

ADDENDUM NO. 1

2019 GULF BROOK CHANNEL RESTORATION PROJECT PHASE 2

TOWN OF KEENE – ESSEX COUNTY, NEW YORK

June 27, 2019

TO ALL HOLDERS OF BIDDING DOCUMENTS:

This Addendum, issued to bid document holders of record, provides clarifications and additional information to the bid documents for the 2019 Gulf Brook Channel Restoration Project Phase 2 project. All information provided herein shall be incorporated into the Contractor's bid proposal and become part of the Contract Documents (a.k.a., The Project Manual). Adjustments required by each item shall be understood to apply to all document references affected by the clarifications described.

1. **General:** A Pre-Bid meeting was held for the project at the Keene Town Offices on June 25, 2019 at 10:00 AM. Minutes from the meeting are enclosed and are a part of this Addendum and the Contract Documents.
2. **General:** Design plans have been updated and are enclosed and are a part of this Addendum and the Contract Documents. The entire plan set has been updated. Significant changes include the reduction in the overall width of the Bucks Lane Bridge superstructure over Gulf Brook to 17-feet.
3. **Regarding the Shed on 5th & 20th, LLC property:** The shed shall be re-located in approximately the location indicated on Sheet C.201. The exact location shall be determined by the owner. The contractor shall be responsible for determining the means and methods for relocating the shed on an adequate foundation and for the protection of the structure and repairing any damage that occurs to the structure as a result of moving it. The contractor shall submit a detailed shed relocation plan for review and approval prior to commencing the relocation of the shed. The plan shall include a foundation plan for the relocated shed. All existing utilities (fuel line, electrical power, communications) to the existing shed have been terminated and do not need to be re-established to the re-located shed.
4. **Regarding Utilities on the Bucks Lane Bridge:** The Contract Documents contain details and specifications for the replacement of the existing water main to be attached to the replacement bridge superstructure. Other utilities are present on the bridge including an apparent power line, telephone lines, and cable communication lines. All of these are defunct with the exception of the cable lines. The contractor shall temporarily relocate the cable lines during construction maintaining service throughout the construction period and make arrangements for the replacement, or re-attachment of the cable lines to the new bridge.
5. **Question from Prospective Bidder: In consideration of the upcoming holiday, could the bid due date be extended one week?** Bids are due July 11, 2019 and an extension is not currently being considered.

6. **Question from Potential Bidder: According to note 11 on sheet 2 of the contract plans, the owner will provide a temporary bridge for rent. The notes states that we are to contact the DPW for additional details and rates. Could you provide us with these details?** This has changed. The contractor shall provide the temporary bridge during construction of the Bucks Lane Bridge. This note has been removed from the updated design plans.

Attachments: Pre-Bid Meeting Minutes
Updated plan set dated 6/27/2019

PRE-BID MEETING MINUTES

Report Date: June 26, 2019

Project: Gulf Brook Phase 2 Stabilization Project

Attending Erik Sandblom, PE – Schoder Rivers Assoc.
Jim Dougan, Essex County DPW
Colin Dowd, Essex County DPW
Joe Pete Wilson - Town of Keene Supervisor
Suzanna Randall – GOSR
GOSR representatives (via conference call)
Tom Manfred – Reale Co.
Michael Hayes – Perras Excavating
Dane Insogna – Harrison & Burrowes
Jason Westover – Prime Highway

Distribution: Via posting on the Essex County website as a part of Addendum No. 1 for access by all holders of bidding documents.

A scheduled pre-bid meeting was held for the above referenced project on June 25, 2019 at 10:00 AM at the Town of Keene offices. The following items were discussed.

1. Sandblom presented a summary of the history of the project. This project represents Phase 2 in a series of restoration and flood resiliency projects to Gulf Brook since Tropical Storm (TS) Irene in August of 2011. This project is fully funded by a federal HUD CDBG Disaster Recovery Grant administered through the New York Governor's Office of Storm Recovery (GOSR).
2. Randall and other GOSR representatives went over funding source requirements for the project including Civil Rights and Diversity Goals, Elation Systems Reporting requirements, and NYS and Federal Prevailing Wage requirements. A summary of these items is attached to this memo.
3. The channel and hydraulic model for this project is based on a hydrologic model that approximates TS Irene. Therefore, the design standard for this project is between a 100-year and 500-year flood.
4. Contractors are encouraged to use as much native material as possible during construction. That is the reasoning for using a unit price bid for the Type IV and Type VI stone.
5. Sandblom informed attendees that a design change is in the works and revised plans will be distributed with Addendum No. 1. The design change involves dimensional changes to the Bucks Lane bridge over Gulf Brook, specifically, the bridge is to be made narrower to an overall width dimension of 17 feet.

6. The retaining wall design is a gravity block wall (no geogrid or other lateral anchoring) based on the use of Redi-Rock precast concrete segmental block units. Alternates may be proposed.
7. The project schedule requires that the Buck's Lane bridge over Gulf Brook be substantially complete by September 30, 2019. This deadline may be extended, notwithstanding in-river work restrictions and the bridge and roadway work must be completed this year (2019). Channel work and the retaining wall may be completed in 2020. Based on this schedule it is expected that tree removal will occur between October 15 and March 31. If tree removal is to occur outside of these dates, then the procedures listed in the Tree Removal Notes on Sheet N-1 shall be followed.
8. Permits have been obtained from NYSDEC, ACOE, and APA; copies are provided in the Project Manual. The work that is proposed within the Route 9N Right-of-Way, including modifications under the bridge, have been coordinated with NYSDOT and all relevant comments have been incorporated into the design. It is the contractor's responsibility to obtain a NYSDOT highway access permit.
9. It was noted in the meeting that all easements have been obtained for the project are included in the Project Manual. In fact, easements for the following properties are currently not in the Project Manual: Tupper, Giampaolo, and 5th & 20th, LLC. These easements are currently held by an attorney representing all three landowners and are expected to be released and will be provided prior to commencing construction. All terms that have been negotiated that impact the project design and construction have been incorporated into the Project Documents.
10. Due to the Prevailing Wage requirements and to ensure current rates, an addendum will be released 10 days prior to the bid due date with updated wages that bids will need to be based upon.
11. A question was asked whether an Engineers Estimate range of construction costs would be provided. This will not be provided at this time.
12. A question was asked whether a quantity estimate would be provided. A quantity estimate will not be provided. Bidders should utilize the plans and specifications to come up with their own estimates.

The meeting adjourned and was immediately followed by a walk of the site.

Respectfully Submitted,



Erik C.F. Sandblom, PE
Principal

Attachments: Sign-In Sheet
HUD / CDBG-DR / GOSR Project Funding Requirements

SIGN-IN SHEET

GULF BROOK PHASE 2 RESTORATION PROJECT
 PRE-BID MEETING 6/25/2014 10:00 AM KEENE, NEW YORK

Name	Company	Phone	Email
ERIK SANDERSON	SCHODER - RIVERS ASSOC	518-761-0417 x21	erik@straengineers.com
TOM MANFRED	REALE CO	518-585-6782	TOM.MANFRED@REALECONSTRUCTION.COM
Michael Hayes	PERRAS EXCAVATING	315-250-4014	MIKEHAYES@PERRASCOMPANIES.COM
DAVE INSOGNA	HARRIS & BURROWS	518-465-6254	dinsogna@harrisorrows.com
Suzanna Randall	GOSR	518-473-2394	Suzanna.Randall@Stormrecovery.ny.gov
Colin Dowd	Essex Co.	518-573-7731	cdowd@co.essex.ny.us
Jim DOUGAN	ECOPW	518-873-3739	JDOUGAN@CO.ESSEX.NY.US
JASON WESTORY	PRIME HIGHWAY	518-354-2192	j.westory@primehighway.com

PROJECT FUNDING REQUIREMENTS (HUD / CDBG-DR / GOSR)

1. Civil Rights and Diversity Goals

- Goals for the project are Minority and Women workforce 30% - 15% of contract funds going to Minority-owned business enterprises (MBE); 15% of contract funds going to Woman-owned business enterprises.
- Vendors are responsible for making Good Faith Efforts (GFE) toward achieving M/WBE goals, and for making Greatest Extent Feasible (GEF) efforts to meet Section 3 goals. If a M/WBE or Section 3 Utilization Plan is submitted with goals below what is laid out in the front-end documents, documentation of GFE and GEF efforts must be submitted with the bid or response.
- Vendors required to comply with the Section 3 clause of the HUD Act of 1968. All contracts and subcontracts over \$100,000 in value must provide a Section 3 utilization plan. This information is provided in the Project Manual.
- A list of certified M/WBE firms can be obtained using this website: www.esd.ny.gov and also using the New York State Storm Recovery Opportunities Portal (<http://www.nystormrecoveryopps.com>).
- HUD Section 3 businesses can be found using the HUD Section 3 Business Registry: <https://portalapps.hud.gov/Sec3BusReg/BRegistry/SearchBusiness>
- All awarded contracts will need to be posted to the GOSR Opportunities Portal for procurement and hiring opportunities.

2. Elation Systems software for vendor reporting and payment processing

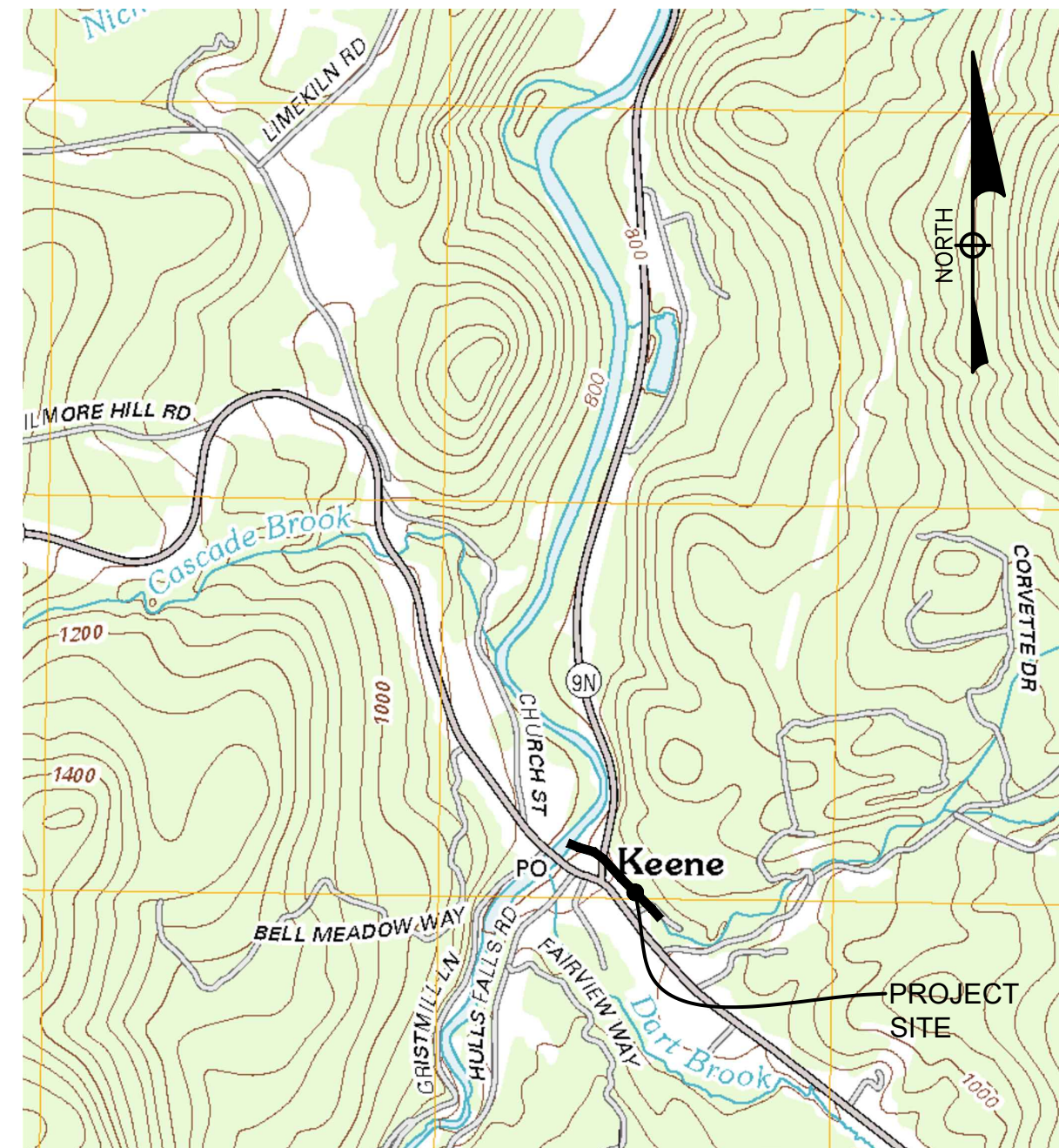
All contractors and subcontractors are required to complete M/WBE and Section 3 reporting in Elation System software. Training and technical assistance will be provided to the successful bidders. In addition, all contractors and subcontractors are required to submit certified payrolls through Elation Systems software.

3. NYS and Federal Prevailing Wage Requirements

This project is covered by the New York State Labor Law as well as the Davis Bacon and Related Acts. All contractors are required to pay the highest of the State and Federal wage rate for each labor classification used on the project. The prevailing Federal Davis-Bacon wage rates will be determined 10 calendar days prior to bid opening in order for the contractor to submit an accurate bid. This is done through a 10-day wage call. New York State wage rates are amended annually periodically, and it is the responsibility of each contractor to obtain the amended rates and apply them as necessary. Both the New York State and the Federal wage rates are to be posted at all times at a location at the work site that is available to all workers.

Original copies of Certified Payrolls must be submitted through Elation by all contractors and subcontractors weekly. Contractors and their subcontractors will be required to do monthly entries into Elation Systems website.

SITE LOCATION BASE MAP OBTAINED FROM THE USGS



SITE LOCATION MAP
SCALE: NTS

LIST OF ABBREVIATIONS

BW	BOTTOM OF WALL
C#	ALIGNMENT CURVE
CONT.	CONTAINER
E	EASTING
EG	EXISTING GRADE
ELEV.	ELEVATION
EX	EXISTING GRADE
FG	FINISHED GRADE
FFE	FINISHED FLOOR ELEVATION
GAL	GALLON
H	HORIZONTAL
I.E. OR INV.	INVERT ELEVATION
L#	ALIGNMENT LINE
LW/WH	LENGTH, WIDTH, HEIGHT
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
N	NORTHING
N.T.S.	NOT TO SCALE
OHW	ORDINARY HIGH WATERMARK
PC	POINT OF CURVATURE
PR	PROPOSED
PT	POINT OF TANGENCY
RCP	REINFORCED CONCRETE PIPE
RT	RIGHT
S	SLOPE
SB	SOIL BORING
STA	STATION
TBD	TO BE DECIDED
TYP	TYPICAL
TW	TOP OF WALL
V	VERTICAL
WSEL	WATER SURFACE ELEVATION

GULF BROOK CHANNEL RESTORATION PROJECT PHASE 2

FUNDED BY: NEW YORK STATE COMMUNITY DEVELOPMENT BLOCK GRANT (DISASTER RECOVERY FUNDS)

KEENE, NY JUNE, 2019

THIS PROJECT INVOLVES THE RESTORATION OF APPROXIMATELY 1,100 LINEAR FEET OF THE GULF BROOK INCLUDING THE CONSTRUCTION OF AN ENHANCED CHANNEL SECTION WITH A MINIMUM BANK FULL WIDTH OF 40- FEET, INSTALLATION OF CHANNEL BANK ROCK ARMOR PROTECTION, CONSTRUCTION OF BOULDER VANES, CONSTRUCTION OF IN-STREAM BOULDERS FOR HABITAT ENHANCEMENT, REMOVAL OF THE EXISTING BUCKS LANE BRIDGE AND REPLACEMENT WITH A PROPOSED 45' SPAN BRIDGE, INSTALLATION OF APPROXIMATELY 460 LF OF CONCRETE BLOCK RETAINING WALL, TEMPORARY AND PERMANENT MEASURES TO STABILIZE UPPER CHANNEL BANKS, AND ADDITIONAL MISCELLANEOUS WORK PER THESE DESIGN PLANS.



NEW YORK STATE MAP
SCALE: NTS

PREPARED FOR:
ESSEX COUNTY COMMUNITY RESOURCES
7533 COURT STREET
P.O. BOX 217
ELIZABETHTOWN, N.Y. 12932

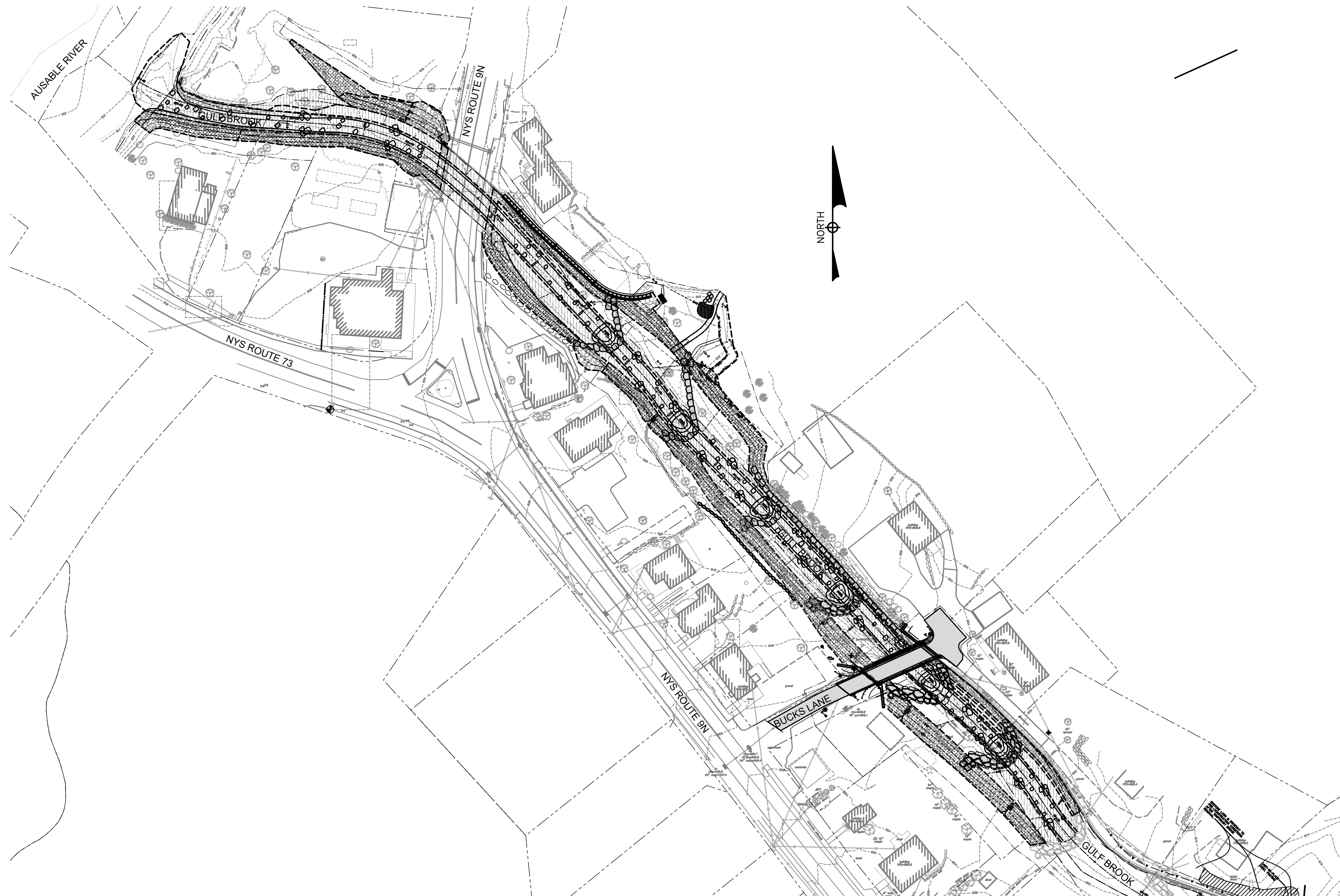
OWNER:
TOWN OF KEENE, N.Y.

IN PARTNERSHIP WITH:
N.Y.S. GOVERNORS OFFICE OF STORM
RECOVERY.

**FINAL DESIGN PLANS
ISSUED FOR BID
JUNE 11, 2019
(REVISED 6/27/2019)**

LIST OF DRAWINGS:

NO.	NAME/TITLE
CV.001:	COVER SHEET
N-1:	NOTES
N-2:	NOTES
C.101:	EXISTING CONDITIONS PLAN
C.102:	EROSION AND SEDIMENT CONTROL PLAN (STATIONS 15+50 TO 21+25)
C.103:	EROSION AND SEDIMENT CONTROL PLAN (STATIONS 21+25 TO 26+40)
C.104:	EROSION AND SEDIMENT CONTROL PLAN DETAILS
C.201:	CIVIL PLAN AND PROFILE (STATIONS 15+50 TO 21+25)
C.202:	CIVIL PLAN AND PROFILE (STATIONS 21+25 TO 26+40)
C.203:	CONCRETE BLOCK WALL AND WETLAND RESTORATION PLAN
C.301:	CROSS SECTIONS FROM STATIONS 15+50 TO 22+00
C.302:	CROSS SECTIONS FROM STATIONS 22+50 TO 25+50
C.401:	TYPICAL CHANNEL CROSS-SECTION DETAILS
C.402:	TYPICAL CHANNEL CROSS-SECTION DETAILS
C.403:	IN-STREAM CHANNEL STRUCTURES DETAILS
C.404:	ROUTE 9N BRIDGE CLEANOUT DETAILS AND WATER SYSTEM DETAILS
C.501:	TEMPORARY BRIDGE DETAILS
C.502:	TEMPORARY BRIDGE DETAILS
S-1:	BUCKS LANE BRIDGE - DEMOLITION AND SITE PLAN
S-2:	BUCKS LANE BRIDGE - PROFILE, ELEVATION, SECTIONS AND DETAILS
S-3:	SUPERSTRUCTURE PLANS AND SECTIONS
S-4:	ABUTMENT PLANS AND SECTIONS
S-5:	ABUTMENT ELEVATIONS AND DETAILS
S-6:	BRIDGE DETAILS
S-7:	RETAINING WALL DETAILS AND CROSS SECTIONS



PROJECT AREA MAP
SCALE: 1"=50'

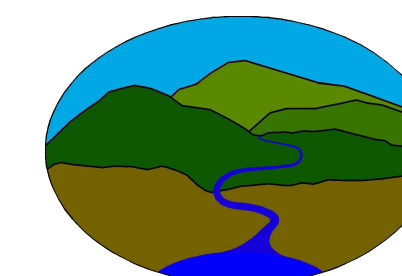
DESIGN TEAM:



KAS, INC.
P.O. BOX 787
WILLISTON, VT 05495
WWW.KAS-CONSULTING.COM
TEL: 802-383-0486



SCHODER RIVER ASSOCIATES
EVERGREEN PROFESSIONAL PARK
453 DIXON ROAD, STE. 7, BLDG. 3
QUEENSBURY, NY 12804
WWW.SRAENGINEERS.COM
TEL: 518-761-0417



FITZGERALD ENVIRONMENTAL ASSOCIATES, LLC.
18 SEVERANCE GREEN, SUITE 203 / COLCHESTER, VT 05466
WWW.FITZGERALDENvironmental.COM
TEL: 802-876-7778

PRECAST CONCRETE RETAINING WALL NOTES

1. PRECAST CONCRETE RETAINING WALL SHALL BE A PRE-ENGINEERED PRECAST CONCRETE SEGMENTAL BLOCK RETAINING WALL SYSTEM UTILIZING SIMULATED STONE-FACED INTERLOCKING CONCRETE UNITS IN A GRAVITY OR REINFORCED WALL CONFIGURATION. THE WALL SYSTEM USED AS A BASIS FOR DESIGN WAS REDI-ROCK, AS MANUFACTURED BY CARROLL CONCRETE CO., NEWPORT, NEW HAMPSHIRE. OTHER PRECAST CONCRETE SEGMENTAL BLOCK RETAINING WALL SYSTEMS MAY BE PROPOSED AS EQUIVALENTS SUBJECT TO REVIEW BY THE OWNER.
2. THE WALL SYSTEMS SHALL BE CAPABLE OF RESISTING LATERAL EARTH LOADS FROM THE MAXIMUM GRADE SEPARATIONS INDICATED ON THE DRAWINGS PLUS 2.0 FT. OF EQUIVALENT SOIL HEIGHT SURCHARGE LOADING BEHIND THE WALL.
3. THE WALL SYSTEMS SHALL BE DESIGNED TO RESIST SUBMERGENCE TO THE DESIGN STORM EVENT HIGH WATER ELEVATIONS INDICATED ON DRAWING C.301 & C.302 PLUS ONE (1) FOOT OF ADDITIONAL SUBMERGENCE. THE WALL SYSTEMS SHALL ALSO BE DESIGNED TO RESIST THE EFFECTS OF WATER FLOW VELOCITY OF 12 FEET PER SECOND PARALLEL TO THE WALL FACE. WALL DESIGN CALCULATIONS SHALL INDICATE THE CAPABILITY OF THE WALL SYSTEM TO RESIST SUCH HYDRAULIC LOADING.
4. ALL WALL SYSTEMS UTILIZING SOLID OR FILLED CRIB TYPE UNITS SHALL BE DESIGNED USING WALL UNITS OF AT LEAST 41" DEEP (i.e. DIMENSIONS PERPENDICULAR TO THE FACE) FOR ALL UNITS LOCATED WHOLLY OR PARTIALLY BELOW THE DESIGN STORM EVENT WATER ELEVATIONS INDICATED ON DRAWING C.301 & C.302.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PREPARED BY THE WALL SYSTEM SUPPLIER WHICH SHALL INDICATE PROPOSED WALL SYSTEM PLAN, SECTION AND ELEVATION VIEWS. CONTRACTOR SHALL ALSO SUBMIT THE MANUFACTURER'S DESIGN CALCULATIONS FOR THE WALL HEIGHTS AND CONFIGURATIONS TO BE CONSTRUCTED AND MANUFACTURER'S INSTALLATION MANUALS FOR THE WALL SYSTEM.
6. THE PRECAST CONCRETE SUPPLIER SHALL DESIGN ALL PRECAST WALL UNITS UNDER THE DIRECT SUPERVISION AND CONTROL OF A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEW YORK STATE. ALL SHOP DRAWINGS AND CALCULATION SUBMITTALS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEW YORK STATE.
7. THE PRECAST CONCRETE SUPPLIER SHALL BE REGULARLY ENGAGED IN THE DESIGN AND FABRICATION OF PRECAST CONCRETE SEGMENTAL BLOCK RETAINING WALL SYSTEMS FOR A MINIMUM OF 5 YEARS.
8. TOP WALL UNITS AT ALL STEPS IN ELEVATION SHALL HAVE SIMULATED STONE FINISH AT ALL EXPOSED VERTICAL SURFACES.

TEMPORARY BRIDGE NOTES

1. THE TEMPORARY MODULAR PANEL TRUSS BRIDGE SHALL BE A MABEY UNIVERSAL SYSTEM PEDESTRIAN BRIDGE AS MANUFACTURED BY MABEY BRIDGE & SHORE, INC., OR APPROVED EQUIVALENT. BACKWALL HEIGHTS AND BEARING LOCATIONS MAY REQUIRE MODIFICATIONS FOR OTHER BRIDGE MANUFACTURERS.
2. DESIGN REQUIREMENTS: THE TEMPORARY PRE-ENGINEERED BRIDGE SUPERSTRUCTURE SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH THE CURRENT NEW YORK STATE STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND ALL ADDENDA THERETO TO ACCOMMODATE THE FOLLOWING CRITERIA:
 - A. DEAD LOAD
 - B. PEDESTRIAN LIVE LOAD: 90 PSF. VEHICULAR LIVE LOAD: DESIGN TRUCK HS MAINTENANCE VEHICLE.
 - C. ADDITIONAL FORCES AS DEFINED BY AASHTO, INCLUDING BUT NOT LIMITED TO LONGITUDINAL FORCE, FRICTION AT EXPANSION BEARINGS, WIND LOADS, SEISMIC LOADING AND VEHICULAR IMPACT ON THE BRIDGE RAIL SYSTEM.
 - D. THE BRIDGE SUPERSTRUCTURE SYSTEM SHALL CONFORM TO THE DIMENSIONS INDICATED ON THE CONTRACT DRAWINGS.
 - E. THE BRIDGE SUPERSTRUCTURE SYSTEM AND BEARINGS SHALL BE DESIGNED IN CONFORMANCE WITH ALL APPLICABLE REQUIREMENTS OF THE AASHTO SPECIFICATIONS.
 - F. BRIDGE BEARINGS SHALL ACCOMMODATE BRIDGE DEAD LOAD AND LIVE LOAD DEFLECTIONS AND BEAM END ROTATIONS IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE AASHTO SPECIFICATIONS. THE BEARINGS SHALL BE DESIGNED TO PROVIDE UNIFORM BEARING STRESSES TO THE CONCRETE SUBSTRUCTURE AT THE BEARING SEAT LOCATIONS. BEARINGS SHALL BE FIRMLY ANCHORED TO THE SUBSTRUCTURE. BEARING AND ANCHOR BOLT DESIGN CALCULATIONS, INCLUDING A TABLE SUMMARIZING ALL DESIGN INFORMATION, SHALL BE INCLUDED IN THE CALCULATIONS.
 - G. THE BRIDGE RAIL SYSTEM SHALL BE AS INDICATED. THE RAIL SYSTEM DOES NOT NEED TO HAVE A CRASH TESTED RATING.
3. THE FOUNDATION AND ABUTMENT SYSTEM INDICATED IS INTENDED FOR TEMPORARY USE ONLY. MOVEMENT OF THE FOUNDATION AND ABUTMENT SYSTEM DUE TO FROST ACTION MAY RESULT AS A FUNCTION OF LONG-TERM USE.
4. ALL PRESSURE TREATED LUMBER SHALL BE MIN. 0.4#/C.F. RETENTION, NO. 2 GRADE SYP, OR BETTER.
5. ALL HARDWARE SHALL BE GALVANIZED CONFORMING WITH ASTM A153 AND NYSDOT SPEC. SECTION 719-01.
6. BEARINGS FOR THE MABEY BRIDGE STRUCTURE SHALL BE CENTERED ON THE FOOTINGS AND SHALL BE ANCHORED WITH DRILLED-IN ANCHOR BOLTS SET IN EPOXY ADHESIVE CONFORMING TO NYSDOT STANDARD SPECIFICATION SECTION 701-07.

MUNICIPAL WATER SERVICE MAIN NOTES

1. WATER SERVICE MAIN MATERIALS AND INSTALLATION SHALL CONFORM TO ALL TOWN OF KEENE REQUIREMENTS AND THESE DRAWINGS. ALL WATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT RULES, REGULATIONS, AND CONSTRUCTION STANDARDS OF AMERICAN WATER WORKS ASSOCIATION (AWWA), THE NEW YORK STATE DEPARTMENT OF HEALTH, AND THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
2. WATER SERVICE MAIN INSTALLATION SHALL BE SEQUENCED AS FOLLOWS:
 - (A) CONTRACTOR SHALL INSTALL TEMPORARY PEDESTRIAN BRIDGE PER THESE PLANS AND SPECIFICATIONS.
 - (B) CONTRACTOR SHALL INSTALL WATER SHUT OFF VALVES ON EITHER SIDE OF BUCKS LANE BRIDGE. TESTING & DISINFECTION FOLLOWING THE INSTALLATION OF THE NEW VALVES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR
 - (C) OWNER SHALL INSTALL TEMPORARY WATER SERVICE BETWEEN HYDRANTS LOCATED ALONG HURRICANE ROAD ON THE WEST SIDE OF GULF BROOK AND ALONG BUCKS LANE ON THE EAST SIDE OF GULF BROOK, WITH THE TEMPORARY BRIDGE SUPPORTING THE TEMPORARY WATER LINE. TESTING AND DISINFECTION OF THE TEMPORARY WATER SERVICE SHALL BE THE RESPONSIBILITY OF THE OWNER.
 - (D) CONTRACTOR SHALL PERFORM THE REMAINDER OF THE EXISTING WATER LINE REMOVAL WORK AND INSTALLATION OF THE NEW WATER SERVICE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 - (E) TESTING AND DISINFECTION OF THE NEW WATER SERVICE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
 - (F) A REPRESENTATIVE OF THE TOWN WATER DEPARTMENT AND/OR OWNER SHALL BE ON SITE FOR ALL WATER LINE TESTING OPERATIONS.
3. WATER LINES SHALL BE TESTED IN ACCORDANCE WITH AWWA C600 REQUIREMENTS.
4. ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH THE LATEST AWWA STANDARDS FOR THE DISINFECTION OF WATER MAINS DESIGNATION C-651. FOLLOWING FLUSHING, WATER SAMPLES SHALL BE COLLECTED FROM THE MAIN AND EACH BRANCH. FIRE HYDRANTS ARE NOT ACCEPTABLE SAMPLING POINTS. WATER SAMPLES SHALL BE COLLECTED AND THE MAIN SHALL NOT BE PLACED IN SERVICE UNTIL THE WATER HAS BEEN APPROVED AND NOTIFICATION THEREOF RECEIVED.
5. PROVIDE THRUST BLOCKS IN ACCORDANCE WITH THE THRUST BLOCK DETAIL INDICATED ON DRAWING C.501 AT ALL DUCTILE IRON FITTINGS.

EROSION CONTROL NOTES

1. ALL SILT FENCES SHALL BE IN PLACE AT LOCATIONS INDICATED IN ACCORDANCE WITH THE DETAILS BEFORE COMMENCEMENT OF ANY DISTURBANCE OF EXISTING GROUND SURFACE.
2. ALL EXPOSED CUT AND FILL EARTHWORK SURFACES SHALL BE COVERED WITH MIN. 3" OF TOPSOIL AND TURFED IN ACCORDANCE WITH NYSDOT SPEC. SECTION 713, UNLESS NOTED TO BE COVERED BY PAVEMENT OR STRUCTURES.
3. ALL AREAS UNWORKED FOR MORE THAN 14 DAYS MUST BE SEEDED WITH ANNUAL RYE GRASS AND PROTECTED WITH STRAW MULCH.
4. AFTER EVERY STORM EVENT IN EXCESS OF 1/2" RAINFALL, INSPECT ALL SILT FENCES. REMOVE ACCUMULATED MATERIAL, FILL ERODED AREAS AND RESET SILT FENCES.
5. ENCLOSE ALL STOCKPILES WITH SILT FENCE.
6. EROSION CONTROL MEASURES SHALL CONFORM WITH THE REQUIREMENTS OF NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (2016 BLUE BOOK).
7. THE CONTRACTOR SHALL PROVIDE A DUMPSTER ON-SITE FOR DISPOSAL OF DEBRIS, GARBAGE AND LITTER.
8. SILT FENCES SHALL REMAIN IN PLACE UNTIL A STABLE GROWTH OF TURF IS PRESENT AT ALL DISTURBED AREAS AND RIPRAP IS IN PLACE.
9. THE CONTRACTOR SHALL PROVIDE AN APPROVED SECONDARY CONTAINMENT SYSTEM FOR ALL FUEL AND PETROLEUM PRODUCTS TEMPORARILY STORED ON THE SITE.
10. THE CONTRACTOR SHALL HAVE IN PLACE A ROCK FILTER DAM JUST UPSTREAM OF THE CONFLUENCE OF THE EAST BRANCH AUSABLE RIVER DURING ALL STREAM CHANNEL EXCAVATION ACTIVITIES. SEE SHEET C.104 FOR ADDITIONAL NOTES AND DETAILS.

ROCK FILTER DAM NOTES

REFER TO SHEET C.104 FOR ROCK FILTER DAM NOTES

ROCK SLOPE + CHANNEL PROTECTION NOTES

REFER TO SHEET C.401 FOR ROCK SLOPE & CHANNEL PROTECTION NOTES

BOULDER CLUSTER NOTES

REFER TO SHEET C.403 FOR BOULDER CLUSTER NOTES

BOULDER CROSS VANE NOTES

REFER TO SHEET C.403 FOR BOULDER CROSS VANE NOTES

DESIGN ENGINEER DISCLAIMER

THE DESIGN OF THE RIGHT RIVER BANK FROM APPROXIMATE STATIONS 18+10 TO 20+00 IS AN ALTERNATIVE DESIGN NEGOTIATED WITH THE OWNER OF THE PROPERTY ALONG THIS SEGMENT (WELLS, PARCEL ID 53.27-1-1.100). THE DESIGN OF THE BANK WAS MODIFIED TO MINIMIZE THE LEVEL OF DISTURBANCE OF THE PROPERTY DURING CONSTRUCTION, RESULTS IN REDUCED ARMORING ALONG THE BANK AT AND ABOVE BANK-FULL AND DOES NOT PROVIDE ADEQUATE STABILIZATION FROM EROSION OR SCOUR PROTECTION. THE ENGINEER ASSUMES NO RESPONSIBILITY WHATSOEVER WITH REGARDS TO FUTURE EROSION OR FAILURE OF THIS SEGMENT OF STREAM BANK.

