the circularization.

Aeronautical study disclosed that the structure would have no significant effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures. Further study did not

indicate that the IFR impacts noted above would affect a significant number of aircraft operations; therefore, those impacts would not create substantial adverse effect.

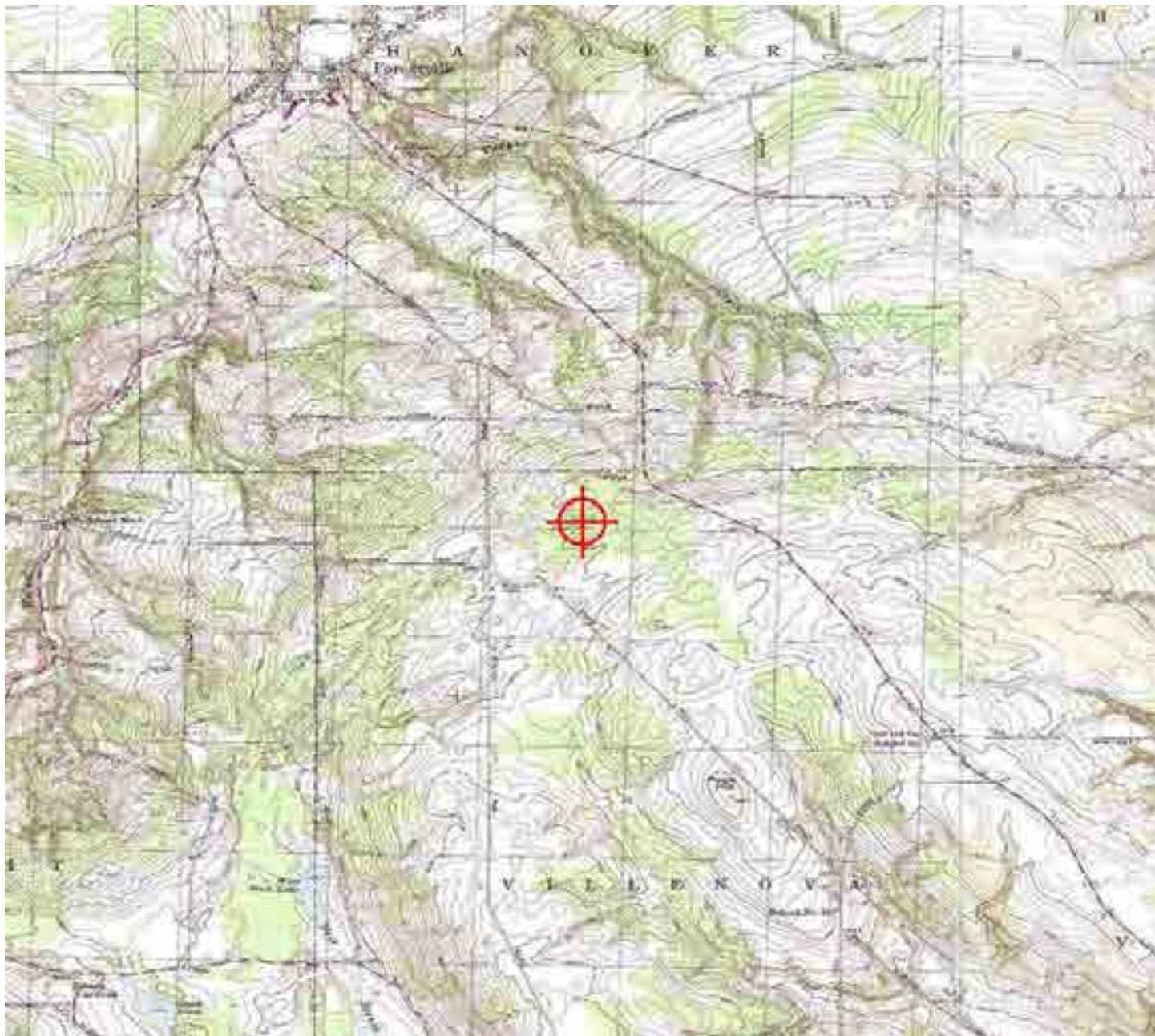
Study for possible visual flight rules (VFR) effect disclosed that the proposal would have no effect on any existing or proposed arrival or departure VFR operations or procedures. It would not conflict with airspace required to conduct normal VFR traffic pattern operations at DKK or any other known public-use or military airports. At 499 ft. AGL, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

The cumulative impact of the structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposal affect the capacity of any known existing or planned public-use or military airport. The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

All determinations will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.

NOTE: IT IS IMPERATIVE THAT PART 1 OF THE 7460-2 FORM IS SUBMITTED AT LEAST 10 DAYS PRIOR TO BEGINNING CONSTRUCTION SO IFR ALTITUDES MAY BE AMENDED AS REQUIRED.







Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2015-WTE-8119-OE

Issued Date: 08/11/2016

Elizabeth King
 Ball Hill Wind Energy, LLC
 11101 W 120th Ave.
 Suite 400
 Broomfield, CO 80021

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine A5
 Location: Hamlet, NY
 Latitude: 42-25-45.90N NAD 83
 Longitude: 79-09-02.69W
 Heights: 1622 feet site elevation (SE)
 499 feet above ground level (AGL)
 2121 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 L, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 499 feet above ground level (2121 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 02/11/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before September 10, 2016. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on September 20, 2016 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Brenda Mumper, at (816) 329-2524. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-8119-OE.

Signature Control No: 273432896-301594058

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2015-WTE-8119-OE

The proposed structures noted in this letter are part of a proposed wind farm that would be located near Hamlet, New York. They would be located from 6.35 to 7.21 nautical miles (NM) southeast of the airport reference point for the Chautauqua County/Dunkirk Airport (DKK) in Dunkirk, New York. The determinations for each of the structures will be available upon issuance on the website, <http://oeaaa.faa.gov>.

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2015-WTE-8118-OE 42-25-51.55N / 79-09-21.52W 1605 / 499 / 2104

2015-WTE-8119-OE 42-25-45.90N / 79-09-02.69W 1622 / 499 / 2121

OBSTRUCTION STANDARD(S) EXCEEDED

Section 77.17(a)(3): A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

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2015-WTE-8118-OE

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The proposal was circularized on July 29, 2016, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. No comments were received as a result of the circularization.

Aeronautical study disclosed that the structure would have no significant effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures. Further study did not

indicate that the IFR impacts noted above would affect a significant number of aircraft operations; therefore, those impacts would not create substantial adverse effect.

Study for possible visual flight rules (VFR) effect disclosed that the proposal would have no effect on any existing or proposed arrival or departure VFR operations or procedures. It would not conflict with airspace required to conduct normal VFR traffic pattern operations at DKK or any other known public-use or military airports. At 499 ft. AGL, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

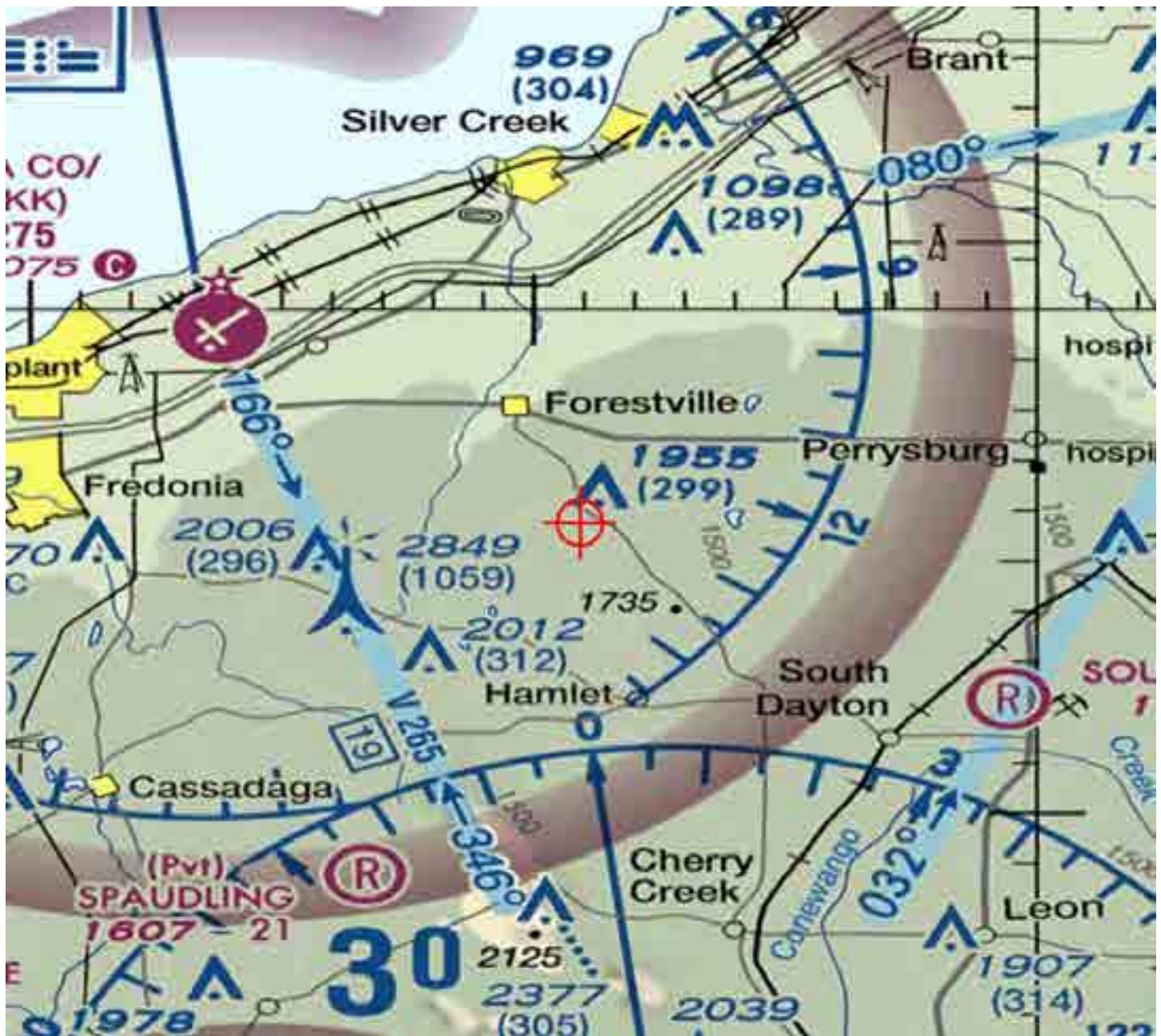
The cumulative impact of the structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposal affect the capacity of any known existing or planned public-use or military airport. The FAA's Technical Operations office noted impacts to the Buffalo Airport Surveillance Radar; however, the affected Air Traffic Control facilities indicated that the radar impacts would not have a significant effect on their operations.

Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

All determinations will be issued with an obstruction marking and lighting condition of white paint and synchronized red lights. When the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height, the sponsor may request a re-evaluation. The request may be e-mailed to Brenda Mumper (brenda.mumper@faa.gov). A portion of the turbines may qualify for the removal of the lighting recommendation.

NOTE: IT IS IMPERATIVE THAT PART 1 OF THE 7460-2 FORM IS SUBMITTED AT LEAST 10 DAYS PRIOR TO BEGINNING CONSTRUCTION SO IFR ALTITUDES MAY BE AMENDED AS REQUIRED.





G-3 New York State Department of Environmental Conservation



Transportation
Land Development
Energy

August 11, 2016

NYSDEC - Information Services
New York Natural Heritage Program
625 Broadway, 5th Floor
Albany, N.Y. 12233-4757
{ via email }

**Re: Ball Hill Wind Energy
Towns of Hanover and Villenova, Chautauqua County, N.Y.**

To whom it may concern:

Fisher Associates, P.E., L.S., L.A., D.P.C. ("Fisher Associates"), on behalf of Ball Hill Wind Energy LLC, is requesting an updated database review for the Ball Hill Wind Energy facility project area (see attached Location Map). Previous correspondence relative to the Project are attached for your reference.

Thank you in advance for your assistance. If you have any questions please feel free to contact me via email (pmccarthy@fisherassoc.com) or phone at 716-858-1234 ext 307.

Sincerely,

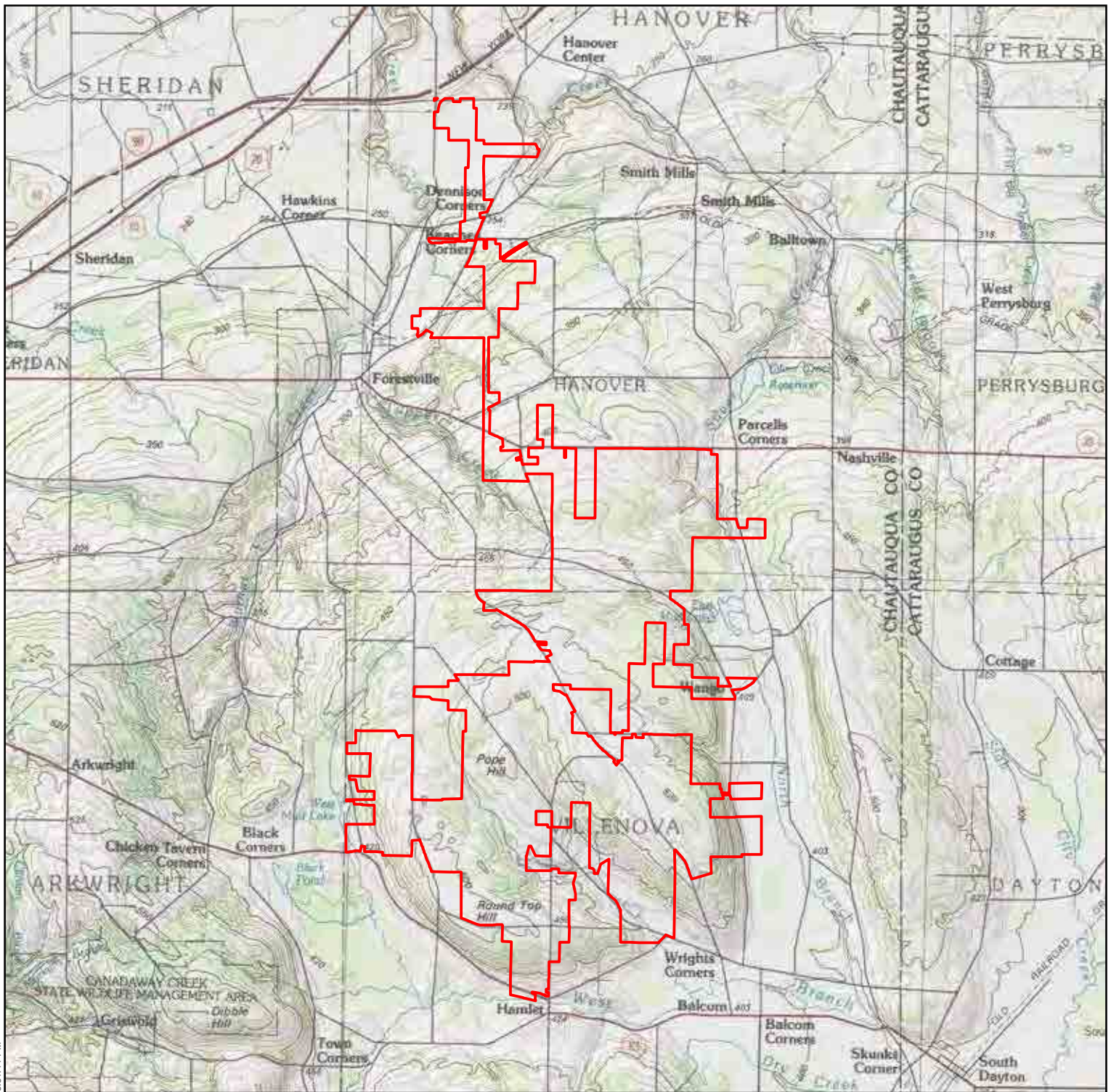
FISHER ASSOCIATES, P.E., L.S., L.A., D.P.C.

A handwritten signature in black ink, appearing to read "Patrick McCarthy", is written over a horizontal line.

Patrick McCarthy
Project Manager

Enclosure

cc: Frank Armento, Fisher Associates



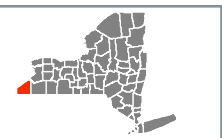
J:\Projects\150001-Ball_Hill_Wind_ENV\GIS\Ball_Hill_Project_Location_Map.mxd - 3/31/14 PM


Project USGS Quad(s):
Silver Creek, Forestville, Perrysburg

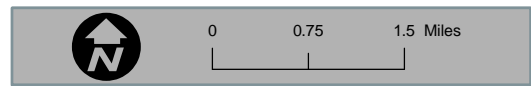
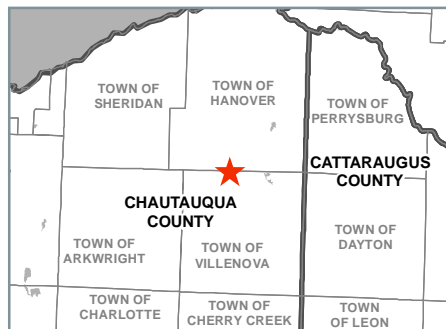
Project Watershed(s):
Chautauque-Conneaut (HUC 04120101)
Conewango (HUC 05010002)

Project Study Limits:
656.56 Acres

Center of Project Study Limits:
42.440 N, -79.128 W
North American Datum 1983



 **Project Boundary**



Data Sources:
United States Geological Survey 24k Topo Quad Map - usgs.gov

Author: AK **Revision Date:** 8/11/2016



**BALL HILL WIND ENERGY, LLC.
BILL HILL WIND PROJECT
LOCATION MAP**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov



Joe Martens
Commissioner

March 17, 2015

Patrick McCarthy
Fisher Associates
325 Delaware Avenue, Suite 200
Buffalo, NY 14202

Dear Mr. McCarthy:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the environmental assessment for the potential wind energy development, located in the Towns of Hanover and Villenova, Chautauqua County.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, that our database indicates occur, or may occur, on your site or in the immediate vicinity of your site. Also enclosed is a report of rare birds documented within 10 miles of the project site, for use in assessing potential impacts of bird collisions. (We have no records of rare bat hibernacula or roost sites within 40 miles of the site. However, we are currently in the process of entering Northern Long-eared Bat summer locations in our database. For more complete information on the proximity of the site to Northern Long-eared Bat summer locations, please resubmit your project for review in 2-3 months.) For information on NYSDEC's environmental review of proposed wind energy projects, and for the document *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects*, please go to www.dec.ny.gov/energy/66494.html.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Nicholas B. Conrad
Information Resources Coordinator
NY Natural Heritage Program



**The following state-listed animals have been documented
in the vicinity of your project site.**

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about potential impacts of your project on these populations, how to avoid, minimize, or mitigate any impacts, and any permit considerations, contact the Wildlife Manager or the Fisheries Manager at the NYSDEC Regional Office for the region where the project is located. A listing of Regional Offices is at <http://www.dec.ny.gov/about/558.html>.

The following species have been documented within 0.3 mi of the project site. Individual animals may travel 1 mi from documented locations.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Birds			
Bald Eagle <i>Breeding</i>	<i>Haliaeetus leucocephalus</i>	Threatened	12661

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.



The following rare plants, rare animals, and significant natural communities have been documented at your project site, or in its vicinity.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high-quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>HERITAGE CONSERVATION STATUS</i>
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Wetland/Aquatic Communities

Rich Hemlock-Hardwood Peat Swamp	High-Quality Occurrence of Rare Community Type
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West Mud Lake Swamp: Excellent quality, with history of some selective logging followed by very good recovery. Community is well-buffered. Minimal disturbance and good size.	961
---	-----

Shrub Swamp	High-Quality Occurrence
--------------------	-------------------------

East Mud Lake: Of good size and biologically diverse, with some cottages on the lake shore. Uplands around the wetlands are primarily farm fields. There were no exotics observed.	3633
--	------

The following plants are listed as Endangered or Threatened by New York State, and/or are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>HERITAGE CONSERVATION STATUS</i>
--------------------	------------------------	-------------------------	-------------------------------------

Vascular Plants

Butterwort	<i>Pinguicula vulgaris</i>	Threatened	Imperiled in NYS
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Walnut Creek Gorge, 1992-06-28: Wet shale cliffs that are verticle, sun-free, east-facing, and continuously wet. The substrate and soils probably have a calcareous component.	4618
--	------

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

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www.natureserve.org/explorer, and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.



**The following rare animals have been documented in the
general vicinity of your proposed wind power project.**

The impacts of wind turbines on animals include both impacts due to disturbance at the site of the turbines, and impacts due to flying birds and bats colliding with turbine blades. Therefore, when screening proposed wind energy projects for potential impacts on rare species, in addition to reporting rare plants and animals documented at the project site itself, NY Natural Heritage reports species of rare birds documented within 10 miles of the project site, and rare bats documented within 40 miles of the project site. These distances were determined in consultation with the NYSDEC Division of Fish, Wildlife and Marine Resources.

For information on NYSDEC’s environmental review of proposed wind energy projects, and for the document Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects, please go to www.dec.ny.gov/energy/66494.html.

Birds within 10 miles

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>HERITAGE CONSERVATION STATUS*</i>
Bald Eagle <i>Breeding</i>	<i>Haliaeetus leucocephalus</i>	Threatened	S2S3B,S2N
Great Blue Heron <i>Breeding</i>	<i>Ardea herodias</i>	Protected Bird	S5
Sedge Wren <i>Breeding</i>	<i>Cistothorus platensis</i>	Threatened	S3B
Henslow's Sparrow <i>Breeding</i>	<i>Ammodramus henslowii</i>	Threatened	S3B
Northern Harrier <i>Breeding</i>	<i>Circus cyaneus</i>	Threatened	S3B,S3N
Red-headed Woodpecker <i>Breeding</i>	<i>Melanerpes erythrocephalus</i>	Special Concern	S2?B
Short-eared Owl <i>Nonbreeding</i>	<i>Asio flammeus</i>	Endangered	S2

* Conservation status in NYS as ranked by NY Natural Heritage Program on a 1 to 5 scale:

- S1 = Critically imperiled
- S2 = Imperiled
- S3 = Rare or uncommon
- S4 = Abundant and apparently secure
- S5 = Demonstrably abundant and secure

B after one of the above ranks indicates the status rank is for breeding populations only.

N after one of the above ranks indicates the status rank is for nonbreeding wintering populations only.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov



September 21, 2016

Patrick McCarthy
Fisher Associates
325 Delaware Avenue, Suite 200
Buffalo, NY 14202

Dear Mr. McCarthy:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the environmental assessment for the Ball Hill wind energy development, located in the Towns of Hanover and Villenova, Chautauqua County.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur on the project site or in its immediate vicinity. Also enclosed is a report of rare bats documented within 40 miles and rare birds documented within 10 miles of the project site, for use in assessing potential impacts of bird collisions. For information on NYSDEC's environmental review of proposed wind energy projects, and for the document *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects*, please go to www.dec.ny.gov/energy/66494.html.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

A handwritten signature in black ink that reads "Nick Conrad".

Nicholas B. Conrad
Information Resources Coordinator
NY Natural Heritage Program



The following state-listed animals have been documented in the vicinity of the Ball Hill wind energy project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about potential impacts of your project on these populations, how to avoid, minimize, or mitigate any impacts, and any permit considerations, contact the Wildlife Manager or the Fisheries Manager at the NYSDEC Region 9 Office. A listing of Regional Offices is at <http://www.dec.ny.gov/about/558.html>.

