

STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Replacement of Baptist Church Road Bridge

CONTRACT NO. CRO-530B

PIN: 82615WM00297

BIN: 2-26243-0

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September 2021

Table of Contents

I. Introduction	3
(1) Scope of the Project	3
(2) Location of Project.....	3
(3) Project Type and Size.....	4
(4) Project Description	4
(5) Cultural Resources	4
II. Project Maps and Plans.....	4
(1) Location Map.....	4
(2) NRCS Soil Map at Project Location	4
(3) Erosion Control Plans.....	4
III. Project Soils.....	5
(1) Soil Types	5
IV. Construction Phasing	5
V. Erosion and Sediment Control Measures	6
(1) Erosion Control Plan	6
(2) Temporary Pollution Prevention Measures	7
(3) Permanent Erosion and Sediment Control Measures	8
(4) Installation Sequence	8
(5) Post Construction Erosion and Sediment Controls	9
(6) Maintenance Schedule	10
(7) SWPPP Implementation Responsibilities.....	11
(8) Winter Activity Standards.....	11
VI. Existing Watershed Information.....	11
(1) Table of Receiving Waterbodies	11
(2) Existing Watershed(s) Information.....	11
(3) Wetlands.....	12
(4) Surface Waters	12
VII. Operation and Maintenance	13
(1) Inspection Program	13
(2) Responsible parties.....	14
(3) Litter Prevention and Potential Site Pollutants	14
(4) Changes to the SWPPP	16
VIII. Retention of Records	17

List of Appendices

Appendix A – Notice of Intent and General Permit

Appendix B – Site Map and Soil Map

Appendix C – Final Drawings/Plans

Appendix D – United States Department of Agriculture Soil Resource Report

Appendix E – Pages from New York State Standards and Specifications for Erosion and Sediment Control

Appendix F – Template for Stormwater Pollution Prevention Plan Inspection

Appendix G – Template for Final Stabilization and Retention of Records Certification

I. Introduction

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) Stormwater Pollution Discharge Elimination System (SPDES) for Stormwater Discharges from Construction Activity Permit No. GP-0-20-001, the New York Standards and Specifications for Erosion and Sediment Control, and the New York State Stormwater Management Design Manual.

The general contractor and subcontractors performing any activity that involves soil disturbance will be required to comply with the terms and conditions of the SWPPP for the project as a condition of authorization to discharge stormwater. The contractor shall provide signed certifications for itself and all applicable subcontractors at the preconstruction meeting. These signed certifications shall be included as part of the SWPPP. The SPDES General Permit and SWPPP must be kept on file at the Project Field Office.

A notice of intent (NOI) for this project will be completed online through the DEC nForm Portal. A hard copy is provided in Appendix (A).

(1) Scope of the Project

The scope of work for this project includes the removal of a selected portion of existing approach roadway, the entire bridge structure, the approach guiderail, selected trees and rock outcropping for site clearance and grubbing as well as reconstruction of a new bridge with proposed 12 ft travel lanes, 2 ft shoulders on both sides and replacement guiderails. The bridge has had no significant repair or rehabilitation work since original construction and has numerous substandard features, poor structural condition, and geometric features.

(2) Location of Project

The Baptist Church Road is an approximately 5-mile long, rural residential roadway that connects Baldwin Road to Croton Avenue in the Town of Yorktown. The existing Baptist Church Road is classified as a minor collector, a two-lane roadway with one lane in each direction. The roadway is approximately 20 feet wide, carrying two 10-foot wide lanes and limited to no shoulders and no pedestrian accommodations within the project area. Refer to the Location Map in Appendix B.

According to the NYSDEC Stormwater Interactive Map, Hunter Brook under the Baptist Church Road Bridge is classified as Class AA (best usage for a source of drinking water, swimming and other recreation, and fishing). Approximately 0.11 miles northwest of the project site, is categorized as Class B(TS). The classification B(TS) indicates best usage for swimming and other recreation as well as suitable for trout-spawning. Hunter Brook is a small stream which meanders from Mill Pond south, and eventually flows into the New Croton Reservoir under the Baptist Church Road Bridge as a part of the New York City water supply system.

The Hunter Brook within the project area is not on the 303 (d) segments of impaired waterbodies as shown in GP-0-20-001 Appendix E.

The Baptist Church Road Bridge has the following coordinates:

Table 1: Location Table

Approximate Coordinate Position at Center of Project	
Latitude	41°15'34.21" N
Longitude	73°50'30.20" W

(3) Project Type and Size

The project is classified as a bridge replacement project. The proposed project area is located in the Town of Yorktown in Westchester County, New York. The project area is approximately 0.75 acres. Soil disturbance is approximately 0.45 acres.

(4) Project Description

Built in 1906, the Baptist Church Road Bridge is a 50-foot-long, closed spandrel unreinforced concrete arch with splayed wingwalls and granite capstones. The arch supports fill topped with asphalt pavement. The substructure is founded on rock. The bridge has had no significant repair or rehabilitation work since its original construction and has numerous substandard features, including poor structural condition.

The scope of this project includes the removal of selected portions of the existing approach roadway, entire bridge structure, approach guiderail, and selected trees and rock outcropping under clearing and grubbing; reconstruction of a new bridge with proposed twelve (12) ft travel lanes and two (2) ft shoulders on both sides; and earthwork and landscaping. The new replacement structure will consist of a single-span precast reinforced concrete arch, with splayed wing walls supported on spread footings founded on bedrock. The current roadway alignment will be shifted slightly to the west. The replacement bridge will have four (4) wingwalls and two (2) retaining walls. The arch opening would be fifty-four feet (54'-0") and the fullwidth would be thirty-four feet and two inches (34'-2"). The existing granite capstones would be cleaned, piece marked and stored on-site to be reused on the proposed bridge structure.

Replacement of the bridge is necessary due to severe deterioration of the structure, poor roadway drainage, and potential lead paint contamination of the water body below. The proposed action is expected to start in November 2023 and be completed in May 2025. For the Baptist Church Road Bridge replacement, a total of ninety-three (93) trees would be removed to allow for demolition and construction activities as well as improved sight distance post construction. The area of trees to be cleared is approximately 0.4 acres. A tree removal permit application will be submitted to the Town of Yorktown. For Baptist Church Road Bridge project, the approximate area of soil disturbance is 0.45 acres and open water disturbance is 0.3 acres.

(5) Cultural Resources

The New York State Historic Preservation Office (SHPO) Cultural Resource Information System (CRIS) database identifies the Baptist Church Road Bridge as Not Eligible for listing on the National Register of Historic Places. Based on the response letter dated June 25, 2020 from SHPO, no historic properties or historic resources would be affected by this project. Therefore, the proposed project is not anticipated to have a significant adverse impact on historic and cultural resources.

II. Project Maps and Plans

(1) Location Map

See Appendix B.

(2) NRCS Soil Map at Project Location

See Appendix B.

(3) Erosion Control Plans

See Appendix C.

III. Project Soils

(1) Soil Types

Based on the information obtained from the United States Department of Agriculture (USDA) Soil Survey, the soil type located within the project area consists of Chatfield-Hollis-Rock Outcrop Complex (CuD). A review of the soil conditions can be found in Table 2. The USDA Custom Soil Resource Report for this project can be found in Appendix D.

Table 2: Soil Type

Soil Symbol, Name, % Slope Range	Hydrologic Soil Group (HSG)	Character	% within disturbed area (project area)
CuD, Hatfield-Hollis-Rock Outcrop Complex, 15 to 35 percent slopes	D	Well Drained	100

D = Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

IV. Construction Phasing

Below is an outline of the construction phasing.

Contract Initiation

Project Startup

- Construction NTP
- Approval of Contractor's submittals

Mobilization

WZTC Measures

- Install temporary signage & barricades

Contractor Facilities

- Setup field office
- Deploy equipment on site

Soil Erosion and Sediment Control and Temporary Storm Water Measures

- Install turbidity curtain made of polypropylene mesh with skiff (previously steam cleaned per NYCDEP requirements)

Demolition

1. Clearing and grubbing
2. Post Class B cleaning
3. Remove bridge railing
4. Remove granite capstones along the fascia of the roadway and wingwalls
5. Remove cast-in-place wingwalls, cast-in-place concrete arch, and embankment in place
6. Install cofferdam and dewater
7. Remove existing foundations. Provide new concrete spread footing foundation (for arch and wingwalls), founded on bedrock.

Reconstruct the bridge

1. Provide new concrete spread footing foundation (for arch and wingwalls), founded on bedrock
2. Provide new E54- double hinged pre-cast arch structure
3. Provide new cast in place wingwalls with anchorage for granite accents

4. Provide new precast spandrel walls with independent moment slab
5. Provide new structural fill, embankment in place and topsoil (excavated soil to be stockpiled on site for use as top soil as applicable)
6. Clean and modify the existing granite capstones and reuse them on the proposed bridge structure
7. Remove cofferdam
8. Paint the proposed box beam to be rustic brown
9. Install the NYSDOT approved box beam guiderail along both sides of the roadway approaches to connect to the proposed bridge railing along the bridge
10. Reconstruct roadway and driveway

Grading and Landscaping

1. Perform required grading
2. Install the proposed landscaping
3. Restore contractor staging area
4. Remove all detour signs/install proposed signs

As Built

1. Prepare final copy working drawings

V. Erosion and Sediment Control Measures

(1) Erosion Control Plan

On-site construction activities will use Best Management Practices (BMPs) to control erosion of on-site soil and sediment. Erosion and Sediment Control (E&SC) measures to be employed by the project have been prepared in accordance with the current version of the New York State Standards and Specifications for Erosion and Sediment Control (NYSSSESC). All contractors and subcontractors shall comply with all applicable requirements and conditions of the SPDES General Permit, NYSSSESC and this SWPPP.

BMPs include:

- Equipment cleaning, maintenance, and repair will be conducted in designated areas protected by berms.
- Sediment and erosion controls will be checked weekly for sediment build-up and failure. The controls will be cleaned at the discretion of the qualified professional responsible for the stormwater inspections.
- Cleared brush, debris (asphalt, gravel, concrete, etc.), and soils will be stockpiled up slope from and protected by erosion and sedimentation controls.
- Paved areas shall be swept and kept clean of eroded soil and sediments to limit migration into waterbody. Off-site vehicle tracking of sediments, and the generation of dust shall be minimized. All roads and vehicles shall be cleaned as needed and kept clean during non-construction periods.
- All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers, and if possible, under a roof or other enclosure. Toxic materials such as solvents, etc. must be stored in waterproof containers and kept in storage facilities.
- Products shall be kept in their original containers with the original manufacturer's labels and material safety data sheets retained.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Manufacturer's recommendations for proper use and disposal shall be followed.
- The owner and/or contractor shall prohibit washing of tools, equipment and machinery in or within 100-feet of any watercourse or wetland.

- The owner and/or contractor will be required to ensure that litter will be controlled via designated disposal facilities (trash cans, etc.) and a schedule for site and facility pick-up and disposal at designated disposal sites.
- Construction debris that is not salvageable will be required to be disposed of in accordance with all applicable laws and regulations.

(2) Temporary Pollution Prevention Measures

The following temporary erosion and sedimentation control measures will be used on this project during construction (location, material specifications, dimensions and installation details are provided in Appendix C):

Dust Control: The contractor will be required to minimize dust generation during the construction activities. Provisions such as watering, and the use of cover materials have proven effective in dust control and can be approved by the engineer for use in the affected areas.

Stabilized Construction Access/Entrance: Stabilized Construction Access/Entrances will be used to minimize the tracking of debris and mud off the project site. In addition to the process of stabilization, Geotextiles or Filter Fabrics will be utilized in accordance with the NYSDEC standards and any other standards if applicable. Filter Fabric is particularly used in road bedding processes and aide in blocking the passage of fine soil material and preventing erosion. Filter fabric is more resistant to waves and water flows than a layer of minerals. Filter Fabric shall be either woven or nonwoven, dependent upon analysis of the area. Non-woven geotextiles provide for planar water flow and serve as drainage for aggregates and overlays for asphalt pavements. Woven geotextiles reduce shear failure in weak subsoil conditions. Woven may be preferred for strength and filtration purposes. Once the determination is made of the filter fabric, it will be incorporated into the temporary construction access paths to protect the soils when construction equipment is being used on site. Location of the construction access paths/entrance(s) shall be approved in the field by the Qualified Inspector.

Cofferdam Structure: A temporary barrier placed at a worksite to prevent water from flooding the work area so that construction can take place without discharging sediment into the water resource. No construction activity shall commence in the area of the cofferdam until it is completed and stabilized.

Silt Fences: A temporary barrier of geotextile fabric, installed on the slope contours, used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. Silt fence will have a maximum ponding depth of 1.5 feet behind the fence. The silt fence(s) will be installed according to the plans and/or are approved in the field by the Qualified Inspector.

Straw Bale Dike: A temporary barrier of straw, or similar material used to intercept sediment laden runoff from small drainage areas of disturbed soil to reduce runoff velocity and effect deposition of the transported sediment load. Straw bales will be placed with ends tightly abutting the adjacent bales. Each bale will be embedded in the soil a minimum of 4" and will be secured by either two stakes or re-bars drive through the bale. The straw bale(s) will be installed around the stockpile locations and will be approved in the field by the Qualified Inspector.

Turbidity Curtain: A temporary flexible, impenetrable barrier used to trap sediment in water bodies. This curtain is weighted at the bottom to achieve closure while supported at the top through a floatation system and used to prevent the migration of silt from the work site in a water environment into the larger

body of water. The turbidity curtain will be installed according to the plans and/or are approved in the field by the Qualified Inspector.

Appendix E contains the sheets for the aforementioned from the New York State Standards and Specifications for Erosion and Sediment Control.

(3) Permanent Erosion and Sediment Control Measures

Seeding and Planting: Following construction, disturbed areas would be restored using native plant species, which would provide visual amenity and manage post-construction stormwater runoff and would mitigate the potential for invasive species.

Retaining Wall with Dry Swale: Two retaining walls will be constructed on site. One retaining wall will be located on the southwest side of the bridge and the other on the northeast side of the bridge. The proposed retaining wall dimensions are listed below:

- SW retaining wall length = 83'2"
- NW retaining wall length = 49'6"
- Maximum exposed wall height is approximately 11'

The purpose of these walls are to prevent soil movement by retaining soil in place and preventing slope failures and movement of material down the slope. In addition, dry swales will be installed behind the retaining walls. The dry swale is an open drainage channel explicitly designed to detain and promote the filtration of stormwater runoff into the soil media.

Stone Outfall: Installed behind each wingwall will be geotextile bedding with fine stone filling. The rock will prevent erosion of soil material into the water. The Contractor shall prewash all proposed riprap so no silica, rock dust, or dirt is present on the stone prior to entering the site. All equipment used to handle the stone prior to placement shall be cleaned.

(4) Installation Sequence

A stabilized construction access/entrance will be installed which will prevent soil debris from leaving the site. Following the installation of the stabilized construction access/entrance, a turbidity curtain will be deployed. The turbidity curtain will be firmly anchored in place. The alignment of the turbidity curtain shall be similar to the alignment shown in drawings ESC-1. Stream flow data from USGS will be used when selecting a turbidity curtain to account for stream flow. The height of the curtain shall be 20% greater than the depth of the water.

A construction materials stockpile area (CSA) will be constructed on site. If the CSA is located on soil material, it will be surrounded by silt fence and straw/hay bales on all sides. If the CSA is placed on an impervious surface (e.g. blacktop, asphalt), then dust control measures (e.g. woven geo-textile barriers) will be placed on top of the soil material and weighed down utilizing sand bags or similar methods. The CSA must be covered prior to storm events to prevent material in the CSA from dispersing.

Silt fences will be installed prior to clearing and grubbing. The silt fences will be installed along the slope and perpendicular to the slope. The BMPs will be placed perpendicular to the slope to slow down accumulating flows of sediment. The BMPs will be placed parallel to the slope to prevent the sediment from exiting the site.

Standard Silt fences will be designed and utilized for this project. As shown in the New York State Standards and Specifications for Erosion and Sediment Control “The Blue Book”, the silt fence will have the following Slope Length/Fence Length properties:

Table 3: Silt Fence Properties

Slope	Steepness	Slope Length / Fence Length (ft.)
<2%	<50:1	300/1500
2-10%	50:1 to 10:1	125/1000
10-20%	10:1 to 5:1	100/750
20-33%	5:1 to 3:1	60/500
33-50%	3:1 to 2:1	40/250
>50%	>2:1	20/125

The silt fence fabric shall have the following properties:

Table 4: Silt Fence Fabric Properties

Fabric Properties	Minimum Accepted Value	Test Method
Grab Tensile Strength (lbs.)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs.)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (LBS)	50	ASTM D 4533
Flow Through Rate (Gal/min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	ASTMD 4751
Minimum UV Residual (%)	70	ASTM D 4355

The silt fence ends will be overlapped, folded and stapled to prevent sediment bypass. Silt fences will be placed as close to the disturbed area as possible. The fence posts shall be a minimum of 36” long. Wood posts will be of sound quality hardwood with a minimum cross-sectional area of 3.5 square inches. Fence fabric will be embedded in the ground a minimum of 6”. When two sections adjoin each other, they shall be overlapped by 6” and folded. Fence fabric shall be either Filter X, Mirafi 100X, Stabilinka T140N, or approved equivalent. Silt fences will be removed as soon as the disturbed area has achieved final stabilization.

(5) Post Construction Erosion and Sediment Controls

After demolition activities have finished and the site has been regraded, topsoil will be applied. The contractor will preserve existing topsoil in place where possible. Based on the information obtained from the USDA Soil Survey, the soil type located within the project area consists of Hatfield-Hollis-Rock Outcrop Complex (CuD). The map unit compositions of CuD can be found in Table 5.

Table 5. Map Unit Composition

Composition	Percentage	Typical Profile
Chatfield, extremely stony, and similar soils	35%	Oi - 0 to 1 inches: slightly decomposed plant material A - 1 to 2 inches: fine sandy loam Bw - 2 to 30 inches: gravelly fine sandy loam 2R - 30 to 40 inches: bedrock

Table 5. Map Unit Composition

Composition	Percentage	Typical Profile
Hollis, extremely stony, and similar soils	30%	Oi - 0 to 2 inches: slightly decomposed plant material A - 2 to 7 inches: gravelly fine sandy loam Bw - 7 to 16 inches: gravelly fine sandy loam 2R - 16 to 26 inches: bedrock
Rock outcrop	20%	R - 0 to 79 inches: bedrock
Minor components	15%	-

For loam, a minimum topsoil depth of 1" should be applied. The topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil. Topsoil shall have not less than 20 percent fine textured material and not more than 15 percent clay. Topsoil treated with soil sterilants or herbicides shall be identified to the purchaser. Topsoil shall be relatively free of stones over 1 ½ inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel. Topsoil containing soluble salts greater than 500 parts per million shall not be used. Topsoil may be manufactured as a mixture of mineral component and organic material such as compost. The topsoil will be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles. Topsoil that is placed on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched and stabilized by "tracking" with suitable equipment.

Vegetation should provide a minimum 80% perennial vegetative cover on areas disturbed by construction. Seeding must be conducted before the ground is frozen. Any severely compacted sections will require chiseling or disking to provide an adequate rooting zone, to a minimum depth of 12". The seedbed must be prepared to allow good soil to seed contact, with the soil not too soft and not to compact. If the surface is powder dry or sticky wet, postpone seeding until adequate soil moisture is present. Remove any stones and other debris from the surface that are greater than 4", attain a pH of 6.0 in the upper 2 inches of soil. If soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 600 lbs. per acre of 5-5-10 or equivalent.

For the Seeding and Planting Schedule, see Drawings LS-1 and LS-2 in Appendix C.

Fertilizer should be applied to seeded areas. Fertilizer should not be applied between December 1 and April 1. Fertilizer shall not be spread within 20 feet of Hunter Brook or any surface water. Any fertilizer spilled onto impervious surface areas such as parking lots, roadways, and sidewalks should be immediately contained and placed in an appropriate container. Incorporate the fertilizer, and lime if specified, into the top 2-4 inches of the topsoil or soil profile. When applying fertilizer by hydro seeding, care should be taken to apply mix only to seed bed areas at an appropriate flow rate to prevent erosion and spraying onto impervious areas.

Appendix E contains the sheets for the aforementioned from the New York State Standards and Specifications for Erosion and Sediment Control.

(6) Maintenance Schedule

The contractor must address any observable deficiencies as soon as possible.

The contractor must address any reported deficiencies for any of the E&SC devices within 1 business day of receiving the report.

In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures must be initiated by the end of the next business day and completed within seven (7) days from the date that current soil disturbance activity ceased.

(7) SWPPP Implementation Responsibilities

Implementation of all E&SC devices will be done by the Contractor as indicated in the contract documents.

Trained Contractor - Prior to the commencement of construction, each contractor and subcontractor that has been identified as being responsible for implementation of the Stormwater Pollution Prevention Plan will identify at least one employee from their company (Trained Contractor) who has received four hours of endorsed E&SC training. The Trained Contractor must be on site on a daily basis when soil disturbance activities are being performed and will be responsible for implementation of the practices included in the SWPPP.

Qualified Inspector - A Qualified Inspector will conduct specific site inspections. Certain Qualified Inspectors who work on these sites (i.e., individuals working under direct supervision of, and at the same company as, a licensed Professional Engineer or Registered Landscape Architect of NYS) are required to complete four hours of E&SC training under the General Permit.

(8) Winter Activity Standards

Between November 15th and April 1st, the site should be prepared for winter stabilization. Snow management activities must not destroy or degrade installed E&SC measures. All BMPs must be installed before the ground freezes.

Silt fences should be marked with tall stakes that are visible above snowpack.

Soil stockpiles in the CSA must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or durable covering. Silt fence must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil.

In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days. Rolled erosion control blankets must be used on all slopes 3 horizontal to 1 vertical or steeper.

To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless work will resume within 24 hours in the same area and no precipitation is forecast.

VI. Existing Watershed Information

(1) Table of Receiving Waterbodies

Table 6: Receiving Waterbody

Receiving Waterbody	NYSDEC Regulated
Hunter Brook	Class AA source of drinking water

(2) Existing Watershed(s) Information

The proposed project is located within the Croton River Watershed. The Croton River Watershed is the drainage basin of the Croton River and its seven tributary rivers, a hydrological feature in far southwestern New York State. Spanning large swaths of Putnam and Westchester counties, it is over 350 square miles (910 km²) in area and holds some 115 billion US gallons (440,000,000 m³) of fresh water.

(3) Wetlands

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps a non-wetland water (L1UBHh – Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded) on the project site. The connected, non-wetland water bodies are Hunter Brook and New Croton Reservoir. The site does not contain any mapped NWI wetlands or DEC regulated wetlands although there is a DEC mapped wetland located approximately 600 feet east of the bridge. The offsite DEC 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.

A wetland delineation study was conducted by Amy S. Greene Environmental Consultants, Inc. in January 2019. Wetlands within the study area consist of two (2) small palustrine forested freshwater wetland fringes along the edge of the reservoir, southwest of the roadway embankment.

There would be no disturbance within the state and federal freshwater wetland limits; however, the project will disturb the local town wetland. A wetland permit application will be submitted to the Town of Yorktown for approval.

(4) Surface Waters

Hunter Brook, which flows under the Baptist Church Road Bridge, is classified as Class AA source of drinking water according to DEC. Approximately 0.11 miles northwest of the project site, the stream is categorized as a trout-spawning stream. Hunter Brook is a small stream which meanders from Mill Pond south, and eventually flows into the New Croton Reservoir under the Baptist Church Road Bridge as a part of the New York City water supply system.

Construction activities would be monitored to prevent surface water pollution, protect wildlife, and minimize soil erosion. Erosion and sediment control measures would be implemented during construction to prohibit stormwater runoff from entering the reservoir. During construction, silt fencing would be utilized along the toe of slope in areas of earthwork. The provision of the silt fence would prevent/reduce sediment from migrating off the construction site and entering the waterbody. All stockpiles would be located on flat areas. Stockpiles would be covered with plastic covers to prevent the erosion of the stockpile. Turbidity curtains would be installed in the waterway in the area of the existing substructure to control the disturbance caused by the contractor's construction activities. Stabilized construction entrances would be established at any point where construction equipment would be entering or leaving the construction site.

In addition, rip rap swales would be placed behind the wingwalls and at low points for drainage and blaze orange safety fence will be used to define the project boundaries. Cofferdams would be used to facilitate abutment and wingwall footing construction below the waterline by dewatering. Sediment filter bags & haybales would be used to remove silt, sand & other debris from the dewatering operations. All stormwater controls would be inspected on a daily basis. Deficiencies would be brought to the attention of the Contractor and corrected immediately. There would be routine monitoring of shoreline stormwater

controls. Any waterway equipment would be steam cleaned prior to entering the Hunter Brook and New Croton Reservoir to prevent the spread of invasive aquatic plants and animals, e.g., zebra mussel, in accordance with the requirements according to DEP's Vessel and Equipment steam cleaning procedures.

VII. Operation and Maintenance

(1) Inspection Program

The owner or contractor must ensure that all erosion and sediment control practices and all post construction stormwater management practices identified in this SWPPP are inspected and maintained. When soil disturbance activities are ongoing, a qualified inspector shall conduct inspection and reporting of E&SC devices at least two (2) times every seven (7) days and shall be separated by a minimum of two (2) full calendar days and within 24 hours of a 0.5 inch rainfall event. As applicable, inspections shall be performed at a minimum for the following times: (a) Start of construction; (b) Installation of sediment and erosion control measures; (c) Completion of site clearing; (d) Completion of rough grading; (e) Installation of SMPs; (f) Completion of final grading and stabilization of disturbed areas; (g) Closure of construction; (h) Completion of final landscaping; and (i) Successful establishment of landscaping in public areas. The Town of Yorktown's Stormwater Management officer must be notified prior to the stages of construction in accordance with Yorktown Town Code 248-15A.

A template for inspections is presented in Appendix F.

Inspections during demolition should be performed to verify all practices are functioning properly; correctly maintained, and accumulated sediment is removed from all structures. The Qualified Inspector will perform weekly inspections, on behalf of the Owner, of all installed practices and examine:

- Silt fences, turbidity curtain, and other erosion and sediment control structures;
- Blaze orange safety fence;
- Visible signs of erosion;
- Temporary and permanent seeding for bare spots and unhealthy growth;
- Stabilized construction entrances for tracking of sediment off the project site; and
- Filter Fabric along temporary construction access routes.

The Qualified Inspector will prepare an inspection report after every inspection and note whether any additional practices are required, and note any corrective actions required. The Qualified Inspector will notify the owner or operator and appropriate contractor or subcontractor of any corrective actions, within one (1) business day of the completed inspection. The contractor or subcontractor must complete the corrective actions within one (1) business day of this notification.

The inspection report will include the following information:

- Date and Time of inspection;
- Name and title of person(s) performing the inspection;
- A description of the weather and soil conditions at the time of the inspection;
- A description of the condition of the runoff at all points of discharge from the construction site;
- A description of the condition of all surface waterbodies located within, or immediately adjacent to the property boundaries of the construction site which receive runoff from disturbed areas;
- Identification of all E&SC devices that need repair or maintenance;
- Identification of all E&SC devices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced;

- Description of areas with active soil disturbance activity, areas that have been disturbed but are inactive at the time of the inspection, and areas that have been stabilized since the last inspection;
- Current phase of construction of all post-construction stormwater management practices and identification of all construction that is not in conformance with the SWPPP and standards;
- Corrective actions that must be taken;
- Identification and status of all corrective actions that were required by previous inspections; and
- Digital photos with date stamp, that clearly show the condition of all practices that have been identified as needing corrective action. The qualified inspector will also take digital photos with date stamp that show the condition of the practice(s) after the corrective action has been completed.

If operations are stopped for the winter, or activities have been temporarily suspended and temporary stabilization measures have been applied to all disturbed areas, the trained contractor can stop conducting the maintenance inspections. The trained contractor must resume inspections as soon as soil disturbance activities resume.

(2) Responsible parties

Owner:

New York City Department of Environmental Protection
Bureau of Engineering Design and Construction
465 Columbus Avenue
Valhalla, New York 10595

Trained Contractor – To Be Determined.

Qualified Inspector – To Be Determined.

Design Firm:

Hardesty & Hanover
1501 Broadway
New York, New York 10036
212-944-1150

SWPPP Preparer:

EnTech Engineering
17 State Street
New York, New York 10003
646-722-0000

Emergency 24-Hour Name – To Be Determined.

(3) Litter Prevention and Potential Site Pollutants

The contractor and subcontractors must implement management practices to reduce the risk of contaminated storm runoff. The contractor must provide training regarding waste management practices and procedures to all onsite employees and subcontractors. The contractor must arrange for appropriate waste management services. Trash disposal and recycling, proper material handling and daily cleanup at the site will reduce the potential for contaminated stormwater runoff.

Lavatory facilities must be well maintained with regular inspections, service, and disposal. Facilities must be located away from storm drain inlets and waterways.

The contractor must establish material storage and staging areas with cover and containment as necessary. Building materials such as solvents, fuels, and oils must be stored indoors or under cover when possible. Regular inspection of the storage containers is the responsibility of the contractor. The contractor must consume solvents, fuels and oils stored on site to completion or return unused portions back to their facilities.

The contractor must ensure no tracking of sediment, soil, mud or other materials onto roadways/paved surfaces outside of the site. Contractor must sweep surfaces promptly, no later than the end of the workday when the aforementioned occurs.

The Contractor must provide a site-specific spill prevention and response plan. This plan will address the following:

- How to reduce the chance of spills;
- How to stop the source of spills;
- How to contain and clean up spills;
- How to dispose materials contaminated by spills;
- Material handling procedures;
- Material storage requirements; and
- Training personnel responsible for spill prevention.

The following table lists potential pollutants and descriptions of the pollutants:

Table 7: Potential Pollutants and Descriptions

Chemical/Material	Physical Description	Location of Possible Pollutants	Cause of Potential Contamination
Gasoline	Colorless, brown	Contractor Staging Area	Leak, Spills
Diesel Fuel	Clear, blue-green, yellow	Contractor Staging Area	Leak, Spills
Fertilizer	Liquid or solid grains	Contractor Staging Area, Newly seeded areas	Leak, Spill, from Application
Antifreeze/Coolant	Clear green/yellow liquid	Contractor Staging Area	Leak, Spills
Excrements	Various	Contractor Staging Area Sanitary Toilets	Leak, Spills
Vegetable Grade Hydraulic Oil	Clear/Light Yellow	Contractor Staging Area, Construction Equipment	Leak, Spill, Broken Equipment

The contractor must use bio-degradable oil (hydraulic fuel) for all heavy equipment on site. The contractor must minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. The contractor must use only clean water. Soaps, detergents, and solvents cannot be used. The contractor must minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required

in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants or where exposure of a specific material poses little risk to stormwater contamination.

The following discharges are prohibited:

- Wastewater from washout of concrete;
- Wastewater from washout and cleanout of paint, form, release oils, curing compounds and other construction materials;
- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- Soaps or solvents used in vehicle and equipment washing; and
- Toxic or hazardous substances from a spill or other release.

There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions. There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages. There shall be no residue from oil and floating substances, nor visible oil film, nor globules of grease.

All heavy equipment must use bio-degradable oil. Any petroleum spill of 5 or more gallons will be reported to the NYSDEC Spill Hotline (1-800-457-7362). Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity consistent with Part 2.3.6 and established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a 24-hour period. Contact information must be in locations that are readily accessible and available. If a spill of any pollutant occurs, work will be stopped. The spill will be contained to the best ability of the contractor. The contaminated material(s) will be drummed and disposed of in a manner that satisfies federal, state and local regulations. Spill kits will be readily available.

Equipment and vehicle fueling shall be conducted on asphalt/pavement as far away as possible from the Hunter Brook. Fuel/oil storage containers will be surrounded by secondary containment. All fuel/oil storage containers will be covered and sealed when not in use.

Construction materials (fertilizers, landscape materials, and etc.) being stored on site in addition to demolition wastes (parts from the bridge) awaiting disposal will be stored at the Contractor Staging Area. The contractor shall be responsible for making sure that contaminated material does not impact non-contaminated material, and the material is separated.

A dumpster will be placed on site for the disposal of construction and domestic waste.

(4) Changes to the SWPPP

When changes are made to the construction project that will require alteration in the temporary E&SC measures of the site, this SWPPP will be amended to provide appropriate protection to disturbed areas, and adjacent waters. The plan shall be amended to identify any new parties that will work at the site and implement measures of the SWPPP.

In the event that owner or operator becomes aware that they failed to submit any relevant facts, or submitted incorrect information in the Notice of Intent or in any documents required under permit GP-0-20-001, or have made substantial revisions to the SWPPP (e.g. the scope of the project changes significantly, the type of post-construction stormwater management practice(s) changes, there is an

increase in the disturbance area), which were not reflected in the original NOI submitted to NYSDEC, they shall promptly submit such information.

VIII. Retention of Records

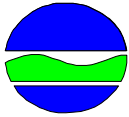
The following are to be retained by the owner at the site during construction, and for a period of five years from the date the site is finally stabilized:

1. SWPPP
2. Contract documents including contract drawings and technical specifications
3. Stormwater inspections and maintenance reports
4. Contractor certification
5. SWPPP certification statement of satisfactory completion
6. Correspondence regarding stormwater practices

A template for final stabilization and retention of records certification is presented in Appendix G.

Appendix A

NOTICE OF INTENT



**New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505**

NYR
(For DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002
All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

- IMPORTANT -
RETURN THIS FORM TO THE ADDRESS ABOVE
OWNER/OPERATOR MUST SIGN FORM

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

Owner/Operator Contact Person First Name

Owner/Operator Mailing Address

City

State Zip -

Phone (Owner/Operator) - - Fax (Owner/Operator) - -

Email (Owner/Operator)

FED TAX ID - (not required for individuals)

Project Site Information

Project/Site Name

[Grid for Project/Site Name]

Street Address (NOT P.O. BOX)

[Grid for Street Address]

Side of Street

North South East West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

[Grid for City/Town/Village]

State

[Grid for State]

Zip

[Grid for Zip]

-

[Grid for Zip extension]

County

[Grid for County]

DEC Region

[Grid for DEC Region]

Name of Nearest Cross Street

[Grid for Name of Nearest Cross Street]

Distance to Nearest Cross Street (Feet)

[Grid for Distance to Nearest Cross Street]

Project In Relation to Cross Street

North South East West

Tax Map Numbers

Section-Block-Parcel

[Grid for Tax Map Numbers]

Tax Map Numbers

[Grid for Tax Map Numbers]

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting)

[Grid for X Coordinates]

Y Coordinates (Northing)

[Grid for Y Coordinates]

2. What is the nature of this construction project?

- New Construction
- Redevelopment with increase in impervious area
- Redevelopment with no increase in impervious area

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

**Pre-Development
Existing Land Use**

- FOREST
- PASTURE/OPEN LAND
- CULTIVATED LAND
- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY
- PARKING LOT
- OTHER

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Post-Development
Future Land Use**

- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- MUNICIPAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY (water, sewer, gas, etc.)
- PARKING LOT
- CLEARING/GRADING ONLY
- DEMOLITION, NO REDEVELOPMENT
- WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- OTHER

Number of Lots

--	--	--

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

***Note:** for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area																						
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			0	.	268																				
			0	.	360																				

5. Do you plan to disturb more than 5 acres of soil at any one time? Yes No

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D												
<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> %				<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> %				<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> %				<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td><td></td></tr></table> %			

7. Is this a phased project? Yes No

8. Enter the planned start and end dates of the disturbance activities.

Start Date	End Date																					
<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td></tr></table> / <table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td></tr></table> / <table border="1" style="display: inline-table; width: 60px; height: 25px;"><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>											-	<table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td></tr></table> / <table border="1" style="display: inline-table; width: 40px; height: 25px;"><tr><td></td><td></td></tr></table> / <table border="1" style="display: inline-table; width: 60px; height: 25px;"><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>										

15. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? Yes No Unknown

16. What is the name of the municipality/entity that owns the separate storm sewer system?

Two rows of empty grid boxes for text entry.

17. Does any runoff from the site enter a sewer classified as a Combined Sewer? Yes No Unknown

18. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law? Yes No

19. Is this property owned by a state authority, state agency, federal government or local government? Yes No

20. Is this a remediation project being done under a Department approved work plan? (i.e. CERCLA, RCRA, Voluntary Cleanup Agreement, etc.) Yes No

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book)? Yes No

22. Does this construction activity require the development of a SWPPP that includes the post-construction stormwater management practice component (i.e. Runoff Reduction, Water Quality and Quantity Control practices/techniques)? Yes No
If No, skip questions 23 and 27-39.

23. Has the post-construction stormwater management practice component of the SWPPP been developed in conformance with the current NYS Stormwater Management Design Manual? Yes No

Post-construction Stormwater Management Practice (SMP) Requirements

Important: Completion of Questions 27-39 is not required if response to Question 22 is No.

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- Preservation of Undisturbed Areas
- Preservation of Buffers
- Reduction of Clearing and Grading
- Locating Development in Less Sensitive Areas
- Roadway Reduction
- Sidewalk Reduction
- Driveway Reduction
- Cul-de-sac Reduction
- Building Footprint Reduction
- Parking Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

Total WQv Required

. acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required (#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

Note: Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

<u>RR Techniques (Area Reduction)</u>	<u>Total Contributing Area (acres)</u>		<u>Total Contributing Impervious Area(acres)</u>	
<input type="radio"/> Conservation of Natural Areas (RR-1) ...	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Tree Planting/Tree Pit (RR-3)	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4) ..	<input type="text"/>	<input type="text"/>	and/or	<input type="text"/>
<u>RR Techniques (Volume Reduction)</u>				
<input type="radio"/> Vegetated Swale (RR-5)				
<input type="radio"/> Rain Garden (RR-6)				
<input type="radio"/> Stormwater Planter (RR-7)				
<input type="radio"/> Rain Barrel/Cistern (RR-8)				
<input type="radio"/> Porous Pavement (RR-9)				
<input type="radio"/> Green Roof (RR-10)				
<u>Standard SMPs with RRv Capacity</u>				
<input type="radio"/> Infiltration Trench (I-1)				
<input type="radio"/> Infiltration Basin (I-2)				
<input type="radio"/> Dry Well (I-3)				
<input type="radio"/> Underground Infiltration System (I-4)				
<input type="radio"/> Bioretention (F-5)				
<input type="radio"/> Dry Swale (O-1)				
<u>Standard SMPs</u>				
<input type="radio"/> Micropool Extended Detention (P-1)				
<input type="radio"/> Wet Pond (P-2)				
<input type="radio"/> Wet Extended Detention (P-3)				
<input type="radio"/> Multiple Pond System (P-4)				
<input type="radio"/> Pocket Pond (P-5)				
<input type="radio"/> Surface Sand Filter (F-1)				
<input type="radio"/> Underground Sand Filter (F-2)				
<input type="radio"/> Perimeter Sand Filter (F-3)				
<input type="radio"/> Organic Filter (F-4)				
<input type="radio"/> Shallow Wetland (W-1)				
<input type="radio"/> Extended Detention Wetland (W-2)				
<input type="radio"/> Pond/Wetland System (W-3)				
<input type="radio"/> Pocket Wetland (W-4)				
<input type="radio"/> Wet Swale (O-2)				

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

Note: Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

WQv Provided
[][][] . [][][] **acre-feet**

Note: For the standard SMPs with RRv capacity, the WQv provided by each practice = the WQv calculated using the contributing drainage area to the practice - RRv provided by the practice. (See Table 3.5 in Design Manual)

34. Provide the sum of the Total RRv provided (#30) and the WQv provided (#33a). [][][] . [][][]

35. Is the sum of the RRv provided (#30) and the WQv provided (#33a) greater than or equal to the total WQv required (#28)? **Yes** **No**

If Yes, go to question 36.
If No, sizing criteria has not been met, so NOI can not be processed. SWPPP preparer must modify design to meet sizing criteria.

36. Provide the total Channel Protection Storage Volume (CPv) required and provided or select waiver (36a), if applicable.

CPv Required [][][] . [][][] **acre-feet** **CPv Provided** [][][] . [][][] **acre-feet**

36a. The need to provide channel protection has been waived because:

- Site discharges directly to tidal waters or a fifth order or larger stream.
- Reduction of the total CPv is achieved on site through runoff reduction techniques or infiltration systems.

37. Provide the Overbank Flood (Qp) and Extreme Flood (Qf) control criteria or select waiver (37a), if applicable.

Total Overbank Flood Control Criteria (Qp)

Pre-Development [][][] . [][][] **CFS** **Post-development** [][][] . [][][] **CFS**

Total Extreme Flood Control Criteria (Qf)

Pre-Development [][][] . [][][] **CFS** **Post-development** [][][] . [][][] **CFS**

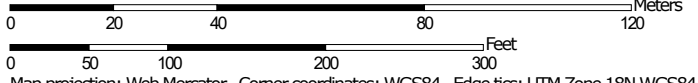
Appendix B

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:1,460 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

Appendix C

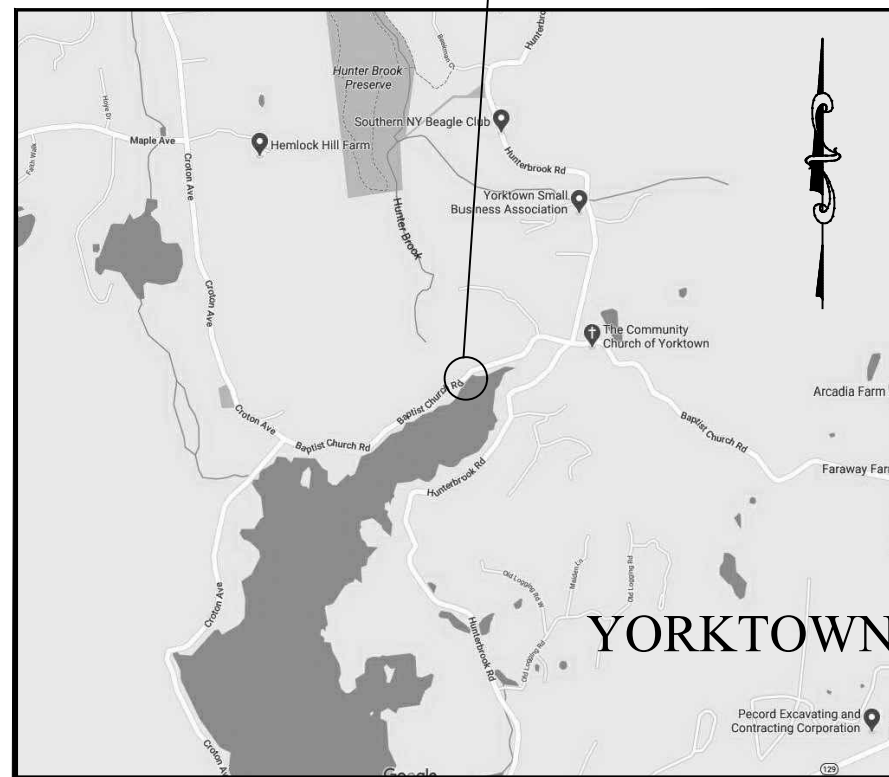


NEW YORK CITY
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 BUREAU OF ENGINEERING DESIGN AND CONSTRUCTION

CAPITAL PROJECT WM-30
REPLACEMENT OF
BAPTIST CHURCH ROAD BRIDGE
TOWN OF YORKTOWN, WESTCHESTER COUNTY NY
CONTRACT CRO-530B

DATE 10/26/2021

BAPTIST CHURCH ROAD
 BRIDGE
 BIN 2-26243-0



KEY PLAN

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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: Cshlyakhova, Wednesday, September 01, 2021 and Date Plotted: Wednesday, September 15, 2021 Time: 10:26:42 AM
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Last Saved By: & Date: Cehlykhova, Wednesday, September 15, 2021, and Date Plotted: Thursday, September 23, 2021 Time: 2:59 PM
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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				ESC-2	BAPTIST CHURCH ROAD EROSION CONTROL DETAILS
20				XS-1	BAPTIST CHURCH ROAD CROSS SECTIONS - SOUTH APPROACH
21				XS-2	BAPTIST CHURCH ROAD CROSS SECTIONS - NORTH APPROACH
22				GS-1	PROPOSED GENERAL PLAN AND ELEVATION
23				DS-1	DEMOLITION PLAN
24				DS-2	EARTHWORK DETAILS -1
25				DS-3	EARTHWORK DETAILS -2
26				DS-4	EARTHWORK DETAILS -3
27				S-1	GEOMETRIC LAYOUT
28				S-2	SOUTH FOOTING PLAN
29				S-3	SOUTH FOOTING REINFORCEMENT
30				S-4	NORTH FOOTING PLAN
31				S-5	NORTH FOOTING REINFORCEMENT
32				S-6	SE WINGWALL ELEVATIONS AND DETAILS
33				S-7	SW WINGWALL ELEVATIONS AND DETAILS
34				S-8	NE WINGWALL ELEVATIONS AND DETAILS
35				S-9	NW WINGWALL ELEVATIONS AND DETAILS
36				S-10	WINGWALL EXTENSION ELEVATIONS AND DETAILS
37				S-11	PYLON SECTION & DETAILS
38				S-12	PROPOSED GRANITE CAPSTONE AND SPANDREL WALL DETAILS -1
39				S-13	PROPOSED GRANITE CAPSTONE AND SPANDREL WALL DETAILS -2
40				S-14	MOMENT SLAB DETAILS
41				S-15	PRECAST DETAILS
42				S-16	SW RETAINING WALL - PLAN & ELEVATION
43				S-17	SW RETAINING WALL - REBAR DETAILS
44				S-18	NE RETAINING WALL - PLAN & ELEVATION
45				S-19	NE RETAINING WALL - REBAR DETAILS


SHEET NO.	ADDED	FIELD CHANGE	REVISED	DRAWING NO.	TITLE
46				RL-1	RAILING DETAILS -1
47				RL-2	RAILING DETAILS -2
48				RL-3	RAILING DETAILS -3
49				BL-1	BAR LIST & BENDING DIAGRAMS
50				LS-1	LANDSCAPING PLAN & TABLES
51				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)

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
 CHECK BEFORE USE
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 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: J. CIRCOSTA	DRAWN BY: J. CIRCOSTA
CHECKED BY: R. ROMAN, PE	 HARDESTY & HANOVER, LLC ENGINEERING 1801 Broadway New York, NY 10038
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

 INDEX OF DRAWINGS

DATE: 10/26/2021
SCALE: NOT TO SCALE
SHEET NO: 2 OF 51
DRAWING NO. G-2

Last Saved By: & Date: Cehlykhova, Wednesday, September 01, 2021 and Date Plotted: Wednesday, September 15, 2021 Time: 9:28 AM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style Table: (N)_BEDC_BW.ctb
 Drawing Name: & Location: C:\Users\Cehlykhova\Inprod\Arms45616 (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	I●I●I	
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
CURB	====	====
DITCH	====	----
DROP INLET	□ D.I.	□ D.I.
FENCE (IDENTIFY)	-x-	-x-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	⊙ LOCATION NO. TEXT NO.	
SIGN, OVERHEAD	⊙	⊙
SPOT ELEVATION (DOT IS LOCATION)		103.2
UTILITY VALVE IDENTIFIED	⊙	⊙
STATE ROUTE MARKER	5	5
WATER VALVE	□ W.V.	□ W.V.
WATER LINE (SIZE INDICATED WHERE KNOWN)	-W-	-W-
UTILITY POLE	○	○
INTERSTATE	495	495
TEMPORARY PAVEMENT	▭	
WATER PIPE INTERSECTION		⊗
WELDING SYMBOL	⊕	N.A.
REPAIR LOCATIONS	⊕	N.A.

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
 CHECK BEFORE USE
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 IT IS A REDUCED PRINT. SCALE
 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

DESIGNED BY: J. CIRCOSTA	DRAWN BY: J. CIRCOSTA
CHECKED BY: R. ROMAN, PE	
DESIGN LEAD: O. HUNTER, PE	HARDESTY & HANOVER, LLC ENGINEERING
SECTION MANAGER:	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
 SYMBOLS & ABBREVIATIONS

DATE: 10/26/2021
SCALE: NOT TO SCALE
SHEET NO: 3 OF 51
DRAWING NO. G-3

Last Saved By & Date: Cshlykova, Wednesday, September 15, 2021 and Date Plotted: Thursday, September 16, 2021 Time: 2:26 PM
 Paper Size: ANSI A (8.50 x 11.00 Inches) Plot Scale: 0.386863 Plot Style Table: (N)_BEDC_BW.ctb
 Drawing Name: & Location: C:\users\cshlykova\hprod\dms45816\G-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	LS-5	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.

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.	DESIGNED BY: J. CIRCOSTA CHECKED BY: R. ROMAN, PE DESIGN LEAD: S. LEWIS SECTION MANAGER:	DRAWN BY: J. CIRCOSTA  HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036	 Environmental Protection	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.*	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 ESTIMATE OF QUANTITIES	DATE: 10/26/2021 SCALE: NOT TO SCALE SHEET NO: 4 OF 51 DRAWING NO. G-4
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Last Saved By: & Date: Cahlykhov, Wednesday, September 01, 2021 and Date Plotted: Wednesday, September 15, 2021 Time: 12:05 PM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style Table: (N)_BDED_BW.ctb
 Drawing Name: & Location: C:\Users\Cahlykhov\OneDrive\Projects\1616\1616.dwg

DESIGN SPECIFICATIONS

- DESIGN SPECIFICATIONS: NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGE DATED MAY 1, 2016 WITH ALL PROVISIONS IN AFFECT OF OCTOBER 2021.
- AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS 8TH EDITION 2018
- AMERICAN WELDING SOCIETY SPECIFICATIONS, CURRENT EDITION.
- 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.
- THE NEW YORK STATE STEEL CONSTRUCTION MANUAL 4TH EDITION W/2021 ADDENDUMS.
- 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.
- DESIGN LIVE LOAD: AASHTO HL-93 AND NYSDOT DESIGN PERMIT VEHICLE AS PER NYSDOT LRFD BLUE PAGES SECTION 3.6.1.2.1

GENERAL

- 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.
- 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.
- 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 NYCDOT BWS.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- THE CONTRACTOR'S OPERATORS OR WORKERS INVOLVED IN EXCAVATION OPERATIONS MUST HAVE A DIG SAFE CERTIFIED EXCAVATOR TRAINING.
- THE CONTRACTOR SHALL REFER TO THE NEW CROTON RESERVOIR HISTORICAL ELEVATION DATA FOR THE DESIGN OF THE COFFERDAM SYSTEM. THIS INFORMATION IS AVAILABLE IN SPECIFICATION 01 11 00 - SUMMARY OF WORK.

FIELD CONDITIONS

- 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.
- 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.
- 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.
- 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 NYCDOT 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.
- 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.
- 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.
- 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.
- 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, NYCDOT BUREAU OF WATER SUPPLY (BWS) AND NYCDOT EHS FOR APPROVAL.
- 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.
- 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.
- THE CONTRACTOR SHALL REPAINT ANY PAVEMENT MARKINGS AFFECTED DURING CONSTRUCTION OR TRANSPORTATION ON SITE.
- 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.
- 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.

- THE SOILS ON THE PROJECT SITE WERE TESTED DURING THE FACILITY PLANNING PHASE DURING THE SUBSURFACE EXPLORATION EFFORT. TESTING HAS BEEN PERFORMED ON SELECTED DEPTHS OF SOILS ASSOCIATED WITH THIS PROJECT AND THE RESULTS ARE AVAILABLE IN THE HAZARDS MITIGATION REPORT AVAILABLE BY CONTACTING NYCDOT (JEFF BUSSE: 914-749-5417). 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.
- ALL HEAVY EQUIPMENT ON SITE SHALL USE ECOLOGICALLY SAFE/FRIENDLY HYDRAULIC OILS AND ANTIFREEZE. IN THE EVENT OF A SPILL, NYCDOT BWS AND EH&S STANDARDS SHALL BE FOLLOWED TO CLEAN THE SPILL AND REMEDIATE THE SITE.
- ANY IMPORTED TOPSOIL SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL REQUIREMENTS FOR QUALITY AND USE.
- OFF-SITE DISPOSAL OF EXCESS CUT SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.

SURVEY

- THE COORDINATE SYSTEM USED IN THIS SET OF PLANS IS THE NYS PLANE COORDINATE SYSTEM NAD 83. VERTICAL DATUM NAVD88.
- 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.
- THE COST FOR SURVEY WORK AS DETAILED ABOVE SHALL BE INCLUDED UNDER ITEMS 625.01 (SURVEY OPERATIONS).
- 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

- 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.
- 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 PRIOR TO CONSTRUCTION.

UTILITIES

- 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 ALLOWED.
- 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.
- 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.
- 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.
- 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 PRE-CAUTIONS NECESSARY TO PREVENT INTERFERENCE WITH, OR DAMAGE TO THESE UTILITIES OR OTHER FACILITIES DURING THE COURSE OF CONSTRUCTION.
- 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.

