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August 9, 2021

Yorktown Town Hall  
363 Underhill Avenue  
Yorktown Heights, NY 10598  
Attn: Dan Ciarcia, P.E., Acting Town Engineer

Re: Town of Yorktown Permit Application Submission  
New York City Department of Environmental Protection  
Bureau of Engineering Design and Construction  
Capital Project WM-30, in Westchester County, NY  
Contract No.: CRO-530B  
Replacement of Baptist Church Road Bridge

Dear Mr. Ciarcia,

The New York City Department of Environmental Protection (DEP), "The Applicant", is pleased to submit the enclosed Town Permit Application regarding a Design-Bid-Build project for the replacement of Baptist Church Road Bridge in the Town of Yorktown, Westchester County, New York. The scope of this project includes full replacement of the existing Baptist Church Road Bridge, which is beyond its useful life. The new bridge will have twelve foot (12 ft) travel lanes and two foot (2 ft) shoulders on both sides. We will also be removing select trees and rock outcroppings within the project area to improve sight distance and will replace guiderailing and provide restoration activities.

Enclosed you will find a Permit Package that includes an application to obtain the following permits:

- Wetland/Watercourse/Buffer Area Permit
- MS4 Stormwater Management Permit
- Tree Permit

The Permit Package includes:

- Town of Yorktown Application Form
- Short Environmental Assessment Form - State Environmental Quality Review
- Project Design Plans
- Joint Permit Application
- Environmental Assessment – City Environmental Quality Review

Please review the enclosed applications and let me know if you have any questions or need additional materials. All correspondence can be directed to:

Jeffrey A. Busse, P.E., NYCDEP  
New York City Department of Environmental Protection  
Bureau of Engineering Design & Construction  
465 Columbus Avenue  
Valhalla, New York 10595  
Email: BusseJ@dep.nyc.gov  
Phone: 914-749-5417

Sincerely,



Jeffrey A. Busse, P.E., NYCDEP

Enclosures (3)

Cc: Costa, Paul <pcosta@dep.nyc.gov>;  
Busse, Jeffrey <BusseJ@dep.nyc.gov>;  
Bosch, Adam <BoschA@dep.nyc.gov>;  
Salzberg, Spencer <SSalzberg@dep.nyc.gov>;  
Sprague, Edward A. <ESprague@dep.nyc.gov>;  
Kelly, Kathryn <kkelly@dep.nyc.gov>;  
Roman, Ron <rroman@hardestyhanover.com>;  
Young, Megan <myoung@hardestyhanover.com>;  
Todd, Maxwell <mtodd@entech.nyc>;  
Carpenter, Victoria <vcarpenter@entech.nyc>.

**TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NY**

**APPLICATION FOR TOWN OF YORKTOWN  
PERMITS**

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**New York City Department of Environmental Protection  
Bureau of Engineering Design and Construction  
Capital Project WM-30, in Westchester County, NY**

**Replacement of Baptist Church Road Bridge**

**BIN: 2-26243-0**

**APPLICANT:**

*New York City Department of Environmental Protection  
Bureau of Engineering Design & Construction  
465 Columbus Avenue  
Valhalla, NY 10595  
Attn: Jeffrey A. Busse, P.E., NYCDEP*

**DESIGN TEAM:**

*Hardesty & Hanover  
1501 Broadway  
New York, New York 10036*

**PREPARED BY:**

*EnTech Engineering, P.C.  
17 State Street, 36<sup>th</sup> Floor  
New York, New York 10004*

**August 2021**

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**TOWN OF YORKTOWN - ENGINEERING DEPARTMENT  
MS4 STORMWATER MANAGEMENT PERMIT APPLICATION  
WETLAND PERMIT APPLICATION and/or TREE PERMIT APPLICATION**

**Section** \_\_\_\_\_

**Block** \_\_\_\_\_

**Lot #** \_\_\_\_\_

**Job Site Address:** \_\_\_\_\_

**City/State/Zip:** \_\_\_\_\_

**Approval Authority:** TE [ ] PB [ ] TB [ ]

Application #: \_\_\_\_\_

Date Received: \_\_\_\_\_

Date Issued: \_\_\_\_\_

Date Expires: \_\_\_\_\_

Fee Paid: \$ \_\_\_\_\_

NOTE: Application, Fee, Short/Long Form EAF, Map/Survey to be submitted to the Engineering

**APPLICANT:**

YOUR NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_ ZIP \_\_\_\_\_

PHONE: (\_\_\_\_) \_\_\_\_\_

EMAIL: \_\_\_\_\_

**OWNER:**

YOUR NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_ ZIP \_\_\_\_\_

PHONE: (\_\_\_\_) \_\_\_\_\_

EMAIL: \_\_\_\_\_

**APPROVED PLANS AND PERMIT SHALL BE ON-SITE AT ALL TIMES**

Select One	Type	Approval Authority	Cost
	Wetland/Watercourse/Buffer Area Permit (Administrative)	Town Engineer	\$800.00
	Wetland/Watercourse/Buffer Area Permit	Town Board/Planning Board	\$1,800.00
	Renewal of Wetlands/Watercourse/Buffer Area Permit (1 Year)	Town Engineer	\$150.00
	MS4 Stormwater Management Permit (Administrative)	Town Engineer	\$300.00
	MS4 Stormwater Management Permit	Town Board/Planning Board	\$1,500.00
	Renewal of a MS4 Stormwater Management Permit (1 Year)	Town Engineer	\$150.00
	Tree Permit	Town Engineer	\$0.00

Application fees are doubled with issuance of a Stop Work Order/Notice of Violation as per Town Code.

**PROPOSED ACTIVITY - If not located in wetland/wetland buffer (skip to 2b)**

**1. Description of wetlands (check all that apply):**

a. Lake/pond

<input type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>

Control area of lake/pond

<input type="checkbox"/>
<input checked="" type="checkbox"/>
<input type="checkbox"/>

b. Stream/River/Brook

Control area of stream/river/brook

c. Wetlands

Control area of wetlands

**2a. Description of activity in the wetland and/or wetland buffer. Describe the proposed work including the following: i.e. maintenance, construction of dwelling, addition, driveway, culverts, including size and location.**

The proposed work involves the complete replacement of the Baptist Church Road Bridge over Hunter Brook adjacent to the New Croton Reservoir. The approximate area of soil disturbance is 0.45 acres and open water disturbance is 0.3 acres. All construction activities would be conducted such that dust, debris, waste materials, and construction materials are not released or spilled into the soil, water, and/or sediment in accordance with all applicable laws, codes, rules, and regulations. To avoid disturbing the water body, the following mitigation measures will be implemented: plastic safety fencing, turbidity curtain, silt fences, cofferdam, and dust controls. Environmental Waterway and Ground Protection will also be included in the contract and implemented into the construction. See Attachment B for the Design Drawings and Attachment C for the Wetland Delineation Report.

**2b. Stormwater/Excavation - Description of proposed activity:**

The replacement of the Baptist Church Road Bridge involves approximately 3,600 cubic yards of unclassified excavation and 350 cubic yards of rock excavation. Excavation will take place for removal of the existing substructure and site grading. A portion of the excavated soils removed during substructure demolition are expected to be reused on site. All stockpiles shall be located on flat areas with appropriate ESC countermeasures installed. Stockpiles shall be covered with plastic covers to prevent the erosion of the stockpile.

**3. Tree Removal:**

**Amount of trees and/or stumps to be removed:** 89

**Sizes; approximate DBH:** See Attachment D for Summary of Tree Survey

**Species of trees to be removed (i.e. Birch, Spruce - if known):** See Attachment D for Summary of Tree Survey

**Reason for removal:** Improve horizontal sight distance and facilitate construction of new bridge

**Trees marked in field (trees must be marked prior to inspection):** Yes:  No:

**Tree removal contractor:** TBD  
\_\_\_\_\_  
\_\_\_\_\_

(Tree Removal and Tree Protection Plans are required to be submitted by the Contractor to NYCDEP prior to construction)

**Attach survey/sketch indicating property boundaries, existing structures, driveways, roadways and location of existing trees. Trees must be marked in the field before inspection.**

**4. PROPERTY OWNER CONSENT: If another entity (e.g. contractor, consultant) is applying on the owner's behalf, the PROPERTY OWNER is to complete, sign and date this authorization:**

I, Paul Costa hereby authorize Jeff Busse to apply for this Stormwater/Wetland Permit/Tree Permit on my behalf.

**Signature:** Paul Costa Digitally signed by Paul Costa  
Date: 2021.07.16 09:14:29 -0400 **Date:** 07/16/2021

**No application will be processed without the above-mentioned, required information.**

## GENERAL CONDITIONS

1. The permittee is responsible for maintaining an active application. If no activity occurs within a six (6) month period, as measured from the date of application, the application will become null and void. Applications fees are non-refundable.
2. The Town of Yorktown reserves the right to modify, suspend or revoke this permit at any time after due notice when:
  - a. Scope of the project is exceeded or a violation of any condition of the permit or provision of the law pertinent regulations are found; or
  - b. Permit was obtained by misrepresentation or failure to disclose relevant facts; or
  - c. Newly discovered information or significant physical changes are discovered.
3. The permittee is responsible for keeping the permit active by requesting renewal from the Approval Authority. Any supplemental information that may be required by the Approval Authority, including forms and fees, must be submitted 30 days prior to the expiration date. The expiration date is one year from the date the bond is paid to the Engineering Department. In accordance with Chapter 178 of the Town Code, Freshwater Wetlands, Section 178-16 -Expiration of a Permit.
4. This permit shall not be construed as conveying to the applicant any right to trespass upon private lands or interfere with the riparian rights of others in order to perform the permitted work or as authorizing the impairment of any right, title or interest in real or personal property held or vested in person not party to this permit.
5. The permittee is responsible for obtaining any other permits, approvals, easements and right-of-way, which may be required.
6. Any modification of this permit granted by the Approval Authority must be in writing and attached hereto.
7. Granting of this permit does not relieve the applicant of the responsibility of obtaining any other permission, consent or approval from the U.S. Army Corps of Engineers, N.Y.C. Department of Environmental Protection, N.Y.S. Department of Environmental Conservation or local government, which may be required.

Jeffrey A. Busse, PE

PRINT NAME

Jeffrey A. Busse, P.E. Digitally signed by Jeffrey A. Busse, P.E.  
Date: 2021.07.16 10:09:57 -04'00'

SIGNATURE OF APPLICANT

07-16-2021

DATE

**TOWN OF YORKTOWN  
ENGINEERING DEPARTMENT**

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Town of Yorktown Town Hall, 363 Underhill Avenue, Yorktown Heights, New York 10598

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**CERTIFICATION OF PROJECT COMPLETION**

Date: \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Permit Number(s): \_\_\_\_\_

Check/Bond # & Amount \_\_\_\_\_  
(If Applicable)

Street Name(s) To Be Dedicated \_\_\_\_\_  
(If Applicable)

**The undersigned hereby certifies that the work for the above referenced project has been completed in accordance with the terms and conditions of the Town approval resolution and/or the Town permit terms and conditions.**

Owner, Engineer or Authorized Representative:

(signed) \_\_\_\_\_

Printed Name:

Title:

Company:

---

Yorktown Engineering Department

Date Received: \_\_\_\_\_

Date Accepted: \_\_\_\_\_

Disposition: \_\_\_\_\_



**Attachment A**  
**Short Environmental Assessment Form**

# Short Environmental Assessment Form

## Part 1 - Project Information

### Instructions for Completing

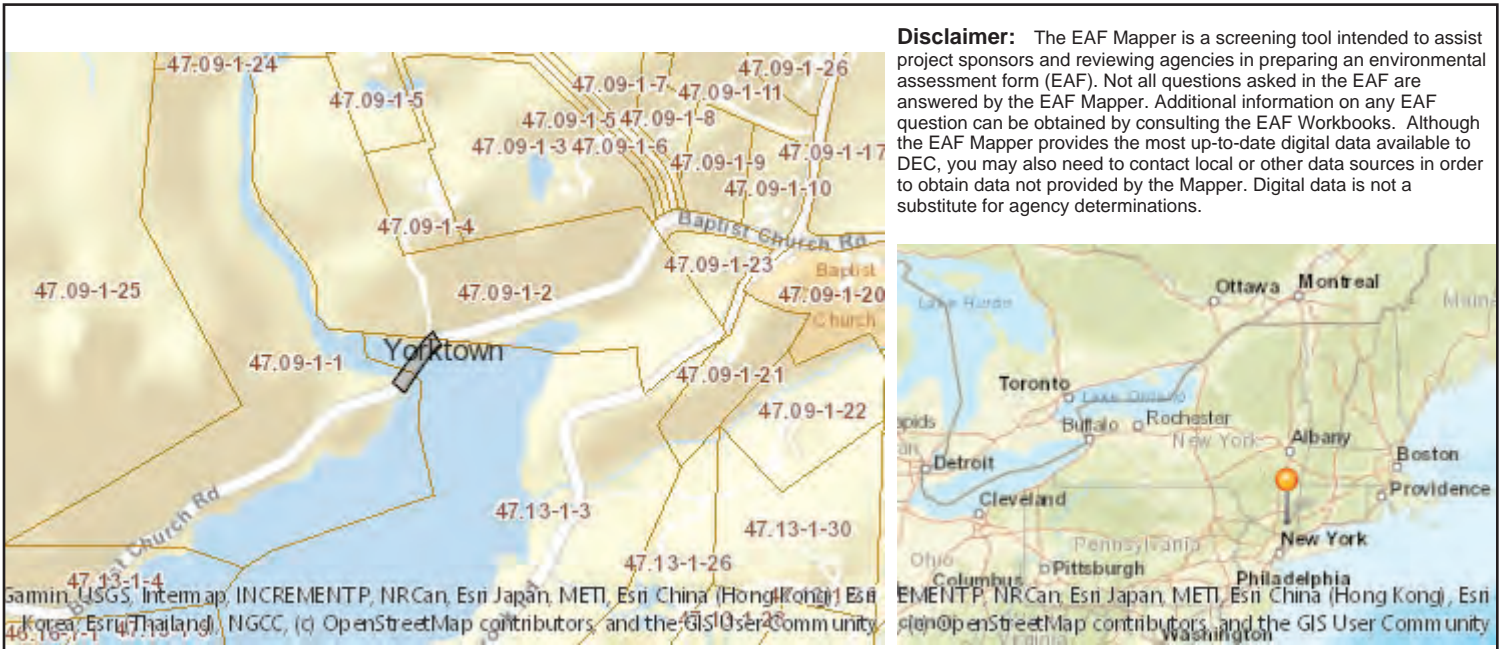
**Part 1 – Project Information.** The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

<b>Part 1 – Project and Sponsor Information</b>			
Name of Action or Project: Replacement of Baptist Church Road Bridge			
Project Location (describe, and attach a location map): Baptist Church Road over Hunter Brook adjacent to the New Croton Reservoir in the Town of Yorktown, New York. (See Figure 1 for the Location Map)			
Brief Description of Proposed Action: New York City Department of Environmental Protection (DEP) proposes replace the existing two-lane Baptist Church Road Bridge over the Hunter Brook within the Town of Yorktown in Westchester County, New York (BIN 2-26243-0). The Baptist Church Road Bridge (the Bridge) is a 50' single span closed spandrel unreinforced concrete arch structure which carries traffic from Baptist Church Road over Hunter Brook adjacent to the New Croton Reservoir in the Town of Yorktown. The Bridge was built in 1906 and no significant repair or rehabilitation work has been performed on this bridge. The purpose of this project is to improve safety through replacement of the Baptist Church Road Bridge. Replacement of the Bridge is proposed due to deterioration of the existing structure and need for improved roadway drainage.			
Name of Applicant or Sponsor: Paul Costa - Portfolio Manager- NYCDEP BEDC		Telephone: 718-595-5470 E-Mail: <a href="mailto:pcosta@dep.nyc.gov">pcosta@dep.nyc.gov</a>	
Address: 96-05 Horace Harding Expressway			
City/PO: Flushing		State: NY	Zip Code: 11368
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.			NO <input type="checkbox"/>
			YES <input type="checkbox"/>
2. Does the proposed action require a permit, approval or funding from any other government Agency? If Yes, list agency(s) name and permit or approval: See Attachment 1.			NO <input type="checkbox"/>
			YES <input checked="" type="checkbox"/>
3. a. Total acreage of the site of the proposed action?		_____ 0.963 acres	
b. Total acreage to be physically disturbed?		_____ 0.75 acres	
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?		_____ 2200 acres	
4. Check all land uses that occur on, are adjoining or near the proposed action:			
5. <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential (suburban)			
<input checked="" type="checkbox"/> Forest <input type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other(Specify): Bridge/Roadway (Two-Lane)			
<input type="checkbox"/> Parkland			

5. Is the proposed action,	NO	YES	N/A
a. A permitted use under the zoning regulations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Consistent with the adopted comprehensive plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>	
8. a. Will the proposed action result in a substantial increase in traffic above present levels? b. Are public transportation services available at or near the site of the proposed action? c. Are any pedestrian accommodations or bicycle routes available on or near the site of the proposed action?	NO <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	YES <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: N/A _____	NO <input type="checkbox"/>	YES <input checked="" type="checkbox"/>	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____ This project does not require a permanent potable water supply. Construction workers will be provided with potable water during the work periods for any activities which would require water. The Contractor is anticipated to bring potable water into site by truck.	NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____ This project does not require connection to wastewater utilities. Workers will use portable toilets during the work periods.	NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/>	
12. a. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? Based on the response letter from the New York SHPO, there are no historic properties, including archaeological and/or historic resources, will be affected by this project. b. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	NO <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	YES <input type="checkbox"/> <input type="checkbox"/>	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency? b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____ Hunter Brook adjacent to the New Croton Reservoir. The anticipated open water disturbance area is approximately 0.03 acres. _____	NO <input type="checkbox"/> <input type="checkbox"/>	YES <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	

14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: <input type="checkbox"/> Shoreline <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional <input type="checkbox"/> Wetland <input type="checkbox"/> Urban <input type="checkbox"/> Suburban		
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? Fence Lizard, Indiana Bat, Bald Eagle, and Bog Turtle.	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
16. Is the project site located in the 100-year flood plan?	NO	YES
	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: _____ _____	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
18. Does the proposed action include construction or other activities that would result in the impoundment of water or other liquids (e.g., retention pond, waste lagoon, dam)? If Yes, explain the purpose and size of the impoundment: _____ _____	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
49. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____ _____	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____ _____	NO	YES
	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>I CERTIFY THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</b>  Applicant/sponsor/name: <u>Paul Costa, PE</u> Date: <u>07/29/2021</u>  Signature: <u><i>PCosta</i></u> Title: <u>Portfolio Manager</u>		



**Disclaimer:** The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.

Part 1 / Question 7 [Critical Environmental Area]	No
Part 1 / Question 12a [National or State Register of Historic Places or State Eligible Sites]	No
Part 1 / Question 12b [Archeological Sites]	No
Part 1 / Question 13a [Wetlands or Other Regulated Waterbodies]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
Part 1 / Question 15 [Threatened or Endangered Animal]	Yes
Part 1 / Question 15 [Threatened or Endangered Animal - Name]	Fence Lizard
Part 1 / Question 16 [100 Year Flood Plain]	Yes
Part 1 / Question 20 [Remediation Site]	No

**Attachment 1:  
List of Anticipated  
Permits**

## List of Anticipated Permits - Replacement of Baptist Church Road Bridge

Government Agency	Regulatory Agency and Approval(s) Required
a. City Counsel, Town Board, or Village Board of Trustees	N/A
b. City, Town or Village Planning Board or Commission	Town of Yorktown <ul style="list-style-type: none"> <li>• Wetland Permit</li> <li>• MS4 Stormwater Management Permit</li> <li>• Tree Permit</li> <li>• Planning Board Approval</li> <li>• Site Plan Approval</li> </ul>
c. City, Town, or Village Zoning Board of Appeals	N/A
d. Other local agencies	New York City Department of Environmental Protection (DEP) <ul style="list-style-type: none"> <li>• Stormwater Pollution Prevention Plan Approval</li> </ul> New York City Public Design Commission (NYCPDC) <ul style="list-style-type: none"> <li>• Design Commission Approval</li> </ul>
e. County agencies	N/A
f. Regional agencies	N/A
g. State agencies	New York State Department of Environmental Conservation (NYSDEC) <ul style="list-style-type: none"> <li>• Protection of Waters Permit- Stream Disturbance (Bed and Banks)</li> <li>• Protection of Waters Permit- Excavation and Fill in Navigable Waters</li> <li>• Protection of Waters Permit - 401 Water Quality Certification</li> <li>• State Pollutant Discharge Elimination System General Permit for Stormwater Discharges from Construction Activities (GP-0-20-001)</li> <li>• Stormwater Pollution Prevention Plan (SWPPP) for Stormwater Discharges</li> <li>• Beneficial Use Determination</li> </ul>
h. Federal agencies	United States Army Corps of Engineers (USACE) <ul style="list-style-type: none"> <li>• Nationwide Permit #3 - Maintenance</li> </ul>

**Attachment B**  
**Project Design Plans**





NEW YORK CITY  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 BUREAU OF ENGINEERING DESIGN AND CONSTRUCTION

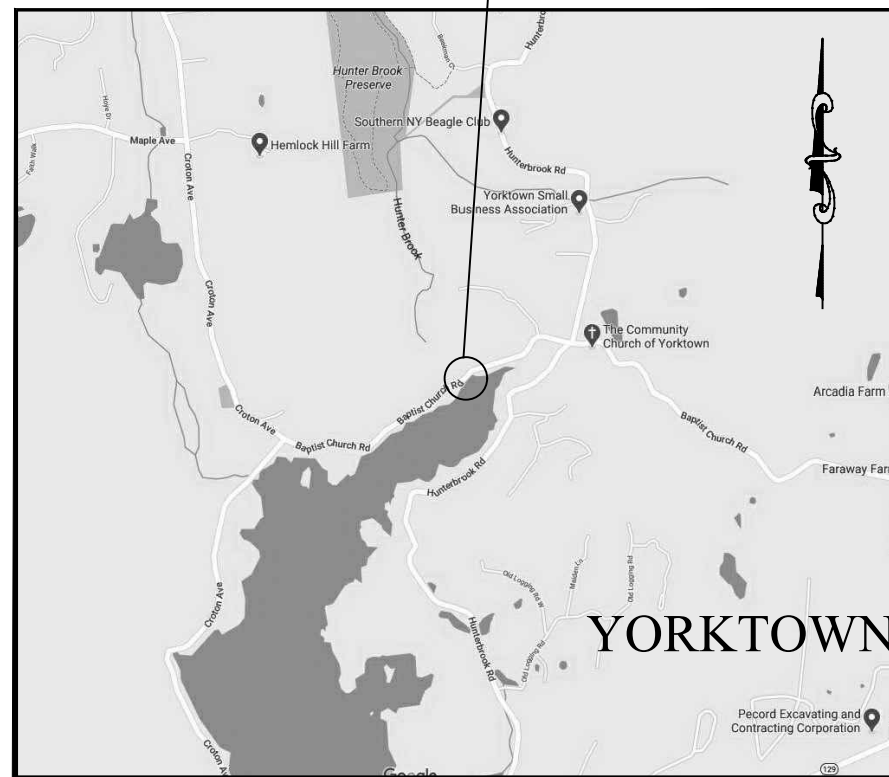
# CAPITAL PROJECT WM-30 REPLACEMENT OF BAPTIST CHURCH ROAD BRIDGE

## TOWN OF YORKTOWN, WESTCHESTER COUNTY NY

### CONTRACT CRO-530B

DATE 04/23/2021

BAPTIST CHURCH ROAD  
 BRIDGE  
 BIN 2-26243-0



KEY PLAN

60% DESIGN SUBMITTAL  
 SUBMITTAL DATE: 4/23/2021

SEAN McANDREW, PE.  
 EXECUTIVE DIRECTOR, WATER SYSTEMS CAPITAL PROGRAM  
 BUREAU OF ENGINEERING DESIGN AND CONSTRUCTION

ANA BARRIO  
 DEPUTY COMMISSIONER  
 BUREAU OF ENGINEERING DESIGN AND CONSTRUCTION

VINCENT SAPIENZA, PE.  
 COMMISSIONER  
 NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Last Saved By: & Date: jcircosta, Friday, April 23, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 5:37 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.396863 Plot Style Table: (N)\_BEDC\_BW.ctb  
 Drawing Name: & Location: C:\users\jcircosta\Myprod\Arms3007\3-2.dwg

SHEET NO.	ADDED	FIELD CHANGE	REVISED	DRAWING NO.	TITLE
1				G-1	TITLE SHEET
2				G-2	INDEX OF DRAWINGS
3				G-3	SYMBOLS & ABBREVIATIONS
4				G-4	ESTIMATE OF QUANTITIES
5				G-5	GENERAL NOTES - 1
6				G-6	GENERAL NOTES - 2
7				C-1	SURVEY & BASELINE TIES
8				C-2	TYPICAL SECTIONS (SHEET 1 OF 2)
9				C-3	TYPICAL SECTIONS (SHEET 2 OF 2)
10				C-4	PROPOSED ROADWAY ALIGNMENT AND SITE PLAN
11				C-5	ROADWAY PROFILE - 1
12				C-6	ROADWAY PROFILE - 2
13				C-7	ROADWAY DETAILS SHEET
14				MT - 1	WORK ZONE TRAFFIC CONTROL PLAN GENERAL NOTES
15				MT - 2	WORK ZONE TRAFFIC CONTROL PLAN DETOUR PLAN
16				MT - 3	WORK ZONE TRAFFIC CONTROL PLAN SIGN DATA TABLE
17				SGN-1	PROPOSED SIGNING AND STRIPING PLAN
18				ESC-1	BAPTIST CHURCH ROAD GRADING AND EROSION CONTROL PLAN
19				XS-1	BAPTIST CHURCH ROAD CROSS SECTIONS - SOUTH APPROACH
20				XS-2	BAPTIST CHURCH ROAD CROSS SECTIONS - NORTH APPROACH
21				GS-1	PROPOSED GENERAL PLAN AND ELEVATION
22				DS-1	DEMOLITION PLAN
23				DS-2	ARCH REMOVAL DETAILS
24				DS-3	EXCAVATION DETAILS
25				S-1	GEOMETRIC LAYOUT
26				S-2	SOUTH FOOTING PLAN
27				S-3	SOUTH FOOTING REINFORCEMENT
28				S-4	NORTH FOOTING PLAN
29				S-5	NORTH FOOTING REINFORCEMENT
30				S-6	SOUTH WINGWALL ELEVATIONS AND DETAILS
31				S-7	NORTH WINGWALL ELEVATIONS AND DETAILS
32				S-8	WINGWALL EXTENSION ELEVATIONS AND DETAILS
33				S-9	PYLON SECTION & DETAILS
34				S-10	PROPOSED GRANITE CAPSTONE AND SPANDREL WALL
35				S-11	MOMENT SLAB DETAILS
36				S-12	PRECAST DETAILS
37				S-13	SW RETAINING WALL - PLAN & ELEVATION
38				S-14	SW RETAINING WALL - REBAR DETAILS
39				S-15	NE RETAINING WALL - PLAN & ELEVATION
40				S-16	NE RETAINING WALL - REBAR DETAILS
41				RL-1	RAILING DETAILS -1
42				RL-2	RAILING DETAILS -2
43				RL-3	RAILING DETAILS -3
44				BL-1	BAR LIST & BENDING DIAGRAMS
45				LS-1	LANDSCAPING PLAN & TABLES
46				LS-2	LANDSCAPING DETAILS

STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION DESIGN AND CONSTRUCTION DIVISION		
STANDARD DRAWING NO.	DATE OF LATEST REVISION	TITLE
209-01	9/1/2017	LINEAR MEASURES
209-06	9/2/2010	TURBIDITY CURTAIN
402-01	1/8/2009	HOT MIX ASPHALT OVERLAY SPLICE (PAVEMENT TERMINATION DETAIL)
606-04	1/1/2020	BOX BEAM GUIDE RAIL (SHEET 1 OF 5)
606-04	1/2/2020	BOX BEAM GUIDE RAIL (SHEET 2 OF 5)
606-04	1/2/2020	BOX BEAM GUIDE RAIL (SHEET 3 OF 5)
606-04	1/6/2011	BOX BEAM GUIDE RAIL (SHEET 4 OF 5)
607-01	1/8/2009	R.O.W. FENCING
608-03	3/7/2016	RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS (SHEET 1 OF 9)
608-03	3/7/2016	RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS (SHEET 2 OF 9)
608-03	3/7/2016	RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS (SHEET 3 OF 9)
608-03	3/7/2016	RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS (SHEET 4 OF 9)
608-03	2/5/2020	RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS (SHEET 5 OF 9)
608-03	3/7/2016	RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS (SHEET 9 OF 9)
611-01	9/6/2012	LANDSCAPE PLANTING DETAILS (SHEET 1 OF 2)
611-01	9/6/2012	LANDSCAPE PLANTING DETAILS (SHEET 2 OF 2)
619-01	9/1/2017	TEMPORARY CONCRETE BARRIER (SHEET 1 OF 3)
619-01	9/1/2017	TEMPORARY CONCRETE BARRIER (SHEET 2 OF 3)
619-01	9/1/2017	TEMPORARY CONCRETE BARRIER (SHEET 3 OF 3)
619-02	1/8/2009	TYPE III CONSTRUCTION BARRICADES (SHEET 1 OF 2)
619-02	1/8/2009	TYPE III CONSTRUCTION BARRICADES (SHEET 2 OF 2)
645-03	1/7/2010	POSITIONING OF TRAFFIC SIGNS (SHEET 1 OF 2)
685-01	8/21/2018	PAVEMENT MARKING DETAILS (SHEET 1 OF 9)

60% DESIGN SUBMITTAL  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
 CHECK BEFORE USE  
 IF SHEET IS LESS THAN 22" X 34"  
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 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
 J. CIRCOSTA  
 CHECKED BY:  
 R. ROMAN, PE  
 DESIGN LEAD:  
 O. HUNTER, PE  
 SECTION MANAGER:

DRAWN BY:  
 J. CIRCOSTA  
  
 HARDESTY & HANOVER, LLC  
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 1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
 JEFFREY A. BUSSE, PE  
 PORTFOLIO MANAGER  
 PAUL COSTA, PE  
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 SEAN McANDREW, PE

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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 INDEX OF DRAWINGS

DATE: 04/23/2021  
 SCALE: NOT TO SCALE  
 SHEET NO:  
 2 OF 46  
 DRAWING NO.  
**G152**

Last Saved By: & Date: Cehlykhova, Tuesday, April 20, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 3:36 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style Table: (N)\_BDEC\_BW.ctb  
 Drawing Name: & Location: C:\Users\Cehlykhova\Inprods\Arms8007\3-3.dwg

LIST OF ABBREVIATIONS			
ABBREVIATIONS	DESCRIPTION	ABBREVIATIONS	DESCRIPTION
ABUT.	ABUTMENT	M.H.	MANHOLE
AH	AHEAD	M.H.W.	MEAN HIGH WATER
APPROX.	APPROXIMATELY	MIN.	MINIMUM
A.O.B.E.	AS ORDERED BY ENGINEER	MISC.	MISCELLANEOUS
A.S.T.M.	AMERICAN SOCIETY FOR TESTING AND MATERIALS	M.O.	MIDDLE ORDINATE
B.C.	BOTTOM OF CURB	MON.	MONUMENT
B.I.N.	BRIDGE IDENTIFICATION NUMBER	N.E.	NORTH EAST
BK.	BACK	NO. or #	NUMBER
B.L.	BASELINE	N/A	NOT APPLICABLE
BLDG.	BUILDING	N.T.S.	NOT TO SCALE
B.M.	BENCH MARK	N.W.	NORTH WEST
B.O.S.	BOTTOM OF SLOPE	PVMT.	PAVEMENT
B.W.	BOTTOM OF RETAINING WALL	P.C.	POINT OF CURVE
B.W.S.	BUREAU OF WATER SUPPLY	P.C.C.	POINT OF COMPOUND CURVATURE
CATH.	CATHODIC PROTECTION	P.I.	POINT OF INTERSECTION
C.B.	CATCH BASIN	P.I.N.	PROJECT IDENTIFICATION NUMBER
C.C.	CENTER TO CENTER	P.L.	PROPERTY LINE
C.I.P.	CAST IRON PIPE	P.R.C.	POINT OF REVERSE CURVATURE
C.L.	CENTERLINE	PROP.	PROPOSED
C.L.F.	CHAIN LINKED FENCE	P.T.	POINT OF TANGENT
△	CENTRAL ANGLE	P.V.C.	POINT OF VERTICAL CURVATURE
CL	CLEARANCE	P.V.C.C.	POINT OF VERTICAL COMPOUND CURVE
CONC.	CONCRETE	P.V.I.	POINT OF VERTICAL INTERSECTION
CONSTR.	CONSTRUCTION	P.V.R.C.	POINT OF REVERSE CURVE
CONTR.	CONTRACTION	P.V.T.	POINT OF VERTICAL TANGENCY
C.M.P.	CORRUGATED METAL PIPE	R. or RAD.	RADIUS
C.P.	CONCRETE PIPE	R.C.P.	REINFORCED CONCRETE PIPE
C.R.W.	CONCRETE RETAINING WALL	RD.	ROAD
CUL.	CULVERT	RDWY	ROADWAY
C.Y.	CUBIC YARDS	RM.	ROOM
D.	DEGREE OF CURVE	R.O.W.	RIGHT OF WAY
DET.	DETAIL	R.R.	RAILROAD
D.I.P.	DUCTILE IRON PIPE	R.W.	RETAINING WALL
DIA.	DIAMETER	S.E.	SOUTH EAST
DWG.	DRAWING	S.F.	SQUARE FOOT
DWY.	DRIVEWAY	SPEC.	SPECIFICATION
EA.	EACH	S.M.H.	SEWER MANHOLE
E.I.C.	ENGINEER IN CHARGE	S.S.D.	STOPPING SIGHT DISTANCE
E.O.P.	EDGE OF PAVEMENT	ST.	STREET
ELEV.	ELEVATION	STA.	STATION
E.MAX.	MAXIMUM SUPERELEVATION	STD.	STANDARD
EQ.	EQUALITY	STK.	STAKE
E.S.	END SECTION	S.W.	SOUTH WEST
EST.	ESTIMATE	S.Y.	SQUARE YARD
EXIST.	EXISTING	T.	TANGENT
EXT.	EXTERNAL	T.C.	TOP OF CURB
F.D.	FOUNDATION	TEL.P.	TELEPHONE POLE
FED.	FEDERAL	T.G.	TOP OF GRATE
F.I.	FIELD INLET	T.G.L.	THEORETICAL GRADE LINE
FT.	FOOT	THK.	THICK
G.	GAS	T.M.H.	TELEPHONE MANHOLE
G.V.	GAS VALVE	T.O.S.	TOP OF SLOPE
HORIZ.	HORIZONTAL	T.R.N.S.	TRANSITE CONDUIT
H.P.G.	HIGH PRESSURE GAS	T.W.	TOP OF RETAINING WALL
H.S.D.	HEADLIGHT SIGHT DISTANCE	TYP.	TYPICAL
H.W.	HEAD WALL	U.P.	UTILITY POLE
HYD.	HYDRANT	V.C.	VERTICAL CURVE
INV.	INVERT	V.C.P.	VITRIFIED CLAY PIPE
JT.	JOINT	VERT.	VERTICAL
L.	LENGTH	V.T.P.	VITRIFIED TILE PIPE
L.F.	LINEAR FEET	W.	WATER
L.P.	LIGHT POLE	W.M.H.	WATER MANHOLE
CP	COMPLETE PENETRATION	W.W.	WINGWALL
L.P.G.	LOW PRESSURE GAS	W.P.	WORKING POINT
L.S.	LUMP SUM		
MAX.	MAXIMUM		


LEGEND		
FEATURE	PROPOSED	EXISTING
BARRICADE	■ ■ ■	
BASELINE		— 345+00 —
BENCH MARK		□ B.M. 12
BORING OR AUGER HOLE		⊙ B26
BOTTOM OF FILL	— — — — —	— — — — —
BOX BEAM OR W BEAM GUIDE RAILING		— — — — —
BOX BEAM OR W BEAM MALL BARRIER		— — — — —
BRIDGE RAIL (IDENTIFIED)		— — — — —
BRIDGE SCUPPER	■ SC.	□ SC.
BRUSH		BRUSH
BUILDING IN GENERAL		— — — — —
TRAFFIC CONTROL SIGNAL	○ →	○ →
TRAFFIC SIGNAL	⊕	⊕
CATCH BASIN	■ C.B.	□ C.B.
CATCH BASIN – ADJUSTMENT RINGS (LEVELING)	⊗	□ C.B.
CATCH BASIN – NEW FRAMES AND GRATES	■	□ C.B.
CATCH BASIN – REBUILDING TOP OF DRAINAGE STRUCTURES	■	□ C.B.
CATCH BASIN – RESET EXISTING FRAMES AND GRATES	⊗	□ C.B.
CENTERLINE	— — — — —	— — — — —
CHANNEL, OPEN ASPHALT	— — — — —	— — — — —
TRANSIT POINT		△
CONCRETE MEDIAN OR HALF SECTION BARRIER (INDICATED)	— — — — —	— — — — —
TREES, CONIFEROUS	⊗	⊗
TREES, DECIDUOUS	⊗	⊗
CONDUIT AND WIRING (SIZE AND TYPE AS SHOWN –N.Y.C.)	— E — E —	— E — E —
CONDUIT AND WIRING (SIZE AND TYPE AS SHOWN –CON EDISON)	— CE —	— CE —
CONDUIT – EMPIRE CITY SUBWAY	— ECS —	— ECS —
CONDUIT – TELEPHONE	— T —	— T —
CONDUIT – POLICE DEPARTMENT	— PD —	— PD —
TREES TO BE REMOVED		⊗
CONTOURS	— 70 — — 80 —	— 70 — — 80 —
CURB	— — — — —	— — — — —
DITCH	— — — — —	— — — — —
DROP INLET	□ D.I.	□ D.I.
FENCE (IDENTIFY)	— x —	— x —
FIELD INLET	□ F.I.	□ F.I.
FIRE ALARM SIGNAL BOX WITH ERS BOX	■ F	□ F
FIRE HYDRANT	●	○
GAS LINE (SIZE INDICATED WHERE KNOWN)	— G —	— G —
GAS VALVE	— G.V. —	— G.V. —
HEAD WALL		— — — — —
HEAVY POST BLOCKED-OUT CORRUGATED BEAM GUIDE RAILING	— — — — —	— — — — —

LEGEND		
FEATURE	PROPOSED	EXISTING
HEDGE	— — — — —	— — — — —
JUNCTION BOX (SIZE INDICATED)	□	□
LIGHT POLE	⊙	⊙
LIMIT OF PAVING	— — — — —	
MANHOLE – NEW	⊙ M.H.	
MANHOLE – ADJUSTMENT RINGS (LEVELING)	⊗	○ M.H.
MANHOLE – NEW FRAMES AND GRATES	⊙	○ M.H.
MANHOLE – REBUILDING TOP OF DRAINAGE STRUCTURES	⊙	○ M.H.
MANHOLE – RESET EXISTING FRAMES AND GRATES	⊗	○ M.H.
MONUMENT		□ CM
NORTH ARROW (TRUE)		— — — — —
ORIGINAL GROUND		— — — — —
POINT ON LINE		○
POLICE TELEPHONE	■ P	□ P
PRESSURE RELIEF JOINT	— — — — —	
TREES AND WOODS	⊗	⊗
RAILROAD TRACK		— — — — —
RETAINING WALL OR PARAPET (TYPE)	— — — — —	— — — — —
R.O.W. LINE	— — — — —	— — — — —
RIPRAP (STONE FILLING)	— — — — —	
ANCHORAGE UNIT FOR GUIDE RAIL	■	□
EASEMENT	— — — — —	
SEWER, SANITARY	— S —	— S —
SEWER, STORM	— ST —	— ST —
SEWER COMBINED		— STS —
SIGNS, GROUND MOUNTED	— — — — —	— — — — —
SIGN LOCATION	⊙	
SIGN, OVERHEAD	— — — — —	— — — — —
SPOT ELEVATION (DOT IS LOCATION)		103.2
UTILITY VALVE IDENTIFIED	— — — — —	— — — — —
STATE ROUTE MARKER	⊙	⊙
WATER VALVE	□ W.V.	□ W.V.
WATER LINE (SIZE INDICATED WHERE KNOWN)	— W —	— W —
UTILITY POLE	○	○
INTERSTATE	⊙	⊙
TEMPORARY PAVEMENT	— — — — —	
WATER PIPE INTERSECTION		⊗
WELDING SYMBOL	— — — — —	N.A.
REPAIR LOCATIONS	⊙	N.A.

60% DESIGN SUBMITTAL  
 SUBMITTAL DATE: 4/23/2021

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 CHECK BEFORE USE  
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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: J. CIRCOSTA	DRAWN BY: J. CIRCOSTA
CHECKED BY: R. ROMAN, PE	 HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036
DESIGN LEAD: O. HUNTER, PE	
SECTION MANAGER:	



ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE
PORTFOLIO MANAGER PAUL COSTA, PE
EXECUTIVE DIRECTOR SEAN McANDREW, PE

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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 SYMBOLS & ABBREVIATIONS

DATE: 04/23/2021
SCALE: NOT TO SCALE
SHEET NO: 3 OF 46
DRAWING NO. G163

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Last Saved By & Date: Cshlykhtova, Tuesday, June 01, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 9:19 AM  
 Paper Size: ANSI A (8.50 x 11.00 Inches) Plot Scale: 0.366863 Plot Style Table: (N)\_BDDC\_BW.ctb  
 Drawing Name: & Location: C:\users\cshlykhtova\hprod\jms38067\c-4.dwg

ESTIMATE OF QUANTITIES				
BID NO	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1	LS-1	MOBILIZATION	LS	1
2	LS-2	GENERAL REQUIREMENTS	LS	1
3	LS-3	WORK RESULT	LS	1
4	LS-4	DE-MOBILIZATION	LS	1
5	UP-1	ROCK EXCAVATION	CY	350
6	UP-2	REMOVE AND RESET GRANITE CAPSTONES	SF	520
7	202.19	REMOVAL OF SUBSTRUCTURE	CY	870
8	203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	3600
9	203.03	EMBANKMENT IN PLACE	CY	1740
10	203.07	SELECT GRANULAR FILL	CY	1587
11	203.21	SELECT STRUCTURE FILL	CY	1704
12	206.01	STRUCTURE EXCAVATION	CY	1118
13	207.20	GEOTEXTILE BEDDING	SY	68
14	207.26	PREFABRICATED COMPOSITE STRUCTURAL DRAIN	SY	369
15	209.13	SILT FENCE - TEMPORARY	LF	605
16	209.1501	TURBIDITY CURTAIN - TEMPORARY	LF	764
17	304.11	SUBBASE COURSE, TYPE 1	CY	472
18	402.000014	PLANT PRODUCTION QUALITY ADJUSTMENT TO HMA ITEMS	QU	37
19	402.128304	12.5 F3 TOP COURSE HMA, 80 SERIES COMPACTION	TON	143
20	402.198904	19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION	TON	112
21	402.378904	37.5 F9 BASE COURSE, 80 SERIES COMPACTION	TON	456
22	407.0102	DILUTED TACK COAT	GALLON	197
23	490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY	233
24	520.09000010	SAWCUTTING ASPHALT PAVEMENT, CONCRETE PAVEMENT AND ASPHALT OVERLAY ON CONCRETE PAVEMENT	LF	53
25	553.010001	COFFERDAMS (TYPE 1)	EACH	2
26	555.0105	CONCRETE FOR STRUCTURES, CLASS A	CY	418
27	555.02000010	CONCRETE FOR STRUCTURES, CLASS MP (MASS PLACEMENT)	CY	170
28	555.08	FOOTING CONCRETE, CLASS HP	CY	598
29	556.0202	EPOXY COATED BAR REINFORCEMENT FOR STRUCTURES	LB	156719
30	557.09	SUPERSTRUCTURE SLAB WITH SEPARATE WEARING SURFACE, BOTTOM FORMWORK NOT REQUIRED	SY	160
31	562.0101	REINFORCED CONCRETE SPAN UNITS	SY	216
32	568.52	STEEL BRIDGE RAIL (FIVE-RAIL)	LF	149
33	568.70	TRANSITION BRIDGE RAILING	LF	128
34	570.01	LEAD EXPOSURE CONTROL PROGRAM	LS	1
35	570.02	MEDICAL TESTING	DIRECT COST	1
36	570.03	PERSONAL EXPOSURE MONITORING SAMPLE ANALYSIS	DIRECT COST	1
37	570.04	DECONTAMINATION FACILITIES	CALENDAR WEEK	3
38	570.090001	ENVIRONMENTAL GROUND PROTECTION	LS	1
39	570.100001	ENVIRONMENTAL WATERWAY PROTECTION	LS	1

ESTIMATE OF QUANTITIES				
BID NO	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
40	570.160001	CLASS B CONTAINMENT SYSTEM FOR PAINT REMOVAL	LS	1
41	571.03	DISPOSAL OF HAZARDOUS PAINT REMOVAL WASTE CONTAINING LEAD	LB	1
42	586.0201	DRILLING AND GROUTING BOLTS OR REINFORCEMENT BARS	EA	162
43	587.01	BRIDGE RAILING REMOVAL AND DISPOSAL	LF	128
44	606.100002	BOX BEAM GUIDE RAILING (SHOP BENT OR SHOP MITERED)	LF	393
45	606.120101	BOX BEAM END PIECE	EA	5
46	606.120201	BOX BEAM GUIDE RAILING END ASSEMBLY TYPE IIA	EACH	1
47	606.71	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAILING	LF	213
48	607.41010010	TEMPORARY PLASTIC BARRIER FENCE	LF	962
49	608.020102	HMA SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS, AND VEGETATION CONTROL STRIPS	TON	26
50	610.1402	TOPSOIL - ROADSIDE	CY	105
51	614.060204	TREE REMOVAL OVER 6 INCHES TO 12 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	62
52	614.060304	TREE REMOVAL OVER 12 INCHES TO 18 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	13
53	614.060404	TREE REMOVAL OVER 18 INCHES TO 24 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	3
54	614.060504	TREE REMOVAL OVER 24 INCHES TO 36 INCHES DIAMETER BREAST HEIGHT - STUMPS GRUBBED	EACH	8
55	619.01	BASIC WORK ZONE TRAFFIC CONTROL	LS	1
56	619.04	TYPE III CONSTRUCTION BARRICADES	EACH	5
57	619.1711	TEMPORARY POSITIVE BARRIER - CATEGORY 1 - PINNING PROHIBITED	LF	40
58	620.02	STONE FILLING (FINE)	CY	6
59	620.0802	BEDDING MATERIAL	CY	4
60	623.11	CRUSHED GRAVEL	CY	50
61	625.01	SURVEY OPERATIONS	LS	1
62	640.10	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES - 15 MILS	LF	1140
63	640.11	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES - 15 MILS	LF	1140
64	645.5202	GROUND MOUNTED SIGN PANEL LESS THAN OR EQUAL TO 30 SF, WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	38
65	645.81	TYPE A SIGN POST	EACH	5
66	647.61	REMOVE AND DISPOSE EXISTING SIGN AND SUPPORT	EACH	2

NOTE:  
 ALL MEASUREMENTS AND PAYMENT ON THIS PROJECT SHALL BE IN ENGLISH UNITS AS TABULATED ON THIS DRAWING.

60% DESIGN SUBMITTAL

SUBMITTAL DATE: 4/23/2021

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 J. CIRCOSTA  
 CHECKED BY:  
 R. ROMAN, PE  
 DESIGN LEAD:  
 S. LEWIS  
 SECTION MANAGER:

DRAWN BY:  
 J. CIRCOSTA  
  
**HARDESTY & HANOVER, LLC**  
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 1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
**ESTIMATE OF QUANTITIES**

DATE: 04/23/2021  
 SCALE: NOT TO SCALE  
 SHEET NO:  
 4 OF 46  
 DRAWING NO.  
**674**

DESIGN SPECIFICATIONS

- 1. DESIGN SPECIFICATIONS: NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGE DATED MAY 1, 2016 WITH ALL PROVISIONS IN AFFECT OF APRIL 2021.
2. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS 8TH EDITION 2018
3. AMERICAN WELDING SOCIETY SPECIFICATIONS, CURRENT EDITION.
4. CONSTRUCTION AND MATERIALS SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, DATED MAY 1, 2019 WITH CURRENT ADDITIONS AND MODIFICATIONS.
5. THE NEW YORK STATE STEEL CONSTRUCTION MANUAL 4TH EDITION W/2021 ADDENDUMS.
6. THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS ARE IN ENGLISH UNITS. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS. THE METHOD OF MEASUREMENT WILL BE MADE IN ACCORDANCE WITH THE ENGLISH UNITS SHOWN ON CONTRACT DRAWINGS G-4 ESTIMATE OF QUANTITIES. ALL SHOP DRAWINGS SHALL BE PREPARED IN ENGLISH UNITS.
7. DESIGN LIVE LOAD: AASHTO HL-93 AND NYSDOT DESIGN PERMIT VEHICLE AS PER NYSDOT LRFD BLUE PAGES SECTION 3.6.1.2.1

GENERAL

- 1. NO PAYMENT SHALL BE MADE FOR WORK CALLED FOR BY NOTES ON THE PLANS, IN THE SPECIFICATIONS OR UNDER THE HEADING "GENERAL NOTES" UNLESS PAYMENT IS SPECIFICALLY INDICATED BY ITEM NUMBER. THE COST OF WORK FOR WHICH NO PAYMENT IS INDICATED SHALL BE INCLUDED IN THE UNIT PRICES FOR THE VARIOUS ITEMS IN THE CONTRACT.
2. ALL EXISTING REGULATORY AND/OR WARNING SIGNS AND STATE LOCATION MARKERS ARE TO BE REMOVED, STORED, AND REINSTALLED AS ORDERED BY THE ENGINEER. COST TO BE INCLUDED UNDER ITEM 619.01.
3. ALL AREAS DISTURBED BY THE CONTRACTOR INCLUDING THE STAGING AREA, STORAGE AREA, AND PARKING AREA SHALL BE RESTORED BY THE CONTRACTOR AT NO EXPENSE TO THE CITY. NO AREA SHALL BE DISTURBED WITHOUT AUTHORIZATION BY THE RESIDENT ENGINEER AND NYDEP BWS.
4. IF THE CONTRACTOR PERFORMS WORK AT TIMES WHEN OR IN THE AREAS WHERE THE NATURAL ILLUMINATION IS LESS THAN 5 LUMENS PER SQUARE FOOT, THE WORK SITE SHALL BE ILLUMINATED. THE CONTRACTOR SHALL SUPPLY MOBILE LIGHT TOWER AND FLOOD LIGHT EQUIPMENT FOR EACH SEPARATE OPERATION. SATISFACTORY ILLUMINATION SHALL BE CONSIDERED TO BE THAT WHICH SHEDS A MINIMUM OF 5 LUMENS PER SQUARE FOOT OVER THE AREA SPECIFIED BY THE ENGINEER FOR ILLUMINATION. THE COST WILL BE LUMP SUM.
5. ALL COMMUNICATIONS AND COORDINATION MEETINGS RELATIVE TO THIS PROJECT BETWEEN THE CONTRACTOR AND ANY AGENCY, UTILITY COMPANY OR ORGANIZATION SHALL BE CONDUCTED AND/OR APPROVED BY THE RESIDENT ENGINEER.
6. IF IT IS BROUGHT TO THE ATTENTION OF THE CONTRACTOR THAT OTHER CONTRACTORS MAY BE WORKING IN THE VICINITY OF HIS WORK AREA CONCURRENTLY, THE CONTRACTOR SHALL COORDINATE HIS WORK EFFORT WITH ALL OTHER CONTRACTORS WHO MAY BE WORKING IN THE AREA.
7. THE CONTRACTOR SHOULD NOTE THAT ADDITIONAL WORK MAY BE REQUIRED AS THE CONTRACT PROGRESSES WHICH IS NOT SHOWN OR NOTED ON THE PLANS. THIS WORK SHALL BE PERFORMED BY THE CONTRACTOR AS ORDERED BY THE RESIDENT ENGINEER AND PAYMENT SHALL BE MADE IN ACCORDANCE WITH THE TERMS AND REQUIREMENTS OF SUBSECTION 109-05 OF THE STANDARD SPECIFICATIONS.
8. THE CONTRACTOR IS ADVISED THAT ADDITIONAL NOTES WILL BE FOUND ON SUBSEQUENT SHEETS OF THE CONTRACT PLANS AND SUCH NOTES, WHILE PERTAINING TO THE SPECIFIC DRAWINGS THEY ARE PLACED ON, ALSO SUPPLEMENT THE GENERAL NOTES LISTED HEREIN.
9. PRIOR TO FINAL ACCEPTANCE, THE CONTRACTOR WILL BE REQUIRED TO CLEAN, AT HIS OWN EXPENSE, ALL GRAFFITI FROM NEW/REHABILITATED WORK WITHIN THE PROJECT LIMITS.
10. THE CONTRACTOR IS RESPONSIBLE FOR SNOW REMOVAL AND GENERAL MAINTENANCE OF THE ROADWAY WITHIN THE PROJECT LIMITS TO ENSURE WORKER AND EMERGENCY VEHICLE ACCESS, AND AS DIRECTED BY THE RESIDENT ENGINEER UP TO FINAL ACCEPTANCE OF THE PROJECT. PAYMENT SHALL BE INCLUDED IN ITEMS 619.01.
11. ALL DRAWINGS SUBMITTED BY THE CONTRACTOR SHALL MEET THE REQUIREMENTS FOR THE PREPARATION, INDEXING AND MICROFILMING OF ENGINEERING DRAWINGS AND DOCUMENTS FOR THE NYCDOT, BRIDGE ENGINEERING, DIVISION OF BRIDGES AND ROADWAY.
12. THE CONTRACTOR'S OPERATORS OR WORKERS INVOLVED IN EXCAVATION OPERATIONS MUST HAVE A DIG SAFE CERTIFIED EXCAVATOR TRAINING.
13. THE CONTRACTOR SHALL REFER TO THE NEW CROTON RESERVOIR HISTORICAL ELEVATION DATA FOR THE DESIGN OF THE COFFERDAM SYSTEM.

FIELD CONDITIONS

- 1. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF THE RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO THE CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OF ANY FIELD CHANGES.
2. SOME DIMENSIONS SHOWN ON THESE CONTRACT PLANS HAVE BEEN OBTAINED FROM AVAILABLE PLANS OF EXISTING STRUCTURES AND LIMITED FIELD SURVEY AND MAY NOT ACCURATELY REFLECT ACTUAL FIELD CONDITIONS. ACCORDINGLY, THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING FIELD MEASUREMENTS OF ALL EXISTING CONSTRUCTION IMPACTED BY THE NEW WORK TO ASSURE CONSISTENCY WITH THE PROPOSED CONSTRUCTION. ALL DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER BEFORE ADVANCING THE WORK. SHOP DRAWINGS REQUIRED FOR VARIOUS ITEMS OF WORK SHALL INDICATE THE ACTUAL FIELD MEASUREMENTS AND SHALL BE SO NOTED.
3. THERE SHALL BE NO CLAIMS MADE BY THE CONTRACTOR FOR WORK PERTAINING TO MODIFICATIONS AS THEY MAY BE REQUIRED DUE TO ANY DIFFERENCE BETWEEN ACTUAL FIELD MEASUREMENTS AND THOSE SHOWN BY THE DETAILS AND DIMENSIONS SHOWN ON THE CONTRACT PLANS. THE CONTRACTOR WILL BE PAID AT THE UNIT PRICE BID FOR THE ACTUAL QUANTITIES OF MATERIALS USED OR FOR WORK PERFORMED AS INDICATED BY THE VARIOUS ITEMS IN THE CONTRACT.
4. THE CONTRACTOR IS TO VISIT THE PROJECT SITE BEFORE BIDDING TO FAMILIARIZE HIMSELF WITH THE PRESENT CONDITIONS AND TO JUDGE FOR HIMSELF THE EXTENT AND NATURE OF THE WORK TO BE DONE UNDER THIS CONTRACT. NO EXTRA COMPENSATION WILL BE ALLOWED TO HIM BECAUSE OF HIS FAILURE TO INCLUDE IN HIS BID ALL ITEMS AND MATERIALS WHICH HE IS REQUIRED TO FURNISH. ALL SITE VISITS SHALL BE COORDINATED WITH NYDEP EAST OF HUDSON POLICE, THE CONTACT PERSON SHALL BE: MR. JEFFREY A. BUSSE, P.E. (914) 794-5417 SUTTON PARK, 465 COLUMBUS AVE, 1ST FLOOR, VALHALLA, NY 10595.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TYPE, SIZE AND WEIGHT OF ALL VEHICLES THAT CAN BE USED SAFELY ON THE STRUCTURES DURING CONSTRUCTION, BASED ON THE CONDITION OF THE EXISTING STRUCTURE IMMEDIATELY PRIOR TO THE PLACEMENT OF THE CONTRACTOR'S EQUIPMENT. THE STRUCTURES TO BE ASSESSED INCLUDE BUT ARE NOT LIMITED TO THE EXISTING BRIDGES. THIS DETERMINATION SHALL BE MADE BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK RETAINED BY THE CONTRACTOR AND APPROVED BY THE RESIDENT ENGINEER. APPROVAL BY THE ENGINEER IN NO WAY RELIEVES THE CONTRACTOR OF HIS RESPONSIBILITIES. COST FOR REPAIRS OR SHORING TO IMPROVE THE CONDITION OF THE STRUCTURE. TO ALLOW FOR THE CONTRACTOR'S EQUIPMENT, SHALL BE PAID BY THE CONTRACTOR. SEE LOAD RESTRICTION NOTE DWG. NO. G-6.
6. VEHICULAR TRAFFIC OR CONSTRUCTION EQUIPMENT SHALL NOT BE PERMITTED ON THE SPAN UNTIL SHIMS, CRIBBING, BOLSTERS OR OTHER SUITABLE SUPPORTS ARE IN THEIR REQUIRED POSITION.
7. THE CONTRACTOR SHALL SUBMIT A DEMOLITION PLAN TO THE TO THE ENGINEER. THE DEMOLITION PLAN IS TO BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO THE START OF DEMOLITION.
8. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE CITY, WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN PROPERTY OF THE CITY, THE DAMAGED MATERIALS SHALL BE REPLACED OR REPAIRED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
9. ALL DAMAGE, DIRECT OR INDIRECT, OF WHATEVER NATURE RESULTING FROM THE CONTRACTOR'S OPERATIONS DURING PROGRESS OF WORK SHALL BE REPAIRED OR REPLACED. ALL COSTS SHALL BE BORNE AND SUSTAINED BY THE CONTRACTOR.
10. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THOSE ITEMS. LOCATIONS OF SUCH AREAS WILL BE SUBMITTED TO THE RESIDENT ENGINEER, NYDEP BUREAU OF WATER SUPPLY (BWS) AND NYDEP EHS FOR APPROVAL.
11. DURING REMOVAL OPERATIONS, AND RECONSTRUCTION, THE CONTRACTOR SHALL NOT BE ALLOWED TO DROP WASTE CONCRETE, DEBRIS AND OTHER MATERIAL TO THE AREA BELOW THE BRIDGE. PLATFORMS, OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH THE MATERIAL. IF THE RESIDENT ENGINEER DETERMINES THAT ADEQUATE PROTECTION DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.
12. ALL MATERIAL FALLING ADJACENT TO OR BELOW THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR ON A REGULAR RECURRING BASIS. AT NO TIME SHALL DEBRIS ENTER THE RESERVOIR/WATERWAY OR ACCUMULATE ALONG THE BANKS WITHIN THE PROJECT LIMITS.
13. THE CONTRACTOR SHALL REPAINT ANY PAVEMENT MARKINGS AFFECTED DURING CONSTRUCTION OR TRANSPORTATION ON SITE.
14. ALL EXCAVATION AND EMBANKMENTS ARE TO BE KEPT FREE OF WATER, ICE AND SNOW.

- 15. ALL DEMOLITION AND CONSTRUCTION OPERATIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SUBSECTIONS 570-1.05 ENVIRONMENTAL GROUND PROTECTION AND 570-1.06 ENVIRONMENTAL WATERWAY PROTECTION.
16. THE COST OF FURNISHING, INSTALLING, MAINTAINING, REMOVING AND DISPOSING OF ALL WORK PLATFORMS, OR OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ITEMS OF THE CONTRACT.
17. THE SOILS ON THE PROJECT SITE WERE TESTED DURING THE FACILITY PLANNING PHASE DURING THE SUBSURFACE EXPLORATION EFFORT. TESTING HAS BEEN PERFORMED ON THE SOILS ASSOCIATED WITH THIS PROJECT AND RESULTS ARE AVAILABLE IN THE HAZARDS MITIGATION REPORT AVAILABLE BY CONTACTING NYDEP. THE CONTRACTOR SHALL BE AUTHORIZED TO PERFORM ADDITIONAL INSPECTION AND TESTING SERVICES IF A SUSPICIOUS SUBSTANCE OR ODOR IS ENCOUNTERED DURING EXCAVATION, AND THE RESIDENT ENGINEER DEEMS IT NECESSARY.
18. ALL HEAVY EQUIPMENT ON SITE SHALL USE ECOLOGICALLY SAFE/FRIENDLY HYDRAULIC OILS AND ANTIFREEZE. IN THE EVENT OF A SPILL, NYDEP BWS AND EH&S STANDARDS SHALL BE FOLLOWED TO CLEAN THE SPILL AND REMEDIATE THE SITE.
19. ANY IMPORTED TOPSOIL SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS FOR QUALITY AND USE.
20. OFF-SITE DISPOSAL OF EXCESS CUT SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.

SURVEY

- 1. THE COORDINATE SYSTEM USED IN THIS SET OF PLANS IS THE NYS PLANE COORDINATE SYSTEM NAD 83. VERTICAL DATUM NAVD88.
2. THE CONTRACTOR IS TO EMPLOY A NEW YORK LICENSED SURVEYOR TO CROSS SECTION THE ENTIRE PROJECT ON A 10' GRID PRIOR TO CONSTRUCTION. THE SURVEYOR'S CROSS SECTION SHALL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO ANY DEMOLITION.
3. THE COST FOR SURVEY WORK AS DETAILED ABOVE SHALL BE INCLUDED UNDER ITEMS 625.01 (SURVEY OPERATIONS).
4. ALL GRADING SHALL BE AS SHOWN ON THE PLANS, PROFILES, AND SECTIONS OR AS DIRECTED BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL CAREFULLY DETERMINE GRADING LIMITS BEFORE BEGINNING CLEARING AND GRUBBING WORK. ALL AREAS DISTURBED BY THE CONTRACTOR WITHOUT AUTHORIZATION SHALL BE RESTORED, AS DIRECTED BY THE RESIDENT ENGINEER, BY THE CONTRACTOR, AT NO EXPENSE TO THE CITY.

