



**2024 Annual Wetland and Waterway
Monitoring Report
Former Adirondack Steel Site
Operable Units 02 and 03
NYSDEC Site No. 401039
Colonie, New York**

Prepared for

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7017



**Department of
Environmental
Conservation**

Prepared by

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LIST OF ACRONYMS AND ABBREVIATIONS

%	Percent
AOR	Area of Review
EA	EA Engineering and Geology, P.C.
EPA	U.S. Environmental Protection Agency
FAC	Facultative
ft ²	Square Feet
GPS	Global Positioning System
No.	Number
NWP	Nationwide Permit
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
PCB	Polychlorinated Biphenyl
RA	Remedial Action
RCM	Recycled Concrete Material
USACE	U.S. Army Corps of Engineers

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1. INTRODUCTION

EA Engineering and Geology, P.C. (EA) was retained by the New York State Department of Environmental Conservation (NYSDEC) to perform annual waterway and wetland monitoring associated with the remedial action (RA) conducted at the Former Adirondack Steel Site (NYSDEC Site Number [No.] 401039) in Colonie, New York (**Figure 1**).

In June 2023, NYSDEC completed remediation of polychlorinated biphenyls (PCBs) at two Operable Units (OU), OU-2 and OU-3, under a self-implementation agreement between NYSDEC and the U.S. Environmental Protection Agency (EPA). The RA required work within wetlands and waterways which was authorized under a United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) 38. The permit dated 25 November 2020 (No. NAN 2020-00365-UDA) authorized temporary impacts to 0.18-acres of wetland and 1,170 linear feet of waterway (**Appendix A**).

It should be noted that changes to the upland, riparian, and wetland planting design were issued as Field Orders during construction due to future site use conditions and constructability. The remedial design originally included restoration of upland areas in OU-3 with topsoil and seed. The OU-3 upland area is currently used as a composting/green renewables facility. Due to planned expansion of the facility, upland areas of OU-3 within the expansion footprint impacted during the RA were not restored with topsoil and seed. Additionally, emergent wetland areas in OU-2 were not restored with wetland topsoil and plantings due to the presence of groundwater that was encountered during construction. Further details of the RA are provided in the Final Engineering Report (EA 2023). Final as-built drawings are provided in **Appendix B**.

This report fulfills monitoring requirements in the Nontidal Wetland/Waterways Restoration Plan (EA 2020) in accordance with guidance provide in the Regulator Guidance Letter No. 08-03 (USACE 2008). This report presents a summary of the 2024 annual monitoring activities conducted within the area of review (AOR) (**Figure 2**) to ensure the long-term success of the restored wetland, stream, and revegetated upland and riparian areas. This 2024 report documents the first (Year 1) of five years of annual monitoring.

1.1 GOALS AND OBJECTIVES

Annual monitoring is conducted to ensure the permittee successfully restored 1,170 linear feet of stream channel (0.48 acres) and 0.18 acres of emergent wetland. In addition to restoration of the stream channel and wetlands, site restoration included 0.35 acres of riparian plantings and 0.22 acres of upland plantings. An additional 1.03 acres of the site was restored with no planting.

Per the approved Nontidal Wetland/Waterway Mitigation Plan (EA 2020), the following criteria shall be met for successful restoration of the site:

- 85 percent (%) groundcover of seeded/planted areas including wetlands and upland riparian planting zones.
- 75% survival rate of planted trees and shrubs across all planting zones.

- Positive growth and vitality of planted vegetation.
- No more than a total of 10% areal coverage of invasive species across the restoration area.
- Presence of wetland hydrology indicators throughout the restored wetland areas.
- No net loss of stream length.

In order to determine if these goals and objectives are being met within the restored areas, annual monitoring will be conducted annually for a period of 5 years. Following the monitoring period, it will be determined if additional monitoring should be conducted or if monitoring can be terminated.

2. METHODS

To satisfy both USACE and NYSDEC monitoring requirements, the restoration monitoring efforts include the collection of specific data for reporting, including:

- Wetland, Riparian, and Upland vegetation monitoring
- Documentation of invasive species coverage across the restored areas
- Documentation of wetland hydrology within restored wetland areas
- Current site conditions at fixed photographic points across the site
- Inspection of stream bank stabilization and identification of erosion areas.

For the annual monitoring, the project site was separated into four distinct areas as shown on **Figures 3a and 3b** which include the following Monitoring Areas:

- Emergent wetland planting area
- Riparian planting area
- Upland planting area
- Stream channel.

The areas that were restored with recycled concrete material (RCM) only and not re-vegetated are not included in the monitoring effort.

2.1 UPLAND, RIPARIAN, AND WETLAND VEGETATION MONITORING

Vegetation monitoring consisted of two parts. The first part included inspecting all planted trees and shrubs across the site and documenting survival rates. Survivability was documented by counting all living planted stems compared to the number of total planted stems. In addition, EA noted any native woody pioneer stems that were greater than 10-inches in height to be included in the total woody stem count. The second part of the vegetation monitoring included the establishment of fixed vegetation plots throughout the planting areas to document percent ground cover by native herbaceous vegetation and documenting dominant species within each plot.

A total of eight vegetation sample plot locations were established within the restored areas (**Figure 4**) prior to conducting the 2024 monitoring event. Each sample plot consisted of a 1 square meter area which was assessed using a polyvinyl chloride frame. The PVC frame was placed at the center of each sample plot and the ground cover was assessed within the frame. Five plots were located within the riparian planting area, two plots within the upland planting area, and one plot within the emergent wetland planting area. Upon initiation of the field monitoring, it was determined that vegetation plot V3 was located in an area that was determined to be restored with RCM only as a field change during construction and therefore this plot was removed from monitoring in 2024.

2.2 INVASIVE SPECIES DOCUMENTATION

In addition to documenting the vegetation within the restored areas as discussed above, invasive species throughout the entire AOR were documented and mapped to determine the total aerial coverage of invasive plant species.

The site was surveyed from the upstream extent of the project site in OU-3 and continued downstream to the northern and southernmost extent of the remediation area in OU-2. When invasive species were observed, field personnel delineated the extent of the species coverage by collecting Global Positioning System (GPS) boundaries on invasive species areas greater than 100 square feet (ft²) or a single GPS point for areas less than or equal to 100 ft² (**Figures 5a and 5b**).

2.3 WETLAND HYDROLOGY MONITORING

All wetland areas that were restored as part of the remediation effort were monitored to ensure the successful re-establishment of wetland hydrology. Wetland hydrology supplies the moisture required to support wetland vegetation and creates the conditions necessary for the formation of hydric soils. Primary indicators of wetland hydrology include, but are not limited to, observed inundation or saturation, watermarks, drift deposits, sediment deposits, aquatic fauna, oxidized rhizospheres on living roots, and water-stained leaves. Secondary indicators of wetland hydrology include, but are not limited to, drainage patterns, dry season water table, crayfish burrows, and the Facultative (FAC)-Neutral Test. The FAC-Neutral Test involves comparing the number of obligate and facultative wetland plant species to the number of facultative upland and upland plant species, with FAC species being neutral. If 50% or more of the plant species are obligate or facultative wetland, the FAC-Neutral Test is met. Meeting the FAC-Neutral Test is considered a secondary indicator of wetland hydrology. An area must contain at least one primary indicator or two secondary indicators of wetland hydrology for the parameter of wetland hydrology to be met.

2.4 STREAM MONITORING

Field personnel walked the length of the restored stream channel to document any observations of stream instability and erosion that may have occurred over the year. Areas of concern along the stream channel if found were GPS located and photographed. EA took photographs at established photograph location which were established during this first year monitoring effort. Fixed photograph locations for the stream channel as well as other areas across the AOR are depicted on **Figures 5a and 5b**, and photographs are included in **Appendix C** of this report.

3. RESULTS

Year 1 annual monitoring was performed on 14 August 2024. Field observations and results are discussed in the following sections.

3.1 UPLAND, RIPARIAN, AND WETLAND VEGETATION MONITORING

EA identified planted trees and shrubs across the upland planting area and the riparian planting area. A total count of live and dead stems was conducted across both planting areas to document survivability (**Table 1**). A total survivability for all woody stems was estimated at 73.3% without taking native pioneer stems into account and 77.7% when considering each established native stem replacement for dead stems, which exceeds the 75% survivability requirement.

Table 1. Tree and Shrub Survivability by Planting Area

Monitoring Area	Live Planted Stems	Dead Planted Stems	No. Native Pioneer Stems	Percent Survivability w/o Pioneer	Percent Survivability w/ Pioneer ¹
Upland	52	10	1	83.9%	84.1%
Riparian	131	57	15	69.7%	71.9%
Combined	183	67	16	73.2%	77.7%

Notes:

1. Percent survivability if each identified native pioneer stems over 10 inches in height replaces each dead stem.

No. = Number

Percent ground cover across the upland planting area, riparian planting area and emergent wetland area was documented through the establishment of eight vegetation plots (**Table 2**). All vegetation plots had a percent cover of 85% or more which meets the requirement outlined in Section 1.1.

Table 2. Vegetation Plot Data

Plot	Monitoring Area	Percent Native Cover	Dominant Species
V1	Riparian	95%	Boneset, Green Foxtail, Blue vervain, and Soft rush
V2	Riparian	85%	Green foxtail and Blue vervain
V3	Restored with RCM only		
V4	Upland	95%	Red clover, White clover, Green foxtail
V5	Riparian	95%	Red clover, Green foxtail, and Bonset
V6	Upland	95%	Tall goldenrod, Red clover and White clover
V7	Riparian	90%	Green foxtail, Blue vervain
V8	Wetland	90%	Lady's thumb, Torrey's rush, and Barnyard grass

Notes:

RCM = Recycled concrete material

3.2 INVASIVE SPECIES DOCUMENTAION

Three invasive species of concern were identified within the project site. Common reed, purple loosestrife, and mugwort were identified in multiple locations throughout the restored areas and were GPS located to determine the aerial extent of each species (**Figures 5a and 5b**).

Purple loosestrife was identified at a total of 45 locations with 40 of those locations in small populations less than 100 ft² per location and 5 locations covering between 100 ft² and 581 ft². A total of 2,238 ft² of purple loosestrife was delineated across the 54,317 ft² of revegetated areas and stream channel for a total aerial coverage of 4.01%. Many of the populations of purple loosestrife were identified along the stream banks along the existing rip-rap edge.

Common reed was identified at a total of 15 locations with 12 of those locations in small populations less than 100 ft² per location and 3 locations covering between 177 ft² and 524 ft². A total of 1,177 ft² of common reed was delineated across the 54,317 ft² of revegetated areas and stream channel for a total aerial coverage of 2.17%.

Mugwort was identified at a total of 3 locations with all three of those locations in small populations less than 100 ft² per location. A total of 20 ft² of mugwort was delineated across the 54,317 ft² of revegetated areas and stream channel for a total aerial coverage of 0.03%.

Therefore, a total of 6.21% aerial coverage of invasive species was identified within the restored areas during the 2024 monitoring effort, which is below the 10% standard required by the Nontidal Wetland/Waterway Mitigation Plan (EA 2020).

3.3 WETLAND HYDROLOGY MONITORING

In general, the areas to be restored as emergent wetlands in OU-2 were restored with pea gravel due to constructability issues as documented during construction. Field changes to the restoration of these areas were issued due the presence of groundwater; clean, washed stone was used in place of common fill and wetland topsoil. This field change has reduced the majority of these emergent areas to a narrow vegetated drainage feature. All emergent wetland planting areas appear to have signs of wetland hydrology with the exception of one wetland area identified as Emergent wetland fill area 2, which is identified in the vicinity of photograph location 16 (**Figure 6b**). Signs of wetland hydrology include inundation, saturated soils, and drainage patterns.

3.4 STREAM MONITORING

During the monitoring effort, EA personnel did not observe areas of stream bank erosion or signs of stream instability along the channel. The stream channel appears to be well stabilized with rip-rap and photographic documentation of the current channel conditions are provided in **Appendix C**.

4. CONCLUSIONS AND RECOMMENDATIONS

In general, the restored wetlands, stream channel, and riparian areas appear to be functioning as designed. Many of the areas identified originally as emergent wetland areas in the southern portion of OU-2 were restored with clean stone only and not replanted, and do not exhibit emergent wetland growth with the exception of a narrow-vegetated drainage feature which has become vegetated with natural revegetation. Invasive species are below the required 10%, and the stream channel is stable and functioning as designed.

Planted woody tree and shrub survivability is above the required 75% with a total of 67 dead tree and shrubs identified across the site. Many of these dead trees appear to have been fully browsed by deer and were identified as woody stems that did not have the deer protection tubes around them, while the majority of the trees and shrubs with deer protection appear to be surviving. If the woody stem survivability begins to drop below the 75% requirement and additional trees are required to be planted, deer protection tubes should be installed on any new tree or shrub. Additionally, it may be beneficial to install deer protection around any existing surviving tree or shrub that currently does not have deer protection in order to ensure the survivability does not drop below 75%.

Although invasive species coverage is currently below the 10% cover standard in the NWP, these species should be closely monitored annually to ensure the cover does not increase. If the invasive species cover exceeds the 10% standard, then an adaptive management plan for the control of invasive species should be developed and implemented in future monitoring years.