- 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

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

EROSION AND SEDIMENT CONTROL

- 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.
- ALL STOCKPILES SHALL BE LOCATED ON FLAT AREAS. STOCKPILES SHALL BE COVERED WITH PLASTIC COVERS TO PREVENT THE EROSION OF THE STOCKPILE. LOCATIONS SHALL BE APPROVED BY THE RESIDENT ENGINEER.
- SEDIMENT CONTROL SHALL BE INSTALLED AT THE TOE OF THE SLOPE OF A STOCKPILE TO PREVENT SOIL MIGRATION.
- FOR WINTER STABILIZATION REQUIREMENTS, PLEASE SEE PAGE 2.38 OF THE NEW YORK STATE STANDARDS FOR EROSION AND SEDIMENT CONTROL.
- TURBIDITY CURTAINS SHALL BE INSTALLED PRIOR TO COFFERDAM CONSTRUCTION OR AS DIRECTED BY THE RESIDENT ENGINEER.
- THE CONTRACTOR SHALL PREWASH ALL PROPOSED RIPRAP SO NO SILICA, ROCK DUST, OR DIRT IS PRESENT ON THE STONE PRIOR TO ENTERING THE SITE. ALL EQUIPMENT USED TO HANDLE THE STONE PRIOR TO PLACEMENT SHALL BE CLEANED. SEE EQUIPMENT IN WATERWAY NOTE 1. THE COST OF THIS WORK SHALL BE INCLUDED UNDER ITEMS 620.02, 620.0802, AND 623.11

EQUIPMENT IN WATERWAY

- THE CONTRACTOR MUST ADHERE TO ALL NYCDOT 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

- 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.
- THE CONTRACTOR SHALL COORDINATE WITH JEFF BUSSE AT 914-749-5417 FOR A BAT IDENTIFICATION ASSESSMENT. THE ASSESSMENT SHALL BE COMPLETED BY NYCDOT BWS WILDLIFE SERVICE AND COORDINATED WITH BEPA. IF NO BAT PRESENCE IS IDENTIFIED, DEMOLITION MAY PROCEED. IF A PRESENCE IS IDENTIFIED, NYCDOT 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.
- TREE REMOVAL SHALL NOT OCCUR BETWEEN APRIL 1ST AND SEPTEMBER 30TH WITHOUT PRIOR APPROVAL FROM NYCDOT BWS WILDLIFE SERVICES.
- 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 IMMEDIATELY AND SHALL NOTIFY NYCDOT CONSTRUCTION MANAGER. THE NYCDOT CONSTRUCTION MANAGER WILL SUBSEQUENTLY NOTIFY NYCDOT WILDLIFE AND FISHERIES SERVICE GROUP, MR. CHRIS NADARESKI AT 845-340-7773 FOR FURTHER ACTIONS. THE CONTRACTOR MUST ALSO INSTALL ANTI-PERCHING DEVICES AS PER NOTE 1 ON DRAWING G-5, WILDLIFE PRIOR TO CONSTRUCTION.

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
 CHECK BEFORE USE

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

DESIGNED BY: J. CIRCOSTA CHECKED BY: R. WUTTRICH, PE DESIGN LEAD: O. HUNTER, PE SECTION MANAGER:				DRAWN BY: J. CIRCOSTA  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.*		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 GENERAL NOTES - 1		DATE: 10/26/2021 SCALE: NOT TO SCALE SHEET NO: 5 OF 51 DRAWING NO. G-5	
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.									

Last Saved By: & Date: Cehlykhova, Wednesday, September 01, 2021, and Date Plotted: Wednesday, September 15, 2021, Time: 12:05 PM
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CONCRETE REMOVAL AND REPAIR

- ALL MATERIAL AND DEBRIS SHALL BE CONTAINED, COLLECTED AND SHALL NOT ENTER THE RESERVOIR SYSTEM, HUNTER BROOK OR ON THE SHORE LINE AT ANY TIME. COST SHALL BE PAID FOR UNDER ITEM 570.100001, ENVIRONMENTAL WATERWAY PROTECTION AND ENVIRONMENTAL GROUND 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 NYS DOT 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 NYC DEP 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 NYC DEP, 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 AND WINGWALLS 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 NYC DEP 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 IN THE EXISTING HOLES IN THE GRANITE CAPSTONES 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, THE CONTRACTOR SHALL CAST A TEST SAMPLE CONSISTING OF A 4'X4'X1' PANEL USING THE PROPOSED MIX. THE SAMPLE SHALL BE MADE AVAILABLE TO COMPARE WITH THE COLORING OF THE CLEANED AND RESTORED GRANITE CAPSTONES, ON SITE, PRIOR TO FINAL COLOR SELECTION. NO CONCRETE SHALL BE PLACED OR PANEL MANUFACTURED PRIOR TO THE ACCEPTANCE OF THE TEST SAMPLE BY THE RESIDENT ENGINEER. THE COST OF THE TEST SAMPLE SHALL BE INCLUDED IN THE COST OF THE 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.
- PRIOR TO COFFERDAM INSTALLATION THE CONTRACTOR SHALL PERFORM A BATHOMETRIC SURVEY OF HUNTER BROOK FROM 30FT UPSTREAM OF THE WEST BRIDGE FASCIA AND 30FT DOWNSTREAM OF THE EAST FASCIA. THEY SHALL SUBMIT THIS INFORMATION TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF THE COFFERDAM. THIS FINAL GRADING SHOULD BE DEVELOPED FROM THIS INFORMATION SUCH THAT THE PROPOSED GRADING SHALL NOT BE HIGHTER THAN THE EXISTING GRADING.

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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	DRAWN BY: J. CIRCOSTA
CHECKED BY: R. ROMAN, 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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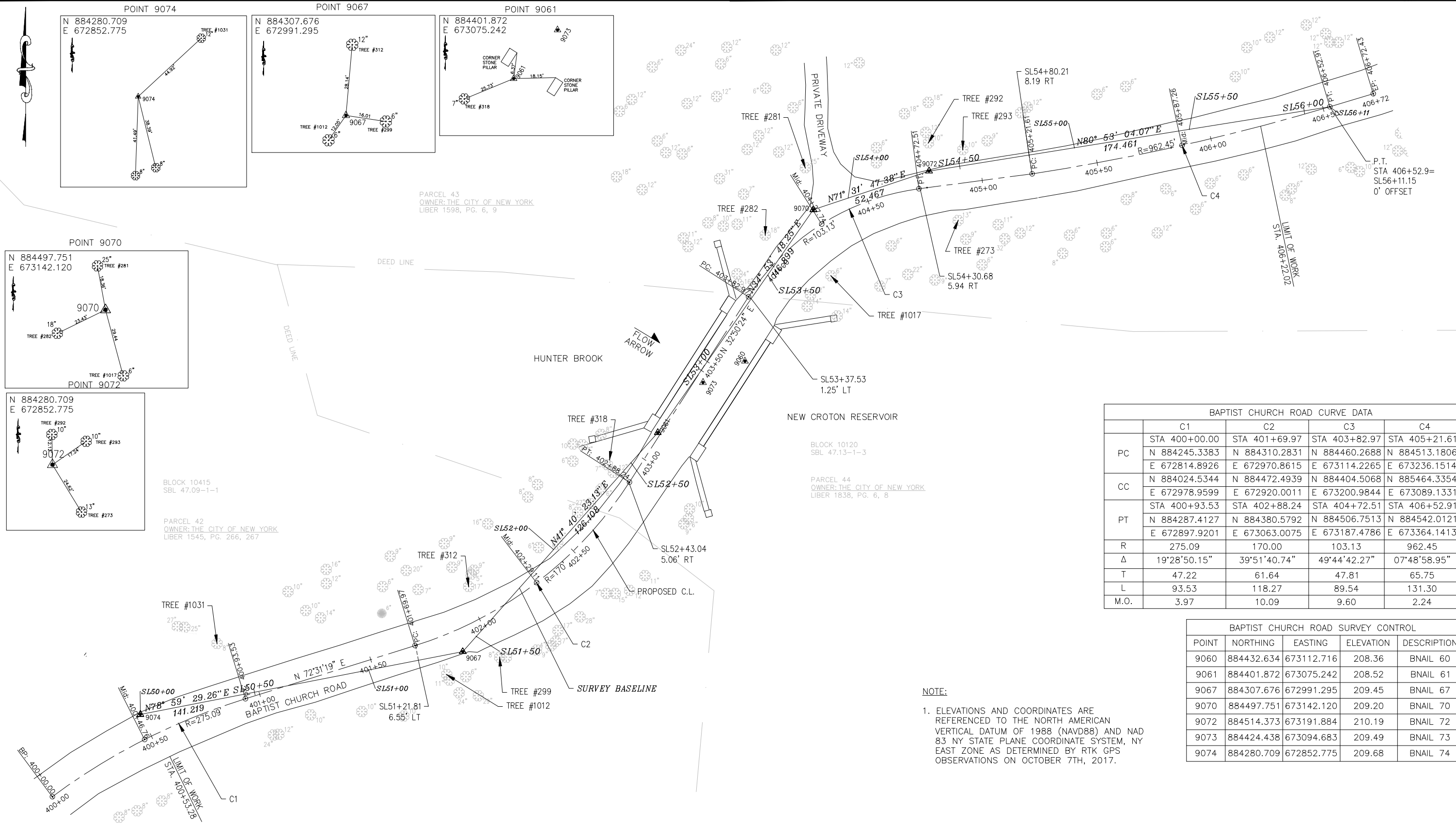
NEW YORK CITY
ENVIRONMENTAL PROTECTION
 BUREAU OF ENGINEERING DESIGN & CONSTRUCTION
 96-05 HORACE HARDING EXPRESSWAY 5th FLOOR
 CORONA, NEW YORK 11368
 www.nyc.gov/dep

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

GENERAL NOTES - 2

DATE: 10/26/2021
SCALE: NOT TO SCALE
SHEET NO: 6 OF 51
DRAWING NO. G-6

Last Saved By & Date: Ncrevier, Friday, April 23, 2021 and Date Plotted: Tuesday, June 01, 2021 Time: 2:13 PM
 Paper Size: ANSI A (8.50 x 11.00 Inches) Plot Scale: 0.388663 Plot Style Table: (N)_BDC_BW.ctb
 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.

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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



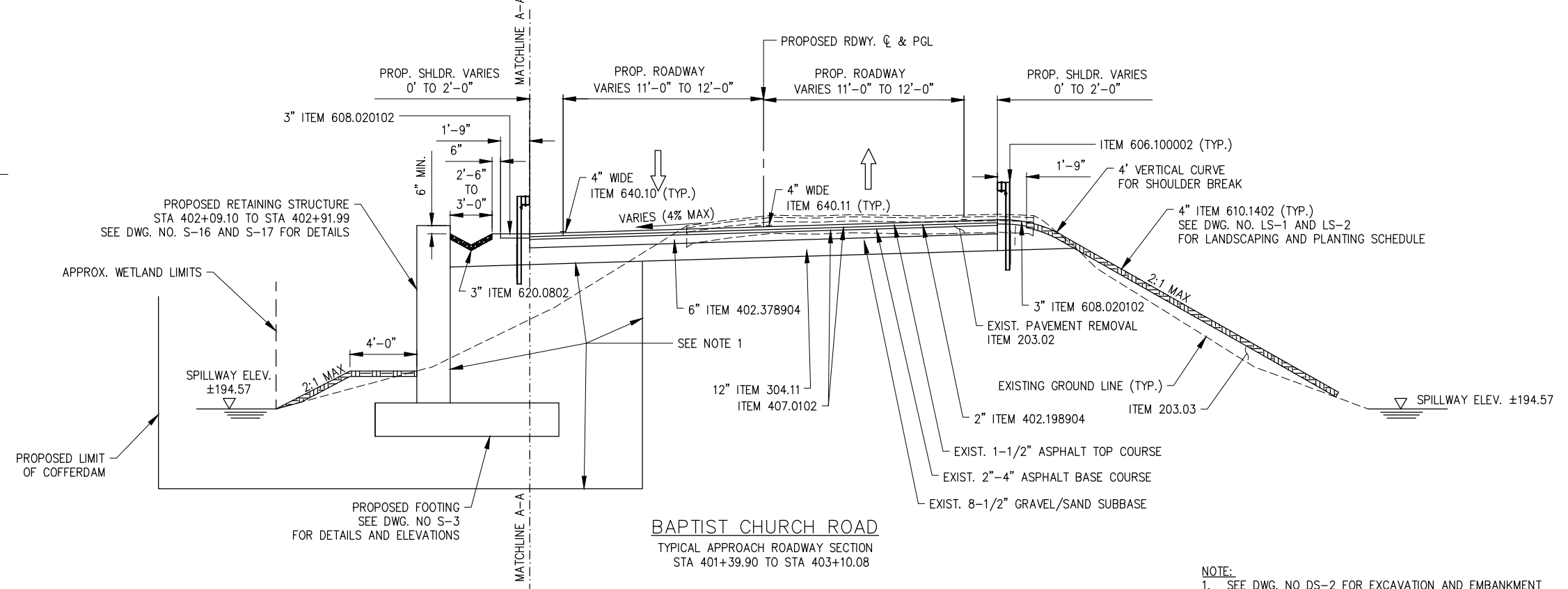
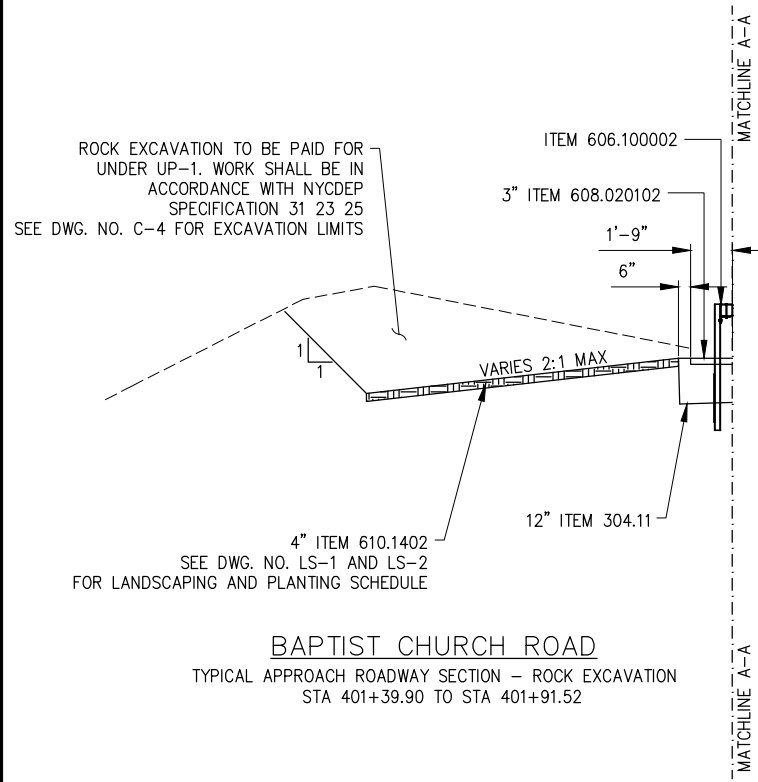
ACCOUNTABLE MANAGER
 JEFFREY A. BUSSE, PE
 PORTFOLIO MANAGER
 PAUL COSTA, PE
 EXECUTIVE DIRECTOR
 SEAN McANDREW, PE

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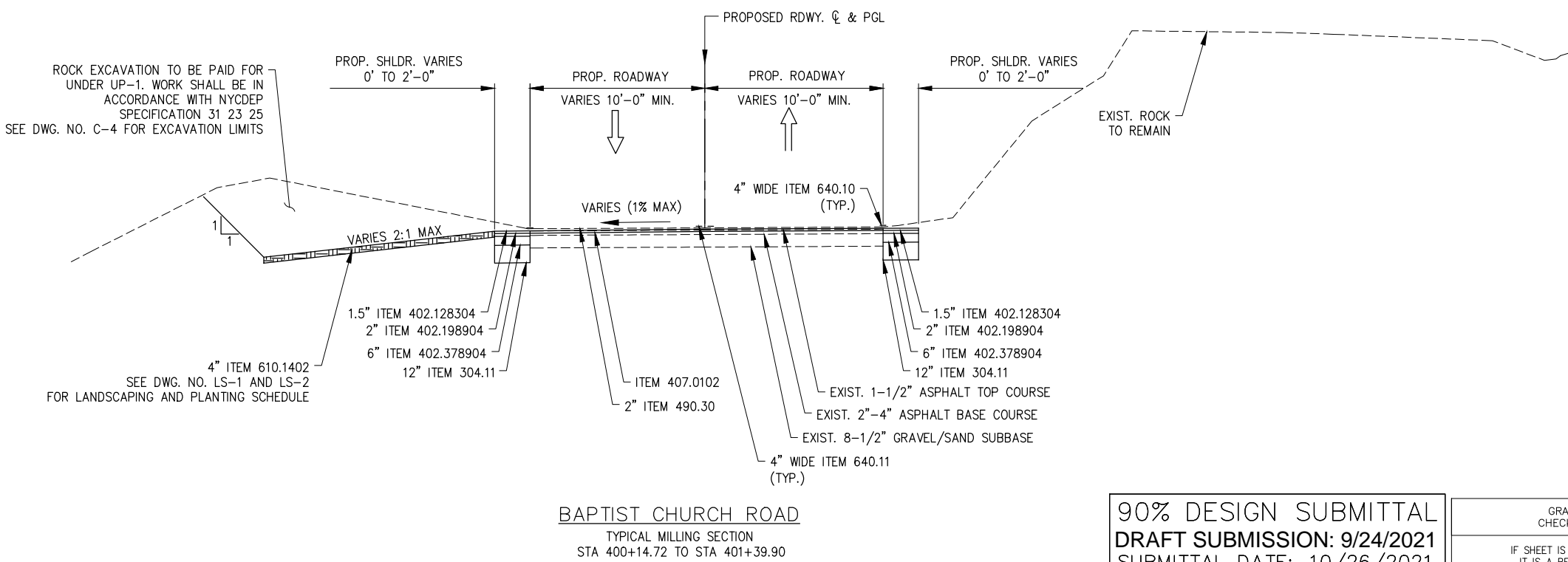
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
 SURVEY & BASELINE TIES
 DATE: 10/26/2021
 SCALE: 1" = 20'-0"
 SHEET NO:
 7 OF 51
 DRAWING NO.
 C-1

Last Saved By & Date: Ncrevier, Monday, September 20, 2021 and Date Plotted: Tuesday, September 21, 2021 Time: 7:30 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\Ncrevier\hprod\dms45821\BAPTIST-CROSS-TYPICAL-SECTION.dwg



NOTE:
 1. SEE DWG. NO DS-2 FOR EXCAVATION AND EMBANKMENT DETAILS AT RETAINING STRUCTURES AND WINGWALLS

ITEM	DESCRIPTION	UNIT
203.02	UNCLASSIFIED EXCAVATION	CY
203.03	EMBANKMENT IN PLACE	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
606.100002	BOX BEAM GUIDE RAILING (SHOP BENT OR 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
640.10	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES - 15 MILS	LF
640.11	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES - 15 MILS	LF



90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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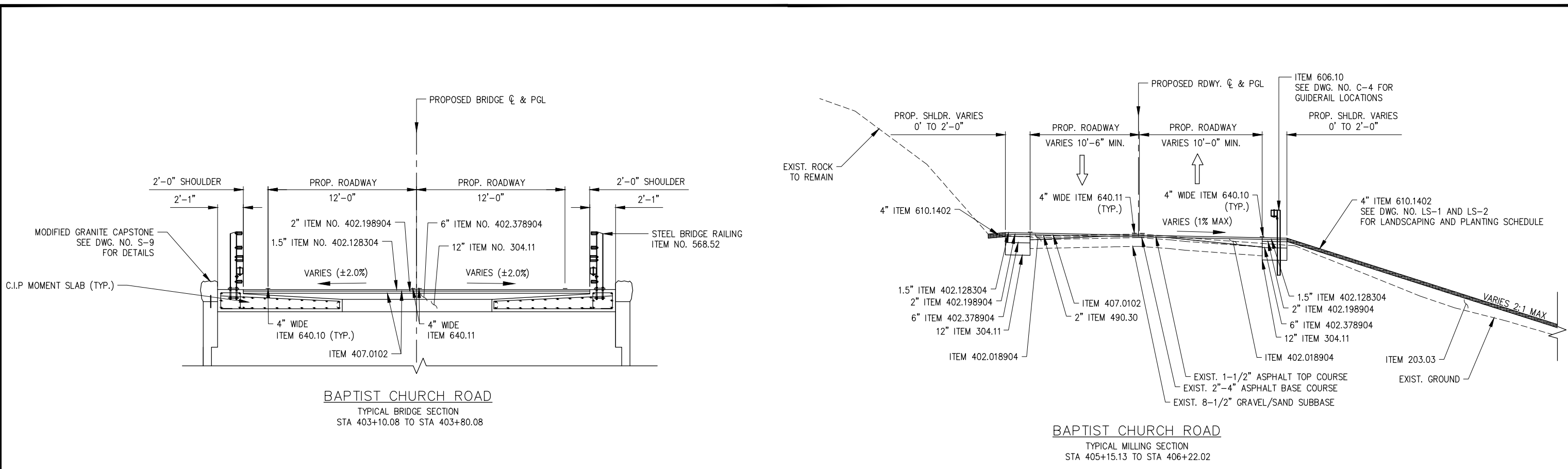
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
 TYPICAL SECTIONS
 (SHEET 1 OF 2)

DATE: 10/26/2021
 SCALE: 1"=4'
 SHEET NO:
 8 OF 51
 DRAWING NO.
 C-2

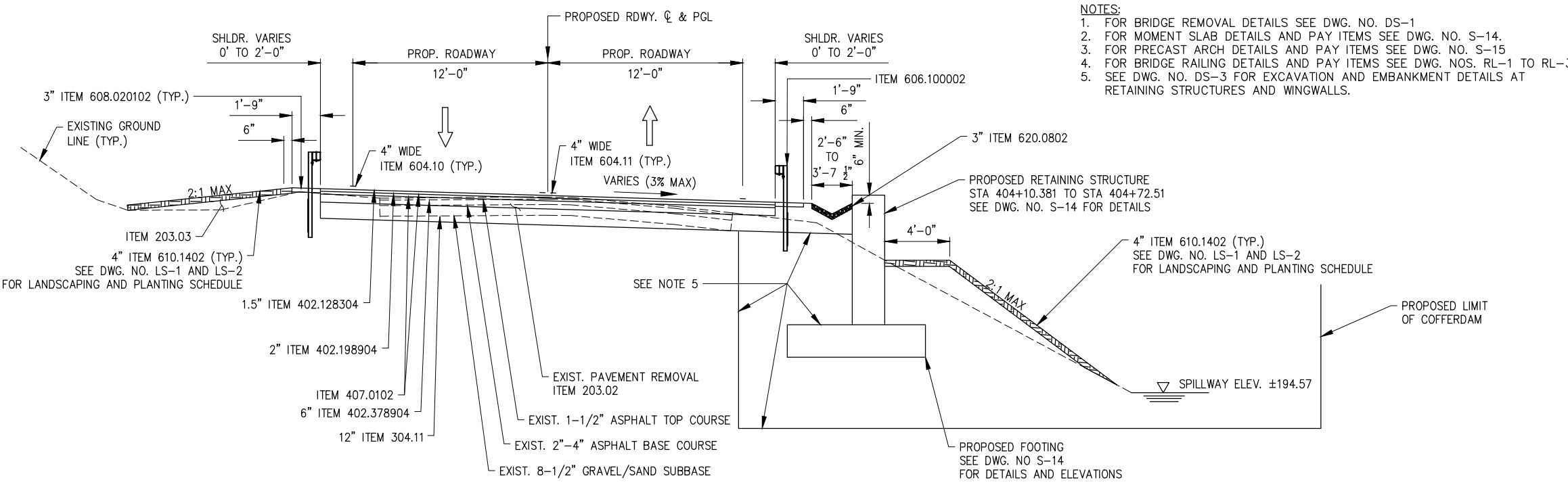
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 Drawing Name: C:\Users\Ncrevier\hprod\dms45821\BAPTIST-CROSS-TYPICAL-SECTION_2.dwg



BAPTIST CHURCH ROAD
 TYPICAL BRIDGE SECTION
 STA 403+10.08 TO STA 403+80.08

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

ITEM	DESCRIPTION	UNIT
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY
203.03	EMBANKMENT IN PLACE	CY
304.11	SUBBASE COURSE TYPE 1	CY
407.0102	DILUTED TACK COAT	GAL
402.018904	TRUING & LEVELING F9 HMA (80 SERIES COMPACTION)	TON
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
568.20	STEEL BRIDGE RAILING (FIVE-RAIL CURBLESS)	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
640.10	WHITE PAINT REFLECTORIZED PAVEMENT STRIPES-15 MILS	LF
640.11	YELLOW PAINT REFLECTORIZED PAVEMENT STRIPES-15 MILS	LF




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

- NOTES:**
- FOR BRIDGE REMOVAL DETAILS SEE DWG. NO. DS-1
 - FOR MOMENT SLAB DETAILS AND PAY ITEMS SEE DWG. NO. S-14.
 - FOR PRECAST ARCH DETAILS AND PAY ITEMS SEE DWG. NO. S-15
 - FOR BRIDGE RAILING DETAILS AND PAY ITEMS SEE DWG. NOS. RL-1 TO RL-3
 - SEE DWG. NO. DS-3 FOR EXCAVATION AND EMBANKMENT DETAILS AT RETAINING STRUCTURES AND WINGWALLS.

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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



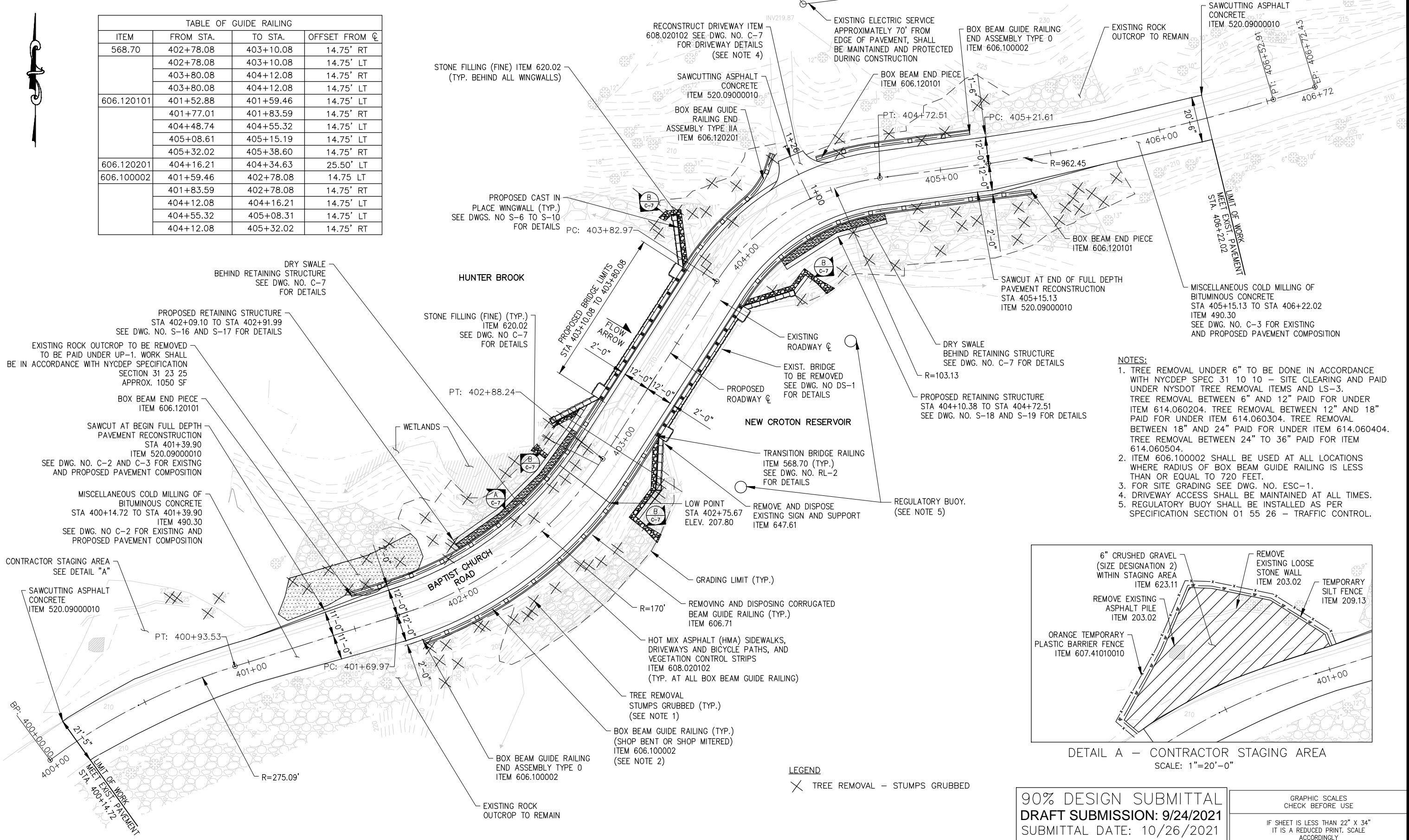
ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE
PORTFOLIO MANAGER PAUL COSTA, PE
EXECUTIVE DIRECTOR SEAN McANDREW, PE

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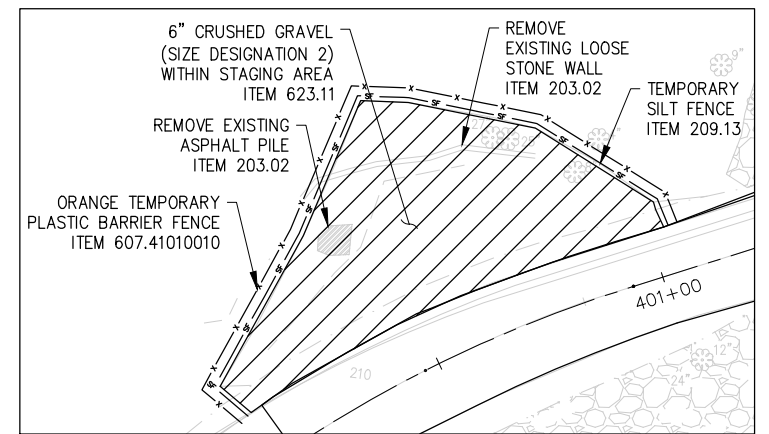
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 CORONA, NEW YORK 11368
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CAPITAL PROJECT WM-30 IN WESTCHESTER COUNTY, NEW YORK CONTRACT CRO-530B	DATE: 10/26/2021
TYPICAL SECTIONS (SHEET 2 OF 2)	SCALE: 1"=4'
	SHEET NO: 9 OF 51
	DRAWING NO. C-3

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
606.120201	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
606.100002	404+55.32	405+08.31	14.75' LT
	404+12.08	405+32.02	14.75' RT
	404+12.08	405+32.02	14.75' RT



- NOTES:**
- TREE REMOVAL UNDER 6" TO BE DONE IN ACCORDANCE WITH NYCDP SPEC 31 10 10 - SITE CLEARING AND PAID UNDER NYSOT TREE REMOVAL ITEMS AND LS-3. 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.
 - REGULATORY BUOY SHALL BE INSTALLED AS PER SPECIFICATION SECTION 01 55 26 - TRAFFIC CONTROL.



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

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
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ACCORDINGLY

Last Saved By & Date: Ncrevier, Tuesday, September 21, 2021 and Date Plotted: Thursday, September 23, 2021 Time: 2:49 PM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style Table: (N)_BDC_BW.ctb
 Drawing Name: & Location: C:\users\ncriver\hprod\hprod\45821\BAPTIST CHURCH ROAD PLAN.dwg

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



ACCOUNTABLE MANAGER
JEFFREY A. BUSSE, PE

PORTFOLIO MANAGER
PAUL COSTA, PE

EXECUTIVE DIRECTOR
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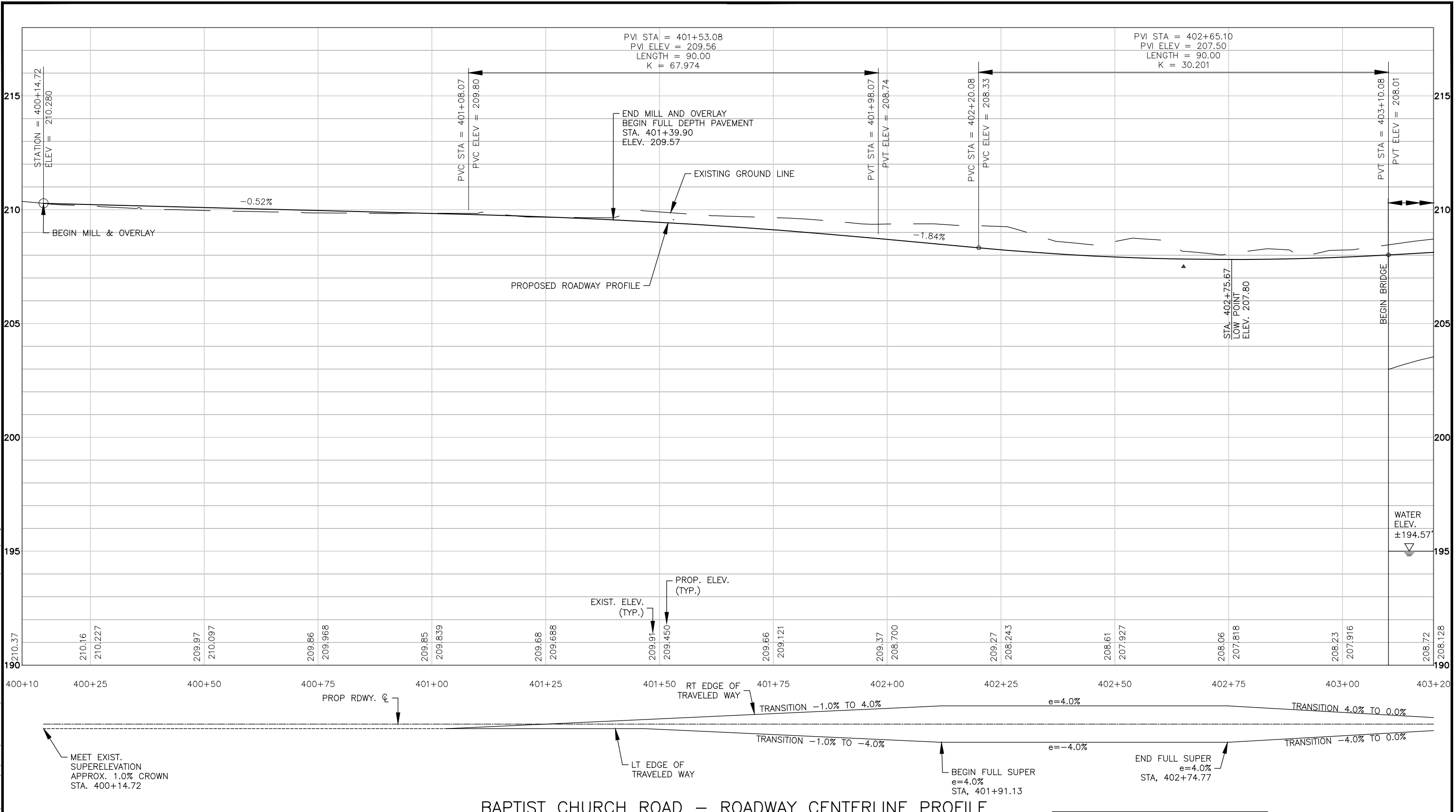
NEW YORK CITY
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BUREAU OF ENGINEERING DESIGN & CONSTRUCTION
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CORONA, NEW YORK 11368
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

PROPOSED ROADWAY ALIGNMENT
AND SITE PLAN

DATE: 10/26/2021
SCALE: 1" = 20'-0"
SHEET NO:
10 OF 51
DRAWING NO.
C-4

Last Saved By: & Date: Ncrevier, Monday, September 20, 2021 and Date Plotted: Tuesday, September 21, 2021 Time: 8:01 PM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style: Tables(N) BREDC_RW.ctb
 Drawing Name: & Location: C:\users\Ncrevier\Myprod\mns45821\BAPTIST CHURCH ROAD_PROFILE (1 OF 2).dwg



BAPTIST CHURCH ROAD – ROADWAY CENTERLINE PROFILE

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

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
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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

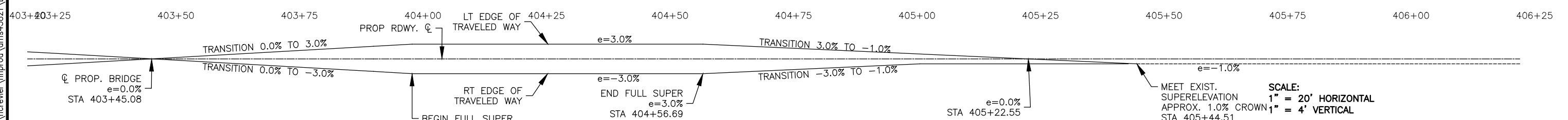
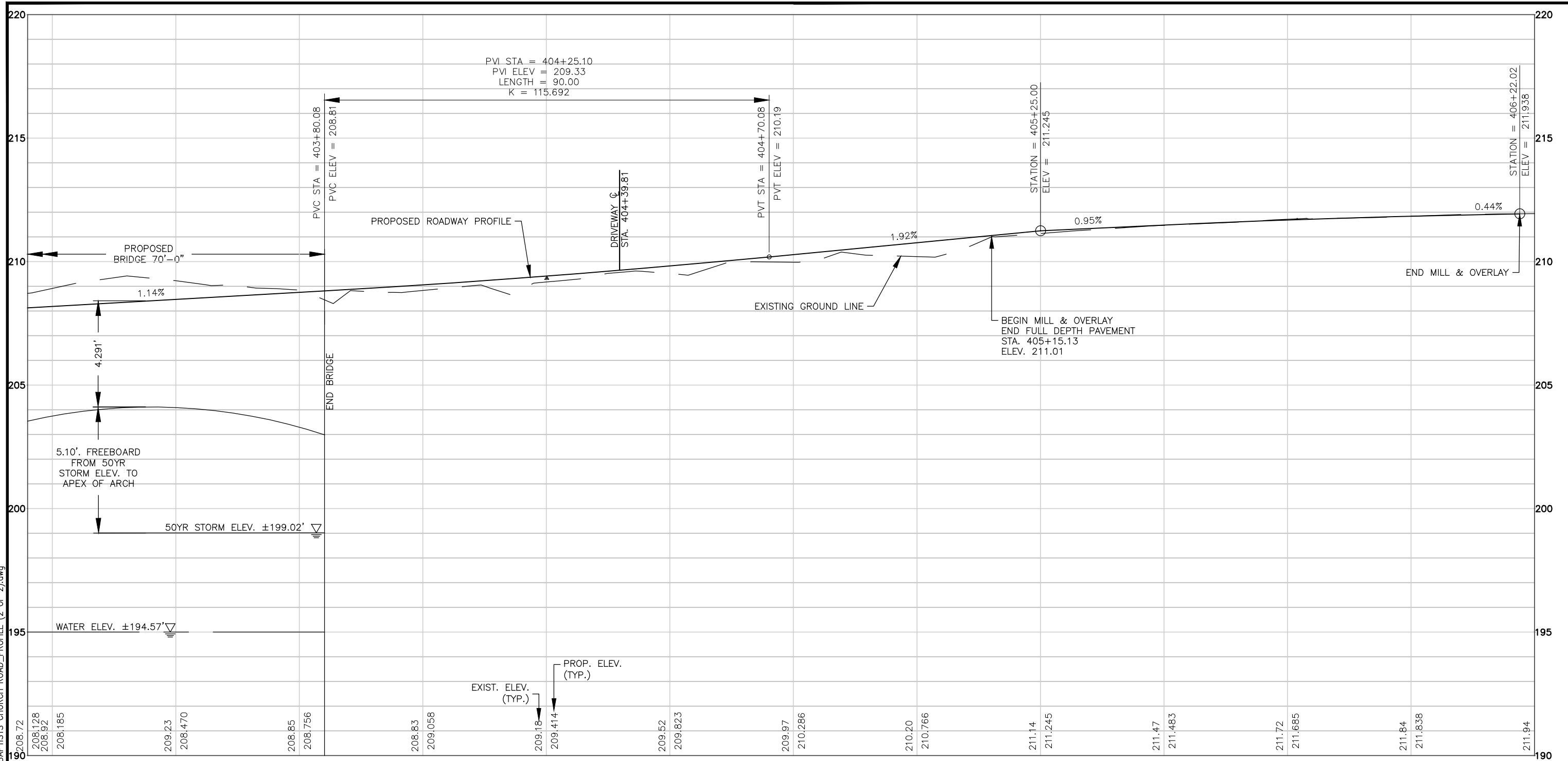
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 BUREAU OF ENGINEERING DESIGN & CONSTRUCTION
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 CORONA, NEW YORK 11368
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
 ROADWAY PROFILE - 1

DATE: 10/26/2021
 SCALE: AS NOTED
 SHEET NO:
 11 OF 51
 DRAWING NO.
 C-5

Last Saved By: & Date: Ncrevier, Monday, September 20, 2021 and Date Plotted: Tuesday, September 21, 2021 Time: 8:09 PM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style: Table(N)_REDUC_BW.ctb
 Drawing Name: & Location: C:\Users\Ncrevier\MyProd\Drawings\45821\BAPTIST CHURCH ROAD_PROFILE (2 OF 2).dwg



BAPTIST CHURCH ROAD – ROADWAY CENTERLINE PROFILE

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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 CHECKED BY:
C. JENNE, PE
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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

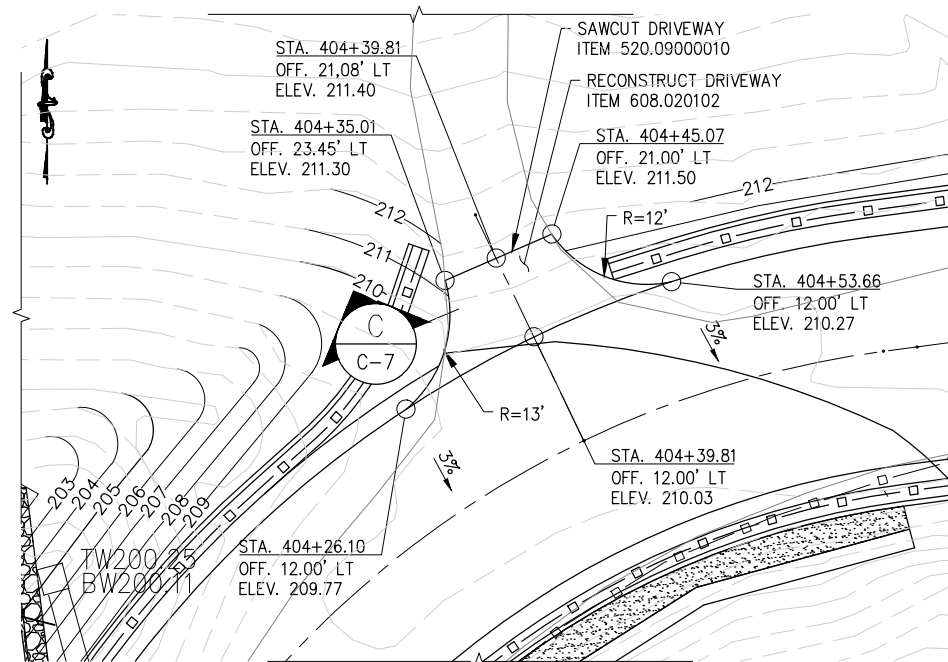
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NEW YORK CITY
ENVIRONMENTAL PROTECTION
 BUREAU OF ENGINEERING DESIGN & CONSTRUCTION
 96-05 HORACE HARDING EXPRESSWAY 5th FLOOR
 CORONA, NEW YORK 11368
 www.nyc.gov/dep

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

ROADWAY PROFILE-2

DATE: 10/26/2021
 SCALE: AS NOTED
 SHEET NO:
12 OF 51
 DRAWING NO.
C-6

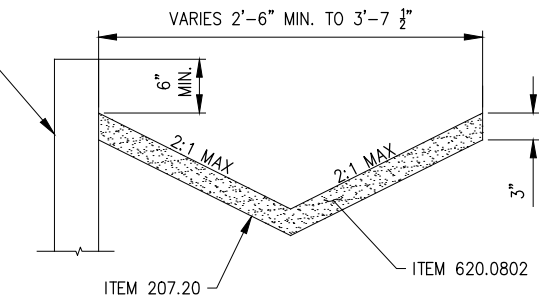


DRIVEWAY PLAN

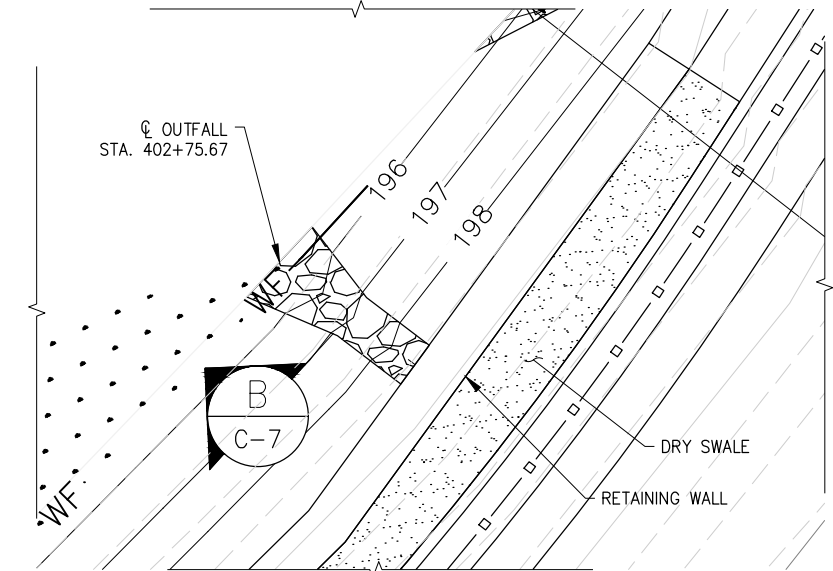
SCALE: 1"=10'-0"

NOTE:
1. CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER 7 DAYS PRIOR TO PERFORMING WORK ON THE EXISTING DRIVEWAY TO ALLOW NYCDEP TO COORDINATE WITH THE RESIDENTS ABOUT EGRESS FROM THE PROPERTY DURING RECONSTRUCTION.

PROPOSED RETAINING STRUCTURE
SEE DWG. NO C-4 FOR LOCATIONS
SEE DWG. NO S-16 TO S-19 FOR DETAILS
(RETAINING STRUCTURE ON OPPOSITE
SIDE FOR NORTHEAST SWALE)

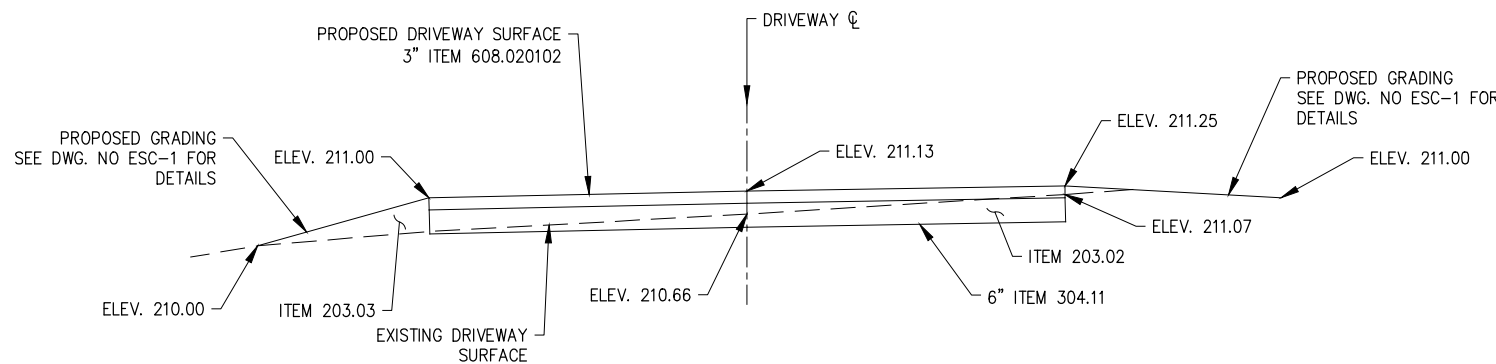


DRY SWALE DETAIL
N.T.S.

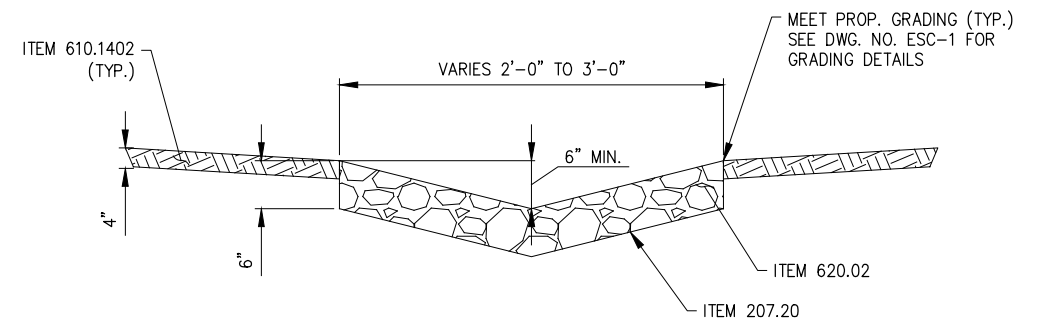


STONE OUTFALL - PLAN VIEW

SCALE: 1"=4'



DRIVEWAY SECTION
N.T.S.



STONE OUTFALL DETAIL (TYP. BEHIND ALL WINGWALLS AND AT OUTFALLS)
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
520.0900010	SAWCUTTING ASPHALT CONCRETE	LF
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

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
CHECK BEFORE USE
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ACCORDINGLY

Last Saved By & Date: Ncrevier, Monday, September 20, 2021 and Date Plotted: Tuesday, September 21, 2021 Time: 8:29 PM
Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style Table: (N) _BDDC_BW.ctb
Drawing Name: C:\Users\Ncrevier\hprod\dms45821\BAPTIST CHURCH ROAD -RDWY DETAIL SHEET.dwg

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

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.

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

DATE: 10/26/2021
SCALE: AS NOTED
SHEET NO:
13 OF 51
DRAWING NO.
C-7

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 NYSDOT 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 NYSDOT 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.

20. THE CONTRACTOR WILL BE REQUIRED TO REPAIR OR REPLACE ANY MAINTENANCE OF TRAFFIC COMPONENT, CALLED FOR IN THE PLANS, WHICH IS DAMAGED DURING THE LIFE OF THE CONTRACT AT NO ADDITIONAL COST TO THE CITY.
21. ALL WORK ON THE MAINTENANCE OF TRAFFIC DRAWING WHICH HAS NOT BEEN GIVEN A SPECIFIC ITEM NUMBER SHALL BE PAID UNDER ITEM 619.01 BASIC WORK ZONE TRAFFIC CONTROL.
22. ADDITIONAL ACCESS FOR THE CONTRACTOR THROUGH THE LINE OF TEMPORARY CONCRETE BARRIER SHALL BE SUBMITTED TO THE RESIDENT ENGINEER FOR APPROVAL.
23. DETOUR ROUTE IMPLEMENTATION
THE CONTRACTOR SHALL PLAN HIS OPERATIONS TO MINIMIZE THE DURATION THAT THE BRIDGE IN THIS CONTRACT IS CLOSED TO TRAFFIC.
THE CONTRACTOR SHALL SUBMIT A BAR CHART OF THE INTENDED CONSTRUCTION SEQUENCE TO THE RESIDENT ENGINEER FOR APPROVAL.
24. THE TRAFFIC MAINTENANCE SCHEMES SHOWN IN FIGURE 302-4 OF SUBCHAPTER H OF THE NEW YORK STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES DESCRIBE THE RECOMMENDED METHOD AND CONTROL DEVICES NECESSARY. THE RESIDENT ENGINEER MAY ORDER ADDITIONAL DEVICES AND/OR METHODS TO MEET FIELD CONDITIONS
25. WORK ZONES SHOULD BE LIMITED TO ONE SIDE OF THE TRAVELED WAY AT A TIME, UNLESS APPROVED BY THE RESIDENT ENGINEER. WORK ZONES ON OPPOSITE SIDES OF THE ROAD SHALL NOT OVERLAP. WORK ZONE IS DEFINED AS THAT AREA IN WHICH TRAFFIC IS RESTRICTED BECAUSE OF CONSTRUCTION ACTIVITIES, OR THAT AREA WHICH INVOLVES A DROPOFF NEXT TO THE PAVEMENT.
26. CONSTRUCTION EQUIPMENT SHOULD BE REMOVED FROM THE 30 FEET CLEAR ROADSIDE AREA DURING NON-WORKING HOURS.
27. NO MATERIAL IS TO BE PLACED ON THE SHOULDER. OR WITHIN 30 FEET FROM THE EDGE OF PAVEMENT. EXCEPT THAT WHICH IS TO BE PLACED THAT DAY.
28. SAFE AND ADEQUATE ACCESS TO EXISTING DRIVEWAYS SHALL BE PLACED THAT DAY.
29. FLASHING WARNING LIGHTS SHALL BE MOUNTED ON CONSTRUCTION SIGNS AS SHOWN. LIGHTS SHALL BE LOCATED ADJACENT TO THE SIGN PANEL AND AFFIXED TO THE SIGN SUCH THAT THE LIGHT WILL NOT SEPARATE FROM THE SIGN ON IMPACT. SEPARATELY MOUNTED POWER PACK SHALL BE TETHERED TO THE SIGN TO PREVENT SEPARATION FROM THE SIGN UPON IMPACT.
30. ALL FLASHING WARNING LIGHTS SHALL BE TYPE B, HIGH INTENSITY, CONFORMING TO SECTION 294.3 OF THE NYS M.U.T.C.D. AND SECTION CONFORMING TO SECTION 619 OF THE NYSDOT STANDARD SPECIFICATIONS. THE COST OF FURNISHING FLASHING WARNING LIGHTS ON INDIVIDUAL SIGNS IS TO BE INCLUDED UNDER ITEM 619.01. CONSTRUCTION SIGNS.
31. THE SIGN LOCATIONS SHOWN ARE APPROXIMATE. THEIR FINAL FIELD LOCATION SHALL BE IN ACCORDANCE WITH NYS M.U.T.C.D.. A.O.B.E.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING THAT ALL SIGNS, DRUMS, CONES, BARRICADES, AND RELATED DEVICES REMAIN IN PLACE AND IN GOOD CONDITION. THE SOLE JUDGE OF THE CONTRACTOR'S EFFORTS IN REGARDS TO THE PROTECTION OF TRAFFIC AND PERSONNEL SHALL BE THE ENGINEER.
33. THE SIGNING SHOWN ON THE FOLLOWING DRAWINGS IS THE MINIMUM REQUIRED AND SHALL BE PAID UNDER ITEM 619.02 THE SOLE JUDGE OF THE CONTRACTOR'S ADDITIONAL SIGNS MAY BE REQUIRED A.O.B.E. NO ADDITIONAL PAYMENT WILL BE MADE FOR ADDITIONAL SIGNS SO ORDERED.
34. A CERTIFIED TRAFFIC WORK ZONE SUPERVISOR AND CERTIFIED FLAGGERS SHALL BE PROVIDED BY THE CONTRACTOR. THE TRAFFIC WORK ZONE SUPERVISOR AND FLAGGERS MUST BE CERTIFIED AND MUST BE TRAINED AND QUALIFIED AS PER THE SECTION 20. WORK ZONE TRAFFIC CONTROL, OF THE NYCDEP BEDC STANDARDS.

