



## **Mohican-Battenkill Rebuild Project**

### **Exhibit 2**

#### **Location of Facilities**

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## **EXHIBIT 2: LOCATION OF FACILITIES**

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### **2.1 GENERAL DESCRIPTION OF FACILITIES LOCATION**

The Applicant seeks a Certificate of Environmental Compatibility and Public Need in this Application for a project to reconstruct and reconductor two of its existing 115 kV electric transmission lines, the Mohican-to-Battenkill Line 15 and a portion of the Mohican-to-North-Troy Line 3, over a distance of approximately 14.2 miles (the “Project”).

For clarity and consistency, the Applicant uses the following terms throughout the Application to refer to relevant components of its system and the Project:

**Line 15** - Applicant’s 115kV Line 15 from the Mohican Substation to the Battenkill Substation, a distance of 14.2 miles.

**Line 3** - Applicant’s 115kV Line 3 from the Mohican Substation to the North Troy Substation, a distance of 37.4 miles.

**Line 3 Segment** - The portion of Line 3 that is proposed to be modified by the Project, which is the portion from the Mohican Substation to the Battenkill Substation, a distance of 14.2 miles.

**Existing Line 15** - Line 15 as it exists prior to the Project.

**Existing Line 3 Segment** – The Line 3 Segment as it exists prior to the Project.

**Existing Lines** - Collectively, Existing Line 15 and the Existing Line 3 Segment.

**Proposed Line 15** - Line 15 as it is proposed to be modified by the Project.

**Proposed Line 3 Segment** - The Line 3 Segment as it is proposed to be modified by the Project.

**Proposed Lines** - Proposed Line 15 and the Proposed Line 3 Segment, collectively.

**Existing ROW** - The approximately 14.2 miles of right-of-way (“ROW”) from the Mohican Substation in the north to the Battenkill Substation in the south, in which the Existing Lines are located.

**Project ROW** - The Existing ROW plus any additional ROW acquired as Vegetation Management and/or Danger Tree Easements (see Section 2.4 *infra*).

The Project consists of rebuilding and reconductoring the Existing Lines. The Applicant proposes, where possible, to construct the new double circuit structure line in a location on the Project ROW offset from the line of structures for the Existing Lines.

Constructing the Proposed Lines along a line that is offset from the Existing Lines, rather than along the same line, has two principal benefits. It allows the Existing Lines to remain in service while the Project is underway, thus minimizing the need for long-term outages. It also reduces the aggregate additional ROW required to comply with Applicant's currently-applicable *Transmission Right-of-Way Management Program* compared to the additional ROW that would be required if Line 15 and Line 3 were to remain in their present locations.

The Project includes installing new 795 ACSR "Drake" conductors, the standard conductor for 115kV installations today, because copper conductor for new installations is cost prohibitive. Reusing the 4/0 copper conductor now on the Existing Lines, which was installed when the Existing Lines were originally constructed in the 1920's, is problematic for a few reasons. Reconductoring Line 15 is proposed for reasons of electrical need (see Exhibit E-4).

On the Line 3 Segment, other factors collectively favor replacement of the copper conductor. First, changing the existing copper conductor to the proposed 795 ACSR "Drake" conductor for Line 15 and leaving the existing 4/0 Copper conductor on Line 3 would require taller structures. This change would increase cost and visual impact due to the difference in sag characteristics between the conductor types.

Second, the 4/0 copper conductor now on the Line 3 Segment has been in service for approximately 85 years and will soon be at the end of its asset life, since the expected life of copper conductor is 85-90 years. Given the conductor's advanced age, reconductoring of the entire 37.4 miles of Line 3 would need to occur in the next 10-15 years. The estimated cost of reconductoring the 14.2 mile Line 3 Segment as an integral component of this Project is approximately one tenth the estimated cost of a separate reconductoring project on the entire 37.4 miles of Line 3.

Third and finally, transferring the copper conductor from the existing structures to the new structures would present a host of risks and complications to construction. The two usual methods of reusing conductor are to remove it onto coils and reinstall it on the new structures via typical conductor stringing methods, or to remove each end, in sequence, at a existing dead-end structure and transfer it to a new dead-end. The fragility of the existing conductor, combined with the unusually long distance between dead-end structures on the Existing Lines, would require atypical construction practices in order to ensure that Line 3 could be put back in service under normal restoration time.

The majority of the structures supporting the Existing Lines lack the strength needed to support the new 795 ACSR “Drake” conductor proposed for Line 15, so Applicant proposes to replace all of the structures on the Existing Lines with double circuit phase-over-phase cor-ten steel monopole structures.

The Project ROW is located in Washington and Saratoga Counties (Northeast Region of Eastern New York National Grid Service Territory). Figure 2-1 is a simple schematic that depicts the Applicant’s system (i) as it presently exists and (ii) as it is proposed to be modified by the Project.

The width of the Existing ROW varies from 100 feet to 175 feet. The Existing ROW is 150 feet wide from the Mohican Substation to the 115 kV Irving Tissue Tap #1 in the Town of Moreau, a distance of 4,560 feet. The Existing ROW is 175 feet wide along a segment of the route in the Town of Fort Edward, where the 34.5 kV Battenkill Cement Mountain Line #5 (Fort Miller Tap) parallels the Existing Lines to the west for approximately 1.2 miles, at which point the Fort Miller Tap crosses to the eastern side of the Existing Lines and continues on toward the Battenkill Substation for approximately 3 miles. Approximately 900 feet north of the Battenkill Substation, the Fort Miller Tap turns east and out of the Existing ROW. The Existing ROW is 125 feet wide in the Town of Easton, for the final 2,000 feet of the Project’s route, just north of the Battenkill Substation. The Existing ROW is 100 feet wide along all other segments of the route.

### **2.1.1 Proposed Lines**

In order to facilitate the reconstruction of the Existing Lines, the centerline of the lines will be relocated laterally towards the east inside the Project ROW from Mile 0.1 to Mile 11.9 (measured from north to south). This will permit installation of the new structures and conductors along this section of the Project ROW prior to removal of the existing ones, thus helping to minimize long-duration outages, maximize construction efficiency, and shorten the overall duration of the Project.

Between Mile 11.9 and the Battenkill Substation, a distance of 2.3 miles, the Existing Lines will be rebuilt along the same centerline as the existing towers, as the existing centerline is the only viable place within the bounds of the Project ROW to accommodate the Proposed Lines.

At the northernmost section of the Existing ROW, between Mile 0.0 and Mile 0.1, the ROW is 150 feet wide. Along this segment, Line 15 is located on the centerline of the Existing ROW, supported by a three-pole, wooden cross-arm structure. This structure will be replaced by a cor-ten steel, monopole, delta-configured structure. Line 3, located 29.5 feet from the western edge of the Existing ROW, currently is supported by a steel lattice flex tower. This structure will be replaced in its current location by a cor-ten steel, monopole, vertically-configured dead-end structure.

Between Mile 0.1 and Mile 0.8, the Existing ROW is 150 feet wide, with the Existing Lines located 29.5 feet from the western edge of the Existing ROW. As a result of the Project, the Proposed Lines will be positioned on the centerline of the Project ROW, 45.5 feet east of the existing structure location. The Proposed Lines will be supported by cor-ten steel, monopole, phase-over-phase, double-circuit structures. The location of the existing sub-transmission 34.5kV Line 17 will not change.

Between Mile 0.8 and Mile 10.7, the Existing ROW is 100 feet wide, and the Existing Lines are located 29.5 feet east of the edge of the Existing ROW. The Proposed Lines will be located 39.5 feet from the Existing Lines and supported by cor-ten steel, monopole, phase-over-phase, double-circuit structures. The Proposed Lines cannot be located at the center of the ROW in this segment because of constructability issues with an adjacent line, and they cannot be moved closer to the edge of the Project ROW because of conductor blow-out concerns.

Between Mile 10.7 and Mile 11.9, the Existing ROW is 175 feet wide. The Existing Lines are located 17 feet to the east of the centerline of the Existing ROW. The Proposed Lines will be located 39.5 feet east of the Existing Lines and supported by cor-ten steel, monopole, phase-over-phase double-circuit structures.

Between Mile 11.9 and Mile 13.7, the Existing ROW is 100 feet wide, and the Existing Lines are located 26.5 feet from the western edge of the Existing ROW. Each structure of the Proposed Lines will be positioned five feet east of the location of its counterpart on the Existing Lines. On this segment of the Project ROW, positioning the Proposed Lines any greater distance from the location of the Existing Lines is restricted by the presence of the sub-transmission 34.5kV Line 5.

Between Mile 13.7 and Mile 14.0, the Existing ROW is 125 feet wide. The Existing Lines are located 26.5 feet from the western edge of the Existing ROW. They share the Project

ROW with the sub-transmission 34.5kV Line 5. To facilitate construction on this segment of the Project ROW, the Applicant proposes to locate the centerline of the Proposed Lines, supported by cor-ten steel, monopole, phase-over-phase double-circuit structures, five feet to the east of the Existing Lines, which are supported by double-circuit lattice-tower structures.

Between Mile 14.0 and Mile 14.2, the Existing Lines, which are supported by double circuit lattice tower structures, are the sole occupants of the Project ROW. The Proposed Lines, which will be supported by cor-ten steel, monopole, phase-over-phase double circuit structures, will be located five feet to the east of the Existing Lines.

## **2.2 LOCATION MAPS**

### **2.2.1 NYSDOT Location Maps**

The general location of the Project is shown in Figure 2-2, Sheets 1 through 5, based on NYSDOT 1:24,000 topographic maps. Figure 2-2 depicts the location of recorded historic sites, county and state parks, recreational facilities, and the sole airport within three miles of the Project ROW. No designated scenic areas or untouched wilderness are located within three miles of the Project.

### **2.2.2 Overall Transmission System Maps**

Figure 2-3, Regional Transmission System Map, shows the location and relative length of the Project in conjunction with other components of the existing National Grid 115 kV system, including points of connection between existing and proposed facilities. Figure 2-3 illustrates the location of the overall National Grid 115 kV system in the Northeast Region.

