PUBLIC NOTICE

US Army Corps
of Engineers
New York District, CENAN-OP-R
Upstate Regulatory Field Office
1 Buffington Street, Bldg. 10, 3rd Floor
Watervliet, New York 12189-4000

In replying refer to:
Public Notice Number: NAN-2013-00099-UCO
Issue Date: June 26, 2015
Expiration Date: July 27, 2015

To Whom It May Concern:

The New York District, Corps of Engineers has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S. C. 1344).

APPLICANT: National Grid
300 Erie Boulevard West
Syracuse, New York 13202

ACTIVITY: The reconstruction of aerial crossings over navigable waters of the United States, and the discharge of fill material in waters of the United States, including streams and wetlands, for the proposed reconstruction of approximately 14.2 miles of a 115kV double circuit electric transmission line

WATERWAY: Several tributaries to the Hudson River and associated wetlands

LOCATION: Town of Moreau, in Saratoga County, and the Towns of Fort Edward, Greenwich and Easton, in Washington County, all in New York

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

ALL COMMENTS REGARDING THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND MAILED TO THE ATTENTION OF John Connell AT THE ABOVE ADDRESS, OR SENT VIA ELECTRONIC MAIL TO john.r.connell@usace.army.mil, TO REACH THIS OFFICE BY THE EXPIRATION DATE OF THIS NOTICE, otherwise, it will be presumed that there are no objections to the activity. Comments provided will become a part of the public record for this action.

Comments submitted in response to this notice will be fully considered during the public interest review for this permit application. All written comments, including names and addresses, will be made a part of the administrative record, available to the public under the Freedom of Information Act. The Administrative Record, or portions thereof, may also be posted on a Corps of Engineers internet web site. Due to resource limitations, this office will normally not acknowledge the receipt of comments or respond to individual letters of comment.

Any person may request, in writing, before this public notice expires, that a public hearing be held to collect information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing.

Our preliminary determination is that the activity for which authorization is sought herein may effect, but is not likely to adversely affect, the Indiana bat (*Myotis sodalis*), a Federally endangered species, and the Northern Long-eared bat (*Myotis septentrionalis*), a Federally threatened species. The applicant has proposed conservation measures, including prohibiting all tree clearing between April 1st and October 31st of any calendar year, which is the period of time the bats could be present within the proposed work areas. Initially the applicant had also indicated that the Karner blue butterfly (*Lycaeides melissa samuelis*), a Federally endangered species may be present and effected by the proposed undertaking. However, based on survey information subsequently provided by the applicant, the Karner blue butterfly (*Lycaeides melissa samuelis*) and its suitable habitat are not present in the proposed project disturbance areas, and therefore would not be affected by this undertaking. Pursuant to Section 7 of the Endangered Species Act (16 U.S.C. 1531), the District Engineer is consulting with the appropriate Federal agency to determine the presence of and potential impacts to listed species in the project area, and minimize any potential effects.

Based upon a review of cultural resources survey information provided by the applicant to the N.Y.S. Office of Parks, Recreation and Historic Preservation (SHPO), there are three sites, including the Old Champlain Canal and two archeological sites, listed, or eligible for listing in the National Register of Historic Places located within the Area of Potential Effects for this undertaking. In addition, based on the information provided by the applicant, the project as proposed, has or will cause adverse effects to at least one of the archeological sites. Further consultation with SHPO regarding these sites is being conducted and will be concluded prior to the final decision.

Reviews of activities pursuant to Section 404 of the Clean Water Act will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404 (b) of the Clean Water Act and the applicant will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to a permit decision.

In addition to any required water quality certificate, the applicant has obtained or requested the following governmental authorization for the activity under consideration:

- New York State Public Service Commission – Article VII certificate

- New York State Department of Environmental Conservation – stormwater discharge permit
- New York State Canal Corporation – canal crossing permit
- New York State Department of Transportation – utility work permit

In order for us to better serve you, please complete our Customer Service Survey located at:

http://www.nan.usace.army.mil/Missions/Regulatory/CustomerSurvey.aspx

It is requested that you communicate the foregoing information concerning the activity to any persons known by you to be interested and who did not receive a copy of this notice. If you have any questions concerning this application, you may contact John Connell of this office at (518) 266-6357.

For more information on New York District Corps of Engineers programs, visit our website at http://www.nan.usace.army.mil

Amy L. Gutchell
For and in behalf of

Jodi M. McDonald
Chief, Regulatory Branch

Enclosures

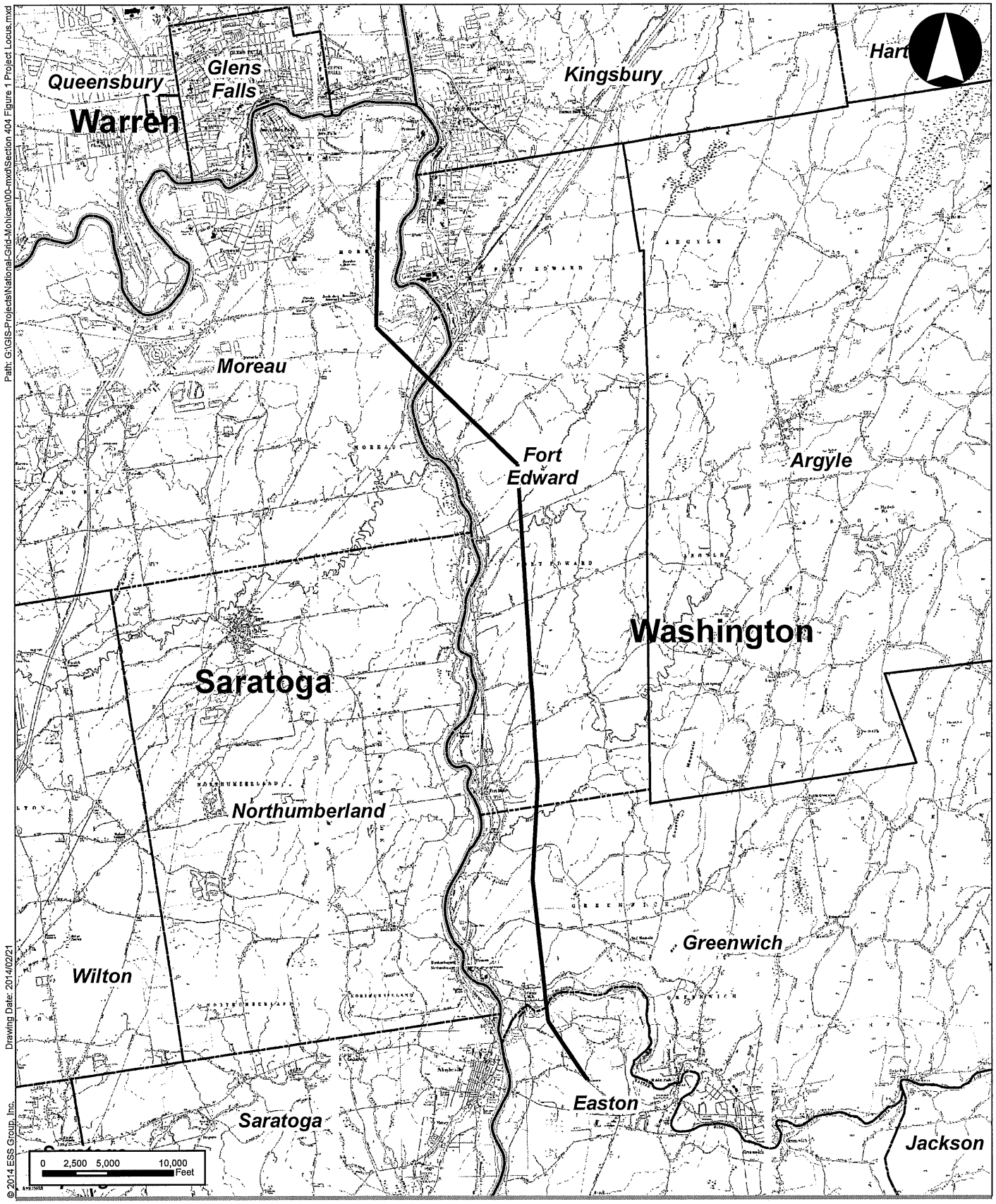
WORK DESCRIPTION

The applicant, National Grid, has requested a Department of the Army permit for establishment of aerial crossings over the Hudson River and the Old Champlain Canal, navigable waters of the United States, and the discharge of fill material in waters of the United States, including streams and wetlands, for the proposed reconstruction of approximately 14.2 miles of a 115kV double circuit electric transmission line, in the Town of Moreau, in Saratoga County, and the Towns of Fort Edward, Greenwich and Easton, in Washington County, all in New York.

The work would involve the discharge of fill material in 0.21 acres (256.4 linear feet) of various unnamed tributaries to the Batten Kill and Hudson River, and 0.84 acres of associated wetlands, for the installation of permanent access roads, culverts, and tower pads. The reconstruction of an existing access road at one site in Moreau will also involve the restoration of a stream channel and associated riparian habitat within a currently impounded area that would cause the loss of an additional 0.18 acres of an existing pond. The reconstruction of utility lines along the new alignment would involve the permanent conversion of 2.87 acres of forested wetlands to emergent, wet meadow and/or shrub wetlands. The work would also include temporary impacts to 11.17 acres of wetlands for the installation of temporary timber mats, work pads and timber bridges. Upon completion of the work, all temporary structures would be removed and wetland areas restored, including re-seeding with a wetland seed mix.

The applicant has stated that they have avoided and minimized proposed impacts to the maximum extent practicable by reconstructing the transmission lines within the existing utility right-of-way, by locating all new structures and fills outside waters of the United States as much as practicable, and by constructing utility access roads along previously existing travel corridors. In addition, the applicant has proposed mitigation for the functions proposed to be impacted, including implementing a compensatory mitigation plan at two sites adjacent to the project, namely the Heath site in the Town of Moreau, and the Sheffer site in the Town of Fort Edward. At the Heath site, the applicant proposes to establish 1.04 acres of emergent and shrub wetlands from uplands, rehabilitate 3.55 acres of existing forested and shrub wetlands, enhance 1.53 acres of adjacent uplands, and preserve 1.37 acres of adjacent wetland areas. At the Sheffer site, the applicant proposes to establish 0.06 acres of forested wetlands from uplands, rehabilitate 1.65 acres of existing wetlands, and preserve 3.19 acres of adjacent wetlands and 0.37 acres of adjacent riparian buffer areas.

The stated purpose of this project is to relieve the thermal and projected load constraints in National Grid's Northeast Region, in order to provide reliable electric service within this Region, which includes portions of Saratoga, Schenectady and Rensselaer Counties in New York State.



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NATIONAL GRID
Mohican - Battenkill Rebuild Project
Saratoga & Washington Counties, New York
1 inch = 10,000 feet

Source: 1) Political Boundaries, NYGIS Clearinghouse.
2) Route Centerline, National Grid

Legend
- Proposed Route Centerline
- Municipal Boundary
- County Boundary

Project Locus

Figure 1

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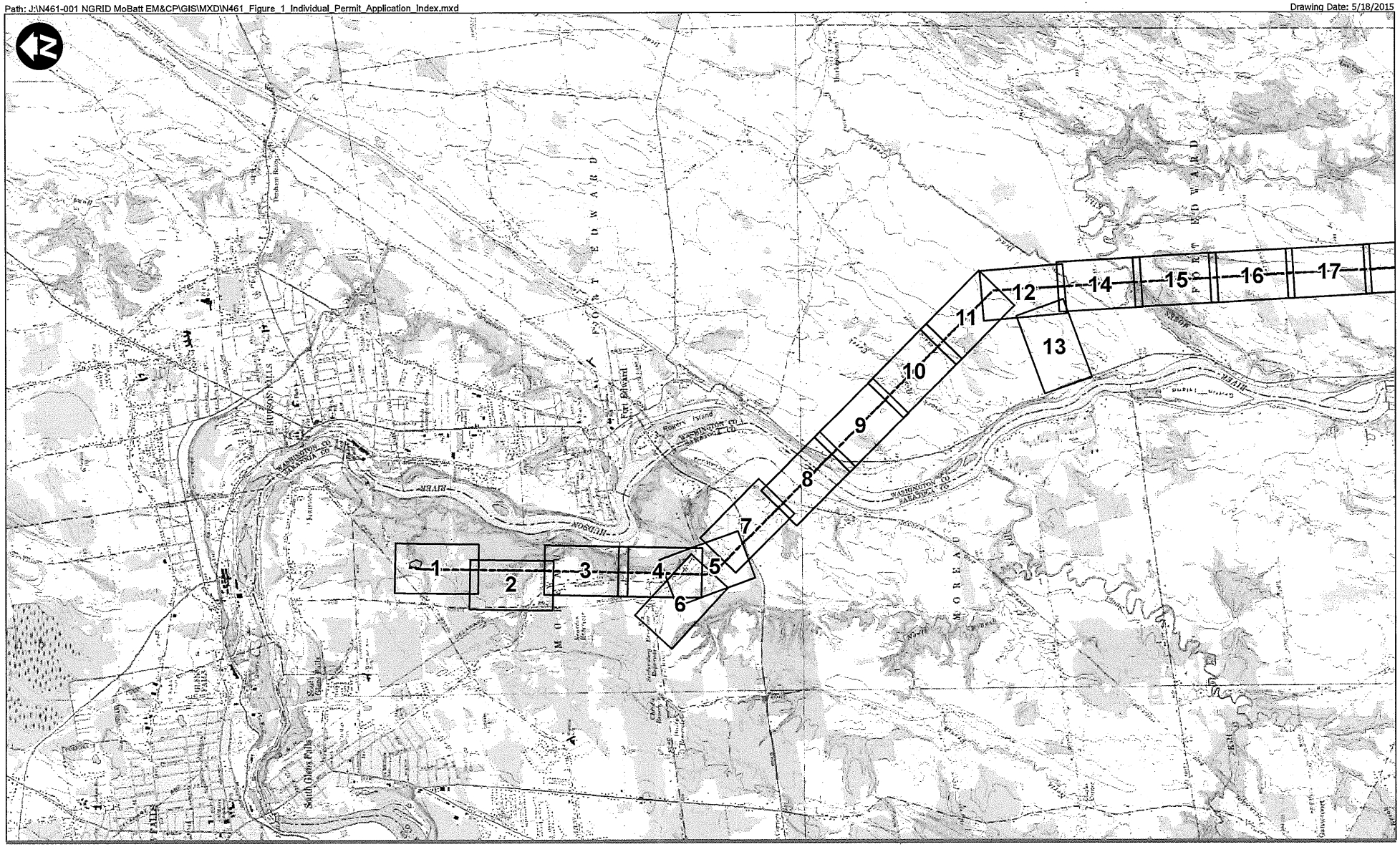
Drawing Date: 5/18/2015



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NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

1 inch = 5,000 feet

0 2,500 5,000
Feet

Source: 1) USGS, 1:24,000 Topo, 2012

Impacts to Waters of the US Along the Project ROW
Revised: 5/18/2015

Figure 2
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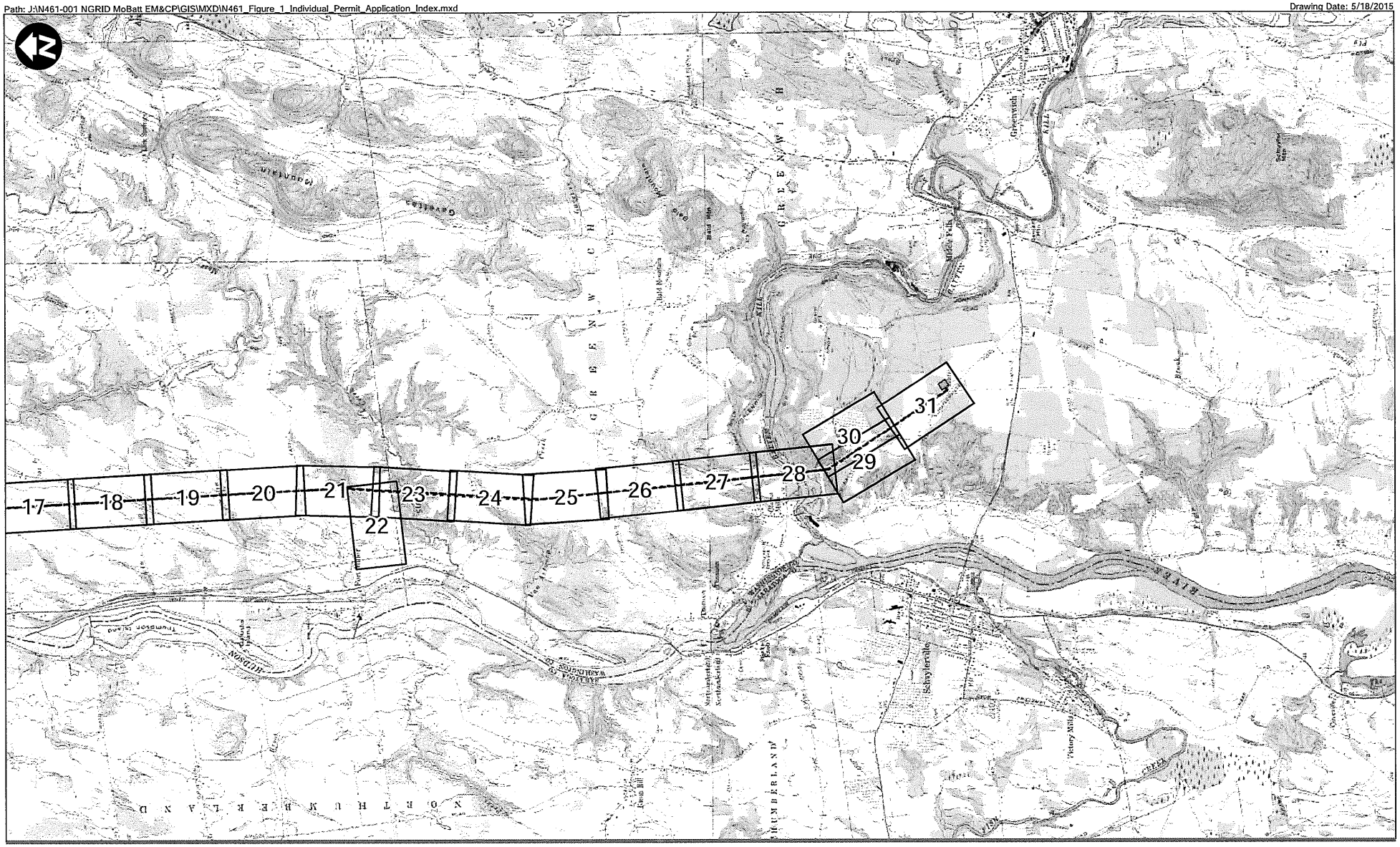

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Impacts to Waters of the US
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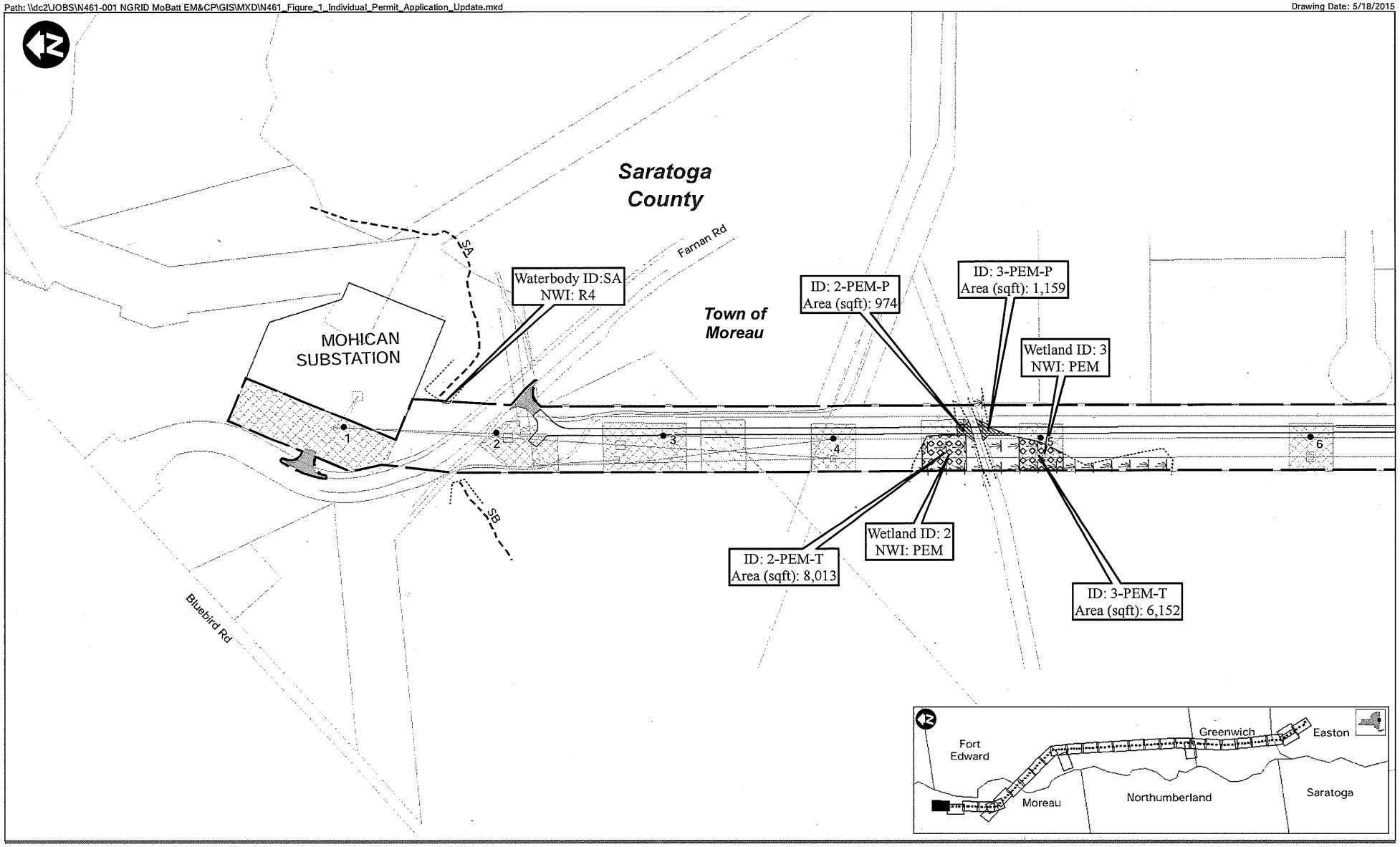

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NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

1 inch = 300 feet

0 75 150 300 Feet

Source: 1) USGS Hydrography, 2007
2) NYS GIS Clearinghouse, Civil Boundaries, 2009

- Project Area (269.2 Acres)
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- Work Pad
- Mitigation Area
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Impacts to Waters of the US
Along the Project ROW
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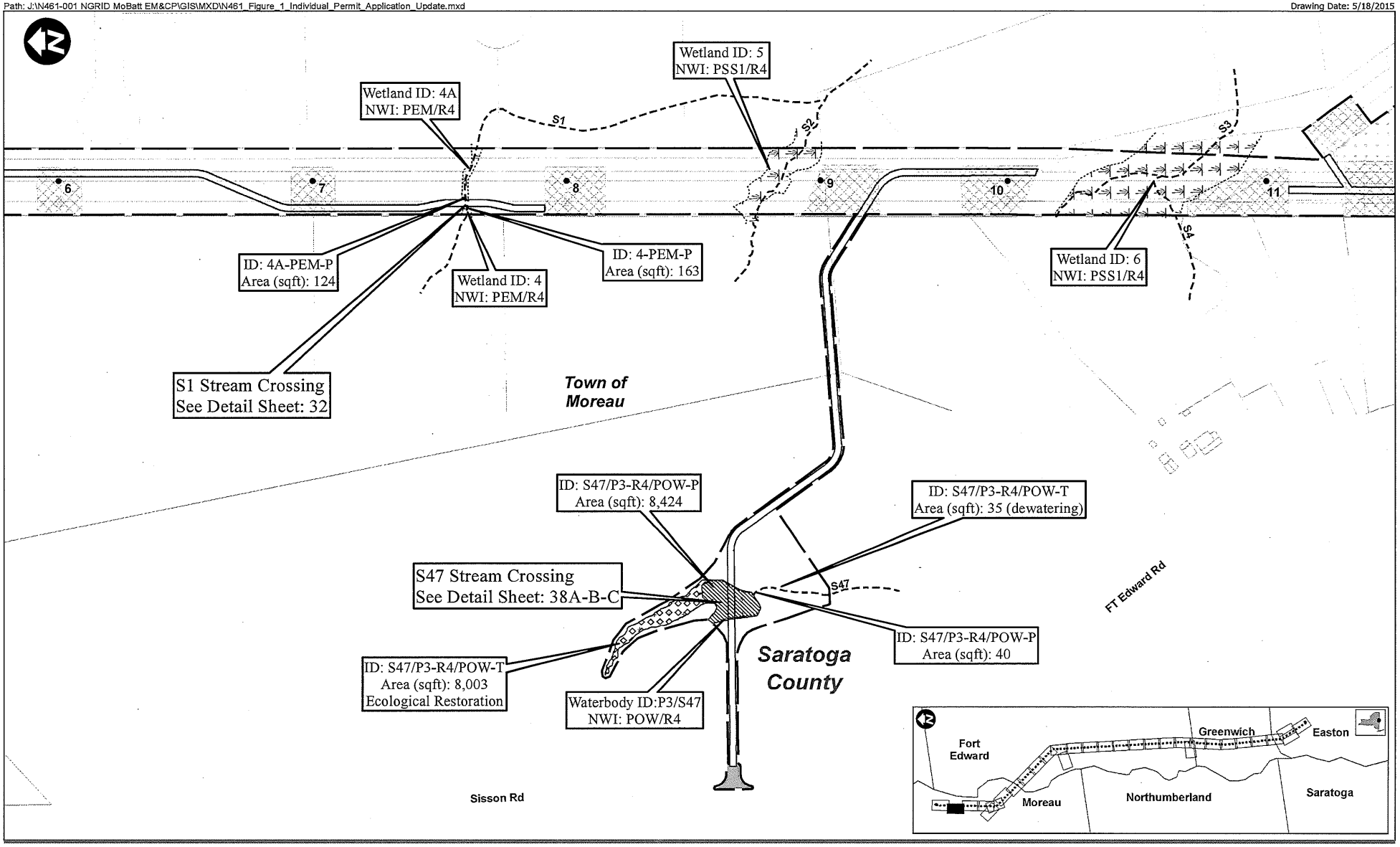

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Impacts to Waters of the US Along the Project ROW
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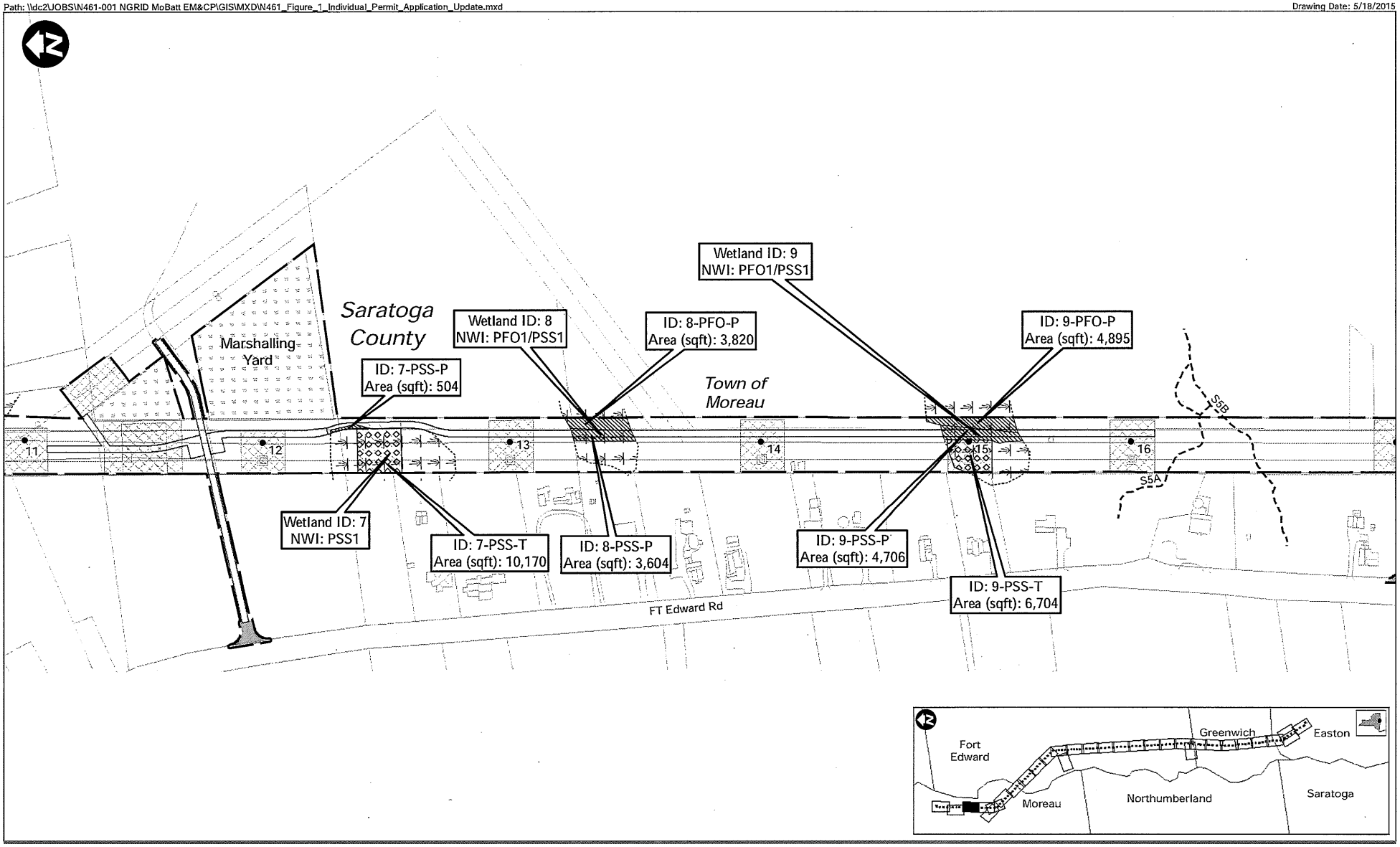

