EVERSOURCE ENERGY

56 Prospect Street
P.O. Box 270
Hartford, CT 06141-0270

Kathleen M. Shanley
Manager – Transmission Siting
Tel: 860-728-4527

February 21, 2016

Robert Stein, Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Petition No. 1226
Towantic Switching Station and Line Modification Project

Dear Chairman Stein:

On May 27, 2016, The Connecticut Light and Power Company doing business as Eversource Energy ("Eversource") received a Declaratory Ruling ("Ruling") from the Connecticut Siting Council ("Council") that a Certificate of Environmental Compatibility and Public Need would not be required for the planned 115-kilovolt (kV) Towantic Switching Station and related modifications to the existing 1575 and 1585 115-kV transmission lines proposed in Petition No. 1226 (referred to herein as "the Project"). Eversource is hereby submitting the following: requests for approval for FAA hazard lighting modifications (as required by Condition 7 of the Ruling) and also for the installation of two temporary structures.

I. FAA Hazard Lighting

Based on the Notices of Proposed Construction or Alteration (FAA Form 7460-1) filed with the FAA, Eversource received Notices of Presumed Hazard for a total of eleven (11) structures. A prior amendment was submitted to the Council on January 23, 2017 and approved on February 16, 2017 for three (3) out of the eleven (11) structures (Utility Pole A, Structure 11166 and Structure 11166A). This amendment is for the remaining eight (8) structures (Structures 1452A-1452D, 1453-1456).

Eversource has designed aviation lighting in accordance with the FAA's conditions contained in the Determinations of No Hazard to Air Navigation (included in Attachment A) for the above eight referenced structures. Eversource therefore submits the proposed hazard lighting to the Council for review and approval and to incorporate the aviation warning mitigation for these structures into the Project design. The proposed hazard lighting includes both temporary and permanent installations. Visually, the lighting will be similar, but the equipment is different.

The new structures affected by the FAA's conditions are located in the vicinity of the Oxford airport, in the Towns of Middlebury and Oxford. Eversource proposes to install steady-state red obstruction lights on the eight new transmission line structures referenced above. Structures 1453-1456 will initially have temporary battery powered lights installed and are scheduled to be replaced with permanent solar panel lights by the end of June 2017. The temporary installations are being proposed due to the long lead time to receive the permanent lights and the need to construct these structures during the scheduled outage and prior to receipt of the permanent lights.

Temporary lighting installations have also been submitted for Structures 1452A-1452D, which are currently undergoing additional study with the FAA as to whether a modified Determination of No Hazard to Air Navigation can be issued. The temporary installations conform to the FAA's lighting requirements in its initial finding and will be powered by solar with battery backup and will require daily inspection. If, based on the FAA's further study, permanent lighting is ultimately required for Structures 1452A-1452D, Eversource will then submit the proposed permanent lighting modifications to the Council for its review and approval.

Attachment B contains cross section drawings FAA-3 and FAA-4 which illustrate the design of the temporary and permanent aviation lighting. Table 1 in Attachment C provides specifications regarding the FAA recommended lighting and identifies the transmission line structures on which lighting will be provided. Attachment D provide photographs of representative examples of solar with battery backup and solar powered aviation warning lights on structures and the warning lights planned for the line structures will be the same, or similar to, these lights.

To incorporate the FAA's conditions of lighting into the Project design documents, Eversource proposes to add notations on Mapsheets 21-23, which depict the structures affected by the FAA determinations. The modified Mapsheets 21-23 are included in Attachment E.

II. Temporary Structures

In addition to the above response to the Council's condition of approval, Eversource is requesting approval for the installation of two temporary wood pole structures at Structure 1460 and Structure 1468. The temporary wood structures will be approximately 75' in height and are depicted on Mapsheets 15 and 19 included in Attachment F. The purpose of these temporary poles is to relocate the existing conductor while new structures 1460 and 1468 are being installed. Currently, the 1575 line and the 1319 Line are the two sources of supply to Oxford Substation, which serves approximately 8,000 customers. The temporary poles have been determined to be required in order for Eversource to provide timely restoration to the 1575 line while construction is in process and during the scheduled outage, if there were to be a failure of the 1319 line. The temporary structures are proposed to be installed in March 2017 and will be removed in June 2017.

Enclosed please find an original and 15 copies of this submission.

Should you or other Council members have any questions regarding this submission, please do not hesitate to contact me via e-mail at kathleen.shanley@eversource.com or telephone at (860) 728-4527.

Sincerely,

Kathleen M. Shanley

Attachments
CC: Neil O'Leary, Mayor of Waterbury
Joe Geary, Chief of Staff, Mayor's Office, Waterbury
Edward St. John, Middlebury First Selectman
George Temple, Oxford First Selectman

ATTACHMENT A

FAA DETERMINATIONS OF NO HAZARD TO AIR NAVIGATION

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

Aeronautical Study No.
2016-ANE-2799-OE

Issued Date: 01/20/2017

John Case
Eversource
56 Prospect St
Hartford, CT 06103

**** 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:	Utility Pole 1452A
Location:	Waterbury, CT
Latitude:	41-29-05.27N NAD 83
Longitude:	73-07-26.51W
Heights:	796 feet site elevation (SE)
	96 feet above ground level (AGL)
	892 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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.

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

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

See attachment for additional condition(s) or information.

This determination expires on 07/20/2018 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.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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 February 19, 2017. 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 March 01, 2017 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.

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.

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 Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-2799-OE.

Signature Control No: 297647453-318482953 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

The proposed utility pole (1452A) supporting a 115-kV line, at a height of 96 feet (ft.) AGL / 892 ft. AMSL, would be located approximately 3,555 ft. southeast of the approach end Runway 18 at Waterbury- Oxford Airport (OXC), Waterbury, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 16 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 Horizontal Surface as applied to visual approach runways at OXC by 16 ft.

The proposed structure was issued a Notice of Presumed Hazard on August 25, 2016 and a request for public circularization was received from the proponent on November 22, 2016.

The proposed structure was then circularized to the public by means of a public notice issued on November 23, 2016. After circularization to all known aviation interests and non-aeronautical interests that may be affected by the proposal, no letters of objection were received as a result of public circularization from the public or from any other FAA or DOD offices / air traffic control facilities.

The proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, or on any aeronautical facilities as it relates to either current or future runway extensions or proposals at OXC or at any other known public use or military airport. A 2C survey is on file for the proposed structure, and information on the proposed structure shall be forwarded for appropriate aeronautical charting.

The proposed structure would exceed 77.19 (a) and also be located within the TPA for all categories of aircraft using the Waterbury-Oxford Airport. However, the normal flight path for an aircraft within a traffic pattern is based upon the category/approach speed of said aircraft. The higher the category/approach speed, the larger the traffic pattern flown. Category A aircraft would be the most likely aircraft affected by the proposed structure as this traffic pattern keeps this category aircraft closer to the airport thereby closer to the proposed structure more so than any other category of aircraft when OXC is utilizing left traffic to Runway 18 or right traffic to Runway 36.

The proposed structure would be located 3,350 ft. abeam OXC near where aircraft would begin transitioning from level flight to the climb/decent area of the TPA, and approximately 3,555 ft. from approach end Runway 18. It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The expected flight path of aircraft on the downwind leg of the traffic pattern would place an aircraft approximately 4,200 ft. east of the proposed structure. It is unlikely than an aircraft would need to fly directly over the proposed

structure, as the traffic pattern for category A aircraft extends up to 1.25 NM abeam the runway and therefore should not require a VFR aircraft to change its regular flight course or altitude when entering or establishing the aircraft on down wind or completing pattern work.

To date, the traffic pattern altitude at OXC is 1,699 ft. AMSL for aircraft up to 12,500 pounds or 2,199 ft. for aircraft greater than 12,500 pounds. The airport elevation is 726 ft. AMSL and the height of the proposed structure is 892 ft. AMSL. The difference is 168 ft. Aircraft operating at the established pattern altitude should be a minimum of 807 ft. or more above the proposed structure depending on the traffic pattern being flown. There is also an airport remark in the Airport Facility Directory of existing 748 ft. electric transmission towers running NE to SW .2 NM north of the middle marker and it should also be noted the terrain itself in the general vicinity of the proposed structure exceeds OXC's Horizontal Surface by up to 219 ft.

It was found that the proposed structure would not restrict the clear view of any runway or traffic pattern from the tower cab or derogate the airport's capacity or efficiency or affect the usable length of any existing or planned runway.

Study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse 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 OXC or any other known public use or military airports. At 96 ft. AGL or below, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

It is recommended the proposed structure be lit with a red light to make it more conspicuous to airmen should circumnavigation be necessary.

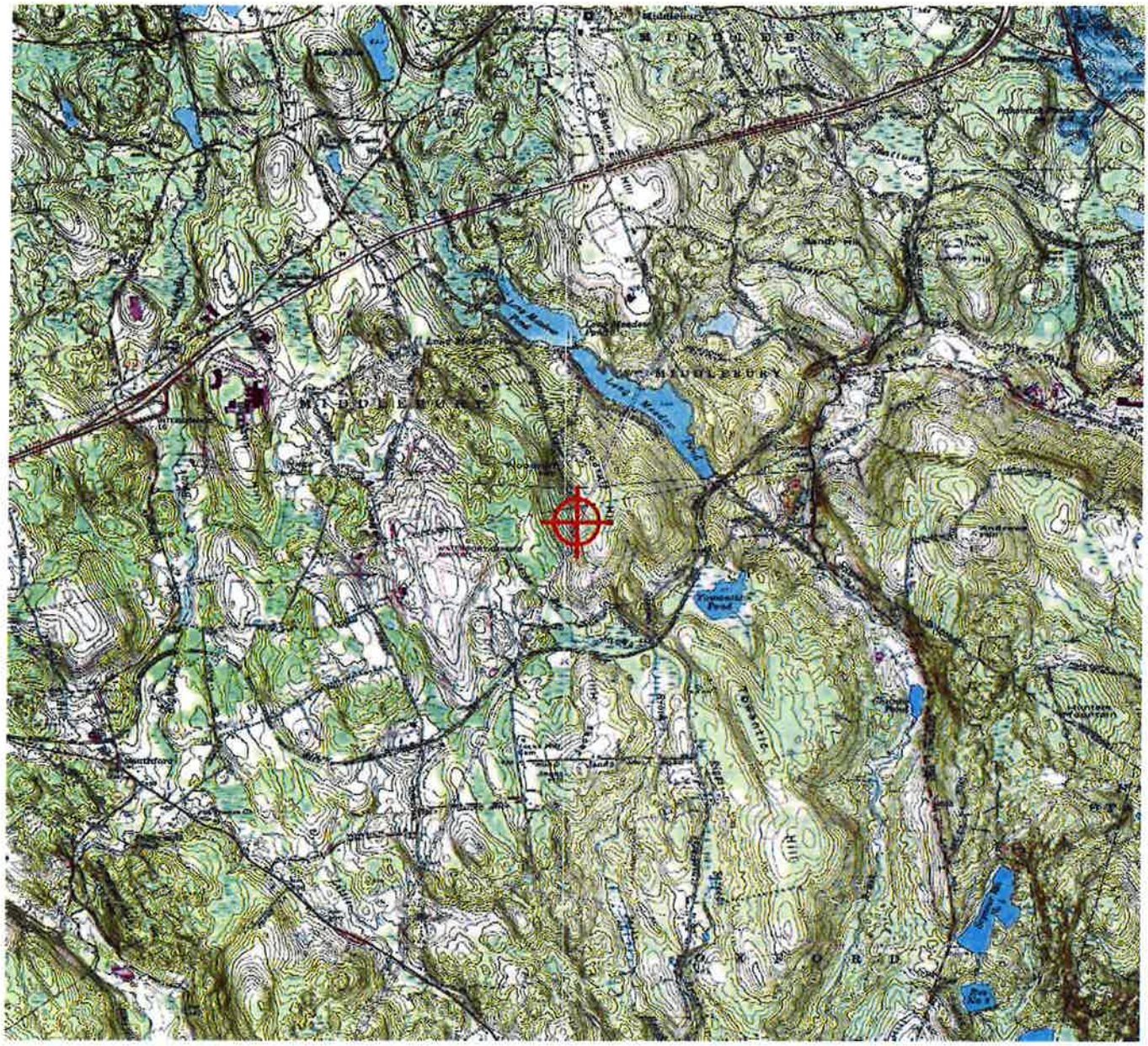
The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

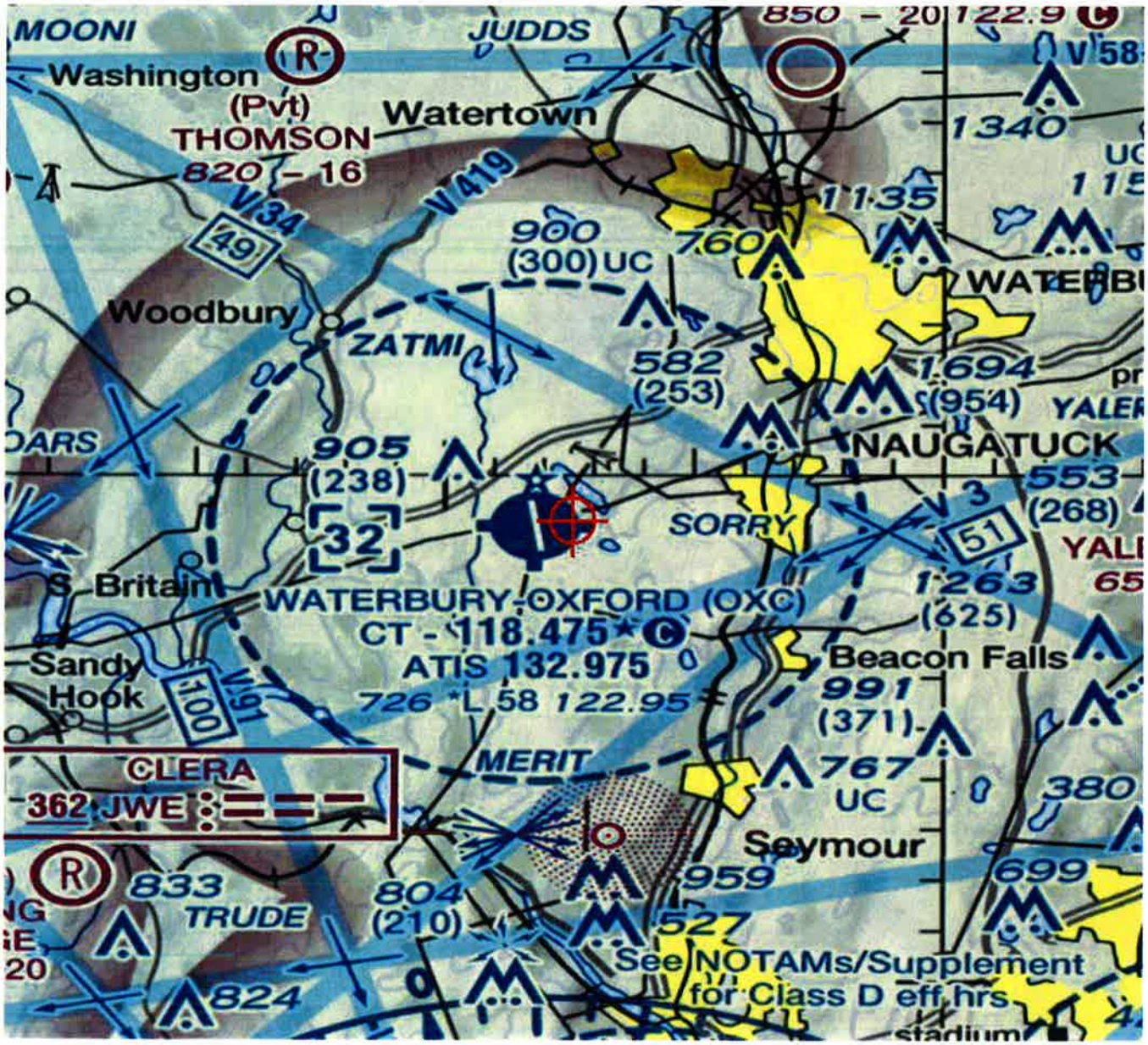
Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation as long as all conditions written within this determination are met.