HIGHWAY

- 1. ALL SHRUBBERY, DEBRIS, RAILING, AND OTHER ENCROACHMENTS WHICH INTERFERE WITH THE NEW WORK SHALL BE REMOVED AS DIRECTED BY THE RESIDENT ENGINEER. PAYMENT TO BE INCLUDED UNDER ITEM 203.02 UNCLASSIFIED EXCAVATION AND DISPOSAL.
2. THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE EXISTING PRIVATE DRIVEWAY ON THE NORTHWEST SIDE OF THE PROJECT AT ALL TIMES. IT SHALL BE HIS RESPONSIBILITY TO COORDINATE HIS CONSTRUCTION MEANS AND METHODS TO FACILITATE ACCESS. A CRANE PLACEMENT PLAN SHALL BE SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.

UTILITIES

- 1. UTILITIES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS AND TAKE THE NECESSARY PRECAUTIONS TO PREVENT INTERFERENCE WITHOUT DAMAGE TO THE FACILITY DURING THE COURSE OF CONSTRUCTION. NO SERVICE INTERRUPTIONS WILL BE ACCEPTABLE.
2. IN THE EVENT THE CONTRACTOR DAMAGES ANY EXISTING UTILITY CAUSING AN INTERRUPTION IN SERVICE, HE SHALL COMMENCE WORK AS INSTRUCTED TO RESTORE SERVICE AND MAY NOT CEASE HIS REPAIR WORK UNTIL SERVICE IS RESTORED. ALL CORRECTIVE UTILITY WORK SHALL BE ACCEPTABLE TO THE ENGINEER AND THE SUBJECT UTILITY OWNER. COST OF REPAIR WORK SHALL BE SUSTAINED BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE CITY.
3. CONTRACTOR MUST GIVE 72 HOURS NOTICE TO THE UTILITY COMPANIES BEFORE ANY WORK IS STARTED. CONTRACTOR MUST NOT BEGIN ANY UTILITY WORK UNTIL A POSITIVE RESPONSE IS RECEIVED FROM UTILITY OWNERS.
4. PRIOR TO ANY FIELD WORK WHICH REQUIRES EXCAVATION, THE CONTRACTOR MUST INFORM CALL BEFORE YOU DIG (811) AT LEAST TWO BUSINESS DAYS PRIOR TO THE START OF WORK. CONTRACTOR MUST WAIT UNTIL POSITIVE RESPONSE IS RECEIVED FROM DIG SAFE NY BEFORE COMMENCING ANY WORK.
5. LOCATIONS OF EXISTING UTILITIES SUCH AS OVERHEAD ELECTRIC LINES, CABLE LINES AND TELEPHONE LINES SHOWN ON CONTRACT PLANS ARE APPROXIMATE. THEIR EXACT LOCATION SHALL BE DETERMINED IN THE FIELD. ADDITIONAL UTILITY LINES, WHETHER ABANDONED OR IN SERVICE, MAY EXIST AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT HIS OPERATIONS WITH PRECAUTIONS NECESSARY TO PREVENT INTERFERENCE WITH, OR DAMAGE TO THESE UTILITIES OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION.

- 6. THE CONTRACTOR IS ALERTED TO THE RULES AND REGULATIONS OF INDUSTRIAL CODE RULE 53 AND IS DIRECTED TO COMPLY WITH IT. THE CONTRACTOR, FOR THE PURPOSE OF SAFETY, SHALL NOTIFY THE UTILITY COMPANIES INVOLVED IF ANY OF THEIR UTILITIES ARE EXPOSED AND/OR UNDERMINED DURING THE COURSE OF CONSTRUCTION. THE CITY SHALL NOT BE LIABLE FOR ANY COSTS INCURRED BY THE CONTRACTOR AS A RESULT OF THE COMPLIANCE, NON-COMPLIANCE OR IMPROPER COMPLIANCE BY THE FRANCHISED OPERATOR OF UNDERGROUND FACILITIES, WITH SUB PART 53-3 OF RULE 53 OF THE INDUSTRIAL CODE.
7. THE CONTRACTOR SHALL SCHEDULE AND, THROUGH THE RESIDENT ENGINEER, COORDINATE HIS OPERATIONS WITH THE VARIOUS COMPANIES OR AGENCIES WHOSE INTERESTS WILL BE AFFECTED BY THIS PROJECT. THERE ARE NO KNOWN UTILITY AGENCIES INVOLVED IN THIS PROJECT WITHIN THE PROJECT LIMITS. HOWEVER, ALONG THE ACCESS ROADWAY THE CONTRACTOR SHALL COORDINATE HIS EFFORTS IF REQUIRED WITH ALL AFFECTED UTILITIES.

BOAT STORAGE AREAS

- 1. NYDEP BOAT STORAGE AREA #8 EXISTS NEAR THE PROJECT LIMITS. THIS BOAT STORAGE AREAS WILL BE CLOSED DURING CONSTRUCTION.
2. SIX(6) WEEKS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MR. SERGIO DILELLO AT 845-808-1770 TO NOTIFY BOAT OWNERS TO REMOVE THEIR PROPERTY PRIOR TO CONSTRUCTION.

EROSION AND SEDIMENT CONTROL

- 1. THE CONTRACTOR SHALL FOLLOW ALL MEANS AND METHODS IDENTIFIED IN THE NEW YORK STATE STANDARDS FOR EROSION AND SEDIMENT CONTROL, DATED, NOVEMBER 2016 UNLESS OTHERWISE NOTED IN THE CONTRACT PLANS.
2. ALL STOCKPILES SHALL BE LOCATED ON FLAT AREAS. STOCKPILES SHALL BE COVERED WITH PLASTIC COVERS TO PREVENT THE EROSION OF THE STOCKPILE.
3. SEDIMENT CONTROL SHALL BE INSTALLED AT THE TOE OF THE SLOPE OF A STOCKPILE TO PREVENT SOIL MIGRATION.
4. FOR WINTER STABILIZATION REQUIREMENTS, PLEASE SEE PAGE 2.38 OF THE NEW YORK STATE STANDARDS FOR EROSION AND SEDIMENT CONTROL.
5. TURBIDITY CURTAINS SHALL BE INSTALLED PRIOR TO COFFERDAM CONSTRUCTION.

EQUIPMENT IN WATERWAY

- 1. THE CONTRACTOR MUST ADHERE TO ALL NYDEP REQUIREMENTS AS STIPULATED IN SECTION 5, ENVIRONMENTAL HEALTH & SAFETY 5.2 EQUIPMENT STEAM CLEANING AND INSPECTION FOR ALL ANTICIPATED EQUIPMENT ENTERING THE WATERWAY PRIOR TO WORKING IN ANY WATER BODY.

WILDLIFE

- 1. THE CONTRACTOR SHALL PROVIDE FLAGS OR ANTI-PERCHING DEVICES AT THE HIGH POINT(S) ON CRANES OR OTHER TALL EQUIPMENT TO DISCOURAGE PERCHING BY BALD EAGLES AND OTHER RAPTORS AT THE WORK SITE.
2. A BAT IDENTIFICATION ASSESSMENT SHALL BE COMPLETED BY NYDEP BWS WILDLIFE SERVICE, COORDINATED WITH BEPA. IF NO BAT PRESENCE IS IDENTIFIED, DEMOLITION MAY PROCEED. IF A PRESENCE IS IDENTIFIED, NYDEP WILDLIFE AND BEPA WILL COORDINATE A RESPONSE PRIOR TO THE CONTRACTOR PROCEEDING WITH DEMOLITION. BAT IDENTIFICATION SHALL BE PERFORMED BETWEEN APRIL 1ST AND SEPTEMBER 30TH.
3. TREE REMOVAL SHALL NOT OCCUR BETWEEN APRIL 1ST AND SEPTEMBER 30TH WITHOUT PRIOR APPROVAL OF NYDEP BWS WILDLIFE SERVICES.
4. BALD EAGLES ARE POTENTIALLY KNOWN TO INHABIT THE RESERVOIR AS A FEEDING GROUND. IF AT ANY TIME, BALD EAGLES, A NEST, OR CHICKS ARE OBSERVED IN THE IMMEDIATE WORK AREA, THE CONTRACTOR SHALL STOP ALL WORK ACTIVITIES AND SHALL NOTIFY NYDEP CONSTRUCTION MANAGER. THE NYDEP CONSTRUCTION MANAGER WILL SUBSEQUENTLY NOTIFY NYDEP WILDLIFE AND FISHERIES SERVICE GROUP, MR. CHRIS NADARESKI AT 845-340-7773 IMMEDIATELY FOR FURTHER ACTIONS. THE CONTRACTOR MUST ALSO INSTALL ANTI-PERCHING DEVICES AS PER NOTE 1 ON DRAWING G-5, WILDLIFE.

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SUBMITTAL DATE: 4/23/2021

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All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Last Saved By: & Date: Cehlykhova, Tuesday, June 01, 2021 and Date Plotted: Monday, July 26, 2021 Time: 9:21 AM  
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**CONCRETE REMOVAL AND REPAIR**

- ALL MATERIAL AND DEBRIS SHALL BE CONTAINED, COLLECTED AND SHALL NOT ENTER THE RESERVOIR SYSTEM OR HUNTER BROOK. COST SHALL BE PAID FOR UNDER ITEM 570.100001, ENVIRONMENTAL WATERWAY PROTECTION.
- THE CONTRACTOR MAY BE PERMITTED TO USE EQUIPMENT MOUNTED PAVEMENT BREAKERS, (E.G. HOE RAMS), IN THE REMOVAL OF CONCRETE PROVIDED THAT (A) THERE ARE NO UTILITIES PRESENT WITHIN OR BELOW THE AREA OF THE CONCRETE TO BE REMOVED, (B) THE PROVISIONS OF SUB-SECTIONS 580-3.01, 580-3.04 AND 580-3.05 OF THE NYSDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED MAY 1, 2019 CURRENTLY AMENDED ARE ADHERED TO. IF THE ENGINEER DETERMINES THAT THE CONTRACTOR'S OPERATION WOULD RESULT IN DAMAGE TO ANY CONCRETE OR ANY OTHER COMPONENT OF THE STRUCTURE THAT WILL REMAIN, THE CONTRACTOR SHALL MODIFY HIS REMOVAL PROCEDURE AT NO ADDITIONAL COST. THESE MODIFIED REMOVAL PROCEDURES SHALL INCLUDE THE USE OF HAND OPERATED CHIPPING HAMMERS IF SO ORDERED BY THE ENGINEER AND SHALL COMPLY WITH PROVISIONS OF 580-3.02.

**LOAD RESTRICTION**

- THE CONTRACTOR'S ATTENTION IS DIRECTED TO NEW YORK STATE STANDARD SPECIFICATIONS SUBSECTION 105-12, CONSTRUCTION EQUIPMENT.

**BRIDGE DEMOLITION**

- THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENTS OF SUBSECTION 202-3.01 GENERAL AND SAFETY REQUIREMENTS. A REMOVAL PLAN, SIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK, SHALL BE SUBMITTED TO THE ENGINEER THIRTY (30) DAYS PRIOR TO BEGINNING THE DEMOLITION OF THE BRIDGE. THE REMOVAL PLAN MUST BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO STARTING WORK.
- LIMITED RECORD PLANS FOR THIS STRUCTURE ARE AVAILABLE AT THE NYCDEP VALHALLA OFFICE, CONTACT MR. JEFFREY A. BUSSE, PE (914-749-5417).
- THE PAINT ON THE EXISTING BRIDGE RAILING CONTAINS LEAD. THE CONTRACTOR CAN REQUEST A COPY OF THE HAZARDOUS MATERIALS INVESTIGATION REPORT FROM NYCDEP, CONTACT MR. JEFFREY A. BUSSE, PE (914-749-5417).
- LOOSE AND/OR PEELING PAINT ON RAILING/MASONRY SURFACES MAY BECOME DISLODGED DURING REMOVAL OPERATIONS OR DURING TRANSPORTATION FROM THE SITE UNLESS APPROPRIATE MEASURES ARE TAKEN. THE CONTRACTOR SHALL FORMULATE AND SUBMIT A METHOD OF REMEDIATING THE CONDITION FOR APPROVAL BY THE ENGINEER. WORKER LEAD PROTECTION IN ACCORDANCE WITH OSHA 1926.62 MUST BE SATISFIED. ALTERNATIVES COULD INCLUDE TRANSPORTING AFFECTED MEMBERS IN CLOSED TRUCKS, WRAPPING AFFECTED MEMBERS PRIOR TO REMOVAL, ENCAPSULATING THE LOOSE PAINT OR REMOVAL OF LOOSE PAINT PRIOR TO DISMANTLING OPERATIONS. THE USE OF ENVIRONMENTAL GROUND AND /OR WATERWAY PROTECTION TREATMENT AND DISPOSAL OF PAINT REMOVAL WASTE ITEM MAY BE REQUIRED. ITEMS WILL BE REQUIRED. DEPENDING ON THE ALTERNATIVE CHOSEN, BECAUSE OF THE ABOVE MENTIONED CONDITION, THE CONTRACTOR SHALL EXAMINE THE CONDITION OF THE STRUCTURE'S PAINT PRIOR TO SUBMITTING A BID.
- THE FOLLOWING ITEMS SHALL BE USED TO IMPLEMENT AND MAINTAIN EFFECTIVE HEALTH AND SAFETY CONTROLS:
  - LEAD EXPOSURE CONTROL PLAN - 570.01
  - MEDICAL TESTING - 570.02
  - PERSONAL EXPOSURE MONITORING SAMPLE ANALYSIS - 570.03
  - DECONTAMINATION FACILITIES - 570.04

**GRANITE CAPSTONE AND PYLONS**

- THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES NECESSARY FOR THE PROPER EXECUTION OF REMOVAL OF THE EXISTING GRANITE CAPSTONES AND PYLONS ON THE BRIDGE AS SHOWN ON THESE CONTRACT DRAWINGS INCLUDING ALL INCIDENTAL AND APPURTENANT WORK REQUIRED FOR A COMPLETE JOB.
- ALL MATERIALS EXCEPT GRANITE CAPSTONES AND PYLONS REMOVED AS PART OF THIS WORK SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE WORK SITE AND PROPERLY DISPOSED OF AT THE CONTRACTOR'S OWN EXPENSE. THE EXISTING CYCLOPEAN STONE MASONRY REMOVED UNDER THIS CONTRACT SHALL REMAIN THE PROPERTY OF NYCDEP AND SHALL BE REUSED ON THE PROPOSED WINGWALL, WINGWALL EXTENSIONS AND ALONG THE PROPOSED SPANDREL WALLS. THE STONES SHALL BE CLEANED, CUT AND INSTALLED IN ACCORDANCE WITH 04 41 00 - REMOVE AND RESET GRANITE CAPSTONES.

- FOLLOWING THE REMOVAL OF THE STEEL PIPE RAILING FROM THE GRANITE CAPSTONES, THE EXISTING HOLES WHERE STEEL POSTS WERE FASTENED SHALL BE SUBSTANTIALLY CLEANED, FREE OF LOOSE DEBRIS, AND SHALL BE LEAD ABATED BY THE CONTRACTOR PRIOR TO REUSE ON THE PROPOSED BRIDGE STRUCTURE. LEAD PAINT REMOVAL AT THE EXISTING HOLES IN THE GRANITE CAPSTONES AFTER STEEL PIPE RAILING REMOVAL SHALL BE PAID FOR UNDER ITEM 570.160001.

**CONSTRUCTION AND MATERIALS**

**STRUCTURAL CONCRETE - GENERAL**

- REINFORCEMENT BARS SHALL BE EPOXY COATED DEFORMED BARS ASTM A615 GRADE 60 UNLESS NOTED. YIELD STRENGTH OF REINFORCEMENT,  $f_y = 60$  KSI.
- CLASS A AND HP CONCRETE ARE USED AS STRUCTURAL CONCRETE FOR THE CAST-IN-PLACE SUBSTRUCTURES AS NOTED IN THE PLANS. THE STRUCTURAL CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS:  $f'_c = 4000$  PSI
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" UNLESS OTHERWISE NOTED ON THE PLANS
- UNLESS OTHERWISE SHOWN ON THE PLANS THE MINIMUM COVER FOR REINFORCEMENT SHALL BE AS SHOWN IN THE TABLE BELOW:

LOCATION	COVER
TOP OF MOMENT SLAB	3"
BOTTOM OF MOMENT SLAB	3"
WALLS ABOVE FOOTINGS	2"
FOOTINGS	3"
PRECAST ARCH EXPOSED SURFACE	1 1/2"
PRECAST ARCH OTHER SURFACES	2"

- DUE TO THE PROJECT'S TIME CONSTRAINTS, WINTER CONCRETING MAY BE NECESSARY. IF IT IS NECESSARY AND THE CONTRACTOR IS DIRECTED BY THE ENGINEER TO DO WINTER CONCRETING, THE COST OF THIS WORK SHALL BE INCLUDED IN THE APPROPRIATE CONCRETE BID ITEMS.
- COST OF REINFORCEMENT FOR MOMENT SLAB SHALL BE INCLUDED IN COST OF THE SLAB, ITEM NUMBER 557.22.
- PRECAST ARCH UNITS, PRECAST SPANDREL WALLS, CAST-IN-PLACE STEMS OF WINGWALLS AND THE ABUTMENT COLUMNS SHALL BE MADE FROM COLORED CONCRETE WITH A LIGHT SANDBLAST FINISH. PRIOR TO PLACING ANY COLORED CONCRETE SUBMIT A TEST SAMPLE CONSISTING OF 4'X4'X1' PANEL USING THE PROPOSED MIX. NO CONCRETE SHALL BE PLACED OR PANEL MANUFACTURED PRIOR TO THE ACCEPTANCE OF THE TEST SAMPLES BY THE ENGINEER. THE COST OF THE TEST SAMPLES SHALL BE INCLUDED IN COST OF ITEMS COVERED BY THE SAMPLES.


**SUBSTRUCTURE**

- ALL EMBANKMENTS OF SELECT STRUCTURAL FILL (ITEM 203.21) SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DENSITY AS DEFINED UNDER SUBSECTION 203-3.12 COMPACTION.
- HIGHWAY EMBANKMENT (HIGHWAY ESTIMATE), SELECT STRUCTURAL FILL, ITEM 203.21, SHALL BE PLACED SIMULTANEOUSLY IN CONTACT, ON BOTH SIDES OF THE VERTICAL PAYMENT LINE. SHEETING OR OTHER MEANS SHALL NOT BE USED TO SEPARATE THE MATERIALS.
- ALL EXCAVATION AND EMBANKMENTS ARE TO BE KEPT FREE OF WATER, ICE AND SNOW.
- EXCAVATION BELOW PLANNED FOOTING ELEVATION WILL NOT BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. BACKFILL OF UNAUTHORIZED EXCAVATIONS BELOW OR BEYOND PAYMENT LINES WILL BE AT THE CONTRACTOR'S EXPENSE. BACKFILL MATERIAL WILL BE AS DIRECTED BY THE ENGINEER.

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 CHECK BEFORE USE  
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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: J. CIRCOSTA	DRAWN BY: J. CIRCOSTA
CHECKED BY: R. WUTTRICH, PE	
DESIGN LEAD: O. HUNTER, PE	HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036
SECTION MANAGER:	



ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE
PORTFOLIO MANAGER PAUL COSTA, PE
EXECUTIVE DIRECTOR SEAN McANDREW, PE

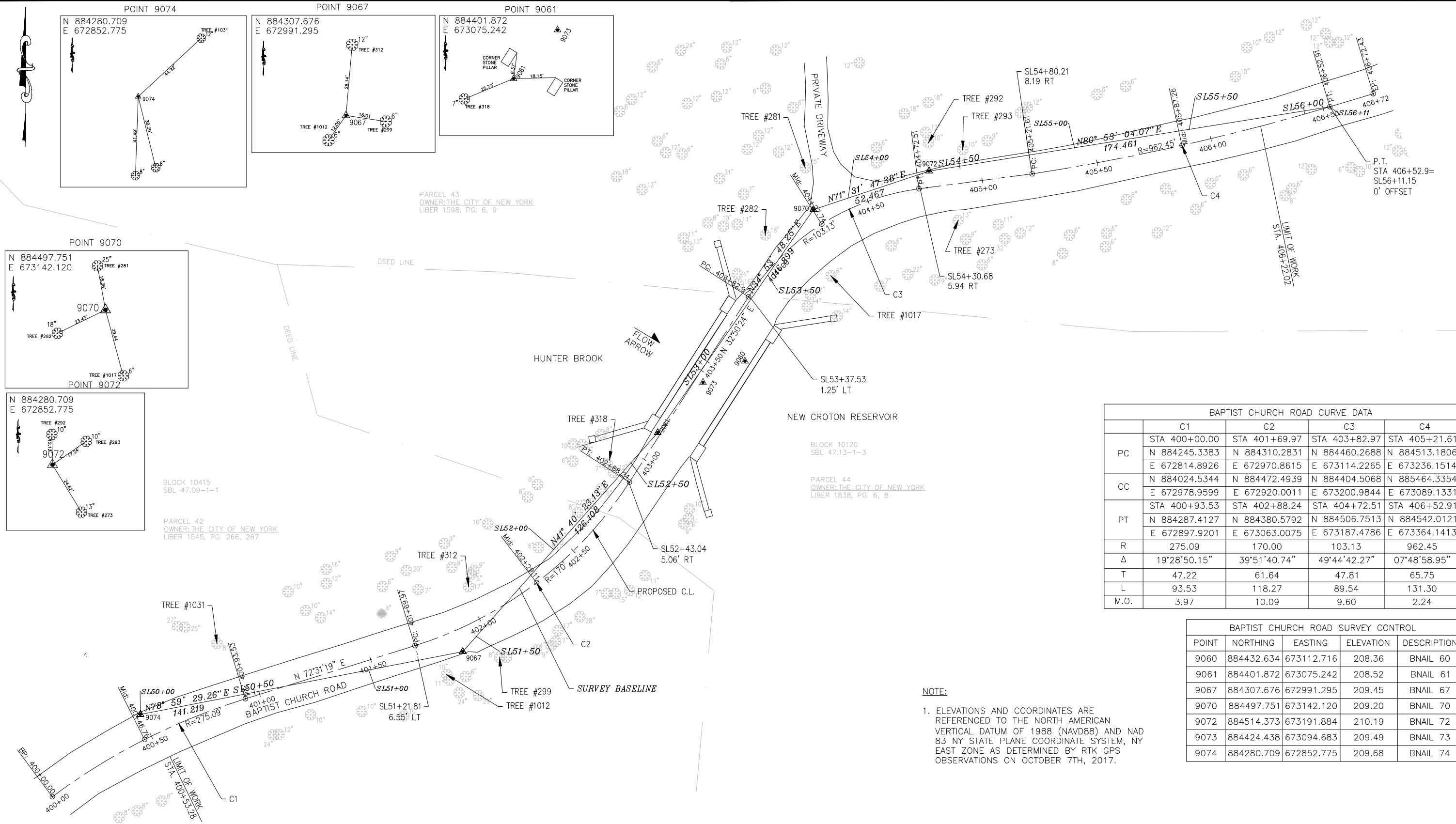
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 BUREAU OF ENGINEERING DESIGN & CONSTRUCTION**  
 96-05 HORACE HARDING EXPRESSWAY 5th FLOOR  
 CORONA, NEW YORK 11368  
 www.nyc.gov/dep

**CAPITAL PROJECT WM-30  
 IN WESTCHESTER COUNTY, NEW YORK  
 CONTRACT CRO-530B**  
 GENERAL NOTES - 2

DATE: 04/23/2021
SCALE: NOT TO SCALE
SHEET NO: 6 OF 46
DRAWING NO. G196

Last Saved By & Date: Ncrevier, Friday, April 23, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 2:13 PM  
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 Drawing Name: C:\Users\cshiyakova\hprod\dms37923\BAPTIST CHURCH\_TIE AND ALIGNMENT.dwg



PARCEL 43  
 OWNER: THE CITY OF NEW YORK  
 LIBER 1598, PG. 6, 9

BLOCK 10120  
 SBL 47.13-1-3

PARCEL 44  
 OWNER: THE CITY OF NEW YORK  
 LIBER 1838, PG. 6, 8

BLOCK 10415  
 SBL 47.09-1-1

PARCEL 42  
 OWNER: THE CITY OF NEW YORK  
 LIBER 1545, PG. 266, 267

BAPTIST CHURCH ROAD CURVE DATA				
	C1	C2	C3	C4
PC	STA 400+00.00	STA 401+69.97	STA 403+82.97	STA 405+21.61
	N 884245.3383 E 672814.8926	N 884310.2831 E 672970.8615	N 884460.2688 E 673114.2265	N 884513.1806 E 673236.1514
CC	N 884024.5344 E 672978.9599	N 884472.4939 E 672920.0011	N 884404.5068 E 673200.9844	N 885464.3354 E 673089.1331
PT	STA 400+93.53	STA 402+88.24	STA 404+72.51	STA 406+52.91
	N 884287.4127 E 672897.9201	N 884380.5792 E 673063.0075	N 884506.7513 E 673187.4786	N 884542.0121 E 673364.1413
R	275.09	170.00	103.13	962.45
Δ	19°28'50.15"	39°51'40.74"	49°44'42.27"	07°48'58.95"
T	47.22	61.64	47.81	65.75
L	93.53	118.27	89.54	131.30
M.O.	3.97	10.09	9.60	2.24

BAPTIST CHURCH ROAD SURVEY CONTROL				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
9060	884432.634	673112.716	208.36	BNAIL 60
9061	884401.872	673075.242	208.52	BNAIL 61
9067	884307.676	672991.295	209.45	BNAIL 67
9070	884497.751	673142.120	209.20	BNAIL 70
9072	884514.373	673191.884	210.19	BNAIL 72
9073	884424.438	673094.683	209.49	BNAIL 73
9074	884280.709	672852.775	209.68	BNAIL 74

**NOTE:**  
 1. ELEVATIONS AND COORDINATES ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND NAD 83 NY STATE PLANE COORDINATE SYSTEM, NY EAST ZONE AS DETERMINED BY RTK GPS OBSERVATIONS ON OCTOBER 7TH, 2017.

**60% DESIGN SUBMITTAL**  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
 CHECK BEFORE USE  
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 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
 N. CREVIER, PE  
 CHECKED BY:  
 C. JENNE, PE  
 DESIGN LEAD:  
 O. HUNTER, PE  
 SECTION MANAGER:

DRAWN BY:  
 N. CREVIER, PE  
  
 HARDESTY & HANOVER, LLC  
 ENGINEERING  
 1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
 JEFFREY A. BUSSE, PE  
 PORTFOLIO MANAGER  
 PAUL COSTA, PE  
 EXECUTIVE DIRECTOR  
 SEAN McANDREW, PE

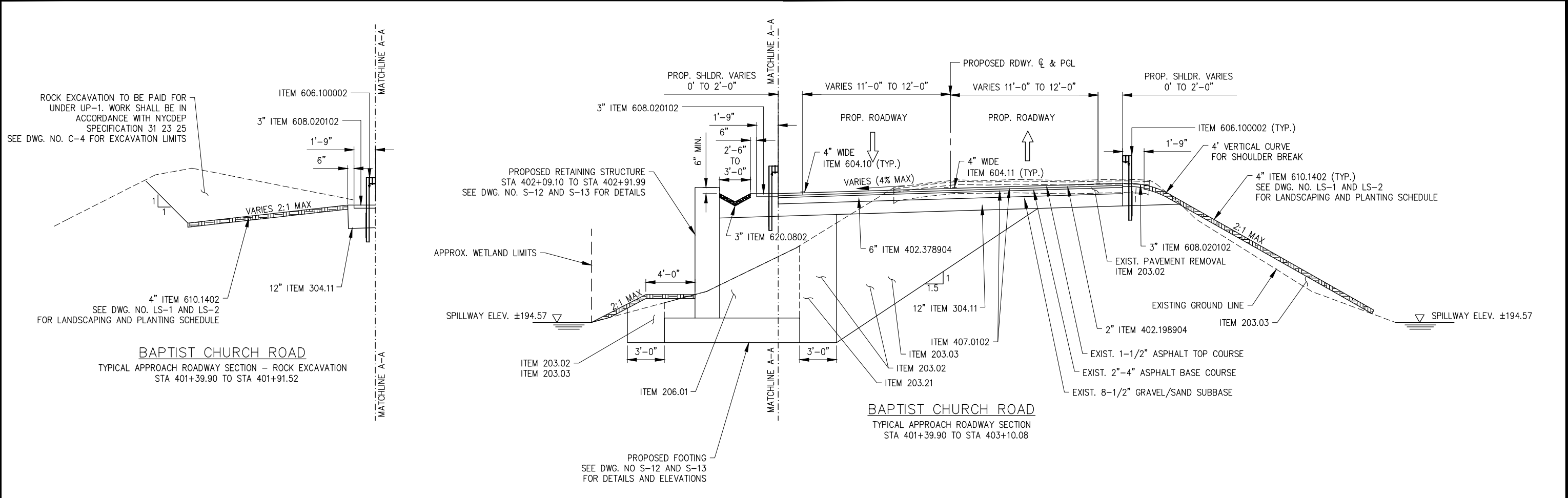
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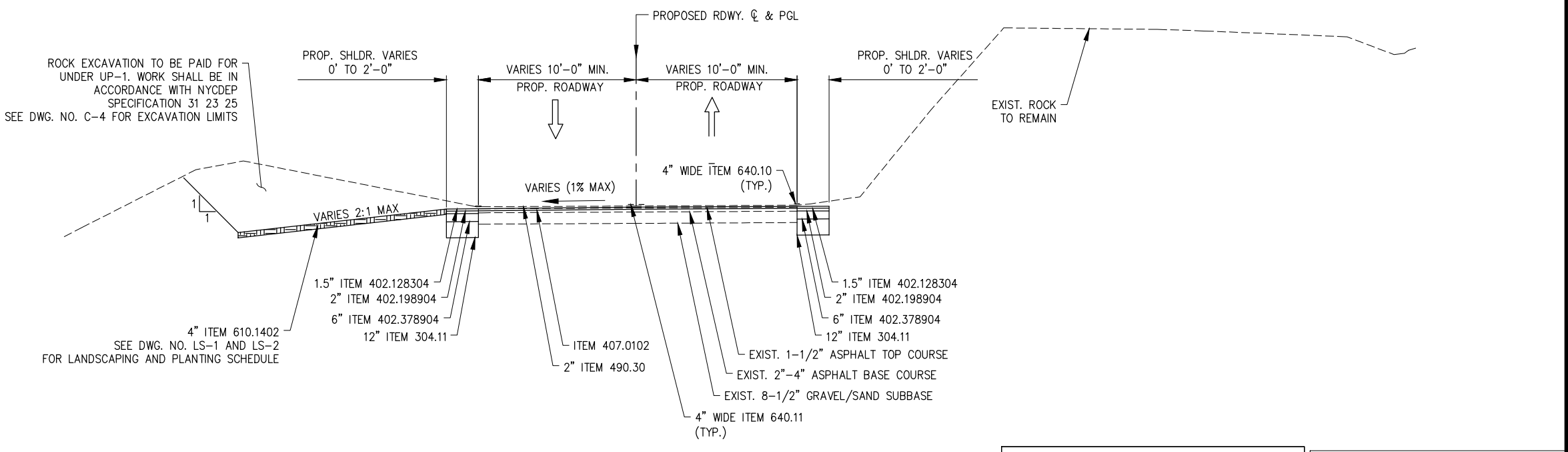
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 SURVEY & BASELINE TIES

DATE: 04/23/2021  
 SCALE: 1" = 20'-0"  
 SHEET NO:  
 7 OF 46  
 DRAWING NO.  
**201**

Last Saved By & Date: Norevler, Friday, April 23, 2021 and Date Plotted: Tuesday, July 06, 2021 Time: 11:51 AM  
 Paper Size: ANSI A (8.50 x 11.00 Inches) Plot Scale: 0.388663 Plot Style Table: (N)\_BDDC\_BW.ctb  
 Drawing Name: C:\Users\norevler\hprod\dm37923\BAPTIST-CROSS-TYPICAL-SECTION.dwg



ITEM	DESCRIPTION	UNIT
203.02	UNCLASSIFIED EXCAVATION	CY
203.03	EMBANKMENT IN PLACE	CY
203.21	SELECT STRUCTURE FILL	CY
206.01	STRUCTURE EXCAVATION	CY
304.11	SUBBASE COURSE TYPE 1	CY
407.0102	DILUTED TACK COAT	GAL
402.128304	12.5 F3 TOP COURSE HMA (80 SERIES COMPACTION)	TON
402.198904	19 F9 BINDER COURSE HMA (80 SERIES COMPACTION)	TON
402.378904	37.5 F9 BASE COURSE HMA (80 SERIES COMPACTION)	TON
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY
606.10	BOX BEAM GUIDE RAILING	LF
610.1402	TOP SOIL - ROADSIDE	CY
640.10	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES - 15 MILS	LF
640.11	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES - 15 MILS	LF



**60% DESIGN SUBMITTAL**  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
**N. CREVER, PE**  
 CHECKED BY:  
**R. ROMAN, PE**  
 DESIGN LEAD:  
**O. HUNTER, PE**  
 SECTION MANAGER:

DRAWN BY:  
**N. CREVER, PE**  


ACCOUNTABLE MANAGER  
**JEFFREY A. BUSSE, PE**  
 PORTFOLIO MANAGER  
**PAUL COSTA, PE**  
 EXECUTIVE DIRECTOR  
**SEAN McANDREW, PE**



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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 TYPICAL SECTIONS  
 (SHEET 1 OF 2)

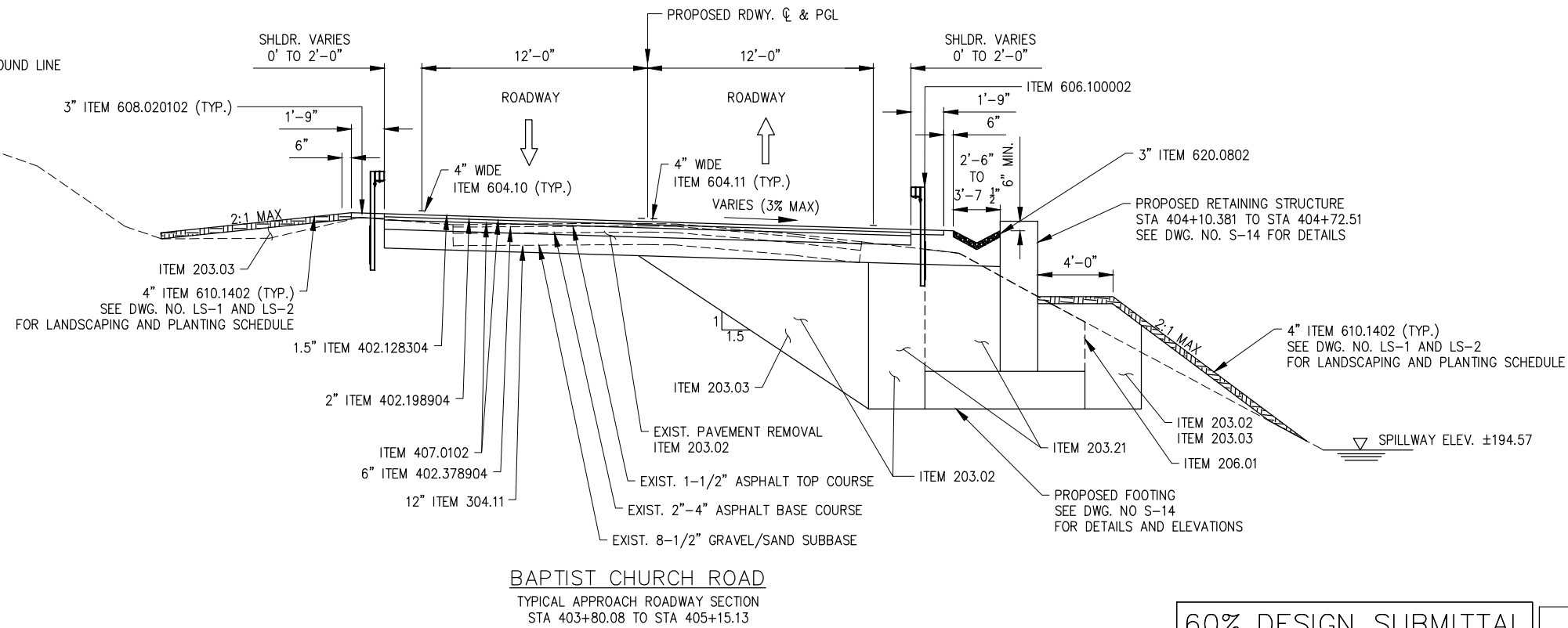
DATE: 04/23/2021  
 SCALE: 1"=4'  
 SHEET NO:  
 8 OF 46  
 DRAWING NO.  
 242

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Last Saved By & Date: Norevler, Friday, April 23, 2021 and Date Plotted: Tuesday, July 06, 2021 Time: 2:12 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.388663 Plot Style Table: (N)\_BDDC\_BW.ctb  
 Drawing Name: C:\Users\norevler\hprod\dms37923\BAPTIST-CROSS-TYPICAL-SECTION\_2.dwg

ITEM	DESCRIPTION	UNIT
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY
203.03	EMBANKMENT IN PLACE	CY
203.21	SELECT STRUCTURE FILL	CY
304.11	SUBBASE COURSE TYPE 1	CY
407.0102	DILUTED TACK COAT	GAL
402.128304	12.5 F3 TOP COURSE HMA (80 SERIES COMPACTION)	TON
402.198904	19 F9 BINDER COURSE HMA (80 SERIES COMPACTION)	TON
402.378904	37.5 F9 BASE COURSE HMA (80 SERIES COMPACTION)	TON
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY
604.10	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES-15 MILS	LF
604.11	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES-15 MILS	LF
606.100002	BOX BEAM GUIDE RAILING (SHOP BENT OR SHOP MITERED)	LF
608.020102	HOT MIX ASPHALT (HMA) SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS, AND VEGETATION CONTROL STRIPS	TON
610.1402	TOP SOIL - ROADSIDE	CY
620.0802	BEDDING MATERIAL, TYPE 2	CY



**BAPTIST CHURCH ROAD**  
 TYPICAL MILLING SECTION  
 STA 405+15.13 TO STA 406+22.02

**BAPTIST CHURCH ROAD**  
 TYPICAL APPROACH ROADWAY SECTION  
 STA 403+80.08 TO STA 405+15.13

**60% DESIGN SUBMITTAL**  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
**N. CREVER, PE**  
 CHECKED BY:  
**C. JENNE, PE**  
 DESIGN LEAD:  
**O. HUNTER, PE**  
 SECTION MANAGER:

DRAWN BY:  
**N. CREVER, PE**  
  
 HARDESTY & HANOVER, LLC  
 ENGINEERING  
 1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
**JEFFREY A. BUSSE, PE**  
 PORTFOLIO MANAGER  
**PAUL COSTA, PE**  
 EXECUTIVE DIRECTOR  
**SEAN McANDREW, PE**

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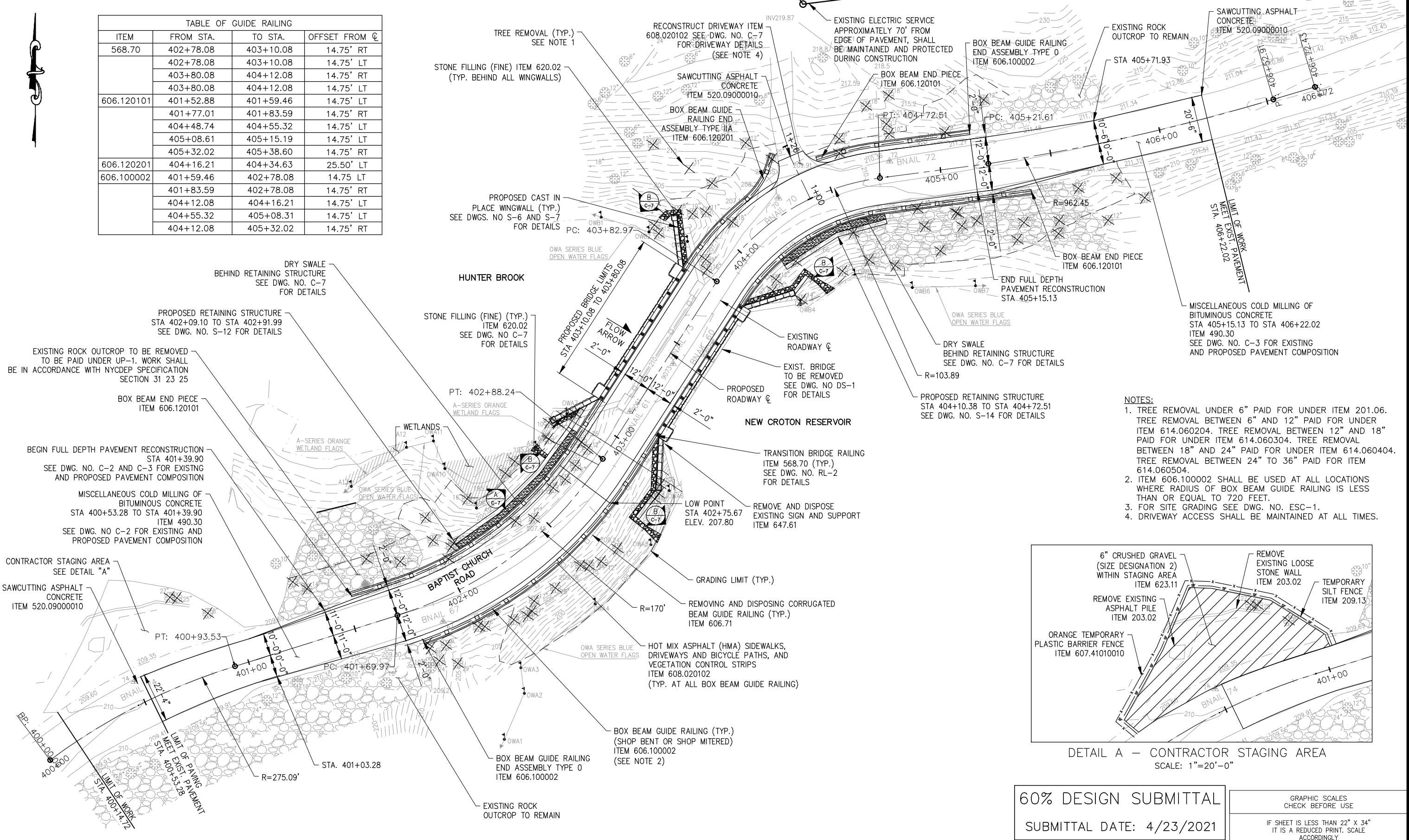
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 CORONA, NEW YORK 11368  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 TYPICAL SECTIONS  
 (SHEET 2 OF 2)

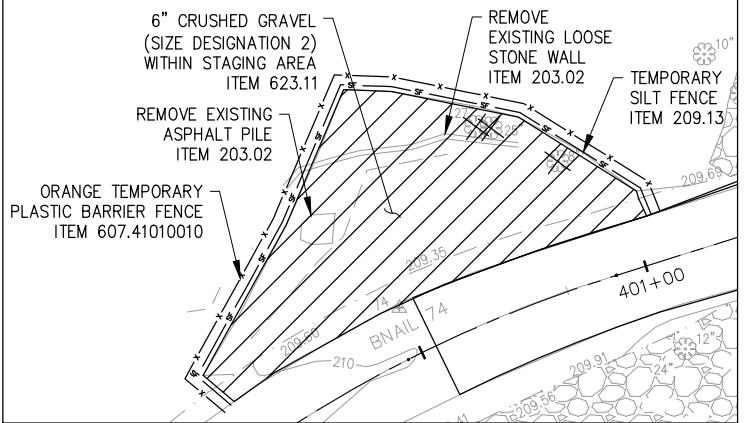
DATE: 04/23/2021  
 SCALE: 1"=4'  
 SHEET NO:  
 9 OF 46  
 DRAWING NO.  
 223

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TABLE OF GUIDE RAILING			
ITEM	FROM STA.	TO STA.	OFFSET FROM C
568.70	402+78.08	403+10.08	14.75' RT
	402+78.08	403+10.08	14.75' LT
	403+80.08	404+12.08	14.75' RT
606.120101	403+80.08	404+12.08	14.75' LT
	401+52.88	401+59.46	14.75' LT
	401+77.01	401+83.59	14.75' RT
606.120201	404+48.74	404+55.32	14.75' LT
	405+08.61	405+15.19	14.75' LT
	405+32.02	405+38.60	14.75' RT
606.100002	404+16.21	404+34.63	25.50' LT
606.100002	401+59.46	402+78.08	14.75' LT
	401+83.59	402+78.08	14.75' RT
	404+12.08	404+16.21	14.75' LT
	404+55.32	405+08.31	14.75' LT
	404+12.08	405+32.02	14.75' RT



- NOTES:**
- TREE REMOVAL UNDER 6" PAID FOR UNDER ITEM 201.06. TREE REMOVAL BETWEEN 6" AND 12" PAID FOR UNDER ITEM 614.060204. TREE REMOVAL BETWEEN 12" AND 18" PAID FOR UNDER ITEM 614.060304. TREE REMOVAL BETWEEN 18" AND 24" PAID FOR UNDER ITEM 614.060404. TREE REMOVAL BETWEEN 24" TO 36" PAID FOR ITEM 614.060504.
  - ITEM 606.100002 SHALL BE USED AT ALL LOCATIONS WHERE RADIUS OF BOX BEAM GUIDE RAILING IS LESS THAN OR EQUAL TO 720 FEET.
  - FOR SITE GRADING SEE DWG. NO. ESC-1.
  - DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES.



DETAIL A - CONTRACTOR STAGING AREA  
SCALE: 1"=20'-0"

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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 Paper Size: ANSI A (8.50 x 11.00 Inches) Plot Scale: 0.388663 Plot Style Table: (N)\_BDDC\_BW.ctb  
 Drawing Name: C:\users\norevier\hprod\dm37923\BAPTIST CHURCH ROAD PLAN.dwg

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
**N. CREMER, PE**

CHECKED BY:  
**C. JENNE, PE**

DESIGN LEAD:  
**O. HUNTER, PE**

SECTION MANAGER:

DRAWN BY:  
**HARDESTY & HANOVER, LLC**  
ENGINEERING  
1501 Broadway, New York, NY 10036



ACCOUNTABLE MANAGER  
**JEFFREY A. BUSSE, PE**

PORTFOLIO MANAGER  
**PAUL COSTA, PE**

EXECUTIVE DIRECTOR  
**SEAN McANDREW, PE**

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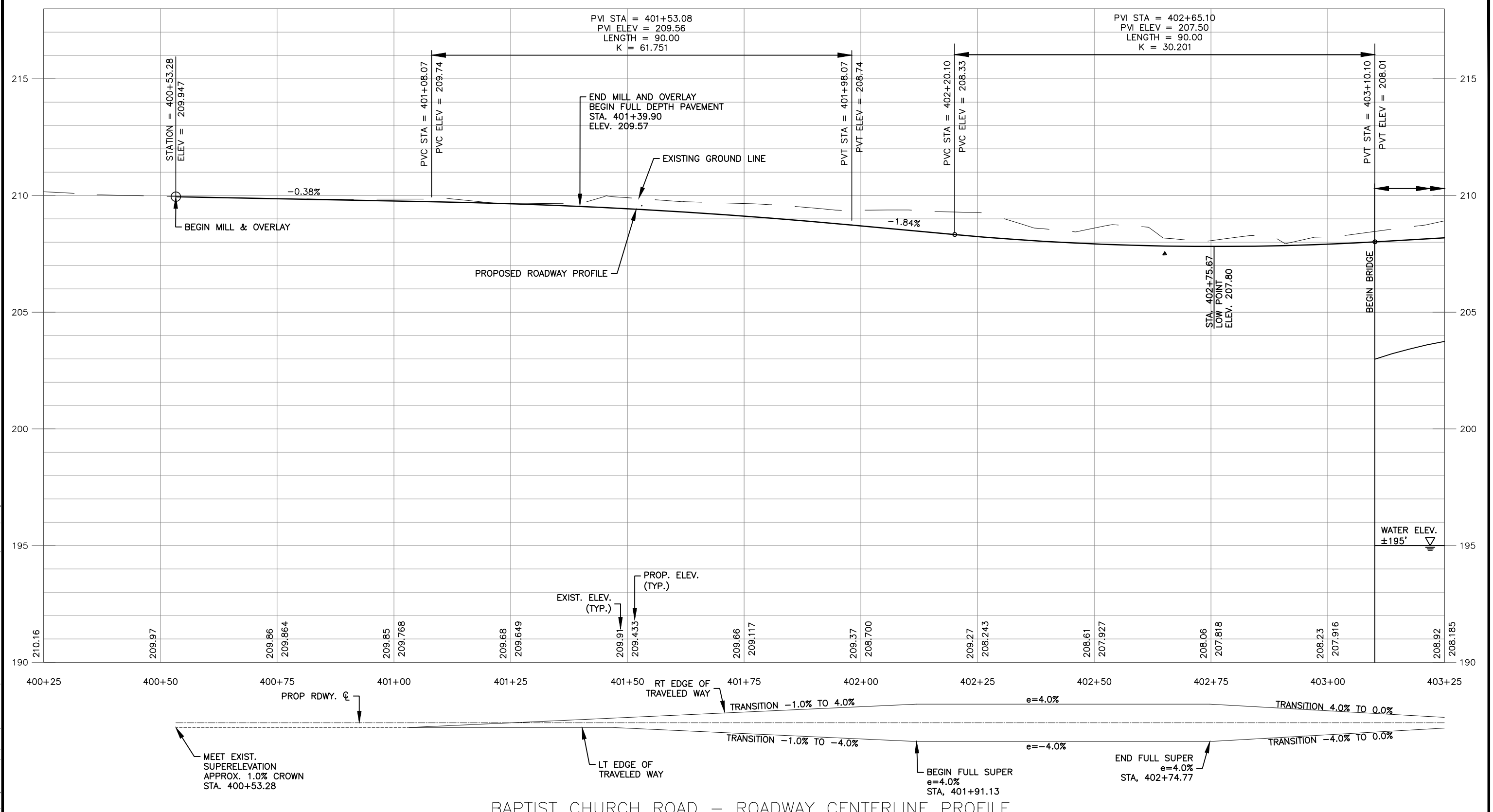
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**

PROPOSED ROADWAY ALIGNMENT  
AND SITE PLAN

DATE: 04/23/2021  
SCALE: 1" = 20'-0"  
SHEET NO:  
10 OF 46  
DRAWING NO.  
234

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Last Saved By: & Date: Ncrevier, Friday, April 23, 2021, and Date Plotted: Tuesday, June 01, 2021, Time: 11:54 AM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.366863 Plot Style Table: (N) \_BDDC\_BW.ctb  
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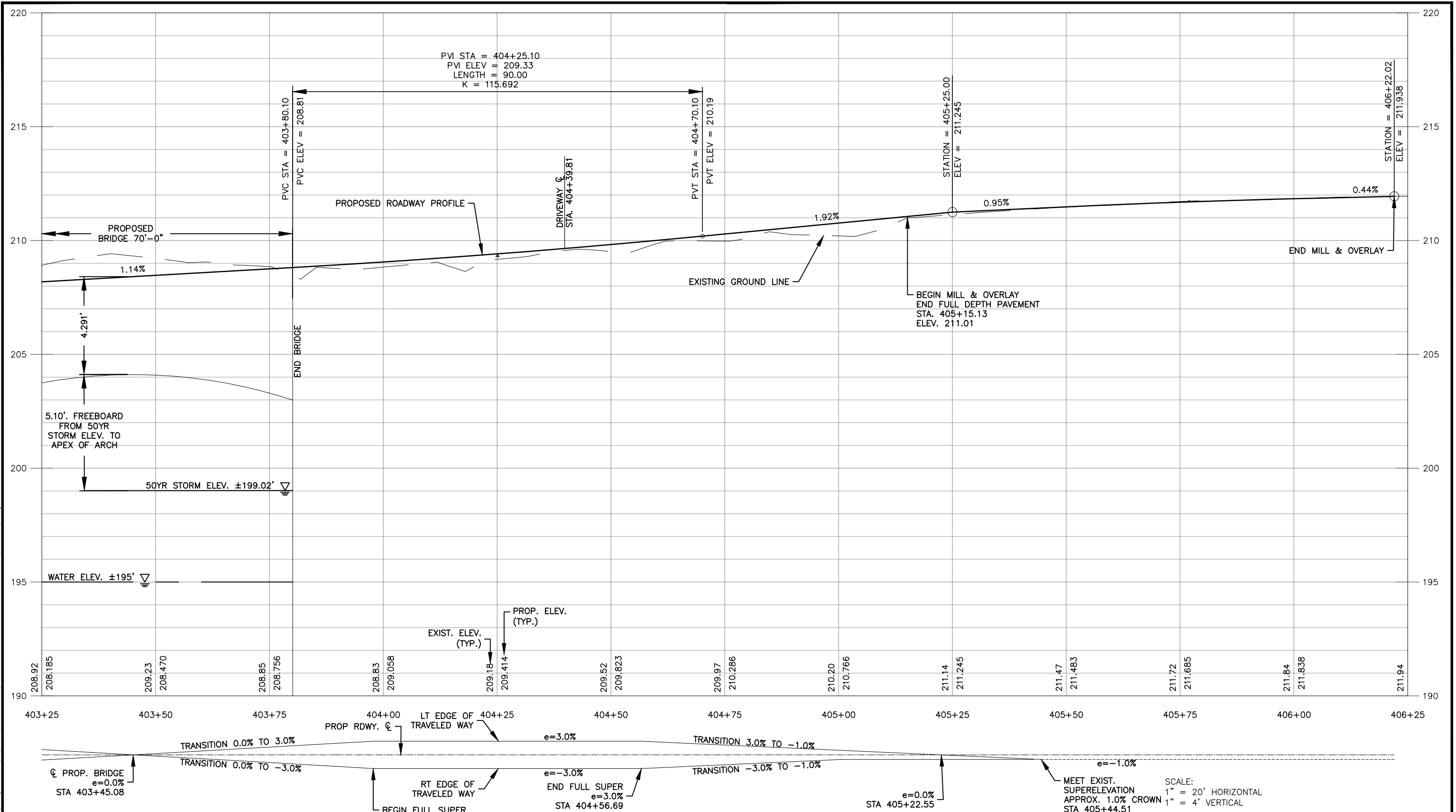
BAPTIST CHURCH ROAD – ROADWAY CENTERLINE PROFILE

SCALE:  
 1" = 20' HORIZONTAL  
 1" = 4' VERTICAL

GRAPHIC SCALES  
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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.	DESIGNED BY: N. CREVIER, PE	DRAWN BY: N. CREVIER, PE		ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE	<p><b>NEW YORK CITY</b>  <b>ENVIRONMENTAL PROTECTION</b>          BUREAU OF ENGINEERING DESIGN &amp; CONSTRUCTION          96-05 HORACE HARDING EXPRESSWAY 5th FLOOR          CORONA, NEW YORK 11368          www.nyc.gov/dep</p>	<p><b>CAPITAL PROJECT WM-30</b>  <b>IN WESTCHESTER COUNTY, NEW YORK</b>  <b>CONTRACT CRO-530B</b></p>	DATE: 04/23/2021
				CHECKED BY: C. JENNE, PE			PORTFOLIO MANAGER PAUL COSTA, PE			SCALE: AS NOTED
				DESIGN LEAD: O. HUNTER, PE	HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036		EXECUTIVE DIRECTOR SEAN McANDREW, PE			SHEET NO: 11 OF 46
				SECTION MANAGER:						DRAWING NO. C245

Last Saved By: & Date: Ncrevier, Friday, April 23, 2021, and Date Plotted: Tuesday, June 01, 2021, Time: 11:56 AM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style: (N)\_BDDC\_BW.ctb  
 Drawing Name: & Location: C:\users\kshykhkrova\Myprod\kms37923\BAPTIST CHURCH ROAD\_PROFILE (2 OF 2).dwg



BAPTIST CHURCH ROAD - ROADWAY CENTERLINE PROFILE

60% DESIGN SUBMITTAL  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

**DESIGNED BY:**  
 N. CREVIER, PE  
**CHECKED BY:**  
 C. JENNE, PE  
**DESIGN LEAD:**  
 O. HUNTER, PE  
**SECTION MANAGER:**

**DRAWN BY:**  
 N. CREVIER, PE  
  
 HARDESTY & HANOVER, LLC  
 ENGINEERING  
 1501 Broadway New York, NY 10036



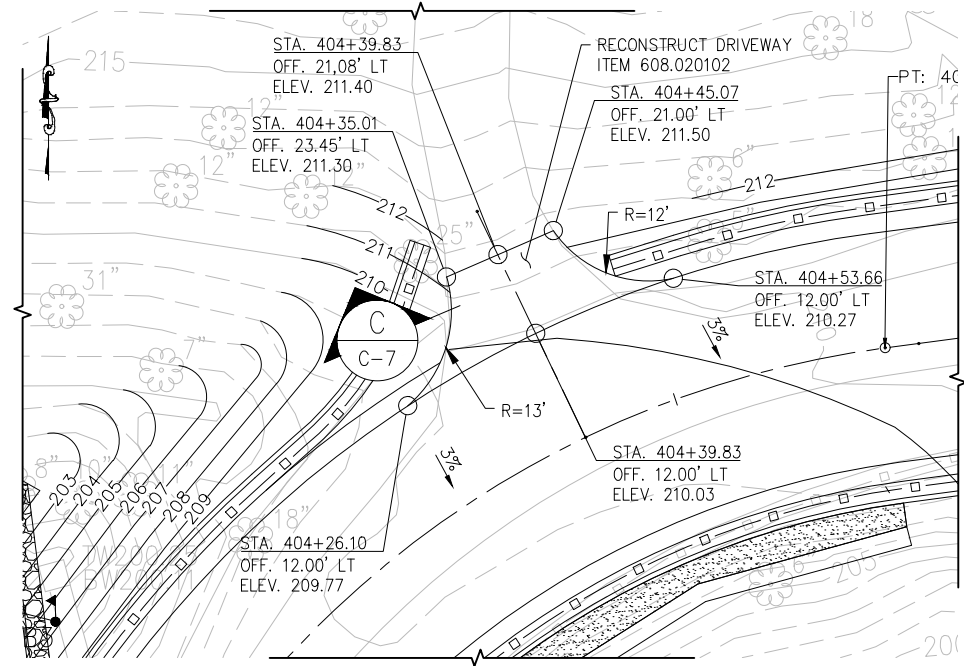
**ACCOUNTABLE MANAGER:**  
 JEFFREY A. BUSSE, PE  
**PORTFOLIO MANAGER:**  
 PAUL COSTA, PE  
**EXECUTIVE DIRECTOR:**  
 SEAN McANDREW, PE

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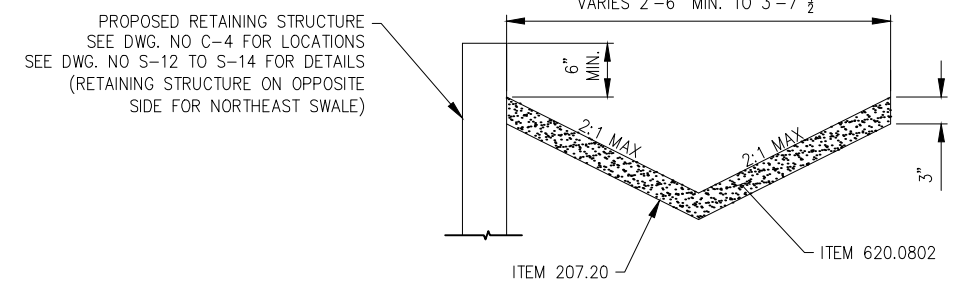
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**CAPITAL PROJECT WM-30**  
 IN WESTCHESTER COUNTY, NEW YORK  
 CONTRACT CRO-530B  
 ROADWAY PROFILE-2

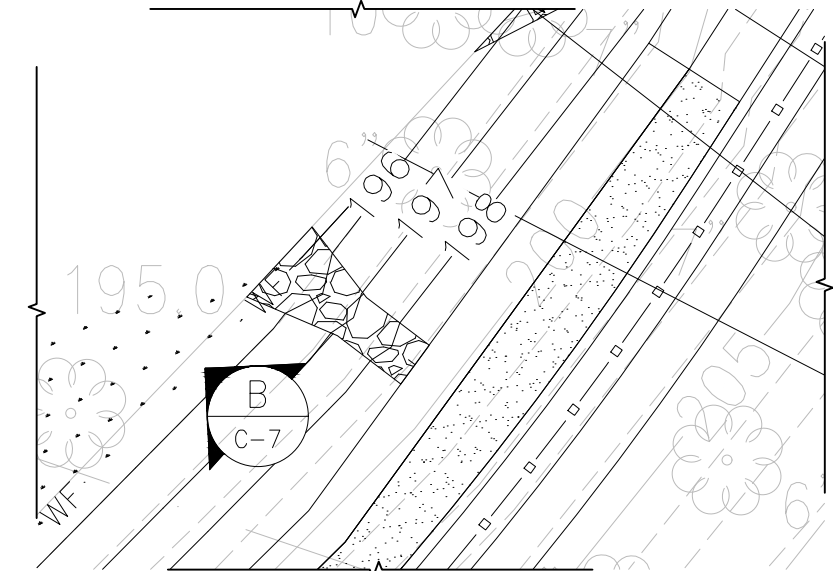
DATE: 04/23/2021  
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 SHEET NO:  
 12 OF 46  
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 C256



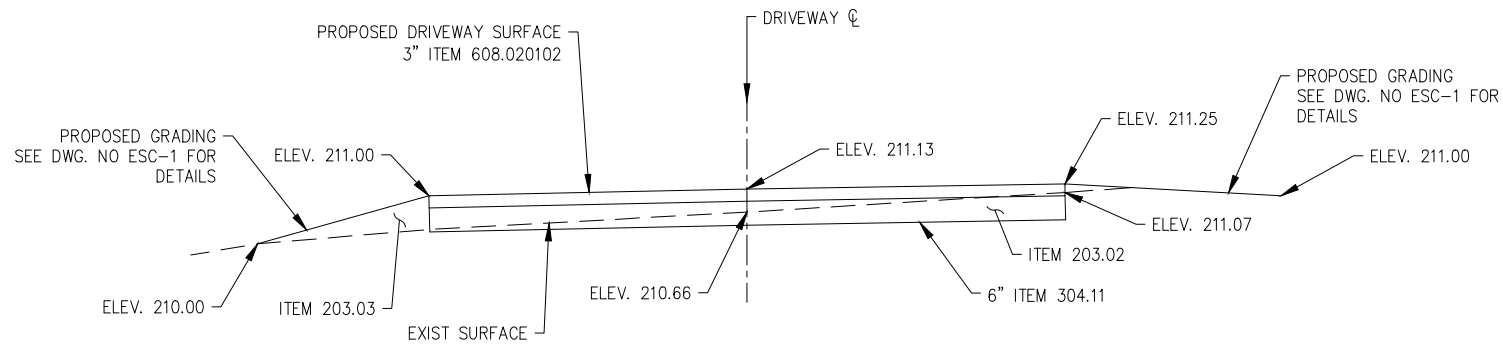
DRIVEWAY PLAN  
SCALE: 1"=10'-0"



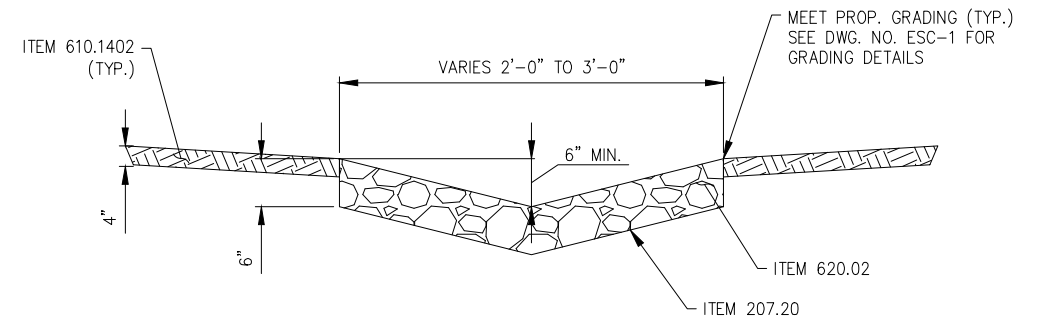
A DRY SWALE DETAIL  
C-4 N.T.S.