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Drawing Date: 5/18/2015

Wetland ID: 13
NWI: PEM/R4

S6A Stream Crossing
See Detail Sheet: 33

Saratoga County

Town of Moreau

ID: 11A-PFO-C
Area (sqft): 5,094

Wetland ID: 11A
NWI: PFO1

ID: 13-PEM-P
Area (sqft): 273

Wetland ID: 12
NWI: PSS1

S5A

S5

17

18

19

20

21

S5B

S6

S8

Wetland ID: 11
NWI: PEM/R4

S7 Stream Crossing
See Detail Sheet: 34

Waterbody ID:13A
NWI: POW

Ft Edward Rd

Wetland ID: 11A
NWI: PFO1

Fort Edward

Moreau

Greenwich

Easton

Northumberland

Saratoga

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Impacts to Waters of the US
Along the Project ROW
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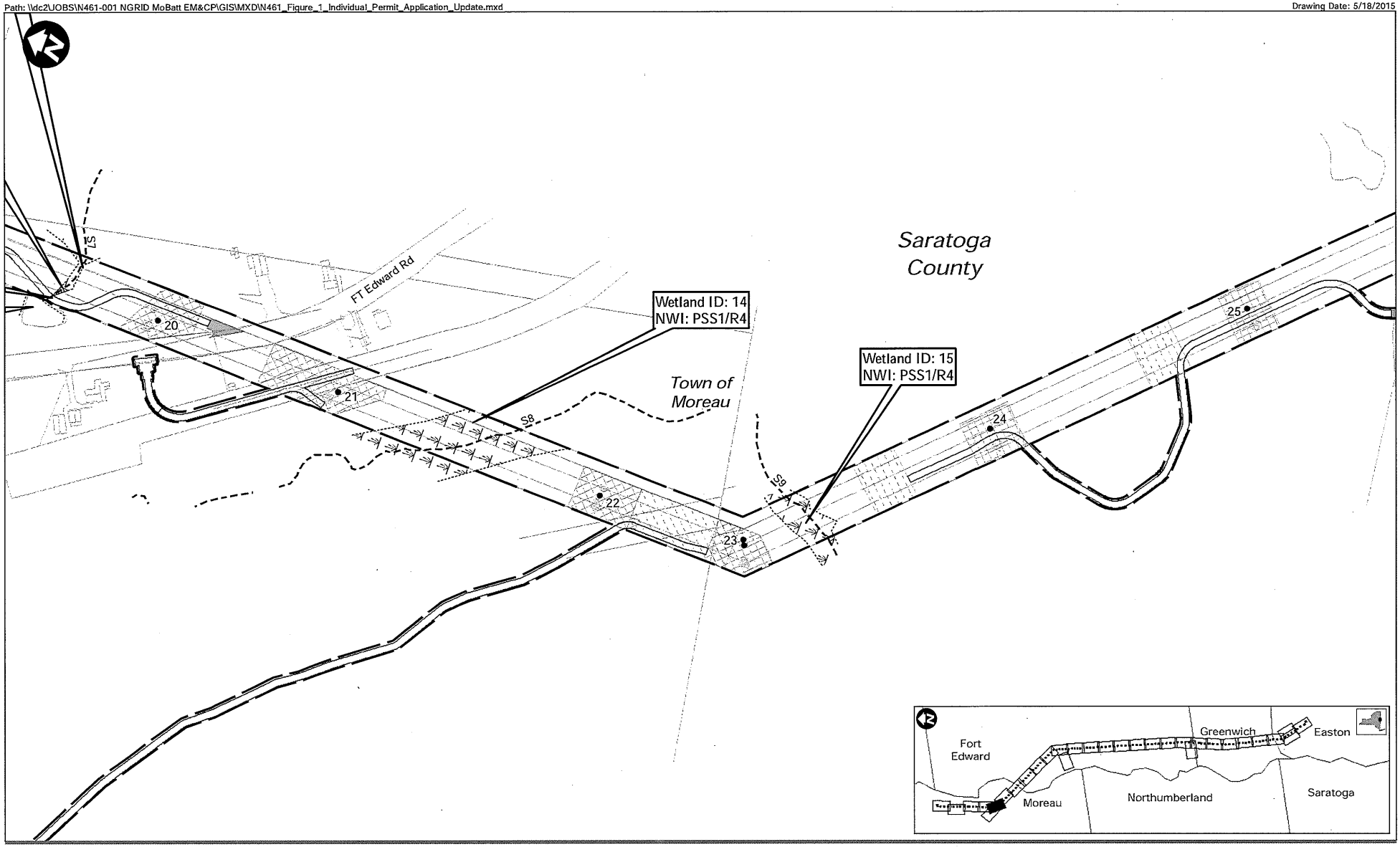

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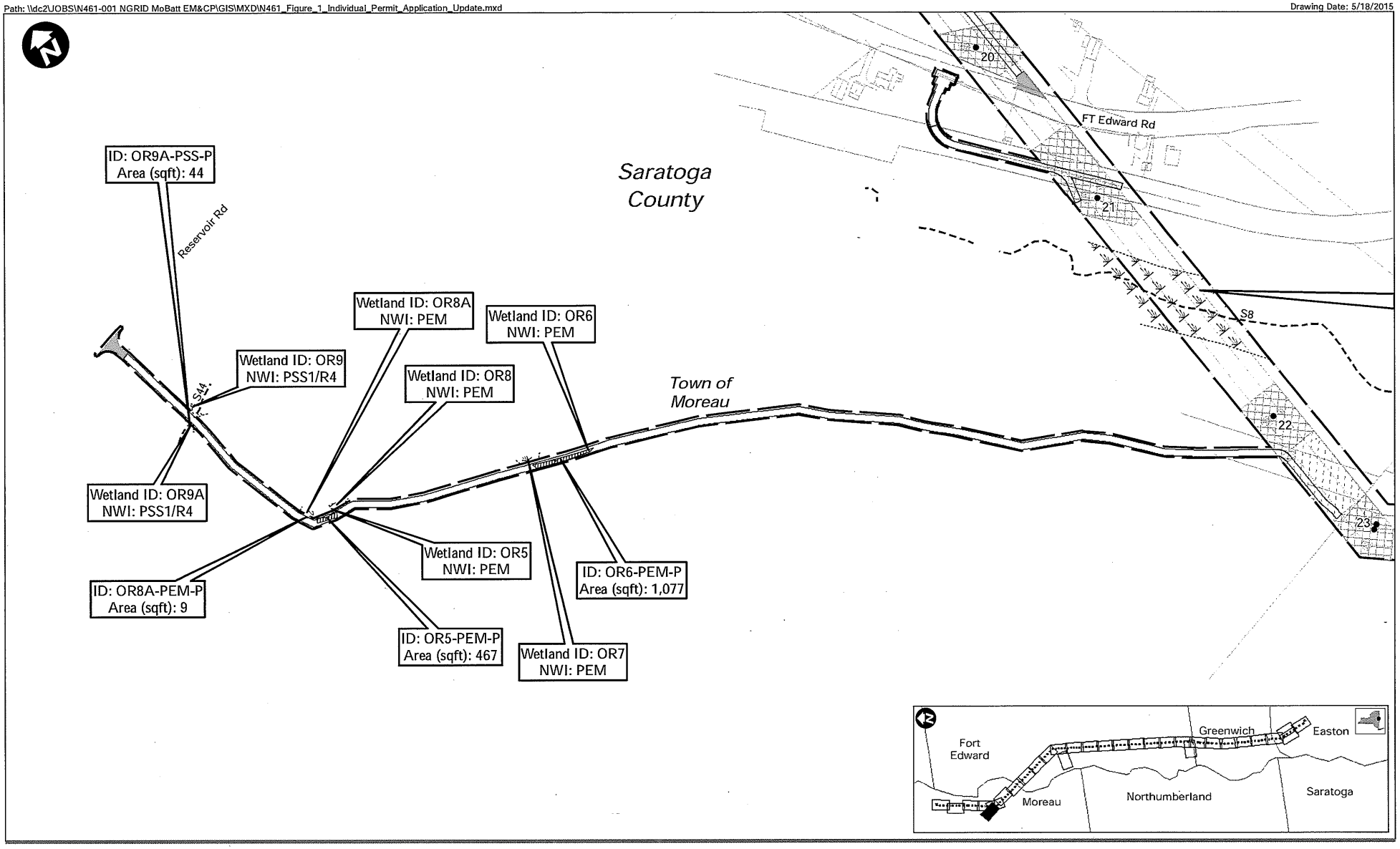

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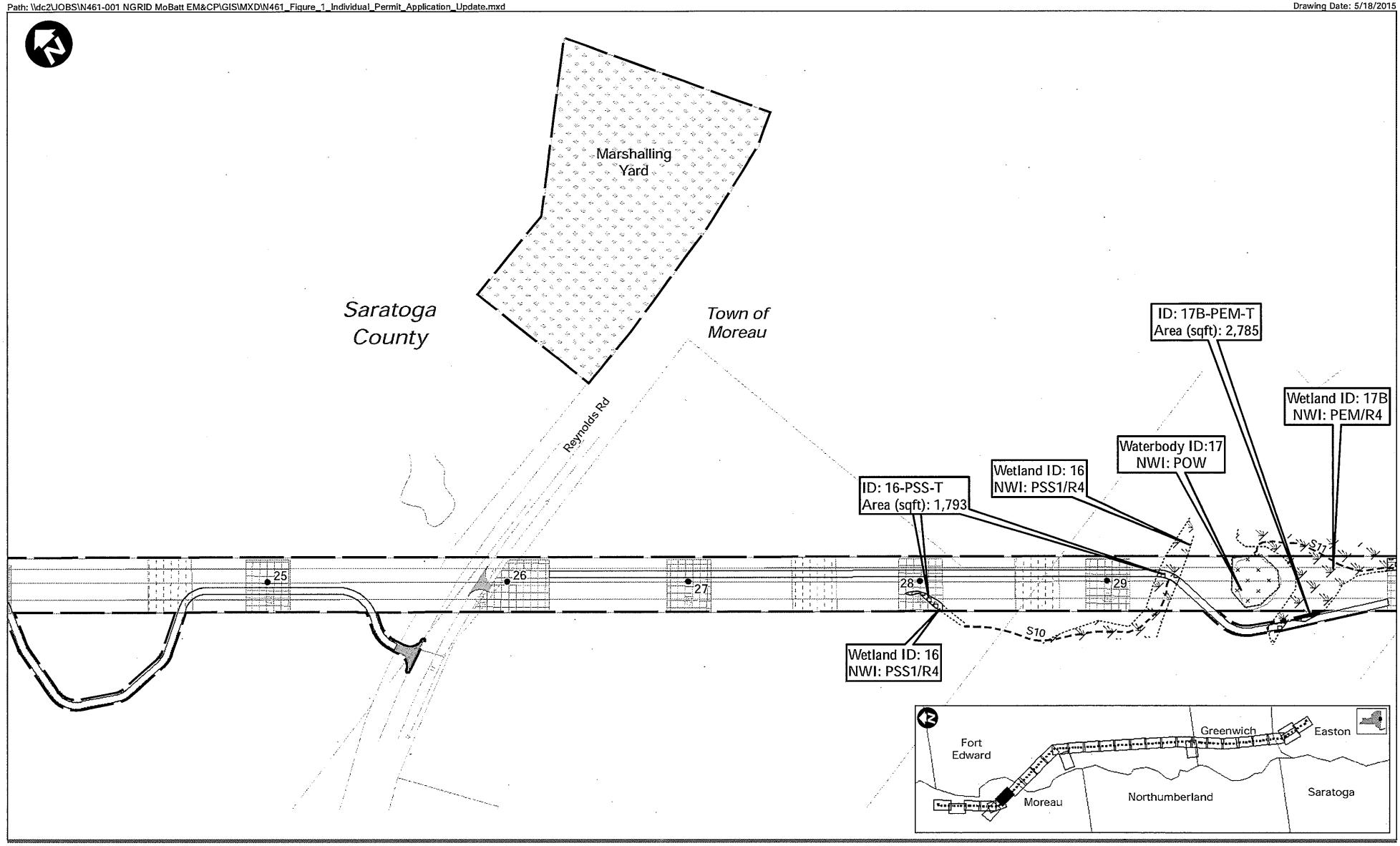

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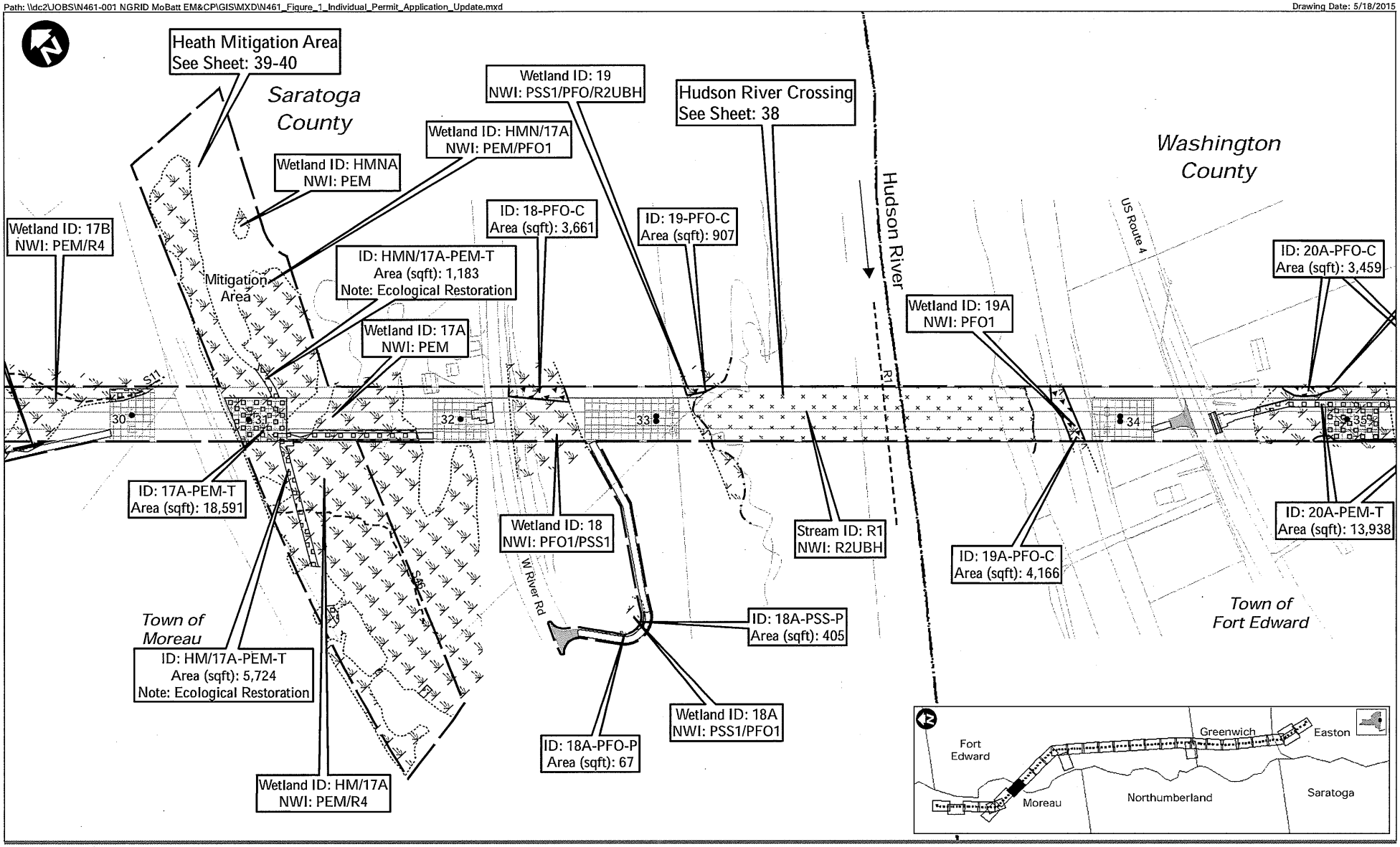

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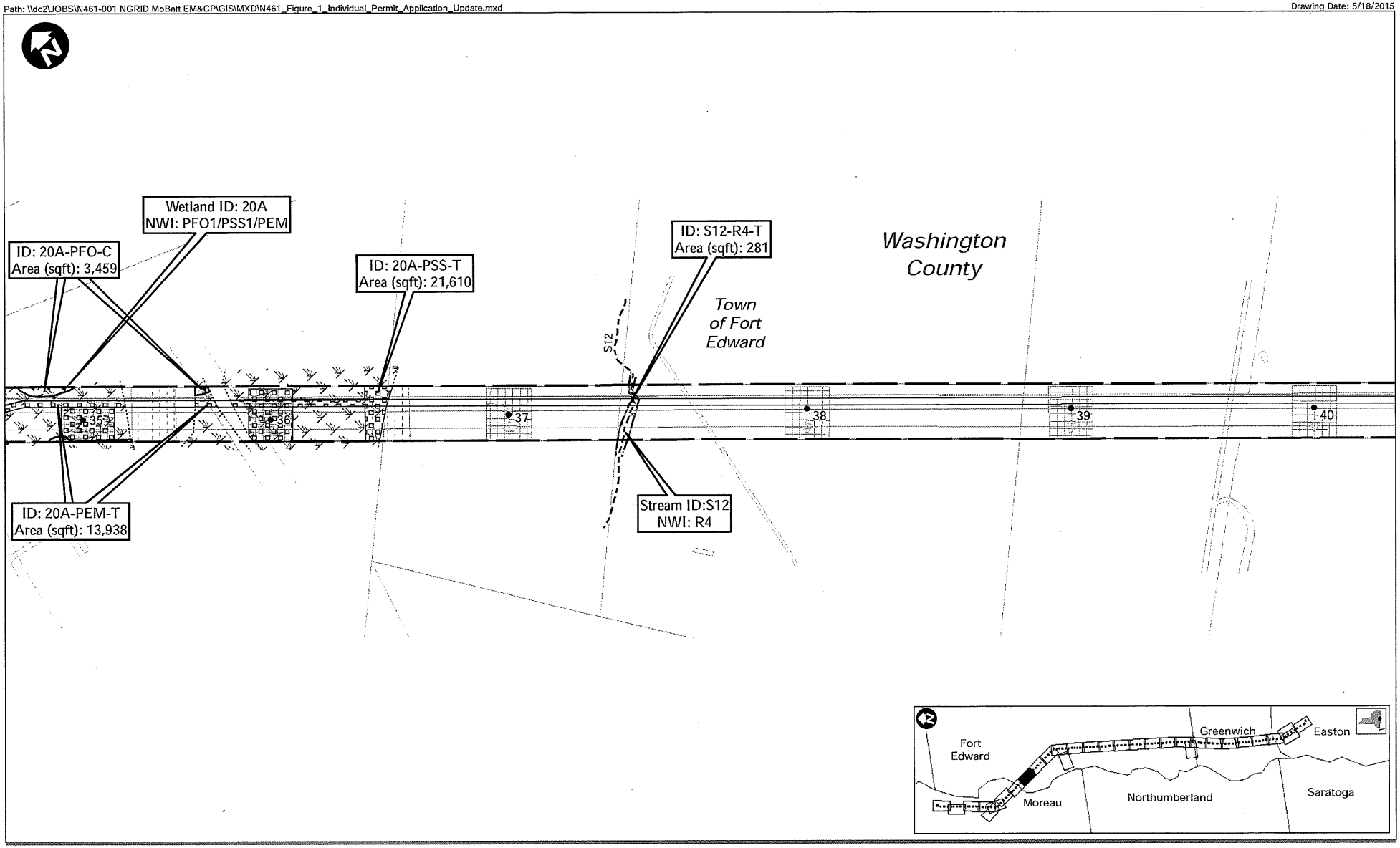

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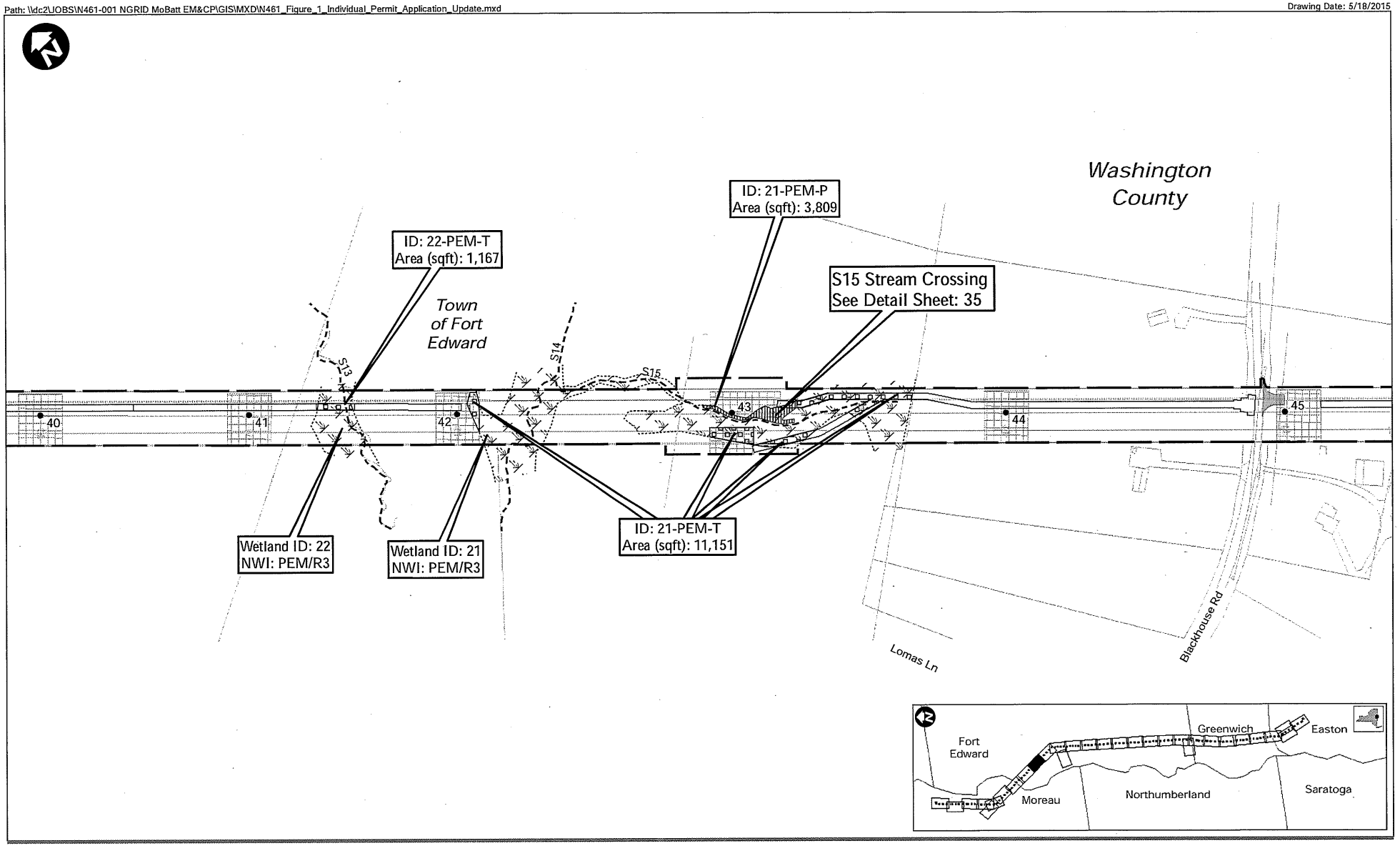

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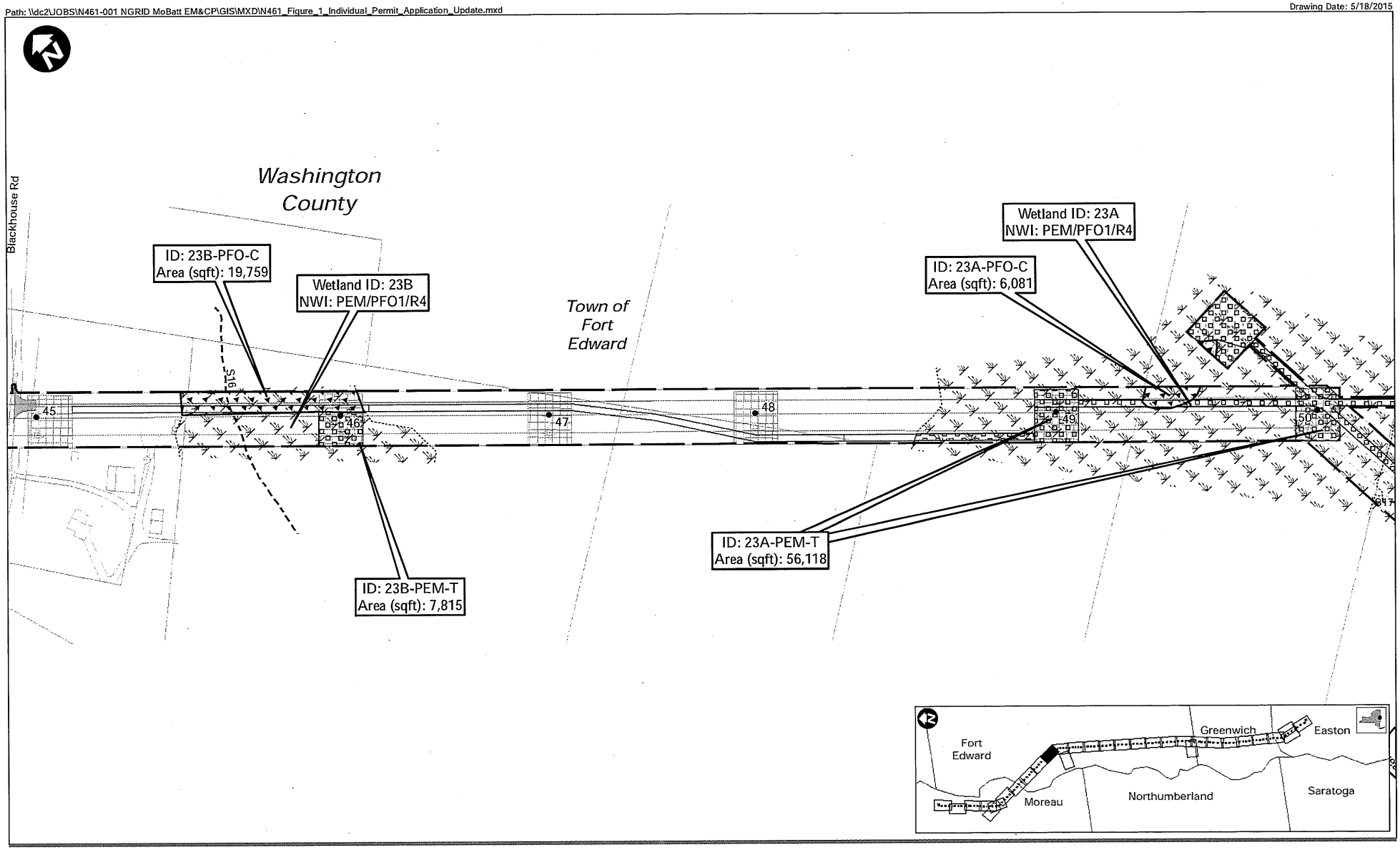