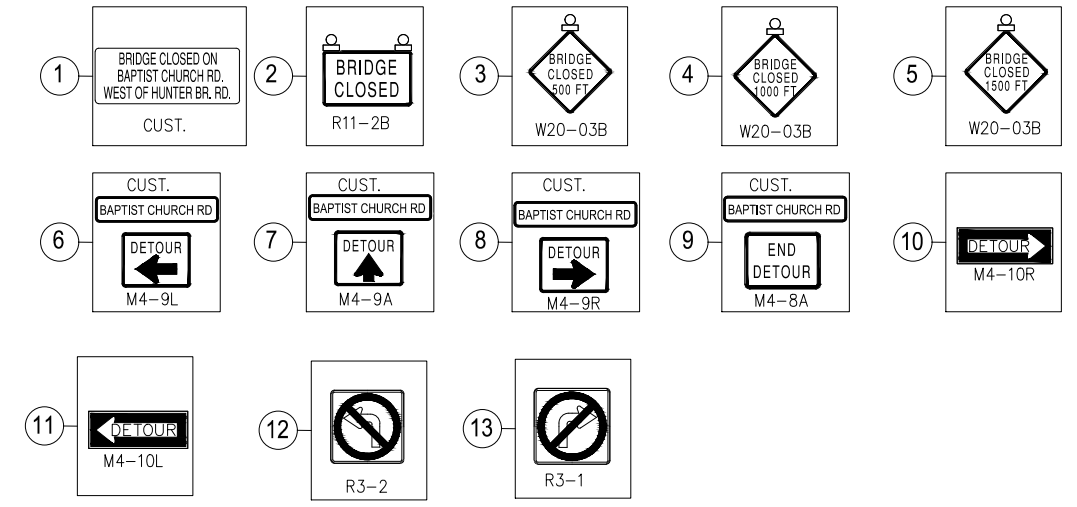
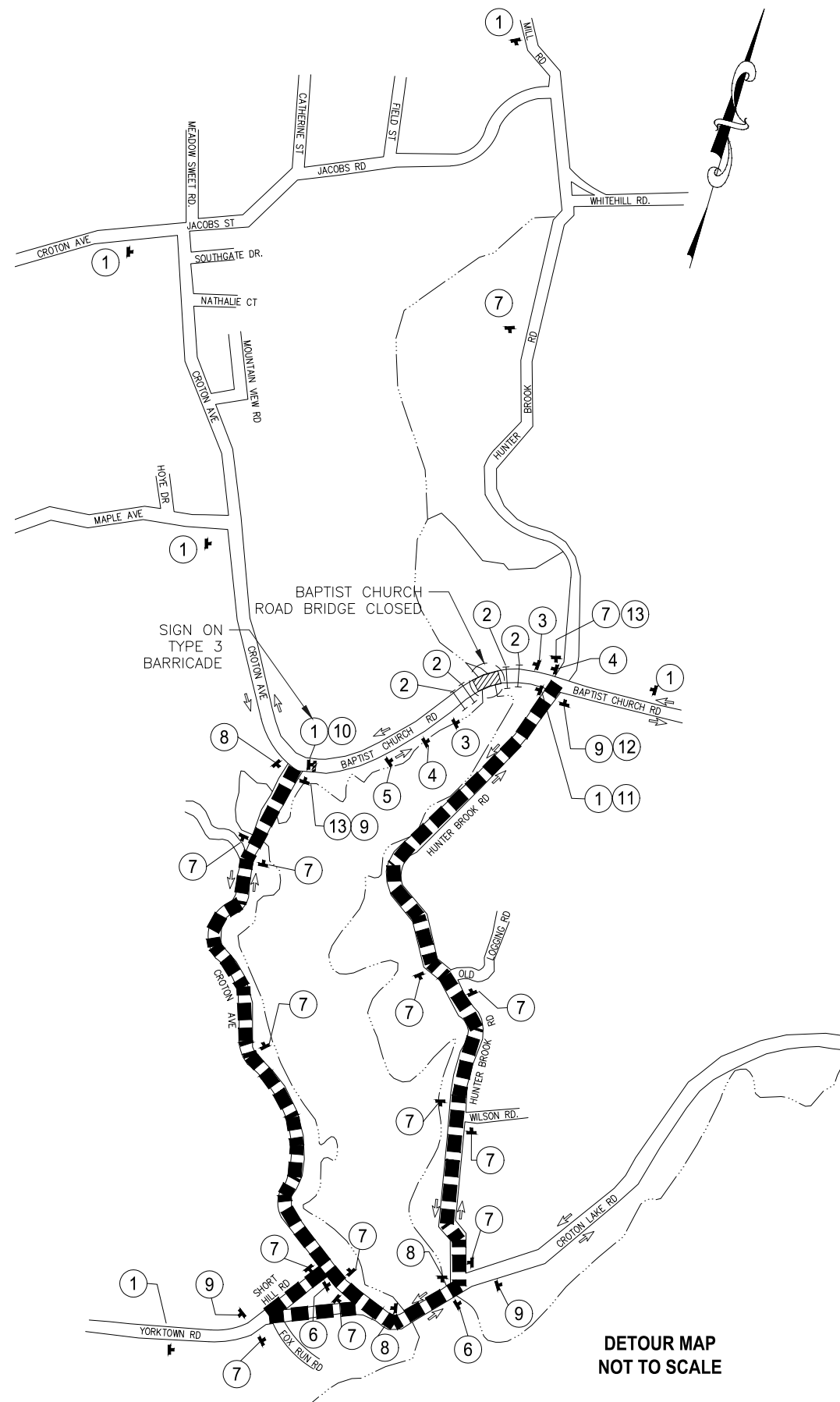
90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

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

DESIGNED BY: M. BAHADA	DRAWN BY: M. BAHADA		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.*	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 WORK ZONE TRAFFIC CONTROL PLAN GENERAL NOTES	DATE: 10/26/2021
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 51
SECTION MANAGER:							DRAWING NO. MT-1
NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.				

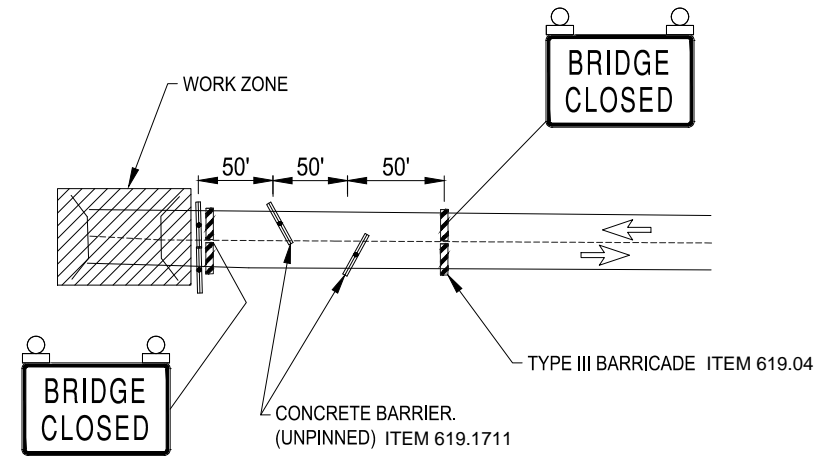
NOTES:

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)

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				CHECKED BY: J. MILLER			PORTFOLIO MANAGER PAUL COSTA, PE				SCALE: N.T.S.
				DESIGN LEAD: M. BAHADA			EXECUTIVE DIRECTOR SEAN McANDREW, PE				SHEET NO: 15 OF 51
				SECTION MANAGER:							DRAWING NO. MT-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	ORANGE	BLACK	GR. MTD.
619.01	②		8' 8'	D	36 X 36	R11 - 2B	WHITE	BLACK	GR. MTD.
619.01	③		5' 5'	D	36 X 36	W20 - 3	ORANGE	BLACK	GR. MTD.
619.01	④		5' 5'	D	36 X 36	W20 - 3	ORANGE	BLACK	GR. MTD.
619.01	⑤		5' 5'	D	36 X 36	W20 - 3	ORANGE	BLACK	GR. MTD.
619.01	⑥		4' 5'	D	68 X 8 30 X 24	CUST. M4 - 9L	ORANGE	BLACK	GR. MTD.
619.01	⑦		4' 5'	D	68 X 8 30 X 24	CUST. M4 - 9A	ORANGE	BLACK	GR. MTD.
619.01	⑧		4' 5'	D	68 X 8 30 X 24	CUST. M4 - 9R	ORANGE	BLACK	GR. MTD.
619.01	⑨		4' 5'	D	68 X 8 30 X 24	CUST. M4-8A	ORANGE	BLACK	GR. MTD.
619.01	⑩		6'	D	48 X 18	M4 - 10R	ORANGE	BLACK	GR. MTD.
619.01	⑪		6'	D	48 X 18	M4 - 10L	ORANGE	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:

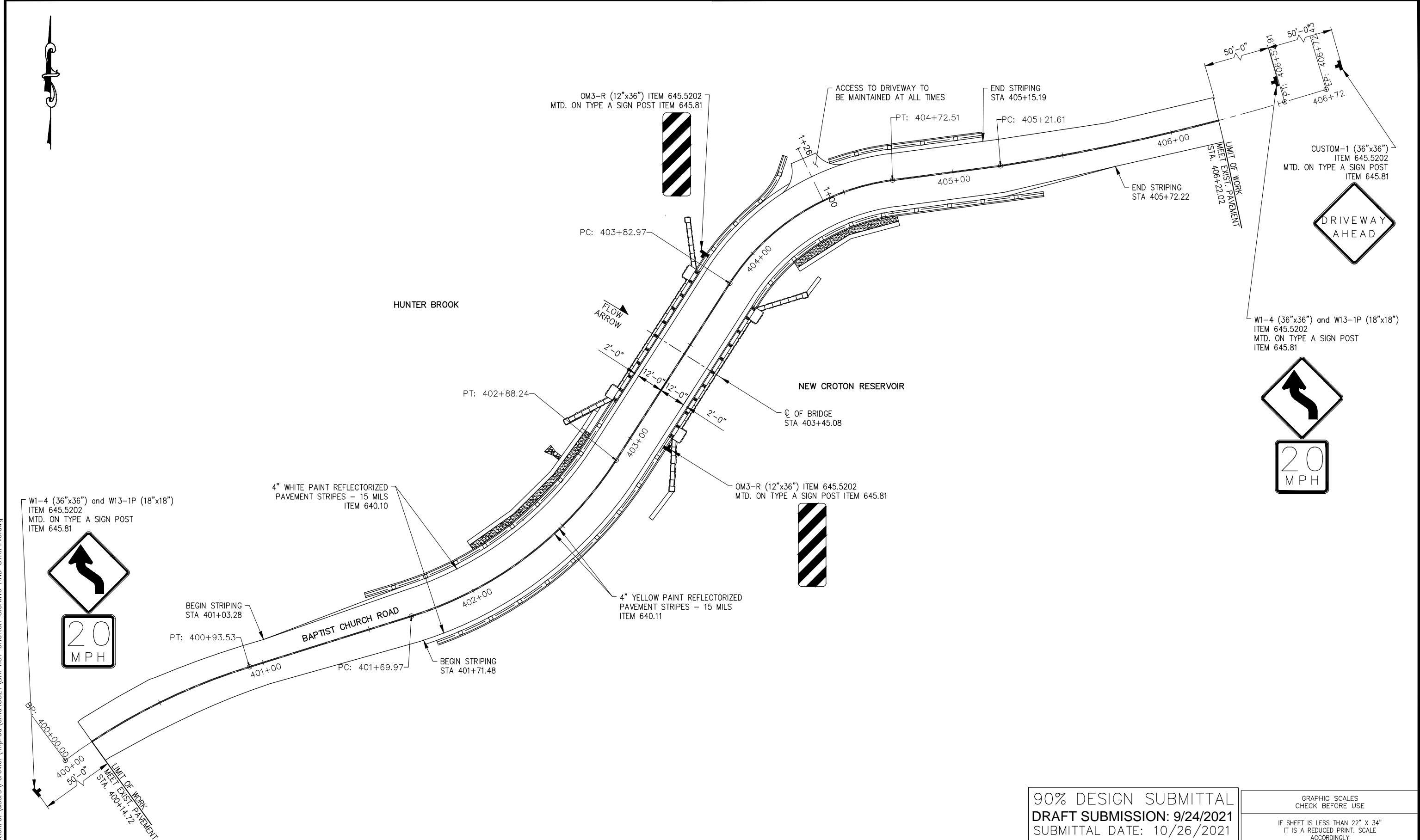
1. SEE DRAWING MT-1 FOR WORK ZONE TRAFFIC CONTROL NOTES.

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				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 51
				SECTION MANAGER:							DRAWING NO. MT-3

Last Saved By & Date: Ncrevier, Monday, September 20, 2021 and Date Plotted: Tuesday, September 21, 2021 Time: 8:43 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\ncreev\hprod\dms45821\BAPTIST CHURCH SIGNING AND STRIPING.dwg



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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


NEW YORK CITY
 ENVIRONMENTAL PROTECTION
 BUREAU OF ENGINEERING DESIGN & CONSTRUCTION
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SEAN McANDREW, PE

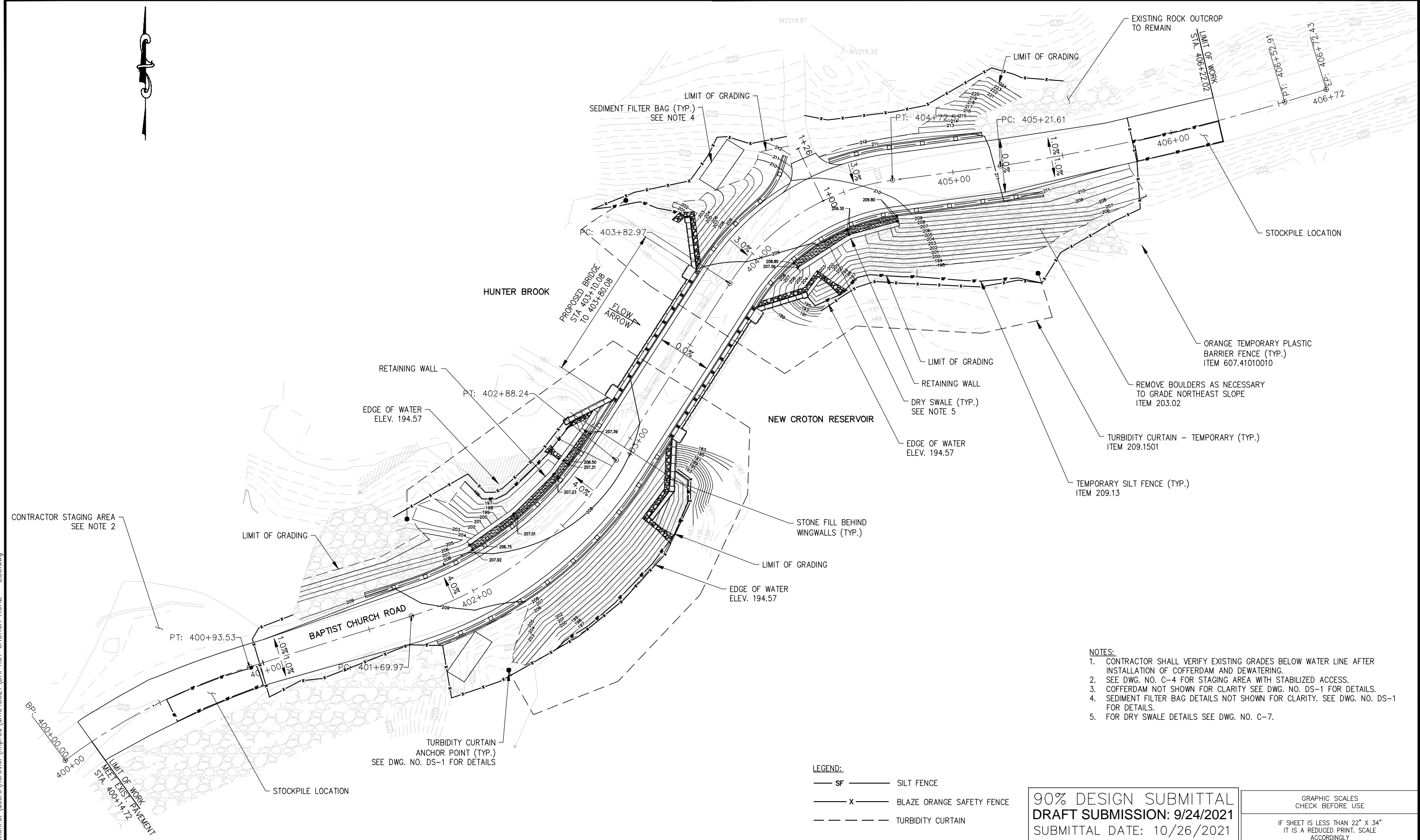
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
PROPOSED SIGNING AND STRIPING PLAN

DATE: 10/26/2021
 SCALE: 1" = 20'-0"
 SHEET NO:
 17 OF 51
 DRAWING NO.
 SGN-1

Last Saved By & Date: Ncrevier, Wednesday, September 15, 2021 and Date Plotted: Tuesday, September 21, 2021 Time: 8:16 PM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.388663 Plot Style Table: (N)_BEDC_BW.ctb
 Drawing Name: C:\users\ncriver\hprod\dms45821\BAPTIST CHURCH ROAD - ESC.dwg



- NOTES:**
1. CONTRACTOR SHALL VERIFY EXISTING GRADES BELOW WATER LINE AFTER INSTALLATION OF COFFERDAM AND DEWATERING.
 2. SEE DWG. NO. C-4 FOR STAGING AREA WITH STABILIZED ACCESS.
 3. COFFERDAM NOT SHOWN FOR CLARITY SEE DWG. NO. DS-1 FOR DETAILS.
 4. SEDIMENT FILTER BAG DETAILS NOT SHOWN FOR CLARITY. SEE DWG. NO. DS-1 FOR DETAILS.
 5. FOR DRY SWALE DETAILS SEE DWG. NO. C-7.

- LEGEND:**
- SF — SILT FENCE
 - X — BLAZE ORANGE SAFETY FENCE
 - - - - - TURBIDITY CURTAIN

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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

DRAWN BY:

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


Environmental Protection

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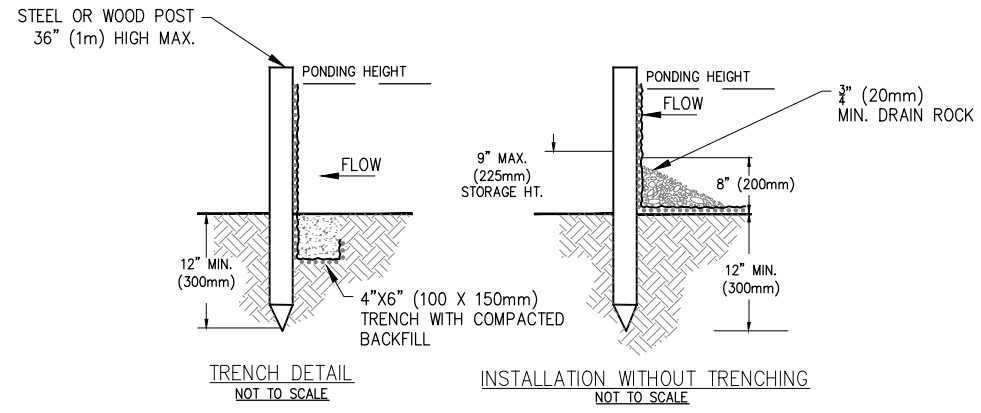
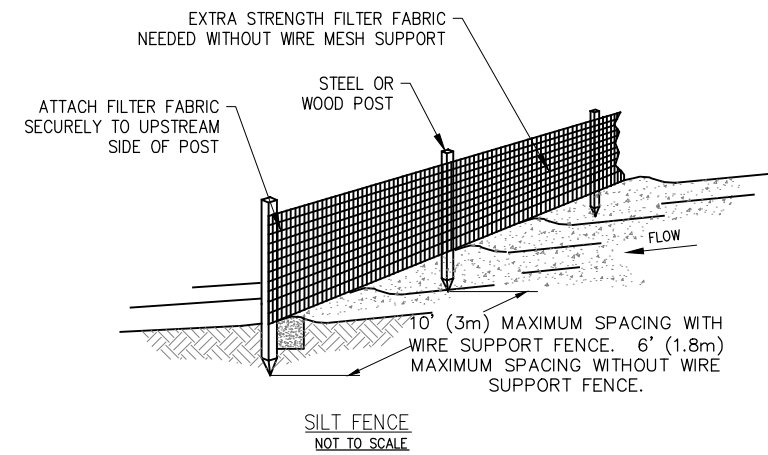
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

BAPTIST CHURCH ROAD
GRADING AND EROSION CONTROL PLAN

DATE: 10/26/2021
 SCALE: 1" = 20'-0"
 SHEET NO:
 18 OF 51
 DRAWING NO.
 ESC-1

Last Saved By & Date: Ncrevier, Tuesday, September 21, 2021 and Date Plotted: Tuesday, September 21, 2021 Time: 2:36 PM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.386863 Plot Style Table: (N)_BEDC_BW.ctb
 Drawing Name: C:\users\ncriver\hprod\dms45821\BAPTIST CHURCH ROAD - ESC-2.dwg

- NOTES:**
1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
 2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" (225mm) MAXIMUM RECOMMENDED STORAGE HEIGHT.
 3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
 4. SEE DWG. NO DS-1 FOR TURBIDITY CURTAIN DETAIL.



90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
 CHECK BEFORE USE
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NO.	DATE	REVISIONS/DESCRIPTION	APPRD.

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

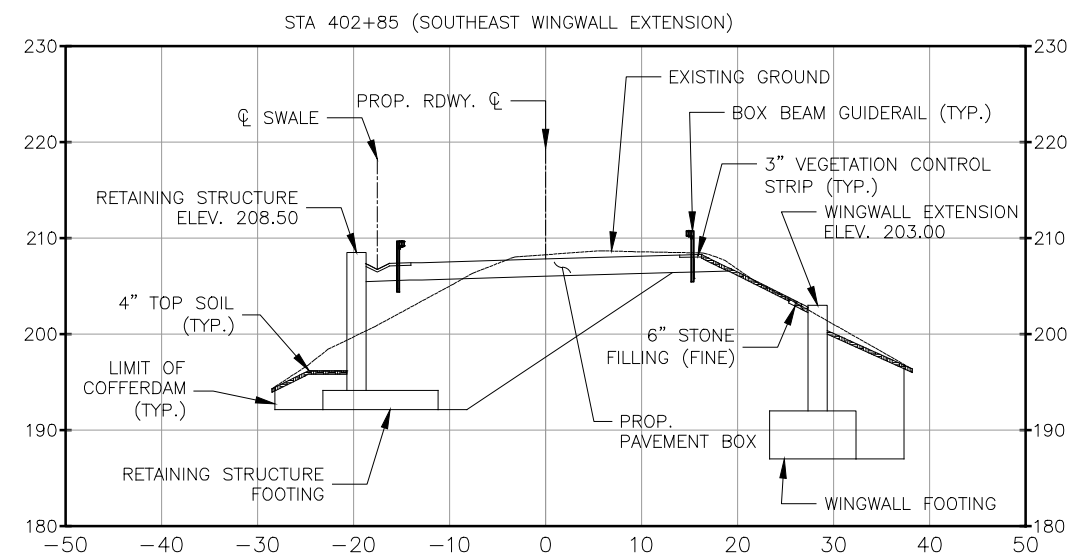
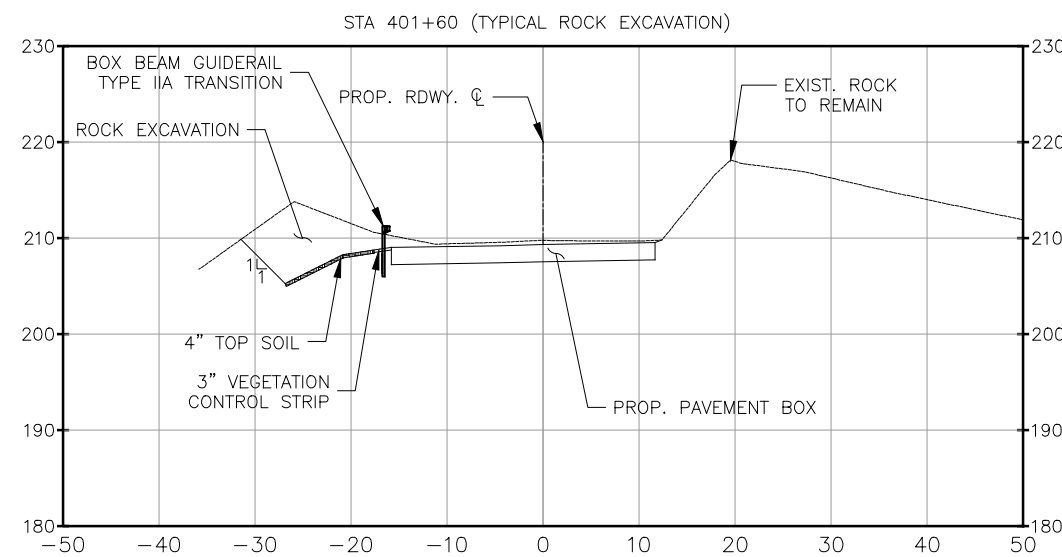
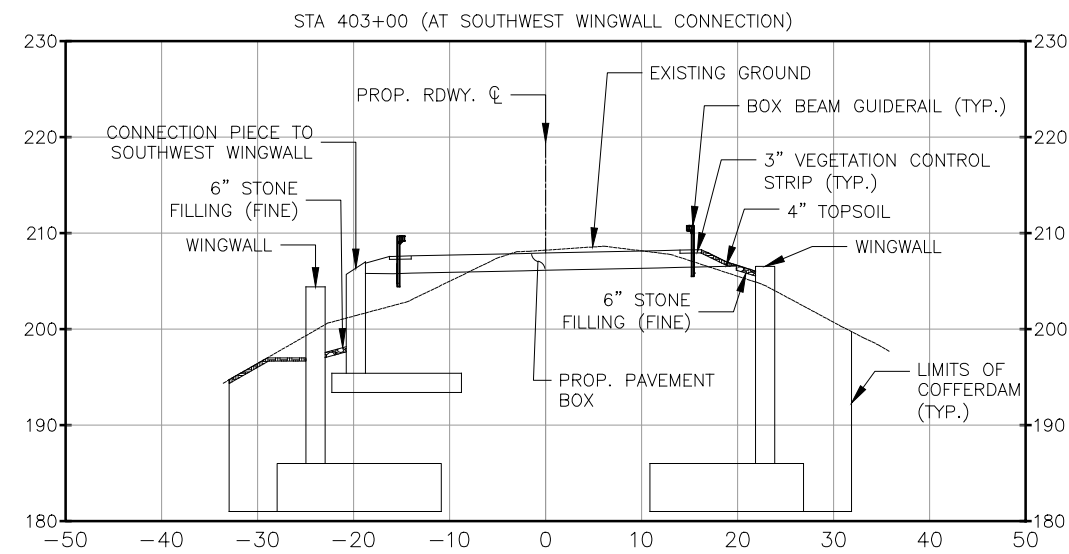
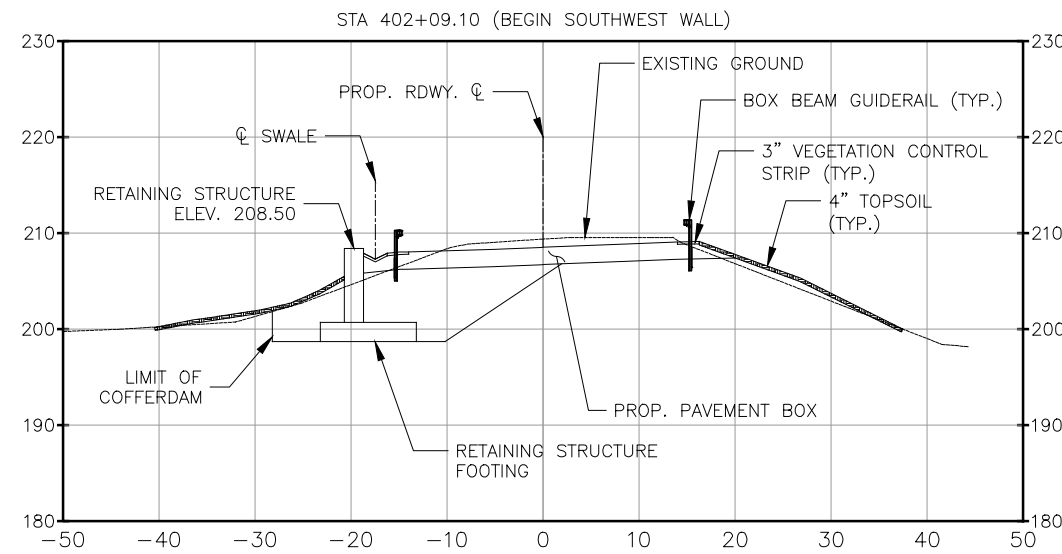
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
 BAPTIST CHURCH ROAD
 EROSION CONTROL DETAILS

DATE: 10/26/2021
 SCALE: **AS NOTED**
 SHEET NO:
 19 OF 51
 DRAWING NO.
 ESC-2

- 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



Last Saved By & Date: Ncrevier, Wednesday, May 05, 2021 and Date Plotted: Tuesday, July 06, 2021 Time: 9:10 AM
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 Drawing Name: C:\users\Ncrevier\hpprod\dms37923\BAPTIST CHURCH ROAD - XS1.dwg


90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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:

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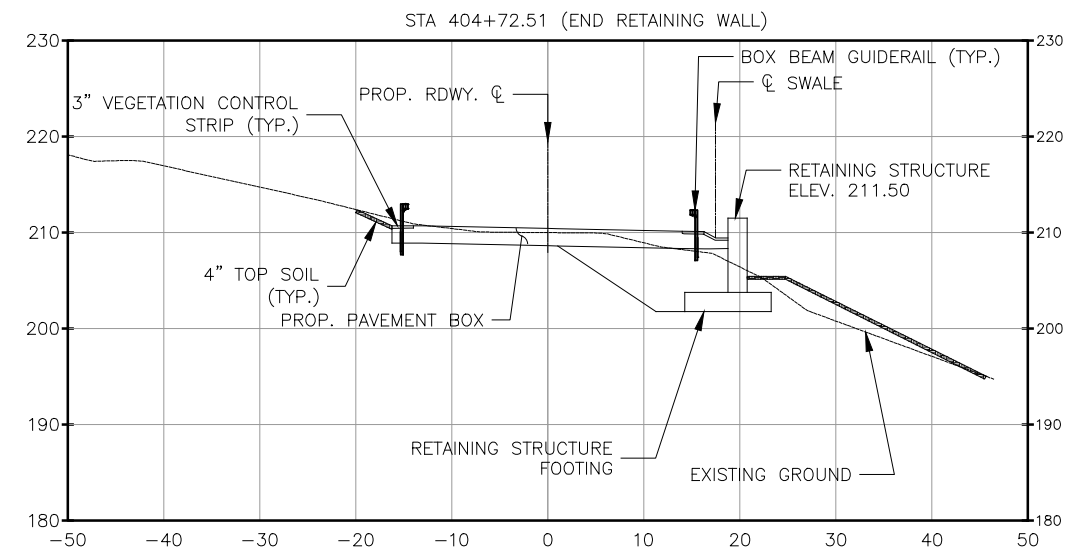
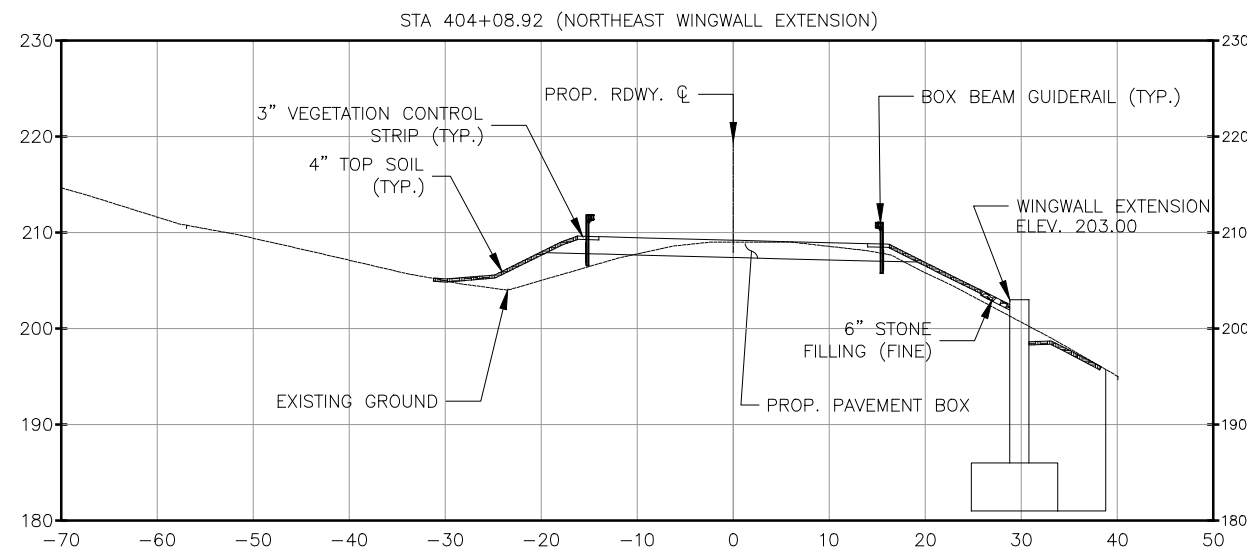
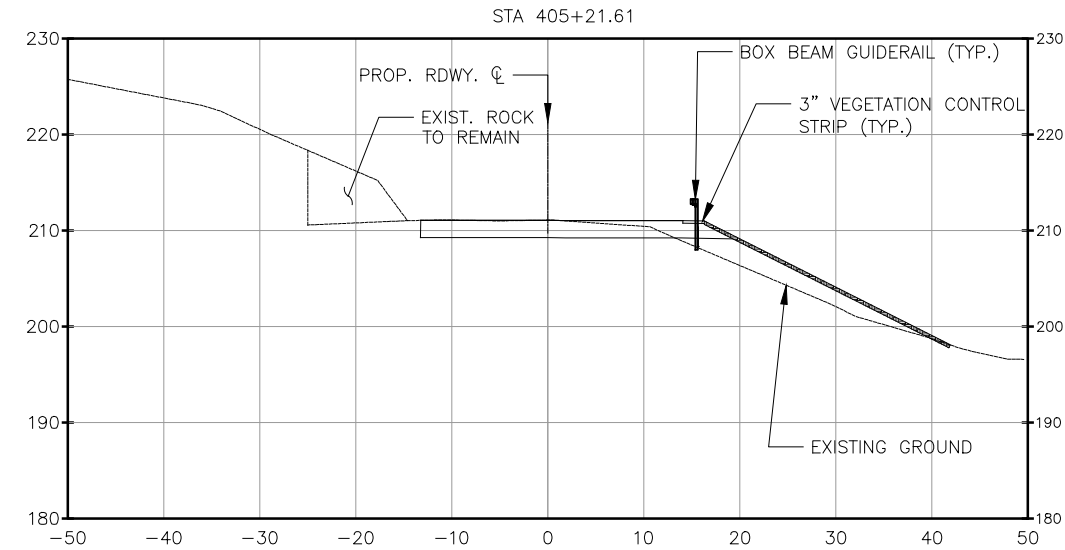
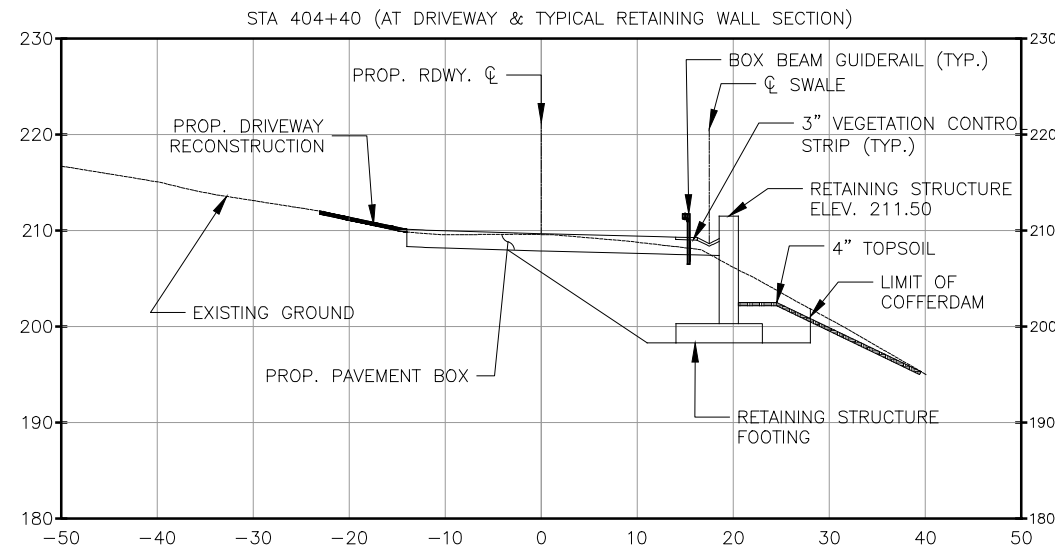
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

BAPTIST CHURCH ROAD
CROSS SECTIONS - SOUTH APPROACH

DATE: 10/26/2021
 SCALE: 1" = 10'-0"
 SHEET NO:
 20 OF 51
 DRAWING NO.
 XS-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 Scale: 0.388863 Plot Style Table: (N)_BDDC_BW.ctb
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90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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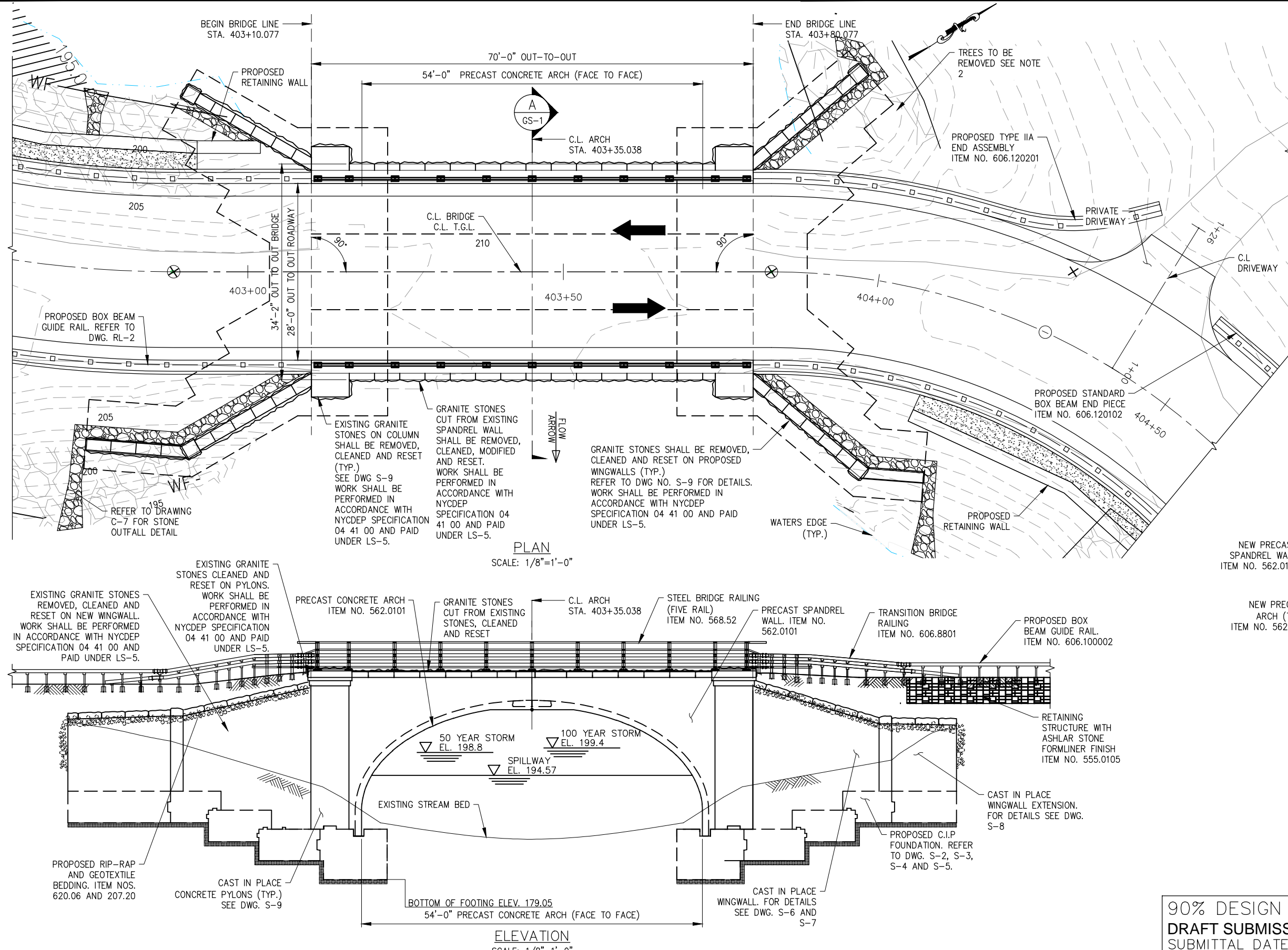
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

BAPTIST CHURCH ROAD
CROSS SECTIONS - NORTH APPROACH

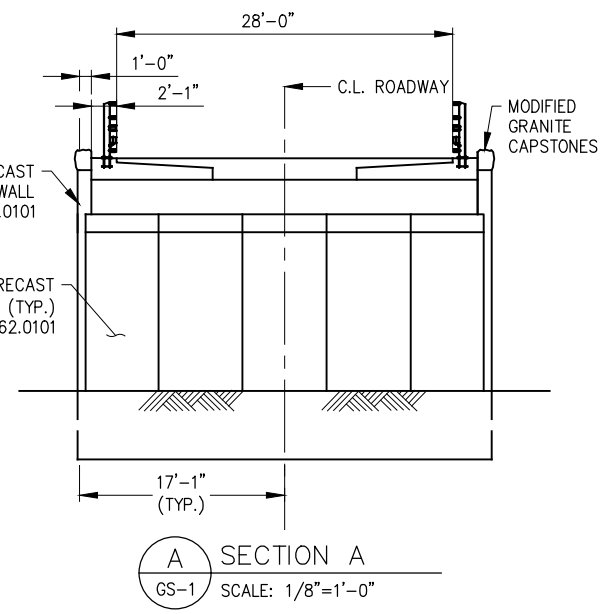
DATE: 10/26/2021
 SCALE: 1" = 10'-0"
 SHEET NO:
 21 OF 51
 DRAWING NO.
 XS-2

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Last Saved By & Date: Cshlykhova, Wednesday, September 01, 2021 and Date Plotted: Thursday, September 09, 2021 Time: 9:33 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\Cshlykhova\hprod\dms45811\BAPTIST CHURCH PROPOSED PLOTSHEET.dwg



- NOTES:**
1. 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.
 2. 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.



90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
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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. CIRICOSTA

 HARDESTY & HANOVER, I.L.C.
 ENGINEERING
 1501 Broadway New York, NY 10036

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

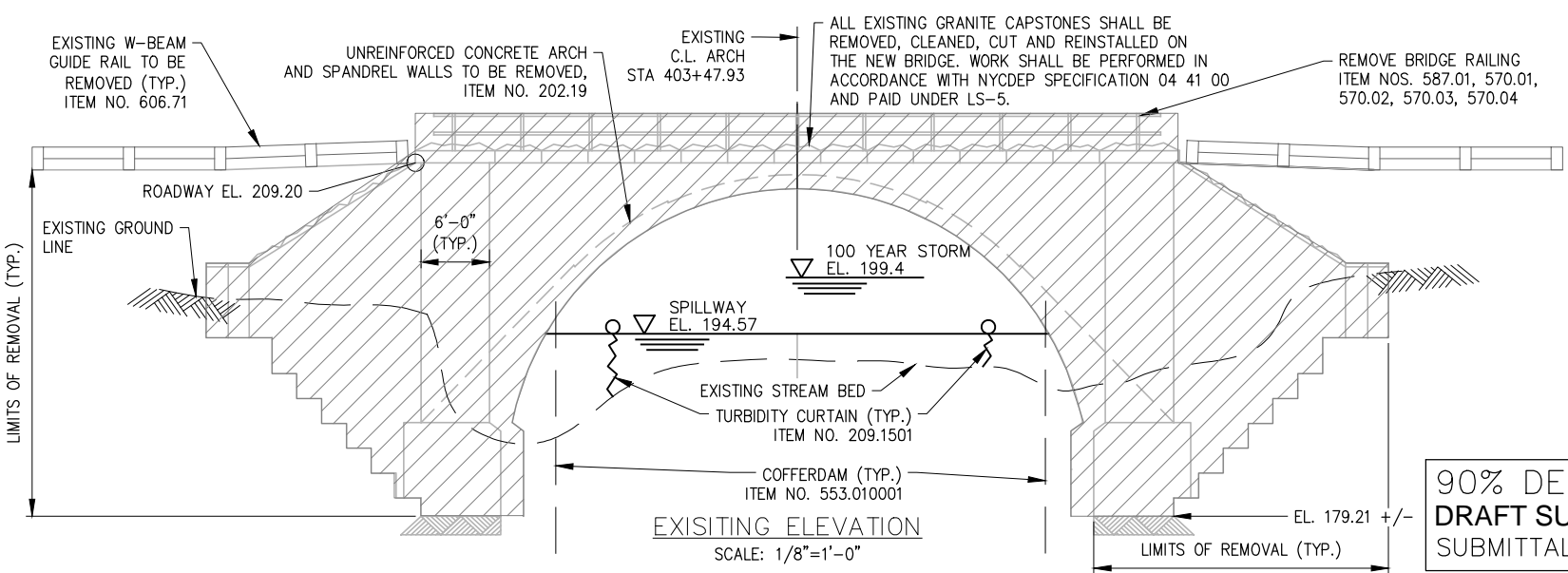
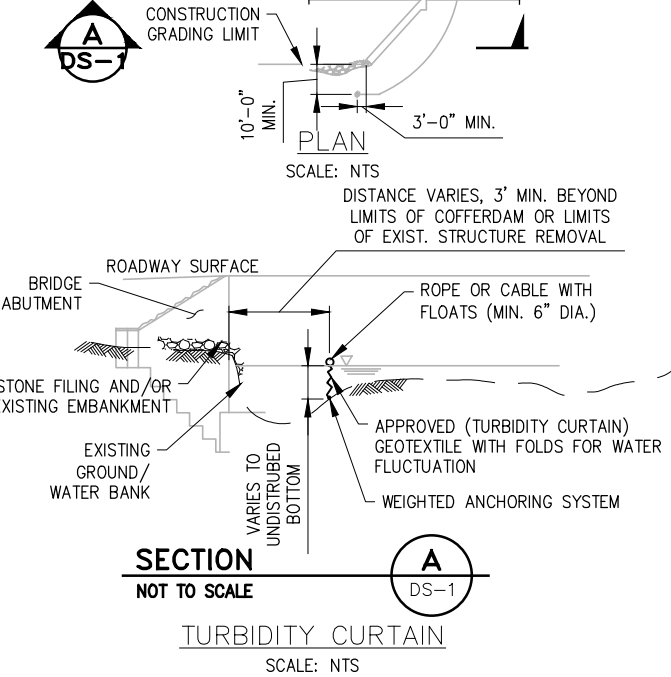
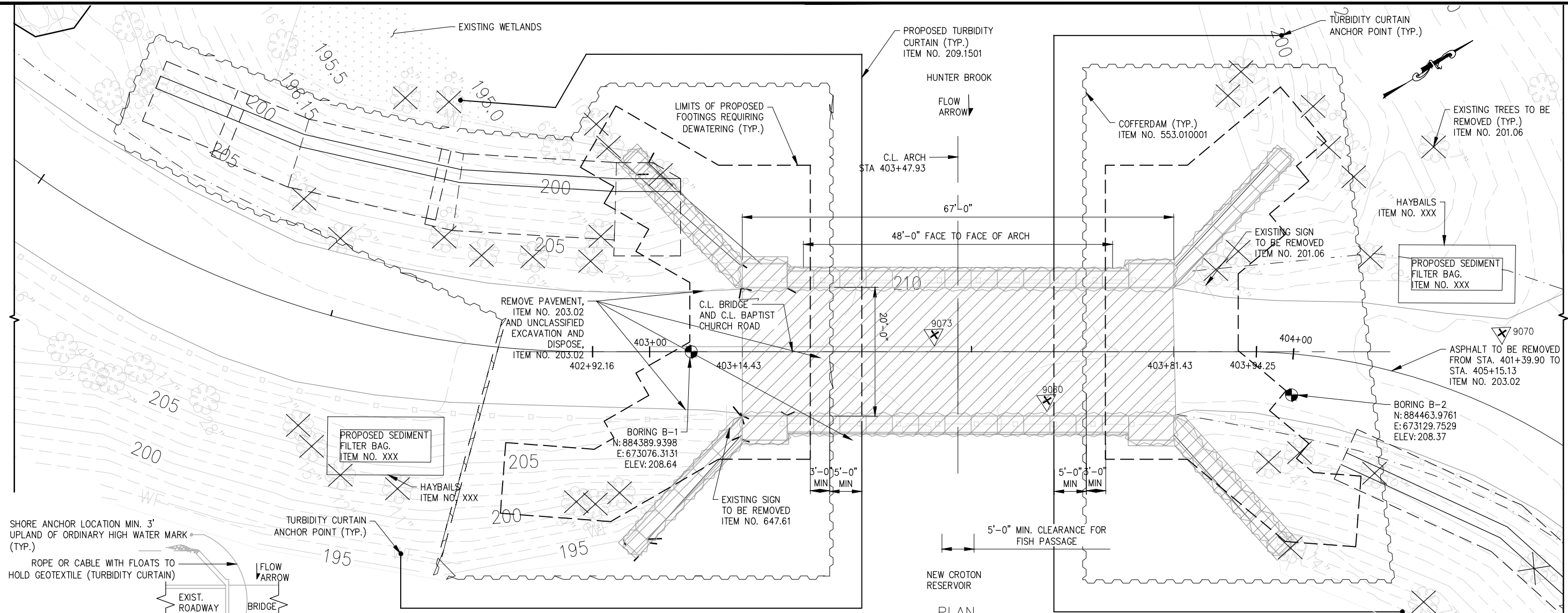
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
 PROPOSED GENERAL PLAN AND ELEVATION

DATE: 10/26/2021
 SCALE: AS NOTED
 SHEET NO:
 22 OF 51
 DRAWING NO.
GS-1

Last Saved By: & Date: Cehlykhov, Thursday, September 09, 2021 and Date Plotted: Wednesday, September 15, 2021 Time: 9:30 AM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.366863 Plot Style Table: (N) PLOT_BW.ctb
 Drawing Name: & Location: C:\Users\Yucreever\improd\kms45811\BAPTIST 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.
 4. THE BRIDGE SUBSTRUCTURE SHALL BE COMPLETELY REMOVED. DEMOLITION OF THE SUBSTRUCTURE SHALL BE PAID FOR UNDER ITEM 202.19.
 5. 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.
 6. LIMITS OF COFFERDAM SHOWN ARE SCHEMATIC. CONTRACTOR SHALL DETERMINE THE LAYOUT AND LIMITS OF COFFERDAM AS REQUIRED TO COMPLETE THE WORK.
 7. TURBIDITY CURTAINS SHALL BE INSTALLED PRIOR TO COFFERDAM CONSTRUCTION
 8. CONTRACTOR SHALL COORDINATE WITH THE NYCDP CONSTRUCTION MANAGEMENT ONCE LIMITS OF COFFERDAM ARE ESTABLISHED TO PLACE SEDIMENT BAG ON LEVEL SURFACE WITH APPROPRIATE WATER FLOW BACK INTO RESERVOIR.