5. REFERENCES

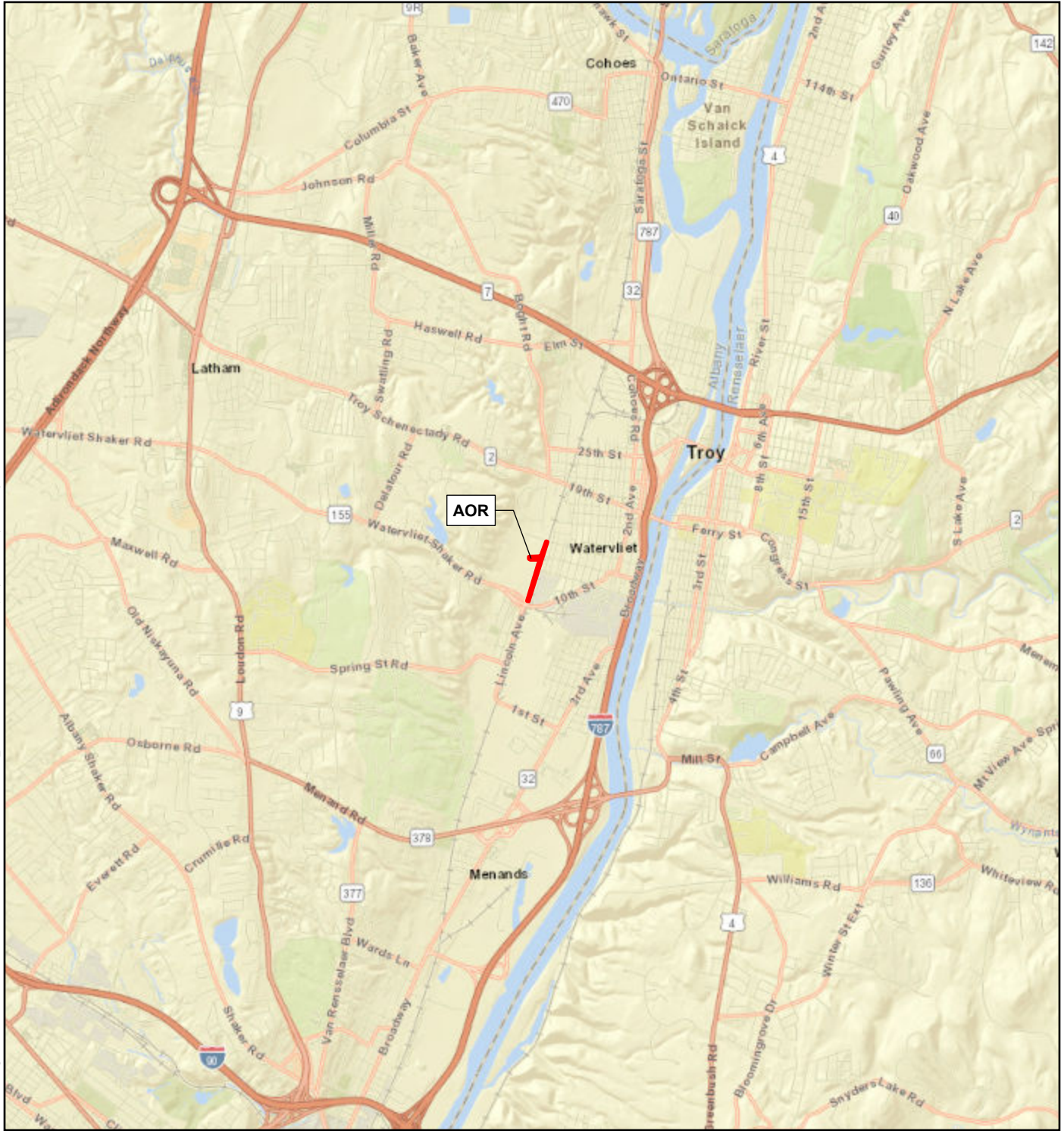
EA Engineering, P.C.. 2020. *Former Adirondack Steel Site (401039) Operable Units 02 and 03, Nontidal Wetland/Waterways Restoration Plan, Colonie, New York*. May.

———. 2023. *Final Engineering Report, Former Adirondack Steel Site, Operable Units 02 and 03, Colonie, New York., Site No. 401039*. September.

U.S. Army Corps of Engineers (USACE). 2008. *Minimum Monitoring Requirements for Compensatory Mitigation Projects Involving the Restoration, Establishment, and/or Enhancement of Aquatic Resources*. Regulatory Guidance Letter No. 08-03. 10 October.

Figures

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Legend

 Area of Review (AOR)

Figure 1 SITE LOCATION

Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

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Projection: State Plane NAD83 New York East (feet)



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Conservation



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 Area of Review (AOR)

Figure 2
AREA OF REVIEW
Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

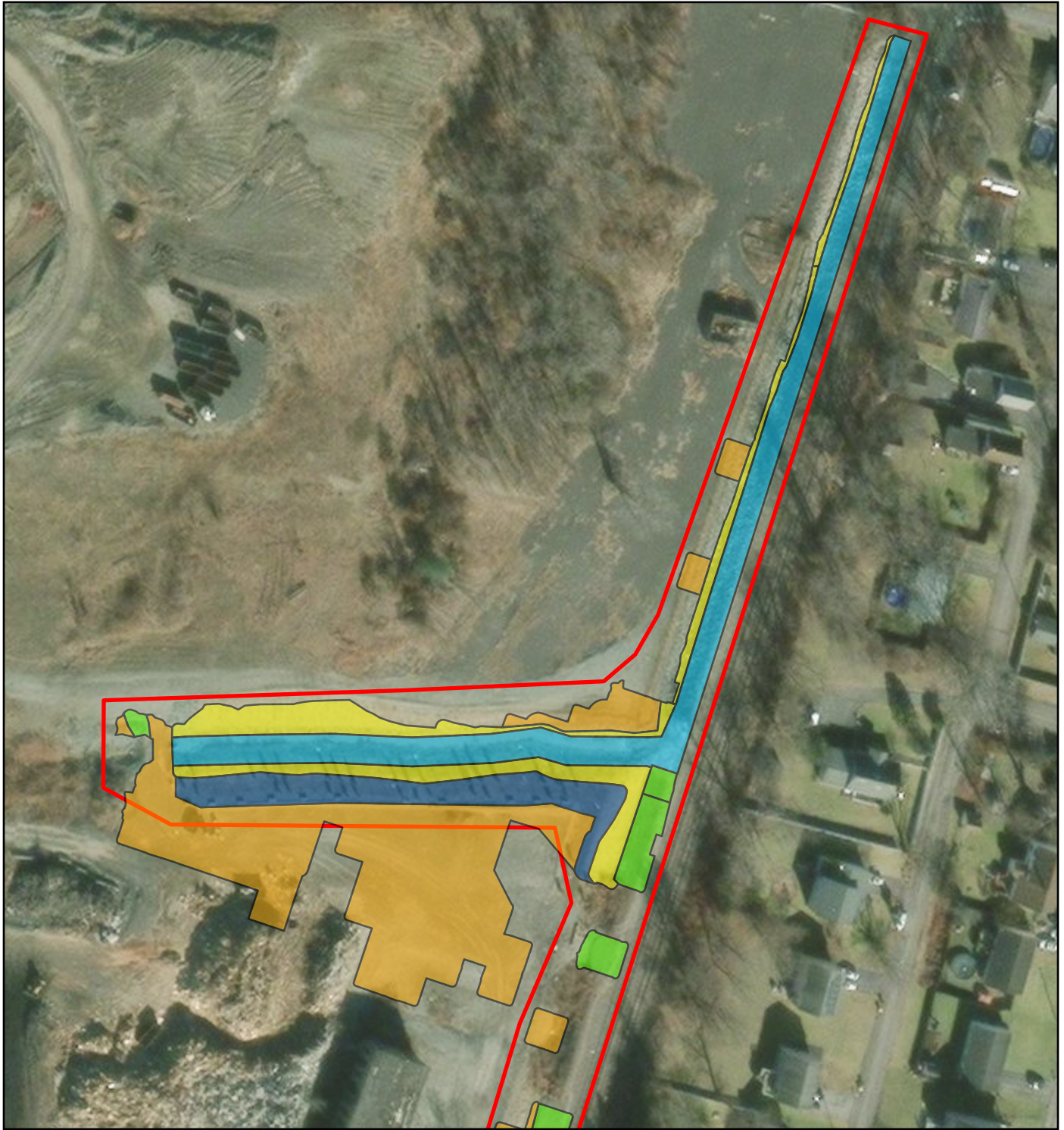
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 Area of Review (AOR)

Restoration Area

Emergent Wetland Planting Area

No Planting in these Areas - Restored with RCM

Riparian Planting Area

Stream Channel

Upland Planting Area

Figure 3a
RESTORATION AREA - NORTH
Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

Map Date: 1/10/2025
Projection: State Plane NAD83 New York East (feet)



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 Area of Review (AOR)

Restoration Area

 Emergent Wetland Planting Area

 No Planting in these Areas - Restored with RCM

Figure 3b
RESTORATION AREA - SOUTH
Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

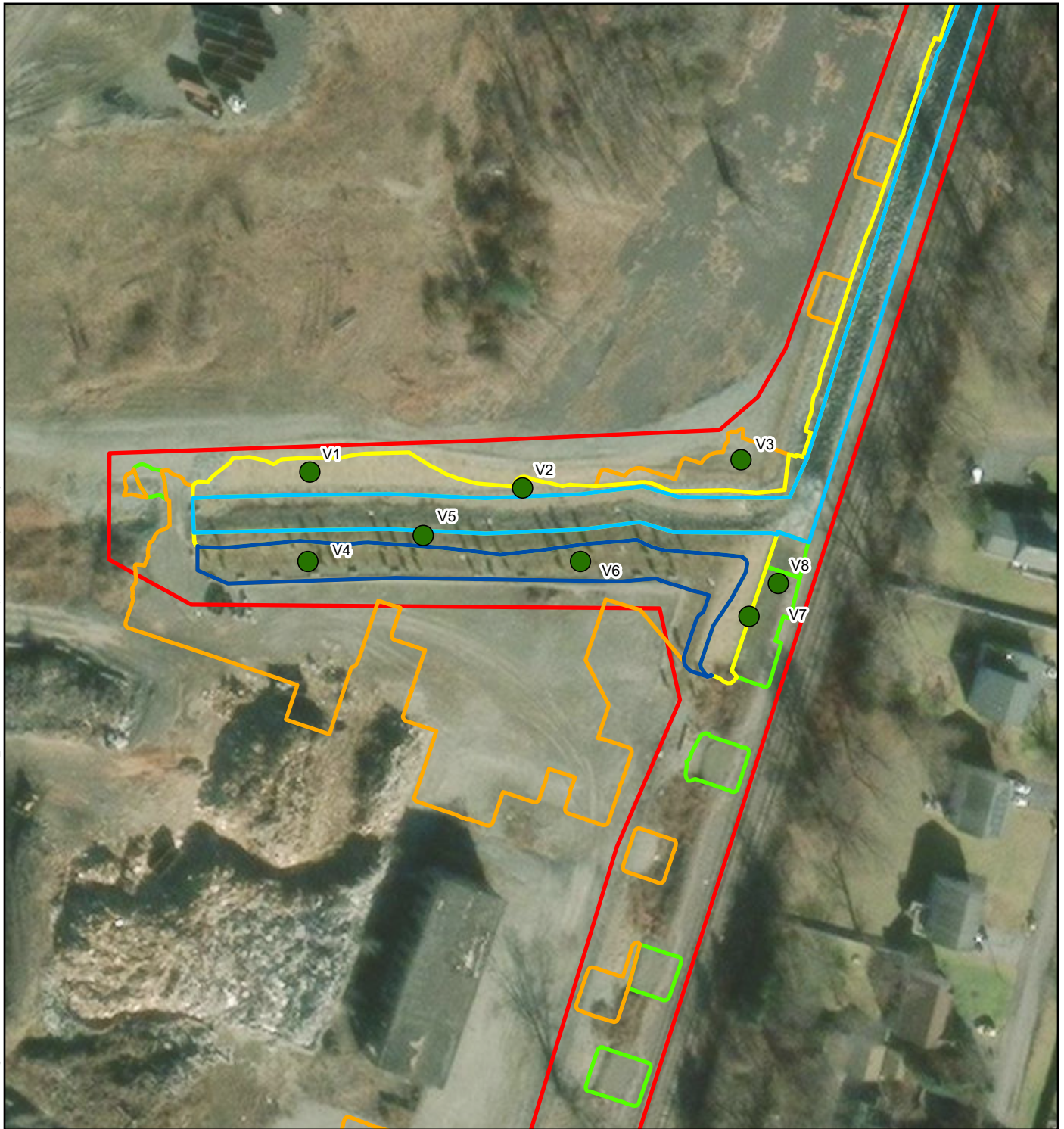
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 Area of Review (AOR)

Restoration Area

 Emergent Wetland Planting Area

 No Planting in these Areas - Restored with RCM

 Riparian Planting Area

 Stream Channel

 Upland Planting Area

● Vegetation Sampling Plot Location

Figure 4 VEGETATION SAMPLE LOCATIONS

Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

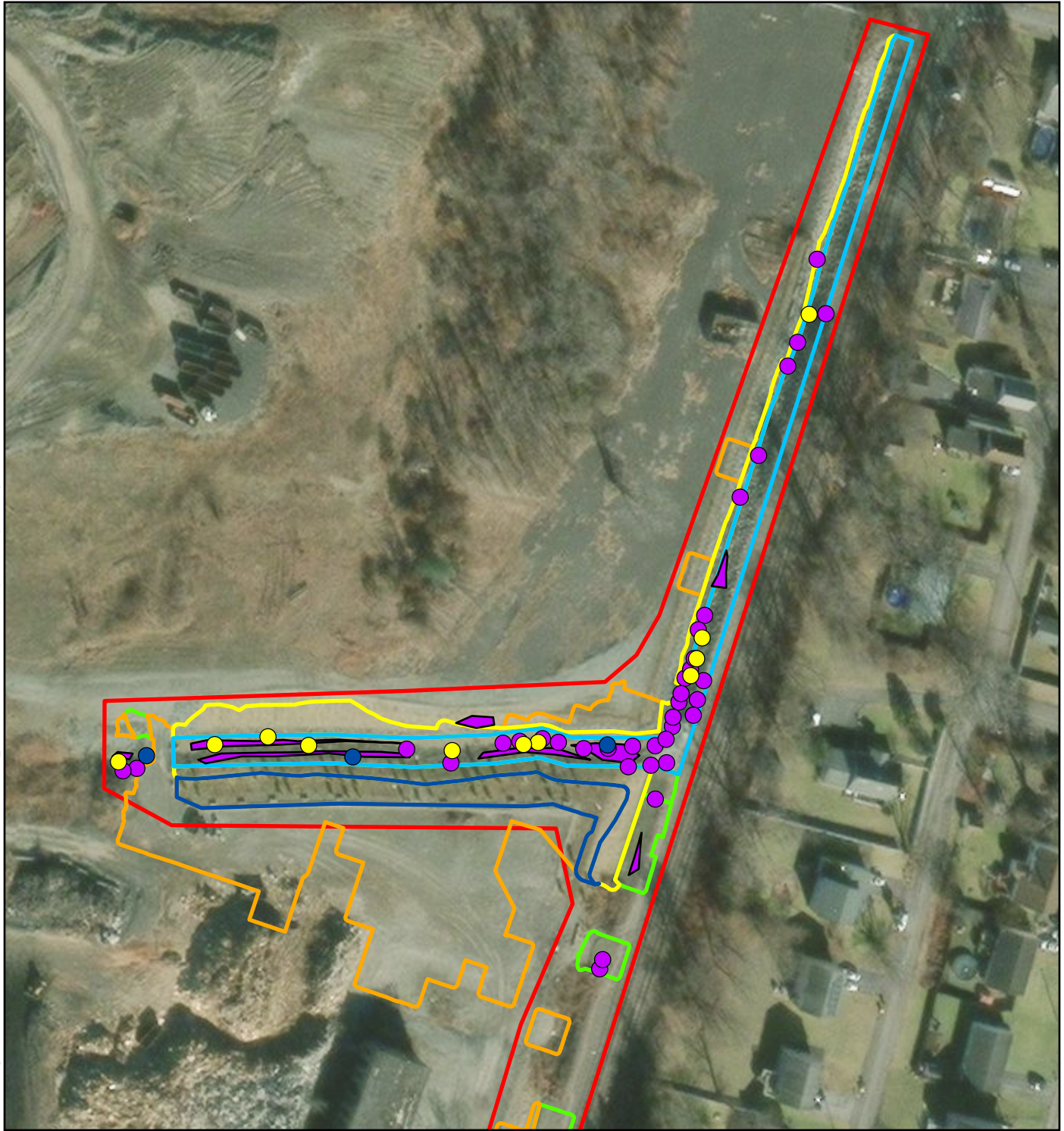
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 Area of Review (AOR)

Restoration Area

 Emergent Wetland Planting Area

 No Planting in these Areas - Restored with RCM

 Riparian Planting Area

 Stream Channel

 Upland Planting Area

Invasive Species

● Common Reed (phrag)