The following species have been documented nesting at two locations within 0.6 mile of the project site, in the vicinity of Parcell Corners and of Walnut Creek. Individual animals may be disturbed by activities up to 1 mile from their nests.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
Birds			
Bald Eagle <i>Breeding</i>	<i>Haliaeetus leucocephalus</i>	Threatened	12661

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage’s Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.



The following rare plants, rare animals, and significant natural communities have been documented at your project site, or in its vicinity.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high-quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
Wetland/Aquatic Communities			
Rich Hemlock-Hardwood Peat Swamp			High-Quality Occurrence of Rare Community Type
West Mud Lake Swamp: Excellent quality, with history of some selective logging followed by very good recovery. Community is well-buffered. Minimal disturbance and good size.			961
Shrub Swamp			High-Quality Occurrence
East Mud Lake: Of good size and biologically diverse, with some cottages on the lake shore. Uplands around the wetlands are primarily farm fields. There were no exotics observed.			3633

The following plants are listed as Endangered or Threatened by New York State, and/or are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
Vascular Plants			
Butterwort	<i>Pinguicula vulgaris</i>	Threatened	Imperiled in NYS
Walnut Creek Gorge, 1992-06-28: Wet shale cliffs that are verticle, sun-free, east-facing, and continuously wet. The substrate and soils probably have a calcareous component.			4618

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

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www.natureserve.org/explorer, and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

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**The following rare animals have been documented in the
general vicinity of the Ball Hill wind power project.**

The impacts of wind turbines on animals include both impacts due to disturbance at the site of the turbines, and impacts due to flying birds and bats colliding with turbine blades. Therefore, when screening proposed wind energy projects for potential impacts on rare species, in addition to reporting rare plants and animals documented at the project site itself, NY Natural Heritage reports species of rare birds documented within 10 miles of the project site, and rare bats documented within 40 miles of the project site. These distances were determined in consultation with the NYSDEC Division of Fish, Wildlife and Marine Resources.

For information on NYSDEC’s environmental review of proposed wind energy projects, and for the document Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects, please go to www.dec.ny.gov/energy/66494.html.

Bats within 40 miles

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>HERITAGE CONSERVATION STATUS*</i>
Northern Long-eared Bat <i>Non-winter location</i>	<i>Myotis septentrionalis</i>	Threatened <i>and Federally Listed as Threatened</i>	S1

Birds within 10 miles

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>HERITAGE CONSERVATION STATUS*</i>
Bald Eagle <i>Breeding</i>	<i>Haliaeetus leucocephalus</i>	Threatened	S2S3B,S2N
Northern Harrier <i>Breeding</i>	<i>Circus cyaneus</i>	Threatened	S3B,S3N
Short-eared Owl <i>Nonbreeding</i>	<i>Asio flammeus</i>	Endangered	S2
Sedge Wren <i>Breeding</i>	<i>Cistothorus platensis</i>	Threatened	S3B
Henslow's Sparrow <i>Breeding</i>	<i>Ammodramus henslowii</i>	Threatened	S3B
Red-headed Woodpecker <i>Breeding</i>	<i>Melanerpes erythrocephalus</i>	Special Concern	S2?B
Great Blue Heron <i>Significant Breeding Colony</i>			S5

* Conservation status in NYS as ranked by NY Natural Heritage Program on a 1 to 5 scale:

- S1 = Critically imperiled
- S2 = Imperiled
- S3 = Rare or uncommon
- S4 = Abundant and apparently secure
- S5 = Demonstrably abundant and secure

B after one of the above ranks indicates the status rank is for breeding populations only.

N after one of the above ranks indicates the status rank is for nonbreeding wintering populations only.

G-4 New York State Parks, Recreation, and Historic Preservation



Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

November 02, 2016

Mr. Mark Lyons
Development Manager
Renewable Energy Systems Americas Inc.
455 Boston Post Road
Suite 206
Old Saybrook, CT 06475

Re: USACE
Ball Hill Wind Farm Project (29 Wind Turbines)
Towns of Villenova and Hanover, Chautauqua County
08PR01814

Dear Mr. Lyons:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the *Archaeological Survey for the Ball Hill Wind Project, Towns of Villenova and Hanover, Chautauqua County Addendum 3*, prepared by Panamerican Consultants and dated October 2016, in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

Based on this review, the SHPO concurs that the 2016 configuration of the Ball Hill Wind Farm Project is not sensitive for archaeological resources and that sufficient field investigations have been conducted, as per the NYSHPO *Guidelines for Wind Farm Development Cultural Resources Survey Work*. The SHPO does not recommend any further archaeological investigations for the current design of the Ball Hill Wind Project.

If you have any questions, I can be reached at (518) 268-2179.

Sincerely,

Nancy Herter
Archaeology Unit Program Coordinator
e-mail: nancy.herter@parks.ny.gov

Division for Historic Preservation

P.O. Box 189, Waterford, New York 12188-0189 • (518) 237-8643 • www.nysparks.com

Kondak, Tegan

From: New York State Parks CRIS Application <cris.web@parks.ny.gov>
Sent: Tuesday, November 01, 2016 4:56 PM
To: rhanley@panamconsultants.com; Mark.Lyons@res-americas.com; Kondak, Tegan;
christine@panamconsultants.com; Gibson, Robert; molly.a.connerton@usace.army.mil
Subject: SHPO Subsequent Submission Accepted for Project: 08PR01814

This message confirms that subsequent submission 8GJH3TNA4FXU has been accepted by the New York State Historic Preservation Office (SHPO) for project 08PR01814: Noble Ball Hill Wind Farm/94.5 MW/63 Turbines. Its new submission number is 08PR01814.018.

You may view information about this project and New York State's historic resources by visiting the Cultural Resource Information System (CRIS) at <https://cris.parks.ny.gov>. If you have any questions about CRIS, please contact CRIS Help at crishelp@parks.ny.gov. For any other questions, please call SHPO at 518-237-8643.

Sincerely,
New York State Historic Preservation Office

Please note that this email does NOT require any action on your part at this time. You are receiving this email as part of an online service recently launched by the New York State Office of Parks, Recreation and Historic Preservation's Division for Historic Preservation, also known as the New York State Historic Preservation Office (SHPO). This new Cultural Resource Information System (CRIS) is an advanced Geographic Information System program that provides access to New York State's vast historic and cultural resource databases and digitized paper records. In addition, the new system serves as an interactive portal for agencies, municipalities and the public who use or require consultation with our agency on historic preservation programs or issues.

Our email to you is in direct response to material that was submitted to our office regarding a project for which you were identified as a contact. Such projects include actions that are reviewable by our agency under the National Historic Preservation Act of 1966 (Section 106), the New York State Historic Preservation Act (Section 14.09 NYSPRHPL), or the State Environmental Quality Review Act (SEQRA).

If you did not enter this project directly into CRIS, you are receiving this notification as our office or another project contact has entered it into our system. You will receive future correspondence for this submission via email.

Kondak, Tegan

From: New York State Parks CRIS Application <cris.web@parks.ny.gov>
Sent: Tuesday, November 01, 2016 5:31 PM
To: rhanley@panamconsultants.com; Mark.Lyons@res-americas.com; Kondak, Tegan; christine@panamconsultants.com; Gibson, Robert; molly.a.connerton@usace.army.mil
Subject: SHPO Subsequent Submission Accepted for Project: 08PR01814

This message confirms that subsequent submission KV69PEPFR2MN has been accepted by the New York State Historic Preservation Office (SHPO) for project 08PR01814: Noble Ball Hill Wind Farm/94.5 MW/63 Turbines. Its new submission number is 08PR01814.019.

You may view information about this project and New York State's historic resources by visiting the Cultural Resource Information System (CRIS) at <https://cris.parks.ny.gov>. If you have any questions about CRIS, please contact CRIS Help at crishelp@parks.ny.gov. For any other questions, please call SHPO at 518-237-8643.

Sincerely,
New York State Historic Preservation Office

Please note that this email does NOT require any action on your part at this time. You are receiving this email as part of an online service recently launched by the New York State Office of Parks, Recreation and Historic Preservation's Division for Historic Preservation, also known as the New York State Historic Preservation Office (SHPO). This new Cultural Resource Information System (CRIS) is an advanced Geographic Information System program that provides access to New York State's vast historic and cultural resource databases and digitized paper records. In addition, the new system serves as an interactive portal for agencies, municipalities and the public who use or require consultation with our agency on historic preservation programs or issues.

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Consultation Project Details

Consultation: 08PR01814

Status: Effect Finding Letter Sent

Close

Project: Noble Hill Wind Farm/14.8 MW/43 Turbines

Overview Submissions (19) (14) (143) Surveys (8) Agencies (4) Contacts (4) Photos (0) (18) (28) (1) (1) (0) (4) (0)

Submissions Overview (19)

Closed	08PR01814.010	Manual	05/30/2013	04/29/2013	Archaeological and Architectural Survey Addendum	Nancy Herter (Archaeology), Complete Jennifer Betworth (Survey and Evaluation), Complete
Closed	08PR01814.007	Manual	10/16/2008	11/14/2008	rec'd 3-Vol Set of DEE	John Bonafide (Survey and Evaluation), Complete
Closed	08PR01814.005	Manual	05/18/2008	09/14/2008	Phase I Report, Panamerican	Nancy Herter (Archaeology), Complete
Closed	08PR01814.006	Manual	05/15/2008	09/14/2008	5-Mile Ring Study (2 Dec), Panamerican	Daniel McInerly (Survey and Evaluation), Complete John Bonafide (Survey and Evaluation), Complete
Closed	08PR01814.014	Unrequested	04/05/2014	05/09/2014	The following attachments include the Addendum 2 Document and Map Submission in response to SHPO architectural/view shed request from 1/17/14.	Daria Merwin (Survey and Evaluation), Complete John Bonafide (Technical Services), Complete
Closed	08PR01814.013	Manual	10/05/2014		Email Re: Two MOG Locations	Nancy Herter (Archaeology), Complete
Open	08PR01814.018	Requested	11/01/2016	12/01/2016	Please use the token to upload the Ball Hill Wind Farm Architecture Report Addendum 3. Thank you, Daria (daria.merwin@park.ny.gov)	Daria Merwin (Survey and Evaluation), Incomplete
Open	08PR01814.019	Requested	11/01/2016	12/01/2016	Addendum 3 Survey Report	Nancy Herter (Archaeology), Incomplete

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Project Number: Email



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To edit view (08/20)

G-286

<https://cris.psin.ny.gov/Type:CF0061F040D4E03VVW>
Cultural Resource Informat...

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CRIS

Consultation Project Details
 Status: Effect Finding Letter Sent



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 To search by:

Project: Noble Ball Hill Wind Farm/14.6 MW/43 Turbines

Overview | Submittals (11) | ADRs (163) | Surveys (4) | Agencies (14) | Contacts (8) | Photos (2) | Arts (28) | Agreements (1) | Q & A (2) | Com. (4) | MOUs (8)

Archaeology	150R00022	ARCHAEOLOGICAL SURVEY FOR THE BALL HILL WIND PROJECT TOWNS OF VILLENOVA AND HANOVER, CHAUTAUGUA COUNTY, NEW YORK ADDENDUM #2	Phase IA/II Addendum	12/10/2018
 Building	150R00057	ARCHITECTURAL SURVEY FOR RSE AMERICAS DEVELOPMENT INC. BALL HILL WIND PROJECT TOWNS OF VILLENOVA AND HANOVER, CHAUTAUGUA COUNTY, NEW YORK, ADDENDUM #2	Reconnaissance	12/28/2018
 Building	150R00023	ARCHITECTURAL SURVEY FOR THE BALL HILL WIND PROJECT TOWNS OF VILLENOVA AND HANOVER, CHAUTAUGUA COUNTY, NEW YORK, ADDENDUM #3	Reconnaissance	11/01/2018
Archaeology	150R00024	ARCHAEOLOGICAL SURVEY FOR THE BALL HILL WIND PROJECT, TOWNS OF VILLENOVA AND HANOVER, CHAUTAUGUA COUNTY, NEW YORK ADDENDUM 3	Phase B Addendum	11/01/2018

G-287



Date: 05/02/2016

Staff: James Finelli

USN Number: 00954.000055

Name: Sears Farmhouse & Complex c.1920

Location: 8143 Oaks Road, Dayton NY

Resource Status:

1. **Determination:** Eligible
2. **Contributing:**

Criteria for Inclusion in the National Register:

- A. Associated with events that have made a significant contribution to the broad patterns in our history.
- B. Associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or posses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- D. Have yielded, or may be likely to yield information important in prehistory or history.

Summary Statement:

Meets Criterion C as a Sears farmhouse and complex.



Date: 05/02/2016

Staff: James Finelli

USN Number: 01326.000070

Name: Farm Complex c.1830

Location: 307 Phillips Road, Villenova NY

Resource Status:

- 1. **Determination:** Eligible
- 2. **Contributing:**

Criteria for Inclusion in the National Register:

- A. Associated with events that have made a significant contribution to the broad patterns in our history.
- B. Associated with the lives of persons significant in our past.
- C. Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or posses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- D. Have yielded, or may be likely to yield information important in prehistory or history.

Summary Statement:

Meets Criterion C as a Greek Revival farmstead with barn and silo.



Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

January 27, 2016

Mr. Mark Lyons
Development Manager
Renewable Energy Systems Americas Inc.
455 Boston Post Road, Suite 206
Old Saybrook, CT 06475

Re: USACE
Noble Ball Hill Wind Farm/94.5 MW/63 Turbines
08PR01814

Dear Mr. Lyons:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the *Architectural Survey for the Ball Hill Wind Project, Towns of Villenova and Hanover, Chautauqua County, New York Addendum #2* prepared by Panamerican Consultants dated December 2015 in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

We note that the following properties inventoried in 2008 and 2013 studies were eliminated from the inventory of National Register eligible resources located within the visual Area of Potential Effect (APE) in the 2015 study (pages 2-2 through 2-16). Some of these omissions were due to mapping and National Register status errors in our new online database, the Cultural Resources Inventory System (CRIS). We have updated CRIS to correct these errors, and request that the Architectural Survey report, Addendum #2 be revised to include the following:

- The Silver Creek Historic District (USN 01346.000242), identified as National Register eligible in correspondence from this office dated September 30, 2013, has been tagged as eligible in CRIS
- The Center Street Historic District in Forestville (USN 01352.000127), identified as National Register eligible in correspondence from this office dated September 30, 2013, has been tagged as eligible in CRIS
- The Ewing Park South Dayton Historic District (USN 00954.000062), identified as National Register eligible in correspondence from this office dated September 24, 2008, has been tagged as eligible in CRIS

Division for Historic Preservation

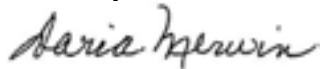
P.O. Box 189, Waterford, New York 12188-0189 • (518) 237-8643 • www.nysparks.com

- Weaver Cemetery in Arkwright (USN 00926.000044) was not removed from CRIS at any time, and is now plotted on the CRIS map
- Ewing Park in South Dayton (USN 00954.000043) is now identified as contributing to the National Register eligible Ewing Park South Dayton Historic District; also, please note that USN 00954.000012 (the E.B. Crissey & Co. building at 30 Maple Street) was incorrectly tagged in CRIS as not National Register eligible, but it is eligible as a contributing property in the Ewing Park South Dayton Historic District
- St. Peter's Episcopal Church in Forestville (USN 01352.000002) was not removed from CRIS at any time, and was determined National Register eligible on September 5, 2013; it is now plotted on the CRIS map

In addition, thank you for noting the lack of GIS data and/or incorrect addresses for 12182 Markhams Road in Dayton, 11037 Alleghany Road in Hanover, 12010 and 12021 Angell Road in Hanover. These errors have been corrected, as has the undetermined status of the duplicate USN (01352.000003) for the National Register eligible Levi J. Pierce Homestead in Forestville.

We look forward to receiving the revised architectural survey report, and continuing our consultation. If further correspondence is required regarding this project, please be sure to refer to the Project Review (PR) number noted above. I can be reached at 518-268-2192 or by email (daria.merwin@parks.ny.gov).

Sincerely,



Daria Merwin
Survey and Evaluation Unit

via email only



Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

January 07, 2016

Mr. Mark Lyons
Development Manager
Renewable Energy Systems Americas Inc.
455 Boston Post Road
Suite 206
Old Saybrook, CT 06475

Re: USACE
Noble Ball Hill Wind Farm/94.5 MW/63 Turbines
Multiple Locations
08PR01814

Dear Mr. Lyons:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the *Addendum #2 Archaeological Survey for the Ball Hill Wind Project*, prepared by Panamerican Consultants and dated December 2015, in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based on this review, the SHPO concurs that no additional Phase IB archaeological survey is warranted given that the Area of Potential Effects (APE) has been reduced by 46.2 acres and the low archaeological sensitivity of the 2015 Ball Hill Wind Project configuration.

If you have any questions, I can be reached at (518) 268-2179.

Sincerely,

Nancy Herter
Archeology Unit Program Coordinator
e-mail: nancy.herter@parks.ny.gov

via e-mail only

Division for Historic Preservation

P.O. Box 189, Waterford, New York 12188-0189 • (518) 237-8643 • www.nysparks.com

G-5 New York State Public Service Commission



RES America Developments Inc.

11101 W. 120th Avenue

Suite 400

Broomfield, CO 80021

Phone: 303 439 4200

Fax: 303 439 4299

Email: info@res-americas.com

Web: www.res-americas.com

November 22, 2016

Mr. Andrew C. Davis
Utility Supervisor
New York State Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350
Re: SEQRA SDEIS Comments – Ball Hill Wind Energy, LLC

Dear Mr. Davis:

Ball Hill Wind Energy, LLC has reviewed your comments submitted on March 14 and 16, 2016 regarding the Supplemental Draft Environmental Impact Statement (SDEIS) for the Ball Hill Wind Project proposed for the Towns of Villenova and Hanover, New York.

We respectfully offer the attached responses. Please contact me at (860) 388-7730 with any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark H. Lyons', is written over a light gray rectangular background.

Mark H. Lyons
Senior Manager, Project Development
RES America Developments Inc.
On behalf of Ball Hill Wind Energy, LLC.

**Responses to
Comments of the New York State Department of Public Service
on Ball Hill Wind Project SDEIS**

- 1. The Comment noted that, as proposed in the SDEIS, a 5.8 mile long 230kv transmission facility would be subject to jurisdiction of the NYSPSC under Article VII of the Public Service Law.**

Response: Since submitting the SDEIS for this project Ball Hill Wind Energy, LLC (Project Sponsor) has elected to revert to the original 115kv design of its transmission facility. As currently proposed, the approximately 5.7 mile long transmission line would follow the same route as the 230kv line described in the SDEIS. As a 115kv facility less than 10 miles in length the currently proposed transmission line would not be subject to Article VII jurisdiction.

- 2. Comment regarding Article VII jurisdiction.**

Response: Please see Response to Comment 1, above.

- 3. Comment regarding Article VII jurisdiction.**

Response: Please see Response to Comment 1, above.

- 4. Comment: DPS recommends that trenching machines not cross significantly classed streams (including classes C(T) and above and any intermediate waterbodies greater than 10 feet). Instead, during dam and pump around or similar installation methods, proper erosion control devices should be placed along the stream bank; the trench can then be excavated from either side of the control measures.**

Response: Underground collection lines would be installed via trenching or using a directional bore at stream crossings. Boring (and not dam and pump methods) will occur for stream crossings where required by permit condition or where specific site conditions (e.g. protected streams, steep slopes, unstable soils or other engineering challenges) necessitate its use. If directional bore is used, a horizontal boring machine will install a bore sufficiently below the bed, and cables will be pulled back in the bore. Each bore will start and finish beyond stream banks. Aboveground junction boxes will

be located at various locations to join multiple reels of cables for long runs and at one end of each directional bore location.

- 5. It would appear that there would be a potential for reduction in environmental impact (including reduction in forest clearing, land use, visible exposure, etc.) if the new collection substation were to be constructed north of its currently proposed location. By placing the substation in a more northerly location, the length of the overhead transmission facility and ROW area would be reduced. The FEIS should explain whether any alternative locations for the collection substation were explored, whether any reasonable alternatives were identified, and provide a comparison of potential impacts.**

Response: Since receipt of this Comment, the proposed new collection substation has been moved to the north of its earlier proposed location. This open field location also satisfies landowner preferences.

- 6. Comment: Please provide an explanation of the term “match marking” with regard to the proposed staging area.**

Response: Match-marking is the process of marking equipment components so they can be assembled in the correct manner.

- 7. Comment: If available, provide a map of the potential collection line locations that may be installed overhead; an accompanying explanation would also be beneficial. Also, if available, provide the required clearing ROW width for installation of overhead collection lines.**

Response: No overhead collection line circuits are currently proposed for the Project.

- 8. Comment: DPS remains concerned that the proposed location of the 230kv line involves clearing and access road development on steep slopes and construction of transmission structures close to protected streams. The SDEIS does not provide any updated Transmission Line Plan and Profile Drawings reflecting the upgrade of design from 115kv to 230kv (DEIS Drawings BH-T-301 Sheets 1 through 6 were for a 115kv facility). Final facility design and location will be subject to the NYS PSC review pursuant to PSL Article VII.**

Response: As mentioned previously, the concerns of DPS have been reviewed and the proposed transmission line would be 115kv, not 230kv. Its constructability has been reviewed by RES engineers. Typical Transmission Line Plan and Profile Drawings are attached as Appendix B (also included in Appendix C of the FEIS). Further analysis of the potential environmental impacts of the proposed 115kv line are presented in the FEIS in Section 1.4

NOISE

- 9. Comment:** In comments on the DEIS submitted in November 2008, DPS identified the need to assess tonal noise from transmission grade transformers. The SDEIS does not provide analysis of potential for tones from the substation. The substation analysis is based on “one MVA, 120kv utility scale transformer” rather than a 230kv transformer as now proposed for the Ball Hill Project. Furthermore, DPS considers that the sound power level estimates for the transformer need supporting information either by supplementing their derivation or by documenting with sound tests. Given the proximity of the 50 dBA noise contour line the likelihood of occurrence of a prominent tone should be analyzed as well as the potential to exceed local law limits or cause annoyance or complaints at closer noise sensitive receptors.

Response: Appendix A, attached hereto, includes detailed responses to DPS comments on tonal noise from transmission grade transformers.

VISUAL

- 10. Comment:** The FEIS should provide appropriate representations and descriptions of proposed facilities so that appropriate characterization and consideration of cumulative impacts of the Ball Hill Wind project and associated major electric transmission facility is documented.

Response: As mentioned previously, the concerns of DPS have been reviewed and the proposed transmission line would be 115kv, not 230kv. Its constructability has been reviewed by RES engineers. Typical Transmission Line Plan and Profile Drawings are included in Appendix B of this letter (and Appendix C, Project Drawings in this FEIS). Cumulative impacts from this Project, its associated transmission facilities and other wind projects including their associated transmission facilities in the region are analyzed in the FEIS as Section 1.4.16.

- 11. Comments:** DPS repeats its recommendations (regarding substation lighting design): fixtures should be specified as full-cutoff with no drop-down optics. Task lighting

should be controlled by manual switches to allow workers to light areas appropriate as needed to accomplish tasks. Manufacturers' cut sheets should be provided, which specify lighting illuminance levels and pattern, and which list features as discussed above regarding light cutoff, shields, and optic criteria.

Response: During construction and operation, lighting at the substation and O&M facility will consist of manually activated full-cutoff exterior lighting and temporary work lighting, with no drop down optics. During normal operations the substation will not be lit except as required for site security and/or as required by federal, state, or local agencies. Routine maintenance work at the substation is expected to occur during daylight hours; however nighttime work (requiring lighting) may be required in an emergency or for reliability reasons. Manufacturer cut sheets are not available at this time, as a specific manufacturer has not yet been chosen.