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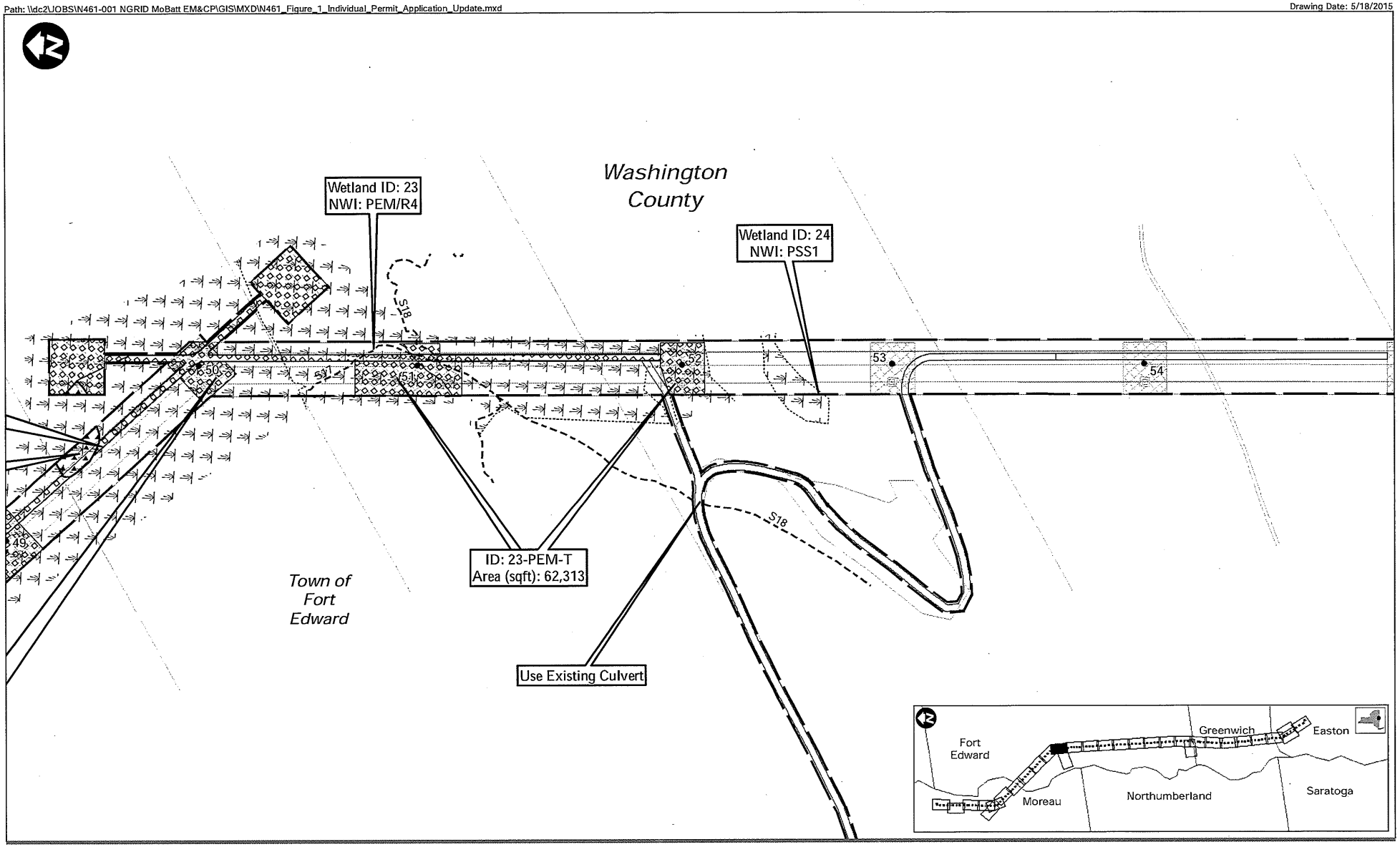

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NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

1 inch = 300 feet

0 75 150 300 Feet

Source: 1) USGS Hydrography, 2007
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- Project Area (269.2 Acres)
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- Permanent Fill
- Work Pad
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Impacts to Waters of the US
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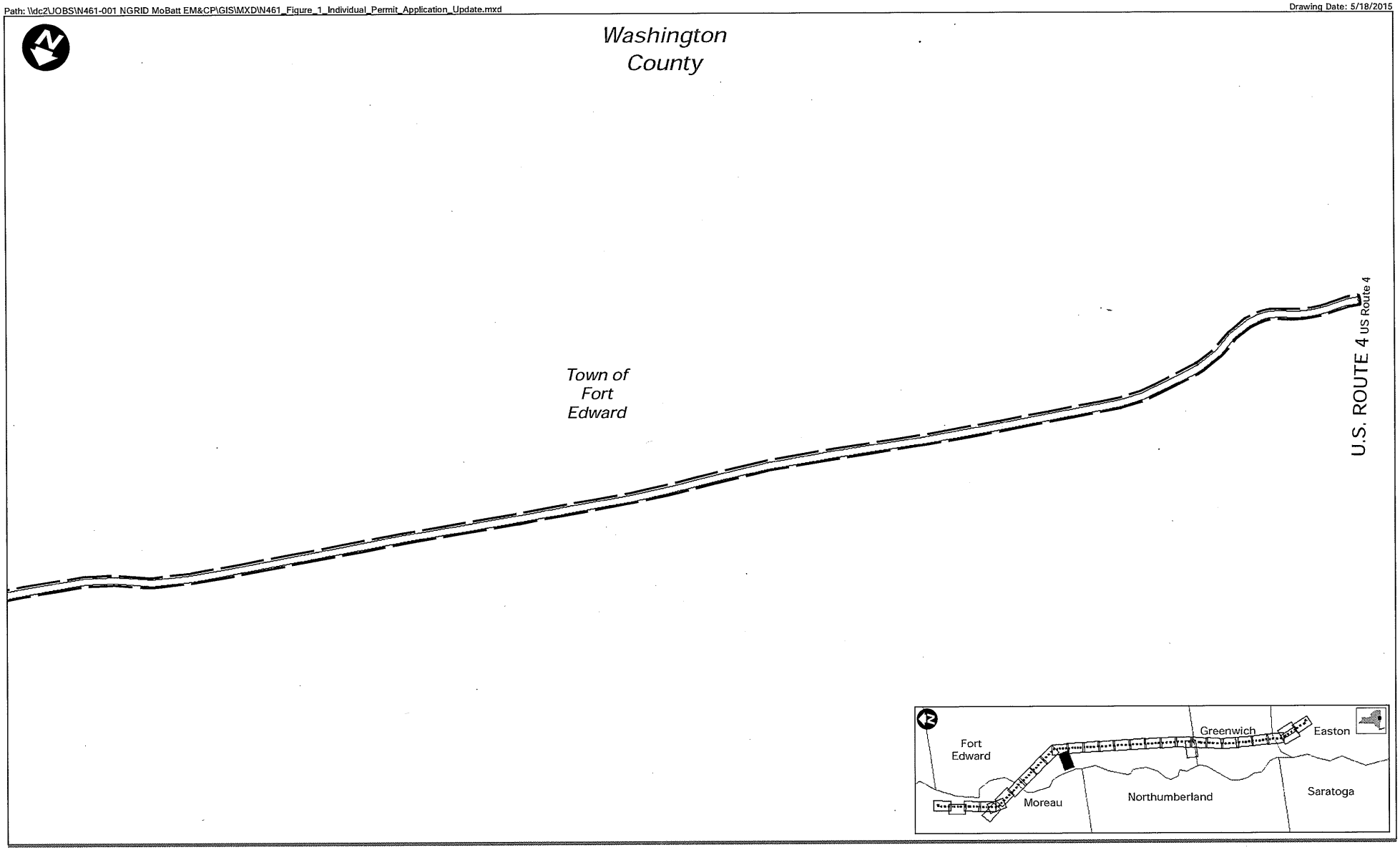

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Impacts to Waters of the US
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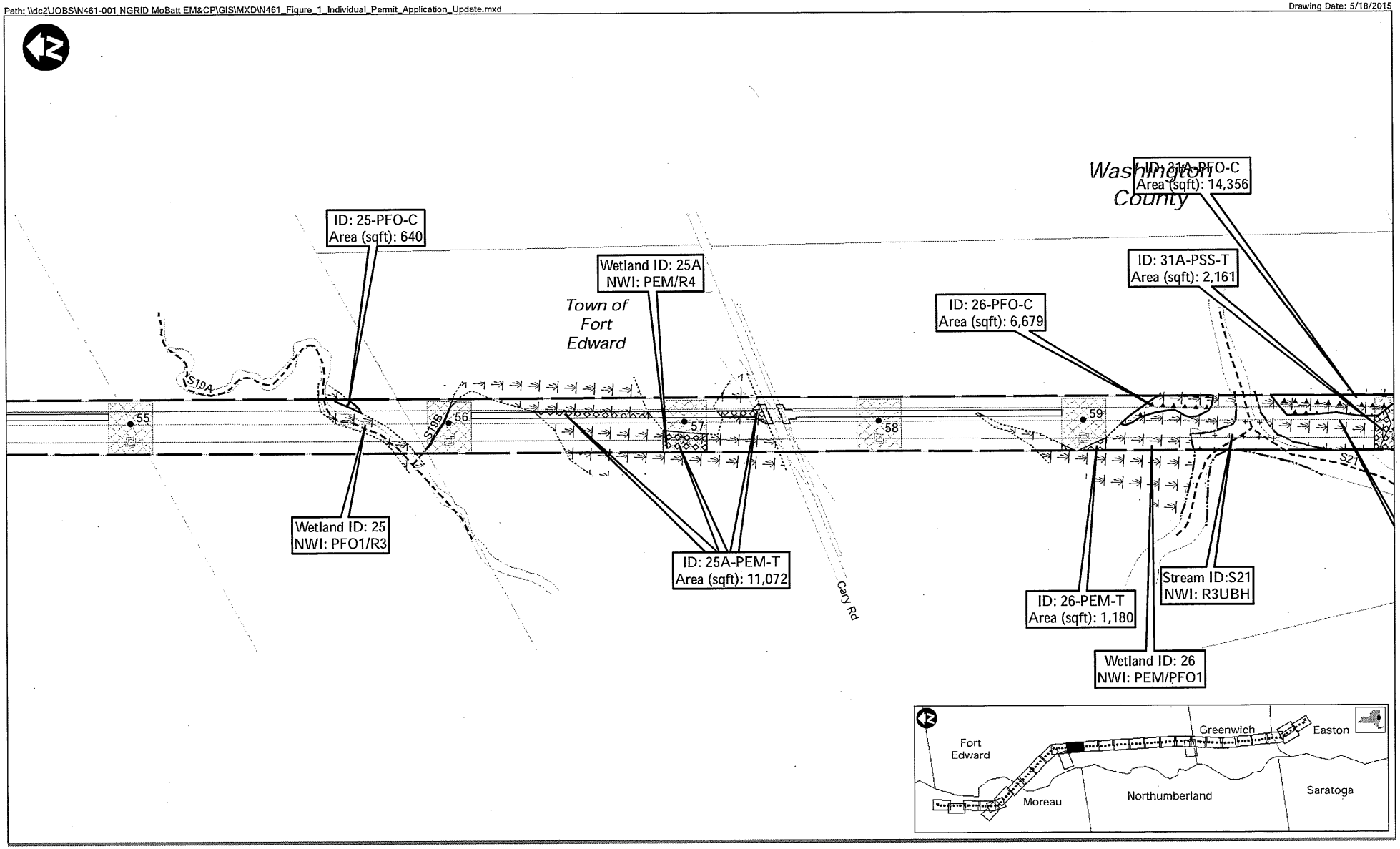

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Impacts to Waters of the US
Along the Project ROW
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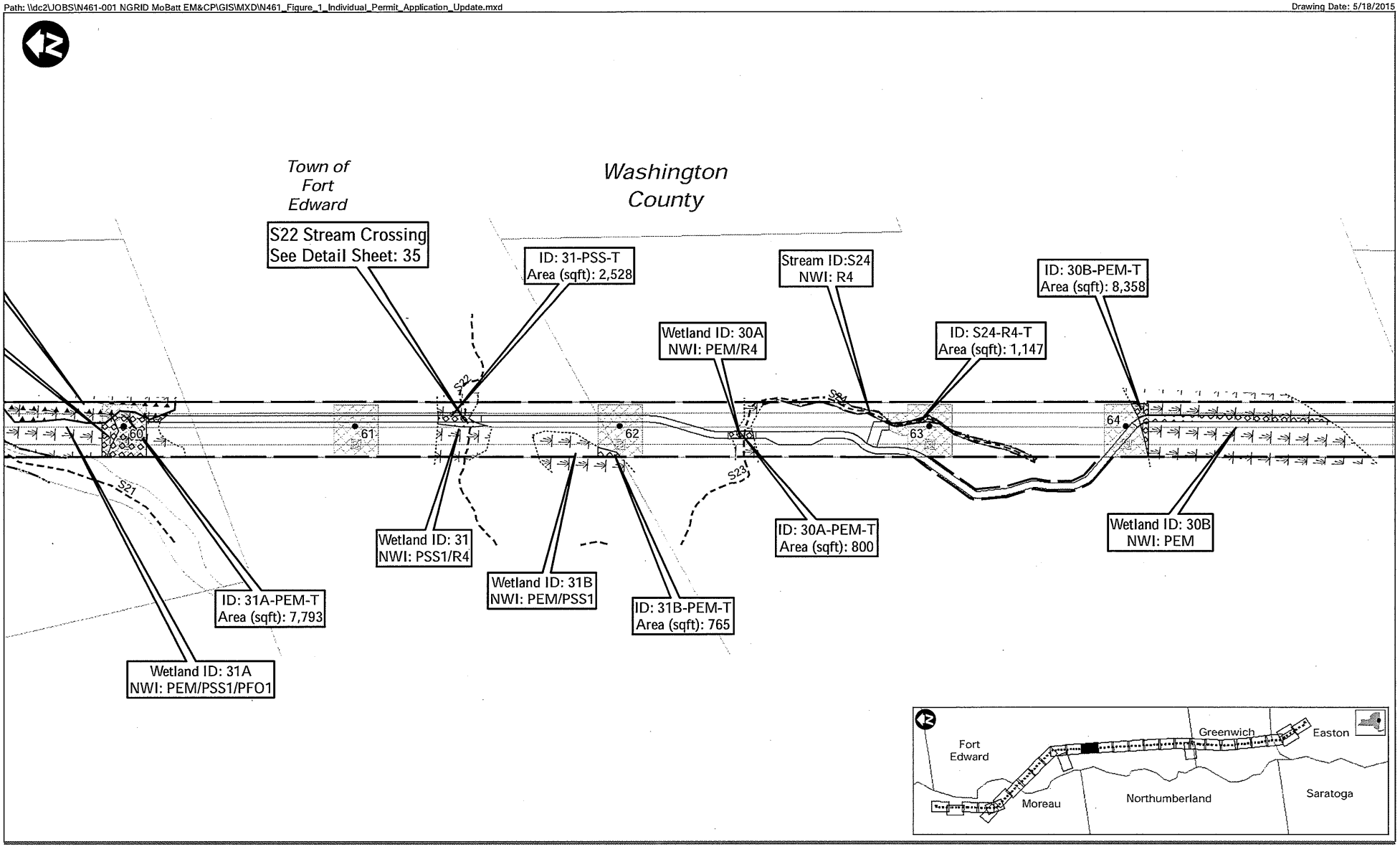

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Impacts to Waters of the US
Along the Project ROW
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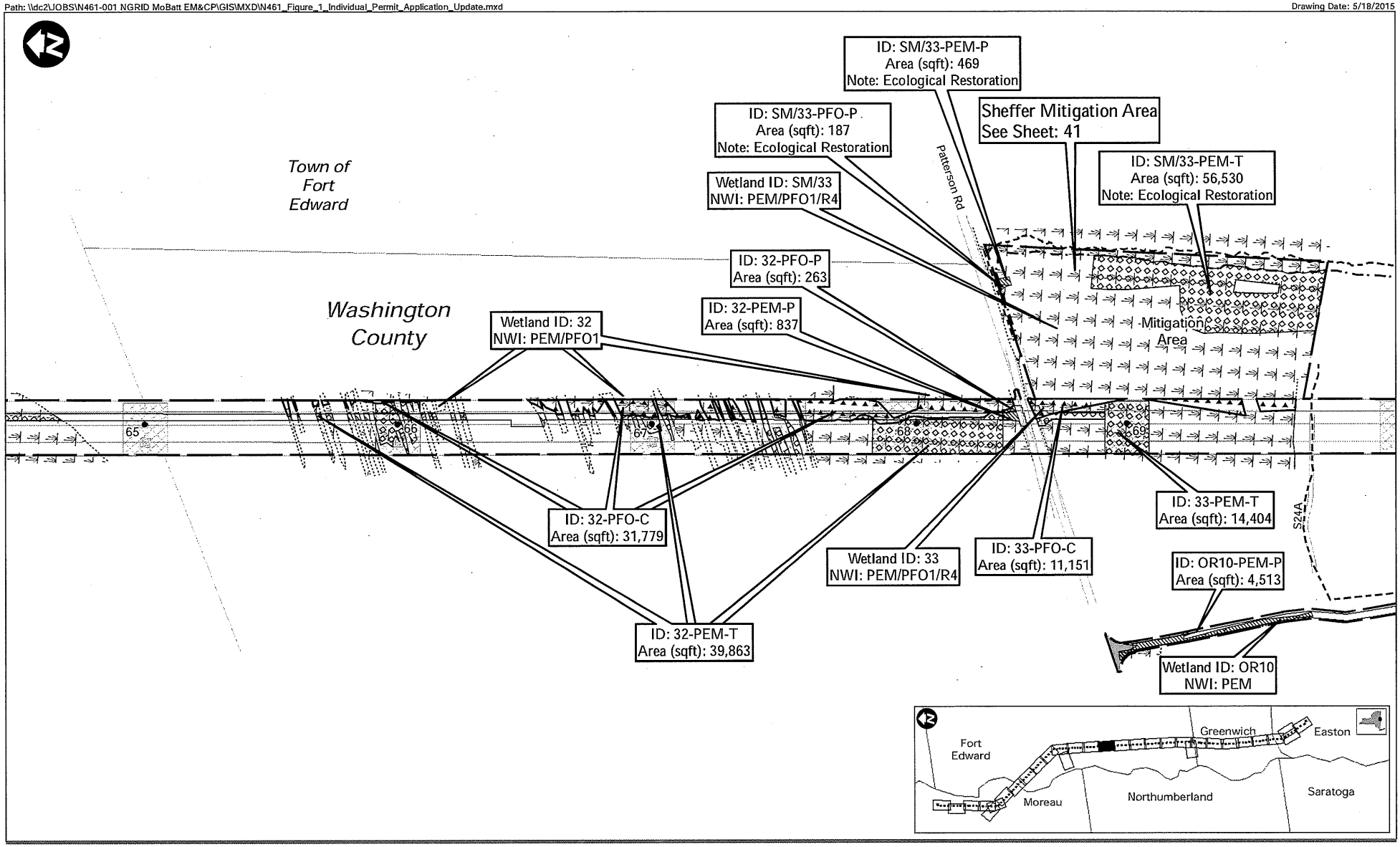

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Impacts to Waters of the US
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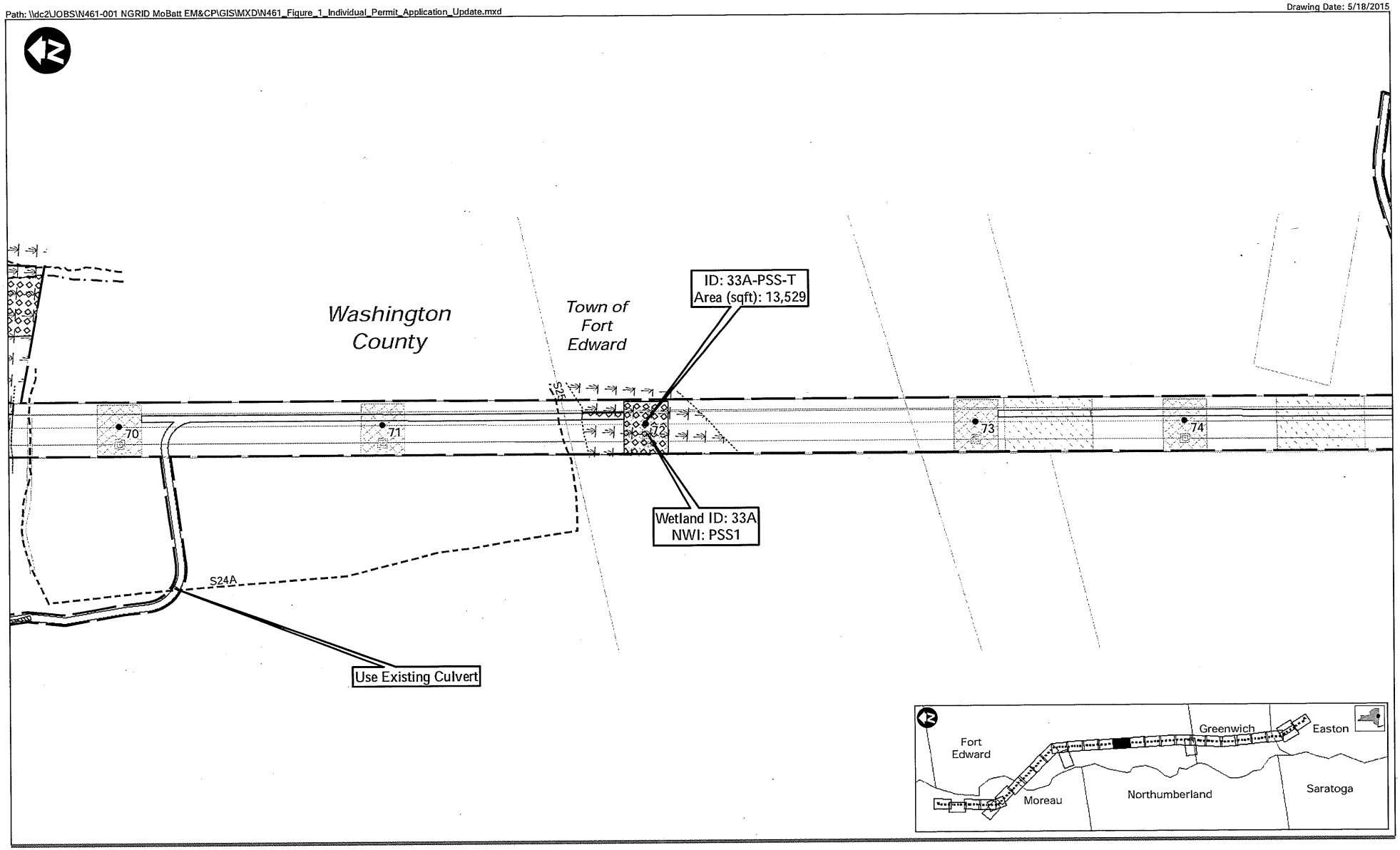

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Impacts to Waters of the US
Along the Project ROW
Revised: 5/18/2015

Figure 2
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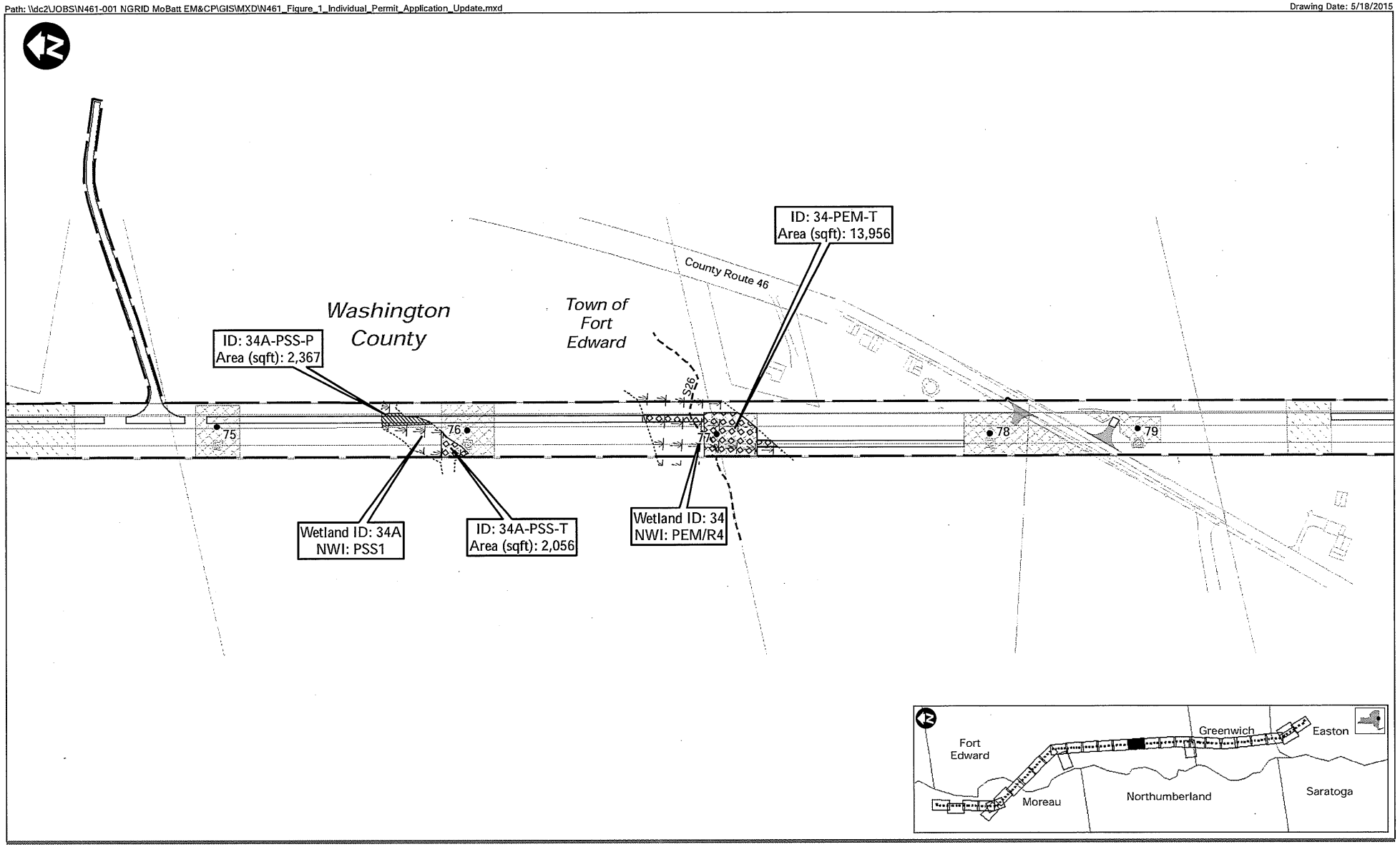

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Impacts to Waters of the US
Along the Project ROW
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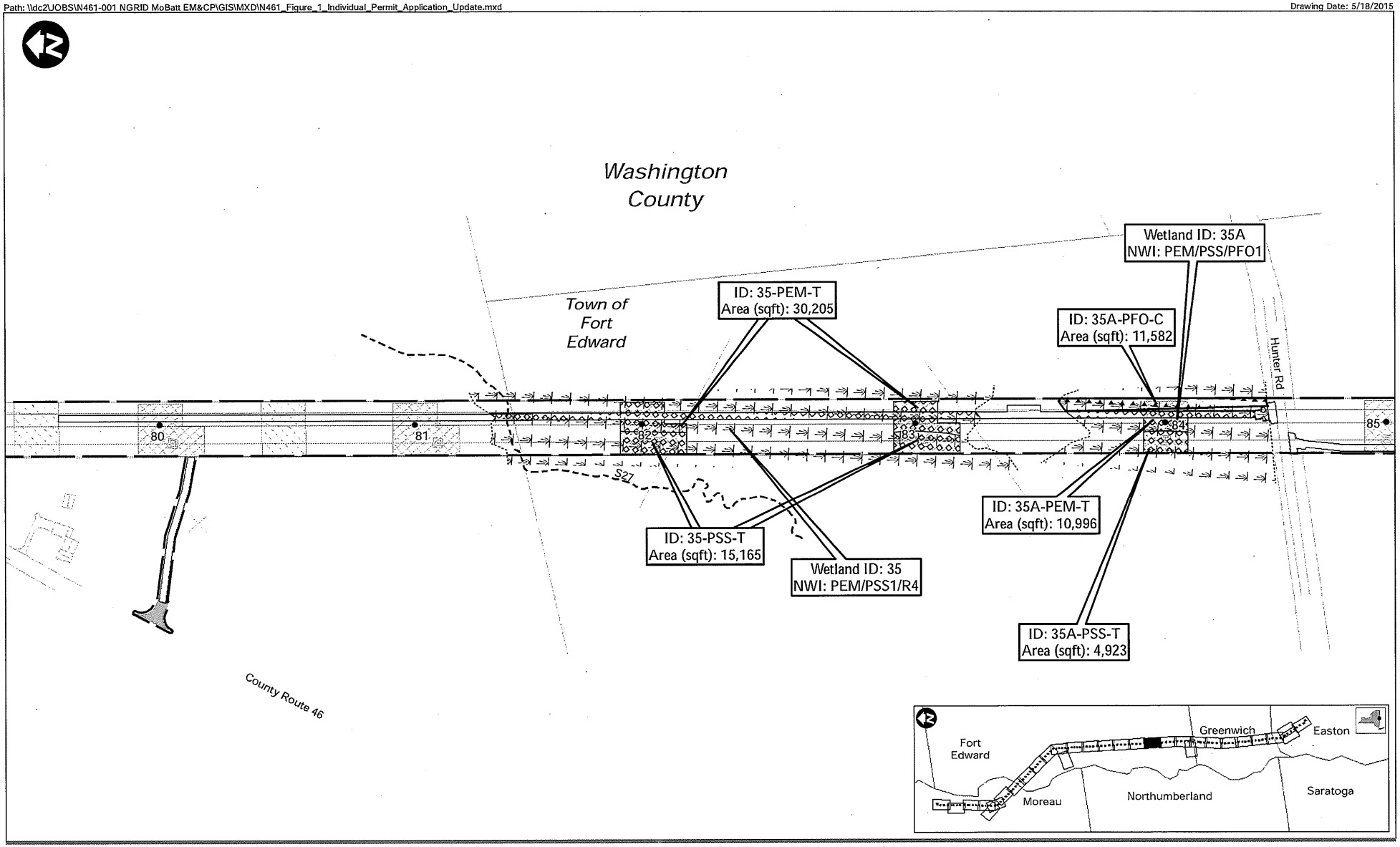