It is also recommended that any construction equipment used be e-filed with the FAA at least 60-90 days prior to construction equipment exceeding the proposed structure's AGL height. When a crane is e-filed with the FAA, it is recommended that crane specifications documents, work schedule including times/dates, and a marking and lighting plan be attached with the e-filed proposal to ensure the FAA evaluation is completed as expeditiously as possible or construction delays should be expected.

Eversource is planning to rebuild a 6 mile portion of a 115 kV overhead transmission line facility. The existing lattice towers will be removed and replaced with steel monopole structures.

TOPO Map for ASN 2016-ANE-2799-OE




MOONI
JUDDS
Washington
(Pvt)
THOMSON
820 – 16
Watertown
V419
V134
49
900
(300) UC
760
1135
1340
Woodbury
ZATMI
582
(253)
1694
(954)
NAUGATUCK
905
(238)
32
SORRY
553
(268)
51
S Britain
WATERBURY-OXFORD (OXC)
CT 118.475
ATIS 132.975
726 *L 58 122.95
1263
(625)
Beacon Falls
Sandy
Hook
100
V191
991
(371)
CLERA
362 JWE
MERIT
767
UC
380
Seymour
833
TRUDE
804
(210)
959
527
699
824
See NOTAMs/Supplement
for Class D eff hrs

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

Aeronautical Study No.
2016-ANE-2800-OE

Issued Date: 01/20/2017

John Case
Eversource
56 Prospect St
Hartford, CT 06103

**** 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:	Utility Pole 1452B
Location:	Waterbury, CT
Latitude:	41-29-05.34N NAD 83
Longitude:	73-07-26.19W
Heights:	797 feet site elevation (SE)
	96 feet above ground level (AGL)
	893 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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.

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

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

See attachment for additional condition(s) or information.

This determination expires on 07/20/2018 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.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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 February 19, 2017. 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 March 01, 2017 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.

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.

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 Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-2800-OE.

Signature Control No: 297647471-318480738 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

The proposed utility pole (1452B) supporting a 115-kV line, at a height of 96 feet (ft.) AGL / 893 ft. AMSL, would be located approximately 3,578 ft. southeast of the approach end Runway 18 at Waterbury- Oxford Airport (OXC), Waterbury, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 17 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 Horizontal Surface as applied to visual approach runways at OXC by 17 ft.

The proposed structure was issued a Notice of Presumed Hazard on August 25, 2016 and a request for public circularization was received from the proponent on November 22, 2016.

The proposed structure was then circularized to the public by means of a public notice issued on November 23, 2016. After circularization to all known aviation interests and non-aeronautical interests that may be affected by the proposal, no letters of objection were received as a result of public circularization from the public or from any other FAA or DOD offices / air traffic control facilities.

The proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, or on any aeronautical facilities as it relates to either current or future runway extensions or proposals at OXC or at any other known public use or military airport. A 2C survey is on file for the proposed structure, and information on the proposed structure shall be forwarded for appropriate aeronautical charting.

The proposed structure would exceed 77.19 (a) and also be located within the TPA for all categories of aircraft using the Waterbury-Oxford Airport. However, the normal flight path for an aircraft within a traffic pattern is based upon the category/approach speed of said aircraft. The higher the category/approach speed, the larger the traffic pattern flown. Category A aircraft would be the most likely aircraft affected by the proposed structure as this traffic pattern keeps this category aircraft closer to the airport thereby closer to the proposed structure more so than any other category of aircraft when OXC is utilizing left traffic to Runway 18 or right traffic to Runway 36.

The proposed structure would be located 3,425 ft. abeam OXC near where aircraft would begin transitioning from level flight to the climb/decent area of the TPA, and approximately 3,578 ft. from approach end Runway 18. It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The expected flight path of aircraft on the downwind leg of the traffic pattern would place an aircraft approximately 4,175 ft. east of the proposed structure. It is unlikely than an aircraft would need to fly directly over the proposed

structure, as the traffic pattern for category A aircraft extends up to 1.25 NM abeam the runway and therefore should not require a VFR aircraft to change its regular flight course or altitude when entering or establishing the aircraft on down wind or completing pattern work.

To date, the traffic pattern altitude at OXC is 1,699 ft. AMSL for aircraft up to 12,500 pounds or 2,199 ft. for aircraft greater than 12,500 pounds. The airport elevation is 726 ft. AMSL and the height of the proposed structure is 893 ft. AMSL. The difference is 167 ft. Aircraft operating at the established pattern altitude should be a minimum of 806 ft. or more above the proposed structure depending on the traffic pattern being flown. There is also an airport remark in the Airport Facility Directory of existing 748 ft. electric transmission towers running NE to SW .2 NM north of the middle marker and it should also be noted the terrain itself in the general vicinity of the proposed structure exceeds OXC's Horizontal Surface by up to 219 ft.

It was found that the proposed structure would not restrict the clear view of any runway or traffic pattern from the tower cab or derogate the airport's capacity or efficiency or affect the usable length of any existing or planned runway.

Study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse 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 OXC or any other known public use or military airports. At 96 ft. AGL or below, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

It is recommended the proposed structure be lit with a red light to make it more conspicuous to airmen should circumnavigation be necessary.

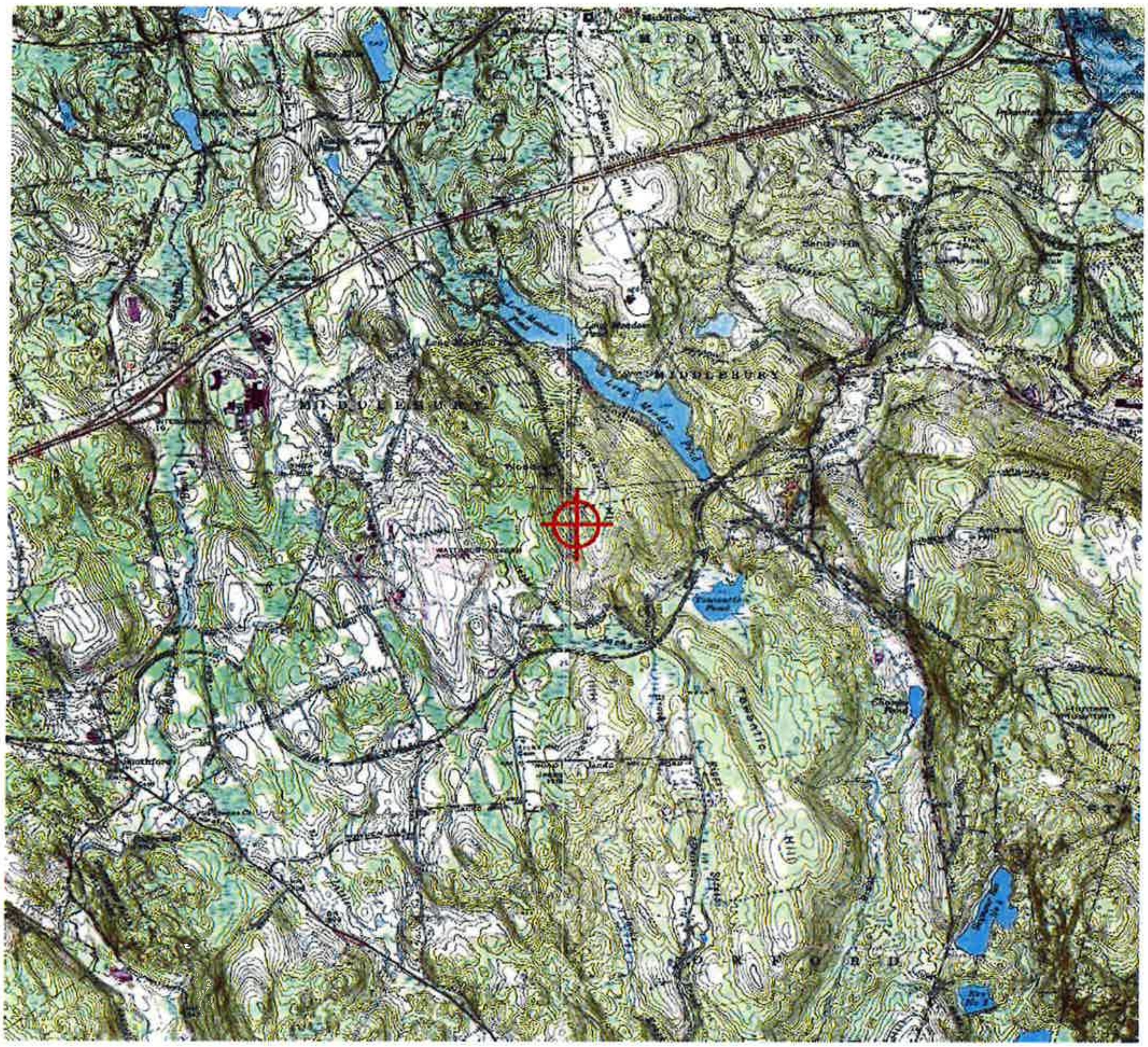
The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

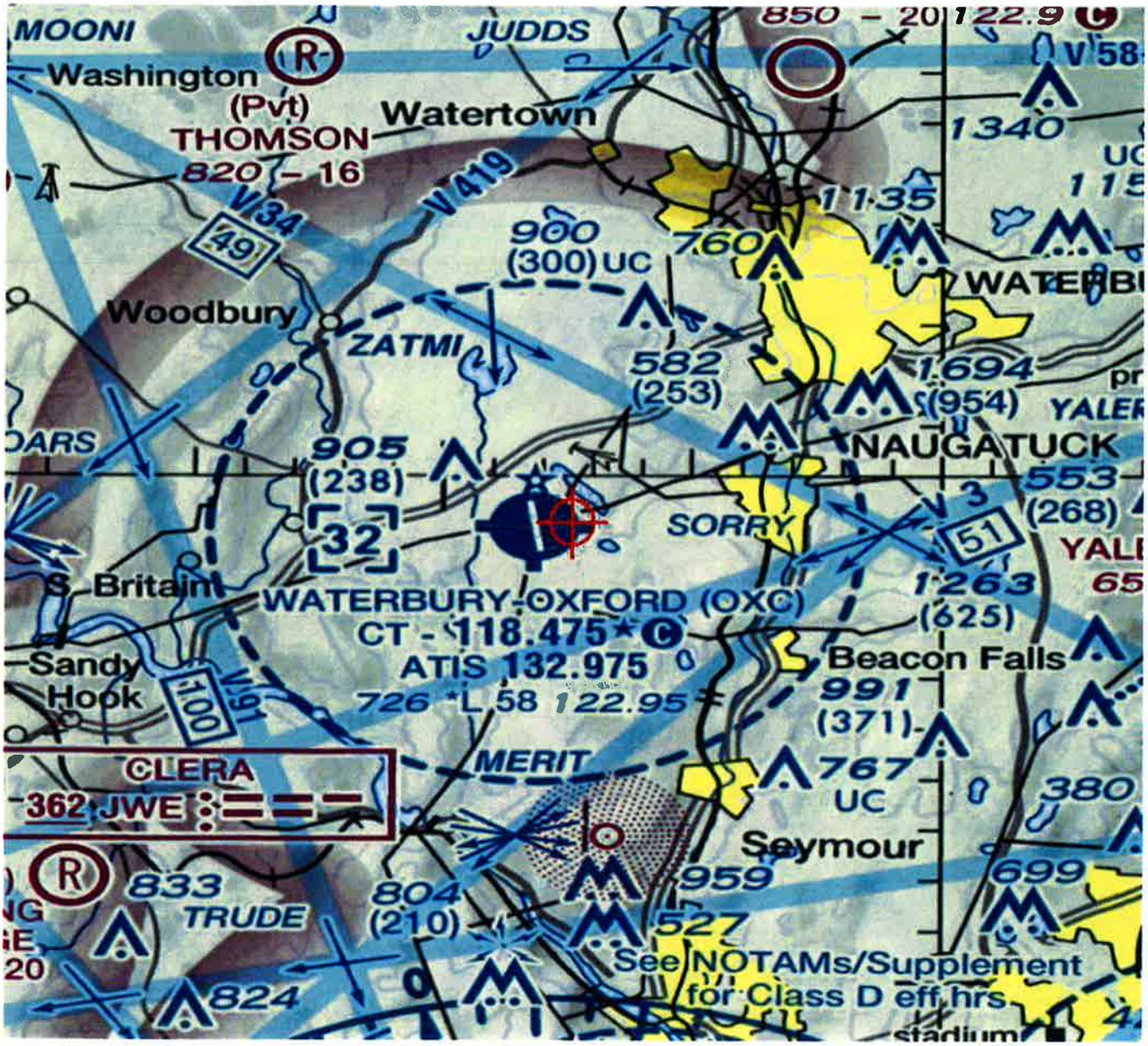
Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation as long as all conditions written within this determination are met.

It is also recommended that any construction equipment used be e-filed with the FAA at least 60-90 days prior to construction equipment exceeding the proposed structure's AGL height. When a crane is e-filed with the FAA, it is recommended that crane specifications documents, work schedule including times/dates, and a marking and lighting plan be attached with the e-filed proposal to ensure the FAA evaluation is completed as expeditiously as possible or construction delays should be expected.

Eversource is planning to rebuild a 6 mile portion of a 115 kV overhead transmission line facility. The existing lattice towers will be removed and replaced with steel monopole structures.