CUMULATIVE IMPACTS

- 12. In consideration of cumulative estimates of bird and bat fatalities, the SDEIS refers to the Cassadaga Wind project as proposing "70" turbines. DPS suggests that the calculation of total cumulative fatalities of birds and bats be reviewed based on the current proposal for the Cassadaga Wind facility..."up to 62 wind turbines".**

Response: This change has been made. Cumulative visual impacts of the Ball Hill Wind Project, and the proposed Arkwright Summit and Cassadaga Wind Projects (up to 62 turbines) are described, illustrated and discussed in the Ball Hill Wind Project Final Visual Resource Assessment, beginning at page 54 (attached to the FEIS as Appendix I). In addition an updated cumulative impact analysis is included in the FEIS as Section 1.4.16.

Appendix A: Responses to Noise Comments



11-16-16 Response to NYS DPS 03 14 16 comments.docx

November 16, 2016

Epsilon Ref. 4366

PRINCIPALS

- Theodore A Barten, PE
- Margaret B Briggs
- Michael E Guski, CCM
- Dale T Raczynski, PE
- Cindy Schlessinger
- Lester B Smith, Jr
- Robert D O'Neal, CCM, INCE
- Andrew D Magee
- Michael D Howard, PWS
- Douglas J Kelleher
- AJ Jablonowski, PE
- Stephen H Slocomb, PE
- David E Hewett, LEED AP

Mr. Mark H. Lyons
 Senior Project Development Manager
 Renewable Energy Systems Americas Inc.
 11101 West 120th Avenue, Suite 400
 Broomfield, CO 80021

**Subject: Response to SDEIS Comments – NYS DPS letter, March 14, 2016
 Ball Hill Wind Project**

Dear Mark:

As per your request, Epsilon Associates, Inc. (Epsilon) is pleased to provide these responses to the noise-related comments of the NY State Department of Public Service (DPS). The DPS comments are contained in a letter dated March 14, 2016 and focused on the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Ball Hill Wind Project in Chautauqua County, New York.

The responses are organized according to the 12 questions and/or comments found in Appendix A of the March 14 letter.

Comment 1: Section 6.1.3 includes sound power levels (dBA) for one MVA, 120 kV utility transformer with 5 dB noise reduction by octave band: Confirm whether electrical power for the proposed transformer is 1 MVA. Explain if sound emissions for 240 kV transformer are expected to be different than those estimated for a 120 kV transformer.

Response 1: There was a typographical error in footnote 1 to Table 6-7 (page 6-3) in Appendix O of the SDEIS. It should have read:

“Based on standard NEMA TR.1 Table 0-1 for one 154 MVA, 120 kV utility scale transformer with 5 dB noise reduction by octave band.”

Since the sound level study for the SDEIS was submitted in the fall of 2015, additional design and capacity information has been developed for the project.

Samuel G. Mygatt, LLB
 1943-2010

ASSOCIATES

- Dwight R Dunk. LPD
- David C. Klinch, PWS, PMP
- 3 Clock Tower Place, Suite 250
 Maynard, MA 01754
www.epsilonassociates.com

978 897 7100

FAX 978 897 0099

Thus the 154 MVA rating has been updated. A 5.7 mile 115kV transmission line will connect the wind turbines to the electrical grid. This transmission line will have a substation at either end. The interconnection substation at the northern end of the transmission line (“northern substation”) will have one 230 MVA transformer, while the collection substation (“southern substation”) will have one 120 MVA transformer.

Initial sound power level calculations were made for each transformer using the methodology described in Section 4.2.5 of the Edison Electric Institute’s (EEI) “Electric Power Plant Environmental Noise Guide (Volume I, 2nd Ed., 1984). Sound levels for the 230 MVA transformer are 2 dB lower than estimated by the EEI method. This reduction will be achieved by either specifying quieter equipment or installation of a sound wall.

Comment 2: Section 6.1.3 includes sound power levels (dBA) for one MVA, 120 kV utility transformer with 5 dB noise reduction by octave band: Provide version and year of publication of NEMA Standard used for sound power determination. Specify if the standard corresponds to the most recent version.

Response 2: As noted in Response 1 above, the methodology used to calculate sound power from the transformers as taken from EEI Electric Power Plant Environmental Noise Guide. However, that methodology is based on the NEMA sound level ratings procedure.

For example, Table 1 of the NEMA standard NEMA TR 1-2013 “Transformers, Step Voltage Regulators and Reactors” contains sound level data for power transformers. According to this table, a transformer with secondary cooling (worst-case for sound levels) will have a sound pressure level at 1 foot from the reference surface of 80 dBA (120 MVA) and 83 dBA (230 MVA). These are identical to the ratings using the EEI Guide technique. The 2013 version of NEMA TR 1 is the most recent version available.

Comment 3: Section 6.1.3 includes sound power levels (dBA) for one MVA, 120 kV utility transformer with 5 dB noise reduction by octave band: Provide estimated NEMA rating for proposed transformer.

Response 3: As noted in Response 1 above, the NEMA rating for the interconnection substation transformer is 230 MVA, and the NEMA rating for the collection substation transformer is 120 MVA.

Comment 4: Section 6.1.3 includes sound power levels (dBA) for one MVA, 120 kV utility transformer with 5 dB noise reduction by octave band: Provide justification for the 5 dB noise reduction at all octave bands.

Response 4: The sound level data proposed for the 154 MVA transformer in the fall of 2015 is no longer applicable. Therefore, the 5 dB noise reduction at all octave bands is no longer relevant.

Comment 5: Section 6.1.3 includes sound power levels (dBA) for one MVA, 120 kV utility transformer with 5 dB noise reduction by octave band: Provide estimated dimensions and envelope area applicable to sound power estimates, if available.

Response 5: The methodology in the EEI Guide provides a technique to convert NEMA sound pressure levels to sound power levels based only on the MVA rating. No dimensional information about the transformer is thus required. This is the methodology used for the Ball Hill Wind project.

Comment 6: Section 6.1.3 includes sound power levels (dBA) for one MVA, 120 kV utility transformer with 5 dB noise reduction by octave band: Provide clear derivation of sound power levels estimates or alternatively provide sound test including Sound Power Levels for proposed transformer from the Manufacturer.

Response 6: According to RES, each and every transformer is a custom build, so there are no cut sheets available for them. Sound power levels are not something that is shown on any cut sheets. The project will specify what the permissible sound levels are and then the suppliers will design a transformer accordingly. Once the unit is built, it will be tested for sound. This is done by measuring the one-third octave band sound pressure levels, and from the sound pressure and the physical size of the transformer, calculate the sound power levels. Note that this will only be done once a unit is purchased, designed, constructed, and tested, so no details in this regard are available at this stage in permitting. However, the unit will be specified to achieve a result of “not tonal.”

A derivation of the sound power levels used in the latest sound study report¹ are shown below as described in Table 4.5 of the EEI Guide. For a standard transformer:

$$\text{NEMA sound rating} \sim 55 + 12 \log \text{MVA (dBA)}$$

The A-weighted sound power level L_w is:

$$L_w = \text{NEMA sound rating} + 10 \log S$$

Where

$$10 \log S = 14 + 2.5 \log \text{MVA}$$

The following adjustments are made to the NEMA sound rating for the nine standard octave bands:

Hz	31	63	125	250	500	1000	2000	4000	8000
dB	-3	+3	+5	0	0	-6	-11	-16	-23

Sound power calculations for the 120 MVA transformer are presented in Table 6-1a and 6-1b:

¹ Sound Level Assessment Report, Ball Hill Wind Project, prepared for Renewable Energy Systems Americas, Inc. by Epsilon Associates, Inc., August 30, 2016, revised October 4, 2016.

Table 6-1a 120 MVA Transformer Sound Power Levels (dBA)

MVA Rating	120	MVA	
NEMA Sound Rating	80	dBA	$NEMA = 55 + 12 \times \log_{10}(MVA)$
10xLog(S)	19.2	dBA	$10 \times \log(S) = 14 + 2.5 \times \log(MVA)$
L _w	99.1	dBA	$L_w = NEMA + 10 \times \log(S)$

Table 6-1b 120 MVA Transformer Sound Power Levels

Octave Band (Hz)	Overall	31.5	63	125	250	500	1k	2k	4k	8k
EEL corrections (dB)		-3	3	5	0	0	-6	-11	-16	-23
L _w spectrum *(dB)	108.2	96	102	104	99	99	93	88	83	76
A-wt correction		-39.4	-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1
L _w spectrum (dBA)	99.5	57	76	88	91	96	93	89	84	75

Sound power calculations for the 230 MVA transformer are presented in Table 6-2a and 6-2b:

Table 6-2a 230 MVA Transformer Sound Power Levels (dBA)

MVA Rating	230	MVA	
NEMA Sound Rating	83	dBA	$NEMA = 55 + 12 \times \log_{10}(MVA)$
$10 \times \log(S)$	19.9	dBA	$10 \times \log(S) = 14 + 2.5 \times \log(MVA)$
L_w	103.2	dBA	$L_w = NEMA + 10 \times \log(S)$

Table 6-2b 230 MVA Transformer Sound Power Levels

Octave Band (Hz)	Overall	31.5	63	125	250	500	1k	2k	4k	8k
EEL corrections (dB)		-3	3	5	0	0	-6	-11	-16	-23
L_w spectrum *(dB)	112.3	100	106	108	103	103	97	92	87	80
A-wt correction		-39.4	-26.2	-16.1	-8.6	-3.2	0	1.2	1	-1.1
L_w spectrum (dBA)	103.6	61	80	92	95	100	97	93	88	79

Comment 7: Sound Level Assessment Report doesn't include an evaluation of tonality for proposed substation noise sources: Provide full text of local laws and any section applicable to noise emissions from the substation including any noise reductions to be applied on any noise limits should a tone, as defined by local regulation, be present.

Response 7: The Town of Hanover, Article XVI Wind Energy Conversion Systems (WECS), Section 1606 "Zoning District and Bulk Requirements", subparagraphs 3 through 6, contain applicable noise emission limits. Subparagraph 4 has text applicable to a tone:

“In the event audible noise due to WECS operations contains a steady pure tone, such as a whine, screech, or hum, the standards for audible noise set forth in subparagraph 3 of this subsection shall be reduced by 5 dBA. A pure tone is defined to exist if the 1/3 octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of the sound pressure levels of the two contiguous 1/3 octave bands by 5 dBA for center frequencies of 500 Hz and above, by 8 dBA for center frequencies between 160 Hz and 400 Hz, or by 15 dBA for center frequencies less than or equal to 125 Hz.”

Section 690.12 (Setbacks for Wind Energy Conversion Systems), Parts A through D of Local Law No. 1 of 2007 for the Town of Villenova contains identical language to the Town of Hanover for a tone (section 690.12.B).

The full text of the local laws applicable to WECS in each town, are found in Attachments A and B, respectively, appended hereto.

Comment 8: Sound Level Assessment Report doesn't include an evaluation of tonality for proposed substation noise sources: Report measured fractional band ambient noise levels (L90) in the vicinity of proposed substation.

Response 8: Existing condition sound level data were measured at six locations around the site from March 26 to April 8, 2008.² No fractional band sound level data were measured for this program. In any event, it is not critical to know the current fractional bands around the proposed substation sites since the transformers will be designed to not be tonal in nature.

Comment 9: Sound Level Assessment Report doesn't include an evaluation of tonality for proposed substation noise sources: Provide assessment of tonality at the most potentially impacted noise sensitive receptors. Specify if prominent tones are expected to be present at those locations.

Response 9: As described in Response 6 above, each and every transformer is a custom build. The project will specify what the permissible sound levels are and

² Environmental Sound Survey and Noise Impact Assessment, Noble Ball Hill Windpark, prepared for Noble Environmental Power by Hessler Associates, Inc. July 16, 2008.

then the suppliers will design a transformer accordingly. Therefore, no one-third octave band sound level data are available for the transformers proposed for Ball Hill wind.

Comment 10: Figures 6-1 and 6-2 show the 50 dBA noise contour line very close to adjacent noise sensitive receptors: Provide expanded figures to show in better detail, proposed noise sources within the substation site, site property boundaries, and adjacent noise sensitive receptors.

Response 10: The attached Figure 10-1A and Figure 10-1B are zoomed-in from Figure 6-1 in the most recent sound level assessment report cited earlier in this response (rev. October 4, 2016). Figure 10-1A is the interconnection substation located at the northern edge of the Wind Overlay District, and Figure 10-1B is the collection substation located in the center of the project north of Hurlbert Road.

Comment 11: Figures 6-1 and 6-2 show the 50 dBA noise contour line very close to adjacent noise sensitive receptors: Specify any increase in ambient levels based upon existing L90 ambient noise levels and forecasted ambient levels from the substation at the most impacted sound sensitive receptors including and excluding noise levels from the closest proposed wind turbines.

Response 11: The nearest ambient sound level monitor to the collection substation was "Monitor 5" located near #9830 Dye Road just south of the Villanova/Hanover town line. "Monitor 5" is approximately 1.25 miles from the substation transformer. As seen in Figure 2.5.1 in the July 16, 2008 monitoring study ("Hessler Report"), the existing L90 ambient sound level is not a single number but varied by more than 30 dBA (~ 25 dBA to ~ 58 dBA) over the course of two weeks. For worst-case sound level impacts from the wind farm, wind speeds will be at 7 m/s at 10 meter reference height (10 m/s at hub height of 87 meters AGL). The existing L90 ambient at a 7m/s wind speed in the area is 34 dBA (Table 2.7.1 in Hessler Report).

Table 11-1 below summarizes the most impacted sensitive receptors around the collection substation as shown in Figure 10-1B, with and without contributions from the wind turbines. The nearest receptor to the transformer is ID #106 at 1660 feet. It should be pointed out that comparing a project Leq sound level to an ambient L90 sound level is not reasonable. As discussed in the October 4, 2016 sound study, the Leq background for a 7 m/s case is 44 dBA, or 10 dBA higher than the L90.

Table 11-1 Collection Substation Sound Levels (dBA)

Receptor ID	Existing L90 Ambient (dBA)	Project only (Wind Turbines + Substation) (Leq, dBA)	Substation only (Leq, dBA)
106	34	44	34
105	34	44	32
10	34	42	32
103	34	42	30
104	34	43	28
219	34	43	25
218	34	43	25
217	34	43	24

There was no ambient sound level monitor near the interconnection substation. However, the NY State Thruway (Interstate 90) is less than 1,200 feet away from the nearest residence. With an average daily traffic of 25,000 vehicles on this section of I-90, the L90 ambient sound levels will be significantly higher than those measured within the wind farm as reported in Table 11-1 above. The project sound levels modeled at all residences near the interconnection substation are due exclusively to the transformer.

Comment 12: Figures 6-1 and 6-2 show the 50 dBA noise contour line very close to adjacent noise sensitive receptors: Estimate potential for annoyance and complaints from noise emissions at the closest noise sensitive receptors including any corrections for tonality, if applicable. Briefly explain and provide justification for the use of selected methodology for assessment of community noise reaction.

Response 12: The Modified Composite Noise Rating (CNR) methodology will be used to estimate the potential for annoyance and complaints from the project at the closest sensitive receptors. The Modified CNR method is a widely-accepted, published procedure using a set of curves to rate the annoyance of outdoor noise.³ It has also been used in NYS for evaluation of sound level impacts, particularly from power projects over the years.

³ Electric Power Plant Environmental Noise Guide, Volume I, Edison Electric Institute, prepared by Bolt, Beranek and Newman, Inc., revised 1984.

The basic premise is that octave band sound levels at a noise-sensitive receptor from the project of interest are plotted on a graph of noise level rank curves. The curves are labeled “a” to “m” and the noise level rank is given by the highest area into which the measured spectrum protrudes in any octave band. Corrections, or adjustments, are then applied to the noise level rank to obtain the CNR rating. These corrections take into account background noise, temporal and spectral character of the sound, and any previous exposure of the community to this type of noise. The CNR is then evaluated against a graph to obtain the “average expected response from a normal community.”

A Modified CNR evaluation was done for the two highest sound levels in the sound study. The first is receptor ID #177 which is located on Ball Hill Road northeast of turbine T15. Sound levels at this location are exclusively from the wind turbines with no contribution from the substations. The second location is receptor ID #376 which is located on Bennett State Road due west of the interconnection substation. Sound levels at this location are exclusively from the interconnection substation with no contribution from the wind turbines.

Figures 12-1 and 12-2 display the noise level rank of receptor IDs #177 and #376 respectively. These ranks are “e” and “d” respectively. Although actual octave band background L90 data are not available, the technique in Table 2-4 of the Hoover & Keith “Noise Control for Buildings and Manufacturing Plants” contains a discussion of the Modified CNR method, and provides an estimated background correction based on general land-use and vehicular traffic in the area. Receptor #176 is within 300 feet of an intermittent light traffic road, while receptor #376 is within 1200 feet of the NY State Thruway (I-90). The character (tonality) of the sound from the substation at #376 was assumed to be “not tonal” as per the response to question 6 above. In regard to step 5 “previous exposure/attitude”, the area around #177 is largely agricultural and thus has been subject to farm machinery noise for many years, the local farmers are supportive of the project, and there are many operating wind turbines in the vicinity of these towns so they are not completely unique. The area around #376 does not have an existing substation so it was corrected for “no prior exposure” to this type of source.

Table 12-1 summarizes the noise rank and adjustments at each location. The results of this analysis show that receptors along Ball Hill Road (ID #177) will have a CNR of “D” and thus have “sporadic complaints.” The residence near the interconnection substation (#376) will have a CNR of “C” and thus be between “No reaction, though noise is generally noticeable” and “sporadic complaints.”

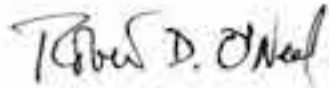
Table 12-1 Modified CNR Adjustments

Step No.	Aspect	Rank or Correction	Rank or Correction
		ID #177	ID #376
1	Source sound level	e	d
2	Background	0	-1
3a	Time of day	0	0
3b	Seasonality	0	0
3c	Intermittency	0	0
4	Character of sound	0	0
5	Previous exposure/attitude	-1	0
6	Composite Noise Rating	D	C

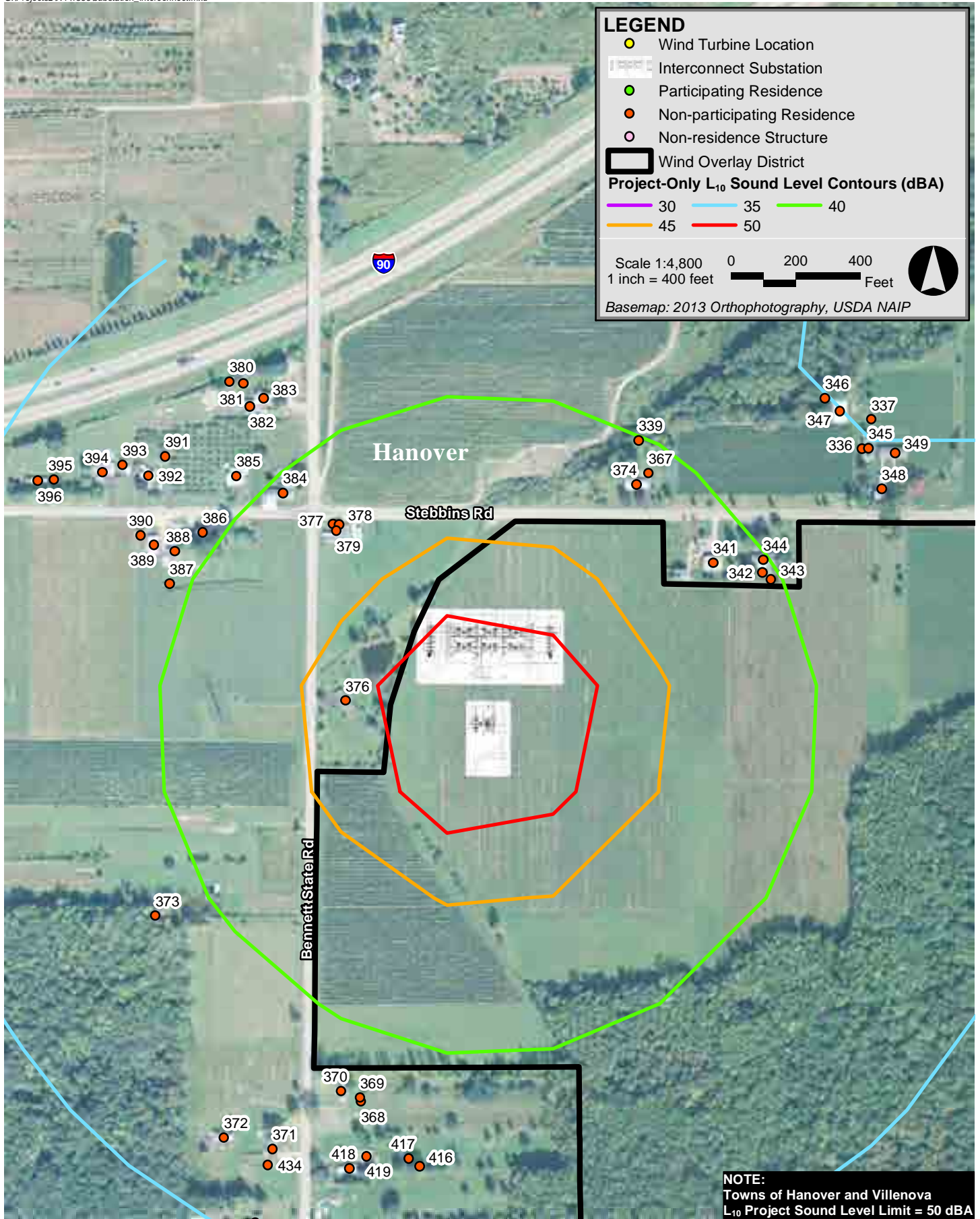
If you have any questions on this matter, please feel free to call me at (978) 461-6236, or e-mail me at roneal@epsilonassociates.com.

Sincerely,

EPSILON ASSOCIATES, INC.