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Impacts to Waters of the US
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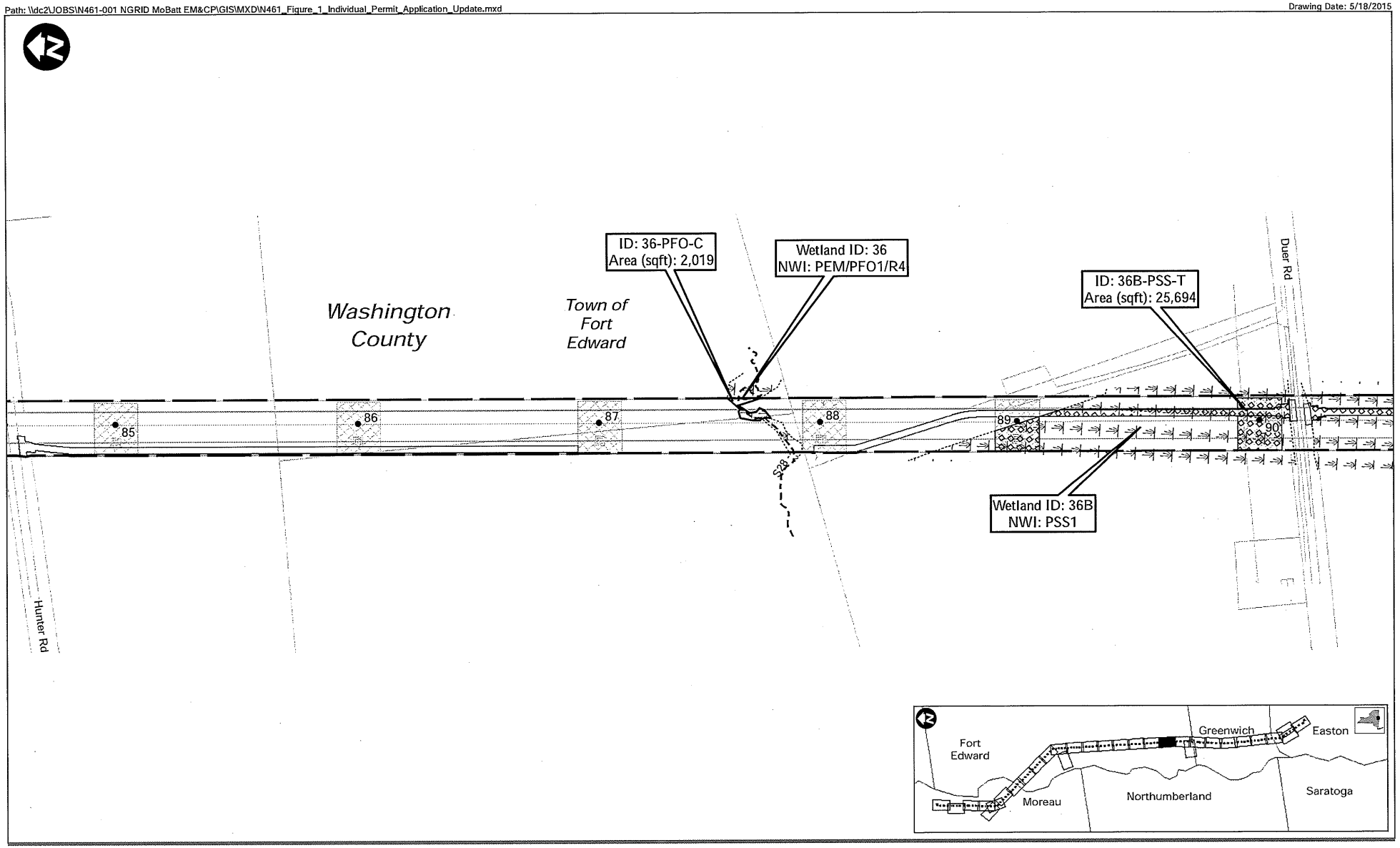

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Impacts to Waters of the US
Along the Project ROW
Revised: 5/18/2015

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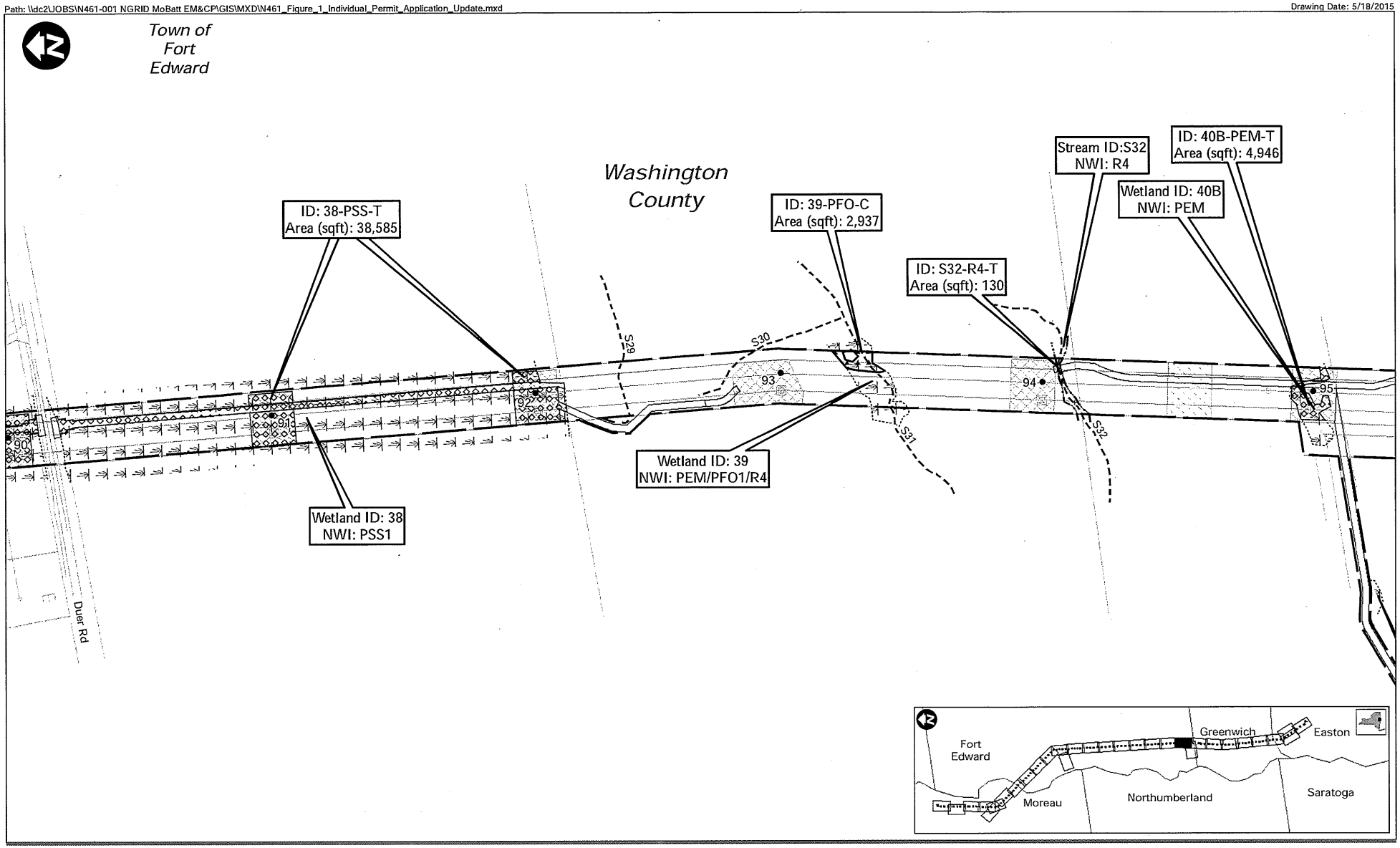

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Saratoga & Washington County, New York
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Impacts to Waters of the US
Along the Project ROW
Revised: 5/18/2015

Figure 2
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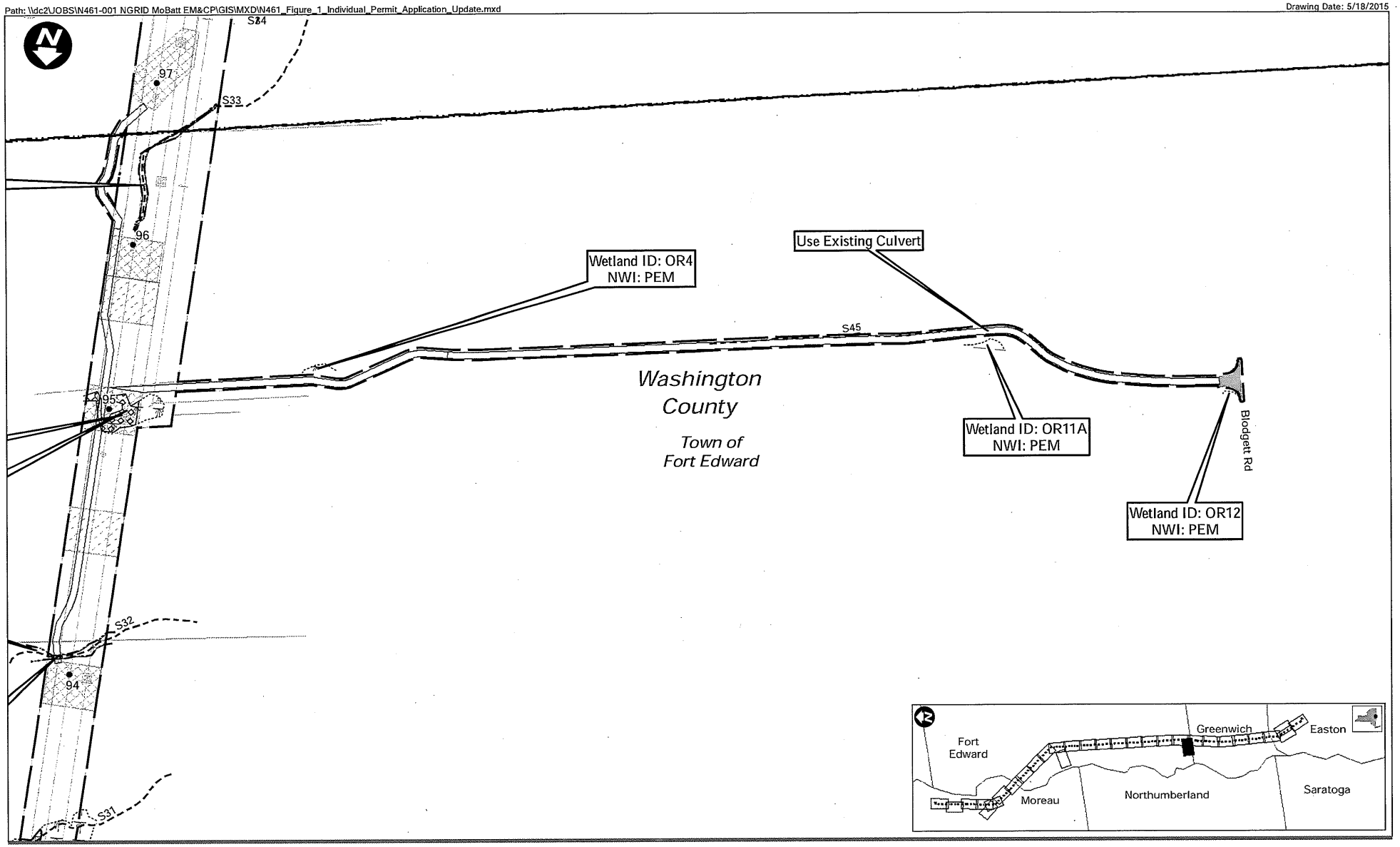

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Saratoga & Washington County, New York
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Impacts to Waters of the US
Along the Project ROW
Revised: 5/18/2015

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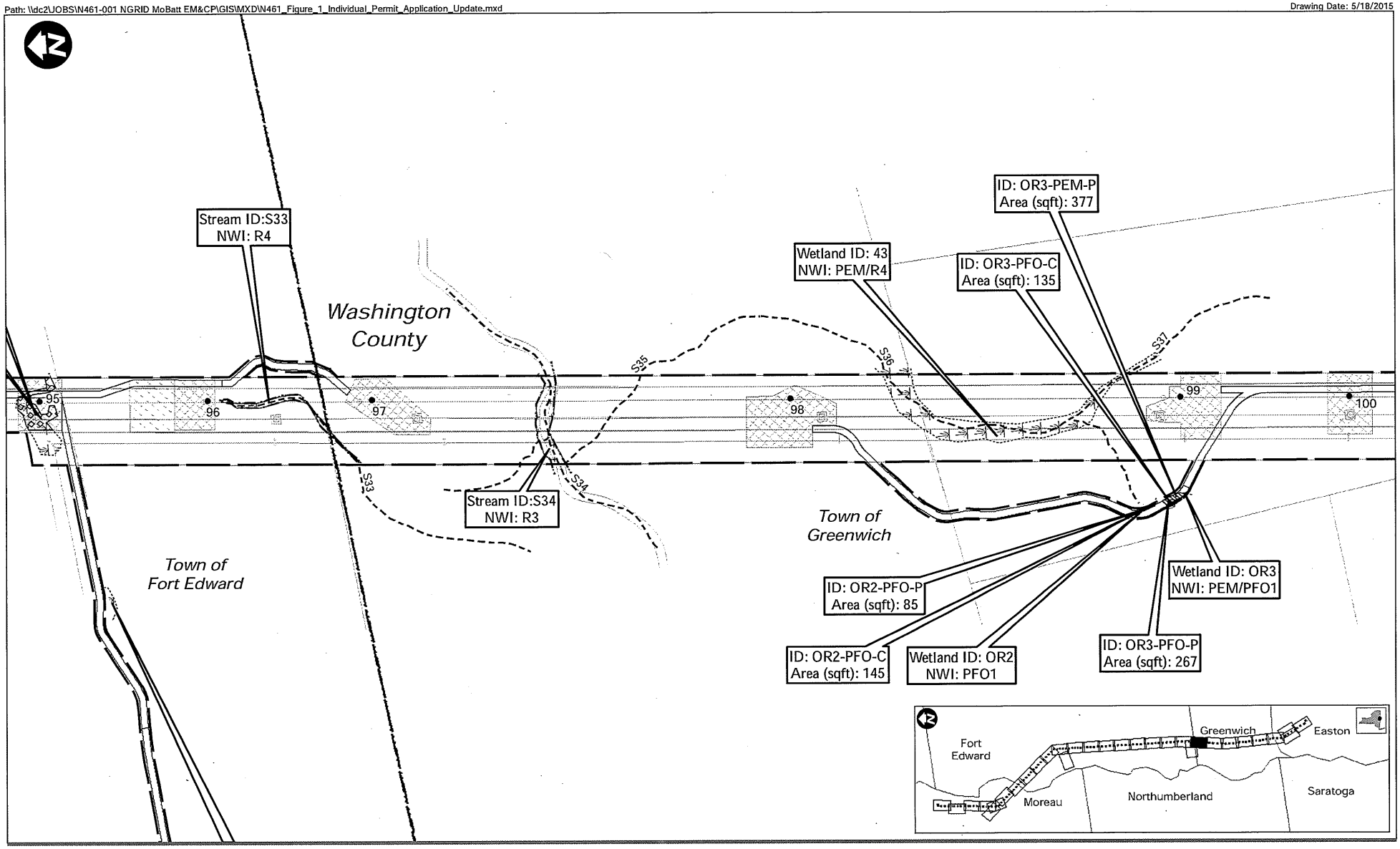

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Saratoga & Washington County, New York
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Impacts to Waters of the US
Along the Project ROW
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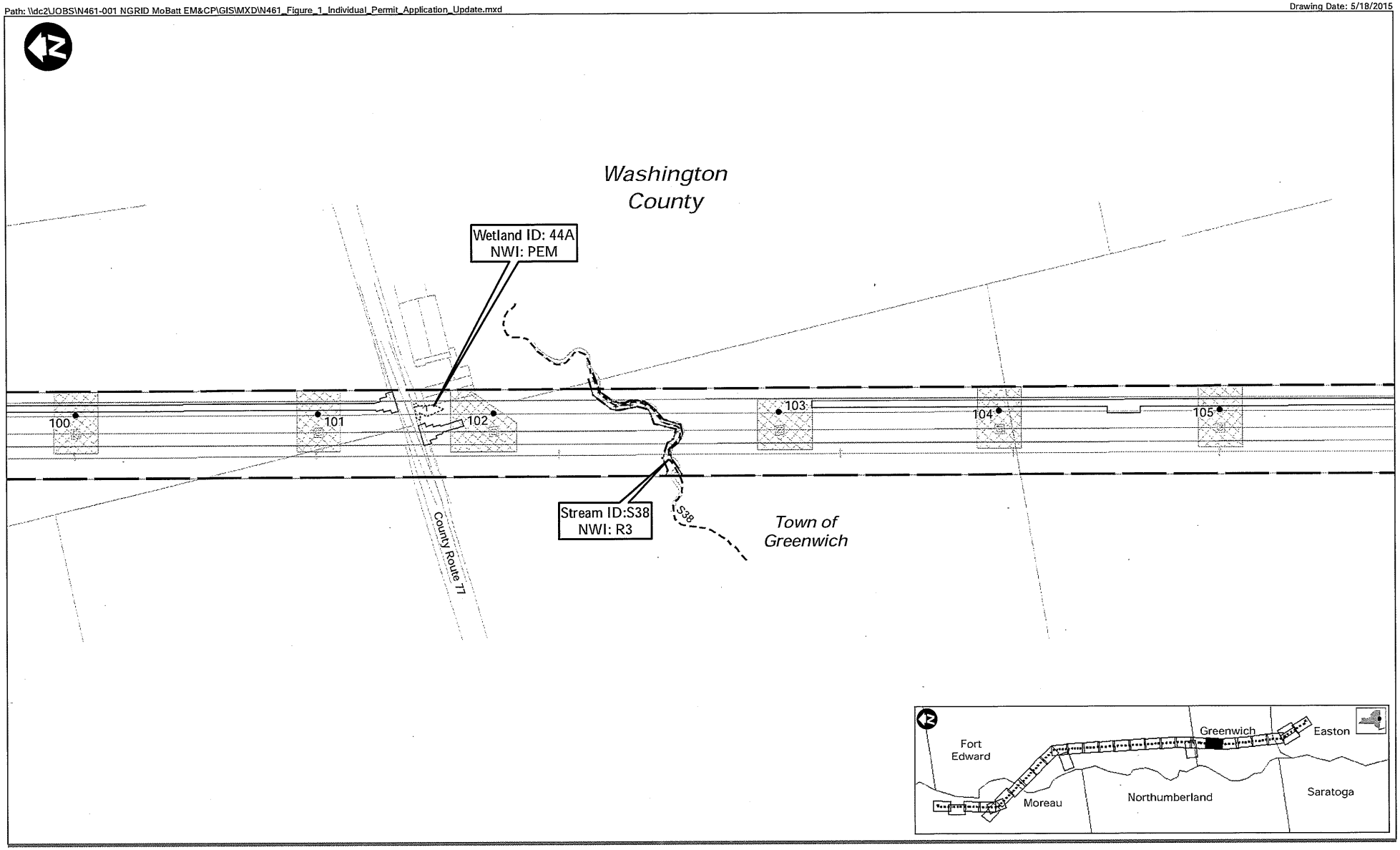

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Impacts to Waters of the US
Along the Project ROW
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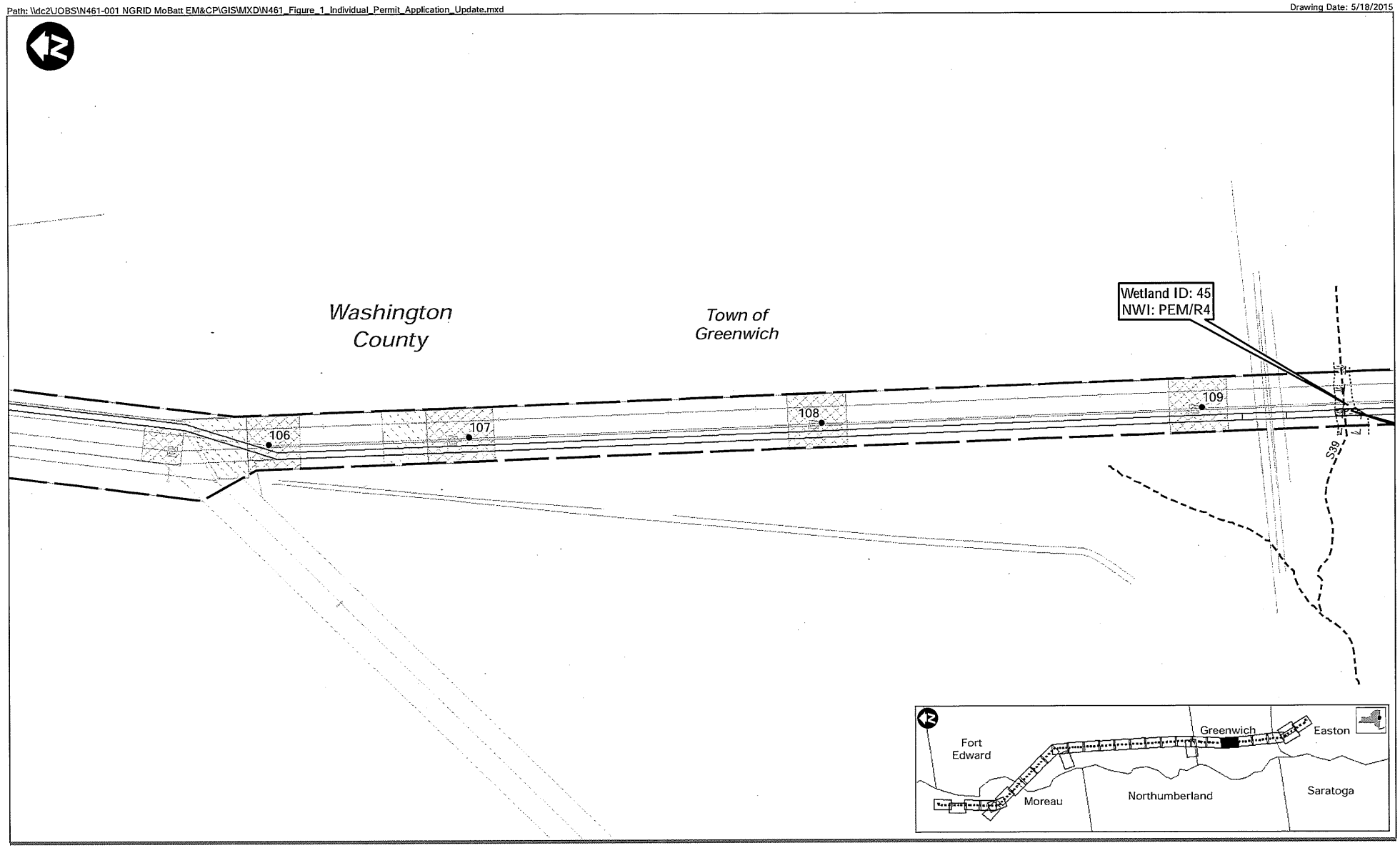

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Impacts to Waters of the US
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Figure 2
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Path: \\dc2\JOBS\N461-001 NGRID MoBatt EM&CP\GIS\MXD\N461_Figure_1_Individual_Permit_Application_Update.mxd

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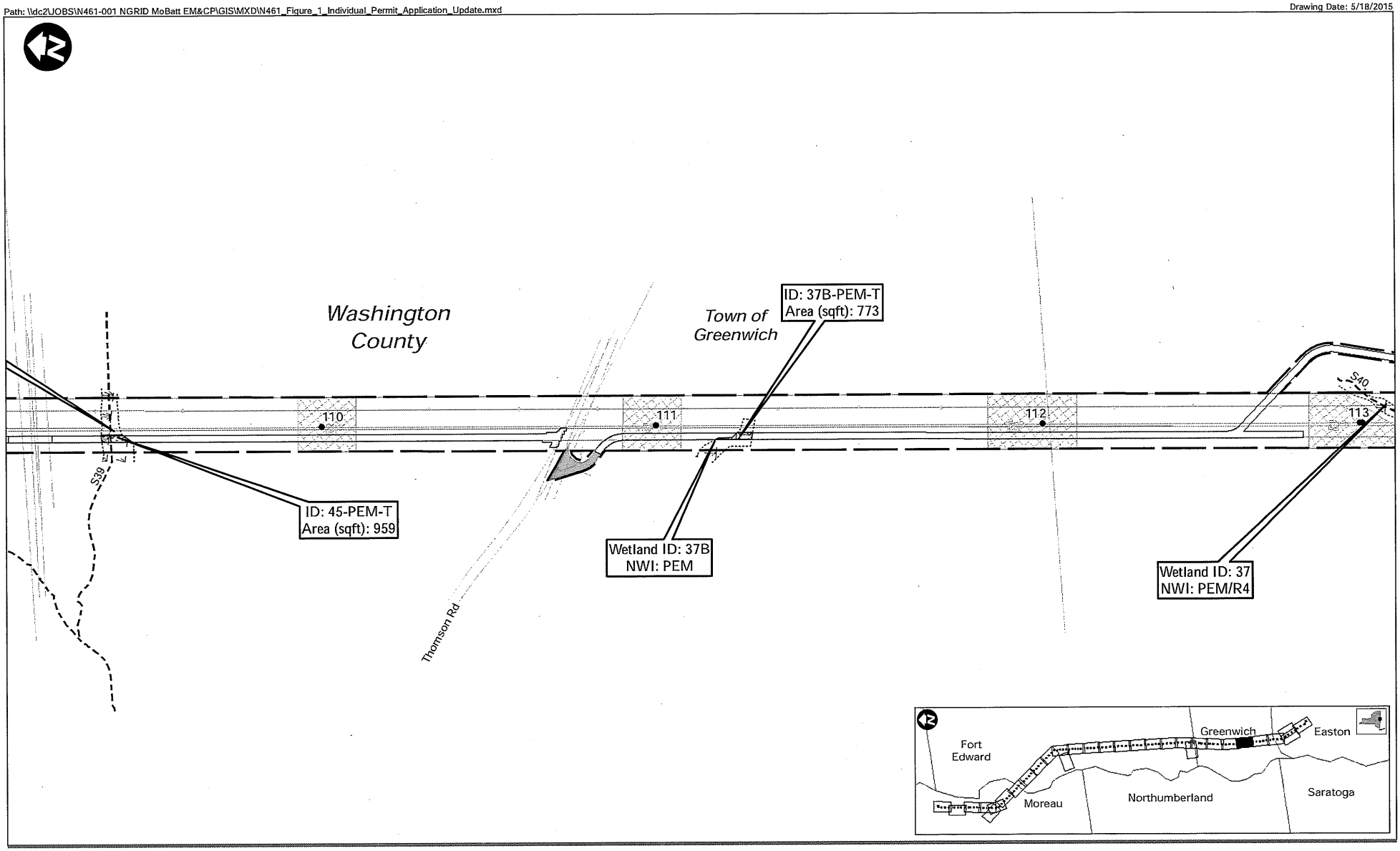