TOPO Map for ASN 2016-ANE-2800-OE




MOONI
JUDDS
Washington
(Pvt)
THOMSON
820 – 16
Watertown
V 34
V 419
49
900
(300) UC
760
Woodbury
ZATMI
582
(253)
905
(238)
32
SORRY
S Britain
WATERBURY-OXFORD (OXC)
CT - 118.475
ATIS 132.975
726 *L 58 122.95
Sandy
Hook
V 91
100
CLERA
362 JWE
MERIT
833
TRUDE
804
(210)
824
1340
1135
1694
(954)
NAUGATUCK
553
(268)
51
1263
(625)
Beacon Falls
991
(371)
767
UC
Seymour
959
527
699
380
See NOTAMs/Supplement
for Class D eff hrs

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

Aeronautical Study No.
2016-ANE-2801-OE

Issued Date: 01/20/2017

John Case
Eversource
56 Prospect St
Hartford, CT 06103

**** 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:	Utility Pole 1452C
Location:	Waterbury, CT
Latitude:	41-29-06.08N NAD 83
Longitude:	73-07-25.97W
Heights:	803 feet site elevation (SE)
	96 feet above ground level (AGL)
	899 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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.

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

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

See attachment for additional condition(s) or information.

This determination expires on 07/20/2018 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.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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 February 19, 2017. 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 March 01, 2017 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.

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.

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 Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-2801-OE.

Signature Control No: 297647537-318500933 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

The proposed utility pole (1452C) supporting a 115-kV line, at a height of 96 feet (ft.) AGL / 899 ft. AMSL, would be located approximately 3,585 ft. southeast of the approach end Runway 18 at Waterbury- Oxford Airport (OXC), Waterbury, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 23 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 Horizontal Surface as applied to visual approach runways at OXC by 23 ft.

The proposed structure was issued a Notice of Presumed Hazard on August 25, 2016 and a request for public circularization was received from the proponent on November 22, 2016.

The proposed structure was then circularized to the public by means of a public notice issued on November 23, 2016. After circularization to all known aviation interests and non-aeronautical interests that may be affected by the proposal, no letters of objection were received as a result of public circularization from the public or from any other FAA or DOD offices / air traffic control facilities.

The proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, or on any aeronautical facilities as it relates to either current or future runway extensions or proposals at OXC or at any other known public use or military airport. A 2C survey is on file for the proposed structure, and information on the proposed structure shall be forwarded for appropriate aeronautical charting.

The proposed structure would exceed 77.19 (a) and also be located within the TPA for all categories of aircraft using the Waterbury-Oxford Airport. However, the normal flight path for an aircraft within a traffic pattern is based upon the category/approach speed of said aircraft. The higher the category/approach speed, the larger the traffic pattern flown. Category A aircraft would be the most likely aircraft affected by the proposed structure as this traffic pattern keeps this category aircraft closer to the airport thereby closer to the proposed structure more so than any other category of aircraft when OXC is utilizing left traffic to Runway 18 or right traffic to Runway 36.

The proposed structure would be located 3,400 ft. abeam OXC near where aircraft would begin transitioning from level flight to the climb/decent area of the TPA, and approximately 3,585 ft. from approach end Runway 18. It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The expected flight path of aircraft on the downwind leg of the traffic pattern would place an aircraft approximately 4,150 ft. east of the proposed structure. It is unlikely than an aircraft would need to fly directly over the proposed

structure, as the traffic pattern for category A aircraft extends up to 1.25 NM abeam the runway and therefore should not require a VFR aircraft to change its regular flight course or altitude when entering or establishing the aircraft on down wind or completing pattern work.

To date, the traffic pattern altitude at OXC is 1,699 ft. AMSL for aircraft up to 12,500 pounds or 2,199 ft. for aircraft greater than 12,500 pounds. The airport elevation is 726 ft. AMSL and the height of the proposed structure is 899 ft. AMSL. The difference is 173 ft. Aircraft operating at the established pattern altitude should be a minimum of 800 ft. or more above the proposed structure depending on the traffic pattern being flown. There is also an airport remark in the Airport Facility Directory of existing 748 ft. electric transmission towers running NE to SW .2 NM north of the middle marker and it should also be noted the terrain itself in the general vicinity of the proposed structure exceeds OXC's Horizontal Surface by up to 219 ft.

It was found that the proposed structure would not restrict the clear view of any runway or traffic pattern from the tower cab or derogate the airport's capacity or efficiency or affect the usable length of any existing or planned runway.

Study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse 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 OXC or any other known public use or military airports. At 96 ft. AGL or below, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

It is recommended the proposed structure be lit with a red light to make it more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

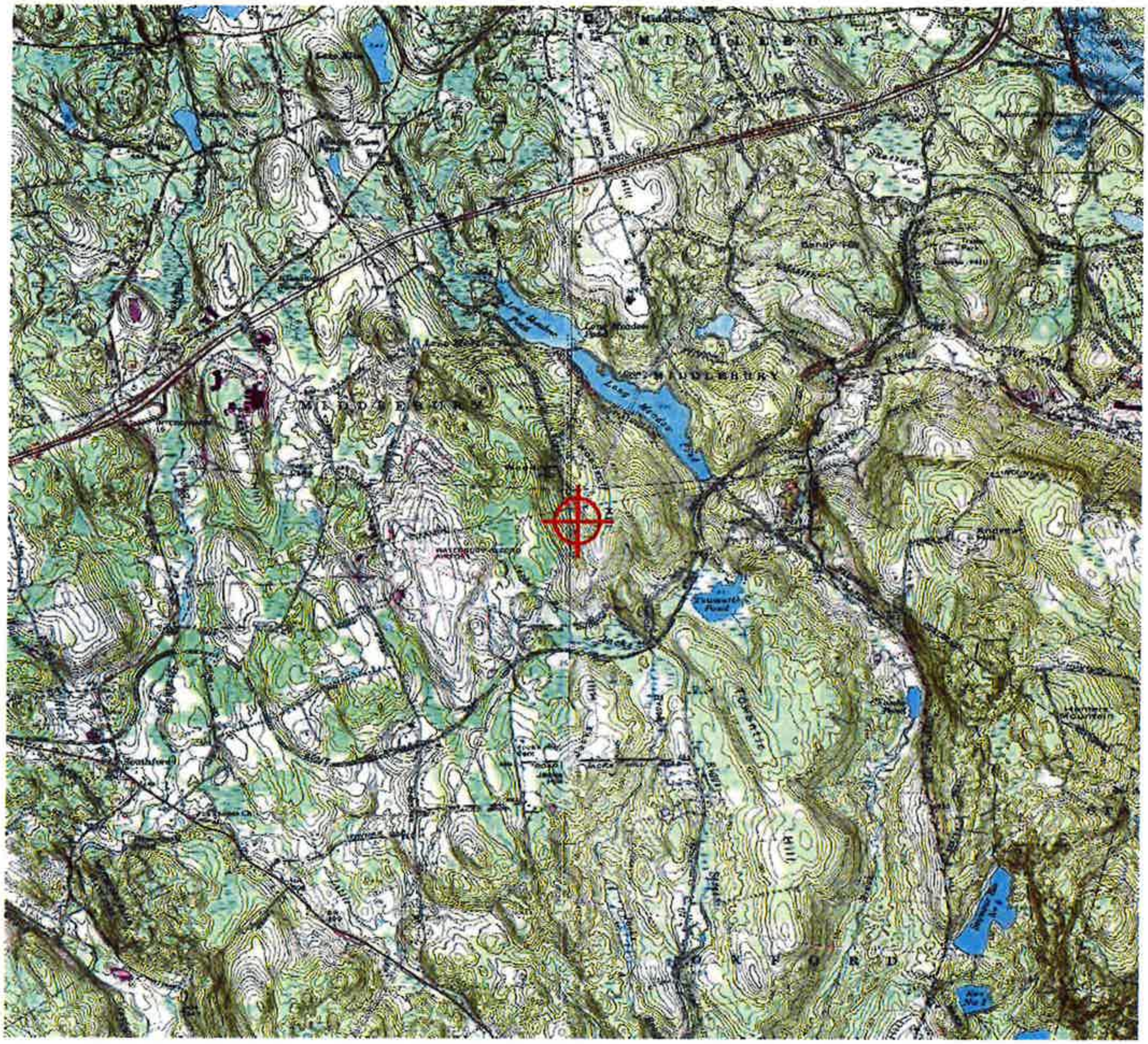
Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation as long as all conditions written within this determination are met.

It is also recommended that any construction equipment used be e-filed with the FAA at least 60-90 days prior to construction equipment exceeding the proposed structure's AGL height. When a crane is e-filed with the FAA, it is recommended that crane specifications documents, work schedule including times/dates, and a marking and lighting plan be attached with the e-filed proposal to ensure the FAA evaluation is completed as expeditiously as possible or construction delays should be expected.

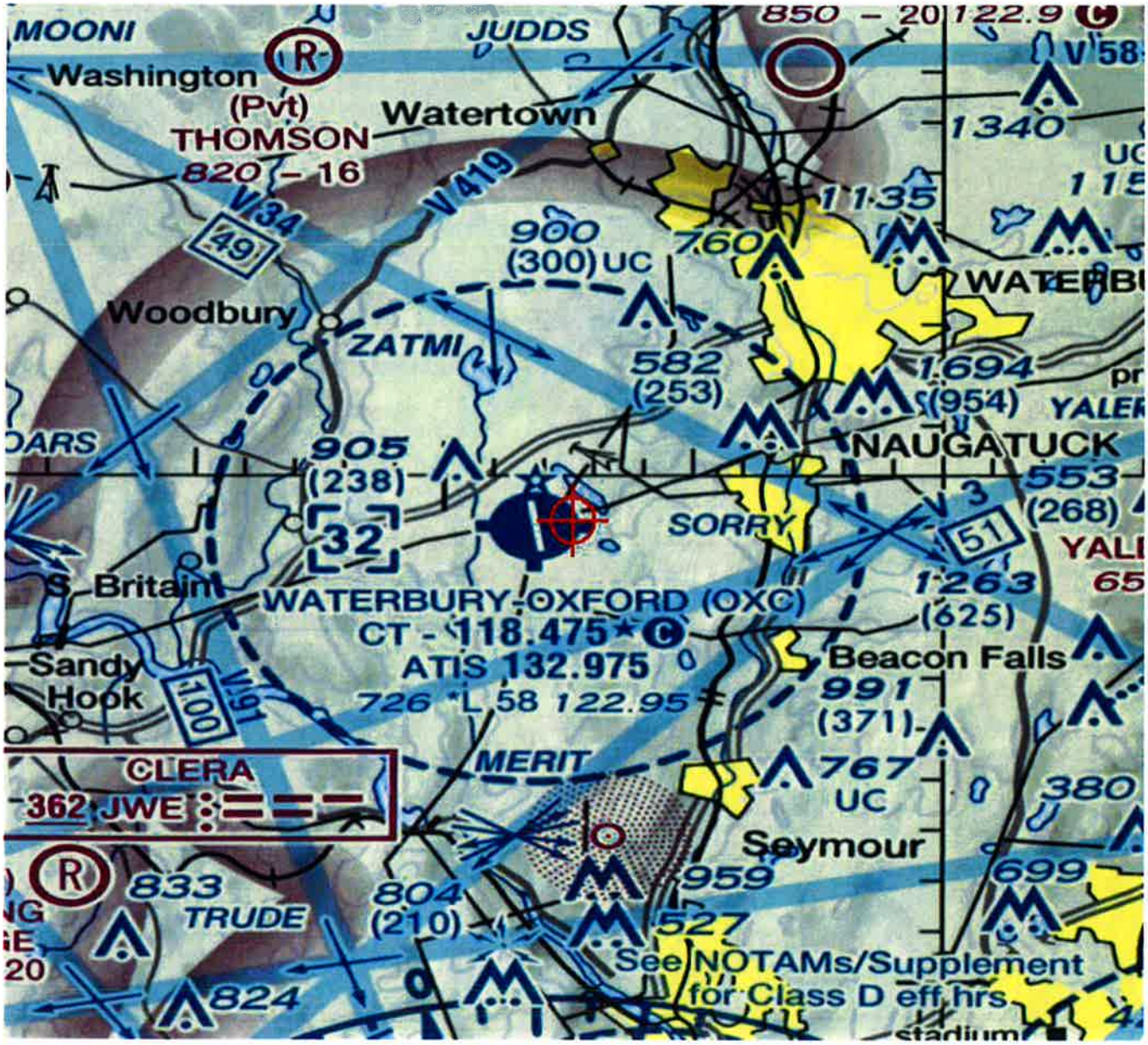
Case Description for ASN 2016-ANE-2801-OE

Eversource is planning to rebuild a 6 mile portion of a 115 kV overhead transmission line facility. The existing lattice towers will be removed and replaced with steel monopole structures.

TOPO Map for ASN 2016-ANE-2801-OE



Sectional Map for ASN 2016-ANE-2801-OE



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

Aeronautical Study No.
2016-ANE-2802-OE

Issued Date: 01/20/2017

John Case
Eversource
56 Prospect St
Hartford, CT 06103

**** 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:	Utility Pole 1452D
Location:	Waterbury, CT
Latitude:	41-29-06.61N NAD 83
Longitude:	73-07-25.50W
Heights:	809 feet site elevation (SE)
	96 feet above ground level (AGL)
	905 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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.

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

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

See attachment for additional condition(s) or information.

This determination expires on 07/20/2018 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.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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 February 19, 2017. 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 March 01, 2017 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.

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.

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 Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-2802-OE.

Signature Control No: 297647543-318520891 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

The proposed utility pole (1452D) supporting a 115-kV line, at a height of 96 feet (ft.) AGL / 905 ft. AMSL, would be located approximately 3,615 ft. southeast of the approach end Runway 18 at Waterbury- Oxford Airport (OXC), Waterbury, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 29 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 Horizontal Surface as applied to visual approach runways at OXC by 29 ft.

The proposed structure was issued a Notice of Presumed Hazard on August 25, 2016 and a request for public circularization was received from the proponent on November 22, 2016.

The proposed structure was then circularized to the public by means of a public notice issued on November 23, 2016. After circularization to all known aviation interests and non-aeronautical interests that may be affected by the proposal, no letters of objection were received as a result of public circularization from the public or from any other FAA or DOD offices / air traffic control facilities.

The proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, or on any aeronautical facilities as it relates to either current or future runway extensions or proposals at OXC or at any other known public use or military airport. A 2C survey is on file for the proposed structure, and information on the proposed structure shall be forwarded for appropriate aeronautical charting.

The proposed structure would exceed 77.19 (a) and also be located within the TPA for all categories of aircraft using the Waterbury-Oxford Airport. However, the normal flight path for an aircraft within a traffic pattern is based upon the category/approach speed of said aircraft. The higher the category/approach speed, the larger the traffic pattern flown. Category A aircraft would be the most likely aircraft affected by the proposed structure as this traffic pattern keeps this category aircraft closer to the airport thereby closer to the proposed structure more so than any other category of aircraft when OXC is utilizing left traffic to Runway 18 or right traffic to Runway 36.

The proposed structure would be located 3,500 ft. abeam OXC near where aircraft would begin transitioning from level flight to the climb/decent area of the TPA, and approximately 3,615 ft. from approach end Runway 18. It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The expected flight path of aircraft on the downwind leg of the traffic pattern would place an aircraft approximately 4,600 ft. east of the proposed structure. It is unlikely than an aircraft would need to fly directly over the proposed

structure, as the traffic pattern for category A aircraft extends up to 1.25 NM abeam the runway and therefore should not require a VFR aircraft to change its regular flight course or altitude when entering or establishing the aircraft on down wind or completing pattern work.