● Mugwort

● Purple Loosestrife

■ Purple Loosestrife

Figure 5a
INVASIVE SPECIES - NORTH
Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

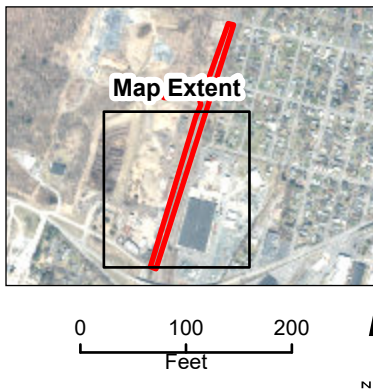
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 Area of Review (AOR)

Restoration Area

 Emergent Wetland Planting Area

 No Planting in these Areas - Restored with RCM

Invasive Species

● Common Reed (phrag)

● Purple Loosestrife

Figure 5b
INVASIVE SPECIES - SOUTH
Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

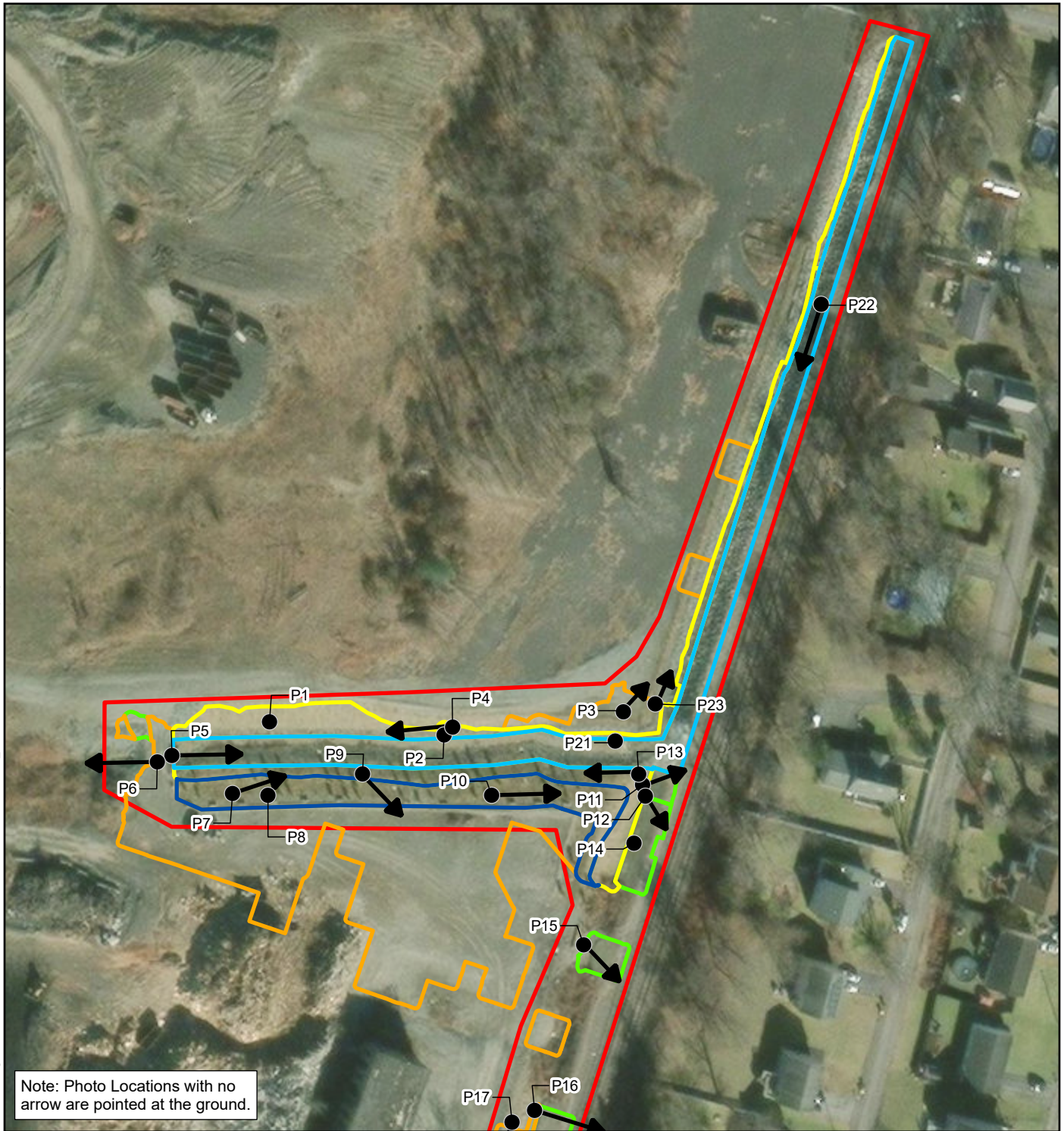
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Legend

 Area of Review (AOR)

Restoration Area

 Emergent Wetland Planting Area

 No Planting in these Areas - Restored with RCM

 Riparian Planting Area

 Stream Channel

 Upland Planting Area

● Photo Location

➔ Photo Direction

Figure 6a
PHOTOGRAPH
LOCATIONS - NORTH
Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

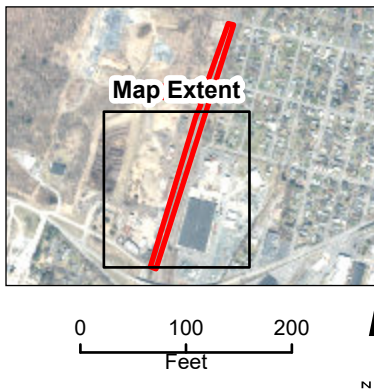
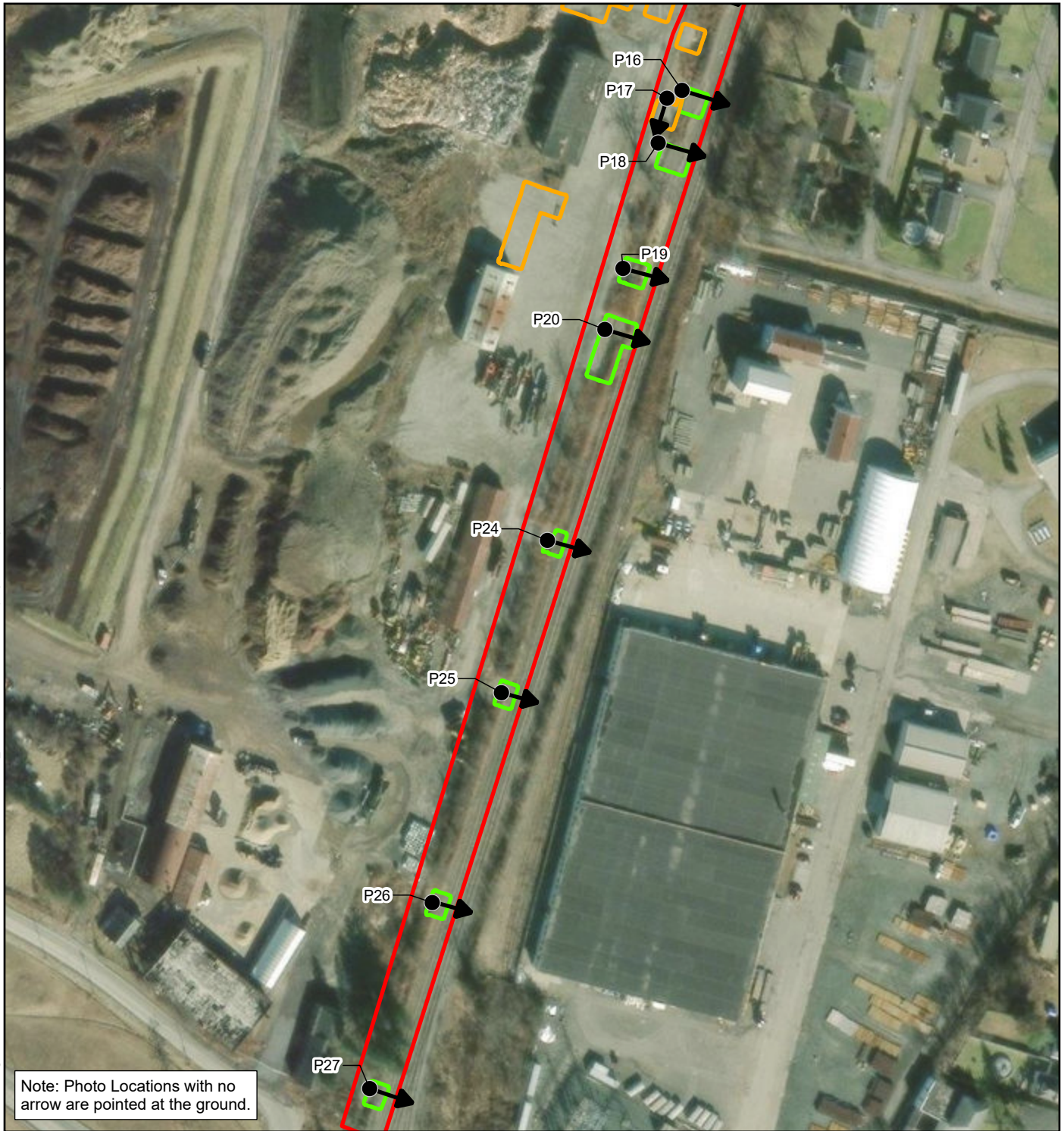
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 Area of Review (AOR)

Restoration Area

 Emergent Wetland Planting Area

 No Planting in these Areas - Restored with RCM

● Photo Location

➔ Photo Direction

Figure 6b
PHOTOGRAPH LOCATIONS - SOUTH
Former Adirondack Steel OU-2
and OU-3 (Site No. 401039)
Colonie, New York

Map Date: 1/10/2025
Projection: State Plane NAD83 New York East (feet)



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Appendix A

Nationwide Permit 38



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers, ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Building 10, 3rd Fl. North
Watervliet, New York 12189-4000

November 25, 2020

Upstate New York Section

SUBJECT: Permit Application No. NAN-2020-00365-UDA
By New York State Department of Environmental Conservation
191 Watervliet-Shaker Road, Town of Colonie, Albany County, New York

New York State Department of Environmental Conservation
Attention: Ms. Lisa Gorton, P.E.
625 Broadway
Albany, New York 12233

Dear Ms. Gorton:

This office has reviewed your Joint Application for Permit dated April 16, 2020, and the revised submittal received on May 5, 202, which included the attached drawing entitled "Former Adirondack Steel Site, PCB Remediation Project, Permitting Figures", Sheets 1-15, prepared by EA Engineering, Science and Technology, Inc., PBC, dated April 2020, and last revised on April 16, 2020. The submitted information describes a proposal that would consist of the following:

The temporary discharge of fill material into 0.18-acre of wetland and below the ordinary high water mark of Gas House Creek for approximately 1,170 linear feet, to facilitate the implementation of a State mandated remediation project. Upon completion of the remedial activities, the stream channel and wetland areas will be restored in accordance with the Restoration Plan dated April 2020.

Based upon the information provided, it appears that your proposed work may be authorized under Department of the Army nationwide general permit number: 38. The nationwide permits are prescribed as a Reissuance of Nationwide Permits in the Federal Register dated January 6, 2017 (82 FR 1860).

The work may be performed without further authorization from this office provided the activity complies with the terms and conditions of the Nationwide Permits (NWP) and the permit conditions listed in Section B, No. 38, Section C, any applicable New York District regional conditions, and any applicable regional conditions added by the State of New York. Please note that NWP General Condition No. 12 requires the installation and maintenance of proper soil erosion and sediment controls during construction.

The 2017 Nationwide Permits, including their final regional conditions, water quality certifications, and coastal zone concurrence statements are available at:

<http://www.nan.usace.army.mil/Missions/Regulatory/Nationwide-Permits/>

Please review and familiarize yourself with all relevant terms and conditions of the nationwide permit prior to proceeding with your project, and subsequently ensure you adhere to all conditions through the duration of the project. If you do not have internet access and require a specific paper copy, please contact the undersigned to request one be mailed to you. Please be sure to have your permit application number readily available when you call.

This verification is valid until March 18, 2022, unless the nationwide permit is modified, reissued, or revoked. This verification will remain valid until March 18, 2022, if the activity complies with the terms of any subsequent modifications of the nationwide permit authorization. If the nationwide permits are suspended, revoked, or modified in such a way that the activity would no longer comply with the terms and conditions of a nationwide permit, and the proposed activity has commenced, or is under contract to commence, the permittee shall have 12 months from the date of such action to complete the activity.

Please note that, as you requested, this nationwide permit (NWP) authorization is based on a preliminary jurisdictional determination (JD). A preliminary JD is not appealable. If you wish, prior to commencement of the authorized work you may request an approved JD, which may be appealed, by contacting the New York District, U.S. Army Corps of Engineers for further instruction. To assist you in this decision and address any questions you may have on the differences between preliminary and approved jurisdictional determinations, please review U.S. Army Corps of Engineers Regulatory Guidance Letter No. 16-01, which can be found at:

<http://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Guidance-Letters/>

Please note that this determination does not eliminate the need to obtain any other Federal, State or local authorizations required by law for the above described work, including any required permit from the NYSDEC.

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>

Any inquiries can be directed to the undersigned at (518) 266-6356.

Sincerely,

Andrew C. Dangler

Andrew Dangler
Project Manager
Upstate New York Section

Enclosure

Cf: N. Baker - NYSDEC Region 4, Schenectady
Town of Colonie
A. EA - Engineering, P.C.
A. Hunt - EA Engineering, P.C.



DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers, ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Building 10, 3rd Fl. North
Watervliet, New York 12189-4000

CENAN-OP-RU

NATIONWIDE PERMIT COMPLIANCE CERTIFICATION AND REPORT FORM

Permittee: NYSDEC

Permit No. NAN-2020-00365-UDA

Date Permit Issued: November 25, 2020

Location: Town of Colonie, Albany County, New York

Within 30 days of the completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the address at the bottom of this form.