## **2.3 AERIAL PHOTOGRAPHS**

Figure 2-4 provides aerial photographs showing 1,200 linear feet on either side of the Project. The ortho-photography in these figures was taken by James W. Sewall Company on May 20, 2010 for National Grid and reflects the current situation.

## **2.4 PROPOSED ADDITIONAL ROW**

With the exception of 5,000 feet at the northern end of the Existing ROW which National Grid holds by easement, National Grid owns the Existing ROW in fee. New property rights required as part of the Project ROW would be acquired as necessary through:

1. Vegetation Management Easement: an easement right on a 15-to-25-foot-wide strip of land immediately adjacent to one or both sides of the Existing ROW on which the Applicant will have the right to (a) remove all vegetation, including tall-growing species, therefrom, and (b) conduct such other activities as are necessary, from time to time, for construction, operation, maintenance, repair or replacement of the Project and/or other facilities on the Project ROW, and/or
2. Danger Tree Easement: an easement right on a strip of land (of varying widths), that lies adjacent to the Existing ROW and/or the Vegetation Management Easements, on which the Applicant will have the right to remove any tall-growing tree if the Applicant determines that it would interfere with the construction, operation, maintenance, repair or replacement of the Project and/or other facilities on the Project ROW.

Due to the proximity of the centerline of the Proposed Lines to the edge of the Existing ROW, additional ROW in the form of Vegetation Management Easements will be required as follows:

- (i) an additional 25 feet on the eastern edge of the Existing ROW from Mile 0.8 to Mile 11.9;
- (ii) from Mile 11.9 to Mile 13.7, an additional 25 feet on the western edge of the Existing ROW; and
- (iii) from Mile 13.7 to Mile 14.2, an additional 15 feet of on the western edge of the Existing ROW.

In some areas where it has been determined that such additional ROW in the form of Vegetation Management Easements is needed for the Project, there also is a need for Danger Tree Easements, of varying widths, adjacent to the required Vegetation Management Easements. Such areas are shown on Figure 2-4 of this Exhibit 2 and described in detail in Section 4.2.1 of Exhibit 4.

## **2.5 ROADWAYS, RAILROADS, AND AIRPORTS**

An assessment of roadway and railroad corridors crossed by the Project and the proximity of the Project to local airports is presented in Exhibit E-6.

### **2.5.1 Roadways Traversed by the Project**

Roadway crossings provide access to the Project ROW and will be utilized in conjunction with permanent, unpaved, and temporary access roads to construct the Proposed Lines. Among the seventeen (17) roadways crossed by the Project ROW in Saratoga and Washington Counties, there are two state highways. No interstate highways are crossed.

### **2.5.2 Railroad Corridors Traversed by the Project**

The Project will cross three railroad corridors. National Grid will coordinate with the railroad companies to establish safe overhead line clearances. Construction activities will be coordinated with the local railroad companies to ensure that construction activities near railroads are conducted in accordance with applicable safety codes. During construction of the Project, operations of active railroads will not be interrupted.

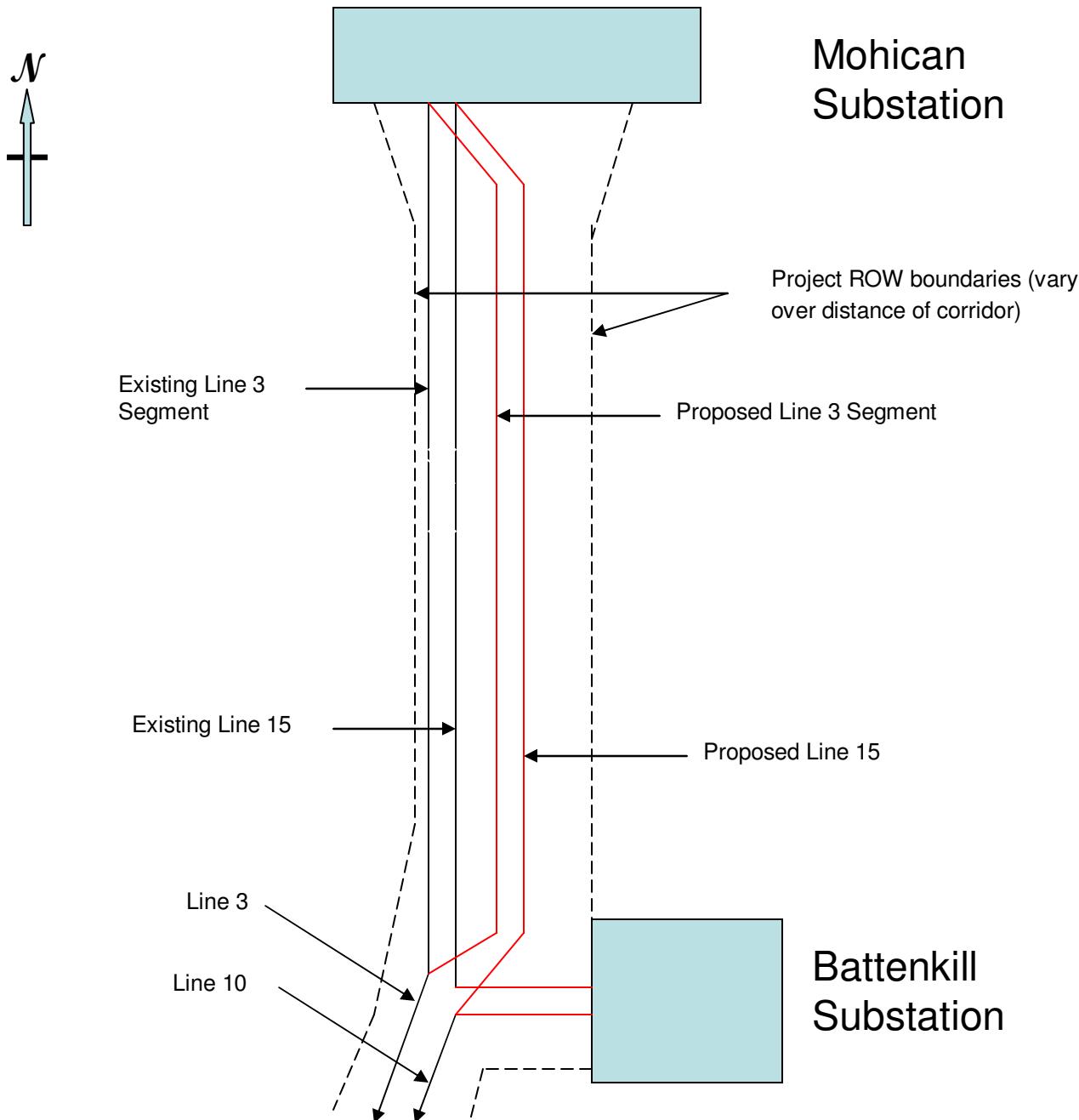
### **2.5.3 Airports Near the Project**

The Garnseys Airport, in the Town of Schuylerville in Saratoga County, is located approximately 2.4 miles southwest of the nearest point on the Project ROW. Floyd Bennett Memorial Airport, in the town of Queensbury in Warren County, is located approximately 3.5 miles north of the Mohican Substation, the Project's northern terminus. Heber Airpark, in the town of Gansevoort in Saratoga County, is located approximately 3.4 miles west of the nearest point on the Project ROW. Because of the proximity of the Project ROWs to these airports and several others within 5 miles, an obstruction evaluation was performed pursuant to the Federal Aviation Administration ("FAA") criteria set forth in CFR Title 14 Part 77.13 and in accordance with the *Notice Criteria Tool* on the FAA's Obstruction Evaluation website, <https://oeaaa.faa.gov>. Based on this evaluation, the Applicant determined that the Project is located within multiple instrument approach areas. Therefore a *Notice of Proposed Construction or Alteration* is required and will be submitted to the FAA.