To date, the traffic pattern altitude at OXC is 1,699 ft. AMSL for aircraft up to 12,500 pounds or 2,199 ft. for aircraft greater than 12,500 pounds. The airport elevation is 726 ft. AMSL and the height of the proposed structure is 905 ft. AMSL. The difference is 179 ft. Aircraft operating at the established pattern altitude should be a minimum of 794 ft. or more above the proposed structure depending on the traffic pattern being flown. There is also an airport remark in the Airport Facility Directory of existing 748 ft. electric transmission towers running NE to SW .2 NM north of the middle marker and it should also be noted the terrain itself in the general vicinity of the proposed structure exceeds OXC's Horizontal Surface by up to 219 ft.

It was found that the proposed structure would not restrict the clear view of any runway or traffic pattern from the tower cab or derogate the airport's capacity or efficiency or affect the usable length of any existing or planned runway.

Study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse 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 OXC or any other known public use or military airports. At 96 ft. AGL or below, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

It is recommended the proposed structure be lit with a red light to make it more conspicuous to airmen should circumnavigation be necessary.

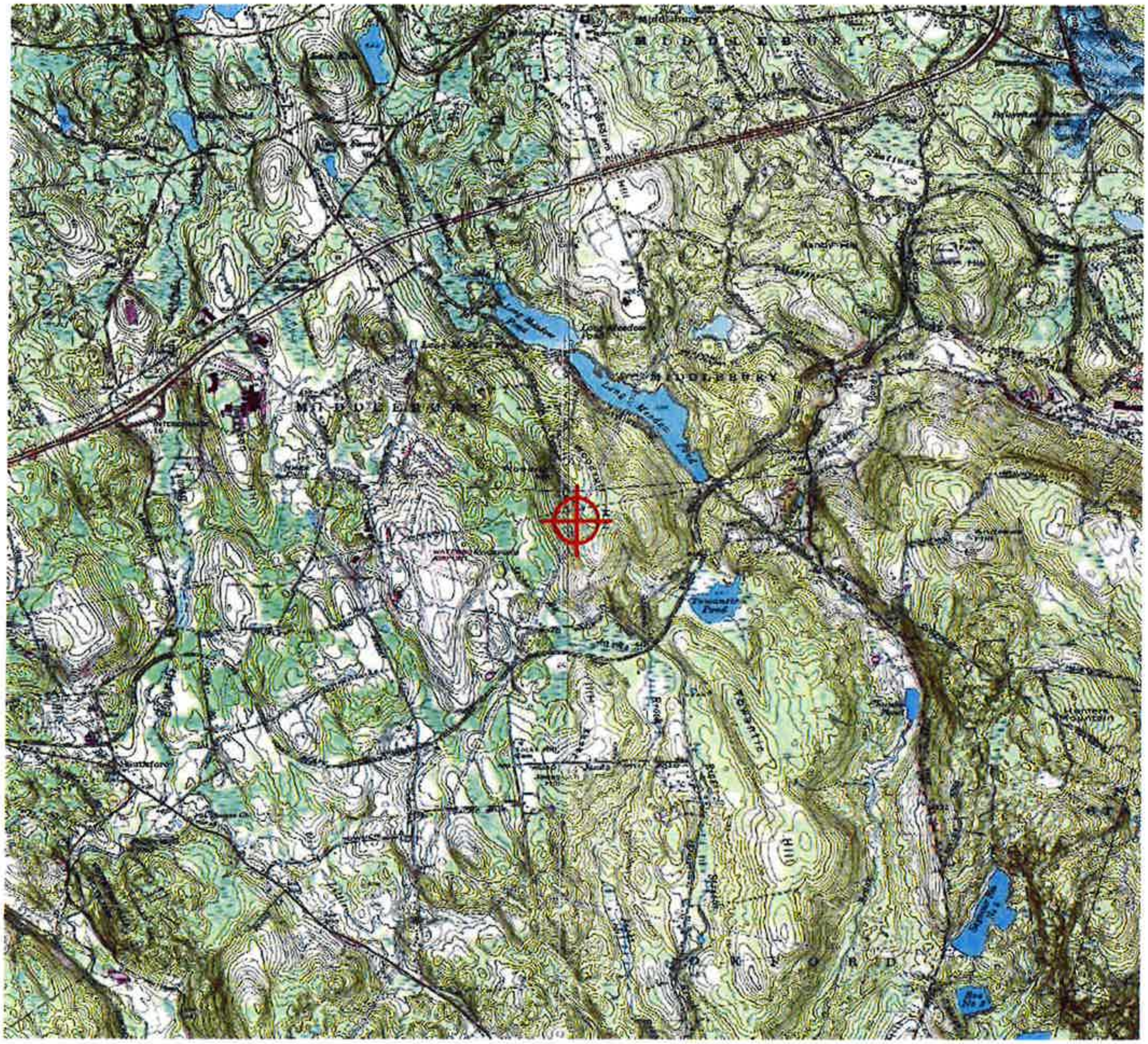
The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

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 as long as all conditions written within this determination are met.

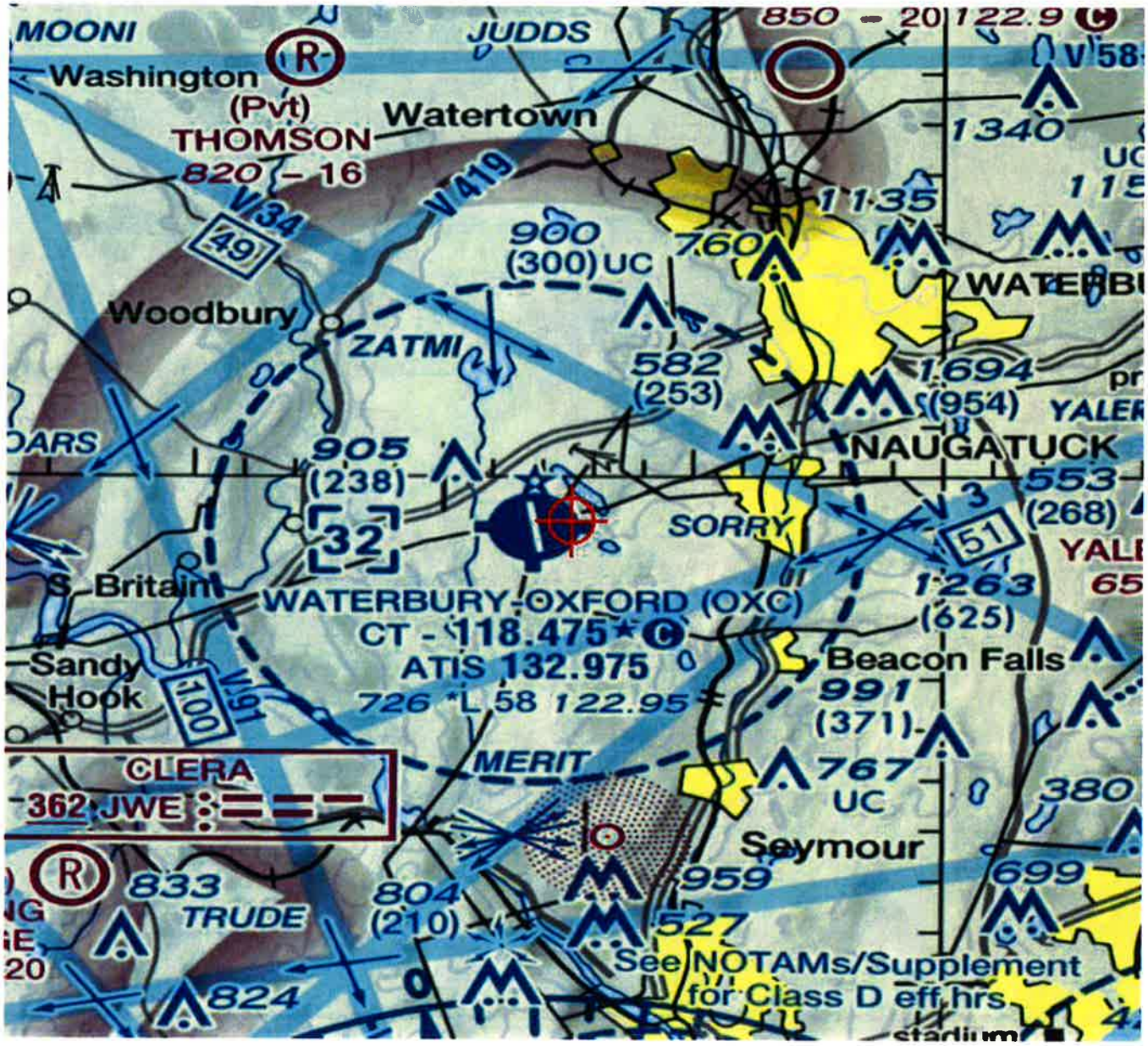
It is also recommended that any construction equipment used be e-filed with the FAA at least 60-90 days prior to construction equipment exceeding the proposed structure's AGL height. When a crane is e-filed with the FAA, it is recommended that crane specifications documents, work schedule including times/dates, and a marking and lighting plan be attached with the e-filed proposal to ensure the FAA evaluation is completed as expeditiously as possible or construction delays should be expected.

Eversource is planning to rebuild a 6 mile portion of a 115 kV overhead transmission line facility. The existing lattice towers will be removed and replaced with steel monopole structures.

TOPO Map for ASN 2016-ANE-2802-OE



Sectional Map for ASN 2016-ANE-2802-OE



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

Aeronautical Study No.
2016-ANE-2803-OE

Issued Date: 01/23/2017

John Case
Eversource
56 Prospect St
Hartford, CT 06103

**** 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:	Utility Pole 1453
Location:	Waterbury, CT
Latitude:	41-29-10.10N NAD 83
Longitude:	73-07-23.96W
Heights:	857 feet site elevation (SE)
	94 feet above ground level (AGL)
	951 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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.

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

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

See attachment for additional condition(s) or information.

This determination expires on 07/23/2018 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.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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 February 22, 2017. 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 March 04, 2017 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.

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.

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 Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-2803-OE.

Signature Control No: 297647547-319885409 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

The proposed utility pole (1453) supporting a 115-kV line, at a height of 94 feet (ft.) AGL / 951 ft. AMSL, would be located approximately 3,715 ft. east of the approach end Runway 18 at Waterbury- Oxford Airport (OXC), Waterbury, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 75 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 Horizontal Surface as applied to visual approach runways at OXC by 75 ft.

The proposed structure was issued a Notice of Presumed Hazard on August 25, 2016 and a request for public circularization was received from the proponent on November 22, 2016.

The proposed structure was then circularized to the public by means of a public notice issued on November 23, 2016. After circularization to all known aviation interests and non-aeronautical interests that may be affected by the proposal, no letters of objection were received as a result of public circularization from the public or from any other FAA or DOD offices / air traffic control facilities.

The proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, or on any aeronautical facilities as it relates to either current or future runway extensions or proposals at OXC or at any other known public use or military airport. A 2C survey is on file for the proposed structure, and information on the proposed structure shall be forwarded for appropriate aeronautical charting.

The proposed structure would exceed 77.19 (a) and also be located within the TPA for all categories of aircraft using the Waterbury-Oxford Airport. However, the normal flight path for an aircraft within a traffic pattern is based upon the category/approach speed of said aircraft. The higher the category/approach speed, the larger the traffic pattern flown. Category A aircraft would be the most likely aircraft affected by the proposed structure as this traffic pattern keeps this category aircraft closer to the airport thereby closer to the proposed structure more so than any other category of aircraft when OXC is utilizing left traffic to Runway 18 or right traffic to Runway 36.

The proposed structure would be located 3,650 ft. abeam OXC near where aircraft would begin transitioning from level flight to the climb/decent area of the TPA, and approximately 3,715 ft. from approach end Runway 18. It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The expected flight path of aircraft on the downwind leg of the traffic pattern would place an aircraft approximately 3,950 ft. east of the proposed structure. It is unlikely than an aircraft would need to fly directly over the proposed

structure, as the traffic pattern for category A aircraft extends up to 1.25 NM abeam the runway and therefore should not require a VFR aircraft to change its regular flight course or altitude when entering or establishing the aircraft on down wind or completing pattern work.

To date, the traffic pattern altitude at OXC is 1,699 ft. AMSL for aircraft up to 12,500 pounds or 2,199 ft. for aircraft greater than 12,500 pounds. The airport elevation is 726 ft. AMSL and the height of the proposed structure is 951 ft. AMSL. The difference is 225 ft. Aircraft operating at the established pattern altitude should be a minimum of 748 ft. or more above the proposed structure depending on the traffic pattern being flown. There is also an airport remark in the Airport Facility Directory of existing 748 ft. electric transmission towers running NE to SW .2 NM north of the middle marker and it should also be noted the terrain itself in the general vicinity of the proposed structure exceeds OXC's Horizontal Surface by up to 219 ft.

It was found that the proposed structure would not restrict the clear view of any runway or traffic pattern from the tower cab or derogate the airport's capacity or efficiency or affect the usable length of any existing or planned runway.

Study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse 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 OXC or any other known public use or military airports. At 94 ft. AGL or below, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

It is recommended the proposed structure be lit with a red light to make it more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

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 as long as all conditions written within this determination are met.