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Printed Name: _____

Fold this form into thirds, with the bottom third facing outward. Tape it together and mail to the address below

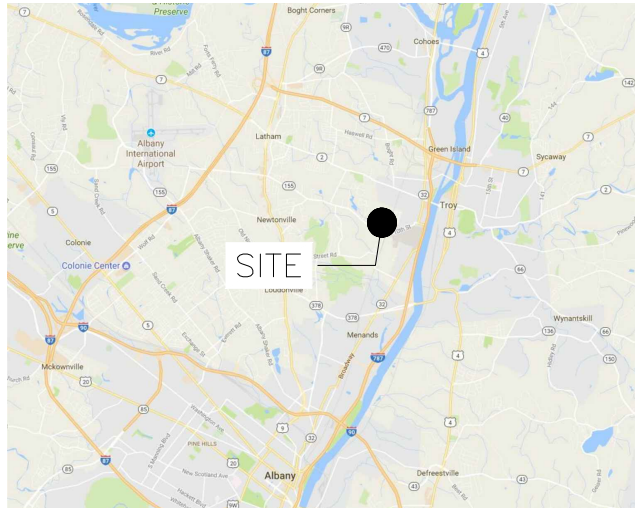
or EMAIL TO: cenan.rfo@usace.army.mil

Place Stamp
Here

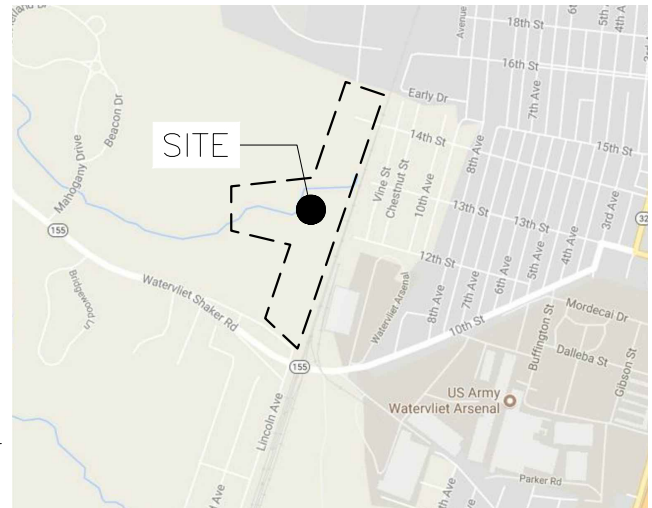
DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
ATTN: CENAN-OP-RU
Upstate Regulatory Field Office
1 Buffington St., Bldg. 10, 3rd Fl. North
Watervliet, New York 12189-4000

PLEASE USE THE ABOVE 18-CHARACTER FILE NUMBER ON ALL CORRESPONDENCE WITH THIS OFFICE

FORMER ADIRONDACK STEEL SITE PCB REMEDIATION PROJECT



VICINITY MAP
NTS



SITE MAP
NTS

IMPACT TABLE				
WETLAND	TYPE	SIZE	TEMPORARY IMPACT	PROPOSED RESTORATION
WETLAND A	PEM	0.04 AC	0 AC	0 AC
WETLAND B	PSS	0.41 AC	0 AC	0 AC
WETLAND C	PEM, PSS	0.07, 0.03 AC	0 AC	0 AC
WETLAND D	PEM	0.11 AC	0.04 AC	0.04 AC
WETLAND E	PEM	0.43 AC	0.14 AC	0.14 AC
STREAM 1	PERENNIAL	2,760 LF	1,170 LF	1,170 LF

NOTE: TEMPORARY IMPACTS TO BE RESTORED IN PLACE



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FORMER ADIRONDACK STEEL SITE
PCB REMEDIATION PROJECT
PERMITTING FIGURES

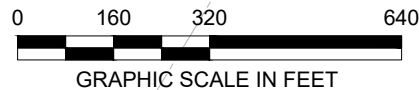
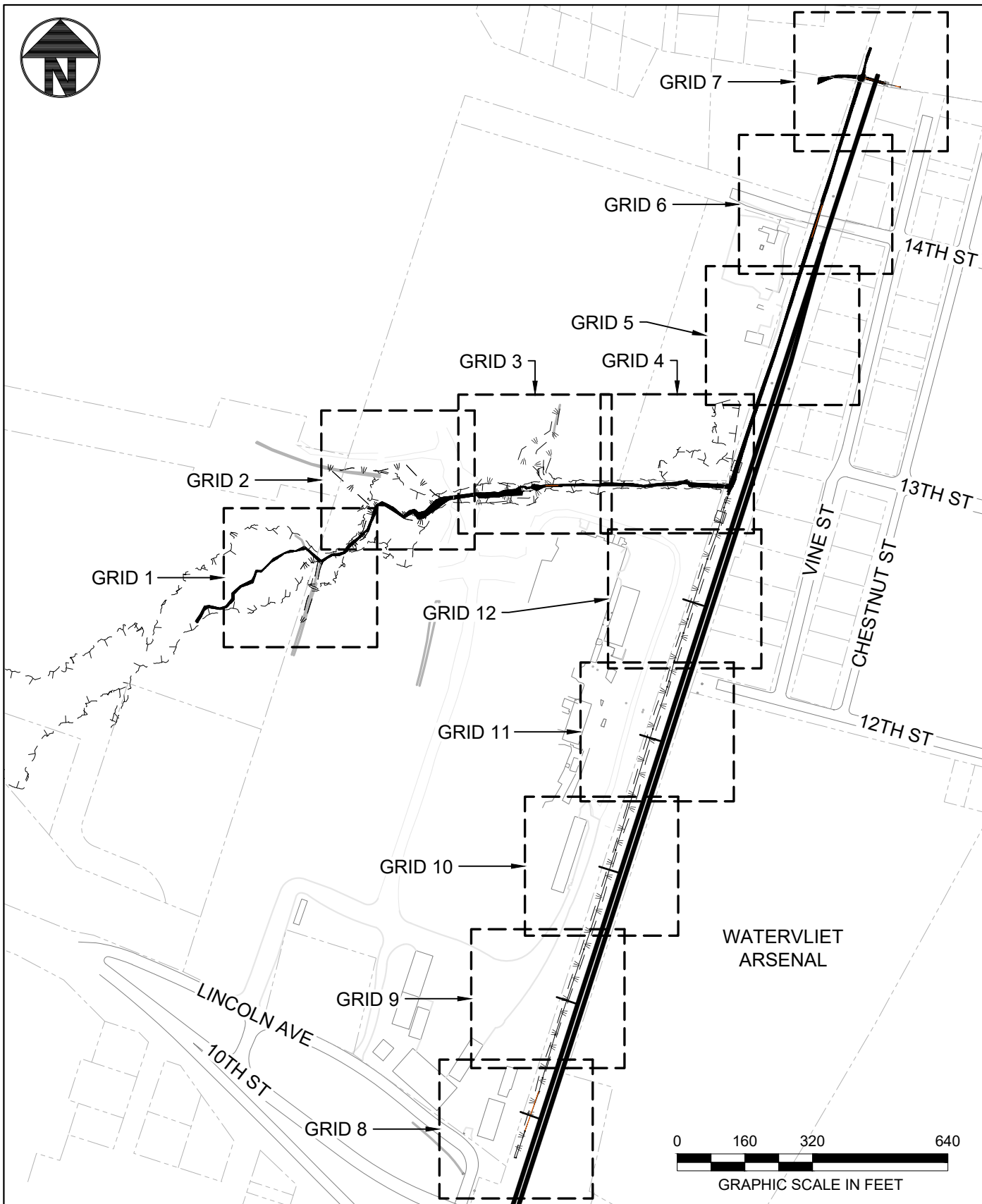
COLONIE, NEW YORK

TITLE SHEET

DESIGNED BY:	DRAWN BY:	CHECKED BY:	PROJECT MGR.:	DATE:	PROJECT NUMBER:	SHEET NUMBER:	FIGURE:
AE	DPA	TLM	AEH	APRIL 2020	14907.35	1 OF 15	1

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FOR PERMITTING



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FORMER ADIRONDACK STEEL SITE
PCB REMEDIATION PROJECT
PERMITTING FIGURES

COLONIE, NEW YORK

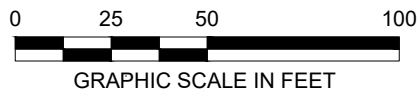
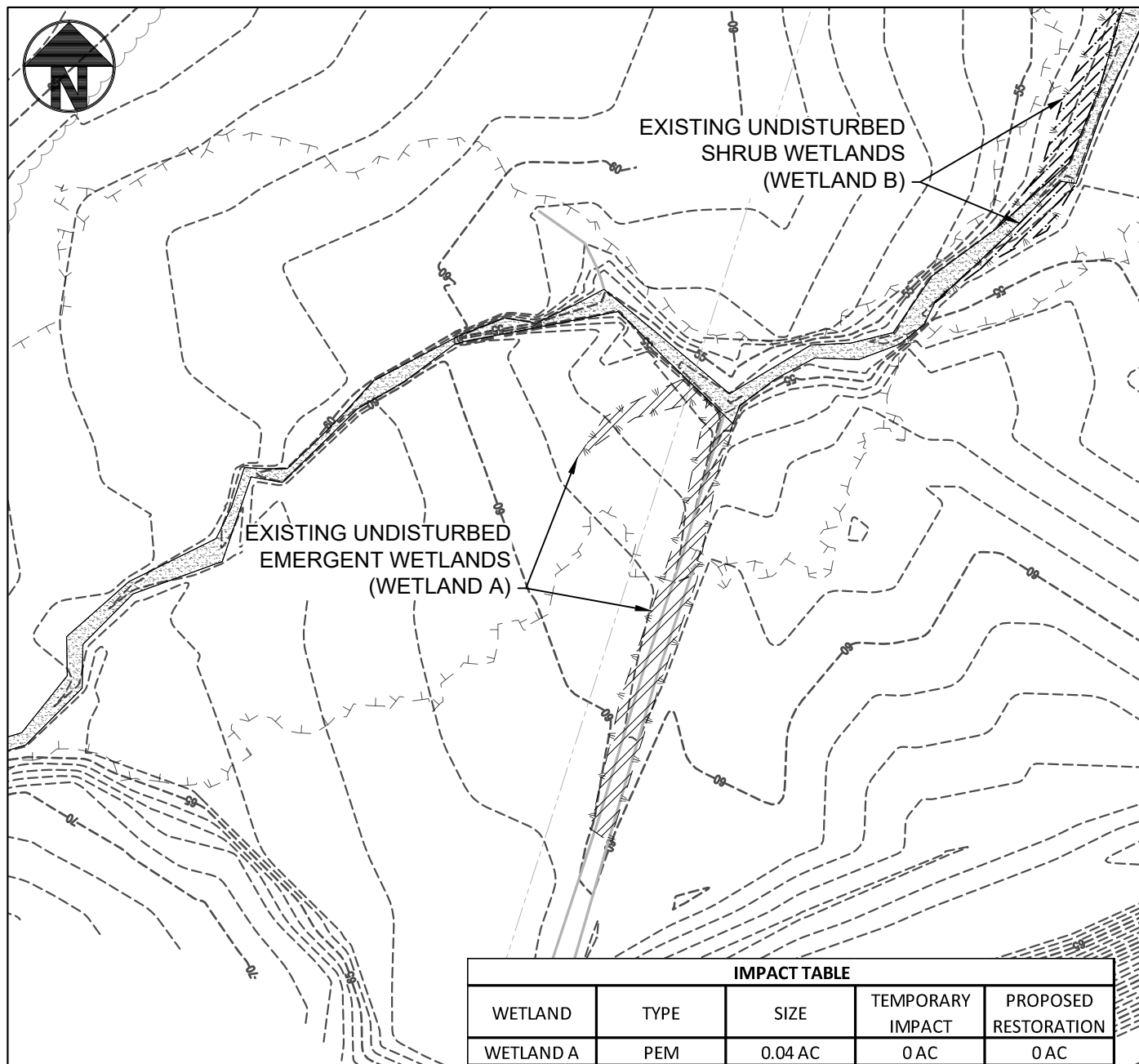
KEY SHEET

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PLAN LEGEND:

- APPROXIMATE PROPERTY LINES
- LOD — LIMITS OF DISTURBANCE
- SF — PROPOSED SILT FENCE
- FEMA 100-YEAR FLOODPLAIN
- PROPOSED AREA OF EXCAVATION
- PROPOSED AREA OF CONSTRUCTION ACCESS ROAD

IMPACT TABLE				
WETLAND	TYPE	SIZE	TEMPORARY IMPACT	PROPOSED RESTORATION
WETLAND A	PEM	0.04 AC	0 AC	0 AC
WETLAND B	PSS	0.41 AC	0 AC	0 AC
WETLAND C	PEM, PSS	0.07, 0.03 AC	0 AC	0 AC
WETLAND D	PEM	0.11 AC	0.04 AC	0.04 AC
WETLAND E	PEM	0.43 AC	0.14 AC	0.14 AC
STREAM 1	PERENNIAL	2,760 LF	1,170 LF	1,170 LF

- EXISTING EMERGENT WETLANDS
- EXISTING SHRUB WETLANDS
- EXISTING STREAM
- AREA OF TEMPORARY IMPACTS



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**FORMER ADIRONDACK STEEL SITE
PCB REMEDIATION PROJECT
PERMITTING FIGURES**

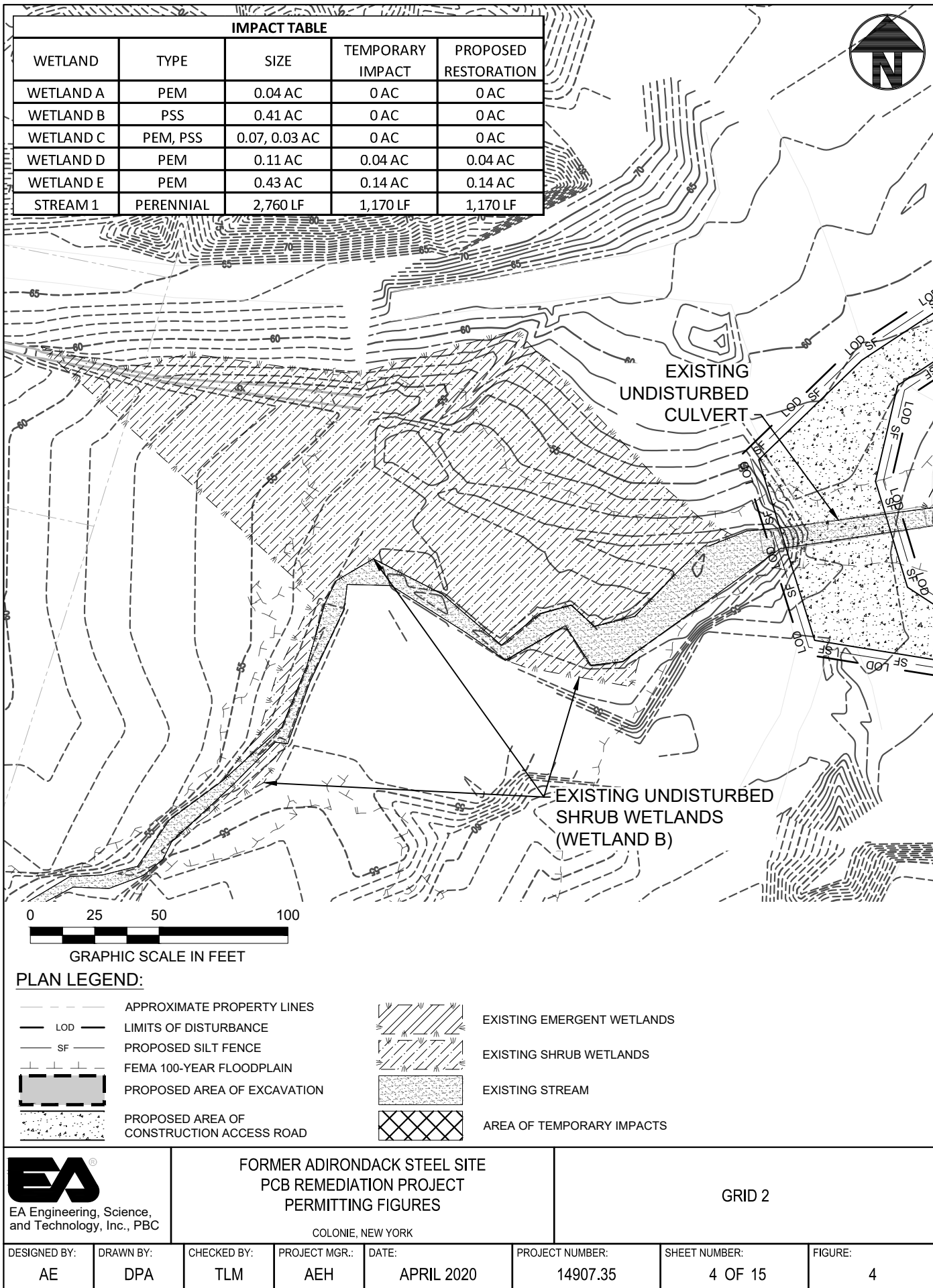
COLONIE, NEW YORK

GRID 1

DESIGNED BY: AE	DRAWN BY: DPA	CHECKED BY: TLM	PROJECT MGR.: AEH	DATE: APRIL 2020	PROJECT NUMBER: 14907.35	SHEET NUMBER: 3 OF 15	FIGURE: 3
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FOR PERMITTING