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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

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



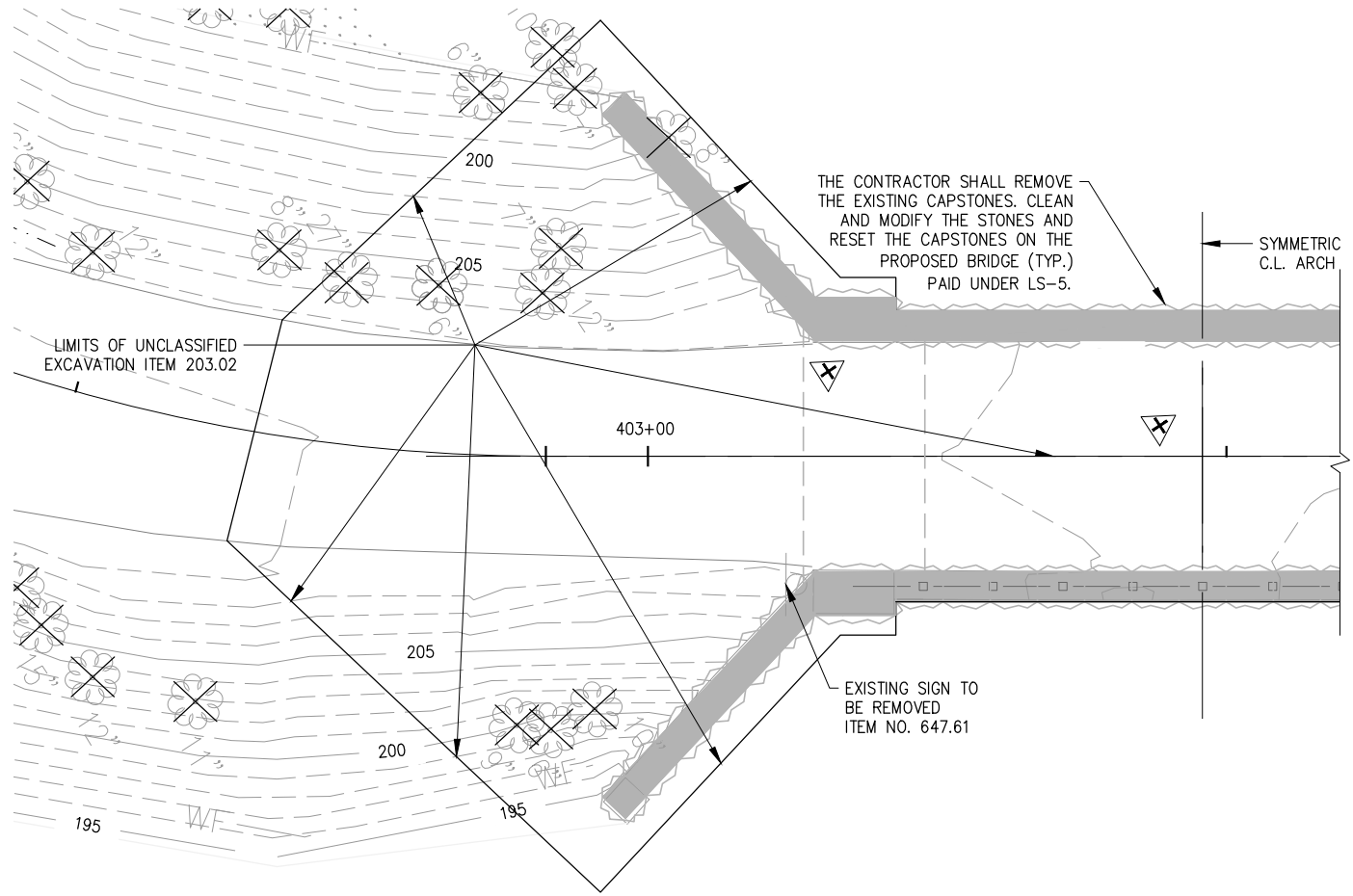
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PORTFOLIO MANAGER PAUL COSTA, PE	
EXECUTIVE DIRECTOR SEAN McANDREW, PE	

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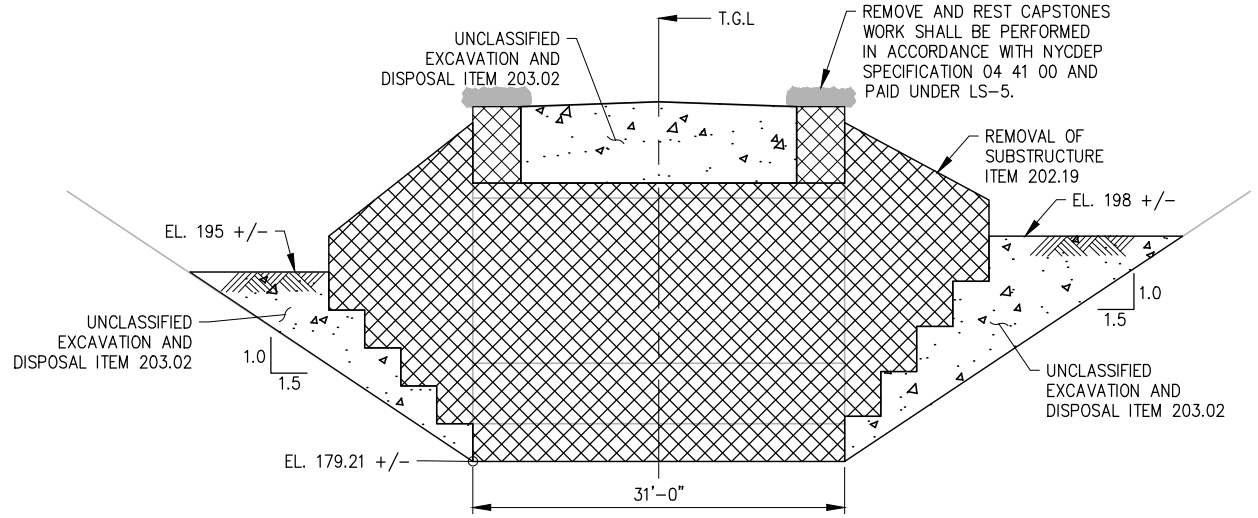
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
 DEMOLITION PLAN

DATE: 10/26/2021
SCALE: 1/8"=1'-0"
SHEET NO: 23 OF 51
DRAWING NO. DS-1

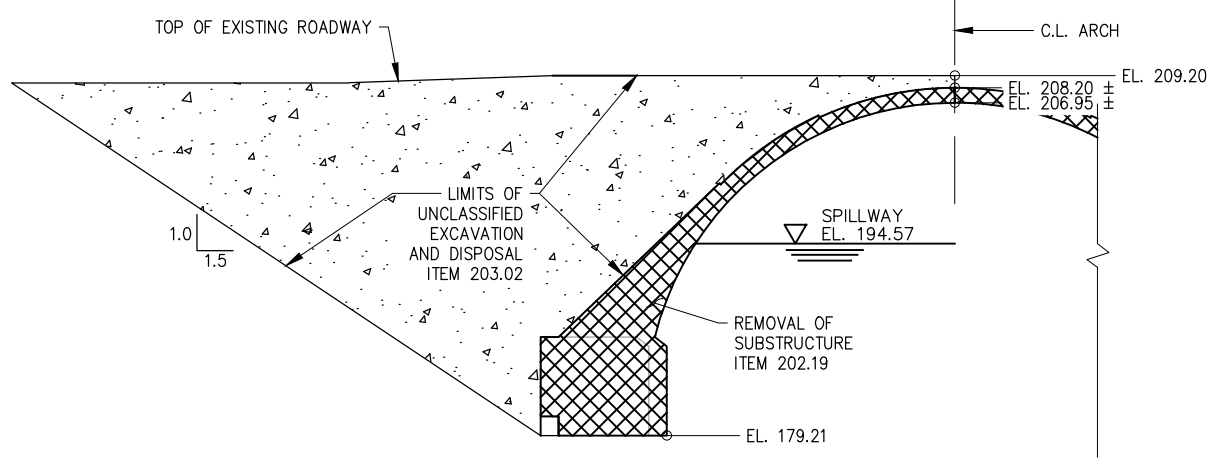
Last Saved By: & Date: Cahlykhova, Friday, April 23, 2021, and Date Plotted: Tuesday, June 01, 2021 Time: 4:04 PM
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 Drawing Name: & Location: C:\Users\Cahlykhova\Inprod\Arms37850\REMOVAL DETAILS.dwg



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 NYCDEP SPECIFICATION 04 41 00 AND PAID UNDER UP-2.

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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 CHECK BEFORE USE
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 ACCORDINGLY

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

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

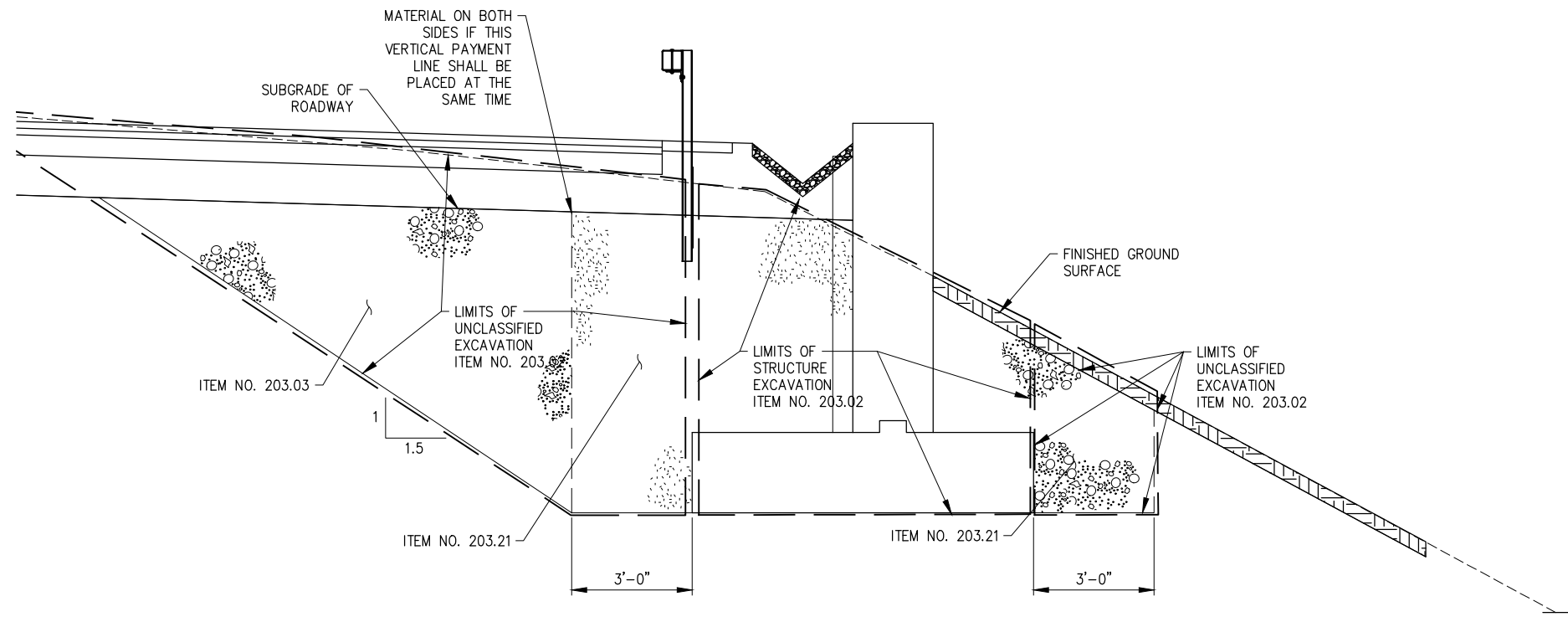
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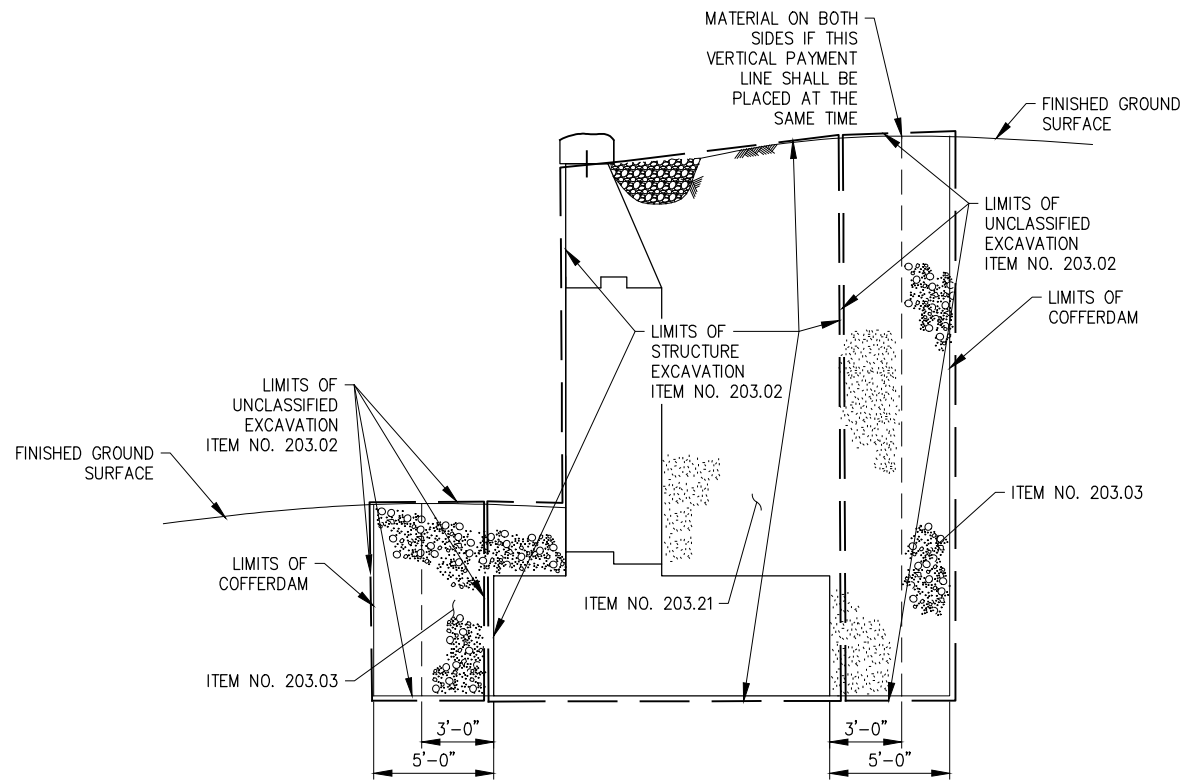
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
 EARTHWORK DETAILS -1

DATE: 10/26/2021
 SCALE: 1/8" = 1'-0"
 SHEET NO:
 24 OF 51
 DRAWING NO.
 DS-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) PLOT_STYLE_TABLE.RW.ctb
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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

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

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:
O. HUNTER, P.E.
CHECKED BY:
M. YOUNG, PE
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

EARTHWORK DETAILS -2

DATE: 10/26/2021

SCALE: AS NOTED

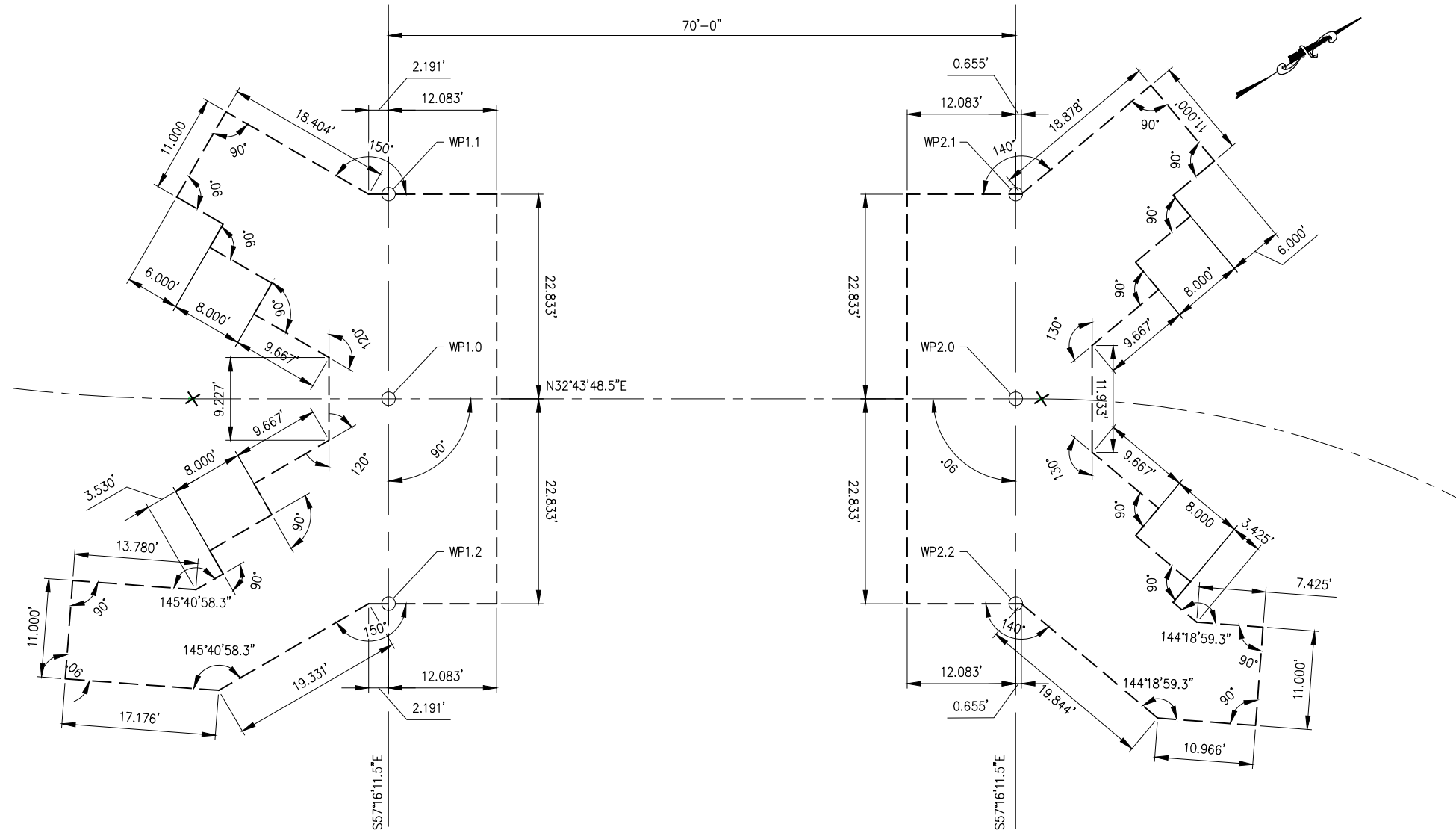
SHEET NO:

25 OF 51

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

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
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DESIGNED BY:
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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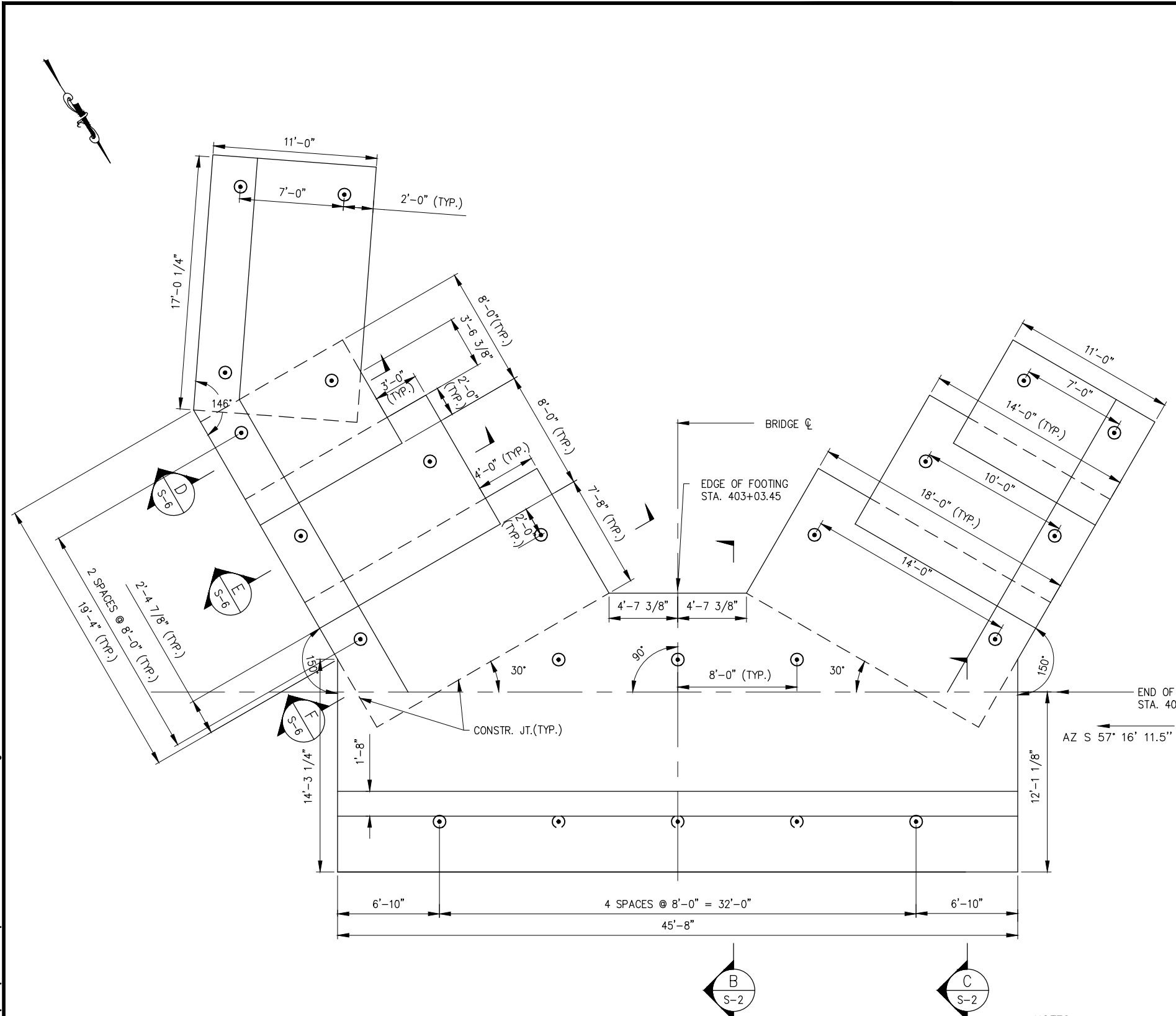
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

GEOMETRIC LAYOUT

DATE: 10/26/2021
SCALE: AS NOTED
SHEET NO:
27 OF 51
DRAWING NO.
S-1

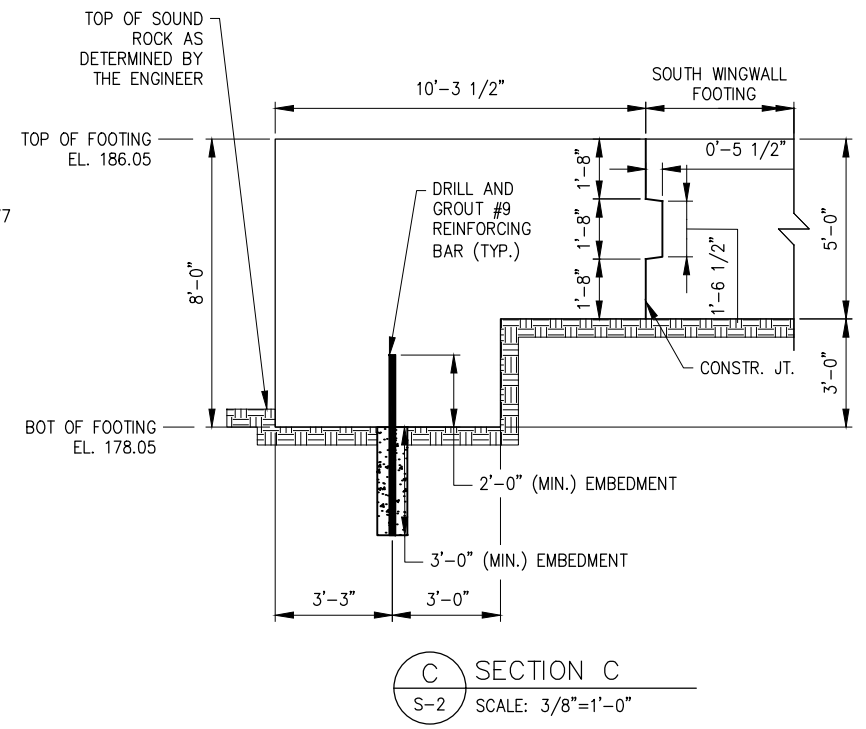
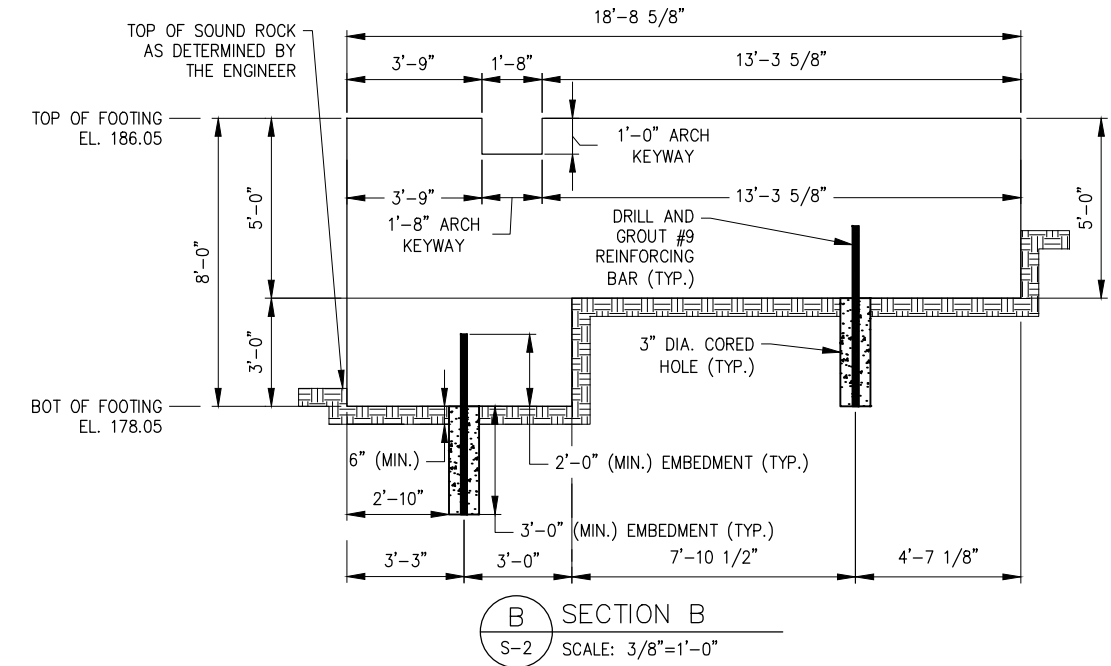
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 Drawing Name: & Location: C:\Users\jcircoستا\Documents\jms\7850\South Footing Details.Plot.dwg



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.



90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

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

DESIGNED BY: O. HUNTER, P.E.	DRAWN BY: J. CIRCOСТА
CHECKED BY: R. ROMAN, P.E.	 HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036
DESIGN LEAD: O. HUNTER, P.E.	
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
SOUTH FOOTING PLAN

DATE: 10/26/2021
SCALE: AS NOTED
SHEET NO: 28 OF 51
DRAWING NO. S-2

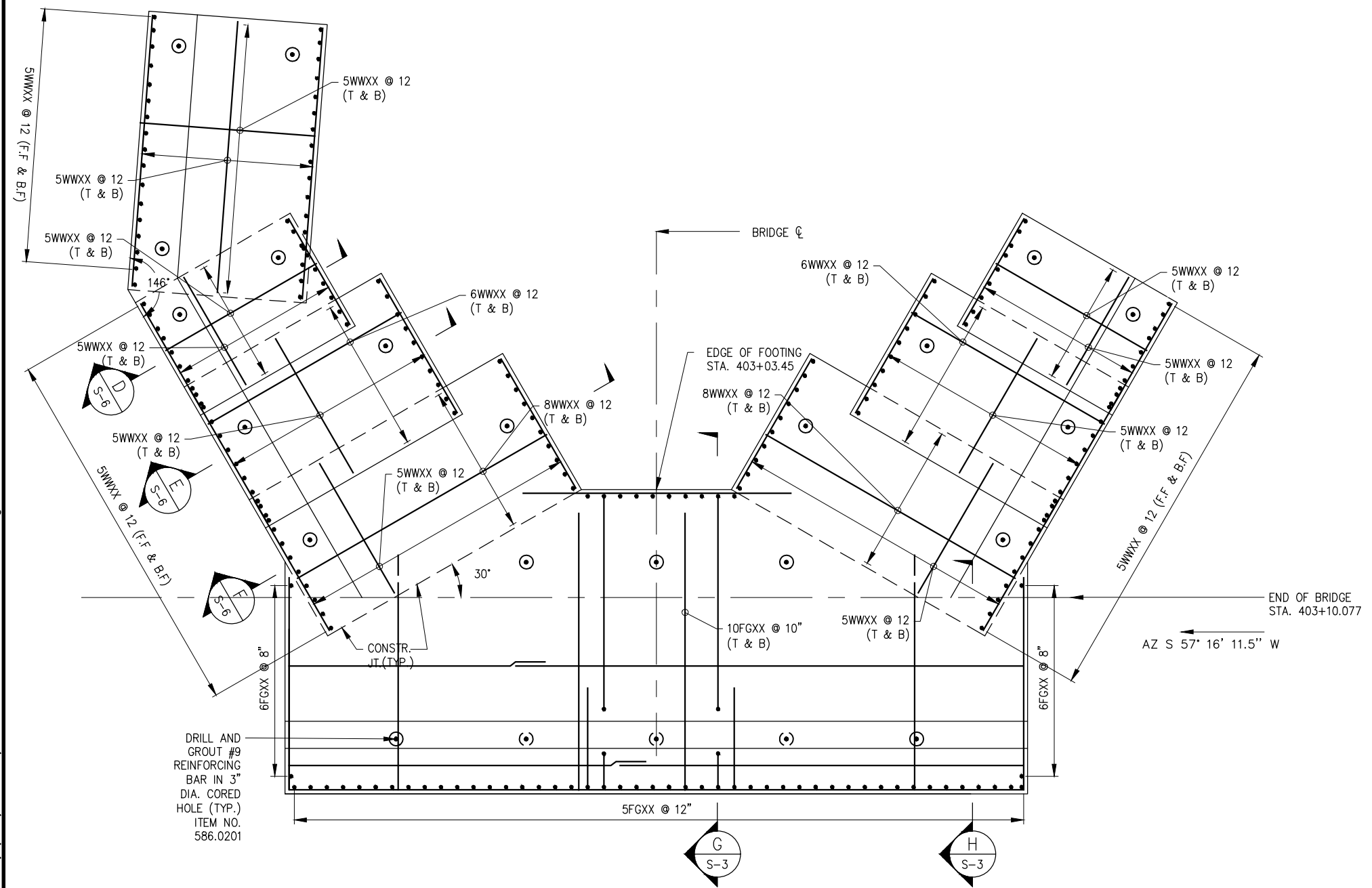
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LEGEND:

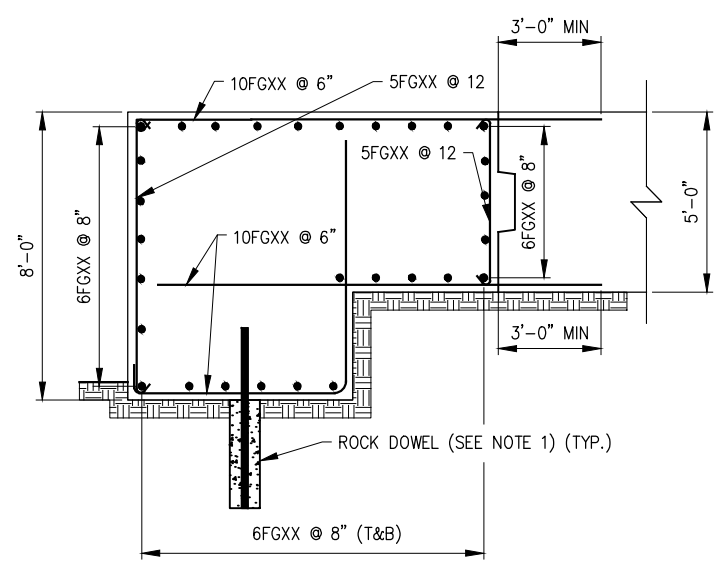
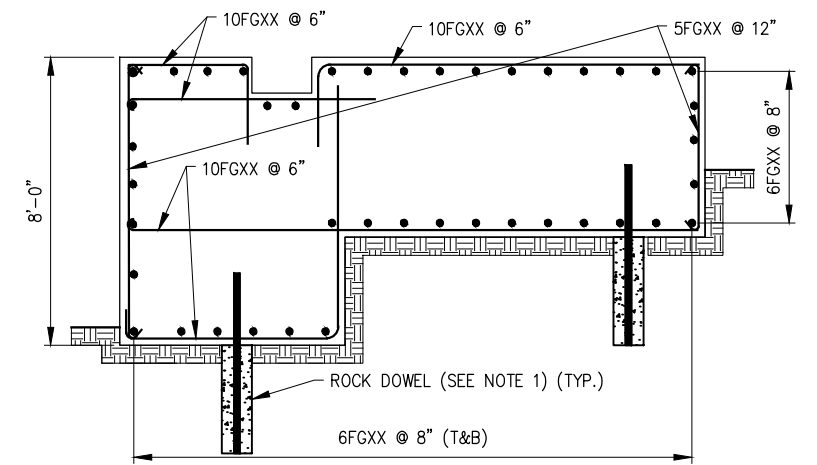
-  - ROCK DOWELS
-  - SOUND ROCK

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.



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



90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
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ACCORDINGLY

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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



ACCOUNTABLE MANAGER
JEFFREY A. BUSSE, PE

PORTFOLIO MANAGER
PAUL COSTA, PE

EXECUTIVE DIRECTOR
SEAN McANDREW, PE

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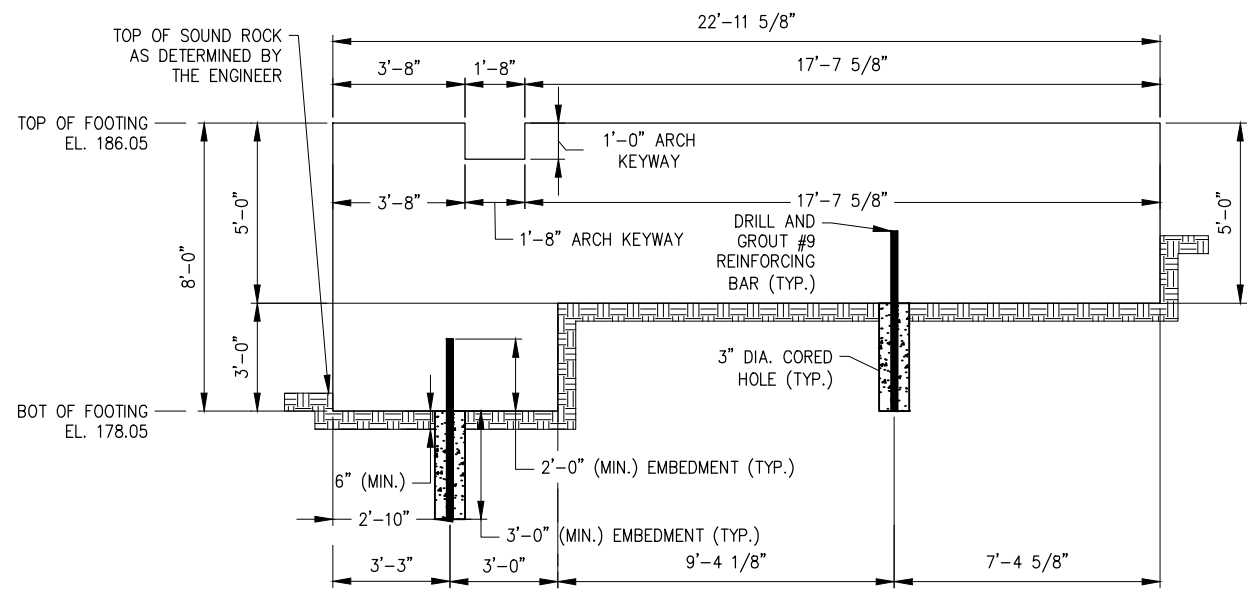
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
 CONTRACT CRO-530B

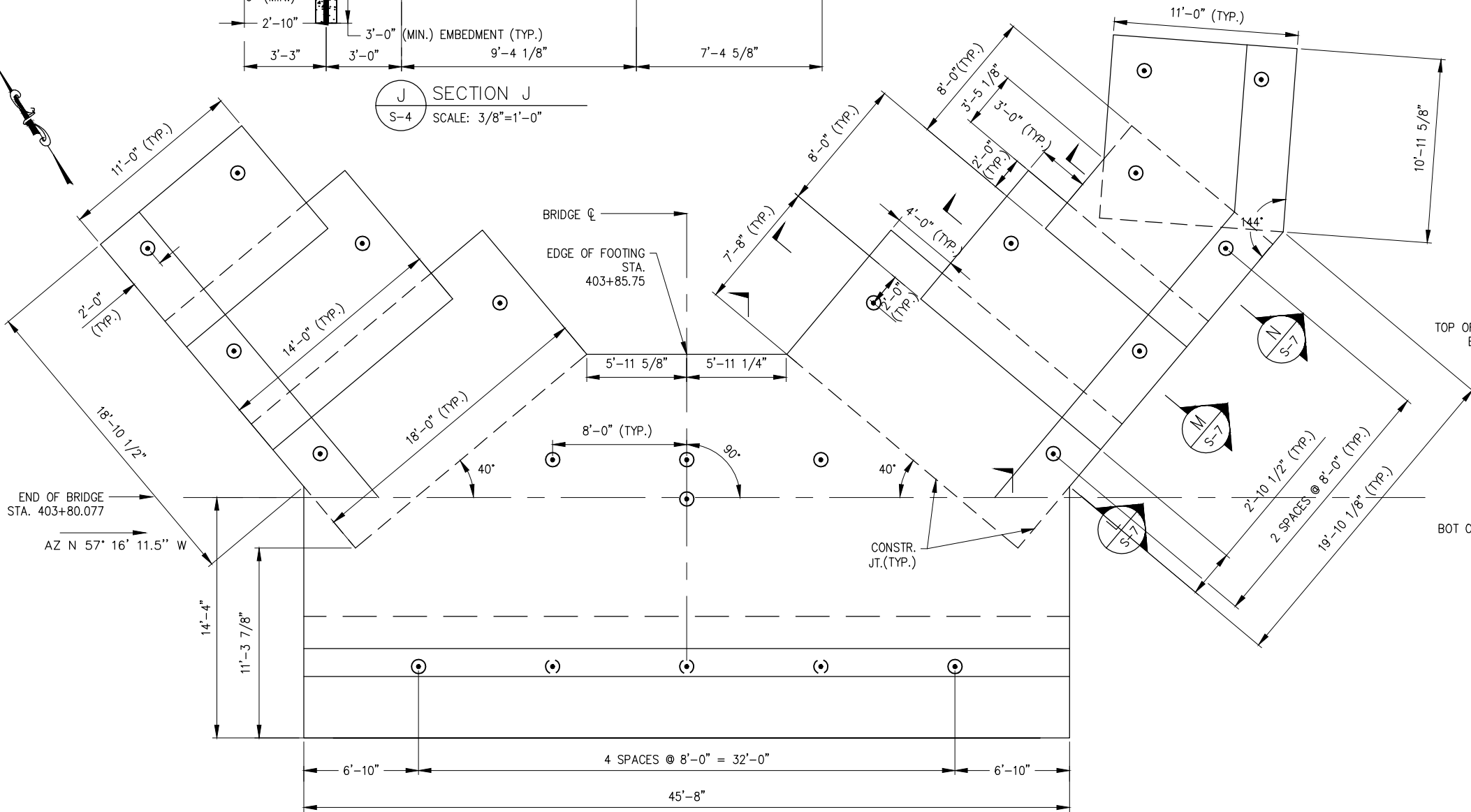
SOUTH FOOTING REINFORCEMENT

DATE: 10/26/2021
 SCALE: AS NOTED
 SHEET NO:
 29 OF 51
 DRAWING NO.
S-3

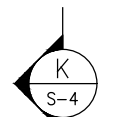
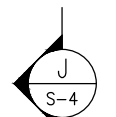
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 Drawing Name: & Location: C:\Users\cehlykhova\OneDrive\Projects\7850\North Footing Details_PLOT.dwg



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

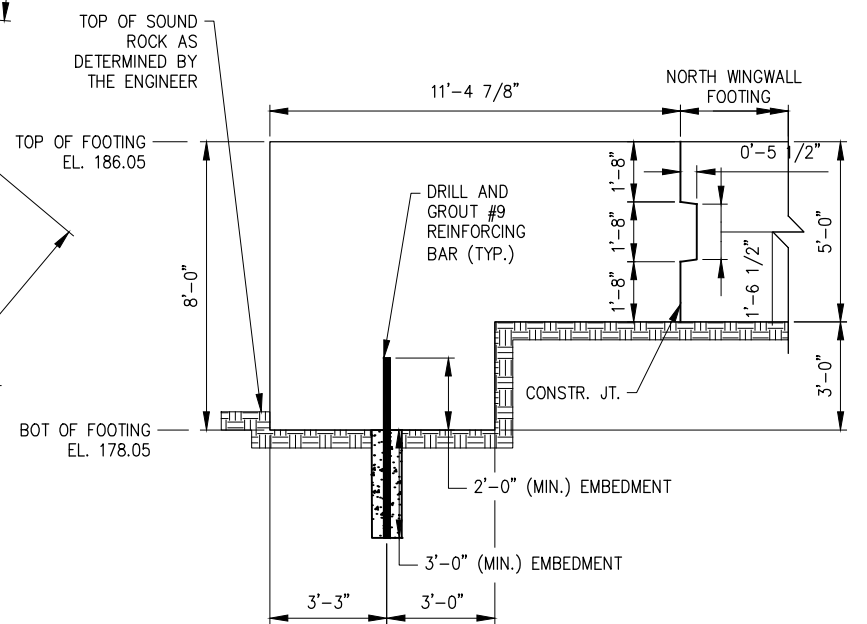


FOOTING PLAN
SCALE: 1/4" = 1'-0"



- NOTES:**
1. REINFORCING BARS FOR ROCK DOWELS SHALL BE GRADE 60 GALVANIZED CARBON-STEEL BARS PER ASTM A 615
 2. 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"

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021



GRAPHIC SCALES
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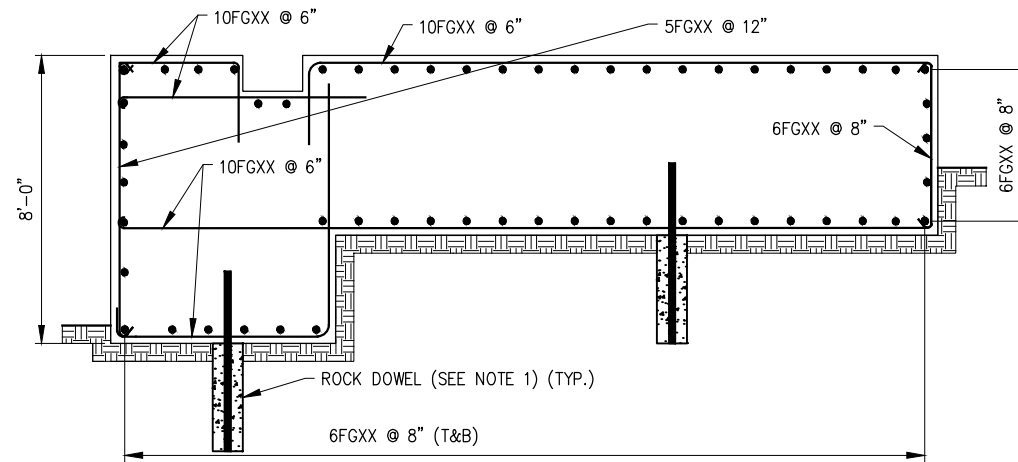
DESIGNED BY: O. HUNTER, P.E. CHECKED BY: R. ROMAN, P.E. DESIGN LEAD: O. HUNTER, P.E. SECTION MANAGER:		DRAWN BY: J. CIRCOSTA  HARDESTY & HANOVER, LLC ENGINEERING 1501 Broadway New York, NY 10036		 ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE PORTFOLIO MANAGER PAUL COSTA, PE EXECUTIVE DIRECTOR SEAN McANDREW, 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.* 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 NORTH FOOTING PLAN		DATE: 10/26/2021 SCALE: AS NOTED SHEET NO: 30 OF 51 DRAWING NO. S-4	
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.

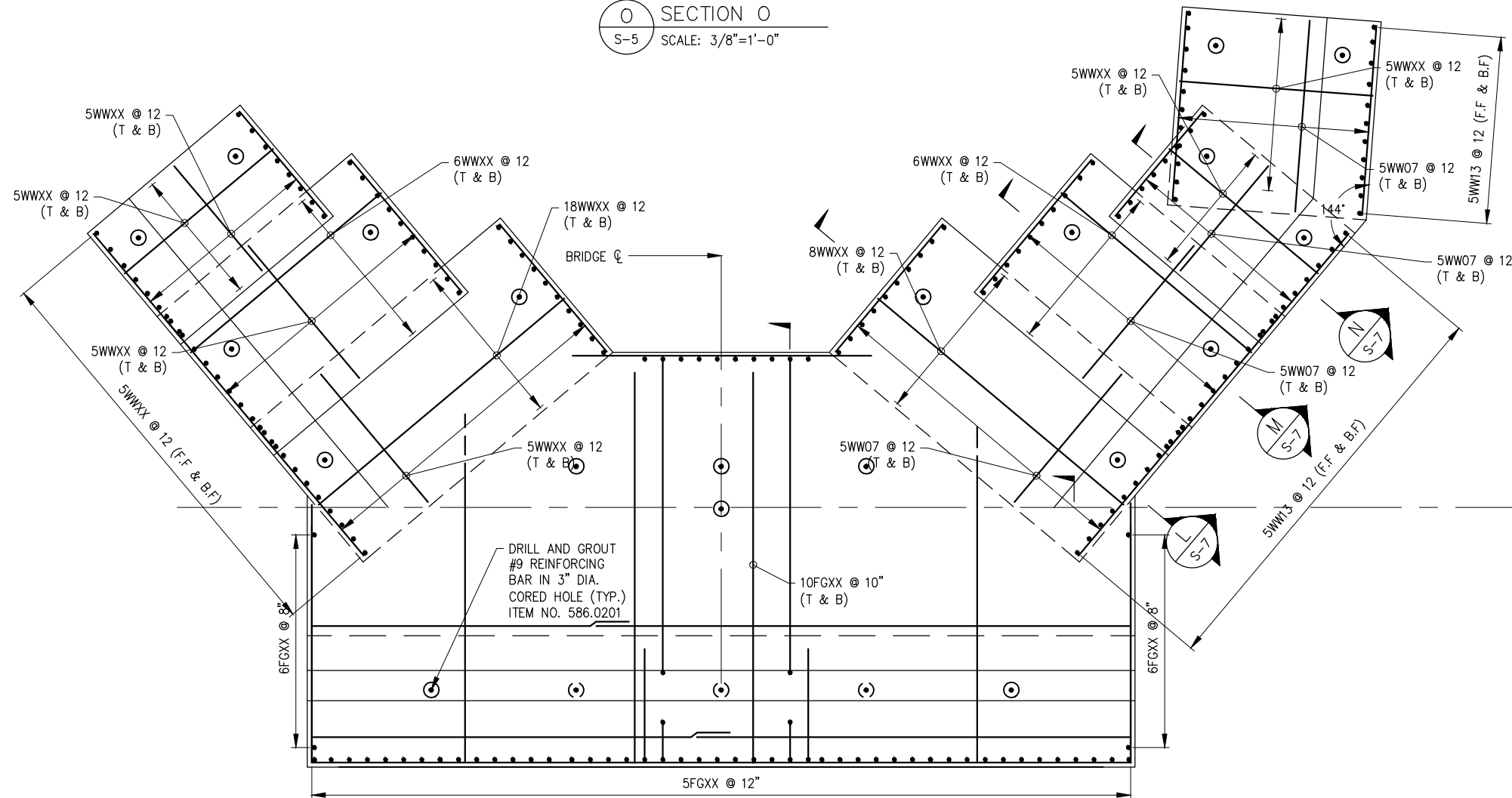
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- NOTES:**
- FOR ROCK DOWEL LAYOUT AND NOTES SEE DWG NO S-2.
 - MINIMUM CONCRETE COVER WILL BE NO LESS THAN 3 INCHES.
 - SEE DRAWING G-5 FOR STRUCTURAL NOTES ON REINFORCING STEEL AND CONCRETE.