REVISIONS		
REV.	DATE	DESCRIPTION
0	6/11/2019	ISSUED FOR BID
1	6/27/2019	DESIGN REVISIONS



UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

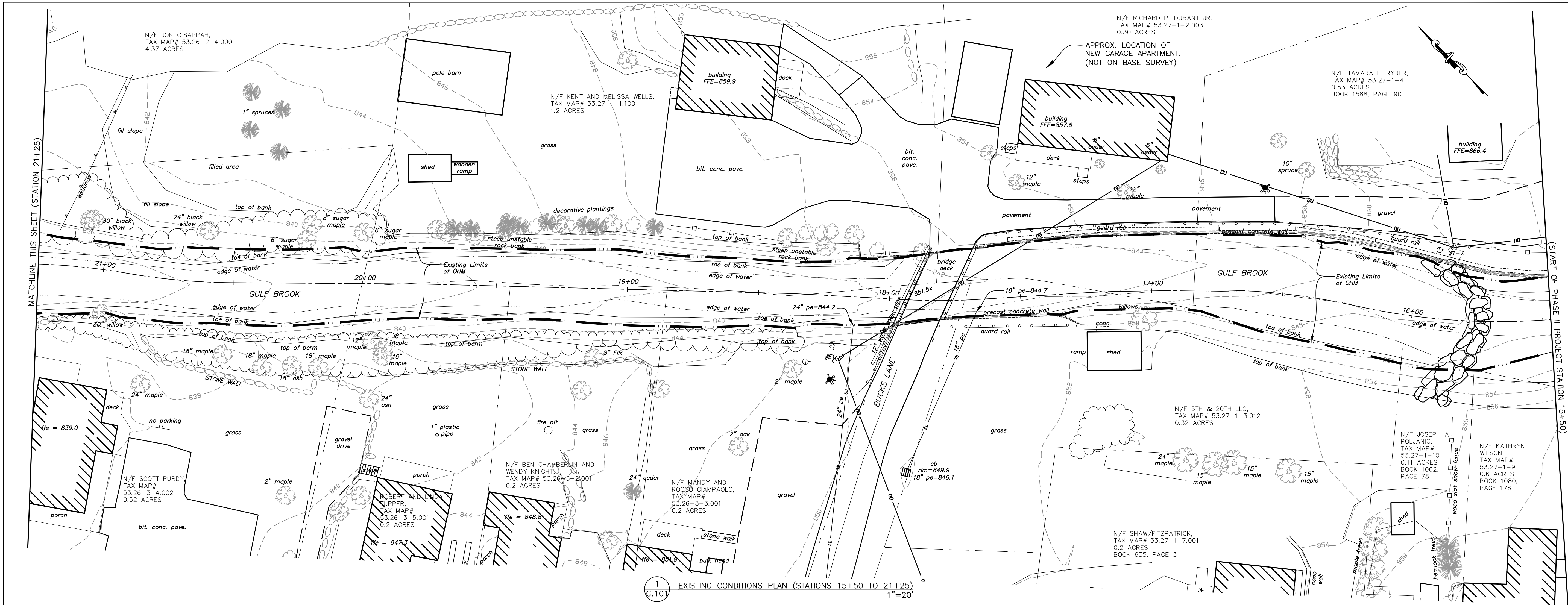
SCHODER RIVERS ASSOCIATES
 Consulting Engineers, P.C.
 Evergreen Professional Park
 453 Dixon Road, Suite 7, Bldg. 3
 Queensbury, New York 12804
 (518) 761-0417, FAX: (518) 761-0513

SCALE: AS SHOWN	DRAWN BY: KAS/SRA
DATE: 6/27/2019	ENG. BY: KAS/SRA
PROJ. NO: 15-881	CHK'D BY: ES

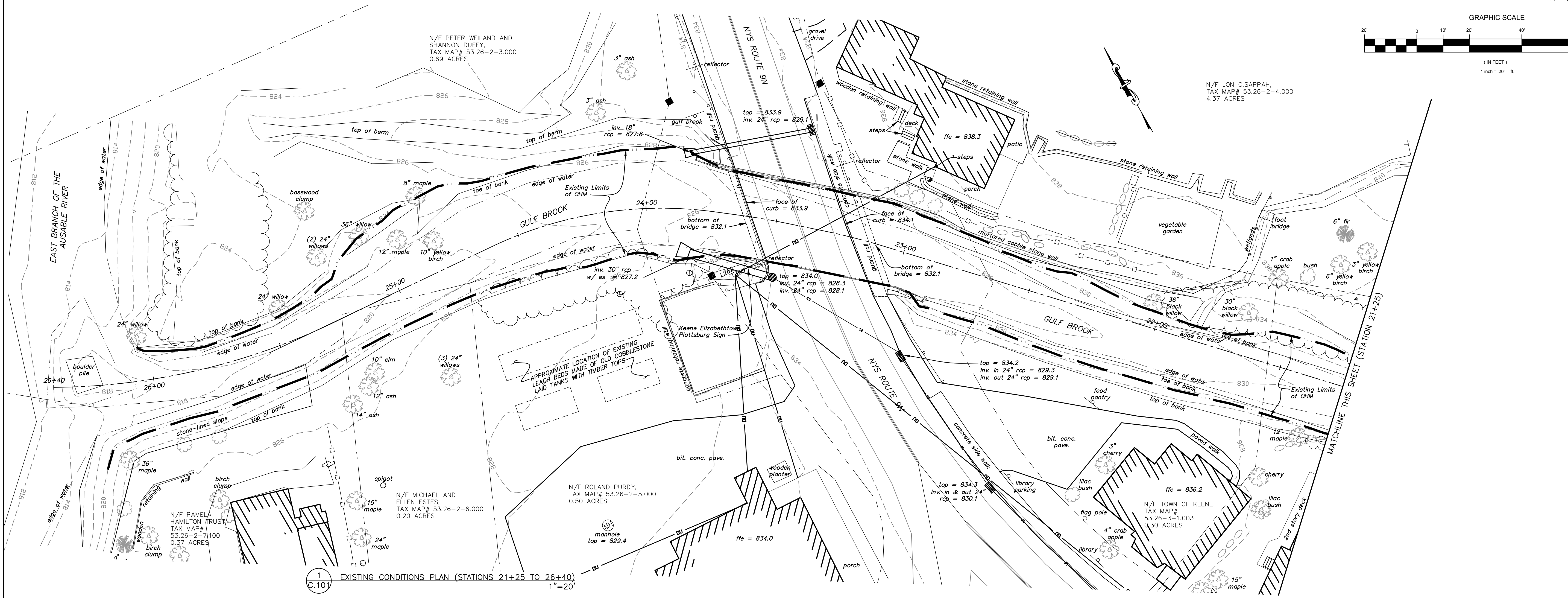
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
 Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II

NOTES	
DRAWING NO. N-2	SHT. 3 OF 25
	REV. 1



1
C.101 EXISTING CONDITIONS PLAN (STATIONS 15+50 TO 21+25)
1"=20'



1
C.101 EXISTING CONDITIONS PLAN (STATIONS 21+25 TO 26+40)
1"=20'

SURVEY NOTES

- 1) North orientation is based on survey grade STATIC GPS observations made on May 28, 2014. The resultant horizontal datum is NAD 83. This realization is called NAD 83(2011) epoch 2010.0. Geoid model (Geoid12a). The resulting orthometric height is NAVD 88 (geoid12a).
- 2) The existing features shown hereon were located during field surveys conducted on May, 2014 and August 2015.
- 3) The premises shown and described hereon, maybe subject to existing buried utilities, easements, rights-of-way, restrictions, covenants, permits, regulations, and/or setback lines. Clear evidence of structures that are readily apparent from a casual above ground view are delineated hereon. No land record research has been performed by this office in the acquisition of this topography.
- 4) This is NOT a boundary survey. Any property line information shown hereon is approximate. Any property lines, easements, and/or other real property descriptions shown on this plan are for the use of ESPC only. They do not define legal rights or meet legal requirements for a land survey.

REVISIONS		
REV.	DATE	DESCRIPTION
0	6/11/19	ISSUED FOR BID
1	6/27/19	DESIGN REVISIONS



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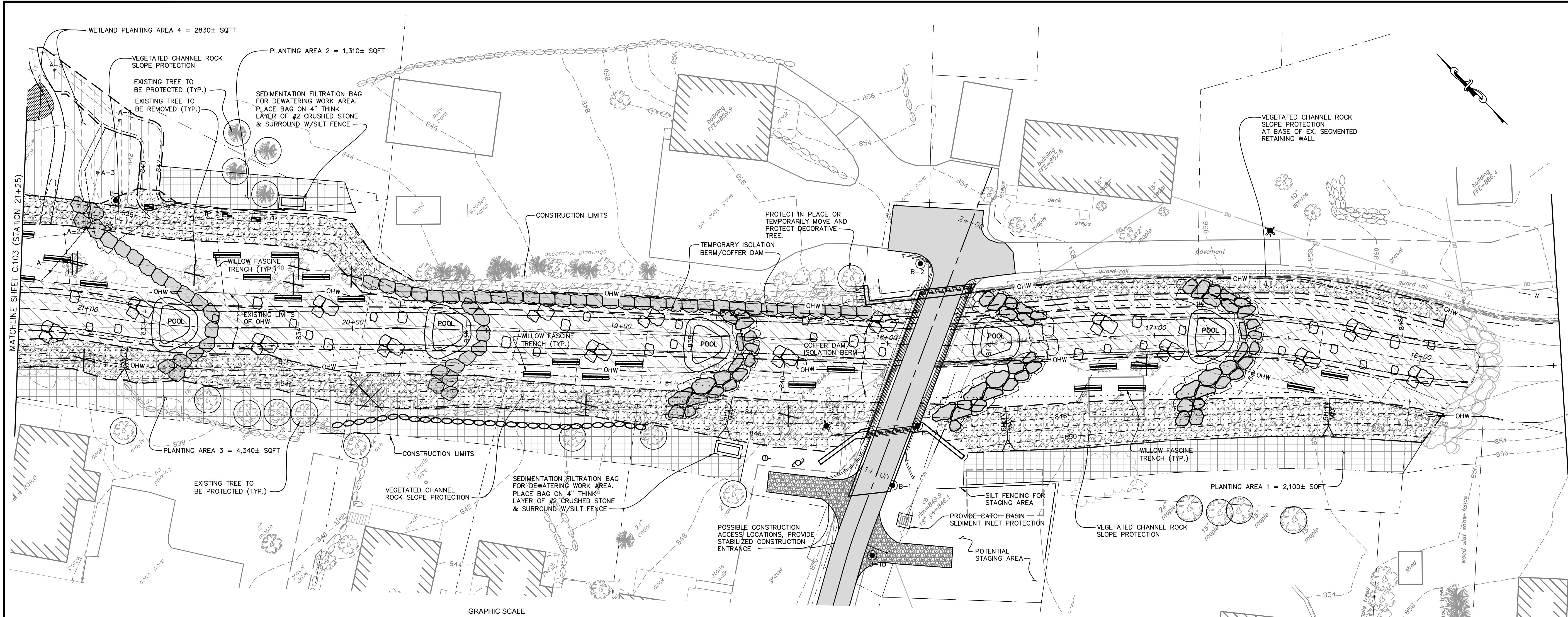
SCALE: AS SHOWN DRAWN BY: KAS/SRA
DATE: 6/27/2019 ENG. BY: KAS/SRA
PROJ. NO: 15-881 CHK'D BY: ES

CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II

EXISTING CONDITIONS PLAN

DRAWING NO. **C.101** SHT. 4 OF 25
REV. 1



LEGEND

PROPOSED	EXISTING	DESCRIPTION
---	---	CONTOURS
---	---	BREAKLINES/SITE FEATURES
---	---	SLOPE TOE/TOP CATCHLINE
---	---	EDGE OF WATER (LOW FLOW)
---	---	FENCE
---	---	PARCEL LINES (FROM TAX MAP)
---	---	CHANNEL CENTERLINE
---	---	WATERLINE (TBD)
---	---	ORDINARY HIGH WATER MARK
---	---	APPROXIMATE LIMITS OF DISTURBANCE
---	---	CROSS SECTION (Ø 50' ON CENTER)
---	---	TREELINE
---	---	WETLANDS
---	---	GRAVEL ROAD
---	---	ROCKERY SLOPE PROTECTION SIZE AS SPECIFIED
---	---	VEGETATED ROCK SLOPE PROTECTION
---	---	BUILDINGS
---	---	FIRE HYDRANT
---	---	WATER GATE VALVE
---	---	TEMPORARY BENCH MARK
---	---	BOULDER (4' TO 6'± AVERAGE SIZE) WITHIN LOW FLOW CHANNEL
---	---	EX. TREES
---	---	EX. TREE TO BE REMOVED
---	---	EX. TREES TO BE PROTECTED



PLANTING AREAS 1 THROUGH 6: PLANT SCHEDULE

Planting Density Calculator	Common Name	Taxonomic Name	Form	Size	Quantity
Project: Gulf Brook, Keene, NY	Eastern Hemlock	<i>Tsuga canadensis</i>	2 gal. cont.	4-5'	25
	Elderberry	<i>Sambucus canadensis</i>	1 gal. cont.	2-3'	40
Planting Area (acres): 0.35	Northern White Cedar	<i>Thuja occidentalis</i>	2 gal. cont.	4-5'	25
Planting Area (sqft): 15,070	Red maple	<i>Acer rubrum</i>	2 gal. cont.	4-5'	17
Target Spacing (ft): 10	Red osier dogwood	<i>Cornus sericea</i>	1 gal. cont.	2-3'	40
Quantity Needed: 192	Sugar Maple	<i>Acer saccharum</i>	2 gal. cont.	4-5'	20
Density (plants/acre): 555	White Ash	<i>Fraxinus americana</i>	2 gal. cont.	4-5'	25
				Total Trees/Shrubs:	192

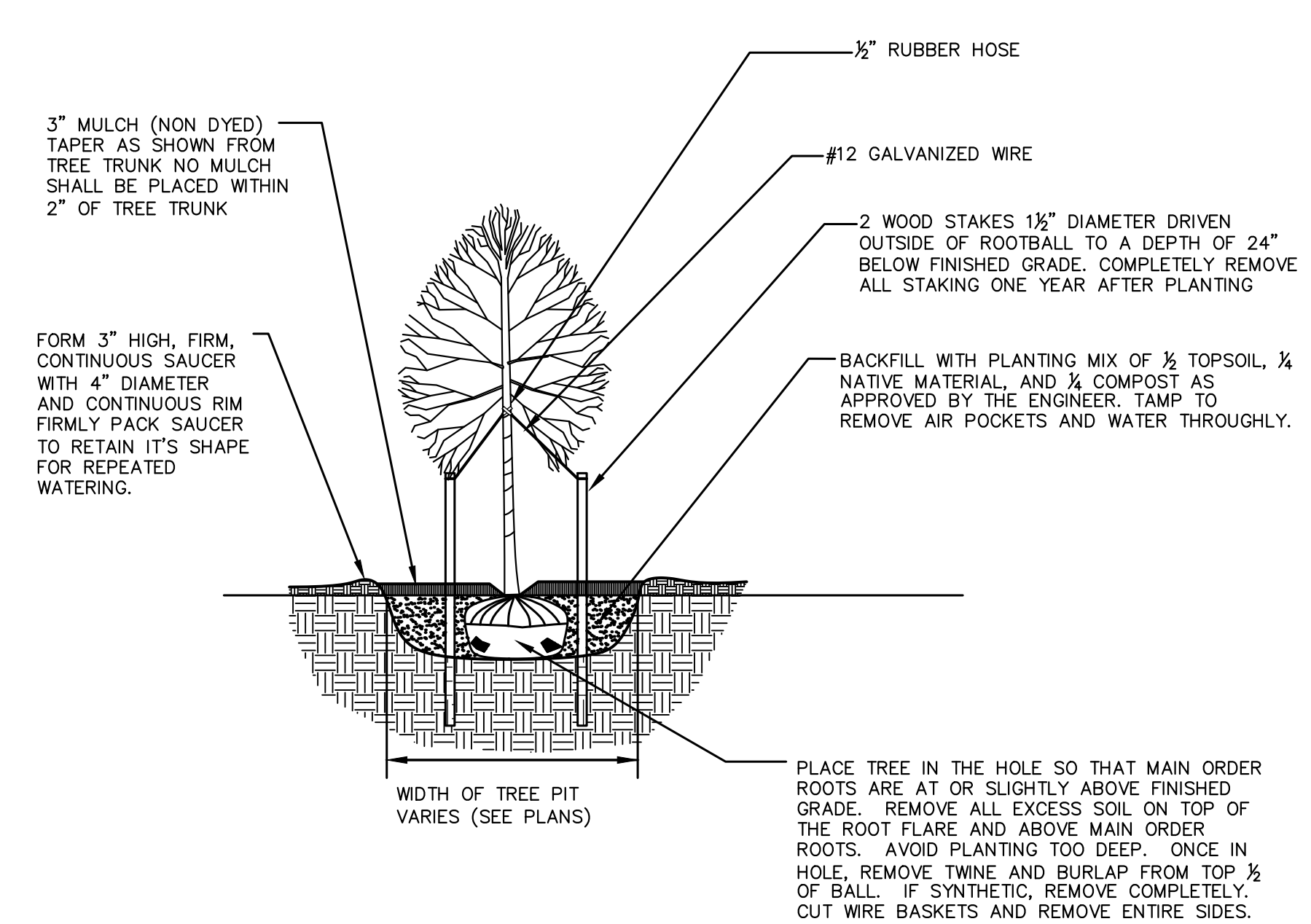
WETLAND PLANTING AREA: PLANT SCHEDULE

Planting Density Calculator	Common Name	Taxonomic Name	Form	Size	Quantity
Project: Gulf Brook, Keene, NY	Northern White Cedar	<i>Thuja occidentalis</i>	2 gal. cont.	4-5'	6
	Red maple	<i>Acer rubrum</i>	2 gal. cont.	4-5'	6
Planting Area (acres): 0.06	Red osier dogwood	<i>Cornus sericea</i>	1 gal. cont.	2-3'	8
Planting Area (sqft): 2,830	Shiny Willow	<i>Salix lucida</i>	1 gal. cont.	2-3'	8
Target Spacing (ft): 10	Speckled Alder	<i>Alnus incana</i>	1 gal. cont.	2-3'	8
Quantity Needed: 36					
Density (plants/acre): 555				Total Trees/Shrubs:	36

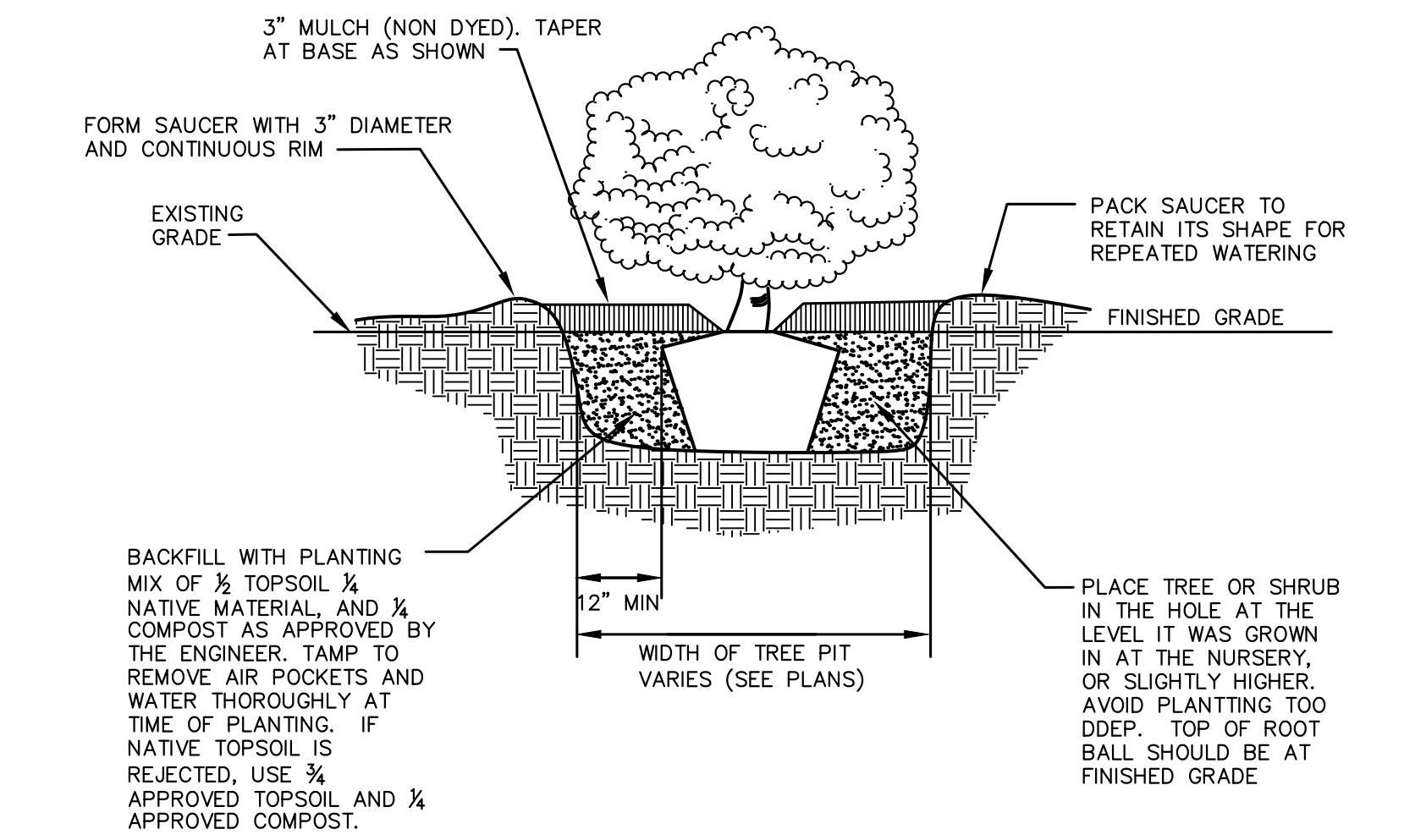
WETLAND SEED MIX: VERMONT WET MEADOW AND DETENTION BASIN MIX OR EQUAL

SPECIES COMPOSITION: SWITCHGRASS (PANICUM VIRGATUM), VIRGINIA WILD RYE (ELYMUS VIRGINICUS), RED FESCUE (FESTUCA RUBRA), FOX SEDGE (CAREX VULPINOIDEA), WOOLGRASS (SCIRPUS CYPERINUS), GREEN BULRUSH (SCIRPUS ATROVIRENS), NODDING BUR-MARI GOLD (BIDENS CERNUA), BONESET (EUPATORIUM PERFOLIATUM), JOE-PYE WEED (EUPATORIADELPHUS MACULATUS), SOFT RUSH (JUNCUS EFFUSUS), SENSITIVE FERN (ONOCLEA SENSIBILIS), BLUE VERVAIN (VERBENA HASTATA), NEW ENGLAND ASTER (SYMPHYOTRICHUM NOVA-ANGLIAEA)

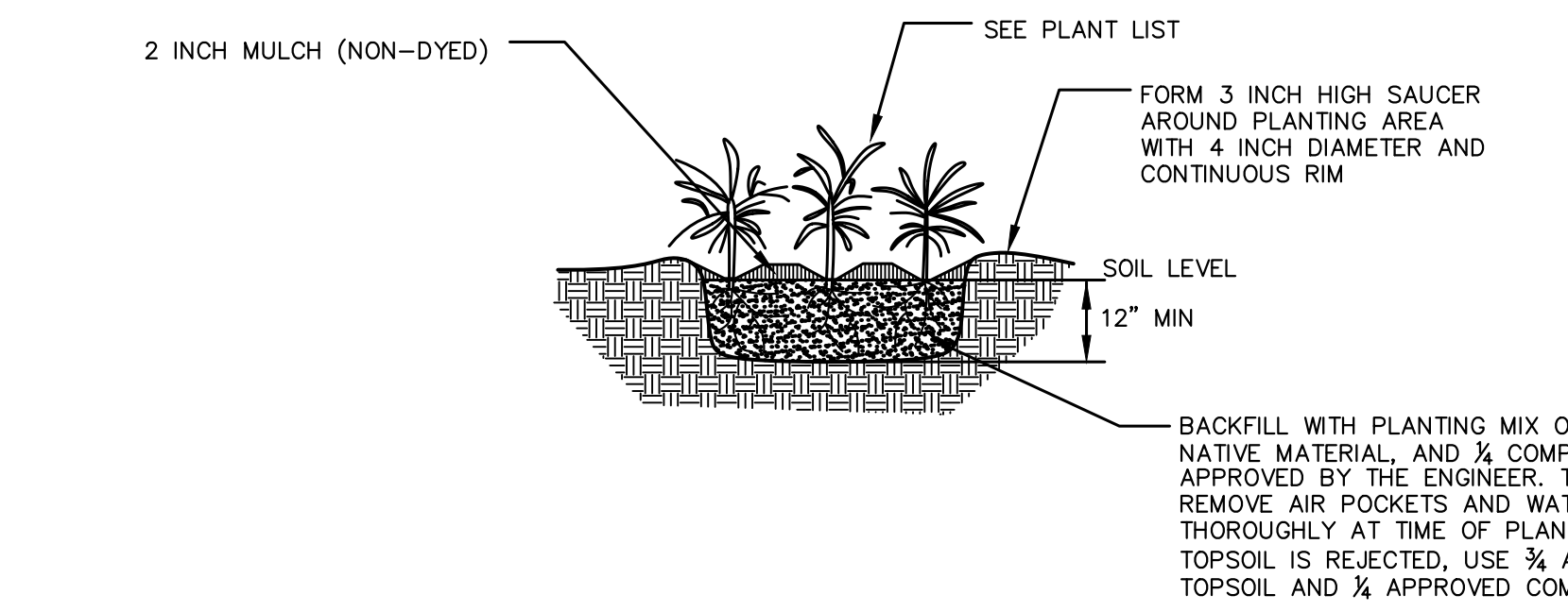
APPLICATION RATE: 35 LBS/ACRE



TYPICAL TREE PLANTING DETAIL
N.T.S.



TYPICAL SHRUB PLANTING DETAIL
N.T.S.



TYPICAL PERENNIAL PLANTING DETAIL
N.T.S.

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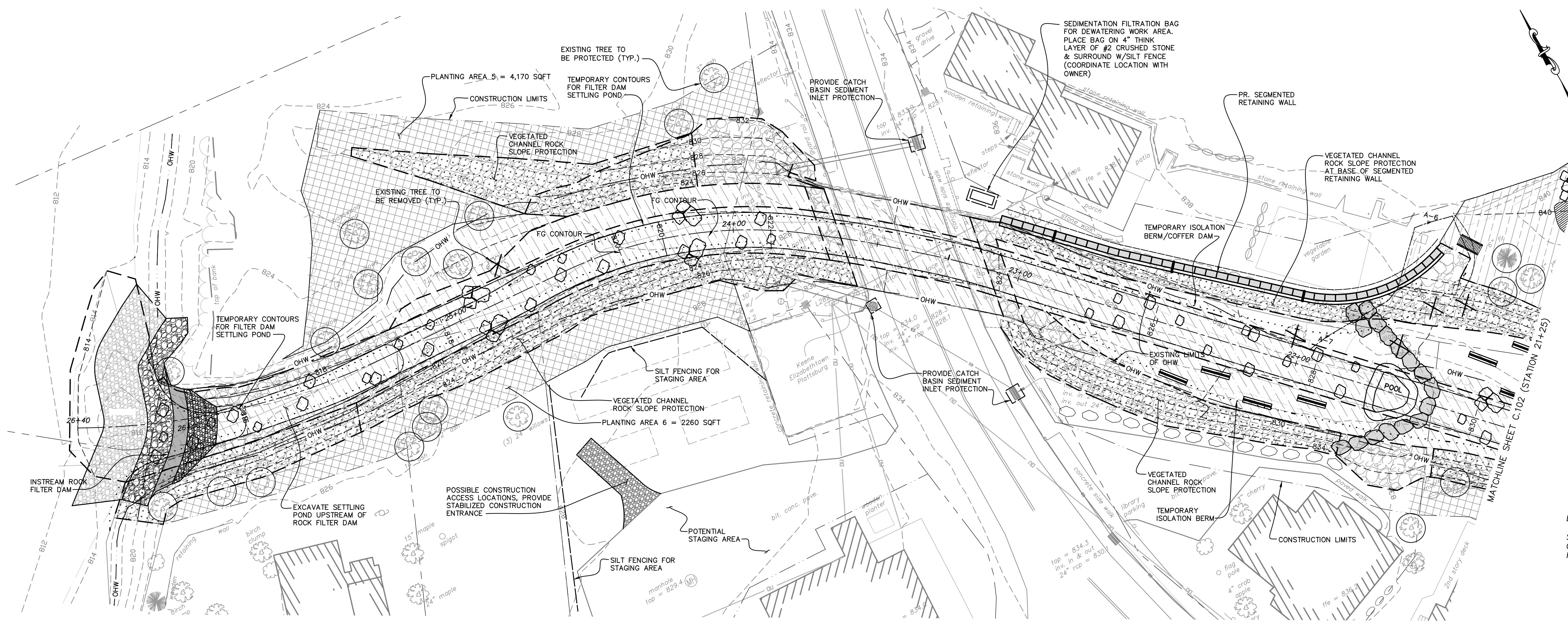
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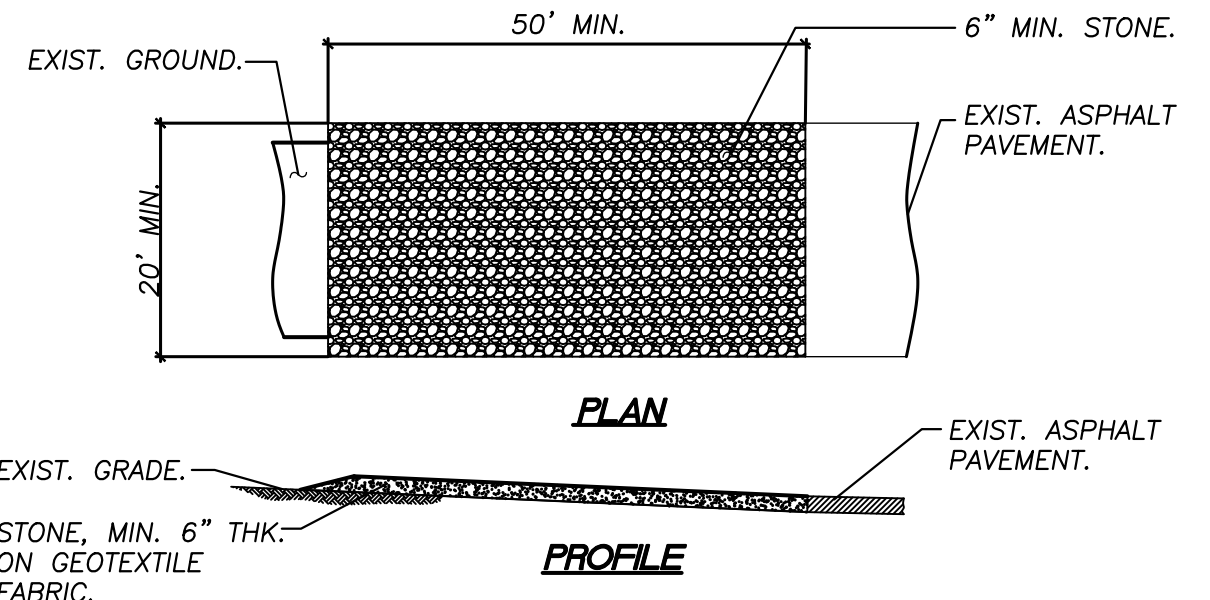
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
**KEENE, NY
GULF BROOK CHANNEL
RESTORATION PHASE II
EROSION & SEDIMENT CONTROL PLAN
STA. 15+50 TO 21+25**

DRAWING NO. **C.102** SHT. 5 OF 25
REV. 1



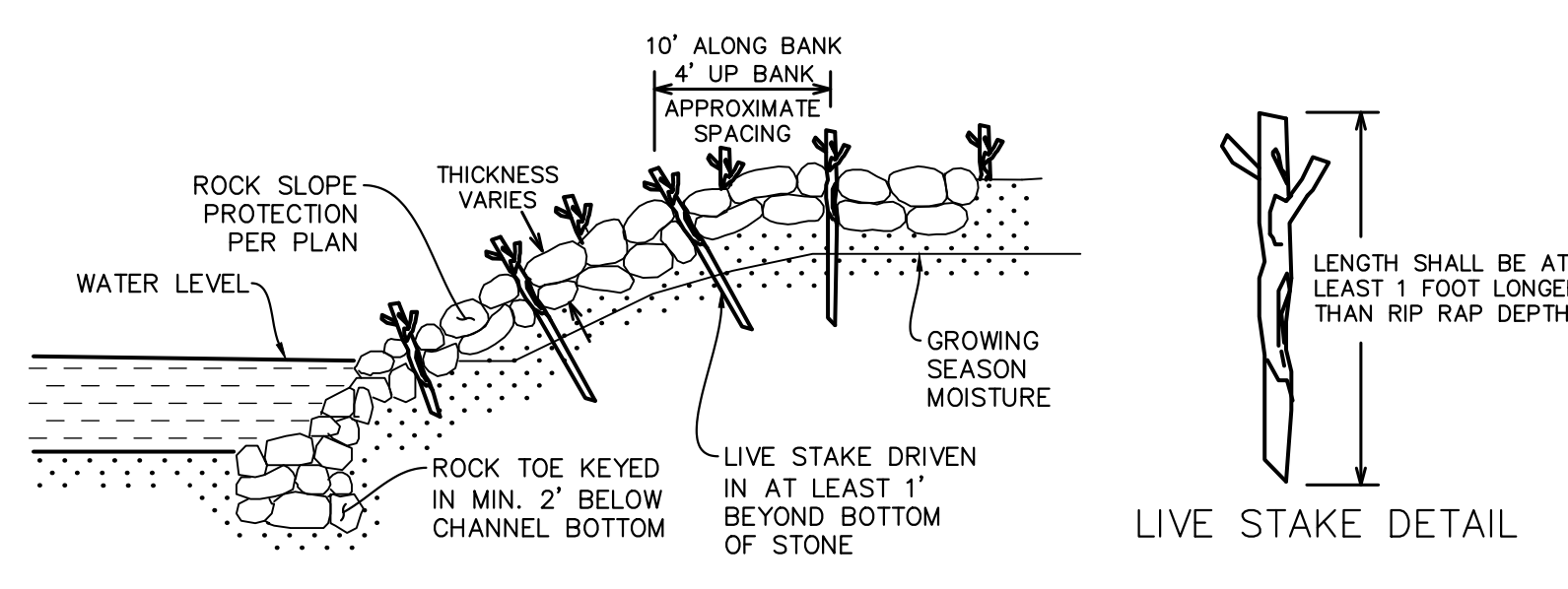
1 EROSION AND SEDIMENT CONTROL PLAN (STATIONS 26+40 TO 21+25)
C.103 1"=20'



NOTES

- STONE SHALL CONFORM WITH NYSDOT SPEC. SECTION 703-02 SIZE DESIGNATION 3.
- GEOTEXTILE FABRIC SHALL BE MIRAFI 600X OR EQUIVALENT.
- PERIODICALLY TOP-DRESS ENTRANCE WITH NEW STONE AS SEDIMENT ACCUMULATES. ALL SEDIMENT DROPPED OR WASHED ONTO THE PUBLIC RIGHT-OF-WAY SHALL BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

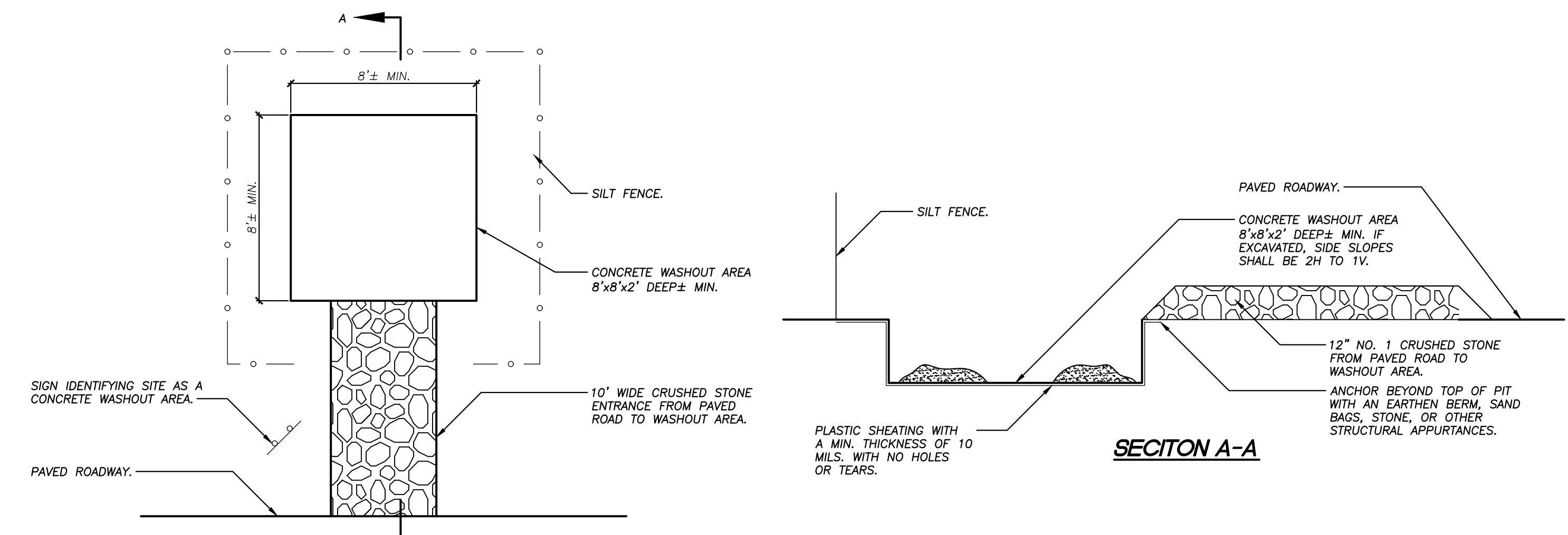


SEQUENCE:

- PLACE ROCK
- INSTALL WILLOW STAKES ON UPPER PORTION OF BANK. IF NECESSARY, USE METAL BAR TO CREATE "PILOT HOLE" FOR STAKE.
- FILL VOIDS WITH SORTED COBBLES/BOULDERS CUT FOR KEY.
- FILL REMAINING VOIDS ON FACE OF SLOPE WITH GRAVEL/COBBLE MIX.
- VEGETATED PORTION OF BANK COVERED WITH TOP SOIL AND EROSION CONTROL FABRIC.