STONE OUTFALL - PLAN VIEW  
SCALE: 1"=4'



C DRIVEWAY SECTION  
C-7 N.T.S.



B STONE OUTFALL DETAIL (TYP. BEHIND ALL WINGWALLS AND AT OUTFALLS)  
C-7 N.T.S.

ITEM	DESCRIPTION	UNIT
203.02	UNCLASSIFIED EXCAVATION	CY
203.03	EMBANKMENT IN PLACE	CY
207.20	GEOTEXTILE BEDDING	SY
304.11	SUBBASE COURSE, TYPE 1	CY
608.020102	HOT MIX ASPHALT (HMA) SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS, AND VEGETATION CONTROL STRIPS	TON
610.1402	TOPSOIL - ROADSIDE	CY
620.02	STONE FILLING (FINE)	CY
620.0802	BEDDING MATERIAL - TYPE 2	CY

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

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Last Saved By & Date: Ncrevier, Friday, April 23, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 2:18 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386663 Plot Style Table: (N)\_BEDC\_BW.ctb  
 Drawing Name: C:\Users\cshiyakova\hpro\dm\37923\BAPTIST CHURCH ROAD -RDWY DETAIL SHEET.dwg

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
N.CREVIER, PE  
CHECKED BY:  
E. RECIO, PE  
DESIGN LEAD:  
O. HUNTER, PE  
SECTION MANAGER:

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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
**ROADWAY DETAILS SHEET**

DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
13 OF 46  
DRAWING NO.  
267

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES



1. ALL MAINTENANCE AND PROTECTION OF TRAFFIC WORK SHALL CONFORM TO THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, EXCEPT AS MODIFIED BY THE PLANS AND SPECIFICATIONS.
2. THE BOTTOM OF TEMPORARY CONSTRUCTION SIGNS SHALL BE A MINIMUM OF 7'-0" ABOVE THE PAVEMENT ON LOCAL ROADS AND 5'-0" ABOVE THE PAVEMENT ON HIGHWAYS AND A MINIMUM OF 2'-0" CLEAR OF THE TRAVEL LANE, AS SHOWN, OR AS ORDERED BY THE RESIDENT ENGINEER.
3. THE CONTRACTOR SHALL NOTIFY THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGIONAL OFFICE, THE LOCAL POLICE DEPARTMENTS, NYCDEP, TOWN OF YORKTOWN AND THE FIRE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF BEGINNING OF WORK ON A TRAVEL LANE OR SHOULDER. NOTIFICATION SHALL BE IN WRITING AFTER RECEIPT OF CONCURRENCE OF THE RESIDENT ENGINEER.
4. THE CONTRACTOR SHALL PROVIDE THE ENGINEER IN WRITING WITH NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF STAFF WHO ARE AUTHORIZED TO SECURE LABOR, MATERIALS AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE NORMAL WORKING HOURS. THE ENGINEER WILL PROVIDE THE SUBMITTED INFORMATION TO NYCDEP, THE NEW YORK STATE POLICE, THE RESIDENT ENGINEER, THE LOCAL FIRE DEPARTMENT AND THE LOCAL POLICE.
5. ALL CONSTRUCTION SIGNS SHALL BE COVERED OR REMOVED WHEN THE WORK THEY PERTAIN TO IS NOT IN PROGRESS.
6. ALL CONSTRUCTION SIGNS SHALL HAVE AN ORANGE BACKGROUND AND BLACK LETTERS AND BORDERS. ALL SIGNS ARE TO BE REFLECTORIZED IN ACCORDANCE TO WITH SUBSECTION 619-2.02 OF THE NYS DOT STANDARD SPECIFICATIONS.
7. NO SIGNS SHALL BE PLACED AT ANY LOCATION WHERE IT IS OBSCURED BY TEMPORARY OR PERMANENT OBJECTS.
8. NO NEW DETOUR IS TO BE PLACED IN OPERATION ON MONDAY, FRIDAY, OR ON THE DAY PRECEDING A HOLIDAY UNLESS OTHERWISE APPROVED IN WRITING BY THE RESIDENT ENGINEER AND WITH THE CONCURRENCE OF THE NYCDEP.
9. UNDER THE BASIC MAINTENANCE AND PROTECTION OF TRAFFIC ITEM, THE CONTRACTOR WILL BE REQUIRED TO PERFORM MAINTENANCE CLEANING OF THE PAVEMENT WITHIN THE CONTRACT LIMITS WHEN ORDERED BY THE RESIDENT ENGINEER. MAINTENANCE CLEANING SHALL MEAN THE REMOVAL OF DEBRIS FROM ANY SOURCE, WHICH IN THE OPINION OF THE RESIDENT ENGINEER IMPEDES FLOW OF TRAFFIC OR STORM WATER. THIS REQUIREMENT SHALL NOT BE CONSTRUED TO CHANGE THE PROVISIONS OF ARTICLE 619-1.02K SNOW AND ICE CONTROL OF NYS DOT STANDARD SPECIFICATIONS.
10. TO ENSURE A SAFE TRAFFIC FLOW AT ALL TIMES. STORAGE OF MATERIALS AND EQUIPMENT (INCLUDING EMPLOYEE CARS) SHALL NOT BE PERMITTED WITHIN THE TRAVELED WAY OF ANY ROADWAY. STORAGE AREAS SHALL BE SEPARATED FROM THE TRAVELED WAY BY A CLEAR SPACE OF 30 FEET MINIMUM WIDTH. BY CONCRETE BARRIER OR PERMANENTLY INSTALLED BRIDGE RAILING.
11. THE MAINTENANCE AND PROTECTION OF TRAFFIC SCHEMES SHOWN IN THE PLANS OR PROPOSAL ARE TO PROTECT THE TRAVELING PUBLIC. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT THE WORKERS. THE COST OF ADDITIONAL LABOR, MATERIAL AND EQUIPMENT TO PROTECT THE WORKERS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 619.01 BASIC WORK ZONE TRAFFIC CONTROL.
12. ALL TEMPORARY SIGNS FOR WORK ZONE TRAFFIC CONTROL SHALL BE PAID FOR UNDER ITEM 619.01 BASIC WORK ZONE TRAFFIC CONTROL.
13. IN REFERENCE TO THE NYS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES THE FOLLOWING STIPULATIONS SHALL APPLY UNLESS OTHERWISE SPECIFIED BY THE RESIDENT ENGINEER:
  1. WHERE SIGNS ARE SHOWN IN BOTH DIAMOND AND RECTANGULAR SHAPES. ONLY DIAMOND SHAPES WILL BE PERMITTED.
  2. WHERE SIGNS ARE SHOWN IN ALTERNATE SIZES. THE LARGEST SIZE MUST BE USED UNLESS OTHERWISE SPECIFIED BY THE RESIDENT ENGINEER, OR SHOWN IN THE PLANS.
14. THE TRAVEL LANE SHALL BE SWEEPED CLEAN BY THE CONTRACTOR BEFORE THE LANE IS RE-OPENED TO TRAFFIC.
15. SIGNS ARE TO BE DISPLAYED ONLY DURING THE TIME THAT THE TEXT APPLIES. ALL APPROPRIATE SIGNS MUST BE COMPLETELY IN PLACE AND ON DISPLAY JUST PRIOR TO COMMENCEMENT OF A PARTICULAR STAGE OF WORK.
16. ALL MATERIAL AND EQUIPMENT NOT IN USE INCLUDING EMPLOYEES CARS SHALL NOT BE STORED OR PARKED IN THE PROJECT AREA EXCEPT WITHIN DESIGNATED STAGING AREA OR SHALL BE POSITIONED APPROPRIATELY IN ADVANCE OF THE WORK.
17. THE CONTRACTOR SHALL PROVIDE FLAGGERS WITH APPROPRIATE SIGNING WHEREVER OPERATIONS INTERFERE WITH TRAFFIC. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO. DELIVERY/REMOVAL OF MATERIALS LIFTING OPERATIONS AND OTHER ACTIVITIES AS ORDERED BY THE RESIDENT ENGINEER. COST TO BE INCLUDED UNDER ITEM 619.01.
18. THE SOLE DUTY OF THE FLAGGER SHALL BE TO DIRECT TRAFFIC PROPERLY AT ALL TIMES. THEY SHALL NOT BE USED TO MOVE TEMPORARY SIGNS OR ASSIST IN OTHER WORK AND SHALL BE POSITIONED APPROPRIATELY IN ADVANCE OF THE WORK.
19. THE CONTRACTOR SHALL RESTORE ALL PAVEMENT, CONCRETE AND GRADED AREA DUE TO THE INSTALLATION AND REMOVAL OF TRAFFIC CONTROL DEVICES SUCH AS CONCRETE BARRIERS, ETC.. THE AFFECTED AREA SHALL BE RESTORED TO THEIR ORIGINAL OR UNDISTURBED STATE WITH MATERIALS MEETING THE SPECIFICATIONS AND APPROVAL OF THE RESIDENT ENGINEER. NO SEPARATE PAYMENT FOR THIS WORK SHALL BE ALLOWED.

CONSTRUCTION SEQUENCE – BAPTIST CHURCH ROAD BRIDGE

1. ALL TRAFFIC EXCEPT LOCAL TRAFFIC WILL BE DETOURED FROM BAPTIST CHURCH RD ONTO HUNTER BROOK RD AND CROTON AVE. SEE PLAN AND DETOUR SIGNS ON DWGS NOS. MT-2 & MT-3.
2. THE CONTRACTOR SHALL INSTALL ALL DETOUR SIGNS AND ROAD CLOSURE BARRICADES AS SHOWN ON THE TRAFFIC CONTROL PLAN AND A.O.B.E.. DETOUR SIGNS SHALL BE IN PLACE PRIOR TO CLOSING THE ROAD AND COVERED UNTIL JUST PRIOR TO ROAD CLOSURE.
3. AFTER THE IMPLEMENTATION OF THE APPROVED WORK ZONE TRAFFIC CONTROL PLAN. IT MAY BE NECESSARY FOR THE RESIDENT ENGINEER TO ALTER THIS PLAN AS TRAFFIC CONDITIONS WARRANT. ALTERATIONS SHALL INCLUDE BUT NOT BE LIMITED TO THE ADDITION, REPLACEMENT, OR MODIFICATION OF SIGNS AND DELINEATION DEVICES. PAYMENT SHALL BE INCLUDED IN THE PRICE BID FOR CONSTRUCTION SIGNS AND BASIC MAINTENANCE AND PROTECTION OF TRAFFIC.
4. TYPE III CONSTRUCTION BARRICADES AT THE PROJECT LOCATION SHALL BE PLACED CONTINUOUSLY ACROSS THE ENTIRE ROADWAY. EXTENDING MINIMUM OF TWO FEET BEYOND THE EDGE OF THE SHOULDER.
5. PRIOR TO OPENING THE ROADWAY TO TRAFFIC ALL GUIDE RAILS SHALL BE IN PLACE AS SHOWN ON THE CONSTRUCTION PLAN.
6. IMMEDIATELY AFTER ROAD IS OPENED REMOVE ALL DETOUR SIGNS.
7. DURING THE RECONSTRUCTION, THE BRIDGE WILL BE CLOSED TO PEDESTRIANS FOR A PERIOD OF SIX (6) TO EIGHT (8) MONTHS.
8. THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE EXISTING PRIVATE DRIVEWAY ON THE NORTHWEST SIDE OF THE PROJECT AT ALL TIMES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE CONSTRUCTION MEANS AND METHODS TO FACILITATE ACCESS. A CRANE PLACEMENT PLAN SHALL BE SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.

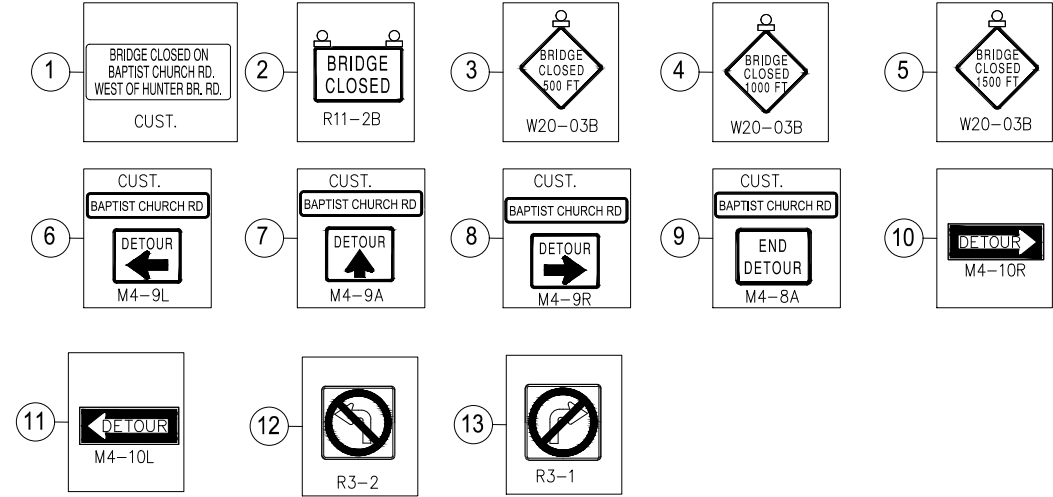
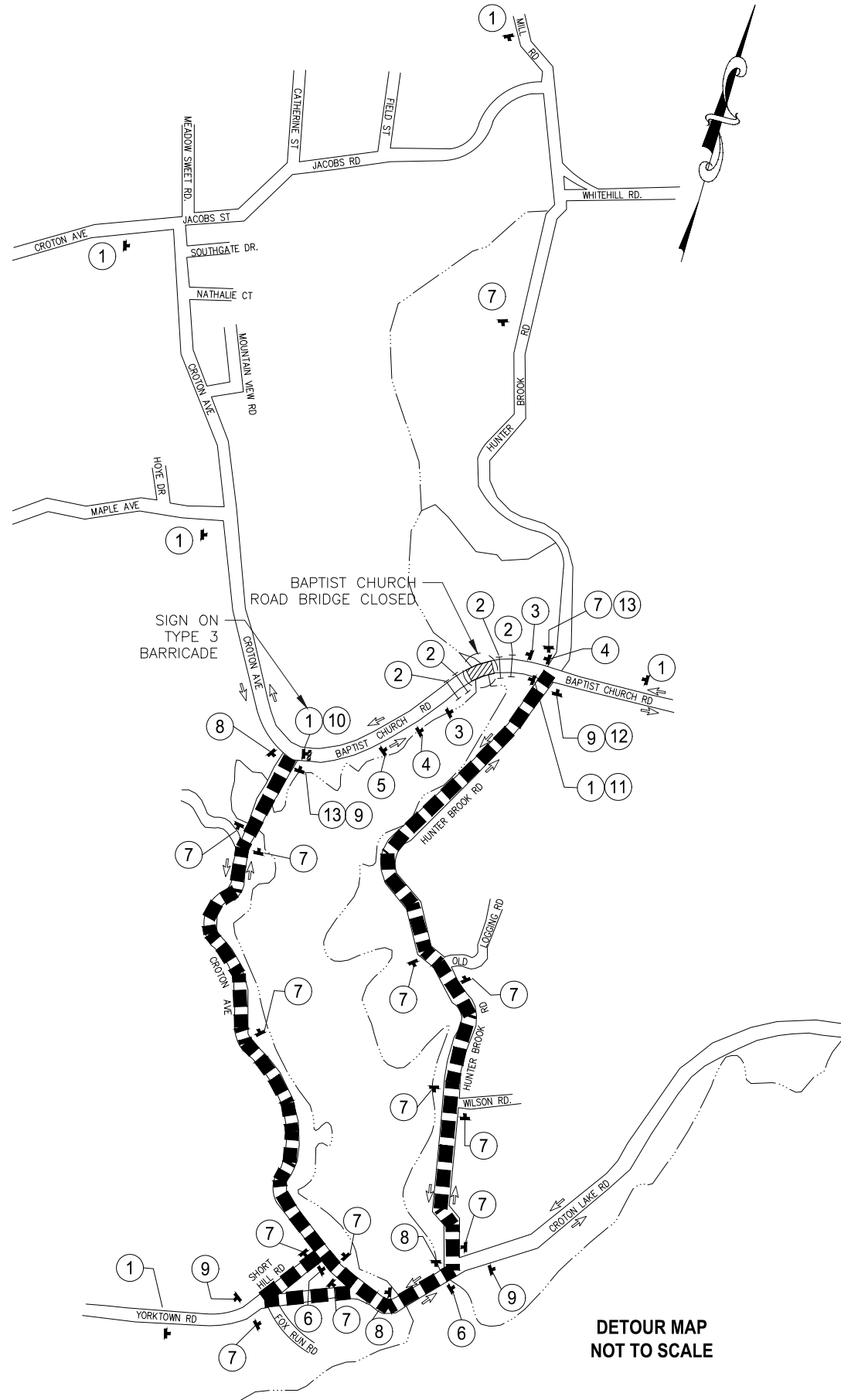
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SUBMITTAL DATE: 4/23/2021

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CHECKED BY: J. MILLER			PORTFOLIO MANAGER PAUL COSTA, PE				SCALE: N.T.S.
DESIGN LEAD: M. BAHADA	505 EIGHTH AVENUE NEW YORK, N.Y. 10018 TEL. (212) 967-6588		EXECUTIVE DIRECTOR SEAN McANDREW, PE				SHEET NO: 14 OF 46
SECTION MANAGER:							DRAWING NO. M27-1
NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.				

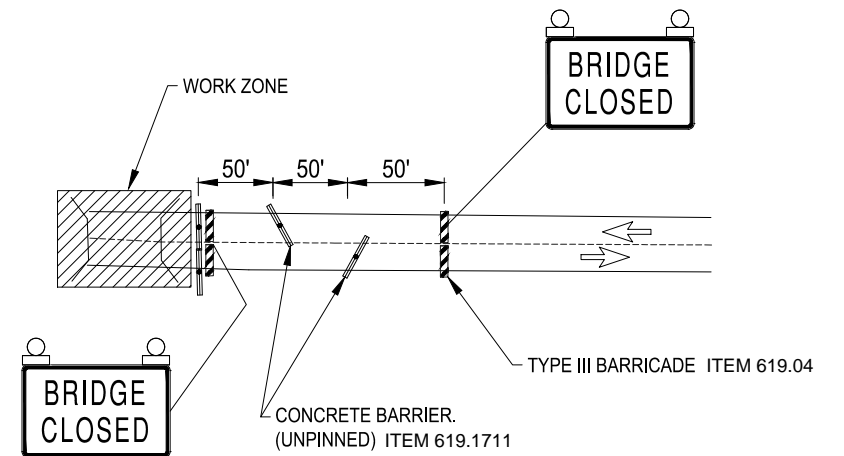
**NOTES:**

1. SEE DRAWING MT-1 FOR WORK ZONE TRAFFIC CONTROL NOTES AND MT-3 FOR SIGN TABLE
2. ALL SIGN LOCATIONS SHOWN ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE VERIFIED BY THE RESIDENT ENGINEER.
3. WHEN THE NEW BRIDGE IS OPENED ALL DETOUR SIGNS SHALL BE REMOVED IMMEDIATELY.
4. CONCRETE BARRIERS SHALL BE UNPINNED AND HAVE A 50' GAP TO PERMIT CONSTRUCTION VEHICLES ACCESS



**ADVANCED SIGNAGE**  
(FOR FULL SIGNAGE DETOUR REFER TO DWG. NO. MT-3)

LEGEND	
SYMBOL	DESCRIPTION
	DIRECTION OF TRAFFIC
	SIGN, TEMPORARY
	TEMPORARY CONC. BARRIER WITH WARNING LIGHTS
	TYPE III BARRICADE
	FLASHING WARNING LIGHTS
	WORK ZONE
	DETOUR ROUTE



**EASTBOUND APPROACH**  
(WESTBOUND APPROACH SIMILAR BUT OPPOSITE HAND)

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

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M. BAHADA  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
WORK ZONE TRAFFIC CONTROL PLAN  
DETOUR PLAN

DATE: 04/23/2021  
SCALE: N.T.S.  
SHEET NO:  
15 OF 46  
DRAWING NO.  
M28-2

TEMPORARY SIGN DATA

ITEM NO.	TEXT NO.	TEXT	LETTER		SIZE (W X H)	M.U.T.C.D.	COLOR		TYPE OF MOUNTING
			SIZE	TYPE			BACKG-ROUND	CHARAC-TERS	
619.01	①	BRIDGE CLOSED ON BAPTIST CHURCH RD. WEST OF HUNTER BR. RD.	6' 5' 4'	D	60 X 30	CUSTDM	DRANGE	BLACK	GR. MTD.
619.01	②		8' 8'	D	36 X 36	R11 - 2B	WHITE	BLACK	GR. MTD.
619.01	③		36" 36"	D	36 X 36	W20 - 3	DRANGE	BLACK	GR. MTD.
619.01	④		36" 36"	D	36 X 36	W20 - 3	DRANGE	BLACK	GR. MTD.
619.01	⑤		36" 36"	D	36 X 36	W20 - 3	DRANGE	BLACK	GR. MTD.
619.01	⑥		4' 5'	D	68 X 8 30 X 24	CUST. M4 - 9L	DRANGE	BLACK	GR. MTD.
619.01	⑦		4' 5'	D	68 X 8 30 X 24	CUST. M4 - 9A	DRANGE	BLACK	GR. MTD.
619.01	⑧		4' 5'	D	68 X 8 30 X 24	CUST. M4 - 9R	DRANGE	BLACK	GR. MTD.
619.01	⑨		4' 5'	D	68 X 8 30 X 24	CUST. M4-8A	DRANGE	BLACK	GR. MTD.
619.01	⑩		6'	D	48 X 18	M4 - 10R	DRANGE	BLACK	GR. MTD.
619.01	⑪		6'	D	48 X 18	M4 - 10L	DRANGE	BLACK	GR. MTD.
619.01	⑫			SYMBOL	30' X 30'	R3 - 2	WHITE	BLACK & RED	GR. MTD.
619.01	⑬			SYMBOL	30' X 30'	R3-1	WHITE	BLACK & RED	GR. MTD.

NOTES:

1. SEE DRAWING MT-1 FOR WORK ZONE TRAFFIC CONTROL NOTES.

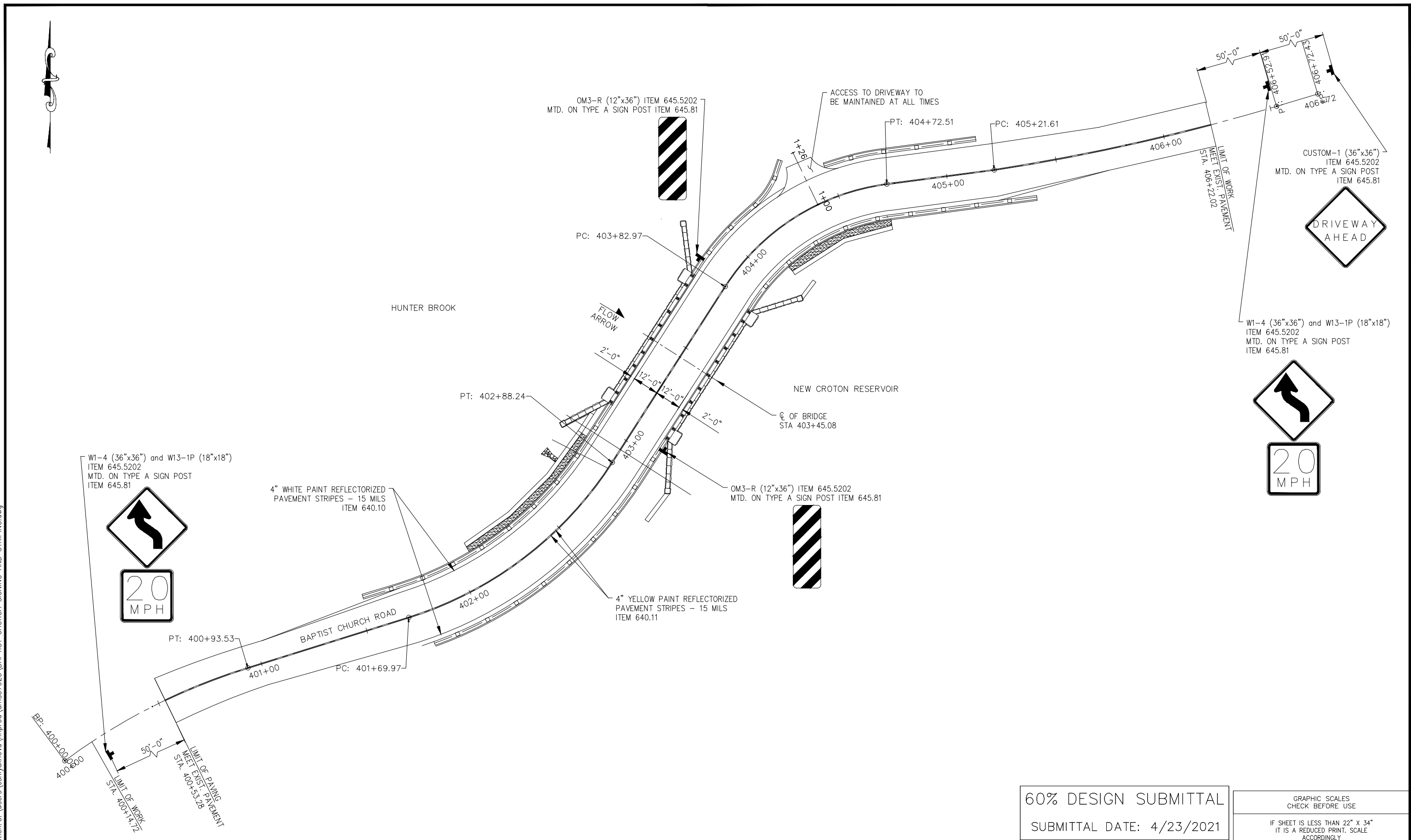
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SUBMITTAL DATE: 4/23/2021

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DESIGNED BY: M. BAHADA	DRAWN BY: M. BAHADA	 MUÑOZ ENGINEERING P.C. 505 EIGHTH AVENUE NEW YORK, N.Y. 10018 TEL. (212) 967-6588	 Environmental Protection	ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE	*WARNING-IT IS A VIOLATION, OF THE NEW YORK STATE EDUCATION LAW, SECTION, 7209.2, FOR ANY PERSON, UNLESS (S)HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION, LAW, SECTION, 7209.2.*	<b>NEW YORK CITY</b> <b>ENVIRONMENTAL PROTECTION</b> BUREAU OF ENGINEERING DESIGN & CONSTRUCTION 96-05 HORACE HARDING EXPRESSWAY 5th FLOOR CORONA, NEW YORK 11368 www.nyc.gov/dep	<b>CAPITAL PROJECT WM-30</b> IN WESTCHESTER COUNTY, NEW YORK CONTRACT CRO-530B  WORK ZONE TRAFFIC CONTROL PLAN SIGN DATA TABLE	DATE: 04/23/2021
CHECKED BY: J. MILLER				PORTFOLIO MANAGER PAUL COSTA, PE				SCALE: N.T.S.
DESIGN LEAD: M. BAHADA				EXECUTIVE DIRECTOR SEAN McANDREW, PE				SHEET NO: 16 OF 46
SECTION MANAGER:								DRAWING NO. M29-3
NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.					



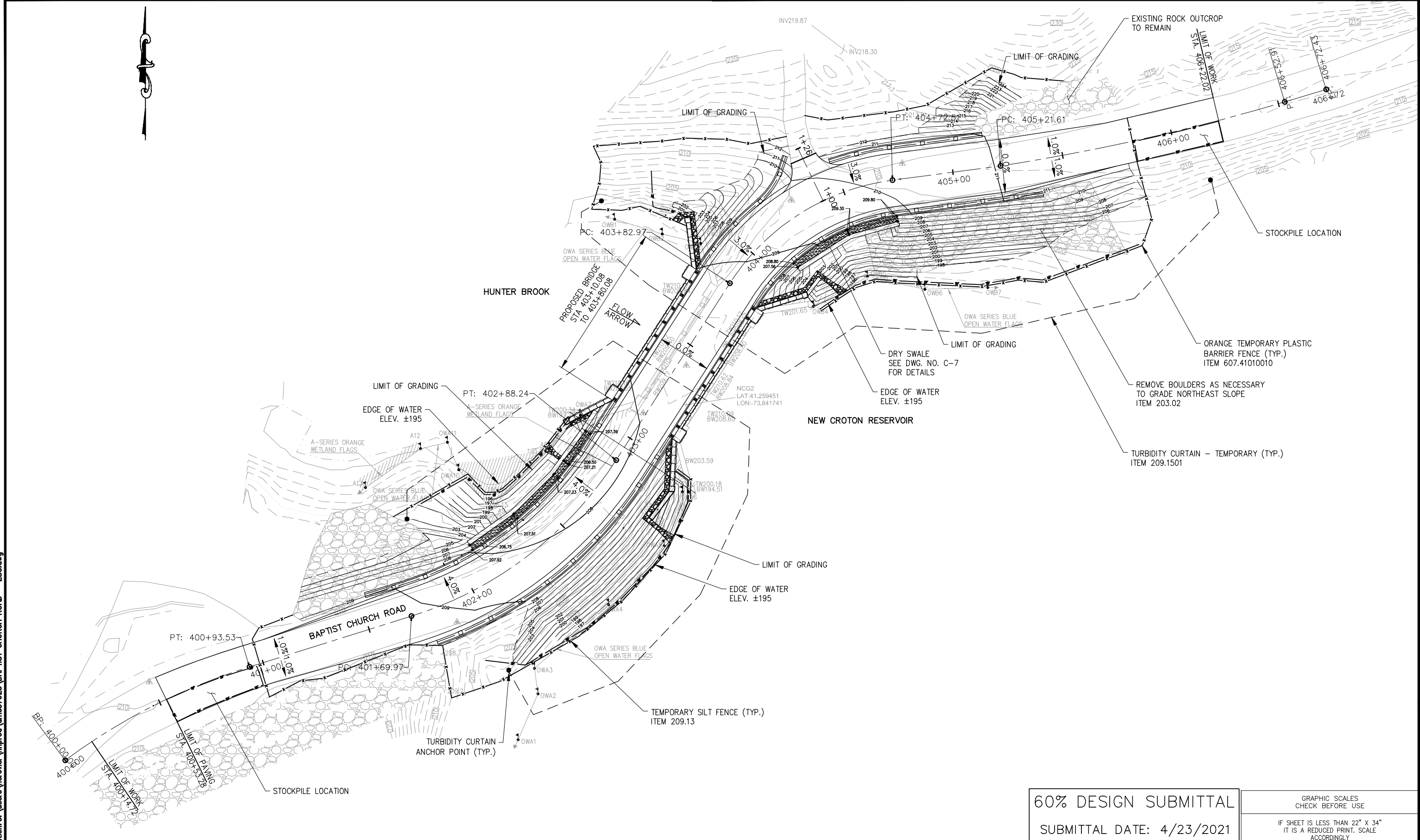
Last Saved By & Date: Ncrevier, Friday, April 23, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 12:00 PM  
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 Drawing Name: & Location: C:\users\cshlyakhova\hpro\dm\37923\BAPTIST CHURCH SIGNING AND STRIPING.dwg



DESIGNED BY: N. CREVIER, PE CHECKED BY: R. ROMAN, PE DESIGN LEAD: O. HUNTER, PE SECTION MANAGER:		DRAWN BY:  HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036		ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE PORTFOLIO MANAGER PAUL COSTA, PE EXECUTIVE DIRECTOR SEAN McANDREW, PE		*WARNING-IT IS A VIOLATION, OF THE NEW YORK STATE EDUCATION LAW, SECTION, 7209.2, FOR ANY PERSON, UNLESS (S)HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION, LAW, SECTION, 7209.2.*		<b>NEW YORK CITY</b> <b>ENVIRONMENTAL PROTECTION</b> BUREAU OF ENGINEERING DESIGN & CONSTRUCTION 96-05 HORACE HARDING EXPRESSWAY 5th FLOOR CORONA, NEW YORK 11368 www.nyc.gov/dep		<b>CAPITAL PROJECT WM-30</b> <b>IN WESTCHESTER COUNTY, NEW YORK</b> <b>CONTRACT CRO-530B</b> PROPOSED SIGNING AND STRIPING PLAN		DATE: 04/23/2021 SCALE: 1" = 20'-0" SHEET NO: 17 OF 46 DRAWING NO. 30N-1	
NO.	DATE	REVISIONS/DESCRIPTION		APPRD.									

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 Paper Size: ANSI A (8.50 x 11.00 Inches) Plot Scale: 0.388663 Plot Style Table: (N)\_BEDC\_BW.ctb  
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DESIGNED BY:  
**N. CREVER, PE**  
 CHECKED BY:  
**C. JENNE, PE**  
 DESIGN LEAD:  
**R.ROMAN, PE**  
 SECTION MANAGER:

DRAWN BY:  
  
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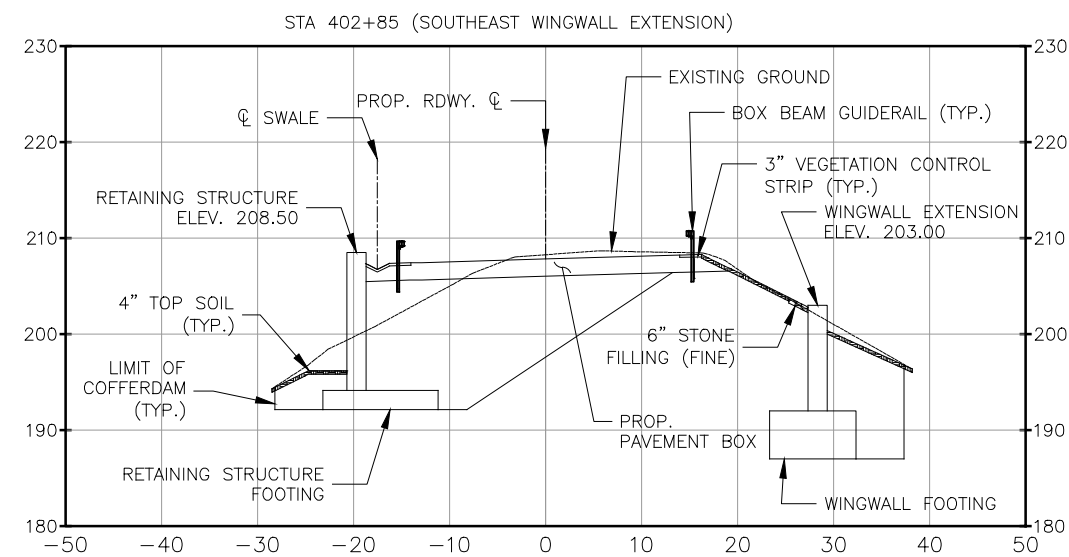
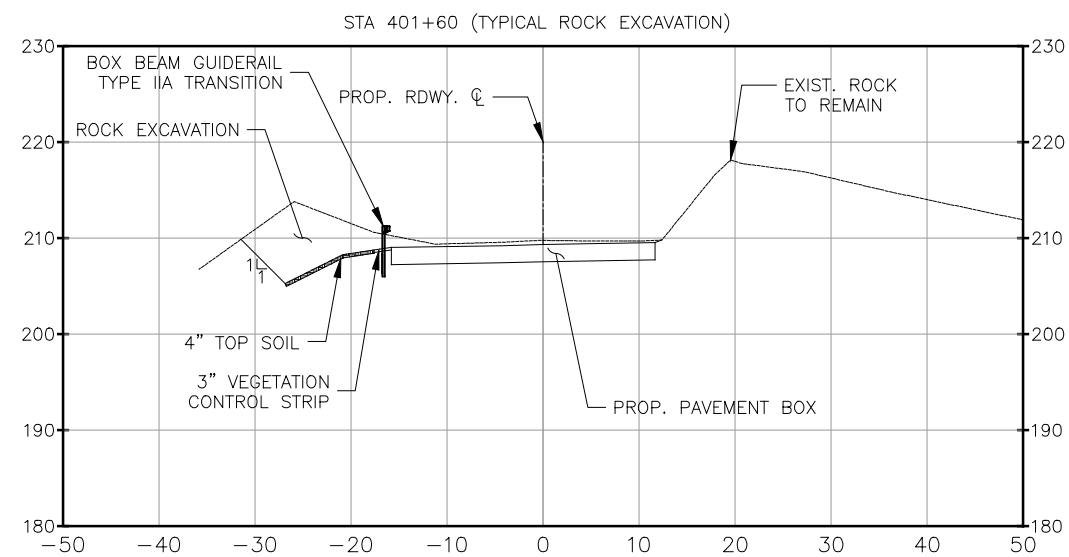
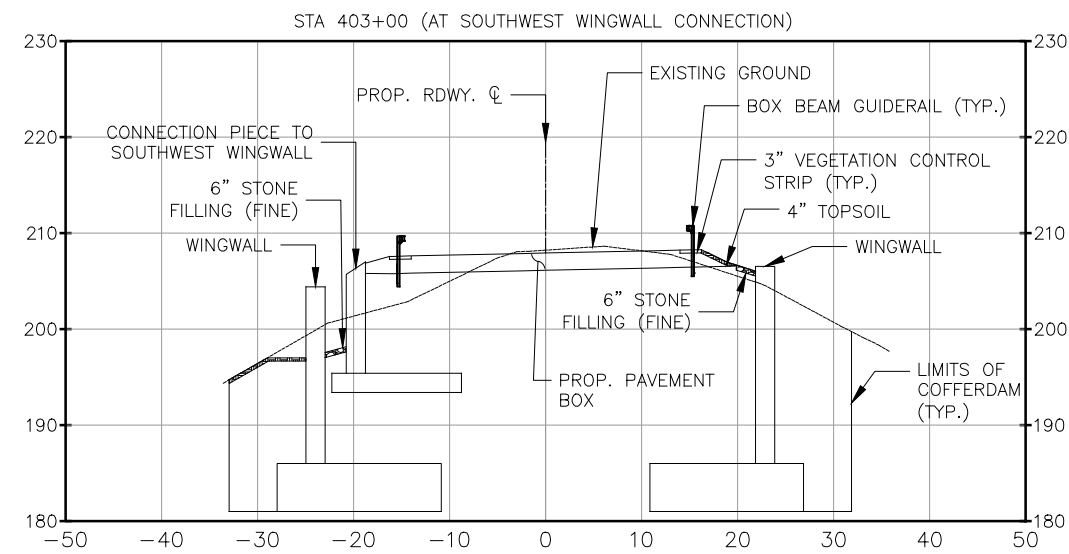
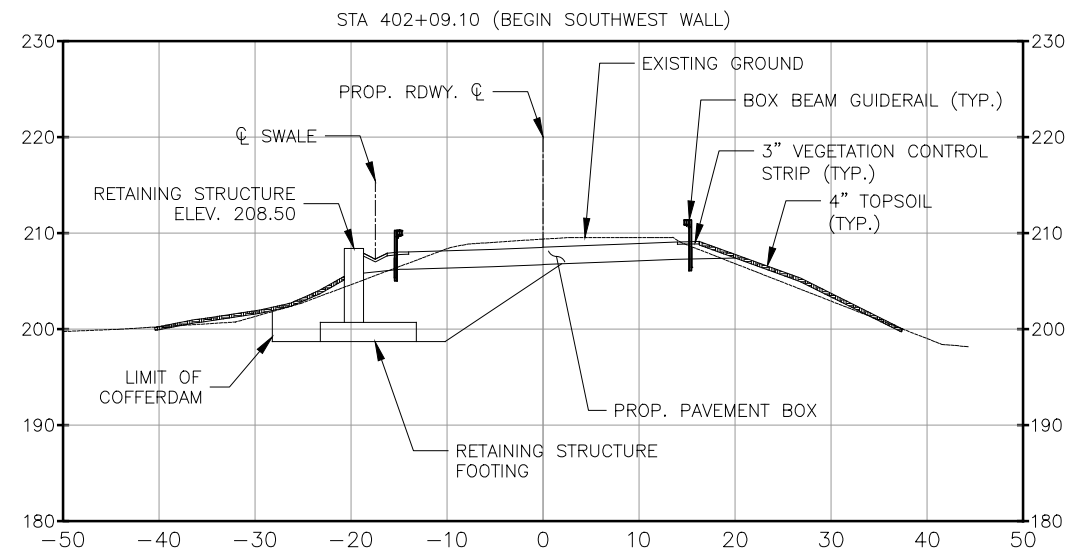
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
**BAPTIST CHURCH ROAD**  
**GRADING AND EROSION CONTROL PLAN**

DATE: 04/23/2021  
 SCALE: 1" = 20'-0"  
 SHEET NO:  
 18 OF 46  
 DRAWING NO.  
**ESC-1**

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- NOTES:  
 1. FOR PAVEMENT COMPOSITION AND EXCAVATION DETAILS SEE DWG. NO. C-2  
 2. FOR RETAINING STRUCTURE DETAILS SEE DWG. NO. S-12 AND S-13  
 3. FOR WINGWALL AND EXTENSION DETAILS SEE DWG. NO. S-6 AND S-8  
 4. FOR GRADING SEE DWG. NO. ESC-1




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DESIGNED BY: N. CREVIER, PE	DRAWN BY:
CHECKED BY: C. JENNE, PE	
DESIGN LEAD: O. HUNTER, PE	
SECTION MANAGER:	

ACCOUNTABLE MANAGER  
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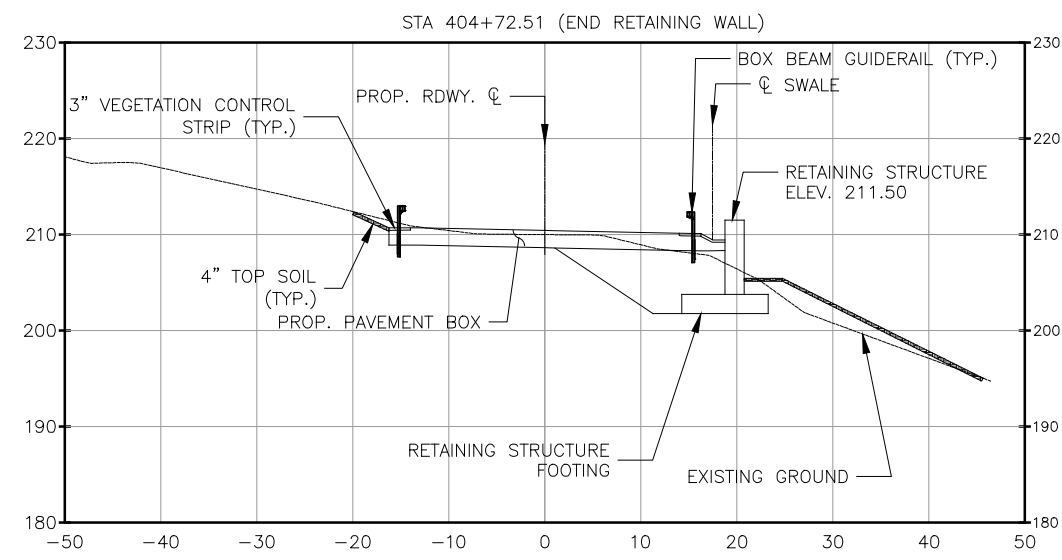
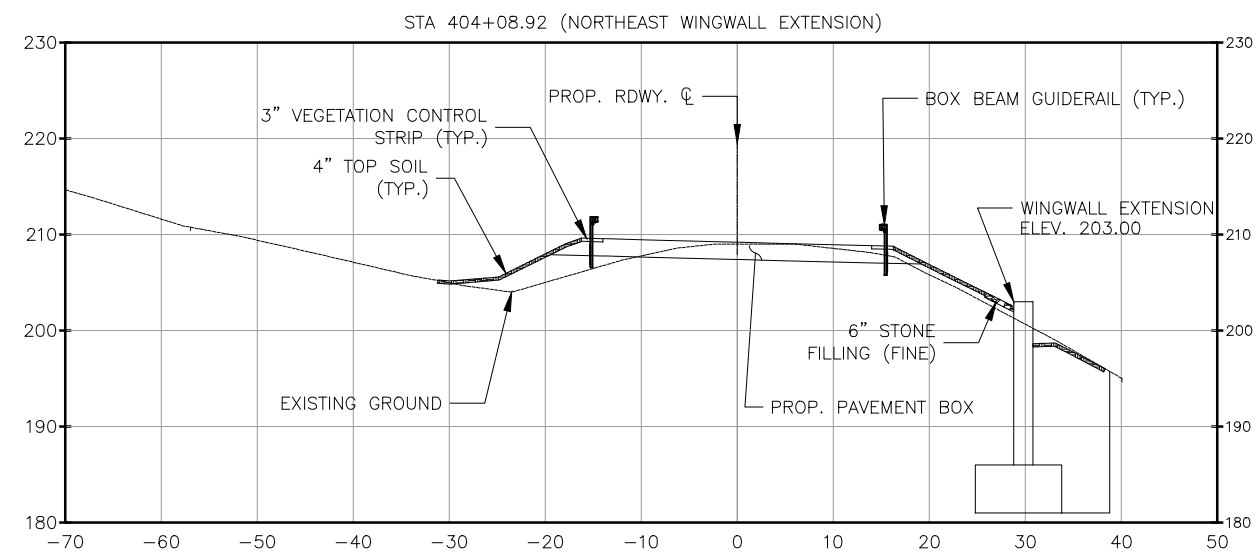
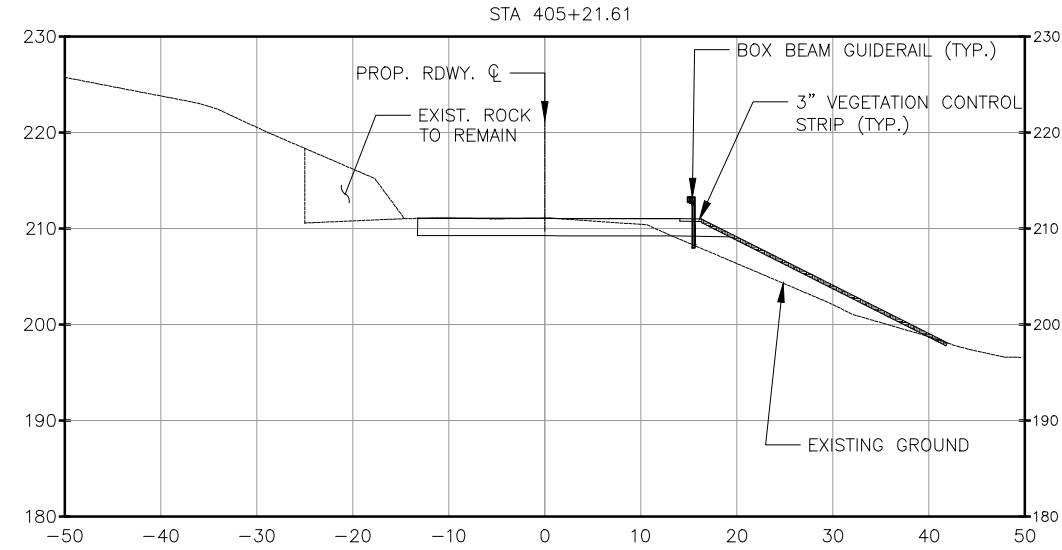
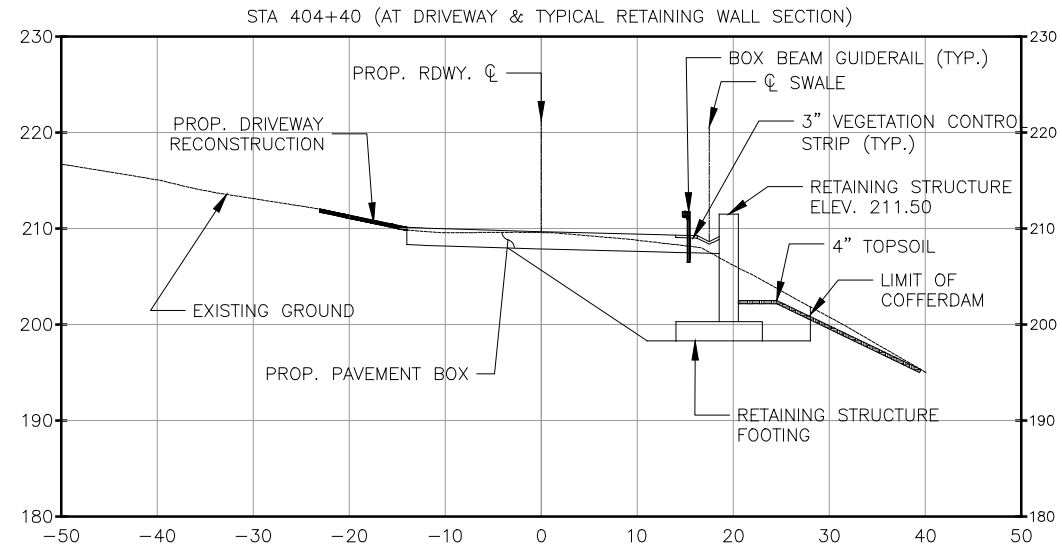
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**

BAPTIST CHURCH ROAD  
 CROSS SECTIONS - SOUTH APPROACH

DATE: 04/23/2021  
 SCALE: 1" = 10'-0"  
 SHEET NO:  
 19 OF 46  
 DRAWING NO.  
 32-1

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

- NOTES:  
 1. FOR PAVEMENT COMPOSITION SEE DWG. NO. C-3  
 2. FOR RETAINING STRUCTURE DETAILS SEE DWG. NO. S-14  
 3. FOR WINGWALL AND CONNECTION DETAILS SEE DWG. NO. S-7 AND S-8  
 4. FOR DRIVEWAY GRADING AND INFORMATION SEE DWG. NO. C-7  
 5. FOR GRADING DETAILS SEE DWG. NO. ESC-1



Last Saved By & Date: Ncrevier, Monday, June 07, 2021 and Date Plotted: Tuesday, July 06, 2021 Time: 12:27 PM  
 Paper Size: ANSI A (8.50 x 11.00 Inches) Plot Style Table: (N)\_BDDC\_BW.ctb  
 Drawing Name: C:\users\Ncrevier\hprod\dms37923\BAPTIST CHURCH ROAD - XS2\_Rev 4.13.21.dwg

60% DESIGN SUBMITTAL  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
**N. GREVIER, PE**  
 CHECKED BY:  
**C. JENNE, PE**  
 DESIGN LEAD:  
**O. HUNTER, PE**  
 SECTION MANAGER:

DRAWN BY:  
  
 HARDESTY & HANOVER, LLC  
 ENGINEERING  
 1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
**JEFFREY A. BUSSE, PE**  
 PORTFOLIO MANAGER  
**PAUL COSTA, PE**  
 EXECUTIVE DIRECTOR  
**SEAN McANDREW, PE**

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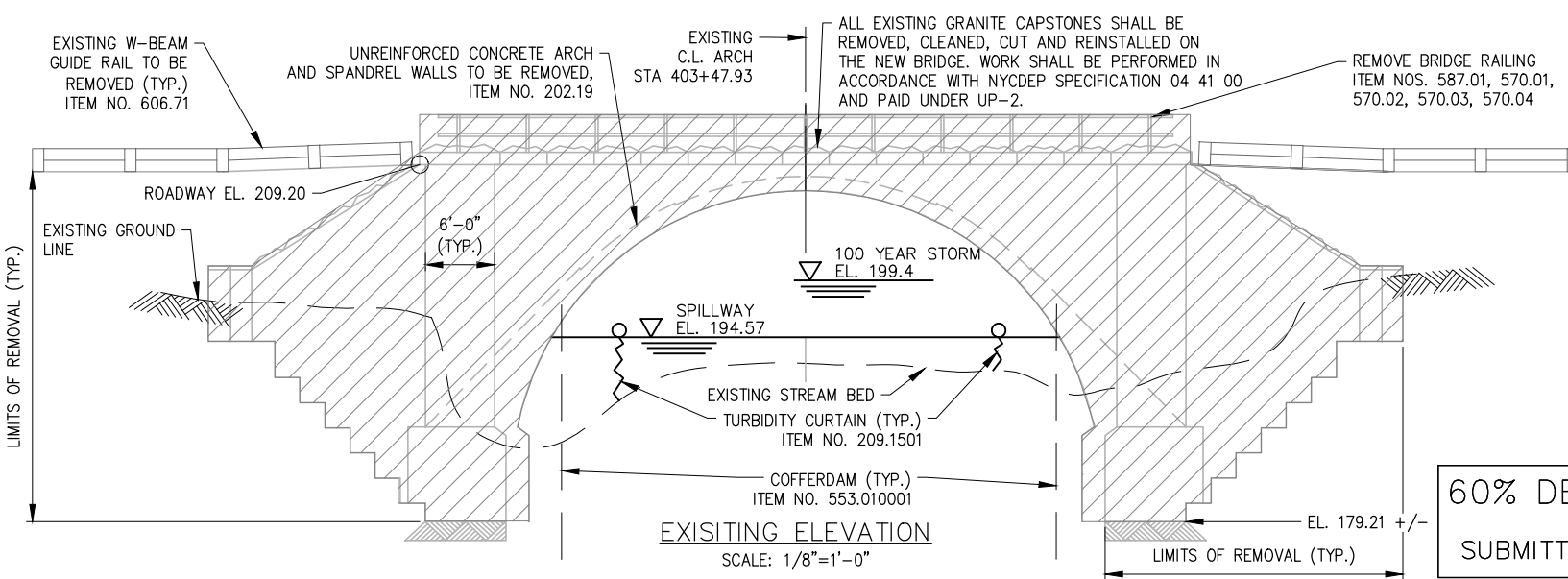
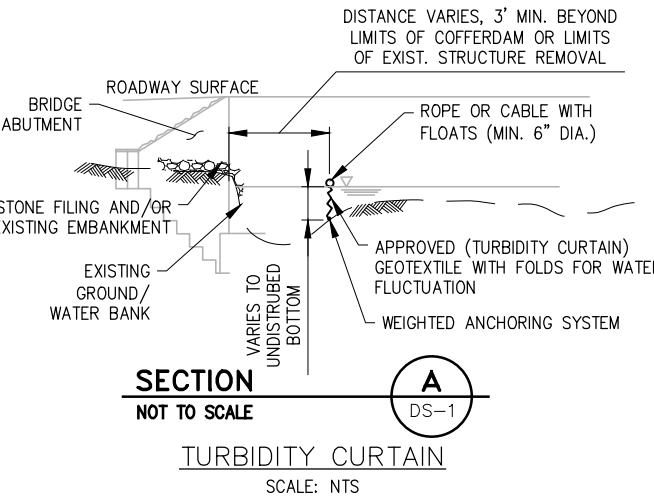
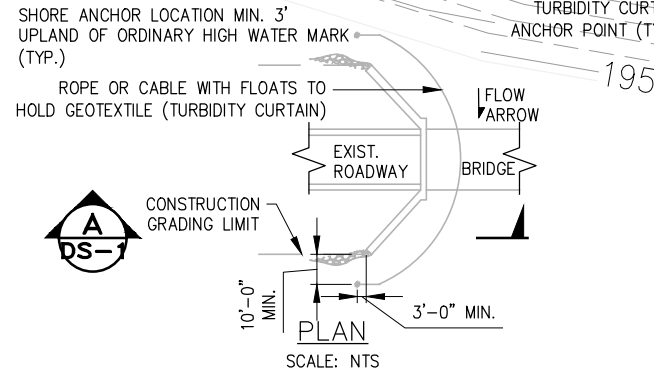
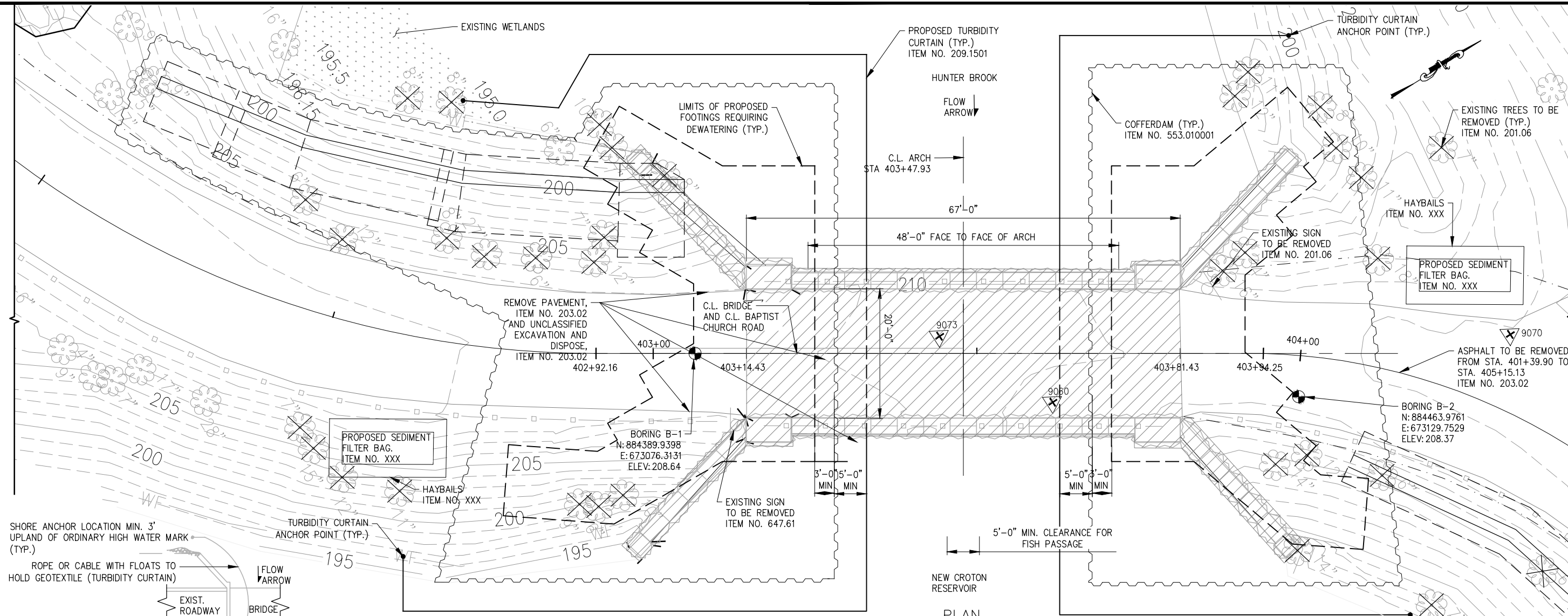
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 BAPTIST CHURCH ROAD  
 CROSS SECTIONS - NORTH APPROACH

DATE: 04/23/2021  
 SCALE: 1" = 10'-0"  
 SHEET NO:  
 20 OF 46  
 DRAWING NO.  
 83-2

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.