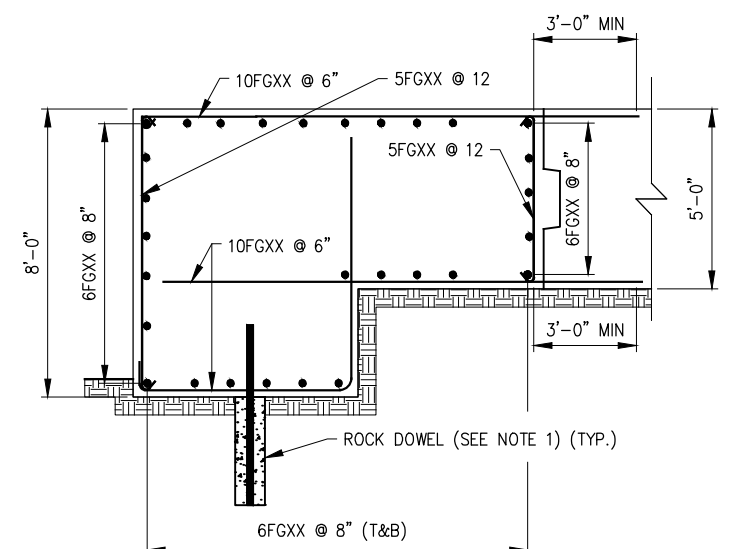
- LEGEND:**
-  - ROCK DOWELS
 -  - SOUND ROCK



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"

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
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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

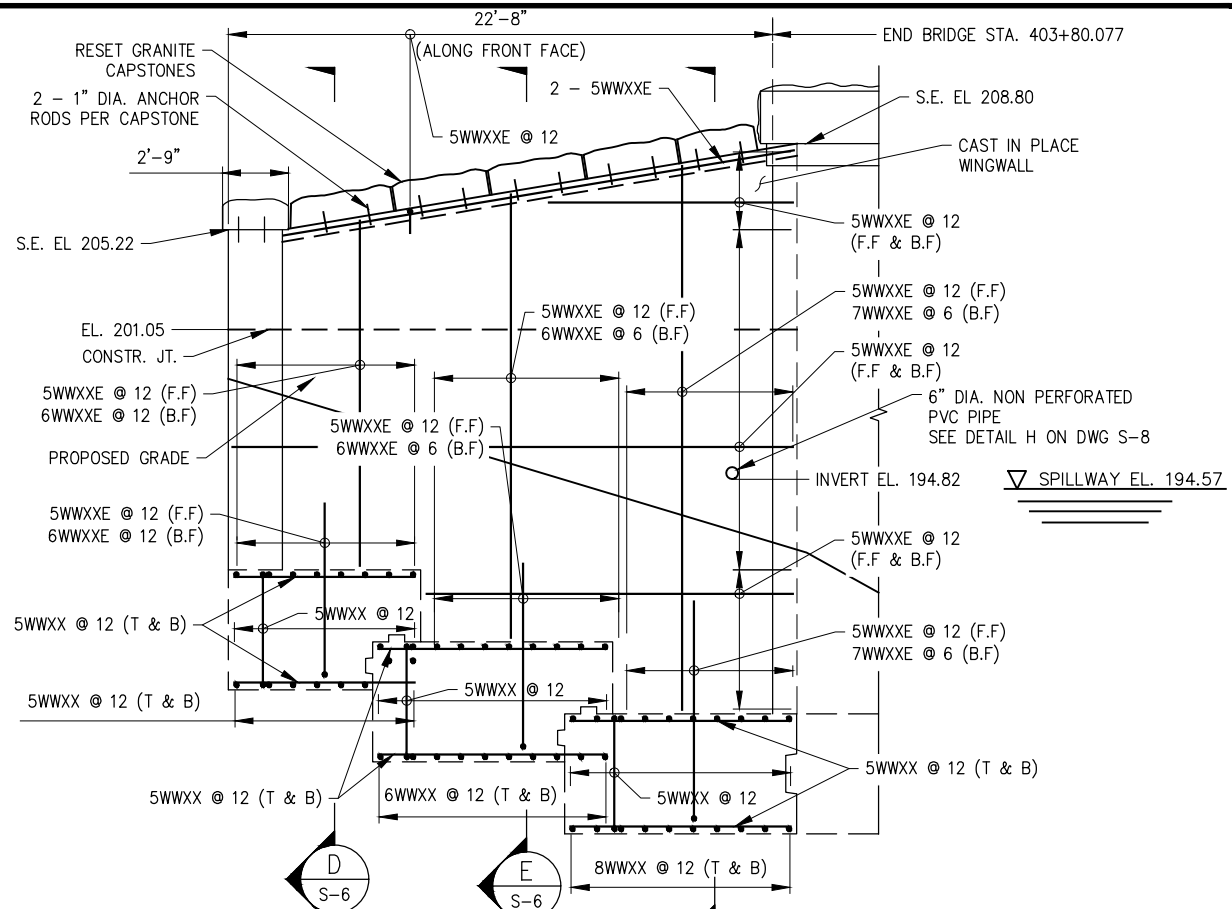
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CORONA, NEW YORK 11368
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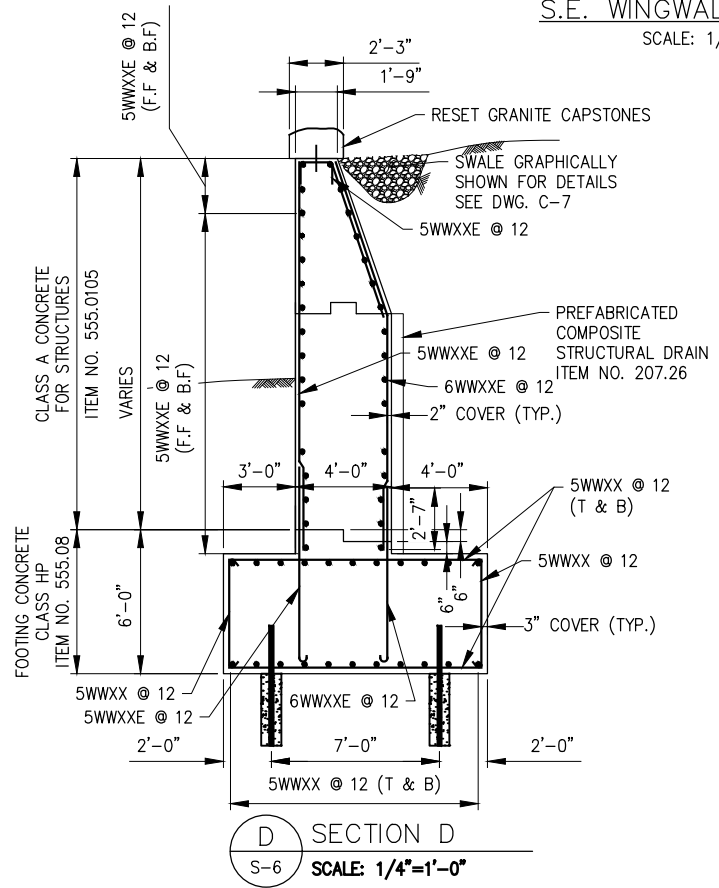
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

NORTH FOOTING REINFORCEMENT

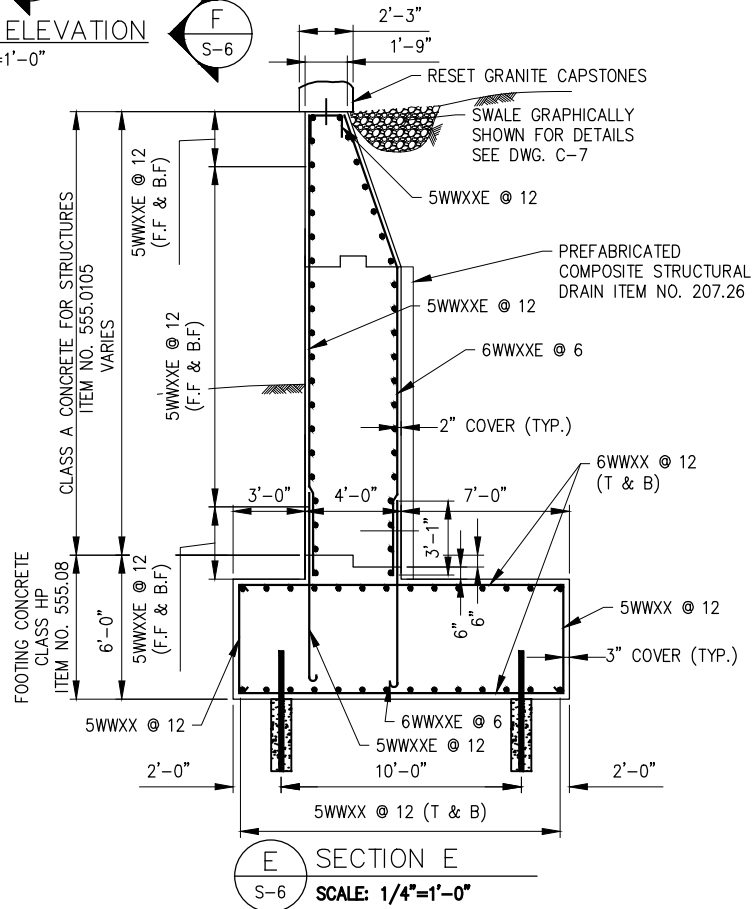
DATE: 10/26/2021
SCALE: AS NOTED
SHEET NO:
31 OF 51
DRAWING NO.
S-5



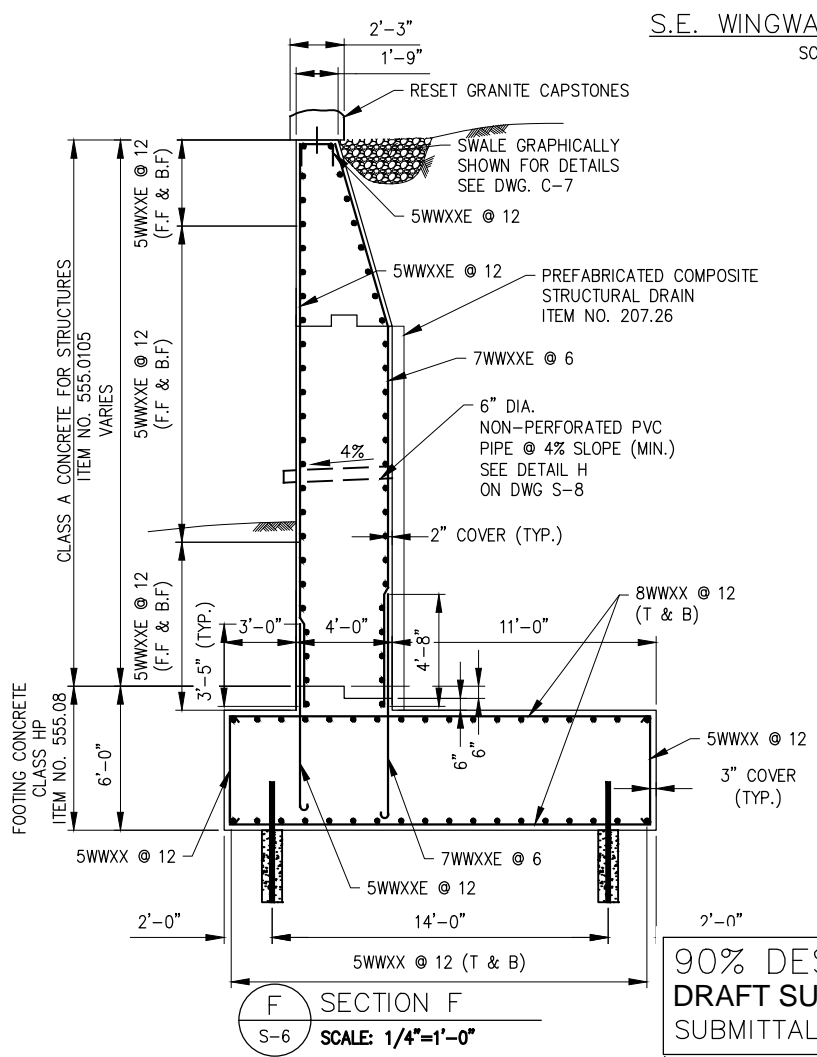
S.E. WINGWALL ELEVATION
SCALE: 1/4"=1'-0"



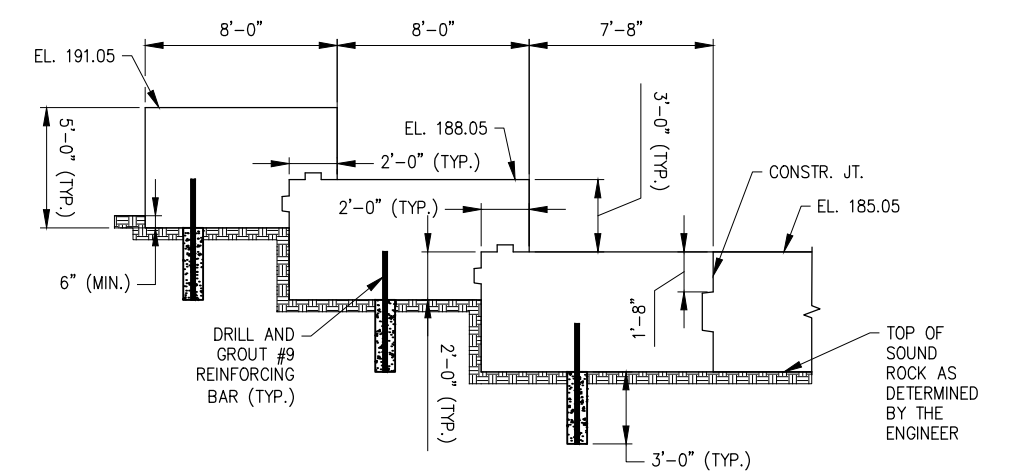
SECTION D
S-6 SCALE: 1/4"=1'-0"



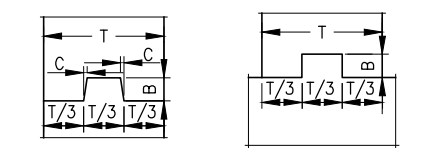
SECTION E
S-6 SCALE: 1/4"=1'-0"



SECTION F
S-6 SCALE: 1/4"=1'-0"

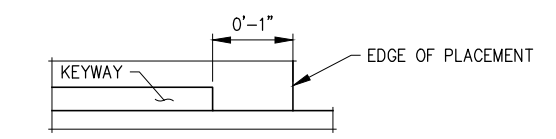


S.E. WINGWALL FOOTING DETAILS
SCALE: 1/4"=1'-0"



NOTE: WATERSTOP NOT SHOWN.
VERTICAL

NOTE: WATERSTOP NOT SHOWN.
HORIZONTAL



CONSTRUCTION AND CONSTRUCTION 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

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
CHECK BEFORE USE

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Last Saved By: & Date: Cahlykhova, Wednesday, August 18, 2021 and Date Picked: Thursday, August 19, 2021 Time: 4:45 PM
 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.356863 Plot Style Table: (N)_REDUCED.ctb
 Drawing Name: & Location: C:\Users\Cahlykhova\Inprod\Yms45611\South Wingwall Details_PLOT.dwg

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

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



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

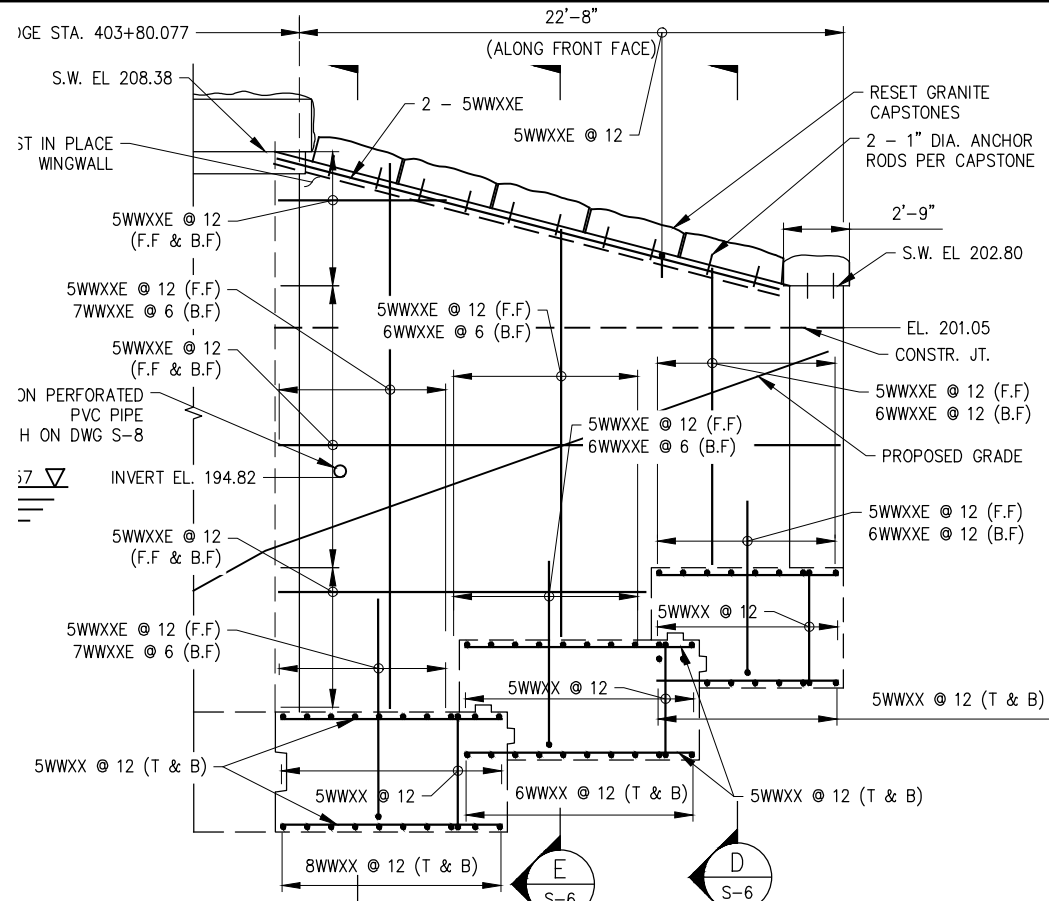
"WARNING—IT IS A VIOLATION, OF THE NEW YORK STATE EDUCATION LAW, SECTION, 7209.2, FOR ANY PERSON, UNLESS (S)HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION, LAW, SECTION, 7209.2."

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

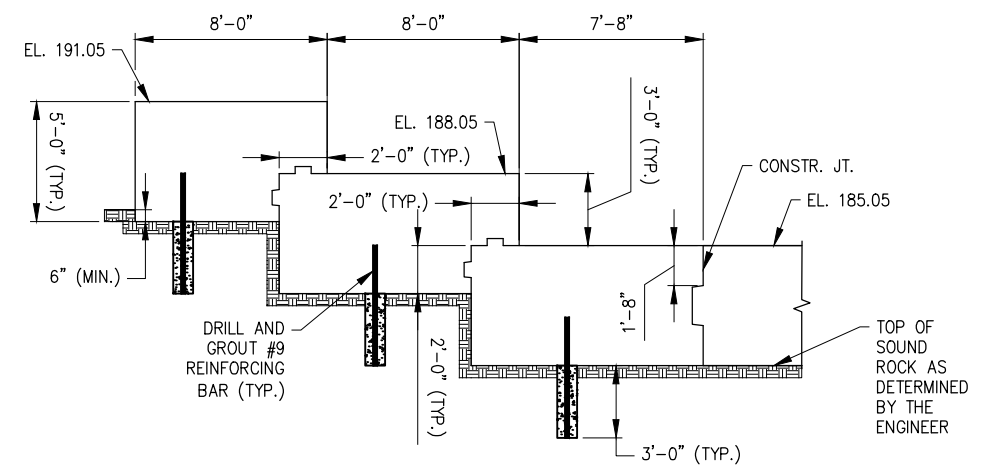
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

SE WINGWALL ELEVATIONS AND DETAILS

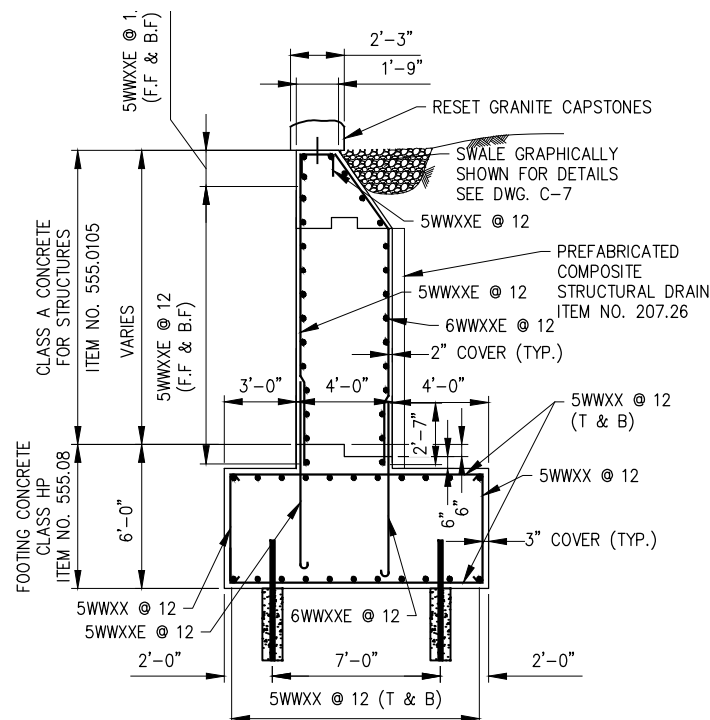
DATE: 10/26/2021
SCALE: 1/4"=1'-0"
SHEET NO: 32 OF 51
DRAWING NO. S-6



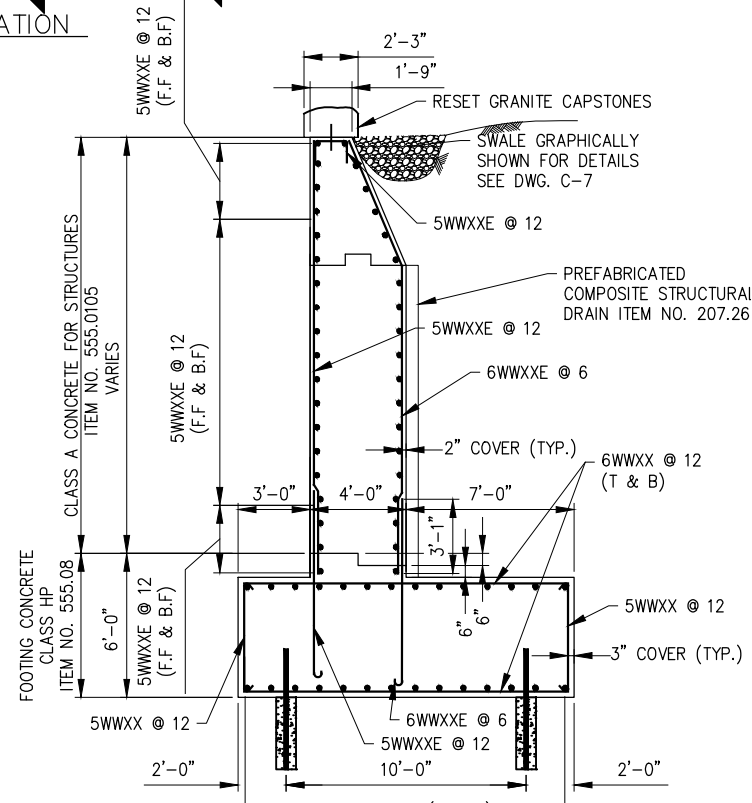
S.W. WINGWALL ELEVATION
SCALE: 1/4"=1'-0"



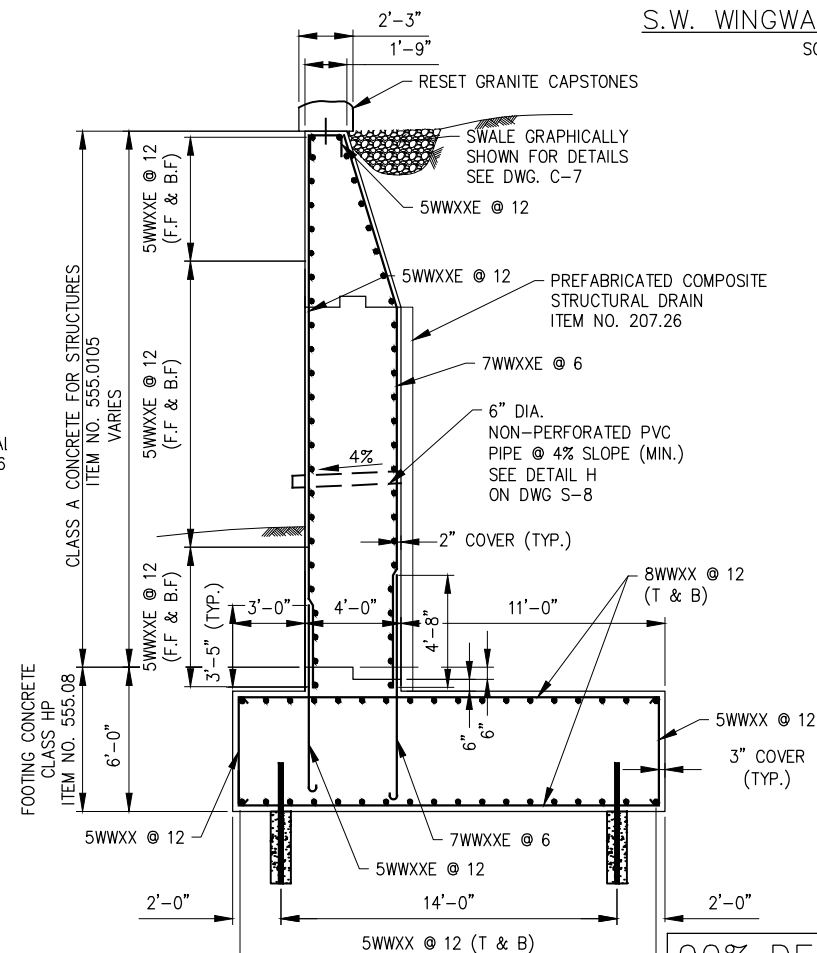
S.W. WINGWALL FOOTING DETAILS
SCALE: 1/4"=1'-0"



SECTION D
S-6 SCALE: 1/4"=1'-0"



SECTION E
S-6 SCALE: 1/4"=1'-0"



SECTION F
S-6 SCALE: 1/4"=1'-0"

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DRAFT SUBMISSION: 9/24/2021
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GRAPHIC SCALES
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 Paper Size: ANSI A (8.50 x 11.00 inches) Plot Scale: 0.366863 Plot Style Table: (N)_REDUC_BW.ctb
 Drawing Name: & Location: C:\Users\Cahlykhova\Inprod\Yms45611\SOOTH WINGWALL DETAILS_PLOT.dwg

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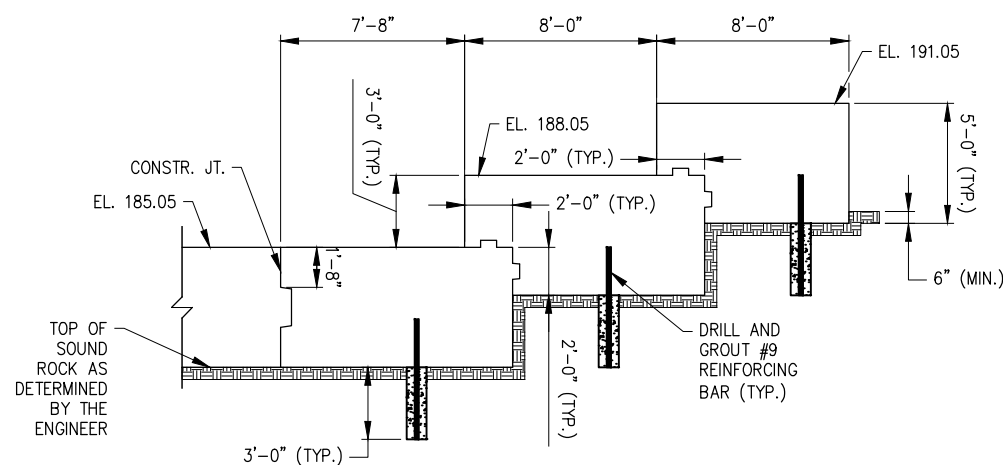
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

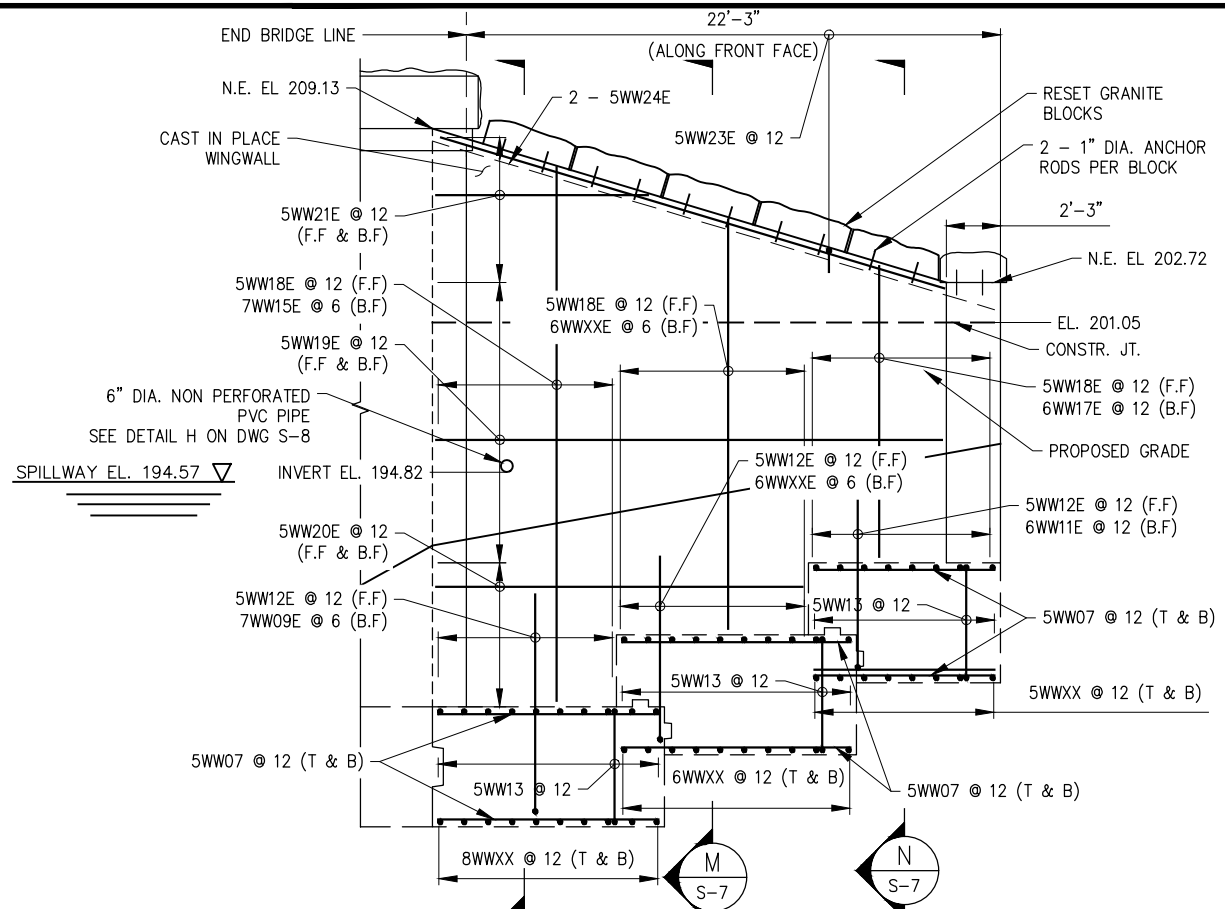
SW WINGWALL ELEVATIONS AND DETAILS

DATE: 10/26/2021
SCALE: 1/4"=1'-0"
SHEET NO:
33 OF 51
DRAWING NO.
S-7

Last Saved By: & Date: Cahlykhova, Wednesday, August 18, 2021 and Date Picked: Thursday, August 19, 2021 Time: 4:46 PM
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 Drawing Name: & Location: C:\Users\Cahlykhova\Inprod\Arms45611\NORTH WINGWALL DETAILS_PLOT.dwg

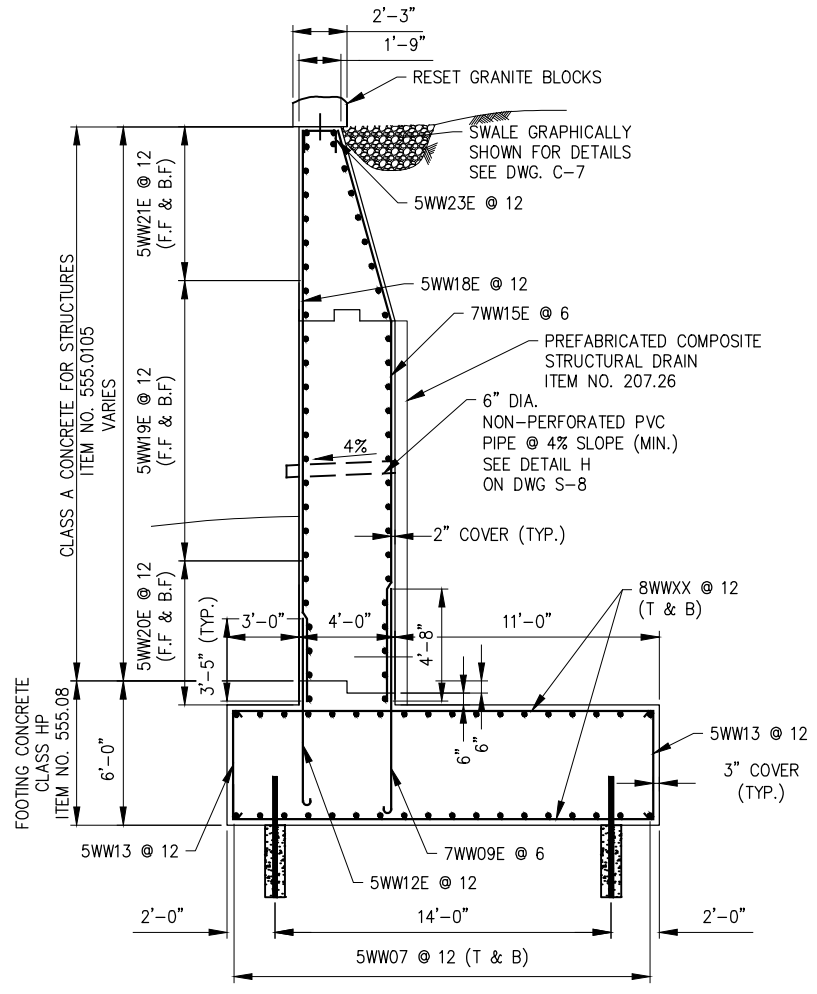


N.E. WINGWALL FOOTING DETAILS
SCALE: 1/4"=1'-0"

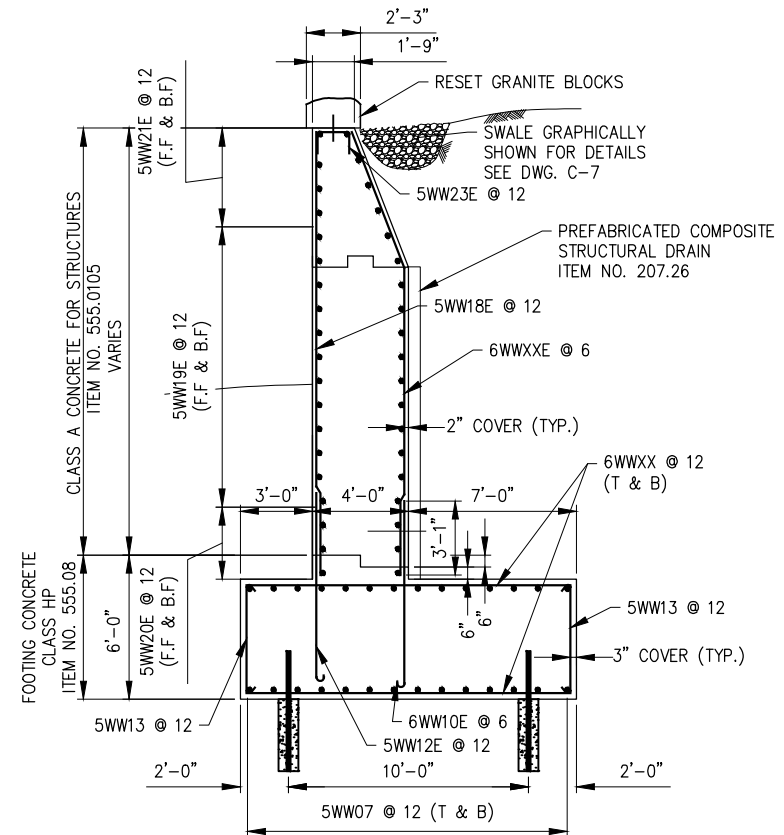


N.E. WINGWALL ELEVATION
SCALE: 1/4"=1'-0"

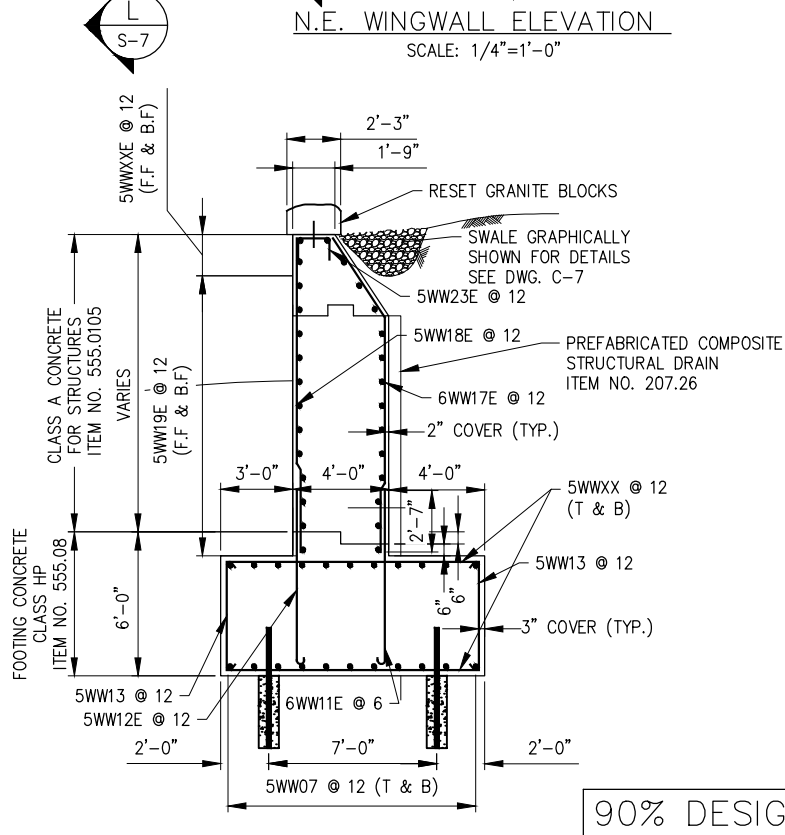
NOTE:
1. ROCK EXCAVATION IS ANTICIPATED FOR FOOTING CONSTRUCTION. WORK SHALL BE PAID UNDER UP-1 AND PERFORMED IN ACCORDANCE WITH NYCDEP SPECIFICATION SECTION 31 23 25.



SECTION L
SCALE: 1/4"=1'-0"



SECTION M
SCALE: 1/4"=1'-0"



SECTION N
SCALE: 1/4"=1'-0"

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DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
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CHECKED BY: R. ROMAN, P.E.	
DESIGN LEAD: R. ROMAN, 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	

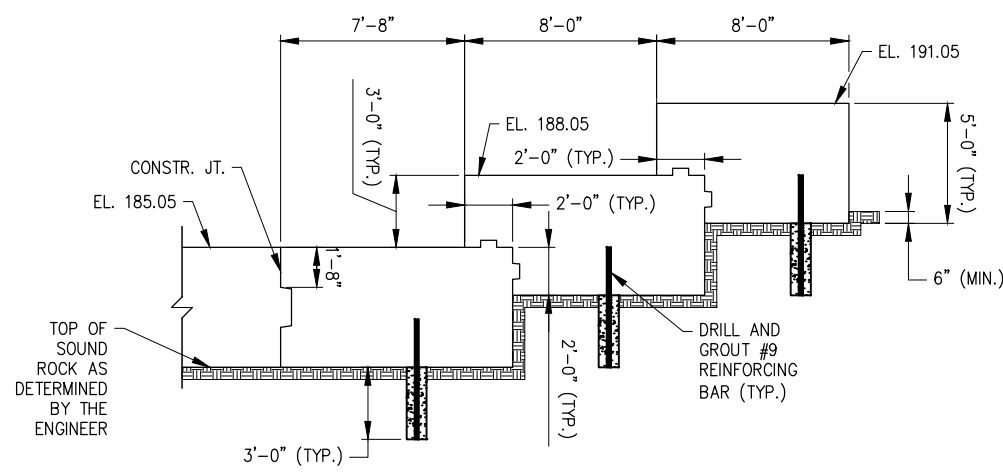
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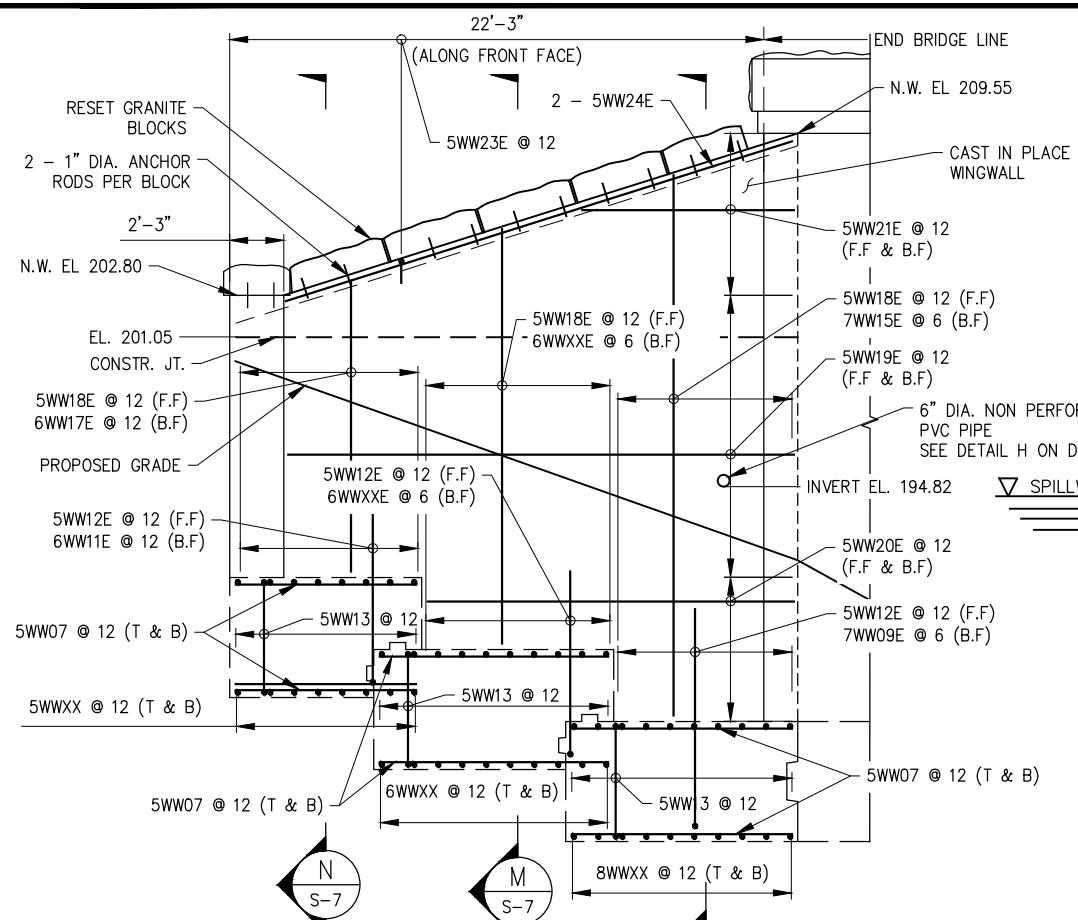
N.E WINGWALL ELEVATIONS AND DETAILS

DATE: 10/26/2021
SCALE: 1/4"=1'-0"
SHEET NO:
34 OF 51
DRAWING NO.
S-8

Last Saved By: & Date: Cahlykhova, Wednesday, August 18, 2021 and Date Picked: Thursday, August 19, 2021 Time: 4:46 PM
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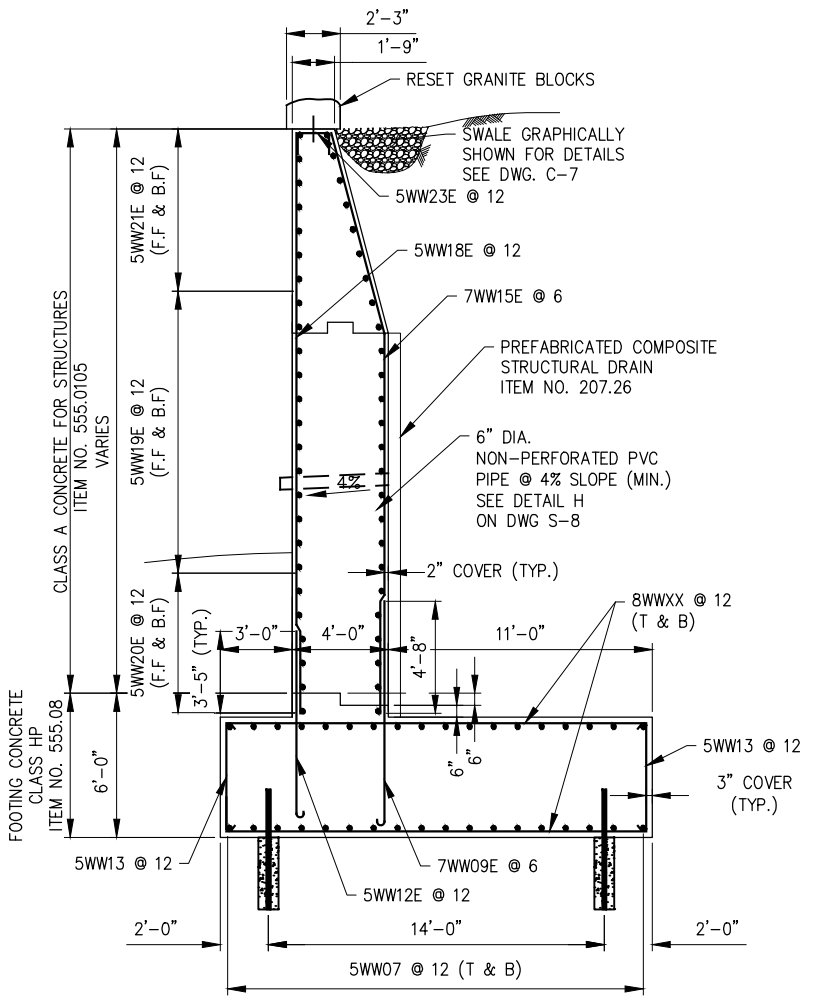


N.W. WINGWALL FOOTING DETAILS
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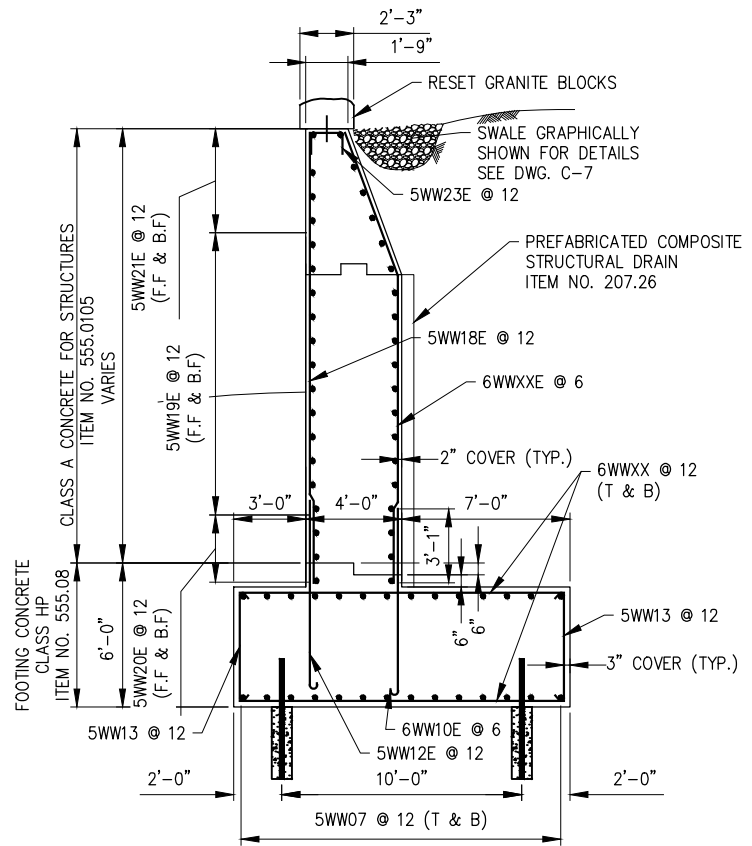


N.W. WINGWALL ELEVATION
SCALE: 1/4"=1'-0"

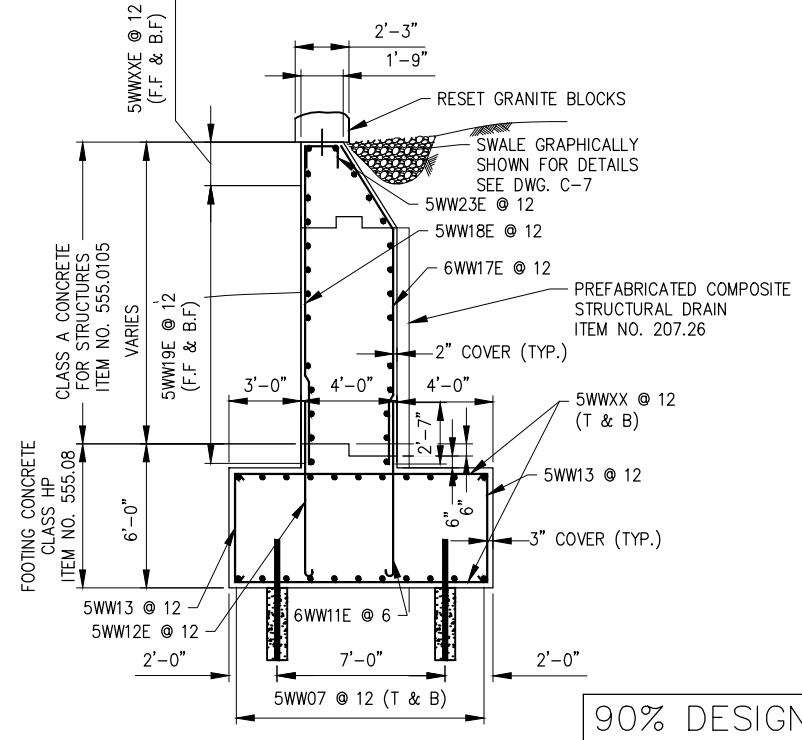
NOTE:
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SECTION L
SCALE: 1/4"=1'-0"



SECTION M
SCALE: 1/4"=1'-0"



SECTION N
SCALE: 1/4"=1'-0"

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DRAFT SUBMISSION: 9/24/2021
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NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