RECOMMENDED NATIVE WILLOW SPECIES:
Salix discolor - Pussy willow
Salix arifolia - Missouri River willow
Salix lucida - Shining willow

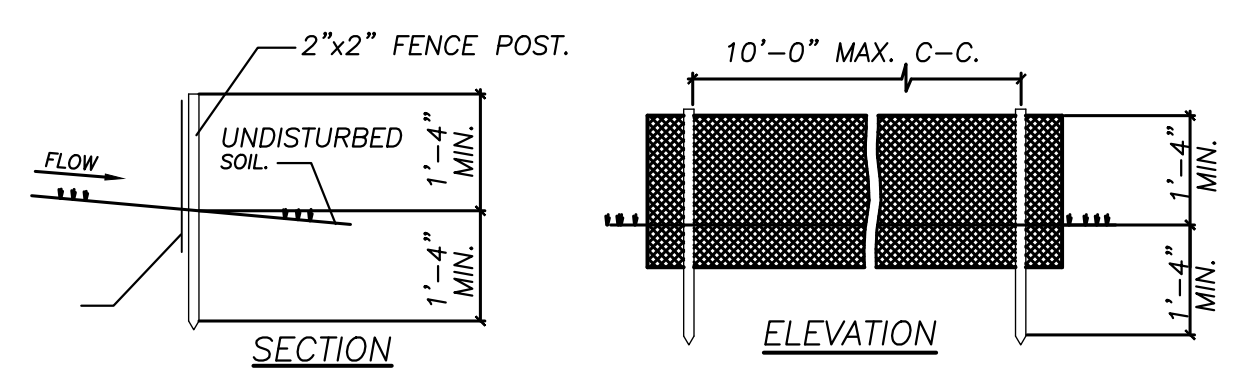
LIVE PLANTING DETAIL
N.T.S.



CONCRETE WASHOUT AREA
N.T.S.

NOTES:

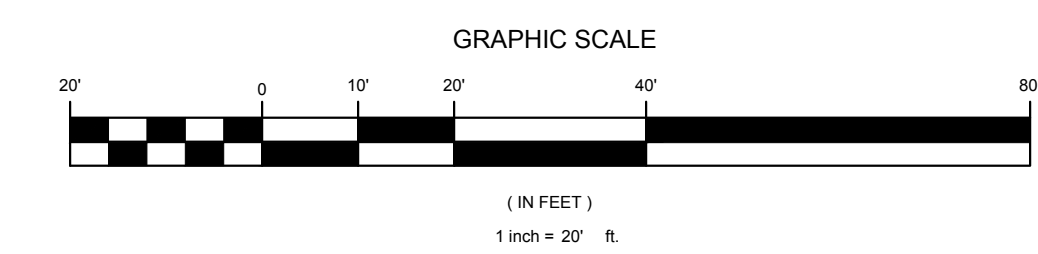
- ALL CONCRETE WASH FACILITIES SHALL BE INSPECTED DAILY. DAMAGED OR LEAKING FACILITIES SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
- ACCUMULATED HARDENED MATERIAL SHALL BE REMOVED WHEN 75% OF THE STORAGE CAPACITY OF THE STRUCTURE IS FILLED. ANY EXCESS WASH WATER SHALL BE PUMPED INTO A CONTAINMENT VESSEL AND PROPERLY DISPOSED OF OFF SITE.
- DISPOSE OF HARDENED MATERIAL OFF-SITE IN A CONSTRUCTION/DEMOLITION LANDFILL OR ON-SITE IF INDICATED IN THE APPROVED SWPPP.
- THE PLASTIC LINER SHALL BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.
- UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL CLEAN OUT AND FILL IN THE WASHOUT AREA TO THE ADJACENT GRADE LEVEL.



SILT FENCE DETAIL
N.T.S.

NOTES:

- FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH STAPLES OR TIES AT 6" MAX. SPACING.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.



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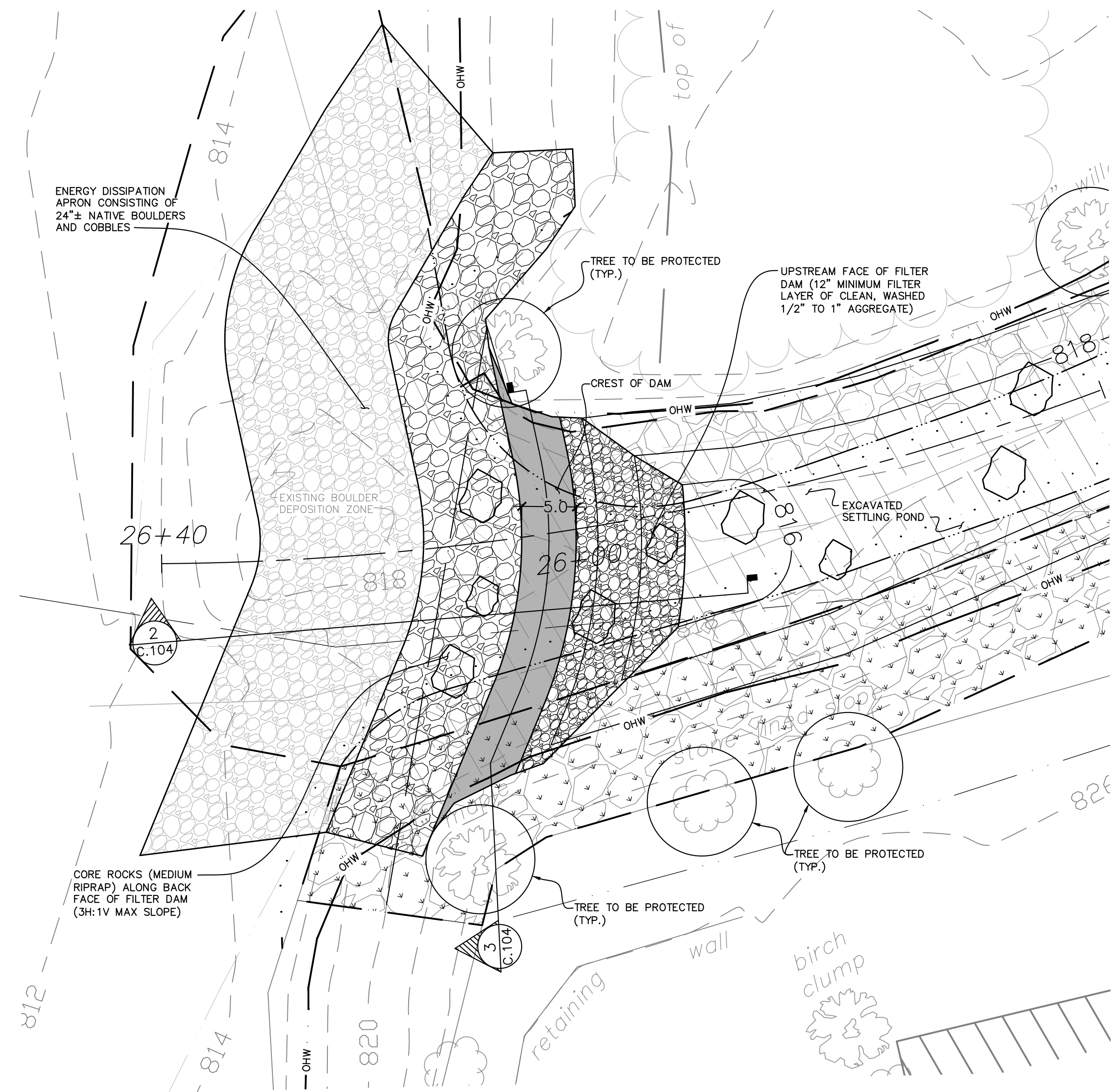
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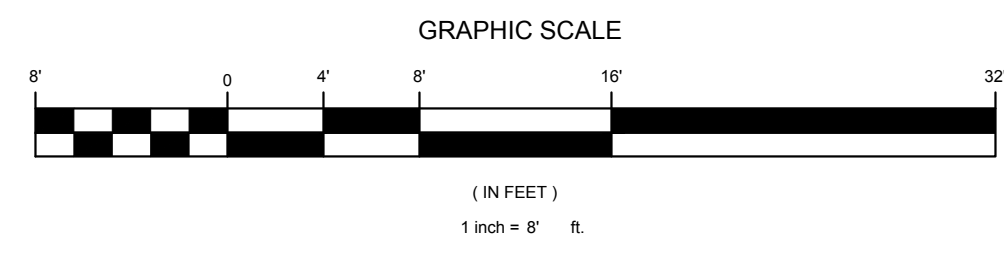
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Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II EROSION & SEDIMENT CONTROL PLAN STA. 21+25 TO 26+40

DRAWING NO. **C.103** SHT. 6 OF 25
REV. 0



1 ROCK FILTER DAM PLAN VIEW
C.104 1"=8'



ROCK FILTER DAM NOTES

MATERIALS

1. PRIMARY CORE ROCKS: SHALL BE WELL GRADED, HARD, ANGULAR, EROSION RESISTANT ROCK SIZED FROM APPROXIMATELY 8" TO 16"
2. ARMOR ROCK: SHALL BE WELL GRADED, HARD, ANGULAR, EROSION RESISTANT ROCK, WHICH SHALL RANGE IN SIZE FROM APPROXIMATELY 12" TO 36" WITH A MEAN SIZE (D50) OF 24". THE USE OF SELECT NATIVE COBBLES AND BOULDERS AS ARMOR ROCK SHALL BE PERMITTED.
3. AGGREGATE FILTER: 1/2" TO 1.0" CLEAN AGGREGATE
4. GEOTEXTILE FILTER FABRIC: GEOTEX NONWOVEN CIVIL GEOTEXTILE GEOTEX 601 OR EQUAL. THE WATER FLOW RATE THROUGH THE NONWOVEN GEOTEXTILE SHALL BE A MINIMUM OF 110 GALLONS PER MINUTE PER SQUARE FOOT (GPM/SQFT)

INSTALLATION

1. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL READ ALL CONDITIONS FOR ALL THE PERMITS ACQUIRED TO CONDUCT THE WORK FOR THIS PROJECT.
2. REFER TO APPROVED PLANS FOR LOCATION AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS, CONFLICTS OR PROBLEMS WITH THE LOCATION, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE AND/OR TO PRESENT AN ALTERNATIVE FOR CONSIDERATION.
3. IF THERE IS FLOW WITHIN THE WATERCOURSE OR CHANNEL AT THE TIME OF CONSTRUCTION OF THE ROCK FILTER DAM, THEN DOWNSTREAM APPROPRIATE INSTREAM SEDIMENT CONTROL DEVICES AND/OR FLOW DIVERSION SYSTEMS PRIOR TO CONSTRUCTION OF THE DAM. SUCH MEASURES SHOULD ONLY BE INSTALLED IF CONSIDERED APPROPRIATE FOR THE LOCAL CONDITIONS, AND ONLY IF THEIR INSTALLATION IS JUDGED TO PROVIDE A NET OVERALL ENVIRONMENTAL BENEFIT.
4. TO THE MAXIMUM DEGREE PRACTICAL, CONSTRUCTION ACTIVITIES AND EQUIPMENT SHALL NOT OPERATE WITHIN OPEN FLOWING WATERS.
5. CLEAR THE LOCATION FOR THE DAM AND SETTLING POND; LIMIT CLEARING ONLY TO WHAT IS NEEDED TO PROVIDE ACCESS FOR THE CONSTRUCTION OF TEMPORARY DAM, TEMPORARY SETTLING POND, AND PROPOSED BROOK RESTORATION AND FLOOD RESILIENCY IMPROVEMENTS.
6. REMOVE ANY CLEARED ORGANIC MATTER AND DEBRIS FROM THE CHANNEL AND DISPOSE OF IT PROPERLY. DO NOT USE ORGANIC MATTER OR DEBRIS IN THE CONSTRUCTION OF THE ROCK FILTER DAM.
7. TO ASSIST IN THE EVENTUAL REMOVAL OF ALL MATERIALS USED IN THE CONSTRUCTION OF THE ROCK FILTER DAM, A PROTECTIVE LAYER OF GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE CHANNEL AREA AND DAM ABUTMENT PRIOR TO THE INSTALLATION OF THE DAM. OVERLAP FABRIC SHEETS BY 2 FT.
8. IF DISPERSIBLE, HIGHLY UNSTABLE, OR HIGHLY EROSION SOILS ARE EXPOSED, THEN PRIORITY SHALL BE GIVEN TO PROMPT STABILIZATION OF ALL SUCH AREAS.
9. PLACE THE CORE ROCK FOR THE ROCK FILTER DAM OVER THE FILTER FABRIC. ENSURE THE UPSTREAM FACE SLOPES IS AT 2H:1V OR FLATTER, AND THE DOWNSTREAM FACE IS 3H:1V OR FLATTER.
10. THE CORE ROCK MATERIAL USED TO FORM THE EMBANKMENT MAY BE MACHINE PLACED. INSTALL AND WORK SMALLER ROCKS AND/OR NATIVE COBBLES INTO THE VOIDS OF THE LARGER ROCKS.

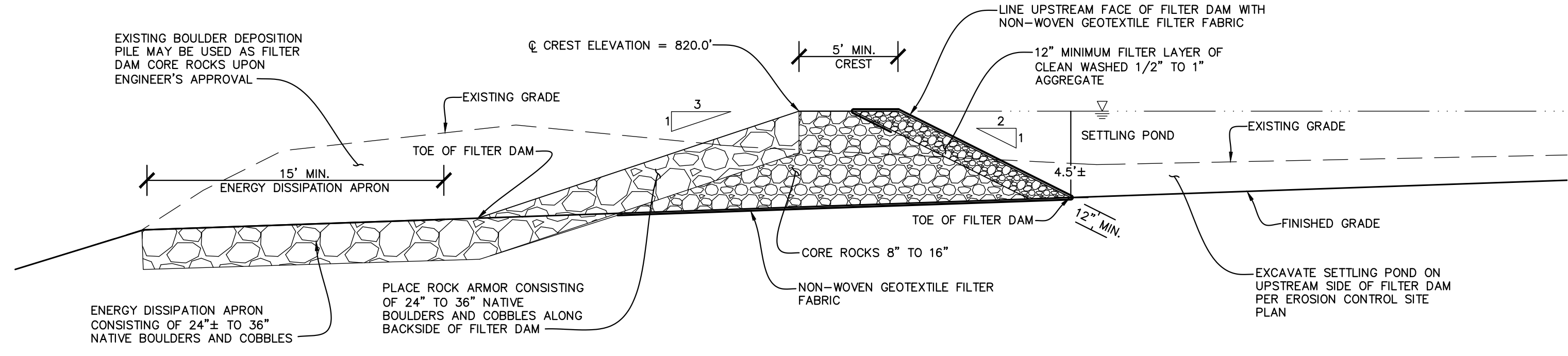
11. THE ROCK FILTER DAM SHALL BE CONSTRUCTED IN A SLIGHTLY CURVED PROFILE (IN PLAN VIEW) POINTING UPSTREAM. THE CENTER OF THE DAM'S CREST SHALL BE SLIGHTLY LOWER (TYPICALLY 8") THAN THE OUTER ABUTMENTS (WHERE THE DAM INTERSECTS THE CHANNEL BANKS) TO PROMOTE INITIAL OVERTOPPING AT OR NEAR THE CENTER OF THE CHANNEL.
12. INSTALL A ROCK ARMOR ENERGY DISSIPATION APRON ON THE DOWNSTREAM SIDE OF THE ROCK FILTER DAM EXTENDING APPROXIMATELY 15 FEET FROM THE DOWNSTREAM TOE. THE ROCK ARMOR UTILIZED MAY BE SELECT NATIVE COBBLES AND BOULDERS RANGING IN SIZE FROM APPROXIMATELY 24" TO 36".
13. INSTALL A MINIMUM 12" LAYER OF AGGREGATE FILTER STONE ALONG THE FRONT FACE OF THE FILTER DAM. PLACE THE SPECIFIED FILTER CLOTH OVER THE AGGREGATE FILTER STONE.
14. TAKE ALL NECESSARY MEASURES TO MINIMIZE THE SAFETY RISK CAUSED BY THE STRUCTURE. AN EMERGENCY FILTER DAM REMOVAL PROCEDURE SHALL BE ESTABLISHED WITH INPUT FROM THE PROJECT ENGINEER. IT IS ANTICIPATED THAT REMOVAL (OR PARTIAL REMOVAL) WILL ONLY BE NECESSARY SHOULD A LARGE SCALE HEAVY RAIN EVENT BE FORECASTED DURING THE PROJECT CONSTRUCTION PERIOD.

MAINTENANCE

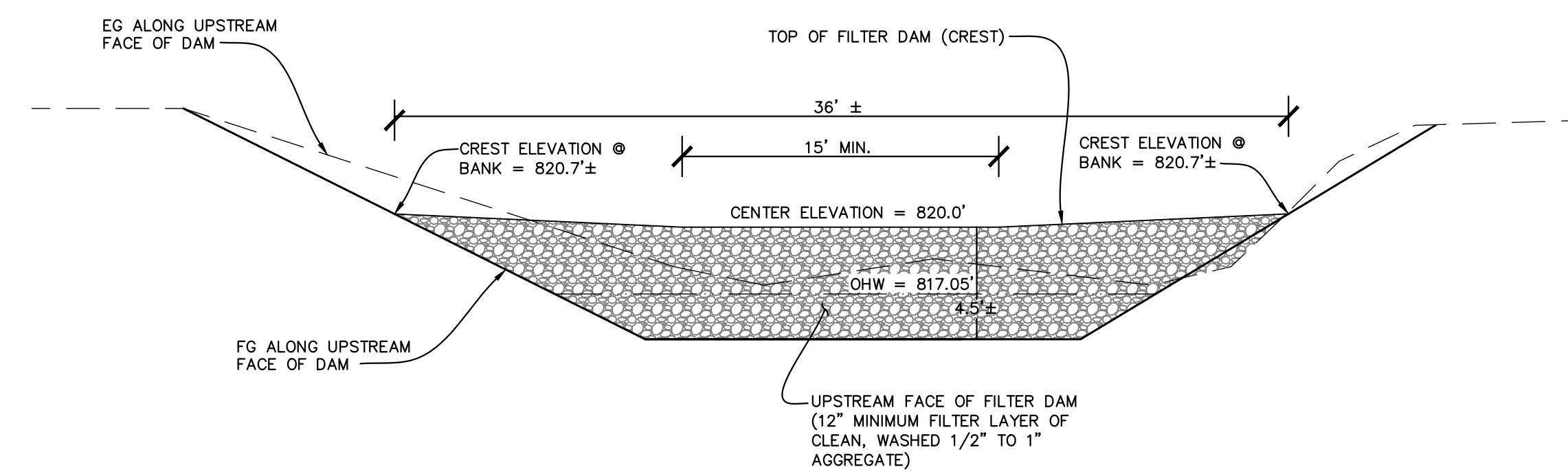
1. INSPECT THE ROCK FILTER DAM PRIOR TO FORECASTED RAINFALL, DAILY DURING EXTENDED PERIODS OF RAINFALL, AFTER RUNOFF PRODUCING RAINFALL, OR OTHERWISE ON A WEEKLY BASIS.
2. IF FLOW THROUGH THE FILTER DAM IS REDUCED TO AN UNACCEPTABLE LEVEL, THE UPSTREAM FILTER MEDIUM (AGGREGATE OR FILTER CLOTH) SHOULD BE REMOVED AND REPLACED. IF THE FLOW THROUGH THE FILTER DAM IS TOO FAST SUCH THAT SEDIMENT IS NOT BEING ADEQUATELY SETTLED OUT, THEN ADDITIONAL AGGREGATE AND OR FILTER FABRIC MAY BE REQUIRED TO ACHIEVE OPTIMUM HYDRAULIC PERFORMANCE. THE ROCK FILTER DAM AND SETTLING POND SHOULD BE ADEQUATE TO REMOVE FINE SAND PARTICLES (0.20 mm) DURING NORMAL BASE FLOW CONDITIONS (ESTIMATED AT 10 TO 20 CFS).
3. IF A GREATER DEGREE OF WATER TREATMENT IS REQUIRED, EXTRA GEOTEXTILE FILTER FABRIC SHOULD BE PLACED OVER THE UPSTREAM FACE OF THE DAM.
4. CHECK THE STRUCTURE AND DOWNSTREAM CHANNEL FOR DAMAGE FROM OVERTOPPING FLOWS. MAKE REPAIRS AS NECESSARY.
5. IMMEDIATELY REPLACE ANY ROCK THAT MAY BECOME DISPLACED FROM THE DAM.
6. REMOVE SEDIMENT AND DEBRIS IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

REMOVAL

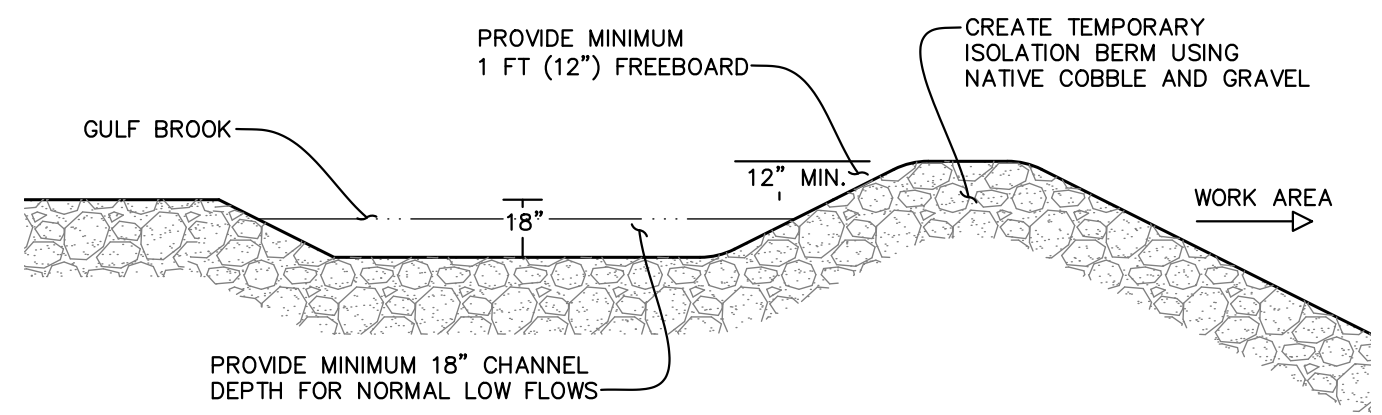
1. THE ROCK FILTER DAM SHALL BE REMOVED FOLLOWING THE COMPLETION OF IN-CHANNEL WORK.
2. IF THERE IS FLOW WITHIN THE WATERCOURSE AT THE TIME OF REMOVAL OF THE ROCK FILTER DAM, THEN INSTALL APPROPRIATE INSTREAM SEDIMENT CONTROL DEVICES AND/OR FLOW DIVERSION SYSTEMS PRIOR TO ITS REMOVAL. SUCH MEASURES SHOULD ONLY BE INSTALLED IF CONSIDERED APPROPRIATE FOR THE LOCAL CONDITIONS, AND ONLY IF THEIR INSTALLATION IS JUDGED (BY THE ENGINEER) TO PROVIDE A NET OVERALL ENVIRONMENTAL BENEFIT.
3. ALL SETTLED SEDIMENT UPSTREAM OF THE DAM SHALL BE REMOVED PRIOR TO THE DAM'S REMOVAL. DISPOSE OF SEDIMENT IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.
4. REMOVE ALL IMPORTED MATERIALS USED TO FORM THE EMBANKMENT INCLUDING THE FILTER CLOTH.
5. PROVIDE CHANNEL RESTORATION IN ACCORDANCE WITH THE CIVIL DESIGN PLANS.



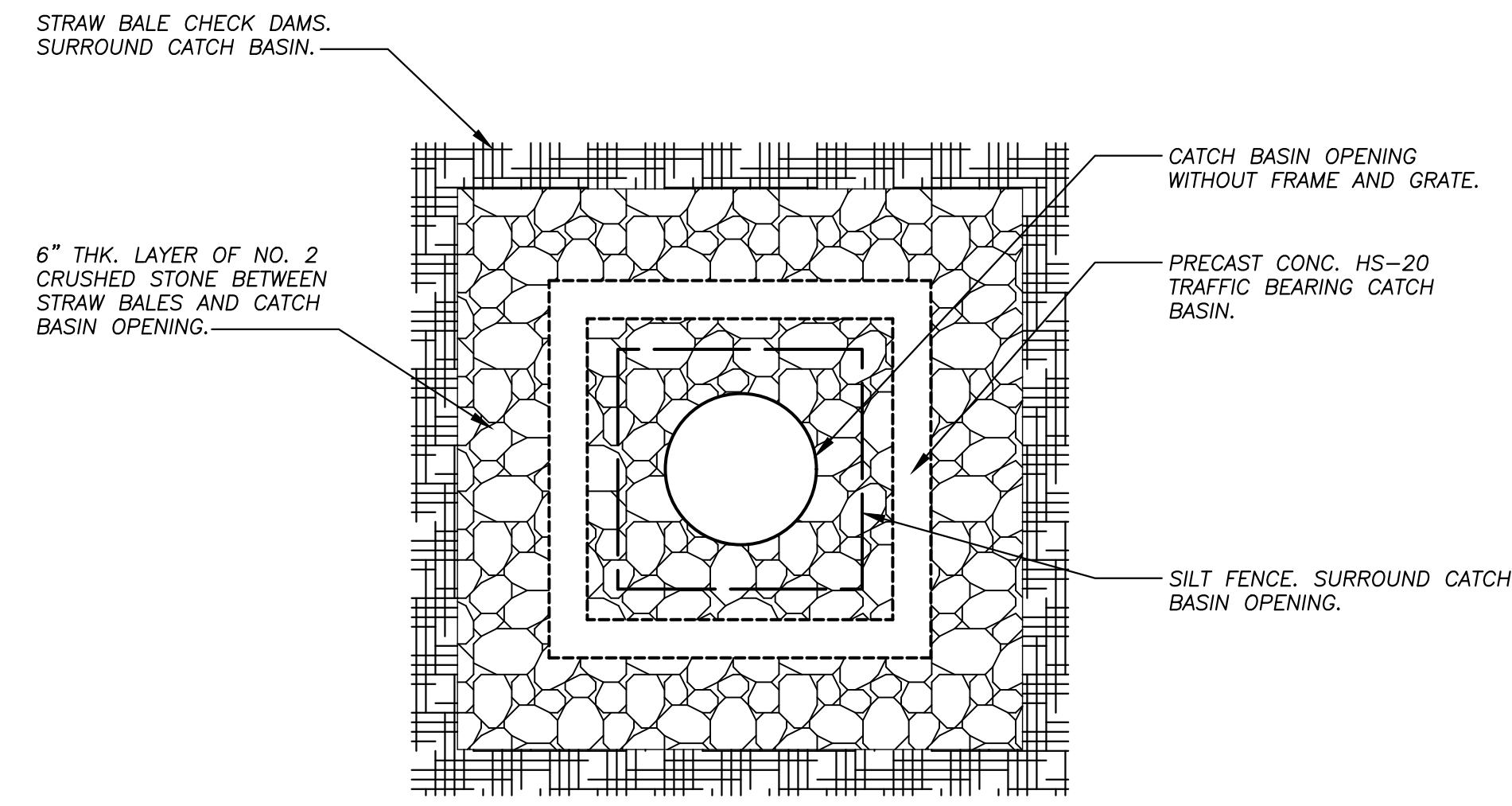
2 ROCK FILTER DAM SECTION VIEW
C.104 1"=5'



3 ROCK FILTER DAM PROFILE VIEW
C.104 1"=5'



4 IN-CHANNEL ISOLATION BERM
C.104 1"=5'



NOTE: SEE EROSION CONTROL NOTES, DWG. N-2.

CATCH BASIN INLET PROTECTION DETAIL

N.T.S.

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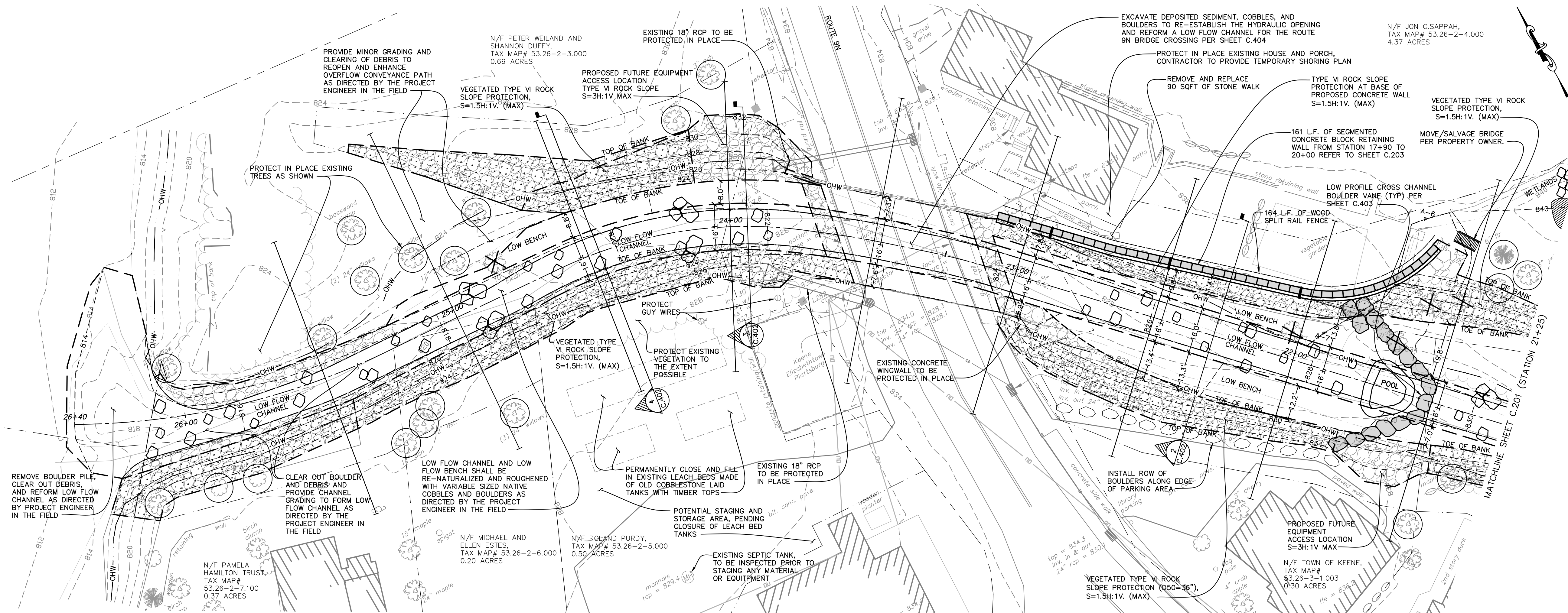
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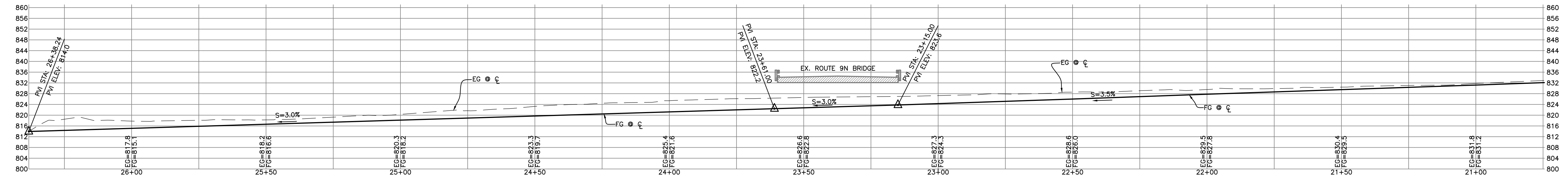
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DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II EROSION & SEDIMENT CONTROL PLAN DETAILS

DRAWING NO. **C.104** SHT. 7 OF 25
REV. 1



1 CIVIL SITE PLAN (STATIONS 21+25 TO 26+40)
C.202 1"=20'



2 CENTERLINE PROFILE (STATIONS 21+25 TO 26+40)
C.202 1"=20'

- LEGEND**
- | | | |
|----------|----------|---|
| PROPOSED | EXISTING | CONTOURS |
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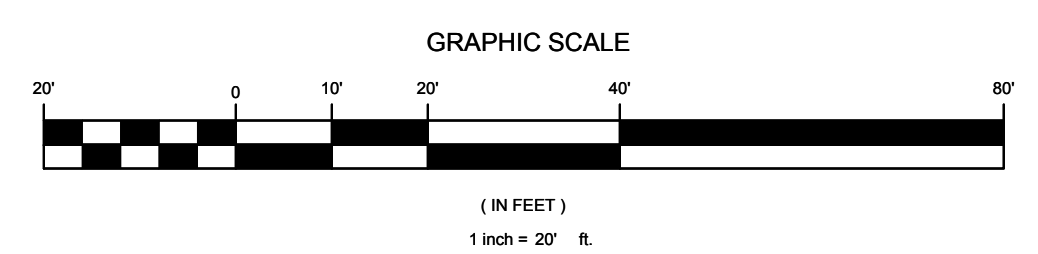
SCHODER RIVERS ASSOCIATES
Consulting Engineers, P.C.
Evergreen Professional Park
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Queensbury, New York 12804
(518) 761-0417, FAX: (518) 761-0513

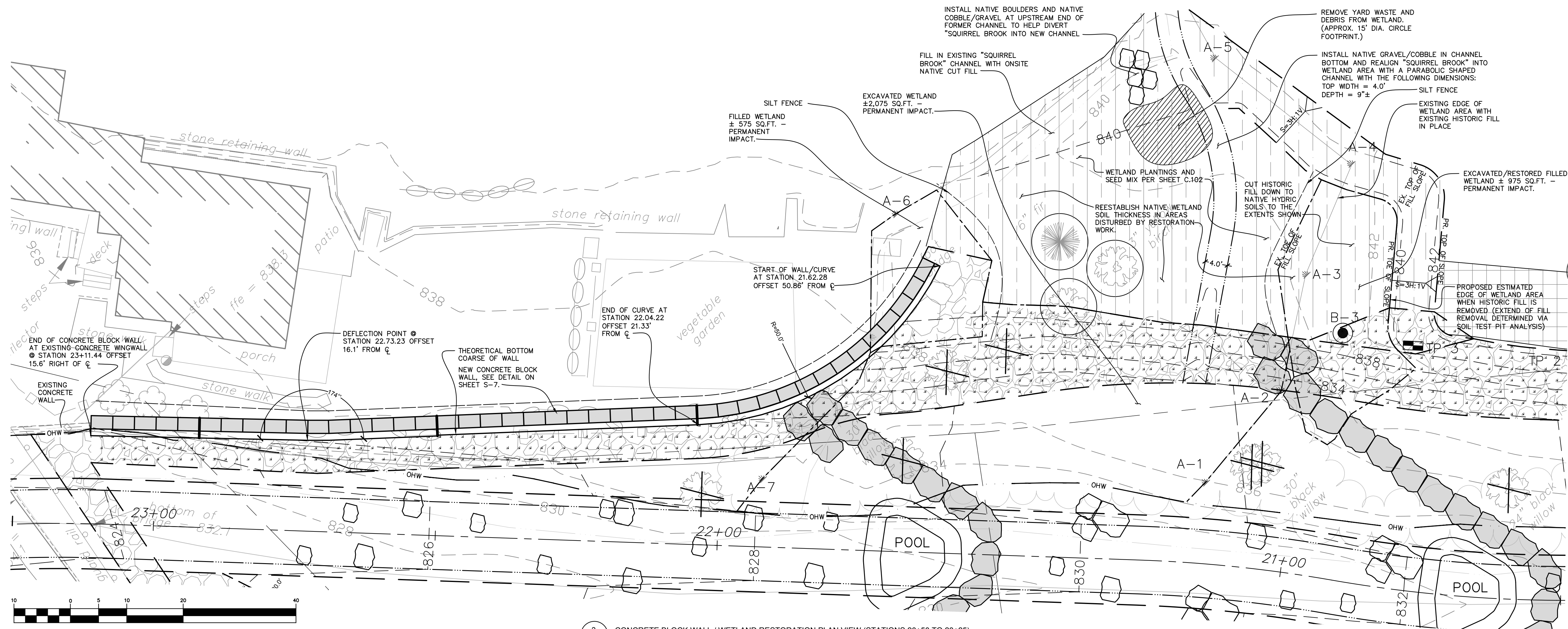
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DATE: 6/27/2019 ENG. BY: KAS/SRA
PROJ. NO: 15-881 CHK'D BY: ES

CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
**KEENE, NY
GULF BROOK CHANNEL RESTORATION PHASE II
CIVIL PLAN AND PROFILE
STA. 21+25 TO 26+40**

DRAWING NO. **C.202** SHT. 9 OF 25
REV. 1



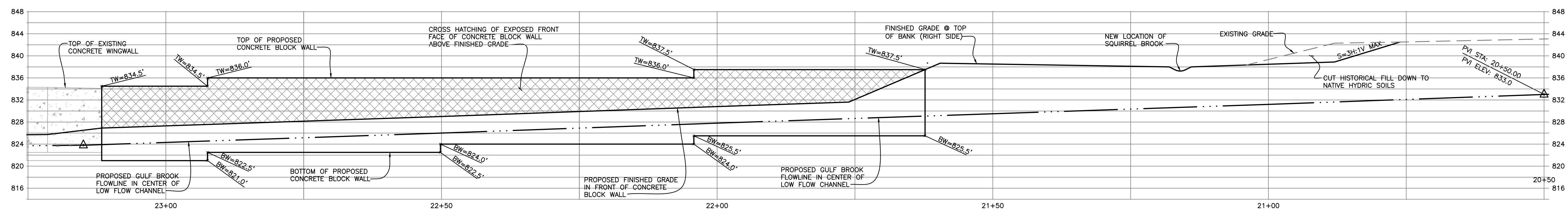


LEGEND		
PROPOSED	EXISTING	
---	---	CONTOURS
---	---	BREAKLINES/SITE FEATURES
---	---	SLOPE TOE/TOP CATCHLINE
---	---	EDGE OF WATER (LOW FLOW)
---	---	FENCE
---	---	PARCEL LINES (FROM TAX MAP)
---	---	CHANNEL CENTERLINE
---	---	WATERLINE (TBD)
---	---	ORDINARY HIGH WATER MARK
---	---	APPROXIMATE LIMITS OF DISTURBANCE
---	---	CROSS SECTION (50' ON CENTER)
---	---	TREELINE
---	---	WETLANDS
---	---	GRAVEL ROAD
---	---	ROCKERY SLOPE PROTECTION SIZE AS SPECIFIED
---	---	VEGETATED ROCK SLOPE PROTECTION
---	---	BUILDINGS
---	---	FIRE HYDRANT
---	---	WATER GATE VALVE
---	---	TEMPORARY BENCH MARK
---	---	BOULDER (4' to 6'± AVERAGE SIZE) WITHIN LOW FLOW CHANNEL
---	---	EX. TREES
---	---	EX. TREE TO BE REMOVED
---	---	EX. TREES TO BE PROTECTED



(IN FEET)
 HORIZONTAL: 1 inch = 10 ft.
 VERTICAL: 1 inch = 10 ft.