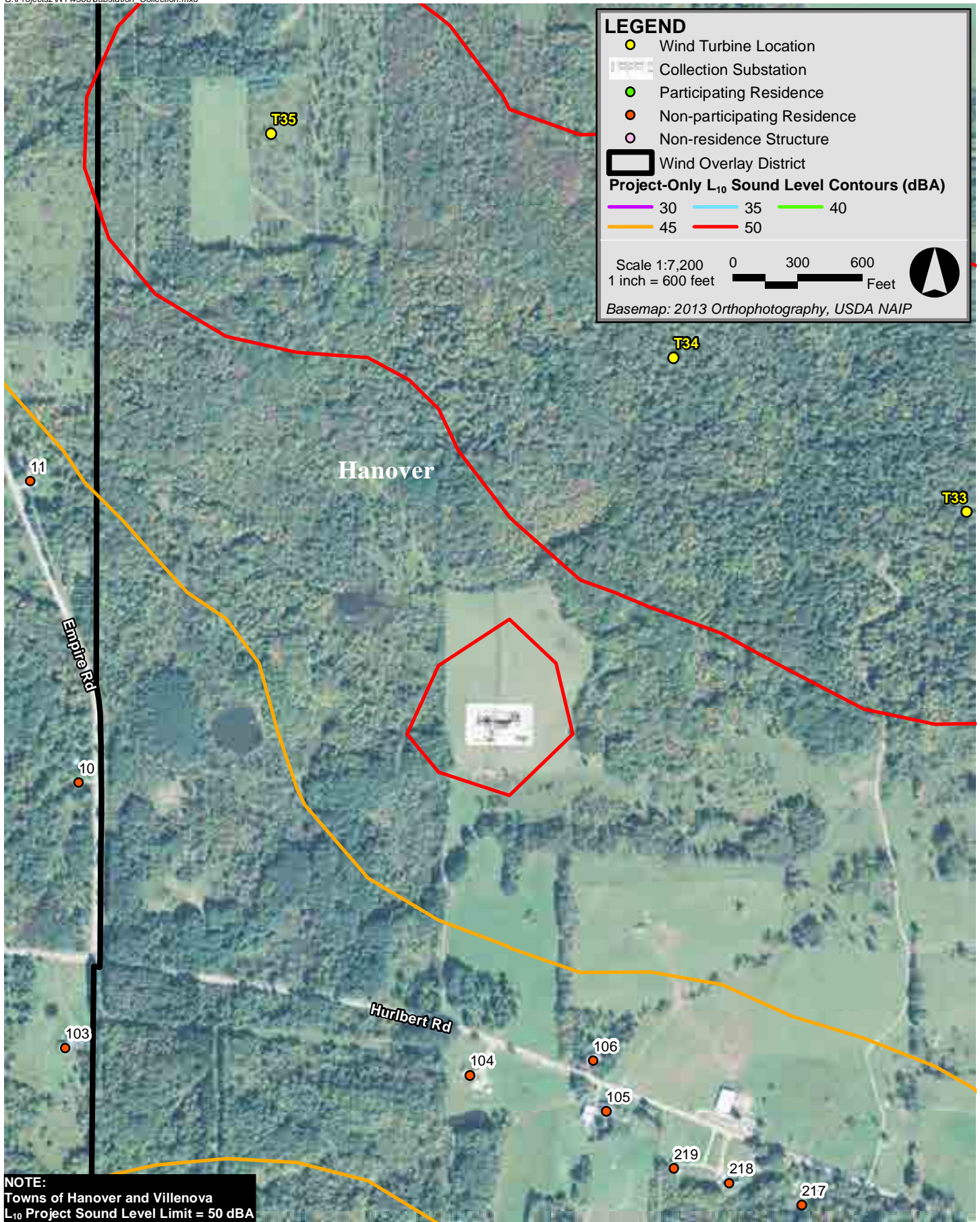
Robert D. O'Neal, CCM, INCE Bd. Cert.
Principal



Ball Hill Wind Project Hanover & Villenova, New York



Figure 10-1A: Interconnect Substation
Maximum Project-Only L₁₀ Sound Levels
Vestas V126-3.45 MW (11m/s at 87m HH)



Ball Hill Wind Project Hanover & Villenova, New York



Figure 10-1B: Collection Substation
Maximum Project-Only L_{10} Sound Levels
Vestas V126-3.45 MW (11m/s at 87m HH)

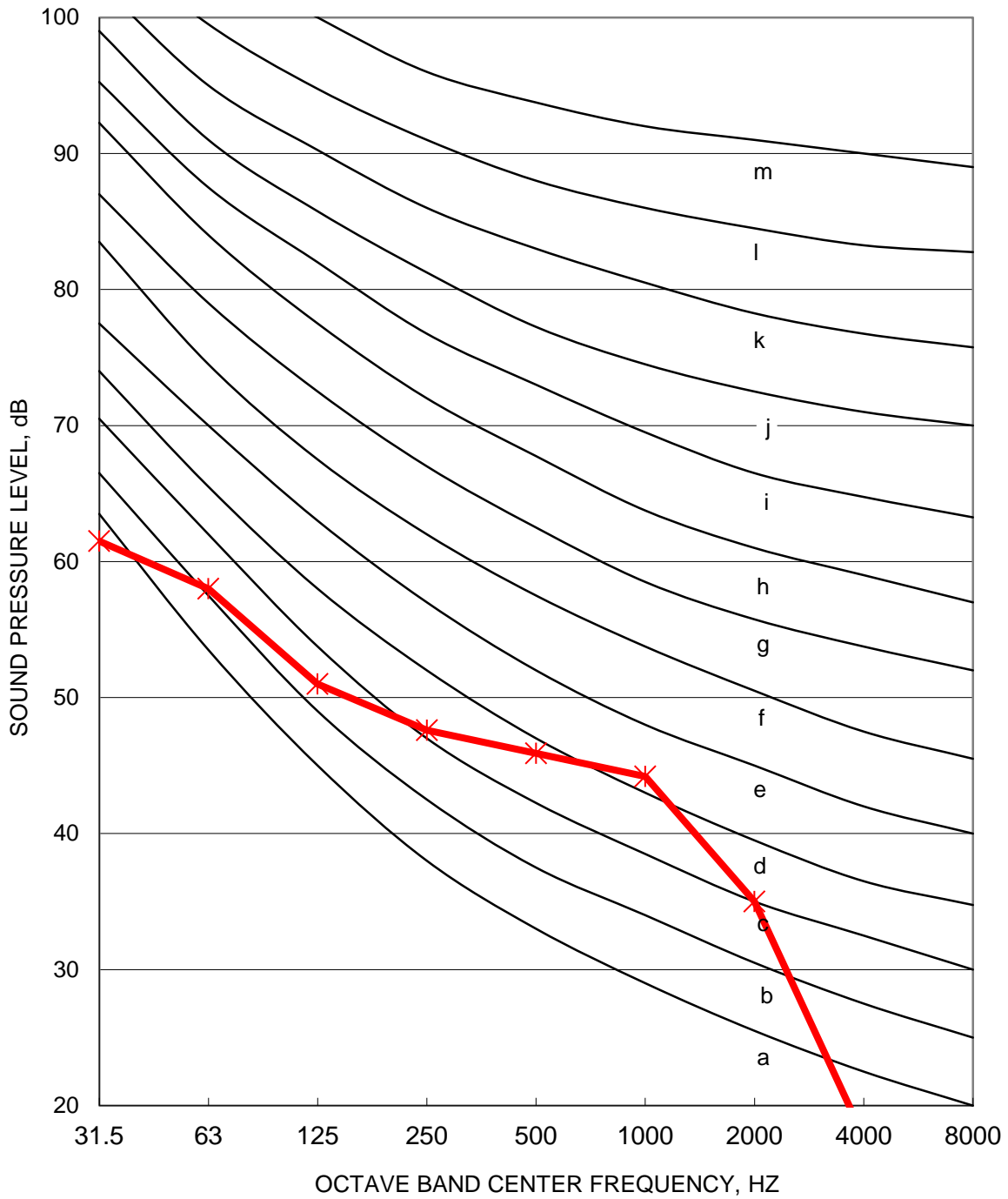


Figure 12-1. Noise Level Rank Curves for Modified CNR Rating System -- Receptor 177

The modeled octave band sound pressure levels of the noise to be evaluated are plotted on the grid. The highest zone into which the spectrum protrudes is designated as the noise level rank.

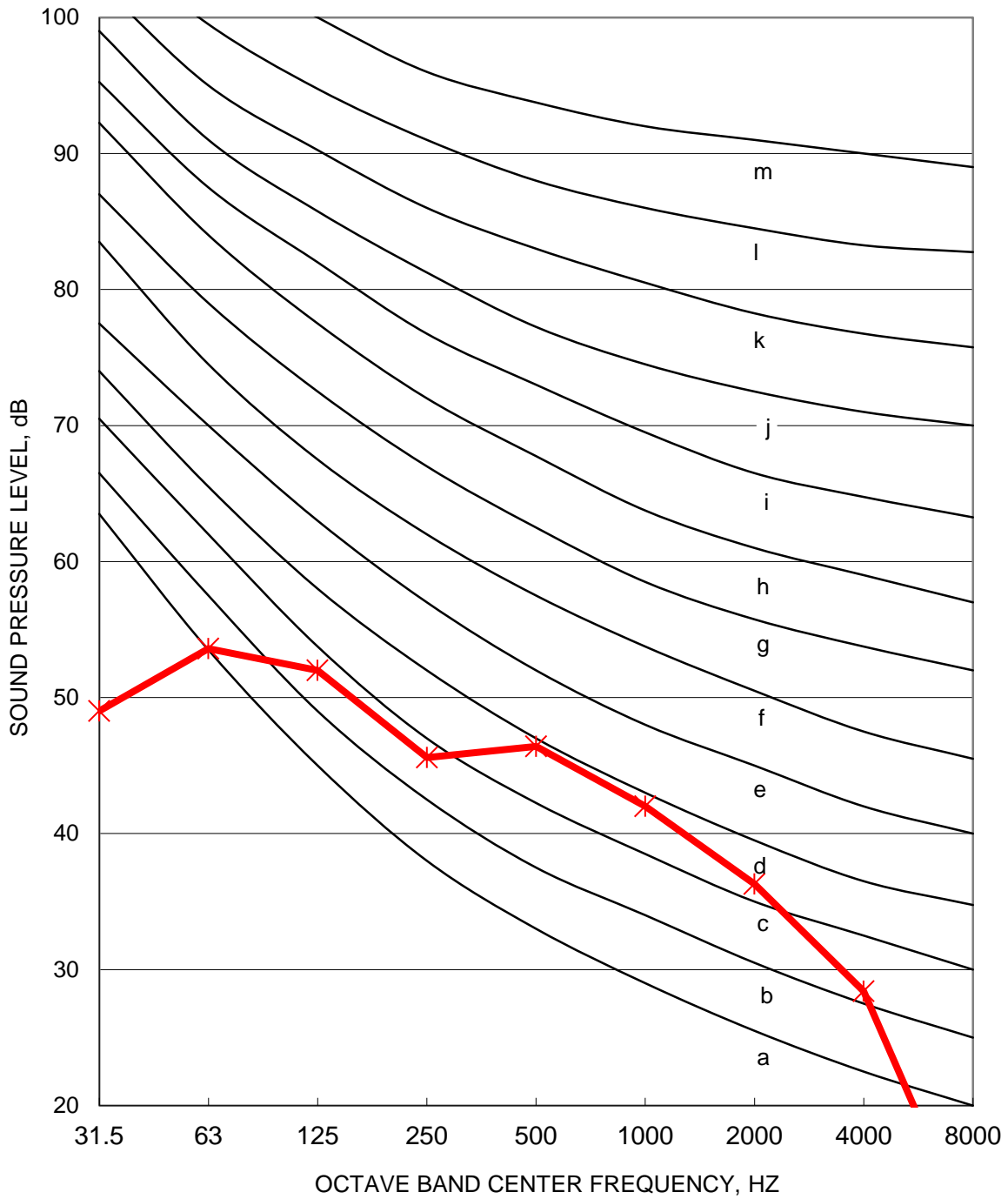


Figure 12-2. Noise Level Rank Curves for Modified CNR Rating System -- Receptor 376

The modeled octave band sound pressure levels of the noise to be evaluated are plotted on the grid. The highest zone into which the spectrum protrudes is designated as the noise level rank.

Attachment A

Town of Hanover Local Laws for WECS

Town of Hanover

Article XVI

Wind Energy Conversion Systems: (WECS)

SECTION 1601 - Legislative-Intent

The **Town of Hanover** recognizes the increased demand for converting wind energy into electrical energy. The intent of this local law is to regulate wind energy (**WECS**) in the **Town of Hanover**. The intent of this local law is to accommodate the necessary infrastructure for the provision of utility scale and Small **WECS** wind-powered electricity generation in facilities so that they may be developed in a manner hereby deemed to be compatible with the general health, welfare and safety of the residents of the **Town of Hanover**. Furthermore, to address the visual, aesthetic and land use compatibility aspects of wind energy conversion systems. (**WECS**)

SECTION 1601 .1- Authority

The Town Board of the Town of Hanover enacts this Local Law under the authority granted by:

1. Article IX of the New York State Constitution, § 2(c)(6) and (10).
2. New York Statute of Local Governments, § 10(1) and (7).
3. New York Municipal Home Rule Law, § 10(1)(i) and (ii) and § 10(1)(a)(6), (11),(12), and (14).
4. New York Town Law § 130(1)(Building Code), (3)(Electrical Code), (5)(Fire Prevention), (7)(Use of streets and highways), (7-a)(Location of Driveways), (11)(Peace, good order and safety), (15)(Promotion of public welfare), (15-a)(Excavated Lands), (16)(Unsafe buildings), (19)(Trespass), and (25)(Building lines).
5. New York Town Law § 64(17-a)(protection of aesthetic interests) and (23)(General powers).

SECTION 1602 - Definitions

Accessory, Facility, or Equipment: Any structure other than a **WECS**, related to the use and purpose of deriving energy from such towers, located at the tower facility.

Agricultural Or Farm Operations: means the land and on-farm buildings, equipment, manure processing and handling facilities, and practices which contribute to the production, preparation, and marketing of crops, livestock, and livestock products as a utility scale enterprise, including a "utility scale horse boarding operation" as defined in subdivision thirteen of New York Agriculture and Markets Law § 301 and "timber processing," as defined in subdivision fourteen of New York Agriculture and Markets

Law § 301. Such farm operation may consist of one or more parcels of owned or rented land, which parcels may be contiguous or noncontiguous to each other.

EAF: Environmental Assessment Form used in the implementation of the SEQRA as that term is defined in Part 617 of Title 6 of the New York Codes, Rules and Regulations.

EIS: Environmental Impact Statement used in the implementation of the SEQRA as that term is defined in Part 617 of Title 6 of the New York Codes, Rules and Regulations.

Nacelle: The portion of the wind turbine that connects the rotor to the support tower and houses the generator, gearbox, drive train and braking system.

Residence: Shall mean any dwelling suitable for habitation existing in the Town of Hanover on the date an application is received including seasonal homes, hotels, hospitals, motels, dormitories, sanitariums, nursing homes, senior housing, schools or other buildings used for educational purposes. A residence may be part of a multi-dwelling or multi-purpose building, but shall not include correctional institutions.

SEQRA: The New York State Environmental Quality Review Act and its implementing regulations in Title VI of the New York Code of Rules and Regulations, Part 617.

Site: The parcel or parcels of land where a WECS is to be placed. The site can be publicly or privately owned by an individual or a group of individuals controlling single or adjacent properties. Where multiple lots are in joint ownership, the combined lots shall be considered as one for purposes of applying set back requirements. Any property that has a WECS, or has entered an agreement for said facility or a set back agreement, shall not be considered off-site.

Siting Agency: The applicant, person or persons who are applying to site a utility scale wind energy-deriving tower facility.

Small WECS: A wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of not more than ten (10) kilowatts, and which is intended to primarily reduce consumption of utility power at that location.

Sound Pressure Level: Means that level which is equaled or exceeded a stated percentage of time. L₁₀₋₅₀ dBA indicates that at any hour of the day 50 dBA can be equaled or exceeded only ten (10%) percent of the time, or for six (6) minutes. The measurement of the sound pressure level can be done according to the international standard for acoustic noise measurement techniques for wind generators (IEC 61400-11), or other accepted procedures.

SWPPP: Stormwater Management Pollution Prevention Plan, as required by New York State Department of Environmental Conservation regulations.

Total Height: The height of the tower and the furthest vertical extension of the WECS.

Utility Scale: Means a WECS other than a Small WECS.

Wind energy conversion systems (WECS): Shall mean any mechanism designed for the purpose of converting, wind energy into electrical energy.

Wind Energy Facility: Any wind energy conversion system, Small WECS, or wind measurement tower, including all related infrastructure, electrical lines and substations, access roads, and other accessory structures and appurtenances.

Wind Measurement Tower: A tower used for the measurement of meteorological data such as temperature, wind speed, and wind direction.

Wind Overlay Zoning District: A district which encompasses one or more underlying zones and that establishes requirements for Wind Energy Facilities.

SECTION 1603 Permits

- A. No Wind Energy Facility shall be constructed, reconstructed, modified, or operated in the Town of Hanover except in compliance with this Local Law.
- B. No WECS shall be constructed, reconstructed, modified, or operated in the Town of Hanover except in a Wind Energy Overlay District with a Special Use Permit approved pursuant to this Local Law.
- C. No Wind Measurement Tower shall be constructed, reconstructed, modified, or operated in the Town of Hanover except pursuant to a Special Use Permit issued pursuant to this Local Law.
- D. No Small Wind Energy Conversion System shall be constructed, reconstructed, modified, or operated in the Town of Hanover except pursuant to a Special Use Permit issued pursuant to this Local Law.
- E. This Local Law shall apply to all areas of the Town of Hanover.
- F. **Exemptions.** No permit or other approval shall be required under this Article for WECS utilized solely for agricultural operations in a state or county agricultural district, as long as the facility is set back at least one and a half times its Total Height from a property line, and does not exceed 120 feet in height. Towers over 120 feet in Total Height utilized solely for agricultural operations in a state or county agricultural district shall apply for a Special Use Permit in accordance with this Local Law, but shall not require a height variance. Prior to the construction of a WECS under this exemption, the property owner or a designated agent shall submit a sketch plan or building permit application to the Town to demonstrate compliance with the setback requirements.
- G. **Transfer.** No transfer of any Wind Energy Facility or Special Use Permit, nor sale of the entity owning such facility including the sale of more than 30% of the stock of such entity (not counting sales of shares on a public exchange), will occur without prior approval of the Town, which approval shall be granted upon written acceptance of the transferee of the obligations of the transferor under this Section, and the transferee's

demonstration, in the sole discretion of the Town Board, that it can meet the technical and financial obligations of the transferor. No transfer shall eliminate the liability of the transferor nor of any other party under this Section unless the entire interest of the transferor in all facilities in the Town is transferred and there are no outstanding obligations or violations.

H. Notwithstanding the requirements of this Section, replacement in kind or modification of a Wind Energy Facility may occur without Town Board approval when (1) there will be no increase in Total Height; (2) no change in the location of the WECS; (3) no additional lighting or change in facility color; (4) no increase in noise produced by the WECS, and (5) the WECS is not currently in violation of any permit condition or provision of this Local Law.

I. The Town shall require any applicant to enter into an escrow agreement to pay the engineering and legal costs of any application review, including the review required by SEQRA.

SECTION 1604 Procedure

1. Applications for siting WECS facilities shall be submitted to the Hanover Code Enforcement officer. Applications shall be made by the owner of the property or his/her duly authorized representative, who shall attend the meeting of the Town Board to discuss the application. Any application deemed incomplete by the code enforcement officer or the Town Board shall be returned to the applicant and the Town or its Officer or Board shall undertake no action.
2. The Town Board may refer the application to the Planning Board for recommendations, which shall be reported by the Planning Board to Town Board within forty-five (45) days of said referral.
3. **Public Hearing:** After reviewing the site plan and recommendations, if any, from other involved Town or County Agencies, the Town Board shall hold a Public Hearing, which Public Hearing shall be held within sixty-two (62) days from the day the application is received by the Town Board. Notices of the Public Hearing shall be mailed to adjacent property owners within five hundred (500) feet from the property line boundaries of the proposed Wind Energy Overlay District and published in the Town's official newspaper, one time, not less than ten (10) nor more than twenty (20) days before said hearing. But where any hearing is adjourned by the Town Board to hear additional comments, no further publication or mailing shall be required.
4. The applicant shall prepare and mail the notice of public hearing prepared by the Town, and shall submit an affidavit of service to the Town Clerk. The assessment roll of the Town shall be used to determine mailing addresses.
5. The public hearing may be combined with public hearings on any environmental impact statement or requested waivers.

6. **Final Special Use permit and Site Plan:** A final site plan for the Special Use Permit application shall substantially conform to the site plan that has been approved, and may incorporate any revisions or other features recommended by the Town of Hanover Planning Board.
7. **Town of Hanover Town Board Action:** Within sixty-two (62) days from the date of the public hearing, the Hanover Town Board shall render a decision of approval, conditional approval or disapproval. This time period may be extended by mutual consent of the applicant and the Board. The decision of the Hanover Town Board shall be filed in the Office of the Town Clerk within five (5) business days after such decision is rendered, and a copy thereof mailed to the applicant.
8. **Conditions attached to the Issuance of Special Use Permits:** The Town of Hanover Town Board shall have the authority to impose reasonable conditions and restrictions as are directly related to and incidental to proposed special use permit. Upon its granting of said special use permit, any such conditions must be met in connection with the issuance of permits
9. **Reimbursable Costs:** Costs incurred by the Hanover Town and Planning Boards for consultation fees or other extraordinary expense in connection with the review of a proposed special use permit shall be charged to the applicant.

Section 1605 Wind Energy Conversion System Facility Permit Required

No Wind Energy Conversion System shall be sited, located, constructed, erected or modified without the issuance of a special use permit as prescribed in this article. (Reference 1603)

Section 1606 Zoning District and Bulk Requirements

1. WECS Facilities may be permitted in the Wind Overlay Zoning District, which may be created in the Agricultural Residential (A-1) District, upon the issuance by the Hanover Town Board of a Special Use Permit, under this Article; all applications will require a site plan as provided herein.
2. **Setbacks.** Each WECS shall be setback as measured from the center of the WECS a minimum distance of:
 - a. 500 feet from the nearest Site boundary property line, right-of-way, easements, and power lines and 500 feet where the boundary is with state, county, town, or village –owned property.
 - b. 500 feet from the nearest public road.
 - c. 1,000 feet from the nearest off-site Residence, school, church or historic structure existing at the time of application, as measured to the exterior of such structure.

- d. 100 feet from state-identified wetlands. This distance may be adjusted to be greater at the discretion of the reviewing body, based on topography, land cover, land uses, and other factors that influence the flight patterns of resident birds.
- e. 500 feet from gas wells, electric or gas distribution lines unless waived in writing by the property owner and well owner or applicable utility owner.

3. **Noise Limit.** The statistical sound pressure level generated by a WECS shall not exceed $L_{10} - 50$ dBA measured at any off site Residence existing at the time of the application. If the ambient sound pressure level exceeds 48 dBA, the standard shall be ambient dBA plus 5 dBA. Independent certification shall be provided before and after construction demonstrating compliance with this requirement.
4. In the event audible noise due to WECS operations contains a steady pure tone, such as a whine, screech, or hum, the standards for audible noise set forth in subparagraph 3 of this subsection shall be reduced by 5 dBA. A pure tone is defined to exist if the 1/3 octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of the sound pressure levels of the two contiguous 1/3 octave bands by 5 dBA for center frequencies of 500 Hz and above, by 8 dBA for center frequencies between 160 Hz and 400 Hz, or by 15 dBA for center frequencies less than or equal to 125 Hz.
5. In the event the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is exceeded for more than five minutes per hour. Ambient noise levels shall be measured at the exterior of potentially affected existing residences, schools, hospitals, churches, and public libraries. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind generated noise at the microphone. Ambient noise level measurements may be performed when wind velocities at the proposed project Site are sufficient to allow Wind Turbine operation, provided that the wind velocity does not exceed 30 mph at the ambient noise measurement location.
6. Any noise level falling between two whole decibels shall be the lower of the two.
7. All applications for WECS exceeding 120 feet in height shall be treated as a Type One Action under the State Environmental Quality Review Act.