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CHECKED BY: R. ROMAN, P.E.	
DESIGN LEAD: R. ROMAN, P.E.	HARDESTY & HANOVER, LLC ENGINEERING
SECTION MANAGER:	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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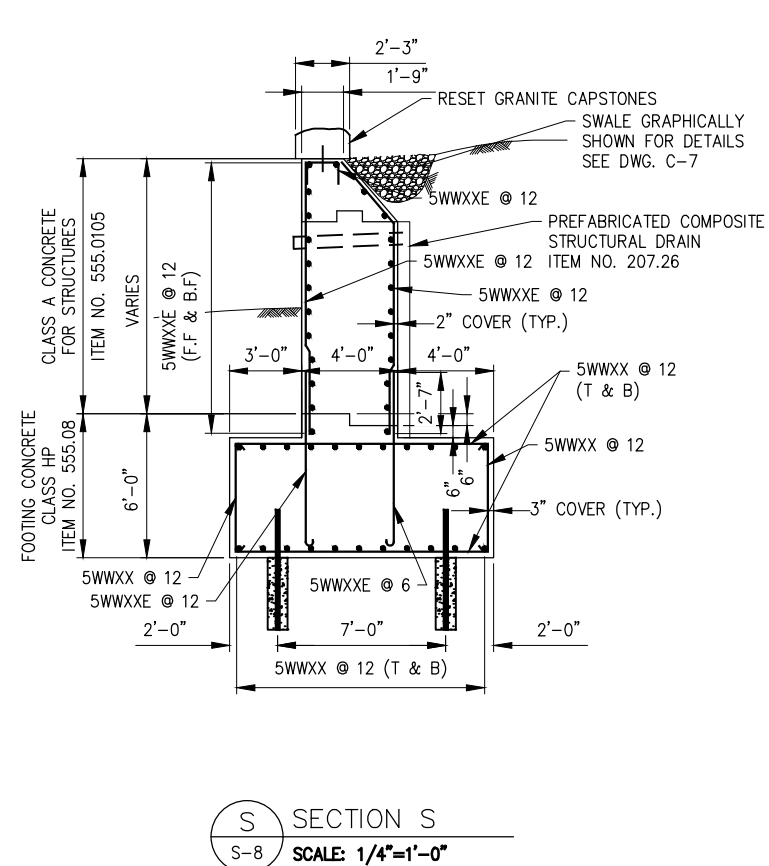
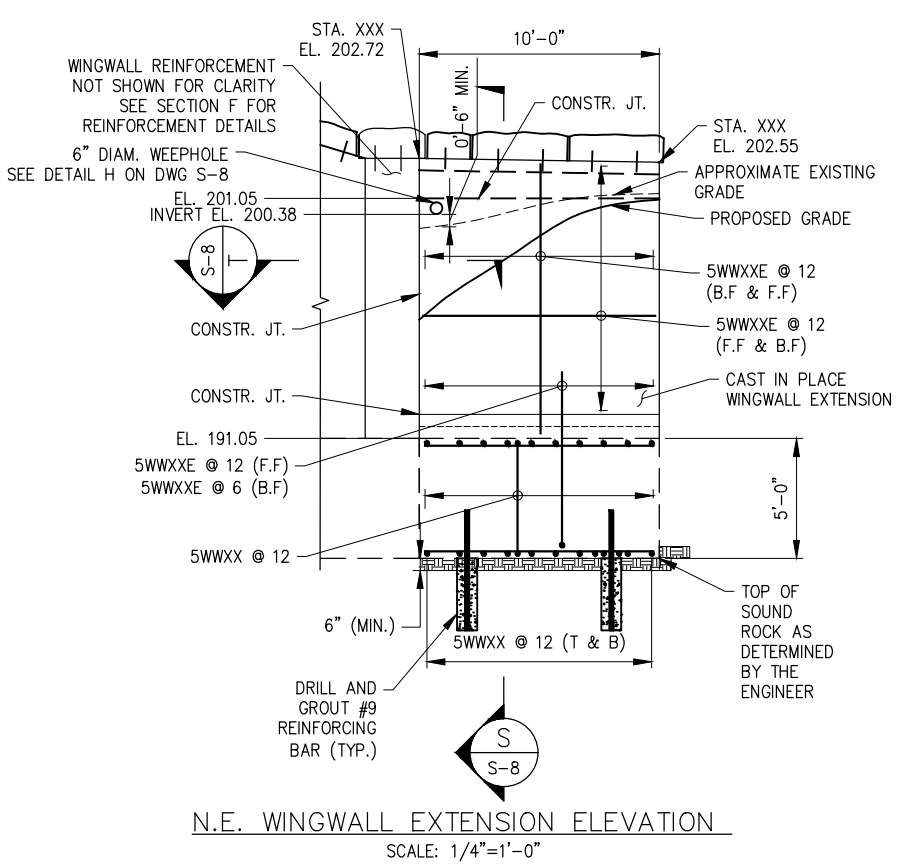
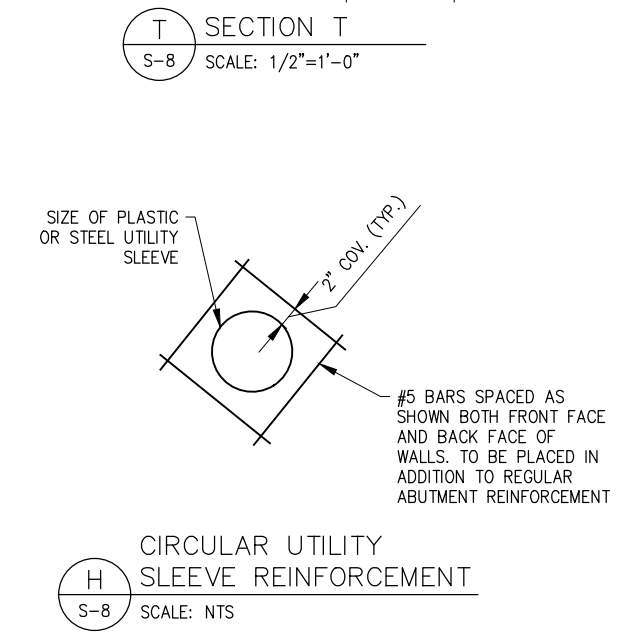
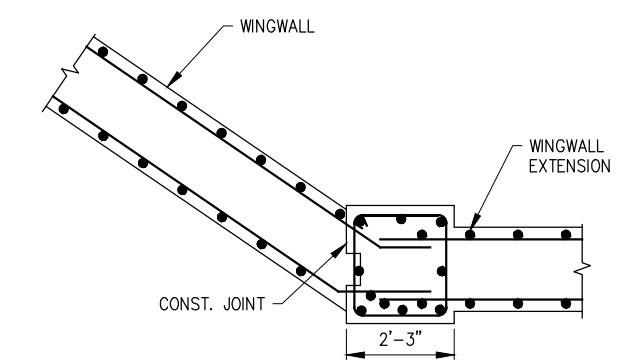
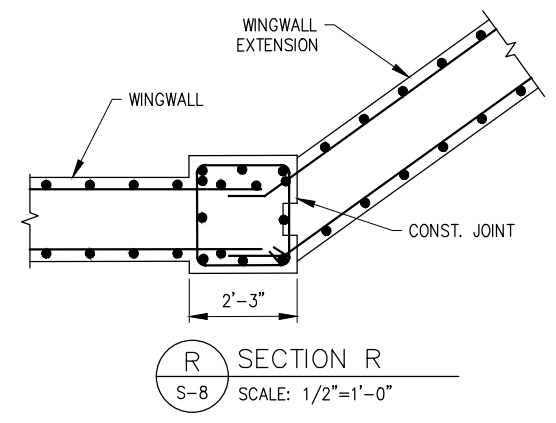
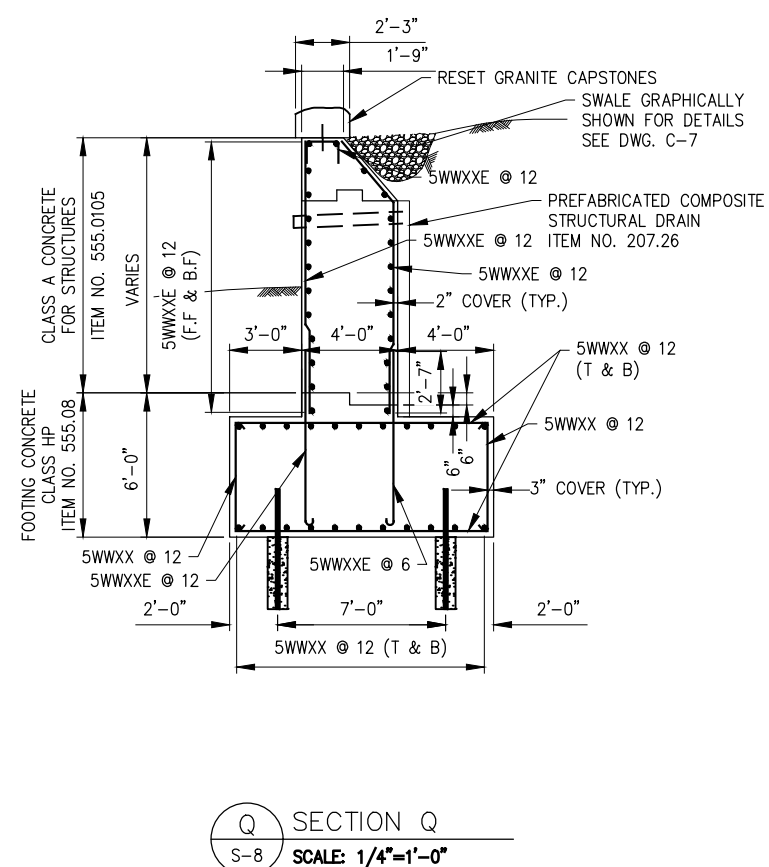
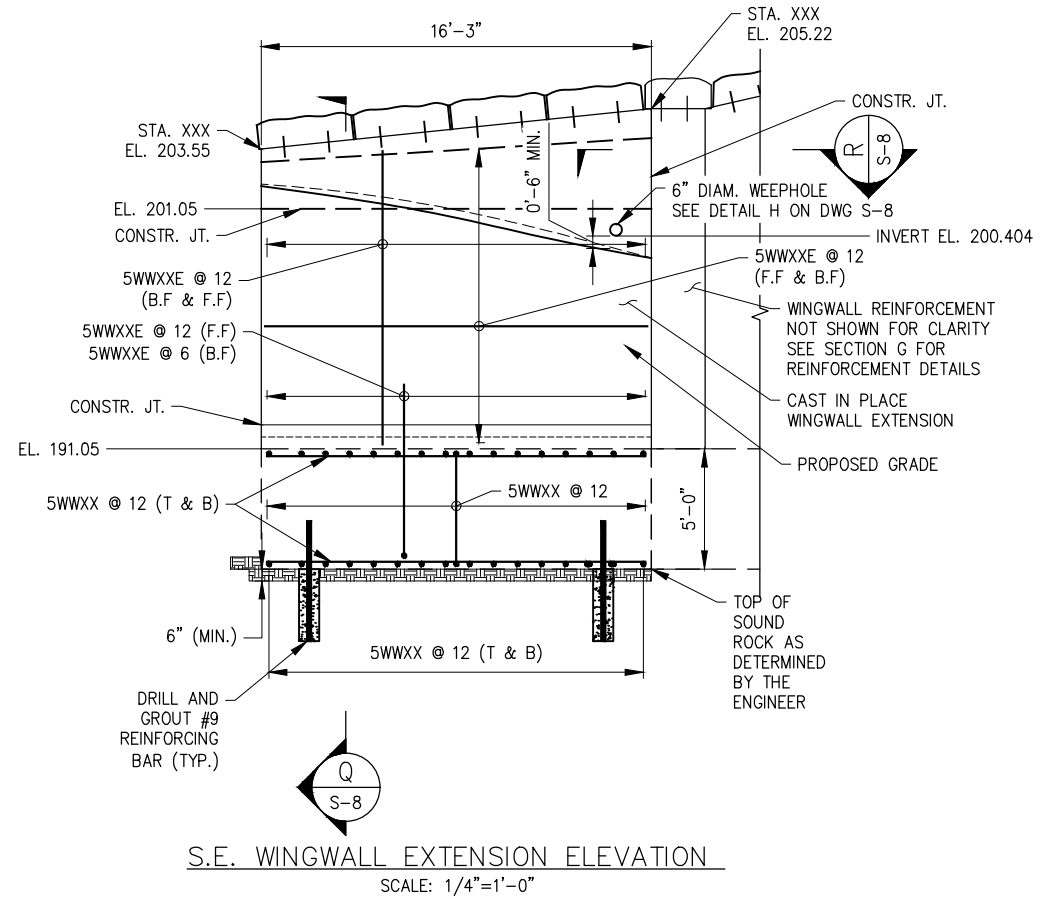
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

N.W. WINGWALL ELEVATIONS AND DETAILS

DATE: 10/26/2021
SCALE: 1/4"=1'-0"
SHEET NO: 35 OF 51
DRAWING NO. S-9

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



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.

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DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

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Drawing Name: & Location: C:\Users\Cahlykhov\OneDrive\Documents\45611\South Wingwall Details_PLOT.dwg

NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.

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



ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE
PORTFOLIO MANAGER PAUL COSTA, PE
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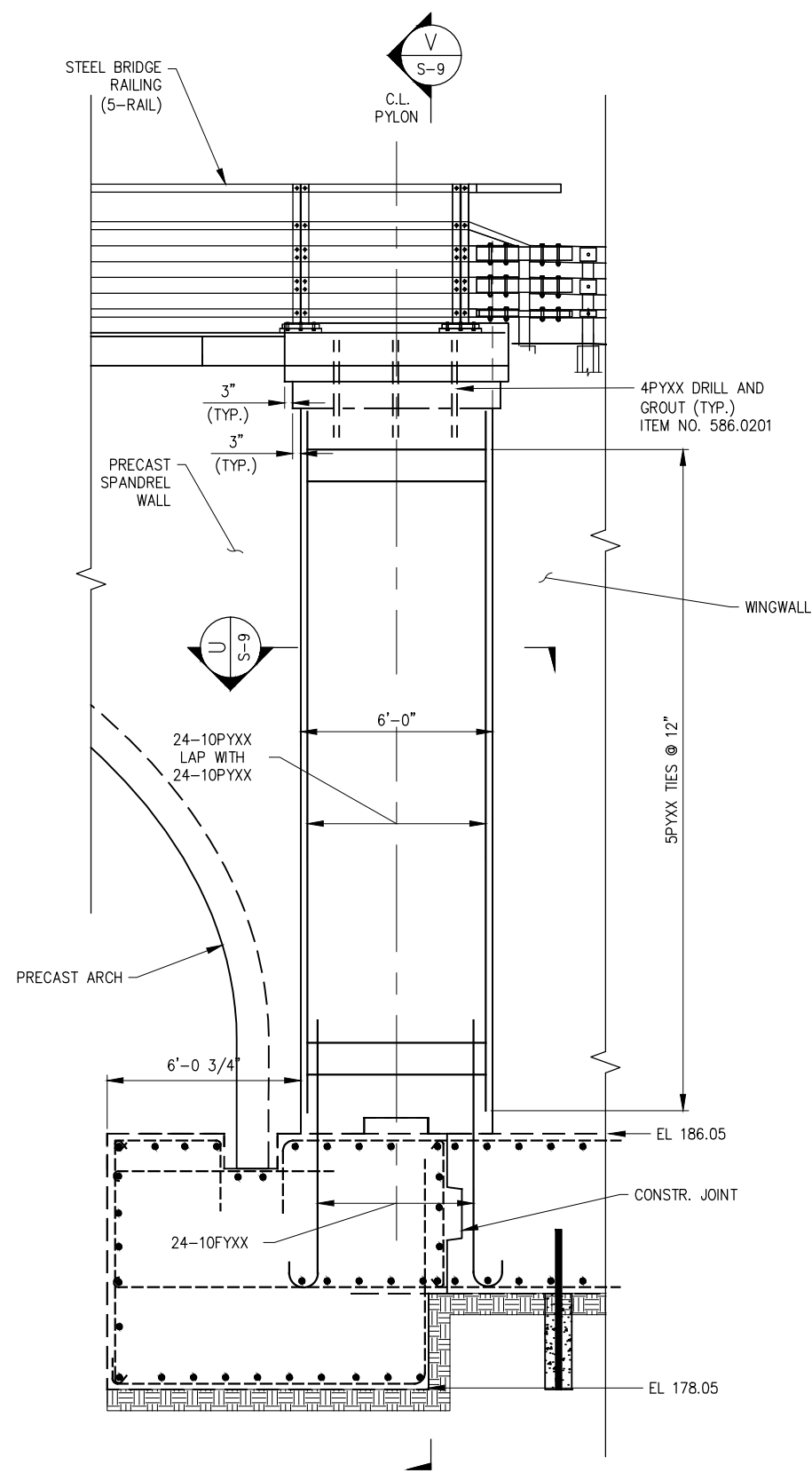
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

WINGWALL EXTENSIONS
ELEVATIONS AND DETAILS

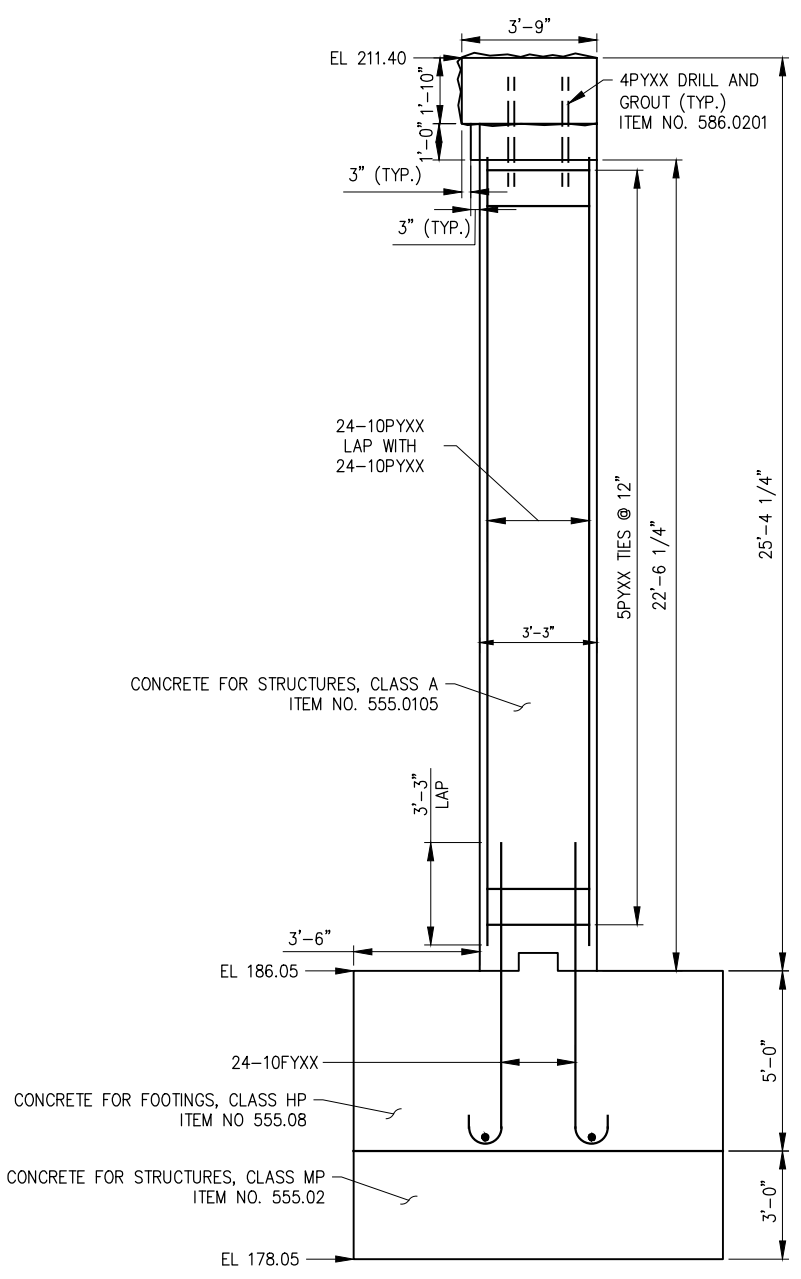
DATE: 10/26/2021
SCALE: 1/4"=1'-0"
SHEET NO: 36 OF 51
DRAWING NO. S-10

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

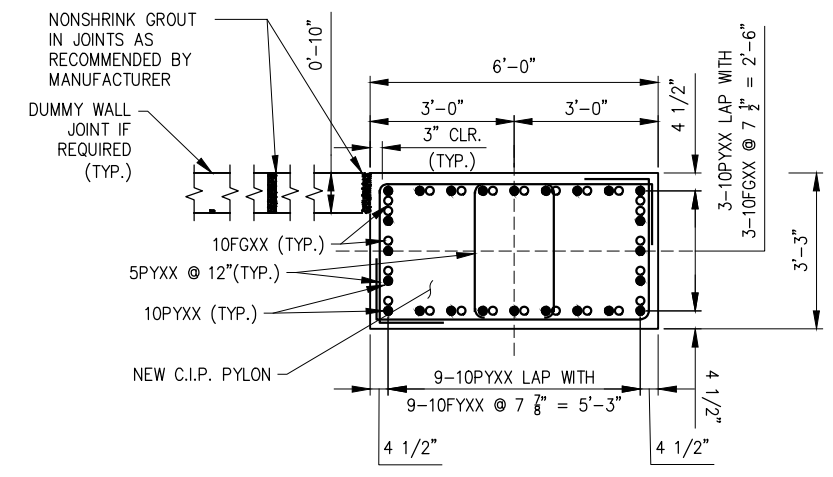
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 Drawing Name: & Location: C:\users\cshlykhova\hprod\dms37850\PLYON SECTION & DETAILS.dwg



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.

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DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
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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



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ACCOUNTABLE MANAGER
JEFFREY A. BUSSE, PE

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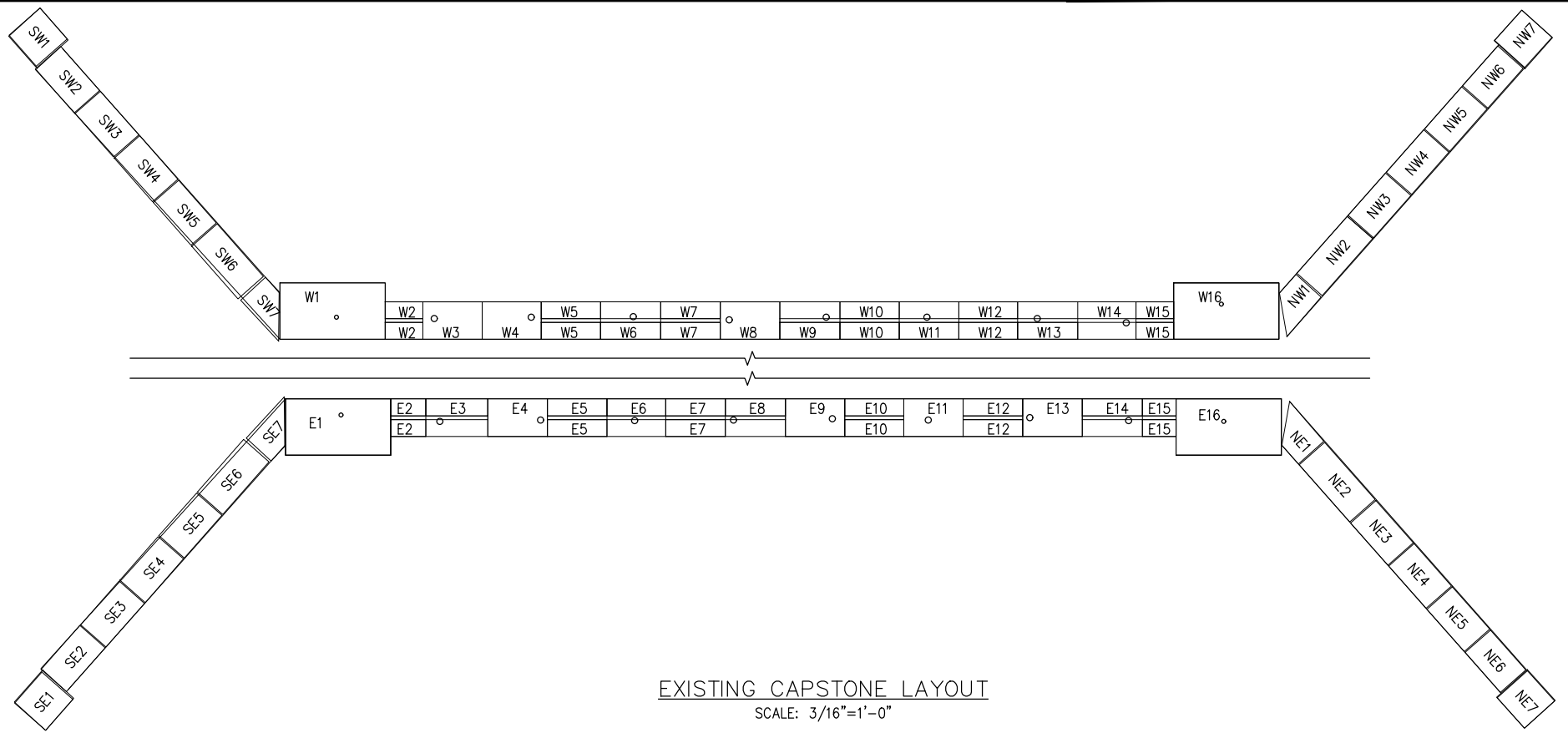
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
 CONTRACT CRO-530B

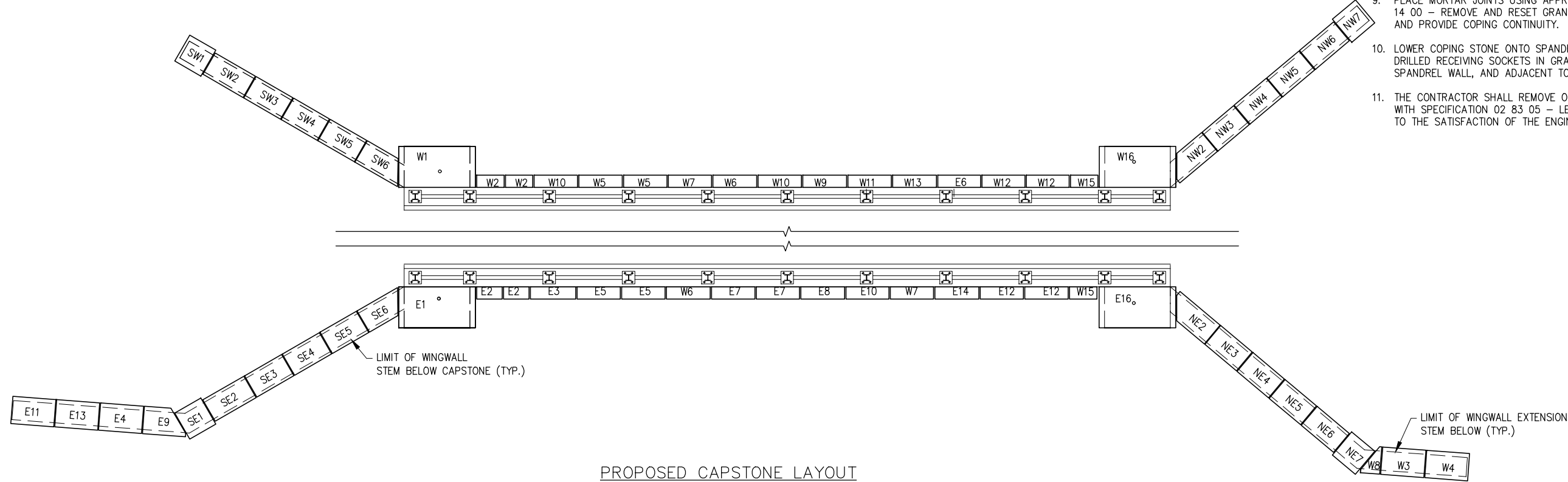
PLYON SECTION & DETAILS

DATE: 10/26/2021
 SCALE: AS NOTED
 SHEET NO:
 37 OF 51
 DRAWING NO.
S-11

Last Saved By & Date: Cshlyakhova, Wednesday, September 01, 2021 and Date Plotted: Thursday, September 09, 2021 Time: 9:42 AM
 Paper Size: ANSI A (8.50 x 11.00 Inches) Plot Scale: 0.388663 Plot Style Table: (N)_BEDC_BW.ctb
 Drawing Name: C:\users\cshlyakhova\hprod\dms45611\GRANITE STONE DETAILS_PLOT.dwg



EXISTING CAPSTONE LAYOUT
SCALE: 3/16"=1'-0"



PROPOSED CAPSTONE LAYOUT
SCALE: 3/16"=1'-0"

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, AND NO COST TO THE CITY.

SUGGESTED DEMOLITION AND RESTORATION PROCEDURE:

1. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS OF ALL STONES PRIOR TO CUTTING.
2. REMOVE EXISTING STEEL BRIDGE RAILING FROM EXISTING GRANITE COPING AND CLEAN ACCORDING TO SPECIFICATION 02 83 05 - LEAD MANAGEMENT.
3. REMOVE EXISTING MORTAR FROM GRANITE STONES WITH MEANS AND METHODS APPROVED BY THE RESIDENT ENGINEER. THE CONTRACTOR SHALL TAKE PRECAUTIONS NOT TO DAMAGE THE STONES DURING.
4. REMOVE GRANITE CAP STONES AND STORE FOR LATER RECONSTRUCTION. CONTRACTOR IS LIABLE FOR ALL DAMAGE TO THE EXISTING STONE.
5. 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 LS-5.
6. REMOVE, CLEAN, STORE AND RESET EXISTING GRANITE STONES IN ACCORDANCE WITH NYCDEP SPECIFICATION 04 41 00 AND PAID UNDER LS-5.
7. DRILL AND GROUT #4 STAINLESS STEEL BARS IN THE PRECAST ARCH SPANDREL WALL AS SHOWN AS PER THE MANUFACTURER'S RECOMMENDATION. PRIOR TO DRILLING, SPANDREL WALL REINFORCEMENT SHALL BE LOCATED WITH A PACHOMETER OR OTHER MEANS TO AVOID DAMAGING NEW 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 LS-5. IF ANTICIPATED ANCHOR HOLES ARE TO INTERFERE WITH AN EXISTING RAILING HOLE, MOVE THE ANCHOR HOLE TO ENSURE 1" CLEARANCE FROM RAILING HOLE.
8. 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. PAID UNDER ITEM LS-5.
9. PLACE MORTAR JOINTS USING APPROVED MATERIAL MIX PER PROJECT SPECIFICATION 01 14 00 - REMOVE AND RESET GRANITE CAPSTONES AS NECESSARY TO LEVEL STONES AND PROVIDE COPING CONTINUITY.
10. LOWER COPING STONE ONTO SPANDREL WALL ENSURING #4 GROUTED ANCHORS FIT INTO DRILLED RECEIVING SOCKETS IN GRANITE CAPSTONES AND ARE PLACED FLUSH ONTO SPANDREL WALL, AND ADJACENT TO NEXT STONE.
11. 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.

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

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

DRAWN BY:
J. CIRCOSTA

1501 Broadway New York, NY 10036



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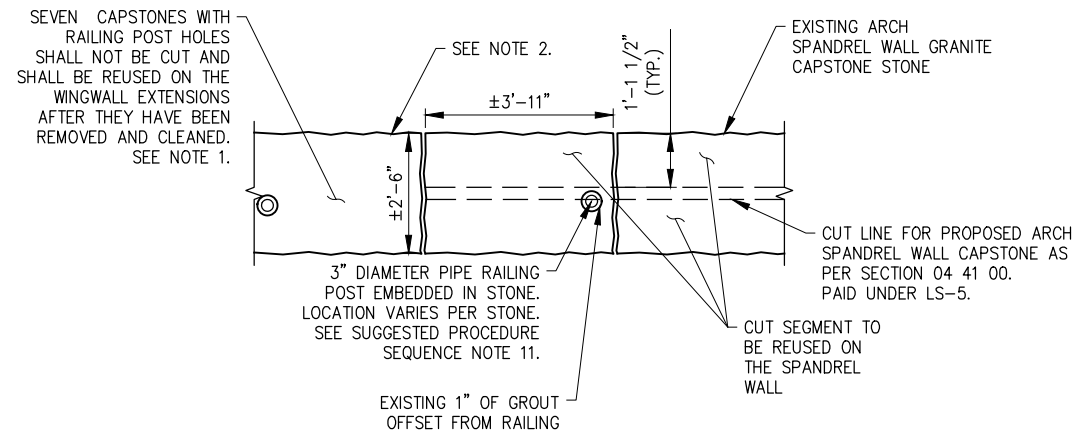
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CAPITAL PROJECT WM-30
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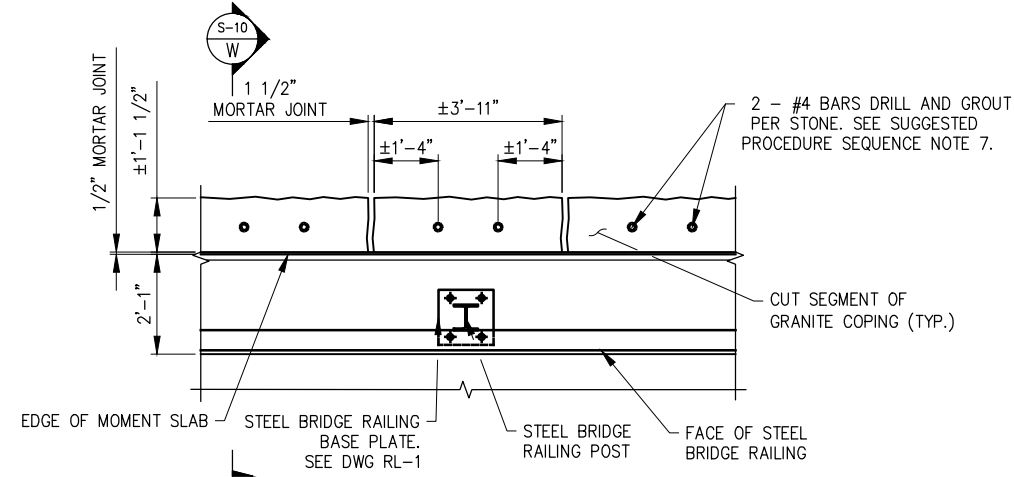
PROPOSED GRANITE CAPSTONE
AND SPANDREL WALL DETAILS - 1

DATE: 10/26/2021
SCALE: AS NOTED
SHEET NO:
38 OF 51
DRAWING NO.
S-12

Last Saved By & Date: Cshlyakova, Wednesday, September 01, 2021 and Date Plotted: Thursday, September 09, 2021 Time: 9:42 AM
 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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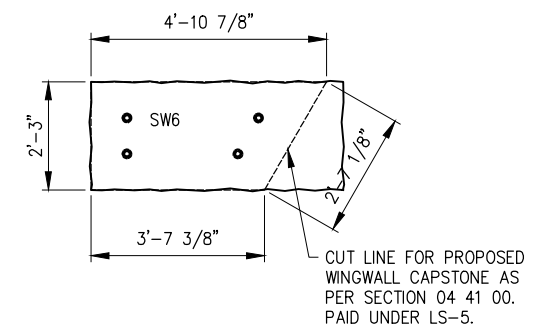


EXISTING SPANDREL WALL CAPSTONE CUTTING PLAN
SCALE: 1/2"=1'-0"

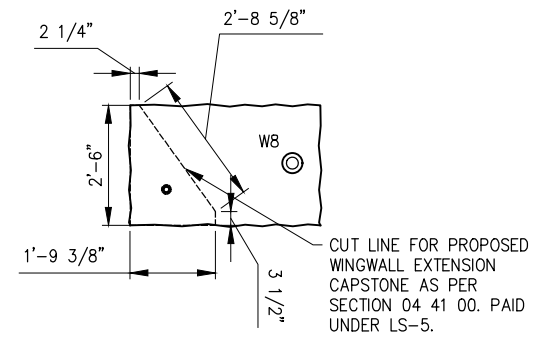


PROPOSED SPANDREL WALLS CAPSTONE PLAN
SCALE: 1/2"=1'-0"

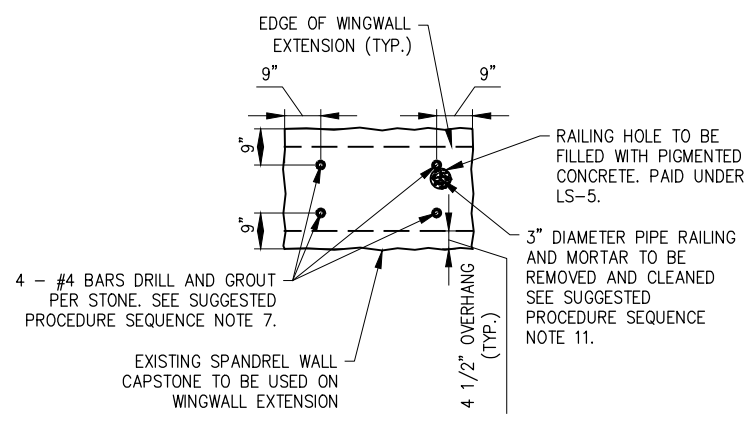
- NOTES:
- FOR EXISTING AND PROPOSED CAPSTONE LAYOUT SEE DWG. NO. S-X.
 - SEE DRAWING S-X FOR REMOVAL, CUTTING AND ANCHOR DETAILS.



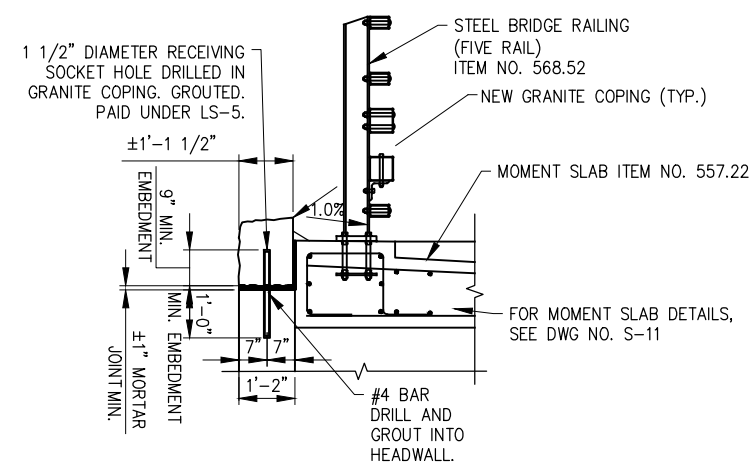
EXISTING S.W. WINGWALL CAPSTONE FOR REUSE ON S.W. WINGWALLS PLAN
SCALE: 1/2"=1'-0"



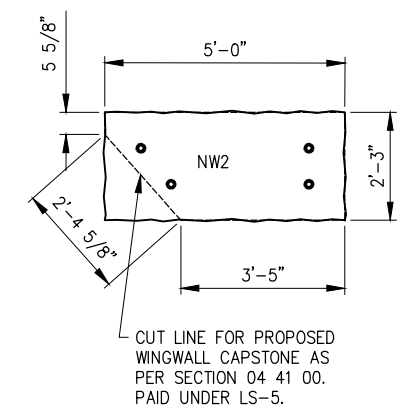
EXISTING SPANDREL WALL CAPSTONE FOR REUSE ON N.E. WINGWALL EXTENSION PLAN
SCALE: 1/2"=1'-0"



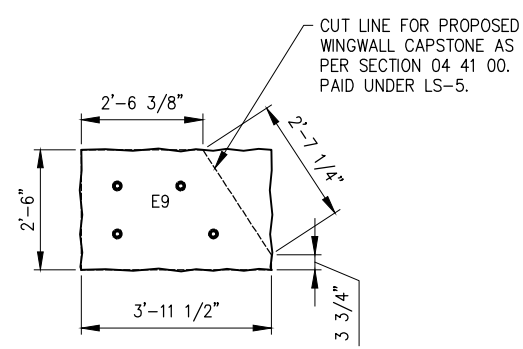
EXISTING SPANDREL WALL CAPSTONE FOR REUSE ON WINGWALL EXTENSIONS PLAN
SCALE: 1/2"=1'-0"



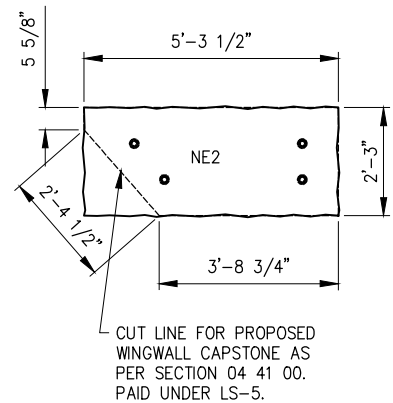
SECTION W
SCALE: 1/2"=1'-0"



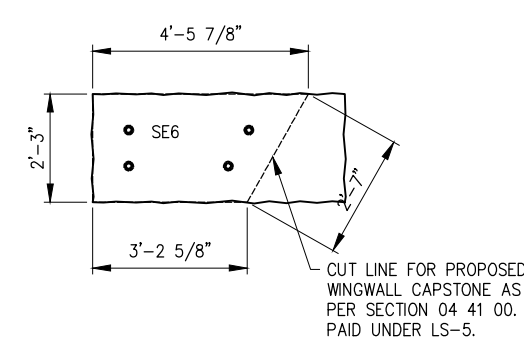
EXISTING N.W. WINGWALL CAPSTONE FOR REUSE ON N.W. WINGWALLS PLAN
SCALE: 1/2"=1'-0"



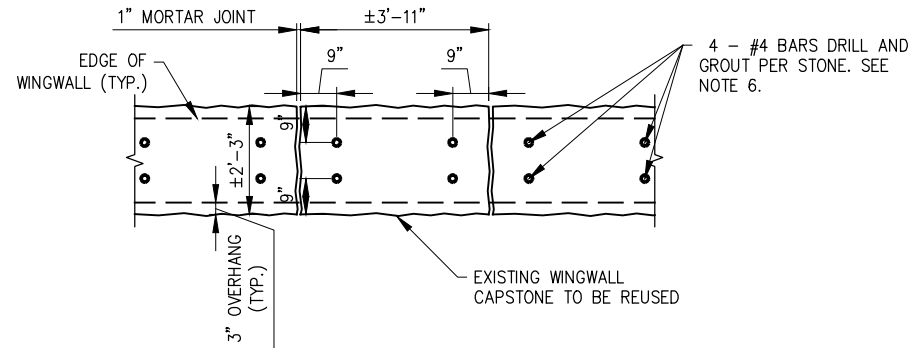
EXISTING SPANDREL WALL CAPSTONE FOR REUSE ON S.E. WINGWALL EXTENSION PLAN
SCALE: 1/2"=1'-0"



EXISTING N.E. WINGWALL CAPSTONE FOR REUSE ON N.E. WINGWALLS PLAN
SCALE: 1/2"=1'-0"



EXISTING S.E. WINGWALL CAPSTONE FOR REUSE ON S.E. WINGWALLS PLAN
SCALE: 1/2"=1'-0"



PROPOSED WINGWALLS CAPSTONE PLAN
SCALE: 1/2"=1'-0"

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

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

NO.	DATE	REVISIONS/DESCRIPTION	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



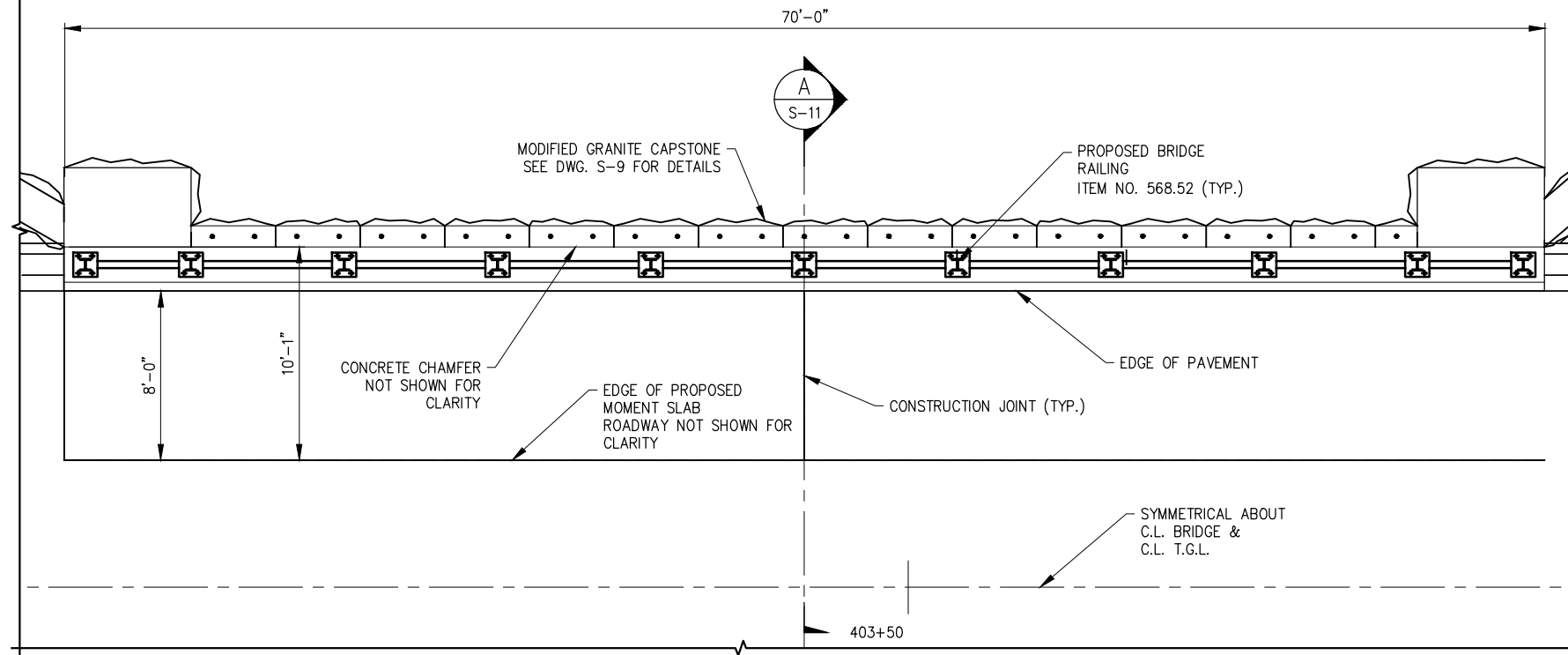
ACCOUNTABLE MANAGER
JEFFREY A. BUSSE, PE
PORTFOLIO MANAGER
PAUL COSTA, PE
EXECUTIVE DIRECTOR
SEAN McANDREW, PE

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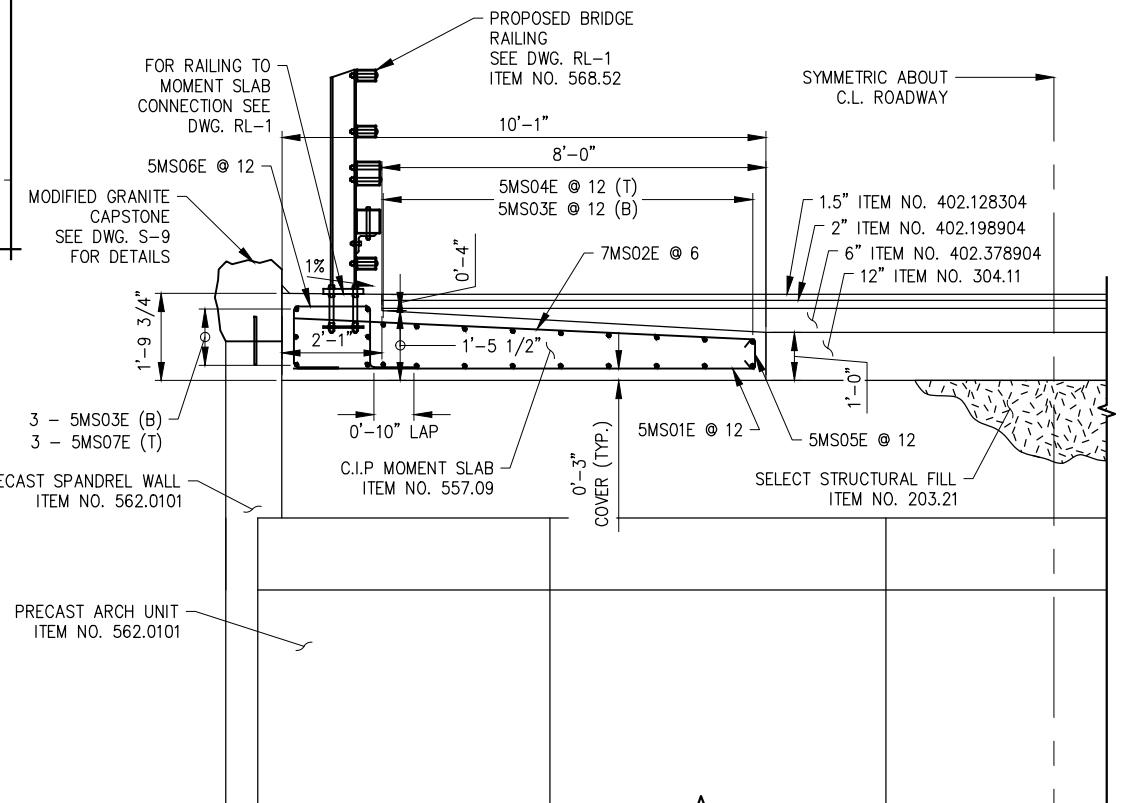
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ENVIRONMENTAL PROTECTION
BUREAU OF ENGINEERING DESIGN & CONSTRUCTION
96-05 HORACE HARDING EXPRESSWAY 5th FLOOR
CORONA, NEW YORK 11368
www.nyc.gov/dep

CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
PROPOSED GRANITE CAPSTONE
AND SPANDREL WALL DETAILS - 2
DATE: 10/26/2021
SCALE: AS NOTED
SHEET NO.:
39 OF 51
DRAWING NO.
S-13

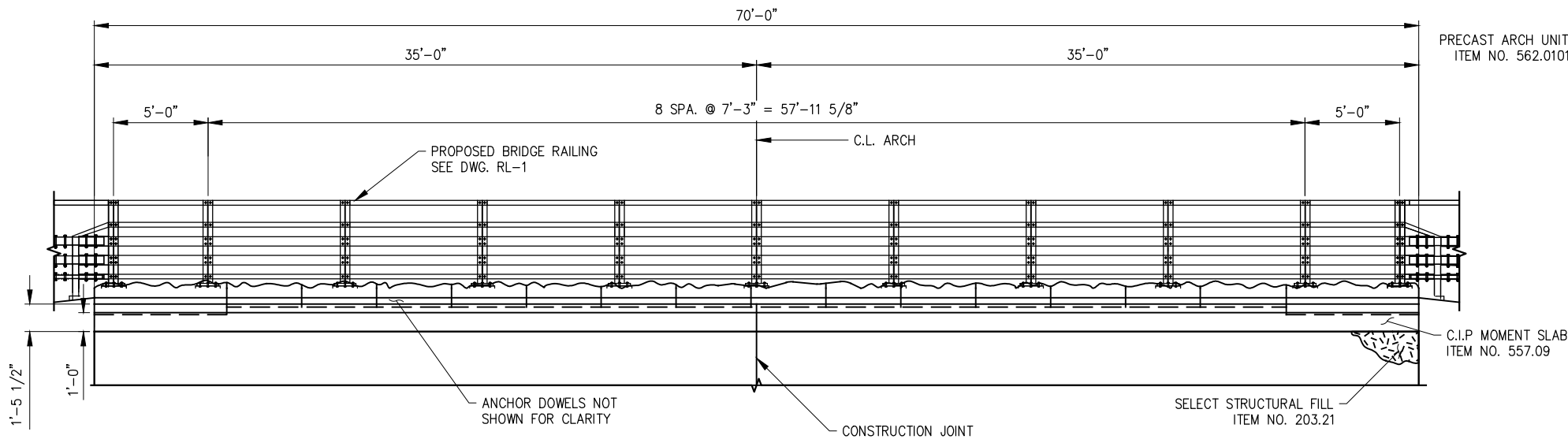
NOTE:
1. FOR RAILING DETAILS SEE DWG. RL-1



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



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



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

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

GRAPHIC SCALES
CHECK BEFORE USE

IF SHEET IS LESS THAN 22" X 34"
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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
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\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

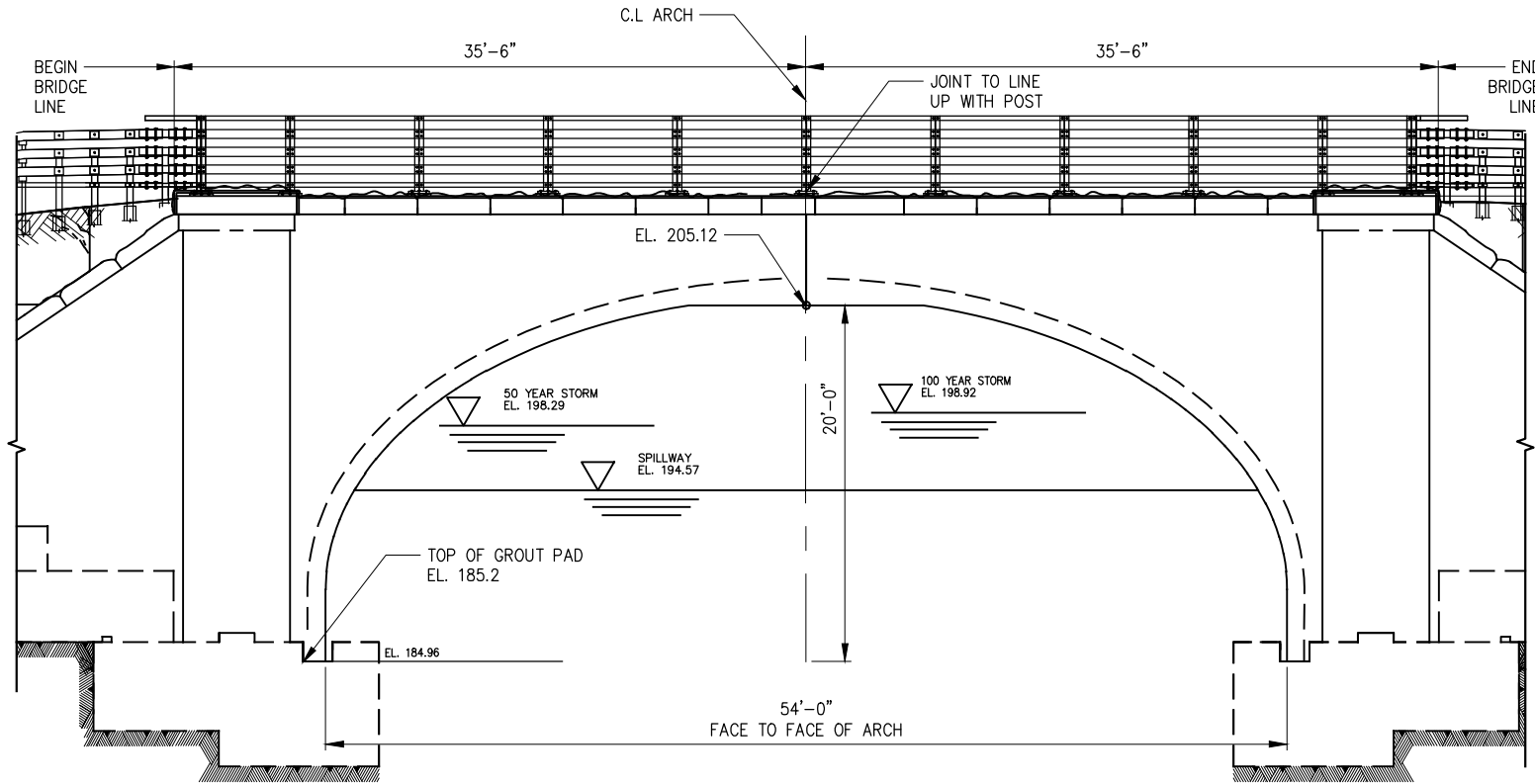
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CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B

MOMENT SLAB DETAILS

DATE: 10/26/2021
SCALE: AS NOTED
SHEET NO:
40 OF 51
DRAWING NO.
S-14



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

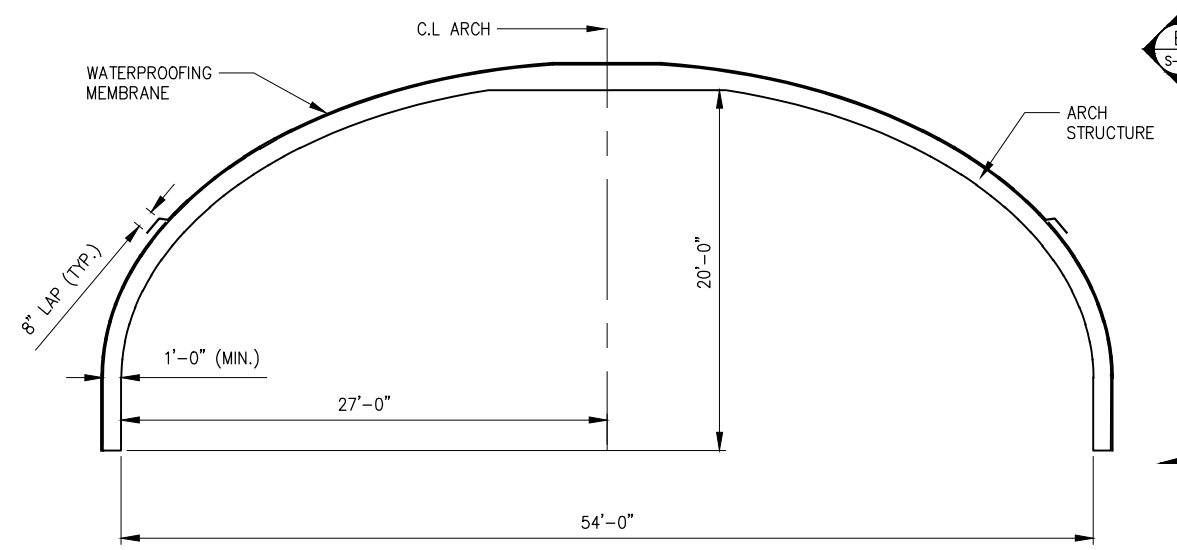
GEOTECHNICAL DESIGN DATA	
MAX SERVICE BEARING RESISTANCE, KSF	16
SOIL UNIT WT. KIPS/CF	0.125
FRICTION ANGLE, DEG	32
COEFFICIENT OF SLIDING FRICTION	1

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

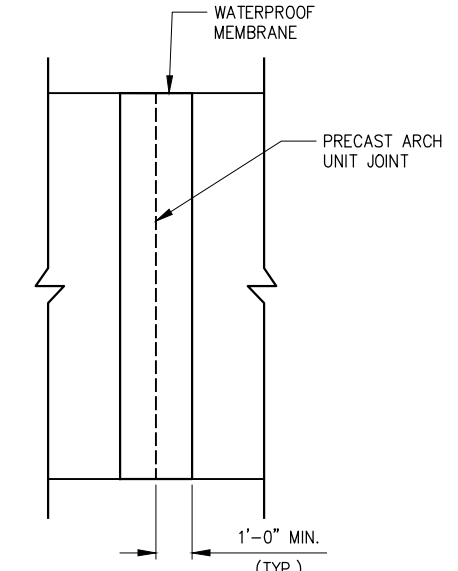
LOAD RATING (LFD)		
	HS	TONS
INVENTORY		
OPERATING		

LRFR RATING FACTORS		
	HL-93	TONS
INVENTORY		
OPERATING		

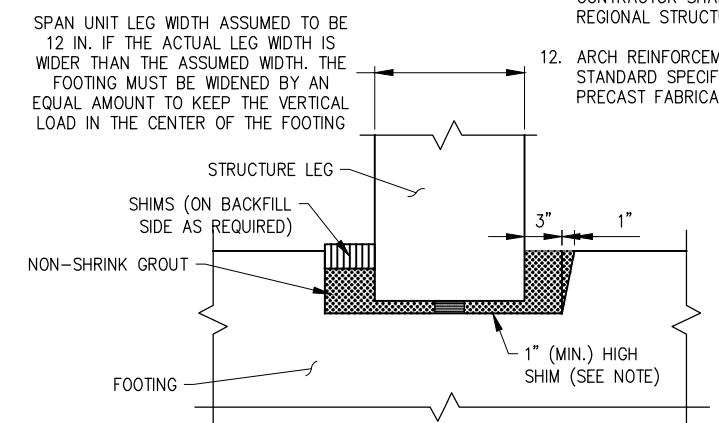
- NOTES:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING DESIGN SUBMISSIONS FOR ALL PRECAST COMPONENTS, INCLUDING COMPLETE SET OF WORKING DRAWINGS, A COMPLETE SET OF DESIGN AND LOAD RATING CALCULATIONS, AND DETAILED INSTALLATION PROCEDURE. THE DRAWINGS AND THE DESIGN CALCULATIONS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEW YORK STATE. FABRICATION REQUIREMENTS ARE CONTAINED IN SECTION 562 OF THE STANDARD SPECIFICATIONS.
 2. 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.
 3. 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.
 4. FOOTING LOADS IN EXCESS OF THE ASSUMED FOOTING LOADS TABLE REQUIRE THAT THE FOOTING DESIGN BE VERIFIED BY THE CONTRACTOR'S LICENSED ENGINEER.
 5. 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.
 6. 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.
 7. 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.
 8. 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.
 9. ARCH SHAPE ASSUMED BEBO E54/T6 FOR PURPOSE OF HYDRAULIC FLOW ANALYSIS. CONTRACTOR SHALL DEMONSTRATE THAT THE PROPOSED ARCH PROVIDES EQUIVALENT HYDRAULIC FLOW PERFORMANCE.
 10. 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.
 11. 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.
 12. 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.