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Impacts to Waters of the US
Along the Project ROW
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Figure 2
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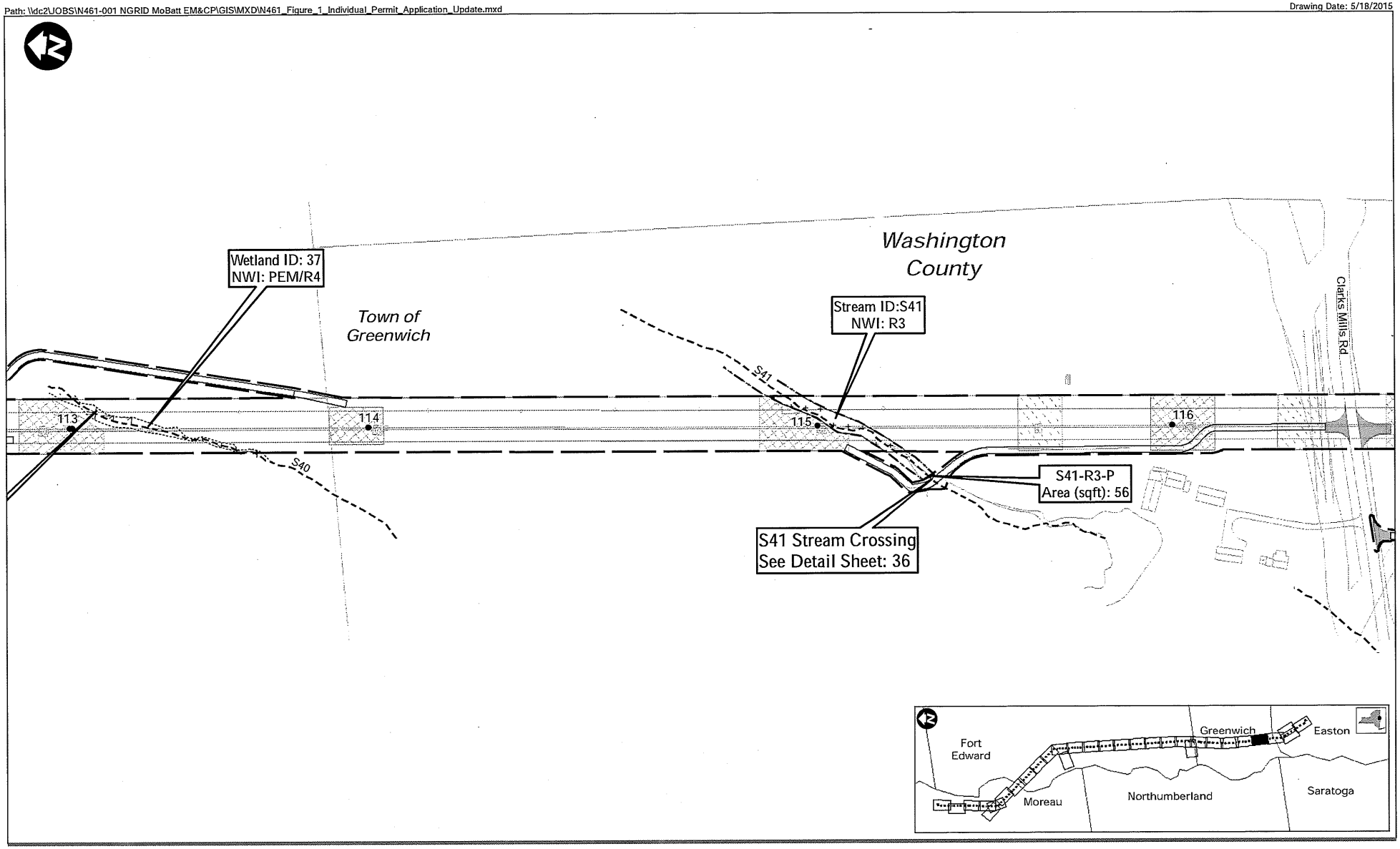

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Impacts to Waters of the US
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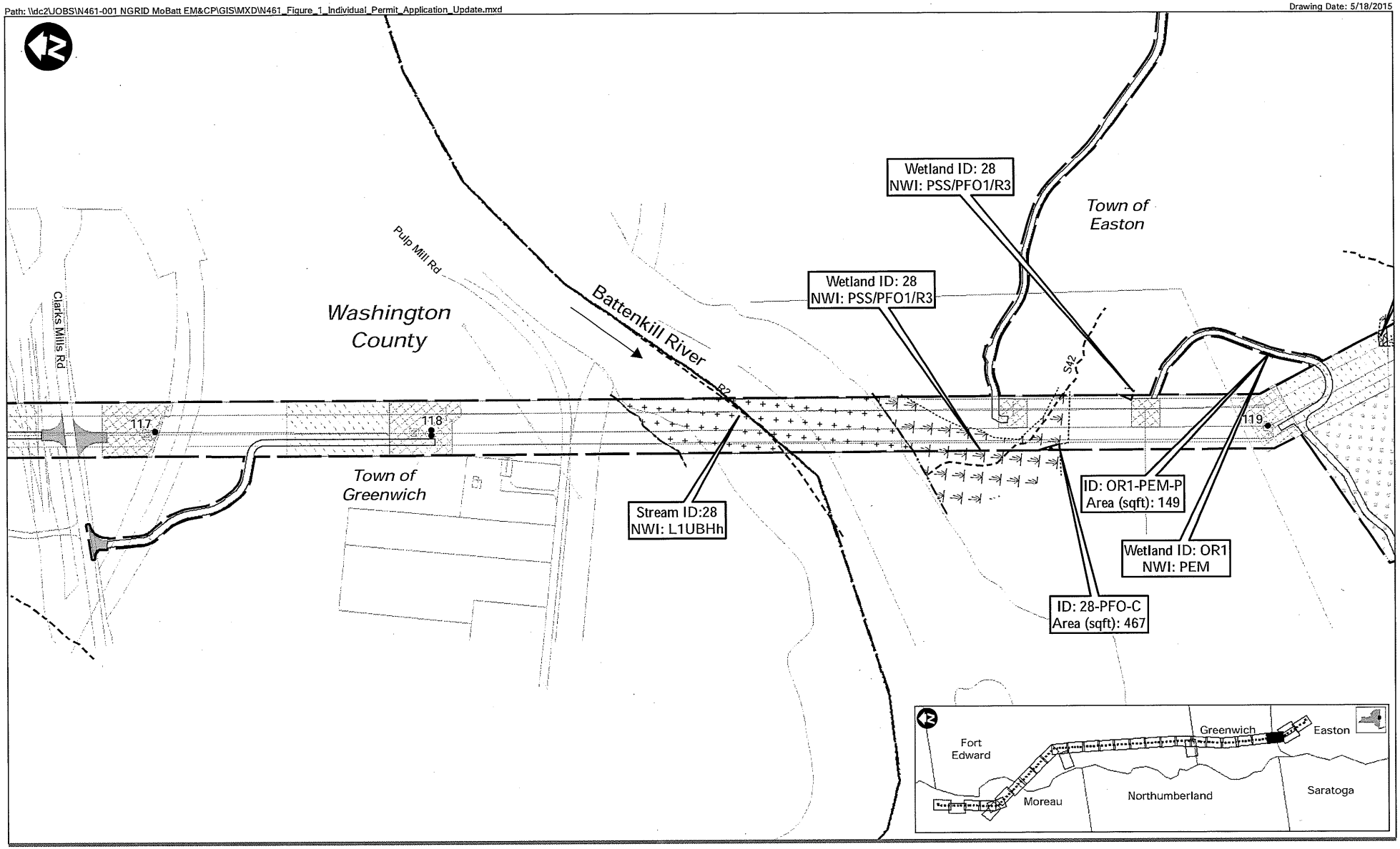

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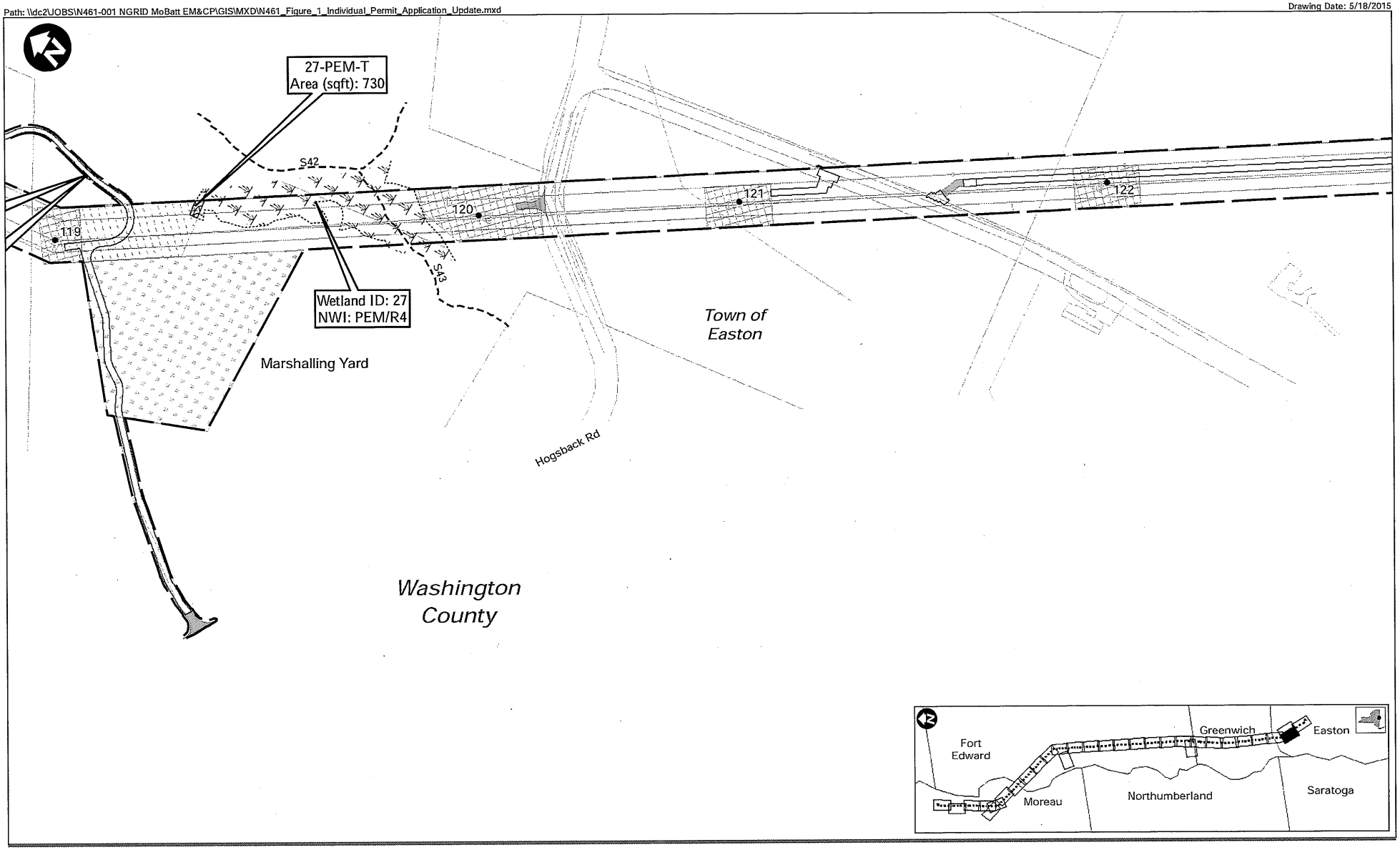

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Figure 2
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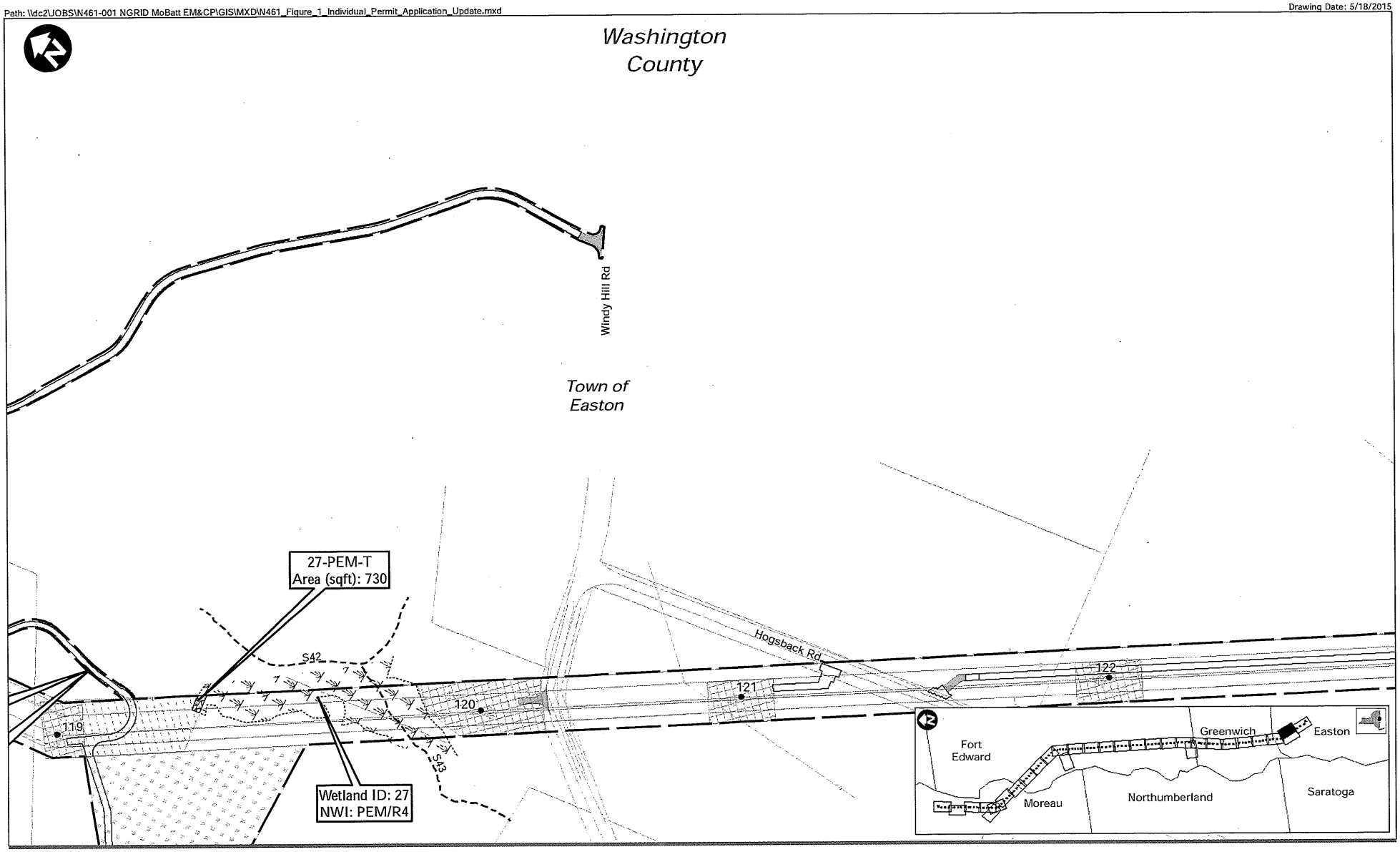

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NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

1 inch = 300 feet

0 75 150 300 Feet

Source: 1) USGS Hydrography, 2007
2) NYS GIS Clearinghouse, Civil Boundaries, 2009

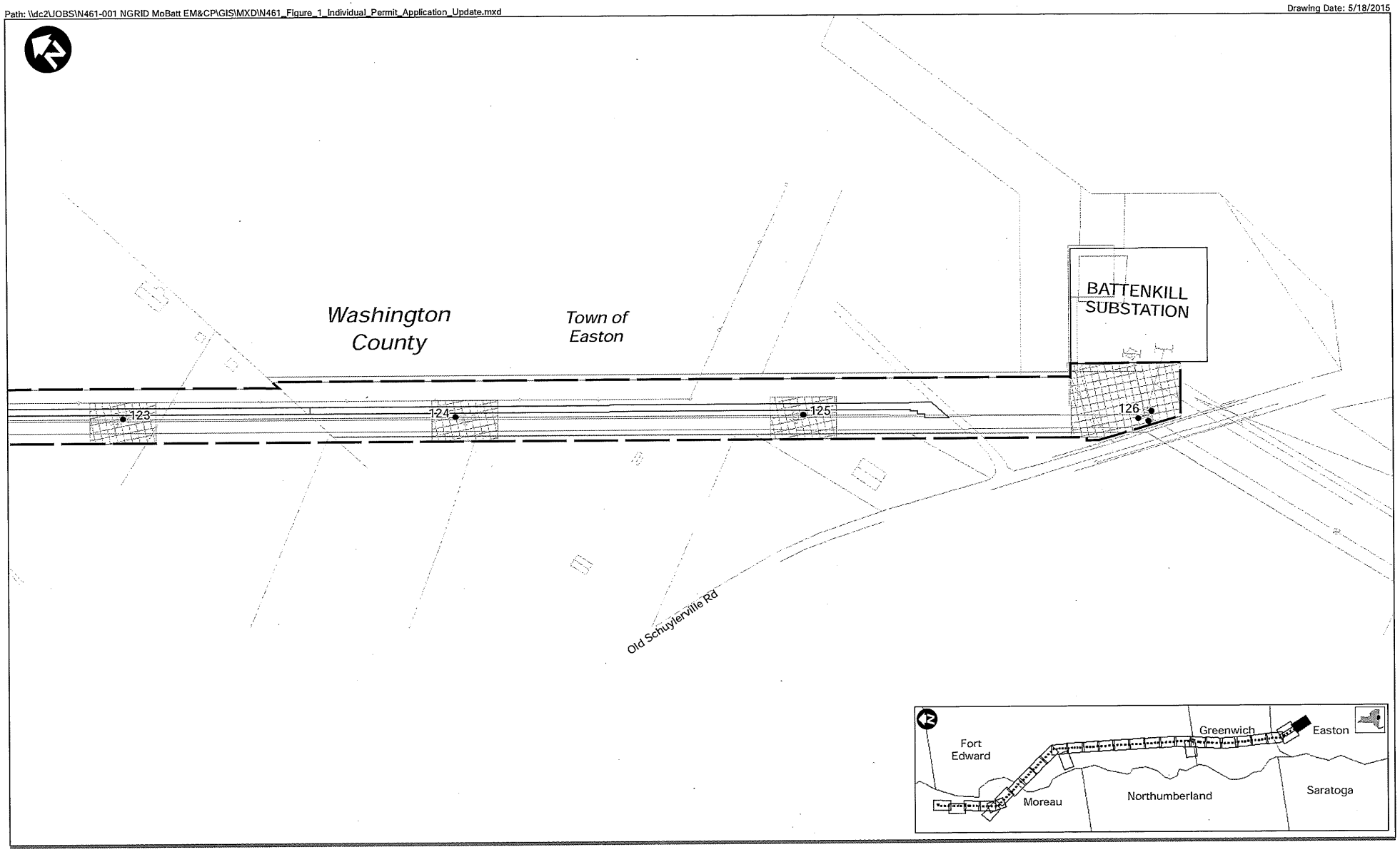
- Project Area (269.2 Acres)
- Permanent Wetland Impact Area
- Temporary Wetland Impact Area
- Forested Wetland Conversion
- Delineated Wetland Line
- Waters of the U.S. (Delineated Wetland)
- Waters of the U.S. (Stream/Open Water)
- Waters of the U.S. (Streams)
- Ordinary High Water Line
- Access Road
- Stabilized Construction Entrance
- Marshalling Yard
- Pulling Pad
- Permanent Fill
- Work Pad
- Mitigation Area
- Proposed Structure

Impacts to Waters of the US
Along the Project ROW
Revised: 5/18/2015

Figure 2
Sheet 30 of 45

Path: \\dc2\JOBS\N461-001 NGRID MoBatt EM&CP\GIS\MXD\N461_Figure_1_Individual_Permit_Application_Update.mxd

Drawing Date: 5/18/2015



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NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

1 inch = 300 feet

0 75 150 300 Feet

Source: 1) USGS Hydrography, 2007
2) NYS GIS Clearinghouse, Civil Boundaries, 2009

- Project Area (269.2 Acres)
- Permanent Wetland Impact Area
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- Waters of the U.S. (Stream/Open Water)
- Waters of the U.S. (Streams)
- Ordinary High Water Line
- Access Road
- Stabilized Construction Entrance
- Marshalling Yard
- Pulling Pad
- Permanent Fill
- Work Pad
- Mitigation Area
- Proposed Structure

Impacts to Waters of the US
Along the Project ROW
Revised: 5/18/2015

Figure 2
Sheet 31 of 45

DATE: Mar 13, 2015 – 10:54AM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S1_20scale.dwg

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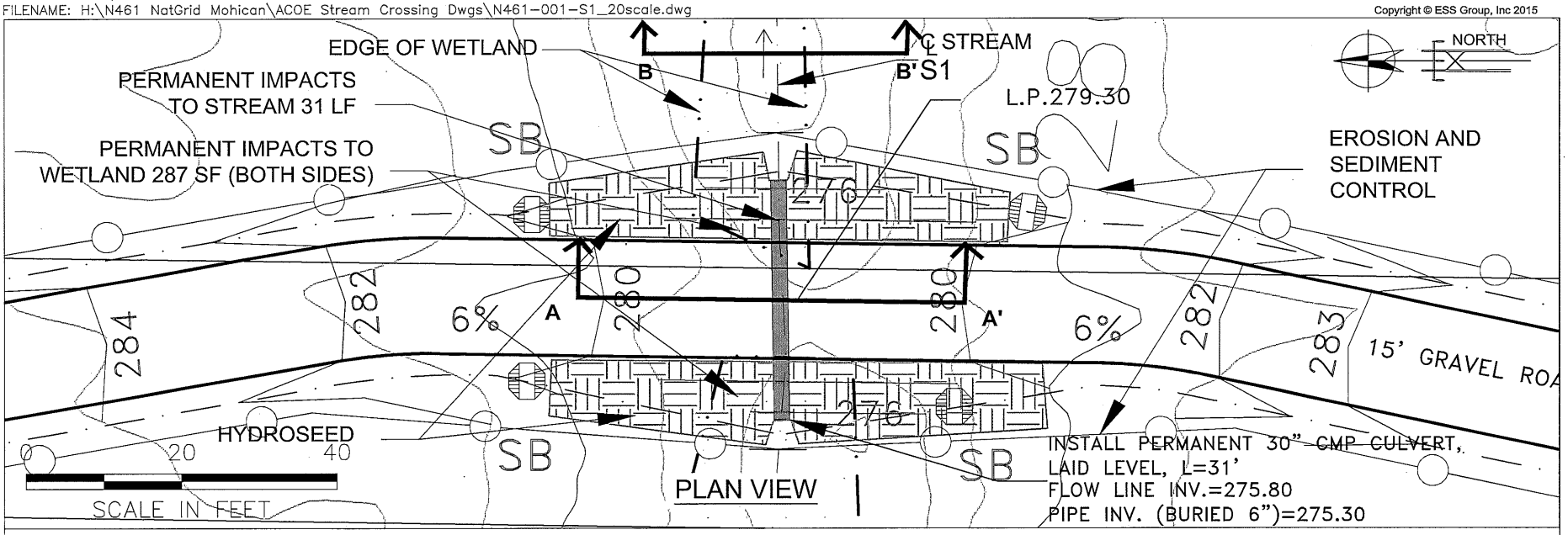

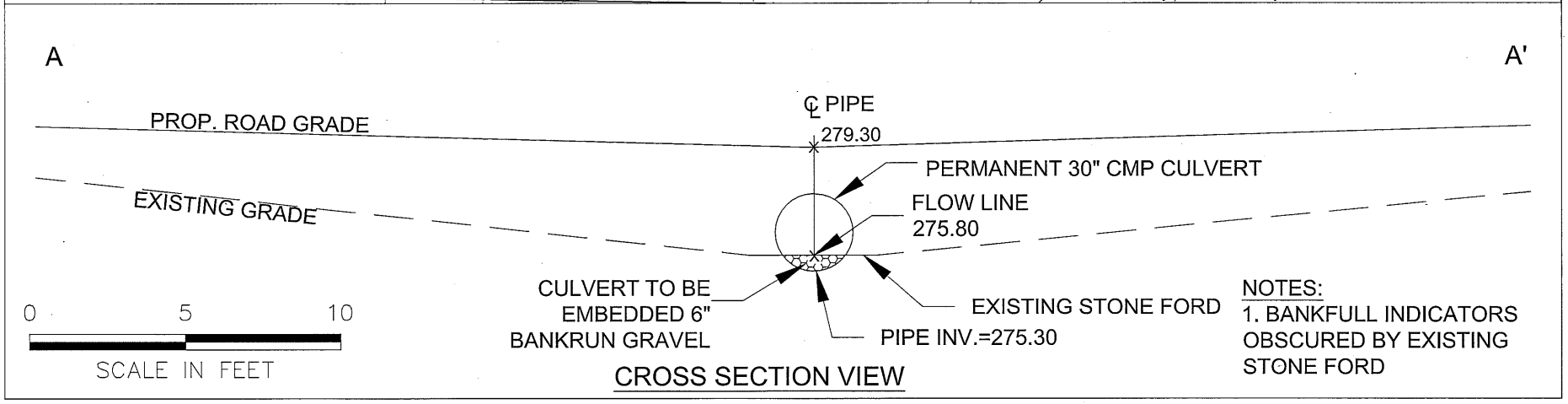

NOTES:
1. BANKFULL INDICATORS OBSCURED BY EXISTING STONE FORD

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Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US Along the Project ROW
Stream Crossing Detail S1
Revised 3/3/15

Figure 2
Sheet 32A of 45

DATE: Mar 13, 2015 – 10:54AM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S1_20scale.dwg

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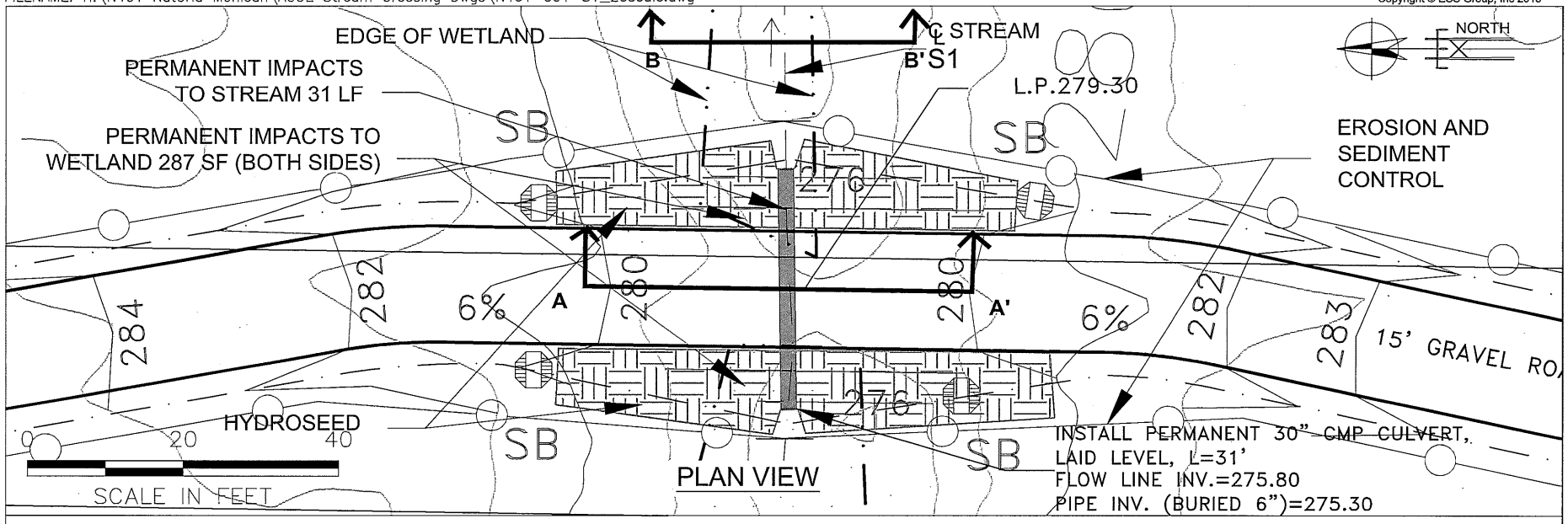

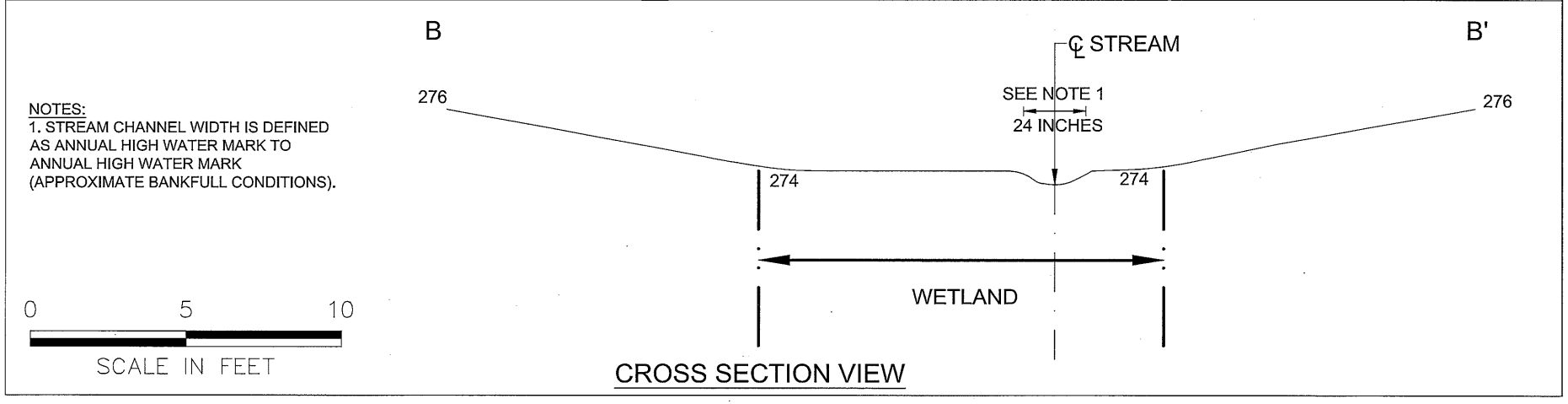

NOTES:
1. STREAM CHANNEL WIDTH IS DEFINED AS ANNUAL HIGH WATER MARK TO ANNUAL HIGH WATER MARK (APPROXIMATE BANKFULL CONDITIONS).