3 CONCRETE BLOCK WALL / WETLAND RESTORATION PLAN VIEW (STATIONS 20+50 TO 23+25)
 C.203 1"=10'



4 PROFILE VIEW (STATIONS 20+50 TO 23+25)
 C.203 1"=10'

REVISIONS		
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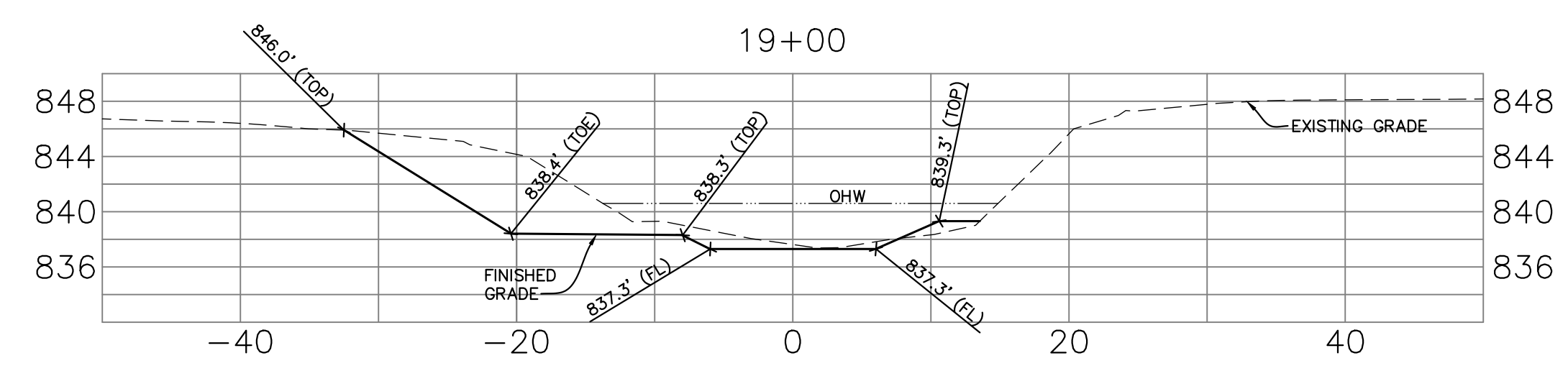
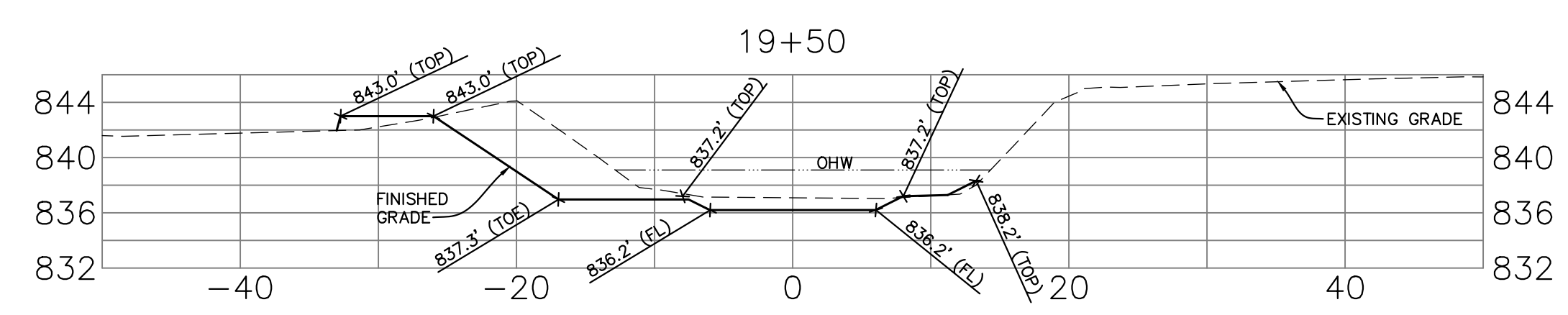
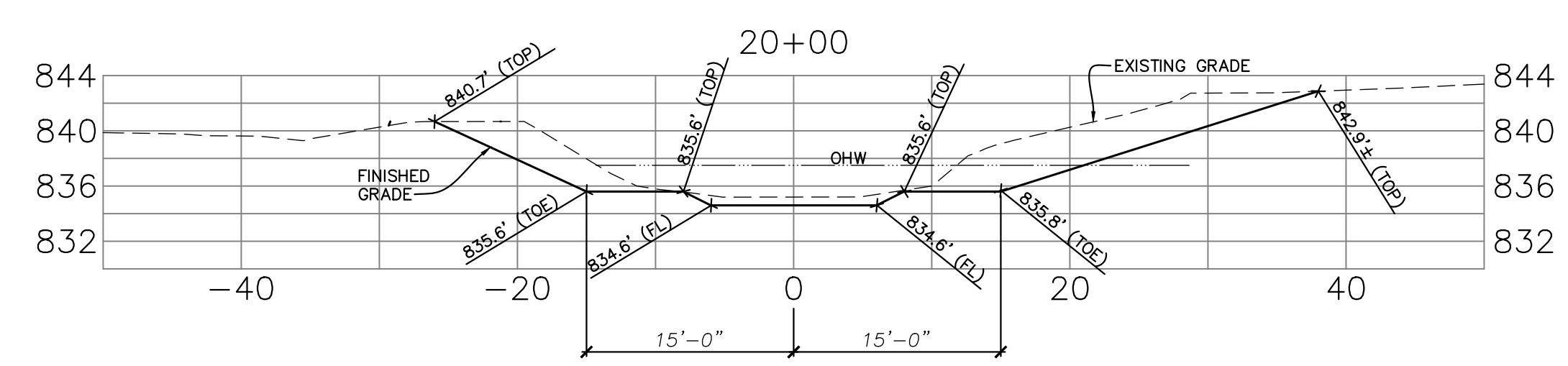
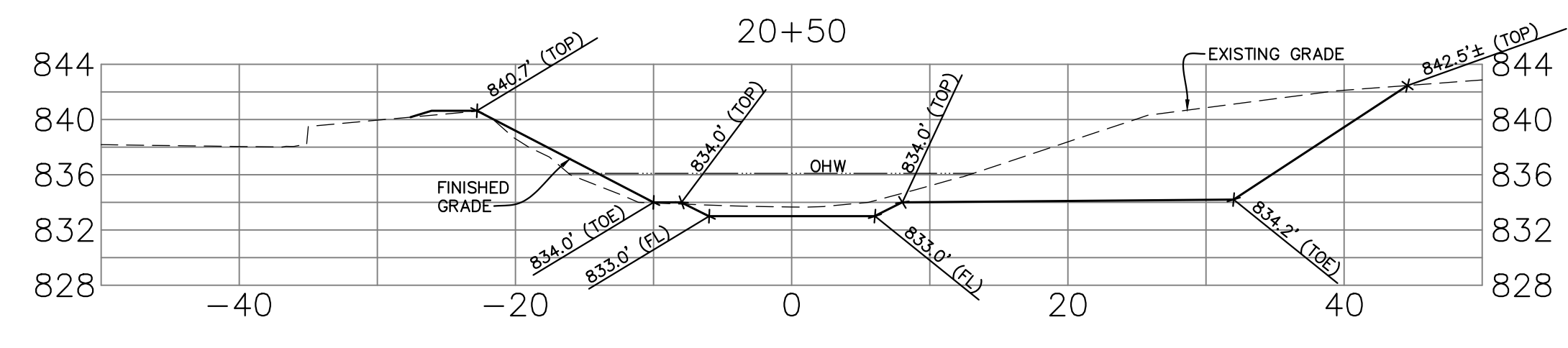
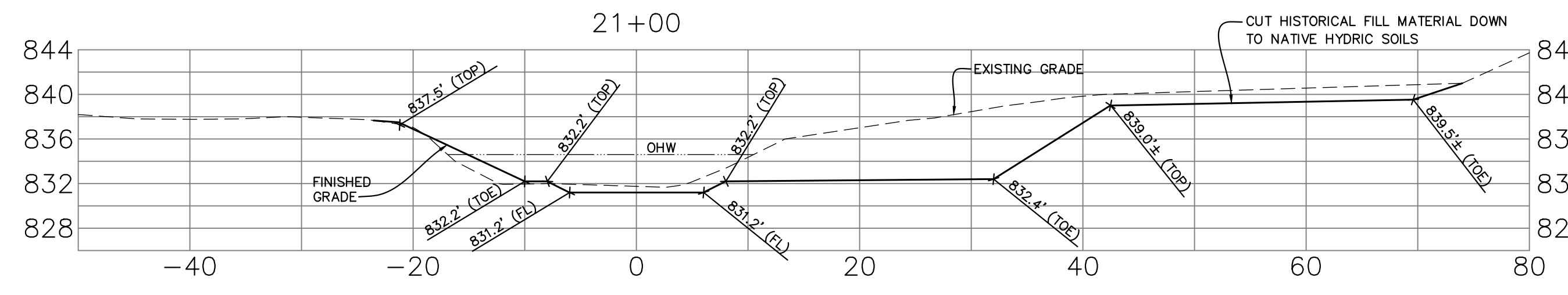
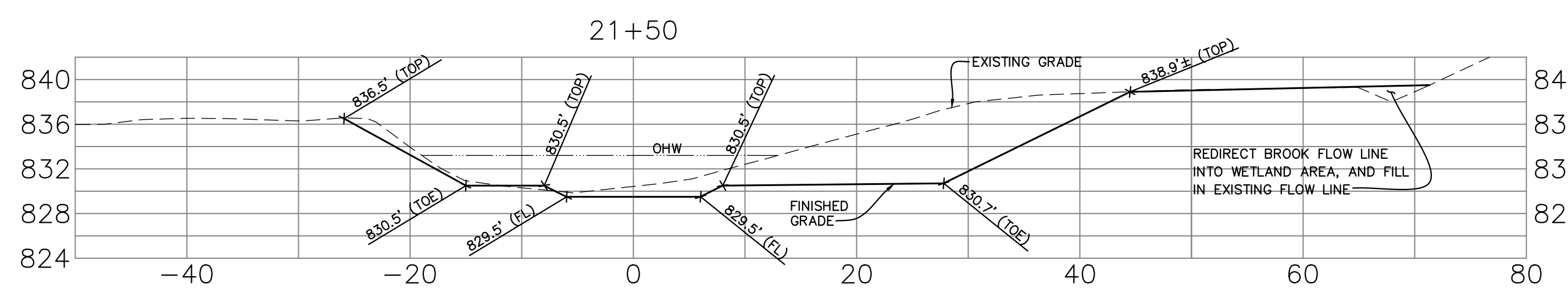
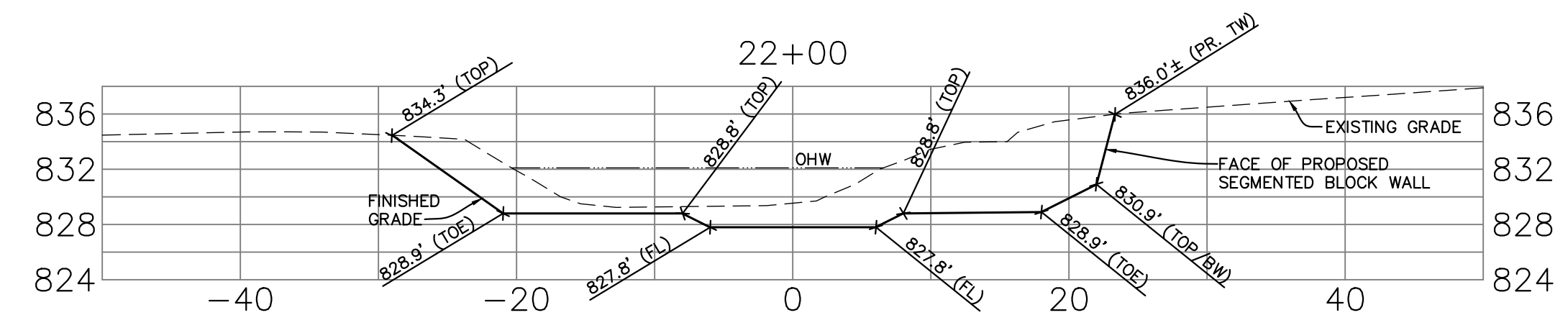
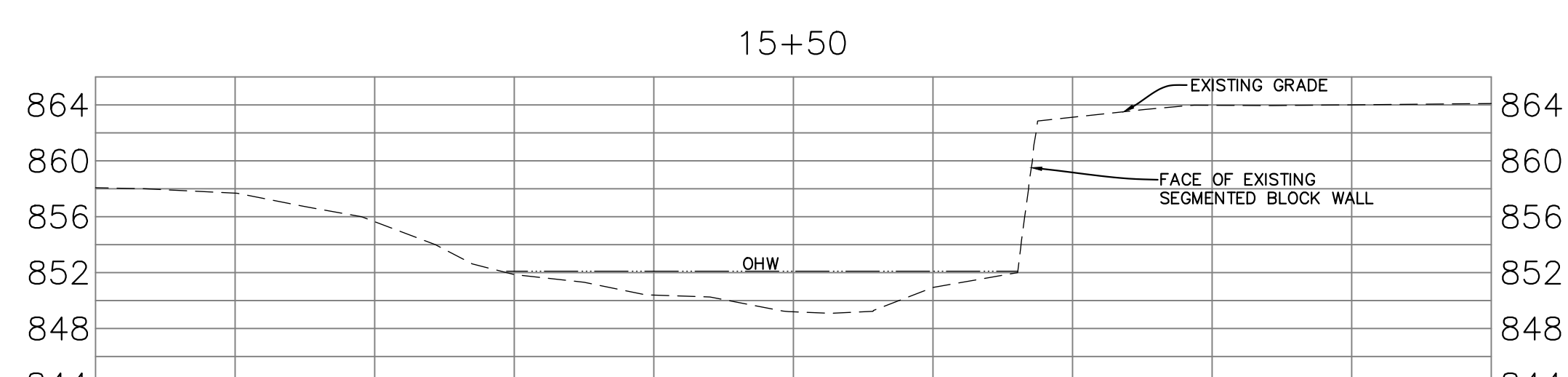
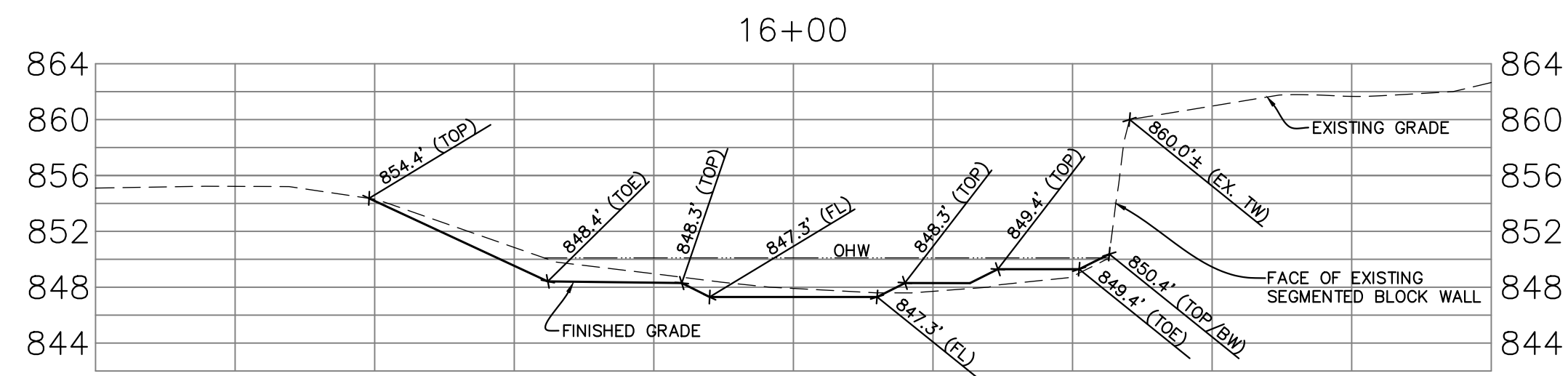
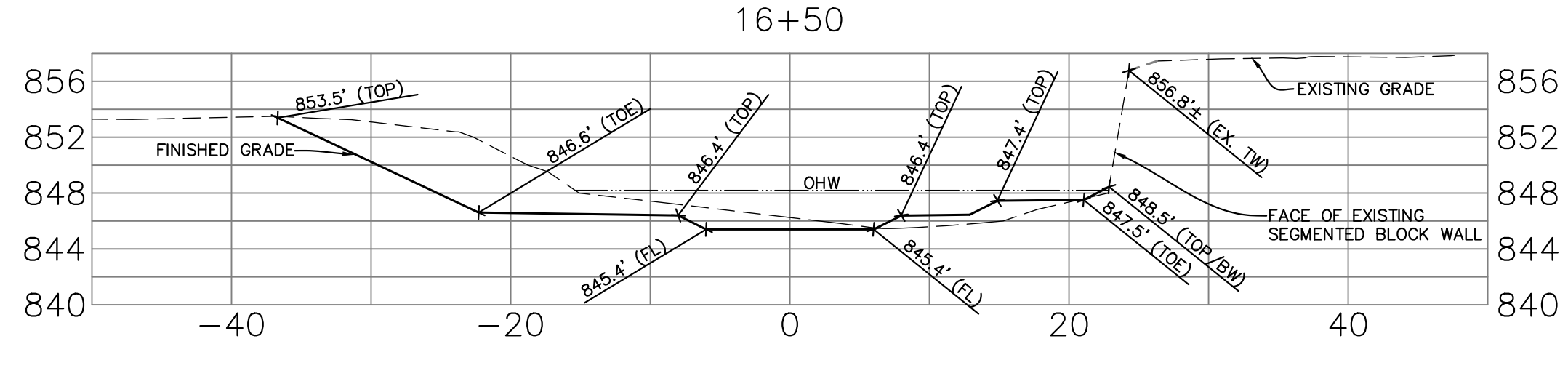
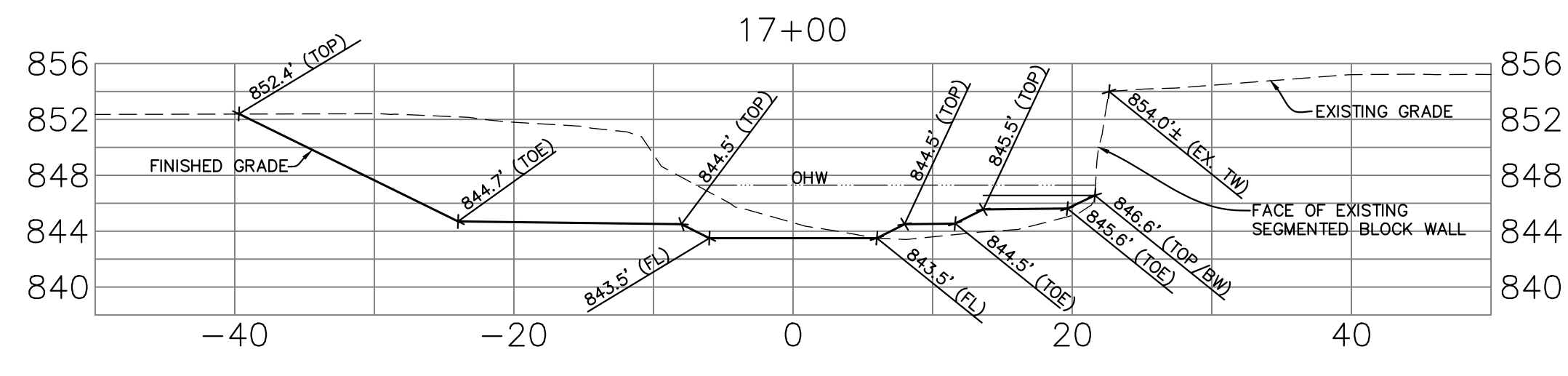
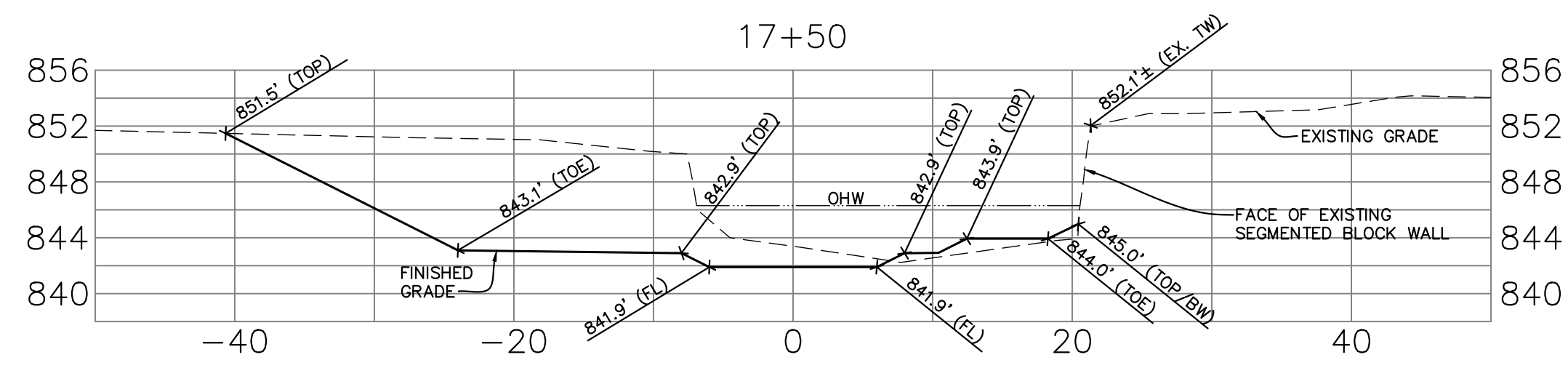
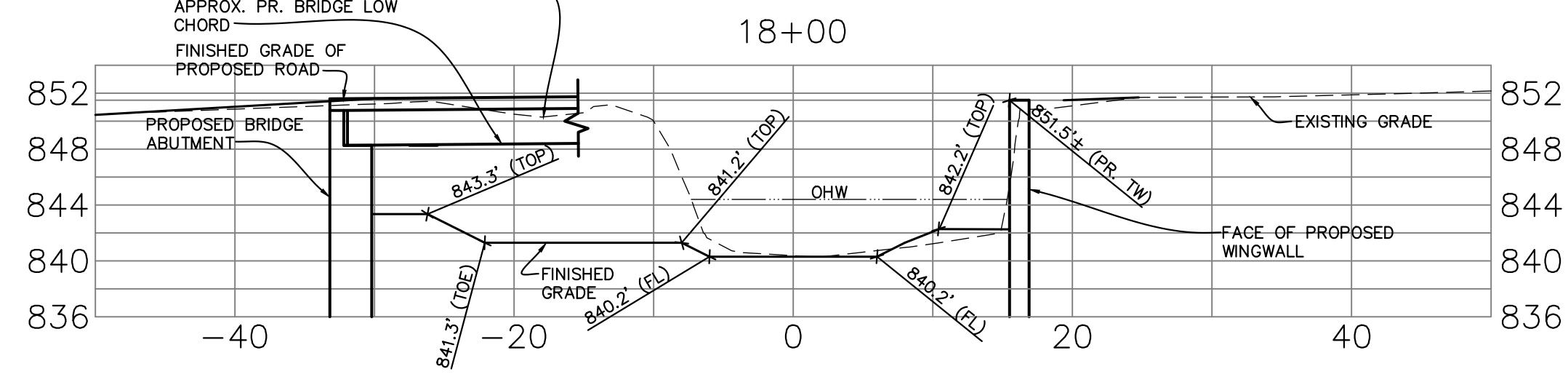
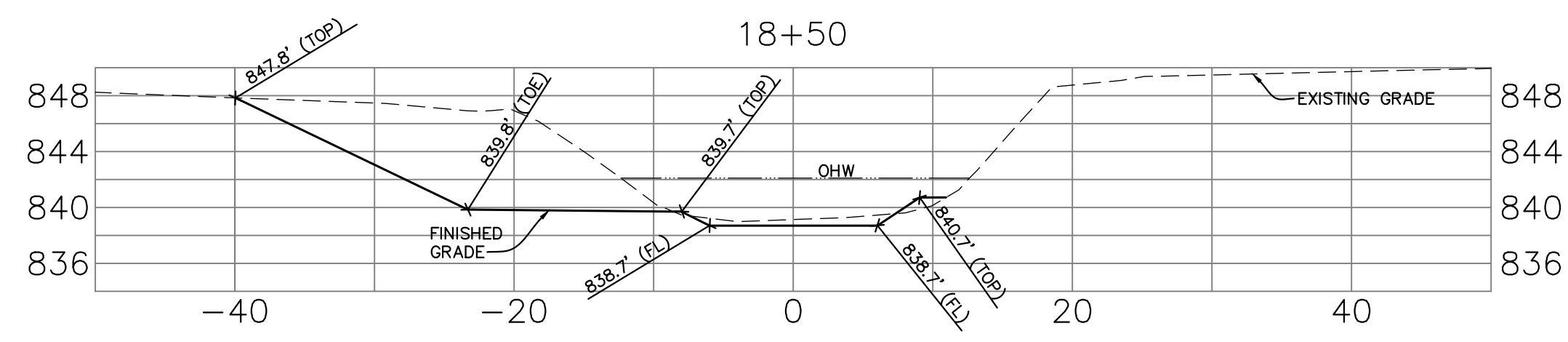
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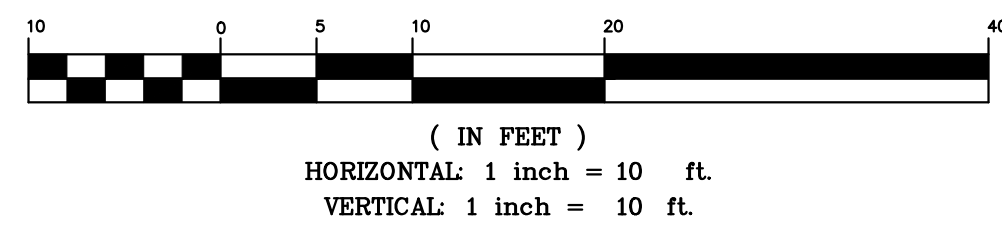
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
 Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II CONCRETE BLOCK WALL AND WETLAND RESTORATION PLAN

DRAWING NO. C.203	SHT. 10 OF 25
REV. 1	



FOR SECTIONS 18+50, 19+00 AND 19+50, REFER TO DESIGN ENGINEER DISCLAIMER ON SHEET N-2.



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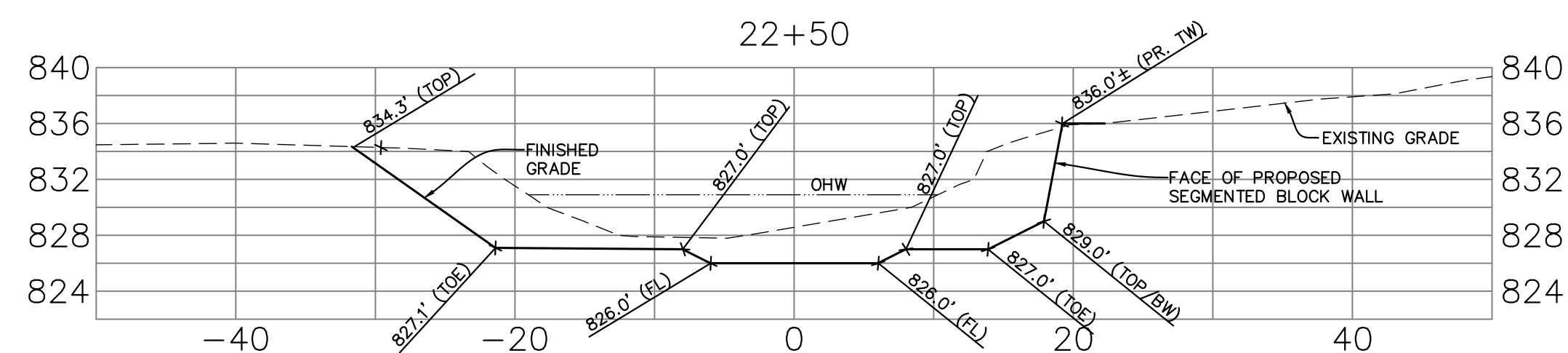
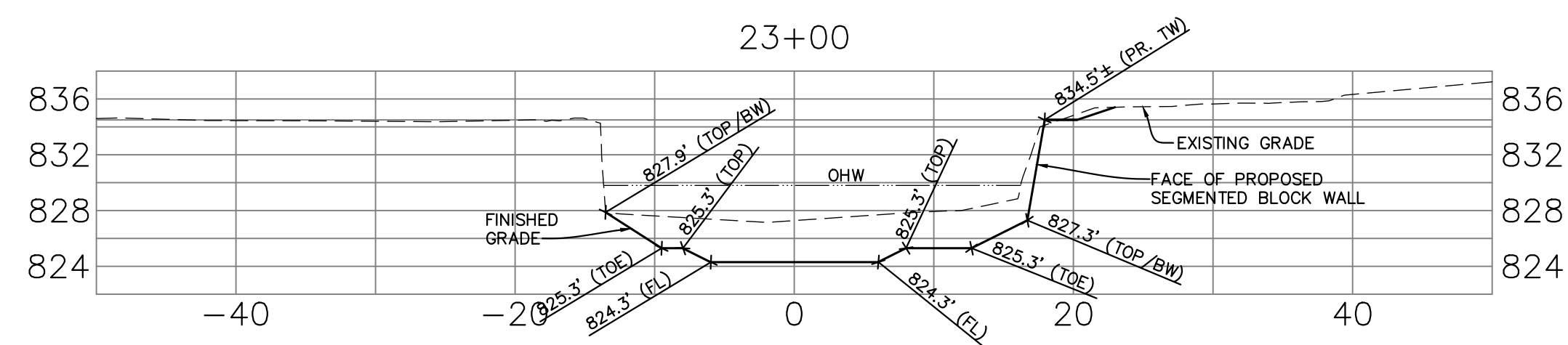
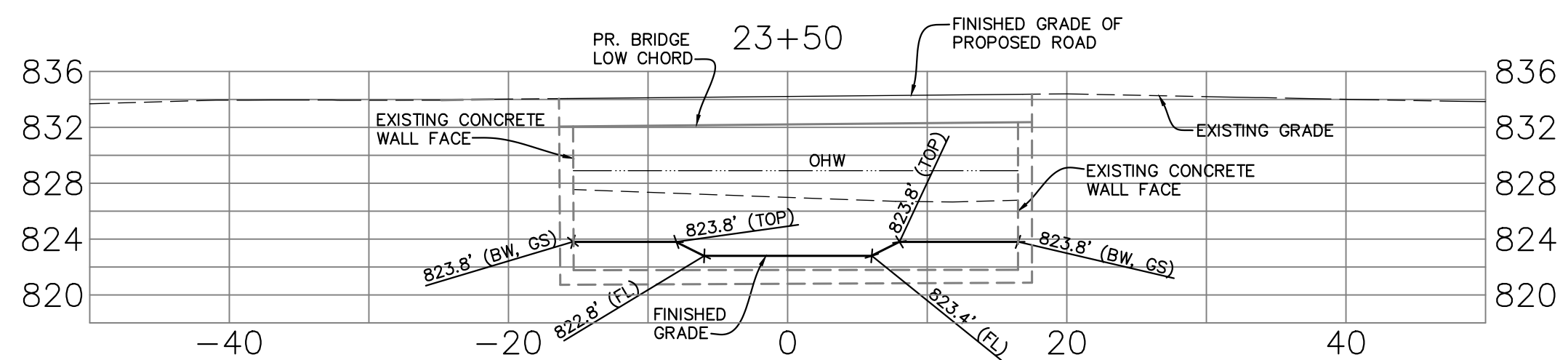
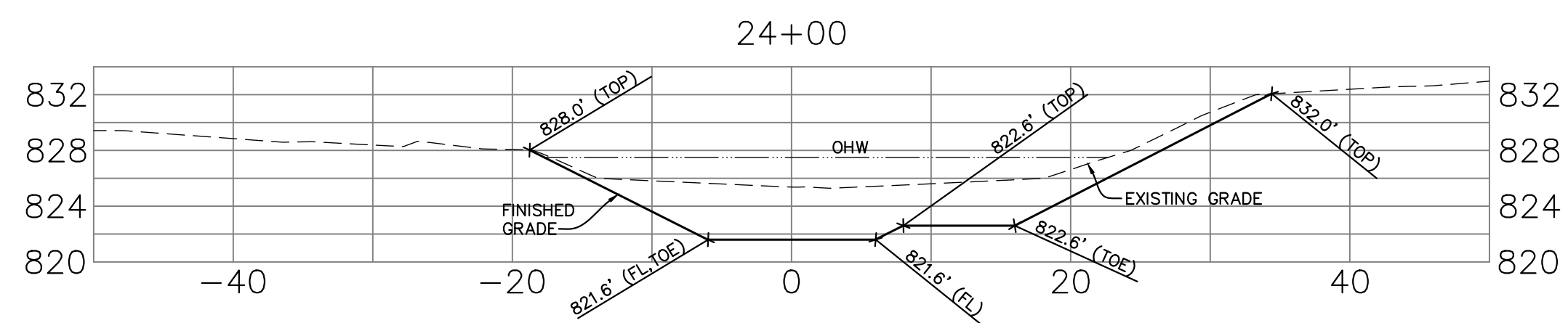
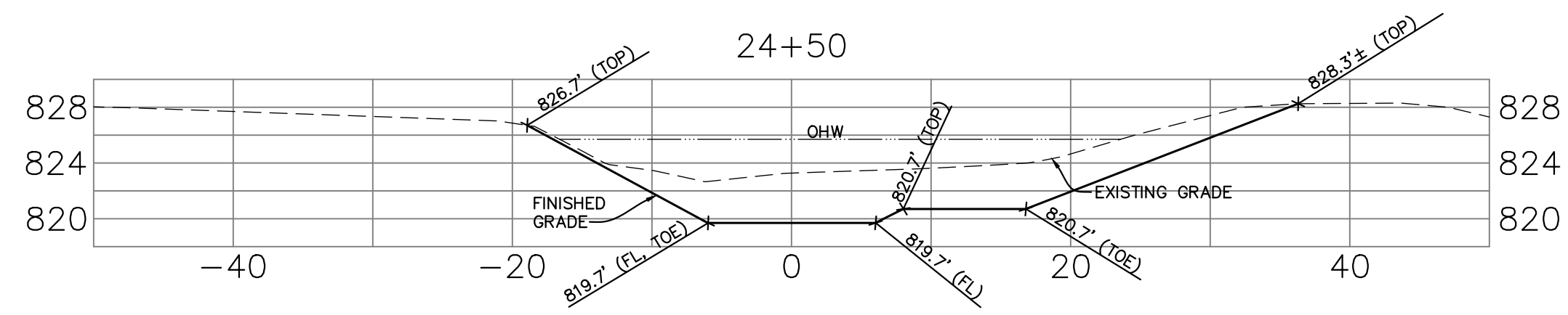
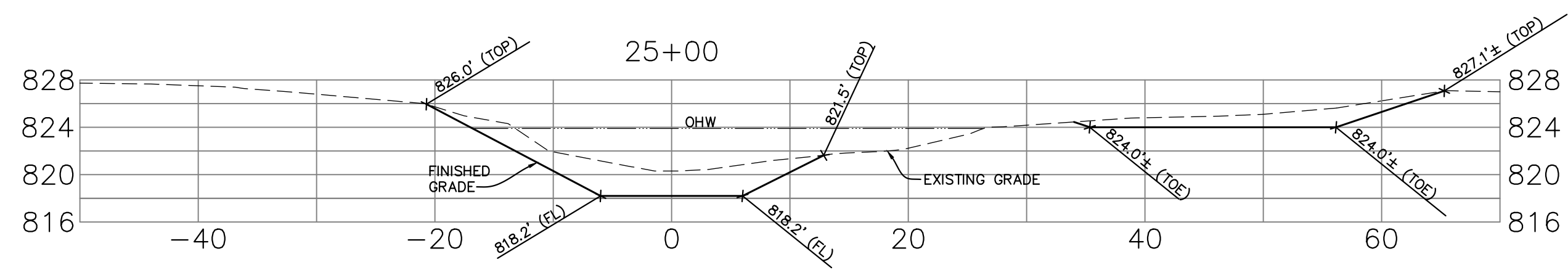
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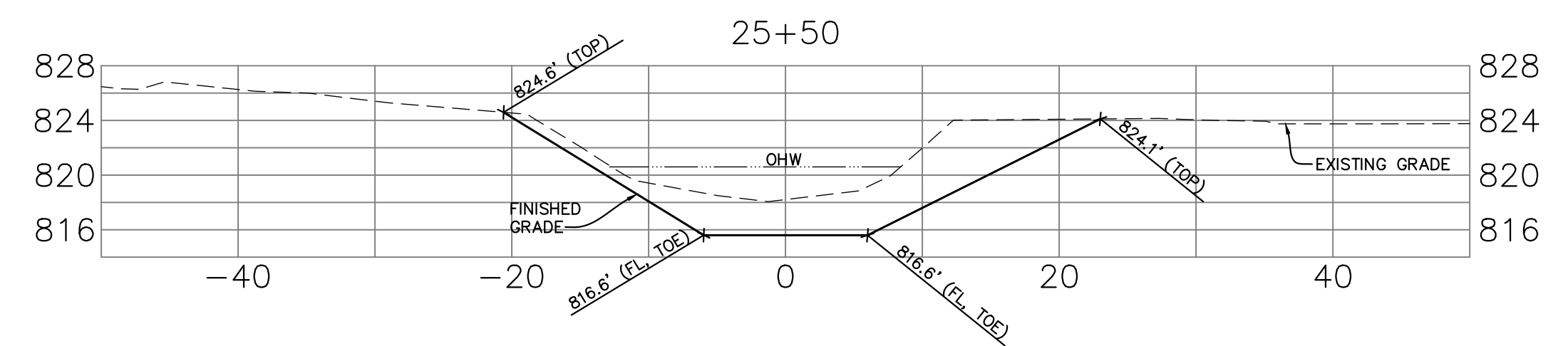
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
 Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II CROSS SECTION STATIONS 15+50 TO 22+00

DRAWING NO. **C.301** SHT. 11 OF 25
 REV. 1



(IN FEET)
 HORIZONTAL: 1 inch = 10 ft.
 VERTICAL: 1 inch = 10 ft.