PRECAST ARCH DETAILS
N.T.S.



SECTION-B
N.T.S.



PRECAST ARCH SUPPORT DETAIL
N.T.S.

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

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

Last Saved By & Date: Cshlyakhova, Friday, April 23, 2021 and Date Plotted: Monday, July 19, 2021 Time: 1:07 PM
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 Drawing Name: C:\users\cshlyakhova\hprod\dms37850\PRECAST ARCH DETAILS.dwg

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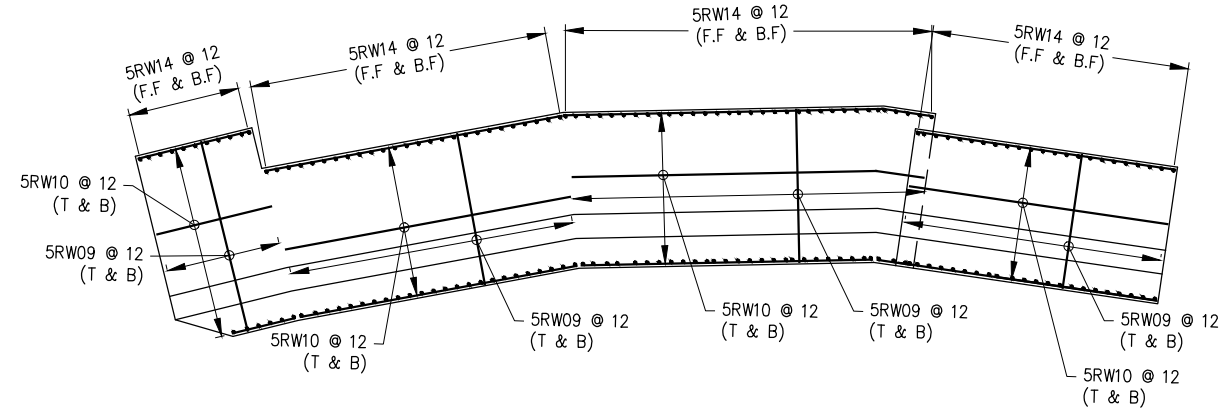
NEW YORK CITY
ENVIRONMENTAL PROTECTION
BUREAU OF ENGINEERING DESIGN & CONSTRUCTION
96-05 HORACE HARDING EXPRESSWAY 5th FLOOR
CORONA, NEW YORK 11368
www.nyc.gov/dep

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

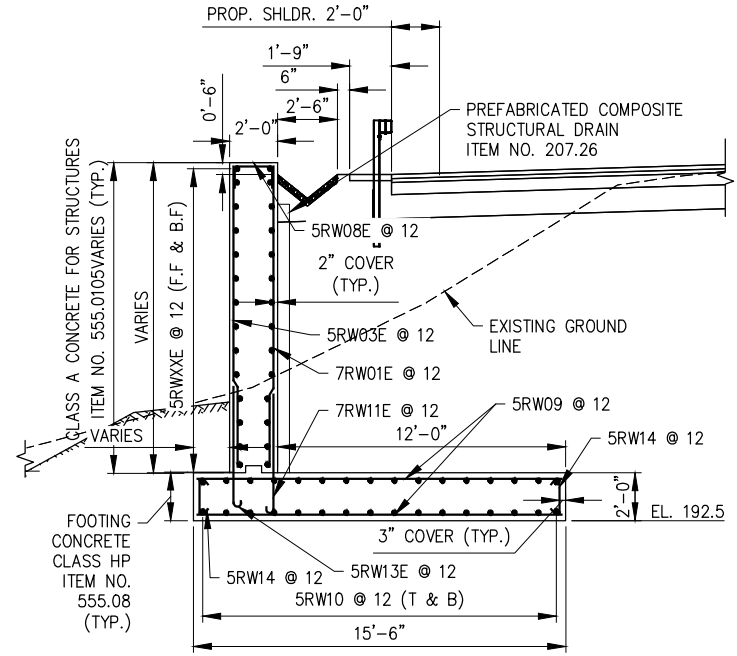
PRECAST DETAILS

DATE: 10/26/2021
SCALE: NOT TO SCALE
SHEET NO. 41 OF 51
DRAWING NO. S-15

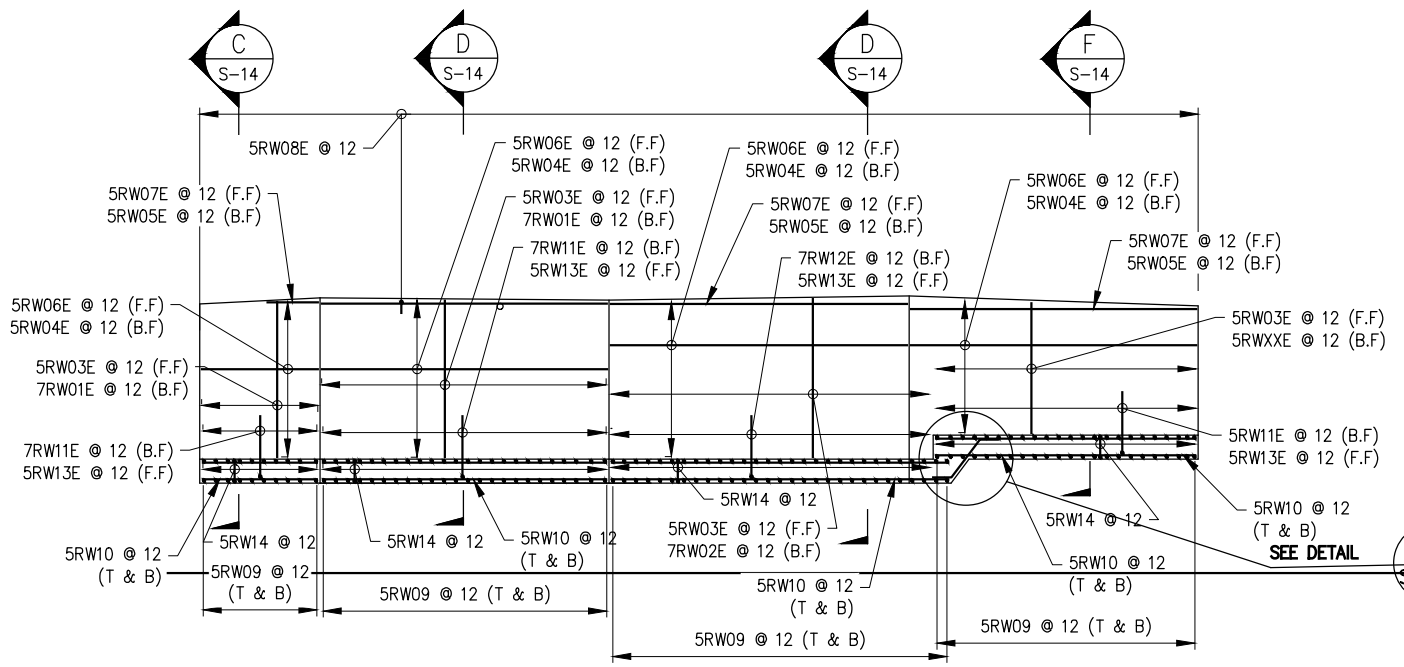
NOTE:
1. SEE DWG S-13 FOR GEOMETRIC DETAILS.



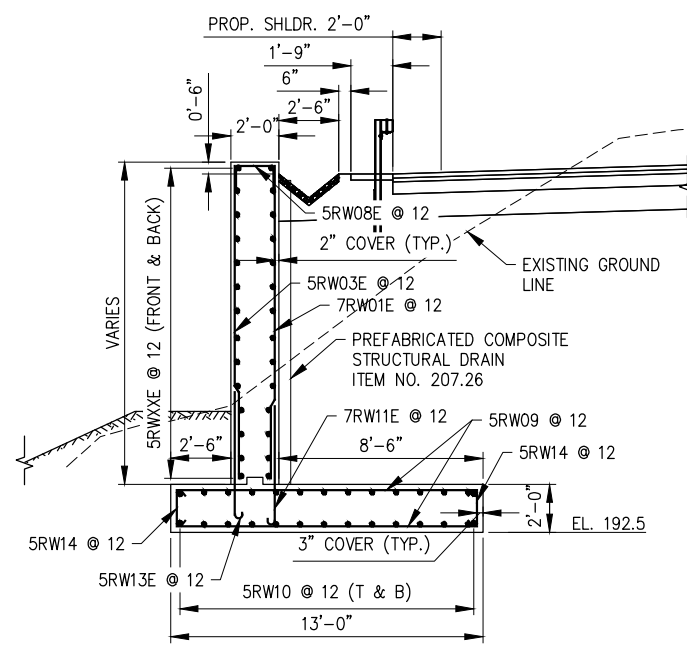
PLAN
SCALE: 1/8"=1'-0"



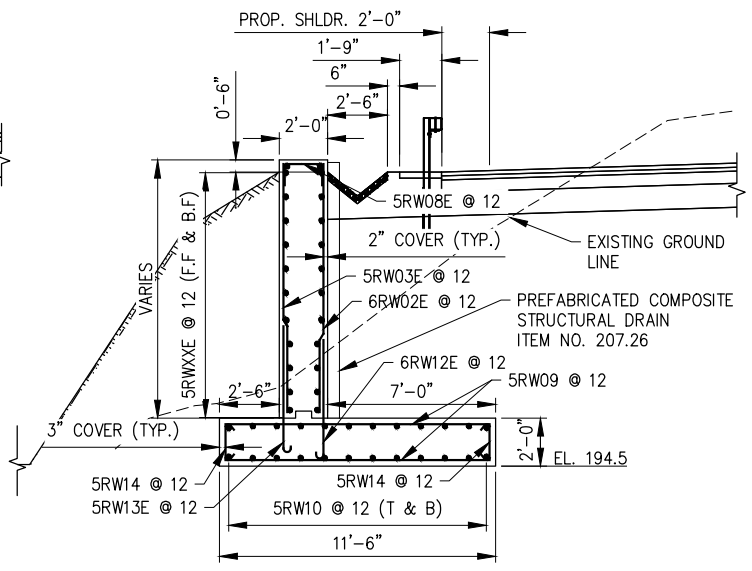
C SECTION C
S-14 SCALE: 1/4"=1'-0"



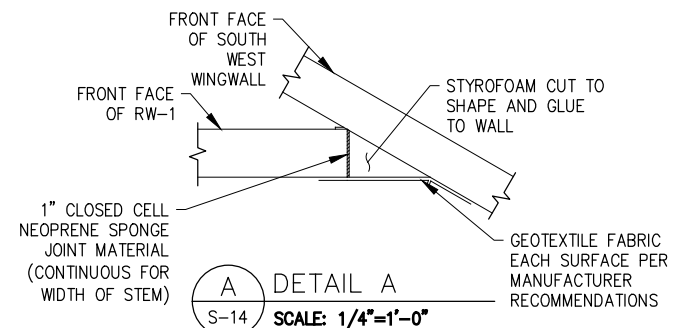
ELEVATION
SCALE: 1/8"=1'-0"



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"

90% DESIGN SUBMITTAL
DRAFT SUBMISSION: 9/24/2021
SUBMITTAL DATE: 10/26/2021

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. CIRICOSTA

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

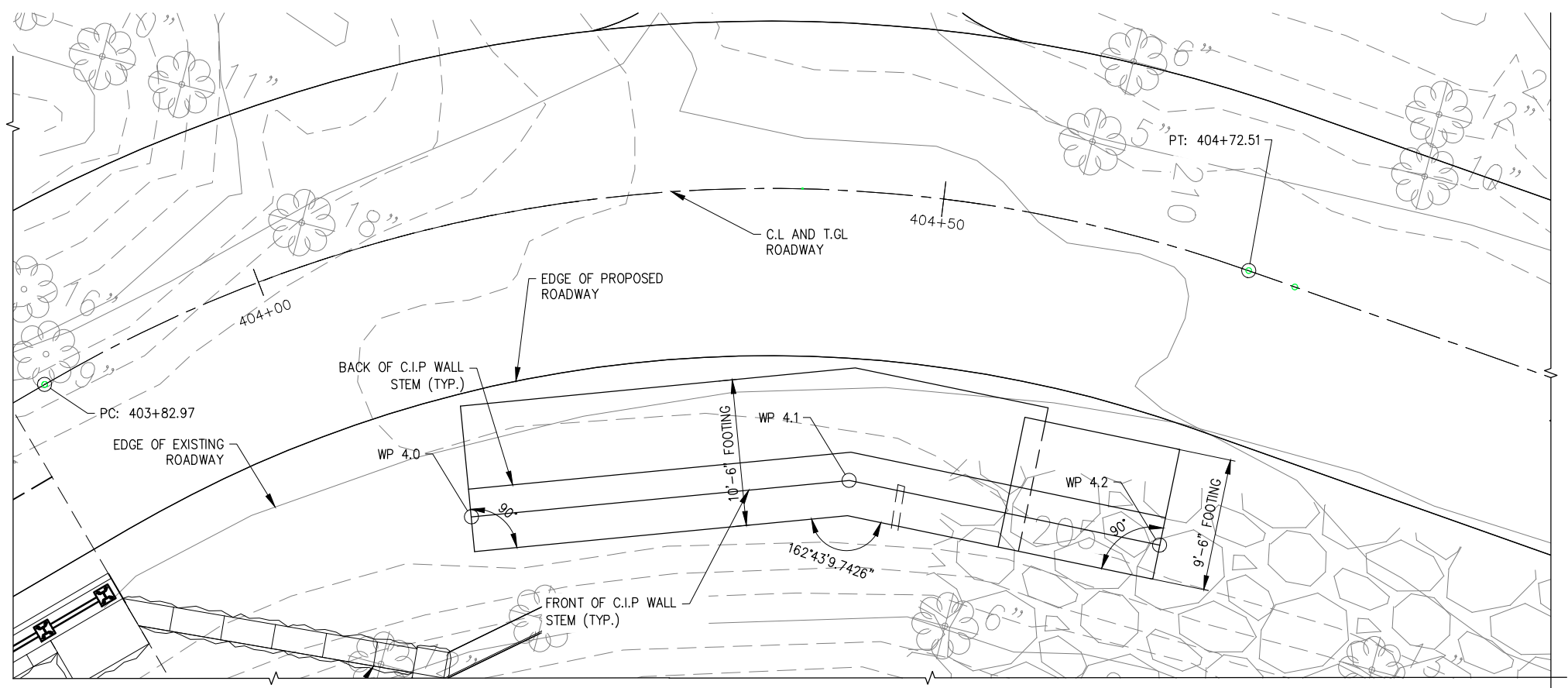
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CORONA, NEW YORK 11368
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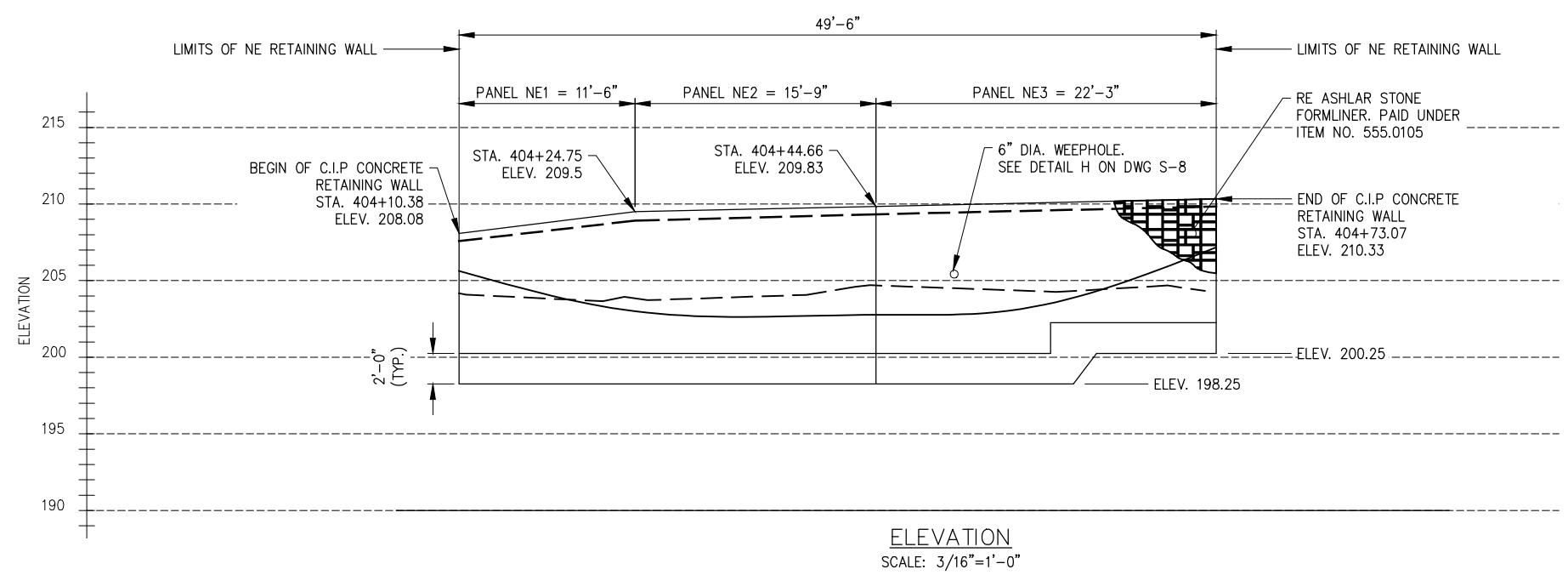
CAPITAL PROJECT WM-30
IN WESTCHESTER COUNTY, NEW YORK
CONTRACT CRO-530B
SW RETAINING WALL - REBAR DETAILS

DATE: 10/26/2021
SCALE: AS NOTED
SHEET NO:
43 OF 51
DRAWING NO.
S-17

Last Saved By: & Date: Cshlyakhova, Wednesday, June 30, 2021 and Date Plotted: Friday, July 02, 2021 Time: 12:25 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\Cshlyakhova\Inprod\Arms37850\BAPTIST CHURCH_R1W2_GEOMETRIC_LAYOUT.dwg



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



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

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

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:
 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



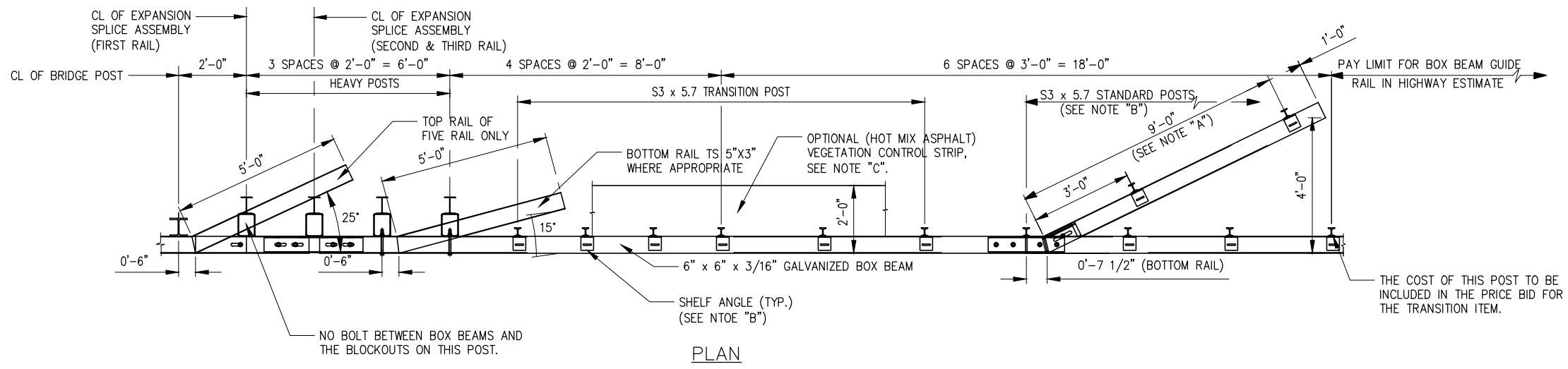
ACCOUNTABLE MANAGER
 JEFFREY A. BUSSE, PE
 PORTFOLIO MANAGER
 PAUL COSTA, PE
 EXECUTIVE DIRECTOR
 SEAN McANDREW, PE

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

DATE: 10/26/2021
 SCALE: AS NOTED
 SHEET NO:
 44 OF 51
 DRAWING NO.
S-18



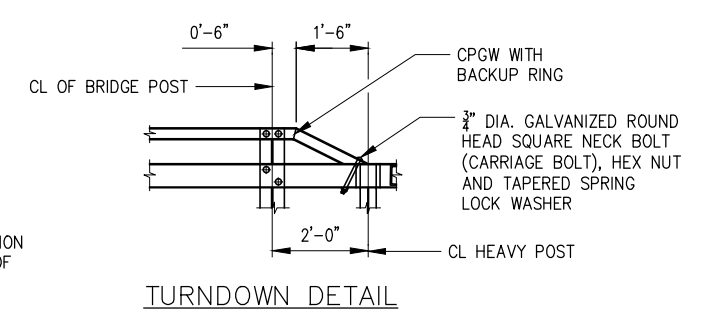
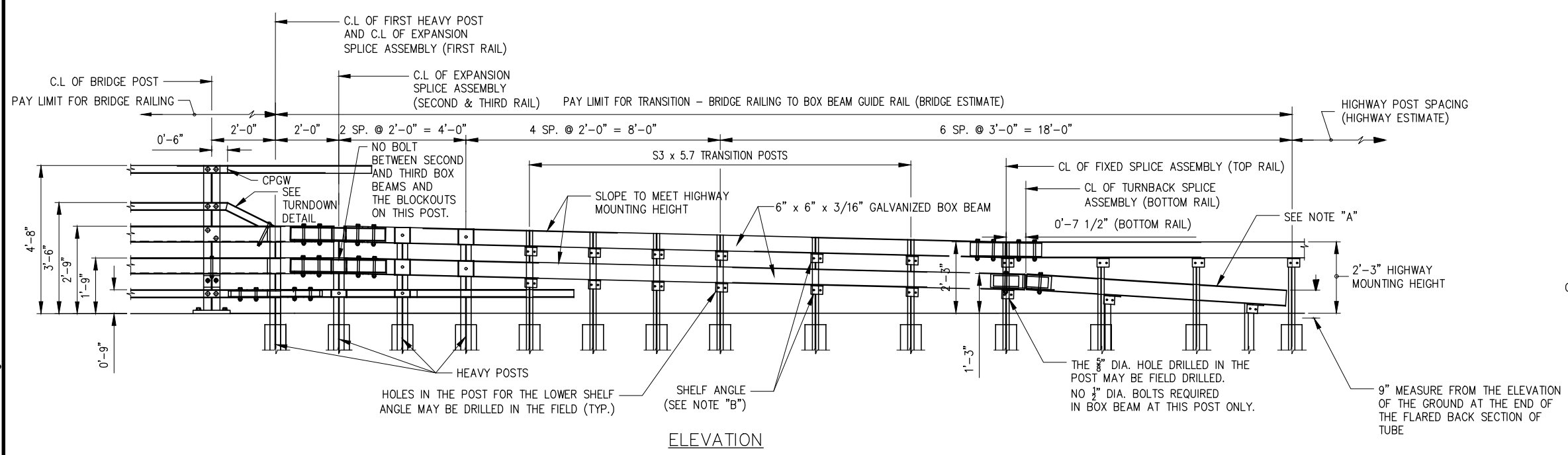
NOTES:

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: J. Circoستا, 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\jcairco\OneDrive\Documents\Projects\7850\RAILING DETAILS 2.dwg

90% DESIGN SUBMITTAL
 DRAFT SUBMISSION: 9/24/2021
 SUBMITTAL DATE: 10/26/2021

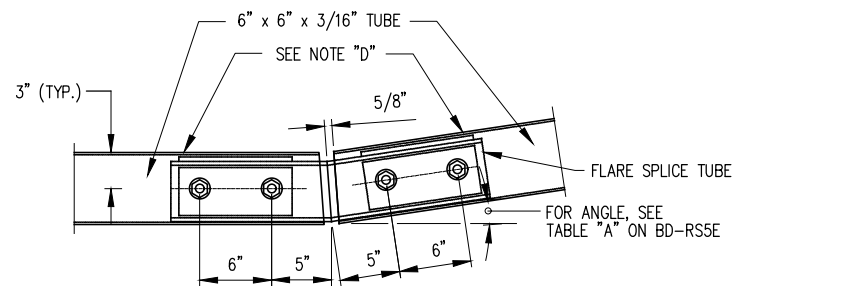
GRAPHIC SCALES
 CHECK BEFORE USE

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 ACCORDINGLY

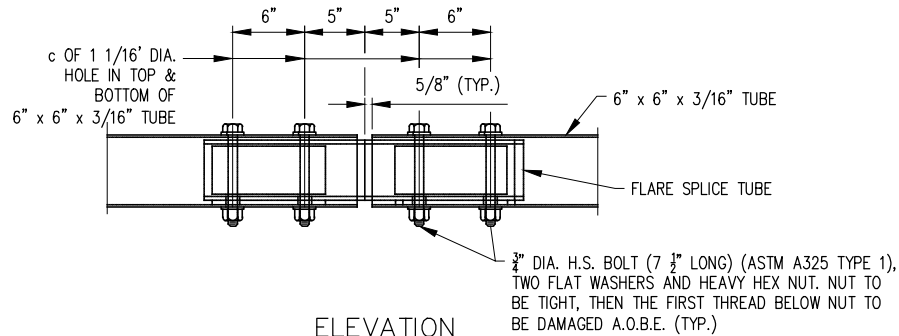
NO.	DATE	REVISIONS/DESCRIPTION	APPR'D.	DESIGNED BY: J. CIRCOستا	DRAWN BY: J. CIRCOستا		ACCOUNTABLE MANAGER JEFFREY A. BUSSE, PE	<p>*WARNING—IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, SECTION, 7209.2, FOR ANY PERSON, UNLESS (S)HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, 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>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</p>	<p>CAPITAL PROJECT WM-30 IN WESTCHESTER COUNTY, NEW YORK CONTRACT CRO-530B</p>	DATE: 10/26/2021
				CHECKED BY: R. ROMAN, PE			PORTFOLIO MANAGER PAUL COSTA, PE				SCALE: NOT TO SCALE
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				SECTION MANAGER: ENTER SECTION CHIEF NAME							DRAWING NO. RL-2

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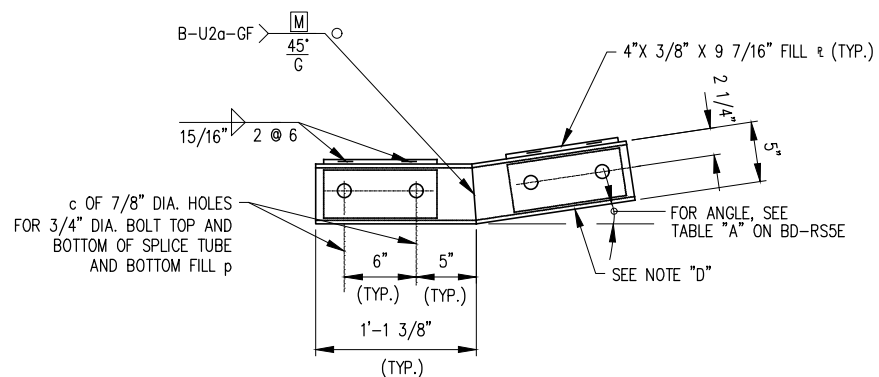


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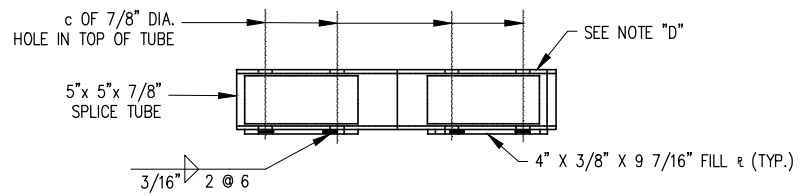


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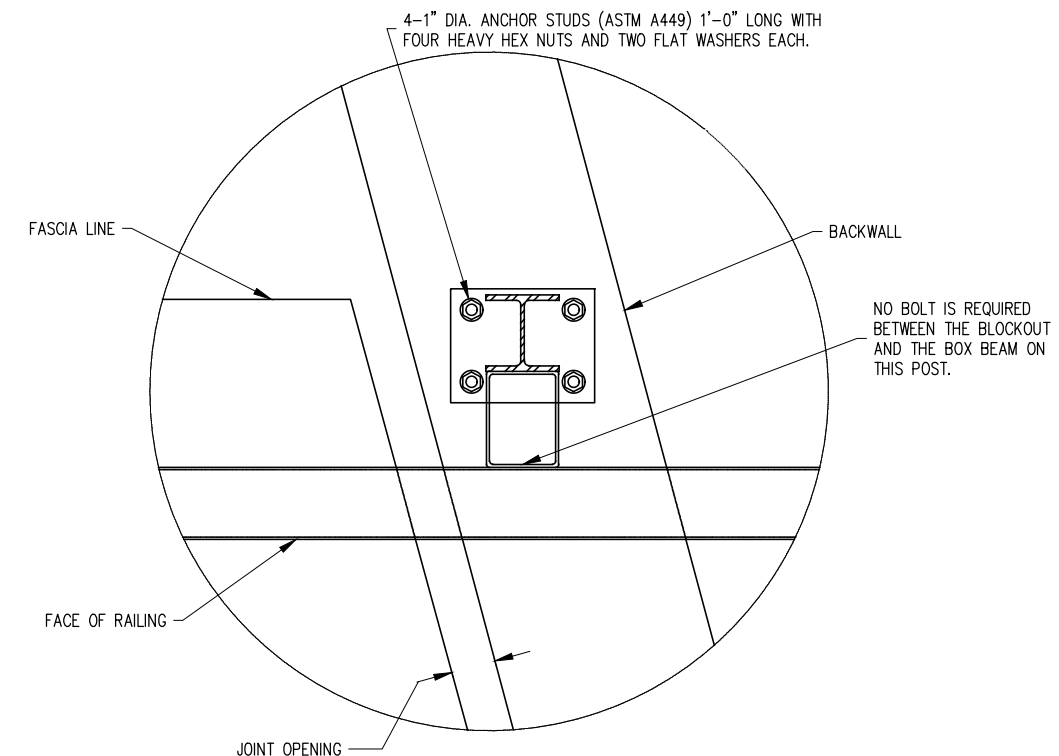


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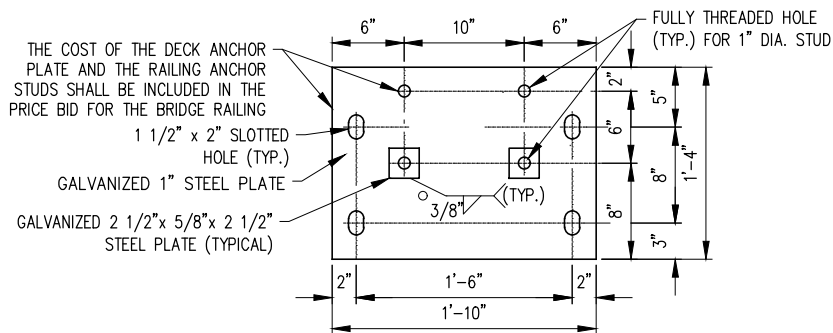


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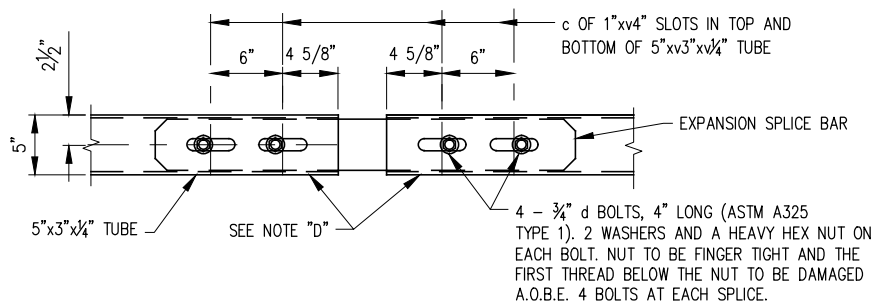
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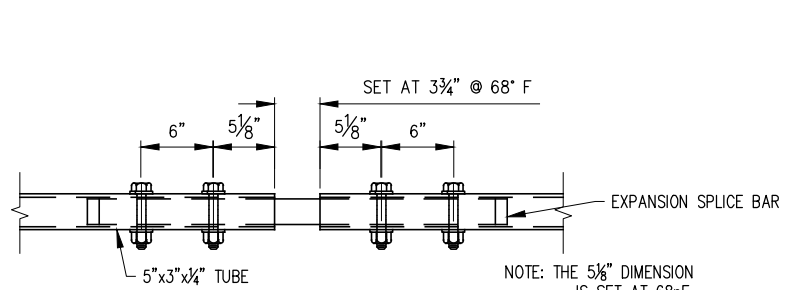
SPECIAL POST DETAIL



DECK ANCHOR PLATE

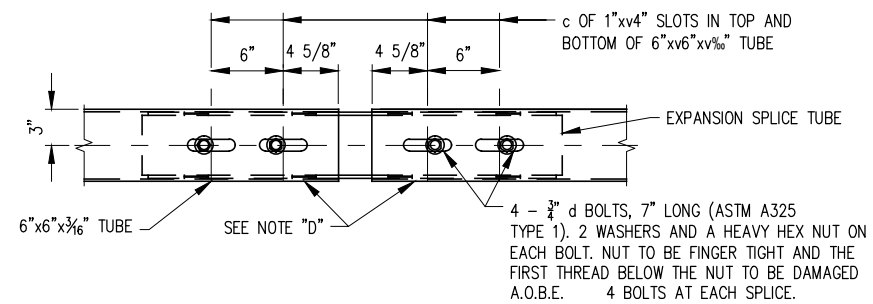


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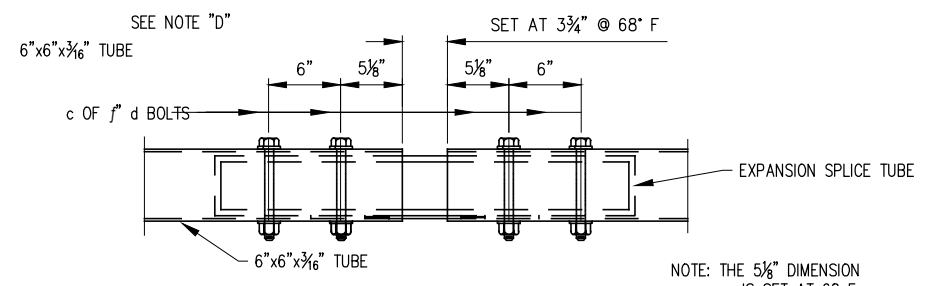


ELEVATION

EXPANSION SPLICE BAR ASSEMBLY

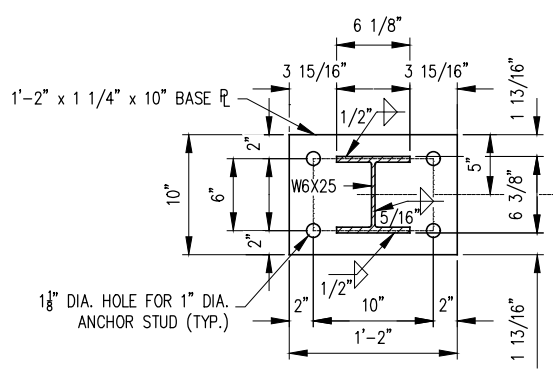


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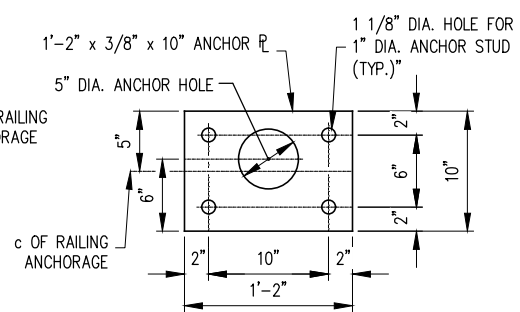


ELEVATION

EXPANSION SPLICE TUBE ASSEMBLY



A SECTION A
RL-1 SCALE: NTS




B SECTION B
RL-1 SCALE: NTS

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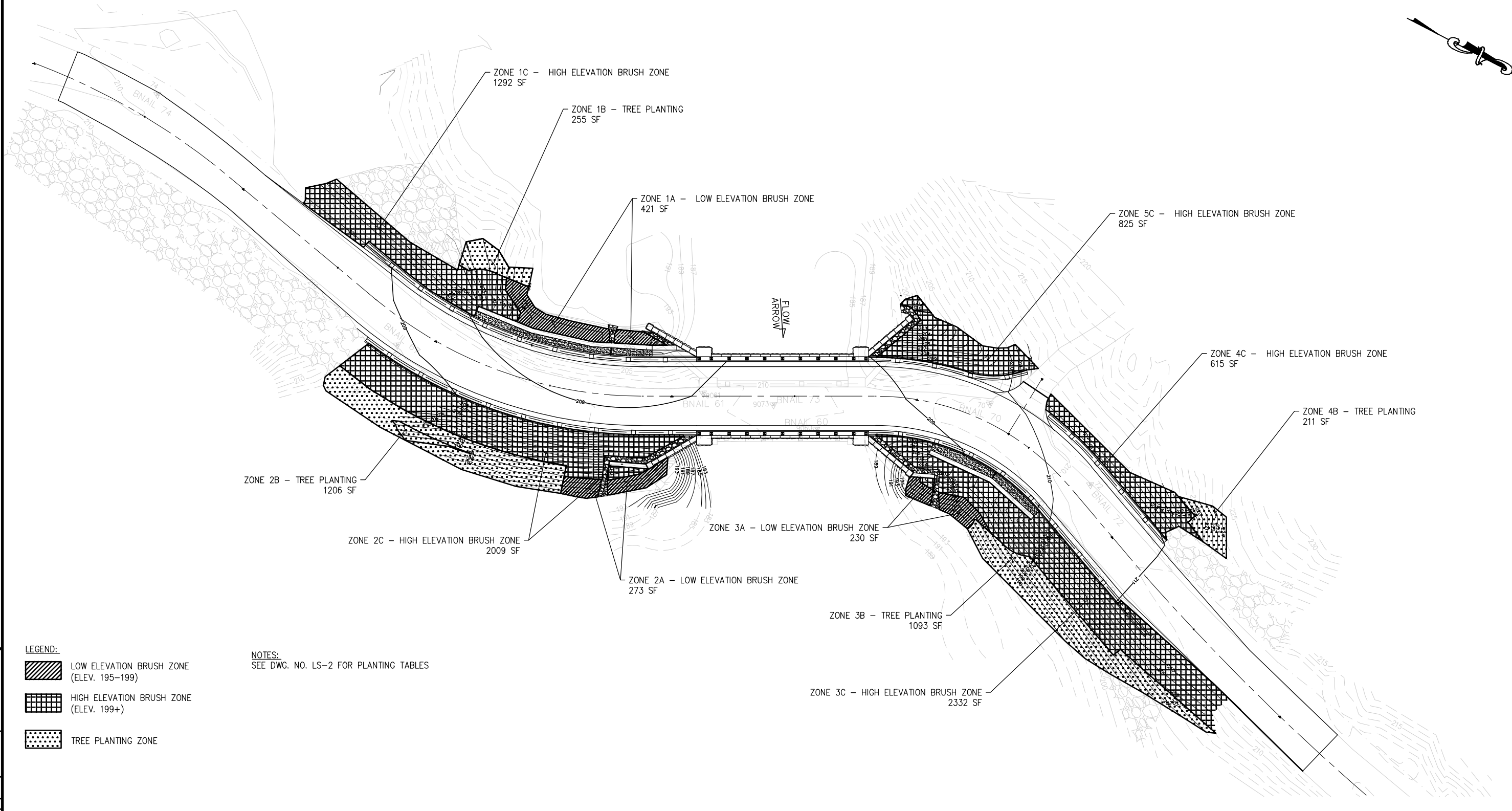
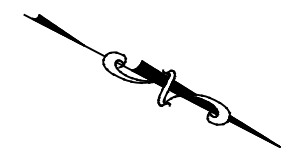


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RAILING DETAILS - 3	SCALE: NTS
	SHEET NO: 48 OF 51
	DRAWING NO. RL-3



- LEGEND:**
- LOW ELEVATION BRUSH ZONE (ELEV. 195-199)
 - HIGH ELEVATION BRUSH ZONE (ELEV. 199+)
 - TREE PLANTING ZONE

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

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N. CREVIER, PE



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

LANDSCAPING PLAN

DATE: 10/26/2021
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 50 OF 51
 DRAWING NO.
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ZONE 1A – LOW ELEVATION BRUSH ZONE (195–199') – TOTAL 421 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
SHRUBS				
PUSSY WILLOW	SALIX DISCOLOR	FACW	1 GALLON	2
BUTTONBUSH	CEPHALANTUS OCCIDENTALIS	OBL	1 GALLON	2
			SHRUB TOTAL	4

ZONE 1B – TREE PLANTING AREA – TOTAL 255 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
SPECKLED ALDER	ALNUS INCANA	FACW	1 INCH CALIPER	2
			TREE TOTAL	2
SHRUBS				
BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	OBL	1 GALLON	2
			SHRUB TOTAL	2

ZONE 1C – HIGH ELEVATION BRUSH ZONE (199+') – TOTAL 1292 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
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
ALLEGHENY SERVICEBERRY	AMELANCHIER LAEVIS	FAC	1 GALLON	3
			SHRUB TOTAL	12

ZONE 2A – LOW ELEVATION BRUSH ZONE (195'–199') – TOTAL 273 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
SHRUBS				
BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	OBL	1 GALLON	1
WINTERBERRY	ILEX VERTICILLATA	FACW	1 GALLON	2
			SHRUB TOTAL	3

ZONE 2B – TREE PLANTING AREA – TOTAL 1206 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
SWEET BIRCH	BETULA NIGRA	FACW	2 INCH CALIPER	3
AMERICAN HORNBEAM	CARPINUS CAROLINIANA	FAC	2 INCH CALIPER	3
			TREE TOTAL	6
SHRUBS				
PUSSY WILLOW	SALIX DISCOLOR	FACW	1 GALLON	3
HIGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	FACW	1 GALLON	3
SPICEBUSH	LINDERA BENZOIN	FACW	1 GALLON	3
			SHRUB TOTAL	9

ZONE 2C – HIGH ELEVATION BRUSH ZONE (199'+) – TOTAL 2009 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
SHRUBS				
WITCH HAZEL	HAMAMELIS VIRGINIANA	FACU	1 GALLON	5
GREAT LAUREL	RHODODENDRON MAXIMUM	FAC	1 GALLON	3
MEADOWSWEET	CLETHRA ALNIFOLIA	FAC	1 GALLON	3
ALLEGHENY SERVICEBERRY	AMELANCHIER LAEVIS	FAC	1 GALLON	4
LOW BUSH BLUEBERRY	VACCINIUM ANGUSTIFOLIUM	FACU	1 GALLON	4
			SHRUB TOTAL	19

ZONE 3A – LOW ELEVATION BRUSH ZONE (195–199') – TOTAL 230 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
SHRUBS				
SPECKLED ALDER	ALNUS INCANA	FACW	1 GALLON	1
BUTTONBUSH	CEPHALANTHUS OCCIDENTALIS	OBL	1 GALLON	1
			SHRUB TOTAL	2

ZONE 3B – TREE PLANTING AREA – TOTAL 1093 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
RIVER BIRCH	BETULA NIGRA	FACW	2 INCH CALIPER	2
RED MAPLE	ACER RUBRUM	FAC	2 INCH CALIPER	2
AMERICAN HORNBEAM	CARPINUS CAROLINIANA	FAC	2 INCH CALIPER	2
			TREE TOTAL	6
SHRUBS				
PUSSY WILLOW	SALIX DISCOLOR	FACW	1 GALLON	3
HUGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	FACW	1 GALLON	3
SPICEBUSH	LINDERA BENZOIN	FACW	1 GALLON	3
			SHRUB TOTAL	9

ZONE 3C – HIGH ELEVATION BRUSH ZONE (199+') – TOTAL 2332 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
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
MEADOWSWEET	CLETHRA ALNIFOLIA	FAC	1 GALLON	4
LOW BUSH BLUEBERRY	VACCINIUM ANGUSTIFOLIUM	FACU	1 GALLON	6
ALLEGHENY SERVICEBERRY	AMELANCHIER LAEVIS	FAC	1 GALLON	3
			SHRUB TOTAL	22

ZONE 4B – TREE PLANTING AREA – TOTAL 211 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
TREES				
RED OAK	QUERCUS RUBRA	FAC	2 INCH CALIPER	2
			TREE TOTAL	2
SHRUBS				
WITCH HAZEL	HAMAMELIS VERGINIANA	FACU	1 GALLON	1
ALLEGHENY SERVICEBERRY	AMELANCHIER LAEVIS	FAC	1 GALLON	2
			SHRUB TOTAL	3

ZONE 4C – HIGH ELEVATION BRUSH ZONE (212'–219') – TOTAL 615 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
SHRUBS				
MEADOWSWEET	CLETHRA ALNIFOLIA	FAC	1 GALLON	3
ALLEGHENY SERVICEBERRY	AMELANCHIER LAEVIS	FAC	1 GALLON	3
			SHRUB TOTAL	6

ZONE 5C – HIGH ELEVATION BRUSH ZONE (199'–204') – TOTAL 825 SF

COMMON NAME	SCIENTIFIC NAME	WETLAND STATUS	SIZE	QUANTITY
SHRUBS				
WITCH HAZEL	HAMAMELIS VIRGINIANA	FACU	1 GALLON	2
ALLEGHENY SERVICEBERRY	AMELANCHIER LAEVIS	FAC	1 GALLON	3
LOW BUSH BLUEBERRY	VACCINIUM ANGUSTIFOLIUM	FACU	1 GALLON	3
			SHRUB TOTAL	7

NOTES:

1. PLANT TREES 15 FT. APART ON CENTER.
2. PLANT SHRUBS IN NATURALISTIC CLUSTERS OF 3, WHEN APPLICABLE SPACED 5 FT. APART.
3. ALL PLANTING AREAS BETWEEN ELEVATIONS 195'–203' SHOULD BE SEEDED WITH NEW ENGLAND ROADSIDE MATRIX WET MEADOW SEED MIX AT 35 LB/ACRE WITH ADDED COVER CROP OF GRAIN RYE (LOLIUM MULIFLORUM SSP. MULTIFLORUM) AT A RATE OF 30 LB/ACRE.
4. ALL PLANTING AREAS AT ELEVATION 203+' SHOULD BE SEEDED WITH ERNST CONSERVATION SEED NATIVE HABITAT FOR STRIP MINES ERNMx0111 AT A RATE OF 20 LB/ACRE WITH ADDED COVER CROP OF GRAIN RYE (LOLIUM MULIFLORUM SSP. MULTIFLORUM) AT A RATE OF 30 LB/ACRE.
5. ALL AREAS WILL BE MULCHED WITH 100% SEED-FREE STRAW MULCH AFTER SEED PLANTING.