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Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US Along the Project ROW
Stream Crossing Detail S1
Revised 3/3/15

Figure 2
Sheet 32B of 45

DATE: Mar 13, 2015 – 10:56AM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S6A & S7.dwg

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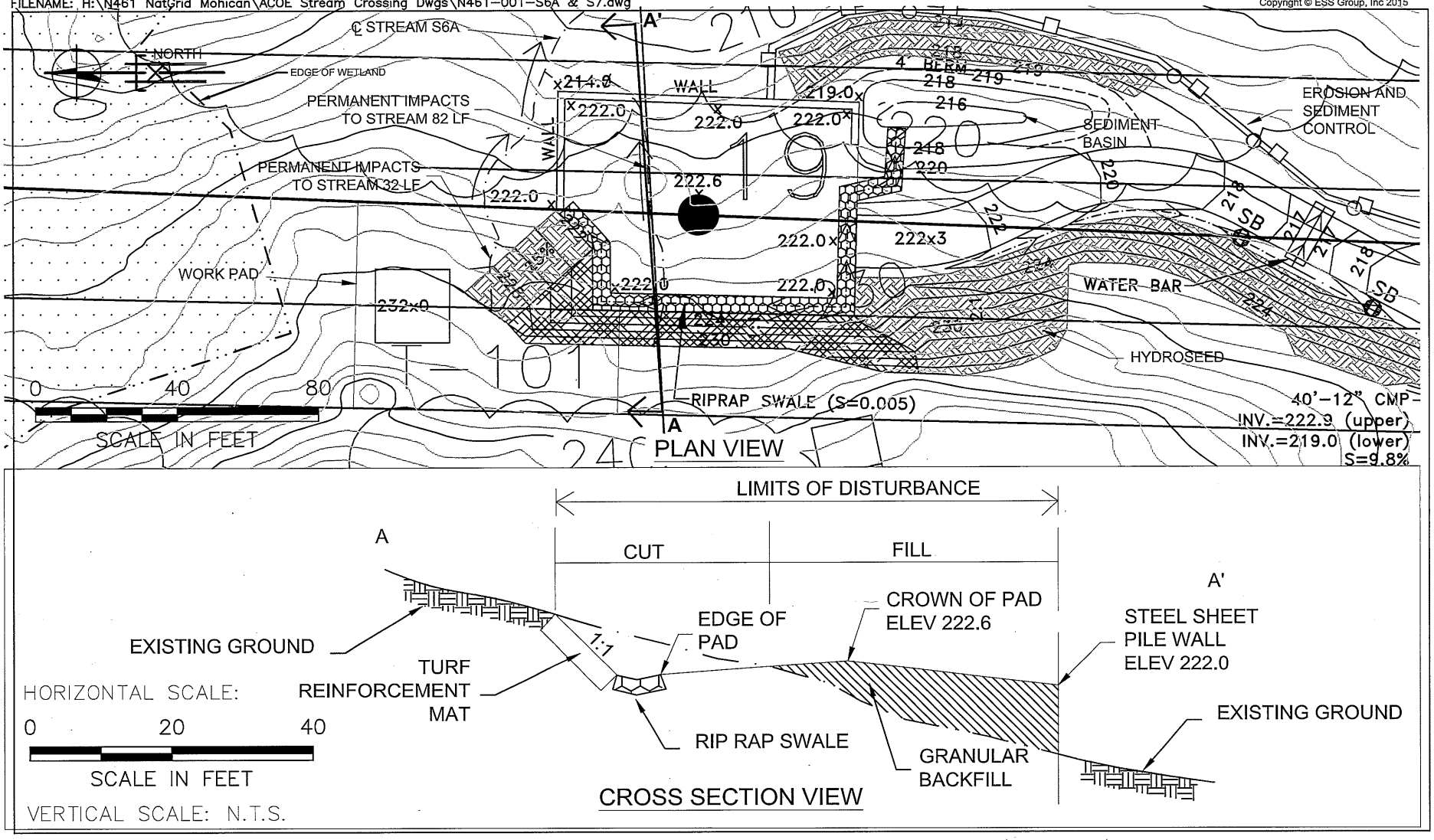

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Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US
Along the Project ROW
Stream Crossing Detail S6A
Revised 3/3/15

Figure 2
Sheet 33 of 45

DATE: Mar 13, 2015 – 10:56AM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S6A & S7.dwg

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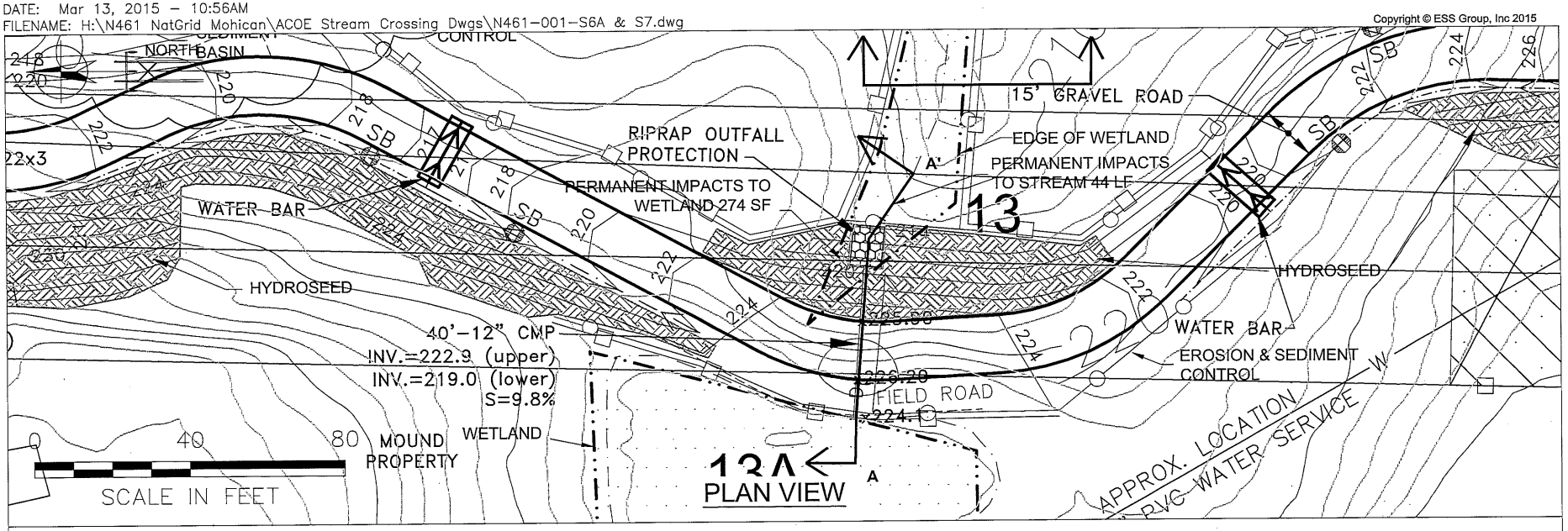
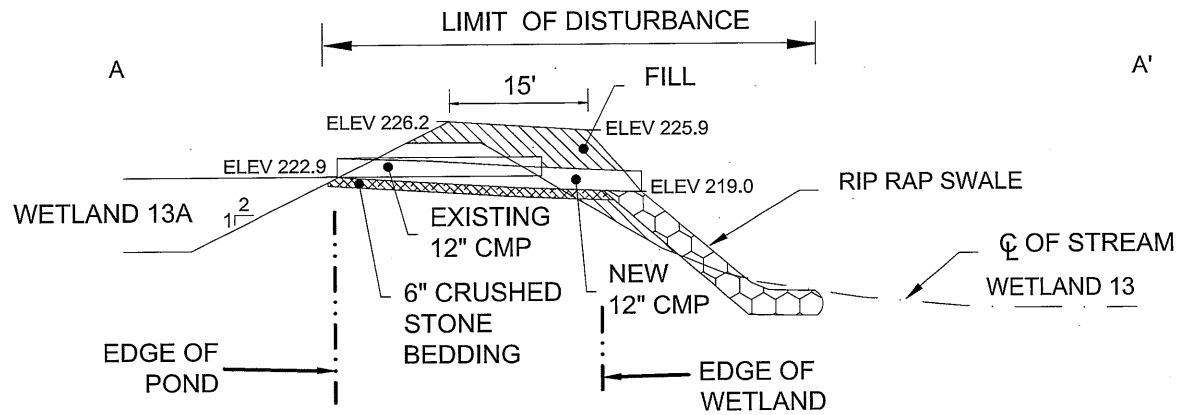


PLAN VIEW

NOTES:
1. EXISTING 12" CMP IS A WATER CONTROL STRUCTURE AT AN IMPOUNDMENT. PROPOSED REPLACEMENT STRUCTURE HAS BEEN DESIGNED TO MATCH EXISTING FLOW RATES SO AS NOT TO CAUSE A DROP IN WATER LEVEL OF THE POND (13A) UPSTREAM OF CROSSING OR ALTER FLOW IN STREAM DOWNSTREAM OF CROSSING.



CROSS SECTION VIEW

HORIZONTAL SCALE:
0 20 40
SCALE IN FEET
VERTICAL SCALE: N.T.S.

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NATIONAL GRID – 115kV Mohican – Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US Along the Project ROW Stream Crossing Detail 7
Revised 3/3/15

Figure 2
Sheet 34A of 45

DATE: Mar 13, 2015 – 10:57AM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S6A & S7.dwg

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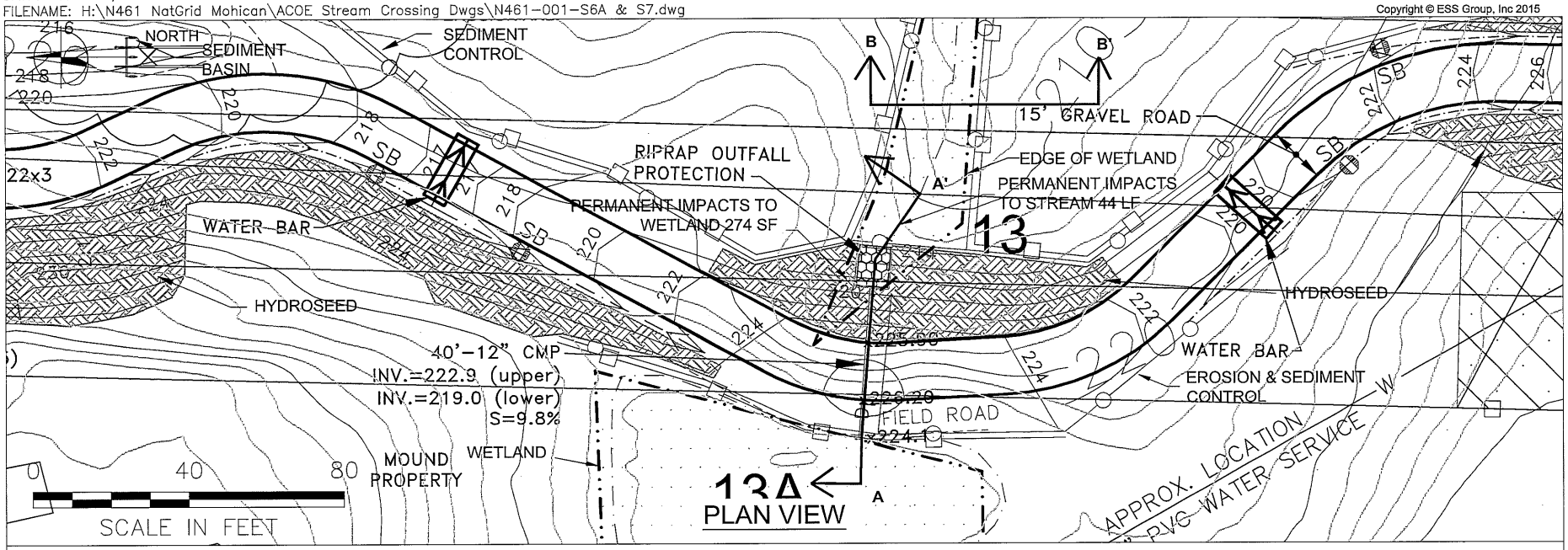
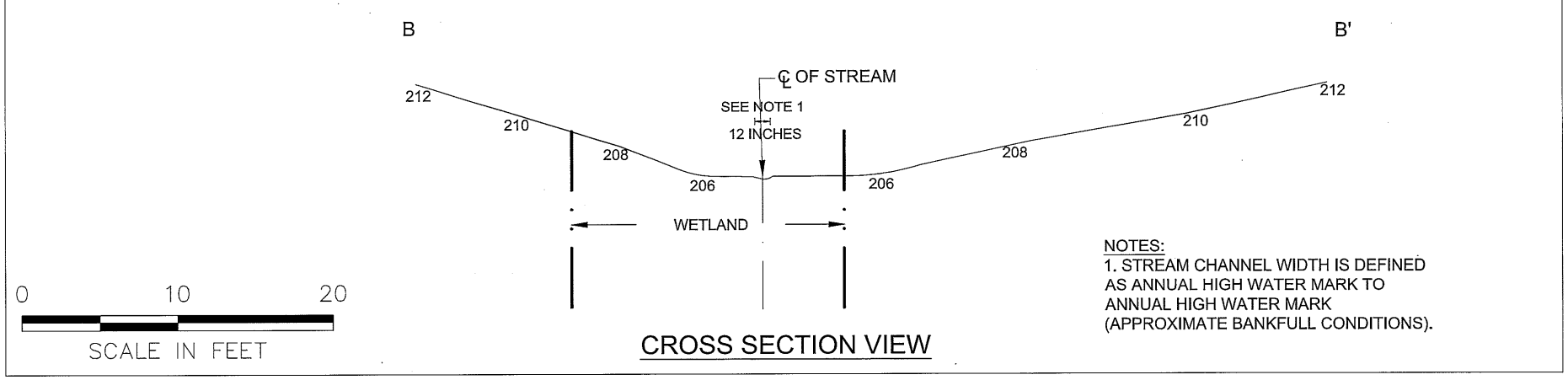


13A
PLAN VIEW



CROSS SECTION VIEW

NOTES:
1. STREAM CHANNEL WIDTH IS DEFINED AS ANNUAL HIGH WATER MARK TO ANNUAL HIGH WATER MARK (APPROXIMATE BANKFULL CONDITIONS).

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Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US Along the Project ROW Stream Crossing Detail 7
Revised 3/3/15

Figure 2
Sheet 34B of 45

DATE: Apr 08, 2015 – 12:05PM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S15.dwg

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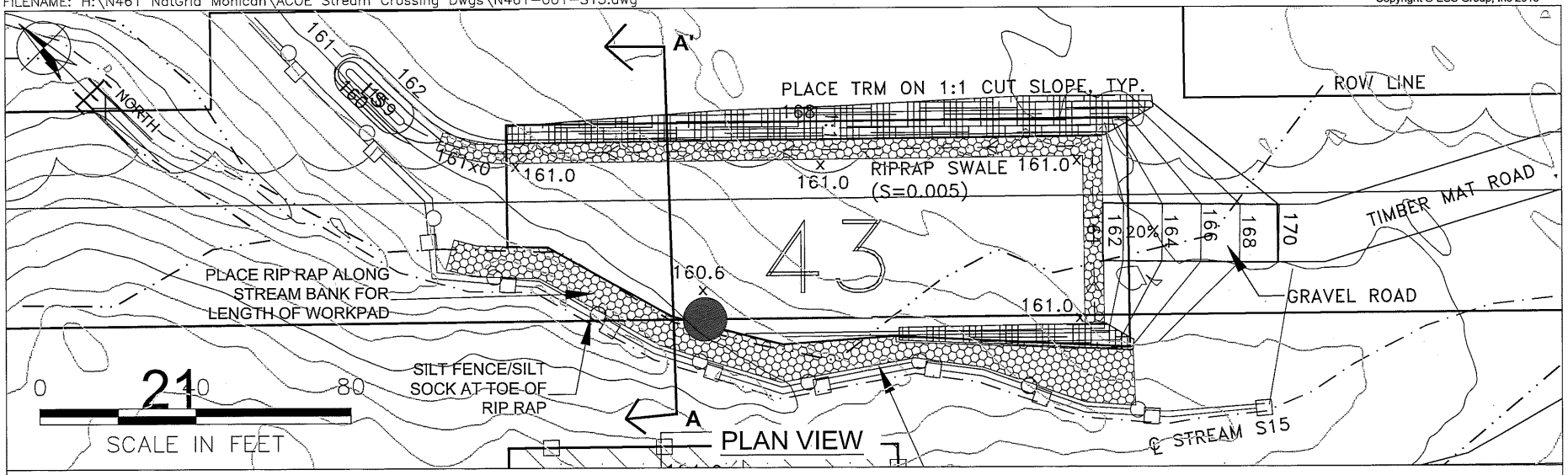

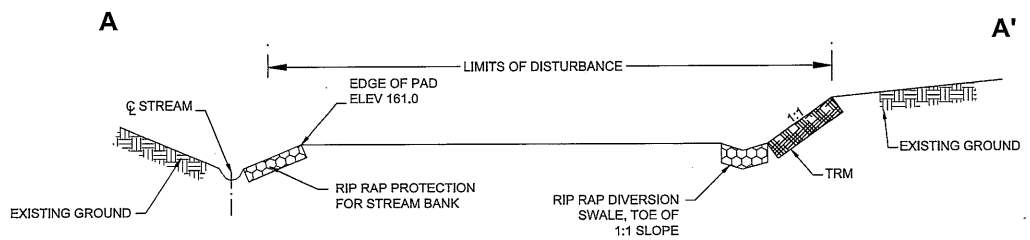

HORIZONTAL SCALE:

0 20 40

SCALE IN FEET

VERTICAL SCALE: N.T.S.

CROSS SECTION VIEW

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NATIONAL GRID – 115kV Mohican – Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US
Along the Project ROW
Stream Crossing Detail S15
Revised 3/3/15

Figure 2
Sheet 35 of 45

DATE: Mar 13, 2015 – 10:58AM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S22.dwg

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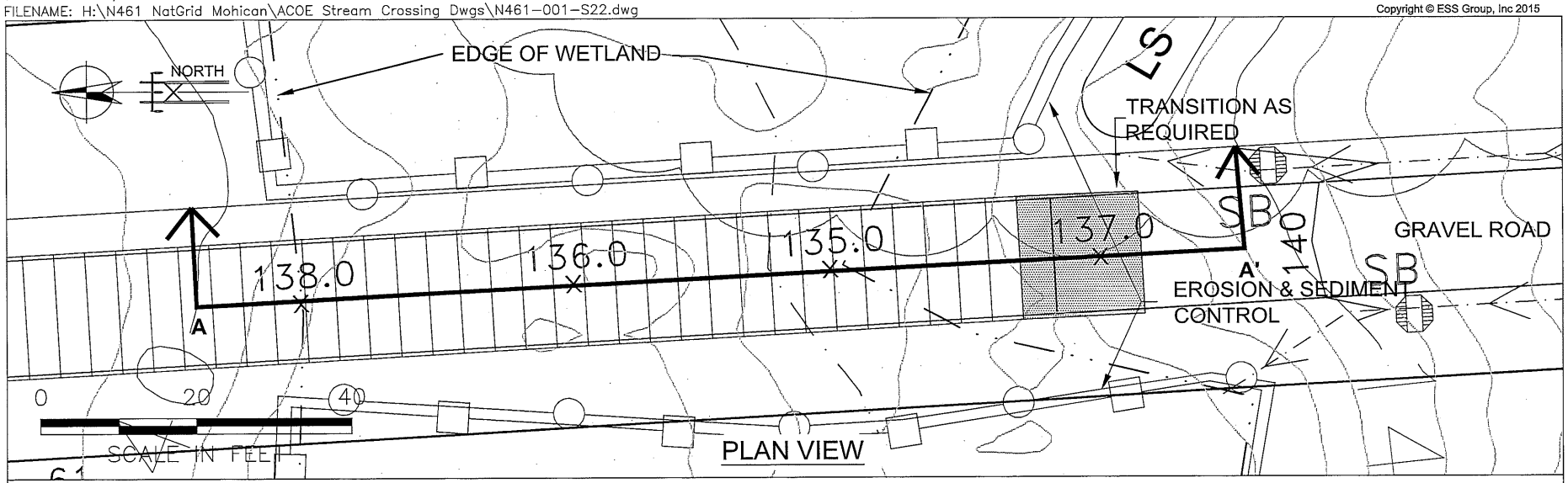
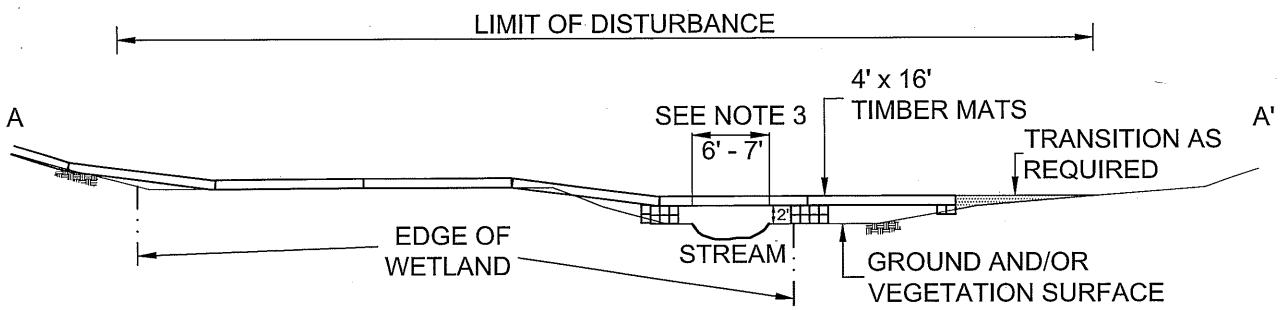


NOTES:

1. SIZE OF MATS IS TYPICALLY 16' X 4' AND INCLUDES 4 OR 5 PLANKS, EACH 12" OR 9.5" THICK AND ABOUT 12" WIDE.
2. SUPPORT MATS MAY BE STACKED OR ARRANGED TO ACCOMMODATE ON-SITE CONDITIONS AND CHANGES IN TERRAIN.
3. STREAM CHANNEL WIDTH IS DEFINED AS ANNUAL HIGH WATER MARK TO ANNUAL HIGH WATER MARK (APPROXIMATE BANKFULL CONDITIONS).
4. WETLAND AREAS IMPACTED BY TEMPORARY TIMBER MATS WILL BE RESTORED USING A WETLAND SEED MIX FOLLOWING REMOVAL OF MATS.



0 20 40

SCALE IN FEET

CROSS SECTION VIEW

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Saratoga & Washington County, New York
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Impacts to Waters of the US
Along the Project ROW
Stream Crossing Detail S22
Revised 3/3/15

Figure 2
Sheet 36 of 45

DATE: Mar 31, 2015 – 5:27PM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S41.dwg

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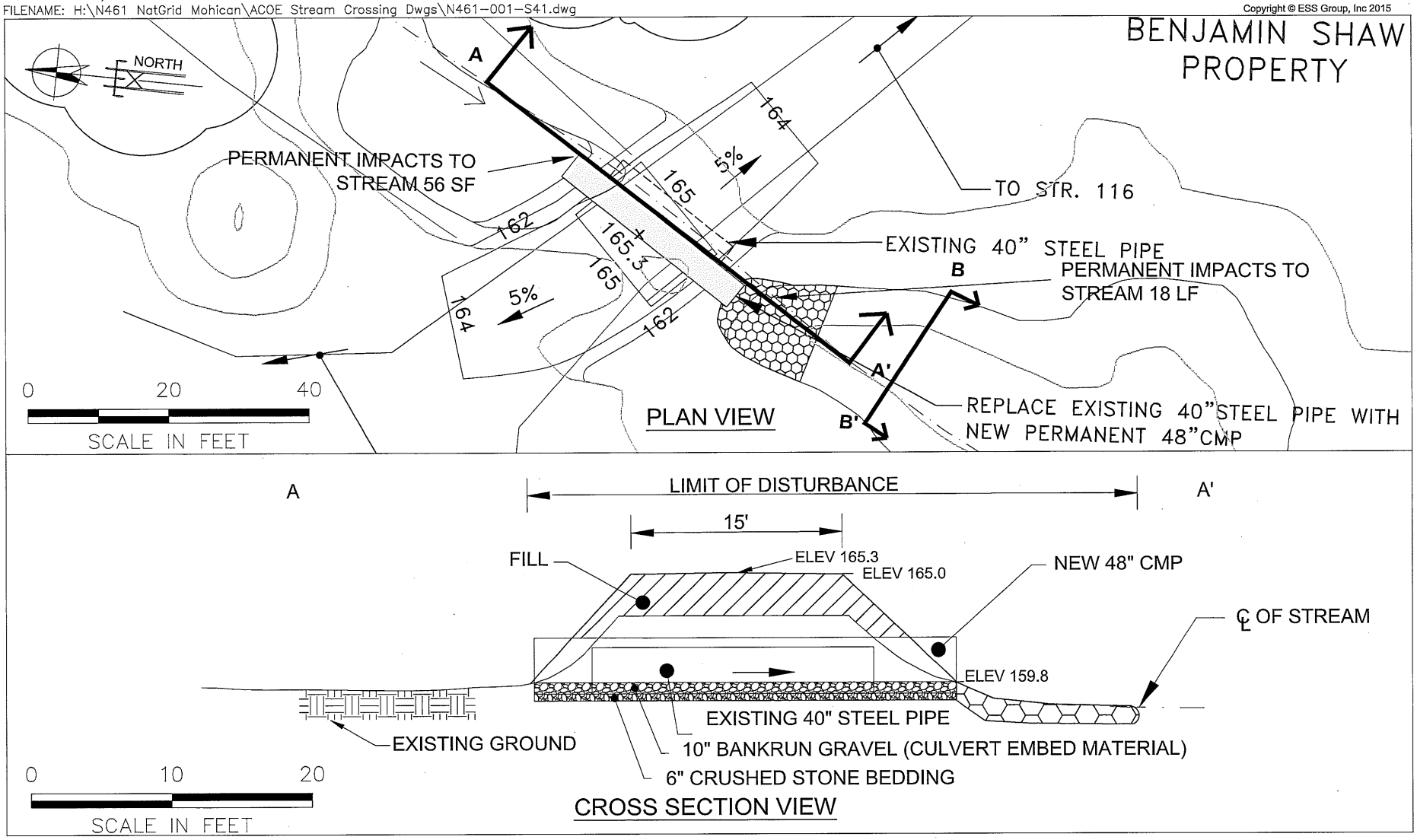

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Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US
Along the Project ROW
Stream Crossing Detail S41
Revised 3/31/15

Figure 2
Sheet 37A of 45

DATE: Mar 31, 2015 – 4:30PM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S41.dwg

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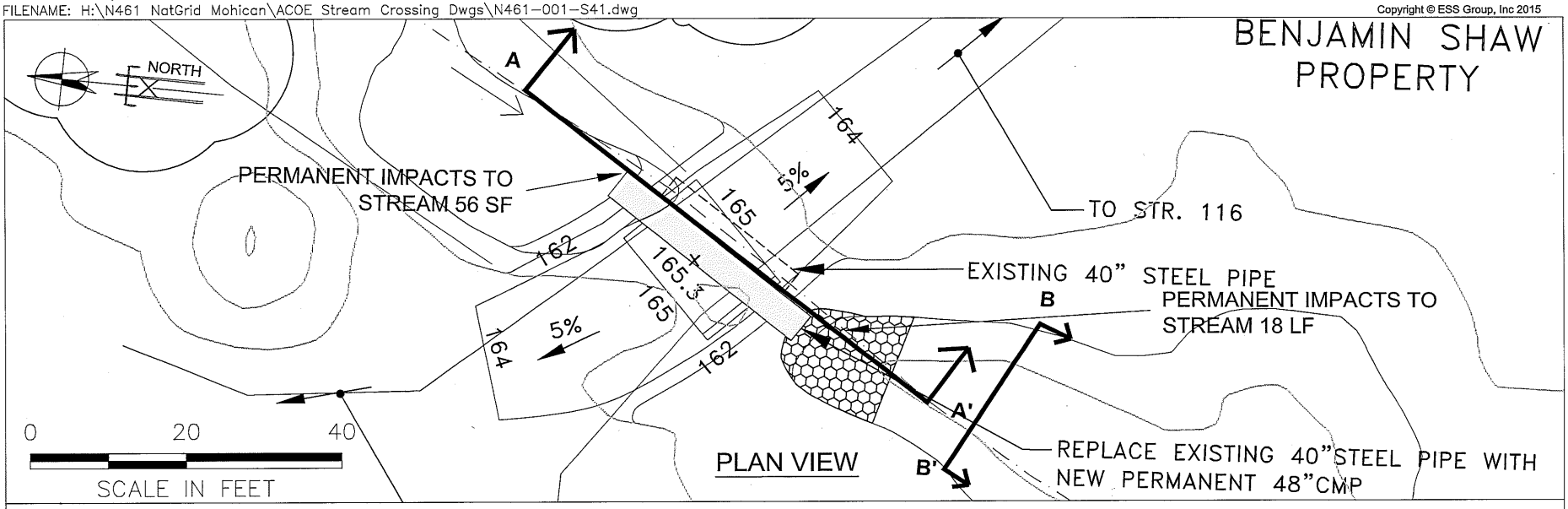

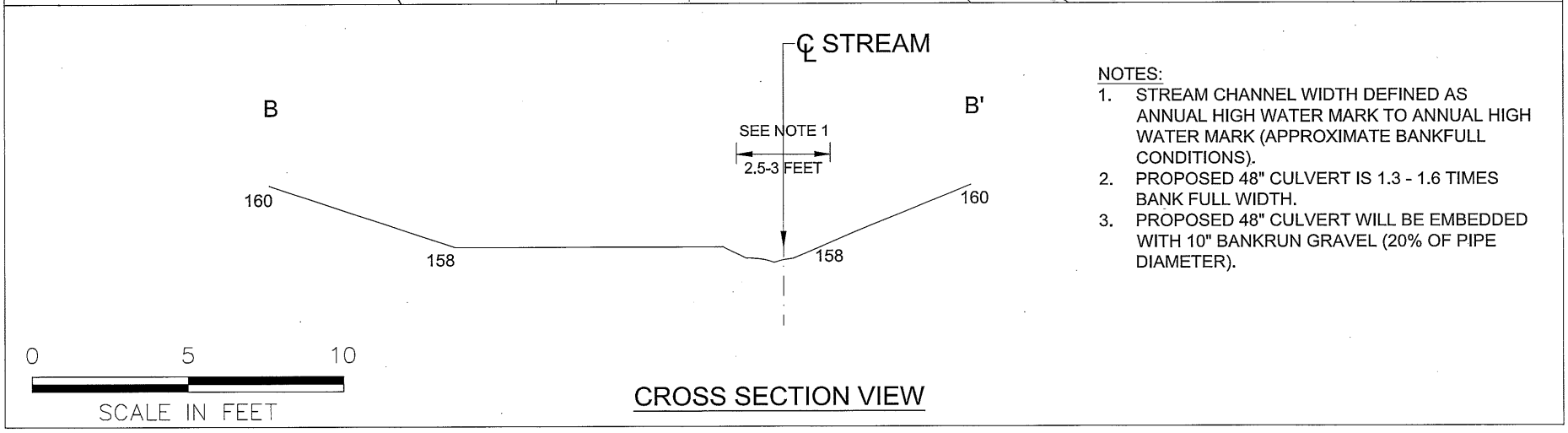

NOTES:

1. STREAM CHANNEL WIDTH DEFINED AS ANNUAL HIGH WATER MARK TO ANNUAL HIGH WATER MARK (APPROXIMATE BANKFULL CONDITIONS).
2. PROPOSED 48" CULVERT IS 1.3 - 1.6 TIMES BANK FULL WIDTH.
3. PROPOSED 48" CULVERT WILL BE EMBEDDED WITH 10" BANKRUN GRAVEL (20% OF PIPE DIAMETER).