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CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
 Elizabethtown, N.Y.

DRAWING TITLE
**KEENE, NY
 GULF BROOK CHANNEL RESTORATION PHASE II
 CROSS SECTION STATIONS 22+50 TO 25+50**

DRAWING NO. **C.302** SHT. 12 OF 25
 REV. 1

ROCK SLOPE and CHANNEL PROTECTION NOTES

- ROCK SELECTION:**
- ROCKS MUST BE APPROVED, HARD, ANGULAR, BLASTED, STRONG, RESISTANT TO WEATHERING, AND RING WHEN STRUCK WITH A GEOLOGY HAMMER.
 - ROCKS MUST BE FREE OF MAJOR WEAK ZONES SUCH AS CRACKS, SEAMS, AND FOLIATION.
 - THE SPECIFIED ROCK SLOPE PROTECTION SHALL BE PLACED IN ONE COURSE THICKNESS AS SHOWN ON THE PLANS IN A MANNER THAT WILL RESULT IN A REASONABLY WELL GRADED SURFACE. CARE SHALL BE TAKEN IN THE PLACING TO AVOID DISPLACING THE UNDERLYING MATERIAL.
 - THE ROCK SLOPE PROTECTION SHALL BE PLACED AND DISTRIBUTED SO THAT THERE WILL BE NO ACCUMULATIONS OF EITHER THE LARGER OR SMALLER SIZES OF STONE. REARRANGEMENT OF THE STONE FILL BY HAND LABOR OR MECHANICAL EQUIPMENT MAY BE REQUIRED TO OBTAIN THE SPECIFIED RESULTS.
 - WHEN ROCK SLOPE PROTECTION AND FILTER BLANKET ARE TO BE PLACED AS PART OF AN EMBANKMENT, THE PROTECTIVE MATERIALS SHALL BE PLACED CONCURRENTLY WITH THE CONSTRUCTION OF THE EMBANKMENT, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. WHERE ROCK FILL ARE TO BE PLACED UNDER WATER, METHODS SHALL BE USED THAT WILL MINIMIZE SEGREGATION AND ENSURE THAT THE REQUIRED THICKNESS OF PROTECTIVE MATERIAL WILL BE OBTAINED.
 - THE ROCK SLOPE PROTECTION SHALL BE PLACED ON THE PREPARED SLOPE SO THAT THERE WILL BE A MINIMUM OF SPACE BETWEEN THE STONES. THE DEPTH OF EACH STONE SHALL BE EQUAL TO THE THICKNESS OF THE COURSE SHOWN ON THE PLANS. THE VOIDS BETWEEN THE STONES SHALL BE CHINKED WITH SMALLER STONES TO PRODUCE A RELATIVELY SMOOTH AND UNIFORM SURFACE.
 - THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE ROCK SLOPE PROTECTION AS A WELL COMPACTED MASS, WITH STONES INTERLOCKED WITH EACH OTHER AND WITH NO LARGE VOIDS TO REDUCE THE POTENTIAL FOR UPLIFT AND MOVEMENT.
 - TO ACHIEVE A WELL COMPACTED MASS, CONTRACTOR MAY BE REQUIRED TO FOLLOW THE INITIAL PLACEMENT OF ROCK SLOPE PROTECTION WITH ADDITIONAL PASSES OF SMALLER MATERIAL. SELECTIVE HAND PLACEMENT OF ROCK OR STONE FOLLOWED BY COMPACTED MAY ALSO BE REQUIRED.
 - DUMPING OF ROCK SLOPE PROTECTION AT THE TOP OF SLOPES AND ROLLING OR PUSHING INTO PLACE SHALL NOT BE PERMITTED.
 - ROCK SLOPE PROTECTION SHALL MEET THE GRADATION BELOW AS BEST AVAILABLE FROM LOCAL SOURCES.

TYPE VI ROCK SLOPE PROTECTION GRADATION

# PASSING	SIZE
100	72"
85	54"-66"
50	36"-48"
15	30"-42"
0	24"

NATIVE CHANNEL BED MATERIAL NOTE

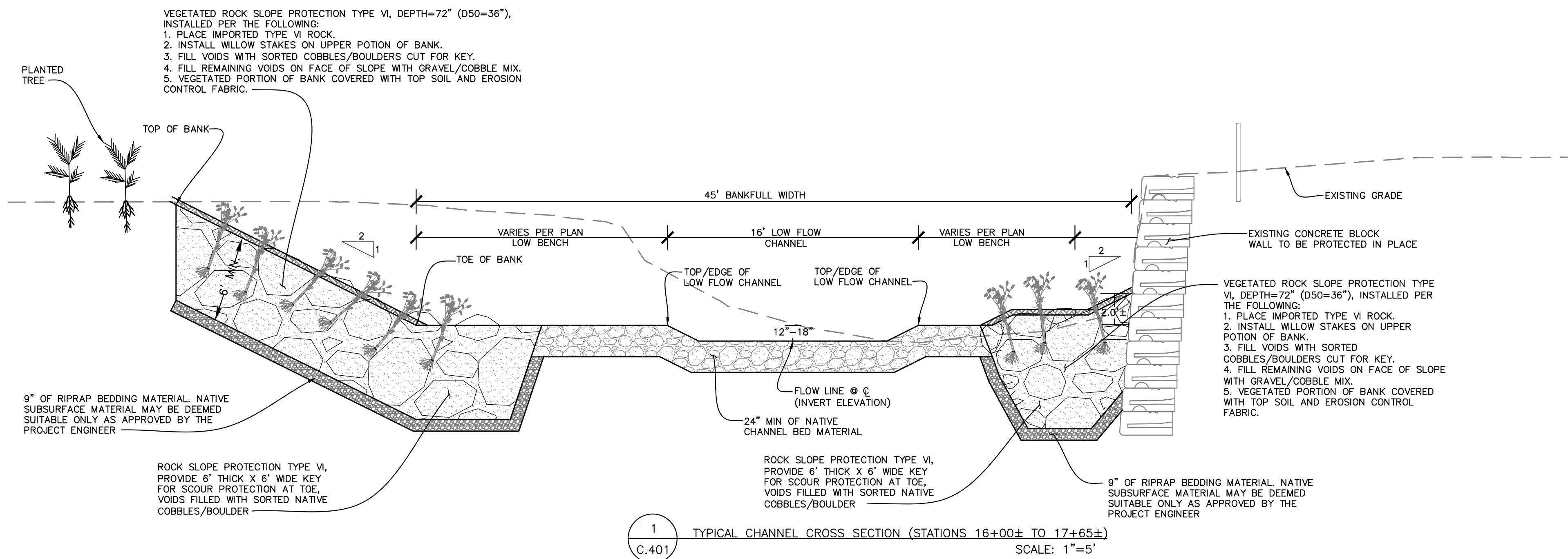
- NATIVE CHANNEL BED MATERIAL SHALL BE EXISTING BED MATERIAL EXCAVATED DURING THE WORK UNDER THIS PROJECT. THE MATERIAL SHALL BE STOCKPILED AND REUSED AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER.

LOW FLOW CHANNEL NOTE

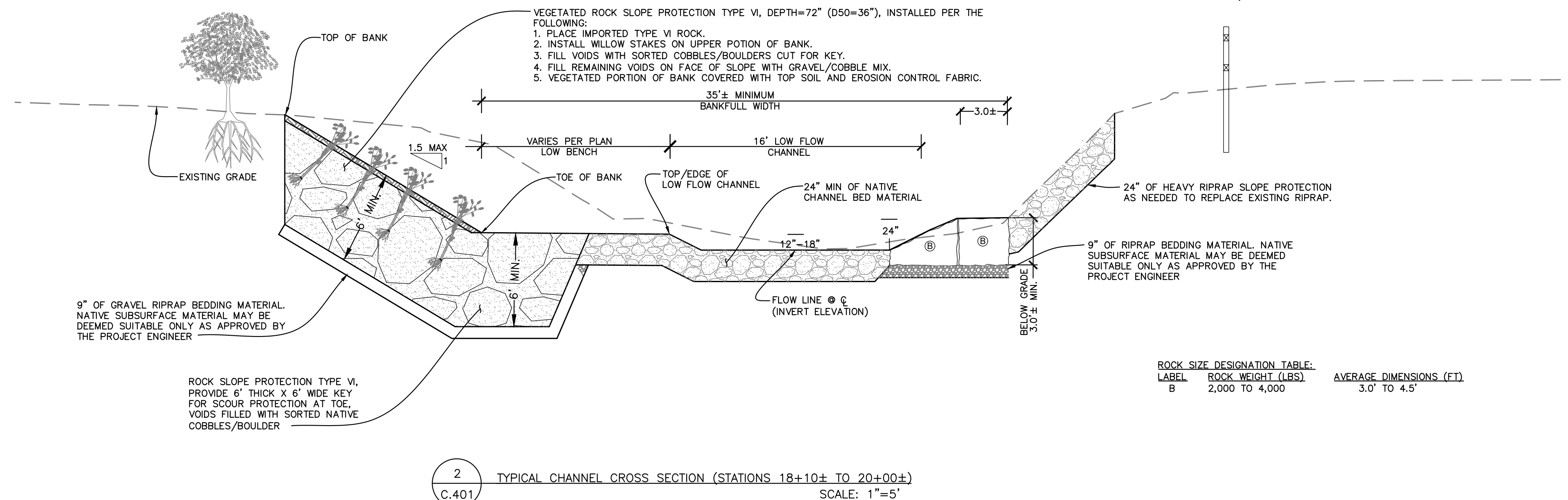
- THE LOW FLOW CHANNEL AND LOW CHANNEL BENCHES SHALL BE EXISTING CHANNEL MATERIAL AND SHALL BE PLACED TO MIMIC THE NATURAL CHANNEL / ROCK RIVER BOTTOM AND ROUGHNESS THROUGHOUT THE PROJECT TO THE SATISFACTION OF THE ENGINEER.

PLACED RIPRAP WALL SECTION

- ROCK SELECTION:**
- ROCKS MUST BE CUBICAL, TABULAR, OR RECTANGULAR SO THAT THEY REST UPON EACH OTHER IN THE WALL.
 - ROCKS MUST BE HARD, STRONG, RESISTANT TO WEATHERING, AND RING WHEN STRUCK WITH A GEOLOGY HAMMER.
 - ROCKS MUST BE FREE OF MAJOR WEAK ZONES SUCH AS CRACKS, SEAMS, AND FOLIATION.
- ROCK PLACEMENT RECOMMENDATIONS:**
- FIRST LAYER OF ROCK SHALL BE PLACED ON A FIRM, UNYIELDING BASE LAYER CONSISTING OF A COMPACTED 12" THICK BEDDING MATERIAL. THE FIRST LAYER OF ROCK SHOULD FULLY CONTACT THE BASE LAYER, WHICH MAY BE ACCOMPLISHED BY DROPPING OR POUNDING THE ROCK INTO THE BASE.
 - AS THE WALL IS CONSTRUCTED, THE ROCKS SHOULD BE PLACED SO THAT THERE ARE NO CONTINUOUS JOINT SEAMS IN THE LATERAL AS WELL AS VERTICAL JOINTS SHALL BE STAGGERED BETWEEN ROCKS ON ADJACENT TIERS.
 - THE ROCK ABOVE THE FIRST LAYER SHOULD BE PLACED SO THAT THERE ARE AT LEAST TWO ROCKS BELOW IT. ROCKS SHALL BE PLACED SO THAT THEY BEAR SOLELY ON THE ROCKS BELOW.
 - ROCKS SHOULD BE PLACED SO THAT THE LONG DIMENSION IS PLACED INTO THE SLOPE (PERPENDICULAR TO THE SLOPE)
 - ROCKS SHOULD BE SET SUCH THAT THERE ARE NO SLOPING FACES OUT OF THE ROCK WALL, WHICH COULD CREATE A PLANE OF WEAKNESS OR FAILURE.
 - THE BATTER (INCLINATION) OF THE FRONT FACE (FF) OF THE ROCK WALL SHALL BE SET BACK AT A RATIO OF 3V:1H. TO THE EXTENT PRACTICAL, ROCKS SHALL DIP TOWARD THE EMBANKMENT TO BETTER RESIST SLIDING FORCES.
 - VOIDS OF 6" AND GREATER SHALL BE CHINKED, AND CHINKING ROCKS SHOULD NOT BE MOVABLE BY HAND. CHINKING ROCKS SHALL BE OF THE SAME QUALITY AS THE LARGE ROCKS. BACKFILL SMALLER VOIDS WITH GRANULAR MATERIAL OR GRAVEL TO FILL VOIDS.
 - FOOTER ROCK SHALL BE EMBEDDED A MINIMUM OF 4' BELOW THE CHANNEL BOTTOM AND 6' BELOW FINISHED GRADE.

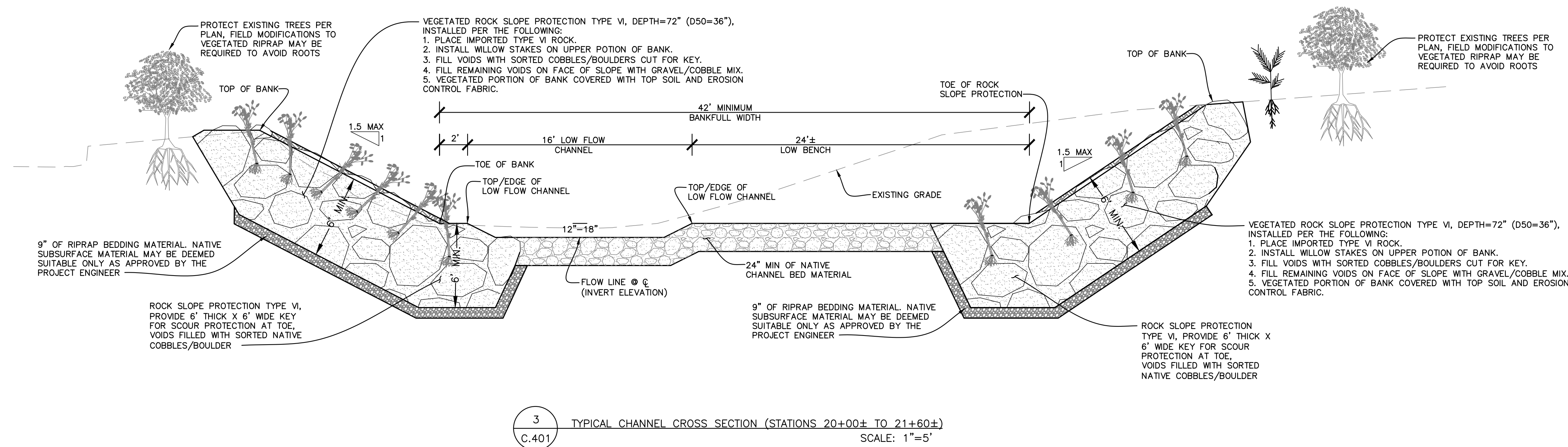


REFER TO DESIGN ENGINEER DISCLAIMER, SHEET N-2.

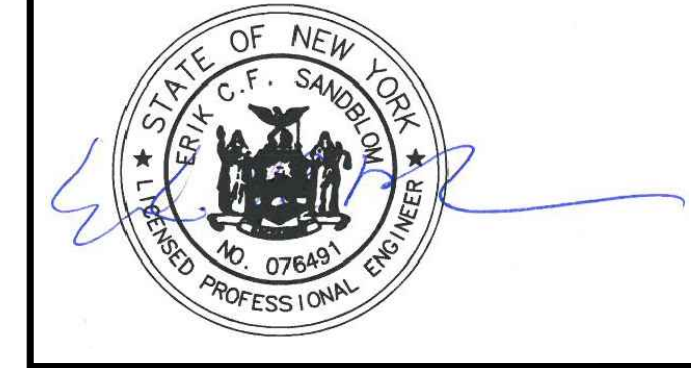


ROCK SIZE DESIGNATION TABLE:

LABEL	ROCK WEIGHT (LBS)	AVERAGE DIMENSIONS (FT)
B	2,000 TO 4,000	3.0' TO 4.5'



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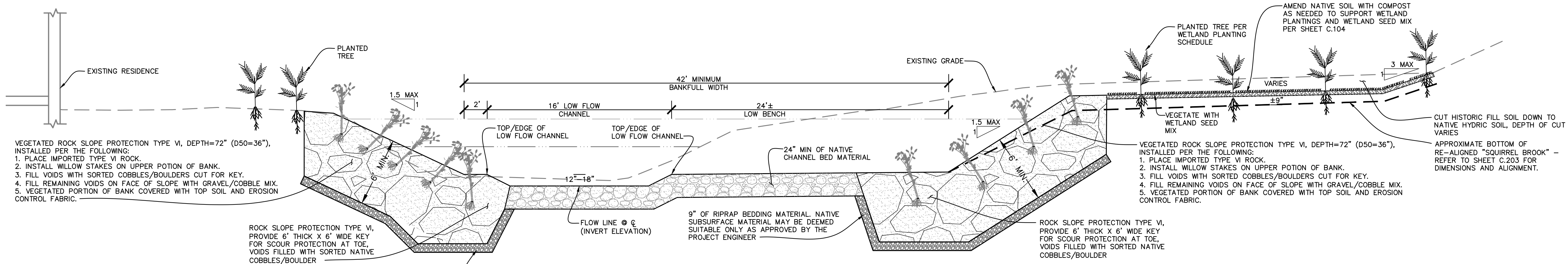
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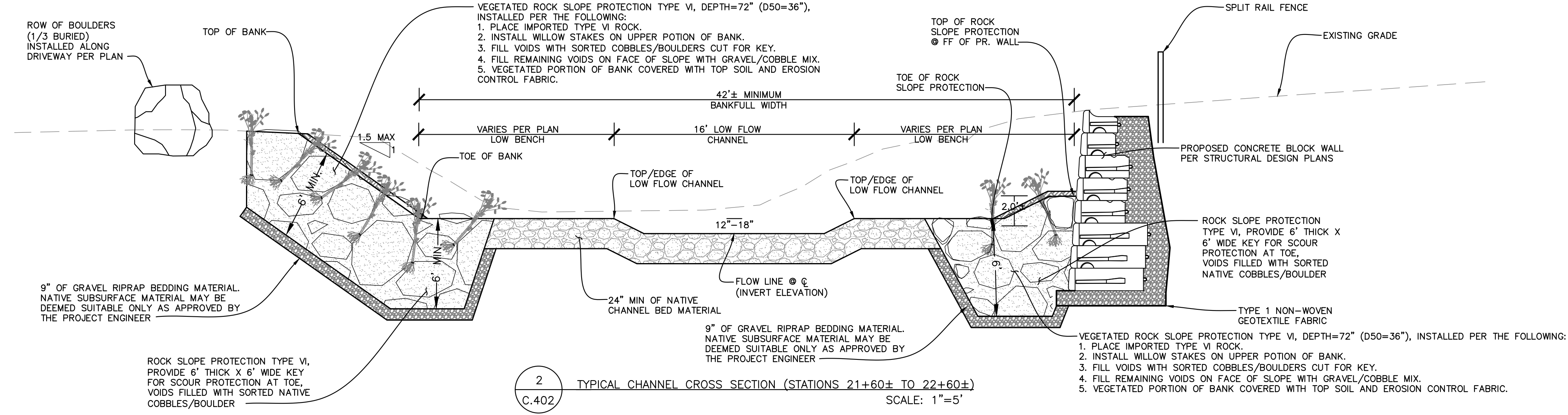
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II TYPICAL CHANNEL CROSS-SECTION DETAILS

DRAWING NO. **C.401** SHT. 13 OF 25
REV. 1

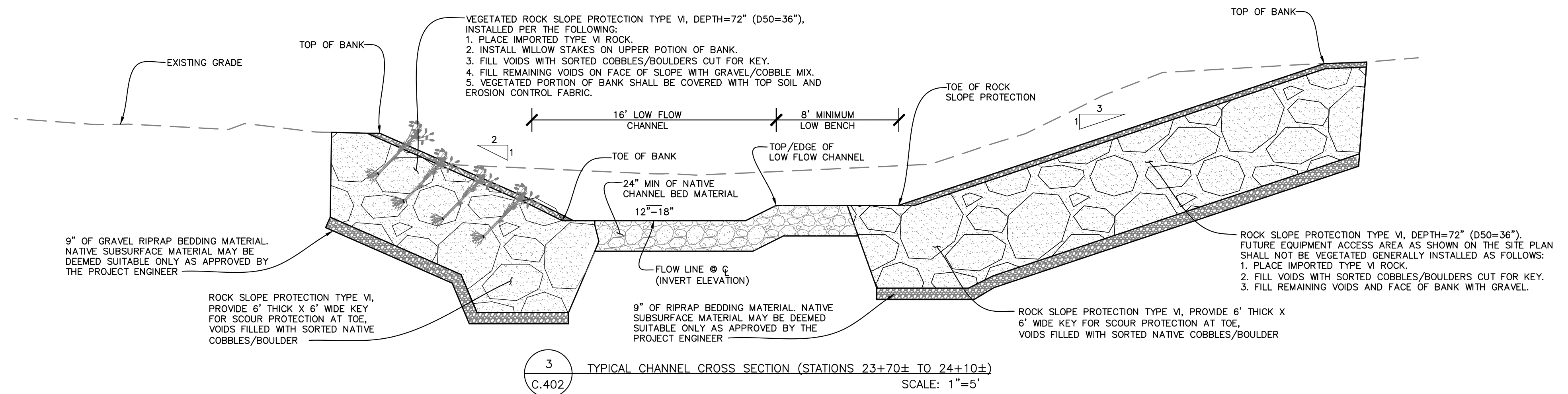


1 TYPICAL CHANNEL CROSS SECTION (STATIONS 20+75± TO 21+60±)
C.402 SCALE: 1"=5'

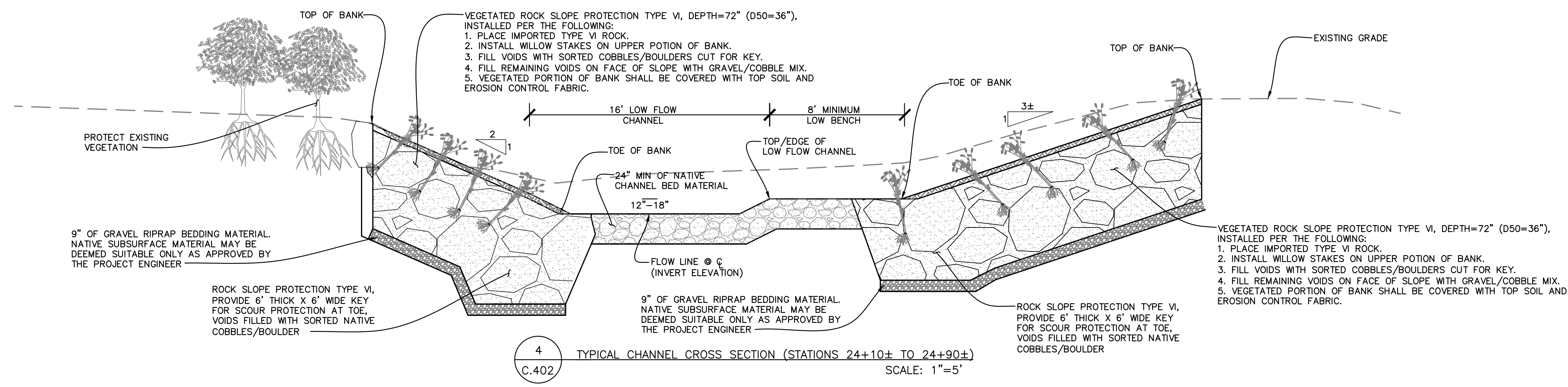


2 TYPICAL CHANNEL CROSS SECTION (STATIONS 21+60± TO 22+60±)
C.402 SCALE: 1"=5'

TYPE VI ROCK SLOPE PROTECTION	
% PASSING	SIZE
100	72"
85	54"-66"
50	36"-48"
15	30"-42"
0	24"



3 TYPICAL CHANNEL CROSS SECTION (STATIONS 23+70± TO 24+10±)
C.402 SCALE: 1"=5'



4 TYPICAL CHANNEL CROSS SECTION (STATIONS 24+10± TO 24+90±)
C.402 SCALE: 1"=5'

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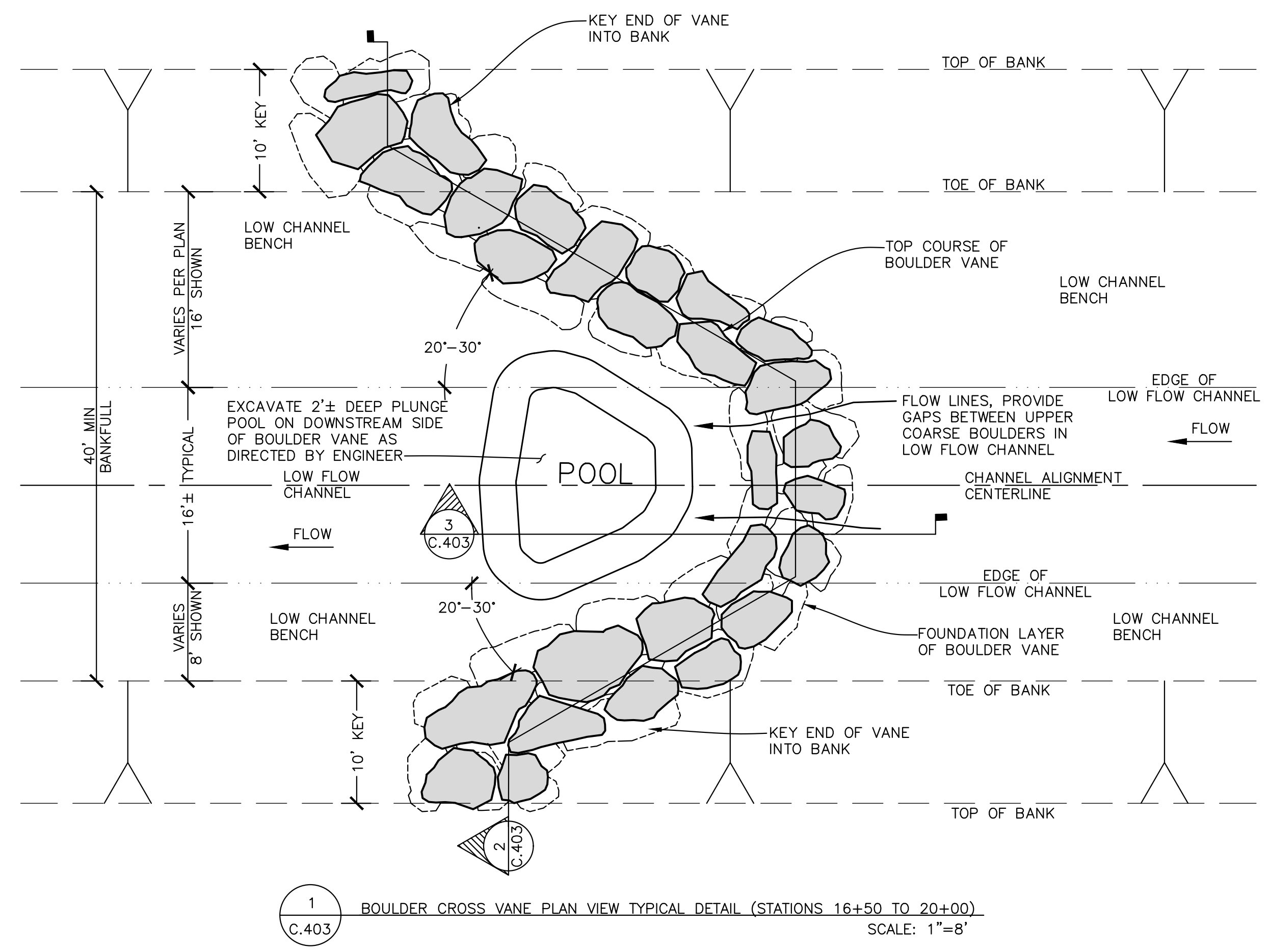
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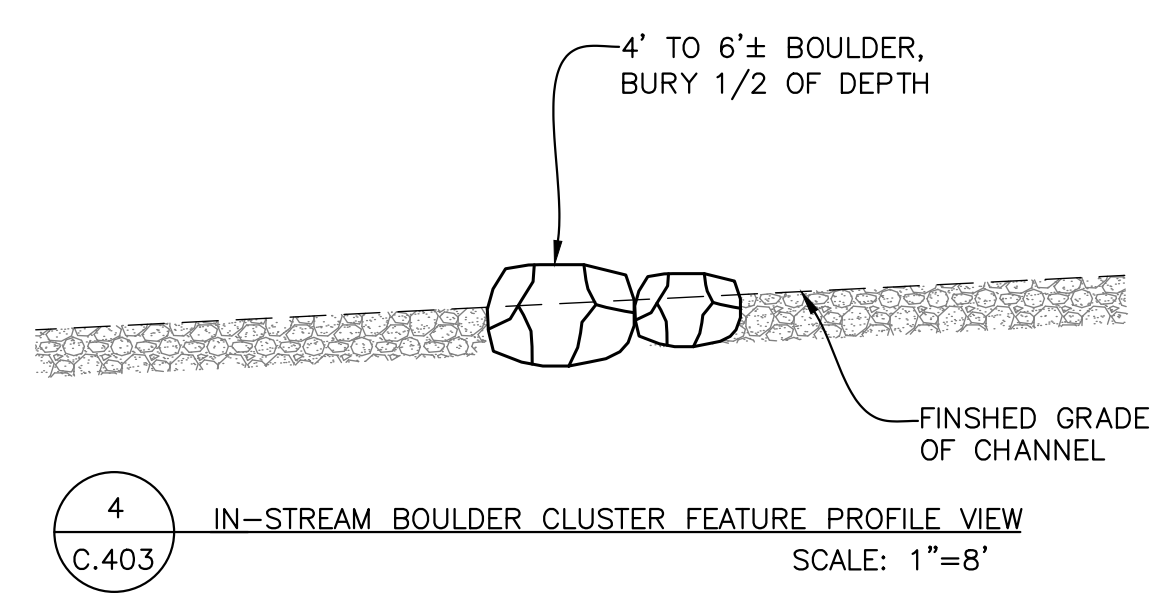
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Elizabethtown, N.Y.

DRAWING TITLE
**KEENE, NY
GULF BROOK CHANNEL
RESTORATION PHASE II
TYPICAL CHANNEL CROSS-SECTION
DETAILS**

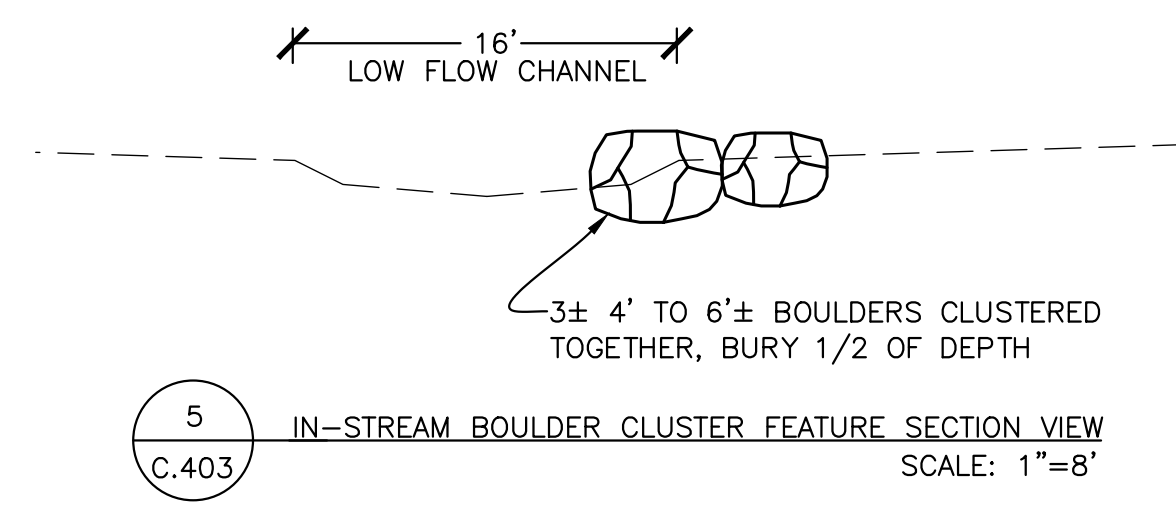
DRAWING NO. **C.402** SHT. 14 OF 25
REV. 1



1 BOULDER CROSS VANE PLAN VIEW TYPICAL DETAIL (STATIONS 16+50 TO 20+00)
C.403 SCALE: 1"=8'



4 IN-STREAM BOULDER CLUSTER FEATURE PROFILE VIEW
C.403 SCALE: 1"=8'



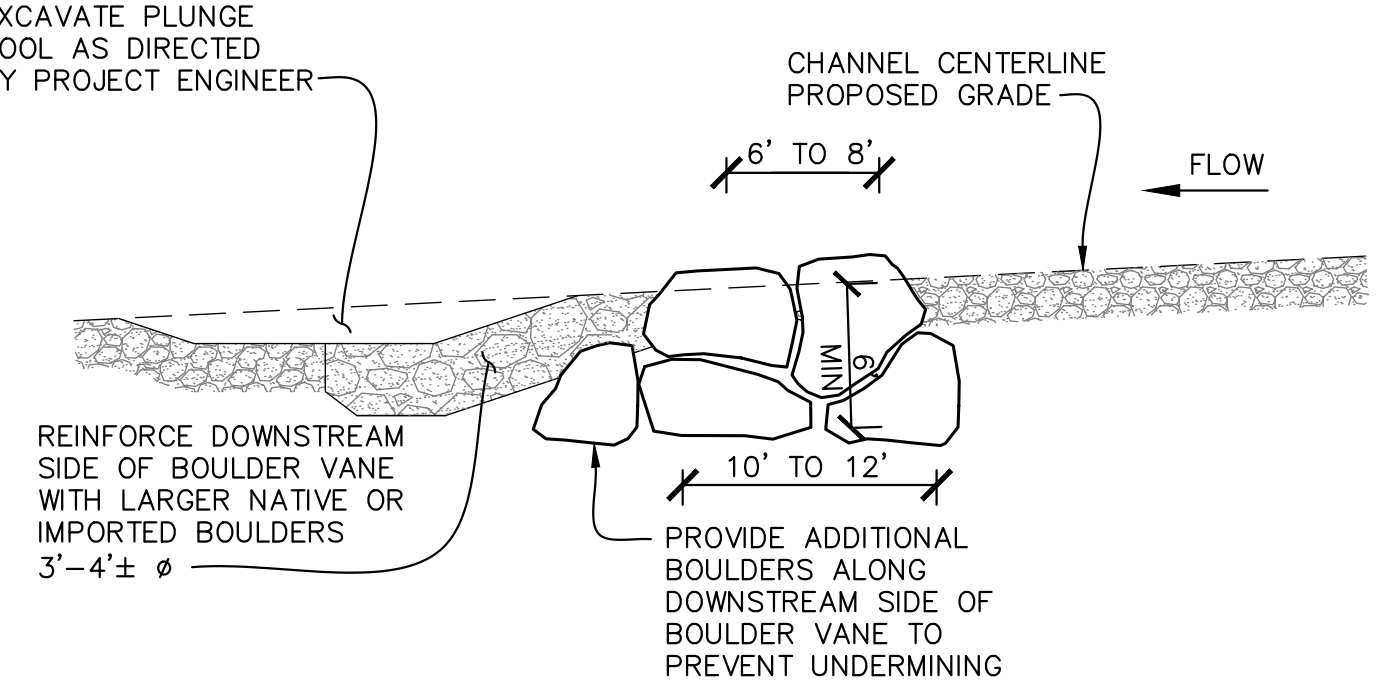
5 IN-STREAM BOULDER CLUSTER FEATURE SECTION VIEW
C.403 SCALE: 1"=8'

BOULDER CLUSTER NOTES

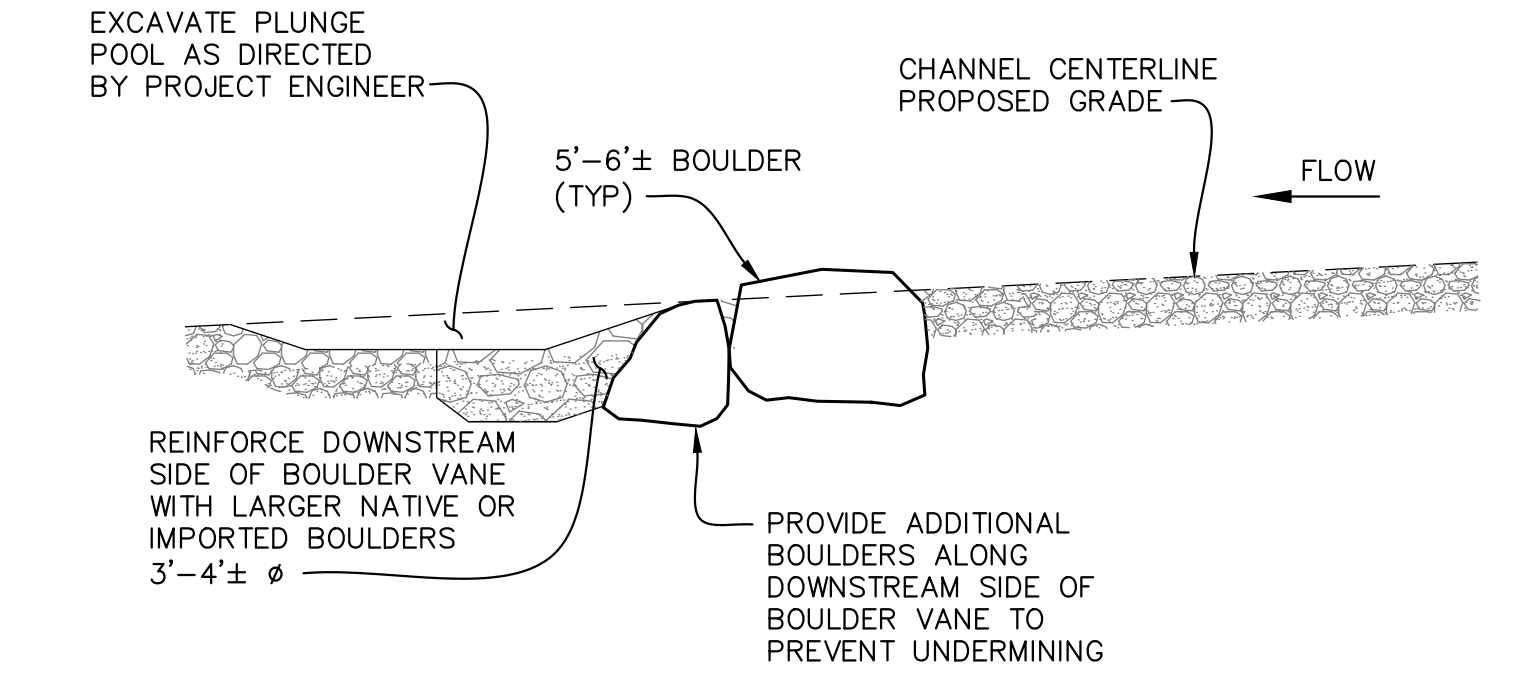
- 1) BOULDERS MUST BE APPROVED, HARD, ANGULAR, BLASTED, STRONG, RESISTANT TO WEATHERING, AND RING WHEN STRUCK WITH A GEOLOGY HAMMER.
- 2) BOULDERS MUST BE FREE OF MAJOR WEAK ZONES SUCH AS CRACKS, SEAMS, AND FOLIATION.
- 3) ALL BOULDERS SHALL APPROXIMATE AVERAGE DIMENSIONS FROM 4' TO 6'
- 4) BOULDERS SHALL BE CLUSTERED IN GROUPS OF 3 TO 4 BOULDERS. PLACE BOULDER CLUSTERS BETWEEN BOULDER VANES GENERALLY AS SHOWN OF THE SITE PLAN.
- 5) ADJUSTMENT OF FINAL LOCATION AND PLACEMENT OF THE BOULDER CLUSTERS MAY BE REQUIRED AS DETERMINED BY THE PROJECT ENGINEER.