SECTION 1607: APPLICATION REQUIREMENTS

A plan for the proposed development of a project utility scale WECS, including the proposed Wind Energy Overlay District and individual Special Use Permit applications for WECS shall show and include the following:

- A. Name of the project, the address and Section, Block and Lot number of each proposed WECS location and the boundary lines of the parcel on which the project will be located, a location map showing proposed sites location, date, North arrow and scale. Engineering and or Surveyor maps.
- B. Name and mailing address of the developer or applicant and owners of the parcels where development is proposed.
- C. Name and mailing address of all owners of record of abutting parcels, or those owners within fifteen hundred (1,500) feet of the property lines of parcel where development is proposed. The applicant may delay submitting this list until the Town Board calls for a public hearing on the application.
- D. A map prepared by a surveyor or engineer licensed in the State of New York shall be provided in the EIS showing all existing lot lines, easements and right-of-ways, and a sketch plan showing proposed road access including provisions for paving, if any, proposed transmission lines and accessory facilities and location of all existing and proposed utility systems to the facility. A map of all above and below ground utilities near the tower site that could possibly be impacted.
- E. Boundaries of the proposed Wind Energy Overlay Zoning District.
- F. A map showing existing and proposed topography at a maximum of five (5) foot contour intervals. (Applies to utility scale only)
- G. A landscape plan showing all existing natural land features, trees, forest cover, buildings and structures and all proposed changes to these features including size and type of plant material and erosion control measures. (Applies to utility scale only)
- H. State Environmental Quality review Act (SEQRA). Nothing shall prohibit the Board from requiring an environmental impact statement if deemed necessary by the Board. WECS are considered a Type 1 action and require a full Environmental Assessment Form (EAF) and a visual EAF to be completed and submitted to the town.
- I. Photography, assessing the visibility from the key viewpoints, existing tree lines and proposed elevations. Pictures shall be digitally enhanced to simulate the appearance of the "as built" above the ground site facilities as they would appear from distances within three (3) mile

radius of such WECS. No fewer than four (4) and no more than the number of proposed individual WECS plus three (3) color photos.

Pictures shall be no smaller than 8"x10". This requirement may be waived for Small WECS.

- J. Documentation of the proposed intent and capacity of energy generation as well as a justification for the height of any WECS.
- K. Justification for any clearing required. (Applies to utility scale only)
- L. **Preliminary report proposed by the WECS siting agency describing:** (Applies to utility scale only)
 - i. Surrounding topography in relation to the capabilities for generation of electricity by wind.
 - ii. Required improvements for construction activities, including those within the public right-of-way or land controlled by the Town of Hanover.
 - iii. Proposed mitigation measures for visual impacts of the tower facility.
 - iv. Proposed safety measures to mitigate wind energy-deriving tower failure.
- M. Elevation map showing the wind energy-deriving tower's height and design including a cross section of the structure and components of the nacelle; the wind energy-deriving tower's compliance with the applicable structural standards and the wind energy-deriving tower's abilities in terms of producing energy. (Applies to utility scale only)
- N. A description of the general geographic areas that would be acceptable for wind projects within the Town of Hanover; furthermore, demonstration that the proposed site is the most appropriate site within the immediate area for the location of the WECS. (May waive for Small WECS)
- O. Description of the applicant's long range plans with project market demand and long-range facility needs within the Town of Hanover. (May waive for Small WECS)
- P. Digital elevation model-based project visibility map showing the impact of visibility of the project from other locations, to a distance radius of three (3) miles from the center of the project. The base map used shall be a published topographic map showing natural and structural or built features. (To be provided in the EIS. May waive for Small WECS)
- Q. Report showing soil logs, soil profile analysis and storm water run-off calculation for the area being disturbed. (To be provided in the SWPPP and EIS. May waive for Small WECS)

- R. Plans to prevent the pollution of the surface or ground water, erosion of soil, both during and after construction, excessive run-off and flooding of the other properties as applicable. There should be pre-construction and post-construction drainage calculations for the site done by a New York State licensed engineer showing there will be no increase of run-off from the site. (To be provided in the SWPPP and EIS, May waive for Small WECS)
- S. All information regarding requirements for migratory bird flyways with documents by the EPA, NYSDEC or US Fish and Wildlife Service. (To be provided in the EIS, May waive for Small WECS)
- T. All information regarding FAA rules and regulations, additional permits necessary or any other applicable regulations from the Federal Communications Commission (FCC) and Federal Aviation Agency (FAA) for installation of conversion systems. Proof of compliance with the FCC and FAA regulations shall be submitted prior to the finalization of the EIS and issuance of a Special Use Permit by the Town Board, Town of Hanover.

U. **Blade Throw and Ice Throw Risk:** Either the Application or the EIS shall evaluate the risk from Blade Throw and Ice Throw Risk.

- V. **Catastrophic Tower Failure:** A report from the turbine manufacturer stating:
 - i. The wind speed and conditions that the turbine is designed to withstand (including all assumptions)
 - ii. The incidence of catastrophic failures and the conditions reported at the time of failure.

W. **Noise Report:** A noise report that shall at a minimum include the following: (May waive for Small WECS)

- i. A description and map of the project's noise producing features, including the range of noise levels expected, and the tonal and frequency characteristics expected, and the basis of the expectation.
- ii. A description and map of the noise sensitive receptors, i.e., residences, libraries, schools, places of worship and other facilities where quiet is important within two (2) miles of the proposed facility.
- iii. A report prepared by a qualified engineer, that analyzes the pre-existing ambient daytime and nighttime noise regime (including seasonal variation), including but not limited to: separate measurements of low frequency and A-weighted noise levels across a range of wind speeds (including near cut-in), turbulence measurements, distance from the turbines, location of sensitive receptors relative to wind direction: and analyses at

affected sensitive receptors located two (2) miles of the proposed project site. Potential sensitive receptors at relatively less windy or quieter locations than the project should be emphasized.

- iv. A description and map showing the potential noise impacts, including estimates of expected noise impacts upon construction and operation workers, and estimates of expected noise levels at sensitive receptor locations.
- v. A description and map of the cumulative noise impacts.
- vi. A description of the projects proposed noise control features, including specific measures proposed to protect workers, and specific measures proposed to mitigate noise impacts for sensitive receptors to a level of insignificance.
- vii. Identification of any problem areas
- viii. Summary of Project Developer's proposed Noise Complaint resolution Program, including post-construction testing.
- ix. Manufactures Noise design and field-testing data both audible (dBA) and low frequency (deep base vibration) for all proposed structures.

Section 1608 - Standards:

The development of utility scale WECS and related structures may be permitted with approval by the Hanover Town Board, subject to the following requirements:

- A. **Location:** Applications for wind energy-deriving towers shall locate, erect and site towers in accordance with the following requirements:
 - 1. No WECS shall be installed in any location along the major axis of an existing microwave communications link where its operation is likely to produce electromagnetic interference in the link's operations.
 - 2. No WECS shall be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antenna (including residential reception antenna) for radio, television, or wireless phone or other personnel communication systems would produce electromagnetic interference with signal transmission or reception. If it is determined that a WECS is causing electromagnetic interference, the applicant/operator shall take the necessary corrective action to eliminate this interference including

relocation or removal of the facilities, or resolution of the issue with the impacted parties. Failure to remedy electromagnetic interference is grounds for revocation of the Special Use Permit for the specific WECS or WECS causing the interference.

3. No individual tower facility shall be installed in any location where there is a recognized migratory flight path for birds or at a location where birds commonly congregate, unless applicant can demonstrate that the operation of the wind energy-deriving Tower will not have a significant impact on either migratory or resident birds. Conclusions of no significant impact within these recognized areas shall be the results of studies conducted over a period of a minimum of one year by expert consultants and in compliance with NYS DEC regulations, at the expense of the applicant.
4. WECS shall be painted a non-obtrusive (e.g. light environmental color such as white, gray or beige) color that is non reflective.
5. A New York State Licensed professional engineer shall certify that the construction and installation of the conversion system meets or exceeds the manufacture's construction and installation standards. (Town Board may waive for Small WECS)

B. Emergency Shutdown/Safety

1. Procedures acceptable to the Hanover Town Board for emergency shutdown of power generation unit shall be established and available with local agencies as required by the Town.
2. No tower or facility shall exhibit any signs or advertising. Applicant shall post an emergency telephone number so that the appropriate people may be contacted should any wind energy-deriving tower need immediate attention.
3. No WECS shall be permitted that lack an automatic braking, governing, or feathering system to prevent uncontrolled rotation, over speeding, and excessive pressure on the tower structure, rotor blades, and turbine components.
4. The safety of the design of all conversion systems shall be certified by a licensed professional engineer experienced in WECS. The standard for certification shall be good engineering practices and shall conform to New York State's officially adopted building and electrical codes.

5. The minimum distance between the ground and any part of the rotor blade shall be thirty (30) feet.

C. Lighting:

Lighting shall be in compliance with FAA regulations.

D. Utility Service

All power transmission lines from the wind generation electricity facilities to non-site substations shall be underground unless specifically waived by the Town Board as part of the Special Use Permit. Where the electrical components of an installation vary from the Manufacturer's standard design or specifications, the proposed modifications shall be reviewed and certified by a N.Y.S. registered professional engineer for compliance with requirements of the national Electrical Underwriter's Code and good engineering practices.

E. Height:

1. The height of any WECS shall be limited to the minimum required to provide needed energy by demonstrated demand, or need.
2. Small WECS shall not exceed a total of seventy-five (75) feet unless the parcel on which the WECS is to be located is ten (10) acres or more, in which case the maximum height of the tower, including the turbine and blades, shall be 120 feet.
3. WECS shall not exceed a total height of 420 feet including the turbine and blades.

E. Access Road:

Existing roadways shall be used for access to the site whenever possible. In the case of constructing roadways, they shall be constructed in a way so that they do not disrupt normal drainage patterns, and are not conspicuous to the surrounding environment.

G. Accessory Structures/Facilities

Transmission facilities and or buildings shall be located behind ridges or vegetation to screen from visibility unless specifically waived by the Town Board as part of the Special Use Permit. Removal of trees and other vegetation on the site shall affect the minimum area and number of trees possible to minimize soil erosion.

H. Security Provisions:

1. No climbing device of any kind shall be attached to the outside of a WECS. Only internal ladders with locked doors.
2. All towers or poles must be unclimbable by design or protected by anti-climbing devices.
3. A WECS is prohibited upon the roof of any structure unless the structure has been approved for installation of a conversion system by a structural engineer certified by the State of New York.

I. Compliance with the National Electrical Code:

1. Building permit applications shall be accompanied by a one line drawing identifying the electrical components of the wind system to be installed in sufficient detail to allow for a determination that the manner conforms to the National Electrical Code. The application shall include a statement from a New York State licensed professional engineer indicating that the electrical system conforms to good engineering practices and complies with the National Electrical Code. The manufacturer normally supplies this certification. All equipment and materials shall be used or installed in accordance with such drawings and diagrams.
2. All electrical lines shall be placed in compliance with the current electrical code standards and appropriately marked and identified as specified by the Town. A visible warning sign of "High Voltage" will be placed at the base of all WECS. The letters on the sign shall be a minimum of six (6) inches in height.
3. The applicant shall, prior to the receipt of a building permit, demonstrate that the proposed facility meets the system reliability requirements of the New York Independent System Operator, or provide proof that it has executed an Interconnection Agreement with the New York Independent System Operator and/or the applicable Transmission owner.

J. Insurance/Liability

The applicant, owner, lessee or assignee shall maintain a current insurance policy which will cover installation and operation of the WECS at all times. As part of the application review process, the Town of Hanover may require proof that the applicant is carrying sufficient liability, workers compensation, etc, during installation and operations of proposed facility. Limits for said policy shall be set according to the size and scope of each project.

K. Abatement:

1. Any **WECS** which has not been generating energy for a period of one (1) year shall be removed from the premises to a place of safe and legal disposal. Any and all structures, guy cables, guy anchors and or enclosures accessory to such **WECS** shall also be removed. The site shall be restored to as natural a condition as possible. Such removal shall be completed within six (6) months after 1 year of non-use of such **WECS**. The permittee is responsible for removal.
2. **Bond/Security:** All successful applicants shall furnish and file with the Town Clerk a performance bond to be payable to the Town and in an amount to be determined by the Town for the purpose of covering damage to any Town property during the construction, maintenance, operation or removal of the **WECS** facility.
3. **Decommissioning Security.** In addition, all successful applicants shall furnish and file with the Town Clerk a bond or other security for the purpose of paying for the removal of and de-commissioning of the **WECS** facilities in the event that such **WECS** facilities are no longer in use and require removal under this article and upon failure of the then-owner or operator to remove same in accordance with this article (such bond or other security, a "Decommissioning Bond"). The Decommissioning Bond shall remain valid and enforceable during the entire time the facility is permitted to operate and for an additional period of two years thereafter and as may be necessary to ensure the de-commissioning and removal of the **WECS** in the event the owner/operator fails to do so as required by this article. The Decommissioning Bond may consist of a letter of credit from a State of New York-licensed financial institution. All costs of the financial security shall be borne by the applicant.
4. **Decommissioning Plan:** The applicant shall submit a decommissioning plan, which shall include: 1) the anticipated life of the **WECS**; 2) the estimated decommissioning costs in current dollars; 3) how said estimate was determined; 4) the method of ensuring that funds will be available for decommissioning and restoration; (5) the method, such by annual re-estimate by a licensed engineer, that the decommissioning cost will be kept current; and 6) the manner in which the **WECS** will be decommissioned and the Site restored, which shall include removal of all structures and debris to a depth of three feet, restoration of the soil, and restoration of vegetation (consistent and compatible with surrounding vegetation), less any fencing or residual minor improvements requested by the landowner. The Plan shall include the Decommissioning Bond required by this Section.

5. If removal of towers and appurtenant facilities is required and applicant, permit holder, or successors fails to remove the towers and appurtenant facilities from the property within one hundred twenty (120) days from the date of notification by the Town Board, the Board shall contract for such removal and pay for removal from the Bond.

L. Right of Entry and Inspection:

Upon notice to the applicant, the Code Enforcement Officer or any duly authorized agent of the Town shall be allowed to enter on the property and make such inspections as deemed necessary during the construction and assembly of the WECS, and to ensure compliance with permit conditions.

M. Fees

Applications, permits, and inspection fees for WECS applicants under this article shall be as established by the Town Board of the Town of Hanover by Town Board Resolutions, as from time to time enacted.

SECTION 1609 – WECS FACILITIES MAINTENANCE

The Town Code Enforcement Officer and/or Building Inspector or outside consultant designated by the Town Board are empowered to enforce these regulations.

1. The sufficiency of the bond for removal shall be confirmed at least every year by an analysis of the cost of removal and property restoration performed by a licensed New York State professional Engineer with results to be communicated to the Town. If the bond amount in force is not sufficient to cover the cost of the removal, it shall be increased within thirty (30) days to cover such amount.
2. The Facility shall be inspected at least every two (2) years for structural Integrity by a New York licensed professional engineer and a copy of the inspection report submitted to the Town.
3. All WECS shall be maintained in good order and repair and all such work shall comply with all applicable code requirements of any governmental body issuing such rules and/or regulations.
4. No outside storage of vehicles, materials or waste shall be allowed except for the limited periods when the facility is undergoing construction, repair or maintenance.

SECTION 1610 – EXEMPTIONS

Notwithstanding the requirements of this Section, replacement in kind or modification of a Wind Energy Facility may occur without Town Board approval when (1) there will be no increase in Total Height; (2) no change in the location of the WECS; (3) no additional lighting or change in facility color; (4) no increase in noise produced by the WECS, and (5) the WECS is not currently in violation of any permit condition or provision of this Local Law

SECTION 1611 – PURPOSE AND INTENT—SMALL WIND ENERGY CONVERSION SYSTEM

1. The purpose of this section is to provide standards for Small WECS designed for home, farm, and Small WECS use on the same parcel, and that are primarily used to reduce consumption of utility power at that location and not for sale off-premises.
2. Applications for Small WECS energy permits shall include:
 - a) Name, address, telephone number of the applicant. If the applicant will be represented by an agent, name, address, and telephone number of the agent, as well as an original signature.
 - b) Name, address, telephone number of the property owner. If the property owner is not the applicant, the application shall include a letter or other written permission signed by the property owner (i) confirming that the property owner is familiar with the proposed applications and (ii) authorizing the submission of the application.
 - c) Address of each proposed tower location, including Tax Map section, block and lot number.
 - d) Evidence that the proposed tower height does not exceed the height recommended by the manufacturer or distributor of the system.
 - e) A line drawing of the electrical components of the system in sufficient detail to allow for a determination that the manner of installation conforms to the Uniform Fire Prevention and Building Code.
 - f) Sufficient information demonstrating that the system will be used primarily to reduce consumption of electricity at that location.
 - g) Written evidence that the electric utility service provider that serves the proposed Site has been informed of the applicant's intent to install an interconnected customer-owned electricity generator, unless the applicant does not plan, and so states in the application, to connect the system to the electricity grid.
 - h) A visual analysis of the Small WECS as installed, which may include a computerized photographic simulation, demonstrating the visual impacts from nearby strategic vantage points. The visual analysis shall also indicate the color treatment of the system's components and any visual screening incorporated into the project that is intended to lessen the system's visual prominence.
3. **Development Standards.** All Small wind energy systems shall comply with the following standards. Additionally, such systems shall also comply with all the requirements established by other sections of this Article that are not in conflict with the requirements contained in this section.

- a) A system shall be located on a lot a minimum of one acre in size, however, this requirement can be met by multiple owners submitting a joint application.
- b) Only one small wind energy system tower per legal lot shall be allowed, unless there are multiple applicants, in which their joint lots shall be treated as one lot for the purposes of this section.
- c) Small WECS shall be used primarily to reduce the on-site consumption of electricity.
- d) Tower heights may be allowed as follows:
 - (i.) See Section 1608 E (2).
 - (ii.) The allowed height shall be reduced if necessary to comply with all applicable Federal Aviation Requirements, including Subpart B (commencing with Section 77.11) of Part 77 of Title 14 of the Code of Federal Regulations regarding installations close to airports.
- e) The maximum turbine power output is limited to 10 KW.
- f) The system's tower and blades shall be painted a non-reflective, unobtrusive color that blends the system and its components into the surrounding landscape to the greatest extent possible and incorporate non-reflective surfaces to minimize any visual disruption.
- g) The system shall be designed and located in such a manner to minimize adverse visual impacts from public viewing areas.
- h) Exterior lighting on any structure associated with the system shall not be allowed except that which is specifically required by the Federal Aviation Administration.
- i) All on-site electrical wires associated with the system shall be installed underground except for "tie-ins" to a public utility company and public utility company transmission poles, towers and lines. This standard may be modified by the decision-maker if the project terrain is determined to be unsuitable due to reasons of excessive grading, biological impacts, or similar factors.
- j) The system shall be operated such that no disruptive electromagnetic interference is caused. If it has been demonstrated that a system is causing harmful interference, the system operator shall promptly mitigate the harmful interference or cease operation of the system.
- k) At least one sign shall be posted on the tower at a height of five feet warning of electrical shock or high voltage and harm from revolving machinery. No brand names, logo or advertising shall be placed or painted on the tower, rotor, generator or tail vane where it would be visible from the ground, except that a system or tower's manufacturer's logo may be displayed on a system generator housing in an unobtrusive manner.
- l) Anchor points for any guy wires for a system tower shall be located within the property that the system is located on and not on or across any above-ground electric transmission or distribution lines. The point of attachment for the guy wires shall be enclosed by a fence six feet high or sheathed in bright orange or yellow covering from three to eight feet above the ground.
- m) Construction of on-site access roadways shall be minimized. Temporary access roads utilized for initial installation shall be re-graded and re-vegetated to the pre-existing natural condition after completion of installation.

n) To prevent harmful wind turbulence from existing structures, the minimum height of the lowest part of any horizontal axis wind turbine blade shall be at least 30 feet above the highest structure or tree within a 250 foot radius. Modification of this standard may be made when the applicant demonstrates that a lower height will not jeopardize the safety of the wind turbine structure.

o) All small wind energy system tower structures shall be designed and constructed to be in compliance with pertinent provisions of the Uniform Fire Prevention and Building Code.

p) All Small WECS shall be equipped with manual and automatic over-speed controls. The conformance of rotor and over-speed control design and fabrication with good engineering practices shall be certified by the manufacturer.

5. **Standards.** A Small WECS shall comply with the following standards:

a) **Setback requirements.** A Small WECS shall not be located closer to a property line than one and a half times the total height of the facility.

b) **Noise.** Except during short-term events, including utility outages and severe wind storms, a Small WECS shall be designed, installed, and operated so that noise generated by the system shall not exceed the 50 decibels (dBA) as measured at the closest neighboring inhabited dwelling.

6. **Abandonment of Use.** A Small WECS which is not used for twelve (12) successive months shall be deemed abandoned and shall be dismantled and removed from the property at the expense of the property owner. Failure to abide by and faithfully comply with this section or with any and all conditions that may be attached to the granting of any building permit shall constitute grounds for the revocation of the permit by the Town.

All Small WECS shall be maintained in good condition and in accordance with all requirements of this section.

7. A Small WECS shall be permitted only in Zoning District (A-1), Agricultural Residential.

SECTION 1612 – WIND MEASUREMENT TOWERS

1. **Wind Site Assessment.** The Town Board acknowledges that prior to construction of a WECS, a wind site assessment is conducted to determine the wind speeds and the feasibility of using particular sites. Installation of Wind Measurement Towers, also known as anemometer (“MET”) towers, shall be permitted on the issuance of a Special Use Permit in accordance with this section.

2. **Applications for Wind Measurement Towers.**

A. An application for a Wind Measurement Tower shall include:

a) Name, address, telephone number of the applicant. If the applicant is represented by an agent, the application shall include the name,

- address, and telephone number of the agent as well as an original signature of the applicant authorizing the representation.
- b) Name, address, telephone number of the property owner. If the property owner is not the applicant, the application shall include a letter or other written permission signed by the property owner (i) confirming that the property owner is familiar with the proposed applications and (ii) authorizing the submission of the application.
 - c) Address of each proposed tower location, including Tax Map section, block and lot number.
 - d) Proposed Development Plan and Map.
 - e) **Decommissioning Plan:** The applicant shall submit a decommissioning plan, which shall include: 1) the anticipated life of the Wind Measurement Tower; 2) the estimated decommissioning costs in current dollars; 3) how said estimate was determined; 4) the method of ensuring that funds will be available for decommissioning and restoration; (5) the method, such by annual re-estimate by a licensed engineer, that the decommissioning cost will be kept current; and 6) the manner in which the Wind Measurement Tower will be decommissioned and the Site restored, which shall include removal of all structures and debris to a depth of three feet, restoration of the soil, and restoration of vegetation (consistent and compatible with surrounding vegetation), less any fencing or residual minor improvements requested by the landowner. The Plan shall include the Decommissioning Bond required by this Section.
 - f. **Decommissioning Security.** The applicant, or successors, shall continuously maintain a fund or bond payable to the Town for the removal of non-functional towers and appurtenant facilities in an amount to be determined by the Town for the period of the of the life of the facility. This fund may consist of a letter of credit from a State of New York-licensed financial institution. All costs of the financial security shall be borne by the applicant.

3. **Standards for Wind Measurement Towers.**

- A. The distance between a Wind Measurement Tower and the property line shall be at least one and a half times the total height of the tower. Sites can include more than one piece of property and the requirement shall apply to the combined properties. Exceptions for neighboring property are also allowed with the consent of those property owners.
- B. Special Use Permits for Wind Measurement Towers may be issued for a period of up to two years. Permits shall be renewable upon application to the Town Board in accordance with the procedure of § 1-20.

SECTION 1613 – VIOLATIONS/PENALTIES

This article is adopted pursuant to the zoning and planning powers granted to the Town under Town Law of the State of New York and other applicable law, rule and regulation. In the event of any violation of this article or permit issued hereunder, the Town may

seek enforcement under any available authority, including but not limited to Town Law, Section 268, as from time to time amended.