Last Saved By: D:\Data\Chalkhova, Wednesday, June 30, 2021 and Date Plotted: Monday, July 12, 2021 Time: 1:10 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.336663 Plot Style Table: (N) BLDG\_BW.ctb  
 Drawing Name: & Location: C:\Users\chalkhova\OneDrive\Documents\37850\PAR-TIST CHURCH DEMOLITION PLAN.dwg



- NOTES:**
1. THE CONTRACTOR SHALL PIECE MARK AND DISMANTLE THE EXISTING GRANITE CAPSTONES ON THE EXISTING STRUCTURES
  2. THE CONTRACTOR SHALL FIELD MEASURE EACH CAPSTONE PRIOR TO REMOVAL
  3. THE CAPSTONES SHALL BE REMOVED AND STORED AT A SECURE LOCATION WHICH HAS BEEN APPROVED BY THE RESIDENT ENGINEER. THE BRIDGE SUBSTRUCTURE SHALL BE COMPLETELY REMOVED. DEMOLITION OF THE SUBSTRUCTURE SHALL BE PAID FOR UNDER ITEM 202.19.
  4. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, MAINTAIN AND REMOVE COFFERDAMS WHICH COMPLETELY ENCLOSE BOTH ABUTMENTS AND WINGWALLS AND ALLOW EXCAVATION, DEMOLITION AND NEW CONSTRUCTION TO PROCEED WITHOUT CAUSING SEDIMENT TO ENTER THE WATERWAY.
  5. LIMITS OF COFFERDAM SHOWN ARE SCHEMATIC. CONTRACTOR SHALL DETERMINE THE LAYOUT AND LIMITS OF COFFERDAM AS REQUIRED TO COMPLETE THE WORK.
  6. TURBIDITY CURTAINS SHALL BE INSTALLED PRIOR TO COFFERDAM CONSTRUCTION

**60% DESIGN SUBMITTAL**  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
 CHECK BEFORE USE  
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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
 J. CIRCOSTA  
 CHECKED BY:  
 O. HUNTER, PE  
 DESIGN LEAD:  
 O. HUNTER, PE  
 SECTION MANAGER:

DRAWN BY:  
 J. CIRCOSTA  
  
 HARDESTY & HANOVER, LLC  
 ENGINEERING  
 1501 Broadway, New York, NY 10036



ACCOUNTABLE MANAGER  
 JEFFREY A. BUSSE, PE  
 PORTFOLIO MANAGER  
 PAUL COSTA, PE  
 EXECUTIVE DIRECTOR  
 SEAN McANDREW, PE

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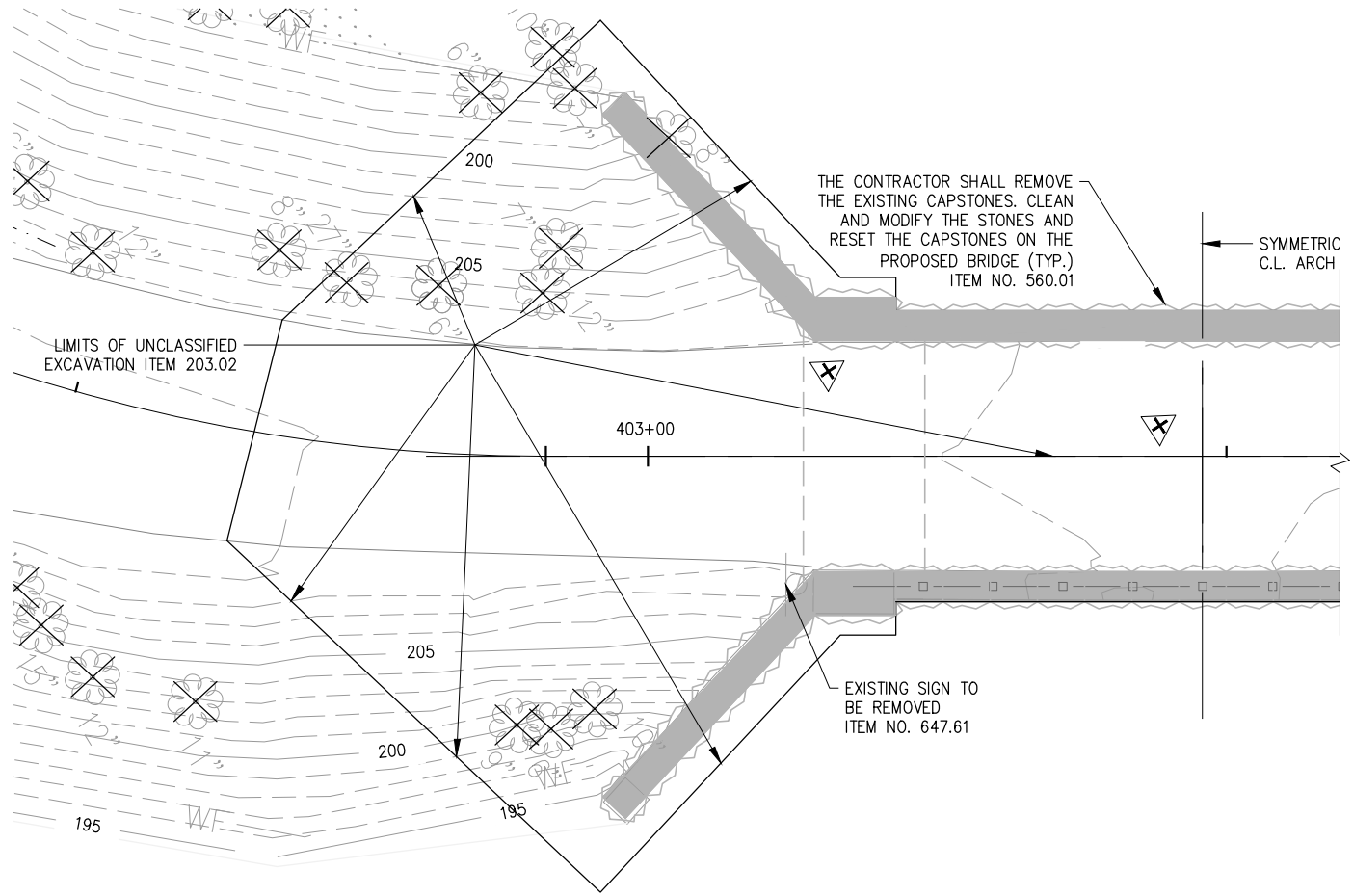
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 CORONA, NEW YORK 11368  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
 DEMOLITION PLAN

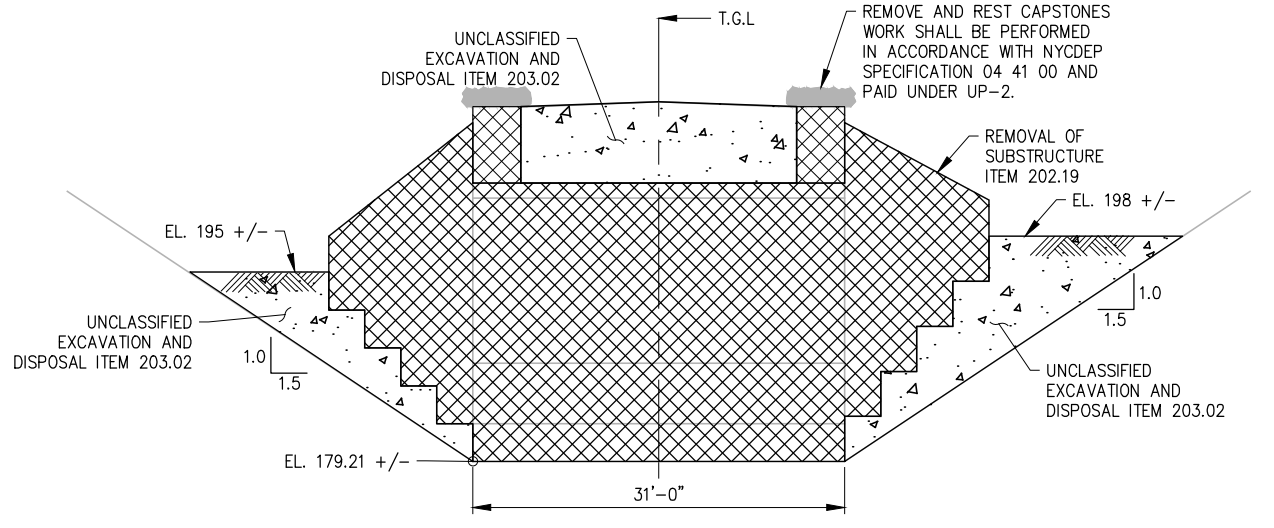
DATE: 04/23/2021  
 SCALE: 1/8"=1'-0"  
 SHEET NO:  
 22 OF 46  
 DRAWING NO.  
**DS-1**

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

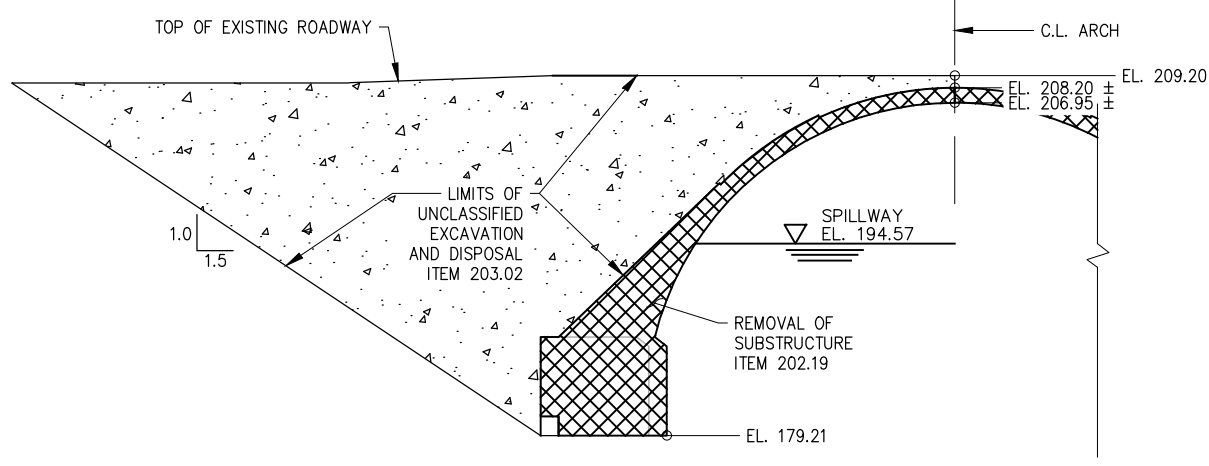
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 Drawing Name: & Location: C:\users\cehlykhova\Myprod\Arms37850\REMOVAL DETAILS.dwg



ARCH REMOVAL - PLAN  
SCALE: 1/8"=1'-0"



ARCH REMOVAL - END ELEVATION  
SCALE: 1/8"=1'-0"



ARCH REMOVAL - SECTION  
SCALE: 1/8"=1'-0"

- NOTE:**
- TREE REMOVAL UNDER 6" PAID FOR UNDER ITEM 201.06. TREE REMOVAL BETWEEN 6" AND 12" PAID FOR UNDER ITEM 614.060204. TREE REMOVAL BETWEEN 12" AND 18" PAID FOR UNDER ITEM 614.060304. TREE REMOVAL BETWEEN 18" AND 24" PAID FOR UNDER ITEM 614.060404. TREE REMOVAL BETWEEN 24" TO 36" PAID FOR ITEM 614.060504.

- LEGEND:**
- UNCLASSIFIED EXCAVATION AND DISPOSAL ITEM NO. 203.02
  - REMOVAL OF SUBSTRUCTURE ITEM NO. 202.19
  - REMOVE AND RESET GRANITE STONES WORK SHALL BE PERFORMED IN ACCORDANCE WITH NYC DEP SPECIFICATION 04 41 00 AND PAID UNDER UP-2.

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SUBMITTAL DATE: 4/23/2021

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DESIGNED BY:  
J. CIRICOSTA  
CHECKED BY:  
O. HUNTER, P.E.  
DESIGN LEAD:  
O. HUNTER, P.E.  
SECTION MANAGER:

DRAWN BY:  
J. CIRICOSTA  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

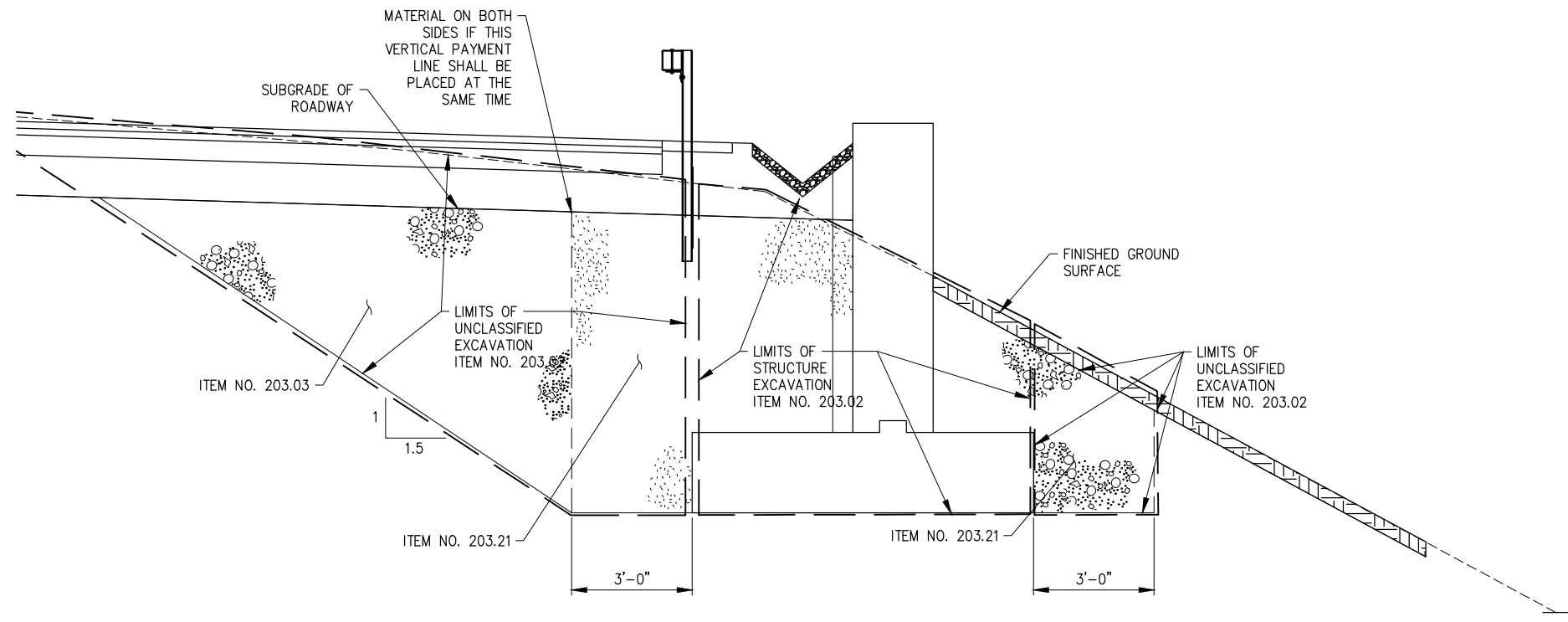
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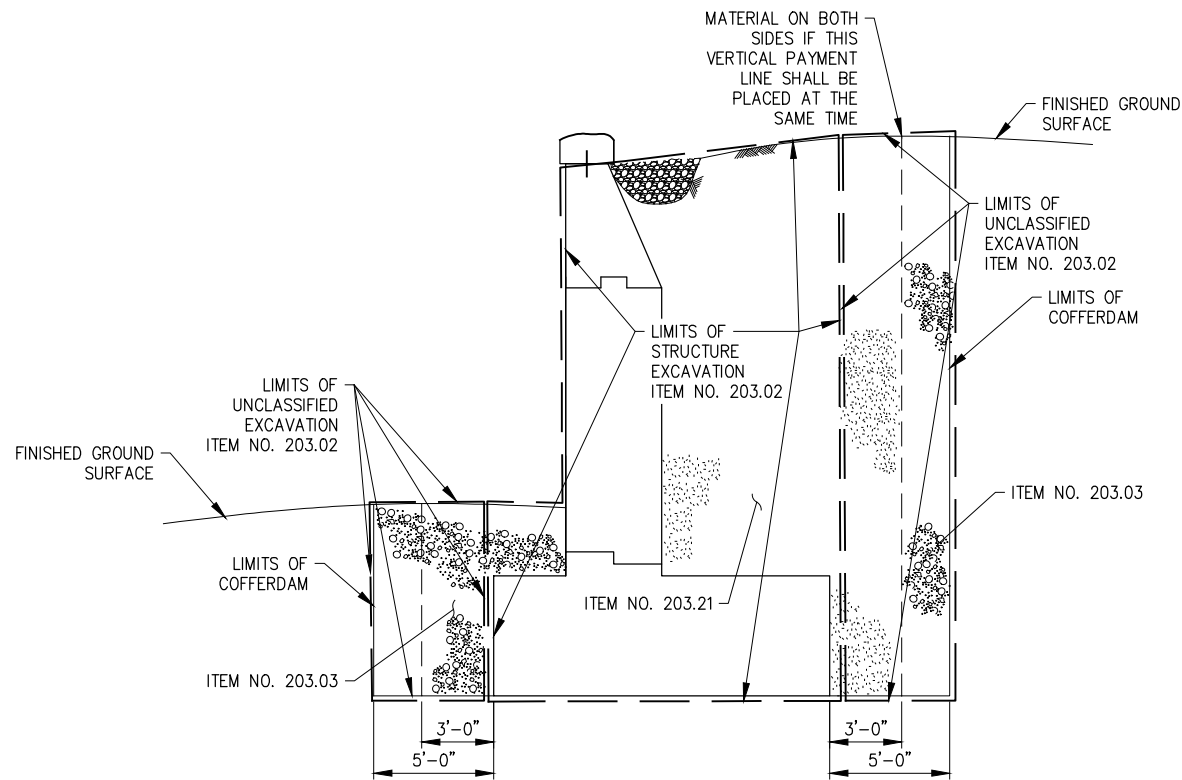
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
ARCH REMOVAL DETAILS

DATE: 04/23/2021  
SCALE: 1/8" = 1'-0"  
SHEET NO:  
23 OF 46  
DRAWING NO.  
DSS-2



Last Saved By: & Date: Cahlykhova, Friday, April 23, 2021, and Date Plotted: Tuesday, June 01, 2021 Time: 3:55 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.356863 Plot Style Table: (N) BADC\_BW.ctb  
 Drawing Name: & Location: C:\users\cahykhova\Myprod\Arms37850\BAP\TIST CHURCH\_RW EXCAVATION.dwg



TYPICAL RETAINING WALL SECTION  
SCALE: 1/2"=1'-0"



TYPICAL WINGWALL SECTION  
SCALE: 1/4"=1'-0"

- LEGEND:
-  - SELECT STRUCTURAL FILL  
ITEM NO. 203.21
  -  - EMBANKMENT IN PLACE  
ITEM NO. 203.03

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SUBMITTAL DATE: 4/23/2021

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O. HUNTER, P.E.  
CHECKED BY:  
M. YOUNG, PE  
DESIGN LEAD:  
O. HUNTER, P.E.  
SECTION MANAGER:

DRAWN BY:  
J. CIRICOSTA  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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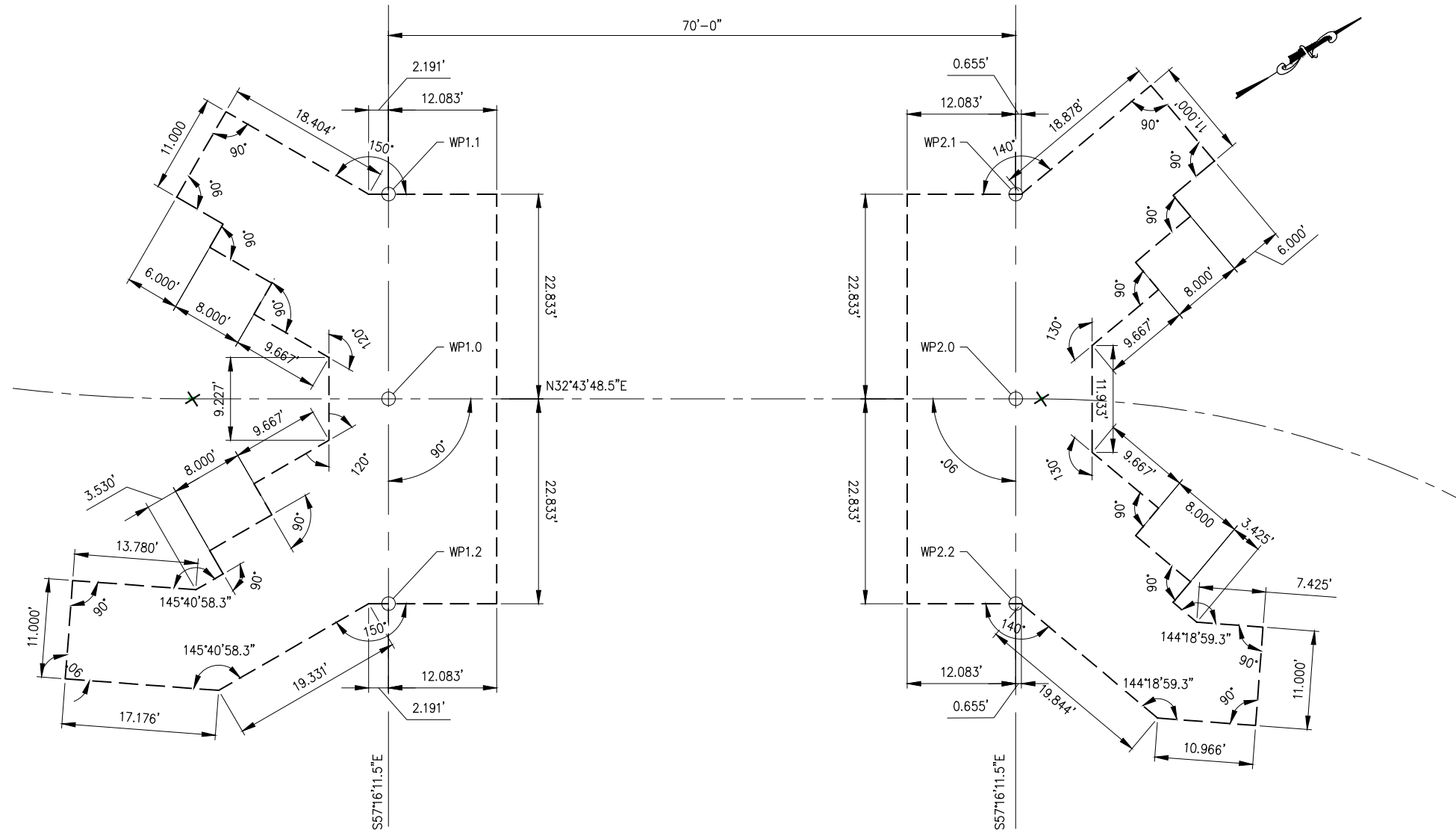
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CORONA, NEW YORK 11368  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
EXCAVATION DETAILS

DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
24 OF 46  
DRAWING NO.  
DS-3



Last Saved By: & Date: Cahlykhova, Friday, April 23, 2021, and Date Plotted: Tuesday, June 01, 2021 Time: 5:27 PM  
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 Drawing Name: & Location: C:\Users\cahlykhova\Inp\prod\Arms37850\PAR-TIST CHURCH GEOMETRIC LAYOUT\_2.dwg



GEOMETRIC LAYOUT  
SCALE: 1/8"=1'-0"

WORK POINT	COORDINATES		C.L. BAPTIST CHURCH ROAD	
	NORTHING	EASTING	STATION	OFFSET
WP 1.0	884,398.9477	673,074.8135	403+10.077	0.000
WP 1.1	884,411.2933	673,055.6054	403+10.077	-22.833
WP 1.2	884,386.6021	673,094.0215	403+10.077	22.833
WP 2.0	884,457.8335	673,112.6613	403+80.077	0.000
WP 2.1	884,470.1791	673,093.4532	403+80.077	-22.833
WP 2.2	884,445.4879	673,131.8643	403+80.077	22.833

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SUBMITTAL DATE: 4/23/2021

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O. HUNTER, P.E.  
CHECKED BY:  
N. CREWER, P.E.  
DESIGN LEAD:  
O. HUNTER, P.E.  
SECTION MANAGER:

DRAWN BY:  
J. CIRICOSTA  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

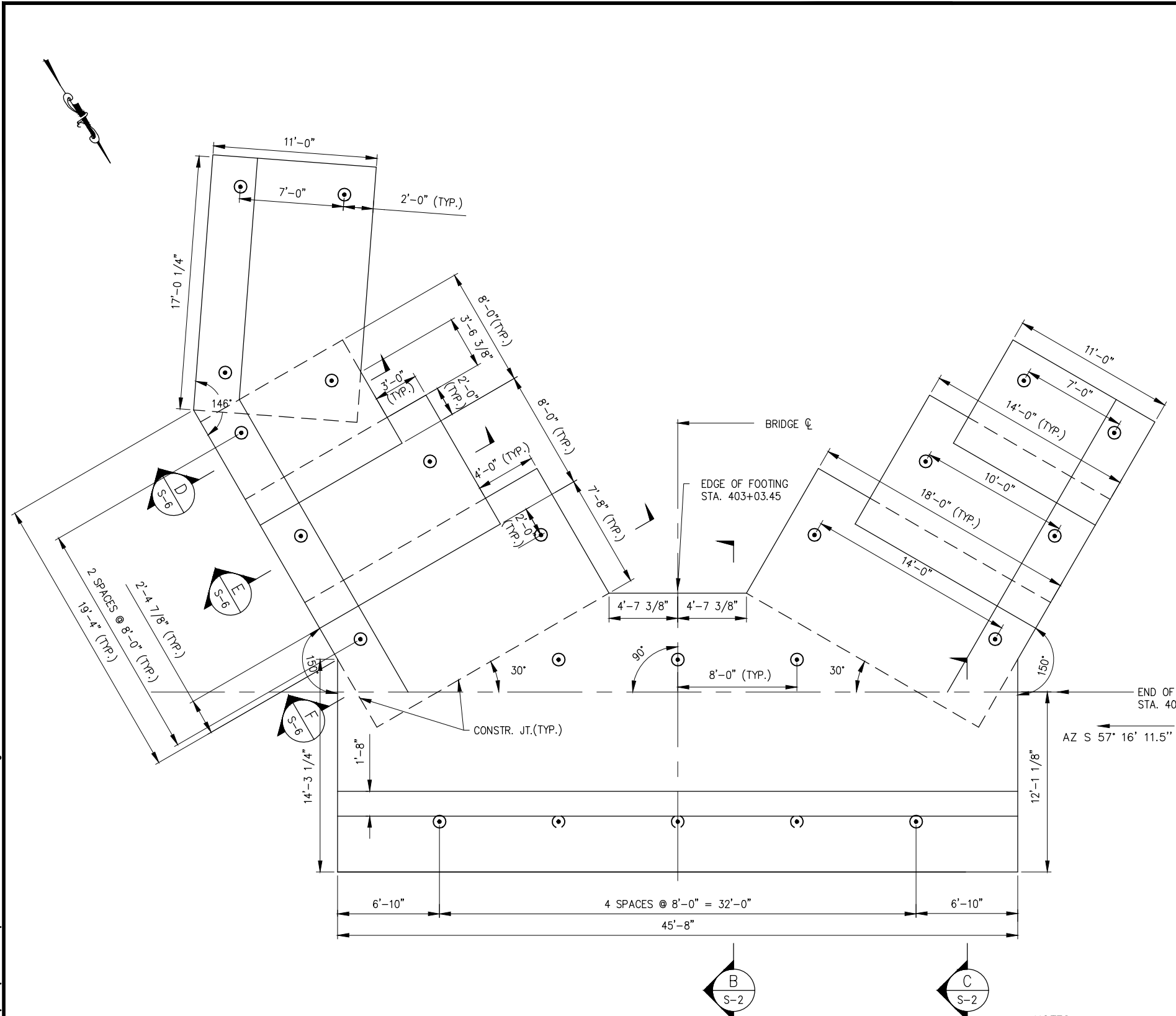
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
GEOMETRIC LAYOUT

DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
25 OF 46  
DRAWING NO.  
S381

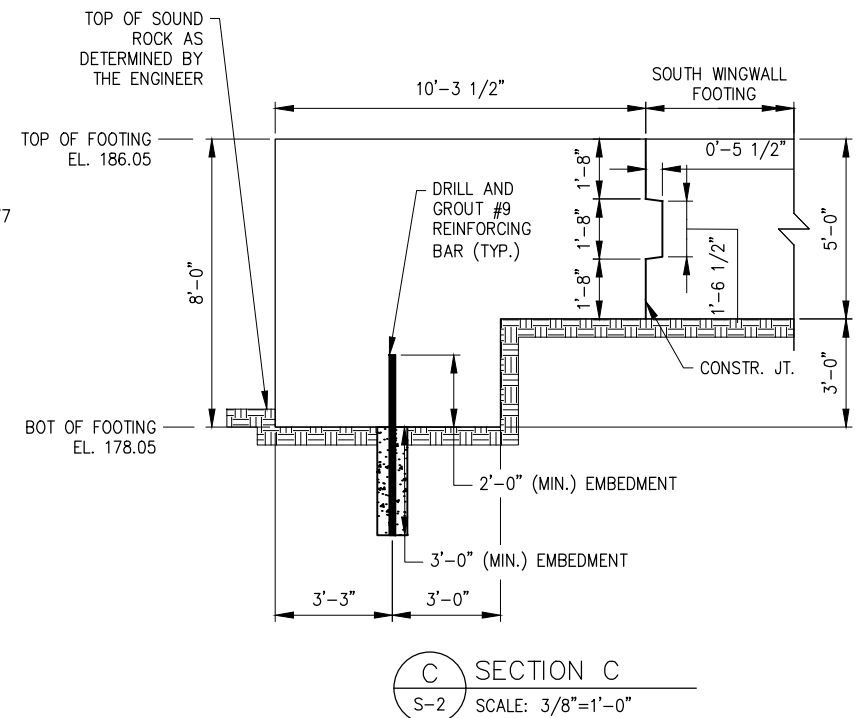
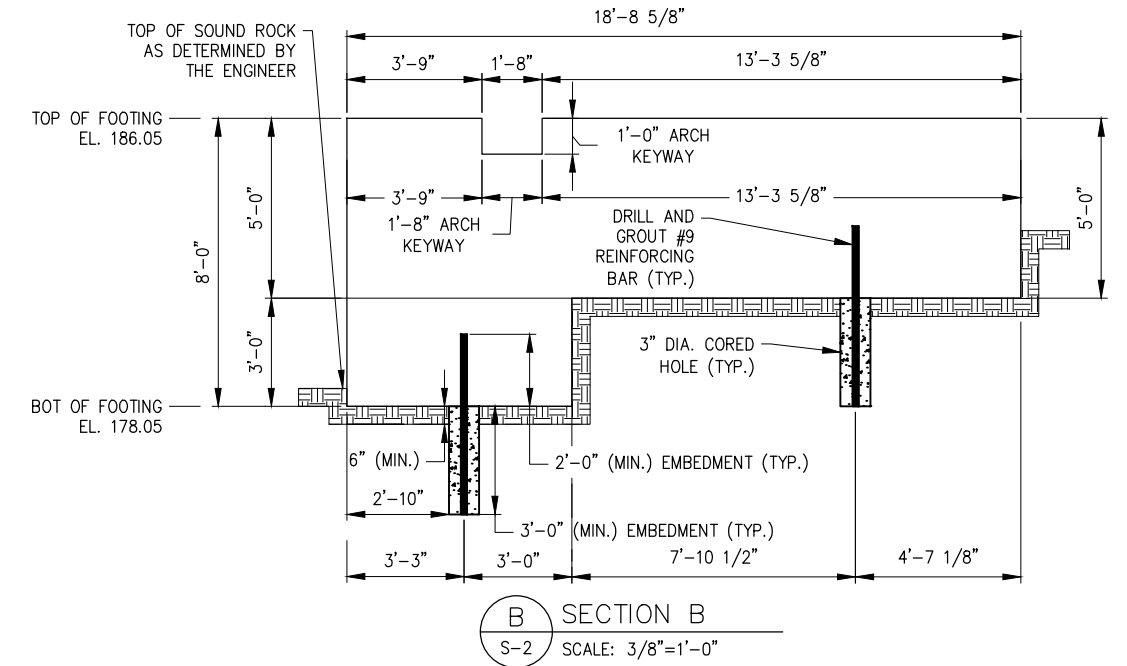
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 Drawing Name: & Location: C:\Users\jcircoستا\Documents\Arms\Arms7850\South Footing Details.Plot.dwg



**FOOTING PLAN**  
SCALE: 1/4" = 1'-0"

- LEGEND:**
- ROCK DOWELS
  - SOUND ROCK

- NOTES:**
- REINFORCING BARS FOR ROCK DOWELS SHALL BE GRADE 60 GALVANIZED CARBON-STEEL BARS PER ASTM A 615
  - ROCK EXCAVATION IS ANTICIPATED FOR FOOTING CONSTRUCTION. WORK SHALL BE PAID UNDER UP-1 AND PERFORMED IN ACCORDANCE WITH NYDEP SPECIFICATION SECTION 31 23 25.
  - SEE DRAWING G-5 FOR STRUCTURAL NOTES ON REINFORCING STEEL AND CONCRETE.



**60% DESIGN SUBMITTAL**  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: O. HUNTER, P.E.	DRAWN BY: J. CIRCOСТА
CHECKED BY: R. ROMAN, P.E.	 <b>HARDESTY &amp; HANOVER, LLC</b> ENGINEERING 1501 Broadway New York, NY 10036
DESIGN LEAD: O. HUNTER, P.E.	
SECTION MANAGER:	

ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE	<p><b>NEW YORK CITY</b>  <b>ENVIRONMENTAL PROTECTION</b>          BUREAU OF ENGINEERING DESIGN &amp; CONSTRUCTION          96-05 HORACE HARDING EXPRESSWAY 5th FLOOR          CORONA, NEW YORK 11368          www.nyc.gov/dep</p>
PORTFOLIO MANAGER PAUL COSTA, PE	
EXECUTIVE DIRECTOR SEAN McANDREW, PE	

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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**

**SOUTH FOOTING PLAN**

DATE: 04/23/2021  
 SCALE: AS NOTED  
 SHEET NO:  
 26 OF 46  
 DRAWING NO.  
 S392

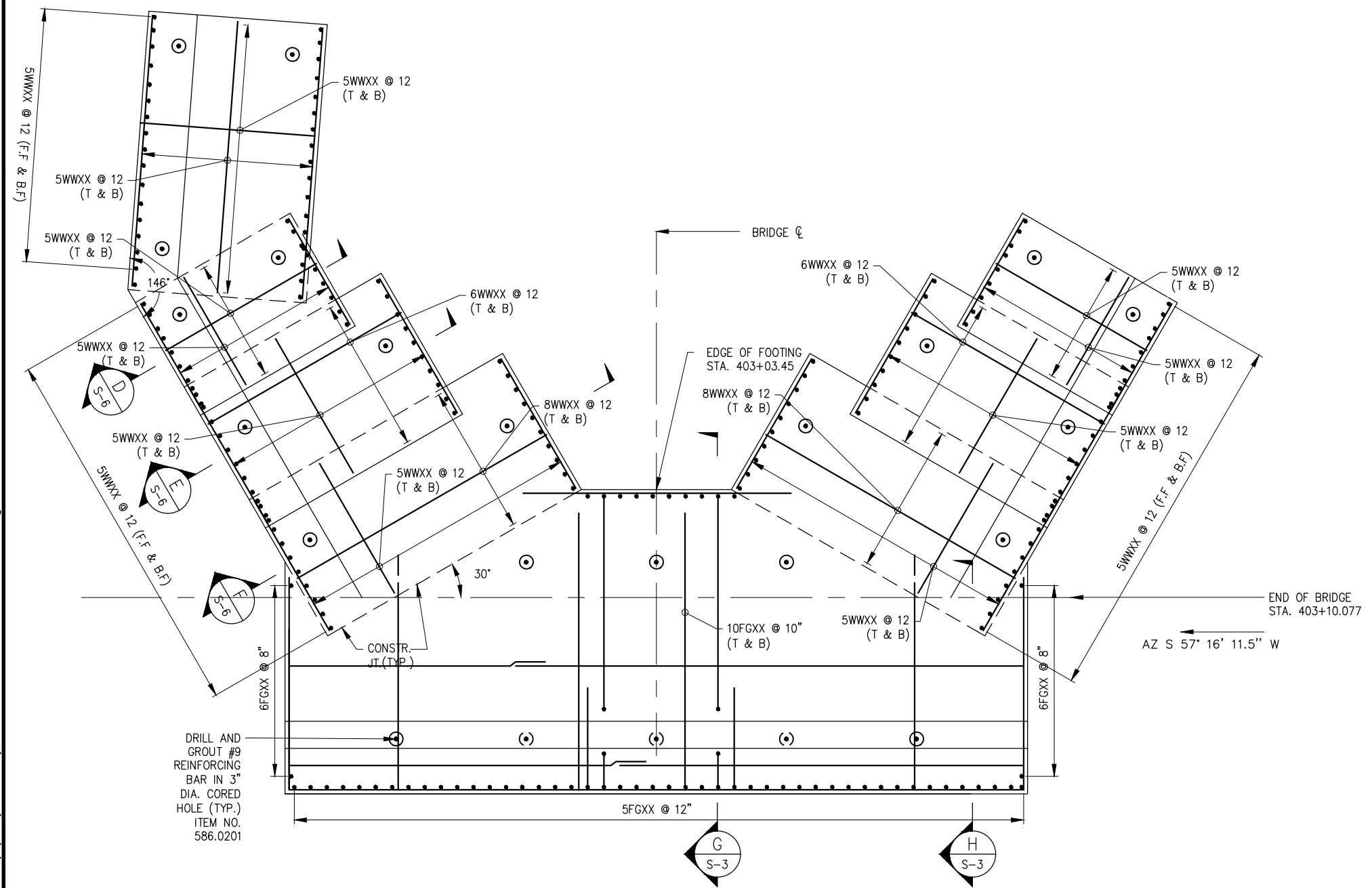
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 Drawing Name: & Location: C:\Users\cehlykhova\Inpro\Drawings\37850 SOUTH FOOTING REINFORCEMENT DETAILS.dwg

**LEGEND:**

-  - ROCK DOWELS
-  - SOUND ROCK

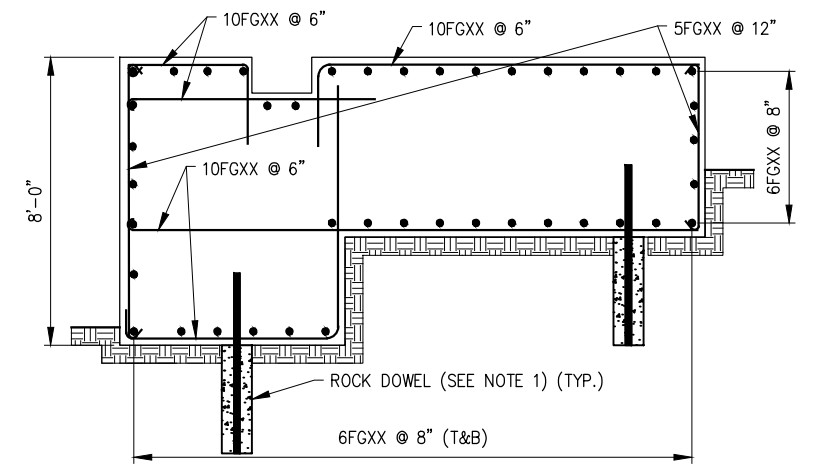
**NOTES:**

1. FOR ROCK DOWEL LAYOUT AND NOTES SEE DWG NO S-2.
2. MINIMUM CONCRETE COVER WILL BE NO LESS THAN 3 INCHES.
3. SEE DRAWING G-6 FOR STRUCTURAL NOTES ON REINFORCING STEEL AND CONCRETE.

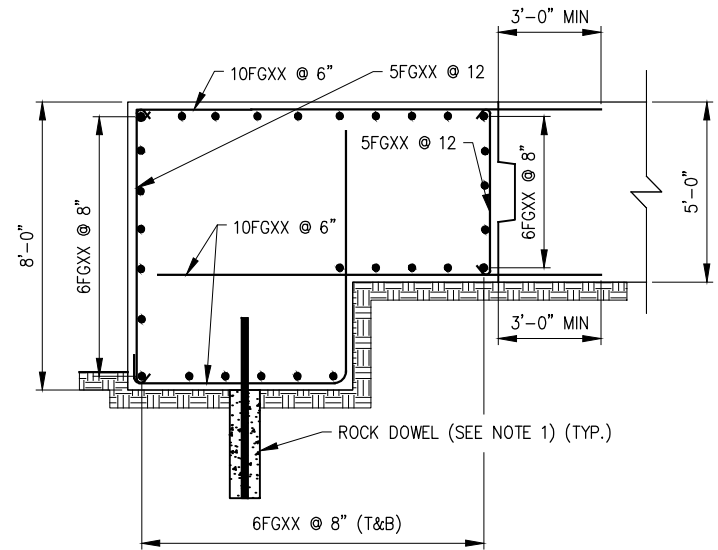


DRILL AND GROUT #9 REINFORCING BAR IN 3" DIA. CORED HOLE (TYP.)  
 ITEM NO. 586.0201

**FOOTING PLAN**  
SCALE: 1/4" = 1'-0"



**G SECTION G**  
S-3 SCALE: 3/8"=1'-0"



**H SECTION H**  
S-3 SCALE: 3/8"=1'-0"

**60% DESIGN SUBMITTAL**  
SUBMITTAL DATE: 4/23/2021

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DESIGNED BY:  
O. HUNTER, P.E.  
 CHECKED BY:  
R. ROMAN, P.E.  
 DESIGN LEAD:  
O. HUNTER, P.E.  
 SECTION MANAGER:

DRAWN BY:  
J. CIRCOSTA  
  
**HARDESTY & HANOVER, LLC**  
 ENGINEERING  
 1501 Broadway New York, NY 10036



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 PORTFOLIO MANAGER  
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SEAN McANDREW, PE

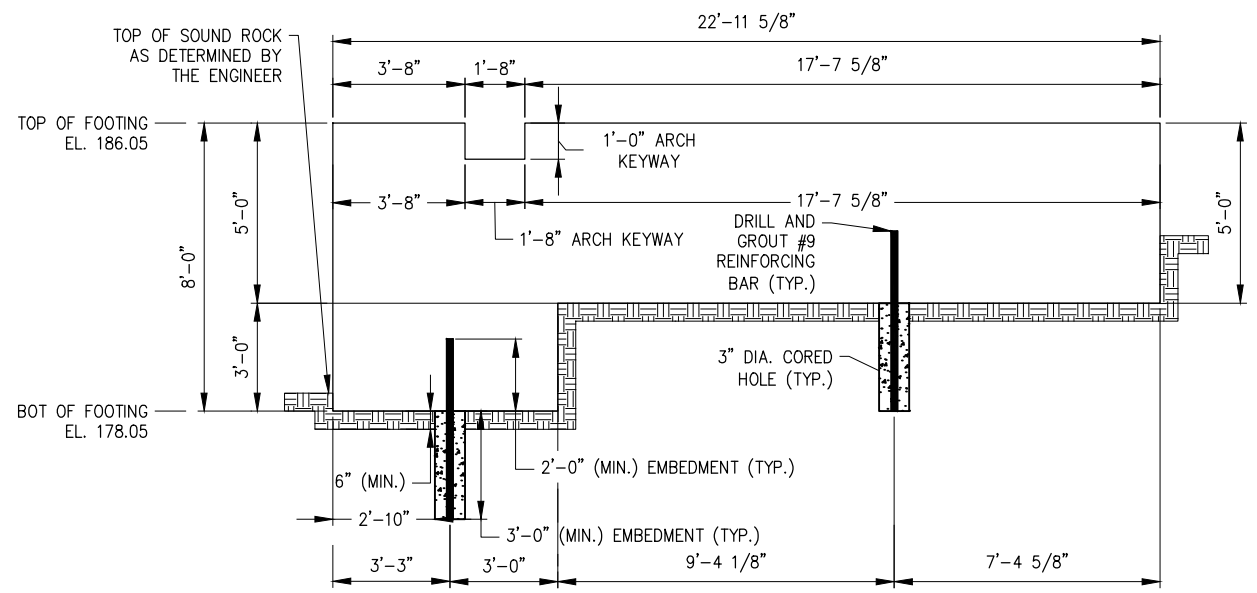
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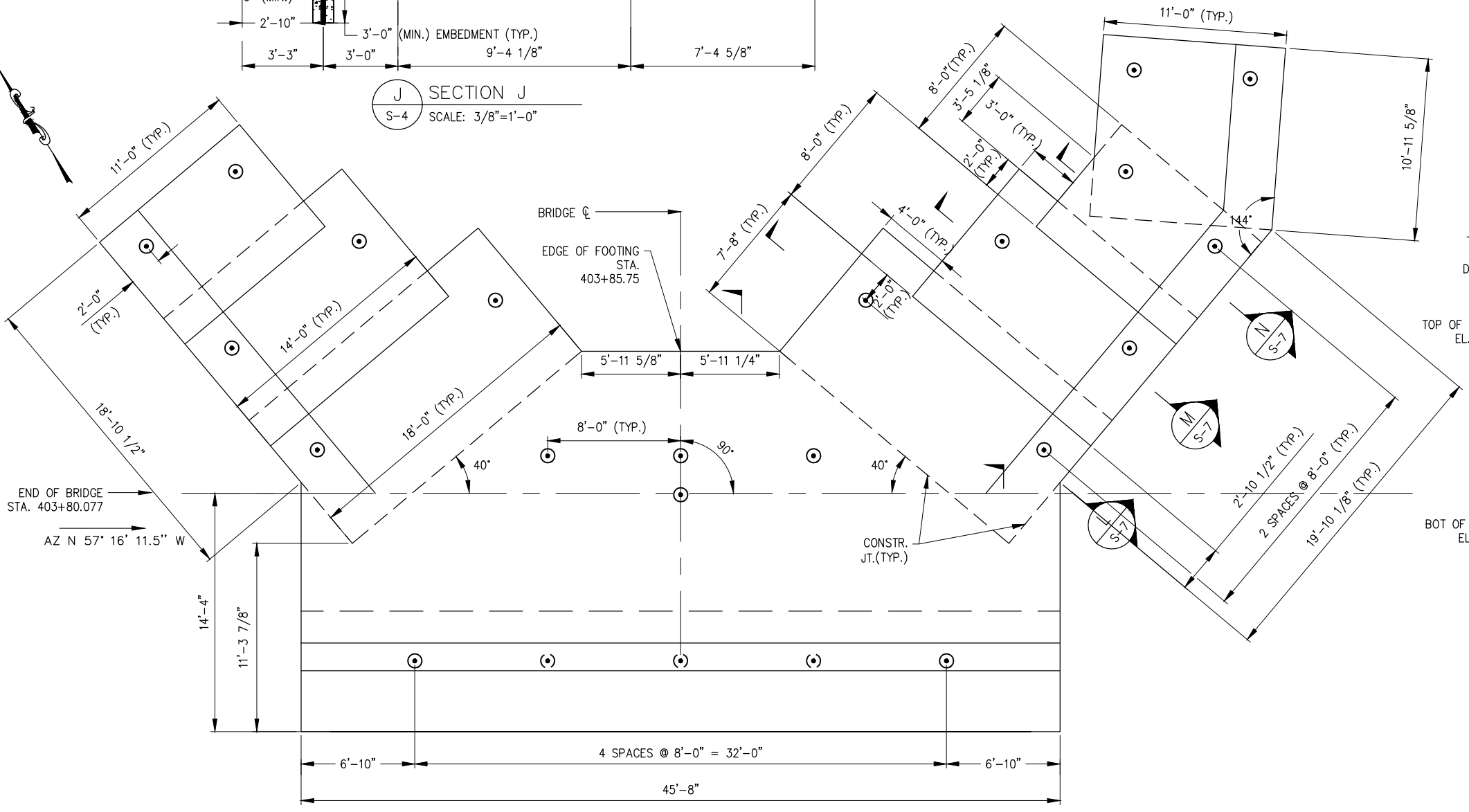
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 SOUTH FOOTING REINFORCEMENT

DATE: 04/23/2021  
 SCALE: AS NOTED  
 SHEET NO:  
27 OF 46  
 DRAWING NO.  
**S403**

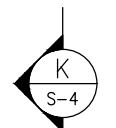
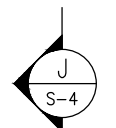
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 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.336863 Plot Style Table: (N) BEND.BW.ctb  
 Drawing Name: & Location: C:\Users\cehlykhova\OneDrive\Projects\37850\North Footing Details\_PLOT.dwg



**J SECTION J**  
S-4 SCALE: 3/8"=1'-0"

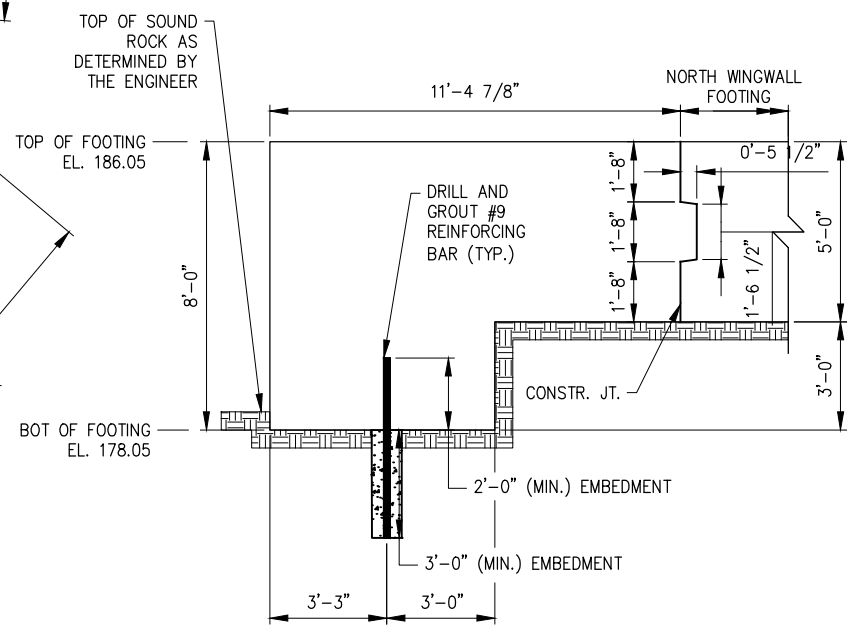


**FOOTING PLAN**  
SCALE: 1/4" = 1'-0"



- NOTES:**
- REINFORCING BARS FOR ROCK DOWELS SHALL BE GRADE 60 GALVANIZED CARBON-STEEL BARS PER ASTM A 615
  - ROCK EXCAVATION IS ANTICIPATED FOR FOOTING CONSTRUCTION. WORK SHALL BE PAID UNDER ITEM UP-1 AND PERFORMED IN ACCORDANCE WITH NYCDEP SPECIFICATION SECTION 31 23 25.

- LEGEND:**
- ROCK DOWELS
  - SOUND ROCK



**K SECTION K**  
S-4 SCALE: 3/8"=1'-0"

**60% DESIGN SUBMITTAL**  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
CHECK BEFORE USE  
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ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: O. HUNTER, P.E.	DRAWN BY: J. CIRICOSTA
CHECKED BY: R. ROMAN, P.E.	
DESIGN LEAD: O. HUNTER, P.E.	HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036
SECTION MANAGER:	



ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE	*WARNING-IT IS A VIOLATION, OF THE NEW YORK STATE EDUCATION LAW, SECTION, 7209.2, FOR ANY PERSON, UNLESS (S)HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION, LAW, SECTION, 7209.2.*
PORTFOLIO MANAGER PAUL COSTA, PE	
EXECUTIVE DIRECTOR SEAN McANDREW, PE	

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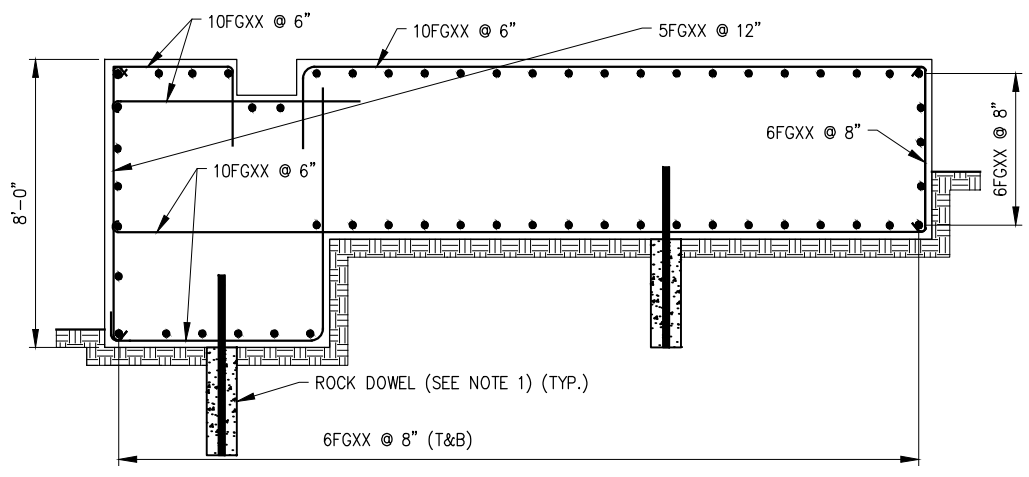
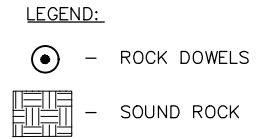
**CAPITAL PROJECT WM-30**  
IN WESTCHESTER COUNTY, NEW YORK  
CONTRACT CRO-530B  
  
NORTH FOOTING PLAN

DATE: 04/23/2021
SCALE: AS NOTED
SHEET NO: 28 OF 46
DRAWING NO. S414

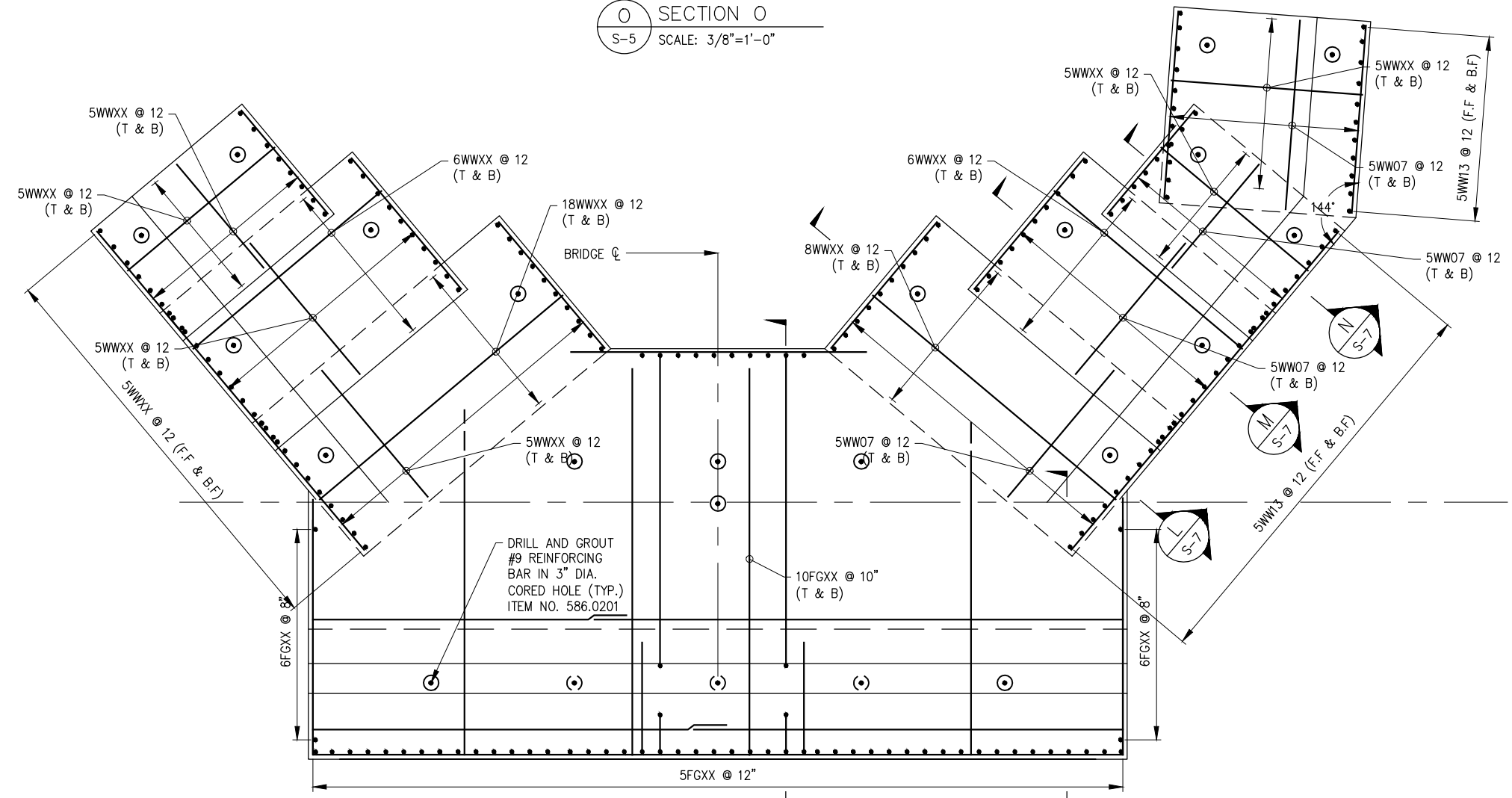
All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Last Saved By: & Date: jcircosta, Friday, April 23, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 1:59 PM  
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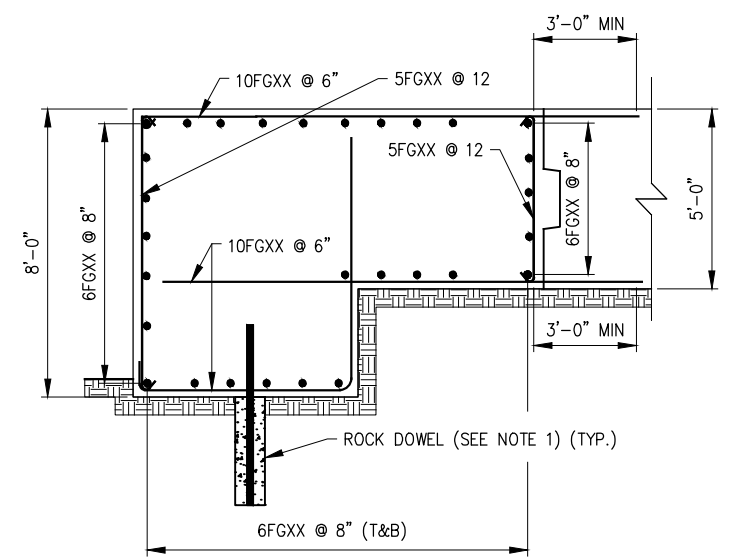
- NOTES:**
- FOR ROCK DOWEL LAYOUT AND NOTES SEE DWG NO S-2.
  - MINIMUM CONCRETE COVER WILL BE NO LESS THAN 3 INCHES.
  - SEE DRAWING G-5 FOR STRUCTURAL NOTES ON REINFORCING STEEL AND CONCRETE.