BOULDER CROSS VANE NOTES

- 1) BOULDERS MUST BE APPROVED, HARD, ANGULAR, BLASTED, STRONG, RESISTANT TO WEATHERING, AND RING WHEN STRUCK WITH A GEOLOGY HAMMER.
- 2) BOULDERS MUST BE FREE OF MAJOR WEAK ZONES SUCH AS CRACKS, SEAMS, AND FOLIATION.
- 3) ALL BOULDERS SHALL APPROXIMATE AVERAGE DIMENSIONS FROM 48" TO 72"
- 4) OVERLAP UPSTREAM BOULDERS OVER DOWNSTREAM BOULDERS.
- 5) PLACE FOUNDATION BOULDERS SO THAT THEY INTERLOCK WITH EACH OTHER. PLACE UPPER COARSE OF BOULDER SO THAT THEY INTERLOCK WITH THE FOUNDATION COARSE.
- 6) FINISHED GRADE FOR TOP COARSE SHALL BE PER THE LAYOUT AND GRADING PLAN (TO THE EXTENT POSSIBLE), AND AS DETERMINED IN THE FIELD BY THE PROJECT ENGINEER.
- 7) ADJUSTMENT OF FINAL LOCATION AND PLACEMENT OF THE UPPER COARSE OF BOULDERS MAY BE REQUIRED AS DETERMINED BY THE PROJECT ENGINEER.
- 8) REFER TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

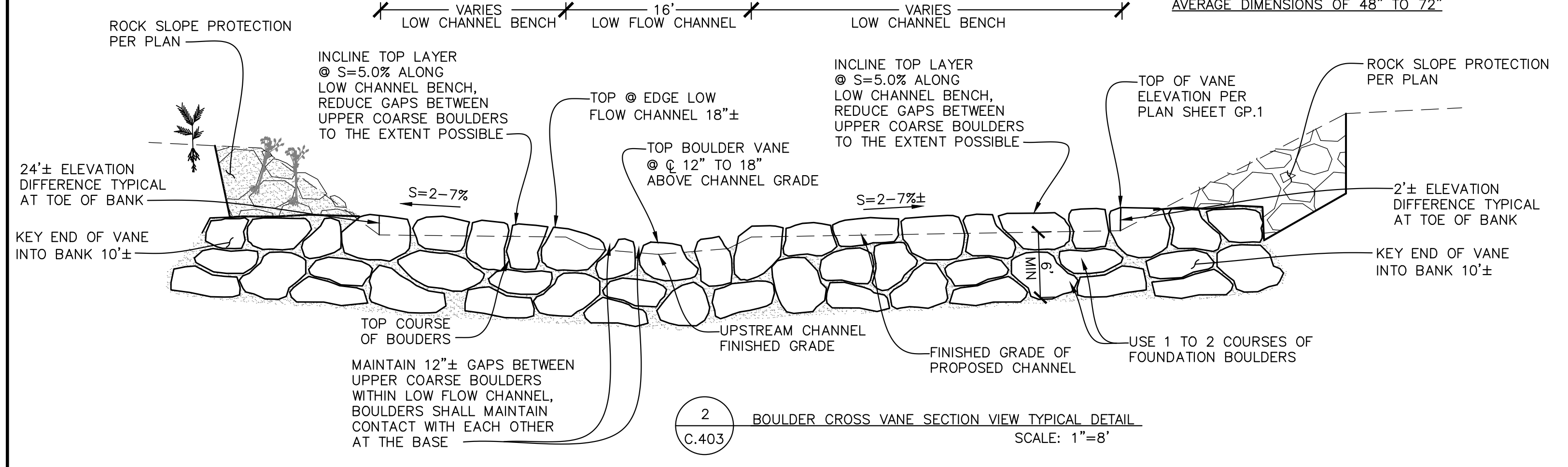


3 BOULDER CROSS VANE PROFILE VIEW TYPICAL DETAIL
C.403 SCALE: 1"=8'



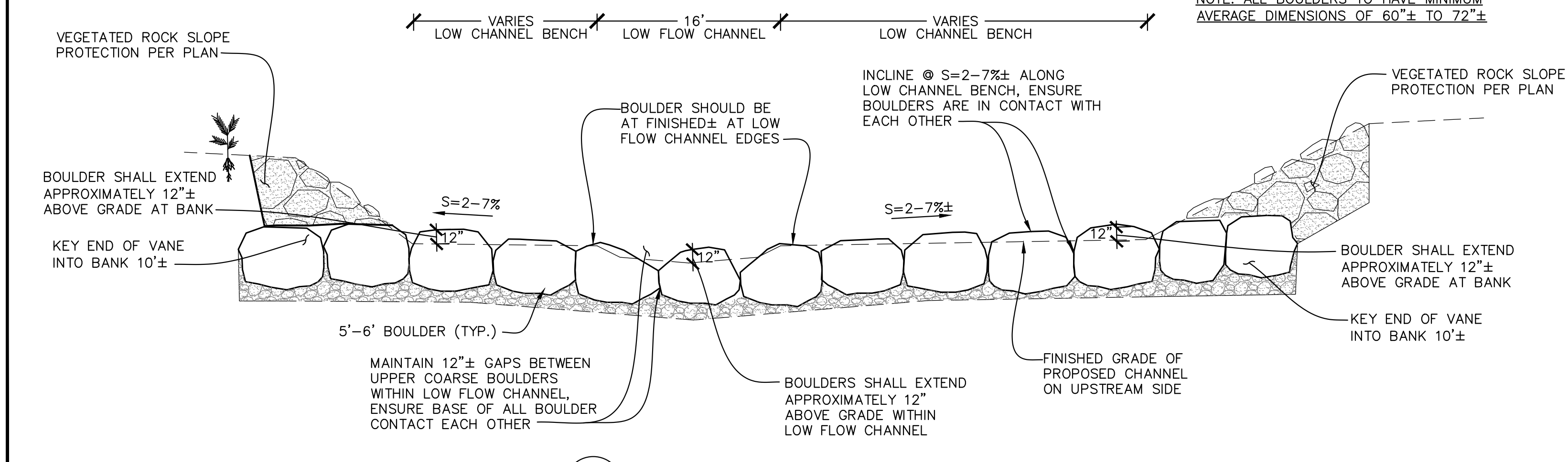
8 LOW PROFILE BOULDER CROSS VANE PROFILE VIEW TYPICAL DETAIL
C.403 SCALE: 1"=8'

NOTE: ALL BOULDERS TO HAVE MINIMUM AVERAGE DIMENSIONS OF 48" TO 72"

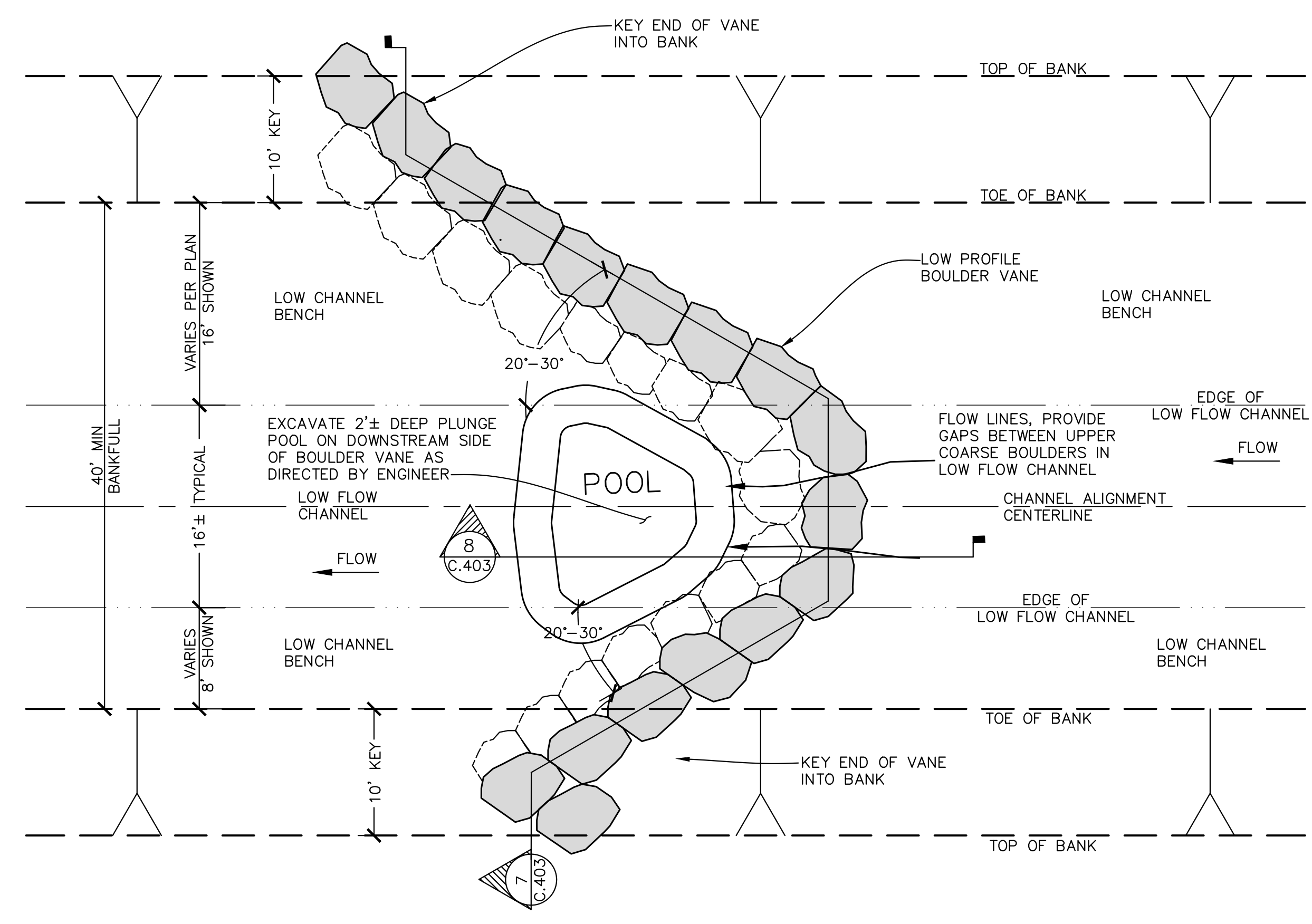


2 BOULDER CROSS VANE SECTION VIEW TYPICAL DETAIL
C.403 SCALE: 1"=8'

NOTE: ALL BOULDERS TO HAVE MINIMUM AVERAGE DIMENSIONS OF 60"± TO 72"±



7 LOW PROFILE GRADE CONTROL/BOULDER CROSS VANE SECTION VIEW TYPICAL DETAIL
C.403 SCALE: 1"=8'



6 LOW PROFILE BOULDER CROSS VANE (GRADE CONTROL) SECTION VIEW TYPICAL DETAIL (STATIONS 20+50 TO 22+00)
C.403 SCALE: 1"=8'

REV.	DATE	REVISIONS DESCRIPTION
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1	6/27/2019	DESIGN REVISIONS



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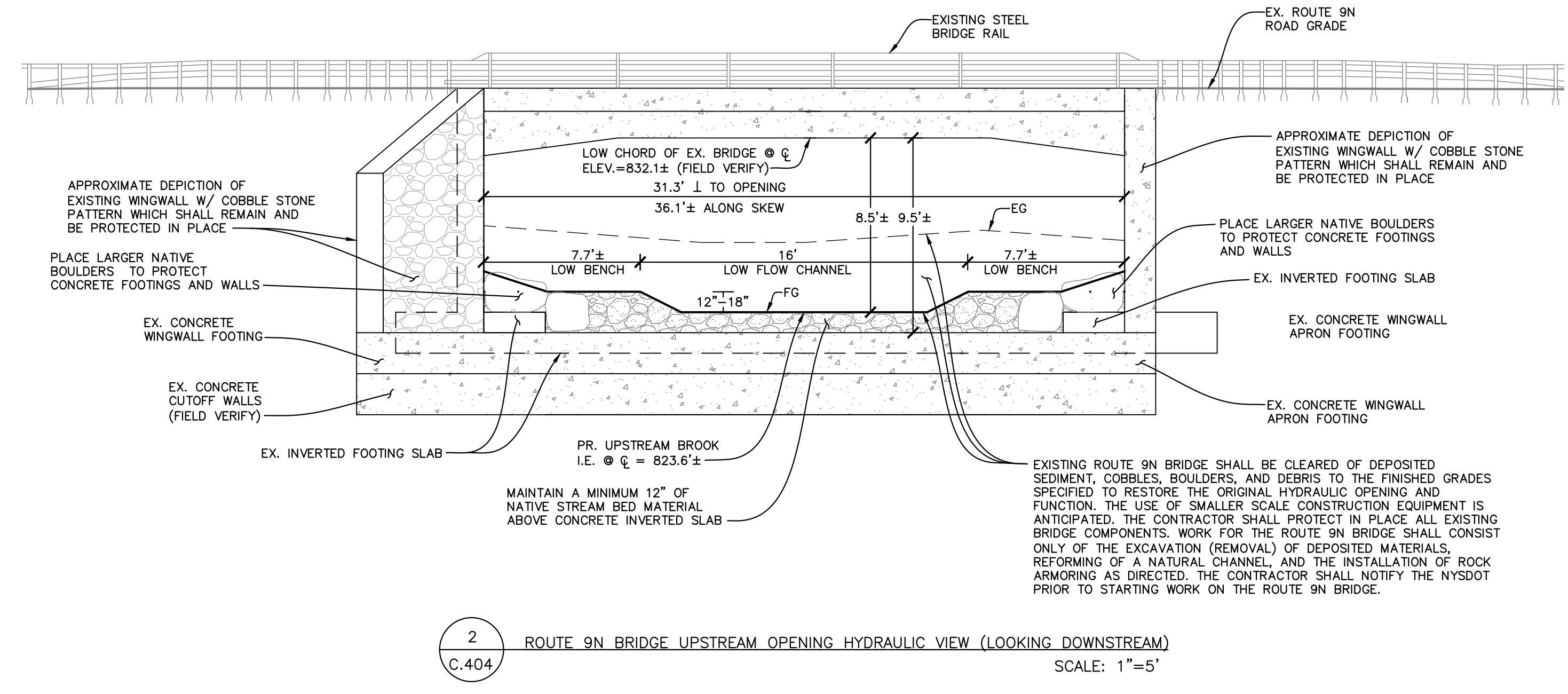
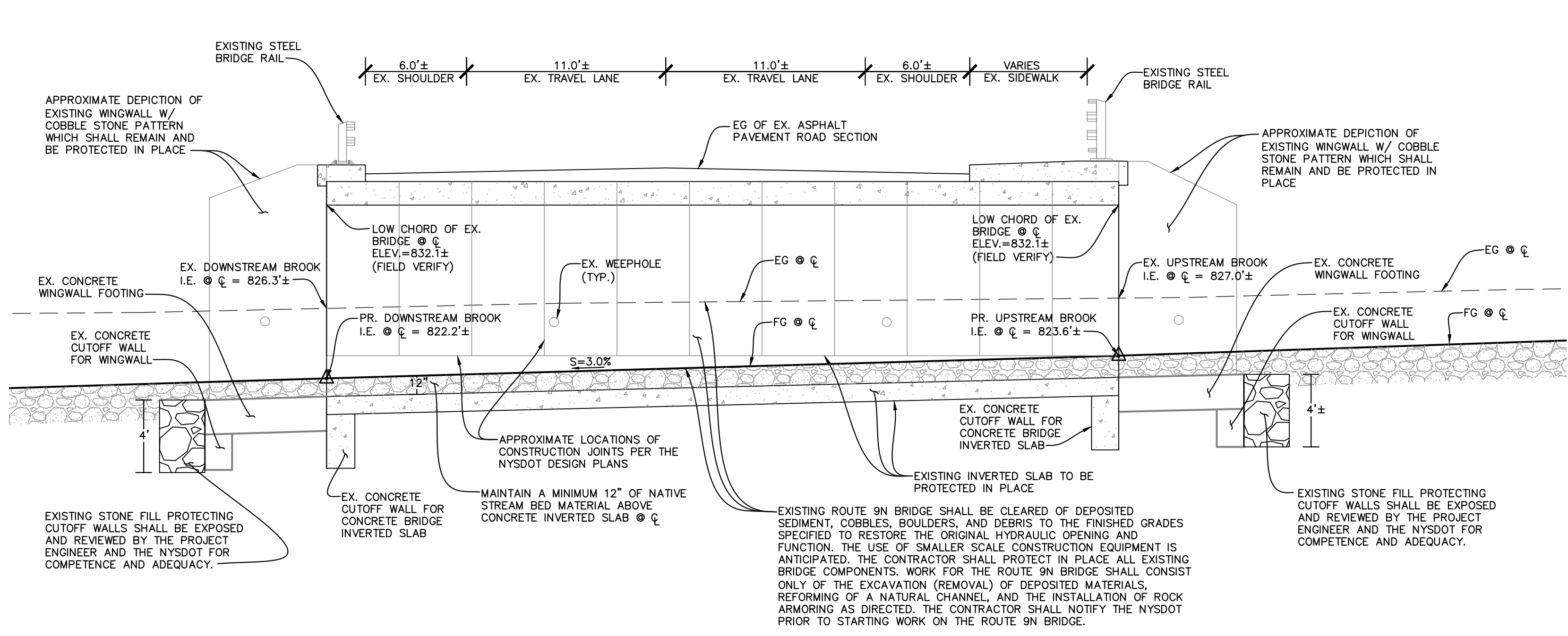
SR SCHODER RIVERS ASSOCIATES
Consulting Engineers, P.C.
Evergreen Professional Park
453 Dixon Road, Suite 7, Bldg. 3
Queensbury, New York 12804
(518) 761-0417, FAX: (518) 761-0513

SCALE: AS SHOWN DRAWN BY: KAS/SRA
DATE: 6/27/2019 ENG. BY: KAS/SRA
PROJ. NO: 15-881 CHK'D BY: ES

CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II IN-STREAM CHANNEL STRUCTURE DETAILS

DRAWING NO. **C.403** SHT. 15 OF 25
REV. 1

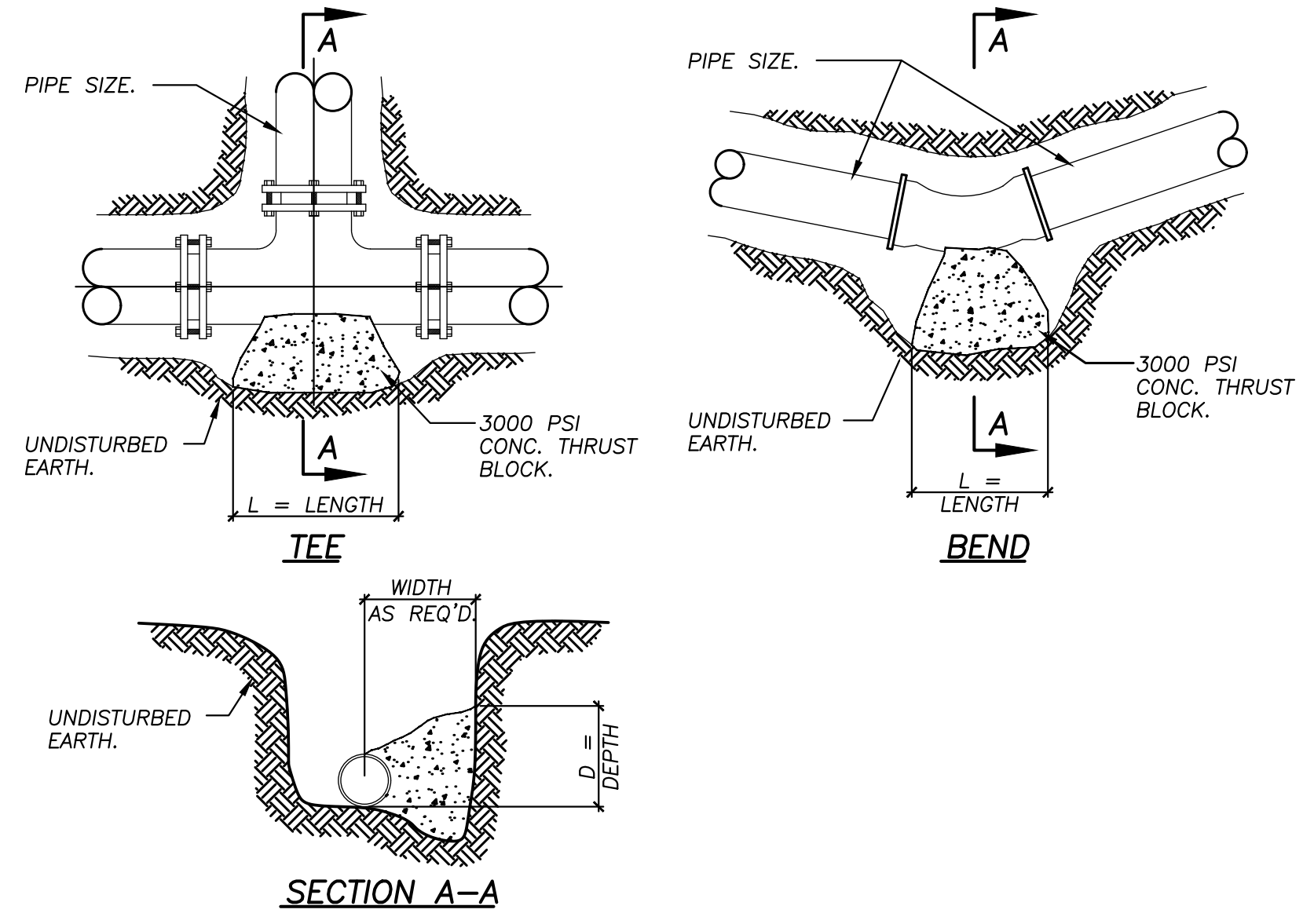


1
C.404 ROUTE 9N BRIDGE DEBRIS CLEANOUT PROFILE VIEW
SCALE: 1"=5'

2
C.404 ROUTE 9N BRIDGE UPSTREAM OPENING HYDRAULIC VIEW (LOOKING DOWNSTREAM)
SCALE: 1"=5'

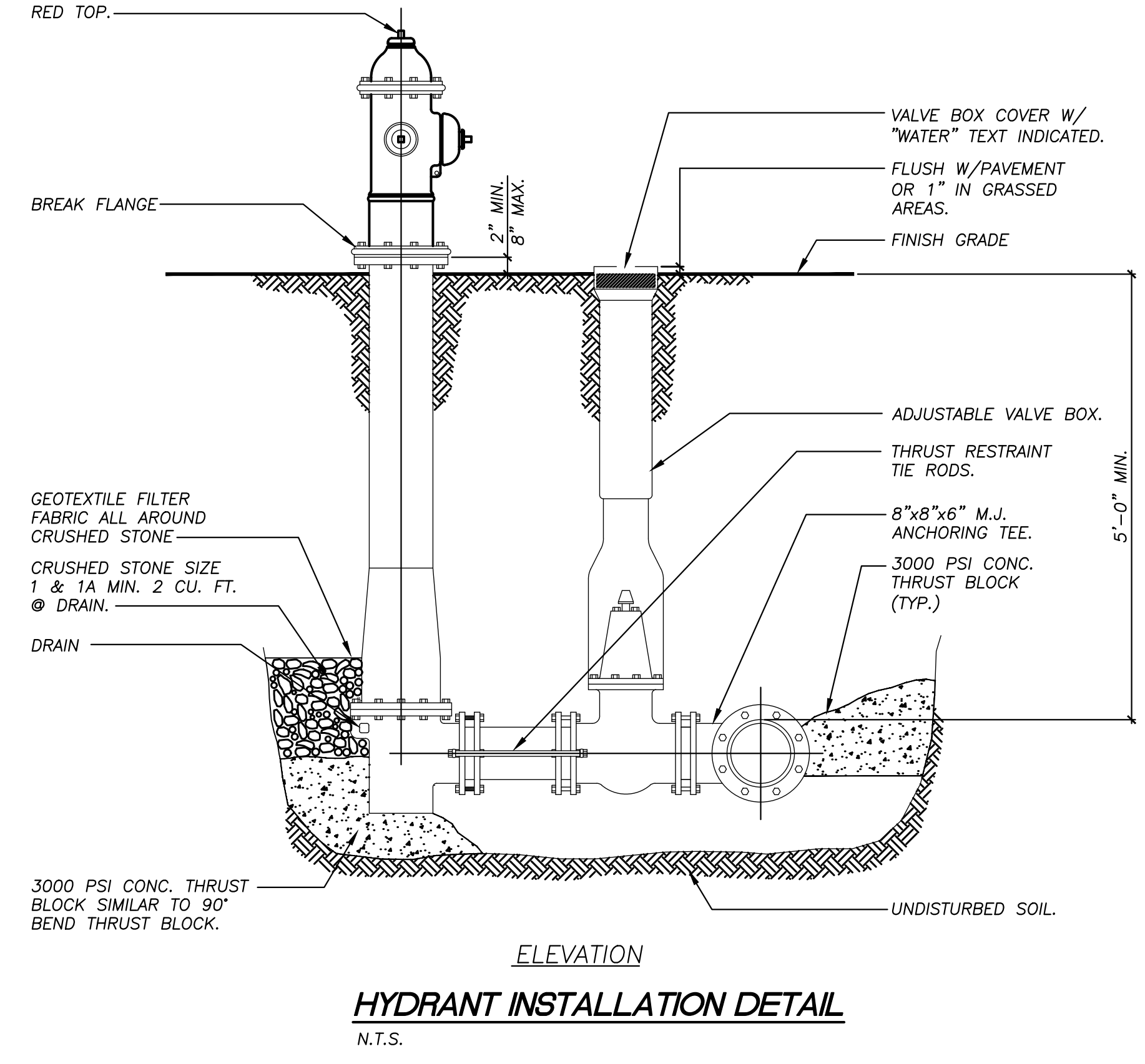
REQUIRED BEARING AREAS AND DIMENSIONS FOR CONCRETE THRUST BLOCKS

PIPE SIZE (IN.)	90° (1/4) BEND		45° (1/8) BEND		22.5° (1/16) BEND		TEE, WYE OR DEAD END	
	AREA SQ. FT.	DIMENSION D x L	AREA SQ. FT.	DIMENSION D x L	AREA SQ. FT.	DIMENSION D x L	AREA SQ. FT.	DIMENSION D x L
6"	5.7	1.75 x 3.25	3.2	1.25 x 2.5	1.5	0.75 x 2.0	3.8	1.25 x 3
8"	9.6	2.25 x 4.25	5.7	1.75 x 3.25	2.8	1.25 x 2.25	6.5	2 x 3.25

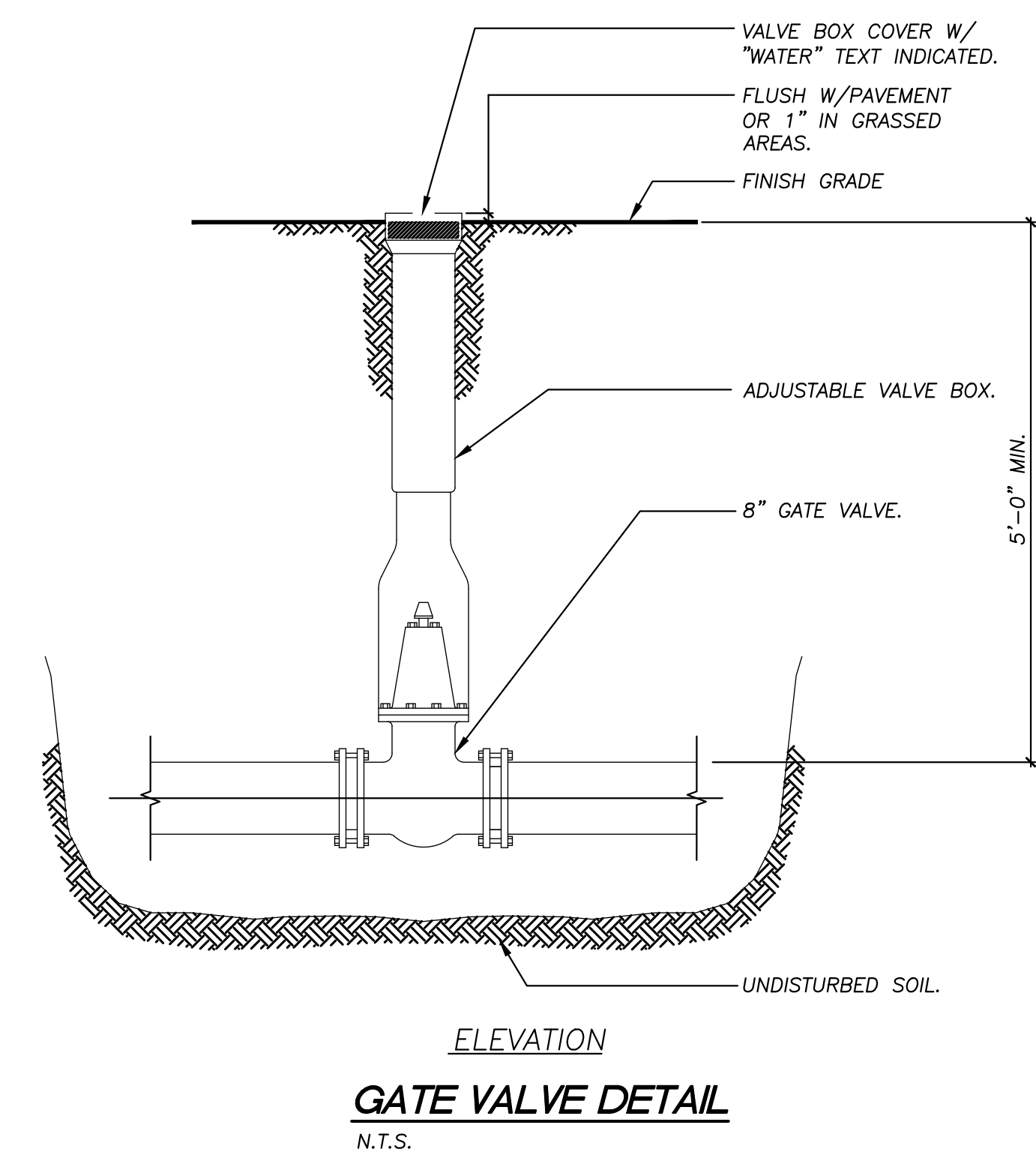


- THRUST BLOCK NOTES**
- FOR REQUIRED BEARING AREA DIMENSIONS D & L SEE TABLE ABOVE. DIMENSIONS OF D & L OTHER THAN THOSE SHOWN IN THE TABLE MAY BE USED PROVIDED THEY YIELD A BEARING EQUAL TO OR LARGER THAN THAT REQUIRED.
 - CONCRETE NOT TO OVERLAP ANY JOINT.
 - CONCRETE TO BE PLACED SO AS NOT TO INTERFERE WITH REMOVING OR INSTALLING ANY OF THE JOINTING HARDWARE.
 - REQUIRED BEARING AREAS ARE DUE TO THRUSTS CAUSED BY 150 PSI WORKING PRESSURE PLUS 50% (75PSI) SURGE ALLOWANCE RESULTING IN 225 PSI TOTAL INTERNAL PRESSURE. NORMAL PIPE DIAMETER USED.
 - REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 2000 LBS PER SQUARE FOOT. FOR OTHER SOIL CONDITIONS ENCOUNTERED, BEARING AREAS MAY BE MODIFIED BY THE ENGINEER.
 - IN MUCK, PEAT, OR RECENTLY PLACED FILL ALL THRUST SHALL BE RESISTED BY PILES OR TIE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIALS AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS ALL AS REQUIRED BY THE ENGINEER.
 - CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH AT 28 DAYS (f'c) EQUAL TO MIN. 3000 PSI.

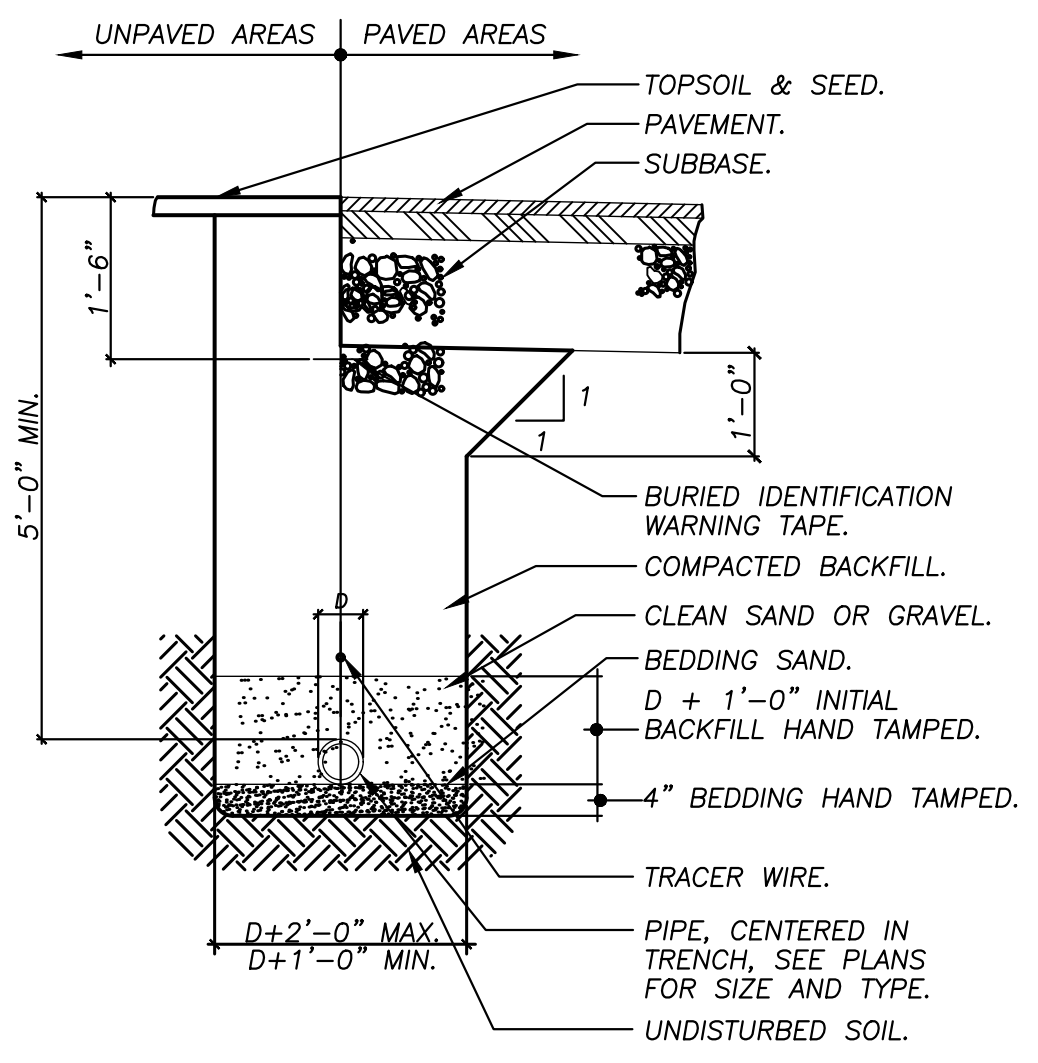
TYPICAL DUCTILE IRON THRUST BLOCK DETAILS
N.T.S.