## **EXHIBIT 2 - LOCATION OF FACILITIES**

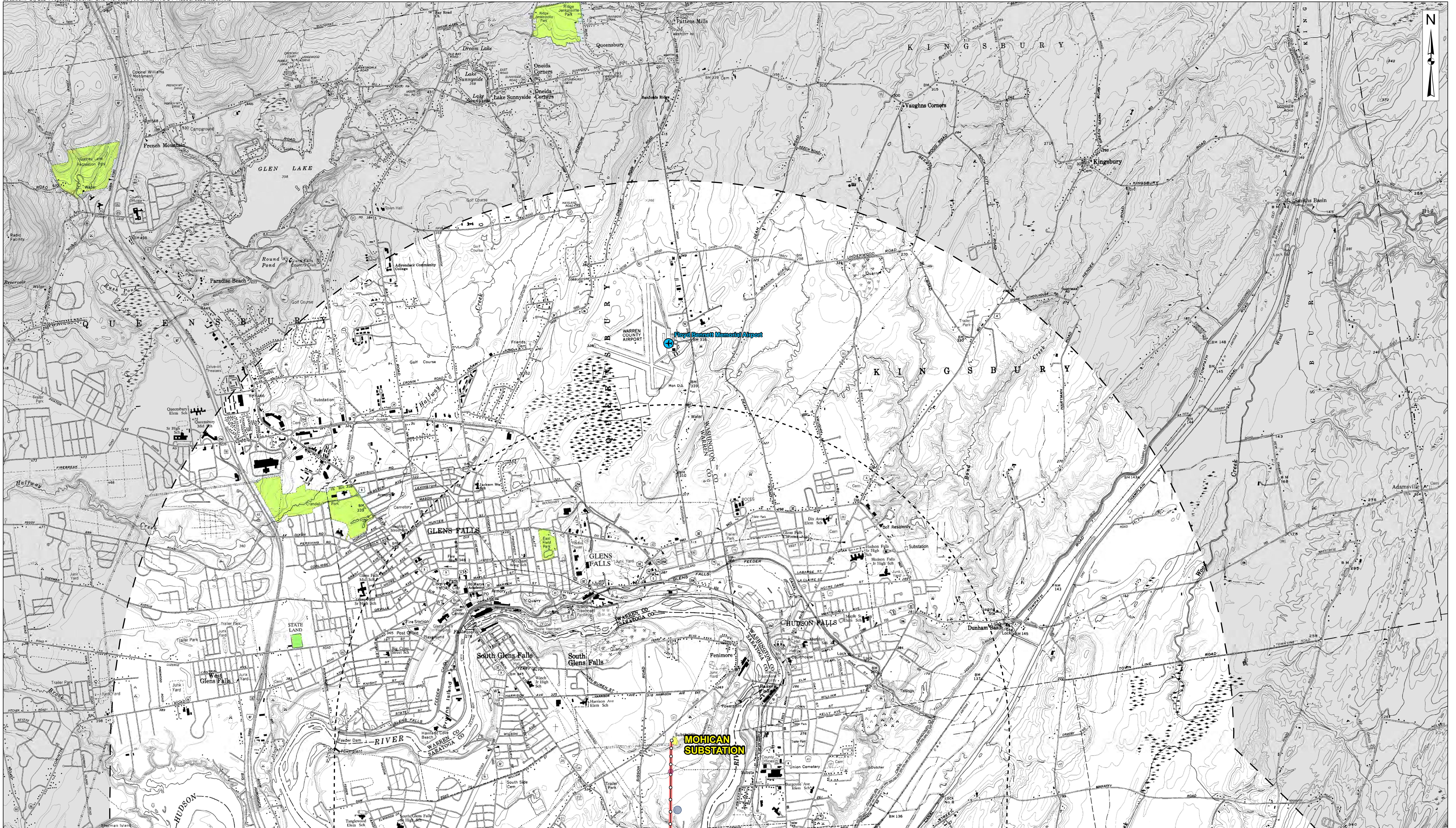
### **FIGURES**

**Figure 2-1 Existing System**



**Figure 2-1**

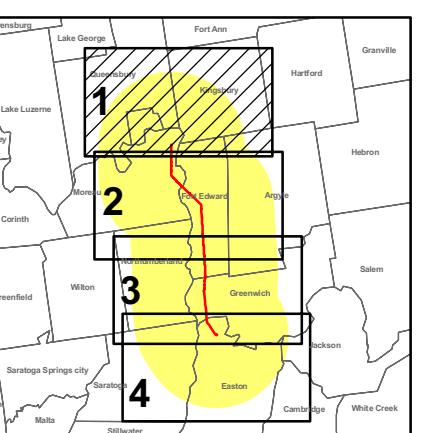
**Figure 2-2 NYS DOT Mapping (Pockets 1-4)**



NATIONAL GRID - 115kV Mohican - Battenkill #15  
Saratoga & Washington County, New York

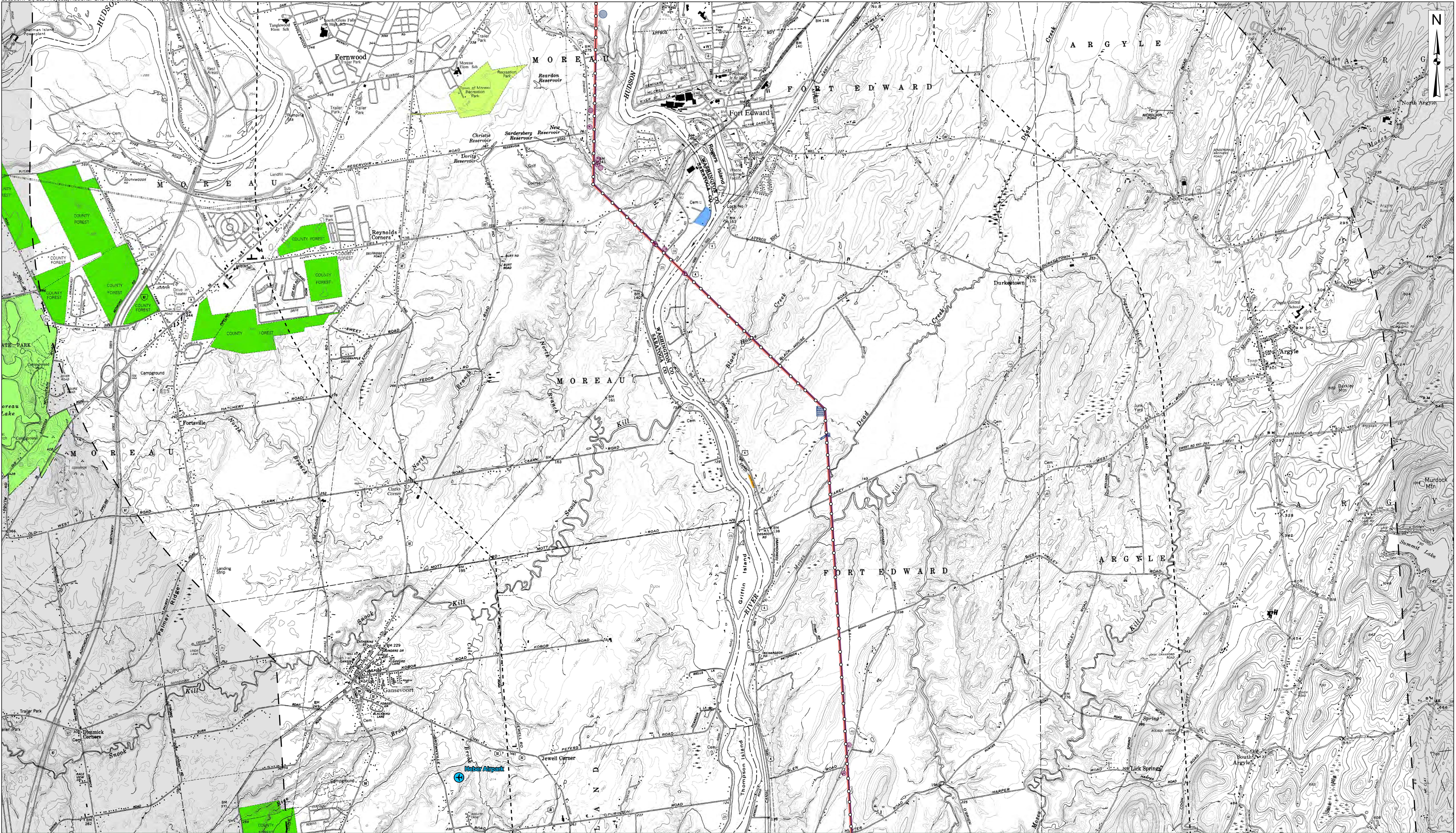
Scale: 1" = 2,000'  
0 2,000 4,000 Feet

Source: 1) NYS GIS Clearinghouse, 1:24,000 NYDOT Maps, 1991-1992 2) NYSDEC, Recreation Lands, 2009  
3) NGRID & ESS, Transmission Data, 2010 4) Hartgen, Historic Data, 2010



#### Legend

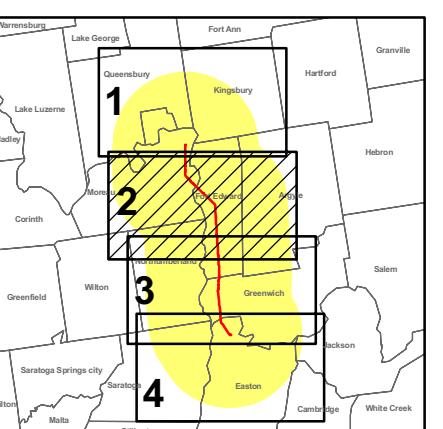
- Airport Location
- Proposed Structure Locations
- Proposed Route
- Substation
- Proposed Right-of-Way
- Vegetative Management Area
- 5 Mile Proposed Route Buffer
- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- State Recreation Lands
- Municipal Recreation Lands
- NYSDEC - Unclassified Land
- Federal Non-Recreation Lands
- NYSDEC - Waterway Access
- Federal Recreation Lands
- NYSDEC - Wildlife Management Area
- County Recreation Lands
- Area Outside of 5 Mile Buffer
- 3 Mile Proposed Route Buffer



NATIONAL GRID - 115kV Mohican - Battenkill #15  
Saratoga & Washington County, New York

Scale: 1" = 2,000'  
0 2,000 4,000 Feet

Source: 1) NYS GIS Clearinghouse, 1:24,000 NYDOT Maps, 1991-1992 2) NYSDEC, Recreation Lands, 2009  
3) NGRID & ESS, Transmission Data, 2010 4) Hartgen, Historic Data, 2010



#### Legend

- (1) Airport Location
- (2) Proposed Structure Locations
- (3) Proposed Route
- (4) Substation
- Proposed Right-of-Way
- Vegetative Management Area
- 5 Mile Proposed Route Buffer
- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- State Recreation Lands
- Municipal Recreation Lands
- NYSDEC - Unclassified Land
- NYSDEC - Waterway Access
- Federal Non-Recreation Lands
- Federal Recreation Lands
- Area Outside of 5 Mile Buffer
- 3 Mile Proposed Route Buffer

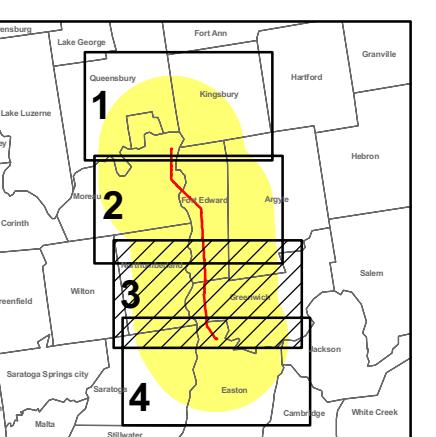
NYSDOT Mapping



NATIONAL GRID - 115kV Mohican - Battenkill #15  
Saratoga & Washington County, New York