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NAN-2013-00099-UCO

Impacts to Waters of the US
Along the Project ROW
Stream Crossing Detail S41
Revised 3/31/15

Figure 2
Sheet 37B of 45

DATE: May 18, 2015 – 2:02PM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S47.dwg

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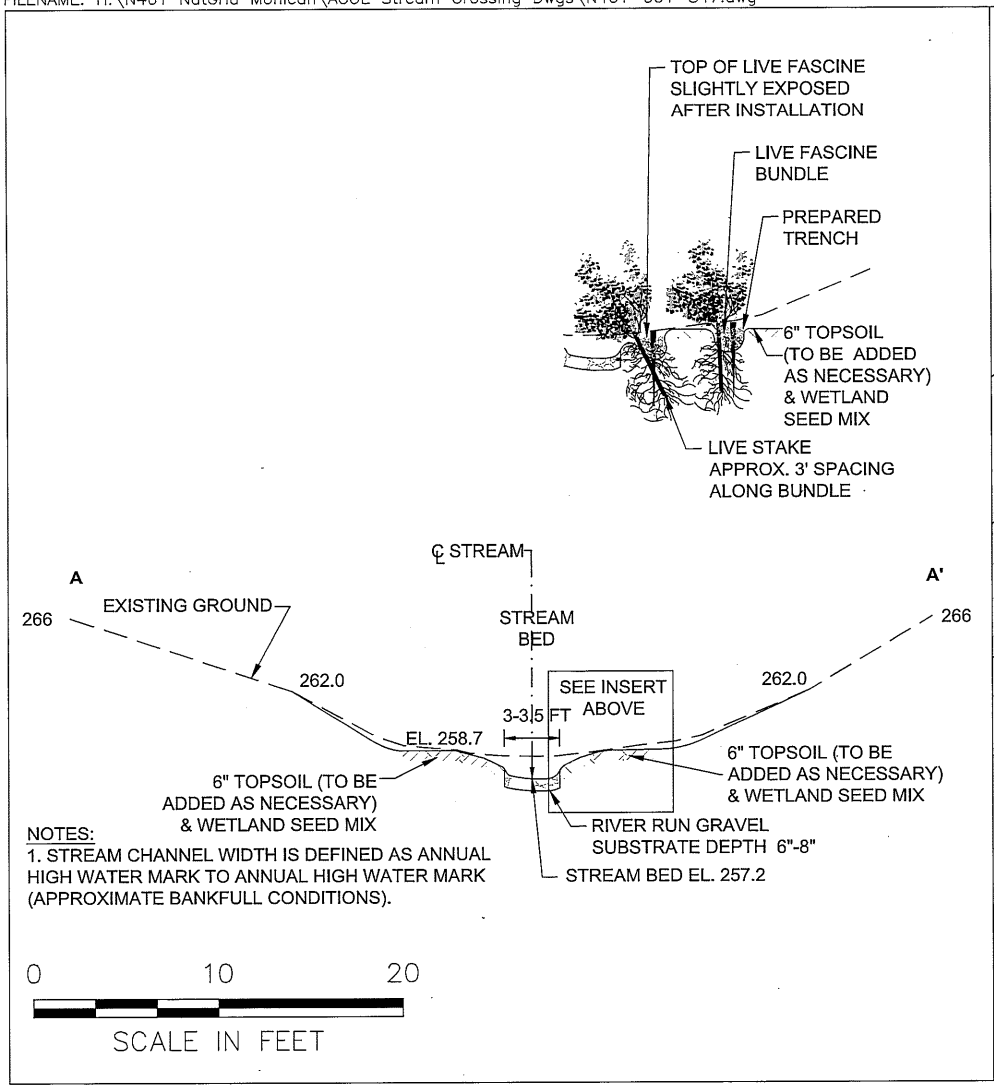
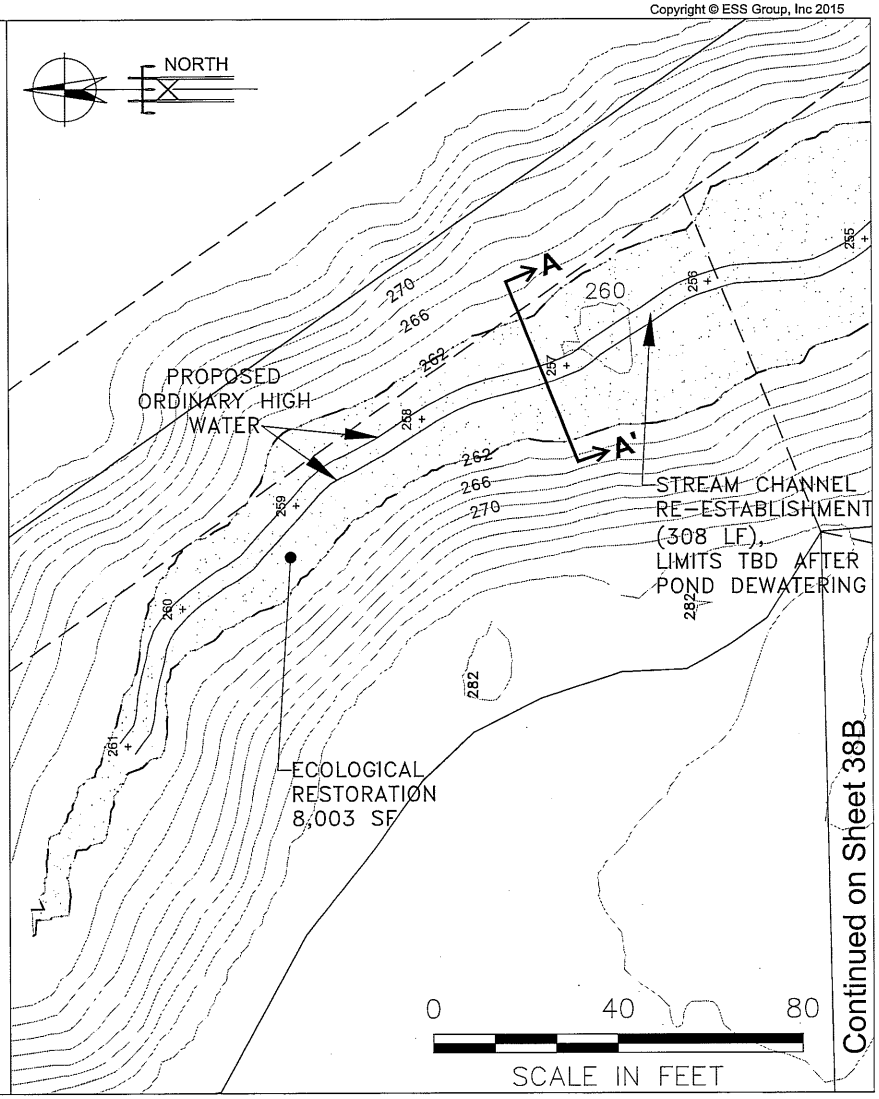


NOTES:
1. STREAM CHANNEL WIDTH IS DEFINED AS ANNUAL HIGH WATER MARK TO ANNUAL HIGH WATER MARK (APPROXIMATE BANKFULL CONDITIONS).



NATIONAL GRID – 115kV Mohican – Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

PLAN VIEW

Impacts to Waters of the US Along the Project ROW Stream Crossing Detail S47
Revised 5/18/15

Figure 2
Sheet 38A of 45

DATE: May 18, 2015 – 2:01PM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S47.dwg

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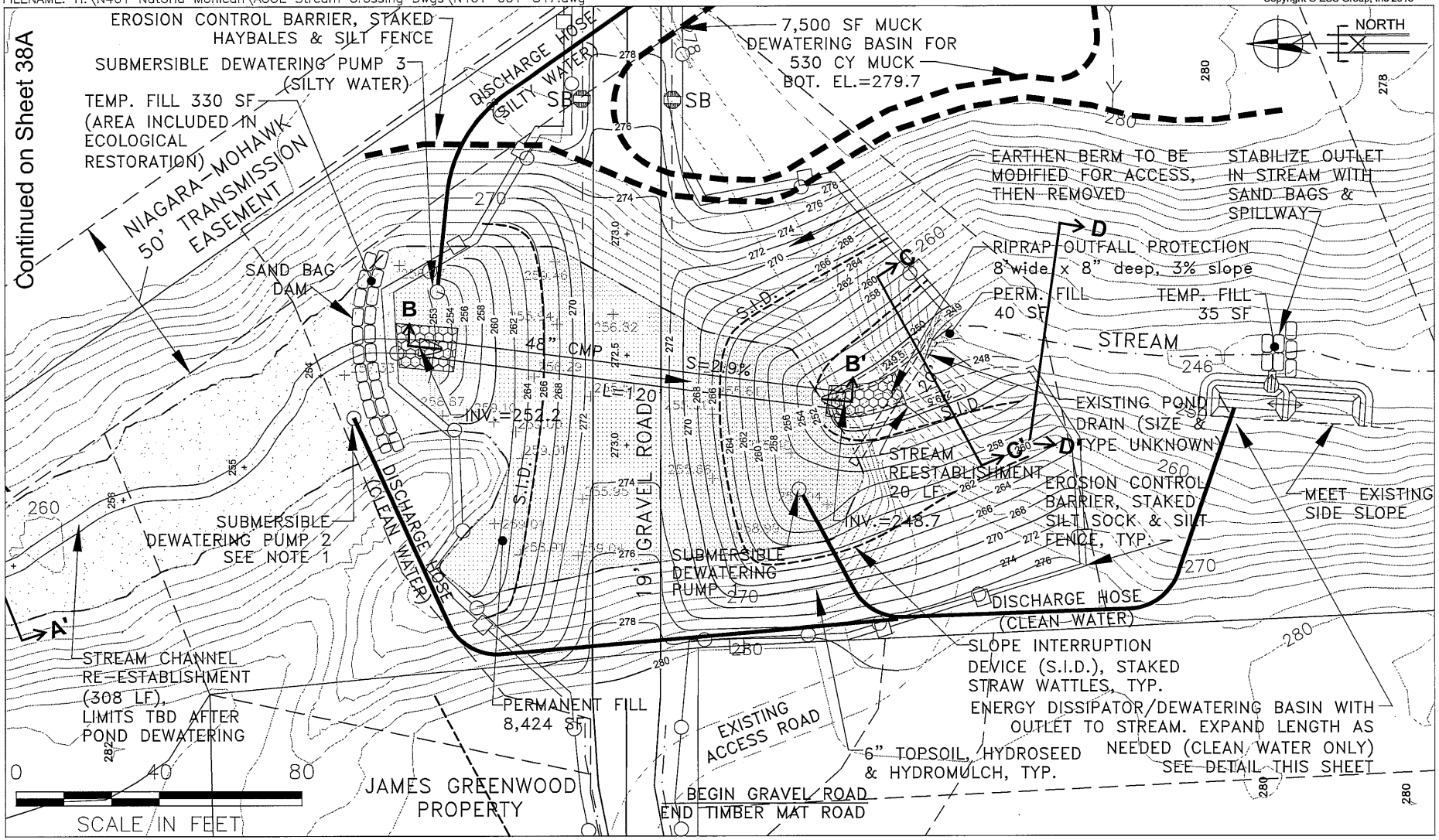

NATIONAL GRID – 115kV Mohican – Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

PLAN VIEW

Impacts to Waters of the US Along the Project ROW Stream Crossing Detail S47
Revised 5/18/15

Figure 2
Sheet 38B of 45

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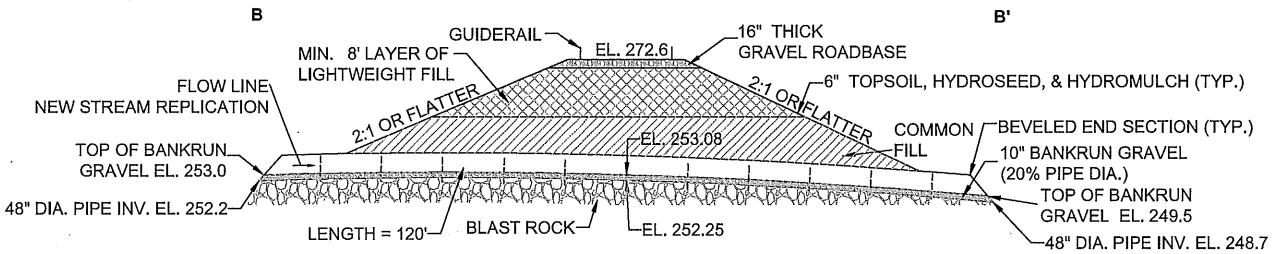
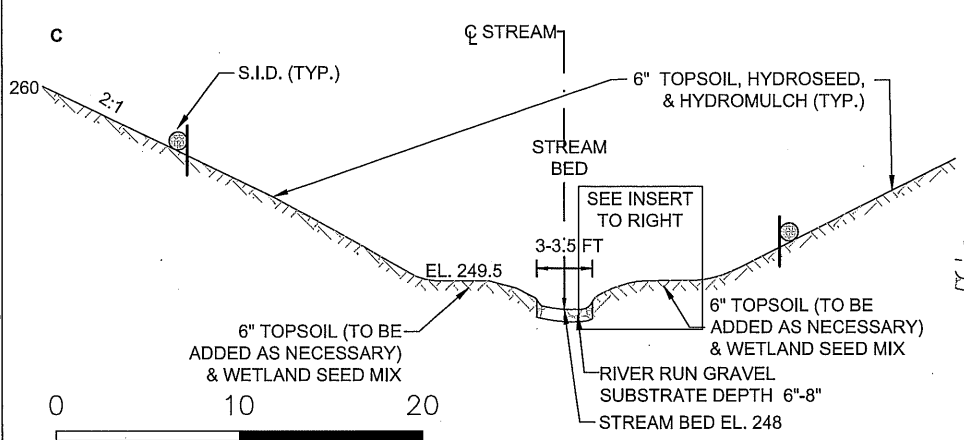


NOTES:
1. THE EMBANKMENT MAY UNDERGO SUBSTATNTIAL SETTLEMENT AT THE CENTER OF THE CROSSING DUE TO FILLING OVER THE UNDERLYING SOFT CLAY. PRIMARY SETTLEMENT MAY TAKE ON THE ORDER OF 13 MONTHS TO DEVELOP. THE PIPE SHALL BE INSTALLED WITH THE INVERTS SHOWN TO ALLOW A MORE SUITABLE VERTICAL ALIGNMENT AFTER THE CULVERT HAS SETTLED UNDER THE WEIGHT OF THE EMBANKMENT.

0 30 60

SCALE IN FEET

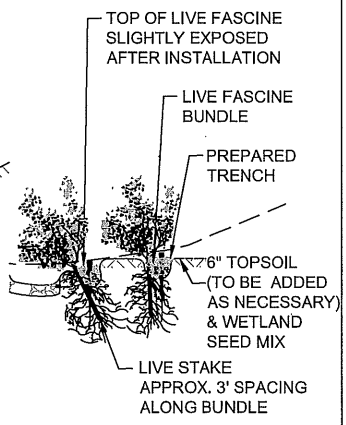
CROSS SECTION VIEW B-B'



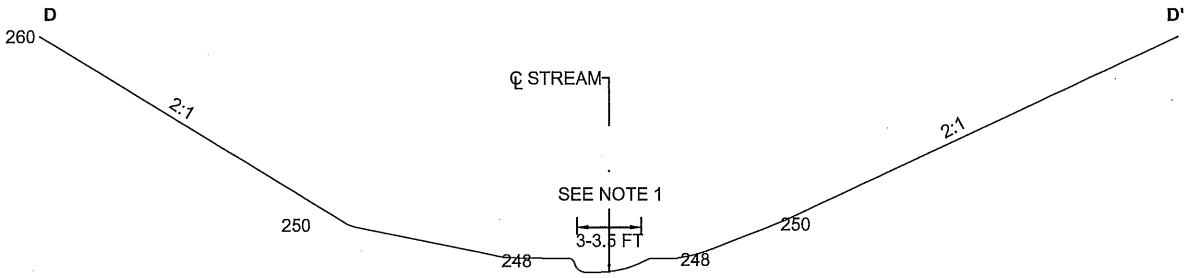
0 10 20

SCALE IN FEET

CROSS SECTION VIEW C-C'



STREAMBANK
STABILIZATION DETAIL
NOT TO SCALE



NOTES:
1. STREAM CHANNEL WIDTH IS DEFINED AS ANNUAL HIGH WATER MARK TO ANNUAL HIGH WATER MARK (APPROXIMATE BANKFULL CONDITIONS).

0 10 20

SCALE IN FEET

CROSS SECTION VIEW D-D'

DATE: May 18, 2015 – 2:02PM
FILENAME: H:\N461 NatGrid Mohican\ACOE Stream Crossing Dwgs\N461-001-S47.dwg

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Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US
Along the Project ROW
Stream Crossing Detail S47
Revised 5/18/15

Figure 2
Sheet 38C of 45

PARCEL #68

PREPARED BY

NIAGARA MOHAWK POWER CORPORATION
D.B.A. nationalgrid

CANAL PERMIT (PROFILE VIEW) DRAWING FOR
PROPOSED MOHICAN-LUTHER FOREST #3 RELOCATION
OVER LANDS OF NYS CANAL CORPORATION
TOWN OF MOREAU - SARATOGA COUNTY
TOWN OF FORT EDWARD - WASHINGTON COUNTY

DES.	DR. JEC	CK. EWD	DATE: 04/19/13	SCALE: 1"=200'
REV. 2	EX. STR. & CHANGED TEMP		02/18/15	JEC	INDEX: 6.3-M41-M5
REV. 1	ADDED DIM. AND NOTES		12/16/14	JEC	NO. A-41346-E

SURVEY PROJECT #4217

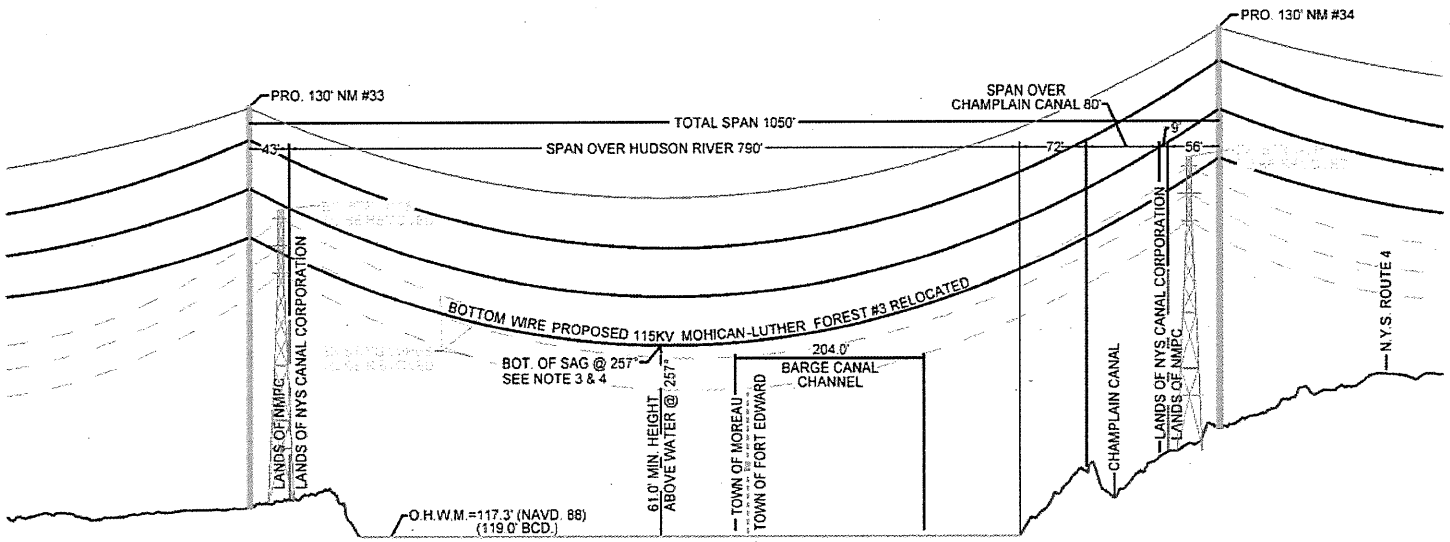
NOTES:

1) BEARINGS AND COORDINATES SHOWN HEREON REFER TO N.Y. STATE PLANE COORDINATE SYSTEM (EASTERN ZONE NAD 83, NAVD 88) ESTABLISHED USING HIGH END G.P.S.

2) TO CONVERT FROM NAVD 88 DATUM TO BARGE CANAL DATUM (BCD), ADD 1.7' TO ELEVATIONS SHOWN ON THIS DRAWING.

3) SAG CONSIDERS TEMPERATURE, LOAD, WIND, LENGTH OR SPAN, AND TYPES OF SUPPORTS AS OUTLINED IN THE NATIONAL ELECTRICAL SAFETY CODE.

4) CLEARANCE SHOWN IS THE POINT OF LOWEST LINE SAG AND MAXIMUM OPERATING TEMPERATURE.



PROFILE VIEW

HORIZONTAL: 1"=200'
VERTICAL: 1"=30'

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NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US
Along the Project ROW
Revised: 3/16/2015
River Crossing Detail: R1

Figure 2
Sheet 39 of 45

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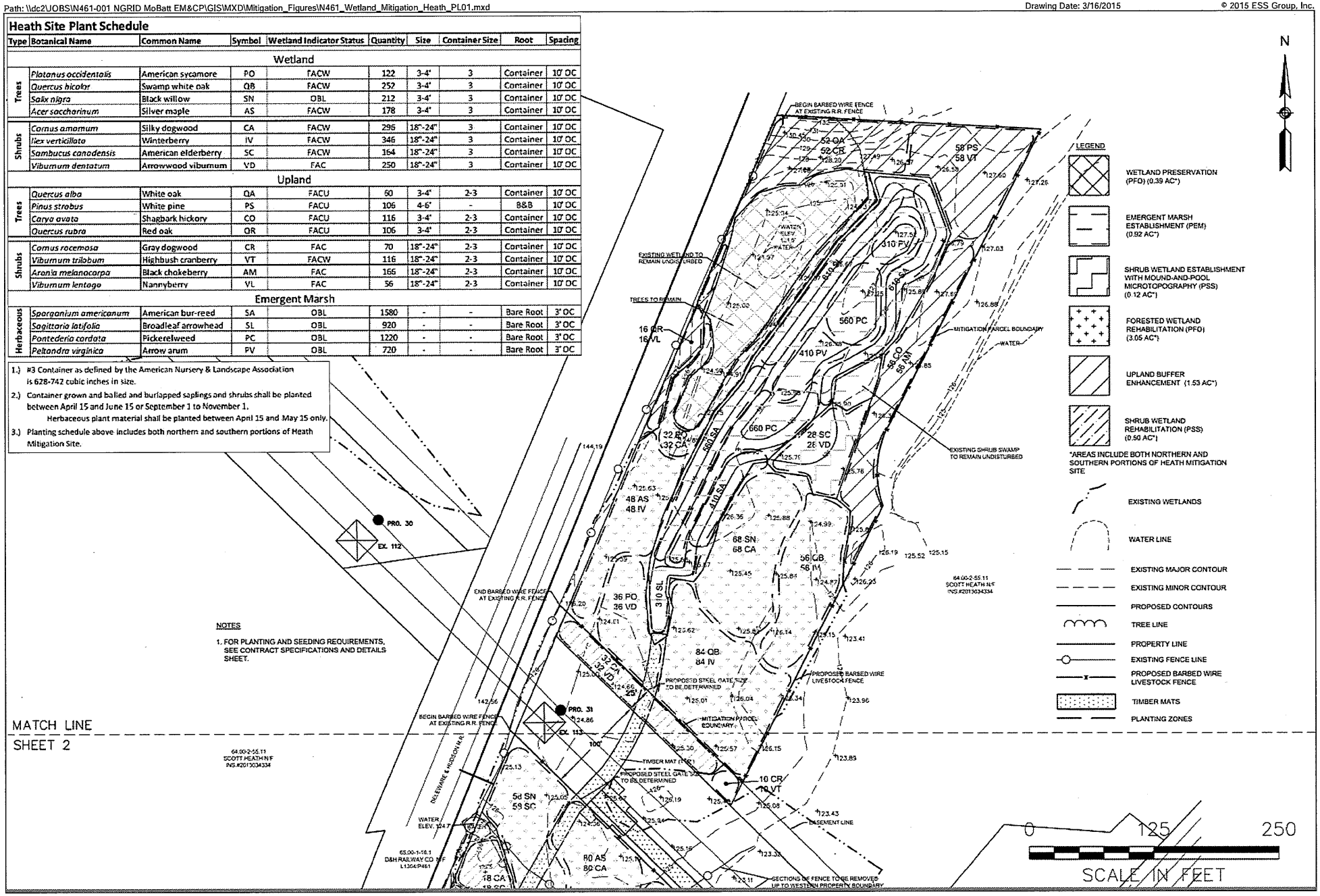
Heath Site Plant Schedule

Type	Botanical Name	Common Name	Symbol	Wetland Indicator Status	Quantity	Size	Container Size	Root	Spacing
Wetland									
Trees	*Platanus occidentalis*	American sycamore	PO	FACW	122	3-4'	3	Container	10' OC
	Quercus bicolor	Swamp white oak	QB	FACW	252	3-4'	3	Container	10' OC
	Salix nigra	Black willow	SN	OBL	212	3-4'	3	Container	10' OC
	Acer saccharinum	Silver maple	AS	FACW	178	3-4'	3	Container	10' OC
Shrubs	*Cornus amomum*	Silky dogwood	CA	FACW	296	18"-24"	3	Container	10' OC
	Ilex verticillata	Winterberry	IV	FACW	346	18"-24"	3	Container	10' OC
	Sambucus canadensis	American elderberry	SC	FACW	164	18"-24"	3	Container	10' OC
	Viburnum dentatum	Arrowwood viburnum	VD	FAC	250	18"-24"	3	Container	10' OC
Upland									
Trees	*Quercus alba*	White oak	QA	FACU	60	3-4'	2-3	Container	10' OC
	Pinus strobus	White pine	PS	FACU	106	4-6'	-	B&B	10' OC
	Carya ovata	Shagbark hickory	CO	FACU	116	3-4'	2-3	Container	10' OC
	Quercus rubra	Red oak	QR	FACU	106	3-4'	2-3	Container	10' OC
Shrubs	*Cornus racemosa*	Gray dogwood	CR	FAC	70	18"-24"	2-3	Container	10' OC
	Viburnum trilobum	Highbush cranberry	VT	FACW	116	18"-24"	2-3	Container	10' OC
	Aronia melanocarpa	Black chokeberry	AM	FAC	166	18"-24"	2-3	Container	10' OC
	Viburnum lentago	Nannyberry	VL	FAC	56	18"-24"	2-3	Container	10' OC
Emergent Marsh									
Herbaceous	*Sparganium americanum*	American bur-reed	SA	OBL	1580	-	-	Bare Root	3' OC
	Sagittaria latifolia	Broadleaf arrowhead	SL	OBL	920	-	-	Bare Root	3' OC
	Pontederia cordata	Pickerelweed	PC	OBL	1220	-	-	Bare Root	3' OC
	Peltandra virginica	Arrow arum	PV	OBL	720	-	-	Bare Root	3' OC

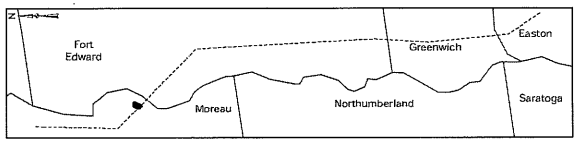
1.) #3 Container as defined by the American Nursery & Landscape Association is 628-742 cubic inches in size.