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

DATE: 10/26/2021
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51 OF 51
 DRAWING NO.
LS-2

Appendix D



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Westchester County, New York**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Westchester County, New York.....	13
CuD—Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes.....	13
W—Water.....	15
Soil Information for All Uses	17
Soil Properties and Qualities.....	17
Soil Qualities and Features.....	17
Hydrologic Soil Group.....	17
References	22

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:1,460 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Westchester County, New York
 Survey Area Data: Version 16, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 6, 2015—Oct 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CuD	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	2.1	77.5%
W	Water	0.6	22.5%
Totals for Area of Interest		2.7	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

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onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Westchester County, New York

CuD—Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: 2w69h
Elevation: 0 to 1,540 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Chatfield, extremely stony, and similar soils: 35 percent
Hollis, extremely stony, and similar soils: 30 percent
Rock outcrop: 20 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chatfield, Extremely Stony

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Crest, side slope, nose slope
Down-slope shape: Convex
Across-slope shape: Convex, linear
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

O_i - 0 to 1 inches: slightly decomposed plant material
A - 1 to 2 inches: fine sandy loam
B_w - 2 to 30 inches: gravelly fine sandy loam
2R - 30 to 40 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 20 to 41 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (K_{sat}): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water capacity: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands

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Hydric soil rating: No

Description of Hollis, Extremely Stony

Setting

Landform: Hills, ridges

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, nose slope, crest

Down-slope shape: Convex

Across-slope shape: Linear, convex

Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

O_i - 0 to 2 inches: slightly decomposed plant material

A - 2 to 7 inches: gravelly fine sandy loam

B_w - 7 to 16 inches: gravelly fine sandy loam

2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent

Surface area covered with cobbles, stones or boulders: 9.0 percent

Depth to restrictive feature: 8 to 23 inches to lithic bedrock

Drainage class: Somewhat excessively drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (K_{sat}): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)

Available water capacity: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: F144AY033MA - Shallow Dry Till Uplands

Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Hills, ridges

Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 79 inches: bedrock

Properties and qualities

Slope: 15 to 35 percent

Depth to restrictive feature: 0 inches to lithic bedrock

Runoff class: Very high

Capacity of the most limiting layer to transmit water (K_{sat}): Very low (0.00 to 0.00 in/hr)

Available water capacity: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Charlton, extremely stony

Percent of map unit: 7 percent
Landform: Hills, ridges
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Leicester, extremely stony

Percent of map unit: 4 percent
Landform: Ground moraines, depressions, drainageways, hills
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, linear
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton, extremely stony

Percent of map unit: 2 percent
Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Paxton, extremely stony

Percent of map unit: 2 percent
Landform: Ground moraines, drumlins, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

W—Water

Map Unit Setting

National map unit symbol: bd7z

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Mean annual precipitation: 46 to 50 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 115 to 215 days
Farmland classification: Not prime farmland

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

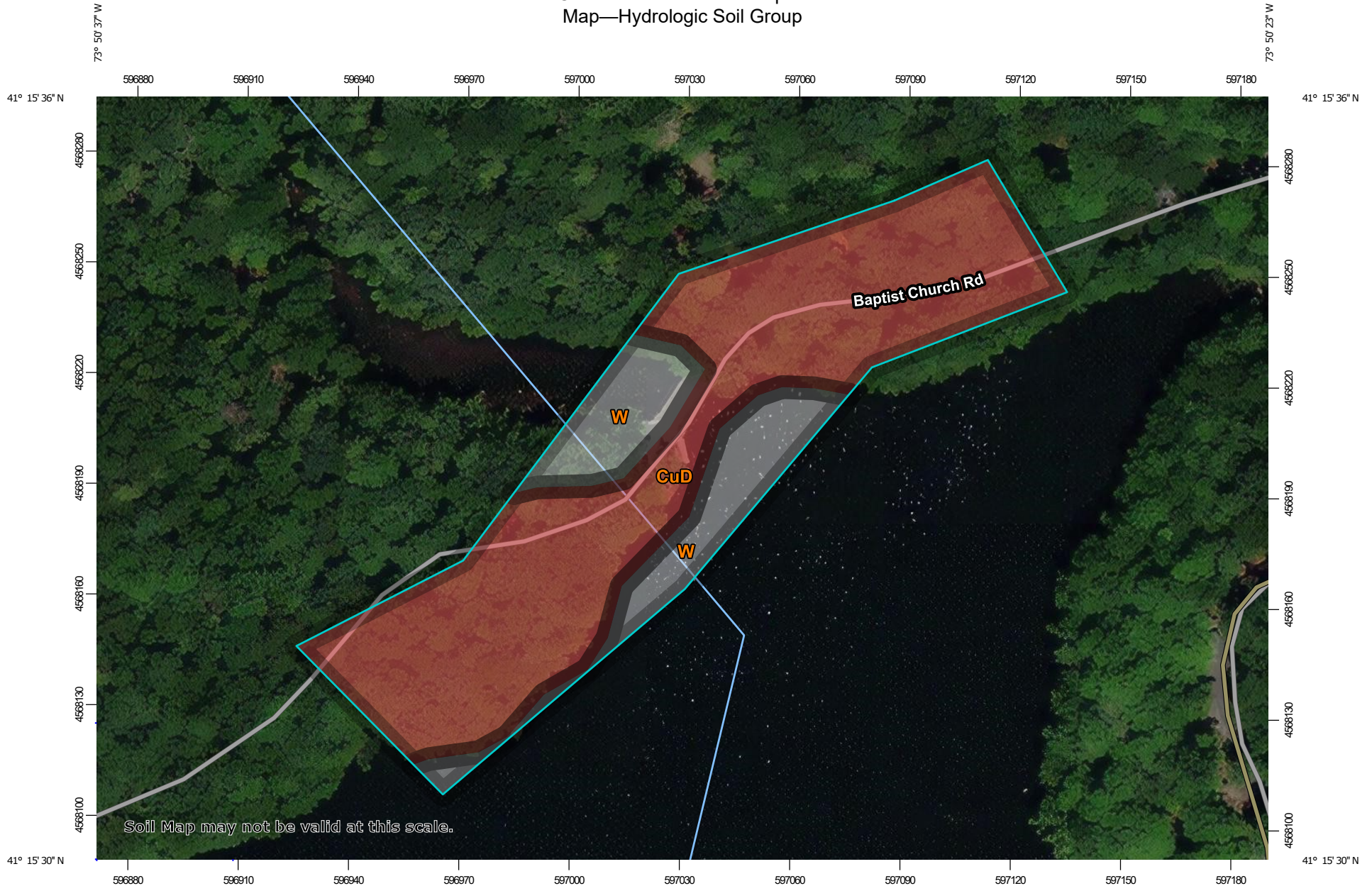
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Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

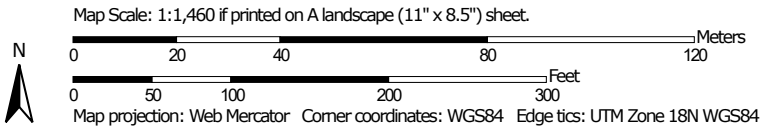
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

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Map—Hydrologic Soil Group




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines


-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Westchester County, New York
 Survey Area Data: Version 16, Jun 11, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 6, 2015—Oct 17, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CuD	Chatfield-Hollis-Rock outcrop complex, 15 to 35 percent slopes	D	2.1	77.5%
W	Water		0.6	22.5%
Totals for Area of Interest			2.7	100.0%

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
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Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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Appendix E

STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ACCESS



inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties ³	Light Duty ¹ Roads Grade Sub- grade	Heavy Duty ² Haul Roads Rough Graded	Test Meth- od
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Burst Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 Modified
Equivalent	40-80	40-80	US Std Sieve
Opening Size			CW-02215
Aggregate Depth	6	10	-

Definition & Scope

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area. The purpose of stabilized construction access is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction access shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 2.1 on page 2.31 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile: The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be

¹Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

²Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

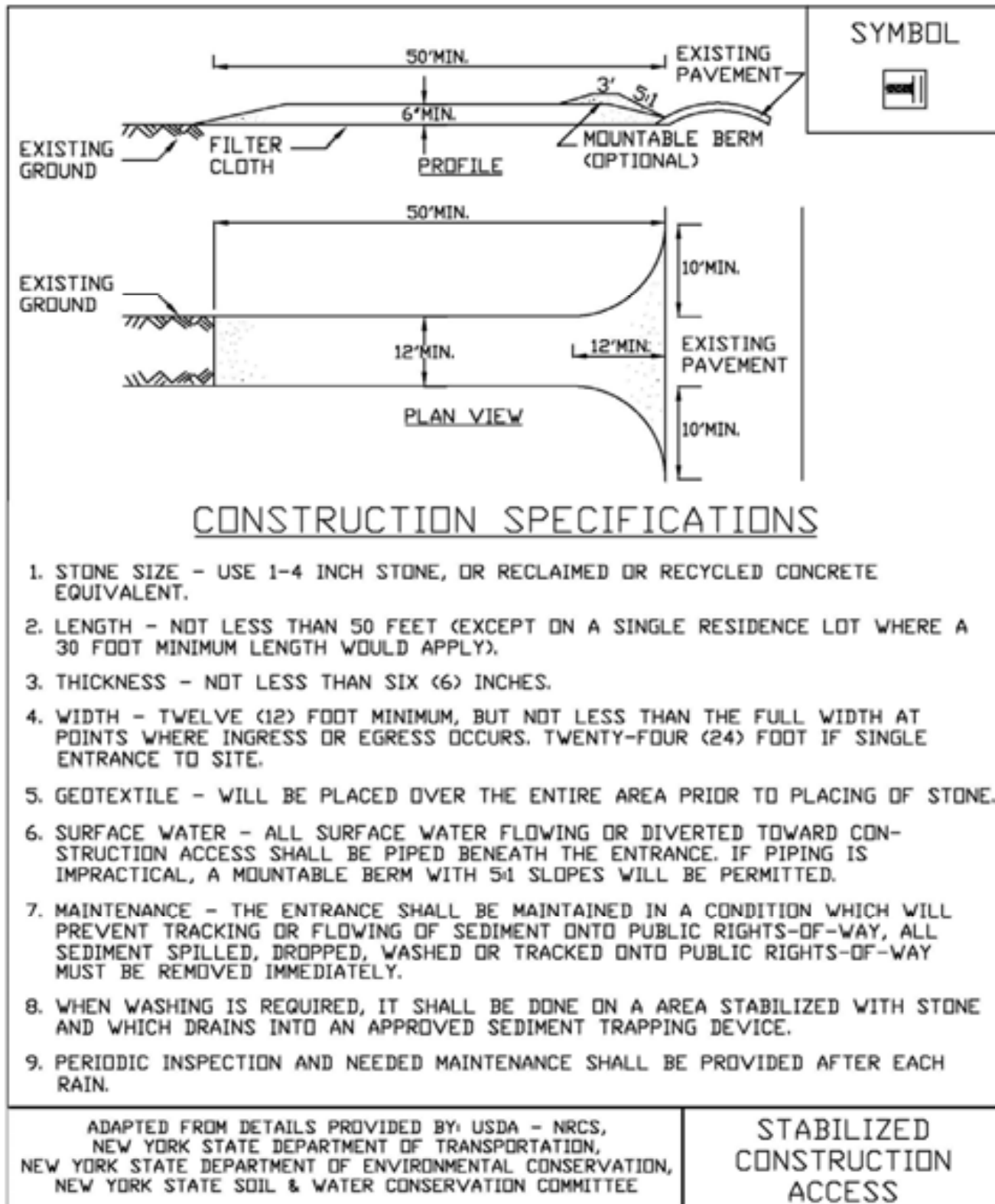
³Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The access shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

**Figure 2.1
Stabilized Construction Access**



STANDARD AND SPECIFICATIONS FOR SILT FENCE



Definition & Scope

A **temporary** barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. Maximum ponding depth of 1.5 feet behind the fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier; and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and

roll down. The area beyond the fence must be undisturbed or stabilized.

3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

Super Silt Fence

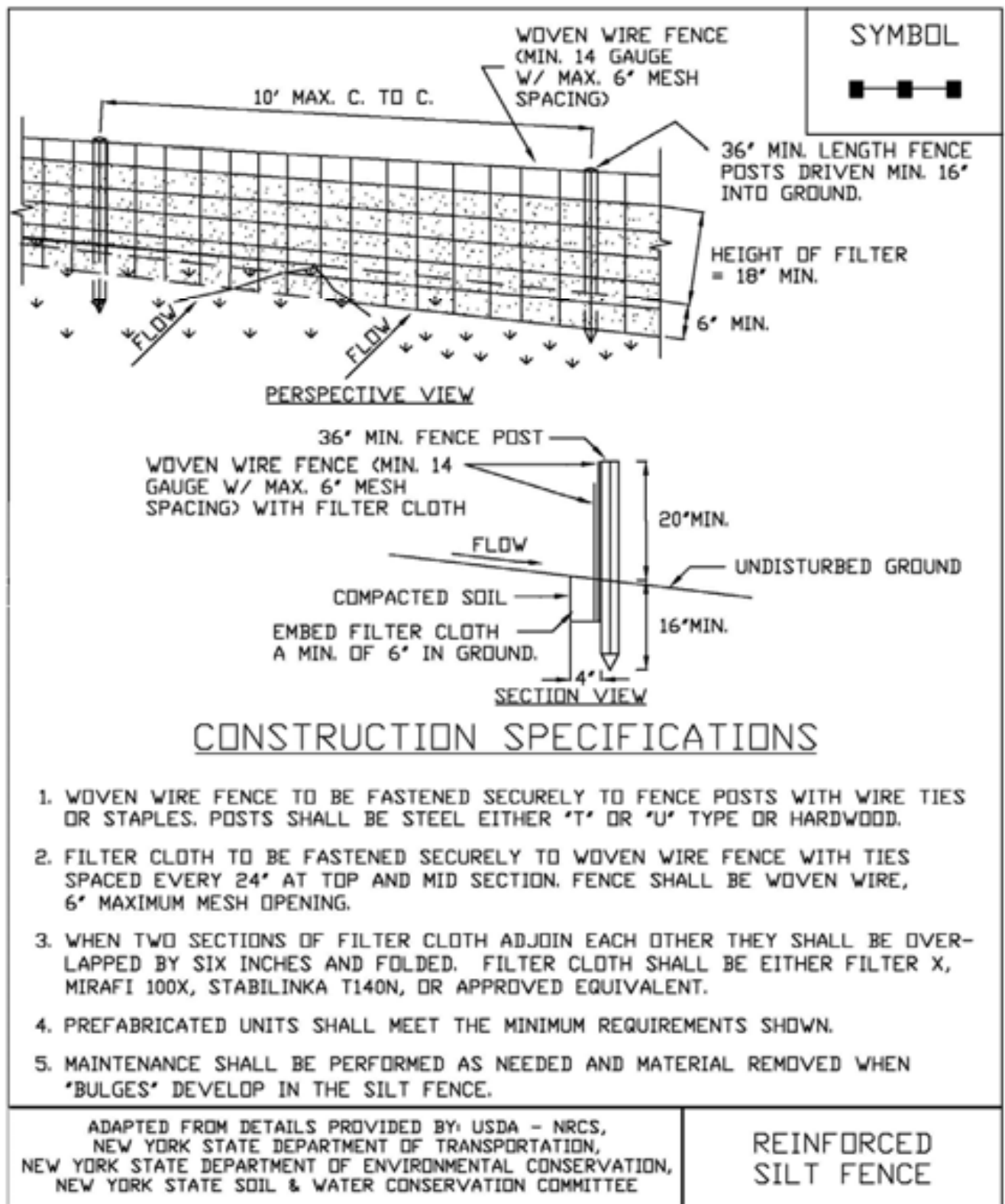


2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.
3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.
4. Prefabricated silt fence is acceptable as long as all material specifications are met.

Reinforced Silt Fence



**Figure 5.30
Reinforced Silt Fence**



STANDARD AND SPECIFICATIONS FOR STRAW BALE DIKE



quarter of an acre per 100 feet of dike and the length of slope above the dike shall be less than 100 feet.

Design Criteria

The above table is adequate, in general, for a one-inch rain-fall event. Larger storms could cause failure of this practice. Use of this practice in sensitive areas for longer than one month should be specifically designed to store expected runoff. All bales shall be placed on the contour with cut edge of bale adhering to the ground. See Figure 5.34 on page 5.64 for details.

Definition & Scope

A **temporary** barrier of straw, or similar material, used to intercept sediment laden runoff from small drainage areas of disturbed soil to reduce runoff velocity and effect deposition of the transported sediment load. Straw bale dikes have an estimated design life of three (3) months.

Condition Where Practice Applies

The straw bale dike is used where:

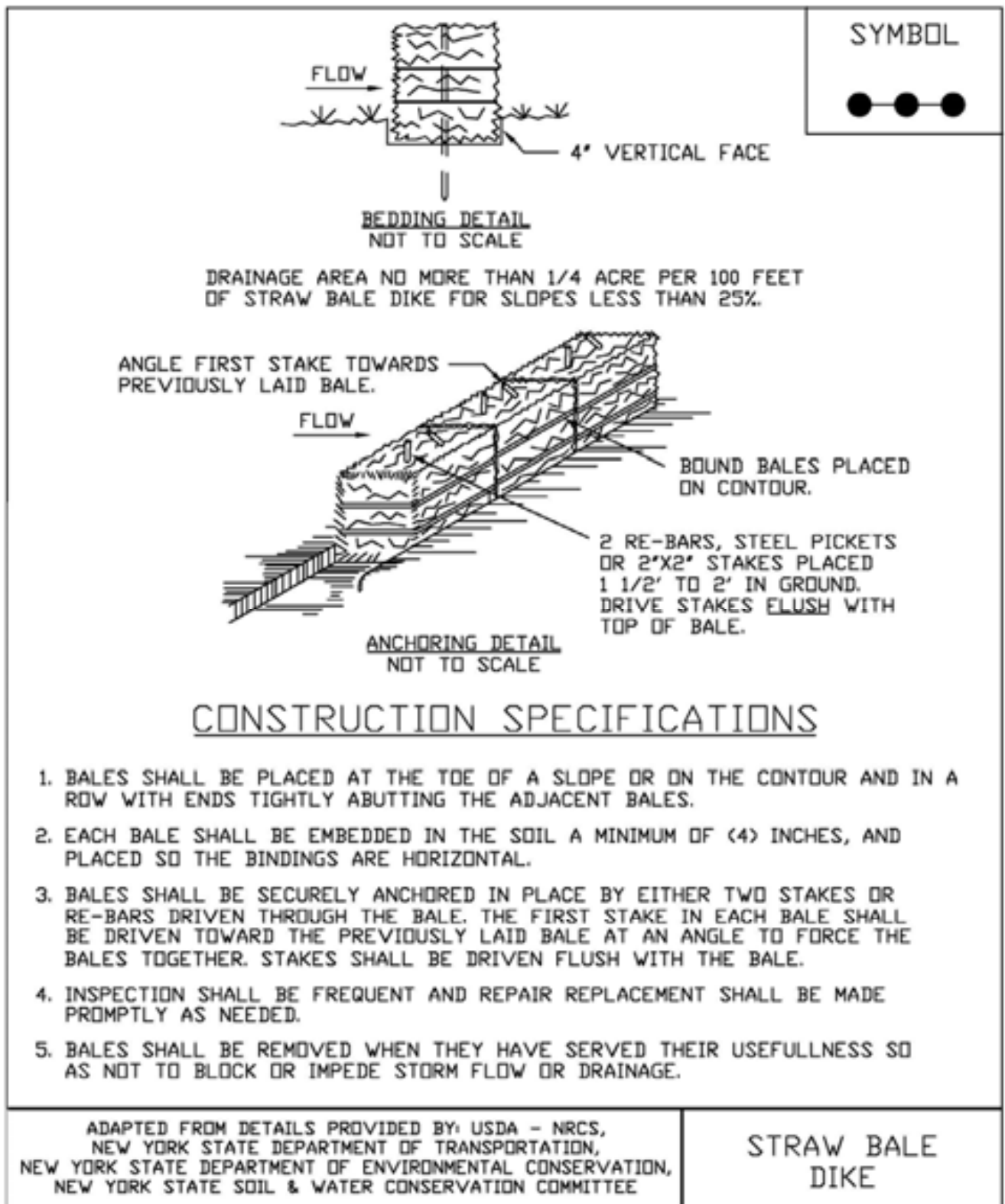
1. No other practice is feasible.
2. There is no concentration of water in a channel or other drainage way above the barrier.
3. Erosion would occur in the form of sheet erosion.
4. Length of slope above the straw bale dike does not exceed the following limits with the bale placed 10 feet from the toe of the slope:

Constructed Slope	Percent Slope	Slope Length (ft.)
2:1	50	25
3:1	33	50
4:1	25	75

Where slope gradient changes through the drainage area, steepness refers to the steepest slope section contributing to the straw bale dike.

The practice may also be used for a single family lot if the slope is less than 15 percent. The contributing drainage areas in this instance shall be less than one

**Figure 5.34
Straw Bale Dike**



STANDARD AND SPECIFICATIONS FOR TURBIDITY CURTAIN



Definition & Scope

A **temporary** flexible, impenetrable barrier used to trap sediment in water bodies. This curtain is weighted at the bottom to achieve closure while supported at the top through a flotation system and used to prevent the migration of silt from a work site in a water environment into the larger body of water. Top bar float has to support weight of curtain material. Bottom anchor has to be flexible so that it will lie along the contour of the water body bottom.

Condition Where Practice Applies

A turbidity curtain is generally used when construction activity occurs within a waterbody or along its shoreline and is of short duration, generally less than one month. Curtains are used in calm water surfaces and not in areas of flowing water. **Turbidity curtains are not to be used across flowing watercourses.**

Design Criteria

The turbidity curtain shall be located beyond the lateral limits of the construction site and firmly anchored in place. The alignment should be set as close to the work area as possible but not so close as to be disturbed by applicable construction equipment. The height of the curtain shall be 20 percent greater than the depth of the water to allow for water level fluctuations. The area that the turbidity curtain protects shall not contain large culverts or drainage areas that if flows occur behind the curtain would cause a breach or lost contact at the bottom surface.

If water depths at the design alignment are minimal, the toe can be anchored in place by staking.

See Figure 5.35 on page 5.66.

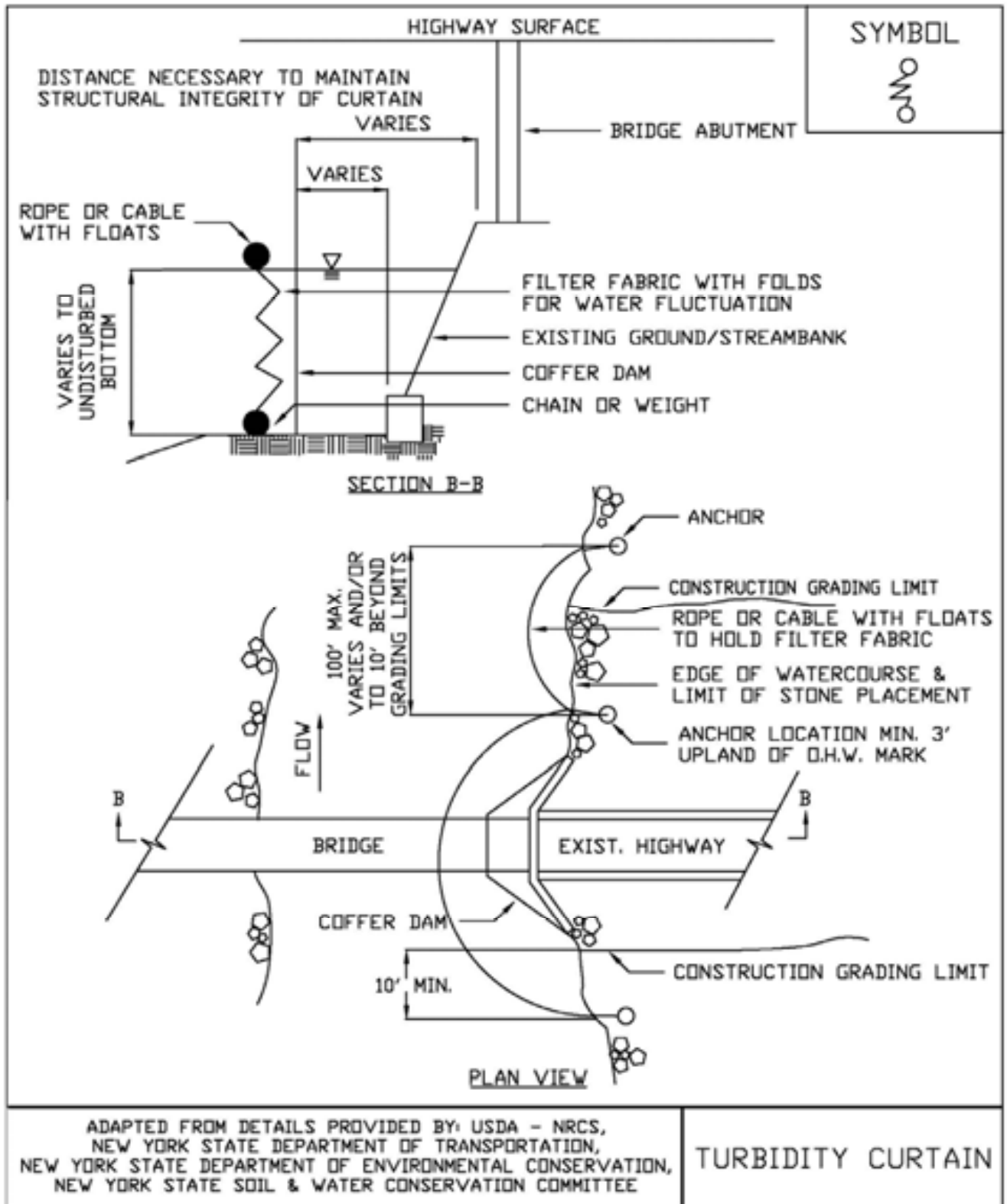
Construction Specifications

The area of proposed installation of the curtain shall be inspected for obstacles and impediments that could damage the curtain or impair its effectiveness to retain sediment. All materials shall be removed so they cannot enter the waterbody. Shallow installations can be made by securing the curtain by staking rather than using a flotation system. Supplemental anchors of the turbidity curtain toe shall be used, as needed, depending on water surface disturbances such as boats and wave action by winds.

Maintenance

The turbidity curtain shall be inspected daily and repaired or replaced immediately. It is not normally necessary to remove sediment deposited behind the curtain; but, when necessary, removal is usually done by hand prior to removal of the barrier. All removed silt is stabilized away from the waterbody. The barrier shall be removed by carefully pulling it toward the construction site to minimize the release of attached sediment. Any floating construction or natural debris shall be immediately removed to prevent damage to the curtain. If the curtain is oriented in a manner that faces the prevailing winds, frequent checks of the anchorage shall be made.

**Figure 5.35
Turbidity Curtain**



STANDARD AND SPECIFICATIONS FOR TOPSOILING



Definition & Scope

Spreading a specified quality and quantity of topsoil materials on graded or constructed subsoil areas to provide acceptable plant cover growing conditions, thereby reducing erosion; to reduce irrigation water needs; and to reduce the need for nitrogen fertilizer application.

Conditions Where Practice Applies

Topsoil is applied to subsoils that are droughty (low available moisture for plants), stony, slowly permeable, salty or extremely acid. It is also used to backfill around shrub and tree transplants. This standard does not apply to wetland soils.

Design Criteria

1. Preserve existing topsoil in place where possible, thereby reducing the need for added topsoil.
2. Conserve by stockpiling topsoil and friable fine textured subsoils that must be stripped from the excavated site and applied after final grading where vegetation will be established. Topsoil stockpiles must be stabilized. Stockpile surfaces can be stabilized by vegetation, geotextile or plastic covers. This can be aided by orientating the stockpile lengthwise into prevailing winds.
3. Refer to USDA Natural Resource Conservation Service soil surveys or soil interpretation record sheets for further soil texture information for selecting appropriate design topsoil depths.

Site Preparation

1. As needed, install erosion and sediment control practices such as diversions, channels, sediment traps, and stabilizing measures, or maintain if already installed.
2. Complete rough grading and final grade, allowing for depth of topsoil to be added.
3. Scarify all compact, slowly permeable, medium and fine textured subsoil areas. Scarify at approximately right angles to the slope direction in soil areas that are steeper than 5 percent. Areas that have been overly compacted shall be decompact in accordance with the Soil Restoration Standard.
4. Remove refuse, woody plant parts, stones over 3 inches in diameter, and other litter.

Topsoil Materials

1. Topsoil shall have at least 6 percent by weight of fine textured stable organic material, and no greater than 20 percent. Muck soil shall not be considered topsoil.
2. Topsoil shall have not less than 20 percent fine textured material (passing the NO. 200 sieve) and not more than 15 percent clay.
3. Topsoil treated with soil sterilants or herbicides shall be so identified to the purchaser.
4. Topsoil shall be relatively free of stones over 1 1/2 inches in diameter, trash, noxious weeds such as nut sedge and quackgrass, and will have less than 10 percent gravel.
5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.
6. Topsoil may be manufactured as a mixture of a mineral component and organic material such as compost.

Application and Grading

1. Topsoil shall be distributed to a uniform depth over the area. It shall not be placed when it is partly frozen, muddy, or on frozen slopes or over ice, snow, or standing water puddles.
2. Topsoil placed and graded on slopes steeper than 5 percent shall be promptly fertilized, seeded, mulched, and stabilized by “tracking” with suitable equipment.
3. Apply topsoil in the amounts shown in Table 4.7 below:

Table 4.7 - Topsoil Application Depth		
Site Conditions	Intended Use	Minimum Topsoil Depth
1. Deep sand or loamy sand	Mowed lawn	6 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	1 in.
2. Deep sandy loam	Mowed lawn	5 in.
	Tall legumes, unmowed	2 in.
	Tall grass, unmowed	none
3. Six inches or more: silt loam, clay loam, loam, or silt	Mowed lawn	4 in.
	Tall legumes, unmowed	1 in.
	Tall grass, unmowed	1 in.

STANDARD AND SPECIFICATIONS FOR PERMANENT CONSTRUCTION AREA PLANTING



Definition & Scope

Establishing **permanent** grasses with other forbs and/or shrubs to provide a minimum 80% perennial vegetative cover on areas disturbed by construction and critical areas to reduce erosion and sediment transport. Critical areas may include but are not limited to steep excavated cut or fill slopes as well as eroding or denuded natural slopes and areas subject to erosion.

Conditions Where Practice Applies

This practice applies to all disturbed areas void of, or having insufficient, cover to prevent erosion and sediment transport. See additional standards for special situations such as sand dunes and sand and gravel pits.

Criteria

All water control measures will be installed as needed prior to final grading and seedbed preparation. Any severely compacted sections will require chiseling or disking to provide an adequate rooting zone, to a minimum depth of 12", see Soil Restoration Standard. The seedbed must be prepared to allow good soil to seed contact, with the soil not too soft and not too compact. Adequate soil moisture must be present to accomplish this. If surface is powder dry or sticky wet, postpone operations until moisture changes to a favorable condition. If seeding is accomplished within 24 hours of final grading, additional scarification is generally not needed, especially on ditch or stream banks. Remove all stones and other debris from the surface that are greater than 4 inches, or that will interfere with future mowing or maintenance.

Soil amendments should be incorporated into the upper 2 inches of soil when feasible. **The soil should be tested to determine the amounts of amendments needed.** Apply

ground agricultural limestone to attain a pH of 6.0 in the upper 2 inches of soil. If soil must be fertilized before results of a soil test can be obtained to determine fertilizer needs, apply commercial fertilizer at 600 lbs. per acre of 5-5-10 or equivalent. If manure is used, apply a quantity to meet the nutrients of the above fertilizer. This requires an appropriate manure analysis prior to applying to the site. Do not use manure on sites to be planted with birdsfoot trefoil or in the path of concentrated water flow.

Seed mixtures may vary depending on location within the state and time of seeding. Generally, warm season grasses should only be seeded during early spring, April to May. These grasses are primarily used for vegetating excessively drained sands and gravels. See Standard and Specification for Sand and Gravel Mine Reclamation. Other grasses may be seeded any time of the year when the soil is not frozen and is workable. When legumes such as birdsfoot trefoil are included, spring seeding is preferred. See Table 4.4, "Permanent Construction Area Planting Mixture Recommendations" for additional seed mixtures.

<u>General Seed Mix:</u>	Variety	lbs./acre	lbs/1000 sq. ft.
Red Clover ¹ <u>OR</u>	Acclaim, Rally, Red Head II, Renegade	8 ²	0.20
Common white clover ¹	Common	8	0.20
<u>PLUS</u>			
Creeping Red Fescue	Common	20	0.45
<u>PLUS</u>			
Smooth Bromegrass <u>OR</u>	Common	2	0.05
Ryegrass (perennial)	Pennfine/Linn	5	0.10
¹ add inoculant immediately prior to seeding ² Mix 4 lbs each of Empire and Pardee OR 4 lbs of Birdsfoot and 4 lbs white clover per acre. All seeding rates are given for Pure Live Seed (PLS)			

Pure Live Seed, or (PLS) refers to the amount of live seed in a lot of bulk seed. Information on the seed bag label includes the type of seed, supplier, test date, source of seed, purity, and germination. Purity is the percentage of pure seed. Germination is the percentage of pure seed that will produce normal plants when planted under favorable conditions.

To compute Pure Live Seed multiply the “germination percent” times the “purity” and divide that by 100 to get Pure Live Seed.

$$\text{Pure Live Seed (PLS)} = \frac{\% \text{ Germination} \times \% \text{ Purity}}{100}$$

For example, the PLS for a lot of Kentucky Blue grass with 75% purity and 96% germination would be calculated as follows:

$$\frac{(96) \times (75)}{100} = 72\% \text{ Pure Live Seed}$$

For 10lbs of PLS from this lot =

$$\frac{10}{0.72} = 13.9 \text{ lbs}$$

Therefore, 13.9 lbs of seed is the actual weight needed to meet 10lbs PSL from this specific seed lot.

Time of Seeding: The optimum timing for the general seed mixture is early spring. Permanent seedings may be made any time of year if properly mulched and adequate moisture is provided. Late June through early August is not a good time to seed, but may facilitate covering the land without additional disturbance if construction is completed. Portions of the seeding may fail due to drought and heat. These areas may need reseeding in late summer/fall or the following spring.

Method of seeding: Broadcasting, drilling, cultipack type seeding, or hydroseeding are acceptable methods. Proper soil to seed contact is key to successful seedings.

Mulching: Mulching is essential to obtain a uniform stand of seeded plants. Optimum benefits of mulching new seedings are obtained with the use of small grain straw applied at a rate of 2 tons per acre, and anchored with a netting or tackifier. See the Standard and Specifications for Mulching for choices and requirements.

Irrigation: Watering may be essential to establish a new seeding when a drought condition occurs shortly after a new seeding emerges. Irrigation is a specialized practice and care must be taken not to exceed the application rate for the soil or subsoil. When disconnecting irrigation pipe, be sure pipes are drained in a safe manor, not creating an erosion concern.



80% Perennial Vegetative Cover



50% Perennial Vegetative Cover

**Table 4.4
Permanent Construction Area Planting Mixture Recommendations**

Seed Mixture	Variety	Rate in lbs./acre (PLS)	Rate in lbs./1,000 ft ²
Mix #1			
Creeping red fescue	Ensylva, Pennlawn, Boreal	10	.25
Perennial ryegrass	Pennfine, Linn	10	.25
*This mix is used extensively for shaded areas.			
Mix #2			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	20	.50
*This rate is in pure live seed, this would be an excellent choice along the upland edge of a wetland to filter runoff and provide wildlife benefits. In areas where erosion may be a problem, a companion seeding of sand lovegrass should be added to provide quick cover at a rate of 2 lbs. per acre (0.05 lbs. per 1000 sq. ft.).			
Mix #3			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	4	.10
Big bluestem	Niagara	4	.10
Little bluestem	Aldous or Camper	2	.05
Indiangrass	Rumsey	4	.10
Coastal panicgrass	Atlantic	2	.05
Sideoats grama	El Reno or Trailway	2	.05
Wildflower mix		.50	.01
*This mix has been successful on sand and gravel plantings. It is very difficult to seed without a warm season grass seeder such as a Truax seed drill. Broadcasting this seed is very difficult due to the fluffy nature of some of the seed, such as bluestems and indiangrass.			
Mix #4			
Switchgrass	Shelter, Pathfinder, Trailblazer, or Blackwell	10	.25
Coastal panicgrass	Atlantic	10	.25
*This mix is salt tolerant, a good choice along the upland edge of tidal areas and roadsides.			
Mix #5			
Saltmeadow cordgrass (<i>Spartina patens</i>)—This grass is used for tidal shoreline protection and tidal marsh restoration. It is planted by vegetative stem divisions.			
'Cape' American beachgrass can be planted for sand dune stabilization above the saltmeadow cordgrass zone.			
Mix #6			
Creeping red fescue	Ensylva, Pennlawn, Boreal	20	.45
Chewings Fescue	Common	20	.45
Perennial ryegrass	Pennfine, Linn	5	.10
Red Clover	Common	10	.45
*General purpose erosion control mix. Not to be used for a turf planting or play grounds.			

STANDARD AND SPECIFICATIONS FOR FERTILIZER APPLICATION



Definition & Scope

The **permanent** incorporation of fertilizer into the planting zone of the soil profile to provide nutrient amendments to the soil for vigorous support to plant and vegetation growth.

Conditions Where Practice Applies

This standard applies to all areas where permanent seeding, sodding, and plant establishment is required. All application of fertilizer shall be in accordance with Nutrient Runoff Law - ECL Article 17, Title 21. Phosphorus runoff poses a threat to water quality. Therefore, under New York Law, fertilizer containing phosphorus may only be applied to lawn or non-agricultural turf when:

1. A soil test indicates that additional phosphorus is needed for growth of that lawn or non-agricultural turf, or
2. The fertilizer is used for newly established lawn or non-agricultural turf during the first growing season.

For projects located within watersheds where enhanced phosphorus removal standards are required as part of its post-construction stormwater management plan, use of any fertilizer containing more than 0.67 percent phosphate (P_2O_5) content will be done only with a valid soil test demonstrating the need for that formulation.

Design Criteria

Fertilizer is sold with an analysis printed on the tag or bag shown as three numbers separated by a dash, such as 5-10-5. The first number is the percent of the total weight of the bag that is nitrogen (N), the second is the percent of

phosphate (phosphorus, P), and the third is the percent of potash (potassium, K). Other elements are sometimes included and are listed with these three basic components.

For example a 40 lb bag of 5-10-5 fertilizer contains 5% of 40 lbs of Nitrogen which equals 2 lbs. There is 10% of 40 lbs of phosphate (phosphorus) which equals 4 lbs, and there is 5% of potash (potassium), another 2 lbs., for a total of 8 lbs of active fertilizer in the 40 lb bag. The rest is filler to aid in spreading the material over the area to be treated.

Specify the design fertilizer mix and application rates based on the results of the soil tests.

Specifications

1. In no case shall fertilizer be applied between December 1 and April 1 annually.
2. Fertilizer shall not be spread within 20 feet of a surface water.
3. Any fertilizer falling or spilled into impervious surface areas such as parking lots, roadways, and sidewalks should be immediately contained and legally applied or placed in an appropriate container.
4. Incorporate the fertilizer, and lime if specified, into the top 2-4 inches of the topsoil or soil profile.
5. When applying fertilizer by hydro seeding care should be taken to apply mix only to seed bed areas at an appropriate flow rate to prevent erosion and spraying onto impervious areas.



STANDARD AND SPECIFICATIONS FOR WINTER STABILIZATION



Definition & Scope

A temporary site specific, enhanced erosion and sediment control plan to manage runoff and sediment at the site during construction activities in the winter months to protect off-site water resources.

Conditions Where Practice Applies

This standard applies to all construction activities involved with ongoing land disturbance and exposure between November 15th to the following April 1st.

Design Criteria

1. Prepare a snow management plan with adequate storage for snow and control of melt water, requiring cleared snow to be stored in a manner not affecting ongoing construction activities.
2. Enlarge and stabilize access points to provide for snow management and stockpiling. Snow management activities must not destroy or degrade installed erosion and sediment control practices.
3. A minimum 25 foot buffer shall be maintained from all perimeter controls such as silt fence. Mark silt fence with tall stakes that are visible above the snow pack.
4. Edges of disturbed areas that drain to a waterbody within 100 feet will have 2 rows of silt fence, 5 feet apart, installed on the contour.
5. Drainage structures must be kept open and free of snow and ice dams. All debris, ice dams, or debris from plowing operations, that restrict the flow of runoff and meltwater, shall be removed.
6. Sediment barriers must be installed at all appropriate

perimeter and sensitive locations. Silt fence and other practices requiring earth disturbance must be installed before the ground freezes.

7. Soil stockpiles must be protected by the use of established vegetation, anchored straw mulch, rolled stabilization matting, or other durable covering. A barrier must be installed at least 15 feet from the toe of the stockpile to prevent soil migration and to capture loose soil.
8. In areas where soil disturbance activity has temporarily or permanently ceased, the application of soil stabilization measures should be initiated by the end of the next business day and completed within three (3) days. Rolled erosion control blankets must be used on all slopes 3 horizontal to 1 vertical or steeper.
9. If straw mulch alone is used for temporary stabilization, it shall be applied at double the standard rate of 2 tons per acre, making the application rate 4 tons per acre. Other manufactured mulches should be applied at double the manufacturer's recommended rate.
10. To ensure adequate stabilization of disturbed soil in advance of a melt event, areas of disturbed soil should be stabilized at the end of each work day unless:
 - a. work will resume within 24 hours in the same area and no precipitation is forecast or;
 - b. the work is in disturbed areas that collect and retain runoff, such as open utility trenches, foundation excavations, or water management areas.
11. Use stone paths to stabilize access perimeters of buildings under construction and areas where construction vehicle traffic is anticipated. Stone paths should be a minimum 10 feet in width but wider as necessary to accommodate equipment.

Maintenance

The site shall be inspected frequently to ensure that the erosion and sediment control plan is performing its winter stabilization function. If the site will not have earth disturbing activities ongoing during the "winter season", **all** bare exposed soil must be stabilized by established vegetation, straw or other acceptable mulch, matting, rock, or other approved material such as rolled erosion control products. Seeding of areas with mulch cover is preferred but seeding alone is not acceptable for proper stabilization.

Compliance inspections must be performed and reports filed properly in accordance with the SWPPP for all sites under a winter shutdown.

References

1. Northeastern Illinois Soil and Sedimentation Control Steering Committee. October 1981. Procedures and Standards for Urban Soil Erosion and Sediment Control in Illinois.
2. J.F. Rushing, V.M. Moore, J.S. Tingle, Q. Mason, and T. McCaffery, 2005. Dust Abatement Methods for Lines of Communication and Base Camps in Temperate Climates. ERDC/GSL TR-05-23, October 2005.

Appendix F

**Design and Construction Services During Construction
for the Replacement of Baptist Church Road Bridge**

**Capital Project WM-30, in Westchester County, NY
Contract No. CRO-530B**

**Bridge Name: Baptist Church Road Bridge
BIN: 2-26243-0**

Inspector (Print name)

Date of Inspection

Qualified Professional (print name)

Qualified Professional Signature

The above signed acknowledges that, to the best of his/her knowledge, all information provided on the forms is accurate and complete.

Preamble to Site Assessment and Inspections

The following information is to be read by all personnel involved in the construction of storm water related activities:

The Operator agrees to have a qualified inspector conduct an assessment of the site prior to the commencement of construction and certify in this inspection report that the appropriate erosion and sediment controls described in the SWPPP have been adequately installed or implemented to ensure overall preparedness of the site for the commencement of construction.

Prior to the commencement of construction, the Operator shall certify in this site logbook that the SWPPP has been prepared in accordance with the State's standards and meets all Federal, State and local erosion and sediment control requirements. A preconstruction should be held to review all of the SWPPP requirements with construction personnel.

When construction starts, site inspections shall be conducted by the qualified inspector at least every 7 calendar days. The Operator shall maintain a record of all inspection reports in this site logbook. The site logbook shall be maintained on site and be made available to the permitting authorities upon request.

Prior to filing the Notice of Termination or the end of permit term, the Operator shall have a qualified inspector perform a final site inspection. The qualified inspector shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed. In addition, the Operator must identify and certify that all permanent structures described in the SWPPP have been constructed and provide the owners with an operation and maintenance plan that ensures the structure(s) continuously functions as designed.

Pre-construction Site Assessment Checklist
(NOTE: Provide comments below as necessary)

1. Notice of Intent, SWPPP, and Contractors Certification:

Yes No N/A

- Has a Notice of Intent been filed with the NYS Department of Conservation?
- Is the SWPPP on site? If so, where? _____
- Is the plan current? Is not, what is the latest revision date? _____
- Is a copy of the NOI (with a brief description) onsite? If so, where? _____
- Have all contractors involved with stormwater related activities signed a contractor's certification?

2. Resource Protection

Yes No N/A

- Are construction limits clearly flagged or fenced?
- Important trees and associated rooting zones, on-site septic system absorption fields, existing vegetated areas suitable for filter strips, especially in perimeter areas, have been flagged for protection?
- Creek crossings installed prior to land-disturbing activity, including clearing and blasting.

3. Surface Water Protection?

Yes No N/A

- Clean stormwater runoff has been diverted from areas to be disturbed.
- Bodies of water located either on site or in the vicinity of the site have been identified and protected.
- Appropriate practices to protect on-site or downstream surface water are installed.
- Are clearing and grading operations divided into areas <5 acres?

4. Stabilized Construction Access?

Yes No N/A

- A temporary construction entrance to capture mud and debris from construction vehicles before they enter the public highway has been installed.
- Other access areas (entrances, construction routes, equipment parking areas) are stabilized immediately as work takes place with gravel or other cover.
- Sediment tracked onto public streets is removed or cleaned on a regular basis.

6. Pollution Prevention for Waste and Hazardous Materials

Yes No N/A

- The operator or designated representative has been assigned to implement the spill prevention avoidance and response plan.
- The plan is contained in the SWPPP on page _____.
- Appropriate materials to control spills are onsite. Where? _____

Instructions to the inspector:

Check off all boxes that apply. If some E&SC devices conform with the specifications, but some do not, both “Yes” and “No” may be checked off. Be sure to describe deficiencies in the “Comments” section. Photographs showing deficiencies should be attached to the end of this inspection report. Photographs showing corrective action should be attached to the end of this inspection report. Attach a site map with location of deficiencies.

I. Maintaining Water Quality

Yes No N/A

- Is there an increase in turbidity causing or reasonably likely to cause a substantial visible contrast to natural conditions?
- Is there residue from oil and floating substances, visible oil film, or globules or grease?
- All disturbance is within the limits of the approved plans.
- Have receiving lake/bay, stream, and/or wetland been impacted by silt from the project?

II. Housekeeping

1. General Site Conditions

Yes No N/A

- Is construction site litter and debris appropriately managed?
- Are facilities and equipment necessary for implementation or erosion and sediment control in working order and/or properly maintained?
- Is construction impacting the adjacent property?
- Is dust adequately controlled?

2. Stabilized Construction Entrance

Yes No N/A

- Stone is clean enough to effectively remove mud from vehicles.
- Installed per standards and specifications?
- Does all traffic use the stabilized entrance to enter and leave site?
- Is adequate drainage provided to prevent ponding at entrance?

III. Runoff Control Practices

1. Topsoil and Spoil Stockpiles

Yes No N/A

- Stockpiles are stabilized with vegetation and/or mulch.
- Sediment control is installed at the toe of the slope.

2. Revegetation

Yes No N/A

- Temporary seeding and mulch have been applied to idle areas.
- 6 inches minimum of topsoil has been applied under permanent seeding.
- Approved seed mixture or sod applied

IV. Sediment Control Practices

1. Silt Fence

Yes No N/A

- Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
- Joints constructed by wrapping the two ends together for continuous support.
- Fabric buried 6 inches minimum.
- Post are stable, fabric is tight and without rips or frayed areas. Sediment accumulation is ___% of design capacity.

2. Straw/Hay Bales

Yes No N/A

- Installed on Contour, 10 feet from toe of slope (not across conveyance channels).
- Straw/Hay Bale buried 4 inches minimum.
- Bound bales placed on contour
- Bales securely anchored in place by either two stakes or re-bars driven through the bale.
- Bales do not impeded or block stormflow/drainage.

3. Turbidity Curtain

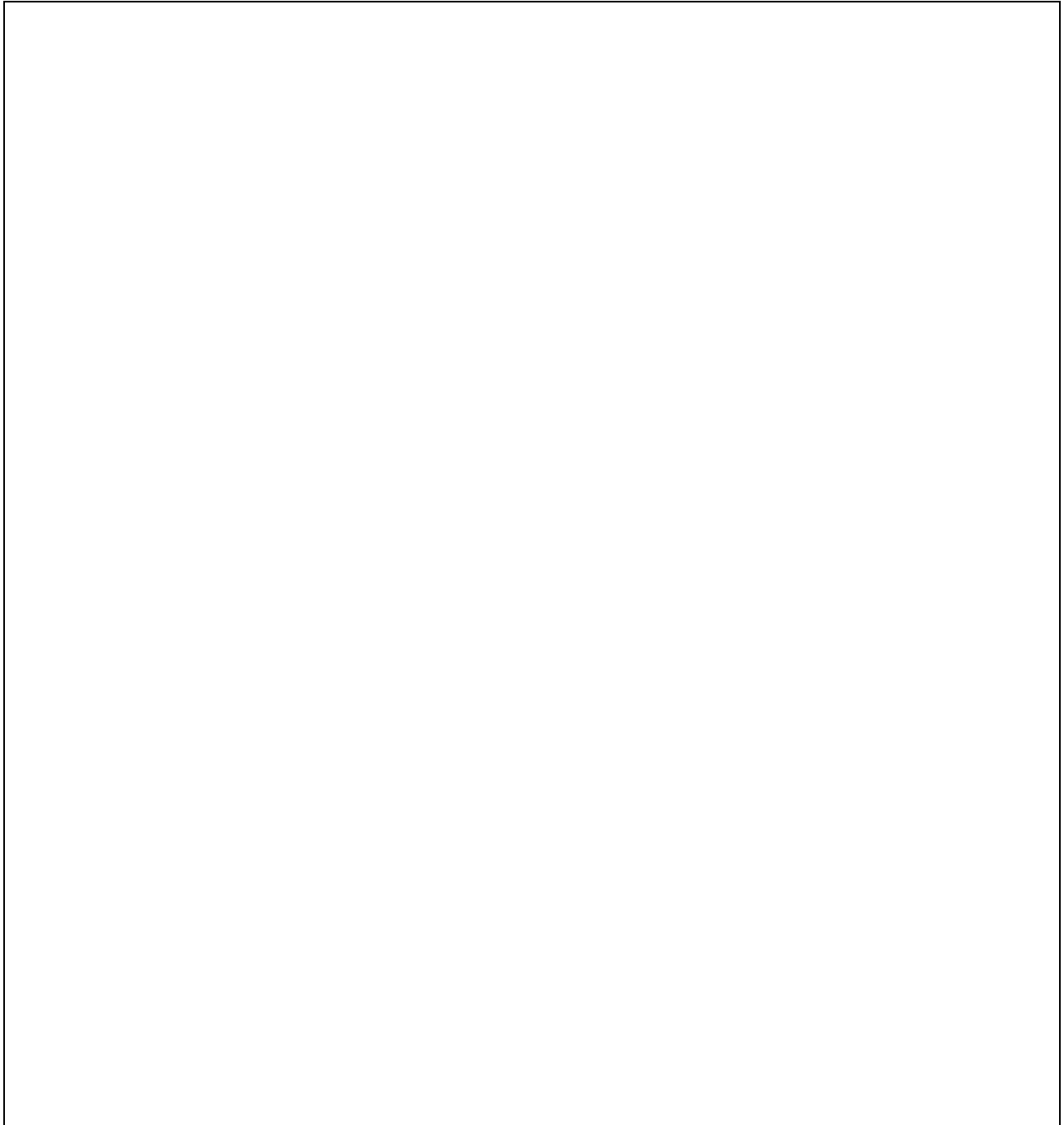
Yes No N/A

- Floatation buoys evenly spaced.
- No visible rips/tears in the curtain observed.
- Curtain is anchored down, and no portion is floating at the water surface.
- Curtain surrounds site.

Construction inspection checklists for post-development stormwater Management practices can be found in Appendix F of the New York State Stormwater Management Design Manual.)

COMMENTS:

Describe all deficiencies below. Be sure to include pictures of any deficiency/deficiencies and descriptions of areas that are not in conformance.

A large, empty rectangular box with a thin black border, intended for the user to provide detailed comments, descriptions, and pictures of deficiencies.

CONSTRUCTION DURATION INSPECTIONS

Modifications to the SWPPP (To be completed as described below)

The Developer shall amend the SWPPP whenever:

1. There is a significant change in design, construction, operation, or maintenance which may have a significant effect on the potential for the discharge of pollutants to the waters of the State and which has not otherwise been addressed in the SWPPP; or
2. The SWPPP proves to be ineffective in;
 - a. Eliminating or significantly minimizing pollutants from sources identified in the SWPPP and as required by this permit; or
 - b. Achieving the general objectives of controlling pollutants in stormwater discharges from permitted construction activity; and
3. Additionally, the SWPPP shall be amended to identify any new contractor or subcontractor that will implement any measure of the SWPPP.

Modification & Reason:

Rainfall Log Year: 20__

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1												
2												
3												
4												
5												
6												
7												
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Appendix G

FINAL STABILIZATION AND RETENTION OF RECORDS

- A. Qualified Professional Certification: A qualified professional shall perform a final site inspection.

Yes No N/A

- Final site drainage will prevent erosion, concentrated flows to adjacent properties, uncontrolled overflow, and ponding.
- The site has been seeded and vegetated to at least 80% coverage.

"I hereby certify that the site has undergone final stabilization. Final stabilization means that all soil disturbing activities have been completed and a uniform, perennial vegetative cover with a density of eighty (80) percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures. Further, all temporary erosion and sediment controls (such as silt fence) not specified for permanent erosion control have been removed. I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the City and State of New York and could subject me to criminal, civil and/or administrative proceedings. "

Qualified Professional (print name)

Qualified Professional Signature

Date

- B. Retention of Records: The developer shall retain copies of SWPPPs, all reports, and records of all data for a period of at least five years from the date that the site is finally stabilized.
- C. Maintenance of SWPPP and Reports at the Construction Site: The operator shall retain a copy of the SWPPP at the construction site from the data of initiation of construction activities to the date of final stabilization.

CERTIFICATE OF RETURN

As directed by the owner's representative, the copy of the storm water pollution prevention plan retained at the site, along with all signed statements, reports and schedules contained herein for completion by the contractor are to be returned to the owner. The owner shall retain the plan, reports and records of all data for a period of five years from the date that the site is stabilized. This period may be extended by the City director at any time upon written notification.

Date of issuance:

Name:

Title:

Firm:

Signature: _____

Received from:

Name:

Title:

Address:

Tel. Number(s):

Signature: _____

(Note: Inquiries in regard to copies of pollution prevention plan by either the State Director or any local agency having jurisdiction to be directed to owner's project representative.)