**SECTION O**  
S-5 SCALE: 3/8"=1'-0"



**FOOTING PLAN**  
SCALE: 1/4" = 1'-0"



**SECTION P**  
S-5 SCALE: 3/8"=1'-0"

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SUBMITTAL DATE: 4/23/2021

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ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
O. HUNTER, P.E.  
CHECKED BY:  
R. ROMAN, P.E.  
DESIGN LEAD:  
O. HUNTER, P.E.  
SECTION MANAGER:

DRAWN BY:  
J. CIRCOSTA  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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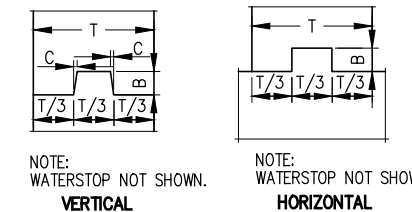
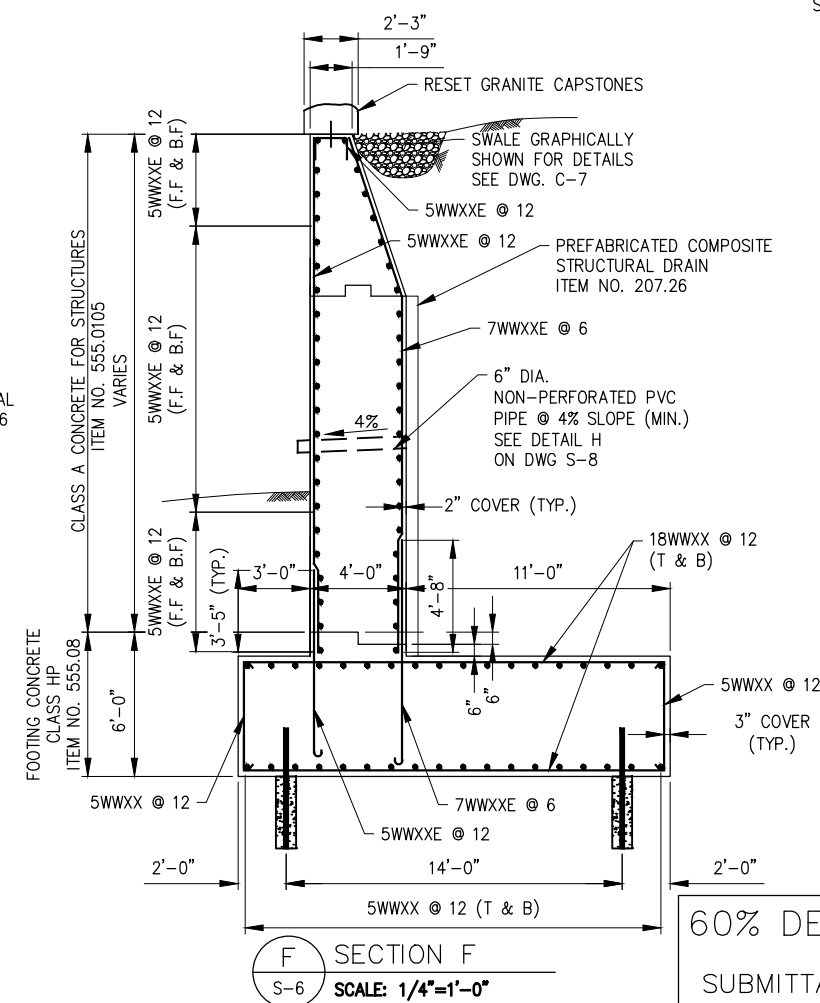
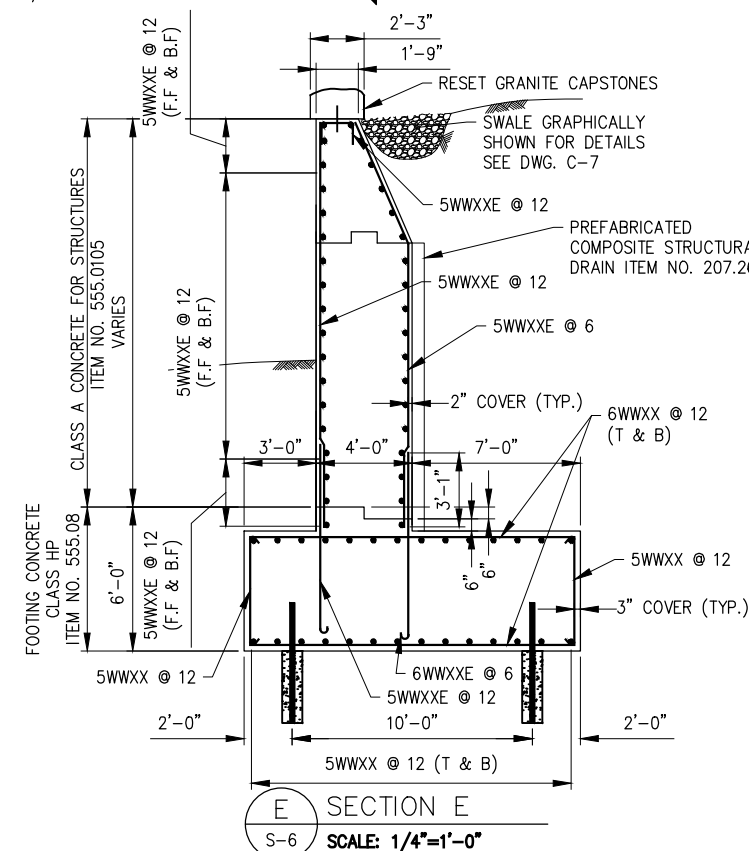
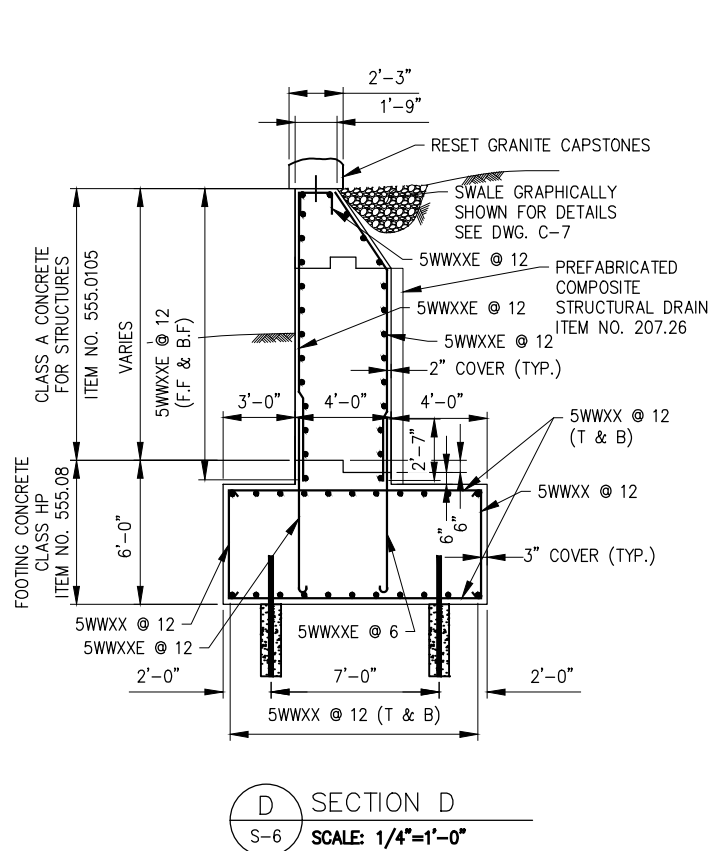
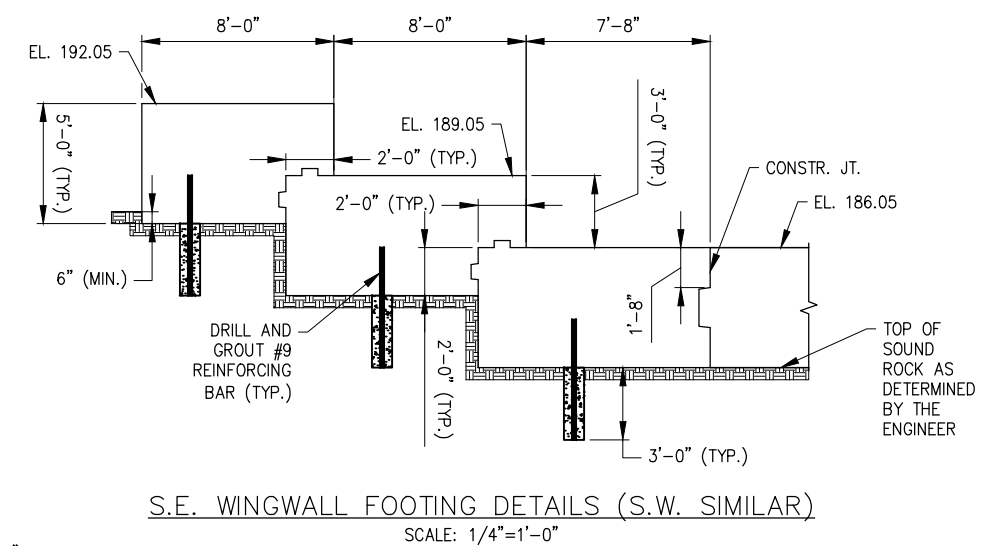
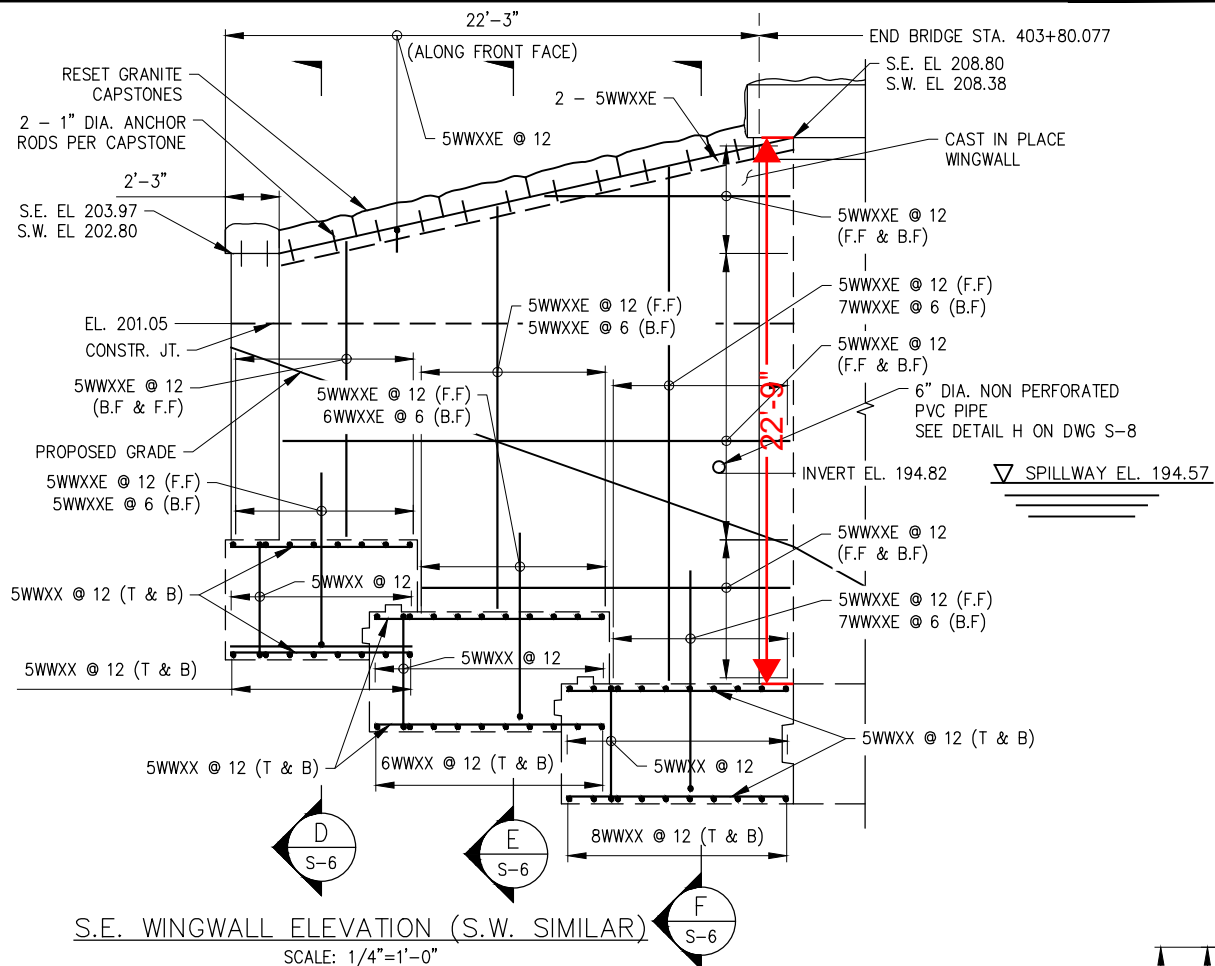
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96-05 HORACE HARDING EXPRESSWAY 5th FLOOR  
CORONA, NEW YORK 11368  
www.nyc.gov/dep

**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
**NORTH FOOTING REINFORCEMENT**

DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
29 OF 46  
DRAWING NO.  
**S425**

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Last Saved By: D:\Data\Chalykova, Monday, May 03, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 1:18 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.396863 Plot Style Table: (N) BDEC.BW.ctb  
 Drawing Name: & Location: C:\Users\chalykova\Inprod\Arms37850\South Wingwall Details\_Plot.dwg



CONSTRUCTION AND CONTRACTION JOINTS		
C	B	T/3
3/16	1 1/2	0 TO 6"
3/8	3 1/2	6" TO 10"
3/4	5 1/2	10" AND OVER

**KEYWAY DETAILS**  
 NOT TO SCALE

**60% DESIGN SUBMITTAL**  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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DESIGNED BY:  
**C. SHLYAKHOVA**

CHECKED BY:  
**O. HUNTER, P.E.**

DESIGN LEAD:  
**R. ROMAN, P.E.**

SECTION MANAGER:

DRAWN BY:  
**J. CIRCOSTA**

**HARDESTY & HANOVER, LLC**  
 ENGINEERING  
 1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
**JEFFREY A. BUSSE, PE**

PORTFOLIO MANAGER  
**PAUL COSTA, PE**

EXECUTIVE DIRECTOR  
**SEAN McANDREW, PE**

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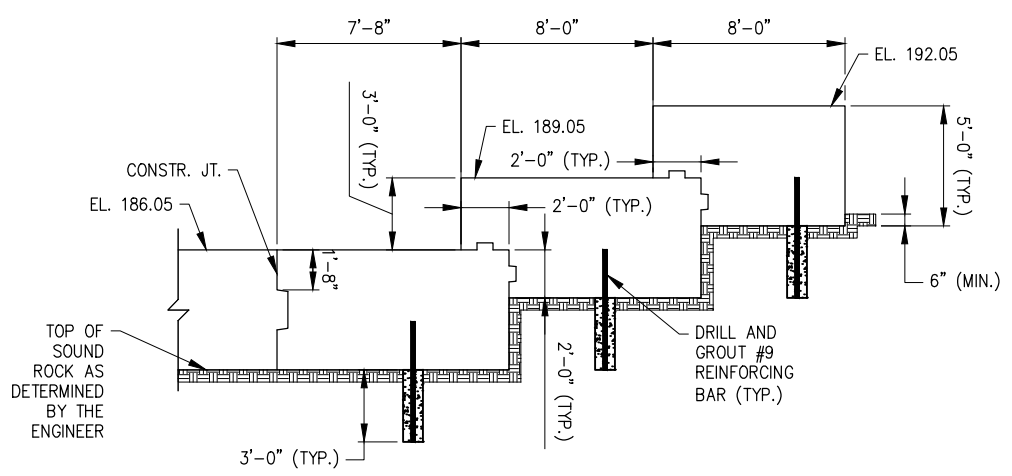
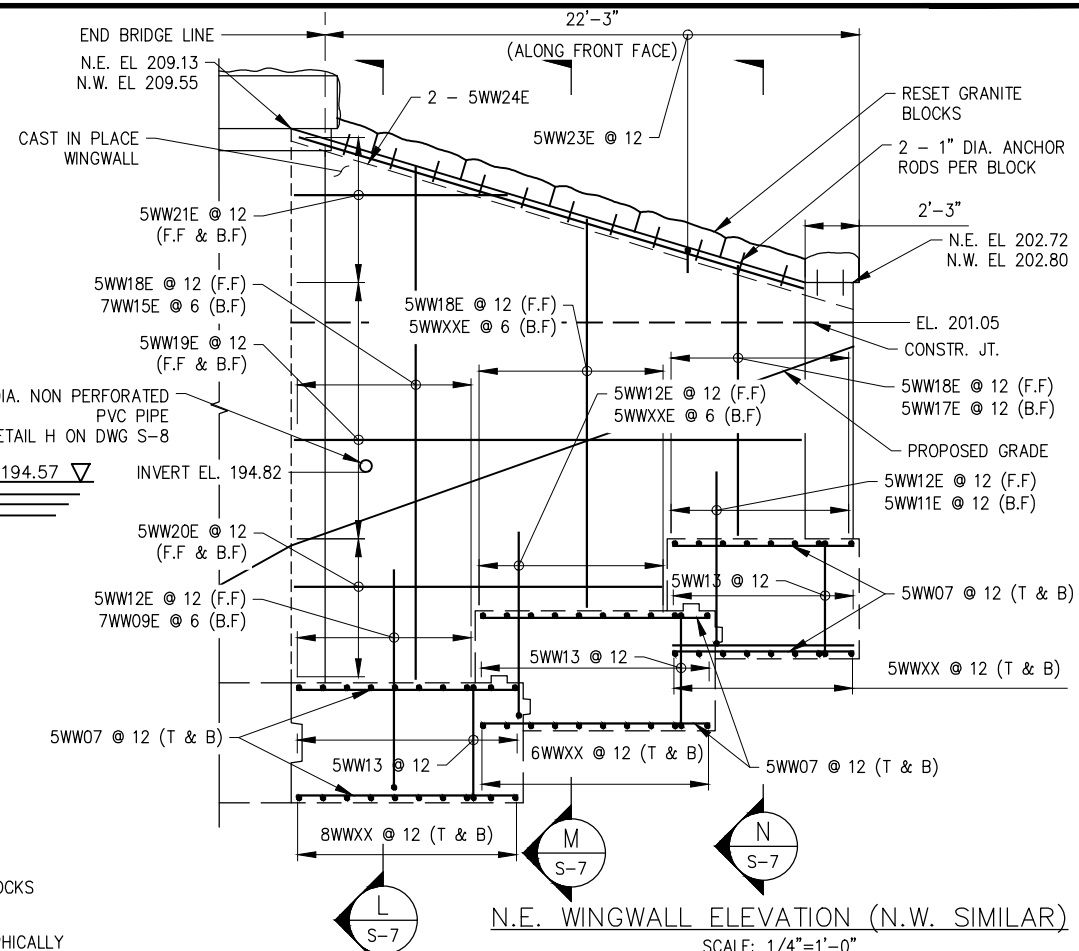
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**

**SOUTH WINGWALL ELEVATIONS AND DETAILS**

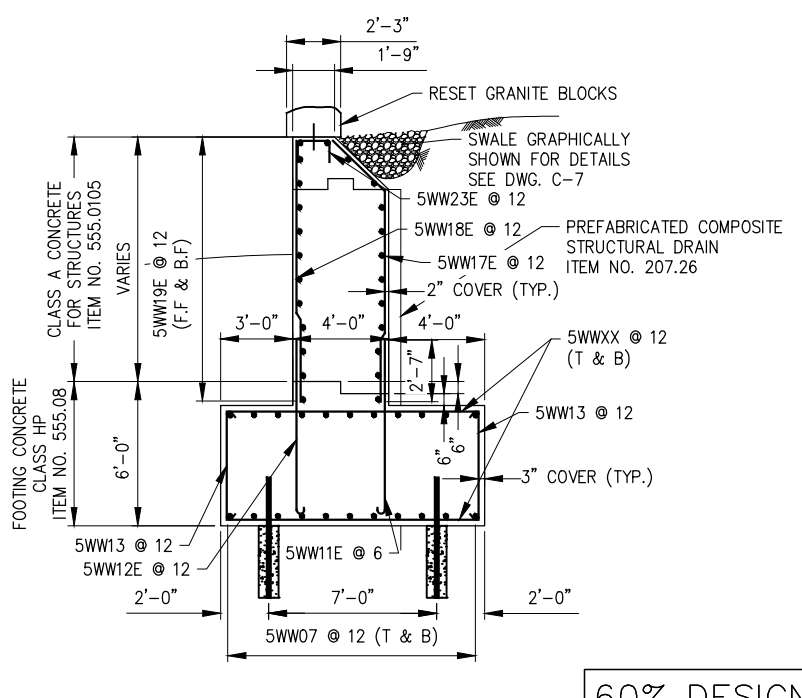
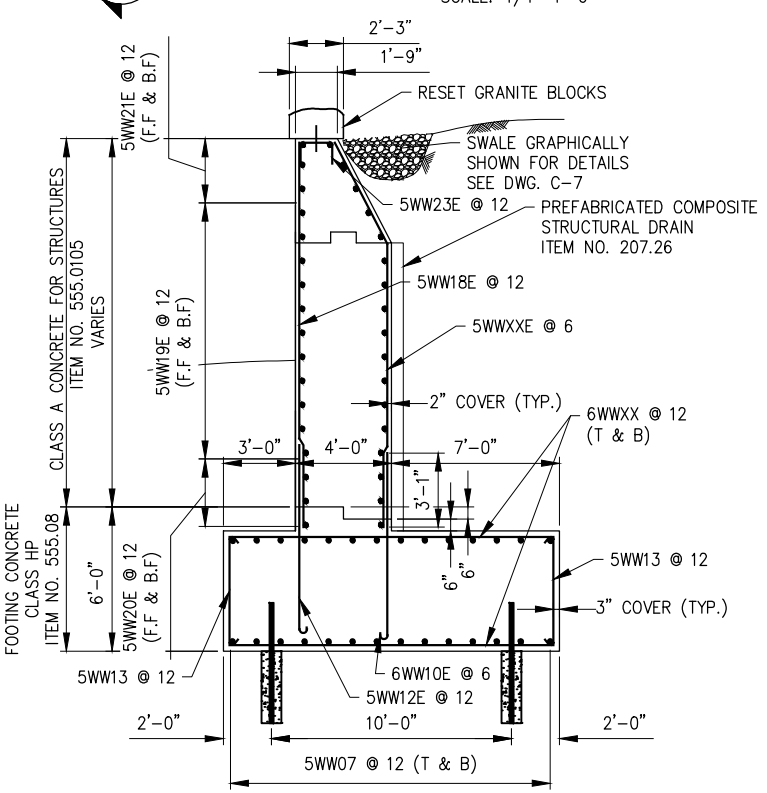
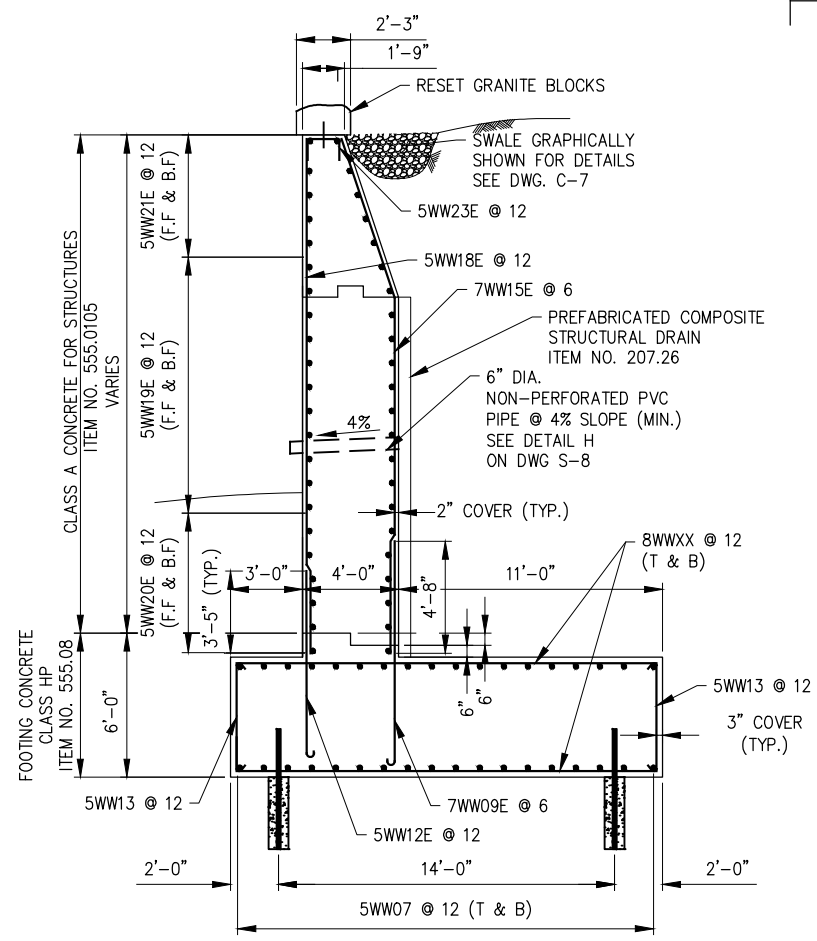
DATE: 04/23/2021  
 SCALE: 1/4"=1'-0"  
 SHEET NO:  
**30** OF 46  
 DRAWING NO.  
**S436**

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Last Saved By: & Date: Cehlykhova, Friday, April 23, 2021, and Date Plotted: Friday, April 23, 2021 Time: 3:27 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.356863 Plot Style Table: (N:\BDC\BWA.ctb) Drawing Name: & Location: C:\Users\Cehlykhova\Myprod\Arms37850\NORTH WINGWALL DETAILS\_PLOT.dwg



**NOTE:**  
 1. ROCK EXCAVATION IS ANTICIPATED FOR FOOTING CONSTRUCTION. WORK SHALL BE PAID UNDER UP-1 AND PERFORMED IN ACCORDANCE WITH NYCDEP SPECIFICATION SECTION 31 23 25.



**60% DESIGN SUBMITTAL**  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
**O. HUNTER, P.E.**  
 CHECKED BY:  
**R. ROMAN, P.E.**  
 DESIGN LEAD:  
**R. ROMAN, P.E.**  
 SECTION MANAGER:

DRAWN BY:  
**J. CIRCOSTA**  
  
 HARDESTY & HANOVER, LLC  
 ENGINEERING  
 1501 Broadway, New York, NY 10036



ACCOUNTABLE MANAGER  
 JEFFREY A. BUSSE, PE  
 PORTFOLIO MANAGER  
 PAUL COSTA, PE  
 EXECUTIVE DIRECTOR  
 SEAN McANDREW, PE

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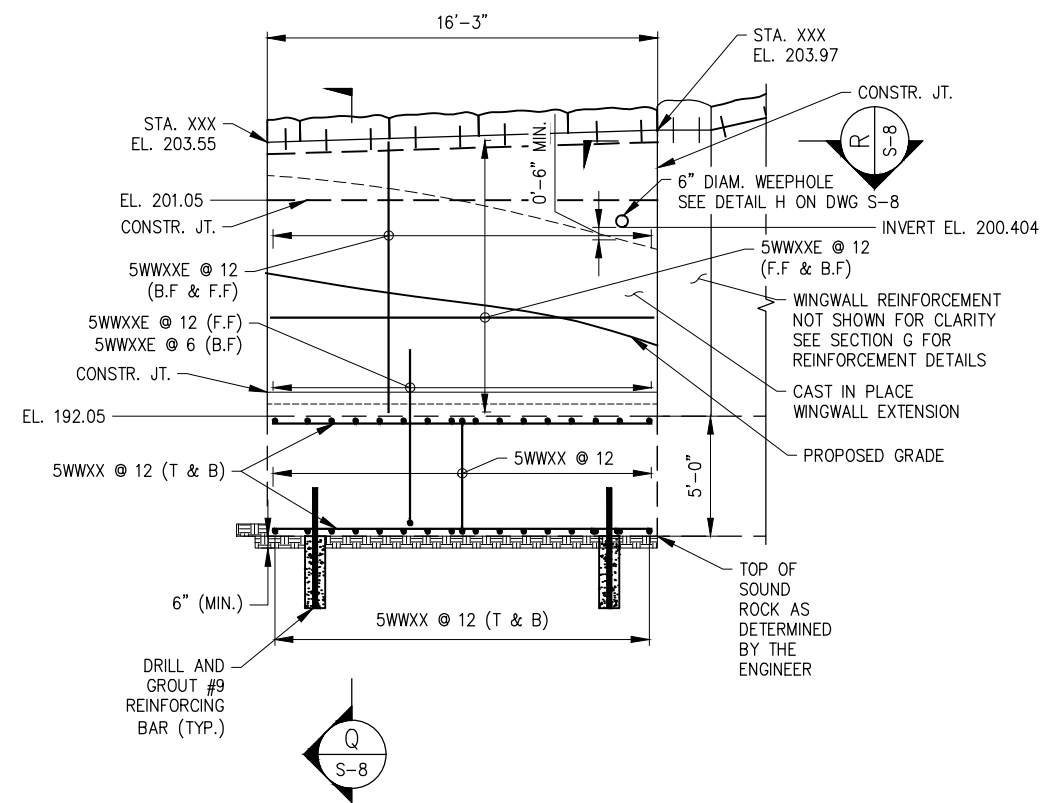
**NEW YORK CITY**  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 NORTH WINGWALL ELEVATIONS AND DETAILS

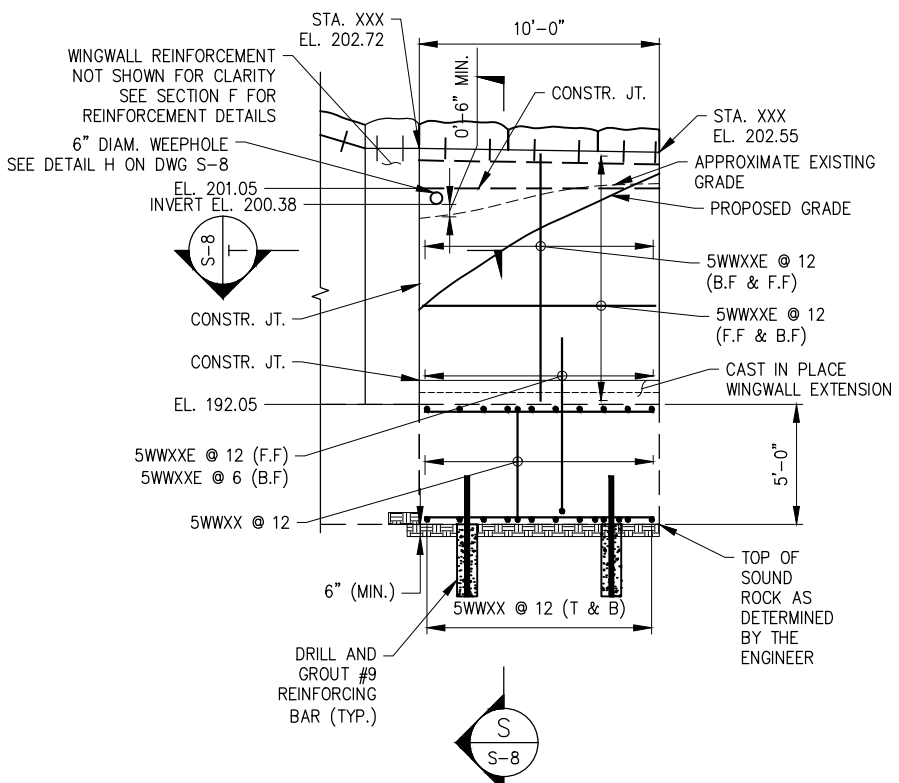
DATE: 04/23/2021  
 SCALE: 1/4"=1'-0"  
 SHEET NO:  
**31** OF 46  
 DRAWING NO.  
**S447**

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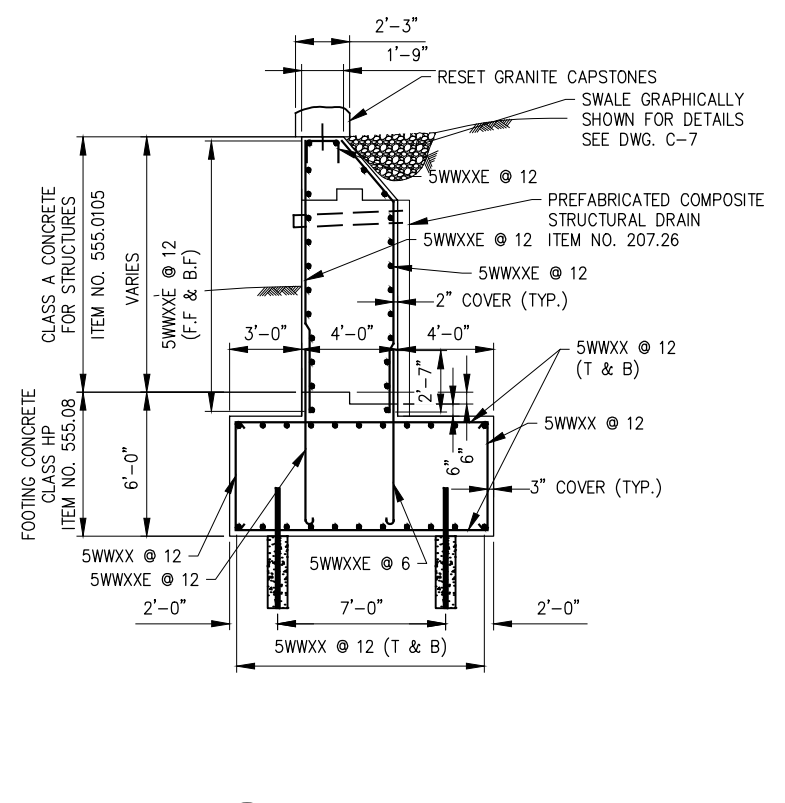
NOTES:  
 1. ROCK EXCAVATION IS ANTICIPATED FOR FOOTING CONSTRUCTION. WORK SHALL BE PAID UNDER UP-1 AND PERFORMED IN ACCORDANCE WITH NYCDEP SPECIFICATION SECTION 31 23 25.



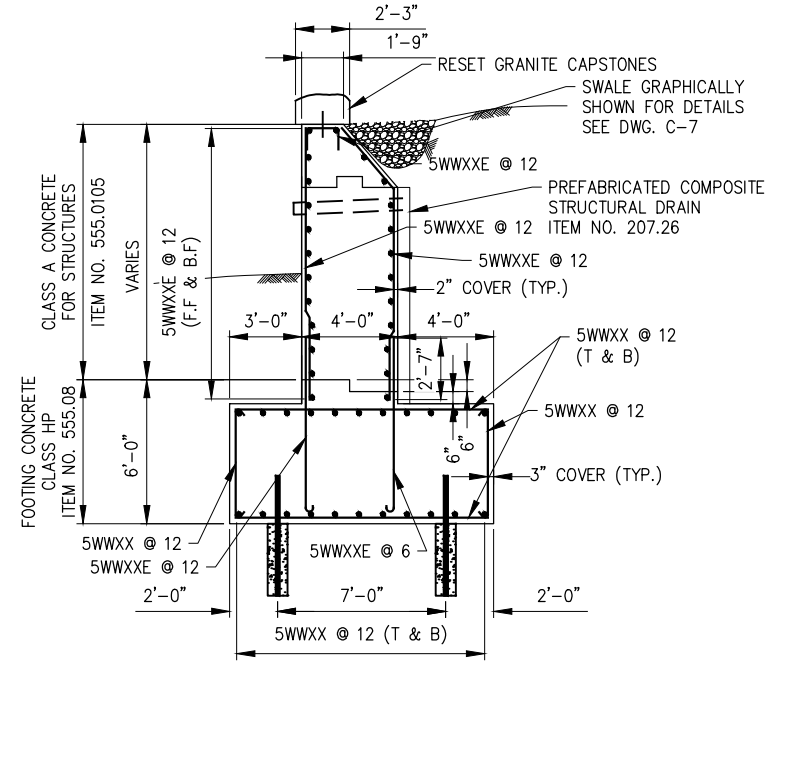
S.E. WINGWALL EXTENSION ELEVATION  
 SCALE: 1/4"=1'-0"



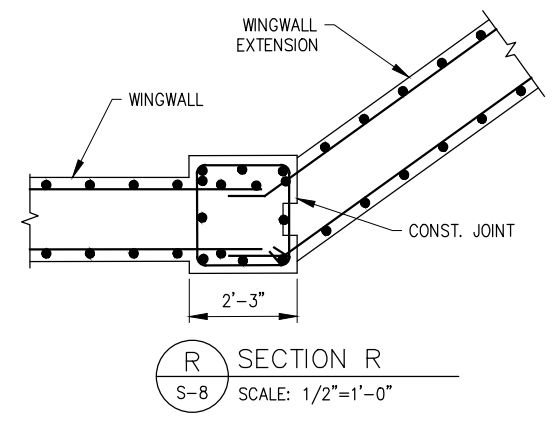
N.E. WINGWALL EXTENSION ELEVATION  
 SCALE: 1/4"=1'-0"



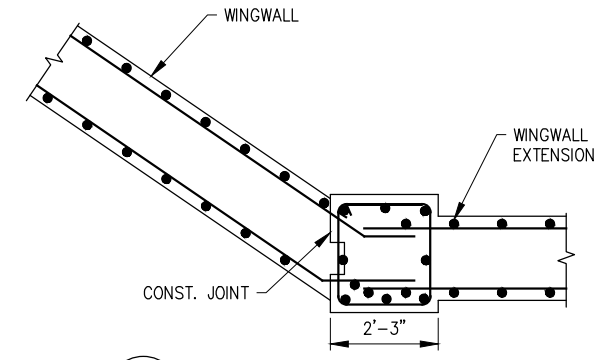
SECTION Q  
 S-8 SCALE: 1/4"=1'-0"



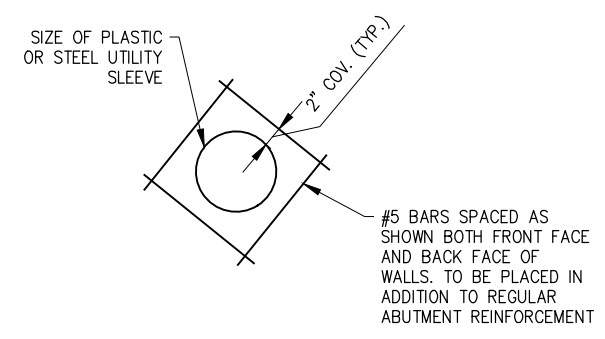
SECTION S  
 S-8 SCALE: 1/4"=1'-0"



SECTION R  
 S-8 SCALE: 1/2"=1'-0"



SECTION T  
 S-8 SCALE: 1/2"=1'-0"



CIRCULAR UTILITY SLEEVE REINFORCEMENT  
 H S-8 SCALE: NTS

60% DESIGN SUBMITTAL  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES CHECK BEFORE USE  
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Last Saved By: & Date: Cahlykhova, Monday, May 03, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 1:18 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.336863 Plot Style Table: (N)\_EDC\_BW.ctb  
 Drawing Name: & Location: C:\Users\Cahlykhova\Inprod\Arms37850\South Wingwall Details\_PLOT.dwg

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
**O. HUNTER, P.E.**  
 CHECKED BY:  
**R. ROMAN, P.E.**  
 DESIGN LEAD:  
**R. ROMAN, P.E.**  
 SECTION MANAGER:

DRAWN BY:  
**J. CIRCOSTA**  
  
 HARDESTY & HANOVER, LLC  
 ENGINEERING  
 1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
 JEFFREY A. BUSSE, PE  
 PORTFOLIO MANAGER  
 PAUL COSTA, PE  
 EXECUTIVE DIRECTOR  
 SEAN McANDREW, PE

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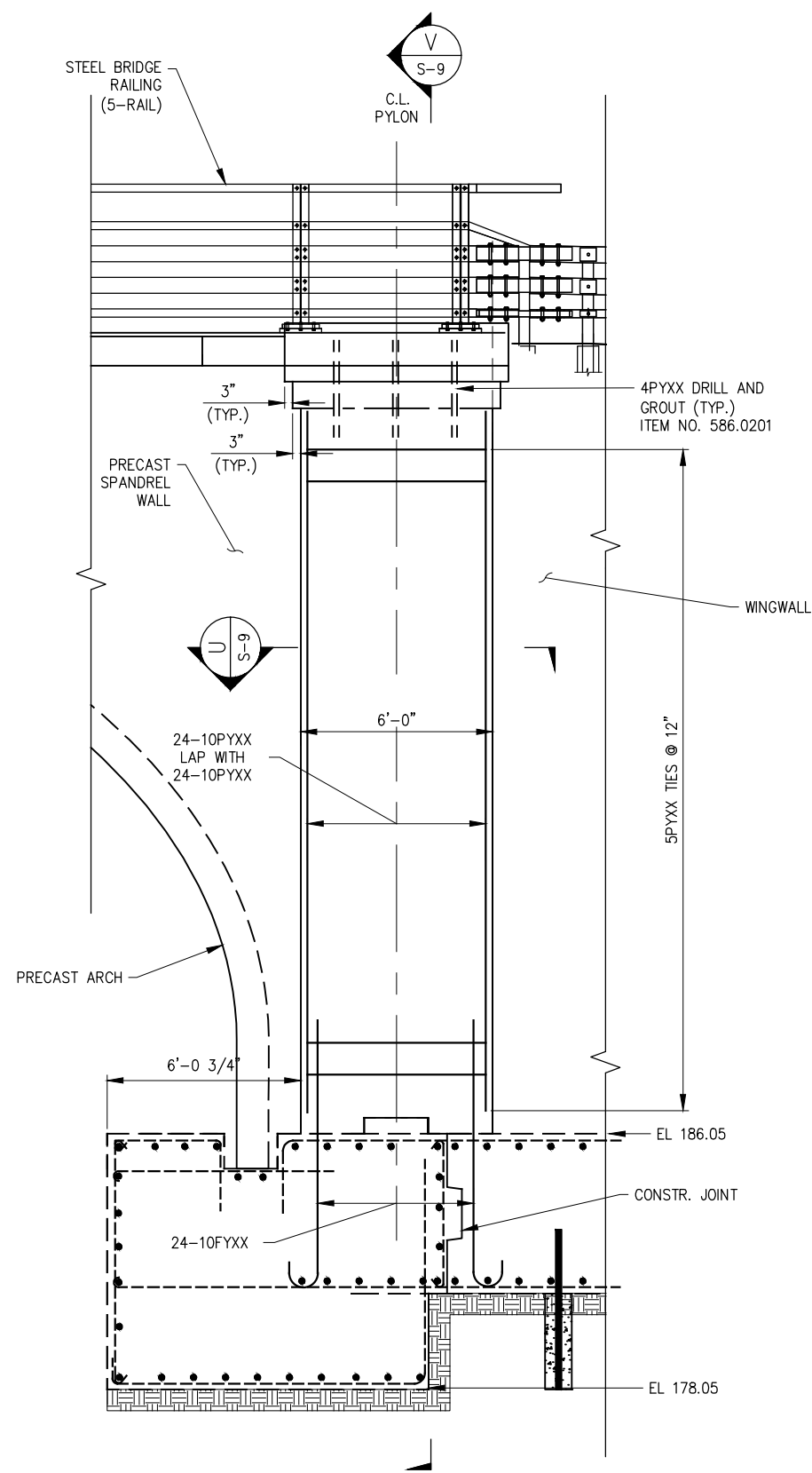
**CAPITAL PROJECT WM-30 IN WESTCHESTER COUNTY, NEW YORK CONTRACT CRO-530B**  
 WINGWALL EXTENSIONS ELEVATIONS AND DETAILS

DATE: 04/23/2021  
 SCALE: 1/4"=1'-0"  
 SHEET NO:  
**32** OF 46  
 DRAWING NO.  
**S458**

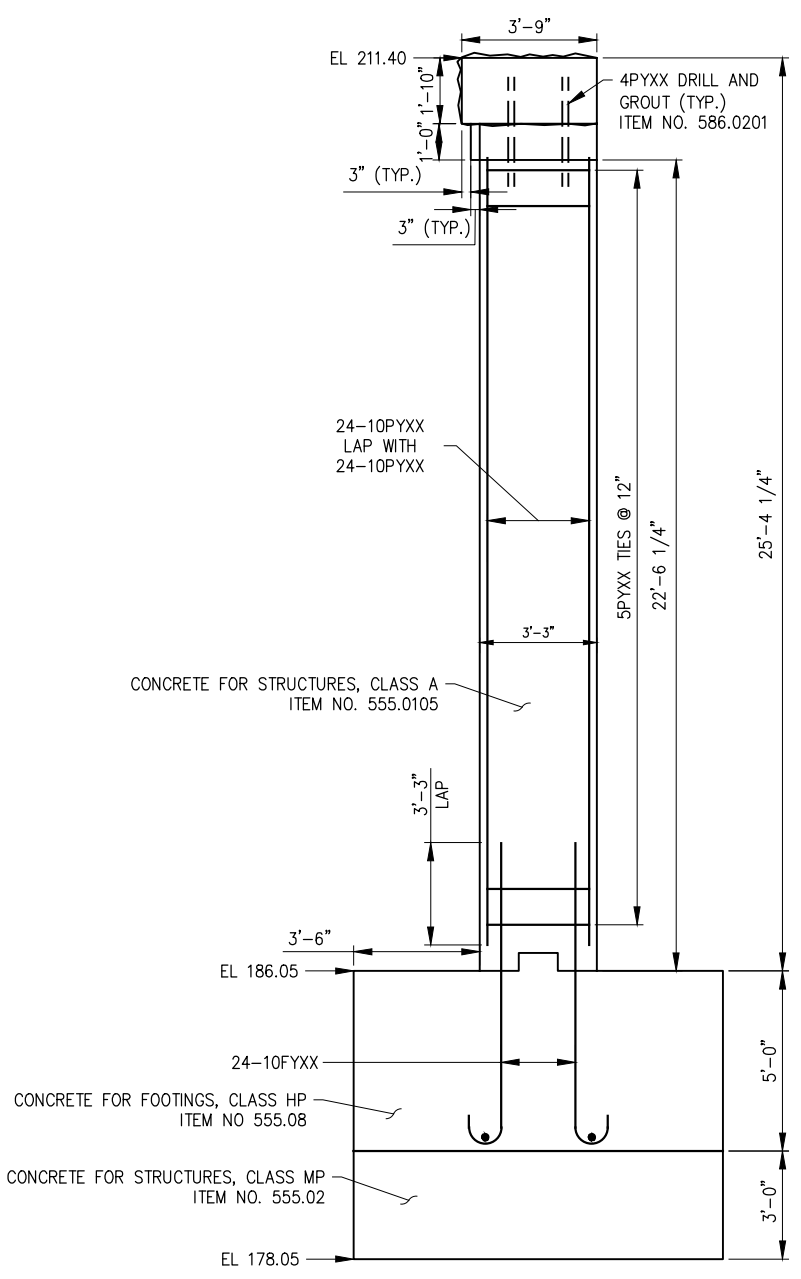
All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.



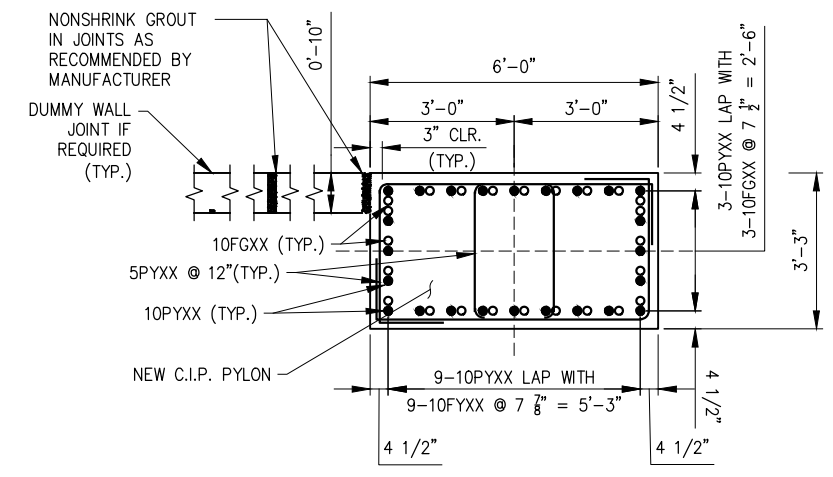
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 Drawing Name: & Location: C:\users\cshlyakhova\hprod\dms37850\PLYON SECTION & DETAILS.dwg



**PLYON ELEVATION**  
SCALE: 3/8"=1'-0"



**SECTION V**  
S-9 SCALE: 3/8"=1'-0"



**SECTION U**  
S-9 SCALE: 1/2"=1'-0"

- NOTES:**
1. MINIMUM CONCRETE COVER WILL BE NO LESS THAN 2 INCHES FOR WALLS ABOVE THE FOOTINGS AND NO LESS THAN 3 INCHES FOR REINFORCEMENT IN THE FOOTINGS.
  2. SEE DRAWING G-6 FOR STRUCTURAL NOTES ON REINFORCING STEEL, CONCRETE, AND GROUT MATERIAL.
  3. LOCATE AND DRILL 1 1/2" DIAMETER HOLES IN GRANITE CAPSTONES TO RECEIVE #4 BARS DRILLED AND GROUTED INTO PYLON.
  4. PLACE MORTAR JOINTS AS NECESSARY TO LEVEL STONES AND PROVED COPING CONTINUITY.
  5. LOWER CAPSTONES ONTO PYLONS ENSURING #4 GROUTED ANCHORS FIT INTO DRILLED RECEIVING SOCKETS IN GRANITE STONES.

**60% DESIGN SUBMITTAL**  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
CHECK BEFORE USE

IF SHEET IS LESS THAN 22" X 34"  
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ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPRD.

DESIGNED BY:  
O. HUNTER, P.E.

CHECKED BY:  
R. ROMAN, P.E.

DESIGN LEAD:  
O. HUNTER, P.E.

SECTION MANAGER:

DRAWN BY:  
J. CIRCOSTA



HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE

PORTFOLIO MANAGER  
PAUL COSTA, PE

EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**

**PLYON SECTION & DETAILS**

DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
30 OF 46  
DRAWING NO.  
**369**

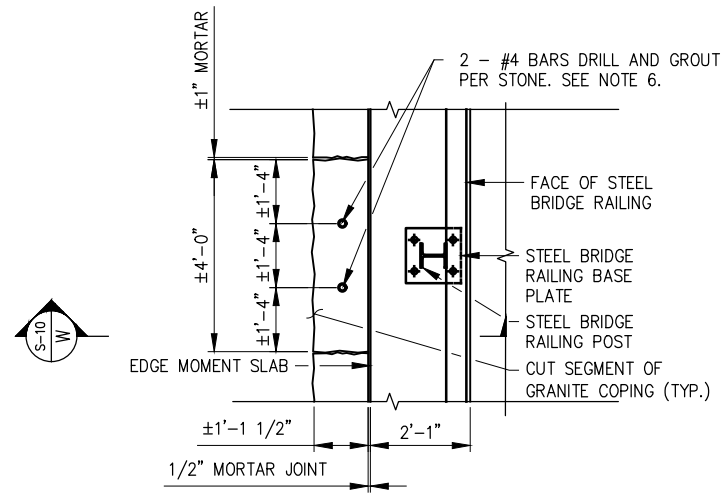
All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

**DEMOLITION NOTES:**

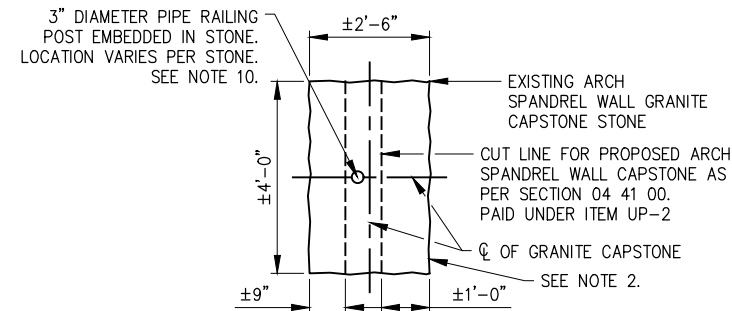
1. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE AND TAKE ALL NECESSARY PRECAUTIONS SO THAT ANY MATERIALS WHICH ARE TO BE REUSED WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO BE REUSED, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.

**SUGGESTED DEMOLITION AND RESTORATION PROCEDURE:**

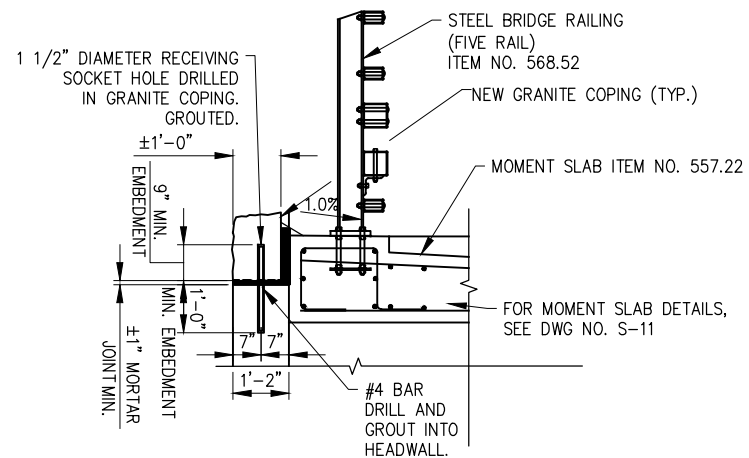
1. REMOVE EXISTING STEEL BRIDGE RAILING FROM EXISTING GRANITE COPING AND CLEAN ACCORDING TO SPECIFICATION 02 83 05 – LEAD MANAGEMENT.
2. REMOVE EXISTING MORTAR FROM GRANITE STONES WITH MEANS AND METHODS APPROVED BY THE RESIDENT ENGINEER
3. REMOVE GRANITE CAP STONES AND STORE FOR LATER RECONSTRUCTION. DO NOT DAMAGE OR DISCARD GRANITE COPING.
4. CUT GRANITE COPING STONES TO THE APPROXIMATE LIMITS SHOWN. DO NOT DISCARD EITHER SEGMENT OF CUT STONES AND SAVE FOR REUSE. WORK SHALL BE PERFORMED IN ACCORDANCE WITH NYCDEP SPECIFICATION 04 41 00 AND PAID UNDER UP-2.
5. CLEAN AND RESET STONES IN ACCORDANCE WITH NYCDEP SPECIFICATION 04 41 00 AND PAID UNDER UP-2.
6. DRILL AND GROUT #4 BARS IN THE PRECAST ARCH SPANDREL WALL AS SHOWN AS PER THE MANUFACTURER'S RECOMMENDATION. PRIOR TO DRILLING, EXISTING SPANDREL WALL REINFORCEMENT SHALL BE LOCATED WITH A PACHOMETER OR OTHER MEANS TO AVOID DAMAGING EXISTING REINFORCEMENT. DRILLED AND GROUTED BARS SHALL BE HILTI HIT-RE 500 OR APPROVED EQUAL. WORK SHALL BE PERFORMED IN ACCORDANCE WITH NYCDEP SPECIFICATION 04 41 00 AND PAID UNDER UP-2.
7. LOCATE AND DRILL 1 1/2" DIAMETER HOLES IN GRANITE CAPSTONES TO RECEIVE #4 BARS DRILLED AND GROUTED INTO SPANDREL WALL. HOLES IN CAPSTONES TO BE GROUTED.
8. PLACE MORTAR JOINTS USING APPROVED MATERIAL MIX AS NECESSARY TO LEVEL STONES AND PROVIDE COPING CONTINUITY.
9. LOWER COPING STONE ONTO SPANDREL WALL ENSURING #4 GROUTED ANCHORS FIT INTO DRILLED RECEIVING SOCKETS IN GRANITE CAPSTONES.
10. THE CONTRACTOR SHALL REMOVE ONLY EXISTING LEAD PAINT RESIDUE IN ACCORDANCE WITH SPECIFICATION 02 83 05 – LEAD MANAGEMENT, PRIOR TO MOVING THE STONES TO THE SATISFACTION OF THE ENGINEER.



**GRANITE CAPSTONE PLAN**  
SCALE: 1/2"=1'-0"



**GRANITE CAPSTONE CUTTING PLAN**  
SCALE: 1/2"=1'-0"



**SECTION W**  
SCALE: 1/2"=1'-0"

60% DESIGN SUBMITTAL

SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
CHECK BEFORE USE

IF SHEET IS LESS THAN 22" X 34"  
IT IS A REDUCED PRINT. SCALE  
ACCORDINGLY

Last Saved By & Date: Cshlyakhova, Monday, May 03, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 1:17 PM  
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NO.	DATE	REVISIONS/DESCRIPTION	APPRD.

DESIGNED BY:  
O. HUNTER, P.E.

CHECKED BY:  
R. ROMAN, P.E.

DESIGN LEAD:  
O. HUNTER, P.E.

SECTION MANAGER:

DRAWN BY:  
J. CIRCOSTA



HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE

PORTFOLIO MANAGER  
PAUL COSTA, PE

EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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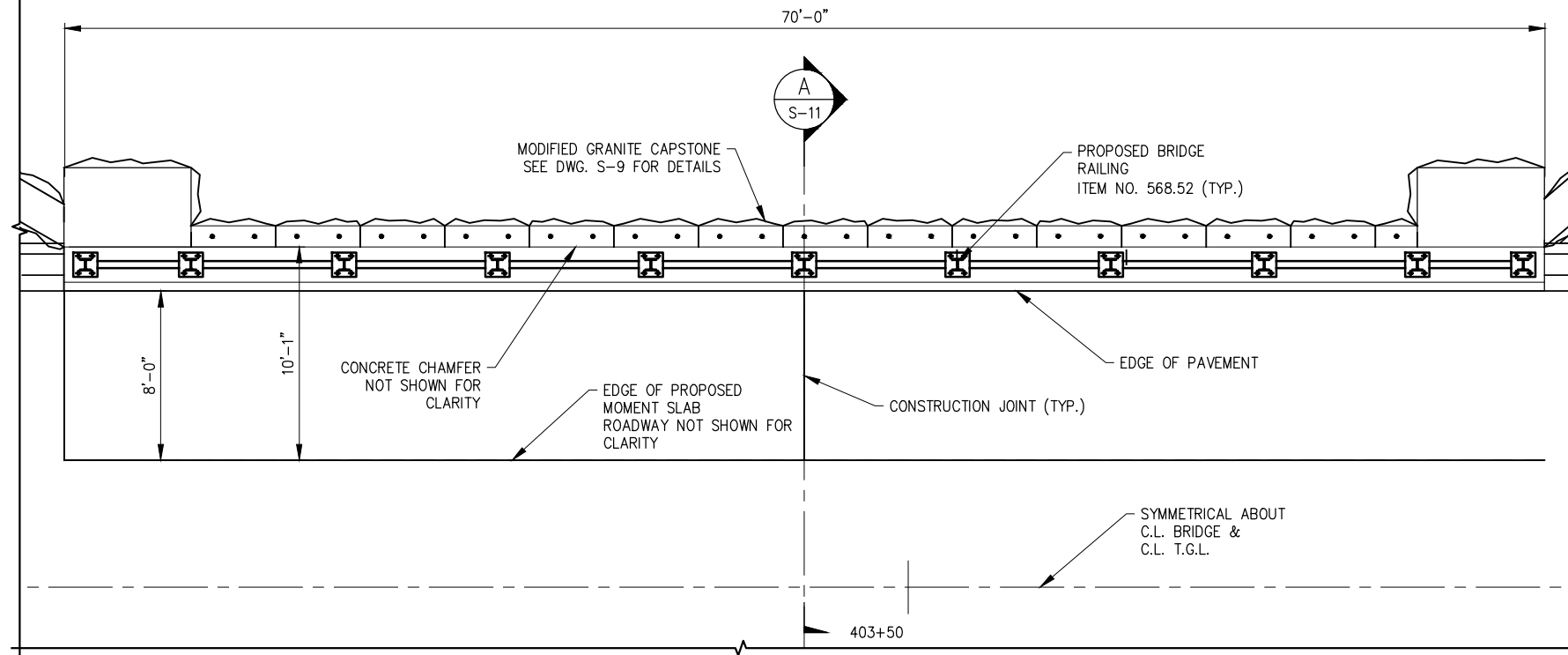
**NEW YORK CITY**  
**ENVIRONMENTAL PROTECTION**  
BUREAU OF ENGINEERING DESIGN & CONSTRUCTION  
96-05 HORACE HARDING EXPRESSWAY 5th FLOOR  
CORONA, NEW YORK 11368  
www.nyc.gov/dep

**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**

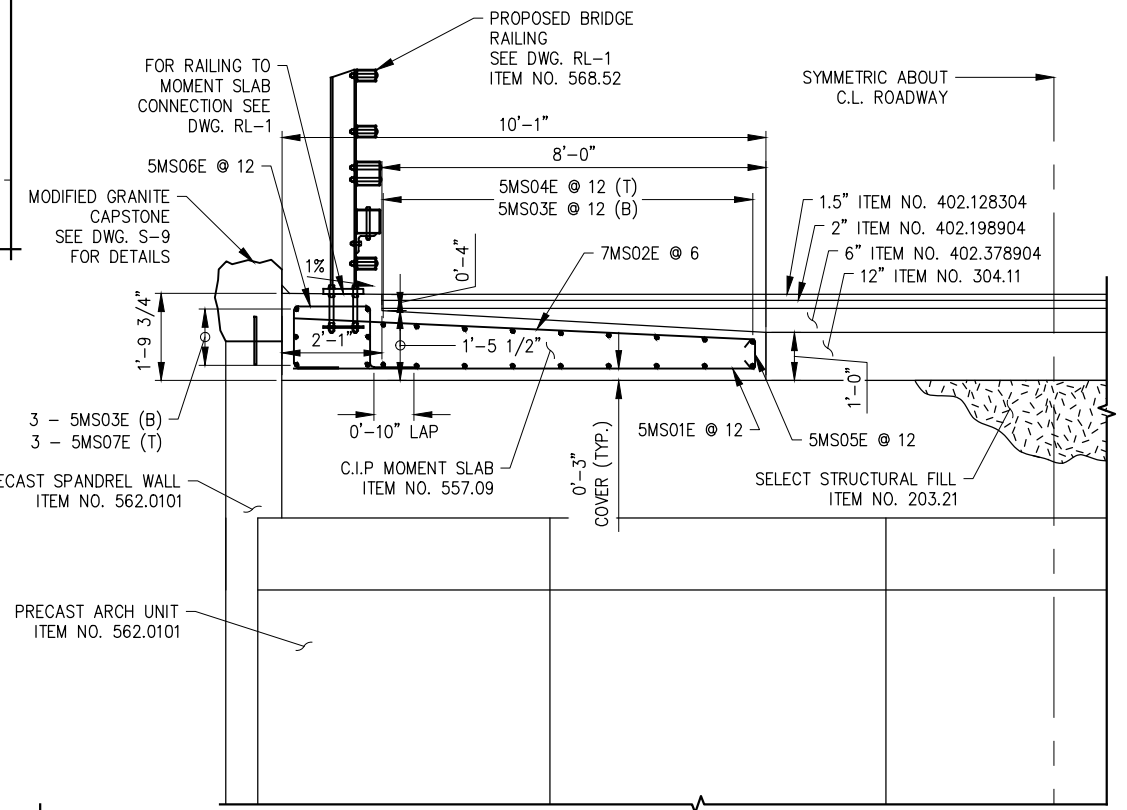
PROPOSED GRANITE CAPSTONE  
AND SPANDREL WALL

DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
30 OF 46  
DRAWING NO.  
**3710**

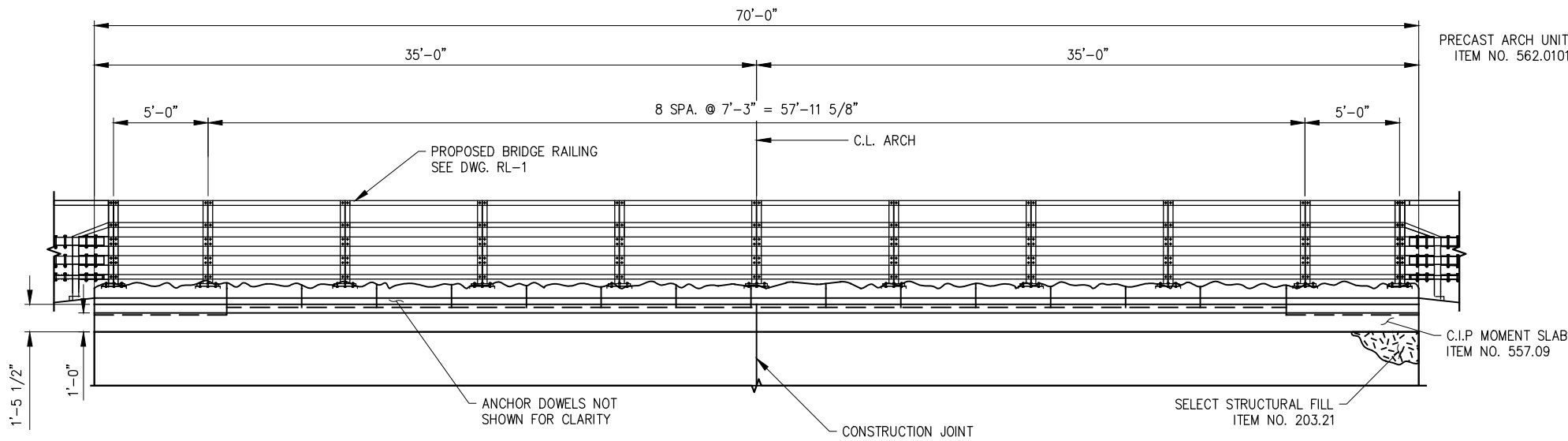
NOTE:  
1. FOR RAILING DETAILS SEE DWG. RL-1



MOMENT SLAB PLAN  
SCALE: 1/4"=1'-0"



SECTION A  
SCALE: 1/2"=1'-0"



MOMENT SLAB ELEVATION  
SCALE: 1/4"=1'-0"

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
CHECK BEFORE USE

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ACCORDINGLY

Last Saved By: & Date: Cahlykhova, Monday, May 03, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 1:18 PM  
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Drawing Name: & Location: C:\Users\Cahlykhova\Inprod\Arms37850\PAR-TIST CHURCH MOMENT SLAB DETAILS.dwg

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
C. SHLYAKHOVA  
CHECKED BY:  
O. HUNTER, P.E.  
DESIGN LEAD:  
R. ROMAN, P.E.  
SECTION MANAGER:

DRAWN BY:  
J. CIRCOSTA  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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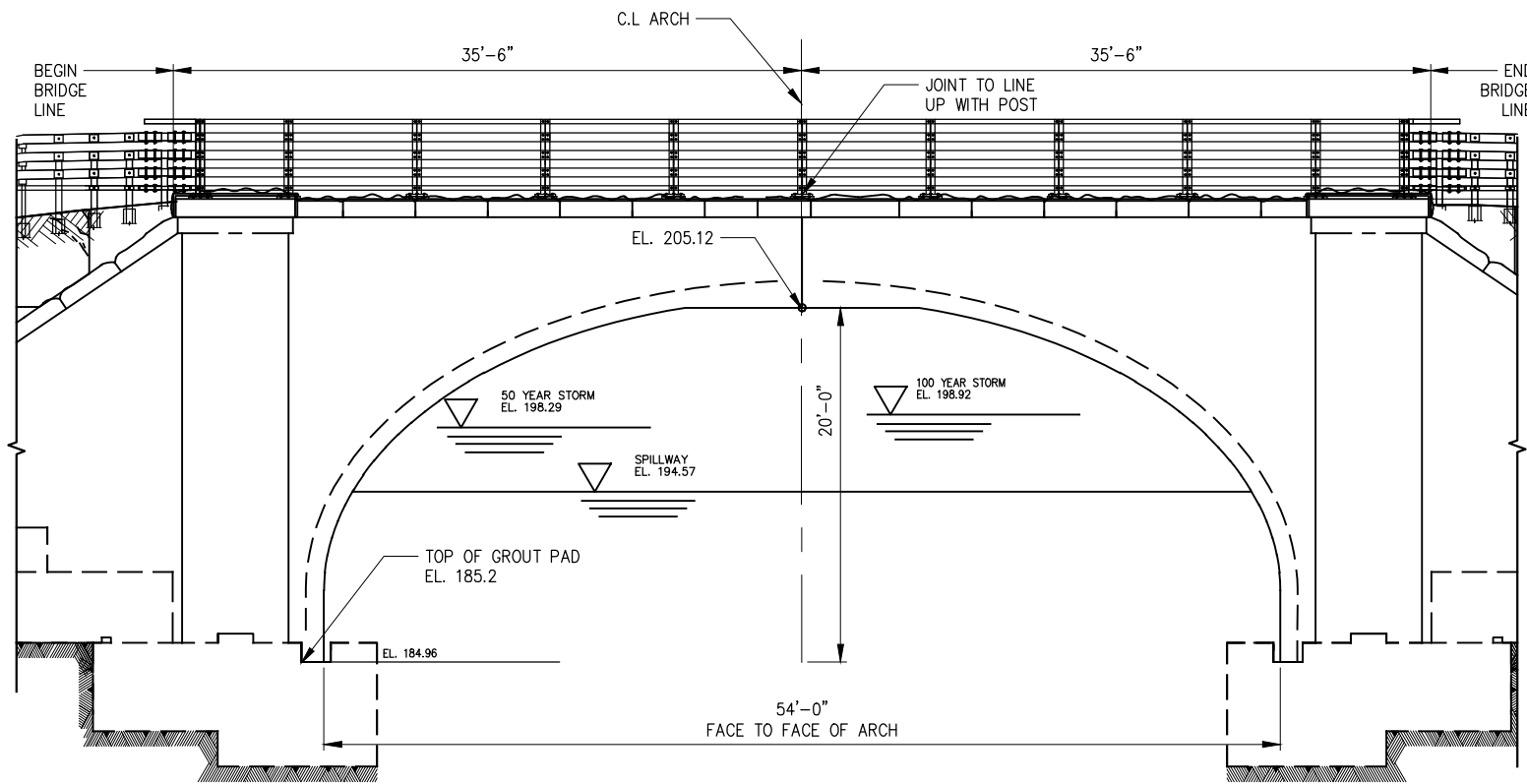
**NEW YORK CITY**  
**ENVIRONMENTAL PROTECTION**  
BUREAU OF ENGINEERING DESIGN & CONSTRUCTION  
96-05 HORACE HARDING EXPRESSWAY 5th FLOOR  
CORONA, NEW YORK 11368  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
MOMENT SLAB DETAILS

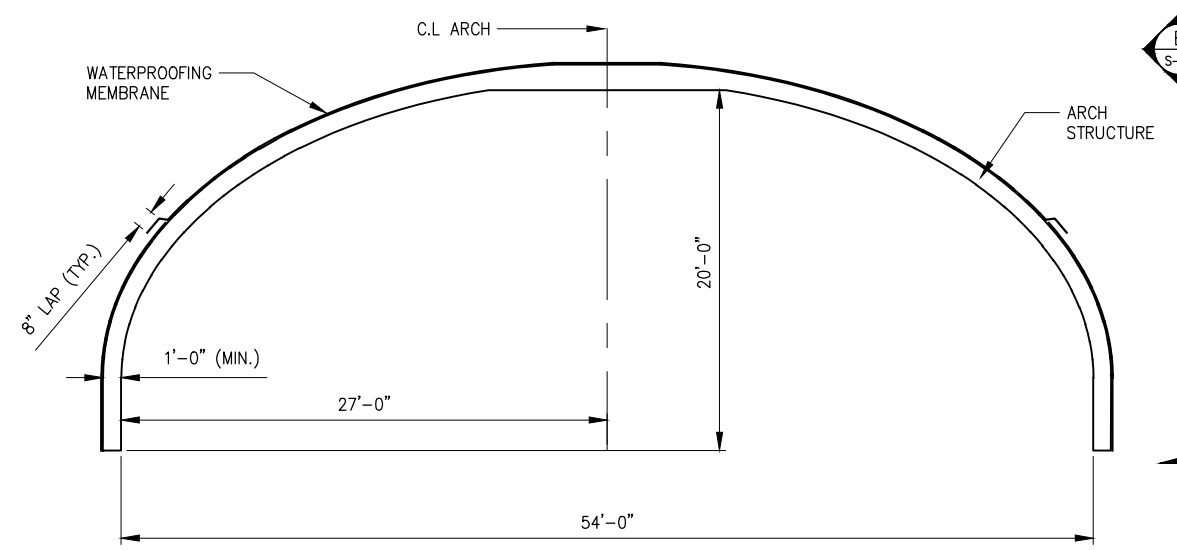
DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
35 OF 46  
DRAWING NO.  
S4811

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

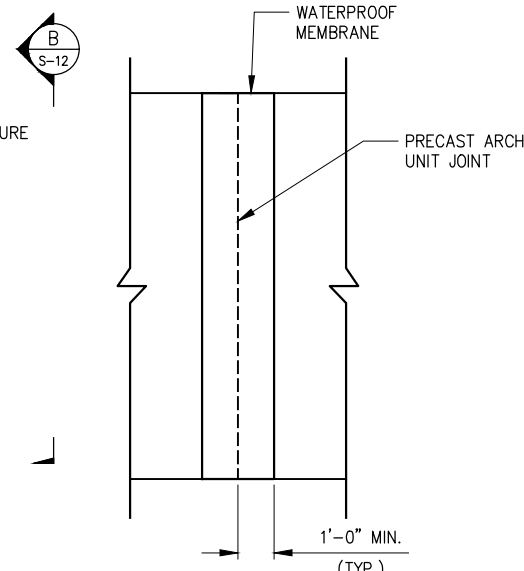
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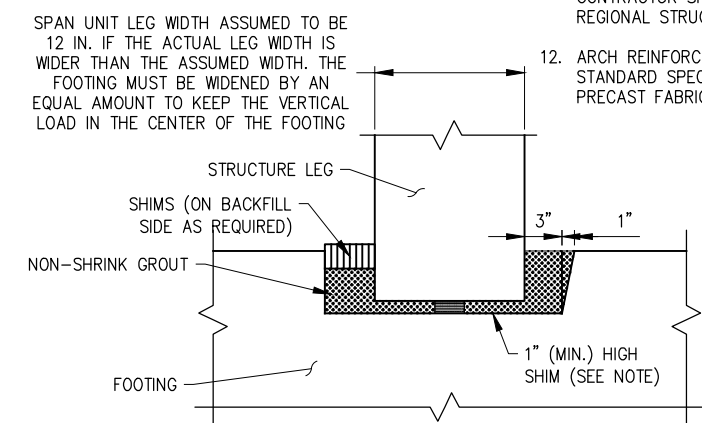
EAST ELEVATION — PRECAST ARCH  
SCALE: 3/16"=1'-0"



PRECAST ARCH DETAILS  
N.T.S.