Any applicant upon receipt of a Special Use Permit for a Wind Energy Conversion System Facility that substantially does not meet any of the requirements and/or conditions of that permit, shall have its permit revoked and the WECS Facility removed within one hundred twenty (120) days of notification by the Town of such violation. Nothing herein shall limit or prohibit the Town from seeking equitable or injunctive relief for a violation of this article in any court of competent jurisdiction.

SECTION 1614 – HOST COMMUNITY AGREEMENT

Nothing in this Article shall be read as limiting the ability of the Town to enter into Host Community Agreements with any applicant to compensate the Town for expenses or impacts on the community.

SECTION 1615 – TAX EXEMPTION

The Town hereby exercises its right to opt out of the Tax Exemption provisions of Real Property Tax Law Section 487, pursuant to the authority granted by paragraph 8 of that law.

SECTION 1616 - SEVERABILITY

Should any provision of this Local Law be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of this Local Law as a whole or any part thereof other than the part so decided to be unconstitutional or invalid.

SECTION 1617 - MISCELLANEOUS

The amendments in this local law shall apply to any and all applications pending at the time of enactment for which final permits have not been issued.

SECTION 1618 - REPEALER

That the enactment of this local law shall act as a repealer of Local Law No. 4 of 2006 previously enacted by the Town Board of the Town of Hanover providing for wind energy conversion systems. That in the event of any conflict in local law, ordinance, rule or regulation having to do with wind energy conversion systems and wind energy facilities, the provisions of this Local Law shall prevail.

SECTION 1619 – EFFECTIVE DATE

This local law shall be effective upon its filing with the Secretary of State in accordance with the Municipal Home Rule Law.

Effective Date: _____

Attachment B

Town of Villenova Local Laws for WECS

Local Law No. 1 of 2007

**A LOCAL LAW GOVERNING WIND ENERGY FACILITIES
IN THE TOWN OF VILLENOVA**

Be it hereby enacted by the Town Board of the Town of Villenova as follows:

Section 1: Title

This Local Law shall be known as the “Wind Energy Facilities Law of the Town of Villenova.”

Section 2: Section 401(C) of the Town of Villenova Zoning Law - Uses by Special Use Permit in the Agricultural - Residential (AR1) District, is amended to replace

Windmills - private in accordance with Section 617

to read

Wind Energy Facilities in accordance with Article VI-A

Section 3: Section 402(C) of the Town of Villenova Zoning Law - Uses by Special Use Permit in the Transition (T) District, is amended to replace

Windmills - private in accordance with Section 617

to read

Wind Energy Facilities in accordance with Article VI-A.

Section 4: Section 403(C) of the Town of Villenova Zoning Law - Uses by Special Use Permit in the Industrial Park (IP) District, is amended to replace

Windmills - private in accordance with Section 617

to read

Wind Energy Facilities in accordance with Article VI-A

Section 5: Sections 617.00 through and including Section 617.13 of the Town of Villenova Zoning Law are hereby repealed.

Section 6: Section 617, “Commercial Towers/Windmills” of the Town of Villenova Zoning Law is hereby amended as follows:

a. The Title of Section 617 shall be “Commercial Towers.”

b. The first sentence of Section 617 shall read in its entirety as follows “Commercial Towers in districts where allowed shall be subject to the following conditions:”

c. The first sentence of Section 617(A) shall read in its entirety as follows “Towers shall be removed from surrounding residential structures sufficiently so as to not cause a nuisance due to appearance or other factors.”

Section 7: Article VI-A is hereby added to the Town of Villenova Zoning Law to read in its entirety as follows:

Article VI-A

WIND ENERGY FACILITIES

§ 690.00. Purpose.

The Town Board of the Town of Villenova adopts this Article to promote the effective and efficient use of the Town’s wind energy resource through wind energy conversion systems (WECS), and to regulate the placement of such systems so that the public health, safety, and welfare will not be jeopardized.

§ 690.01. Authority.

A. The Town Board of the Town of Villenova adopts this Article under the authority granted by:

Article IX of the New York State Constitution, § 2(c)(6) and (10).

New York Statute of Local Governments, § 10 (1), (6), and (7).

New York Municipal Home Rule Law, § 10 (1)(i) and (ii) and § 10 (1)(a)(6), (11), (12), and (14).

The supersession authority of New York Municipal Home Rule Law, § 10 (2)(d)(3).

New York Town Law, Article 16 (Zoning).

New York Town Law § 130(1)(Building Code), (3)(Electrical Code), (5)(Fire Prevention), (7)(Use of streets and highways), (7-a)(Location of Driveways), (11)(Peace, good order and safety), (15)(Promotion of public welfare), (15-a)(Excavated Lands), (16)(Unsafe buildings), (19)(Trespass), and (25)(Building lines).

New York Town Law § 64(17-a)(protection of aesthetic interests) and (23)(General powers).

§ 690.02. Findings.

A. The Town Board of the Town of Villenova finds and declares that

1. Wind energy is an abundant, renewable, and nonpolluting energy resource of the Town and its conversion to electricity may reduce dependence on nonrenewable energy sources and decrease the air and water pollution that results from the use of conventional energy sources.

2. The generation of electricity from properly sited wind turbines, including small systems, can be cost effective, and in many cases existing power distribution systems can be used to transmit electricity from wind-generating stations to utilities or other users, or on-site consumption can be reduced.


3. Regulation of the siting and installation of wind turbines is necessary for the purpose of protecting the health, safety, and welfare of neighboring property owners and the general public.

4. Wind Energy Facilities represent significant potential aesthetic impacts because of their large size, lighting, and shadow flicker effects.

5. If not properly regulated, installation of Wind Energy Facilities can create drainage problems through erosion and lack of sediment control for facility sites and access roads, and harm farmlands through improper construction methods.

6. Wind Energy Facilities may present a risk to bird and bat populations if not properly sited.

7. If not properly sited, Wind Energy Facilities may present risks to the property values of adjoining property owners.



9. Construction of Wind Energy Facilities can create traffic problems and damage local roads.

10. Wind Energy Facilities can cause electromagnetic interference issues with various types of communications.

§ 690.03. Definitions.

A. As used in this Article, the following terms shall have the meanings indicated:

1. **AGRICULTURAL OR FARM OPERATIONS** — means the land and on-farm buildings, equipment, manure processing and handling facilities, and practices which contribute to the

production, preparation, and marketing of crops, livestock, and livestock products as a commercial enterprise, including a commercial horse boarding operation,” as defined in New York Agriculture and Markets Law § 301 and “timber processing,” as defined in subdivision fourteen of New York Agriculture and Markets Law § 301. Such farm operation may consist of one or more parcels of owned or rented land, which parcels may be contiguous or noncontiguous to each other.

2. EAF — Environmental Assessment Form used in the implementation of the SEQRA as that term is defined in Part 617 of Title 6 of the New York Codes, Rules and Regulations.

[REDACTED]

4. SEQRA — the New York State Environmental Quality Review Act and its implementing regulations in Title 6 of the New York Codes, Rules and Regulations, Part 617.

[REDACTED]

6. SMALL WIND ENERGY CONVERSION SYSTEM (“Small WECS”) — A wind energy conversion system consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of not more than 100 kW and which is intended to primarily reduce on-Site consumption of utility power.

7. SITE — The parcel(s) of land where the Wind Energy Facility is to be placed. The Site could be publicly or privately owned by an individual or a group of individuals controlling single or adjacent properties. Where multiple lots are in joint ownership, the combined lots shall be considered as one for purposes of applying setback requirements.

[REDACTED]

8. TOTAL HEIGHT — The height of the tower and the furthest vertical extension of the WECS.

9. WIND ENERGY CONVERSION SYSTEM (“WECS”) — A machine that converts the kinetic energy in the wind into a usable form (commonly known as a "wind turbine" or "windmill").

10. WIND ENERGY FACILITY — Any Wind Energy Conversion System, including Small Wind Energy Conversion Systems, or Wind Measurement Tower, including all related infrastructure, electrical lines and substations, access roads, and accessory structures.

11. WIND MEASUREMENT TOWER — a tower used for the measurement of meteorological data such as temperature, wind speed, and wind direction.

12. WIND OVERLAY DISTRICT — a district which encompasses part or parts of one or more underlying districts and that establishes requirements for Wind Energy Facilities.

§ 690.04. Permits and Rezoning Required.

A. No Wind Energy Facility shall be constructed, reconstructed, modified, or operated in the Town of Villenova except in compliance with this Article.

B. No WECS including Small WECS shall be constructed, reconstructed, modified, or operated in the Town of Villenova except in a Wind Overlay District, pursuant to an application for rezoning and for special use permit approved pursuant to this Article.

C. No Wind Measurement Tower shall be constructed, reconstructed, modified, or operated in the Town of Villenova except pursuant to a Special Use Permit issued pursuant to this Article, except as allowed by subdivision H of this Section.

D. Notwithstanding any other provision of this Zoning Local Law, Special Use Permits for Wind Energy Facilities shall be issued by the Town Board.

E. Exemptions. No permit or other approval shall be required under this Article for WECS utilized solely for agricultural operations in a state or county agricultural district, as long as the facility is set back at least one and a half times its Total Height from a property line, and does not exceed 120 feet in height. Towers over 120 feet in Total Height utilized solely for agricultural operations in a state or county agricultural district shall apply for a special use permit in accordance with this Local Law, but shall not require a height variance. Prior to the construction of a WECS under this exemption, the property owner or a designated agent shall submit a sketch plan or building permit application to the Town to demonstrate compliance with the setback requirements.

F. This Article shall apply to all areas of the Town of Villenova.

G. Transfer. No transfer of any Wind Energy Facility or Special Use Permit, nor sale of the entity owning such facility including the sale of more than 30% of the stock of such entity (not counting sales of shares on a public exchange), will occur without prior approval of the Town, which approval shall be granted upon written acceptance of the transferee of the obligations of the transferor under this Article, and the transferee's demonstration, in the sole discretion of the Town Board, that it can meet the technical and financial obligations of the transferor. No transfer shall eliminate the liability of the transferor nor of any other party under this Article

unless the entire interest of the transferor in all facilities in the Town is transferred and there no outstanding obligations or violations.

H. Notwithstanding the requirements of this Article, replacement in kind or modification of a Wind Energy Facility may occur without Town Board approval when (1) there will be no increase in Total Height; (2) no change in the location of the WECS; (3) no additional lighting or change in facility color; and (4) no increase in noise produced by the WECS.

§ 690.05. Applicability.

A. The requirements of this Article shall apply to all Wind Energy Facilities proposed, operated, modified, or constructed after the effective date of this Article.

B. Wind Energy Facilities for which a required permit has been properly issued and upon which construction has commenced prior to the effective date of this Article, shall not be required to meet the requirements of this Article; provided, however, that

1. Any such preexisting Wind Energy Facility which does not provide energy for a continuous period of twelve (12) months shall meet the requirements of this Article prior to recommencing production of energy.

2. No modification or alteration to an existing Wind Energy Facility shall be allowed without full compliance with this Article.

3. Any Wind Measurement Tower existing on the effective date of this Article shall be removed no later than twenty-four (24) months after said effective date, unless a Special Use Permit for said Wind Energy Facility is obtained.

C. Wind Energy Facilities may be either principal or accessory uses. A different existing use or an existing structure on the same Site shall not preclude the installation of a Wind Energy Facility or a part of such facility on such Site. Wind Energy Facilities constructed and installed in accordance with this Article shall not be deemed expansions of a nonconforming use or structure.

§ 690.06. Wind Overlay District Rules.

A. Wind Overlay District may be created in the Agricultural-Residential (AR1) District, the T-Transitional Use District, and the Industrial Park (IP) District only.

B. Initial requests for Wind Overlay Districts shall be submitted with applications for WECS Special Use Permits. No Wind Overlay District may be initially created without specific requests for WECSs.

C. Once a Wind Overlay District has been created, new WECSs or accessory structures or facilities may be added in that District by grant of a Special Use Permit pursuant to the requirements of this Article.

§ 690.07. Applications for Wind Energy Conversion Systems and Wind Overlay District.

A. A joint application for creation of a Wind Overlay District and Special Use Permit for individual WECS shall include the following:

1. Name, address, and telephone number of the applicant. If the applicant is represented by an agent, the application shall include the name, address, and telephone number of the agent as well as an original signature of the applicant authorizing the representation.

2. Name and address of the property owner. If the property owner is not the applicant, the application shall include a letter or other written permission signed by the property owner (i) confirming that the property owner is familiar with the proposed applications and (ii) authorizing the submission of the application.

3. Address, or other property identification, of each proposed tower location, including Tax Map section, block, and lot number.

4. A description of the project, including the number and maximum rated capacity of each WECS.

5. A plot plan prepared by a licensed surveyor or engineer drawn in sufficient detail to clearly describe the following.

(a) Property lines and physical dimensions of the Site.

(b) Location, approximate dimensions, and types of major existing structures, including all residences, and uses on Site, public roads, and adjoining properties within five hundred (500) feet of the boundaries of the proposed Wind Overlay District.

(c) Location and elevation of each proposed WECS.

(d) Location of all above ground utility lines on the Site or within one radius of the Total Height of the WECS, transformers, power lines, interconnection point with transmission lines, and other ancillary facilities or structures.

(e) Location and size of structures above 35 feet within a five-hundred-foot radius of the proposed WECS. For purposes of this requirement, electrical transmission and distribution lines, antennas, and slender or open lattice towers are not considered structures.

(f) The zoning designation of the subject and adjacent properties as set forth on the official Town Zoning Map.

(g) Proposed boundaries of the Wind Overlay District.

(h) To demonstrate compliance with the setback requirements of this Article, circles drawn around each proposed tower location equal to:

(i) One and a half times the tower height radius.

(ii) Five-hundred foot radius.

(iii) One-thousand two-hundred foot radius.

(i) Location of residential structures within one thousand two hundred feet of each proposed tower. The distance from the center of the tower to any off-site residence within one thousand feet shall be noted.

(j) All proposed facilities, including access roads, electrical lines, substations, storage or maintenance units, and fencing.

6. Vertical drawing of the WECS showing Total Height, turbine dimensions, tower and turbine colors, ladders, distance between ground and lowest point of any blade, location of climbing pegs, and access doors. One drawing may be submitted for each WECS of the same type and Total Height.

7. Landscaping Plan depicting vegetation describing the area to be cleared and the specimens proposed to be added, identified by species and size of specimen at installation and their locations.

8. Lighting Plan showing any FAA-required lighting and other proposed lighting. The application should include a copy of the determination by the Federal Aviation Administration to establish required markings and/or lights for the structure, but if such determination is not available at the time of the application, no building permit for any lighted facility may be issued until such determination is submitted.

9. List of property owners, with their mailing addresses, within 500 feet of the boundaries of the proposed Wind Overlay District. The applicant may delay submitting this list until the Town Board calls for a public hearing on the application.

10. Decommissioning Plan: The applicant shall submit a decommissioning plan, which shall include: 1) the anticipated life of the WECS; 2) the estimated decommissioning costs in current dollars; 3) how said estimate was determined; 4) the method of ensuring that funds will be available for decommissioning and restoration; 5) the method, such by annual re-estimate by a licensed engineer, that the decommissioning cost will be kept current; and 6) the

manner in which the WECS will be decommissioned and the Site restored, which shall include removal of all structures and debris to a depth of three feet, restoration of the soil, and restoration of vegetation (consistent and compatible with surrounding vegetation), less any fencing or residual minor improvements requested by the landowner. The Plan shall include the Decommissioning Bond required by this Article.

11. **Complaint Resolution:** The application will include a complaint resolution process to address complaints from nearby residents. The process may use an independent mediator or arbitrator and include a time limit for acting on a complaint.

12. An application shall include information relating to the construction/installation of the wind energy conversion facility as follows:

(a) A construction schedule describing commencement and completion dates;
and

(b) A description of the routes to be used by construction and delivery vehicles, the gross weights and heights of those loaded vehicles.

13. Completed Part 1 of the Full EAF.

14. Applications for Special Use Permits for Wind Measurement Towers subject to this Article may be jointly submitted with the WECS.

15. For each proposed WECS, include make, model, picture, and manufacturer's specifications, including noise decibels data. Include Manufacturers' Material Safety Data Sheet documentation for the type and quantity of all materials used in the operation of all equipment including, but not limited to, all lubricants, and coolants.

16. If the applicant agrees in writing in the application that the proposed WECS may have a significant adverse impact on the environment, the Town Board shall issue a positive declaration of environmental significance.

17. If a positive declaration of environmental significance is determined by the SEQRA lead agency, the following information shall be included in the Draft Environmental Impact Statement ("DEIS") prepared for a Wind Energy Facility. Otherwise, the following studies shall be submitted with the application:

(a) Shadow Flicker: The applicant shall conduct a study on potential shadow flicker. The study shall identify locations where shadow flicker may be caused by the WECSs and the expected durations of the flicker at these locations. The study shall identify areas where shadow flicker may interfere with residences and describe measures that shall be taken to eliminate or mitigate the problems.

(b) Visual Impact: Applications shall include a visual impact study of the proposed WECS as installed, which may include a computerized photographic simulation, demonstrating any visual impacts from strategic vantage points. Color photographs of the proposed Site from at least two locations accurately depicting the existing conditions shall be included. The visual analysis shall also indicate the color treatment of the system's components and any visual screening incorporated into the project that is intended to lessen the system's visual prominence.

(c) A fire protection and emergency response plan, created in consultation with the fire department(s) having jurisdiction over the proposed Wind Overlay District.



(e) Property value analysis prepared by a licensed appraiser in accordance with industry standards, regarding the potential impact of values of properties adjoining WECS Sites, including properties across public roads from the Site.

(f) An assessment of potential electromagnetic interference with microwave, radio, television, personal communication systems, and other wireless communication.

18. Tower design information sufficient to demonstrate compliance with wind-loading requirements.



20. A statement, signed under penalty of perjury, that the information contained in the application is true and accurate.

§ 690.08. Application Review Process.

A. Applicants may request a pre-application meeting with the Town Board, or with any consultants retained by the Town Board for application review

B. Six copies of the application shall be submitted to the Town Clerk. Payment of all application fees shall be made at the time of application submission. If any variances are requested, variance application fees shall be paid at the time of the receipt of the application.

C. Town staff or Town-designated consultants shall, within 30 days of receipt, or such longer time if agreed to by the applicant, determine if all information required under this Article is included in the application.

D. If the application is deemed incomplete, the Town Board or its designated reviewer shall provide the applicant with a written statement listing the missing information. No refund of application fees shall be made, but no additional fees shall be required upon submittal of the additional information unless the number of WECSs proposed is increased.

E. Upon submission of a complete application, including the grant of any application waiver by the Town Board, the Town Clerk shall transmit the application to the Town Board. The applicant shall post the completed application and any accepted environmental impact statements on the Internet. The application shall be referred to the Planning Board in accordance with this Local Law.

F. The Town Board shall hold at least one public hearing on the application. Notice shall be given by first class mail to property owners within 500 feet of the boundaries of the proposed Wind Overlay District, and published in the Town's official newspaper, no less than ten nor more than twenty days before any hearing, but, where any hearing is adjourned by the Town Board to hear additional comments, no further publication or mailing shall be required. The applicant shall prepare and mail the Notice of Public Hearing prepared by the Town, and shall submit an affidavit of service. The assessment roll of the Town shall be used to determine mailing addresses.

G. The public hearing may be combined with public hearings on any Environmental Impact Statement or requested variances.

H. Notice of the project shall also be given, when applicable, to (1) the Chautauqua County Planning Board, if required by General Municipal Law §§ 239-l and 239-m, and (2) to adjoining Towns under Town Law § 264.

I. SEQRA Review. Applications for WECS are deemed Type I projects under SEQRA. The Town shall conduct its SEQRA review in conjunction with other agencies, and the record of review by said agencies shall be part of the record of the Town's proceedings. The Town may require an escrow agreement for the engineering and legal review of the applications and any environmental impact statements before commencing its review. At the completion of the SEQRA review process, if a positive declaration of environmental significance has been issued and an environmental impact statement prepared, the Town shall issue a Statement of Findings, which Statement may also serve as the Town's decision on the applications.

J. Upon receipt of the report of the recommendation of the County Planning Board (where applicable), and the report of the recommendation of the Town Planning Board (where applicable), the holding of the public hearing, and the completion of the SEQRA process, the Town Board may approve, approve with conditions, or deny the applications, in accordance with the standards in this Article.

§ 690.09. Standards for WECS.

A. The following standards shall apply to all WECS and related infrastructure, unless specifically waived by the Town Board as part of a permit.

1. All power transmission lines from the tower to any building or other structure shall be located underground to the maximum extent practicable.

2. No television, radio, or other communication antennas may be affixed or otherwise made part of any WECS, except pursuant to the telecommunications provisions of the Town Zoning Code. Applications may be jointly submitted for WECS and telecommunications facilities.

3. No advertising signs are allowed on any part of the Wind Energy Facility, including fencing and support structures.

4. Lighting of tower. No tower shall be lit except to comply with FAA requirements. Minimum security lighting for ground level facilities shall be allowed as approved on the Site plan. Security lighting shall be designed to minimize light pollution, including the use of light hoods, low glare fixtures, and directing lights at the ground.

5. All applicants shall use measures to reduce the visual impact of WECSs to the extent possible. WECSs shall use tubular towers. All structures in a project shall be finished in a single, non-reflective matte finished color or a camouflage scheme. Individual WECSs within a Wind Overlay District shall be constructed using wind turbines whose appearance, with respect to one another, is similar within and throughout the District, to provide reasonable uniformity in overall size, geometry, and rotational speeds. No lettering, company insignia, advertising, or graphics shall be on any part of the tower, hub, or blades.

6. The use of guy wires is prohibited.

7. No WECS shall be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antenna for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception. No WECS shall be installed in any location along the major axis of an existing microwave communications link where its operation is likely to produce electromagnetic interference in the link's operation. If it is determined that a WECS is causing electromagnetic interference, the operator shall take the necessary corrective action to eliminate this interference including relocation or removal of the facilities, or resolution of the issue with the impacted parties. Failure to remedy electromagnetic interference is grounds for revocation of the Special Use Permit for the specific WECS or WECSs causing the interference.

8. All solid waste and hazardous waste and construction debris shall be removed from the Site and managed in a manner consistent with all appropriate rules and regulations.

9. WECSs shall be designed to minimize the impacts of land clearing and the loss of open space areas. Land protected by conservation easements shall be avoided when feasible. The use of previously developed areas will be given priority wherever possible.

10. WECSs shall be located in a manner that minimizes significant negative impacts on rare animal species in the vicinity, particularly bird and bat species.

11. WECS and related infrastructure shall be located in a manner consistent with all applicable state and Federal wetlands laws and regulations.

12. Storm-water run-off and erosion control shall be managed in a manner consistent with all applicable state and Federal laws and regulations.

13. The maximum Total Height of any WECS shall be 420 feet.

14. Construction of the WECS shall be limited to the hours of 7 a.m. to 8 p.m. except for certain activities that require cooler temperatures than possible during the day, subject to approval from the Town.

15. Substations required to serve WECS are an Essential Public Service under this Zoning Code. Substations shall be screened from public view to the extent possible.

16. The Town of Villenova shall be named as an additional insured under the general liability policy of the applicant, the amount of which insurance shall be no less than an amount to be determined by the Town Board given the nature and scope of the project proposed by the applicant.

17. Any construction or ground disturbance involving agricultural land shall be done in according to the NYS Department of Agriculture and Markets' publication titled Guidelines for Agricultural Mitigation for Wind Power Projects.