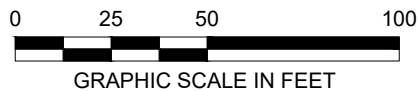
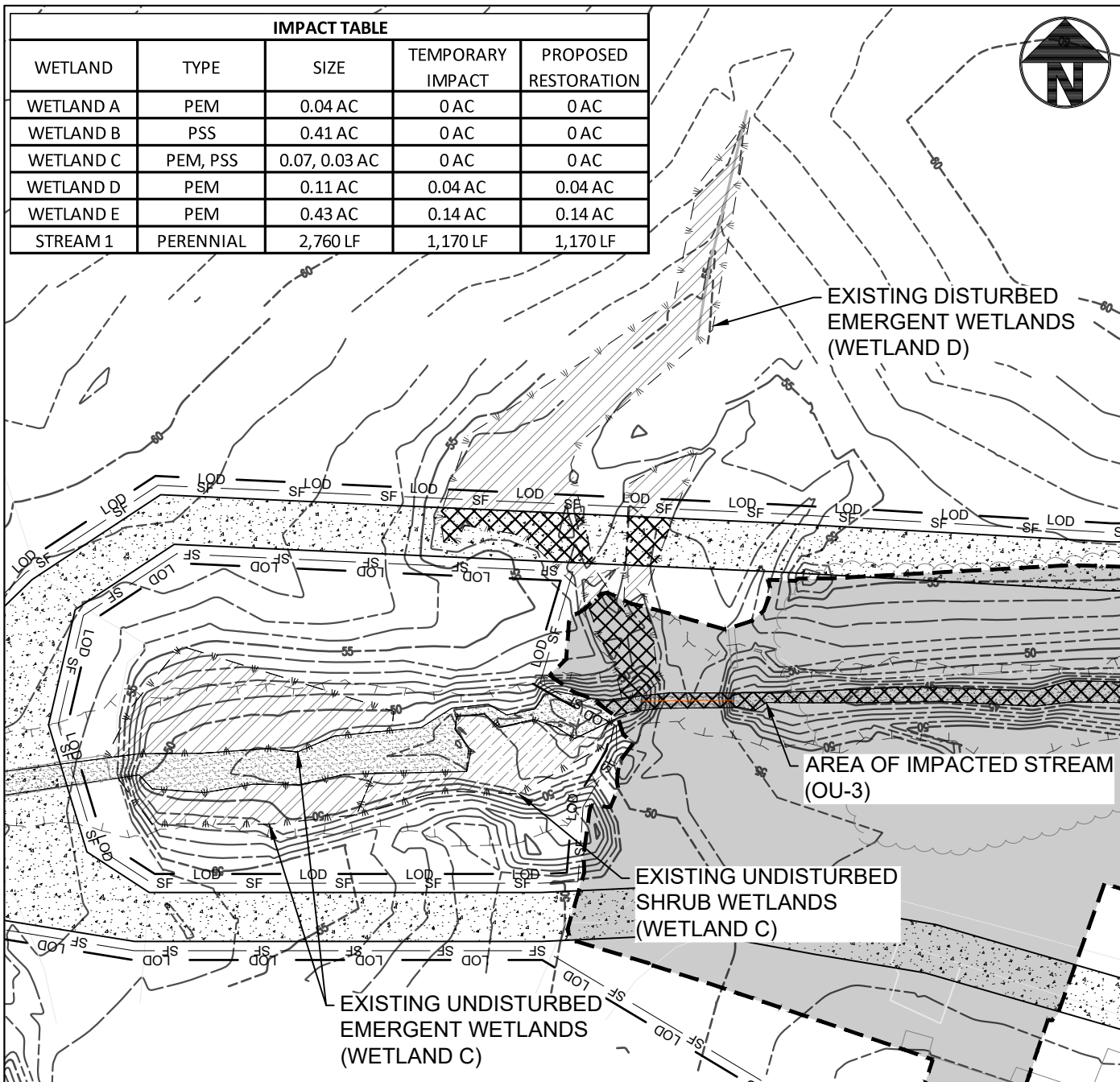
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IMPACT TABLE				
WETLAND	TYPE	SIZE	TEMPORARY IMPACT	PROPOSED RESTORATION
WETLAND A	PEM	0.04 AC	0 AC	0 AC
WETLAND B	PSS	0.41 AC	0 AC	0 AC
WETLAND C	PEM, PSS	0.07, 0.03 AC	0 AC	0 AC
WETLAND D	PEM	0.11 AC	0.04 AC	0.04 AC
WETLAND E	PEM	0.43 AC	0.14 AC	0.14 AC
STREAM 1	PERENNIAL	2,760 LF	1,170 LF	1,170 LF



PLAN LEGEND:

---	APPROXIMATE PROPERTY LINES		EXISTING EMERGENT WETLANDS
---	LIMITS OF DISTURBANCE		EXISTING SHRUB WETLANDS
---	PROPOSED SILT FENCE		EXISTING STREAM
---	FEMA 100-YEAR FLOODPLAIN		AREA OF TEMPORARY IMPACTS
---	PROPOSED AREA OF EXCAVATION		
---	PROPOSED AREA OF CONSTRUCTION ACCESS ROAD		



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FORMER ADIRONDACK STEEL SITE PCB REMEDIATION PROJECT PERMITTING FIGURES

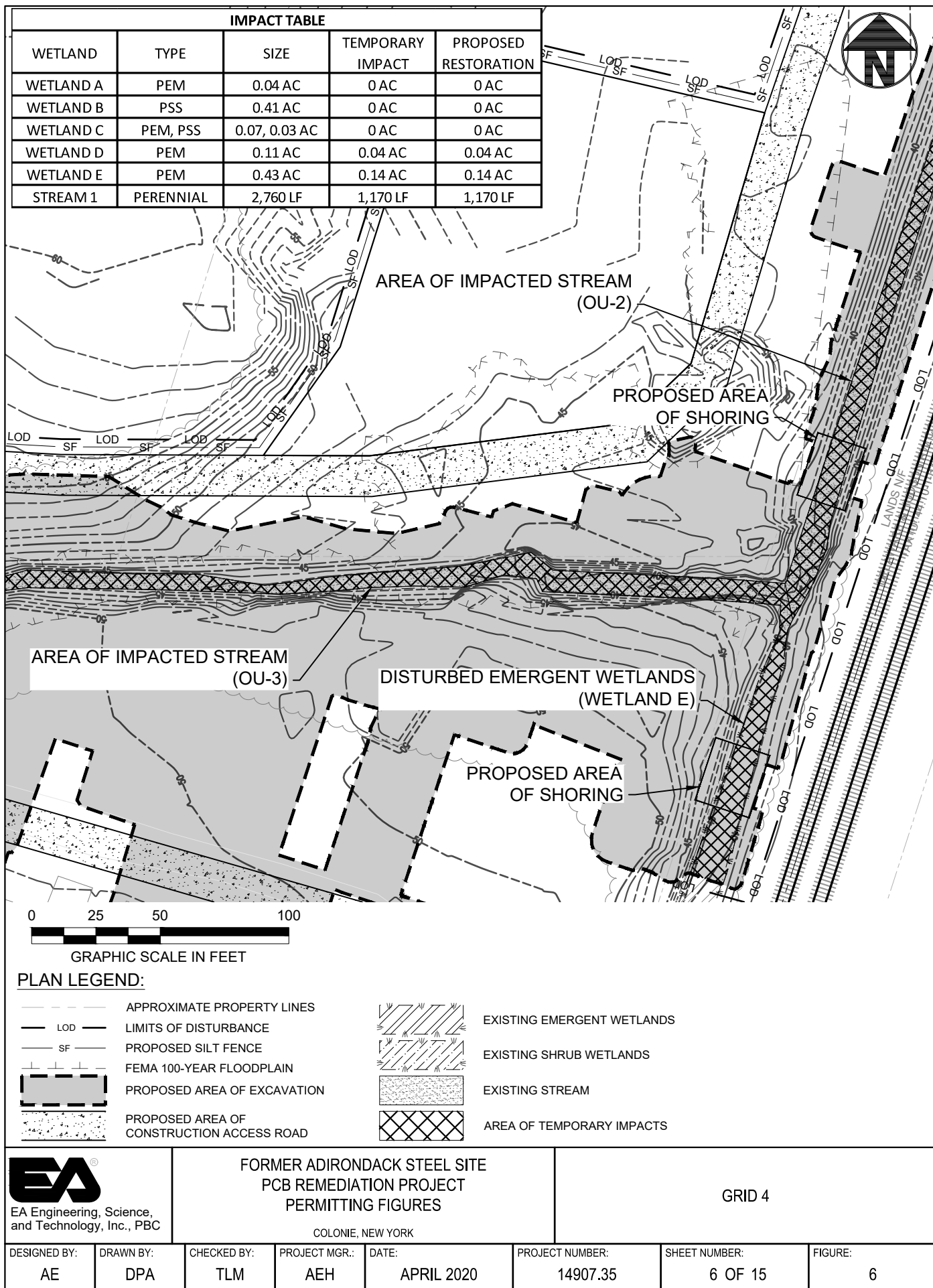
COLONIE, NEW YORK

GRID 3

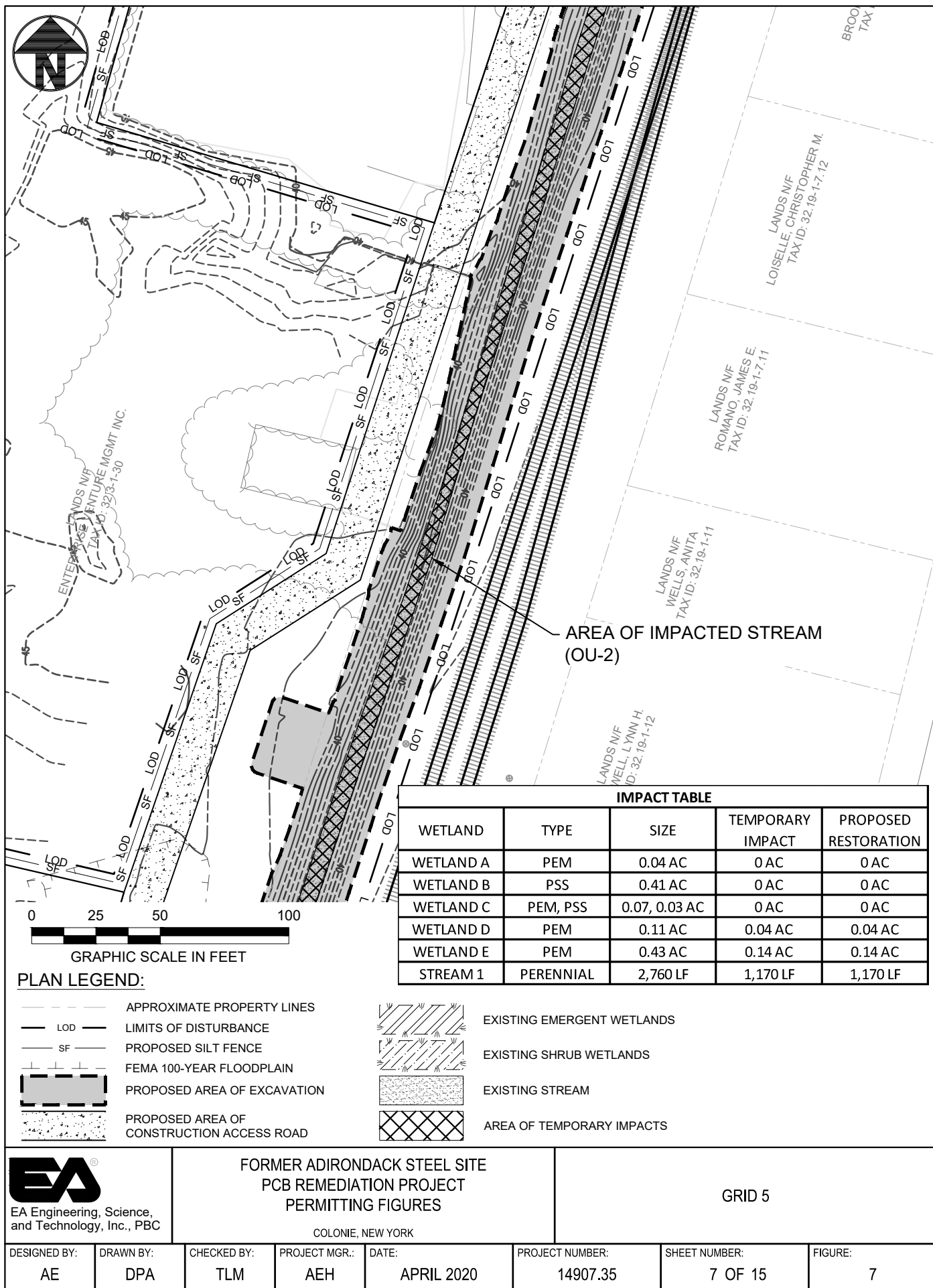
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AE	DPA	TLM	AEH	APRIL 2020	14907.35	5 OF 15	5

FOR PERMITTING

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FOR PERMITTING



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FORMER ADIRONDACK STEEL SITE
PCB REMEDIATION PROJECT
PERMITTING FIGURES