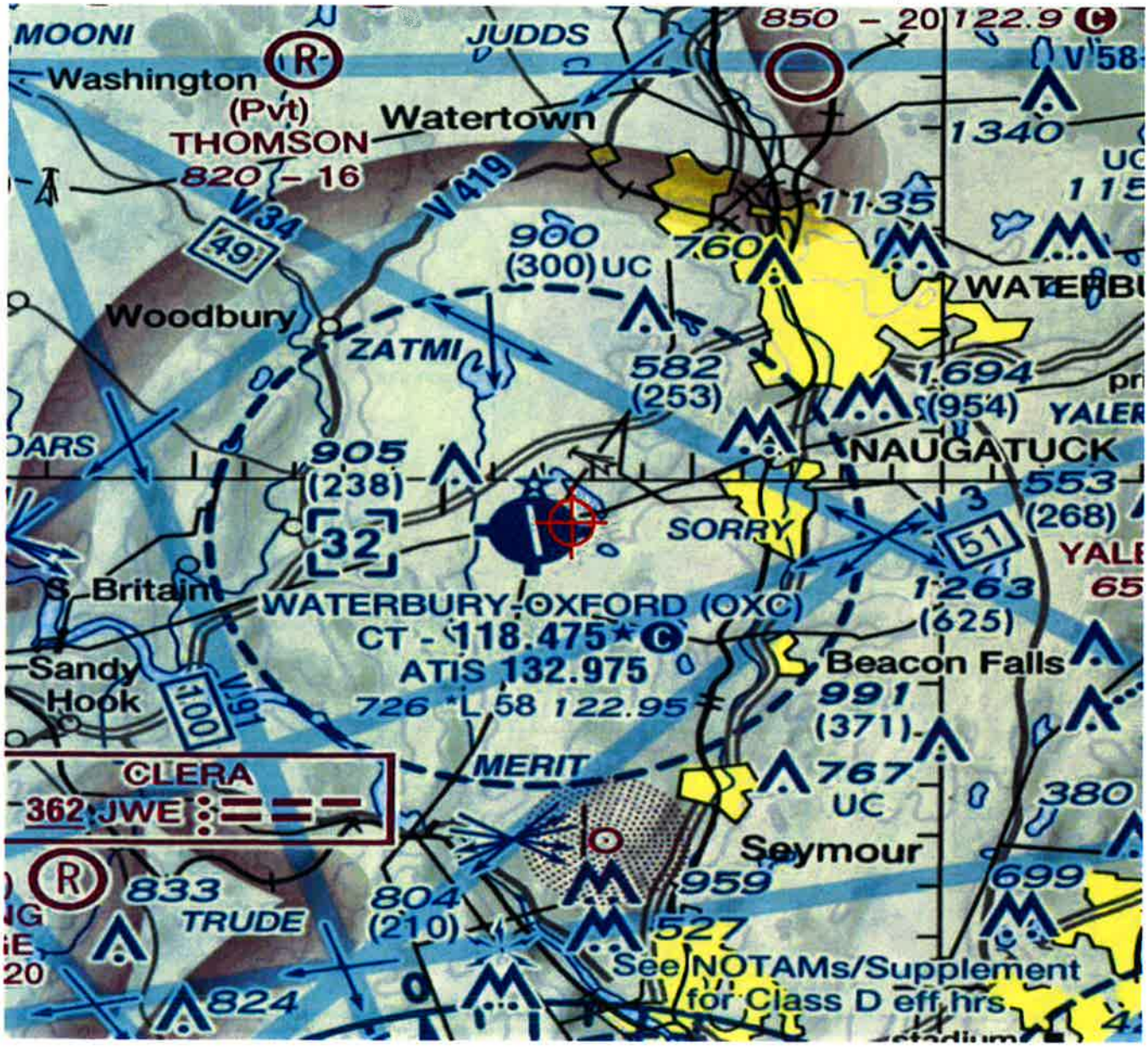
It is also recommended that any construction equipment used be e-filed with the FAA at least 60-90 days prior to construction equipment exceeding the proposed structure's AGL height. When a crane is e-filed with the FAA, it is recommended that crane specifications documents, work schedule including times/dates, and a marking and lighting plan be attached with the e-filed proposal to ensure the FAA evaluation is completed as expeditiously as possible or construction delays should be expected.

Case Description for ASN 2016-ANE-2803-OE

Eversource is planning to rebuild a 6 mile portion of a 115 kV overhead transmission line facility. The existing lattice towers will be removed and replaced with steel monopole structures.

TOPO Map for ASN 2016-ANE-2803-OE

Sectional Map for ASN 2016-ANE-2803-OE



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

Aeronautical Study No.
2016-ANE-2804-OE

Issued Date: 01/23/2017

John Case
Eversource
56 Prospect St
Hartford, CT 06103

**** 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:	Utility Pole 1454
Location:	Waterbury, CT
Latitude:	41-29-15.63N NAD 83
Longitude:	73-07-21.43W
Heights:	872 feet site elevation (SE)
	94 feet above ground level (AGL)
	966 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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.

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

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

See attachment for additional condition(s) or information.

This determination expires on 07/23/2018 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.

(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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 February 22, 2017. 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 March 04, 2017 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.

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.

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 Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-2804-OE.

Signature Control No: 297647552-319888800 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

The proposed utility pole (1454) supporting a 115-kV line, at a height of 94 feet (ft.) AGL / 966 ft. AMSL, would be located approximately 3,947 ft. east of the approach end Runway 18 at Waterbury- Oxford Airport (OXC), Waterbury, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (3). A height that increases a minimum instrument flight altitude within a terminal area (TERPS criteria):

At 966 ft. AMSL, Waterbury-Oxford (OXC), CT. ILS or LOC RWY 36, RNAV (GPS) RWY 36, increase CAT A/B/C circling MDA from 1280/1280/1280 to 1320 ft. The no exceed height is 963 ft. AMSL. With a 2C survey provided, there would be no IFR effect.

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 90 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 Horizontal Surface as applied to visual approach runways at OXC by 90 ft.

The proposed structure was issued a Notice of Presumed Hazard on August 26, 2016 and a request for public circularization was received from the proponent on November 22, 2016.

The proposed structure was then circularized to the public by means of a public notice issued on November 23, 2016. After circularization to all known aviation interests and non-aeronautical interests that may be affected by the proposal, no letters of objection were received as a result of public circularization from the public or from any other FAA or DOD offices / air traffic control facilities.

The proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, or on any aeronautical facilities as it relates to either current or future runway extensions or proposals at OXC or at any other known public use or military airport. A 2C survey is on file for the proposed structure mitigating the IFR effects. Information on the proposed structure shall be forwarded for appropriate aeronautical charting.

The proposed structure would exceed 77.19 (a) and also be located within the TPA for all categories of aircraft using the Waterbury-Oxford Airport. However, the normal flight path for an aircraft within a traffic pattern is based upon the category/approach speed of said aircraft. The higher the category/approach speed, the larger the traffic pattern flown. Category A aircraft would be the most likely aircraft affected by the proposed structure as this traffic pattern keeps this category aircraft closer to the airport thereby closer to the proposed structure more so than any other category of aircraft when OXC is utilizing left traffic to Runway 18 or right traffic to Runway 36.

The proposed structure would be located 3,945 ft. abeam OXC near where aircraft would begin transitioning from level flight to the climb/decent area of the TPA, and approximately 3,947 ft. from approach end Runway 18. It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The expected flight path of aircraft on the downwind leg of the traffic pattern would place an aircraft approximately 3,655 ft. east of the proposed structure. It is unlikely than an aircraft would need to fly directly over the proposed structure, as the traffic pattern for category A aircraft extends up to 1.25 NM abeam the runway and therefore should not require a VFR aircraft to change its regular flight course or altitude when entering or establishing the aircraft on down wind or completing pattern work.

To date, the traffic pattern altitude at OXC is 1,699 ft. AMSL for aircraft up to 12,500 pounds or 2,199 ft. for aircraft greater than 12,500 pounds. The airport elevation is 726 ft. AMSL and the height of the proposed structure is 966 ft. AMSL. The difference is 240 ft. Aircraft operating at the established pattern altitude should be a minimum of 733 ft. or more above the proposed structure depending on the traffic pattern being flown. There is also an airport remark in the Airport Facility Directory of existing 748 ft. electric transmission towers running NE to SW .2 NM north of the middle marker and it should also be noted the terrain itself in the general vicinity of the proposed structure exceeds OXC's Horizontal Surface by up to 219 ft.

It was found that the proposed structure would not restrict the clear view of any runway or traffic pattern from the tower cab or derogate the airport's capacity or efficiency or affect the usable length of any existing or planned runway.

Study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse 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 OXC or any other known public use or military airports. At 94 ft. AGL or below, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

It is recommended the proposed structure be lit with a red light to make it more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

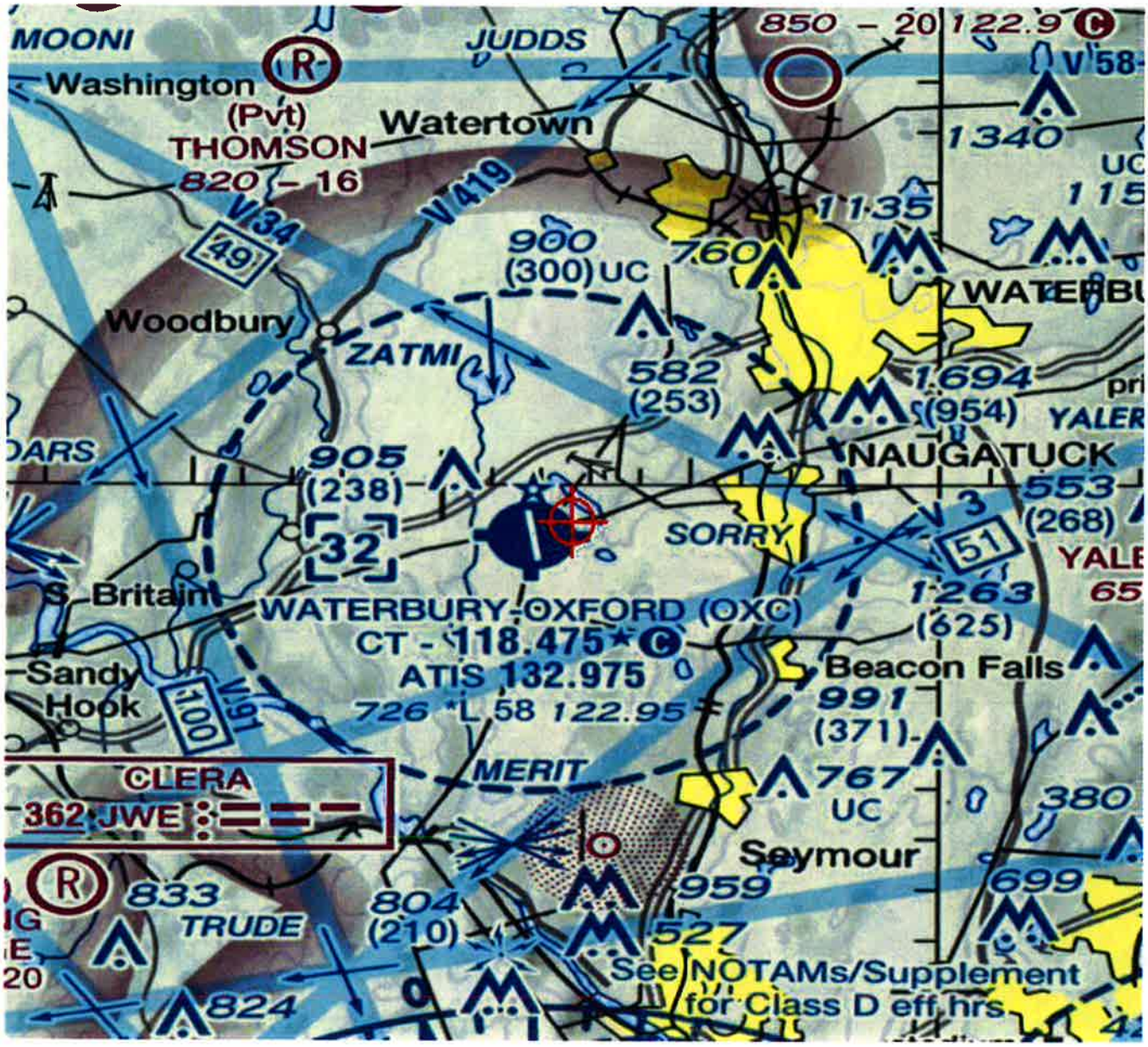
Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation as long as all conditions written within this determination are met.

It is also recommended that any construction equipment used be e-filed with the FAA at least 60-90 days prior to construction equipment exceeding the proposed structure's AGL height. When a crane is e-filed with the FAA, it is recommended that crane specifications documents, work schedule including times/dates, and a marking and lighting plan be attached with the e-filed proposal to ensure the FAA evaluation is completed as expeditiously as possible or construction delays should be expected.

Case Description for ASN 2016-ANE-2804-OE

Eversource is planning to rebuild a 6 mile portion of a 115 kV overhead transmission line facility. The existing lattice towers will be removed and replaced with steel monopole structures.

TOPO Map for ASN 2016-ANE-2804-OE


MOONI
JUDDS
Washington
(Pvt)
THOMSON
820 – 16
Watertown
V419
V34
49
900
(300) UC
760
Woodbury
ZATMI
582
(253)
905
(238)
32
S Britain
WATERBURY-OXFORD (OXC)
CT - 118.475
ATIS 132.975
726 *L 58 122.95
SORRY
NAUGATUCK
1694
(954)
553
(268)
51
1263
(625)
Beacon Falls
991
(371)
767
UC
MERIT
CLERA
362 JWE
Seymour
959
527
804
(210)
833
TRUDE
824
Sandy
Hook
100
V191
See NOTAMs/Supplement
for Class D eff hrs
1340
1135
380
699

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

Aeronautical Study No.
2016-ANE-2805-OE

Issued Date: 01/25/2017

John Case
Eversource
56 Prospect St
Hartford, CT 06103

**** 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:	Utility Pole 1455
Location:	Waterbury, CT
Latitude:	41-29-21.39N NAD 83
Longitude:	73-07-18.80W
Heights:	856 feet site elevation (SE)
	94 feet above ground level (AGL)
	950 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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.

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

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ 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 94 feet above ground level (950 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 07/25/2018 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.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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 February 24, 2017. 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 March 06, 2017 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.

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.

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 Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-2805-OE.

Signature Control No: 297647556-320191266 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

The proposed utility pole (1455) supporting a 115-kV line, at a height of 94 feet (ft.) AGL / 950 ft. AMSL, would be located approximately 4,264 ft. east of the approach end Runway 18 at Waterbury- Oxford Airport (OXC), Waterbury, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 74 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 Horizontal Surface as applied to visual approach runways at OXC by 74 ft.

The proposed structure was issued a Notice of Presumed Hazard on August 25, 2016 and a request for public circularization was received from the proponent on November 22, 2016.

The proposed structure was then circularized to the public by means of a public notice issued on November 23, 2016. After circularization to all known aviation interests and non-aeronautical interests that may be affected by the proposal, no letters of objection were received as a result of public circularization from the public or from any other FAA or DOD offices / air traffic control facilities.

The proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, or on any aeronautical facilities as it relates to either current or future runway extensions or proposals at OXC or at any other known public use or military airport. A 2C survey is on file for the proposed structure and information on the proposed structure shall be forwarded for appropriate aeronautical charting.

The proposed structure would exceed 77.19 (a) and also be located within the TPA for all categories of aircraft using the Waterbury-Oxford Airport. However, the normal flight path for an aircraft within a traffic pattern is based upon the category/approach speed of said aircraft. The higher the category/approach speed, the larger the traffic pattern flown. Category A aircraft would be the most likely aircraft affected by the proposed structure as this traffic pattern keeps this category aircraft closer to the airport thereby closer to the proposed structure more so than any other category of aircraft when OXC is utilizing left traffic to Runway 18 or right traffic to Runway 36.

The proposed structure would be located in the climb/descent area nearly abeam OXC where aircraft would begin transitioning to/from level flight placing the structure approximately 4,264 ft. east of the approach end Runway 18. It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The expected flight path of aircraft on the downwind leg of the traffic pattern would place an aircraft approximately 3,350 ft. east of the proposed structure. It is unlikely than an aircraft would need to fly directly over the

proposed structure, as the traffic pattern for category A aircraft extends up to 1.25 NM abeam the runway and therefore should not require a VFR aircraft to change its regular flight course or altitude when entering or establishing the aircraft on down wind or completing pattern work.