SECTION-B  
N.T.S.



PRECAST ARCH SUPPORT DETAIL  
N.T.S.

GEOTECHNICAL DESIGN DATA	
MAX SERVICE BEARING RESISTANCE, KSF	16
SOIL UNIT WT. KIPS/CF	0.125
FRICTION ANGLE, DEG	32
COEFFICIENT OF SLIDING FRICTION	1

ASSUMED FOOTING LOADS	
VERTICAL, KIPS/FT	46.1
HORIZONTAL, KIPS/FT	3.5

LOAD RATING (LFD)		
	HS	TONS
INVENTORY		
OPERATING		

LRFR RATING FACTORS		
	HL-93	TONS
INVENTORY		
OPERATING		

NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DESIGN SUBMISSIONS FOR ALL PRECAST COMPONENTS, INCLUDING COMPLETE SET OF WORKING DRAWINGS, A COMPLETE SET OF DESIGN AND LOAD RATING CALCULATIONS, AND DETAILED INSTALLATION PROCEDURE. THE DRAWINGS AND THE DESIGN CALCULATIONS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEW YORK STATE. FABRICATION REQUIREMENTS ARE CONTAINED IN SECTION 562 OF THE STANDARD SPECIFICATIONS.
- THE LENGTH OF EACH STRUCTURE SEGMENT SHALL BE DETERMINED BY THE CONTRACTOR. IF THE STAGE CONSTRUCTION IS EMPLOYED, THE PRECAST THREE SIDED STRUCTURE SEGMENT LENGTH MUST BE COMPATIBLE WITH STAGING REQUIREMENTS.
- THE ASSUMED VERTICAL AND HORIZONTAL REACTIONS ARE IN THE ASSUMED FOOTING LOADS TABLE ON THIS SHEET. THE CONTRACTOR MUST SUBMIT A REVISED FOUNDATION DESIGN TO THE ENGINEER IN CHARGE IF THE ACTUAL LOADS OF THE SUPPLIED STRUCTURE EXCEED THESE ASSUMED VALUES. THE REVISED DESIGN SHALL BE SUBMITTED AT THE SAME TIME THE DESIGN CALCULATIONS FOR THE THREE-SIDED STRUCTURE ARE SUBMITTED FOR APPROVAL.
- FOOTING LOADS IN EXCESS OF THE ASSUMED FOOTING LOADS TABLE REQUIRE THAT THE FOOTING DESIGN BE VERIFIED BY THE CONTRACTOR'S LICENSED ENGINEER.
- DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS, FOR WHICH NO SCALE IS SHOWN, ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.
- THE PRECAST CONCRETE SPAN UNIT SHOWN IS FOR ILLUSTRATION PURPOSES ONLY. THE SUPPLIED PRECAST STRUCTURE SHALL MAINTAIN THE SPAN CLEAR WIDTH AND HEIGHT INDICATED IN THE CONTRACT PLANS.
- WATERPROOFING MEMBRANE SHALL BE SHEET APPLIED MEMBRANE FROM NYSDOT APPROVED LIST AS COVERED IN SECTION 717-02 OF THE SPECIFICATION. THE COST (FURNISH AND INSTALL) SHALL BE INCLUDED IN THE COST OF THE PRECAST ARCH, ITEM NO. 562.0101.
- THE FINAL FOUNDATION LOCATION SHALL BE DEPENDENT ON THE WIDTH OF THE ACTUAL ARCH USED. THE CONTRACTOR SHALL ADJUST THE ABUTMENT LOCATION ACCORDINGLY TO ACCOMMODATE THE ACTUAL ARCH SPAN USED WHILE MAINTAINING THE SPAN CLEAR WIDTH AND HEIGHT INDICATED IN THE CONTRACT PLANS.
- ARCH SHAPE ASSUMED BEBO E54/T6 FOR PURPOSE OF HYDRAULIC FLOW ANALYSIS. CONTRACTOR SHALL DEMONSTRATE THAT THE PROPOSED ARCH PROVIDES EQUIVALENT HYDRAULIC FLOW PERFORMANCE.
- ADDITIONAL SHIMS ARE ALLOWED AT THE CONTRACTOR'S OPTION. LEG EMBEDMENT INTO FOOTINGS SHALL BE A MINIMUM OF 3". GROUT SHALL MEET THE REQUIREMENTS OF STANDARD SPEC 701-05 OR 701-06.
- THE LOAD RATING TABLE SHALL BE FILLED IN BY THE EIC FROM INFORMATION RECEIVED FROM THE CONTRACTOR AFTER REVIEW AND APPROVAL BY THE DCES. THE SUBMITTED LOAD RATING INFORMATION SHALL BE IN ACCORDANCE WITH THE AASHTO "MANUAL FOR BRIDGE EVALUATION" WITH ALL INTERIM PROVISIONS IN EFFECT. THE CONTRACTOR SHALL PROVIDE THE LOAD RATINGS IN BOTH LOAD FACTOR RATING (LFD) METHOD AND THE LOAD AND RESISTANCE FACTOR RATING (LRFR) METHOD. THE CONTRACTOR SHALL ALSO PROVIDE ALL LOAD RATING COMPUTATIONS TO THE REGIONAL STRUCTURES ENGINEER.
- ARCH REINFORCEMENT SHALL BE EPOXY COATED IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION 709-04, UNLESS OTHERWISE RECOMMENDED BY THE PRECAST FABRICATOR AND APPROVED BY NYCDEP.

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

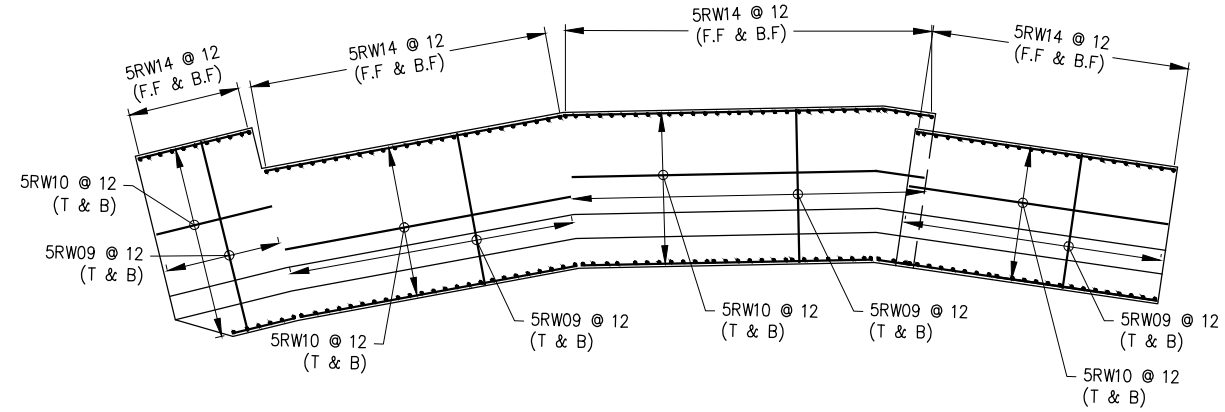
GRAPHIC SCALES  
CHECK BEFORE USE  
IF SHEET IS LESS THAN 22" X 34"  
IT IS A REDUCED PRINT. SCALE  
ACCORDINGLY

DESIGNED BY: J. CIRCOSTA		DRAWN BY: J. CIRCOSTA			ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE	<p>*WARNING—IT IS A VIOLATION, OF THE NEW YORK STATE EDUCATION LAW, SECTION, 7209.2, FOR ANY PERSON, UNLESS (S)HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION, LAW, SECTION, 7209.2.*</p>	<p><b>NEW YORK CITY</b> <b>ENVIRONMENTAL PROTECTION</b> BUREAU OF ENGINEERING DESIGN &amp; CONSTRUCTION 96-05 HORACE HARDING EXPRESSWAY 5th FLOOR CORONA, NEW YORK 11368 www.nyc.gov/dep</p>	<p><b>CAPITAL PROJECT WM-30</b> <b>IN WESTCHESTER COUNTY, NEW YORK</b> <b>CONTRACT CRO-530B</b></p>	DATE: 04/23/2021
CHECKED BY: R. ROMAN, PE					PORTFOLIO MANAGER PAUL COSTA, PE				SHEET NO. OF 46
DESIGN LEAD: O. HUNTER, PE		HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036			EXECUTIVE DIRECTOR SEAN McANDREW, PE				DRAWING NO. 3912
SECTION MANAGER:									
NO.	DATE	REVISIONS/DESCRIPTION		APPR'D.					

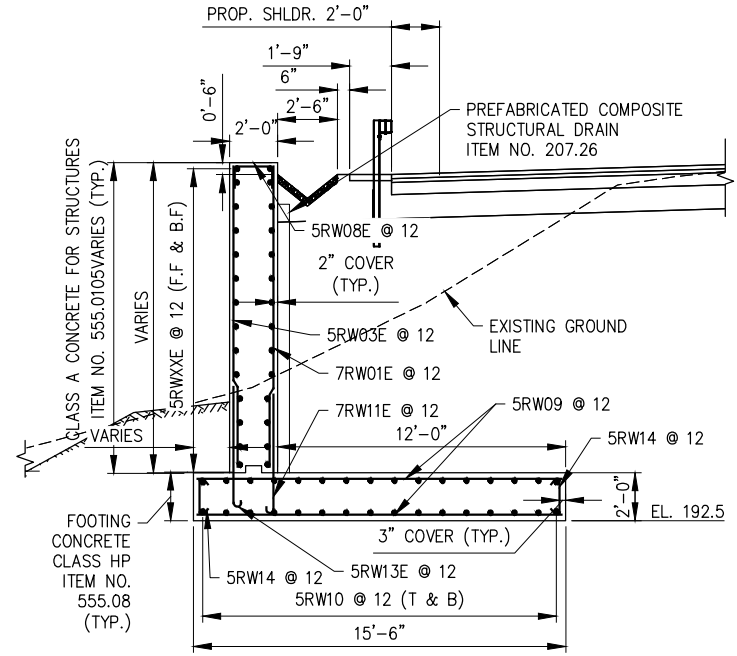
All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.



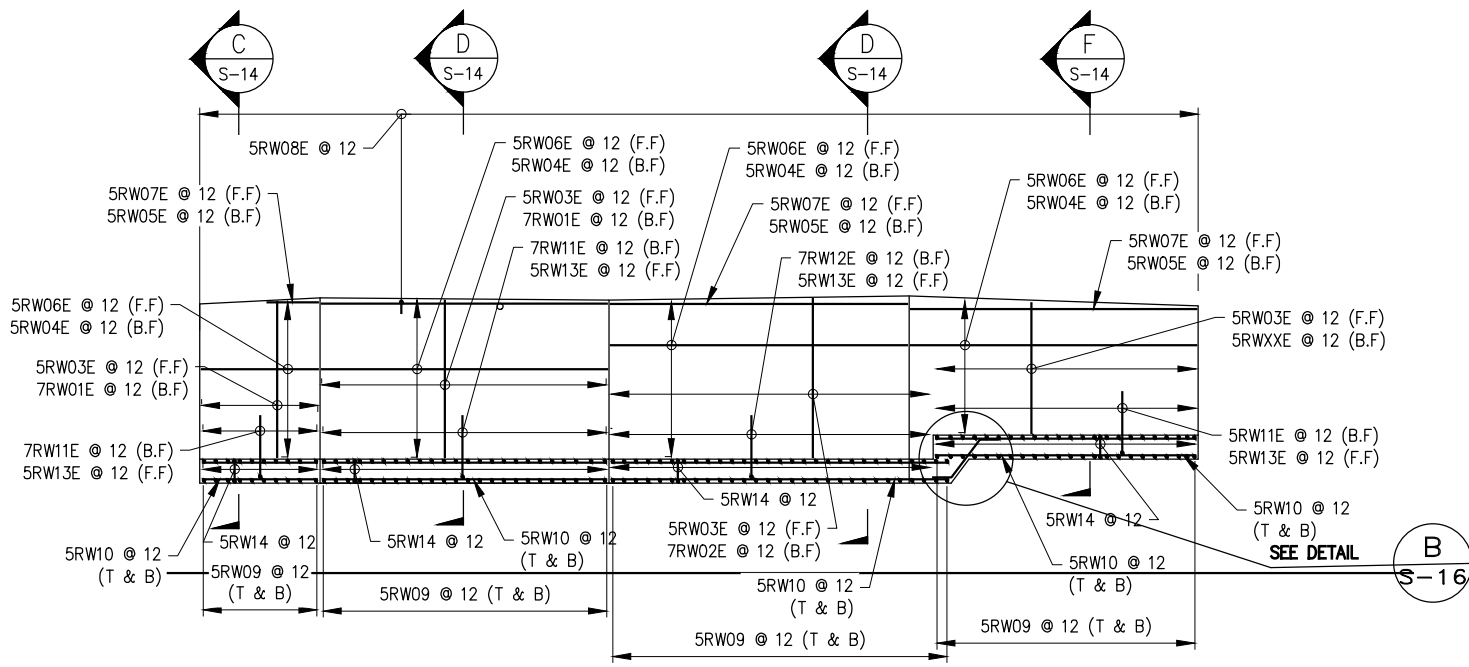
NOTE:  
1. SEE DWG S-13 FOR GEOMETRIC DETAILS.



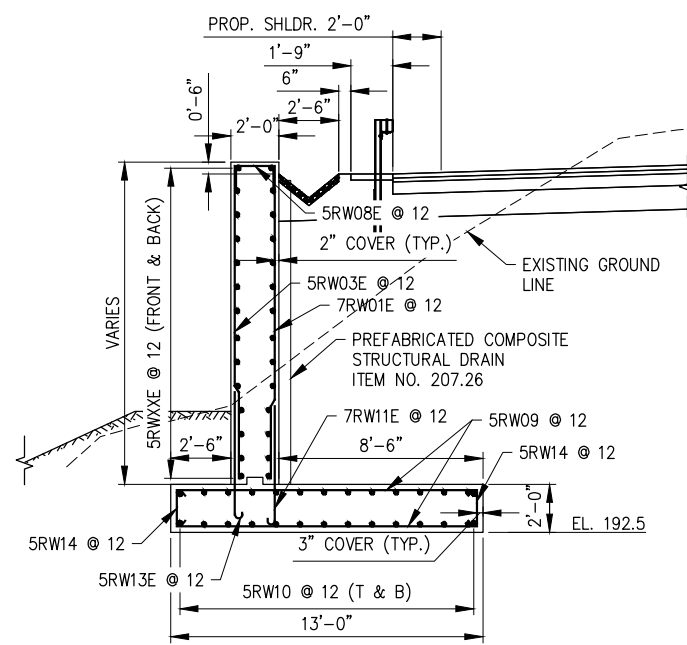
PLAN  
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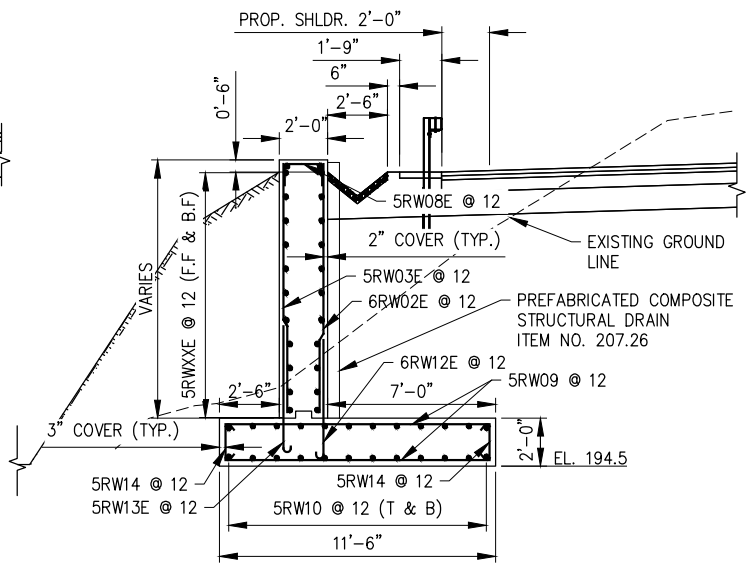
C SECTION C  
S-14 SCALE: 1/4"=1'-0"



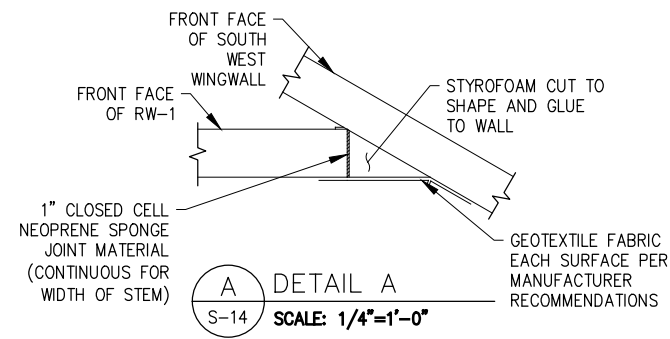
ELEVATION  
SCALE: 1/8"=1'-0"



D SECTION D  
S-14 SCALE: 1/4"=1'-0"



F SECTION F  
S-14 SCALE: 1/4"=1'-0"



A DETAIL A  
S-14 SCALE: 1/4"=1'-0"

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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ACCORDINGLY

Last Saved By: & Date: Cahlykhova, Tuesday, July 06, 2021 and Date Plotted: Wednesday, July 07, 2021 Time: 5:21 PM  
Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.366863 Plot Style Table: (N) BLDG\_RW.ctb  
Drawing Name: & Location: C:\Users\Cahlykhova\Inprod\Arms37850\BAP\TIST CHURCH RW Plan & Elevation.dwg

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
C. SHLYAKHOVA  
CHECKED BY:  
O. HUNTER, P.E.  
DESIGN LEAD:  
O. HUNTER, P.E.  
SECTION MANAGER:

DRAWN BY:  
J. CIRCOSTA  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway, New York, NY 10036

  
NEW YORK CITY  
Environmental Protection

ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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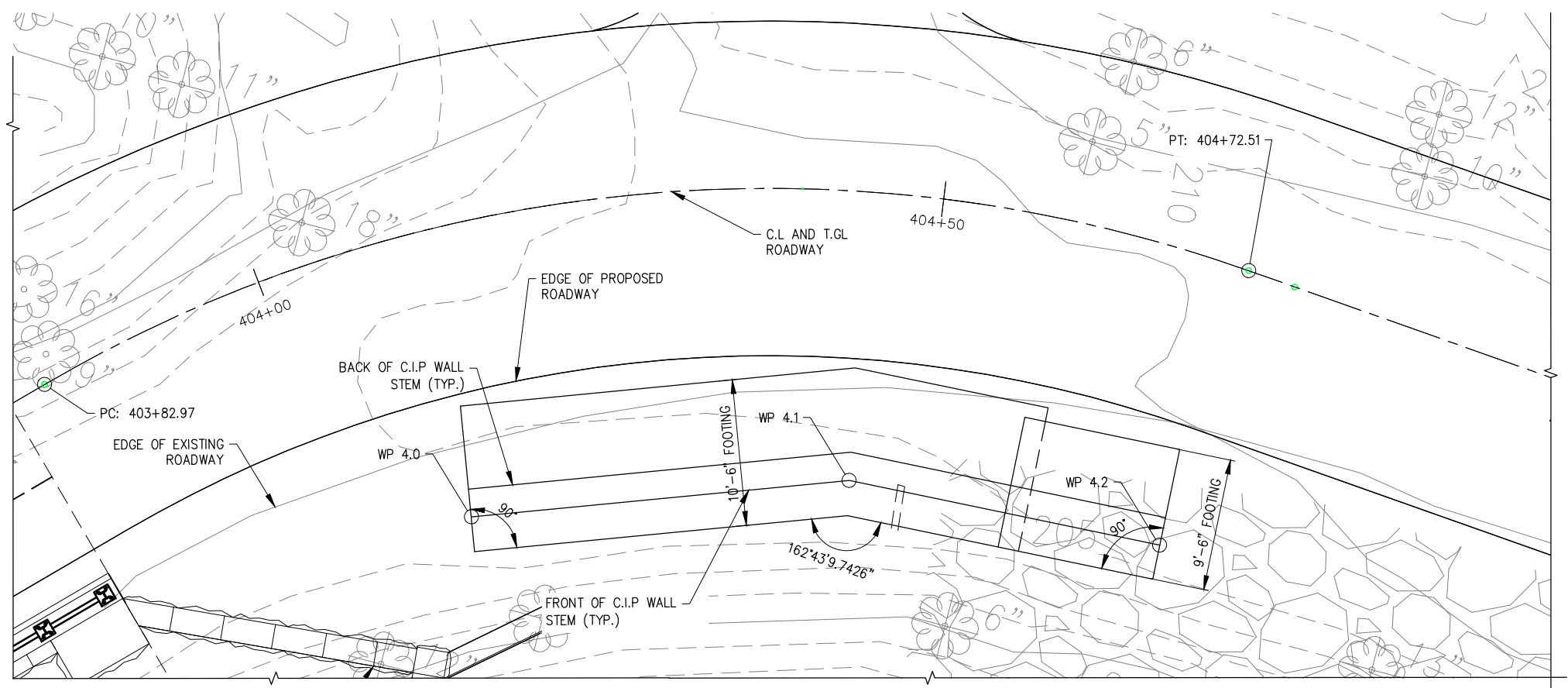
NEW YORK CITY  
ENVIRONMENTAL PROTECTION  
BUREAU OF ENGINEERING DESIGN & CONSTRUCTION  
96-05 HORACE HARDING EXPRESSWAY 5th FLOOR  
CORONA, NEW YORK 11368  
www.nyc.gov/dep

CAPITAL PROJECT WM-30  
IN WESTCHESTER COUNTY, NEW YORK  
CONTRACT CRO-530B  
SW RETAINING WALL - REBAR DETAILS

DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
38 OF 46  
DRAWING NO.  
S-14

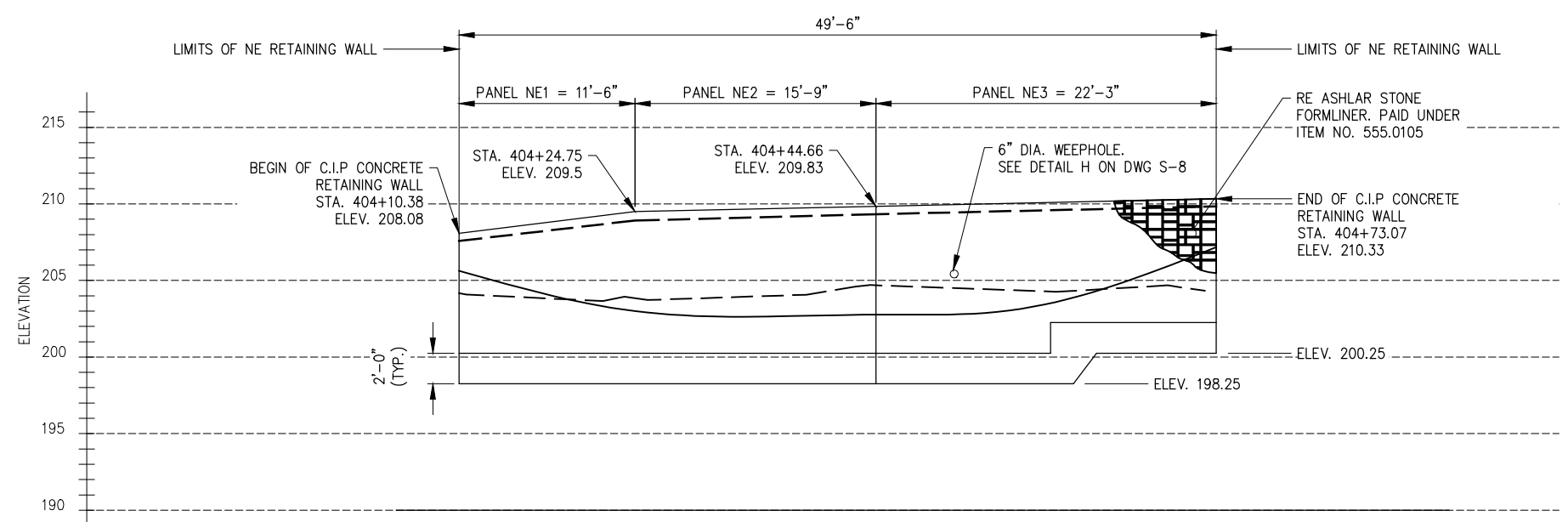
All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Last Saved By: & Date: Cshlyakhova, Wednesday, June 30, 2021 and Date Plotted: Friday, July 02, 2021 Time: 12:25 PM  
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PLAN  
SCALE: 3/16"=1'-0"

NOTE:  
1. SEE DWG S-16 FOR DETAILS AND REINFORCEMENT.



ELEVATION  
SCALE: 3/16"=1'-0"

WORK POINT	COORDINATES		C.L. BAPTIST CHURCH ROAD	
	NORTHING	EASTING	STATION	OFFSET
WP 4.0	884,465.690200	673,145.816600	404+10.3849	20.750
WP 4.1	884,480.339890	673,168.743743	404+44.6559	20.750
WP 4.2	884,486.320022	673,190.743698	404+73.0744	20.683

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
C. SHLYAKHOVA  
CHECKED BY:  
O. HUNTER, P.E.  
DESIGN LEAD:  
O. HUNTER, P.E.  
SECTION MANAGER:

DRAWN BY:  
J. CIRCOSTA  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
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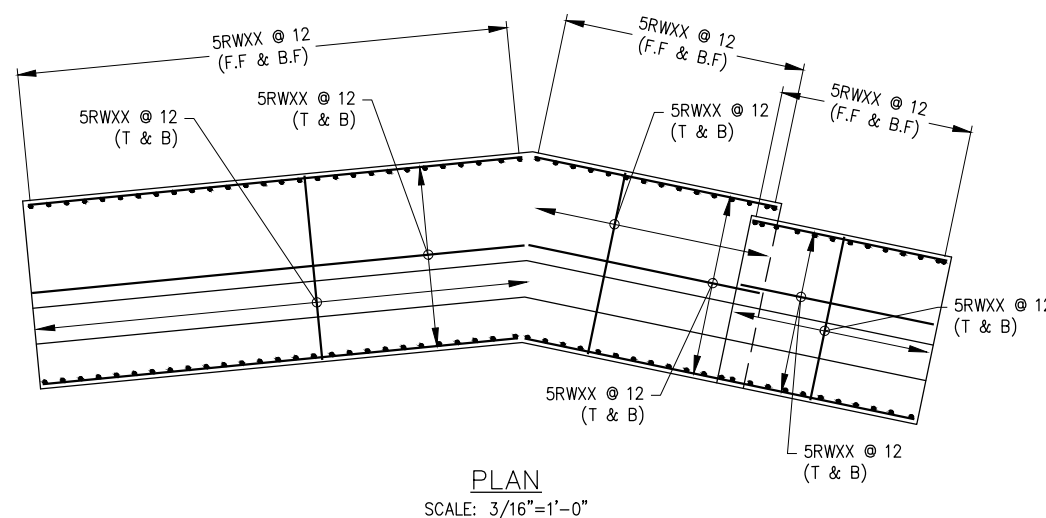
**NEW YORK CITY**  
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BUREAU OF ENGINEERING DESIGN & CONSTRUCTION  
96-05 HORACE HARDING EXPRESSWAY 5th FLOOR  
CORONA, NEW YORK 11368  
www.nyc.gov/dep

**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
NE RETAINING WALL- PLAN & ELEVATION

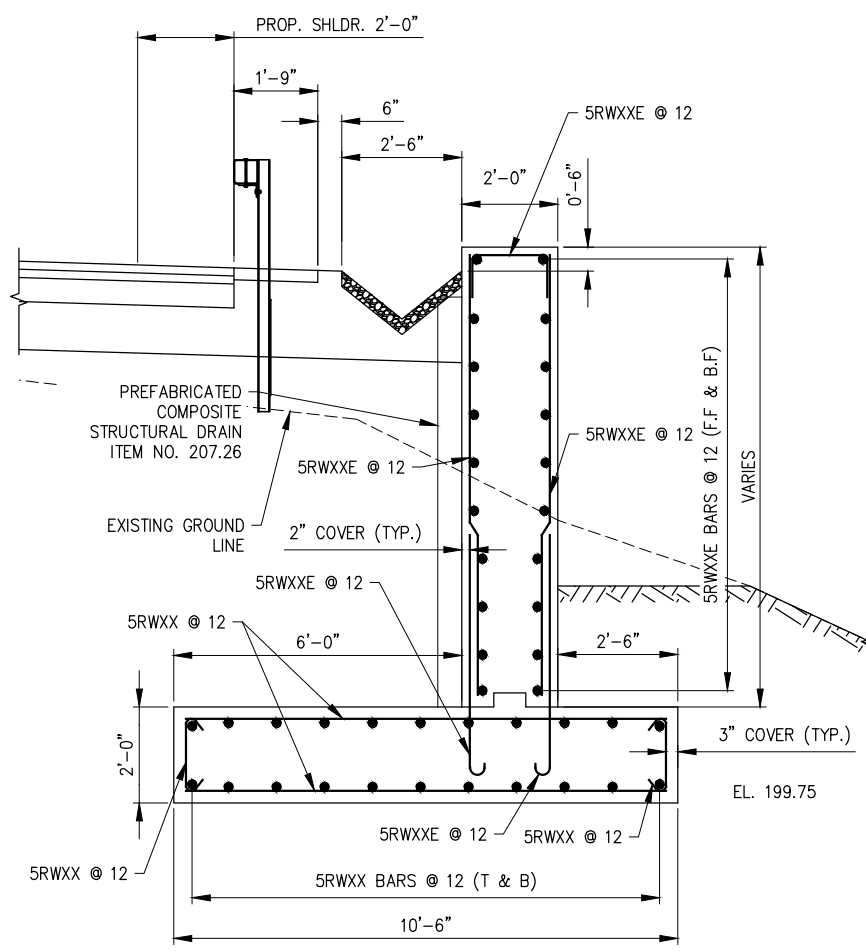
DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
39 OF 46  
DRAWING NO.  
S5215

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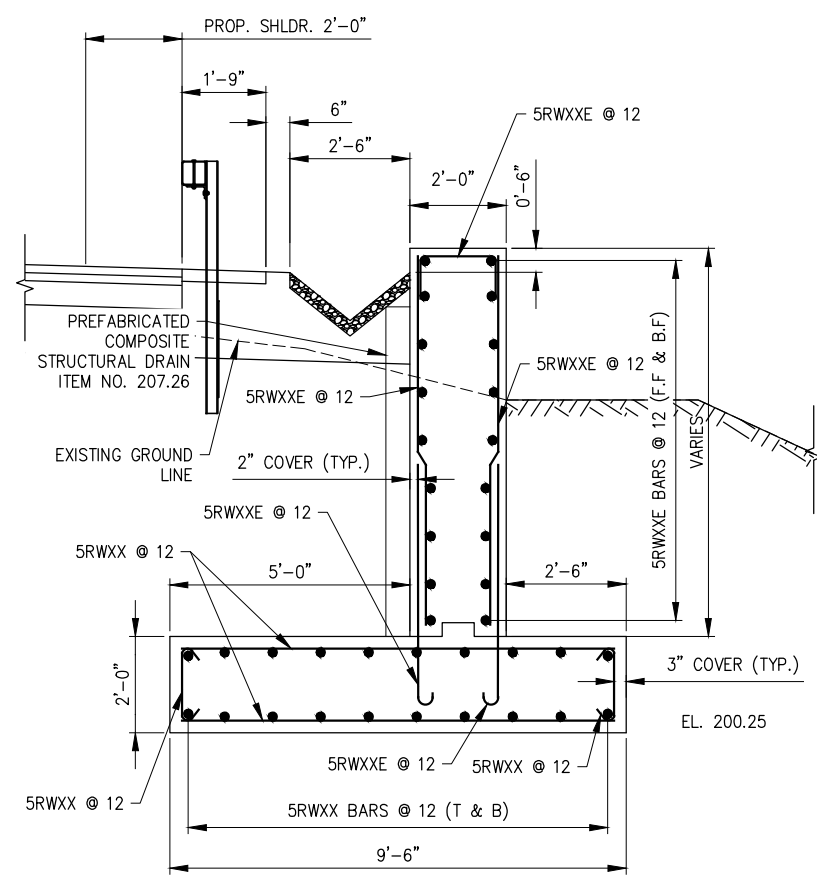
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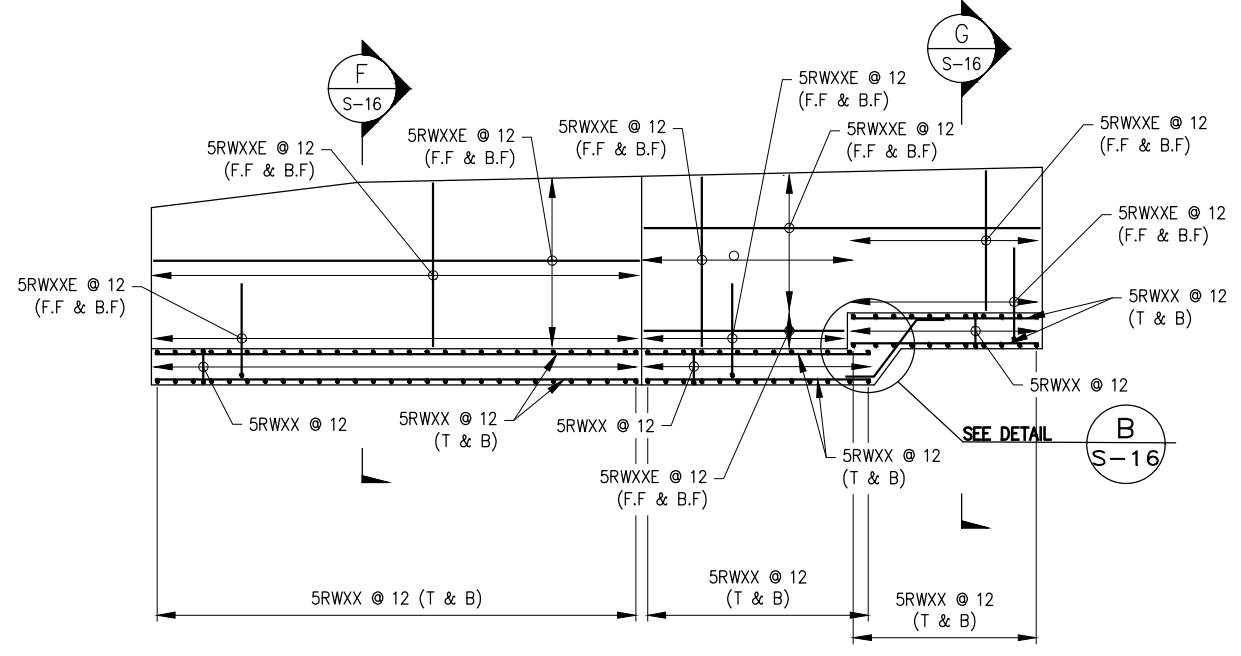
PLAN  
SCALE: 3/16"=1'-0"



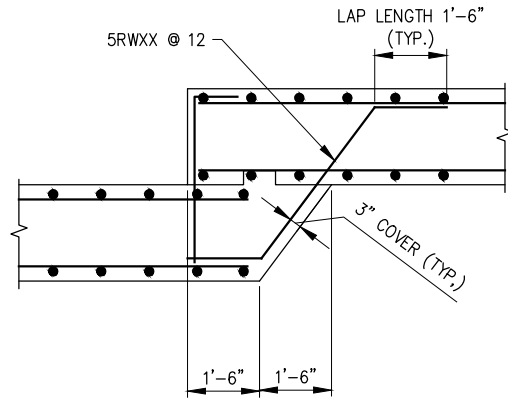
F SECTION F  
SCALE: 1/2"=1'-0"



G SECTION G  
SCALE: 1/2"=1'-0"



ELEVATION  
SCALE: 3/16"=1'-0"



B DETAIL B  
SCALE: 1/2"=1'-0"

NOTE:  
1. SEE DWG S-15 FOR GEOMETRIC DETAILS.

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
C. SHLYAKHOVA  
CHECKED BY:  
O. HUNTER, P.E.  
DESIGN LEAD:  
O. HUNTER, P.E.  
SECTION MANAGER:

DRAWN BY:  
J. CIRCOSTA  
  
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1501 Broadway, New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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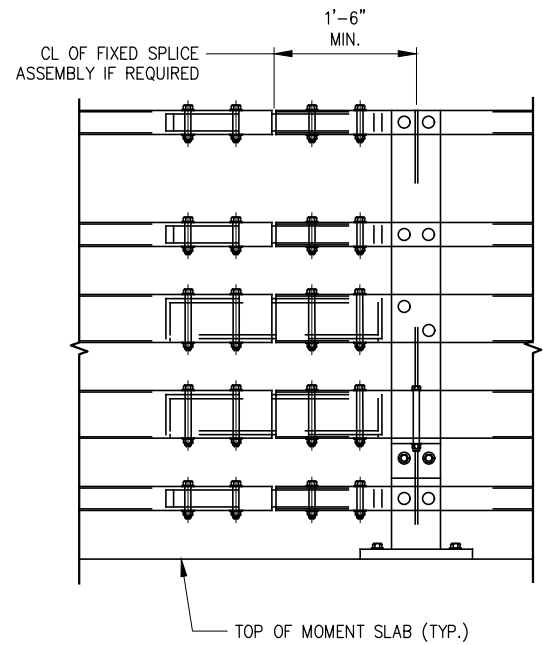
**NEW YORK CITY**  
**ENVIRONMENTAL PROTECTION**  
BUREAU OF ENGINEERING DESIGN & CONSTRUCTION  
96-05 HORACE HARDING EXPRESSWAY 5th FLOOR  
CORONA, NEW YORK 11368  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
NE RETAINING WALL - REBAR DETAILS

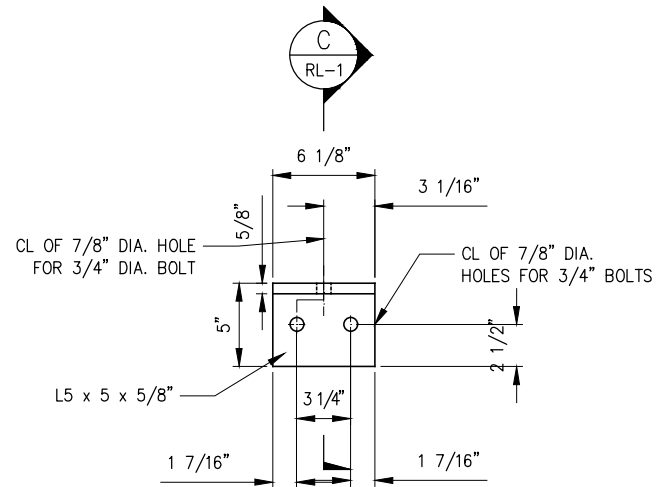
DATE: 04/23/2021  
SCALE: AS NOTED  
SHEET NO:  
40 OF 46  
DRAWING NO.  
S5316

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

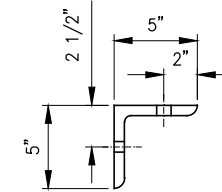




ELEVATION: STEEL BRIDGE RAILING SPLICE DETAILS  
(FIVE-RAIL) - CURBLESS



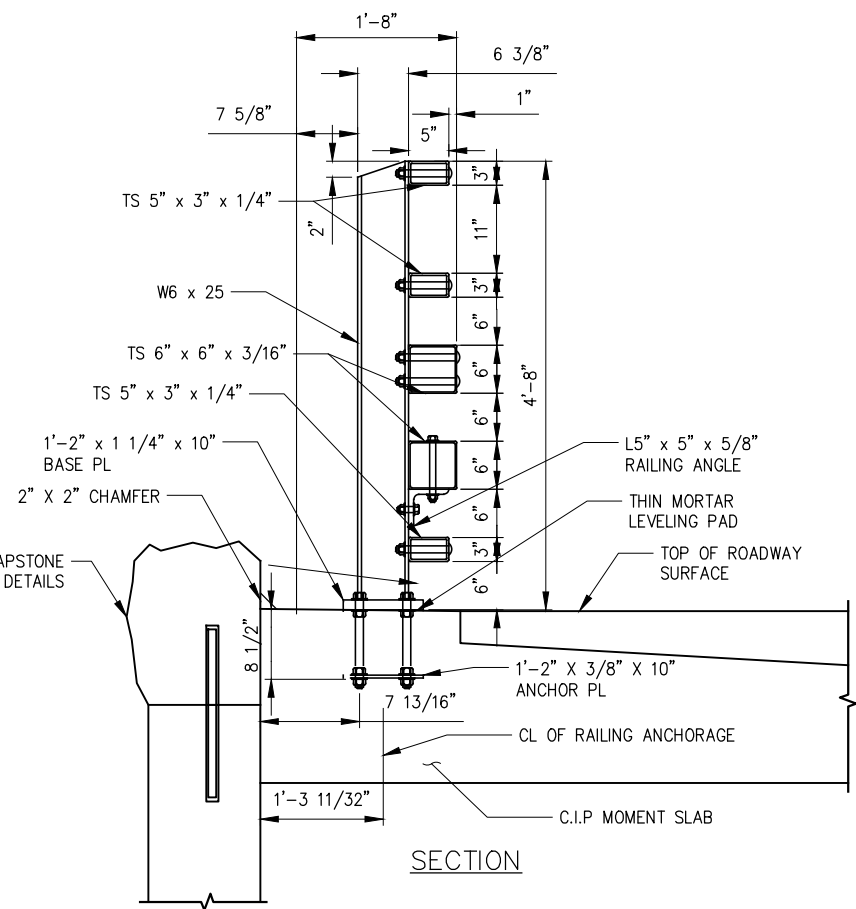
PLAN



SECTION C  
RAILING ANGLE DETAILS  
SCALE: NTS

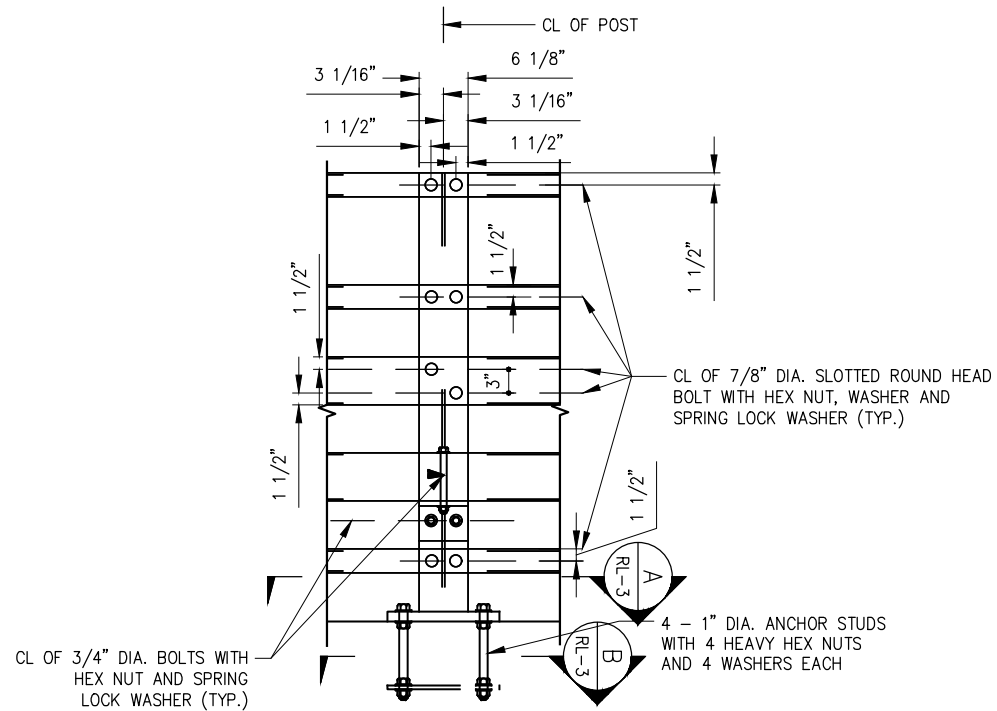
NOTES:

1. ALL RAILING IS TO BE FABRICATED AND ERECTED ACCORDING TO SECTION 568 OF THE STANDARD SPECIFICATIONS.
2. PRIOR TO GALVANIZING THE ASSEMBLED POST, GRIND ALL EDGES TO A MINIMUM RADIUS OF 1/16\"/>
- 3. BOLTS SHALL BE TORQUED SNUG TIGHT (APPROXIMATELY 100 FT-LB)
- 4. ALL RAILING IS TO BE FABRICATED AND ERECTED SO THAT THE RAILS ARE PARALLEL TO EACH OTHER AND TO THE GRADE. THE POSTS ARE TO BE TRULY VERTICAL.
- 5. WHEN THE RAILING IS TO BE PLACED ON A PREFORMED SURFACE, THE BASE PLATE MAY BE MADE PARALLEL TO THE GRADE OR MAY BE PERPENDICULAR TO THE POST AND MADE LEVEL BY THE USE OF (1:1 RATIO CEMENT TO SAND) MORTAR.
- 6. TUBULAR STEEL RAILS, RAIL POSTS, NUTS AND WASHERS, CARRIAGE BOLTS, BASE PLATE ASSEMBLIES, ANCHOR STUDS, ANCHOR PLATES, ANY NECESSARY SHIMS AND MORTAR PADS TO BE PAID FOR UNDER THE RAILING ITEM.
- 7. RAILING COMPONENTS ARE TO BE GALVANIZED IN ACCORDANCE WITH MATERIAL SPECIFICATION 719-01.
- 8. CEMENT MORTAR PADS SHALL BE PAID FOR UNDER THE RAILING ITEM.
- 9. REPAIRS TO ALL DAMAGED GALVANIZED SURFACES INCLUDING ANCHOR STUDS SHALL BE MADE IN ACCORDANCE WITH MATERIAL SPECIFICATION 719-01.
- 10. DETAILS ON THE DRAWING LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS FOR WHICH NO SCALE IS SHOWN ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.
- 11. FOR FULL ELEVATION OF RAILING SEE DWG S-11.

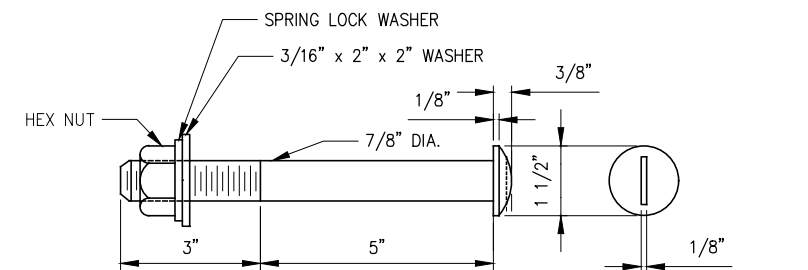


SECTION

STEEL BRIDGE RAILING SPLICE DETAILS  
(FIVE-RAIL) - CURBLESS



ELEVATION



SLOTTED ROUND HEAD BOLT

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
CHECK BEFORE USE

IF SHEET IS LESS THAN 22" X 34"  
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ACCORDINGLY

Last Saved By: & Date: Cehlykhova, Friday, April 23, 2021, and Date Plotted: Tuesday, June 01, 2021 Time: 4:23 PM  
Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.356863 Plot Style Table: (N) BDED\_BW.ctb  
Drawing Name: & Location: C:\Users\cehlykhova\Inprod\Arms37850\RAILING DETAILS 1.dwg

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
**J. CIRCOSTA**  
CHECKED BY:  
**R. ROMAN, PE**  
DESIGN LEAD:  
**O. HUNTER, PE**  
SECTION MANAGER:  
**ENTER SECTION CHIEF NAME**

DRAWN BY:  
**J. CIRCOSTA**  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



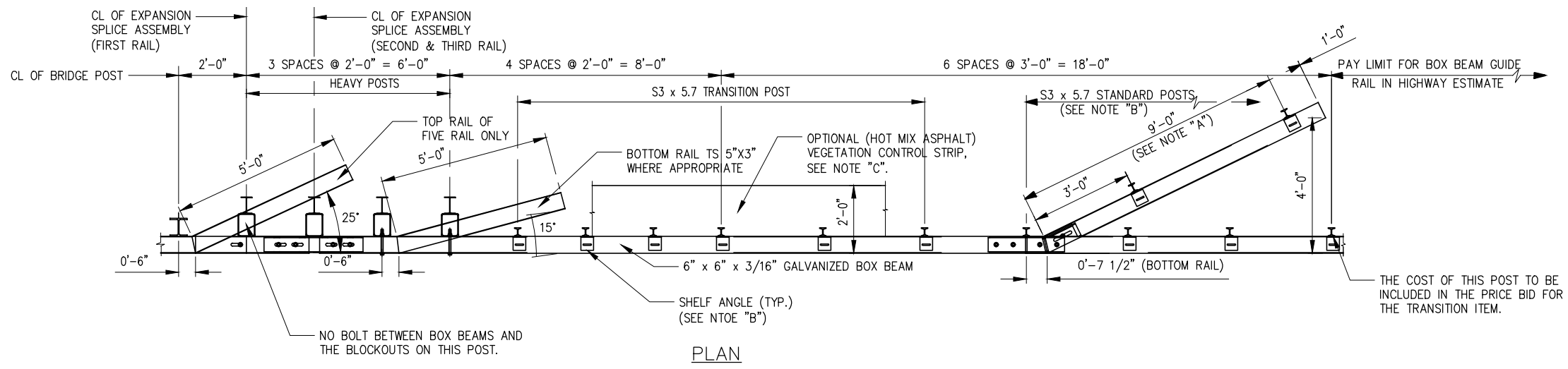
ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
**RAILING DETAILS-1**

DATE: 04/23/2021  
SCALE: **NTS**  
SHEET NO:  
**41** OF **46**  
DRAWING NO.  
**RL-1**



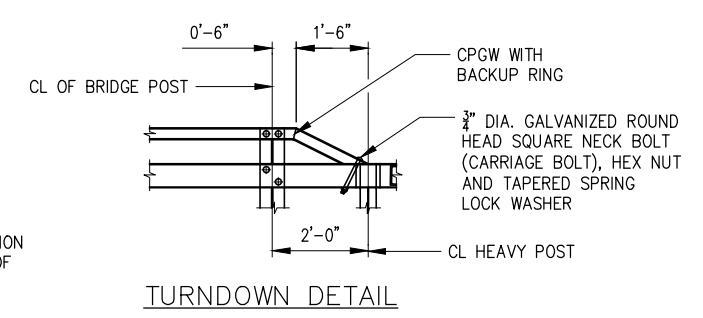
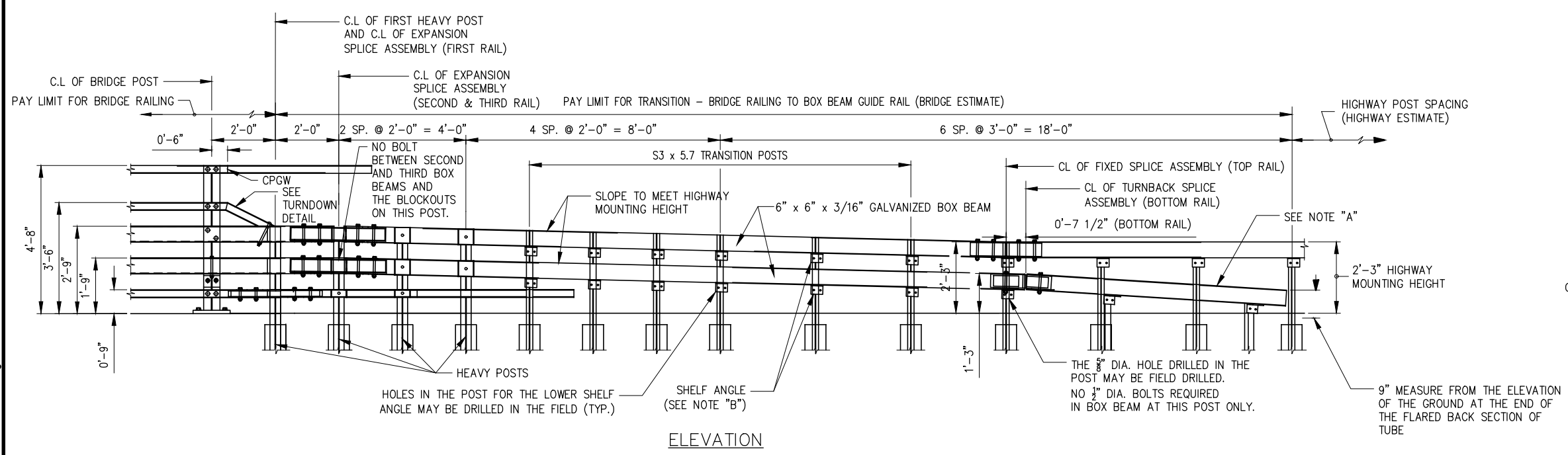
NOTES:

NOTE "A": THE COST OF THE POSTS, SPLICE TUBE AND RAIL FOR THE LOWER TUBE FLARE SECTION IS INCLUDED IN THE PRICE BID FOR THE TRANSITION ITEM.

NOTE "B": SEE TYPICAL RAIL TO POST CONNECTION DETAIL ON CURRENT HIGHWAY STANDARD SHEET TITLED "BOX BEAM GUIDE RAIL" FOR FURTHER GUIDANCE REFER TO INDEX OF DRAWINGS SHEET, G-2.

NOTE "C": PAVE THIS AREA WITH THE SAME MATERIAL USED IN THE STABILIZED SHOULDER. PAYMENT WILL BE MADE UNDER THE SHOULDER MATERIAL ITEM (HIGHWAY ESTIMATE).

TRANSITION LAYOUT NOTE: TYPICAL STRAIGHT LINE TRANSITION SHOWN. CONTRACTOR TO DEVELOP AND SUBMIT SHOP DRAWINGS FOR ACTUAL TRANSITION AT EACH CORNER OF THE BRIDGE TOGETHER WITH BRIDGE RAILING SHOP DRAWINGS.