§ 690.10. Required Safety Measures.

A. Each WECS shall be equipped with both manual and automatic controls to limit the rotational speed of the rotor blade so it does not exceed the design limits of the rotor.

B. If the property owner submits a written request that fencing be required, a six-foot-high fence with a locking portal shall be required to enclose each tower or group of towers. The color and type of fencing for each WECS installation shall be determined on the basis of individual applications as safety needs dictate.

C. Appropriate warning signs shall be posted. At least one sign shall be posted at the base of the tower warning of electrical shock or high voltage. A sign shall be posted on the entry area of fence around each tower or group of towers and any building (or on the tower or building if there is no fence), containing emergency contact information, including a local telephone number

with 24 hour, 7 day a week coverage. The Town Board may require additional signs based on safety needs.

D. No climbing pegs or tower ladders shall be located closer than twelve (12) feet to the ground level at the base of the structure for freestanding single pole.

E. The minimum distance between the ground and any part of the rotor or blade system shall be twenty (20) feet.

F. WECSs shall be designed to prevent unauthorized external access to electrical and mechanical components and shall have access doors that are kept securely locked.

G. Accurate maps of the underground facilities shall be filed with the town and with “Dig Safely New York (1-800-962-7962)” or its successor.

§ 690.11. Traffic Routes.

A. Construction of WECS poses potential risks because of the large size construction vehicles and their impact on traffic safety and their physical impact on local roads. Construction and delivery vehicles for WECS and/or associated facilities shall use traffic routes established as part of the application review process. Factors in establishing such corridors shall include (1) minimizing traffic impacts from construction and delivery vehicles; (2) minimizing WECS related traffic during times of school bus activity; (3) minimizing wear and tear on local roads; and (4) minimizing impacts on local business operations. Permit conditions may require remediation during construction, limit WECS-related traffic to specified routes, and include a plan for disseminating traffic route information to the public, and all applicable state, county, and municipal highway authorities and superintendents whose roads are included in the WECS traffic routes plan. Notification to all applicable highway authorities and superintendents will include the number and type of vehicles and their size, their maximum gross weight, the number of round trips, and the dates and time periods of expected use of designated traffic routes.

B. The applicant is responsible for remediation of damaged roads upon completion of the installation or maintenance of a WECS. A public improvement bond shall be posted prior to the issuance of any building permit in an amount, determined by the Town Board, sufficient to compensate the Town for any damage to local roads.

C. If the applicant uses any seasonal use highway in the off-season, it shall be solely responsible for the maintenance of said highway including but not limited to snow plowing. No act of maintenance on a seasonal use highway by an applicant shall be considered as Town maintenance of that highway for purposes of determining the seasonal use status of the highway.

§ 690.12. Setbacks for Wind Energy Conversion Systems.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

E. Each WECS shall be setback from Site boundaries, measured from the center of the WECS, a minimum distance of:

1. 500 feet from the nearest Site boundary property line, except the setback shall be 500 feet where the boundary is with state, county, town, or village-owned property.

2. 500 feet from the nearest public road.

3. 1,000 feet from the nearest off-Site residence existing at the time of application, measured from the exterior of such residence.

4. 100 feet from state-identified wetlands. This distance may be adjusted to be greater or lesser at the discretion of the reviewing body, based on topography, land cover, land uses, and other factors that influence the flight patterns of resident birds.

5. 500 feet from gas wells, unless waived in writing by the property owner.

F. Other Wind Energy Facility structures and improvements shall comply with the underlying zoning district regulations.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

§ 690.14. Creation of Wind Overlay Districts and Issuance of Special Use Permits.

A. Upon completion of the review process, the Town Board shall, upon consideration of the standards in this Article and the record of the SEQRA review, issue a written decision setting forth the reasons for approval, conditions of approval, or disapproval.

B. If approved, the Town Board will direct the Town Clerk to modify the Official Map to reflect the creation of the Wind Overlay Districts, and authorize Town staff to issue a Special Use Permit for each WECSs upon satisfaction of all conditions for said Permit, and direct the building inspector to issue a building permit, upon compliance with the Uniform Fire Prevention and Building Code and the other conditions of this Article.

C. The decision of the Town Board shall be filed within five days in the office of the Town Clerk and a copy mailed to the applicant by first class mail.

D. If any approved WECS is not substantially commenced within two years of issuance of the permit, the special use permit shall expire.

§ 690.15 Abatement.

A. If any WECS remains non-functional or inoperative for a continuous period of 1 year, the applicant agrees that, without any further action by the Town Board, it shall remove said system at its own expense. Removal of the system shall include at least the entire above ground structure, including transmission equipment and fencing, from the property. This provision shall not apply if the applicant demonstrates to the Town that it has been making good faith efforts to restore the WECS to an operable condition, but nothing in this provision shall limit the Town's ability to order a remedial action plan after public hearing.

B. Non-function or lack of operation may be proven by reports to the Public Service Commission, NYSERDA, or by lack of income generation. The applicant shall make available (subject to a non-disclosure agreement) to the Town Board all reports to and from the purchaser of energy from individual Wind Energy Conversion Systems, if requested necessary to prove the WECS is functioning, which reports may be redacted as necessary to protect proprietary information.

C. Decommissioning Bond or Fund. The applicant, or successors, shall continuously maintain a fund or bond payable to the Town for the removal of non-functional towers and appurtenant facilities in an amount to be determined by the Town for the period of the life of the facility. This fund may consist of a letter of credit from a State of New York-licensed financial institution. All costs of the financial security shall be borne by the applicant.

§ 690.16. Limitations on Approvals; Easements on Town Property.

A. Nothing in this Article shall be deemed to give any applicant the right to cut down surrounding trees and vegetation on any property to reduce turbulence and increase wind flow to the Wind Energy Facility. Nothing in this Article shall be deemed a guarantee against any future construction or Town approvals of future construction that may in any way impact the wind flow to any Wind Energy Facility. It shall be the sole responsibility of the Facility operator or owner to acquire any necessary wind flow or turbulence easements, or rights to remove vegetation.



§ 690.17. Permit Revocation.



B. Operation. A WECS shall be maintained in operational condition at all times, subject to reasonable maintenance and repair outages. Operational condition includes meeting all noise requirements and other permit conditions. Should a WECS become inoperable, or should any part of the WECS be damaged, or should a WECS violate a permit condition, the owner or operator shall remedy the situation within 90 days after written notice from the Town Board. The applicant shall have 90 days after written notice from the Town Board, to cure any deficiency. An extension of the 90 day period may be considered by the Town Board, but the total period may not exceed 180 days.

C. Notwithstanding any other abatement provision under this Article, and consistent with § 690.15(A) and §690.17(B), if the WECS is not repaired or made operational or brought into permit compliance after said notice, the Town may, after a public meeting at which the operator or owner shall be given opportunity to be heard and present evidence, including a plan to come into compliance, (1) order either remedial action within a particular timeframe, or (2) order revocation of the Special Use Permit for the WECS and require the removal of the WECS within 90 days. If the WECS is not removed, the Town Board shall have the right to use the security posted as part of the Decommission Plan to remove the WECS.

Wind Measurement Towers

§ 690.20. Wind Site Assessment.

The Town Board acknowledges that prior to construction of a WECS, a wind Site assessment is conducted to determine the wind speeds and the feasibility of using particular Sites. Installation of Wind Measurement Towers, also known as anemometer (“Met”) towers, shall be permitted as Special Use in the Agricultural-Residential (AR1) Use District and the Transitional Use District.

§ 690.21. Applications for Wind Measurement Towers.

A. An application for a Wind Measurement Tower shall include

1. Name, address, and telephone number of the applicant. If the applicant is represented by an agent, the application shall include the name, address, and telephone number of the agent as well as an original signature of the applicant authorizing the representation.

2. Name, address, and telephone number of the property owner. If the property owner is not the applicant, the application shall include a letter or other written permission signed by the property owner (i) confirming that the property owner is familiar with the proposed applications and (ii) authorizing the submission of the application.

3. Address of each proposed tower Site, including Tax Map section, block, and lot number.

4. Site plan

5. Decommissioning Plan, based on the criteria in this Article for WECS, including a security bond or cash for removal.

§ 690.22. Standards for Wind Measurement Towers.

A. The distance between a Wind Measurement Tower and the property line shall be at least the Total Height of the tower. Sites can include more than one piece of property and the requirement shall apply to the combined properties. Exceptions for neighboring property are also allowed with the consent of those property owners.

B. Special Use permits for Wind Measurement Towers may be issued by the Town Board for a period of up to two years. Permits may be renewed if the Facility is in compliance with the conditions of the Special Use Permit.

Small Wind Energy Conversion Systems

§ 690.30. Purpose and Intent.

The purpose of this Article is to provide standards for small wind energy conversion systems designed for on-site home, farm, and small commercial use, and that are primarily used to reduce on-site consumption of utility power. The intent of this Article is to encourage the development of small wind energy systems and to protect the public health, safety, and community welfare.

§ 690.31. Permitted Areas.

Small Wind energy systems may be permitted in any zoning district upon issuance of a Special Use Permit.

§ 690.32. Applications.

A. Applications for Small WECS special use permits shall include:

1. Name, address, and telephone number of the applicant. If the applicant will be represented by an agent, the name, address, and telephone number of the agent as well as an original signature of the applicant authorizing the agent to represent the applicant.

2. Name and address of the property owner. If the property owner is not the applicant, the application shall include a letter or other written permission signed by the property owner (i) confirming that the property owner is familiar with the proposed applications and (ii) authorizing the submission of the application.

3. Address of each proposed tower Site, including Tax Map section, block, and lot number.
4. Evidence that the proposed tower height does not exceed the height recommended by the manufacturer or distributor of the system.
5. A line drawing of the electrical components of the system in sufficient detail to allow for a determination that the manner of installation conforms to the Electric Code.
6. Sufficient information demonstrating that the system will be used primarily to reduce on-site consumption of electricity.
7. Written evidence that the electric utility service provider that serves the proposed Site has been informed of the applicant's intent to install an interconnected customer-owned electricity generator, unless the applicant does not plan, and so states in the application, to connect the system to the electricity grid.
8. A visual analysis of the Small WECS as installed, which may include a computerized photographic simulation, demonstrating the visual impacts from nearby strategic vantage points. The visual analysis shall also indicate the color treatment of the system's components and any visual screening incorporated into the project that is intended to lessen the system's visual prominence.

§ 690.33. Development Standards.

All small wind energy systems shall comply with the following standards. Additionally, such systems shall also comply with all the requirements established by other sections of this Article that are not in conflict with the requirements contained in this section.

1. A system shall be located on a lot a minimum of one acre in size, however, this requirement can be met by multiple owners submitting a joint application.
2. Only one small wind energy system tower per legal lot shall be allowed, unless there are multiple applicants, in which their joint lots shall be treated as one lot for purposes of this Article.
3. Small Wind energy systems may be used primarily to reduce the on-Site consumption of electricity.
4. Tower heights may be allowed as follows:
 - (a) 65 feet or less on parcels between one and five acres.
 - (b) 120 feet or less on parcels of five or more acres.
 - (c) The allowed height shall be reduced if necessary to comply with all applicable Federal Aviation Requirements, including Subpart B (commencing with Section

77.11) of Part 77 of Title 14 of the Code of Federal Regulations regarding installations close to airports.

5. The maximum turbine power output is limited to 100 kW.

6. The system's tower and blades shall be painted a non-reflective, unobtrusive color that blends the system and its components into the surrounding landscape to the greatest extent possible and incorporate non-reflective surfaces to minimize any visual disruption.

7. The system shall be designed and located in such a manner to minimize adverse visual impacts from public viewing areas (e.g., public parks, roads, trails). To the greatest extent feasible a small wind energy system:

(a) Shall not project above the top of ridgelines.

(b) If visible from public viewing areas, shall use natural landforms and existing vegetation for screening.

(c) Shall be screened to the maximum extent feasible by natural vegetation or other means to minimize potentially significant adverse visual impacts on neighboring residential areas.

8. Exterior lighting on any structure associated with the system shall not be allowed except that which is specifically required by the Federal Aviation Administration.

9. All on-site electrical wires associated with the system shall be installed underground except for "tie-ins" to a public utility company and public utility company transmission poles, towers and lines. This standard may be modified by the decision-maker if the project terrain is determined to be unsuitable due to reasons of excessive grading, biological impacts, or similar factors.

10. The system shall be operated such that no disruptive electromagnetic interference is caused. If it has been demonstrated that a system is causing harmful interference, the system operator shall promptly mitigate the harmful interference or cease operation of the system.

11. At least one sign shall be posted on the tower at a height of five feet warning of electrical shock or high voltage and harm from revolving machinery. No brand names, logo, or advertising shall be placed or painted on the tower, rotor, generator, or tail vane where it would be visible from the ground, except that a system or tower's manufacturer's logo may be displayed on a system generator housing in an unobtrusive manner

12. Towers shall be constructed to provide one of the following means of access control, or other appropriate method of access:

- (a) Tower-climbing apparatus located no closer than 12 feet from the ground.
- (b) A locked anti-climb device installed on the tower.
- (c) A locked, protective fence at least six feet in height that encloses the tower.

13. Anchor points for any guy wires for a system tower shall be located within the property that the system is located on and not on or across any above-ground electric transmission or distribution lines. The point of attachment for the guy wires shall be enclosed by a fence six feet high or sheathed in bright orange or yellow covering from three to eight feet above the ground.

14. Construction of on-site access roadways shall be minimized. Temporary access roads utilized for initial installation shall be re-graded and re-vegetated to the pre-existing natural condition after completion of installation.

15. To prevent harmful wind turbulence from existing structures, the minimum height of the lowest part of any horizontal axis wind turbine blade shall be at least 30 feet above the highest structure or tree within a 250 foot radius. Modification of this standard may be made when the applicant demonstrates that a lower height will not jeopardize the safety of the wind turbine structure.

16. All small wind energy system tower structures shall be designed and constructed to be in compliance with pertinent provisions of the Uniform Building Code and National Electric Code.

17. All small wind energy systems shall be equipped with manual and automatic over-speed controls. The conformance of rotor and over-speed control design and fabrication with good engineering practices shall be certified by the manufacturer.

§ 690.34. Standards.

A Small Wind Energy System shall comply with the following standards:

1. Setback requirements. A Small WECS shall not be located closer to a property line than one and a half times the Total Height of the facility.

2. Noise. Except during short-term events including utility outages and severe wind storms, a Small WECS shall be designed, installed, and operated so that noise generated by the system shall not exceed the 50 decibels (dBA), as measured at the closest neighboring inhabited dwelling.

§ 690.35. Abandonment of Use.

A. Small WECS which is not used for twelve (12) successive months shall be deemed abandoned and shall be dismantled and removed from the property at the expense of the property owner. Failure to abide by and faithfully comply with this section or with any and all conditions that may be attached to the granting of any building permit shall constitute grounds for the revocation of the permit by the Town.

B. All Small WECS shall be maintained in good condition and in accordance with all requirements of this section.

Miscellaneous

§ 690.40. Fees.

A. There shall be non-refundable Application fees as follows:

1. Wind Overlay Zone rezoning: \$500 per zone.
2. WECS Special Use Permit: \$50 per megawatt of rated maximum capacity.
3. Wind Measurement Towers: \$20 per vertical foot per tower.
4. Wind Measurement Tower Special Use Permit renewals: \$200 per Wind Measurement Tower.
5. The cost of all legal notices and mailings shall be assessed to the applicant.

B. Building Permits.

1. The Town believes the review of building and electrical permits for Wind Energy Facilities requires specific expertise for those facilities. Accordingly, the permit fees for such facilities shall be increased by administrative costs which shall be \$100 per permit request, plus the amount charged to the Town by the outside consultant hired by the Town to review the plans and inspect the work. In the alternative, the Town and the applicant may enter into an agreement for an inspection and/or certification procedure for these unique facilities. In such case, the Town and the applicant will agree to a fee arrangement and escrow agreement to pay for the costs of the review of the plans or certifications, or to conduct inspections as agreed by the parties.

2. The applicant shall, prior to the receipt of a building permit, demonstrate that the proposed facility meets the system reliability requirements of the New York Independent System Operator, or provide proof that it has executed an Interconnection Agreement with the New York Independent System Operator and/or the applicable Transmission Owner.

C. Nothing in this Article shall be read as limiting the ability of the Town to enter into Host Community agreements with any applicant to compensate the Town for expenses or impacts on the community. The Town shall require any applicant to enter into an escrow agreement to pay the engineering and legal costs of any application review, including the review required by SEQRA.

D. The Town Board may amend these fees, by resolution after a properly noticed public hearing.

§ 690.41. Tax Exemption.

The Town hereby exercises its right to opt out of the Tax Exemption provisions of Real Property Tax Law §487, pursuant to the authority granted by paragraph 8 of that law.

§ 690.42. Enforcement; Penalties and remedies for violations.

A. In addition to the Code Enforcement Officer under §701, the Town Board may appoint such Town staff or outside consultants as it sees fit to enforce this Article.

B. Any person owning, controlling, or managing any building, structure, or land who shall undertake a wind energy conversion facility or wind monitoring tower in violation of this Article or in noncompliance with the terms and conditions of any permit issued pursuant to this Article, or any order of the enforcement officer, and any person who shall assist in so doing, shall be guilty of an offense and subject to a fine of not more than \$350 or to imprisonment for a period of not more than fifteen days, or subject to both such fine and imprisonment for a first offense, for a Second offense (both within a period of five years), a fine not less than \$350 nor more than \$700, or imprisonment not to exceed six months, or both, and for a Third or more offense (all of which occurred within five years), a fine not less than \$700 nor more than \$1,000, or imprisonment not to exceed six months, or both. Every such person shall be deemed guilty of a separate offense for each week such violation shall continue. The Town may institute a civil proceeding to collect civil penalties in the amounts set forth herein for each violation and each week said violation continues shall be deemed a separate violation.

C. In case of any violation or threatened violation of any of the provisions of this Article, including the terms and conditions imposed by any permit issued pursuant to this Article, in addition to other remedies and penalties herein provided, the Town may institute any appropriate action or proceeding to prevent such unlawful erection, structural alteration, reconstruction, moving, and/or use, and to restrain, correct, or abate such violation, to prevent the illegal act.

Section 8: Severability

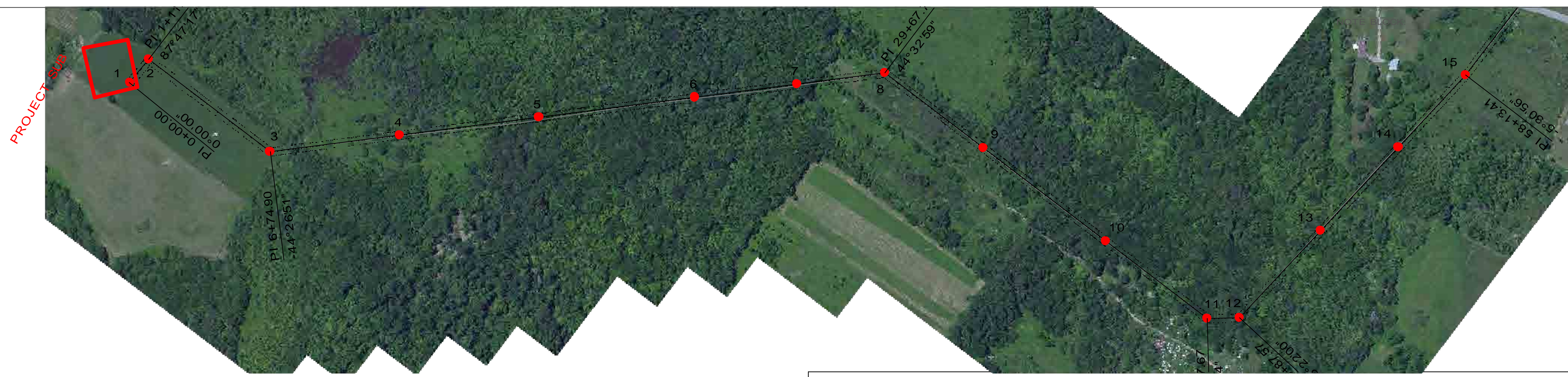
Should any provision of this Local Law be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of this Local Law as a whole or any part thereof other than the part so decided to be unconstitutional or invalid.

Section 9: Effective Date

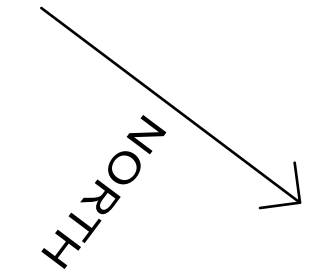
This Local Law shall be effective upon its filing with the Secretary of State in accordance with the Municipal Home Rule Law.