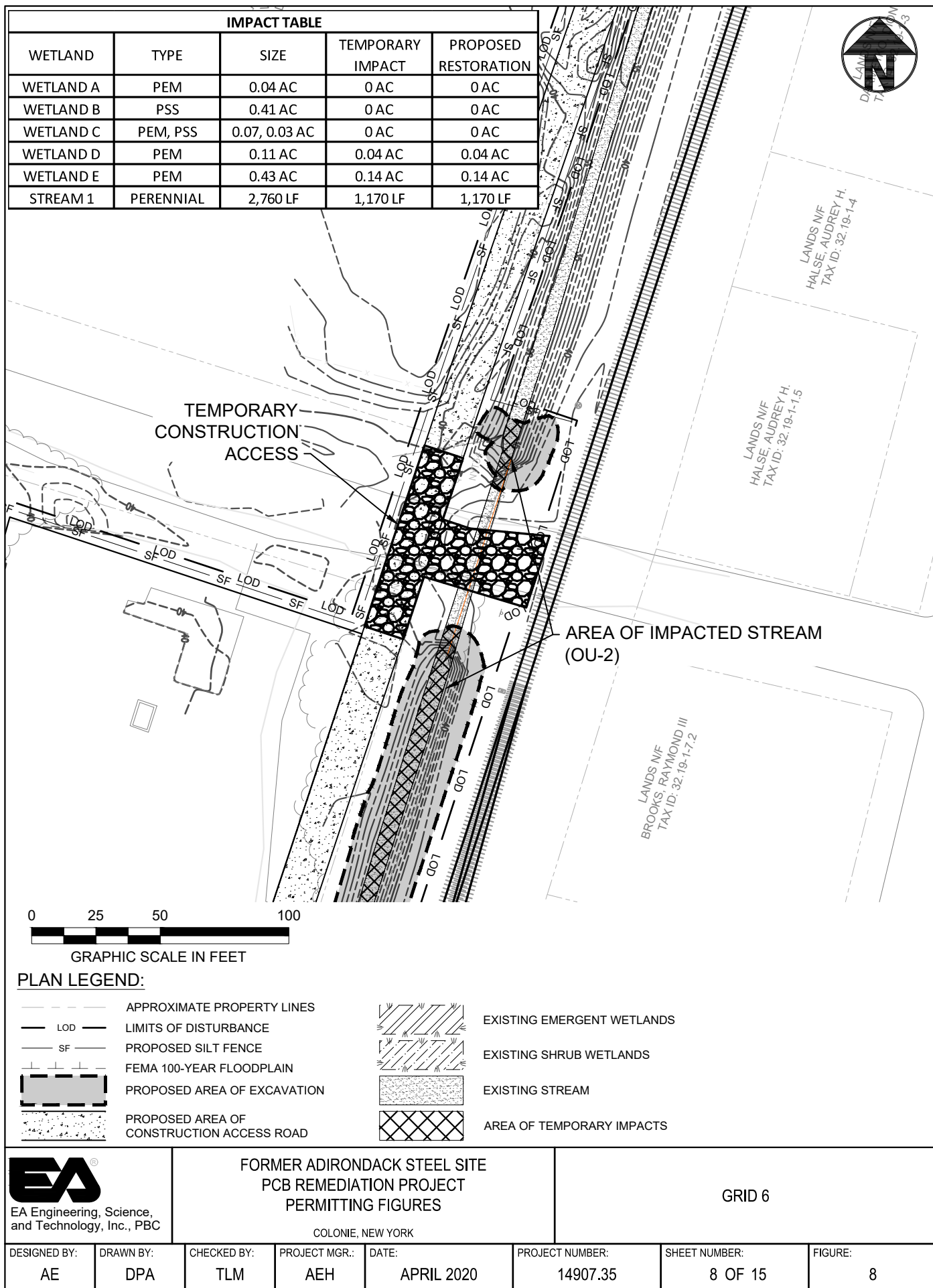
COLONIE, NEW YORK

GRID 5

DESIGNED BY: AE	DRAWN BY: DPA	CHECKED BY: TLM	PROJECT MGR.: AEH	DATE: APRIL 2020	PROJECT NUMBER: 14907.35	SHEET NUMBER: 7 OF 15	FIGURE: 7
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FOR PERMITTING

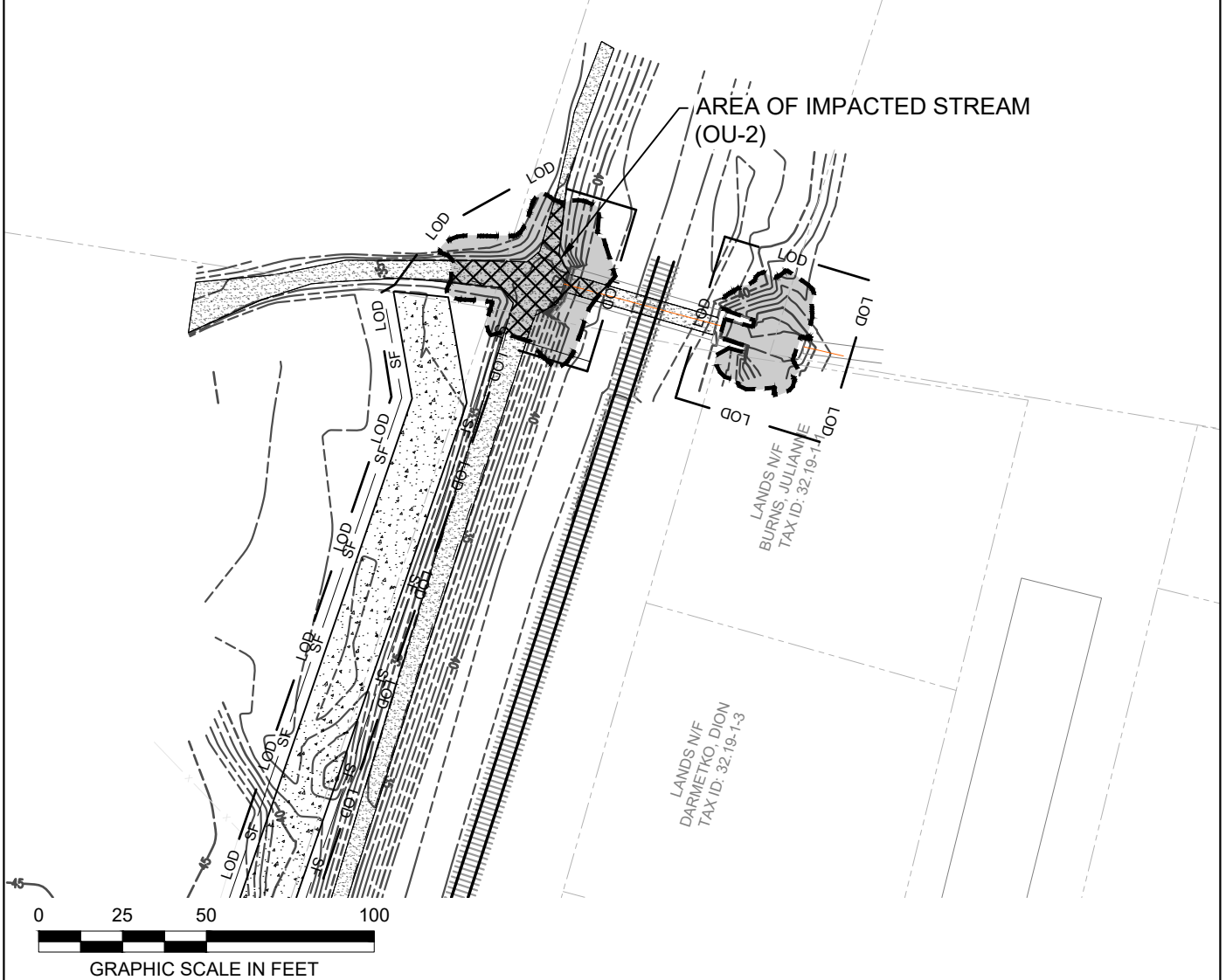
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FOR PERMITTING



IMPACT TABLE				
WETLAND	TYPE	SIZE	TEMPORARY IMPACT	PROPOSED RESTORATION
WETLAND A	PEM	0.04 AC	0 AC	0 AC
WETLAND B	PSS	0.41 AC	0 AC	0 AC
WETLAND C	PEM, PSS	0.07, 0.03 AC	0 AC	0 AC
WETLAND D	PEM	0.11 AC	0.04 AC	0.04 AC
WETLAND E	PEM	0.43 AC	0.14 AC	0.14 AC
STREAM 1	PERENNIAL	2,760 LF	1,170 LF	1,170 LF



PLAN LEGEND:

---	APPROXIMATE PROPERTY LINES		EXISTING EMERGENT WETLANDS
---	LOD		EXISTING SHRUB WETLANDS
---	LIMITS OF DISTURBANCE		EXISTING STREAM
---	PROPOSED SILT FENCE		AREA OF TEMPORARY IMPACTS
---	FEMA 100-YEAR FLOODPLAIN		
---	PROPOSED AREA OF EXCAVATION		
---	PROPOSED AREA OF CONSTRUCTION ACCESS ROAD		



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FORMER ADIRONDACK STEEL SITE PCB REMEDIATION PROJECT PERMITTING FIGURES

COLONIE, NEW YORK

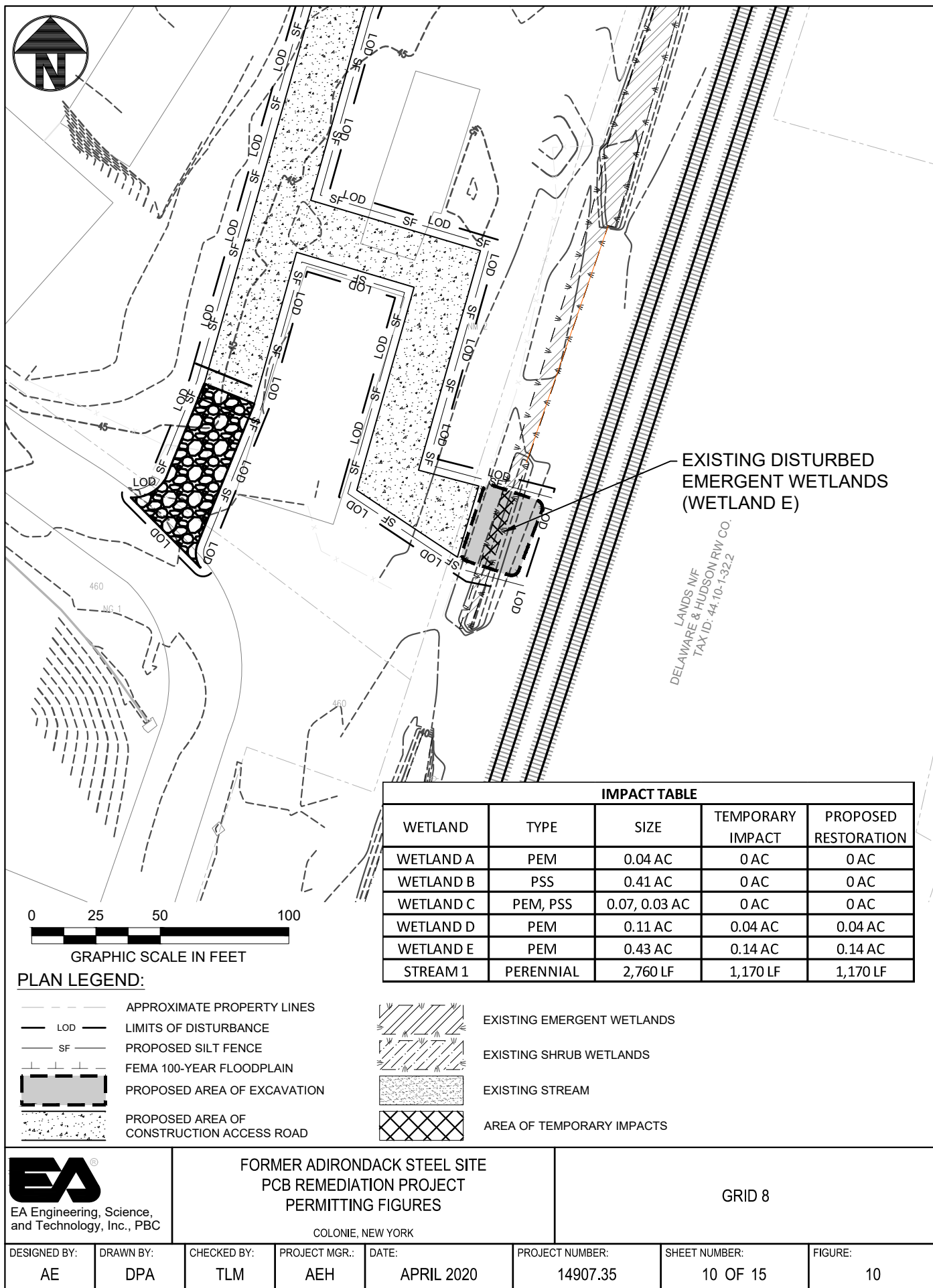
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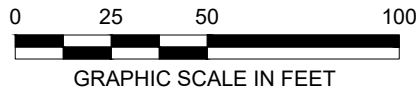


FOR PERMITTING



EXISTING DISTURBED
EMERGENT WETLANDS
(WETLAND E)

EXISTING DISTURBED
EMERGENT WETLANDS
(WETLAND E)



PLAN LEGEND:

- APPROXIMATE PROPERTY LINES
- LOD — LIMITS OF DISTURBANCE
- SF — PROPOSED SILT FENCE
- FEMA 100-YEAR FLOODPLAIN
- PROPOSED AREA OF EXCAVATION
- PROPOSED AREA OF CONSTRUCTION ACCESS ROAD

IMPACT TABLE				
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WETLAND A	PEM	0.04 AC	0 AC	0 AC
WETLAND B	PSS	0.41 AC	0 AC	0 AC
WETLAND C	PEM, PSS	0.07, 0.03 AC	0 AC	0 AC
WETLAND D	PEM	0.11 AC	0.04 AC	0.04 AC
WETLAND E	PEM	0.43 AC	0.14 AC	0.14 AC
STREAM 1	PERENNIAL	2,760 LF	1,170 LF	1,170 LF

- EXISTING EMERGENT WETLANDS
- EXISTING SHRUB WETLANDS
- EXISTING STREAM
- AREA OF TEMPORARY IMPACTS



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FORMER ADIRONDACK STEEL SITE PCB REMEDIATION PROJECT PERMITTING FIGURES