To date, the traffic pattern altitude at OXC is 1,699 ft. AMSL for aircraft up to 12,500 pounds or 2,199 ft. for aircraft greater than 12,500 pounds. The airport elevation is 726 ft. AMSL and the height of the proposed structure is 950 ft. AMSL. The difference is 224 ft. Aircraft operating at the established pattern altitude should be a minimum of 749 ft. or more above the proposed structure depending on the traffic pattern being flown. There is also an airport remark in the Airport Facility Directory of existing 748 ft. electric transmission towers running NE to SW .2 NM north of the middle marker and it should also be noted the terrain itself in the general vicinity of the proposed structure exceeds OXC's Horizontal Surface by up to 219 ft.

It was found that the proposed structure would not restrict the clear view of any runway or traffic pattern from the tower cab or derogate the airport's capacity or efficiency or affect the usable length of any existing or planned runway.

Study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse 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 OXC or any other known public use or military airports. At 94 ft. AGL or below, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

It is recommended the proposed structure be lit with a red light to make it more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

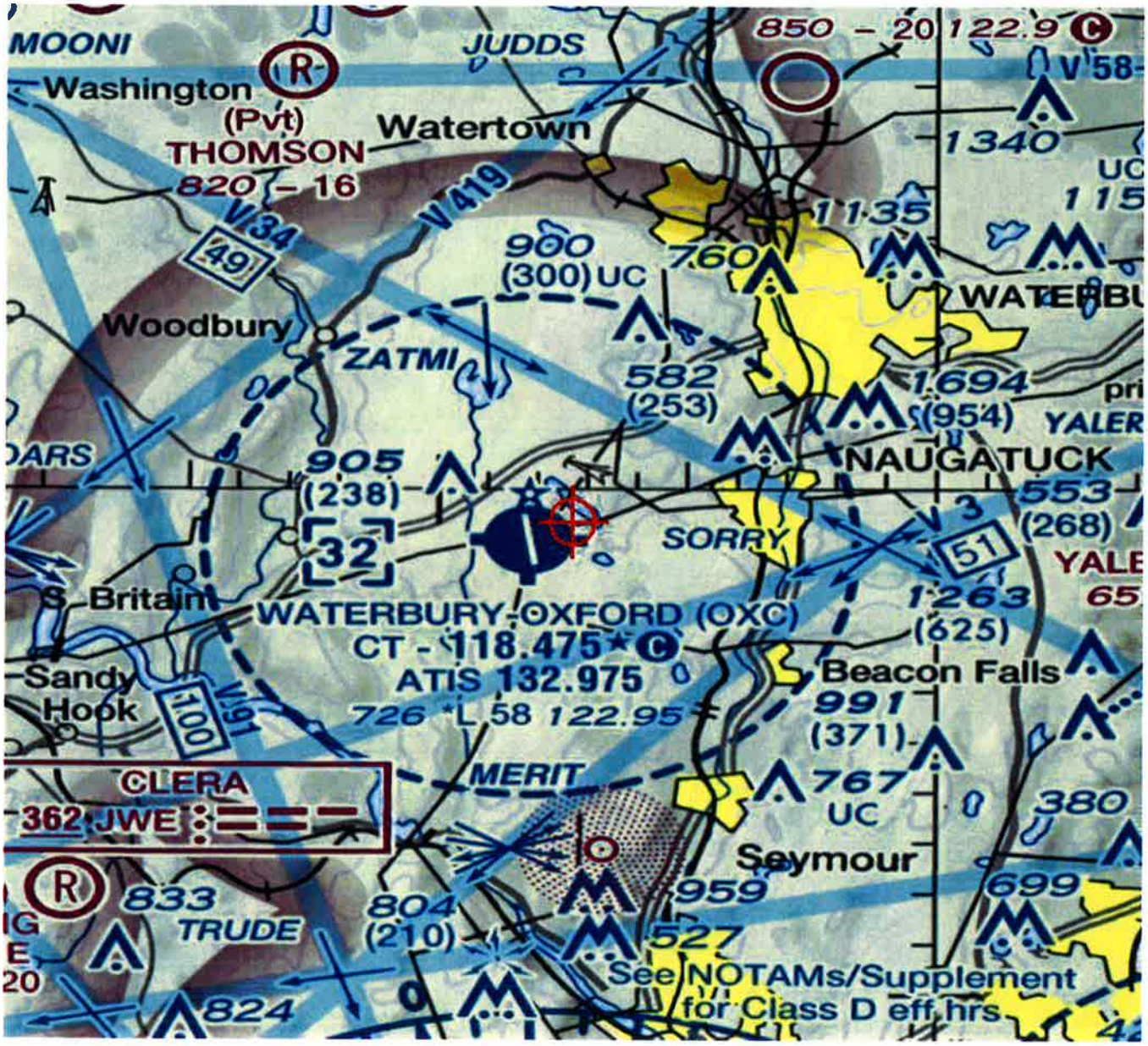
Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation as long as all conditions written within this determination are met.

It is also recommended that any construction equipment used be e-filed with the FAA at least 60-90 days prior to construction equipment exceeding the proposed structure's AGL height. When a crane is e-filed with the FAA, it is recommended that crane specifications documents, work schedule including times/dates, and a marking and lighting plan be attached with the e-filed proposal to ensure the FAA evaluation is completed as expeditiously as possible or construction delays should be expected.

Case Description for ASN 2016-ANE-2805-OE

Eversource is planning to rebuild a 6 mile portion of a 115 kV overhead transmission line facility. The existing lattice towers will be removed and replaced with steel monopole structures.

TOPO Map for ASN 2016-ANE-2805-OE


MOONI
JUDDS
850 – 20
122.9
Washington
(Pvt)
THOMSON
820 – 16
Watertown
V34
V419
49
900
(300) UC
760
1340
1135
Woodbury
ZATMI
582
(253)
1694
(954)
NAUGATUCK
905
(238)
32
SORRY
553
(268)
51
S Britain
WATERBURY-OXFORD (OXC)
CT - 118.475
ATIS 132.975
726 *L 58 122.95
1263
(625)
Beacon Falls
Sandy
Hook
100
V191
991
(371)
CLERA
362 JWE
MERIT
767
UC
380
Seymour
833
TRUDE
804
(210)
959
527
699
See NOTAMs/Supplement
for Class D eff hrs
824

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

Aeronautical Study No.
2016-ANE-2806-OE

Issued Date: 01/25/2017

John Case
Eversource
56 Prospect St
Hartford, CT 06103

**** 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:	Utility Pole 1456
Location:	Waterbury, CT
Latitude:	41-29-26.62N NAD 83
Longitude:	73-07-16.42W
Heights:	788 feet site elevation (SE)
	94 feet above ground level (AGL)
	882 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 to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

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.

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

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ 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 94 feet above ground level (882 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 07/25/2018 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.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

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 February 24, 2017. 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 March 06, 2017 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.

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.

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 Darin Clipper, at (404) 305-6531. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-ANE-2806-OE.

Signature Control No: 297647560-320193491 (DNH)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

The proposed utility pole (1456) supporting a 115-kV line, at a height of 94 feet (ft.) AGL / 882 ft. AMSL, would be located approximately 4,603 ft. northeast of the approach end Runway 18 at Waterbury- Oxford Airport (OXC), Waterbury, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 6 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 Horizontal Surface as applied to visual approach runways at OXC by 6 ft.

The proposed structure was issued a Notice of Presumed Hazard on August 25, 2016 and a request for public circularization was received from the proponent on November 22, 2016.

The proposed structure was then circularized to the public by means of a public notice issued on November 23, 2016. After circularization to all known aviation interests and non-aeronautical interests that may be affected by the proposal, no letters of objection were received as a result of public circularization from the public or from any other FAA or DOD offices / air traffic control facilities.

The proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, or on any aeronautical facilities as it relates to either current or future runway extensions or proposals at OXC or at any other known public use or military airport. A 2C survey is on file for the proposed structure and information on the proposed structure shall be forwarded for appropriate aeronautical charting.

The proposed structure would exceed 77.19 (a) and also be located within the TPA for all categories of aircraft using the Waterbury-Oxford Airport. However, the normal flight path for an aircraft within a traffic pattern is based upon the category/approach speed of said aircraft. The higher the category/approach speed, the larger the traffic pattern flown. Category A aircraft would be the most likely aircraft affected by the proposed structure as this traffic pattern keeps this category aircraft closer to the airport thereby closer to the proposed structure more so than any other category of aircraft when OXC is utilizing left traffic to Runway 18 or right traffic to Runway 36.

The proposed structure would be located in the climb/descent area, approximately 1,000 ft. from where aircraft would begin transitioning to/from level flight placing the structure approximately 4,603 ft. east of the approach end Runway 18. It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The expected flight path of aircraft on the downwind leg of the traffic pattern would place an aircraft approximately 3,100 ft. east of the proposed structure. It is unlikely than an aircraft would need to fly directly over the

proposed structure, as the traffic pattern for category A aircraft extends up to 1.25 NM abeam the runway and therefore should not require a VFR aircraft to change its regular flight course or altitude when entering or establishing the aircraft on down wind or completing pattern work.

To date, the traffic pattern altitude at OXC is 1,699 ft. AMSL for aircraft up to 12,500 pounds or 2,199 ft. for aircraft greater than 12,500 pounds. The airport elevation is 726 ft. AMSL and the height of the proposed structure is 882 ft. AMSL. The difference is 156 ft. Aircraft operating at the established pattern altitude should be a minimum of 817 ft. or more above the proposed structure depending on the traffic pattern being flown. There is also an airport remark in the Airport Facility Directory of existing 748 ft. electric transmission towers running NE to SW .2 NM north of the middle marker and it should also be noted the terrain itself in the general vicinity of the proposed structure exceeds OXC's Horizontal Surface by up to 219 ft.

It was found that the proposed structure would not restrict the clear view of any runway or traffic pattern from the tower cab or derogate the airport's capacity or efficiency or affect the usable length of any existing or planned runway.

Study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse 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 OXC or any other known public use or military airports. At 94 ft. AGL or below, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

It is recommended the proposed structure be lit with a red light to make it more conspicuous to airmen should circumnavigation be necessary.

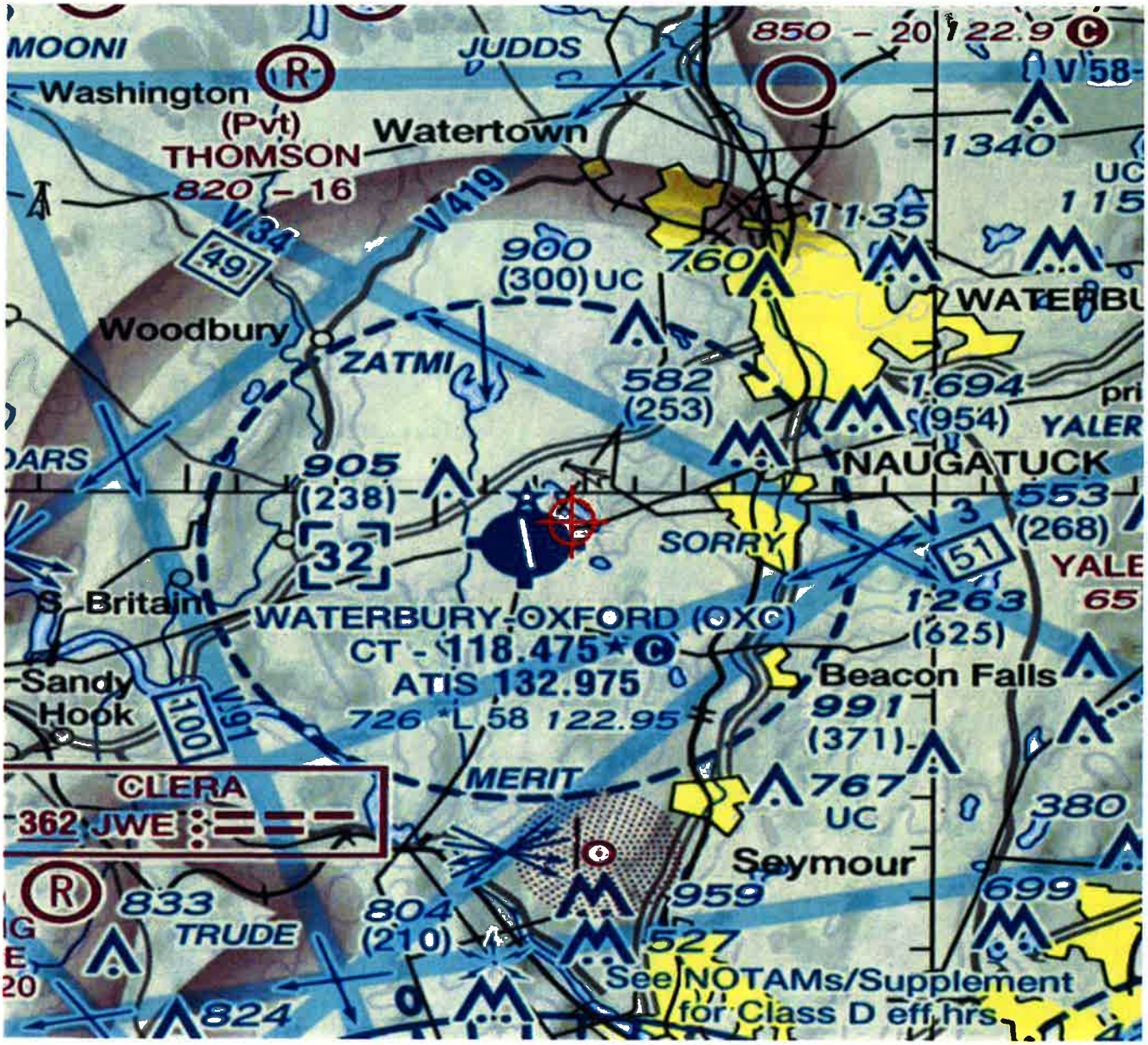
The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

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 as long as all conditions written within this determination are met.

It is also recommended that any construction equipment used be e-filed with the FAA at least 60-90 days prior to construction equipment exceeding the proposed structure's AGL height. When a crane is e-filed with the FAA, it is recommended that crane specifications documents, work schedule including times/dates, and a marking and lighting plan be attached with the e-filed proposal to ensure the FAA evaluation is completed as expeditiously as possible or construction delays should be expected.

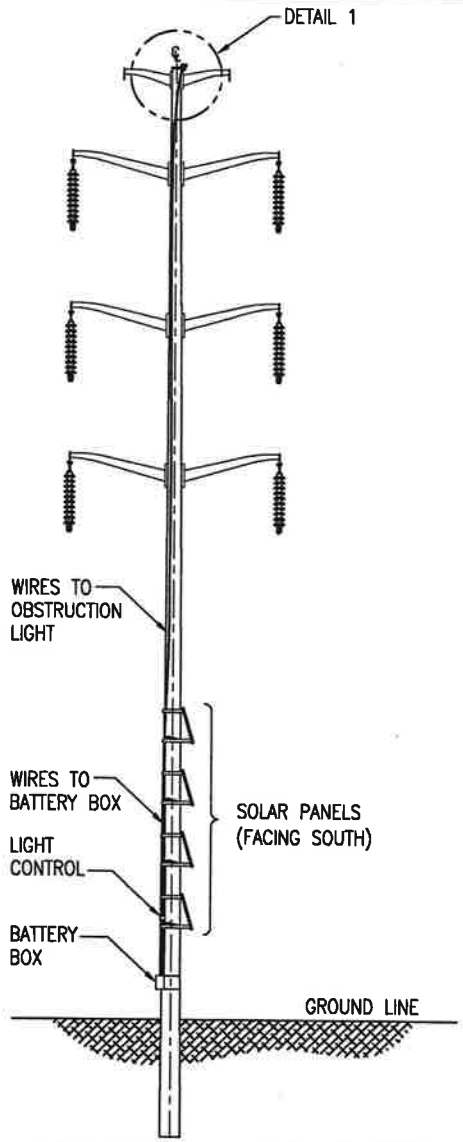
Eversource is planning to rebuild a 6 mile portion of a 115 kV overhead transmission line facility. The existing lattice towers will be removed and replaced with steel monopole structures.