048069/00000 BFLODOCS 1940100v1

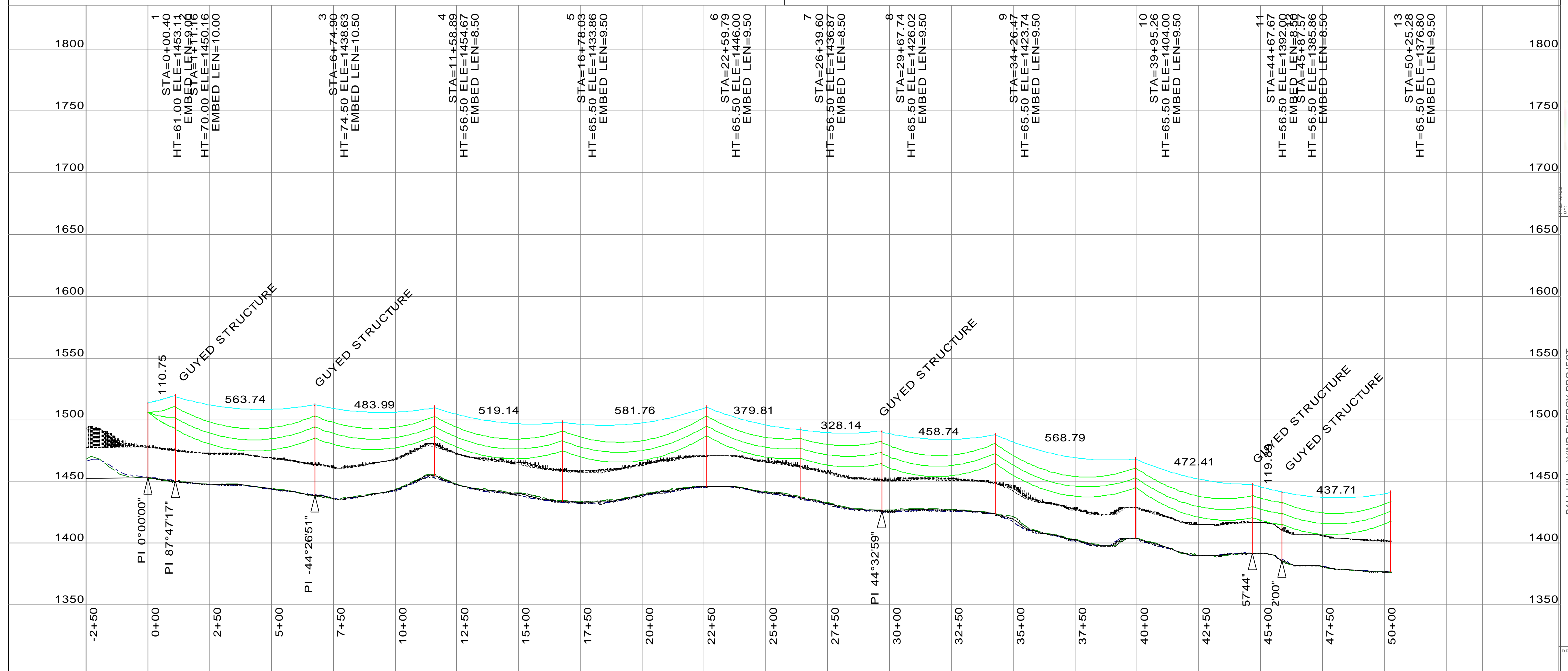
Appendix B: Ball Hill Wind Energy 115kv Transmission Line Plan and Profile Drawings



200.0 FT. HORIZ. SCALE
40.0 FT. VERT. SCALE



- NOTES**
- 1) SINGLE 795 ACSR "DRAKE" CONDUCTORS SHOWN AT 212° F
 - 2) OPGW SHOWN AT 120° F
 - 3) 115KV CLEARANCE LINE IS DISPLAYED 25' TO GROUND (NESC REQ. 20' + 5' BUFFER)
 - 4) GUYS TYPICALLY EXTEND 100' BEYOND STRUCTURE



DRAWING

PROJECT NO.	WTG LAYOUT 1806XXXXXX
COORD. SYSTEM	STATE PLANE NAD83 3103 NEW YORK WEST
PURPOSE	RES DESIGN
DESIGNER	A. BOATMAN
CHECKER	JTL
DATE	10/11/2024
DESCRIPTION	115KV WIND ENERGY PROJECT

INFORMATION SHOWN IS SUBJECT TO CHANGE. NOT FOR CONSTRUCTION

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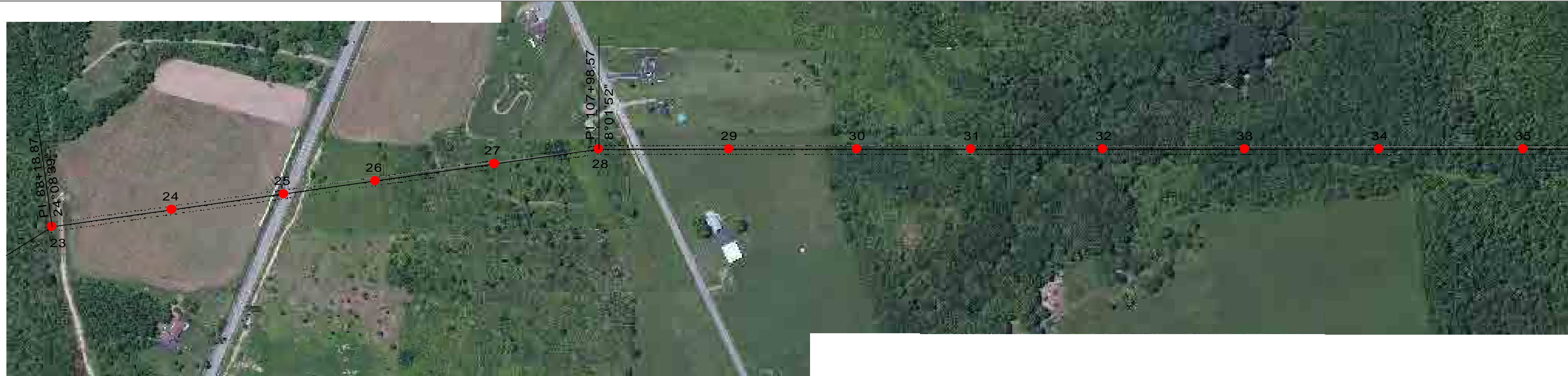
RES AMERICA CONSTRUCTION, INC.
1100 W. 20TH AVE., SUITE 200, DENVER, CO 80202
TELEPHONE: 303-425-4280 FAX: (303) 425-4281

**STA -2+50 TO STA 50+29
STR 1 TO STR 13**

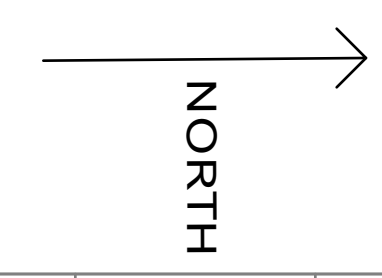
BALL HILL - WIND ENERGY PROJECT

CHAUTAQUA COUNTY, NEW YORK

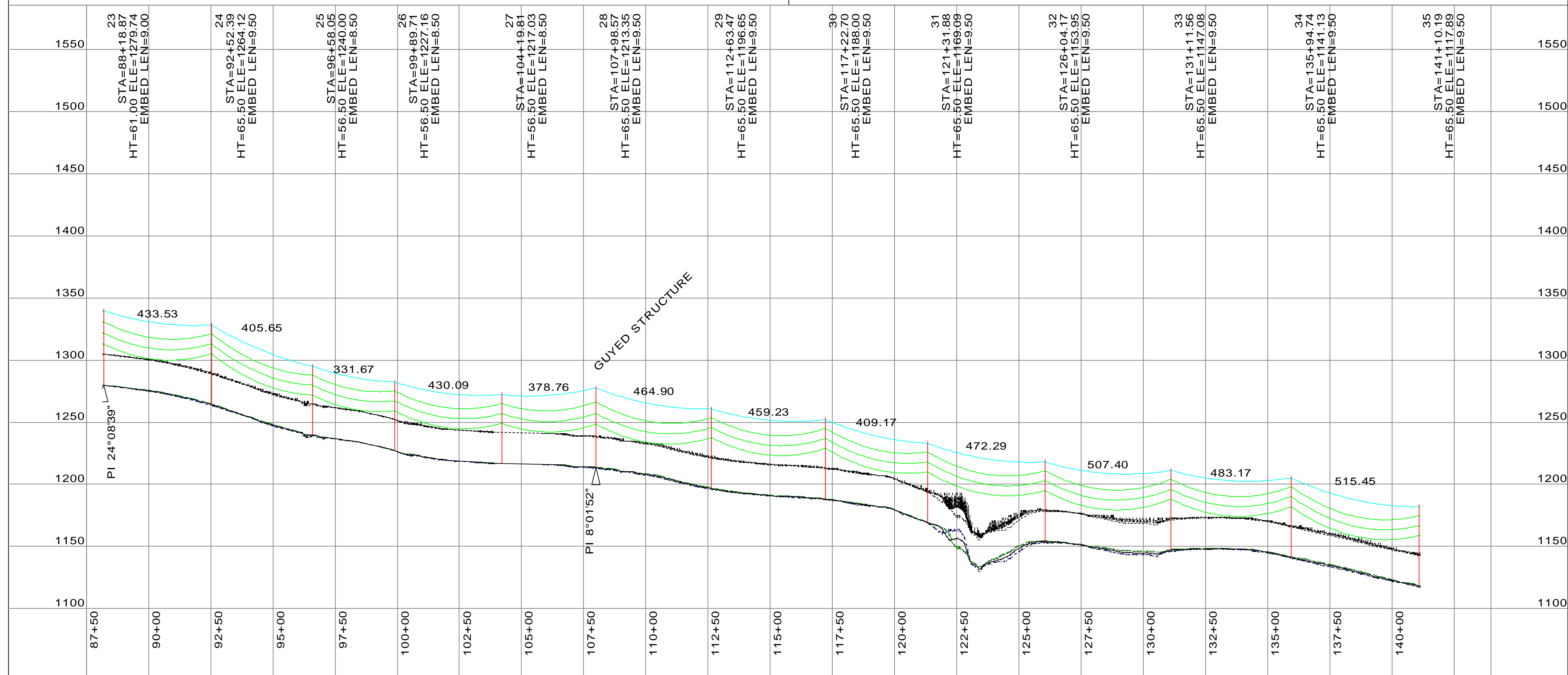
DRAWING NUMBER: 1 OF 7



200.0 FT. HORIZ. SCALE
 40.0 FT. VERT. SCALE



- NOTES**
- 1) SINGLE 795 ACSR "DRAKE" CONDUCTORS SHOWN AT 212° F
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DRAWING

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PROJECT NO: WTG LAYOUT#XXXXXXXXXX
 COORD. SYSTEM: STATE PLANE NAD83 3103 NEW YORK WEST

RES AMERICA CONSTRUCTION, INC.
 1100 W 20TH AVE, SUITE 200, BROWNSVILLE, TX 77802
 TELEPHONE: 361-426-4266 FAX: (361) 426-4267

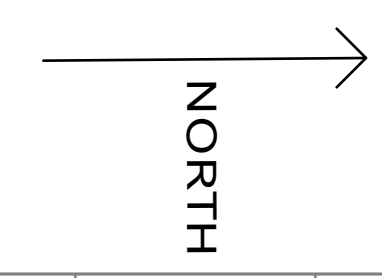
BY: BALL HILL - WIND ENERGY PROJECT
 STA 87+50 TO STA 141+13
 STR 23 TO STR 35
 CHAUTAQUA COUNTY, NEW YORK

DRAWING NUMBER: 3 OF 7



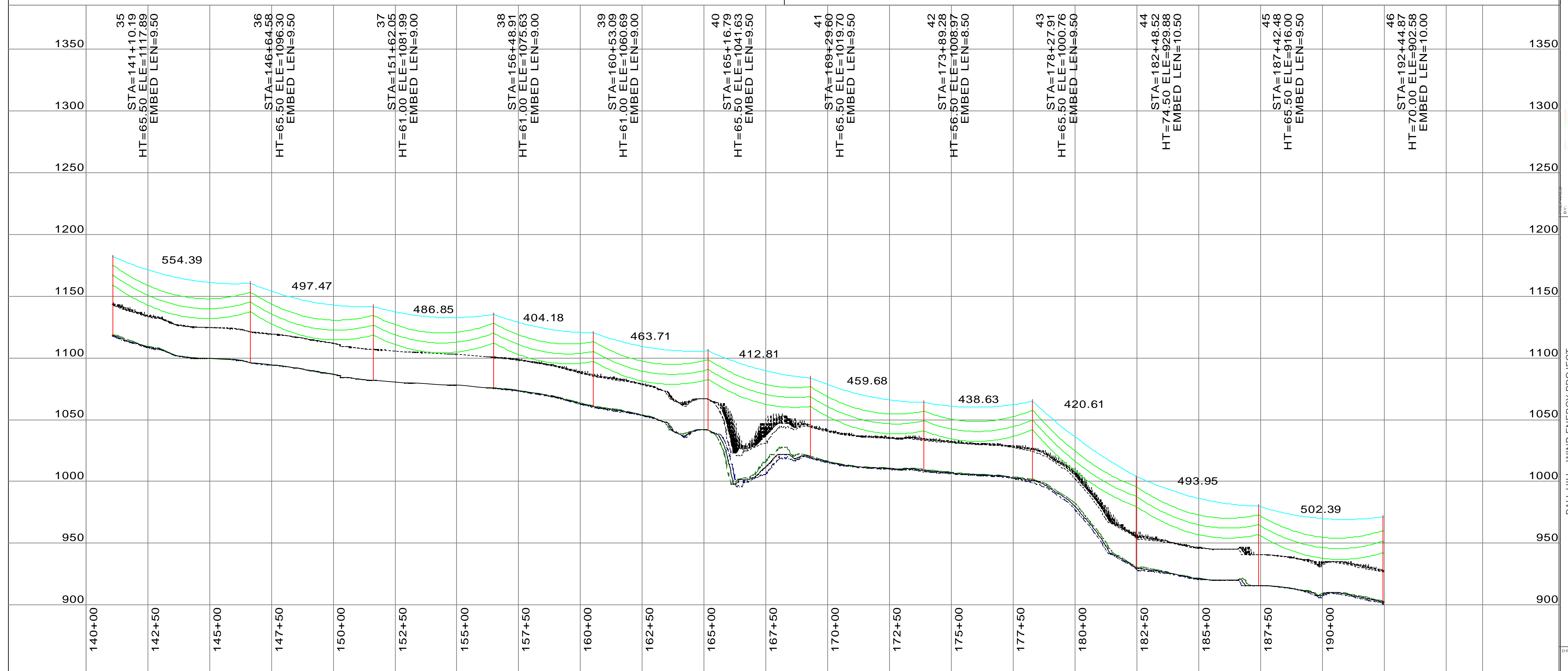
200.0 FT. HORIZ. SCALE

40.0 FT. VERT. SCALE



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- 1) SINGLE 795 ACSR "DRAKE" CONDUCTORS SHOWN AT 212° F
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INFORMATION SHOWN IS SUBJECT TO CHANGE. NOT FOR CONSTRUCTION	PROJECT NO: WTG LAYOUT#XXXXXXXXXX
THIS DRAWING IS THE PROPERTY OF RES AMERICA CONSTRUCTION, INC. AND NO REPRODUCTION MAY BE MADE IN WHOLE OR IN PART WITHOUT PERMISSION.	DATE: 08/20/2018
DESIGNED BY: [REDACTED]	CHECKED BY: [REDACTED]
DRAWN BY: [REDACTED]	DATE: 08/20/2018
SCALE: AS SHOWN	PROJECT: RES DESIGN
DATE: 08/20/2018	COORD. SYSTEM: STATE PLANE NAD83 3103 NEW YORK WEST

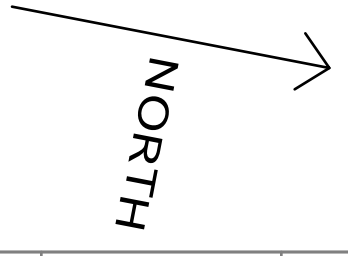
RES AMERICA CONSTRUCTION, INC.
11001 W. 200TH AVE., SUITE 200, BROOMFIELD, CO 80020
TELEPHONE: 303-426-4286

BALL HILL - WIND ENERGY PROJECT
STA 140+00 TO STA 192+48
STR 35 TO STR 46
CHAUTAQUA COUNTY, NEW YORK

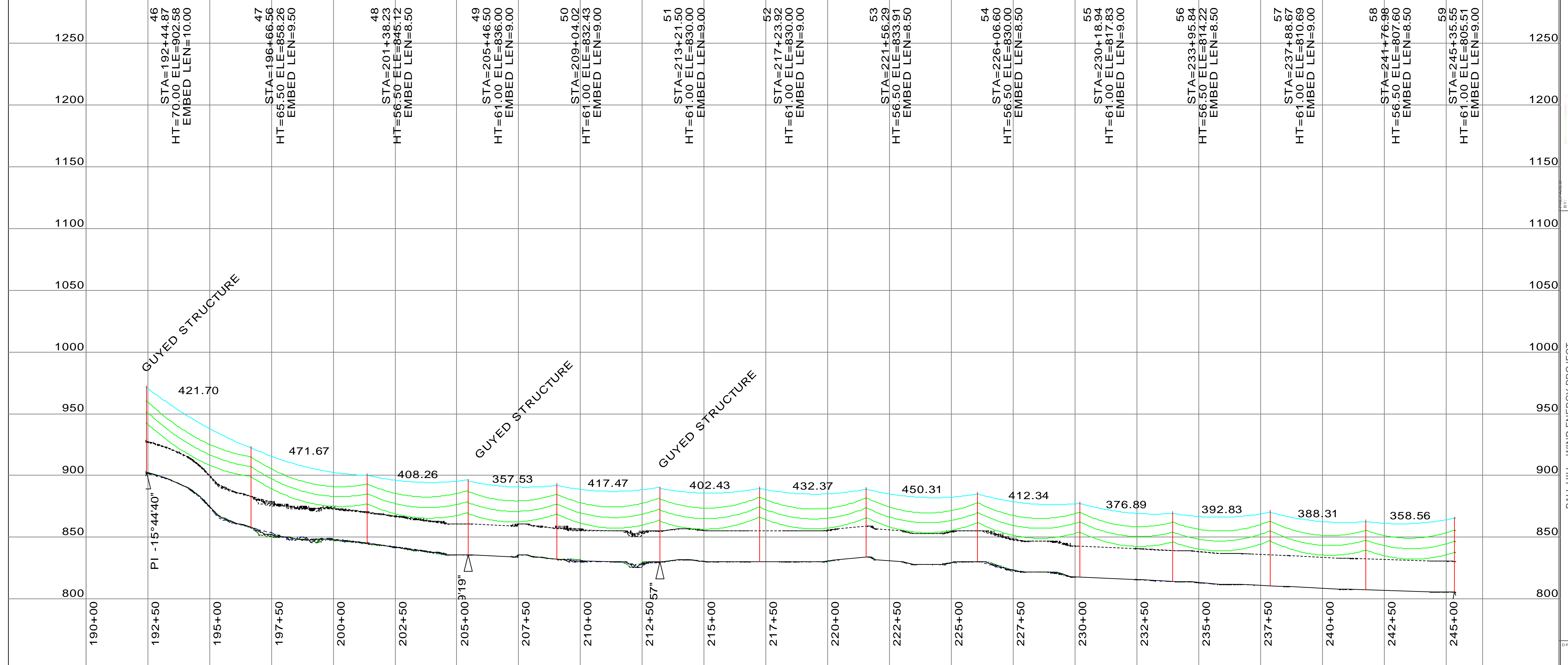


200.0 FT. HORIZ. SCALE

40.0 FT. VERT. SCALE



- NOTES**
- 1) SINGLE 795 ACSR "DRAKE" CONDUCTORS SHOWN AT 212° F
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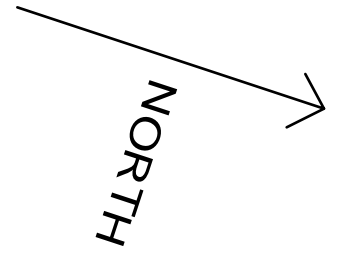
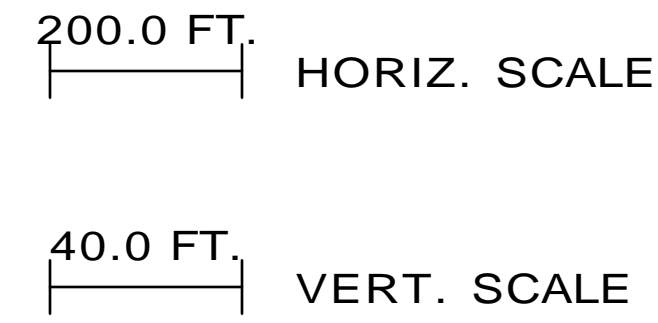
PROJECT NO:	WTG LAYOUT#XXXXXXXXXX
PROJECT NAME:	CHAUTAQUA COUNTY, NEW YORK
PROJECT LOCATION:	STA 190+00 TO STA 245+39
PROJECT DESCRIPTION:	STR 46 TO STR 59
DESIGNER:	RES AMERICA CONSTRUCTION, INC.
DATE:	08/24/2024
SCALE:	AS SHOWN
DRAWN BY:	JTL
CHECKED BY:	JTL
APPROVED BY:	JTL

RES AMERICA CONSTRUCTION, INC.
11001 W. 20TH AVE., SUITE 200, BROOMFIELD, CO 80020
TELEPHONE: 303-439-4280 FAX: (303) 439-4281

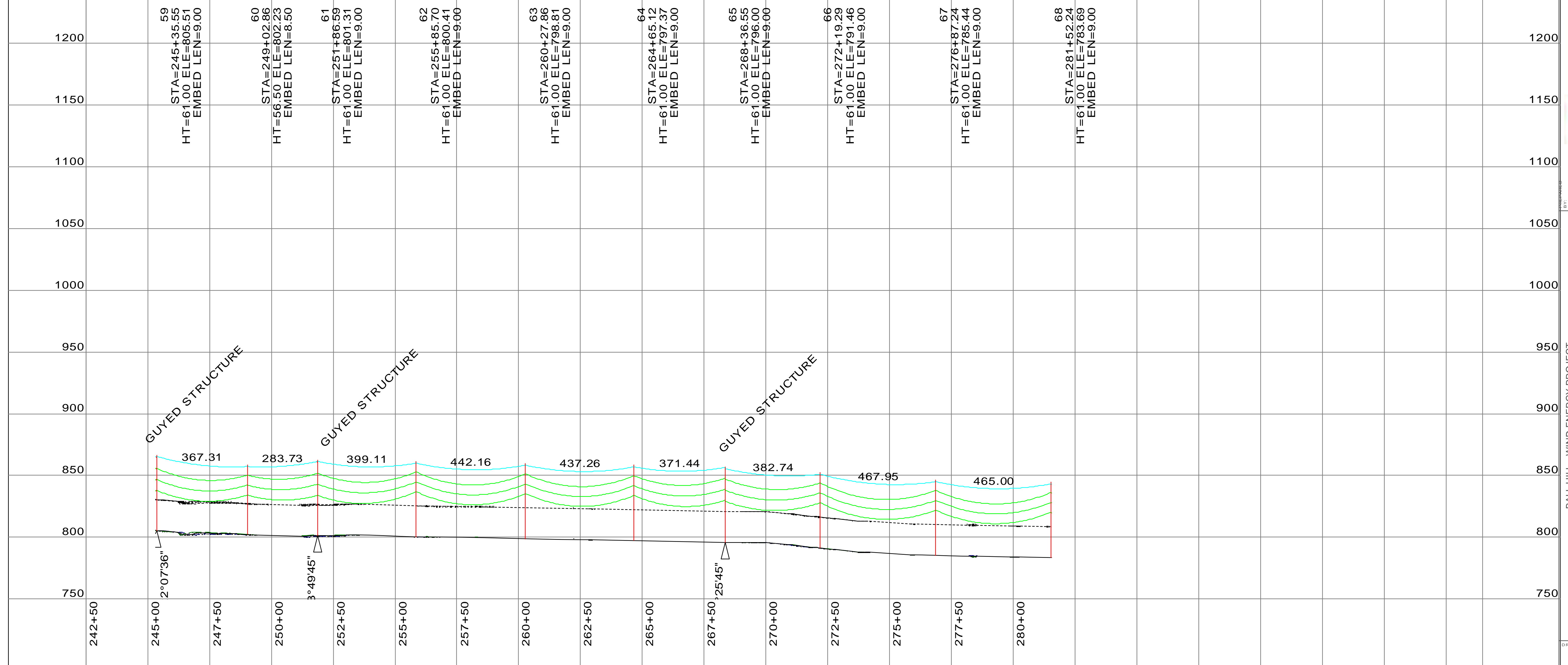
BY: BALL HILL - WIND ENERGY PROJECT

STA 190+00 TO STA 245+39
STR 46 TO STR 59

CHAUTAQUA COUNTY, NEW YORK



- NOTES**
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PROJECT NO:	WTG LAYOUT
PROJECT NAME:	RES AMERICA CONSTRUCTION, INC.
PROJECT LOCATION:	11001 W 20TH AVE, BOULDER, CO 80501
PROJECT DATE:	08/20/2019
PROJECT DESCRIPTION:	RES AMERICA CONSTRUCTION, INC.
PROJECT PURPOSE:	RES DESIGN
PROJECT COORDINATOR:	RES DESIGN
PROJECT ENGINEER:	RES DESIGN
PROJECT CHECKER:	RES DESIGN
PROJECT APPROVER:	RES DESIGN
PROJECT DATE:	08/20/2019
PROJECT DESCRIPTION:	RES AMERICA CONSTRUCTION, INC.
PROJECT PURPOSE:	RES DESIGN
PROJECT COORDINATOR:	RES DESIGN
PROJECT ENGINEER:	RES DESIGN
PROJECT CHECKER:	RES DESIGN
PROJECT APPROVER:	RES DESIGN



BALL HILL - WIND ENERGY PROJECT

STA 242+50 TO STA 281+56
STR 59 TO STR 68

CHAUTAQUA COUNTY, NEW YORK