COLONIE, NEW YORK

GRID 9

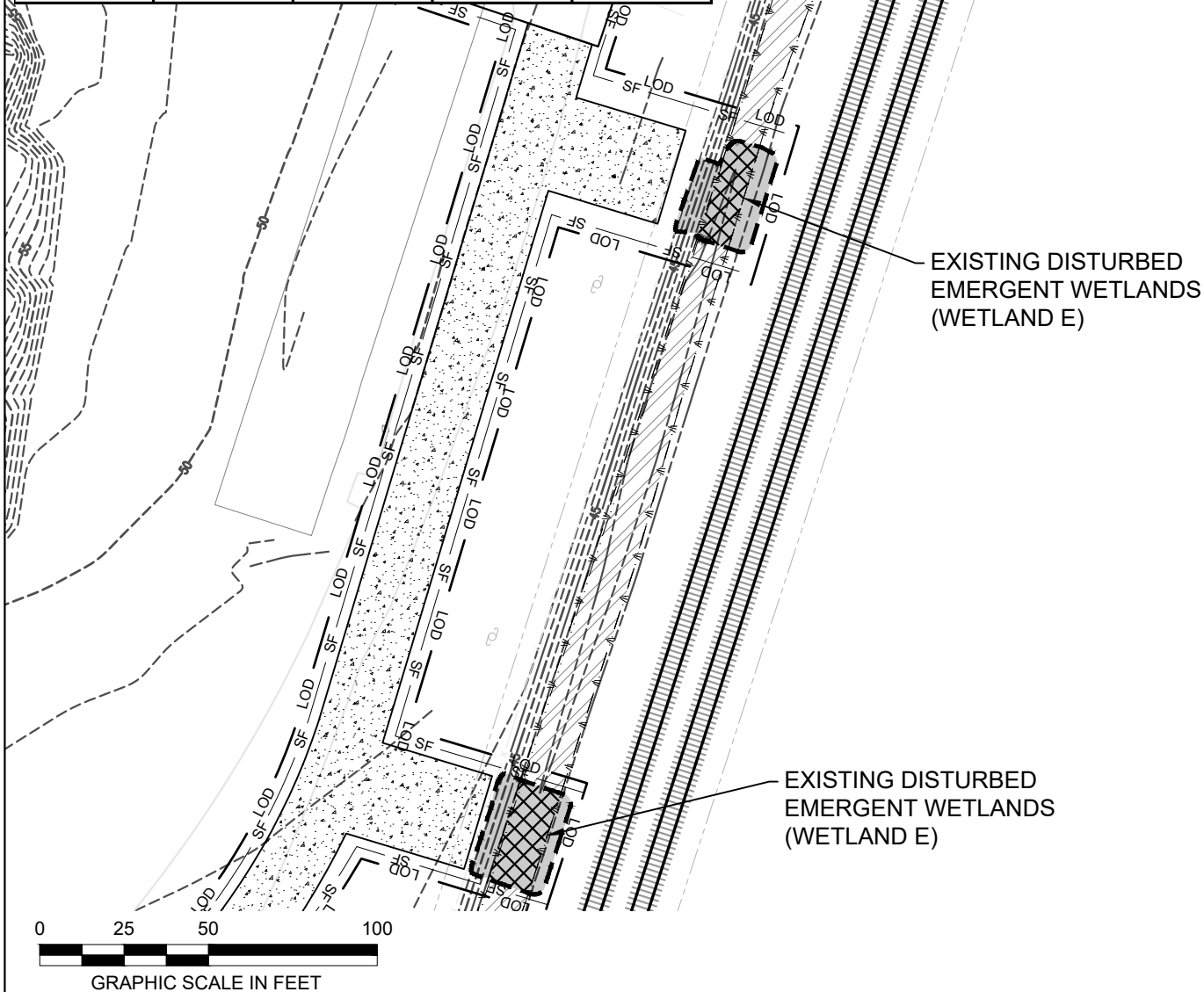
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IMPACT TABLE				
WETLAND	TYPE	SIZE	TEMPORARY IMPACT	PROPOSED RESTORATION
WETLAND A	PEM	0.04 AC	0 AC	0 AC
WETLAND B	PSS	0.41 AC	0 AC	0 AC
WETLAND C	PEM, PSS	0.07, 0.03 AC	0 AC	0 AC
WETLAND D	PEM	0.11 AC	0.04 AC	0.04 AC
WETLAND E	PEM	0.43 AC	0.14 AC	0.14 AC
STREAM 1	PERENNIAL	2,760 LF	1,170 LF	1,170 LF



PLAN LEGEND:

---	APPROXIMATE PROPERTY LINES		EXISTING EMERGENT WETLANDS
---	LOD LIMITS OF DISTURBANCE		EXISTING SHRUB WETLANDS
---	PROPOSED SILT FENCE		EXISTING STREAM
---	FEMA 100-YEAR FLOODPLAIN		AREA OF TEMPORARY IMPACTS
	PROPOSED AREA OF EXCAVATION		
	PROPOSED AREA OF CONSTRUCTION ACCESS ROAD		



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and Technology, Inc., PBC

FORMER ADIRONDACK STEEL SITE PCB REMEDIATION PROJECT PERMITTING FIGURES

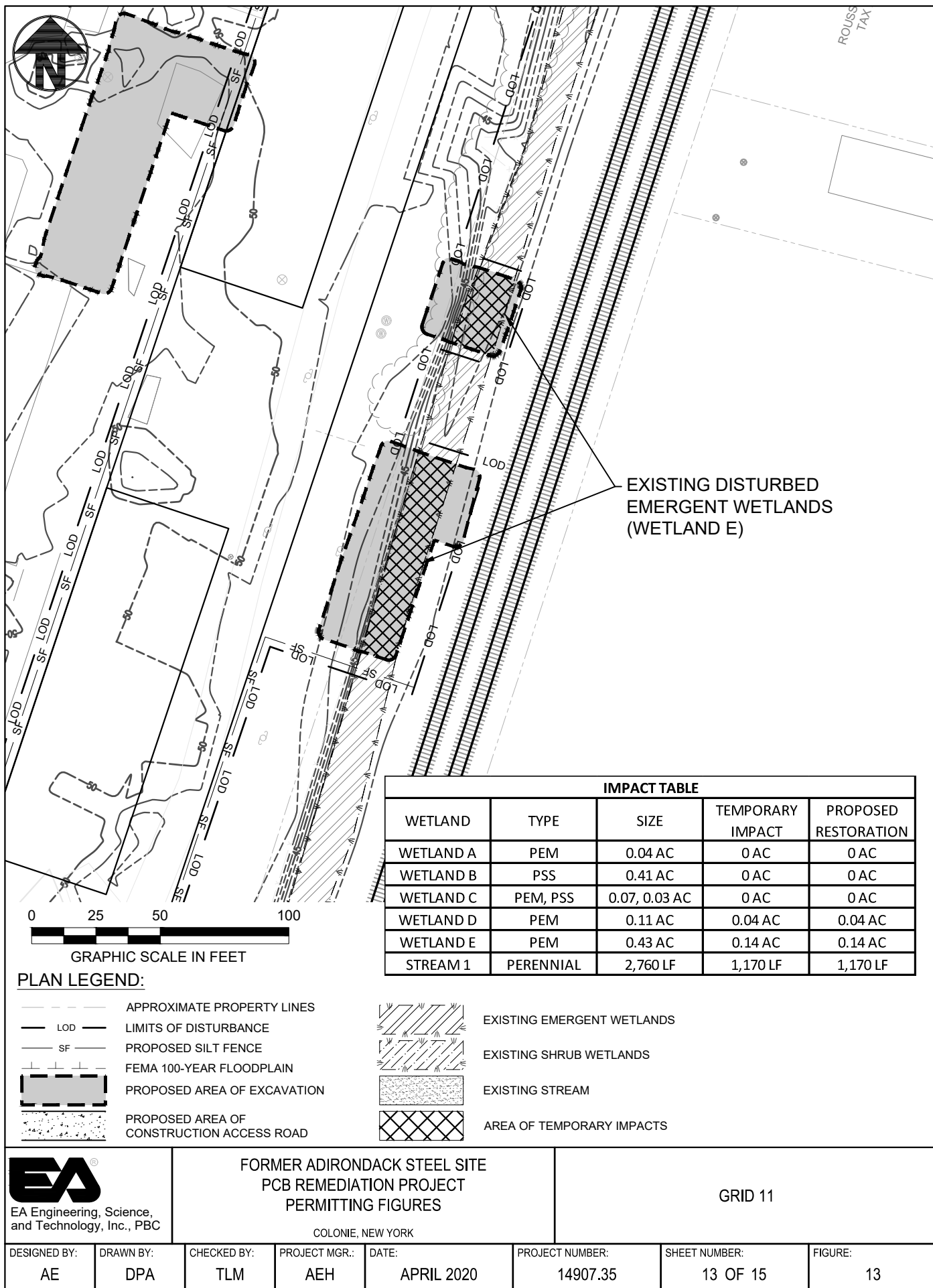
COLONIE, NEW YORK

GRID 10

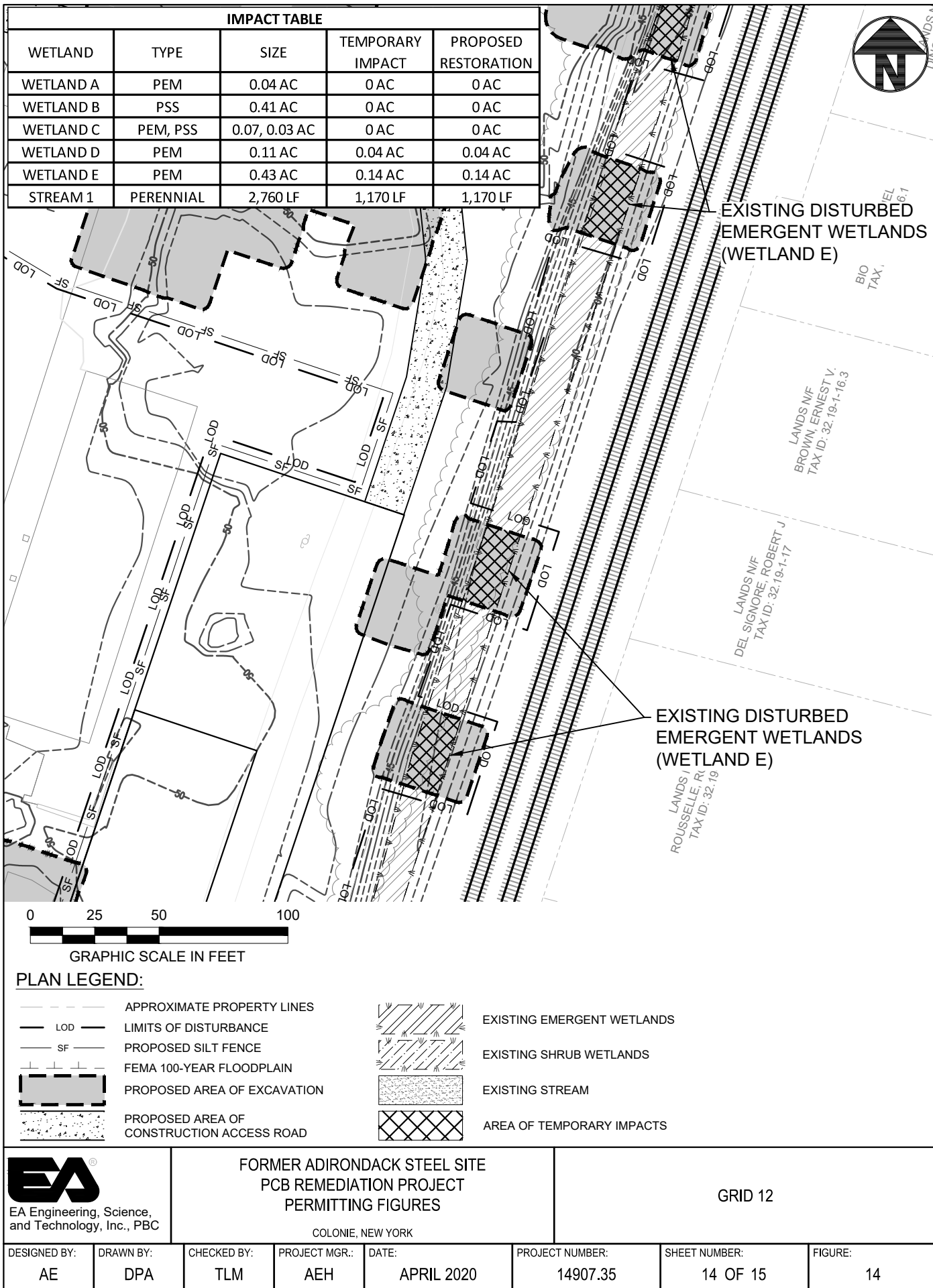
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FOR PERMITTING

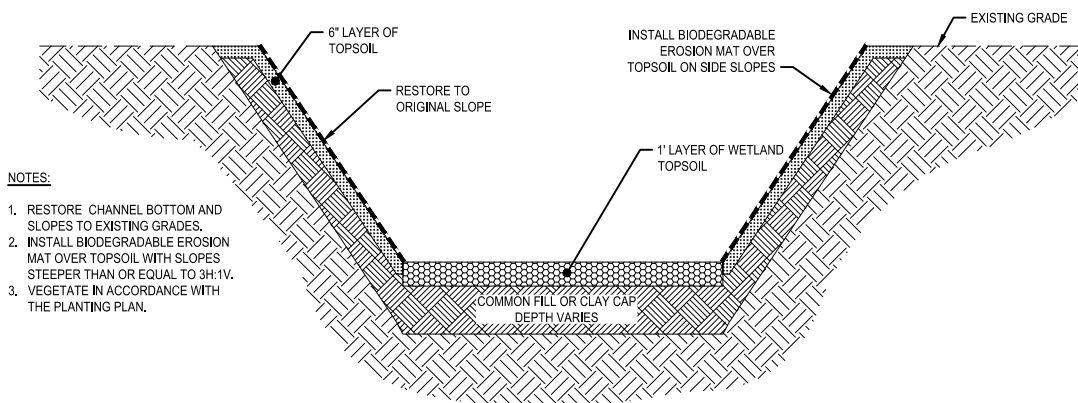
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FOR PERMITTING

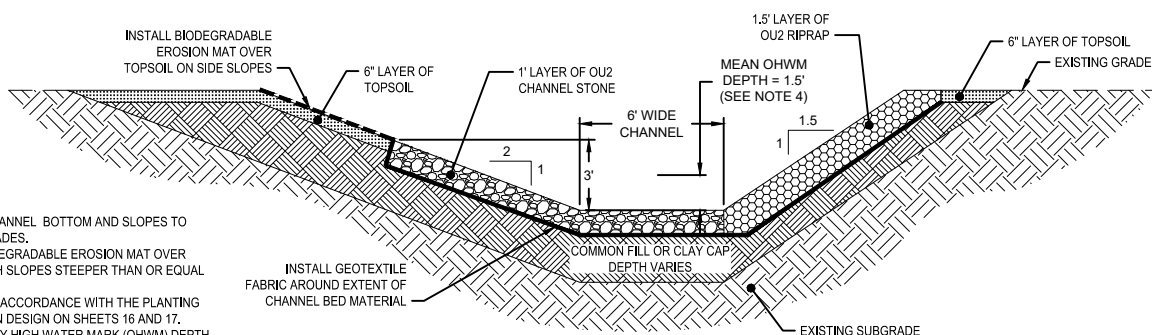


NOTES:

1. RESTORE CHANNEL BOTTOM AND SLOPES TO EXISTING GRADES.
2. INSTALL BIODEGRADABLE EROSION MAT OVER TOPSOIL WITH SLOPES STEEPER THAN OR EQUAL TO 3H:1V.
3. VEGETATE IN ACCORDANCE WITH THE PLANTING PLAN.