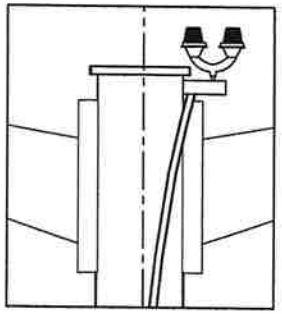
TOPO Map for ASN 2016-ANE-2806-OE


MOONI
JUDDS
Washington
(Pvt)
THOMSON
820 – 16
Watertown
V419
V34
49
900
(300) UC
760
Woodbury
ZATMI
582
(253)
905
(238)
32
S Britain
WATERBURY-OXFORD (OXC)
CT - 118.475
ATIS 132.975
726 L 58 122.95
SORRY
Sandy
Hook
100
V191
CLERA
362 JWE
MERIT
833
TRUDE
804
(210)
824
959
527
767
UC
Seymour
991
(371)
Beacon Falls
1263
(625)
1694
(954)
NAUGATUCK
553
(268)
1340
1135
850 – 20
122.9
V58
51
380
699
See NOTAMs/Supplement
for Class D eff hrs

ATTACHMENT B

CROSS SECTION DRAWINGS





DETAIL 1
OBSTRUCTION LIGHT LOCATION

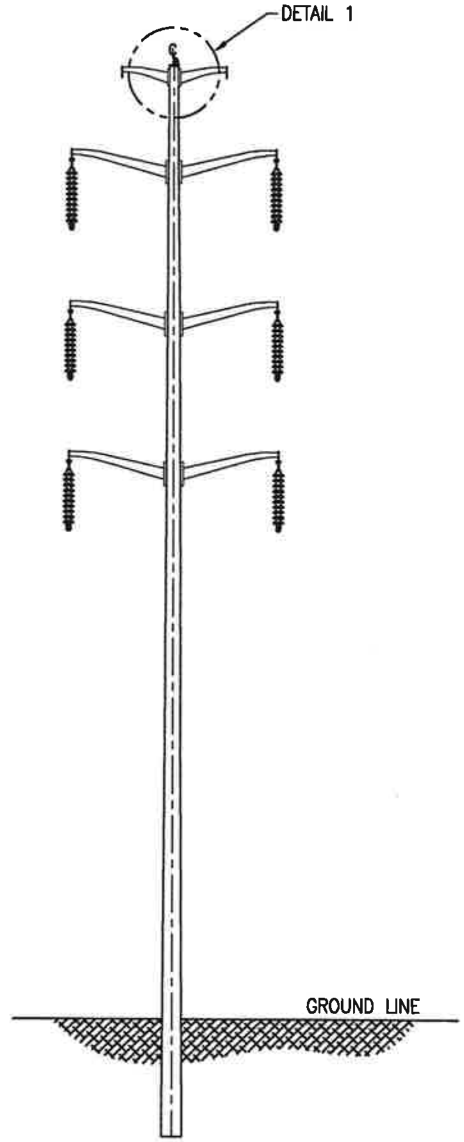
REVISIONS DURING CONSTRUCTION						

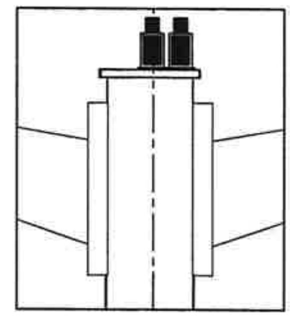
EVERSOURCE ENERGY

BUNKER HILL - OXFORD
115kV TRANSMISSION
FAA LIGHT & SOLAR PANEL ARRANGEMENT
OXFORD/WATERBURY/MIDDLEBURY, CT

BY	KSC	CHK	BRS	APP	APP
DATE	02/2017	DRC	02/2017	DATE	DATE
H-SCALE	N.T.S.	SIZE	B	FIELD BOOK & PAGES	
V-SCALE	N.T.S.	V.D.		N.E. DWG	
N.E. PROJ. NUMBER				DWG NO.	

FAA-3





DETAIL 1

TEMPORARY OBSTRUCTION LIGHT LOCATION

REVISIONS DURING CONSTRUCTION

EVERSOURCE ENERGY

BUNKER HILL - OXFORD
115kV TRANSMISSION
TEMPORARY FAA LIGHT ARRANGEMENT
OXFORD/WATERBURY/MIDDLEBURY, CT

DDM	TS		
02/2017	02/2017		
N.T.S.	B		
N.T.S.			

AS BUILT REVISIONS

FAA-4

ATTACHMENT C

SPECIFICATIONS REGARDING

FAA RECOMMENDED LIGHTING

Table 1: Specifications Regarding FAA-Recommended Lighting

Mapsheet Number	SUMMARY OF STRUCTURE INFORMATION			TYPE OF LIGHTING PER FAA
	EVERSOURCE STRUCTURE NUMBER	DESCRIPTION	HEIGHT (FT)	1-810 Light Power Source
OXFORD				
20	1456	Double Circuit Steel Pole	93.5	Solar
21	1455	Double Circuit Steel Pole	93.5	Solar
21	1454	Double Circuit Steel Pole	93.5	Solar
22	1453	Double Circuit Steel Pole	93.5	Solar
22	1452A	Single Circuit Steel Pole	95	Temporary (Solar)
22	1452B	Single Circuit Steel Pole	95	Temporary (Solar)
22	1452C	Single Circuit Steel Pole	95	Temporary (Solar)
22	1452D	Single Circuit Steel Pole	95	Temporary (Solar)

ATTACHMENT D

REPRESENTATIVE EXAMPLES OF

AVIATION WARNING LIGHTS ON STRUCTURES

FIGURE 1A

FIGURE 1B

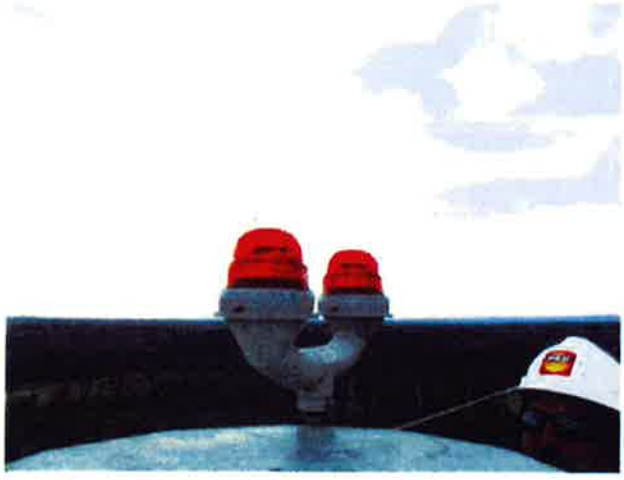


FIGURE 1C

FIGURE 1 (A-C)
Representative Examples of Aviation Warning Lights on Permanently Solar Powered Structures

FIGURE 2A

FIGURE 2B

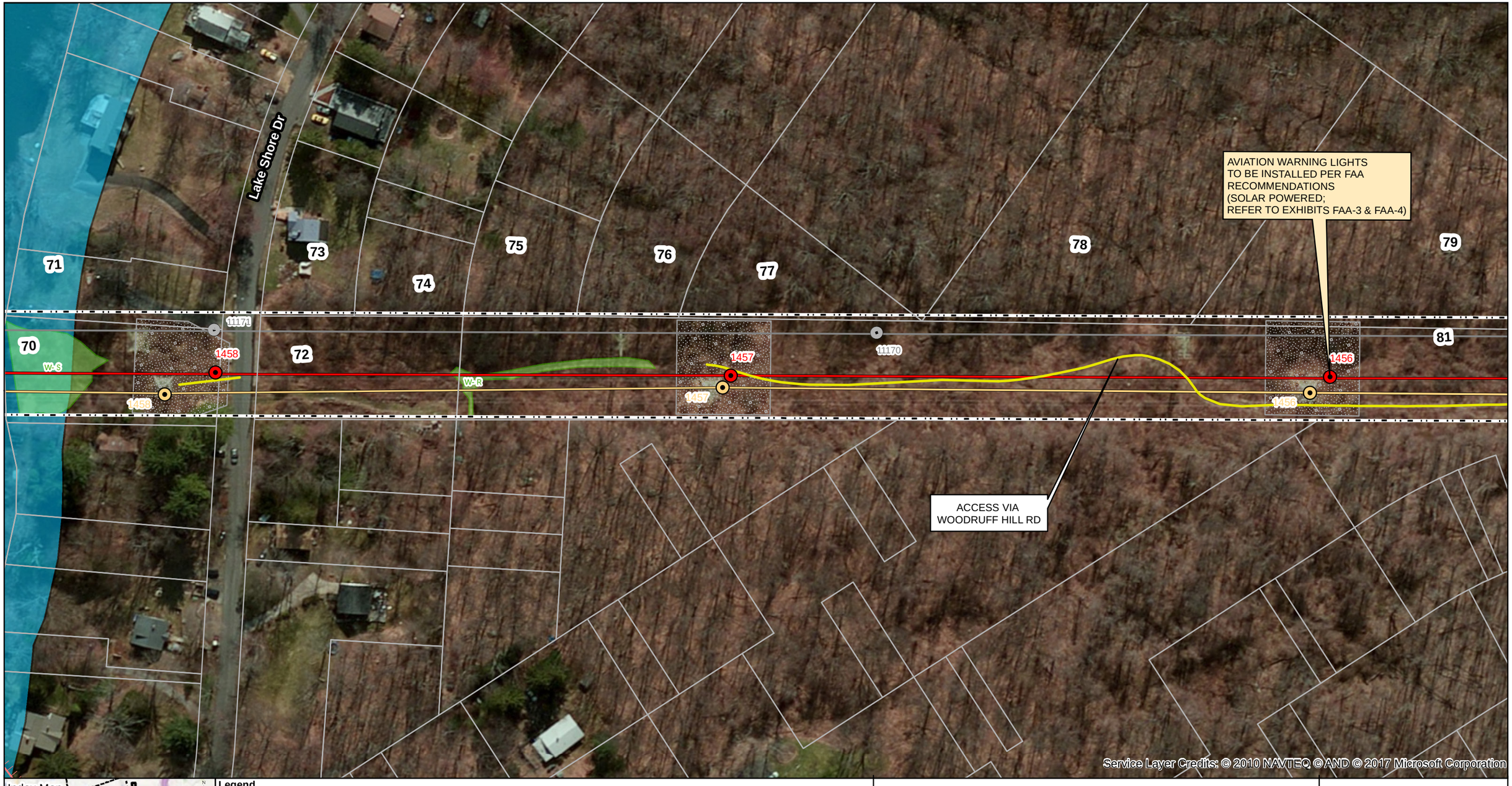
FIGURE 2 (A& B)
Representative Examples of Aviation Warning Lights on Temporary Solar Powered Structures

ATTACHMENT E

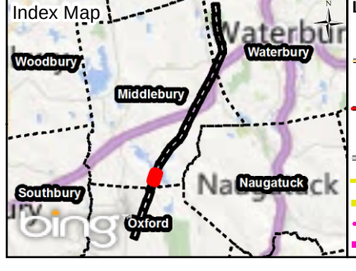
REVISED PETITION MAPSHEET 20-22

INCORPORATING LIGHTING MODIFICATIONS

Path: J:\0 GZA INTERCOMPANY PROJECTS\15.0029840.12 ES Towantic Switching Station\GIS\mxd\FinalMapping.mxd



Index Map



Legend

- Ex. 1575/1585 Structures
- Ex. 1575/1585 Line
- Proposed 1575/1585 Structures
- Proposed 1575/1585 Line
- Ex. 1990 Structures
- Existing 1990 Line
- Access - Existing
- Access - Proposed
- Access - Off ROW Existing
- Access - Off ROW Proposed
- Proposed Construction Mats
- Proposed Construction Pad
- Vernal Pools
- Field Delineated Wetlands
- Parcels
- ROW Limits
- Perennial Stream/River
- Intermittent Stream
- Culverts
- Rare Species Habitat
- FEMA 100 Year Flood Zone
- FEMA Regulatory Floodway
- 1 Line List Properties Reference Number
- Existing Distribution Structure To Be Removed
- Proposed Distribution Structure

1 inch = 100 feet

0 50 100 200

Feet

Data Sources:
CAI
GZA
Eversource
CT DEEP
AECOM, Davison
FEMA
Base Map acquired from ESRI Online.

TOWANTIC SWITCHING STATION AND LINE PROJECT

APRIL 1, 2016
REVISED: FEBRUARY 17, 2017

WATERBURY, MIDDLEBURY, & OXFORD, CT

EVERSOURCE ENERGY

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

Path: J:\0 GZA INTERCOMPANY PROJECTS\15.0029840.12 ES Towantic Switching Station\GIS\mxd\FinalMapping.mxd

SPECTRA/GAS LINE ROW

AVIATION WARNING LIGHTS TO BE INSTALLED PER FAA RECOMMENDATIONS (SOLAR POWERED; REFER TO EXHIBITS FAA-3 & FAA-4)

AVIATION WARNING LIGHTS TO BE INSTALLED PER FAA RECOMMENDATIONS (SOLAR POWERED; REFER TO EXHIBITS FAA-3 & FAA-4)

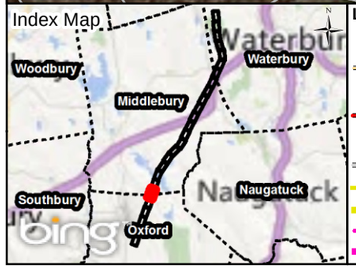
ACCESS VIA WOODRUFF HILL RD

Oxford
Middlebury

79
81
82
80
83
11169
11168
11167
1455
1454
W-E

Service Layer Credits: © 2010 NAVTEQ © AND © 2017 Microsoft Corporation

Index Map



Legend

- Ex. 1575/1585 Structures
- Ex. 1575/1585 Line
- Proposed 1575/1585 Structures
- Proposed 1575/1585 Line
- Ex. 1990 Structures
- Existing 1990 Line
- Access - Existing
- Access - Proposed
- Access - Off ROW Existing
- Access - Off ROW Proposed
- Proposed Construction Mats
- Proposed Construction Pad
- Vernal Pools
- Field Delineated Wetlands
- Parcels
- ROW Limits
- Perennial Stream/River
- Intermittent Stream
- Culverts
- Rare Species Habitat
- FEMA 100 Year Flood Zone
- FEMA Regulatory Floodway
- 1 Line List Properties Reference Number
- Existing Distribution Structure To Be Removed
- Proposed Distribution Structure

1 inch = 100 feet

0 50 100 200

Feet

Data Sources:
CAI
GZA
Eversource
CT DEEP
AECOM, Davison
FEMA
Base Map acquired from ESRI Online.