Last Saved By: & Date: jcircosta, Friday, April 23, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 5:46 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.396863 Plot Style Table: (N) BRED\_BW.ctb  
 Drawing Name: & Location: C:\users\jcircosta\Myprod\Arms37850\RAILING DETAILS 2.dwg

60% DESIGN SUBMITTAL  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
 CHECK BEFORE USE

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 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: <b>J. CIRCOSTA</b>	DRAWN BY: <b>J. CIRCOSTA</b>
CHECKED BY: <b>R. ROMAN, PE</b>	
DESIGN LEAD: <b>O. HUNTER, PE</b>	
SECTION MANAGER: <b>ENTER SECTION CHIEF NAME</b>	HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE
PORTFOLIO MANAGER PAUL COSTA, PE
EXECUTIVE DIRECTOR SEAN McANDREW, PE

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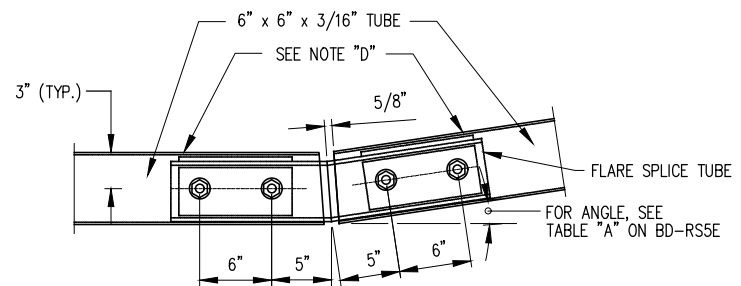
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**

RAILING DETAILS -2

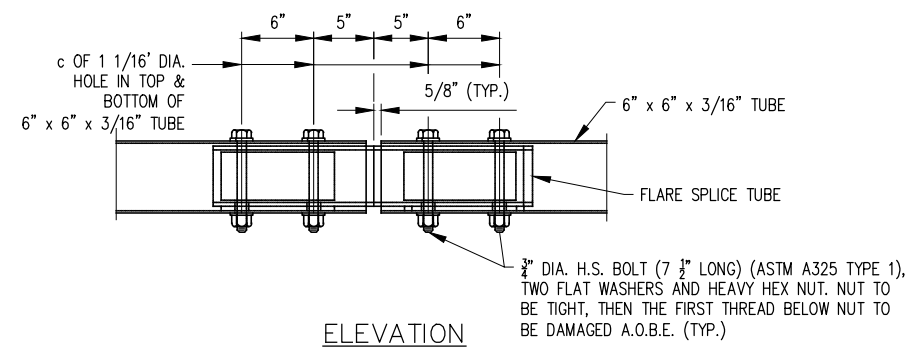
DATE: 04/23/2021
SCALE: <b>NOT TO SCALE</b>
SHEET NO: <b>42</b> OF 46
DRAWING NO. <b>RE-2</b>

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

Last Saved By: & Date: Cahlykhova, Friday, April 23, 2021, and Date Plotted: Tuesday, June 01, 2021 Time: 4:23 PM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.356863 Plot Style Table: (N) BDED\_BW.ctb  
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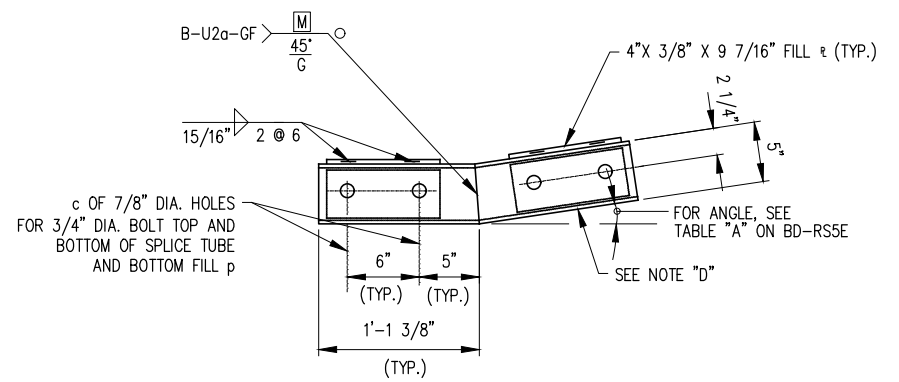


PLAN

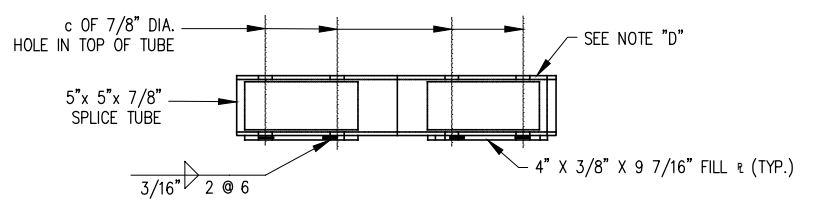


ELEVATION

FLARE SPLICE ASSEMBLY

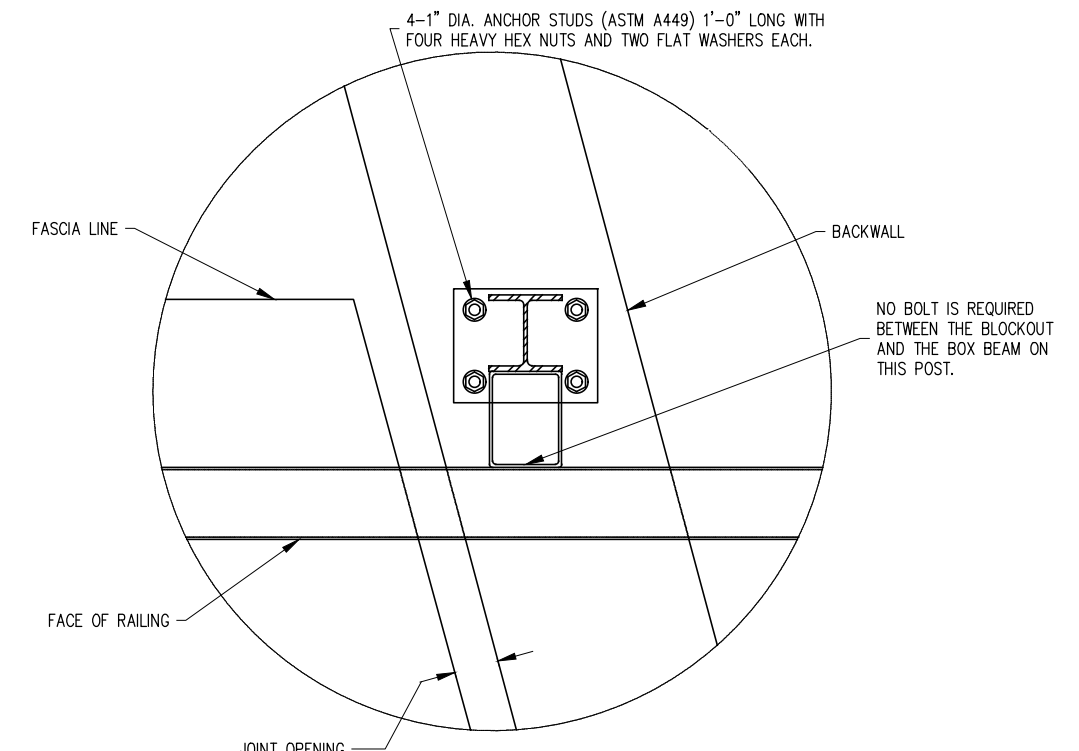


PLAN

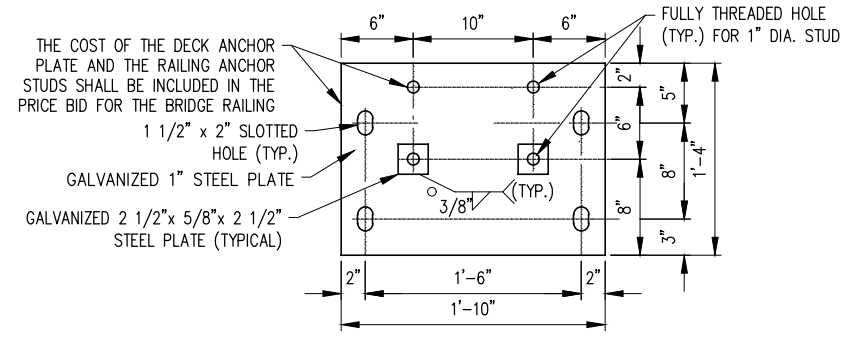


ELEVATION

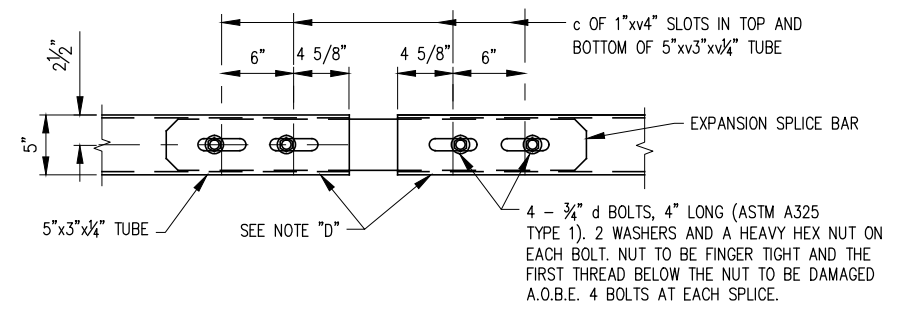
FLARE SPLICE TUBE DETAIL



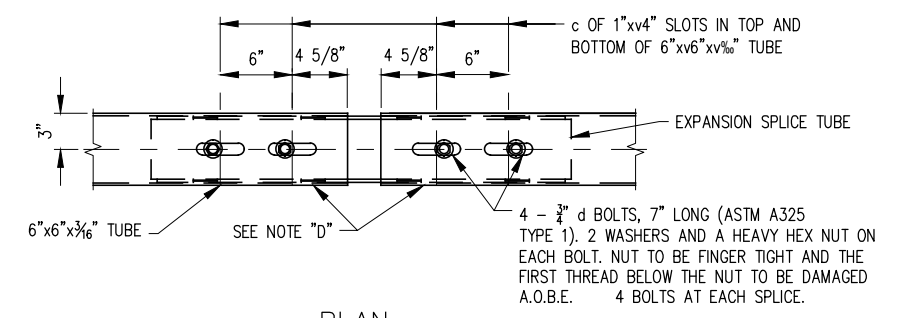
SPECIAL POST DETAIL



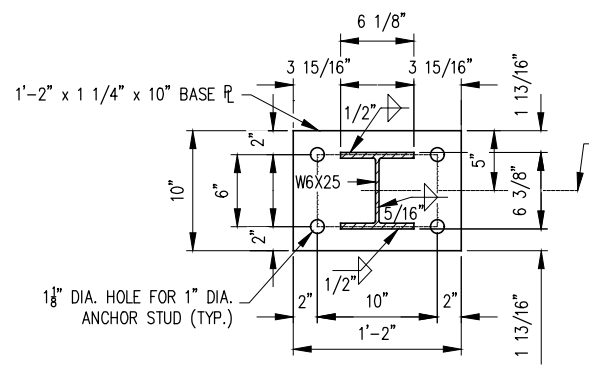
DECK ANCHOR PLATE



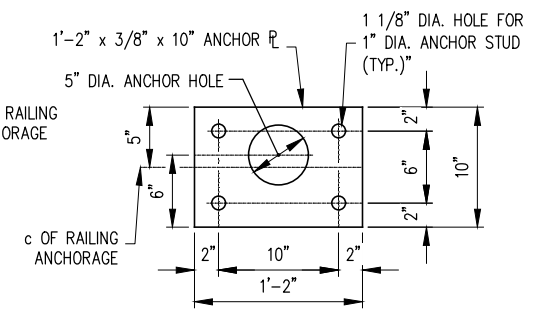
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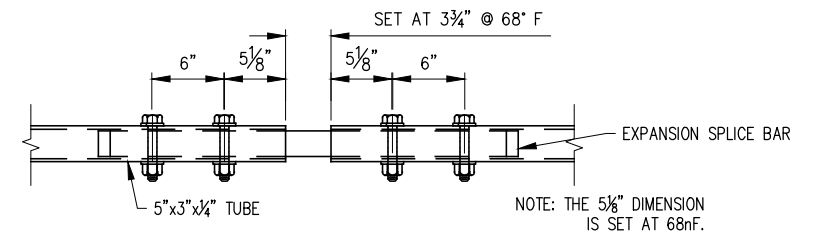
PLAN



A SECTION A  
 RL-1 SCALE: NTS

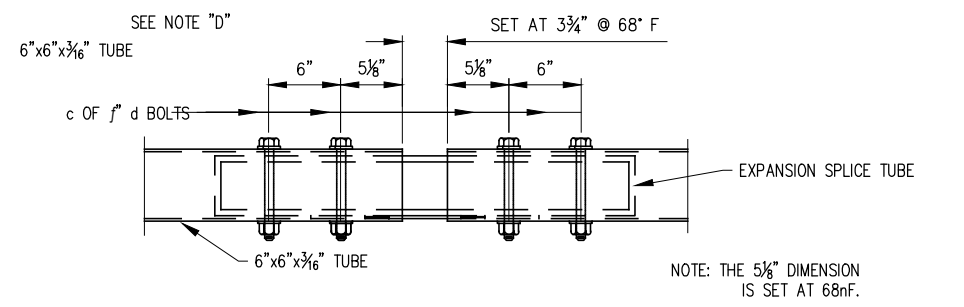


B SECTION B  
 RL-1 SCALE: NTS



ELEVATION

EXPANSION SPLICE BAR ASSEMBLY



ELEVATION

EXPANSION SPLICE TUBE ASSEMBLY

GRAPHIC SCALES  
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 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: ENTER DESIGN BY NAME	DRAWN BY: ENTER SECTION CHIEF NAME
CHECKED BY: ENTER CHECKED BY NAME	 HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036
DESIGN LEAD: ENTER DESIGN LEAD NAME	
SECTION MANAGER: ENTER SECTION CHIEF NAME	



ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE
PORTFOLIO MANAGER PAUL COSTA, PE
EXECUTIVE DIRECTOR SEAN McANDREW, PE

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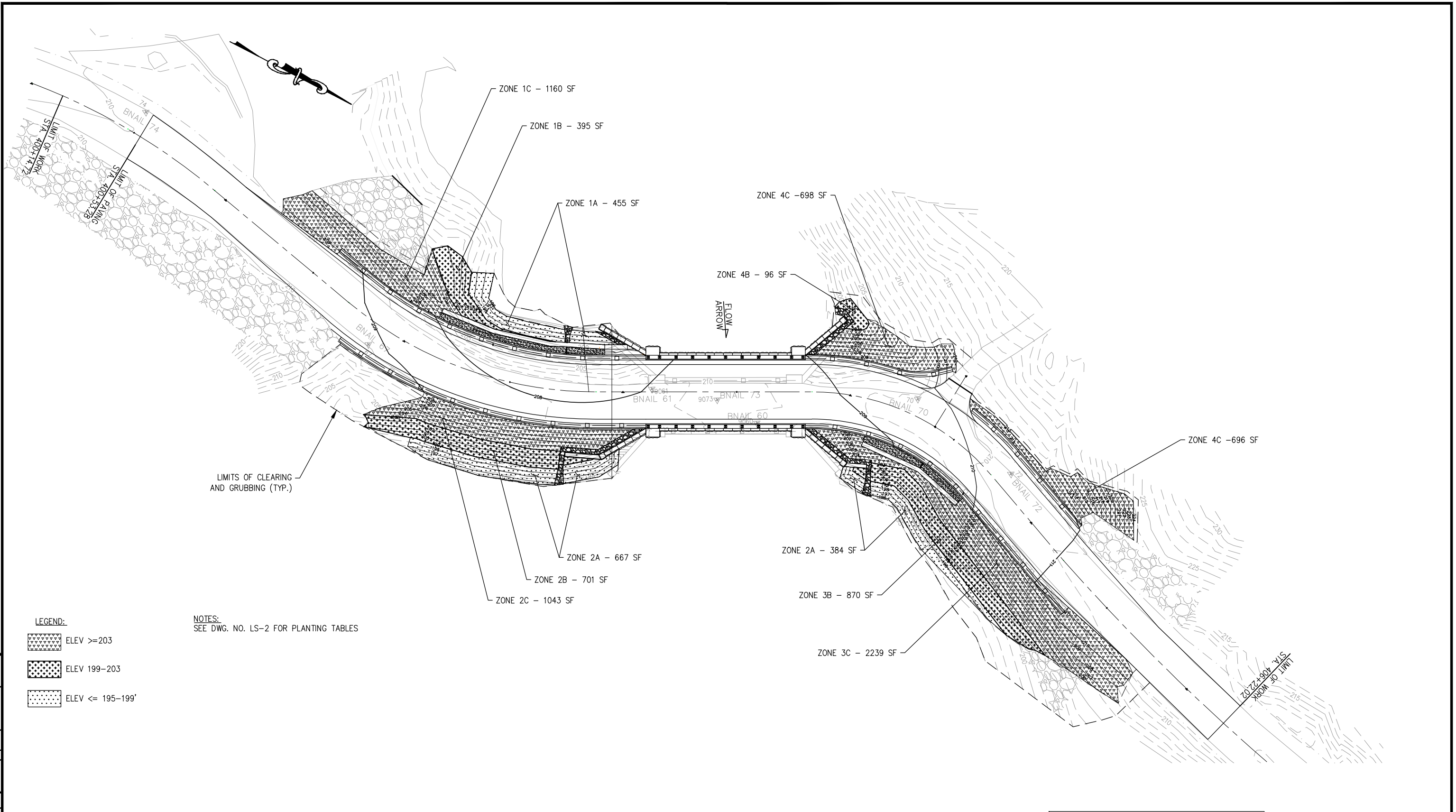
**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
 RAILING DETAILS - 3

DATE: 04/23/2021
SCALE: NTS
SHEET NO: 43 OF 46
DRAWING NO. RL-3

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Last Saved By: & Date: Ncrevier, Wednesday, May 05, 2021, and Date Plotted: Tuesday, June 01, 2021, Time: 9:10 AM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.356883 Plot Style Table: (N)\_BEDC\_BW.ctb  
 Drawing Name: & Location: C:\Users\csnlyakrova\improd\ams37923\LS-1.dwg



**LEGEND:**

	ELEV >=203
	ELEV 199-203
	ELEV <= 195-199'

**NOTES:**  
SEE DWG. NO. LS-2 FOR PLANTING TABLES

60% DESIGN SUBMITTAL  
SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
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IT IS A REDUCED PRINT. SCALE  
ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
E. BOETSCH  
CHECKED BY:  
R. ROMAN, PE  
DESIGN LEAD:  
O. HUNTER, PE  
SECTION MANAGER:

DRAWN BY:  
N.CREVIEW, PE  
  
HARDESTY & HANOVER, LLC  
ENGINEERING  
1501 Broadway New York, NY 10036



ACCOUNTABLE MANAGER  
JEFFREY A. BUSSE, PE  
PORTFOLIO MANAGER  
PAUL COSTA, PE  
EXECUTIVE DIRECTOR  
SEAN McANDREW, PE

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CORONA, NEW YORK 11368  
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**CAPITAL PROJECT WM-30**  
**IN WESTCHESTER COUNTY, NEW YORK**  
**CONTRACT CRO-530B**  
  
LANDSCAPING PLAN

DATE: 04/23/2021  
SCALE: 1"=20'-0"  
SHEET NO:  
45 OF 46  
DRAWING NO.  
LS-1

All inquiries regarding this drawing(s) or project should be made to NYC Environmental Protection, Bureau of Engineering Design and Construction.

ZONE 1A -DISTURBED AREA 195-199'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
SPECKLED ALDER	ALNUS INCANA	FACW	1 INCH CALIPER	3
			TREE TOTAL	3
SHRUBS				
BUTTONBUSH	CEPHALANTUS OCCIDENTALIS	OBL	1 GALLON	3
			SHRUB TOTAL	3

ZONE 1B-DISTURBED AREA 199-203'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
AMERICAN HORNBEAM	CARPINUS CAROLINIANA	FAC	1 INCH CALIPER	1
			TREE TOTAL	1
SHRUBS				
SPICEBUSH	LINDERA BENZOIN	FACW	1 GALLON	1
			SHRUB TOTAL	1

ZONE 1C-DISTURBED AREA 203+'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
NORTHERN RED OAK	QUERCUS RUBRA	FACU	1 INCH CALIPER	3
BLACK OAK	QUERCUS VELUTINA	FACU	1 INCH CALIPER	3
SWEETGUM	LIQUIDAMBAR STYRACIFLUA	FACU	1 INCH CALIPER	2
			TREE TOTAL	8
SHRUBS				
WITCH HAZEL	HAMAMELIS VIRGINIANA	FACU	1 GALLON	3
GREAT LAUREL	RHODODENDRON MAXIMUM	FAC	1 GALLON	3
MAPLE LEAF VIBURNUM	VIBURNUM ACERIFOLIUM	UPL	1 GALLON	3
FLOWERING DOGWOOD	CORNUS FLORIDA	FACU	1 GALLON	3
			SHRUB TOTAL	12

ZONE 2A-DISTURBED AREA 195-199'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
SPECKLED ALDER	ALNUS INCANA	FACW	1 INCH CALIPER	2
AMERICAN ELM	ULMUS AMERICANA	FACW	1 INCH CALIPER	2
			TREE TOTAL	4
SHRUBS				
BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	OBL	1 GALLON	2
WINTERBERRY	ILEX VERTICILLATA	FACW	1 GALLON	3
			SHRUB TOTAL	5

ZONE 2B-DISTURBED AREA 199-203'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
RIVER BIRCH	BETULA NIGRA	FACW	1 INCH CALIPER	2
AMERICAN HORNBEAM	CARPINUS CAROLINIANA	FAC	1 INCH CALIPER	2
			TREE TOTAL	4
SHRUBS				
PUSSY WILLOW	SALIX DISCOLOR	FACW	1 GALLON	3
HUGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	FACW	1 GALLON	3
			SHRUB TOTAL	6

ZONE 2C-DISTURBED AREA 203+'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
NORTHERN RED OAK	QUERCUS RUBRA	FACU	1 INCH CALIPER	3
COMMON SERVICEBERRY	AMELANCHIER ARBOREA	FACU	1 INCH CALIPER	3
TULIP POPLAR	LIRIODENDRON TULIPIFERA	FACU	1 INCH CALIPER	3
SWEET BIRCH	BETULA LENTA	FAC	1 INCH CALIPER	2
			TREE TOTAL	11
SHRUBS				
WITCH HAZEL	HAMAMELIS VIRGINIANA	FACU	1 GALLON	3
GREAT LAUREL	RHODODENDRON MAXIMUM	FAC	1 GALLON	3
MAPLE LEAF VIBURNUM	VIBURNUM ACERIFOLIUM	UPL	1 GALLON	3
FLOWERING DOGWOOD	CORNUS FLORIDA	FACU	1 GALLON	3
LOW BUSH BLUEBERRY	VACCINIUM ANGUSTIFLORIUM	FACU	1 GALLON	4
			SHRUB TOTAL	16

ZONE 3A-DISTURBED AREA 195-199'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
SPECKLED ALDER	ALNUS INCANA	FACW	1 INCH CALIPER	2
AMERICAN ELM	ULMUS AMERICANA	FACW	1 INCH CALIPER	2
			TREE TOTAL	4
SHRUBS				
BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	OBL	1 GALLON	3
WINTERBERRY	ILEX VERTICILLATA	FACW	1 GALLON	5
			SHRUB TOTAL	8

ZONE 3B-DISTURBED AREA 199-203'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
RIVER BIRCH	BETULA NIGRA	FACW	1 INCH CALIPER	3
RED MAPLE	ACER RUBRUM	FAC	1 INCH CALIPER	3
AMERICAN HORNBEAM	CARPINUS CAROLINIANA	FAC	1 INCH CALIPER	2
			TREE TOTAL	8
SHRUBS				
PUSSY WILLOW	SALIX DISCOLOR	FACW	1 GALLON	3
HUGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	FACW	1 GALLON	3
SPICEBUSH	LINDERA BENZOIN	FACW	1 GALLON	4
			SHRUB TOTAL	10

ZONE 3C-DISTURBED AREA 203+'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
NORTHERN RED OAK	QUERCUS RUBRA	FACU	1 INCH CALIPER	3
BLACK OAK	QUERCUS VELUTINA	FACU	1 INCH CALIPER	3
SWEETGUM	LIQUIDAMBAR STYRACIFLUA	FACU	1 INCH CALIPER	3
TULIP POPLAR	LIRIODENDRON TULIPIFERA	FACU	1 INCH CALIPER	3
SWEET BIRCH	BETULA LENTA	FAC	1 INCH CALIPER	3
COMMON SERVICEBERRY	AMELANCHIER ARBOREA	FACU	1 INCH CALIPER	2
			TREE TOTAL	17
SHRUBS				
WITCH HAZEL	HAMAMELIS VIRGINIANA	FACU	1 GALLON	3
GREAT LAUREL	RHODODENDRON MAXIMUM	FAC	1 GALLON	3
MAPLE LEAF VIBURNUM	VIBURNUM ACERIFOLIUM	UPL	1 GALLON	4
FLOWERING DOGWOOD	CORNUS FLORIDA	FACU	1 GALLON	3
LOW BUSH BLUEBERRY	VACCINIUM ANGUSTIFLORIUM	FACU	1 GALLON	6
CANADIAN SERVICEBERRY	AMELANCHEIR CANADENIS VAR. CANADENIS	FAC	1 GALLON	6
			SHRUB TOTAL	25

ZONE 4B-DISTURBED AREA 199-203'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
RIVER BIRCH	BETULA NIGRA	FACW	1 INCH CALIPER	1
AMERICAN HORNBEAM	CARPINUS CAROLINIANA	FAC	1 INCH CALIPER	2
			TREE TOTAL	3
SHRUBS				
PUSSY WILLOW	SALIX DISCOLOR	FACW	1 GALLON	1
HUGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	FACW	1 GALLON	2
			SHRUB TOTAL	3

ZONE 4C-DISTURBED AREA 203+'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
NORTHERN RED OAK	QUERCUS RUBRA	FACU	1 INCH CALIPER	3
BLACK OAK	QUERCUS VELUTINA	FACU	1 INCH CALIPER	3
SWEETGUM	LIQUIDAMBAR STYRACIFLUA	FACU	1 INCH CALIPER	2
SWEET BIRCH	BETULA LENTA	FAC	1 INCH CALIPER	2
TULIP POPLAR	LIRIODENDRON TULIPIFERA	FACU	1 INCH CALIPER	3
			TREE TOTAL	13
SHRUBS				
WITCH HAZEL	HAMAMELIS VIRGINIANA	FACU	1 GALLON	3
GREAT LAUREL	RHODODENDRON MAXIMUM	FAC	1 GALLON	3
AMERICAN HYDRANGEA	HYDRANGEA ABORESCENS	FACU	1 GALLON	6
LOW BUSH BLUEBERRY	VACCINIUM ANGUSTIFLORIUM	FACU	1 GALLON	5
CANADIAN SERVICEBERRY	AMELANCHEIR CANADENIS VAR. CANADENIS	FAC	1 GALLON	3
			SHRUB TOTAL	20

ZONE 4D-DISTURBED AREA 203+'

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
NORTHERN RED OAK	QUERCUS RUBRA	FACU	1 INCH CALIPER	1
TULIP POPLAR	LIRIODENDRON TULIPIFERA	FACU	1 INCH CALIPER	1
SWEET BIRCH	BETULA LENTA	FAC	1 INCH CALIPER	1
			TREE TOTAL	3
SHRUBS				
CANADIAN SERVICEBERRY	AMELANCHEIR CANADENIS VAR. CANADENIS	FAC	1 GALLON	3
			SHRUB TOTAL	3

Last Saved By: & Date: Norevier, Friday, April 23, 2021, and Date Plotted: Tuesday, June 01, 2021, Time: 11:45 AM  
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.388883 Plot Style Table: (N)\_BEDC\_BW.ctb  
 Drawing Name: & Location: C:\Users\ashlyakrova\Myprod\Arms37923\5-2.dwg

60% DESIGN SUBMITTAL  
 SUBMITTAL DATE: 4/23/2021

GRAPHIC SCALES  
 CHECK BEFORE USE  
 IF SHEET IS LESS THAN 22" X 34"  
 IT IS A REDUCED PRINT. SCALE  
 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY:  
 N. CREVIER, PE  
 CHECKED BY:  
 C. JENNE, PE  
 DESIGN LEAD:  
 R. ROMAN, PE  
 SECTION MANAGER:

DRAWN BY:  
 N. CREVIER, PE  
  
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 1501 Broadway New York, NY 10036



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**CAPITAL PROJECT WM-30**  
 IN WESTCHESTER COUNTY, NEW YORK  
**CONTRACT CRO-530B**  
 LANDSCAPING PLANTING TABLES

DATE: 04/23/2021  
 SCALE: 1"=20'-0"  
 SHEET NO:  
 46 OF 46  
 DRAWING NO.  
**LS-2**

**Attachment C**  
**Wetland Delineation Report**



This Wetland Delineation Report was prepared for two bridges, however, only the information for the Baptist Church Road Bridge is relevant under this contract.

# WETLAND DELINEATION REPORT

## NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION

FOR:

CAPITAL PROJECT WM-30  
CONTRACT CRO-530B  
RECONSTRUCTION OF TWO BRIDGES  
WESTCHESTER COUNTY, NEW YORK

January 10, 2019

**PREPARED FOR:**

Hardesty & Hanover, LLC  
1501 Broadway  
New York, NY 10036

**FOR SUBMITTAL TO:**

New York City Department of Environmental Protection  
465 Columbus Avenue  
Valhalla, NY 10595

**PREPARED BY:**

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New York, NY 10004

ASGECI # 4294



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## I. INTRODUCTION

This report presents the results of a wetland delineation completed by Amy S. Greene Environmental Consultants, Inc. (ASGECI) for the reconstruction of two (2) bridges located within the New York City Croton Watershed within Westchester County, New York. The project proponent is the New York City Department of Environmental Protection (NYCDEP) and this project is being undertaken pursuant to Contract CRO-530B.

The two (2) bridges to be reconstructed are as follows:

1. Baptist Church Road Bridge: Town of Yorktown
2. Cross River Inlet Bridge: Town of Lewisboro

Each subject site and wetland delineation limit includes the existing right-of-way for each bridge and approximately 150 feet of the approach roadways plus a study area extending approximately 50 feet from the right-of-way. The project areas are identified on the Site Maps contained in Appendix A.

The wetland delineation under this contract was completed by Douglas J. Chabrak, Professional Wetland Scientist of ASGECI on November 7 and 8, 2018.

## II. SITE DESCRIPTION

The following is a general site description for each bridge location.

### Baptist Church Road Bridge

Baptist Church Road Bridge is currently open to traffic and carries traffic over New Croton Reservoir. The bridge is situated in a rural setting (i.e. forested) within the Town of Yorktown. The existing land use surrounding the site contains forest interspersed with low density residential development.

Topography within the project area is generally variable, with significantly steep slopes occurring along the roadway embankment. The predominant drainage pattern is towards New Croton Reservoir.

Jurisdictional non-wetland waters were identified within the project area along both banks of the New Croton Reservoir while jurisdictional wetlands were identified along the northwestern bank. (See Appendix D, Topographic Maps showing wetland delineation).

### Cross River Inlet Bridge

Cross River Inlet Road Bridge is currently open to traffic and carries traffic on Old Post Road over the confluence of the Cross River and Cross River Reservoir. The bridge is situated in a somewhat residential setting within the Town of Lewisboro. The existing land use surrounding the site contains forest interspersed with low to moderate density residential development.

Topography within the project area is generally variable, with moderately steep slopes occurring along the roadway embankment. The predominant drainage pattern is towards Cross River Reservoir.

Jurisdictional non-wetland waters and wetlands were identified within the project area along both banks of Cross River Reservoir (See Appendix D, Topographic Maps showing wetland delineation).

### III. WETLAND DETERMINATION METHODOLOGY

The wetland determination utilized a desktop review of existing, available information followed by an onsite determination and delineation of wetlands and waters.

The New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands Delineation Manual (Revised July 1995) is reflective of the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (1987) [USACE 1987 Manual]. The preliminary data gathering effort revealed that the subject sites and bridge locations do not contain any NYSDEC regulated freshwater wetlands; therefore, the wetland delineations were conducted in accordance with *U.S. Army Corps of Engineers Wetlands Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Version 2.0* (January 2012). Hydrophytic vegetation was determined using wetland indicator status in the *Northcentral and Northeast 2016 Regional Wetland Plant List* (Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016). A hydrophyte is any plant growing in water, soil, or on a substrate that is at least periodically deficient of oxygen as a result of excessive water content.

Plant Affinity for Wetland Conditions:

<u>Classification</u>	<u>% Occurrence in Wetland</u>
Obligate (OBL)	> 99
Facultative Wet (FACW)	67 – 99
Facultative (FAC)	34 – 66
Facultative Upland (FACU)	1 – 33
Upland (UPL)	< 1

If hydric soils and wetland hydrology are lacking, and normal circumstances exist, then an area is considered to be upland. In order to determine the dominance of each plant species, the cover class (based on percent aerial cover) is determined.

The USACE 1987 Manual includes a “Preliminary Data Gathering and Synthesis” (desktop screening) with in-field methodology chosen in part based on the results of that data gathering.

#### A. Preliminary Data Gathering and Synthesis

A desktop review of existing published information was completed to determine the approximate extent of wetlands within and proximal to the site locations. SSURGO soils mapping and NYSDEC and NWI wetlands mapping (See Appendix A, Figures 3A through 3 C and Figures 4A through 4C, respectively) were utilized to aid in determining wetland extent prior to and during the investigation. The desktop review included the gathering and review of various online data layers and maps including:

- US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps
- NYSDEC Environmental Mapper including Freshwater Wetland and NYSDEC classified streams
- USGS Topographic Maps
- Soils Survey Geographic (SSURGO) Soils mapping
- Aerial Photography
- NYSDEC Tidal and Freshwater Wetlands and streams map
- Federal Emergency Management Agency (FEMA) Preliminary Flood map

The following summarizes the results of the data gathering for each bridge.

1) Baptist Church Road Bridge

The USFWS NWI maps a non-wetland water (L1UBHh – Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded) on the project site. The non-wetland water is New Croton Reservoir. The site does not contain any mapped NWI wetlands or NYSDEC regulated wetlands although there is a mapped wetland located approximately 600 feet east of the bridge (See Appendix A, Figure 4A – NWI and NYSDEC Wetlands Map). The offsite NYSDEC mapped wetland is regulated pursuant to Article 24 *Freshwater Wetlands Act* and is identified as Wetland A-41, Class 1. Class 1 wetlands provide the most critical of the State’s wetland benefits, reduction of which is acceptable only in the most unusual circumstances. This same wetland feature is also mapped by NWI as a PFO1A (Palustrine, Forested, Broad-leaved, Deciduous, Temporary Flooded) wetland

In accordance with the USACE 1987 Manual, the Level 2 (Onsite Inspection Necessary) of the Routine Wetland Delineation methodology was employed.

2) Cross River Inlet Bridge

The USFWS NWI maps a non-wetland water (L1UBHh - Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded) on the project site. The non-wetland water is Cross River Reservoir. The site does not contain any mapped NWI wetlands or NYSDEC regulated wetlands although there is a mapped wetland located approximately 500 feet northwest of the bridge (See Appendix A, Figure 4B – NWI and NYSDEC Wetlands Map). The offsite NYSDEC mapped wetland is regulated pursuant to Article 24 *Freshwater Wetlands Act* and is identified as Wetland L-17, Class 1. Class 1 wetlands provide the most critical of the State’s wetland benefits, reduction of which is acceptable only in the most unusual circumstances. This same wetland feature is also mapped by NWI as a PEM1E (Palustrine, Emergent, Persistent, Seasonally Flooded/ Saturated) wetland.

In accordance with the USACE 1987 Manual, the Level 2 (Onsite Inspection Necessary) of the Routine Wetland Delineation methodology was employed.

**B. In-field Methodology**

Wetlands are defined by the USACE as, “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

In accordance with the 1987 USACE Manual methodology, the following three parameters are diagnostic of wetlands: 1) the land is dominated by hydrophytes; 2) the substrate is indicative of hydric soil(s); and 3) the substrate is saturated with groundwater or flooded for a significant part of the growing season each year. All three parameters are normally present for an area to be identified as wetland, unless abnormal circumstances are determined to be present. Examples of abnormal circumstances may include modified wetlands that have been converted to lawns or agricultural fields.

Areas delineated as jurisdictional wetlands were flagged with orange surveyor ribbon in the field while non-wetland waters (i.e. Open Waters – OW) were flagged with blue ribbon. Wetland points and the wetland line segment to the next flag were delineated with orange ribbon sequentially labeled with an alphanumeric designation (e.g. A-1, A-2 etc.). Non-wetland waters points and the non-wetland water line segment to the next flag were delineated with blue ribbon sequentially numbered with an alphanumeric designation (e.g. OWA-6, OWA-7 etc.). The upper limit of non-wetland waters was delineated along the

ordinary high water line of the non-tidal waterbody. The wetland delineation is presented on Topographic Maps contained in Appendix D which have been modified to illustrate relevant wetland delineation information.

#### **IV. WETLAND DELINEATION**

Existing published information was studied to determine the approximate extent of wetlands in the study areas. SSURGO soils mapping and NWI/NYSDEC wetlands mapping (Appendix A, Figures 3A and 3B and Figures 4A and 4B, respectively) were utilized to aid in determining wetland extent prior to and during the investigation. Vegetation, soils, and hydrology were examined for evidence of wetland characteristics according to the USACE methodology. See Appendix B for Sampling Station Data Sheets, Appendix C for Color Photographs with Descriptions, and Appendix D for Topographic Maps (showing wetland delineation).

The following describes the wetland delineation results at each site location.

##### **A. Baptist Church Road Bridge**

The western bank of the reservoir was flagged with the “A” Series flags while the eastern bank was flagged with the “B” Series flags. Wetlands within the study area consist of two (2) small palustrine forested freshwater wetland fringes along the edge of the reservoir, north of the roadway embankment.

The following wetlands and non-wetland waters were identified and delineated within each of the four (4) project quadrants.

Flags OWA-1 through OWA-7 delineate the edge (i.e. ordinary high water line) of the New Croton Reservoir within the northwestern and southwestern project quadrants.

Flags A-8 through A-9 delineate the boundary of a small palustrine forested wetland located within the northwestern project quadrant. This wetland is a small vegetated fringe along the reservoir.

Flags OW A-10 through OWA-11 delineate the edge of the New Croton Reservoir within the northwestern project quadrant.

Flags A-12 through A-13 delineate the boundary of a palustrine forested wetland located within the southwestern project quadrant. This wetland is a small vegetated fringe along the reservoir which becomes more expansive outside of the delineation limits.

Flags OWB-1 through OW B-7 delineate the edge of the New Croton Reservoir within the northeastern and southeastern project quadrants.

##### *Project Area Soils and Topography*

The project area topography varies from moderately to significantly sloping. The steepest slopes observed occur along man-made embankments associated with the road right-of-way. However, moderate slopes also occur naturally throughout the adjacent land. Elevations range from approximately 190 to 210 feet throughout the project area (See Appendix A-Figure 2A).

Soils within the project area are classified as upland soils. Soil Survey Geographic (SSURGO) mapping (See Appendix A, Figure 3A, SSURGO Soils Maps) indicates the following soil types within the project area.

Soil Unit

CuD – Chatfield-Hoolis-Rock outcrop complex, 15 to 35 percent slopes

Hydric Listing\*

NL

\*Hydric (H); Hydric Inclusion (HI); Not Listed as Hydric (NL)

Hydric soils characterized by low chroma matrix and redox features were identified in the delineated wetland areas. Documentation of soil characteristics found within wetlands and adjacent uplands is provided in Appendix B. These characteristics are not entirely consistent with the SSURGO mapping of the site; however, SSURGO mapping is prepared using high-altitude aerial photography without actual ground verification and is, therefore, subject to slight inaccuracies.

*Project Area Hydrology*

Direct evidence of wetland hydrology observed during the field investigation included saturated soils, standing water, a high water table, and sloping or topographic depressions. The wetlands appear to be situated within the floodplain of New Croton Reservoir.

*Project Area Vegetation*

To be considered a wetland, the area must be vegetated with a predominance of hydrophytes. A hydrophyte is any plant “growing in water, soil, or on a substrate that is at least periodically deficient of oxygen as a result of excessive water content.” Since most plant species tolerate a range of growing conditions, individual species are not restricted to either wetland or upland communities.

Wetlands observed within the study area included palustrine forested wetlands adjacent to New Croton Reservoir.

Representative wetland and upland vegetation associated with the project area is described below.

**Wetland Vegetation:** Representative wetland vegetation includes green ash (*Fraxinus pennsylvanica*, FACW), American elm (*Ulmus americana*, FACW), winterberry (*Ilex verticillata*, FACW), and speckled alder (*Alnus incana*, FACW).

**Upland Vegetation:** Representative upland vegetation includes Northern red oak (*Quercus rubra*, FACU), black oak (*Quercus velutina*, UPL), sweet birch (*Betula lenta*, FACU), sugar maple (*Acer saccharum*, FACU), Morrow honeysuckle (*Lonicera morrowii*, FACU), witch hazel (*Hamamelis virginiana*, FACU), calico aster (*Symphotrichum lateriflorum*, FAC) and mugwort (*Artemisia vulgaris*, UPL).

**B. Cross River Inlet Bridge**

The southern side of the bridge was flagged with the “A” Series flags while the northern side was flagged with the “B” Series flags. The wetlands identified within the study area consist of a palustrine emergent freshwater wetlands occurring as fringes along the edge of water on the northern side of the bridge east and west of the roadway embankment.

The following wetlands and non-wetland waters were identified and delineated within each of the four (4) project quadrants.

Flags OWA-1 through OWA-6 delineate the edge of Cross River Reservoir within the southeastern and

southwestern project quadrants. No wetlands are present within this portion of the site.

Flags B-1 through B-3 delineate the boundary of a small palustrine emergent wetland fringe located within the northwestern project quadrant. This wetland is associated with the hydrology from the reservoir.

Flags OWB-4 through OWB-5 delineate the edge of Cross River Reservoir within the northeastern and southeastern project quadrants.

*Flags B-6 through B-9* delineate the boundary of a palustrine emergent wetland fringe located within the northeastern project quadrant. This wetland is associated with the hydrology from the reservoir.

### *Project Area Soils and Topography*

The project area topography varies from gently to moderately sloping. The steepest slopes observed occur along man-made embankments associated with the road right-of-way. However, moderate slopes also occur naturally throughout the adjacent land. Elevations range from approximately 325 to 335 feet throughout the project area. (See Appendix A-Figure 2B).

Soils within the project area contain a mix of hydric and upland soils. Soil Survey Geographic (SSURGO) mapping (See Appendix A, Figure 3A, SSURGO Soils Maps) indicates the following soil types within the project area.

<u>Soil Unit</u>	<u>Hydric Listing*</u>
Ff – Fluvaquents-Udifluvents complex, frequently flooded	H
Pw – Pompton silt loam, loamy substratum	HI
RhB – Riverhead loam, 3 to 8 percent slopes	NL

\*Hydric (H); Hydric Inclusion (HI); Not Listed as Hydric (NL)

Hydric soils characterized by low chroma matrix and redox features were identified in the delineated wetland. Documentation of soil characteristics found within wetlands and adjacent uplands is provided in Appendix B. These characteristics are not entirely consistent with the SSURGO mapping of the site; however, SSURGO mapping is prepared using high-altitude aerial photography without actual ground verification and is, therefore, subject to slight inaccuracies.

### *Project Area Hydrology*

Direct evidence of wetland hydrology observed during the field investigation included saturated soils, standing water, a high water table, and sloping or topographic depressions. The wetland appears to be situated within the floodplain of Cross River Reservoir.

### *Project Area Vegetation*

To be considered a wetland, the area must be vegetated with a predominance of hydrophytes. A hydrophyte is any plant “growing in water, soil, or on a substrate that is at least periodically deficient of oxygen as a result of excessive water content.” Since most plant species tolerate a range of growing conditions, individual species are not restricted to either wetland or upland communities.

The wetlands delineated within the study area are palustrine emergent wetlands adjacent to Cross River Reservoir.

Representative wetland and upland vegetation associated with the project area is described below.

**Wetland Vegetation:** Representative wetland vegetation includes swamp rose (*Roast palustris*, OBL), iris (*Iris* sp. OBL), tussock sedge (*Carex stricta*, OBL) Narrow-leaved cattail (*Typha angustifolia*, OBL) and purple loosestrife (*Lythrum salicaria*, OBL).

**Upland Vegetation:** Representative upland vegetation includes Norway maple (*Acer platanoides*, UPL), Northern red oak (*Quercus rubra*, FACU), winged euonymus (*Euonymus alatus*, UPL), Morrow honeysuckle (*Lonicera morrowii*, FACU), Oriental bittersweet (*Celastrus orbiculatus*, UPL), calico aster (*Symphotrichum lateriflorum*, FAC) and mugwort (*Artemisia vulgaris*, UPL).

## VI. SUMMARY

To identify the presence of jurisdictional wetlands and non-wetland waters within each project area, an ASGECI environmental scientist conducted detailed data gathering and reviews of State and federal data sources and field investigations. Periodic soil sampling was conducted at each bridge location along with hydrology and vegetation evaluations. Based on the above, all wetlands and non-wetland waters were delineated within the defined project areas. Upland areas contained vegetation typical of Northern forests and disturbed successional edges. These areas lacked the hydric soils, hydrology, and hydrophytic vegetation characterized by the delineated wetlands. The delineated features occurred within low to moderately-developed rural and suburban areas where signs of anthropogenic disturbances were evident.

The results and findings of this wetland delineation are subject to review and verification by the NYSDEC and USACE.



## **APPENDIX A**

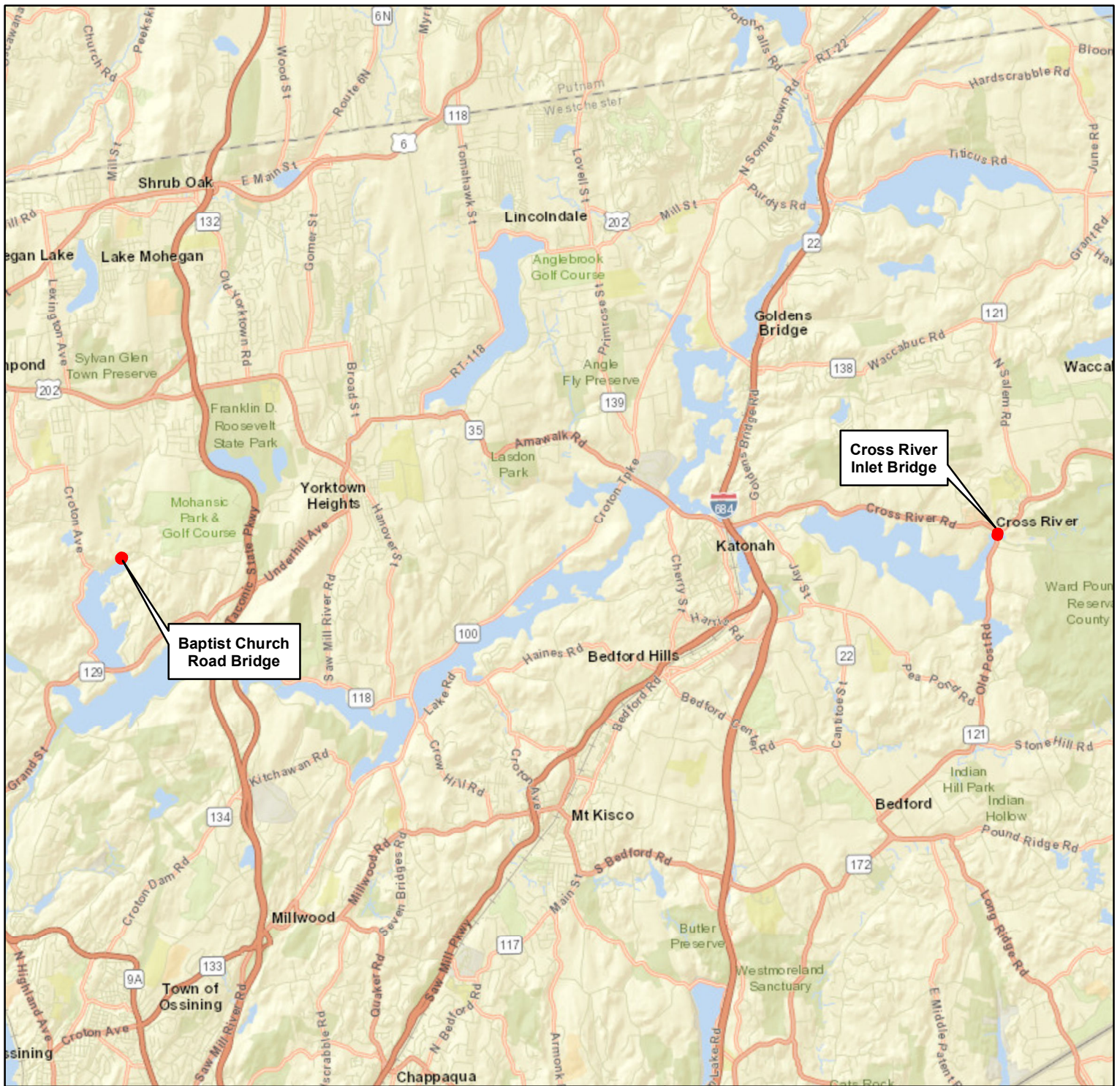
### **SITE MAPS**

Figure 1 – Site Location Map

Figures 2A and 2B– USGS Topographic Maps

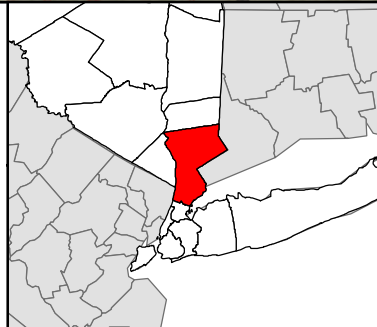
Figures 3A and 3B – SSURGO Soils Maps

Figures 4A and 4B – NWI and NYSDEC Wetland Maps



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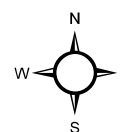
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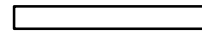
**Figure 1**  
**Site Location Map**

New York City Department of  
Environmental Protection  
Contract 530B - Reconstruction of 2 Bridges  
Town of Lewisboro  
and Town of Yorktown  
Westchester County, New York

ASGECI Project # 4294



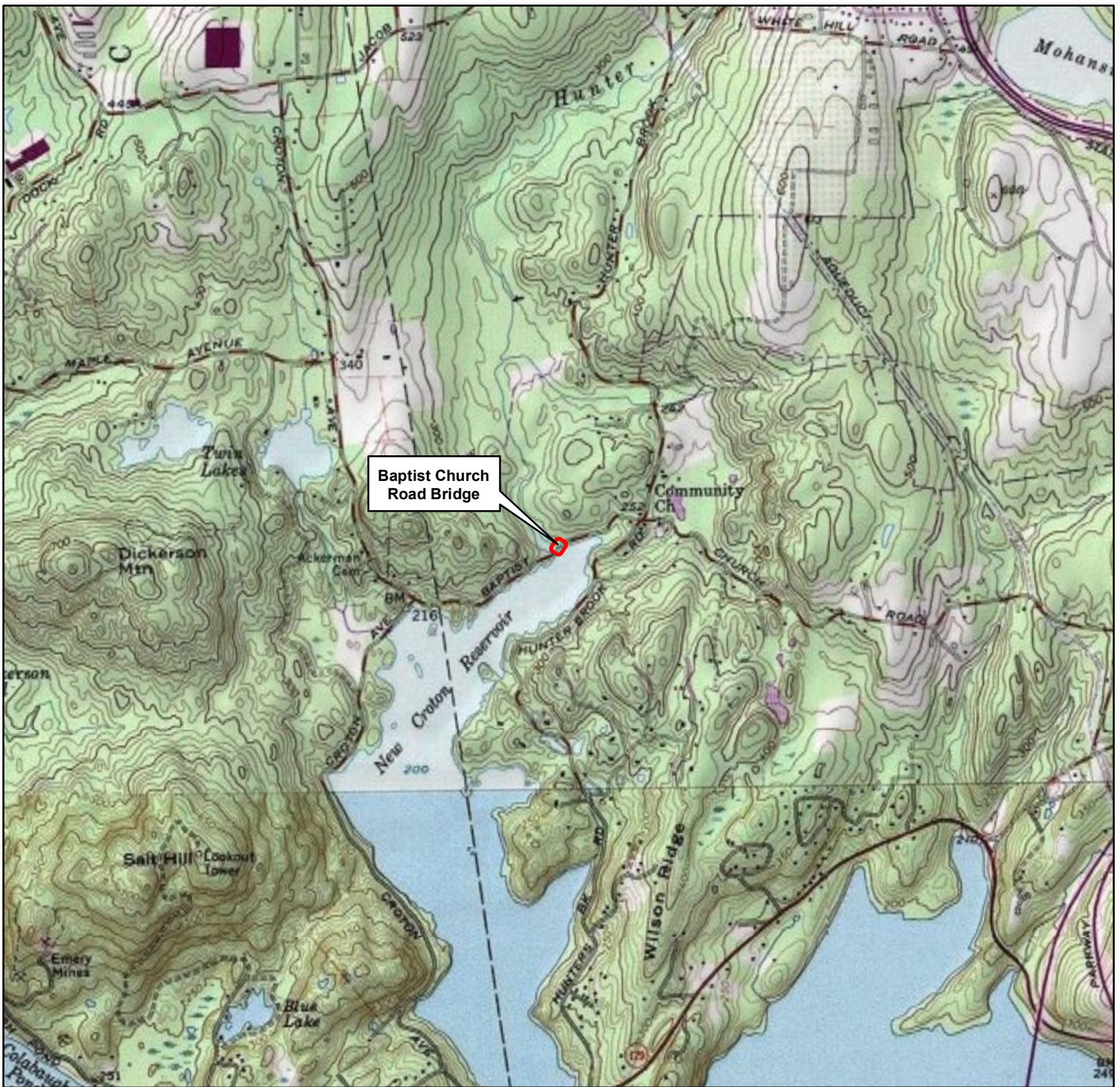
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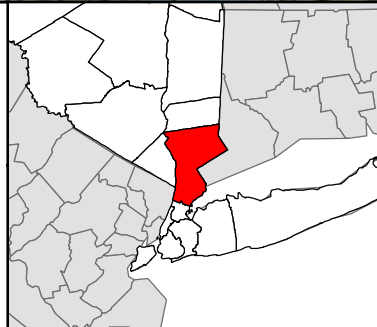
Source:  
ESRI worldwide street map presents highway-level data for the world and includes highways, major roads, minor roads, one-way arrow indicators, railways, water features, administrative boundaries, cities, parks, and landmarks, overlaid on shaded relief imagery for added context. The street map was developed by Esri using Esri basemap data, DeLorme basemap layers, U.S. Geological Survey (USGS) elevation data, Intact Forest Landscape (IFL) data for the world; HERE data for Europe, Australia and New Zealand, North America, South America and Central America, Africa, and most of the Middle East; and select data from the GIS user community, published by ESRI® Data & Maps, November 2018.



**Legend**

 Site Location

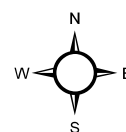
Latitude and Longitude Coordinates in NAD83 for the approximate center of site -  
 N: 41° 15' 34.21" / W: 73° 50' 30.20"



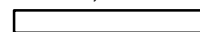
**Figure 2A**  
**USGS Topographic Map**

New York City Department of Environmental Protection  
 Contract 530B - Reconstruction of 2 Bridges  
 Baptist Church Road Bridge  
 Town of Yorktown  
 Westchester County, New York

ASGECI Project # 4294



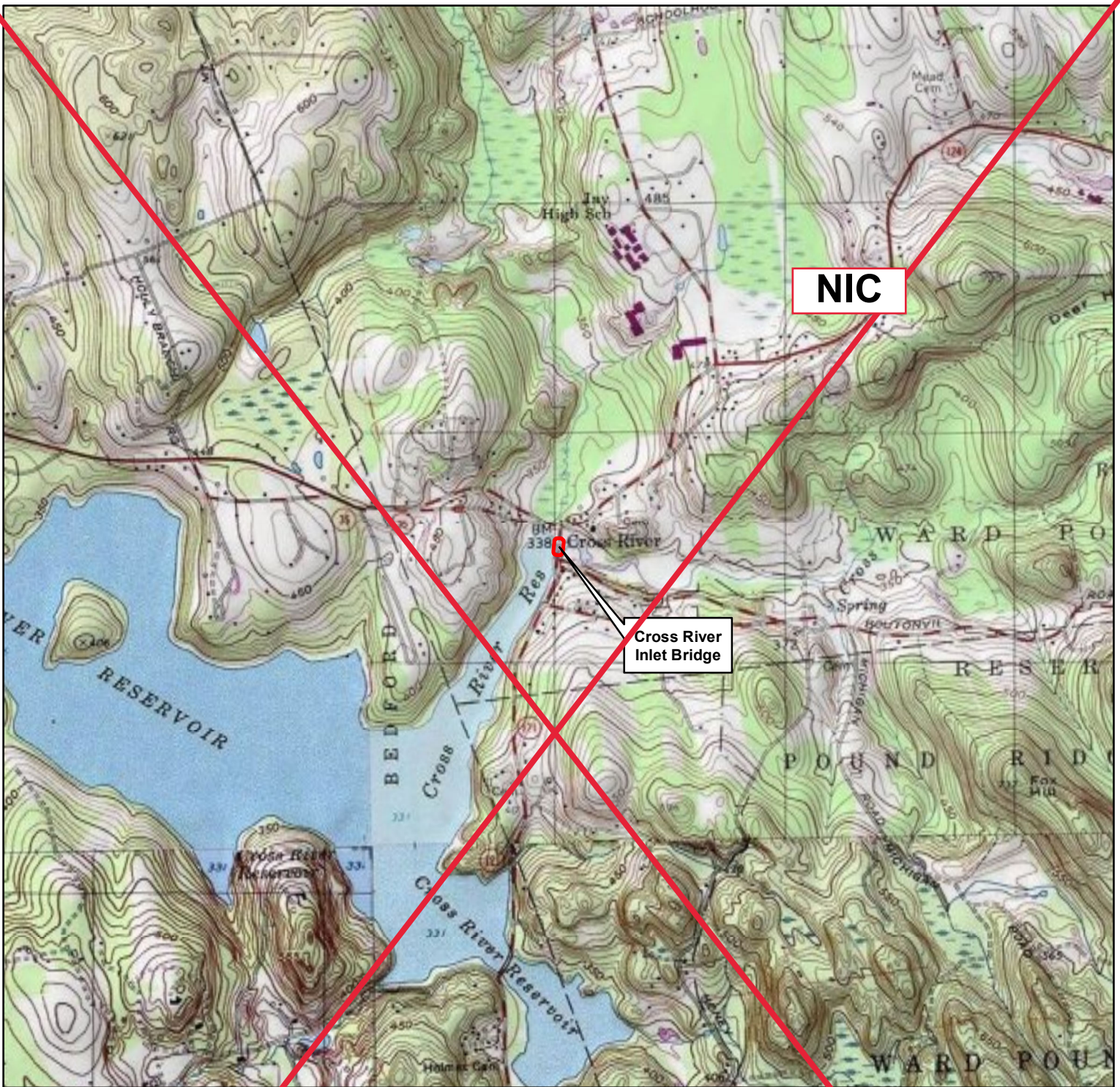
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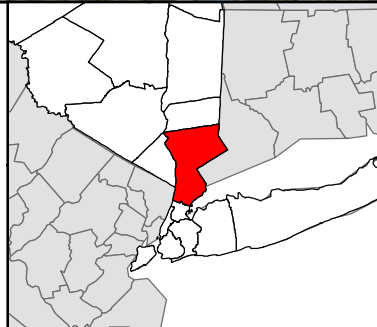
Source:  
 National Geographic Society (NGS) USA Topographic Maps, seamless, scanned images of United States Geological Survey (USGS) paper topographic maps, Mohegan Lake NY and Ossining NY Quadrangles, copyright 2013, distributed as a web mapping service by ESRI® Data & Maps, Redlands, California, 2017.



**Legend**

 Site Location

Latitude and Longitude Coordinates in NAD83 for the approximate center of site -  
 N: 41° 15' 41.87" / W: 73° 36' 52.65"

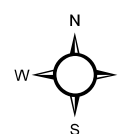


Source:  
 National Geographic Society (NGS) USA Topographic Maps, seamless, scanned images of United States Geological Survey (USGS) paper topographic maps, Croton Falls NY, Peach Lake NY, Pound Ridge NY, and Mount Kisco NY Quadrangles, copyright 2013, distributed as a web mapping service by ESRI® Data & Maps, Redlands, California, 2017.

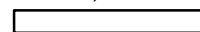
**Figure 2B**  
**USGS Topographic Map**

New York City Department of  
 Environmental Protection  
 Contract 530B - Reconstruction of 2 Bridges  
 Cross River Inlet Bridge  
 Town of Lewisboro  
 Westchester County, New York

ASGECI Project # 4294



2,000



Feet





**Legend**

 Site Location

**SOILS LIST:**

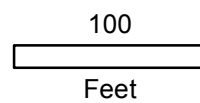
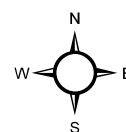
CuD - Chatfield-Hollis-Rock outcrop complex, hilly

Sources:  
 Soil Survey Geographic (SSURGO) database for Westchester County, New York,  
 U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, Texas, December 2013.  
 2016 Imagery in Westchester County, NY Statewide Digital Orthoimagery Program (NYSODP)  
 Imagery Coverage, Statewide Web Map Service Regional Coverage from 2000 to 2017,  
 NYS Division of Homeland Security and Emergency Services, NYS Cyber Security, distributed 2018.

**Figure 3A  
 SSURGO Soils Map**

New York City Department of  
 Environmental Protection  
 Contract 530B - Reconstruction of 2 Bridges  
 Baptist Church Road Bridge  
 Town of Yorktown  
 Westchester County, New York

ASGECI Project # 4294





**Legend**

 Site Location

**SOILS LIST:**

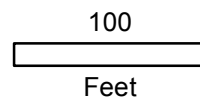
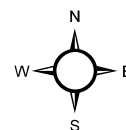
Ff - Fluvaquents-Udifulvents complex, frequently flooded  
 Pw - Pompton silt loam, loamy substratum

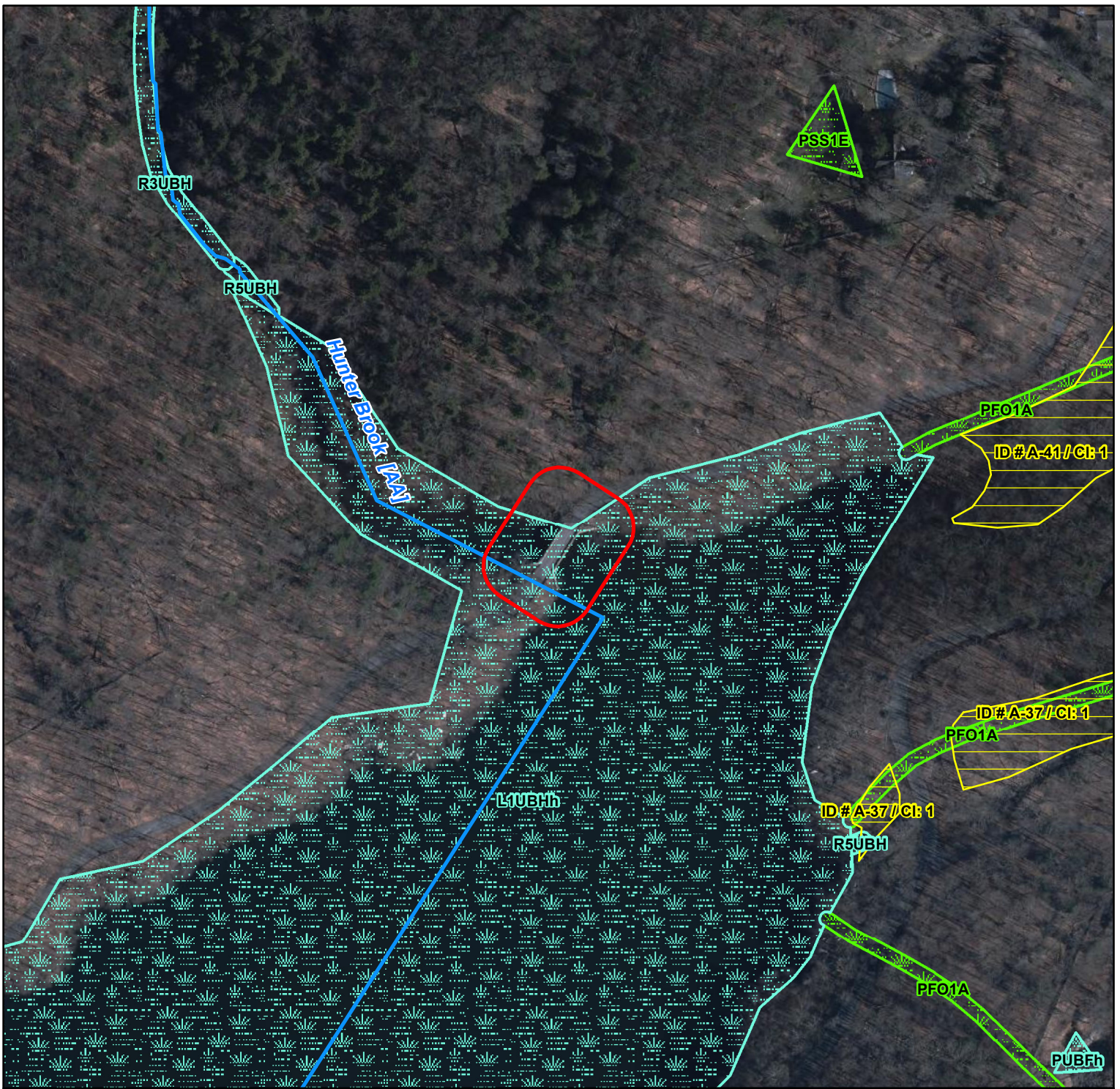
Sources:  
 Soil Survey Geographic (SSURGO) database for Westchester County, New York,  
 U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, Texas, December 2013.  
 2016 Imagery in Westchester County, NY Statewide Digital Orthoimagery Program (NYSODP)  
 Imagery Coverage, Statewide Web Map Service Regional Coverage from 2000 to 2017,  
 NYS Division of Homeland Security and Emergency Services, NYS Cyber Security, distributed 2018.

**Figure 3B**  
**SSURGO Soils Map**






New York City Department of  
 Environmental Protection  
 Contract 530B - Reconstruction of 2 Bridges  
 Cross River Inlet Bridge  
 Town of Lewisboro  
 Westchester County, New York

ASGECI Project # 4294





**Legend**

-  Site Location
-  NYSDEC Wetlands
-  Stream
-  NWI Freshwater Wetland
-  NWI Freshwater Pond, Lake, or Riverine

**WETLAND CLASSIFICATIONS:**  
 L1UBHh - Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded

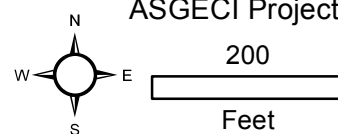
**Water Quality Classifications**  
 AA - Class AA waters are a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing

Sources: New York State Regulatory Freshwater Wetlands For Westchester County, New York State Department of Environmental Conservation (NYSDEC), Latham, NY, 1999.  
 NWI Classification of Wetlands and Deepwater Habitats of the United States (New York State), U.S. Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory (NWI), Washington, DC., June 2015.  
 2016 Imagery in Westchester County, NY Statewide Digital Orthoimagery Program (NYSDOP)  
 Imagery Coverage, Statewide Web Map Service Regional Coverage from 2000 to 2017,  
 NYS Division of Homeland Security and Emergency Services, NYS Cyber Security, distributed 2018.