Scale: 1" = 2,000'  
0 2,000 4,000 Feet

Source: 1) NYS GIS Clearinghouse, 1:24,000 NYDOT Maps, 1991-1992 2) NYSDEC, Recreation Lands, 2009  
3) NGRID & ESS, Transmission Data, 2010 4) Hartgen, Historic Data, 2010

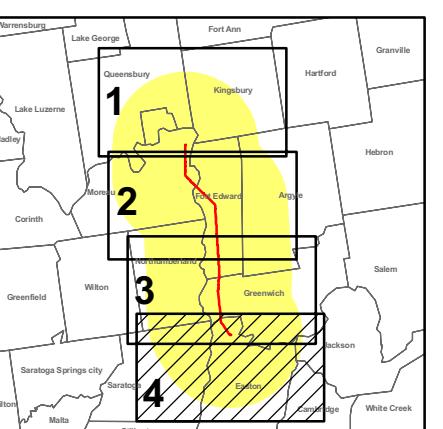


#### Legend

- (●) Airport Location
- (○) Proposed Structure Locations
- Proposed Route
- (■) Substation
- (■) Proposed Right-of-Way
- (■) Vegetative Management Area
- 5 Mile Proposed Route Buffer
- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- (■) State Recreation Lands
- (■) Municipal Recreation Lands
- (■) NYSDEC - Unclassified Land
- (■) NYSDEC - Waterway Access
- (■) Federal Non-Recreation Lands
- (■) Federal Recreation Lands
- (■) NYSDEC - Wildlife Management Area
- (■) County Recreation Lands
- 3 Mile Proposed Route Buffer

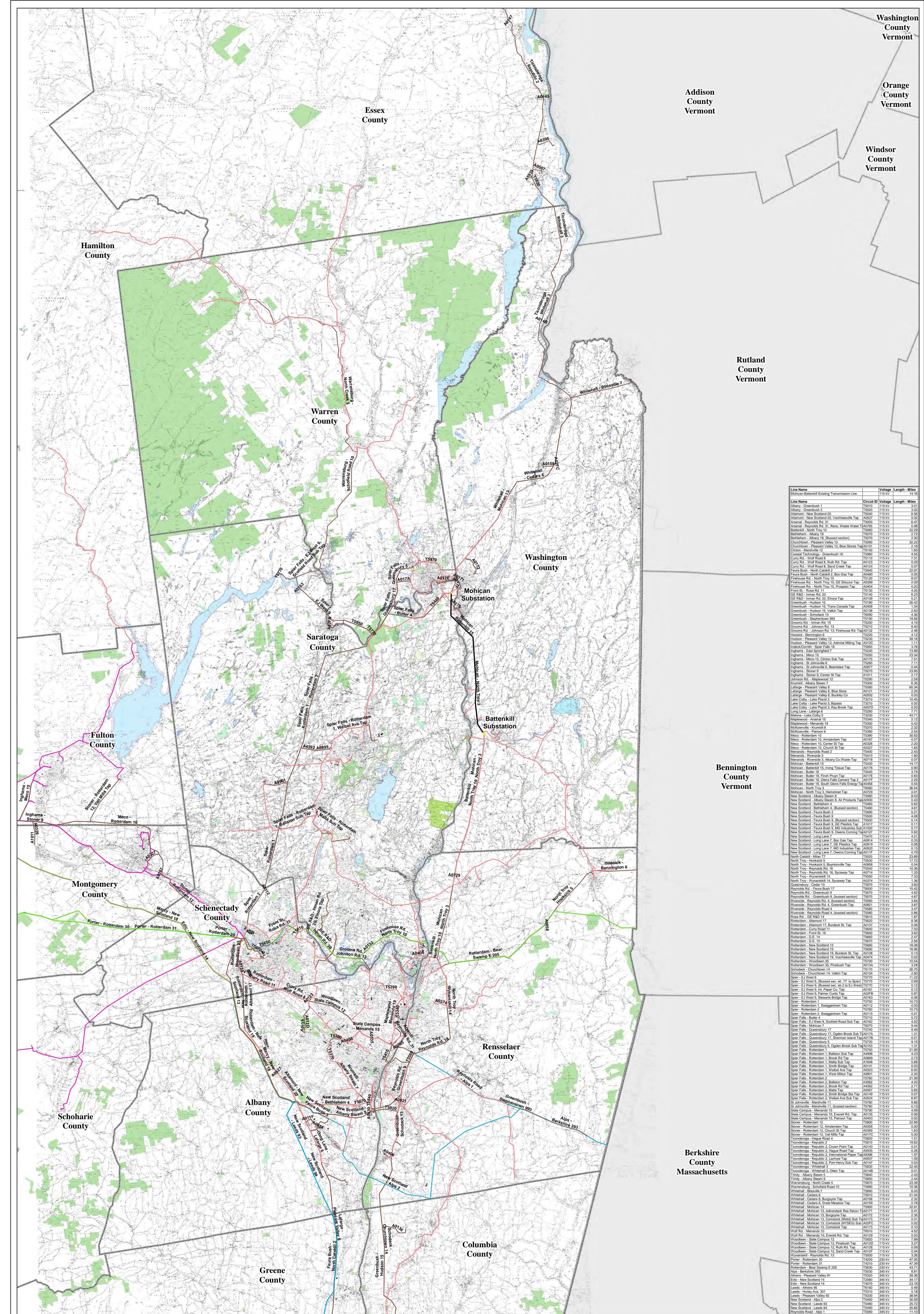

**NATIONAL GRID - 115kV Mohican - Battenkill #15**  
**Saratoga & Washington County, New York**

 Scale: 1" = 2,000'  
 0 2,000 4,000 Feet

 Source: 1) NYS GIS Clearinghouse, 1:24,000 NYDOT Maps, 1991-1992 2) NYSDEC, Recreation Lands, 2009  
 3) NGRID & ESS, Transmission Data, 2010 4) Hartgen, Historic Data, 2010
**Legend**

- (●) Airport Location
- (○) Proposed Structure Locations
- Proposed Route
- (■) Substation
- (■) Proposed Right-of-Way
- (■) 5 Mile Proposed Route Buffer
- (■) Cultural: HAA, Inc. Observed Topographic/Drainage Features
- (■) Cultural: Historical Map-Documented Structures
- (■) NYSDEC - Unclassified Land
- (■) NYSDEC - Waterway Access
- (■) Federal Non-Recreation Lands
- (■) Federal Recreation Lands
- (■) Vegetative Management Area
- (■) County Recreation Lands
- (■) Area Outside of 5 Mile Buffer
- (■) 3 Mile Proposed Route Buffer

**Figure 2-3      System Map**

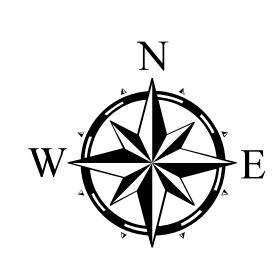


Scale 1:250,000

A scale bar with four major tick marks labeled 4, 8, 12, and 16. The first three segments each represent 4 kilometers (km), and the last segment represents 4 miles. The total length of the scale bar is 16 km or 10 miles.

4            8            12            16  
Mile

*Geographic Coordinate System: NAD 1983 UTM Zone 18N  
Datum: North American 1983  
Projection: Transverse Mercator  
Linear Units: Meter  
Scales with GPS 1999*