HYDRANT INSTALLATION DETAIL
N.T.S.



GATE VALVE DETAIL
N.T.S.



WATER MAIN TRENCH DETAIL
N.T.S.

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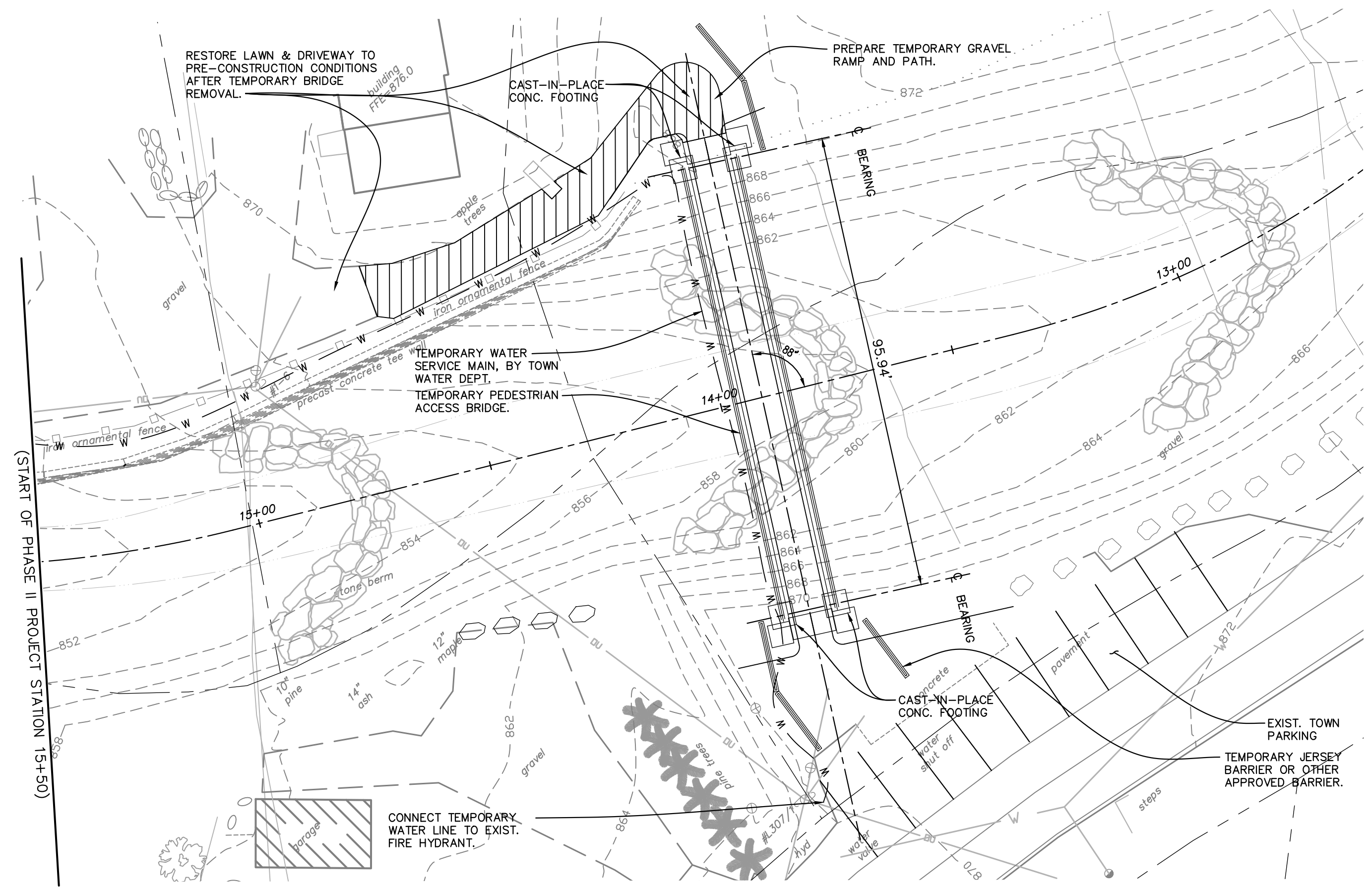
SCHODER RIVERS ASSOCIATES
Consulting Engineers, P.C.
Evergreen Professional Park
453 Dixon Road, Suite 7, Bldg. 3
Queensbury, New York 12804
(518) 761-0417, FAX: (518) 761-0513

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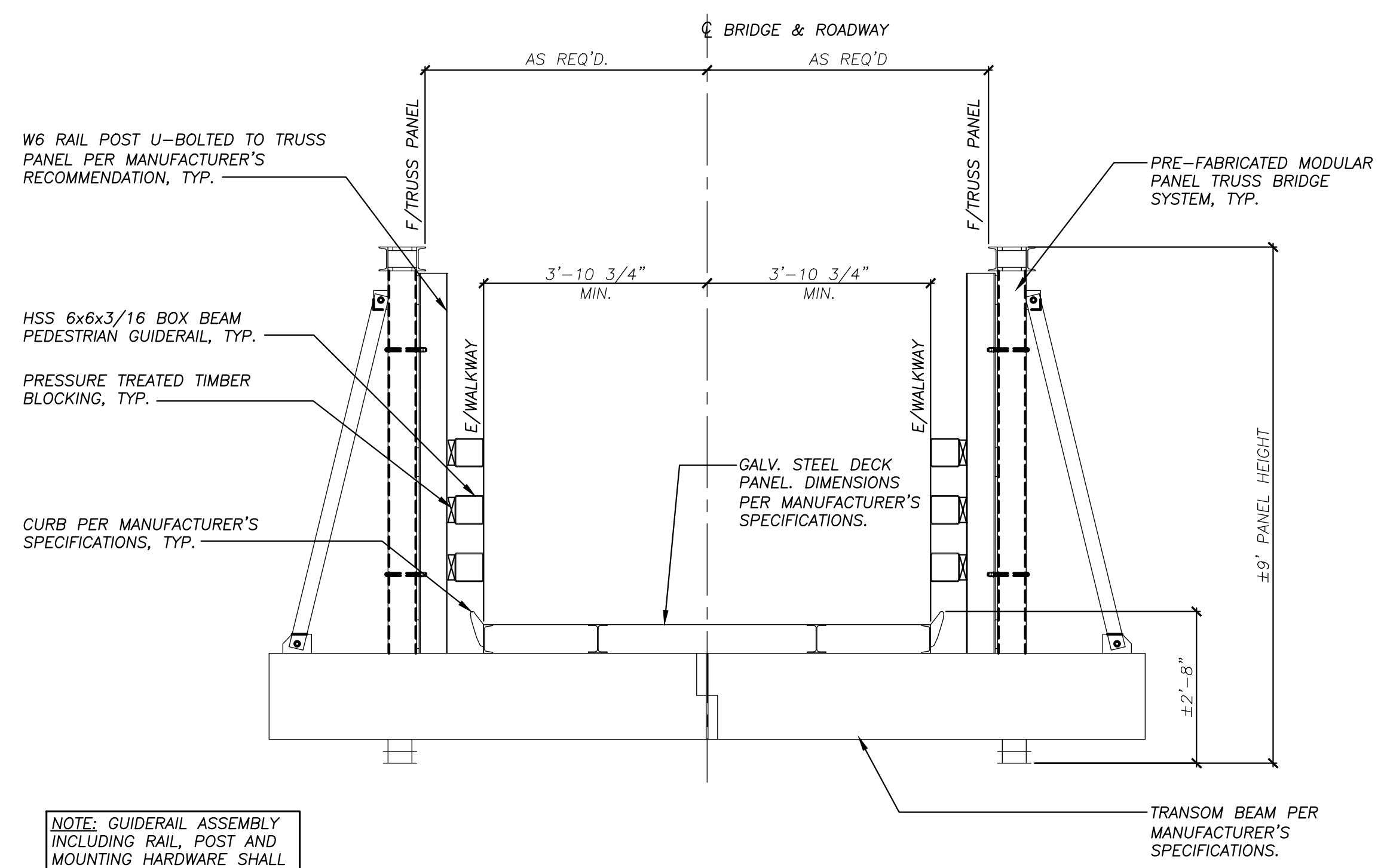
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II ROUTE 9N BRIDGE CLEANOUT DETAILS AND WATER SYSTEM DETAILS

DRAWING NO. **C.404** SHT. 16 OF 25
REV. 1

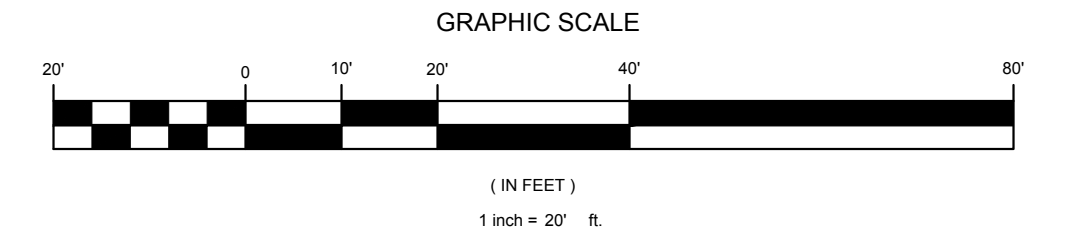


1 TEMPORARY BRIDGE PLAN
C.501 1"=20'



NOTE: GUIDERAIL ASSEMBLY INCLUDING RAIL, POST AND MOUNTING HARDWARE SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR PER BRIDGE MANUFACTURER'S RECOMMENDATION.

TEMPORARY BRIDGE SECTION
N.T.S.



LEGEND		
PROPOSED	EXISTING	
---	---	CONTOURS
---	---	BREAKLINES/SITE FEATURES
---	---	SLOPE TOE/TOP CATCHLINE
---	---	EDGE OF WATER (LOW FLOW)
---	---	FENCE
---	---	PARCEL LINES (FROM TAX MAP)
---	---	CHANNEL CENTERLINE
---	---	WATERLINE (TBD)
---	---	ORDINARY HIGH WATER MARK
---	---	APPROXIMATE LIMITS OF DISTURBANCE
---	---	CROSS SECTION (@ 50' ON CENTER)
---	---	TREELINE
---	---	WETLANDS
---	---	GRAVEL ROAD
---	---	ROCKERY SLOPE PROTECTION SIZE AS SPECIFIED
---	---	VEGETATED ROCK SLOPE PROTECTION
---	---	BUILDINGS
---	---	FIRE HYDRANT
---	---	WATER GATE VALVE
---	---	TEMPORARY BENCH MARK
---	---	BOULDER (4' TO 6"± AVERAGE SIZE) WITHIN LOW FLOW CHANNEL
---	---	EX. TREES
---	---	EX. TREE TO BE REMOVED
---	---	EX. TREES TO BE PROTECTED

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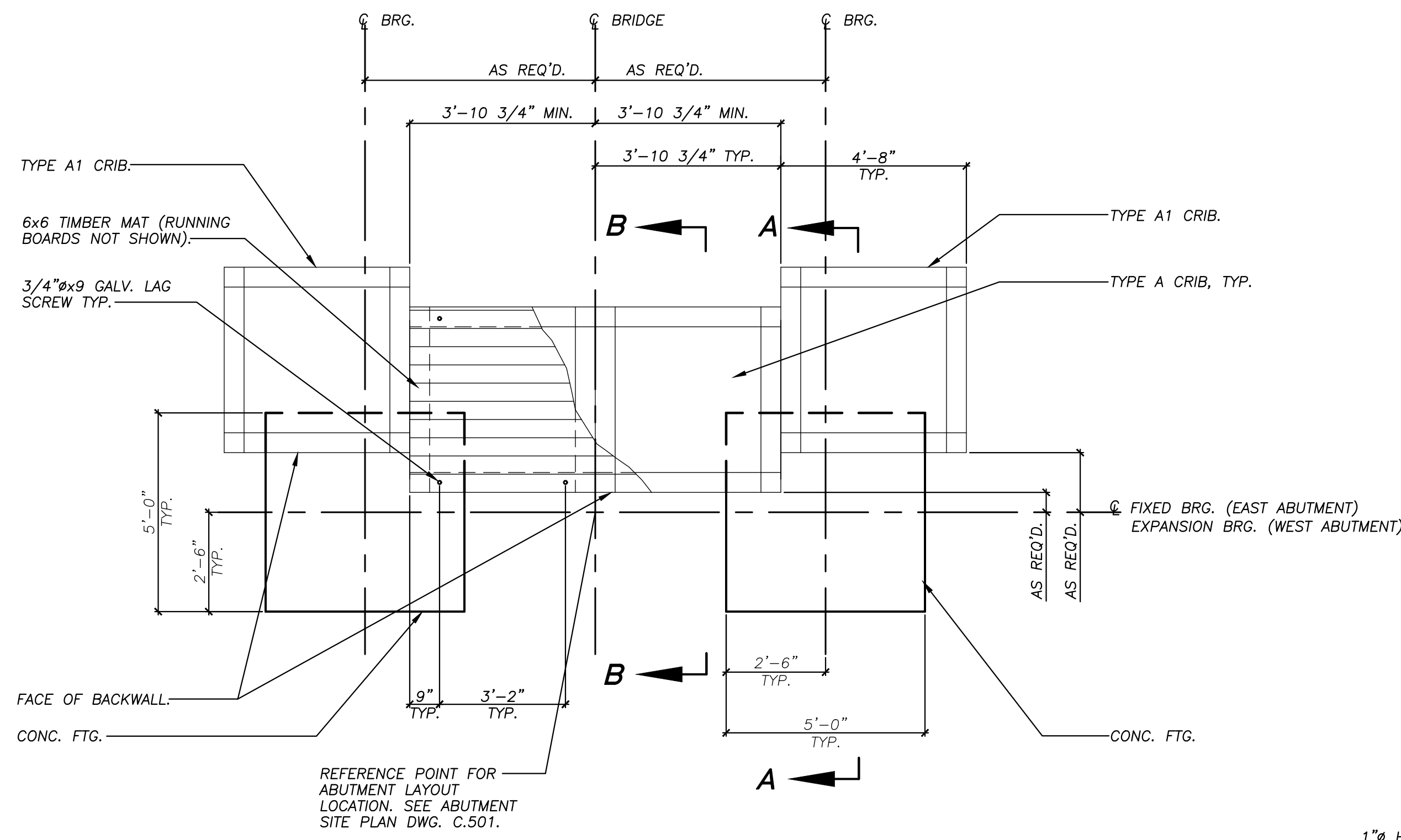
SCHODER RIVERS ASSOCIATES
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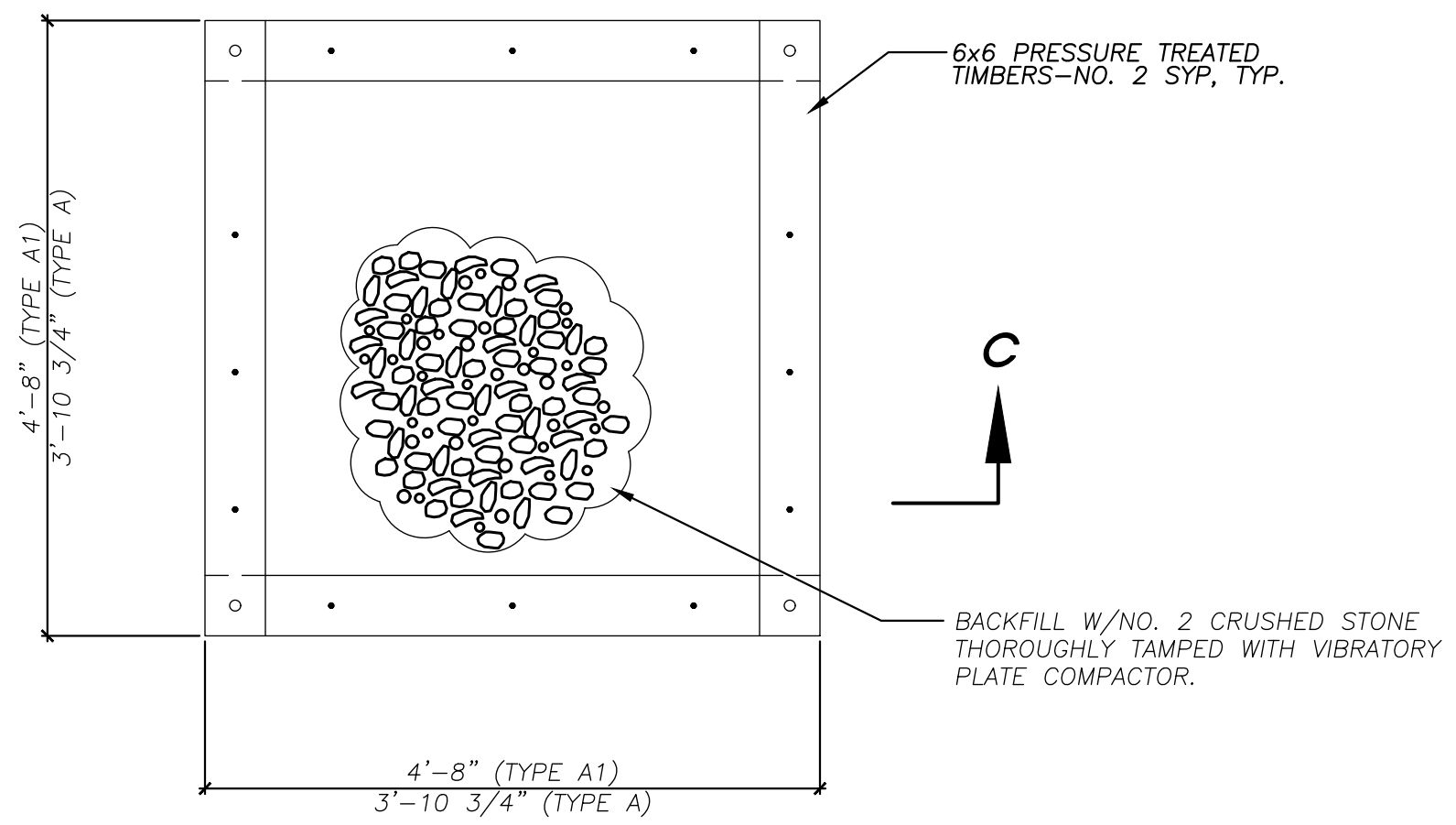
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II TEMPORARY BRIDGE PLAN AND DETAILS

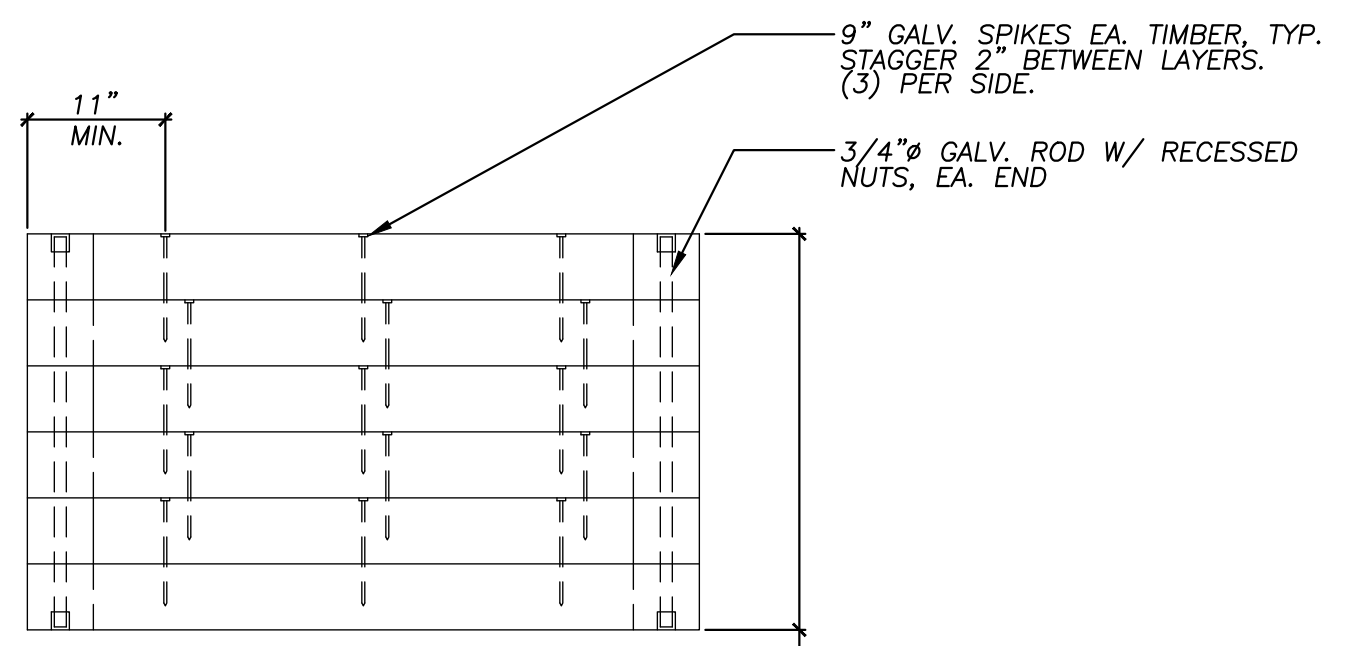
DRAWING NO. **C.501** SHT. 17 OF 25
REV. 1



TYPICAL ABUTMENT PLAN
3/8"=1'-0"

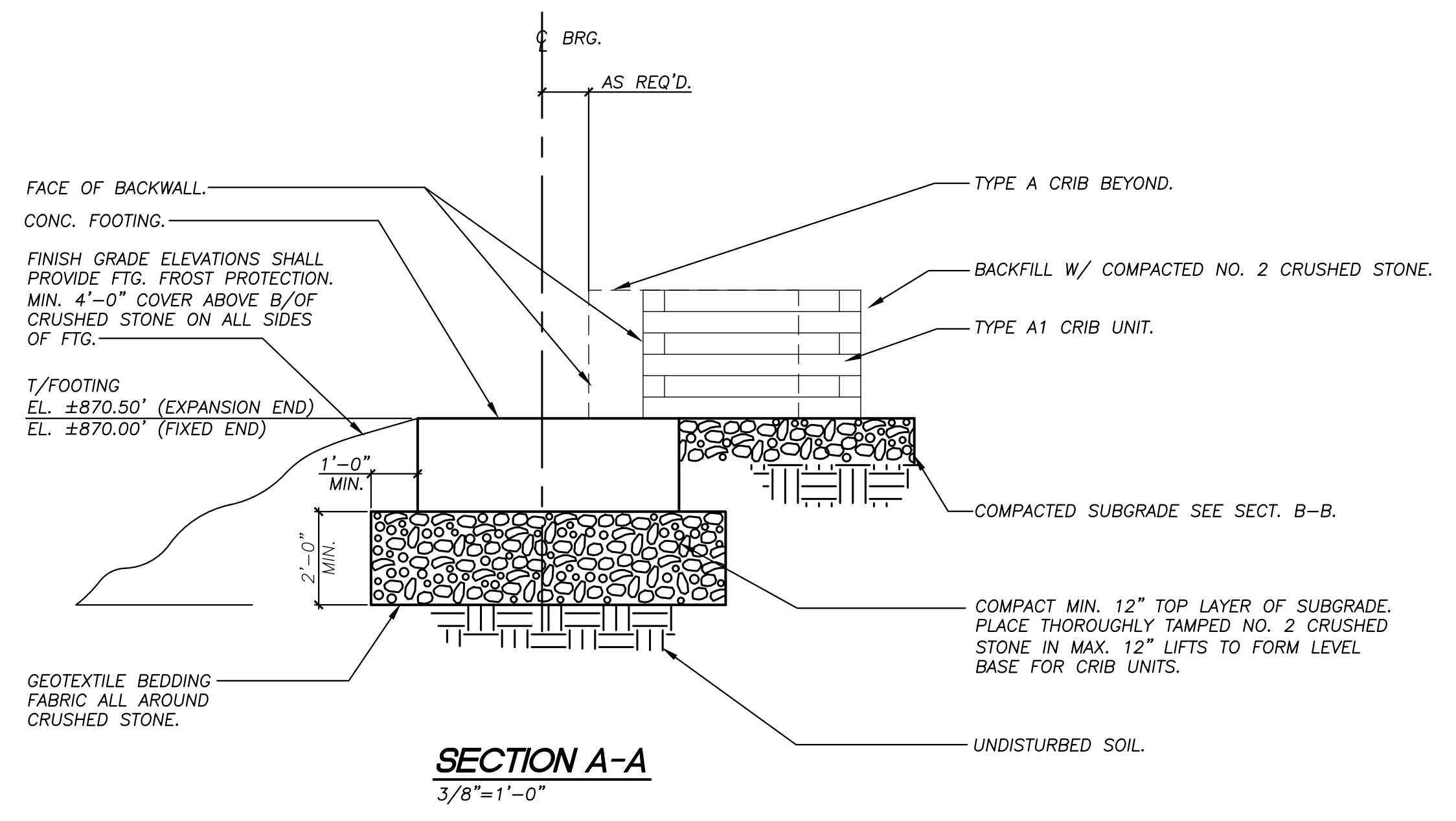


TYPICAL CRIB UNIT PLAN (TYPES A AND A1)
3/4"=1'-0"

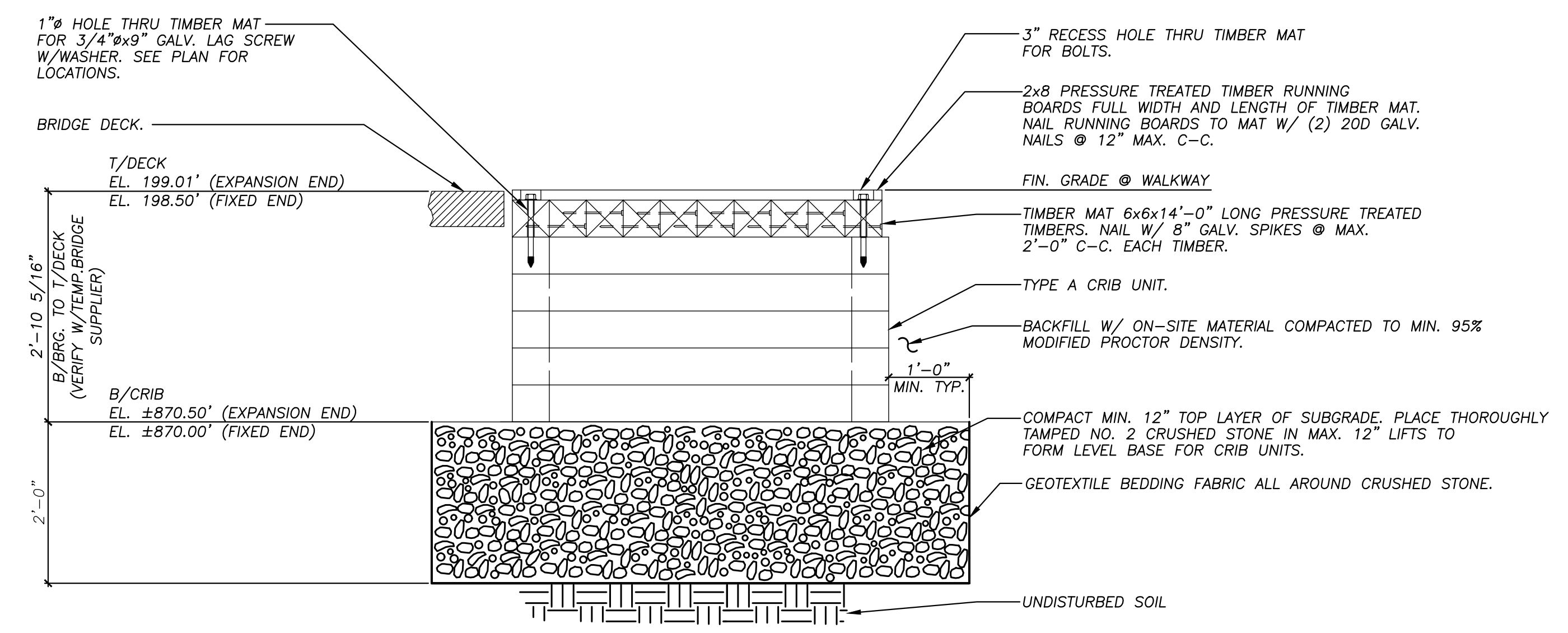


SECTION C-C
3/4"=1'-0"

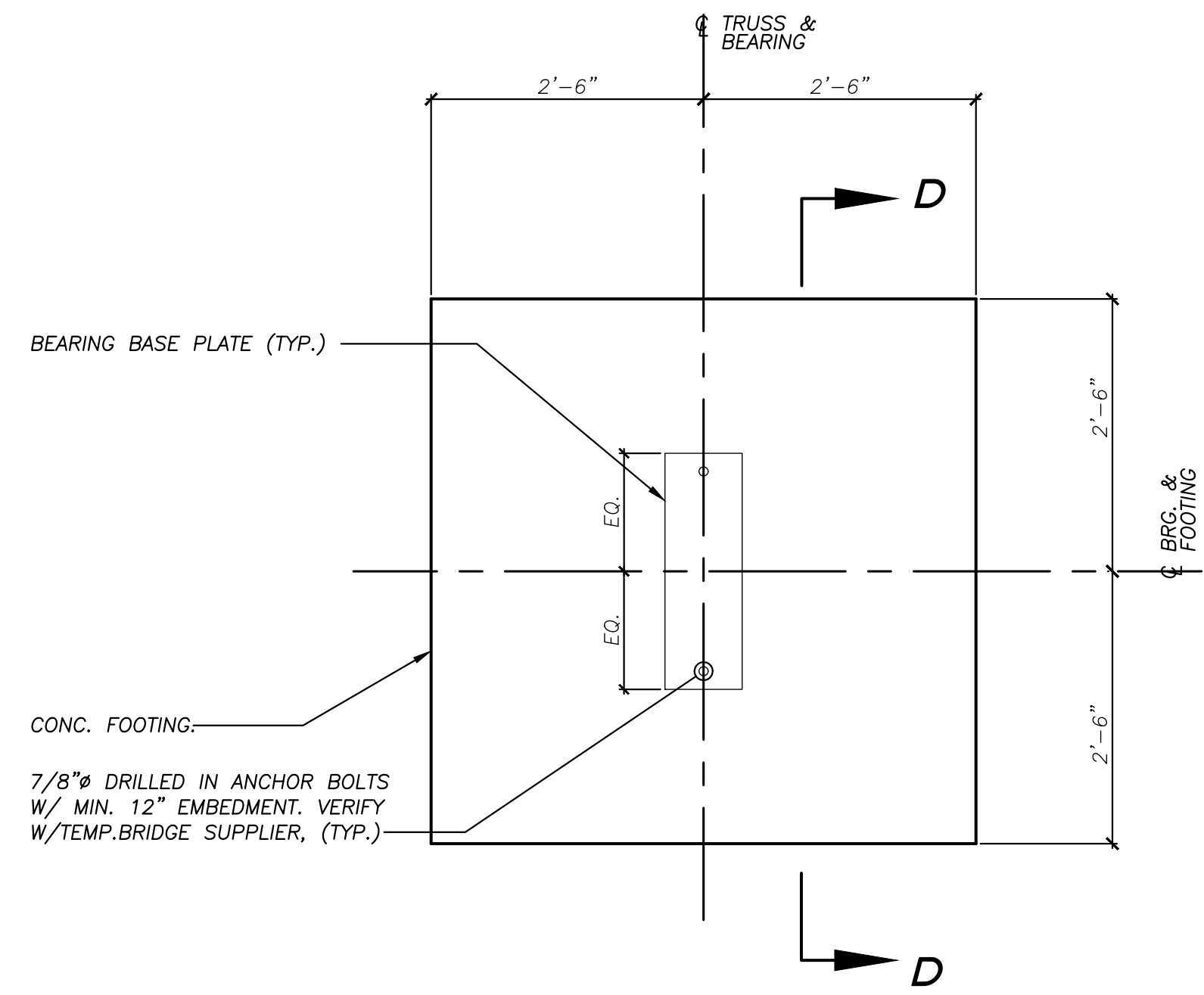
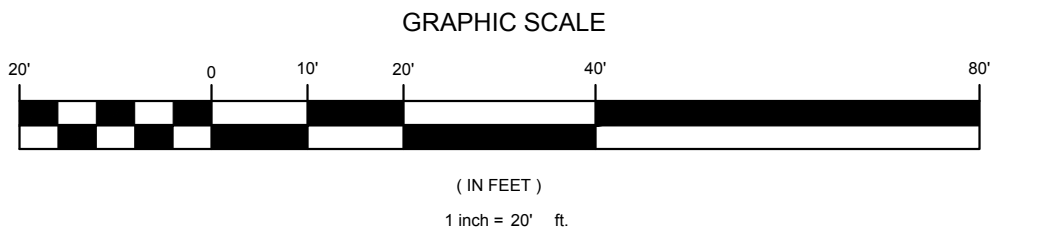
HEIGHT AS REQ'D PER BRIDGE MANUFACTURER'S STANDARDS



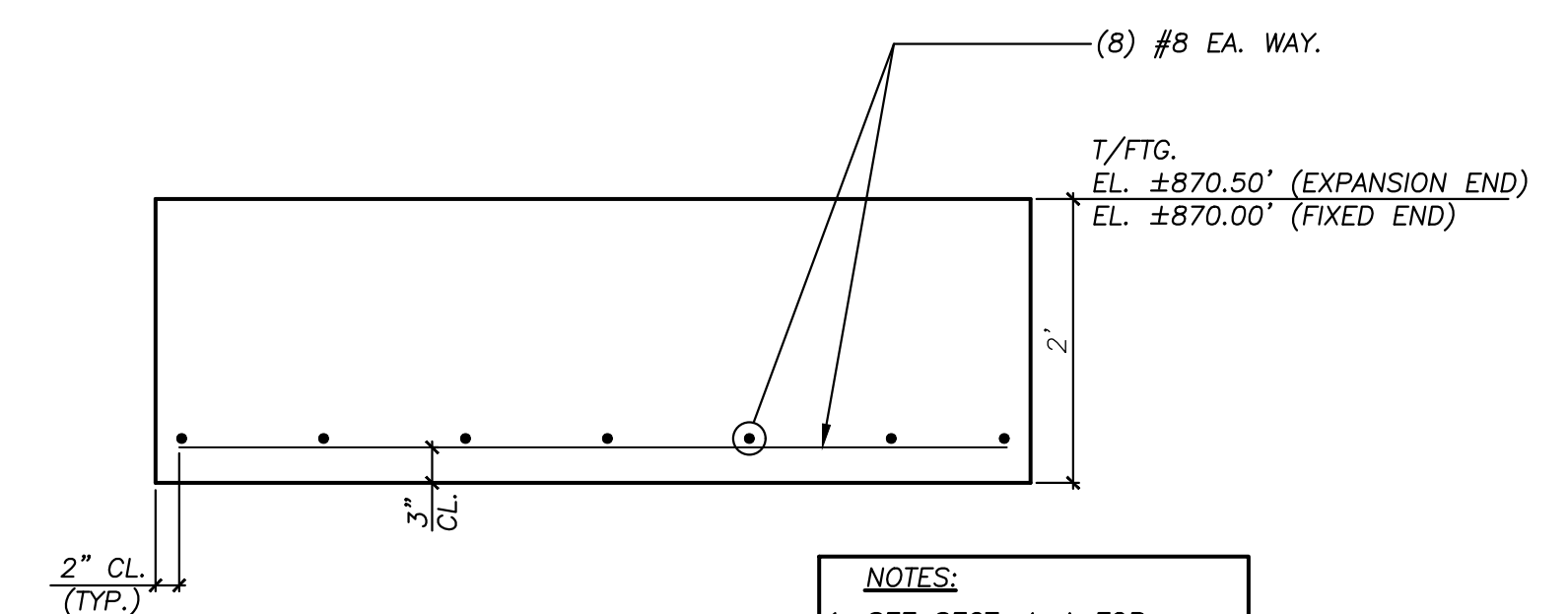
SECTION A-A
3/8"=1'-0"



SECTION B-B
3/4"=1'-0"



CONCRETE FOOTING PLAN (4 REQ'D.)
3/4"=1'-0"



SECTION D-D
3/4"=1'-0"

- NOTES:**
- SEE SECT. A-A FOR INFO. NOT SHOWN.
 - BEARING & ANCHOR BOLTS NOT SHOWN.