TOWANTIC SWITCHING STATION AND LINE PROJECT

APRIL 1, 2016
REVISED: FEBRUARY 17, 2017

WATERBURY, MIDDLEBURY, & OXFORD, CT

EVERSOURCE ENERGY

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

Path: J:\0 GZA INTERCOMPANY PROJECTS\15.0029840.12 ES Towantic Switching Station\GIS\mxd\FinalMapping.mxd

SITE OF TOWANTIC GENERATING STATION (BY CPV TOWANTIC)

PROPOSED TOWANTIC SWITCHING STATION (BY EVERSOURCE)

ESTIMATED TEMPORARY WETLAND IMPACTS: 14,110 SF

ESTIMATED PERMANENT WETLAND IMPACTS: 1,500 SF

TOWANTIC SWITCHING STATION SECONDARY ACCESS ROAD TO BE CONSTRUCTED BY OTHERS

Woodruff Hill Rd

LIMIT OF WORK (PERMANENT) FOR SWITCHING STATION

SEE SHEET 26 FOR DETAIL

EXISTING 1990 STRUCTURE TO BE REMOVED

AVIATION WARNING LIGHTS TO BE INSTALLED PER FAA RECOMMENDATIONS (SOLAR POWERED; REFER TO EXHIBIT FAA-4)

CONSTRUCTION PAD/PULL PAD AREA

AVIATION WARNING LIGHTS TO BE INSTALLED PER FAA RECOMMENDATIONS (SOLAR POWERED; REFER TO EXHIBITS FAA-3 & FAA-4)

AVIATION WARNING LIGHTS TO BE INSTALLED PER FAA RECOMMENDATIONS (SOLAR POWERED; REFER TO EXHIBIT FAA-4)

REBUILD LINE 1585N PROJECT AREA

RECONDUCTOR LINE 1575S PROJECT AREA

SPECTRA/GAS LINE ROW

W-A W-B W-C W-D W-E W-F

11166 11166A 11165 1452 1452A 1452B 1452C 1452D 1453

83 84 85 86 87

Service Layer Credits: © 2010 NAVTEQ © AND © 2017 Microsoft Corporation

Index Map

Waterbury Woodbury Middlebury Naugatuck Southbury Oxford

Legend

- Ex. 1575/1585 Structures
- Ex. 1575/1585 Line
- Proposed 1575/1585 Structures
- Proposed 1575/1585 Line
- Ex. 1990 Structures
- Existing 1990 Line
- Access - Existing
- Access - Proposed
- Access - Off ROW Existing
- Access - Off ROW Proposed
- Proposed Construction Mats
- Proposed Construction Pad
- Vernal Pools
- Field Delineated Wetlands
- Parcels
- ROW Limits
- Perennial Stream/River
- Intermittent Stream
- Culverts
- Rare Species Habitat
- FEMA 100 Year Flood Zone
- FEMA Regulatory Floodway
- 1 Line List Properties Reference Number
- Existing Distribution Structure To Be Removed
- Proposed Distribution Structure

1 inch = 100 feet

0 50 100 200

Feet

Data Sources:
CAI
GZA
Eversource
CT DEEP
AECOM, Davison
FEMA
Base Map acquired from ESRI Online.

TOWANTIC SWITCHING STATION AND LINE PROJECT

APRIL 1, 2016
REVISED: FEBRUARY 17, 2017

WATERBURY, MIDDLEBURY, & OXFORD, CT

EVERSOURCE ENERGY

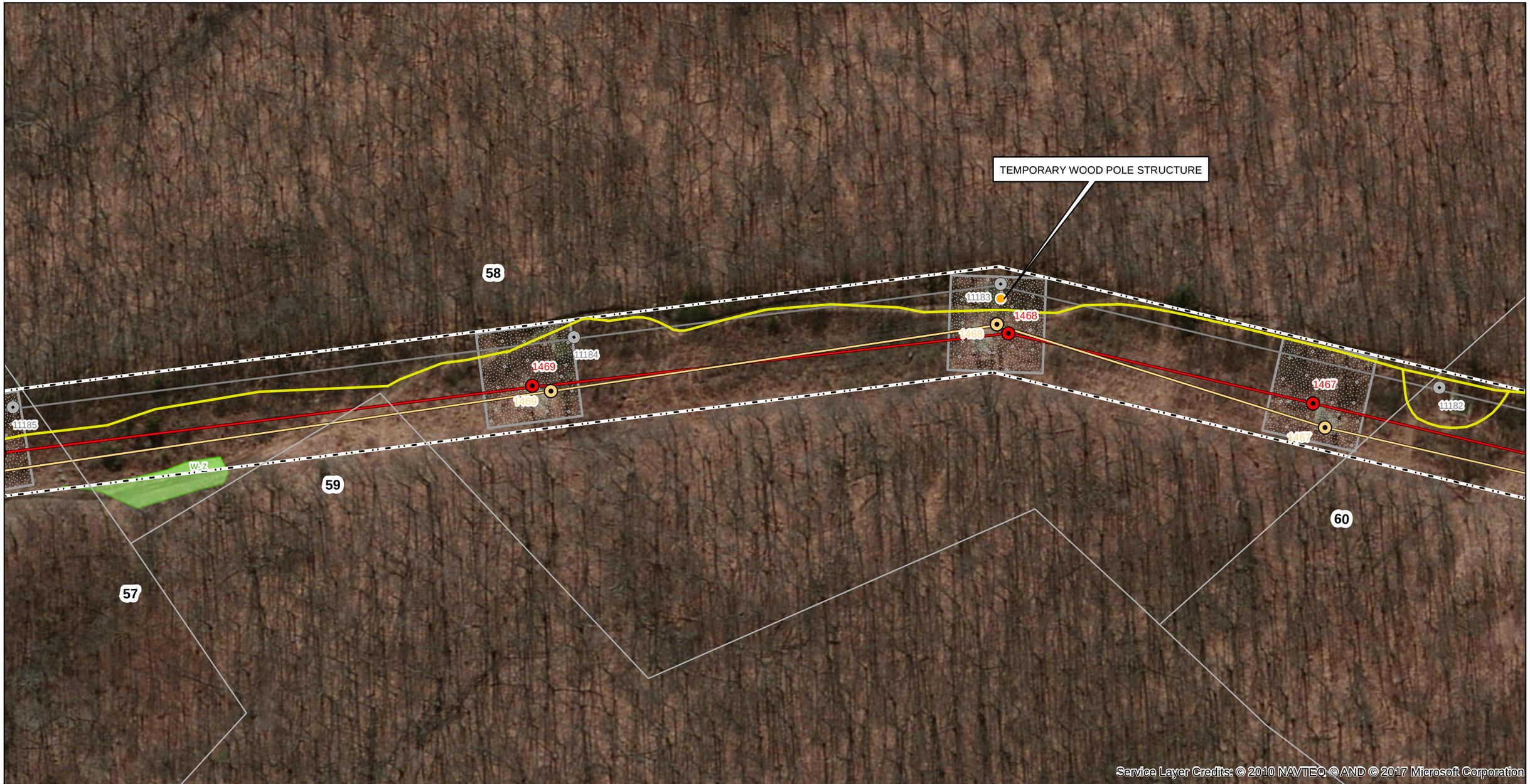
GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

ATTACHMENT F

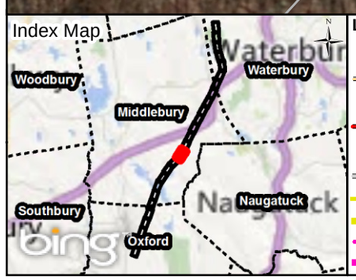
REVISED PETITION MAPSHEETS 15 AND 19

TEMPORARY WOOD POLE LOCATIONS

Path: J:\0 GZA INTERCOMPANY PROJECTS\15.0029840.12 ES Towantic Switching Station\GIS\mxd\FinalMapping.mxd



Index Map



Legend

- Ex. 1575/1585 Structures
- Ex. 1575/1585 Line
- Proposed 1575/1585 Structures
- Proposed 1575/1585 Line
- Ex. 1990 Structures
- Existing 1990 Line
- Access - Existing
- Access - Proposed
- Access - Off ROW Existing
- Access - Off ROW Proposed
- Proposed Construction Mats
- Proposed Construction Pad
- Vernal Pools
- Field Delineated Wetlands
- Parcels
- ROW Limits
- Perennial Stream/River
- Intermittent Stream
- Culverts
- Temporary Wood Pole Structure
- Rare Species Habitat
- FEMA 100 Year Flood Zone
- FEMA Regulatory Floodway
- 1 Line List Properties Reference Number
- Existing Distribution Structure To Be Removed
- Proposed Distribution Structure

1 inch = 100 feet

0 50 100 200

Feet

Data Sources:
CAI
GZA
Eversource
CT DEEP
AECOM, Davison
FEMA
Base Map acquired from ESRI Online.

TOWANTIC SWITCHING STATION AND LINE PROJECT

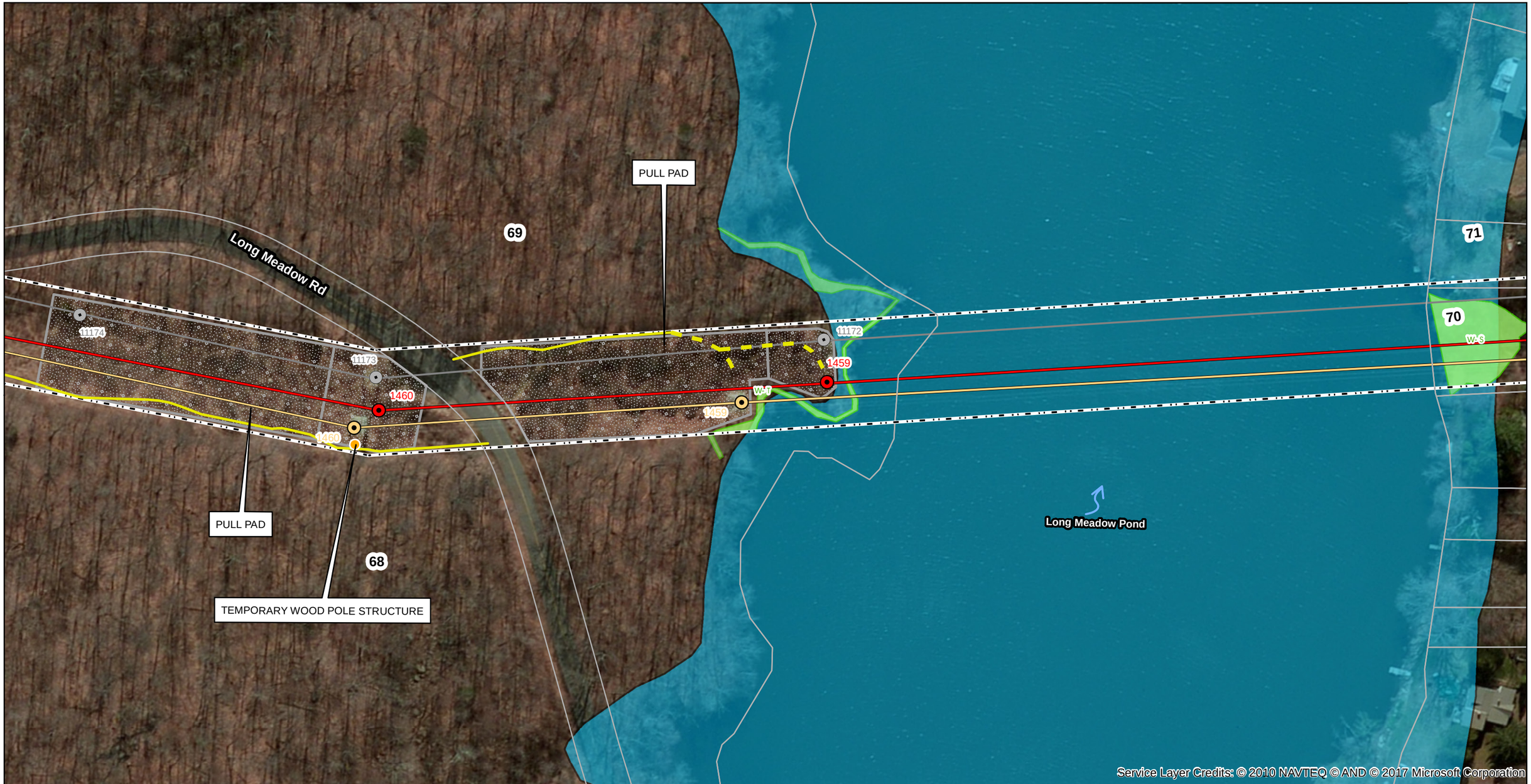
APRIL 1, 2016
REVISED: FEBRUARY 10, 2017

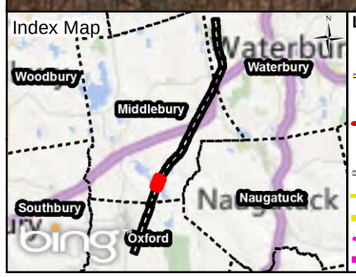
WATERBURY, MIDDLEBURY, & OXFORD, CT
PAGE 15 OF 26

EVERSOURCE ENERGY

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

Path: J:\0 GZA INTERCOMPANY PROJECTS\15.0029840.12 ES Towantic Switching Station\GIS\mxd\FinalMapping.mxd





Legend

- Ex. 1575/1585 Structures
- Ex. 1575/1585 Line
- Proposed 1575/1585 Structures
- Proposed 1575/1585 Line
- Ex. 1990 Structures
- Existing 1990 Line
- Access - Existing
- Access - Proposed
- Access - Off ROW Existing
- Access - Off ROW Proposed
- Proposed Construction Mats
- Proposed Construction Pad
- Vernal Pools
- Field Delineated Wetlands
- Parcels
- ROW Limits
- Perennial Stream/River
- Intermittent Stream
- Culverts
- Temporary Wood Pole Structure
- Rare Species Habitat
- FEMA 100 Year Flood Zone
- FEMA Regulatory Floodway
- 1 Line List Properties Reference Number
- Existing Distribution Structure To Be Removed
- Proposed Distribution Structure

1 inch = 100 feet

0 50 100 200

Feet

Data Sources:
CAI
GZA
Eversource
CT DEEP
AECOM, Davison
FEMA
Base Map acquired from ESRI Online.

TOWANTIC SWITCHING STATION AND LINE PROJECT

APRIL 1, 2016
REVISED: FEBRUARY 10, 2017

WATERBURY, MIDDLEBURY, & OXFORD, CT

EVERSOURCE ENERGY

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com