## 115kV Mohican-Battenkill Transmission Line Rebuild

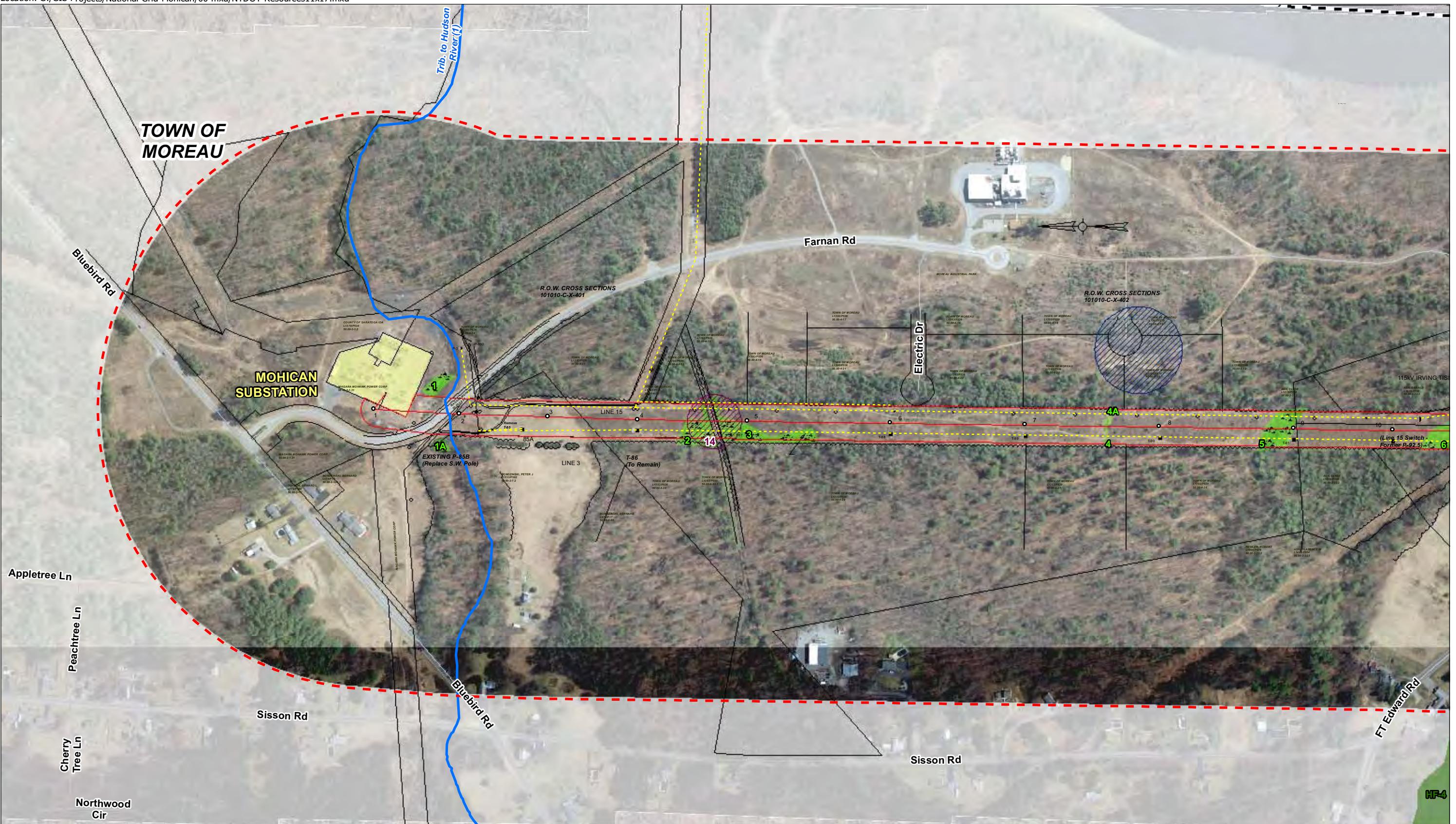
**Figure 2-3 System Map**

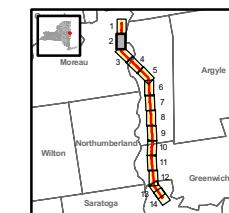
nationalgrid

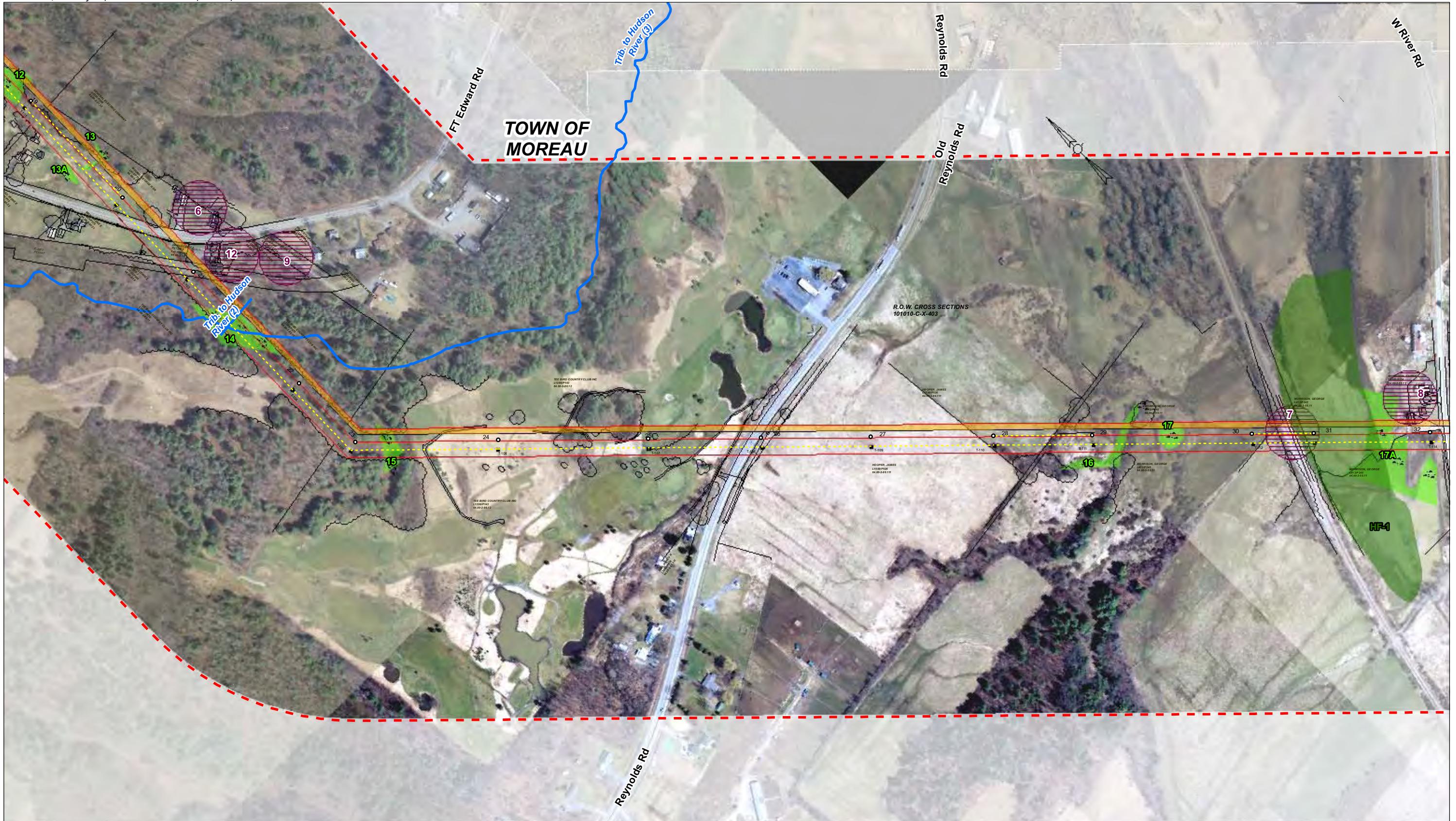
November 24, 2010

**ESS**  
Group, Inc.  
Engineers  
Scientists

**Figure 2-4 Orthophotography (Sheets 1-14)**







Engineers  
Scientists  
Consultants

### NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000'

0 400 Feet

Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1999  
3) NYS GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010



### Legend

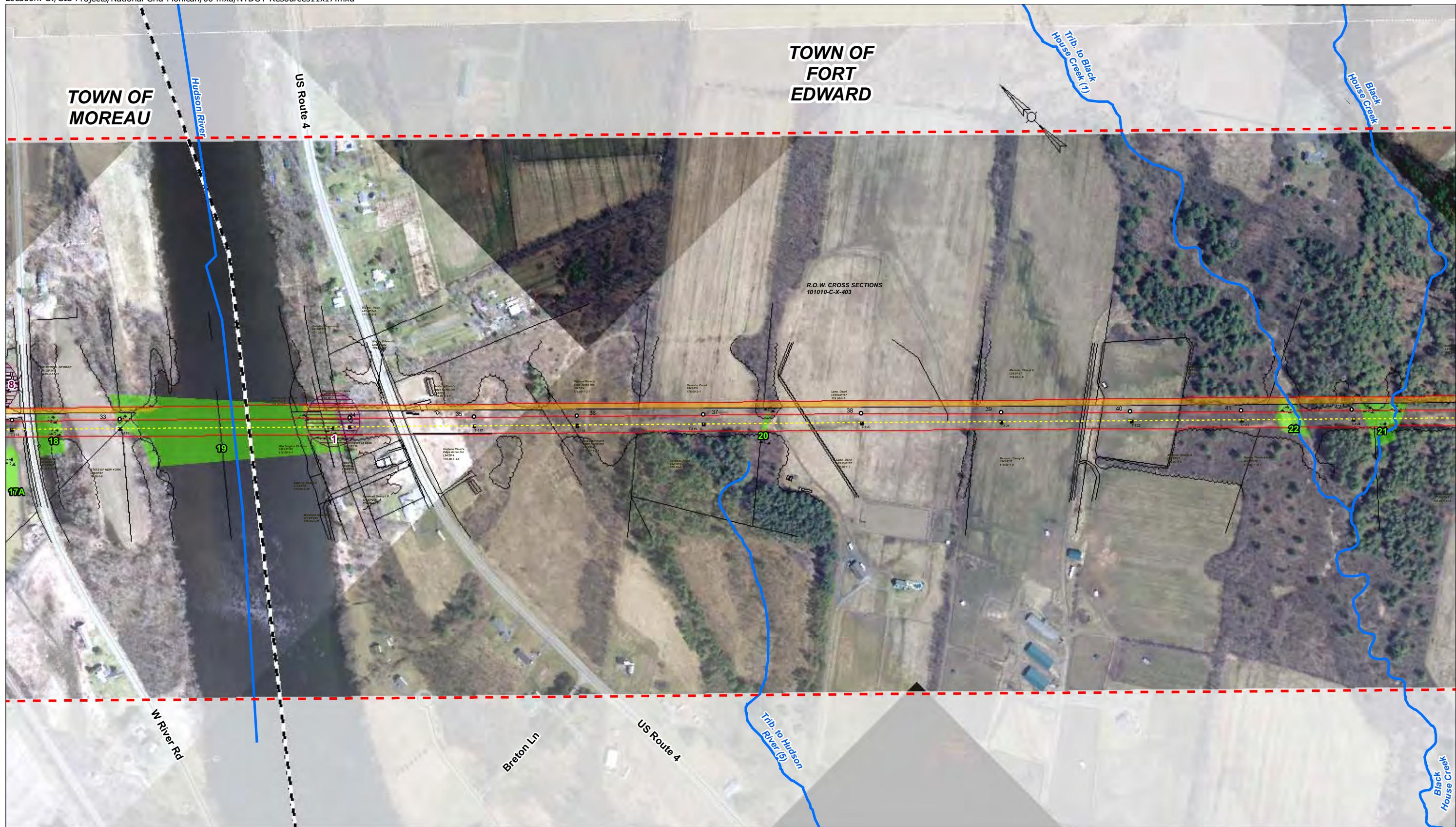
- Proposed Structure Locations
- Proposed Route Centerline
- Proposed Right-of-Way
- Proposed 2400' Corridor

- Substation
- Existing Transmission CL
- NYS DEC Stream Classification
- NYS DEC Wetlands

- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- Vegetative Management Area
- ESS Delineated Wetlands
- Roads