RESTORE WETLAND COVER

SCALE: NOT TO SCALE

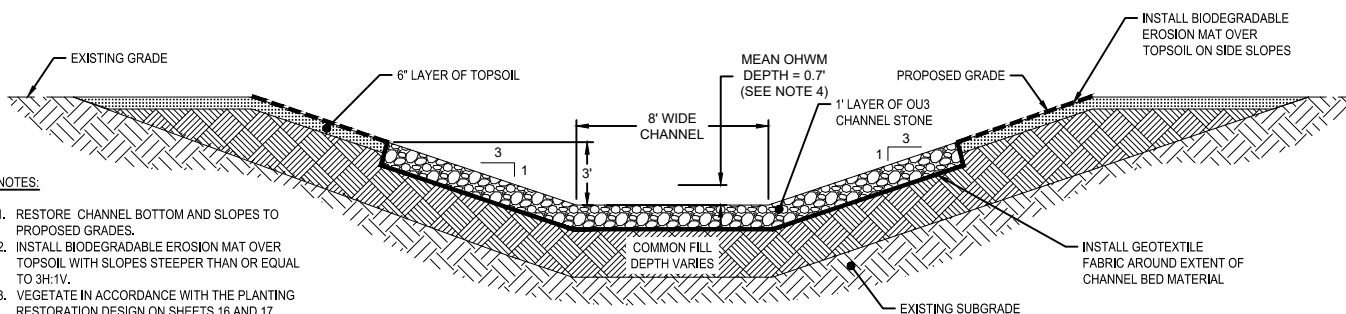


NOTES:

1. RESTORE CHANNEL BOTTOM AND SLOPES TO EXISTING GRADES.
2. INSTALL BIODEGRADABLE EROSION MAT OVER TOPSOIL WITH SLOPES STEEPER THAN OR EQUAL TO 3H:1V.
3. VEGETATE IN ACCORDANCE WITH THE PLANTING RESTORATION DESIGN ON SHEETS 16 AND 17.
4. THE ORDINARY HIGH WATER MARK (OHWM) DEPTH IS APPROXIMATED BY THE 1.5 YEAR RECURRENTANCE INTERVAL FLOW. THE RESTORED STREAM CHANNEL WITHIN OU2 WILL HAVE AN OHWM DEPTH RANGING BETWEEN 0.9' TO 2.1' WITH A MEAN VALUE OF 1.5'.

RESTORE OU2 CREEK

SCALE: NOT TO SCALE



NOTES:

1. RESTORE CHANNEL BOTTOM AND SLOPES TO PROPOSED GRADES.
2. INSTALL BIODEGRADABLE EROSION MAT OVER TOPSOIL WITH SLOPES STEEPER THAN OR EQUAL TO 3H:1V.
3. VEGETATE IN ACCORDANCE WITH THE PLANTING RESTORATION DESIGN ON SHEETS 16 AND 17.
4. THE ORDINARY HIGH WATER MARK (OHWM) DEPTH IS APPROXIMATED BY THE 1.5 YEAR RECURRENTANCE INTERVAL FLOW. THE RESTORED STREAM CHANNEL WITHIN OU3 WILL HAVE AN OHWM DEPTH RANGING BETWEEN 0.5' TO 0.9' WITH A MEAN VALUE OF 0.7'.

RESTORE OU3 CREEK

SCALE: NOT TO SCALE

CHANNEL MATERIAL SPECIFICATIONS

OU2 CHANNEL STONE - THIS MATERIAL SHALL MEET NYSDOTSS REQUIREMENTS FOR 703-0201 CRUSHED STONE SIZE DESIGNATION #4 WITH THE FOLLOWING GRADATION:

- 100% PASSING 4" SIEVE
- 90-100% PASSING 3" SIEVE
- 0-15% PASSING 2" SIEVE
- 0-0.7% PASSING #200 SIEVE

OU2 RIPRAP - THIS MATERIAL SHALL MEET NYSDOTSS REQUIREMENTS FOR 733-2103 MEDIUM STONE FILLING WITH THE FOLLOWING GRADATION:

- 50-100% HEAVIER THAN 100 LBS (APPRX. 1 FT DIAMETER)
- 0-10% PASSING 4" SIEVE

OU3 CHANNEL STONE - THIS MATERIAL SHALL MEET NYSDOTSS REQUIREMENTS FOR 733-2101 FINE STONE FILLING WITH THE FOLLOWING GRADATION:

- 90-100% PASSING 8" SIEVE
- 50-100% RETAINED ON 3" SIEVE
- 0-10% PASSING #10 SIEVE



EA Engineering, Science, and Technology, Inc., PBC

**FORMER ADIRONDACK STEEL SITE
PCB REMEDIATION PROJECT
PERMITTING FIGURES**

COLONIE, NEW YORK

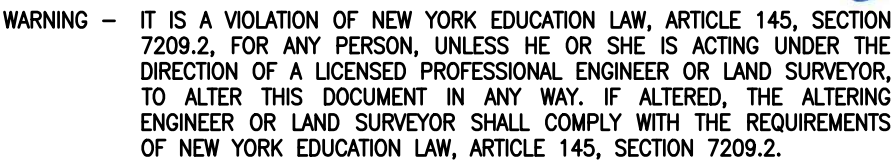
TYPICAL CROSS SECTIONS

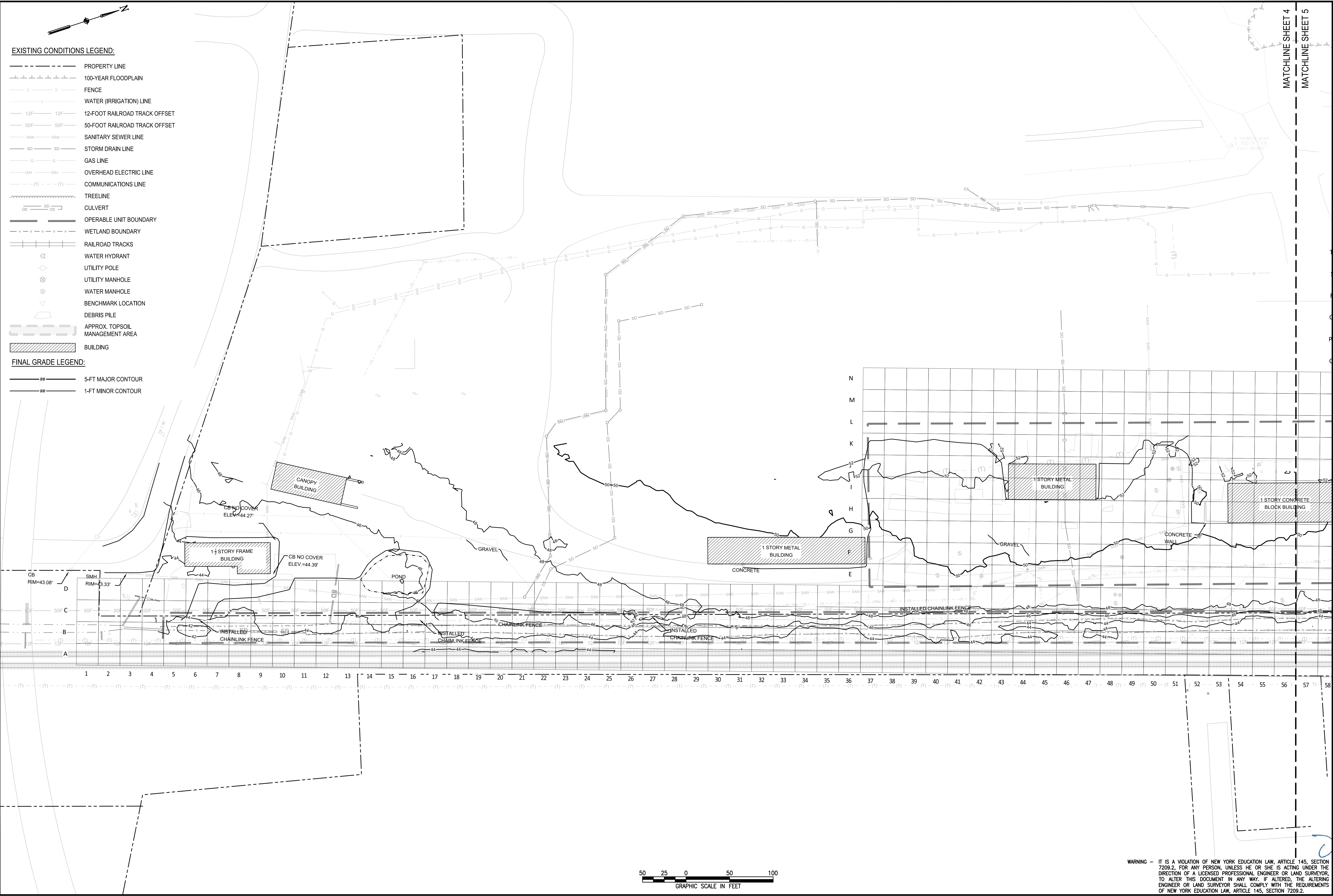
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AE	DPA	TLM	AEH	APRIL 2020	14907.35	15 OF 15	15

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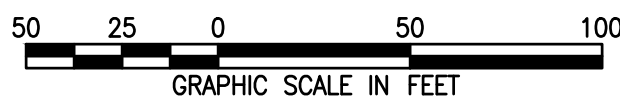
Appendix B

Design Drawings/As-Built Plans





- EXISTING CONDITIONS LEGEND:**
- PROPERTY LINE
 - 100-YEAR FLOODPLAIN
 - FENCE
 - WATER (IRRIGATION) LINE
 - 12F 12F 12-FOOT RAILROAD TRACK OFFSET
 - 50F 50F 50-FOOT RAILROAD TRACK OFFSET
 - SAN SAN SANITARY SEWER LINE
 - SD SD STORM DRAIN LINE
 - G G GAS LINE
 - OH OH OVERHEAD ELECTRIC LINE
 - (T) (T) COMMUNICATIONS LINE
 - TREELINE
 - CULVERT
 - OPERABLE UNIT BOUNDARY
 - WETLAND BOUNDARY
 - RAILROAD TRACKS
 - WATER HYDRANT
 - UTILITY POLE
 - UTILITY MANHOLE
 - WATER MANHOLE
 - BENCHMARK LOCATION
 - DEBRIS PILE
 - APPROX. TOPSOIL MANAGEMENT AREA
 - BUILDING
- FINAL GRADE LEGEND:**
- 5-FT MAJOR CONTOUR
 - 1-FT MINOR CONTOUR



WARNING - IT IS A VIOLATION OF NEW YORK EDUCATION LAW, ARTICLE 145, SECTION 7209.2, FOR ANY PERSON, UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, ARTICLE 145, SECTION 7209.2.

NEW YORK STATE OFFICIAL SEAL

NO. DATE DESCRIPTION	

FINAL RESTORATION AND GRADING PLAN SOUTH

FORMER ADIRONDACK STEEL SITE
ADIRONDACK PARK
COLONIE, NEW YORK

PREPARED BY:
EA ENGINEERING, P.C.
AND ITS AFFILIATE
EA SCIENCE AND TECHNOLOGY

PROJ. NO. 16025.12
DATE SEPTEMBER 2023
SCALE AS SHOWN
PROJ. MGR. AEH
DESIGNED BY TLM
DRAWN BY DPA
SEAL

4 OF 6

FINAL ENGINEERING REPORT - RECORD DRAWINGS



WARNING - IT IS A VIOLATION OF NEW YORK EDUCATION LAW, ARTICLE 145, SECTION 7209.2, FOR ANY PERSON, UNLESS HE OR SHE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING ENGINEER OR LAND SURVEYOR SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW, ARTICLE 145, SECTION 7209.2.

EXISTING CONDITIONS LEGEND:

- 50--- EXISTING 5-FT CONTOURS
- 49--- EXISTING 1-FT CONTOURS
- PROPERTY LINE
- 100-YEAR FLOODPLAIN
- X X FENCE
- w WATER (IRRIGATION) LINE
- 12F 12F 12-FOOT RAILROAD TRACK OFFSET
- 50F 50F 50-FOOT RAILROAD TRACK OFFSET
- SAN SAN SANITARY SEWER LINE
- SD SD STORM DRAIN LINE
- G G GAS LINE
- OH OH OVERHEAD ELECTRIC LINE
- (T) (T) COMMUNICATIONS LINE
- ~~~~~ TREELINE
- OS OS CULVERT
- OPERABLE UNIT BOUNDARY
- - - - - WETLAND BOUNDARY
- CHANNEL
- RAILROAD TRACKS
- WATER HYDRANT
- UTILITY POLE
- UTILITY MANHOLE
- WATER MANHOLE
- BORING LOCATION
- BENCHMARK LOCATION
- DEBRIS PILE
- APPROX. TOPSOIL

SHEET LEGEND:

- APPROX. AREA OF REMAINING CONTAMINATION

Department of
Environmental
Conservation

NEW YORK
OPPORTUNITY

REVISIONS	
NO.	DATE

REMAINING CONTAMINATION
AND COVER SYSTEM

FORMER ADIRONDACK STEEL SITE
RIVER STREET
COLONIE, NEW YORK

PREPARED BY:
EA ENGINEERING, P.C.
AND ITS AFFILIATE
EA SCIENCE AND
TECHNOLOGY

EA

PROJ. NO. 16025.12
DATE SEPTEMBER 2023
SCALE AS SHOWN
PROJ. MGR. AEH
DESIGNED BY TLM
DRAWN BY DPA
SEAL
STATE OF NEW YORK
DONALD FRANCIS CONY III
LICENSED PROFESSIONAL ENGINEER
75666

6 OF 6

Appendix C

On-site Photographs

On-site Photographs
ADK Steel Wetland Monitoring – Year 1
Photos Taken August 14, 2024



Photograph 1: Overview of vegetation sample plot #1.



Photograph 2: Overview of vegetation sample plot #2.



Photograph 3: Overview of vegetation sample plot #3.



Photograph 4: View facing upstream of the riparian planting zone along the north side of the stream channel.

On-site Photographs
ADK Steel Wetland Monitoring – Year 1
Photos Taken August 14, 2024



Photograph 5: View facing downstream from the upper stream crossing.



Photograph 6: View facing upstream at the upper portion of the site.



Photograph 7: View facing downstream along the upland planting zone on the south side of the stream channel.



Photograph 8: Overview of vegetation sampling plot #4.

On-site Photographs
ADK Steel Wetland Monitoring – Year 1
Photos Taken August 14, 2024



Photograph 9: Overview of vegetation sampling plot #5.



Photograph 10: Overview of vegetation sampling plot #6.



Photograph 11: confluence of stream channel and wetland swale along the existing railroad embankment.



Photograph 12: overview of emergent wetland restoration area at the confluence with the existing stream channel.

On-site Photographs
ADK Steel Wetland Monitoring – Year 1
Photos Taken August 14, 2024



Photograph 13: Phragmites and Purple loosestrife along the lower portion of the stream channel.



Photograph 14: Overview of vegetation sampling plot #7.



Photograph 15: Emergent wetland fill area 1.



Photograph 16: Emergent wetland fill area 2.

On-site Photographs
ADK Steel Wetland Monitoring – Year 1
Photos Taken August 14, 2024



Photograph 17: Overview of the upland restored area along the wetland swale.



Photograph 18: Emergent wetland fill area 3.



Photograph 19: Emergent wetland fill area 4.



Photograph 20: Emergent wetland fill area 5.

On-site Photographs
ADK Steel Wetland Monitoring – Year 1
Photos Taken August 14, 2024



Photograph 21: Monarch butterfly observed on milkweed within the riparian planting zone.



Photograph 22: View facing upstream from the lower portion of the stream channel.



Photograph 23: Riparian planting zone along the newly installed chain-link fence.



Photograph 24: Emergent wetland fill area 6.

On-site Photographs
ADK Steel Wetland Monitoring – Year 1
Photos Taken August 14, 2024



Photograph 25: Emergent wetland fill area 7.



Photograph 26: Emergent wetland fill area 8.



Photograph 27: Emergent wetland fill area 9.

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