2.) Container grown and balled and burlapped saplings and shrubs shall be planted between April 15 and June 15 or September 1 to November 1.
Herbaceous plant material shall be planted between April 15 and May 15 only.

3.) Planting schedule above includes both northern and southern portions of Heath Mitigation Site.



NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO
1 inch = 125 feet
Mitigation Area:
Heath-PL01



Impacts to Waters of the US
Along the Project ROW
Revised: 3/16/2015

Figure 2
Sheet **40** of **45**

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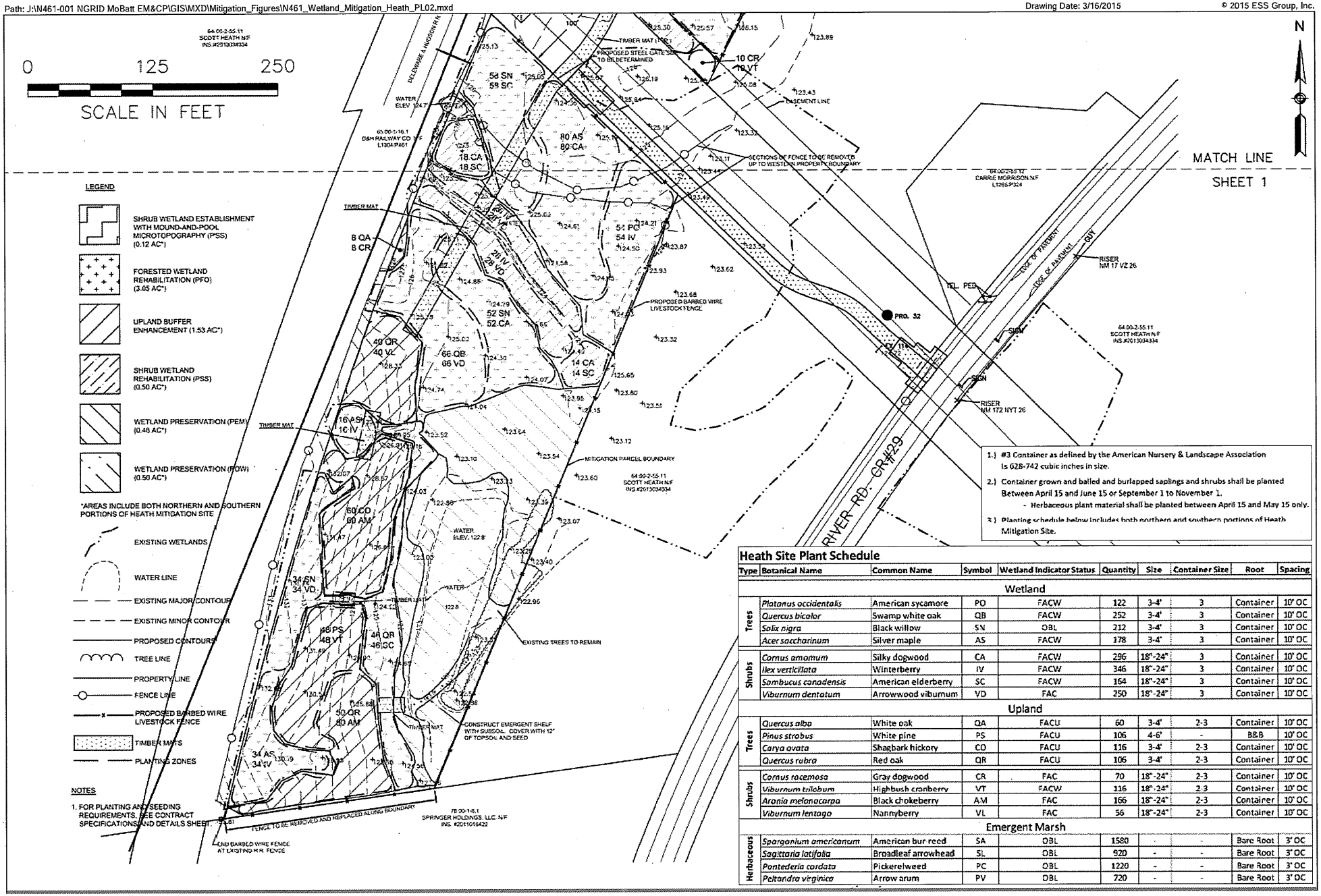

1.) #3 Container as defined by the American Nursery & Landscape Association is 628-742 cubic inches in size.

2.) Container grown and balled and burlapped saplings and shrubs shall be planted Between April 15 and June 15 or September 1 to November 1.
- Herbaceous plant material shall be planted between April 15 and May 15 only.

3.) Planting schedule below includes both northern and southern portions of Heath Mitigation Site.

Heath Site Plant Schedule

Type	Botanical Name	Common Name	Symbol	Wetland Indicator Status	Quantity	Size	Container Size	Root	Spacing
				Wetland					
Trees	*Platanus occidentalis*	American sycamore	PO	FACW	122	3-4'	3	Container	10' OC
	Quercus bicolor	Swamp white oak	QB	FACW	252	3-4'	3	Container	10' OC
	Salix nigra	Black willow	SN	OBL	212	3-4'	3	Container	10' OC
	Acer saccharinum	Silver maple	AS	FACW	178	3-4'	3	Container	10' OC
Shrubs	*Cornus amomum*	Silky dogwood	CA	FACW	296	18"-24"	3	Container	10' OC
	Ilex verticillata	Winterberry	IV	FACW	346	18"-24"	3	Container	10' OC
	Sambucus canadensis	American elderberry	SC	FACW	164	18"-24"	3	Container	10' OC
	Viburnum dentatum	Arrowwood viburnum	VD	FAC	250	18"-24"	3	Container	10' OC
				Upland					
Trees	*Quercus alba*	White oak	QA	FACU	60	3-4'	2-3	Container	10' OC
	Pinus strobus	White pine	PS	FACU	106	4-6'	-	B&B	10' OC
	Carya ovata	Shagbark hickory	CO	FACU	116	3-4'	2-3	Container	10' OC
	Quercus rubra	Red oak	QR	FACU	106	3-4'	2-3	Container	10' OC
Shrubs	*Cornus racemosa*	Gray dogwood	CR	FAC	70	18"-24"	2-3	Container	10' OC
	Viburnum trilobum	Highbush cranberry	VT	FACW	116	18"-24"	2-3	Container	10' OC
	Aronia melanocarpa	Black chokeberry	AM	FAC	166	18"-24"	2-3	Container	10' OC
	Viburnum lentago	Nannyberry	VL	FAC	56	18"-24"	2-3	Container	10' OC
				Emergent Marsh					
Herbaceous	*Sparganium americanum*	American bur reed	SA	OBL	1580	-	-	Bare Root	3' OC
	Sagittaria latifolia	Broadleaf arrowhead	SL	OBL	920	-	-	Bare Root	3' OC
	Pontederia cordata	Pickerelweed	PC	OBL	1220	-	-	Bare Root	3' OC
	Peltandra virginica	Arrow arum	PV	OBL	720	-	-	Bare Root	3' OC

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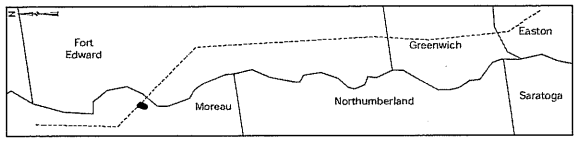
NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO
1 inch = 125 feet
Mitigation Area:
Heath-PL02



Impacts to Waters of the US
Along the Project ROW
Revised: 3/16/2015

Figure 2

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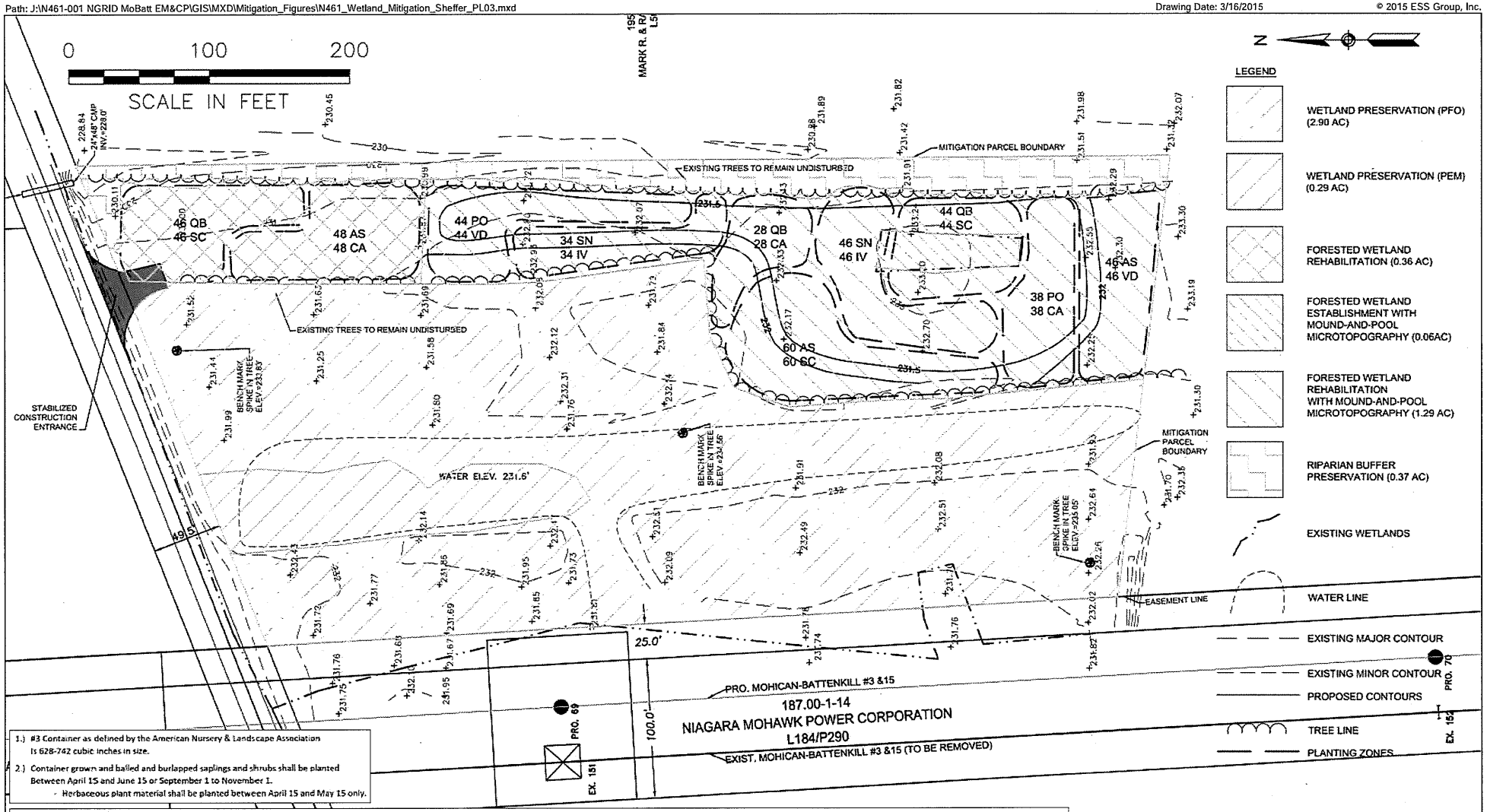

1.) #3 Container as defined by the American Nursery & Landscape Association Is 628-742 cubic inches in size.

2.) Container grown and balled and burlapped saplings and shrubs shall be planted Between April 15 and June 15 or September 1 to November 1.
- Herbaceous plant material shall be planted between April 15 and May 15 only.

Sheffer Site Plant Schedule

Key	Botanical Name	Common Name	Symbol	Wetland Indicator Status	Quantity	Size	Container Size	Root	Spacing
				Forested Wetland Restoration					
Trees	*Platanus occidentalis*	American sycamore	PO	FACW	82	3-4'	3	Container	10' OC
	Quercus bicolor	Swamp white oak	QB	FACW	118	3-4'	3	Container	10' OC
	Salix nigra	Black willow	SN	OBL	80	3-4'	3	Container	10' OC
	Acer saccharinum	Silver maple	AS	FACW	154	3-4'	3	Container	10' OC
Shrubs	*Cornus amomum*	Silky dogwood	CA	FACW	114	18"-24"	3	Container	10' OC
	Ilex verticillata	Winterberry	IV	FACW	80	18"-24"	3	Container	10' OC
	Sambucus canadensis	American elderberry	SC	FACW	150	18"-24"	3	Container	10' OC
	Viburnum dentatum	Arrowwood viburnum	VD	FAC	90	18"-24"	3	Container	10' OC

NOTES

1. FOR PLANTING AND SEEDING REQUIREMENTS, SEE CONTRACT SPECIFICATIONS AND DETAILS SHEET.

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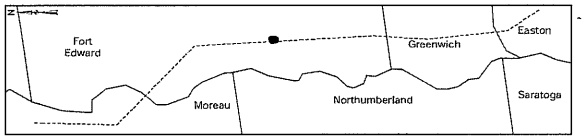
NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO
1 inch = 100 feet
Mitigation Area:
Sheffer-PL03



Impacts to Waters of the US
Along the Project ROW
Revised: 3/16/2015

Figure 2
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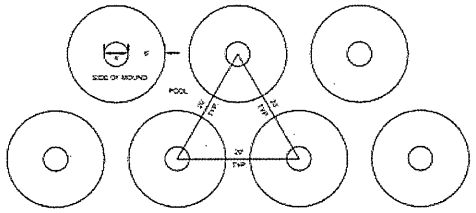
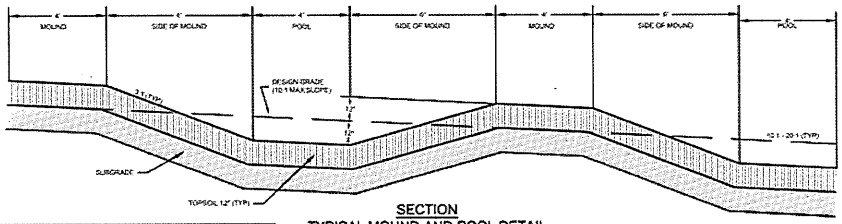
GENERAL NOTES:

1. BASE SURVEY INFORMATION PROVIDED BY NATIONAL GRID.
2. PERIMETER OF WETLAND MITIGATION AREA AND BENCHMARK FOR ELEVATION CONTROL WILL BE PROVIDED BY NATIONAL GRID PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION CONTROLS ALONG THE PERIMETER OF THE SITE TO PREVENT SEDIMENT FROM REACHING ADJACENT AREAS AND SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE SWPPP.
4. CONTRACTOR SHALL STRIP ONE (1) FOOT OF THE WETLAND RESTORATION AND CREATION PORTIONS OF THE SITE PRIOR TO ROUGH GRADING. TOPSOIL SHALL BE STOCKPILED OUTSIDE OF WETLANDS FOR LATER REUSE.
5. CONTRACTOR SHALL ROUGH GRADE AREAS TO BE RE-CONTOURED TO ONE (1) FOOT BELOW THE FINISH GRADE (SUBGRADE) SHOWN ON THE GRADING PLAN. CONTRACTOR SHALL REMOVE EXCESS SUBSOIL FROM THE SITE AT A LOCATION APPROVED BY NATIONAL GRID.
6. AREAS REQUIRING MOUND-AND-POOL MICROTOPOGRAPHY SHALL BE CONSTRUCTED WITHIN THE SUBGRADE. ON AVERAGE, MOUNDS WILL BE ONE (1) FOOT ABOVE THE SUBGRADE AND POOLS WILL BE ONE (1) FOOT BELOW THE SUBGRADE ELEVATIONS SHOWN ON THE GRADING PLAN AND DETAILS FOLLOWING COMPACTION BY TRACKED EQUIPMENT.
7. ON AVERAGE, MOUNDS WILL BE SPACED 20 FEET APART AND SEPARATED BY UNCONNECTED POOLS TO CREATE AN EGG CARTON APPEARANCE.
8. PRIOR TO PLACEMENT OF TOPSOIL, THE SUBGRADE SHALL BE APPROVED BY NATIONAL GRID.
9. CONTRACTOR SHALL PLACE TOPSOIL TO A FINAL DEPTH OF ONE (1) FOOT AFTER SETTLEMENT OVER PORTIONS OF THE SITE WHERE TOPSOIL WAS STRIPPED.
10. SOURCES OF TOPSOIL SALVAGED FROM THE MITIGATION SITE OR IMPORTED FROM OFF-SITE LOCATIONS SHALL BE INSPECTED AND APPROVED BY NATIONAL GRID AND SHALL BE FREE OF INVASIVE PLANT MATERIAL OR SEEDS.
11. ANY TOPSOIL IMPORTED FROM OFF-SITE LOCATIONS SHALL CONSIST OF AT LEAST EIGHT (8) PERCENT ORGANIC CARBON CONTENT (BY WEIGHT) OR FIFTEEN (15) PERCENT ORGANIC MATTER CONTENT.
12. THE CONTRACTOR SHALL NOT CONDUCT ANY ACTIVITIES OUTSIDE THE LIMITS OF DISTURBANCE AS SHOWN ON THE PLANS.
13. PROPOSED CONTOURS REFLECT FINISH GRADES AFTER NATURAL SETTLEMENT OF TOPSOIL.
14. NATIONAL GRID SHALL APPROVE LOCATIONS FOR CONSTRUCTION VEHICLE REFUELING, MAINTENANCE AND STORAGE. UNDER NO CIRCUMSTANCES SHALL THESE ACTIVITIES BE ALLOWED WITHIN EXISTING OR PROPOSED WETLANDS.
15. NET WOODY (SAPLINGS AND SHRUBS) PLANTING DENSITY IS DESIGNED TO EQUAL OR EXCEED A SPACING OF TEN (10) FOOT-ON-CENTER. WITHIN AREAS REQUIRING MOUND-AND-POOL MICROTOPOGRAPHY WOODY PLANT MATERIAL SHALL BE PLANTED ON TOPS AND SIDES OF MOUNDS.
16. NET HERBACEOUS (EMERGENT MARSH) PLANTING DENSITY IS DESIGNED TO EQUAL OR EXCEED A SPACING OF THREE (3) FOOT-ON-CENTER. THE HERBACEOUS PLANT MATERIAL SHALL BE HAND PLANTED PER SUPPLIER RECOMMENDATIONS IN IRREGULARLY SHAPED CLUSTERS.
17. THE OUTLINES OF PLANTING ZONES SHALL BE STAKED OUT ON THE GROUND BY THE CONTRACTOR AND APPROVED BY NATIONAL GRID.
18. THE EXACT LOCATIONS FOR PLANTINGS WILL BE DESIGNATED ON THE GROUND BY THE CONTRACTOR FOR APPROVAL BY NATIONAL GRID. SLIGHT CHANGES TO PLANTING LOCATIONS MAY BE REQUIRED TO ADJUST FOR LOCAL CONDITIONS.
19. PLANT AND SEED SURVIVAL IS GENERALLY OPTIMIZED BY SPRING PLANTING. EARLY FALL PLANTING IS ALSO ACCEPTABLE FOR CONTAINER GROWN OR BALLED AND BURLAPPED SHRUBS AND SAPLINGS. THIS MATERIAL SHALL BE PLANTED ONLY BETWEEN APRIL 15TH TO JUNE 15TH OR SEPTEMBER 1ST TO NOVEMBER 1ST. HERBACEOUS ROOT STOCK MATERIAL SHALL BE PLANTED APRIL 15TH TO MAY 31ST.
20. ALL PLANT MATERIAL SHALL BE KEPT COOL AND MOIST WHILE ON SITE.
21. ALL CONTAINERIZED AND BALLED AND BURLAPPED PLANT MATERIAL SHALL BE FERTILIZED WITH SLOW RELEASE FERTILIZER PER CONTRACT SPECIFICATIONS AND MULCHED WITH A TWO (2) INCH LAYER OF BARK MULCH.



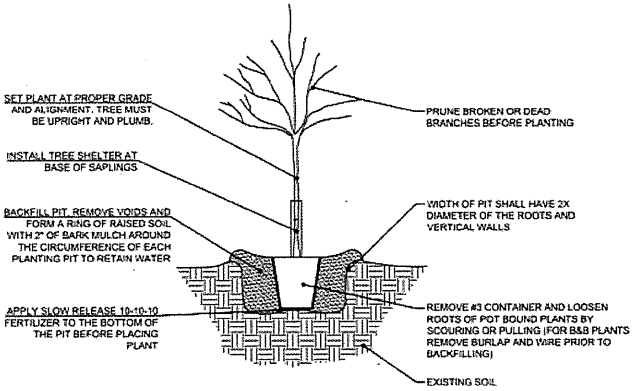
PLAN
NOT TO SCALE



SECTION
TYPICAL MOUND-AND-POOL DETAIL
NOT TO SCALE

Ernst Conservation Seeds
ERNMX-122 Wet Meadow Mix
8884 Mercer Pike Meadville PA 16335
(800) 873-3321 www.ernstseed.com

Botanical Name	Common Name	Quantity
Carex vulpinoidea	Fox Sedge	30%
Elymus virginicus	Virginia Wildrye	20%
Carex lurida	Lurid (Shallow) Sedge	14%
Scirpus atrovirens	Green Bulrush	6%
Carex lupulina	Hop Sedge	5%
Carex scoparia	Blunt Broom Sedge	4%
Verbena hastate	Blue Vervain	3.60%
Eupatorium perfoliatum	Boneset	2%
Heliopsis helianthoides	Oxeye Sunflower	2%
Glyceria canadensis	Rattlesnake Grass	2%
Onoclea sensibilis	Sensitive Fern	2%
Juncus effusus	Soft Rush	2%
Helianthus angustifolius	Swamp (Narrowleaf) Sunflower	1%
Sisyrinchium angustifolium	Narrowleaf Blue Eyed Grass	1%
Eupatorium fistulosum	Joe Pye Weed	1%
Asclepias incarnata	Swamp Milkweed	1%
Aster umbellatus	Flat Topped White Aster	1%
Scirpus cyperinus	Woolgrass	1%
Mimulus ringens	Square Stemmed Monkeyflower	0.50%
Lobelia siphilitica	Great Blue Lobelia	0.50%
Penthorum sedoides	Ditch Stonecrop	0.30%
Euthamia graminifolia	Grassleaf Goldenrod	0.20%
Pycnanthemum tenuifolium	Slender Mountainmint	0.10%
	TOTAL	100.00%



P 1 TYPICAL TREE PLANTING DETAIL
NOT TO SCALE

SEEDING NOTES:

1. DISTURBED WETLAND AREAS SHALL BE SEEDED WITH ERNMX-122 WET MEADOW MIX (ERNST CONSERVATION SEEDS MEADVILLE, PA).
2. RATE: 20 POUNDS PER ACRE OR 0.5 LB. PER 1,000 SQUARE FEET.
3. SEE CONTRACT SPECIFICATIONS FOR SEEDING METHODS.
4. WETLAND SEEDING AREAS ON THE HEATH SITE ARE APPROXIMATELY 1.1 ACRES. WETLAND SEEDING AREAS ON THE SHEFFER SITE ARE APPROXIMATELY 1.4 ACRES.
5. FOR RAPID STABILIZATION OF AREAS SUBJECT TO EROSION: PER DIRECTION OF NATIONAL GRID OR THEIR REPRESENTATIVE, CONTRACTOR SHALL APPLY 30.0 LBS/ACRE OF LOLIUM MULTIFLORUM – ANNUAL RYE GRASS BETWEEN FEBRUARY 10 AND NOVEMBER 1 OR 100.0 LBS/ACRE OF WINTER RYE IF APPLIED BETWEEN NOVEMBER 1 AND FEBRUARY 10.

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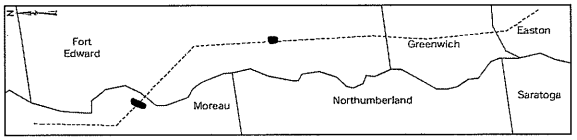
NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

Mitigation Area:
Notes & Details



Impacts to Waters of the US
Along the Project ROW
Revised: 3/16/2015

Figure 2

Wetland Impacts				
Wetland Cover Type	Temporary Fill	Permanent Fill	Forested Wetland Conversion	Ecological Restoration Impacts
Forested Wetland	-	0.22 acres	2.87 acres	-
Scrub-shrub Wetland	3.33 acres	0.27 acres	-	-
Emergent Wetland	7.85 acres	0.35 acres	-	1.30 acres
Wetland Impact Totals	11.18 acres	0.84 acres	2.87 acres	1.30 acres
Stream/Open Water Impacts				
Stream/Open Water Classification	Temporary Fill	Permanent Fill	Ecological Restoration Impacts	
POW/R4	35 square feet (<0.001 acres)	8,952 square feet (0.21 acres)	8,003 square feet (0.18 acres)	

Compensatory Mitigation Type	Heath Site (ac)	Sheffer Site (ac)	Total (ac)
Open Water/Stream Preservation	0.5	0.37	0.87
Forested Wetland Preservation	0.39	2.9	3.29
Emergent Wetland Preservation	0.48	0.29	0.77
Emergent Wetland Establishment	0.92	-	0.92
Scrub-shrub Wetland Establishment	0.12	-	0.12
Forested Wetland Establishment	-	0.06	0.06
Forested Wetland Rehabilitation	3.05	1.65	4.7
Scrub-shrub Wetland Rehabilitation	0.5	-	0.5
Upland Buffer Enhancement	1.53	-	1.53
Total Acreage	7.49 ac	5.27 ac	12.76 ac
Stream Bed/Riparian Zone Enhancement	275 linear feet	772 linear feet	1,047 lf
Stream Channel Re-establishment (Sisson Road Crossing, see Section 4.2)	328 linear feet		328 lf

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environmental consulting & engineering services

NATIONAL GRID - 115kV Mohican - Battenkill #15
Saratoga & Washington County, New York
NAN-2013-00099-UCO

Impacts to Waters of the US
Along the Project ROW
Revised: 5/18/2015
Wetland Mitigation Table

Figure 2
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