### Orthophotography

Figure 2-4  
Sheet 3 of 14



Engineers  
Scientists  
Consultants

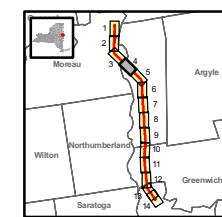
### NATIONAL GRID - 115kV Mohican - Battenkill #15

#### Saratoga & Washington County, New York

Scale: 1" = 4,000'

0 400 Feet

Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1999  
3) NYS GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010



### Legend

- Proposed Structure Locations
- Proposed Route Centerline
- Proposed Right-of-Way
- Proposed 2400' Corridor
- Substation
- Existing Transmission CL
- NYS DEC Stream Classification
- ▨ Cultural: HAA, Inc. Observed Topographic/Drainage Features
- ▨ Cultural: Historical Map-Documented Structures
- Vegetative Management Area
- ESS Delineated Wetlands
- Roads

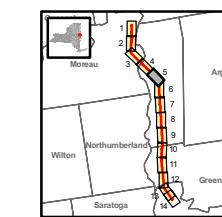
**Figure 2-4**  
**Sheet 4 of 14**



### NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000'

Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1999  
3) NYS GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010



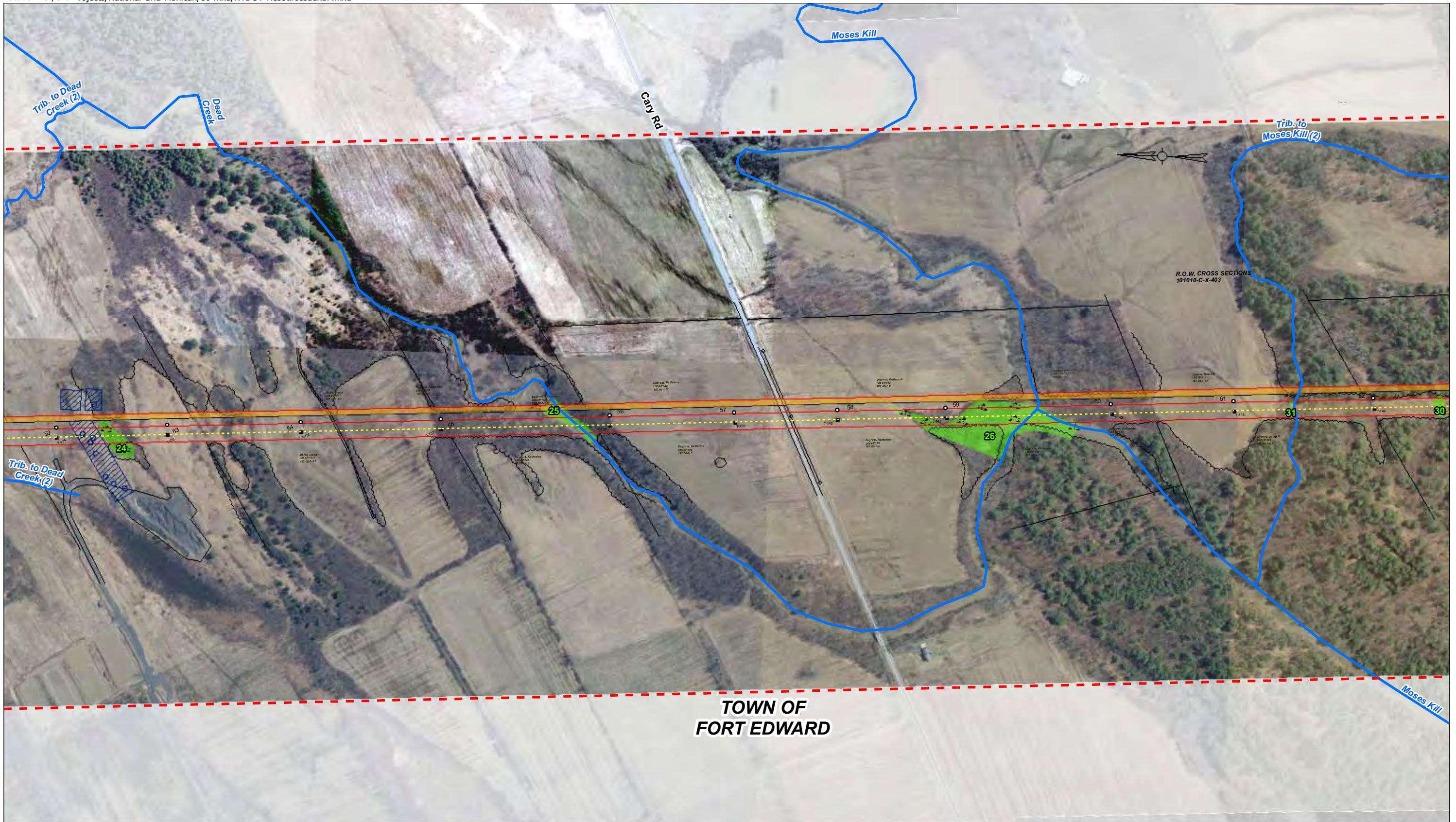
### Legend

- Proposed Structure Locations
- Proposed Route Centerline
- Proposed Right-of-Way
- Proposed 2400' Corridor
- Substation
- Existing Transmission CL
- Proposed Right-of-Way
- NYS DEC Stream Classification
- Proposed 2400' Corridor

- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- Vegetative Management Area
- ESS Delineated Wetlands
- Roads

### Orthophotography

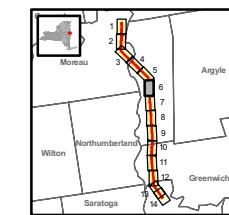
**Figure 2-4**  
**Sheet 5 of 14**



### NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000'

Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1999  
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4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010

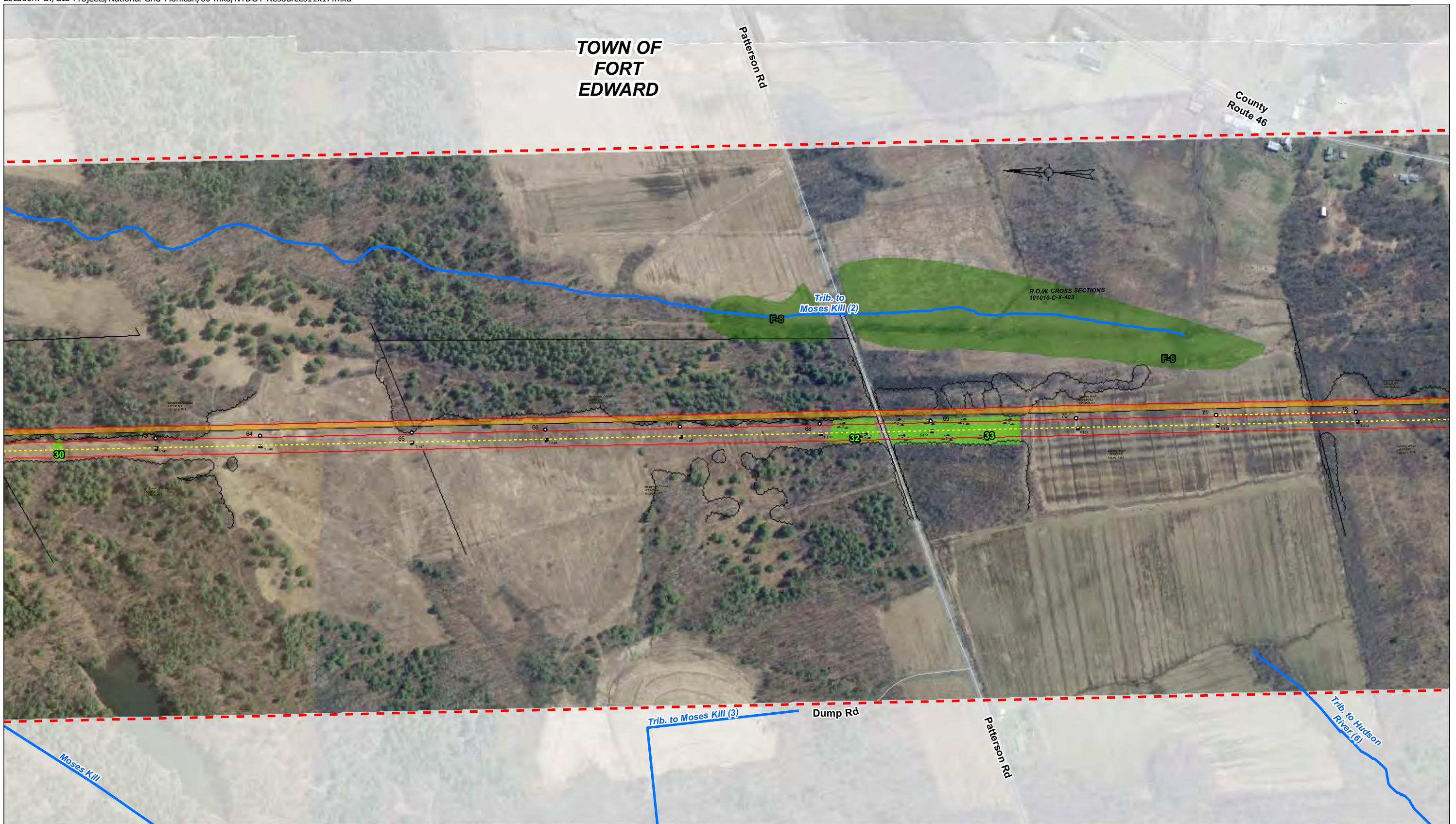


### Legend

- Proposed Structure Locations
- Proposed Route Centerline
- Proposed Right-of-Way
- Proposed 2400' Corridor
- Substation
- Existing Transmission CL
- Vegetative Management Area
- NYS DEC Stream Classification
- ESS Delineated Wetlands
- Roads

### Orthophotography

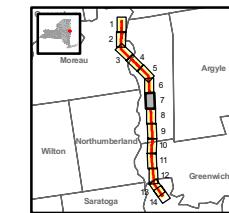
**Figure 2-4**  
**Sheet 6 of 14**



### NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000'

Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1999  
3) NYS GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010