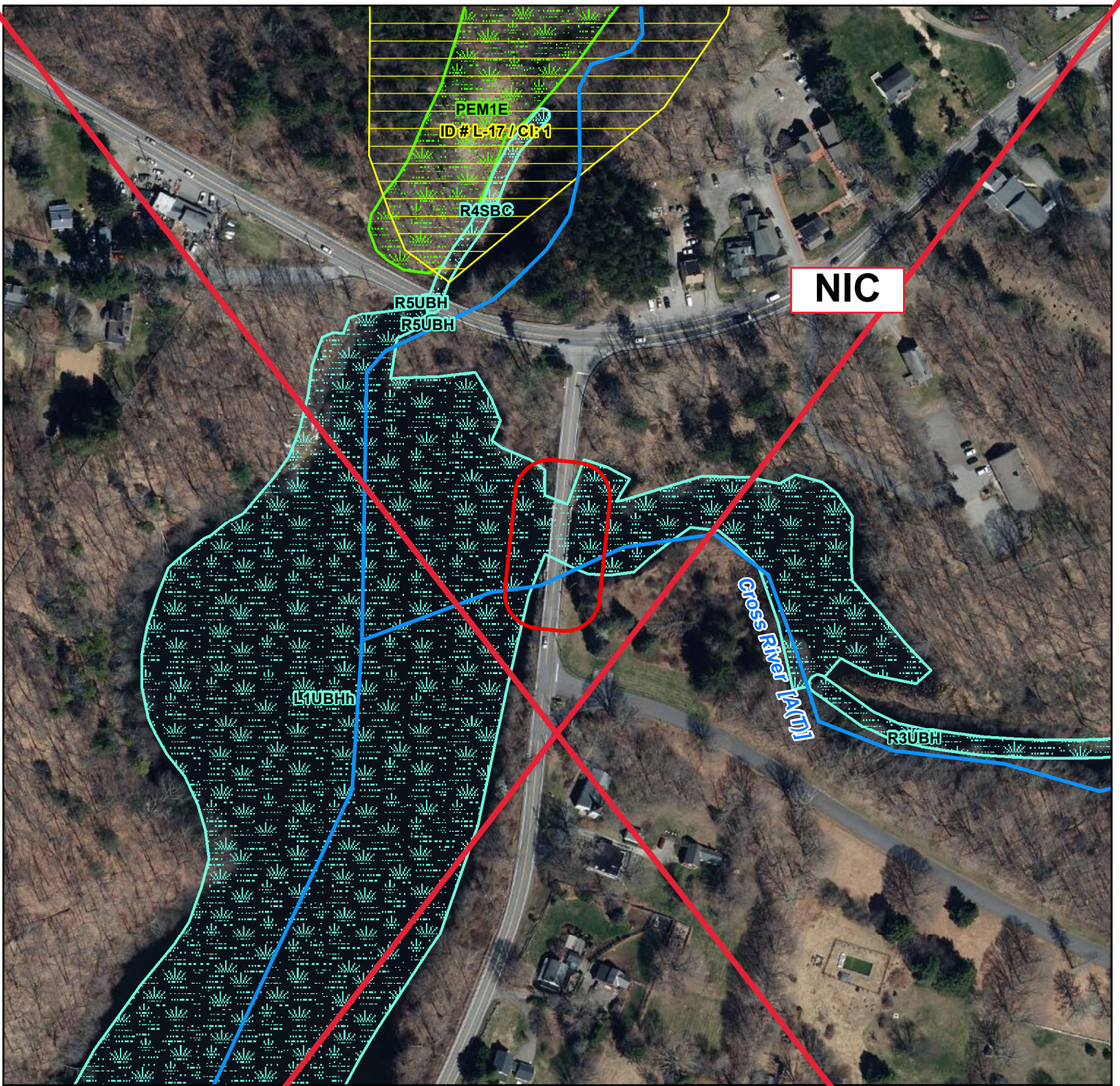
**Figure 4A**  
**NWI / NYSDEC Wetlands & Streams Map**

New York City Department of Environmental Protection  
 Contract 530B - Reconstruction of 2 Bridges  
 Baptist Church Road Bridge  
 Town of Yorktown  
 Westchester County, New York

ASGECI Project # 4294



 AMY S. GREENE  
 ENVIRONMENTAL  
 CONSULTANTS



**Legend**

- Site Location
- NYSDEC Wetlands
- Stream
- NWI Freshwater Wetland
- NWI Freshwater Pond, Lake, or Riverine

**WETLAND CLASSIFICATIONS:**  
 L1UBHh - Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded

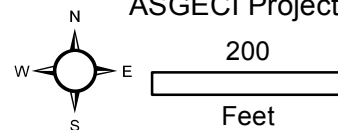
**Water Quality Classifications**  
 A - Class A waters are a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing  
 T - trout waters

Sources: New York State Regulatory Freshwater Wetlands For Westchester County, New York, State Department of Environmental Conservation (NYSDEC), Latham, NY, 1999.  
 NWI Classification of Wetlands and Deepwater Habitats of the United States (New York State), U.S. Department of the Interior, Fish and Wildlife Service, National Wetlands Inventory (NWI), Washington, DC., June 2015.  
 2016 Imagery in Westchester County, NY Statewide Digital Orthoimagery Program (NYSDOP)  
 Imagery Coverage, Statewide Web Map Service Regional Coverage from 2000 to 2017,  
 NYS Division of Homeland Security and Emergency Services, NYS Cyber Security, distributed 2018.

**Figure 4B**  
**NWI / NYSDEC Wetlands & Streams Map**

New York City Department of Environmental Protection  
 Contract 530B - Reconstruction of 2 Bridges  
 Cross River Inlet Bridge  
 Town of Lewisboro  
 Westchester County, New York

ASGECI Project # 4294





**APPENDIX B**

**SAMPLING STATION DATA SHEETS**

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: CR-530B - Reconstruction of 2 Bridges  
Baptist Church Road Bridge City/County: Town of Yorktown/  
Westchester Sampling Date: 11/7/2018  
 Applicant/Owner: NY City Department of Environmental Protection State: NY Sampling Point: SS-1  
 Investigator(s): D. Chabrak Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 01  
 Subregion (LRR or MLRA): LRR R Lat: 41.259426° Long: -73.842532° Datum: WGS84  
 Soil Map Unit Name: CUD-Chatfield-Hollis-Rock outcrop complex, 15-35% slopes NWI classification: L1UBHh  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? No  Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? No (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>PFO fringe</u>
Remarks: (Explain alternative procedures here or in a separate report.) <u>Wetland A datapoint, located adjacent to flag A8.</u>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ <input checked="" type="checkbox"/> High Water Table (A2) _____ <input checked="" type="checkbox"/> Saturation (A3) _____ <input checked="" type="checkbox"/> Water Marks (B1) _____ _____ Sediment Deposits (B2) _____ _____ Drift Deposits (B3) _____ _____ <b>Algal Mat or Crust (B4)</b> _____ _____ Iron Deposits (B5) _____ _____ Inundation Visible on Aerial Imagery (B7) _____ _____ Sparsely Vegetated Concave Surface (B8) _____ _____ Water-Stained Leaves (B9) _____ _____ Aquatic Fauna (B13) _____ _____ Marl Deposits (B15) _____ _____ Hydrogen Sulfide Odor (C1) _____ _____ Oxidized Rhizospheres on Living Roots (C3) _____ _____ Presence of Reduced Iron (C4) _____ _____ Recent Iron Reduction in Tilled Soils (C6) _____ _____ Thin Muck Surface (C7) _____ _____ Other (Explain in Remarks) _____	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1-2"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

**VEGETATION – Use scientific names of plants.**

Sampling Point: SS-1

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ulmus americanus</u>	<u>15%</u>	<u>*</u>	<u>FACW</u>
2. <u>Fraxinus pennsylvanica</u>	<u>10%</u>	<u>*</u>	<u>FACW</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carpinus caroliniana</u>	<u>15%</u>	<u>*</u>	<u>FAC</u>
2. <u>Ilex verticillata</u>	<u>10%</u>	<u>*</u>	<u>FACW</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>None</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>None</u>			
2. _____			
3. _____			
4. _____			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>0%</u>	x 1 = <u>0</u>
FACW species <u>35%</u>	x 2 = <u>70</u>
FAC species <u>15%</u>	x 3 = <u>45</u>
FACU species <u>0%</u>	x 4 = <u>0</u>
UPL species <u>0%</u>	x 5 = <u>0</u>
Column Totals: <u>50%</u> (A)	<u>115</u> (B)

Prevalence Index = B/A = 2.3

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

**SOIL**

Sampling Point: SS-1

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12"	10YR 2/1	100%	10YR 5/8	2+	C	M	Sandy loam	
12"+	Refusal - Rock							

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: CRO-530B - Reconstruction of 2 Bridges City/County: Town of Yorktown/Westchester Sampling Date: 11/7/2018  
 Applicant/Owner: NY City Department of Environmental Protection State: NY Sampling Point: SS-2  
 Investigator(s): D. Chabrak Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 20%  
 Subregion (LRR or MLRA): LRR R Lat: 41.259315° Long: -73.842365° Datum: WGS84  
 Soil Map Unit Name: CoD-Chatfield-Hollis-Rock outcrop complex, 15-35% slopes NWI classification: L1UBHh  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? No  Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? No  (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <u>Upland datapoint, adjacent to Wetland flag A8. Located on rocky roadside embankment.</u>	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1)      ___ Water-Stained Leaves (B9) ___ High Water Table (A2)      ___ Aquatic Fauna (B13) ___ Saturation (A3)      ___ Marl Deposits (B15) ___ Water Marks (B1)      ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2)      ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3)      ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4)      ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5)      ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7)      ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) ___ Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) ___ FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  	
Remarks:  	

**VEGETATION** – Use scientific names of plants.

Sampling Point: SS-2

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus velutina</u>	<u>25%</u>	<u>*</u>	<u>UPL</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
2. <u>Ulmus americana</u>	<u>15%</u>	<u>*</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
Sapling/Shrub Stratum (Plot size: <u>15'</u> ) <u>40%</u> = Total Cover <u>20%</u> <u>8%</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species <u>0%</u> x 1 = <u>0</u> FACW species <u>15%</u> x 2 = <u>30</u> FAC species <u>0%</u> x 3 = <u>0</u> FACU species <u>0%</u> x 4 = <u>0</u> UPL species <u>40%</u> x 5 = <u>200</u> Column Totals: <u>55%</u> (A) <u>230</u> (B)  Prevalence Index = B/A = <u>4.18</u>
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
Herb Stratum (Plot size: <u>5'</u> ) <u>0%</u> = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
Woody Vine Stratum (Plot size: <u>30'</u> ) <u>0%</u> = Total Cover				<b>Definitions of Vegetation Strata:</b> <b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
1. <u>Celastrus orbiculatus</u>	<u>15%</u>	<u>*</u>	<u>UPL</u>	
2. _____				
3. _____				
4. _____				
<u>15%</u> = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.)				

**SOIL**

Sampling Point: SS-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
	No Soils - 100% rock embankment							

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.      <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

- |  |  |   |
|--|--|---|
| <b>Hydric Soil Indicators:</b><br><input type="checkbox"/> Histosol (A1)<br><input type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Black Histic (A3)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Stratified Layers (A5)<br><input type="checkbox"/> Depleted Below Dark Surface (A11)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Sandy Mucky Mineral (S1)<br><input type="checkbox"/> Sandy Gleyed Matrix (S4)<br><input type="checkbox"/> Sandy Redox (S5)<br><input type="checkbox"/> Stripped Matrix (S6)<br><input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)<br><input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)<br><input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)<br><input type="checkbox"/> Loamy Gleyed Matrix (F2)<br><input type="checkbox"/> Depleted Matrix (F3)<br><input type="checkbox"/> Redox Dark Surface (F6)<br><input type="checkbox"/> Depleted Dark Surface (F7)<br><input type="checkbox"/> Redox Depressions (F8) | <b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b><br><input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)<br><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)<br><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)<br><input type="checkbox"/> Dark Surface (S7) (LRR K, L)<br><input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)<br><input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)<br><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)<br><input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)<br><input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)<br><input type="checkbox"/> Red Parent Material (F21)<br><input type="checkbox"/> Very Shallow Dark Surface (TF12)<br><input type="checkbox"/> Other (Explain in Remarks) |
|--|--|---|

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	Hydric Soil Present?    Yes _____    No <input checked="" type="checkbox"/>
---	---

Remarks:

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: CRO-530B - Reconstruction of 2 Bridges City/County: Town of Lewisboro / Westchester Sampling Date: 11/7/2018  
 Applicant/Owner: NY City Department of Environmental Protection State: NY Sampling Point: SS-1  
 Investigator(s): D. Chabrak Section, Township, Range: \_\_\_\_\_

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0%  
 Subregion (LRR or MLRA): LRR R Lat: 41.262318° Long: -73.614939° Datum: NAD83

Soil Map Unit Name: Ff-Fluviogleys - Udifluvents complex, frequently flooded NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? No Are "Normal Circumstances" **NIC** Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? No (If needed, explain any answers in Remarks.)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
Wetland B datapoint, located adjacent to flag B8.

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B11) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
<b>Field Observations:</b>			
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____		
Water Table Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>8"</u>		
Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>0"</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			



VEGETATION – Use scientific names of plants.

Sampling Point: SS-1

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>None</u>			
2.			
3.			
4.			
5.			
6.			
7.			

0% = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rosa palustris</u>	<u>10%</u>	<u>*</u>	<u>OBL</u>
2.			
3.			
4.			
5.			
6.			
7.			

10% = Total Cover

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex stricta</u>	<u>20%</u>	<u>*</u>	<u>OBL</u>
2. <u>Typha angustifolia</u>	<u>15%</u>	<u>*</u>	<u>OBL</u>
3. <u>Iris sp. *</u>	<u>10%</u>	<u>*</u>	<u>OBL</u>
4. <u>Lythrum salicaria</u>	<u>5%</u>		<u>OBL</u>
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			

50% = Total Cover  
25% 10%

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>None</u>			
2.			
3.			
4.			

0% = Total Cover

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)  
 Total Number of Dominant Species Across All Strata: 4 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**NIC**

**Prevalence Index**  
 Total % Cover of: Multiply by:  
 OBL species 60% x 1 = 60  
 FACW species 0% x 2 = 0  
 FAC species 0% x 3 = 0  
 FACU species 0% x 4 = 0  
 UPL species 0% x 5 = 0  
 Column Totals: 60% (A) 60 (B)  
 Prevalence Index = B/A = 1.0

**Hydrophytic Vegetation Indicators:**

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0<sup>1</sup>
- 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

- Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
- Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody vines** – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes  No

Remarks: (Include photo numbers here or on a separate sheet.)

\* Could not identify iris to species. However, common species in area (I. prismatica, I. pseudacorus, I. versicolor, & I. virginica.) are all considered 'OBL.'

**SOIL**

Sampling Point: SS-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-30"	10YR 4/2	95%	10YR 5/8	5%	C	M	Silt loam	

**NIC**

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: CRO 530B- Reconstruction of 2 Bridges City/County: Town of Lewisboro/Westchester Sampling Date: 11/7/2018  
 Applicant/Owner: NY City Department of Environmental Protection State: NY Sampling Point: SS-2  
 Investigator(s): D. Chabrak Section, Township, Range: \_\_\_\_\_

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2%  
 Subregion (LRR or MLRA): LRR R Lat: 41.262324° Long: -73.614810° Datum: WGS84

Soil Map Unit Name: RhB-Riverhead loam, 3-8% slopes NWI classification: None  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain) \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? No Are "Normal Circumstances" **NIC** Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? No (If needed, explain any answers in Remarks)

**SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	If yes, optional Wetland Site ID: _____
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks: (Explain alternative procedures here or in a separate report.)  
Upland datapoint adjacent to Wetland flag B8.  
Area has hydric soils & wetland hydrology, but vegetation community is non-hydrophytic.

**HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): 0"  
 (includes capillary fringe) Wetland Hydrology Present? Yes  No \_\_\_\_\_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION – Use scientific names of plants.**

Sampling Point: SS-2

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer platanoides</u>	<u>15%</u>	<u>*</u>	<u>UPL</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			

Sapling/Shrub Stratum (Plot size: <u>15'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lonicera morrowii</u>	<u>65%</u>	<u>*</u>	<u>FACU</u>
2. <u>Rosa multiflora</u>	<u>10%</u>		<u>FACU</u>
3. <u>Privet sp.</u>	<u>10%</u>		<u>NIS</u>
4. _____			
5. _____			
6. _____			
7. _____			

Herb Stratum (Plot size: <u>5'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Carex stricta</u>	<u>5%</u>	<u>*</u>	<u>OBL</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

Woody Vine Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>None</u>	<u>0%</u>		
2. _____			
3. _____			
4. _____			

Remarks: (Include photo numbers here or on a separate sheet.)

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

**Prevalence Index** **NIC**

Total % Cover of:	Multiply by:
OBL species <u>5%</u>	x 1 = <u>5</u>
FACW species <u>0%</u>	x 2 = <u>0</u>
FAC species <u>0%</u>	x 3 = <u>0</u>
FACU species <u>45%</u>	x 4 = <u>300</u>
UPL species <u>15%</u>	x 5 = <u>75</u>
Column Totals: <u>95%</u> (A)	<u>380</u> (B)

Prevalence Index = B/A = 4.0

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
  - 2 - Dominance Test is >50%
  - 3 - Prevalence Index is ≤3.0<sup>1</sup>
  - 4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
  - Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)
- <sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

**Tree** – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/shrub** – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vines** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: SS-2

**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-12"	10YR 4/2	95%	10YR 5/8	5%	C	M	Silt loam	
12-20"	10YR 4/3	95%	10YR 5/8	5%	C	M	Silt loam	

**NIC**

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

**Hydric Soil Indicators:**

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

**Indicators for Problematic Hydric Soils<sup>3</sup>:**

- 2 cm Muck (A10) (LRR K, L, MLRA 149B)
- Coast Prairie Redox (A16) (LRR K, L, R)
- 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Polyvalue Below Surface (S8) (LRR K, L)
- Thin Dark Surface (S9) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Piedmont Floodplain Soils (F19) (MLRA 149B)
- Mesic Spodic (TA6) (MLRA 144A, 145, 149B)
- Red Parent Material (F21)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes  No

Remarks:

**APPENDIX C**

**COLOR PHOTOGRAPHS WITH DESCRIPTIONS**



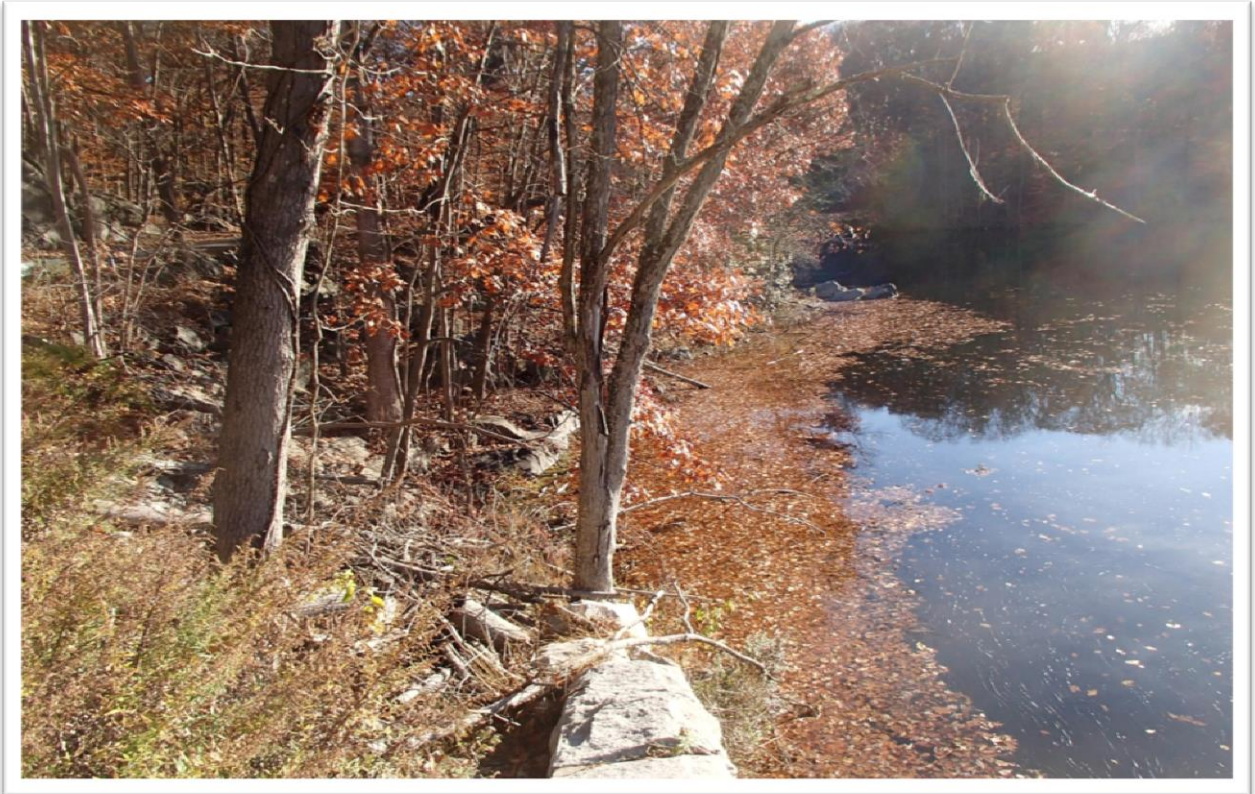
**Photo A Baptist Church Road Bridge:** View facing west showing non-wetland water edge of New Croton Reservoir along toe of roadway slope. **Date Taken: November 7, 2018.**



**Photo B Baptist Church Road Bridge:** View facing east from the western side of the bridge showing existing bridge and New Croton Reservoir. **Date Taken: November 7, 2018.**



**Photo C Baptist Church Road Bridge:** View facing west along the northwestern bank showing wetland fringe at point B-8. **Date Taken: November 7, 2018.**



**Photo D Baptist Church Road Bridge:** View facing east from the eastern side of the bridge showing non-wetland water edge of New Croton Reservoir. **Date Taken: November 8, 2018.**





**Photo E Baptist Church Road Bridge:** View facing north from the eastern side of the bridge showing existing non-wetland water edge along New Croton Reservoir. **Date Taken: November 8, 2018.**



**Photo F Cross River Inlet Bridge:** View facing north from the southern side of the bridge showing existing non-wetland water edge along Cross River Reservoir. **Date Taken: November 7, 2018.**



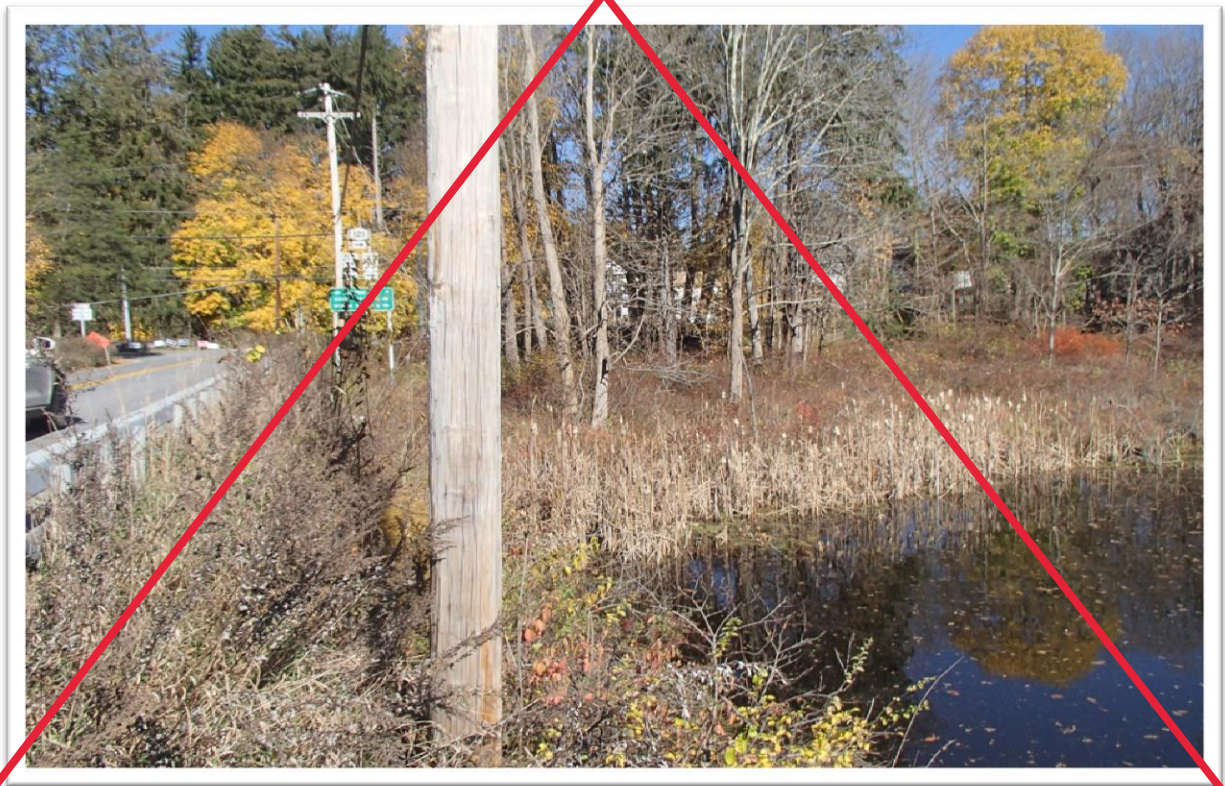
**Photo G Cross River Inlet Bridge:** View facing south from the southern side of the bridge showing non-wetland water edge of Cross River Reservoir. **Date Taken: November 7, 2018.**



**Photo H Cross River Inlet Bridge:** View facing north from the southern side of the bridge showing existing bridge with wetlands in background across the water. **Date Taken: November 7, 2018.**



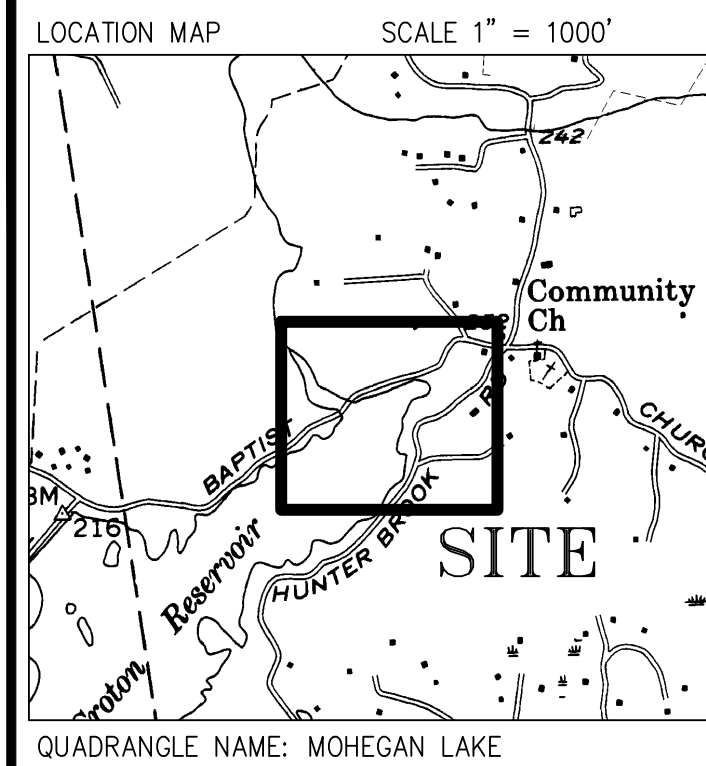
**Photo I Cross River Inlet Bridge:** View facing north from southern side of the bridge showing existing slope leading to non-wetland water edge of Cross River Reservoir. **Date Taken: November 7, 2018.**



**Photo J Cross River Inlet Bridge:** View facing north from the northern side of the bridge showing existing wetlands along edge of Cross River Reservoir. **Date Taken: November 7, 2018.**

**APPENDIX D**

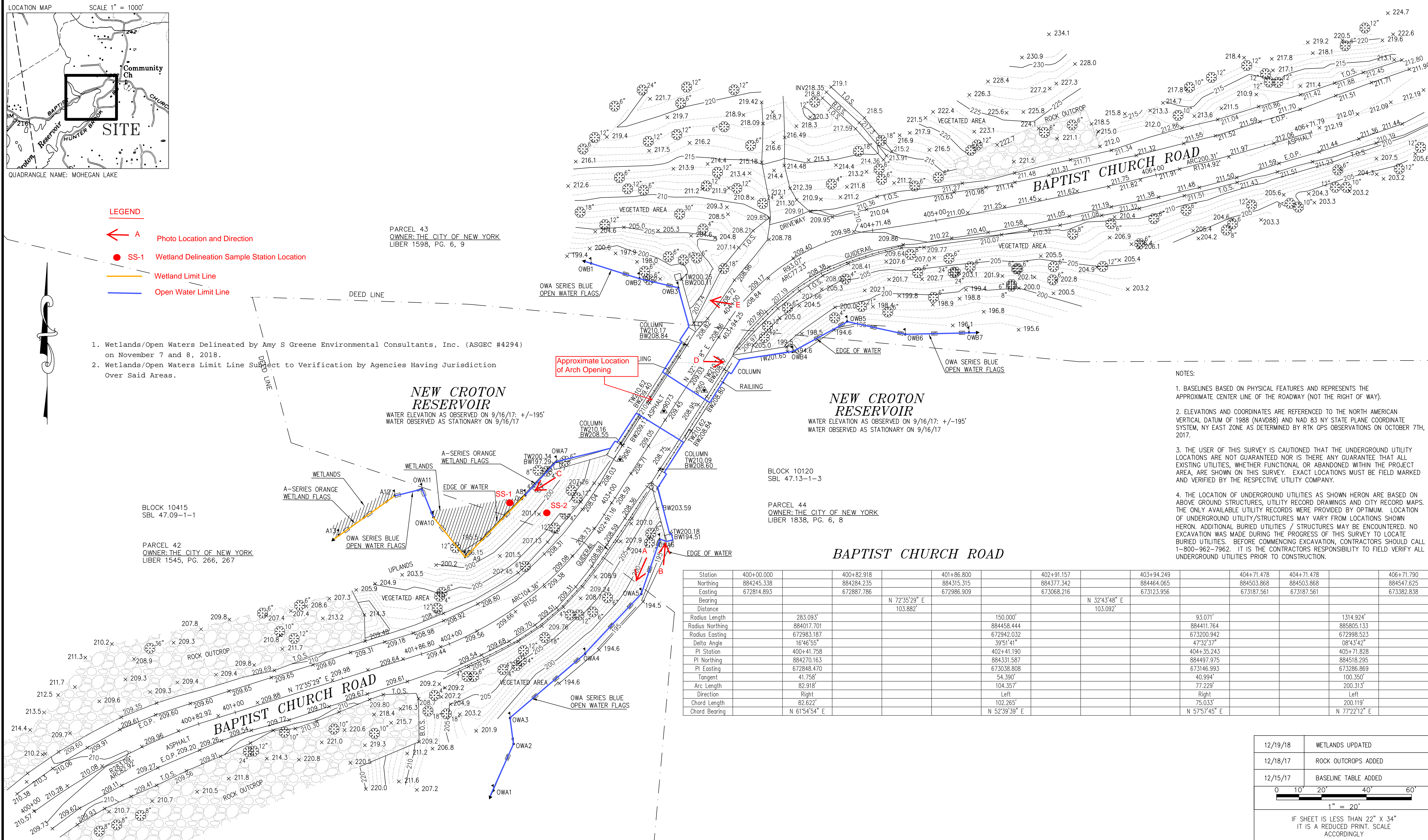
**TOPOGRAPHIC MAPS**  
**(Showing Wetland Delineation)**



**LEGEND**

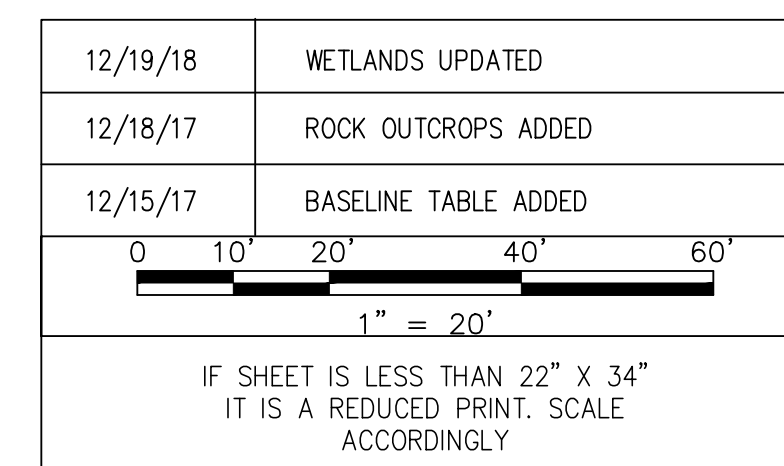
- A Photo Location and Direction
- SS-1 Wetland Delineation Sample Station Location
- Wetland Limit Line
- Open Water Limit Line

1. Wetlands/Open Waters Delineated by Amy S Greene Environmental Consultants, Inc. (ASGEC #4294) on November 7 and 8, 2018.
2. Wetlands/Open Waters Limit Line Subject to Verification by Agencies Having Jurisdiction Over Said Areas.

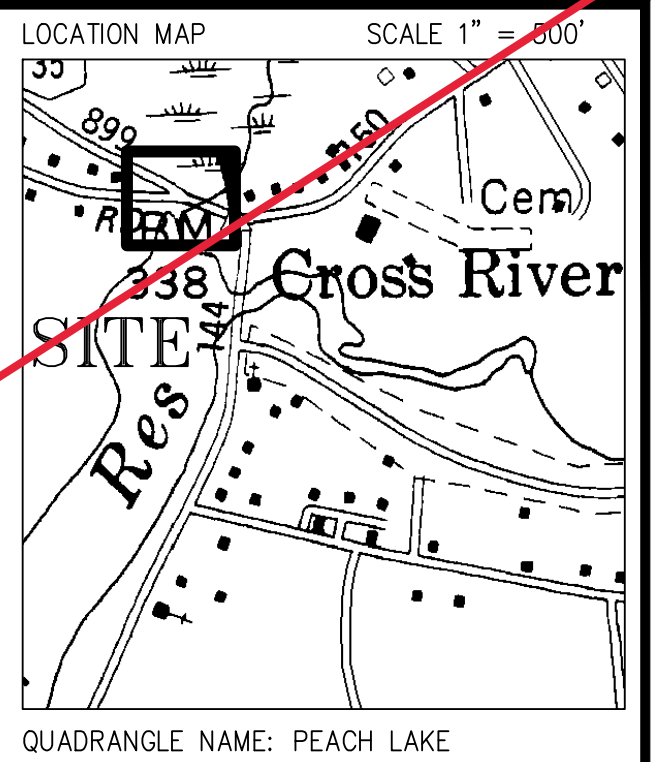
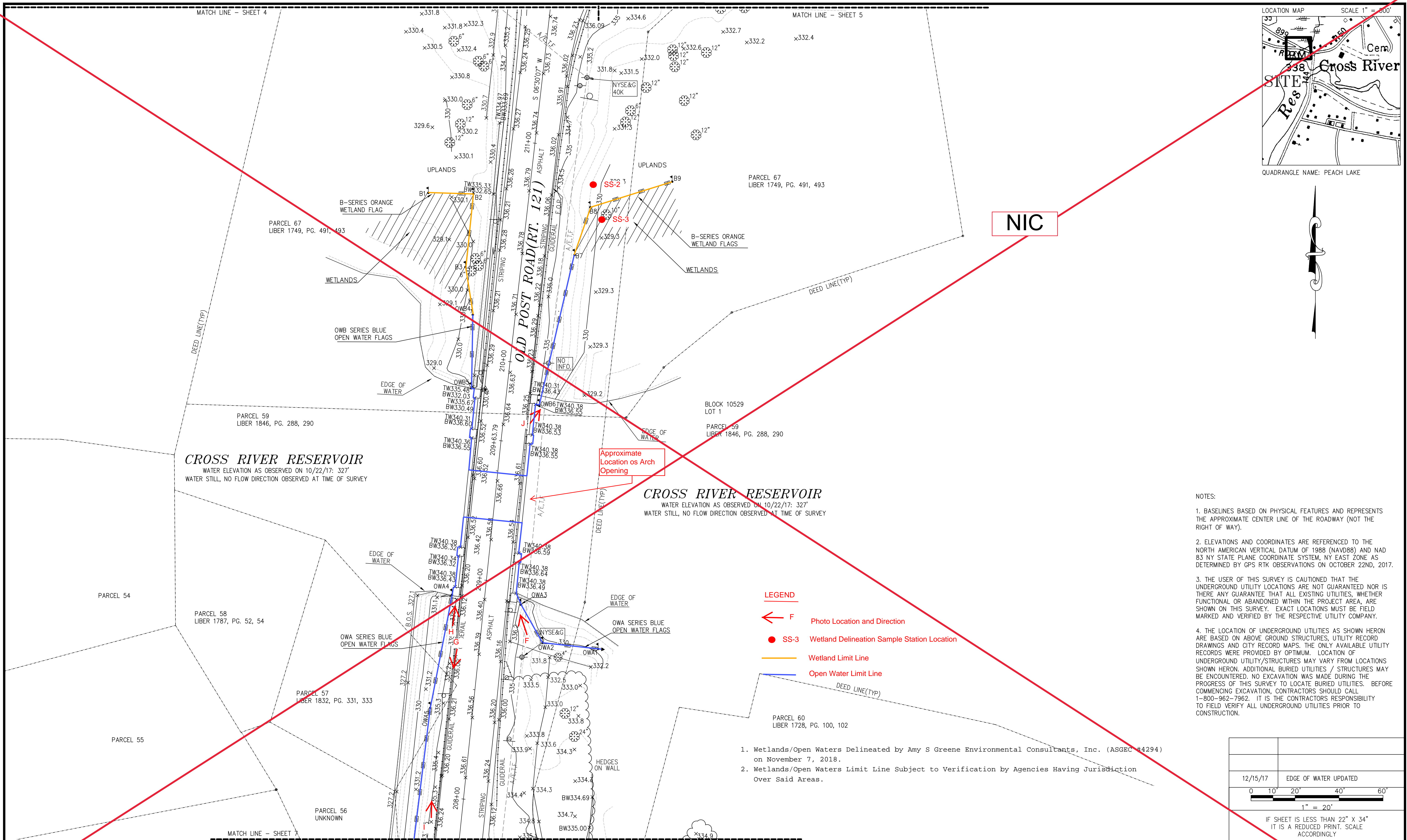


- NOTES:
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Station	400+00.000	400+82.918	401+86.800	402+91.157	403+94.249	404+71.478	404+71.478	406+71.790
Northing	884245.338	884284.235	884315.315	884377.342	884464.065	884503.868	884547.625	884547.625
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Chord Length		82.622'		102.265'		75.033'		200.119'
Chord Bearing		N 61°54'54" E		N 52°39'39" E		N 57°57'45" E		N 77°22'12" E



DESIGNED BY:	N.A.	DRAWN BY:	BR		PROJECT MANAGER	JEFFREY A. BUSSE, P.E.	*WARNING--IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, SECTION, 7209.2, FOR ANY PERSON, UNLESS (S)HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION, LAW, SECTION, 7209.2.*	<b>NEW YORK CITY</b> <b>ENVIRONMENTAL PROTECTION</b> BUREAU OF ENGINEERING DESIGN & CONSTRUCTION 96-05 HORACE HARDING EXPRESSWAY 5th FLOOR CORONA, NEW YORK 11368 www.nyc.gov/dep	<b>CAPITAL PROJECT WM-30</b> <b>IN WESTCHESTER COUNTY, NEW YORK</b> <b>CONTRACT CRO-530B</b> TOPOGRAPHIC MAP BAPTIST CHURCH RD. BRIDGE TOWN OF YORKTOWN, NY 10598	DATE:	11/28/17
CHECKED BY:	MZ	SECTION MANAGER:	N.A.		DIRECTOR, IN HOUSE DESIGN	SHEET NO.:				2 OF 9	
DESIGN LEAD:	N.A.					DRAWING NO.:					
NO. DATE REVISIONS/DESCRIPTION	APPR'D.										



NIC

Approximate Location of Arch Opening

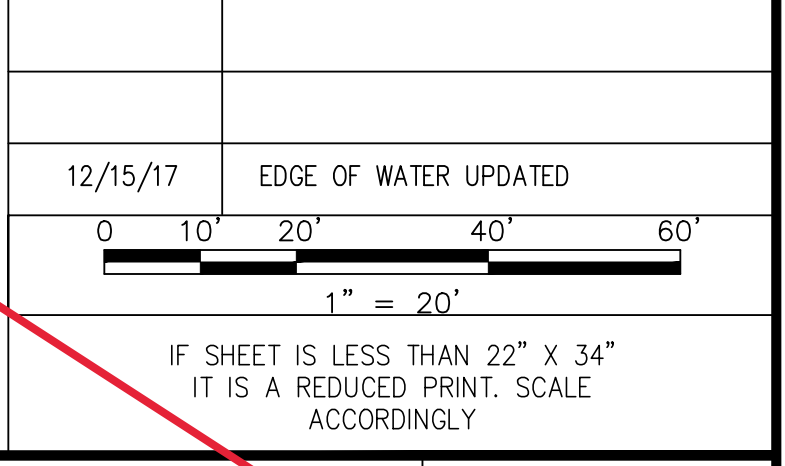
**CROSS RIVER RESERVOIR**  
 WATER ELEVATION AS OBSERVED ON 10/22/17: 327'  
 WATER STILL, NO FLOW DIRECTION OBSERVED AT TIME OF SURVEY

**CROSS RIVER RESERVOIR**  
 WATER ELEVATION AS OBSERVED ON 10/22/17: 327'  
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- LEGEND**
- Photo Location and Direction
  - SS-3 Wetland Delineation Sample Station Location
  - Wetland Limit Line
  - Open Water Limit Line

1. Wetlands/Open Waters Delineated by Amy S Greene Environmental Consultants, Inc. (ASGEC #4294) on November 7, 2018.
2. Wetlands/Open Waters Limit Line Subject to Verification by Agencies Having Jurisdiction Over Said Areas.



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CHECKED BY:	MZ		
DESIGN LEAD:	N.A.		
SECTION MANAGER:	N.A.		



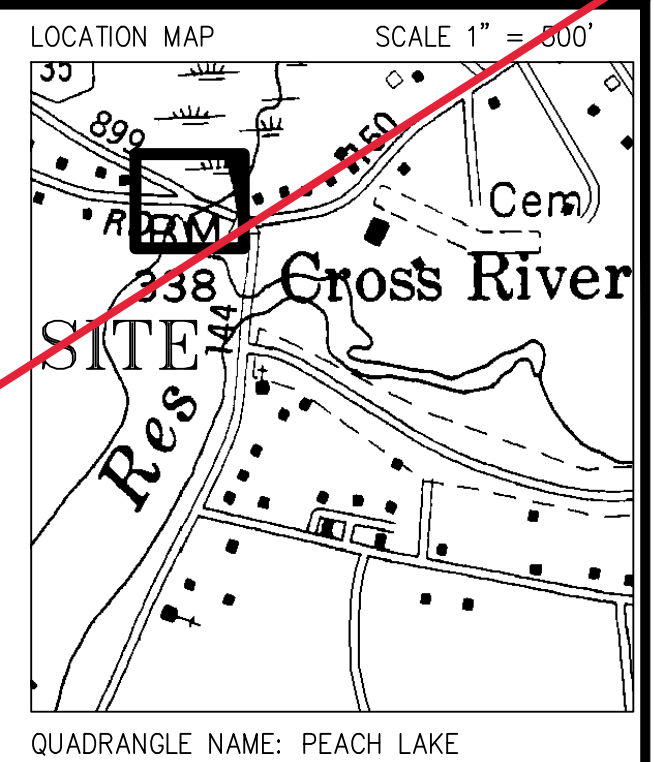
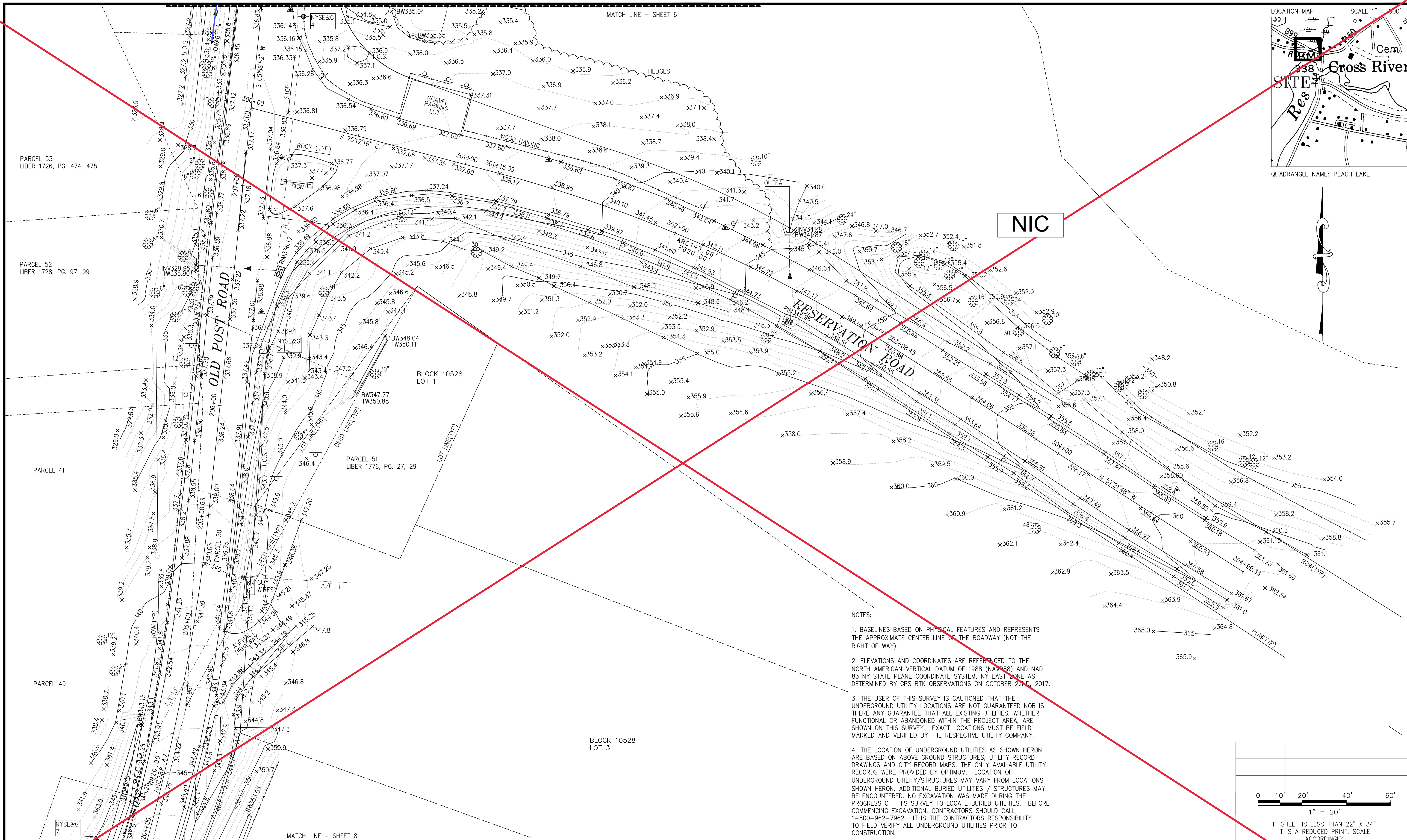
PROJECT MANAGER  
 JEFFREY A. BUSSE, P.E.  
 CHIEF, DIVISION OF WASTEWATER FACILITIES DESIGN  
 DIRECTOR, IN HOUSE DESIGN

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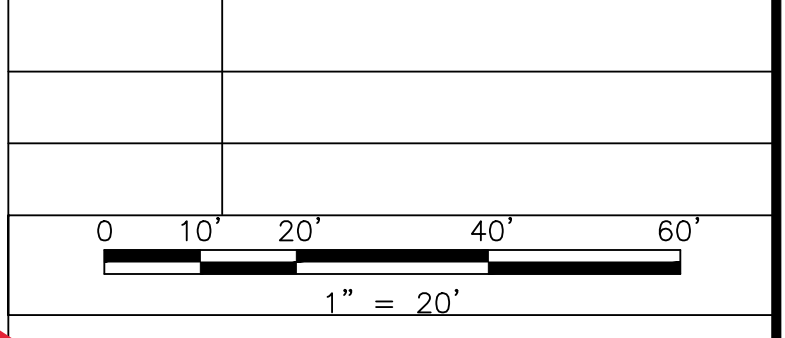
**CAPITAL PROJECT WM-30 IN WESTCHESTER COUNTY, NEW YORK CONTRACT CRO-530B**  
 TOPOGRAPHIC AND UTILITY SURVEY  
 CROSS RIVER INLET BRIDGE "K"  
 TOWN OF LEWISBORO, NEW YORK 10518

DATE:	12/19/17
SCALE:	1"=20'
SHEET NO.:	6 OF 9
DRAWING NO.:	



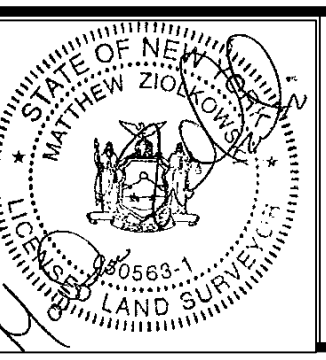
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CHECKED BY:	MZ		
DESIGN LEAD:	N.A.		
SECTION MANAGER:	N.A.		



PROJECT MANAGER  
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DATE: 12/19/17  
SCALE: 1"=20'  
SHEET NO: 7 OF 9  
DRAWING NO.

**Attachment D**  
**Tree Survey**

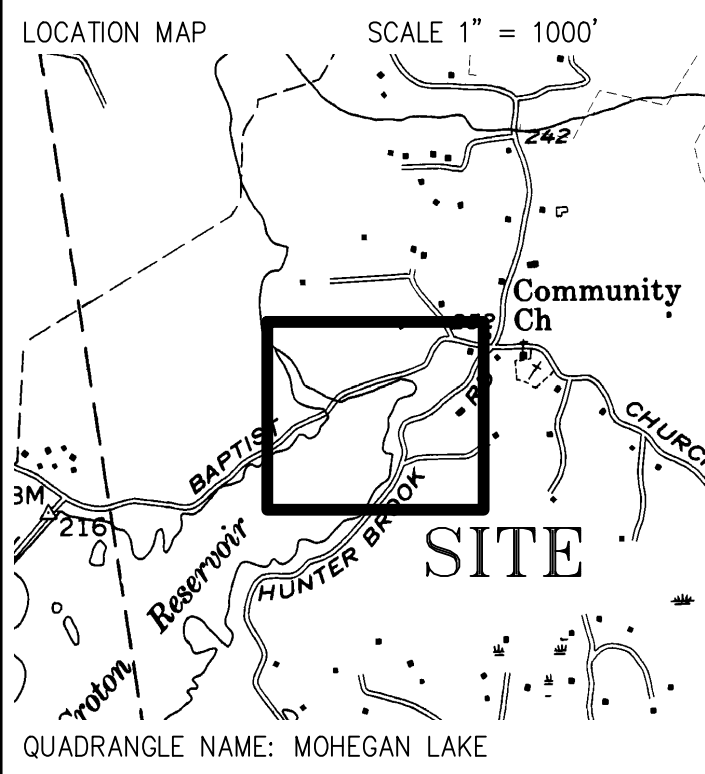


Site: Baptist Church Road Bridge

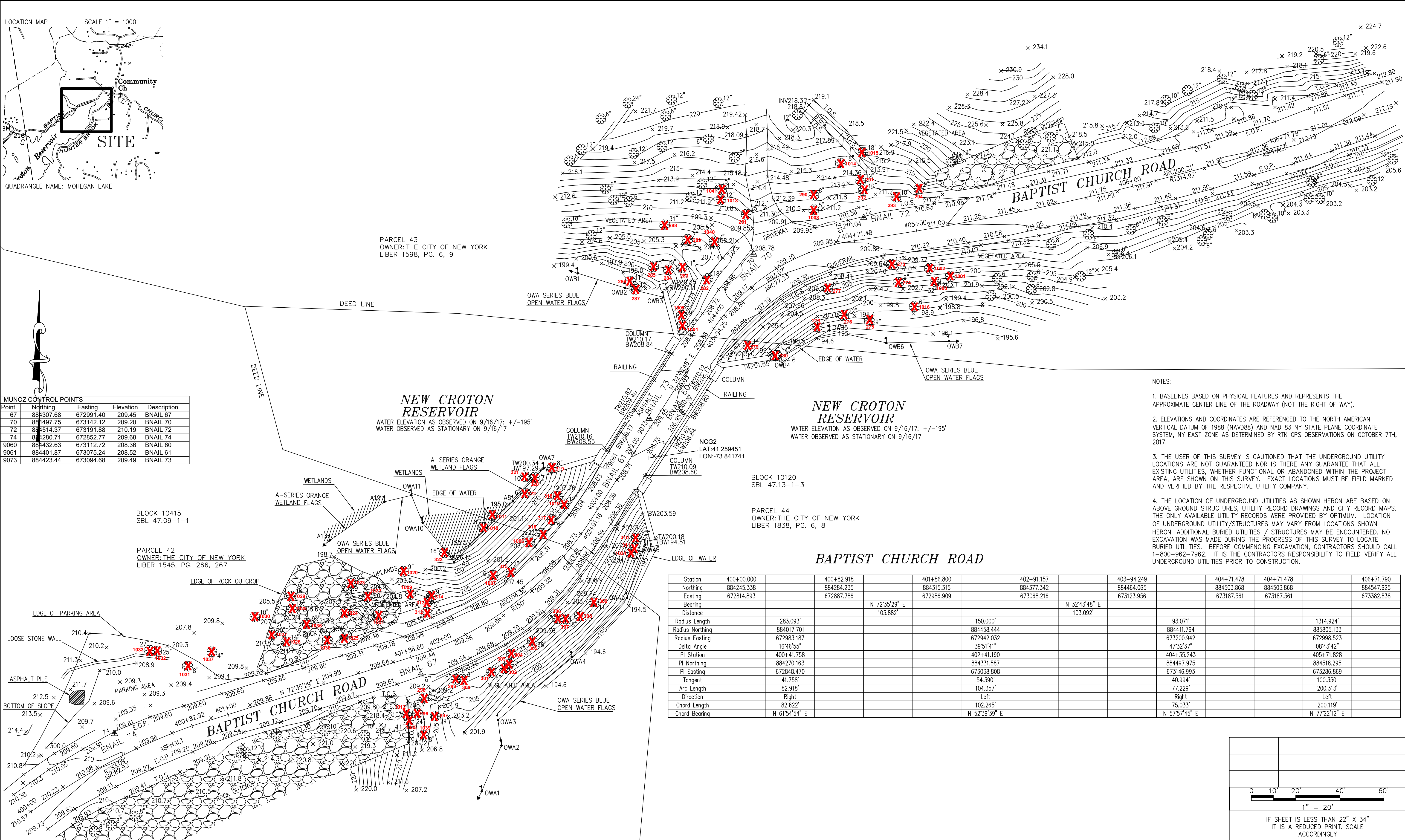
Tree Count	Tree Number	Diameter (in)	Circumference (ft)	Name	Location in Relation to Centerline of Baptist Church Road Bridge/Baptist Church Road
1	273	13	3.40	Red Oak	Northeast
2	274	9	2.36	Shagbark Hickory	Northeast
3	275	9	2.36	Red Oak	Northeast
4	276	22	5.76	Tulip Poplar	Northeast
5	277	6	1.57	Red Maple	Northeast
6	278	7	1.83	Black Oak	Northeast
7	279	14	3.67	Red Oak	Northeast
8	280	14	3.67	Dead American Elm	Northeast
9	281	23	6.02	Red Oak	Northwest
10	282	18	4.71	Red Oak	Northwest
11	283	11	2.88	Red Maple	Northwest
12	284	10	2.62	Red Maple	Northwest
13	285	8	2.09	White Oak	Northwest
14	286	11	2.88	Dead Black Locust	Northwest
15	287	12	3.14	Black Locust	Northwest
16	288	6	1.57	American Beech	Northwest
17	289	31	8.12	Red Oak	Northwest
18	290	6	1.57	Pignut Hickoy	Northwest
19	291	12	3.14	Dead Eastern Hemlock	Northwest
20	292	10	2.62	Norway Maple	Northwest
21	293	10	2.62	White Ash	Northwest
22	294	9	2.36	American Beech	Northwest
23	296	24	6.28	Black Oak	Southeast
24	297	29	7.59	Black Oak	Southeast
25	298	6	1.57	Dead White Ash	Southeast
26	299	8	2.09	Dead Hickory	Southeast
27	300	6	1.57	Red Maple	Southeast
28	301	6	1.57	Dead White Ash	Southeast
29	302	9	2.36	Red Oak	Southeast
30	303	16	4.19	Black Oak	Southeast
31	304	27	7.07	Red Oak	Southeast
32	305	28	7.33	Red Oak	Southeast
33	306	7	1.83	White Ash	Southeast
34	307	15	3.93	Black Oak	Southeast
35	308	12	3.14	White Ash	Southeast
36	309	11	2.88	Red Maple	Southeast
37	310	10	2.62	American Elm	Southeast
38	311	6	1.57	American Elm	Southeast
39	312	17	4.45	Red Oak	Southwest
40	313	5	1.31	Dead Sugar Maple	Southwest
41	314	8	2.09	American Beech	Southwest
42	315	12	3.14	Red Oak	Southwest
43	316	27	7.07	Black Oak	Southwest
44	317	6	1.57	American Elm	Southwest
45	318	7	1.83	Sweet Birch	Southwest
46	319	8	2.09	Dead White Ash	Southwest
47	320	7	1.83	Dead White Ash	Southwest
48	321	10	2.62	Dead American Elm	Southwest
49	322	6	1.57	Sweet Birch	Southwest
50	323	16	4.19	Tulip Poplar	Southwest
51	1000	32	8.38	Black Oak	Northeast
52	1001	12	3.14	Sugar Maple	Northeast

Site: Baptist Church Road Bridge

Tree Count	Tree Number	Diameter (in)	Circumference (ft)	Name	Location in Relation to Centerline of Baptist Church Road Bridge/Baptist Church Road
53	1002	9	2.36	Red Oak	Northeast
54	1003	5	1.31	Flowering Dogwood	Northeast
55	1004	14	3.67	American Elm	Northeast
56	1005	6	1.57	White Ash	Northwest
57	1006	6	1.57	American Elm	Southwest
58	1007	6	1.57	American Elm	Southwest
59	1009	3	0.79	American Beech	Southwest
60	1010	7	1.83	Dead White Ash	Southwest
61	1011	4	1.05	Dead White Ash	Southwest
62	1012	11&10	2.88 & 2.62	Shagbark Hickory	Southwest
63	1013	19	4.97	Sugar Maple	Northwest
64	1014	20	5.24	White Oak	Northwest
65	1015	34	8.90	Black Oak	Northwest
66	1016	8	2.09	Long-Dead Black Birch	Northeast
67	1019	4	1.05	Red Oak	Southwest
68	1020	8	2.09	Eastern Hemlock	Southwest
69	1021	8	2.09	Sugar Maple	Southwest
70	1022	10	2.62	Red Maple	Southwest
71	1023	20	5.24	White Oak	Southwest
72	1024	8	2.09	Eastern Hemlock	Southwest
73	1025	6	1.57	American Elm	Southwest
74	1026	12&13	3.14 & 3.40	Pignut Hickory	Southwest
75	1027	14	3.67	Eastern Hemlock	Southwest
76	1028	14	3.67	Pignut Hickory	Southwest
77	1029	16	4.19	White Oak	Southwest
78	1030	9	2.36	Pignut Hickory	Southwest
79	1031	8	2.09	Sugar Maple	Southwest
80	1032	25	6.54	Double Trunk White Oak	Southwest
81	1033	27	7.07	Double Trunk White Oak	Southwest
82	1034	9	2.36	Dead White Ash	Southeast
83	1035	14	3.67	Pignut Hickory	Southeast
84	1036	10	2.62	Sugar Maple	Southwest
85	1037	4	1.05	Hophornbeam (Ostrya)	Southwest
86	1038	13	3.40	Dead Hemlock	Southwest
87	1039	8	2.09	Sugar Maple	Southeast
88	1040	7	1.83	American Beech	Northwest
89	1041	15	3.93	Sugar Maple	Northwest

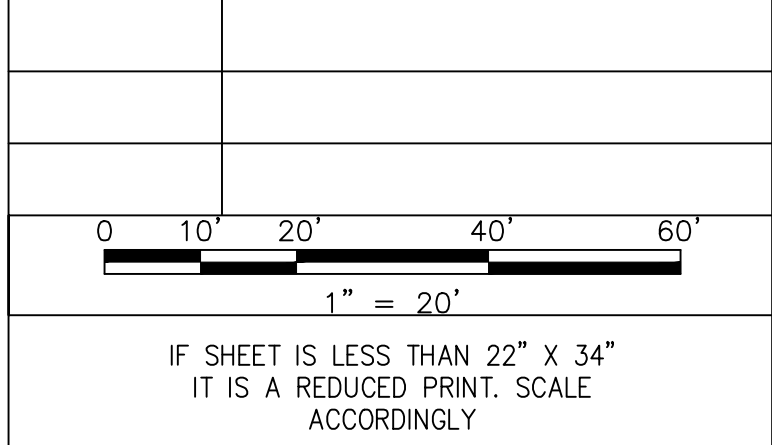


Point	Northing	Easting	Elevation	Description
67	884307.68	672991.40	209.45	BNAIL 67
70	884497.75	673142.12	209.20	BNAIL 70
72	884514.37	673191.88	210.19	BNAIL 72
74	884280.71	672852.77	209.68	BNAIL 74
9060	884432.63	673112.72	208.36	BNAIL 60
9061	884401.87	673075.24	208.52	BNAIL 61
9073	884423.44	673094.68	209.49	BNAIL 73



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12/08/20		TREES UPDATED	
12/19/18		WETLANDS UPDATED	
12/18/17		ROCK OUTCROPS ADDED	
12/15/17		BASELINE TABLE ADDED	

DESIGNED BY:	N.A.	DRAWN BY:	BR
CHECKED BY:	MZ		
DESIGN LEAD:	N.A.		
SECTION MANAGER:	N.A.		



PROJECT MANAGER  
JEFFREY A. BUSSE, P.E.  
Portfolio Manager  
Paul Costa, P.E.  
DIRECTOR, IN HOUSE DESIGN  
S. McAndrew, P.E.

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**CONTRACT CRO-530B**  
TOPOGRAPHIC MAP  
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TOWN OF YORKTOWN, NY 10598

DATE:	11/28/17
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SHEET NO.:	2 OF 9
DRAWING NO.:	