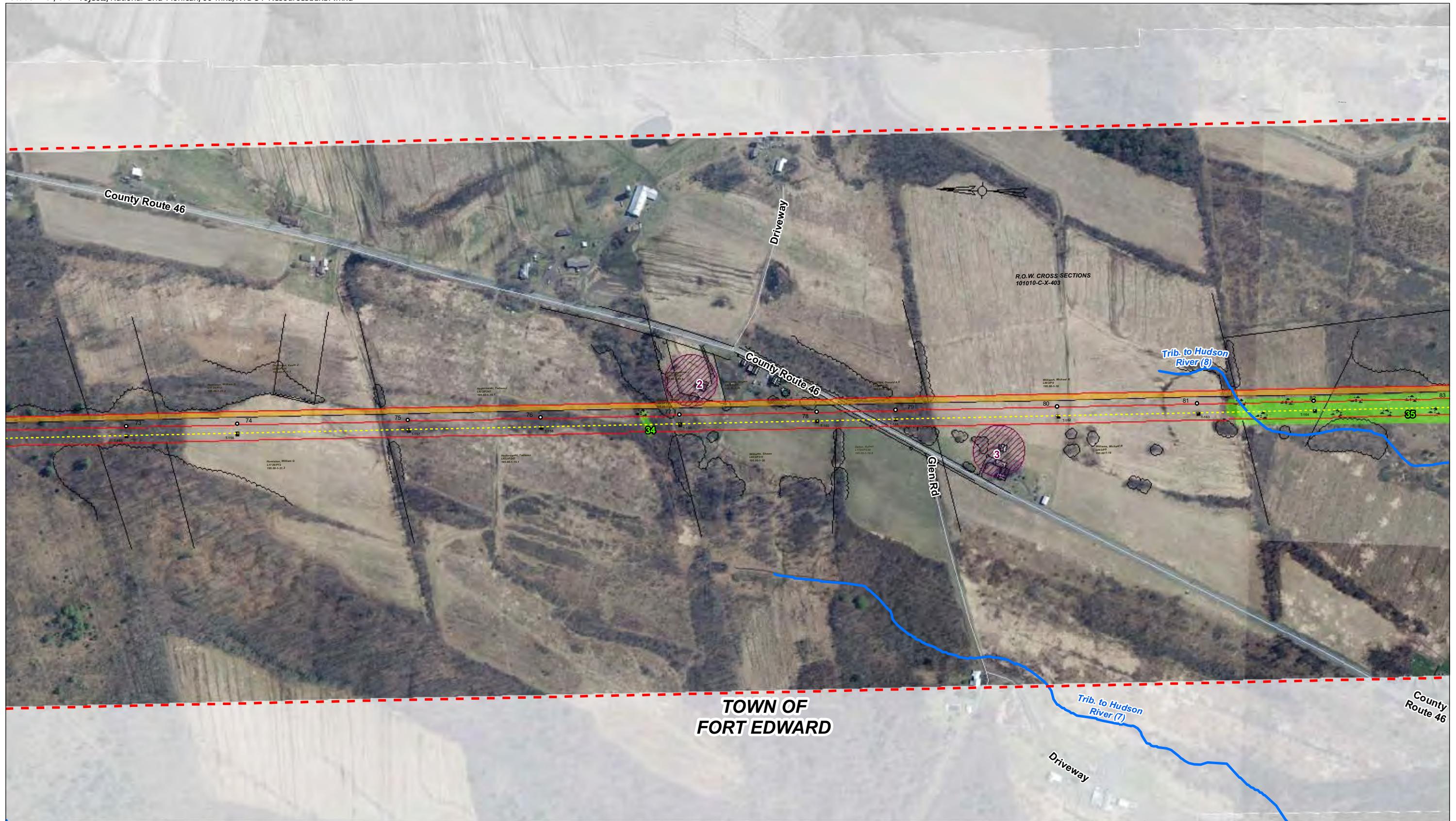


### Legend

- Proposed Structure Locations
- Proposed Route Centerline
- Proposed Right-of-Way
- Proposed 2400' Corridor
- Substation
- Existing Transmission CL
- NYS DEC Stream Classification
- NYS DEC Wetlands
- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- Vegetative Management Area
- ESS Delineated Wetlands
- Roads

**Orthophotography**

**Figure 2-4**  
**Sheet 7 of 14**



### NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000'

0 400 Feet

Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1999  
3) NYS GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010

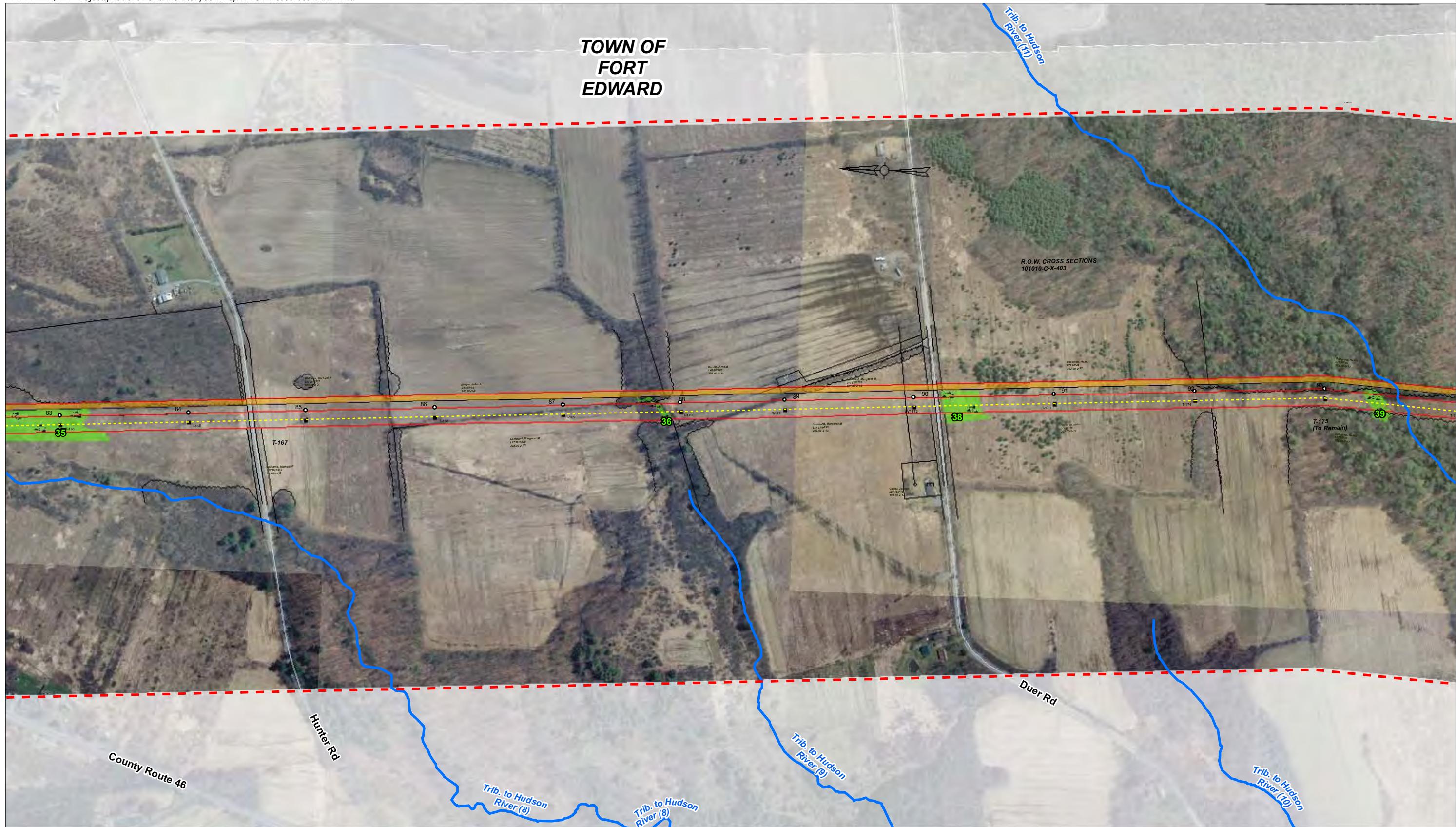


### Legend

- Proposed Structure Locations
- Substation
- Existing Transmission CL
- Proposed Route Centerline
- Proposed Right-of-Way
- NYS DEC Stream Classification
- Proposed 2400' Corridor
- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- Vegetative Management Area
- ESS Delineated Wetlands
- Roads

**Orthophotography**

**Figure 2-4**  
**Sheet 8 of 14**

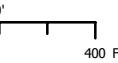


**ESS**  
GROUP INC.

Engineers  
Scientists  
Consultant

## NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000



Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1994  
3) NY GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hартен, Cultural Data, 2010

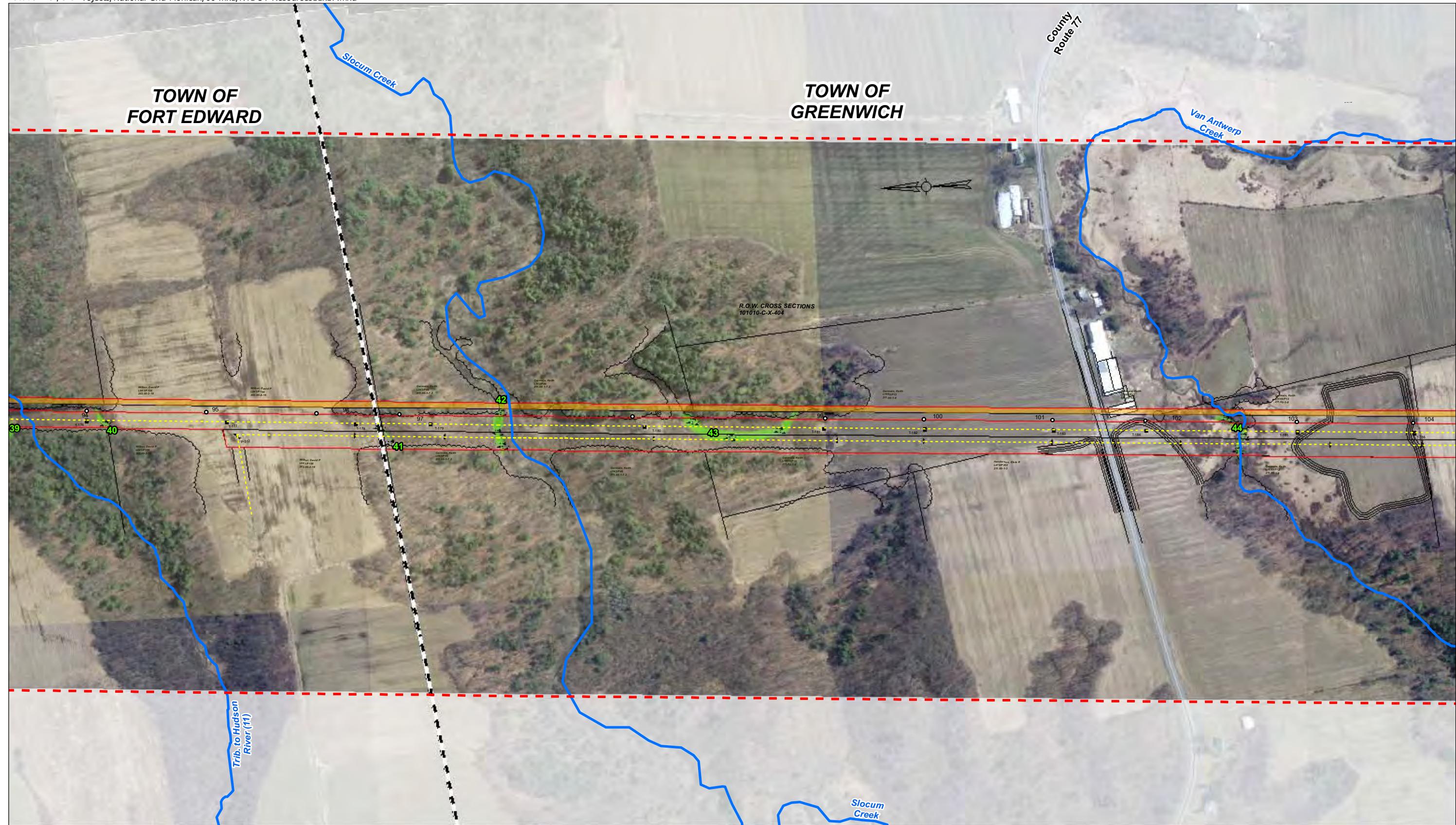


Lege

- Proposed Structure Locations
  - Proposed Route Centerline
  -  Proposed Right-of-Way
  -  Proposed 2400' Corridor
  - Substation
  - Existing Transmission CL
  - NYS DEC Stream Classification
  - NYS DEC Wetlands

## **Orthophotography**

**Figure 2-4**  
**Sheet 9 of 14**



**ESS**  
Group DC

Engineers  
Scientists  
Consultant

## NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000'



Source: 1) James Sewall Company. 2)

Source: 1) James River Company, 2) CDEC, 3) NYSDEC, Stream, 2010 4) NYSDEC, Freshwater Wetlands, 2010  
3) NYS GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010



Leg

- Proposed Structure Locations
  - Proposed Route Centerline
  -  Proposed Right-of-Way
  -  Proposed 2400' Corridor

	Substation
	Existing Transmission CL
	NYS DEC Stream Classification
	NYS DEC Wetlands

- Cultural: HAA, Inc. Observed Topographic/Drainage Features
  - Cultural: Historical Map-Documented Structures
  - Vegetative Management Area
  - ESS Delineated Wetlands
  - Roads

# **Orthophotography**

**Figure 2-4**  
**Sheet 10 of 14**

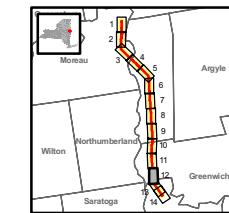




### NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000'

Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1999  
3) NYS GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010



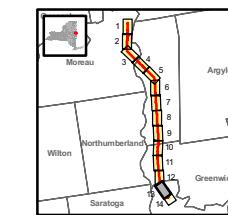
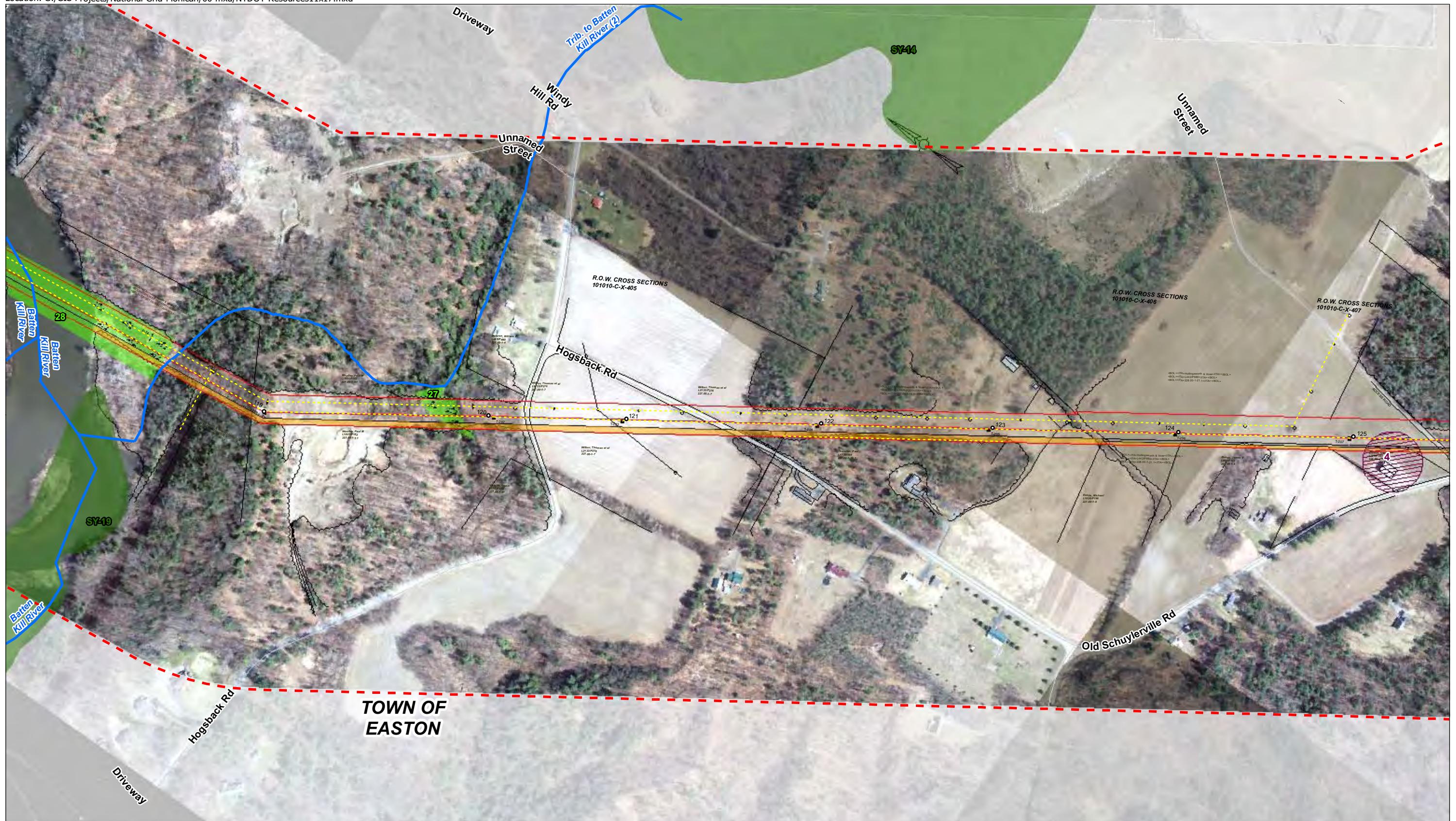
### Legend

- Proposed Structure Locations
- Proposed Route Centerline
- Proposed Right-of-Way
- Proposed 2400' Corridor
- Substation
- Existing Transmission CL
- NYS DEC Stream Classification
- NYS DEC Wetlands

- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- Vegetative Management Area
- ESS Delineated Wetlands
- Roads

### Orthophotography

**Figure 2-4**  
**Sheet 12 of 14**



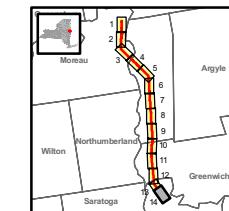


### NATIONAL GRID - 115kV Mohican - Battenkill #15 Saratoga & Washington County, New York

Scale: 1" = 4,000'

0 400 Feet

Source: 1) James Sewall Company, Orthos, May 20, 2010 2) NYSDEC, Streams, 2010 3) NYSDEC, Freshwater Wetlands, 1999  
3) NYS GIS Clearinghouse, Orthos (outside 2400ft corridor), 2007 6) NYS GIS Clearinghouse, Roads, 2009  
4) NGRID& ESS, Transmission Data, 2010 5) Hartgen, Cultural Data, 2010



### Legend

- Proposed Structure Locations
- Proposed Route Centerline
- Proposed Right-of-Way
- Proposed 2400' Corridor
- Substation
- Existing Transmission CL
- NYS DEC Stream Classification
- Proposed 2400' Corridor

- Cultural: HAA, Inc. Observed Topographic/Drainage Features
- Cultural: Historical Map-Documented Structures
- Vegetative Management Area
- ESS Delineated Wetlands
- Roads

### Orthophotography

**Figure 2-4**  
**Sheet 14 of 14**