REVISIONS		
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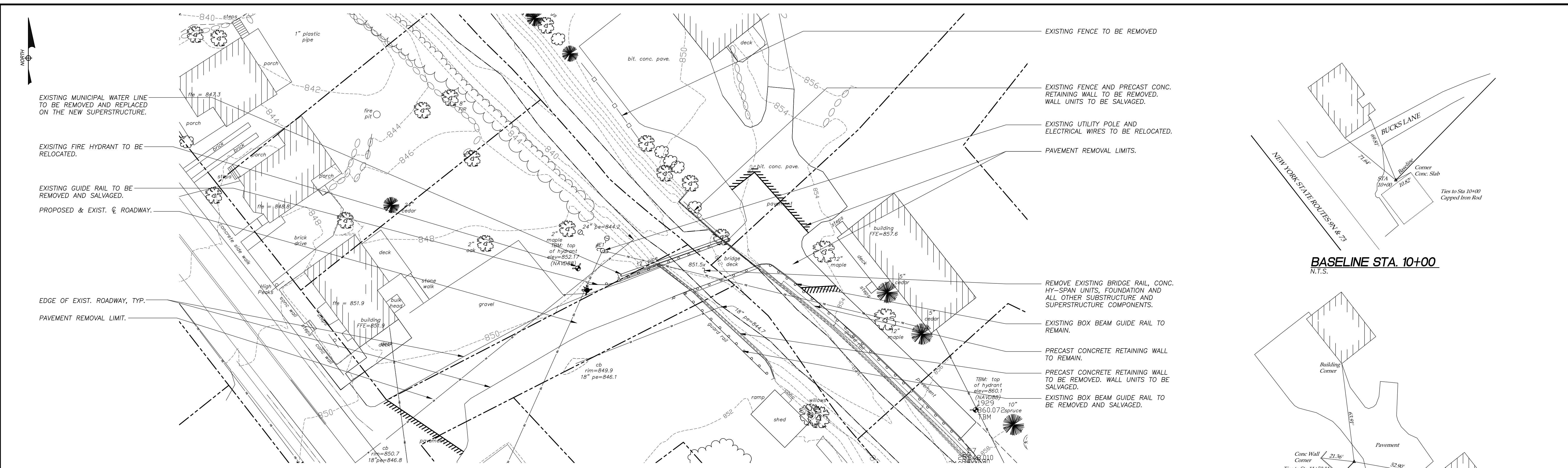
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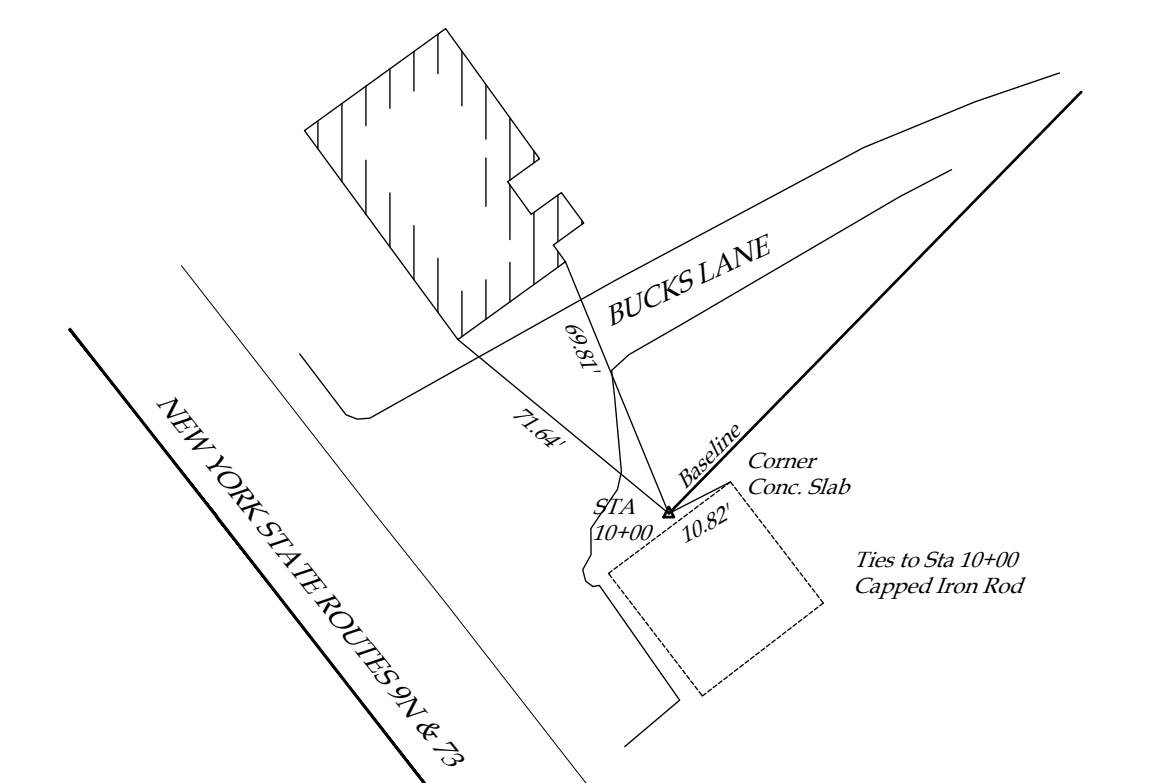
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II TEMPORARY ABUTMENT PLAN AND DETAILS

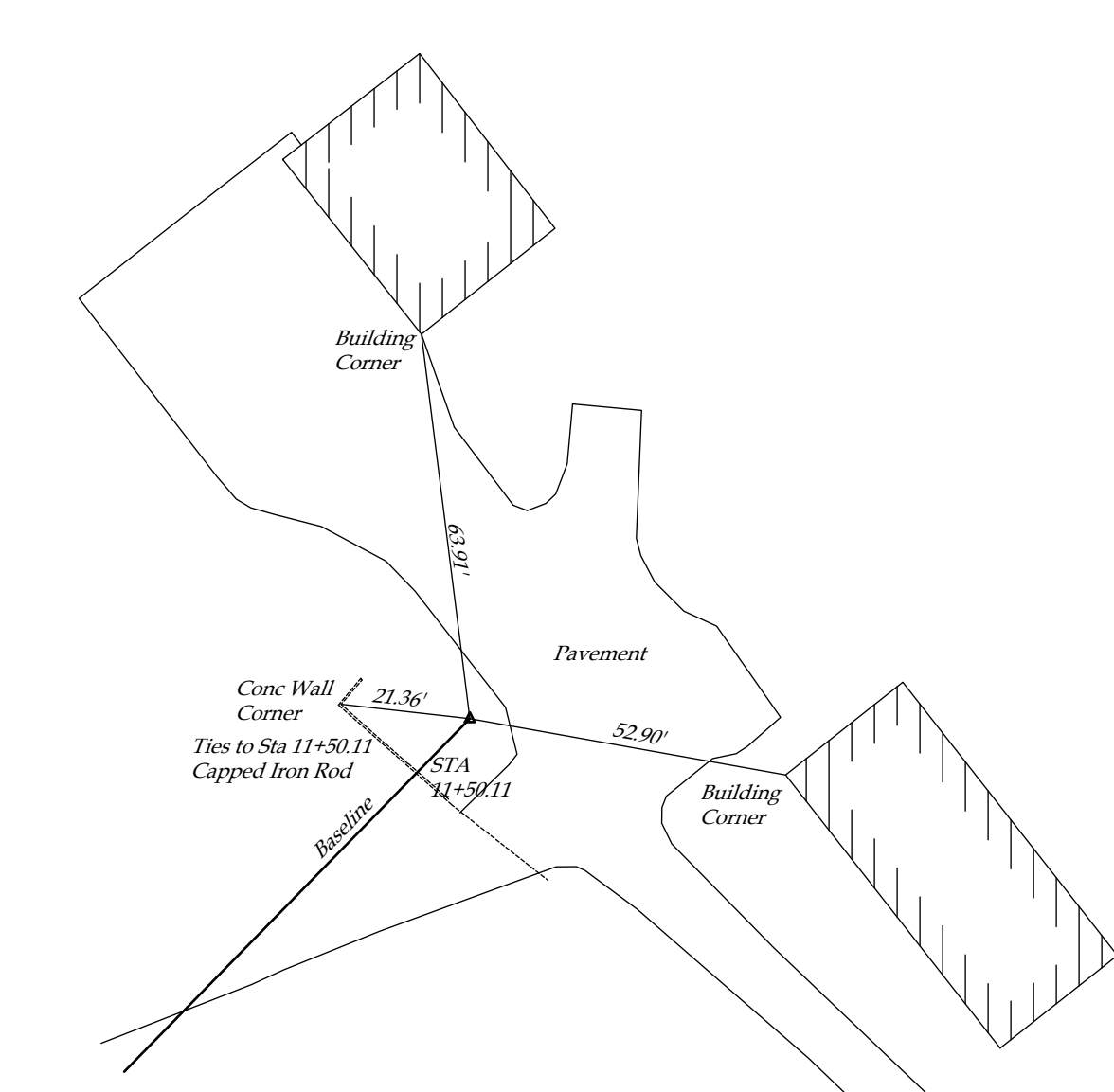
DRAWING NO. **C.502** SHT. 18 OF 25
REV. 1



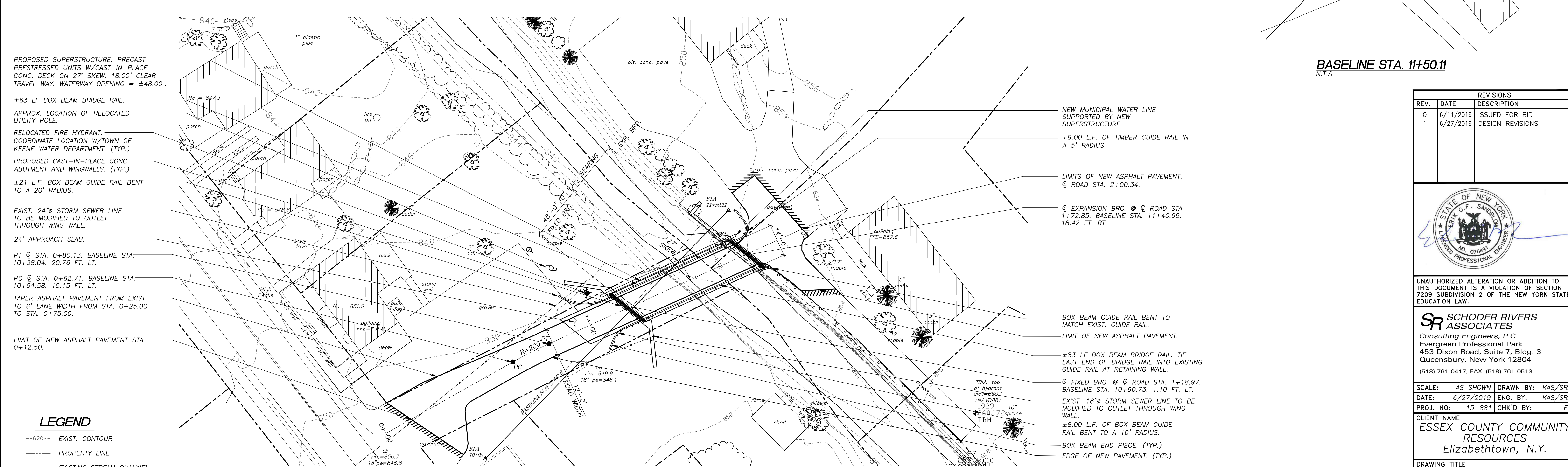
BRIDGE REMOVALS PLAN
1"=20'-0"



BASELINE STA. 10+00
N.T.S.



BASELINE STA. 11+50.11
N.T.S.



BRIDGE SITE PLAN
1"=20'-0"

REVISIONS	
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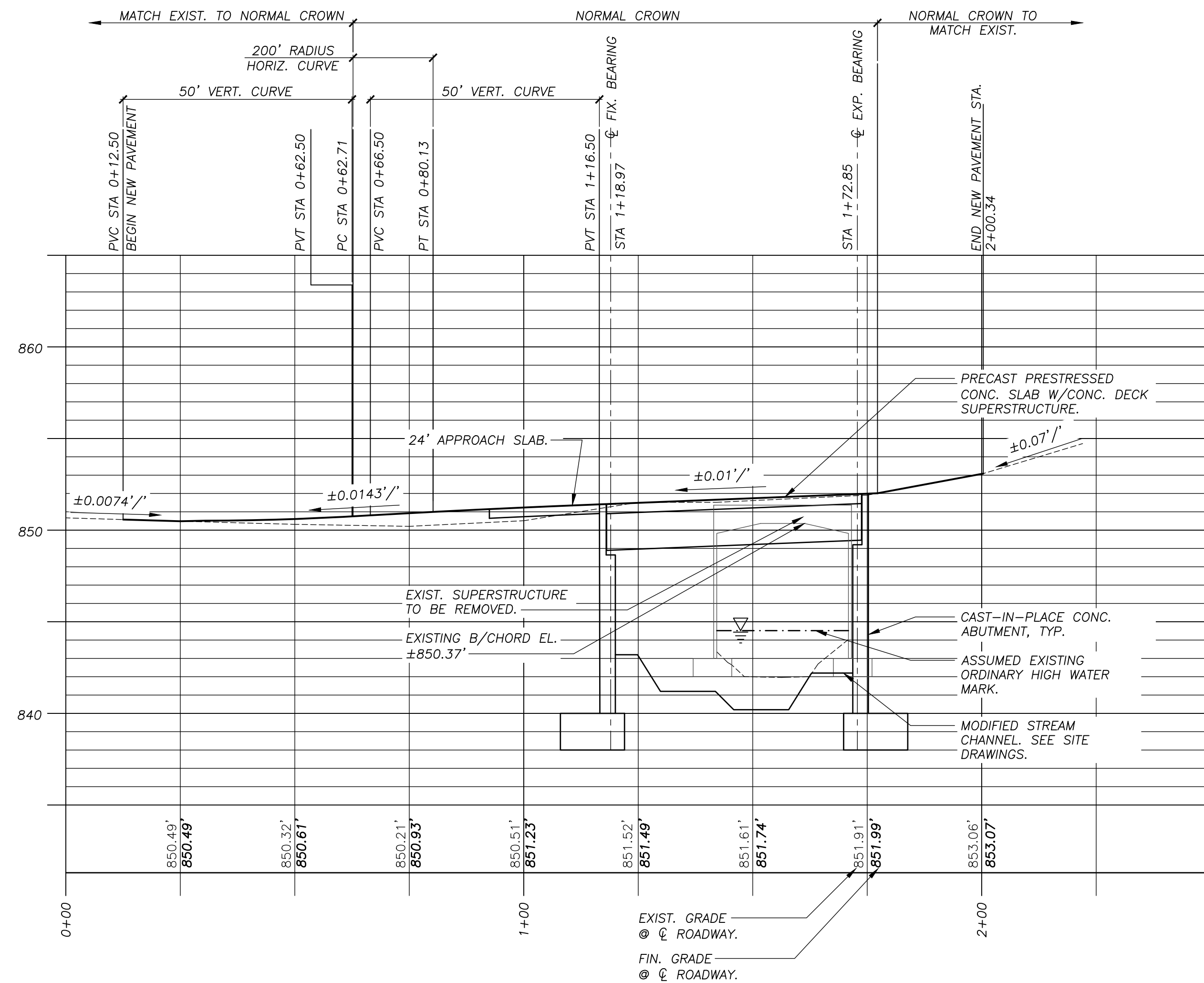
SCALE: AS SHOWN DRAWN BY: KAS/SRA
DATE: 6/27/2019 ENG. BY: KAS/SRA
PROJ. NO: 15-881 CHK'D BY: ES

CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

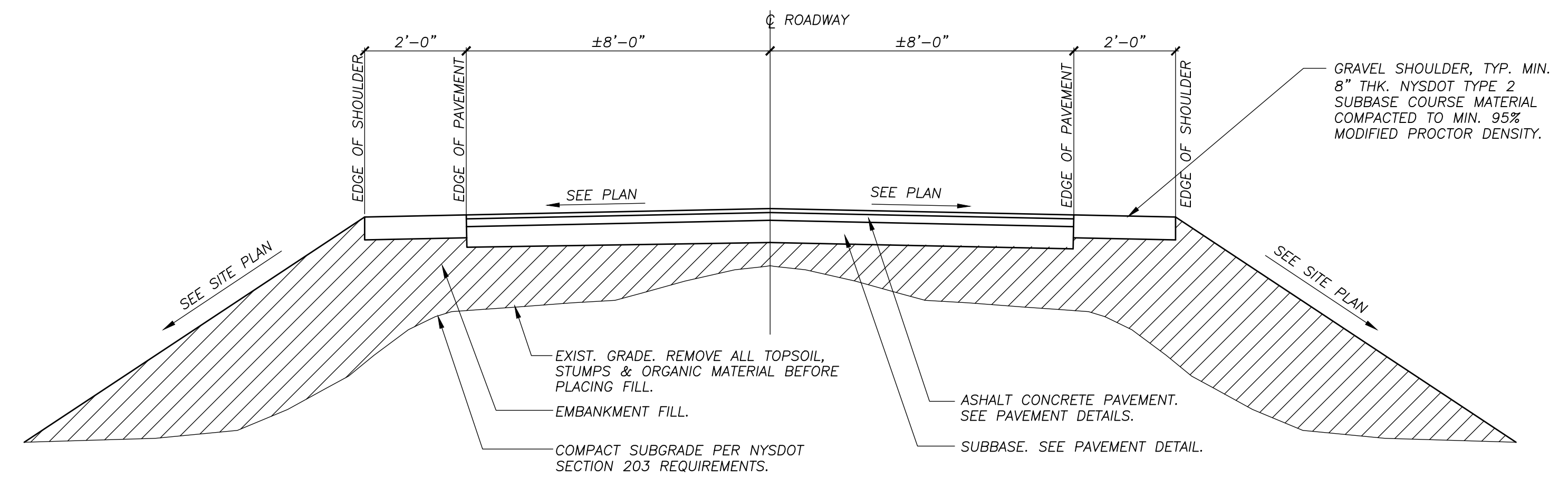
DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II BUCKS LANE BRIDGE DEMOLITION & SITE PLAN

DRAWING NO. **S-1** SHT. 19 OF 25
REV. 1

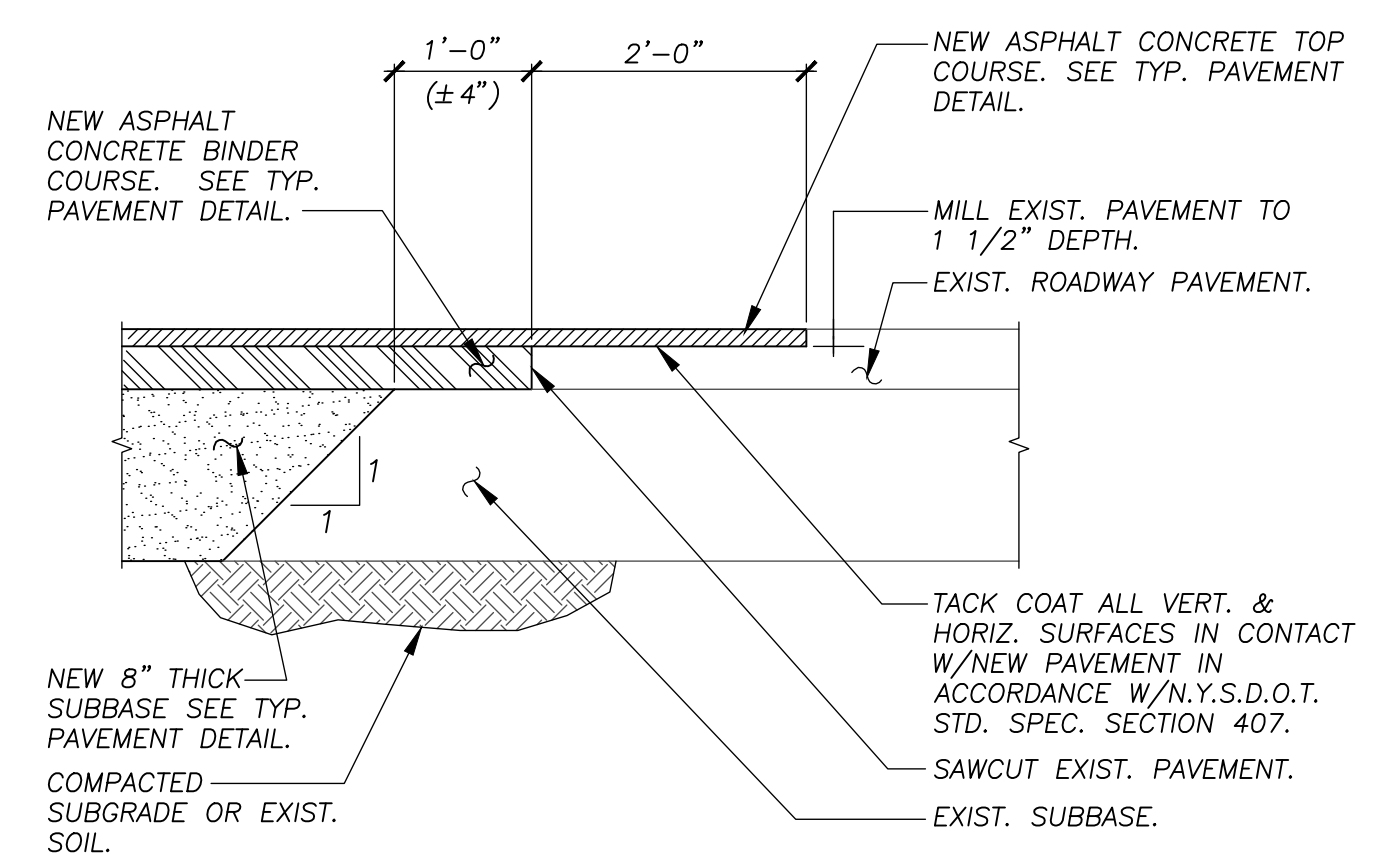
NOTE: SEE SHEET C.201 FOR SITE PLAN INFORMATION NOT SHOWN.



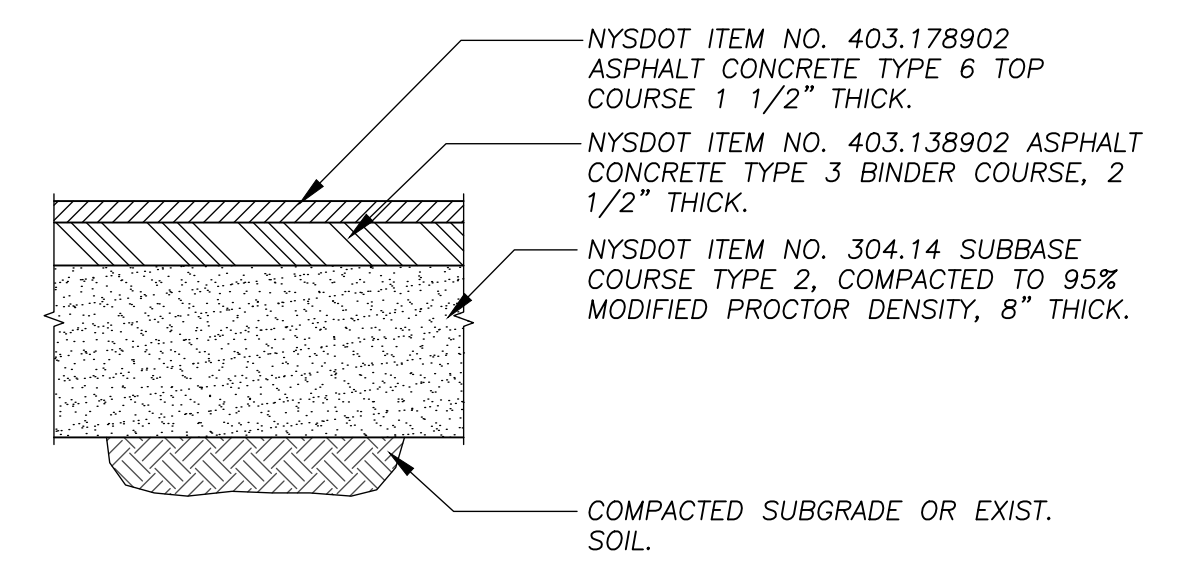
ROADWAY CENTERLINE PROFILE
 1"=20' HORIZ.
 1"=5' VERT.



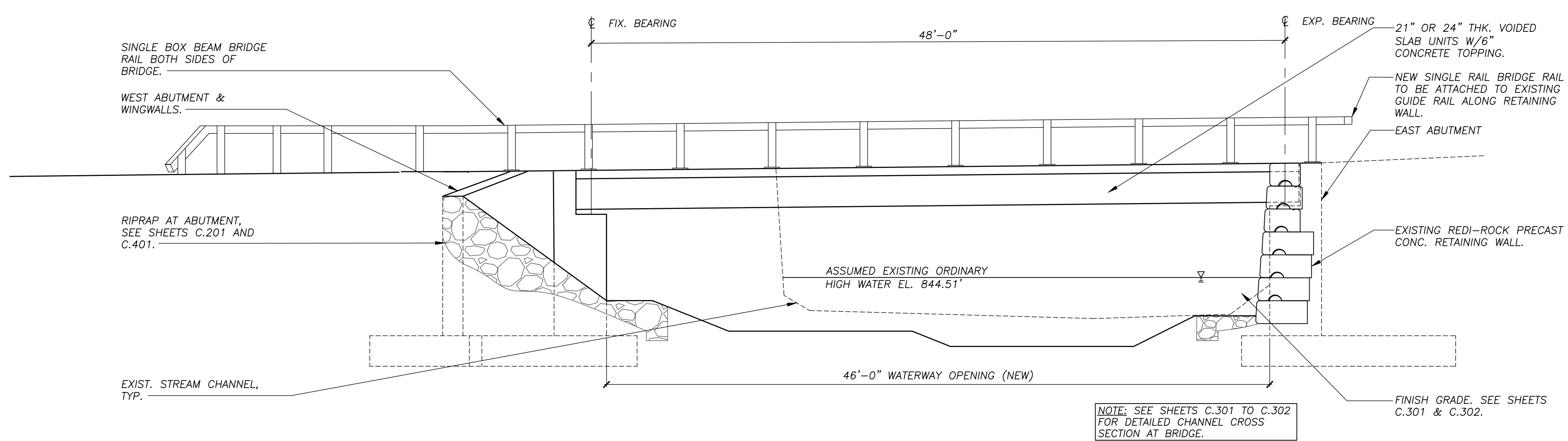
TYPICAL ROADWAY SECTION
 N.T.S.



PAVEMENT TRANSITION DETAIL
 N.T.S.



TYPICAL PAVEMENT DETAIL
 N.T.S.



BRIDGE ELEVATION (LOOKING NORTHWEST)
 N.T.S.

NOTE: SEE SHEETS C.301 TO C.302 FOR DETAILED CHANNEL CROSS SECTION AT BRIDGE.

REVISONS	
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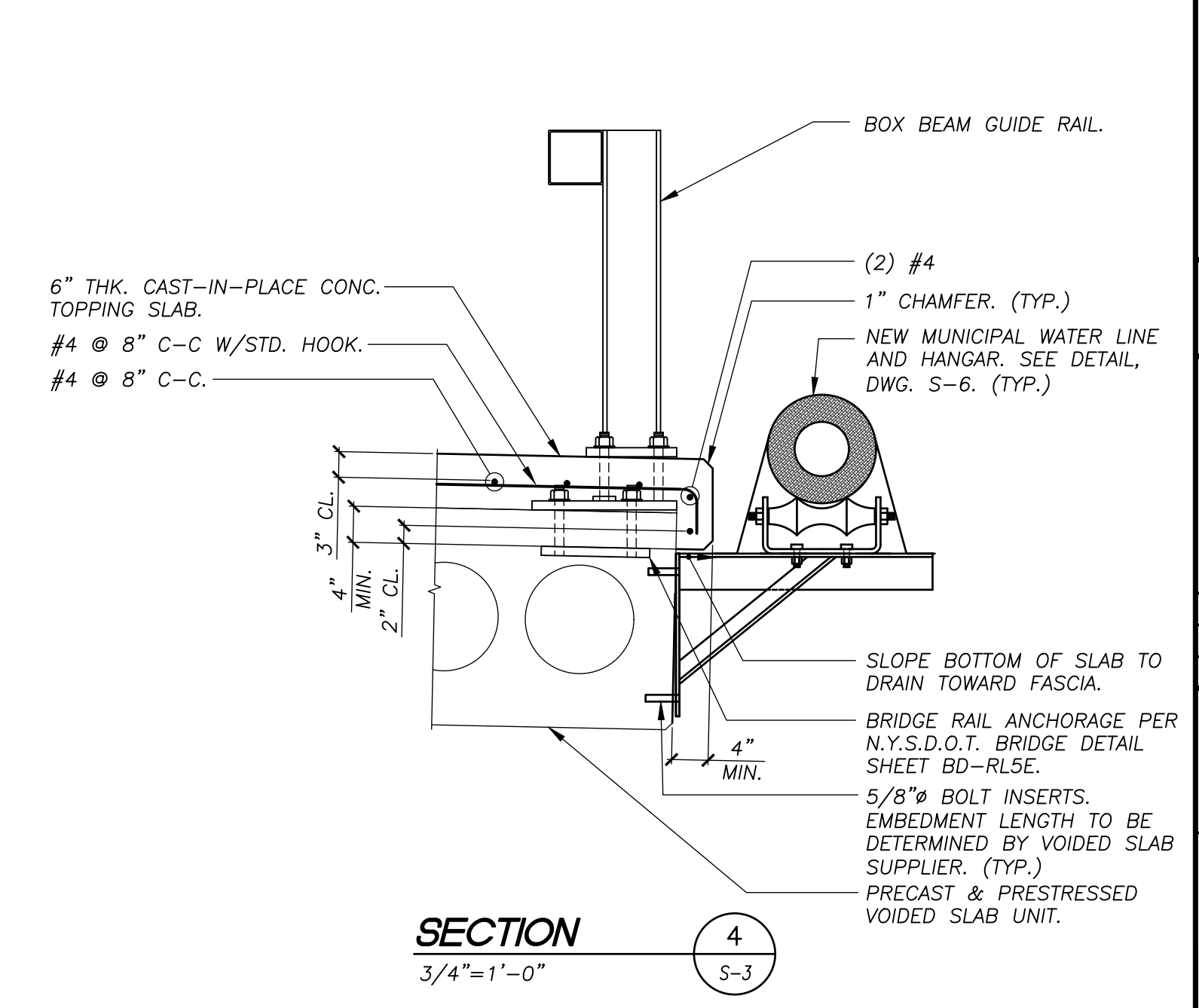
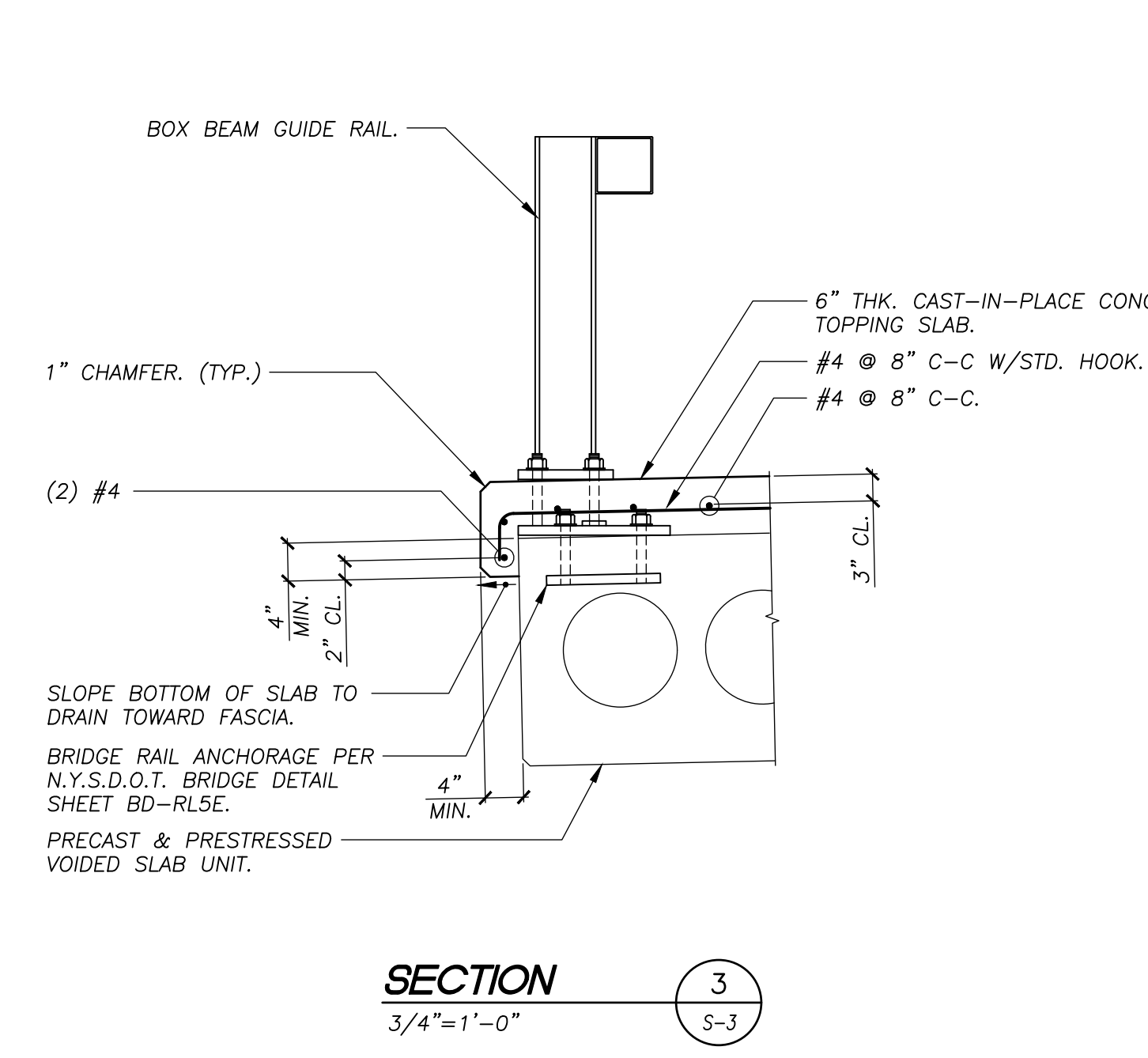
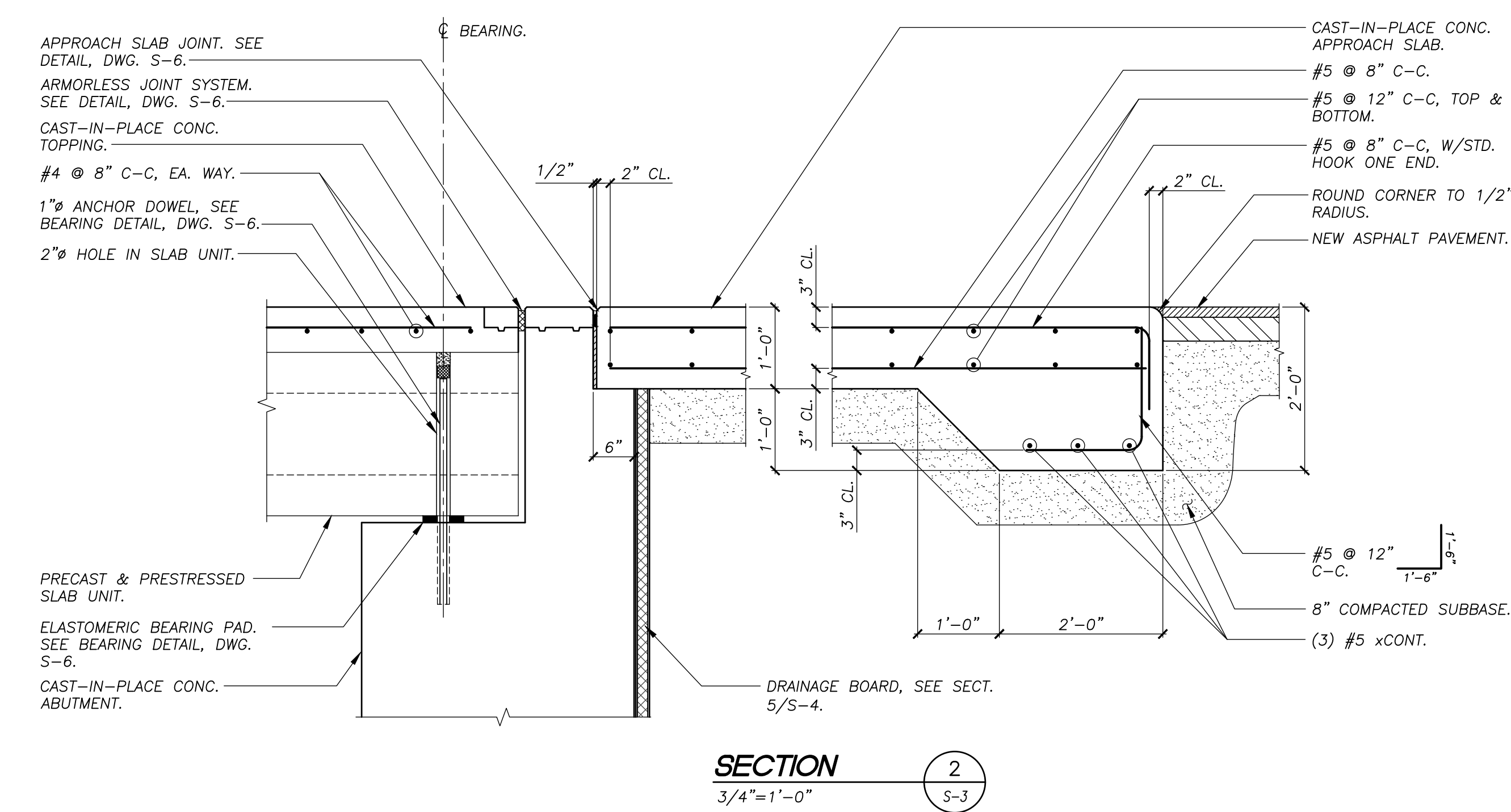
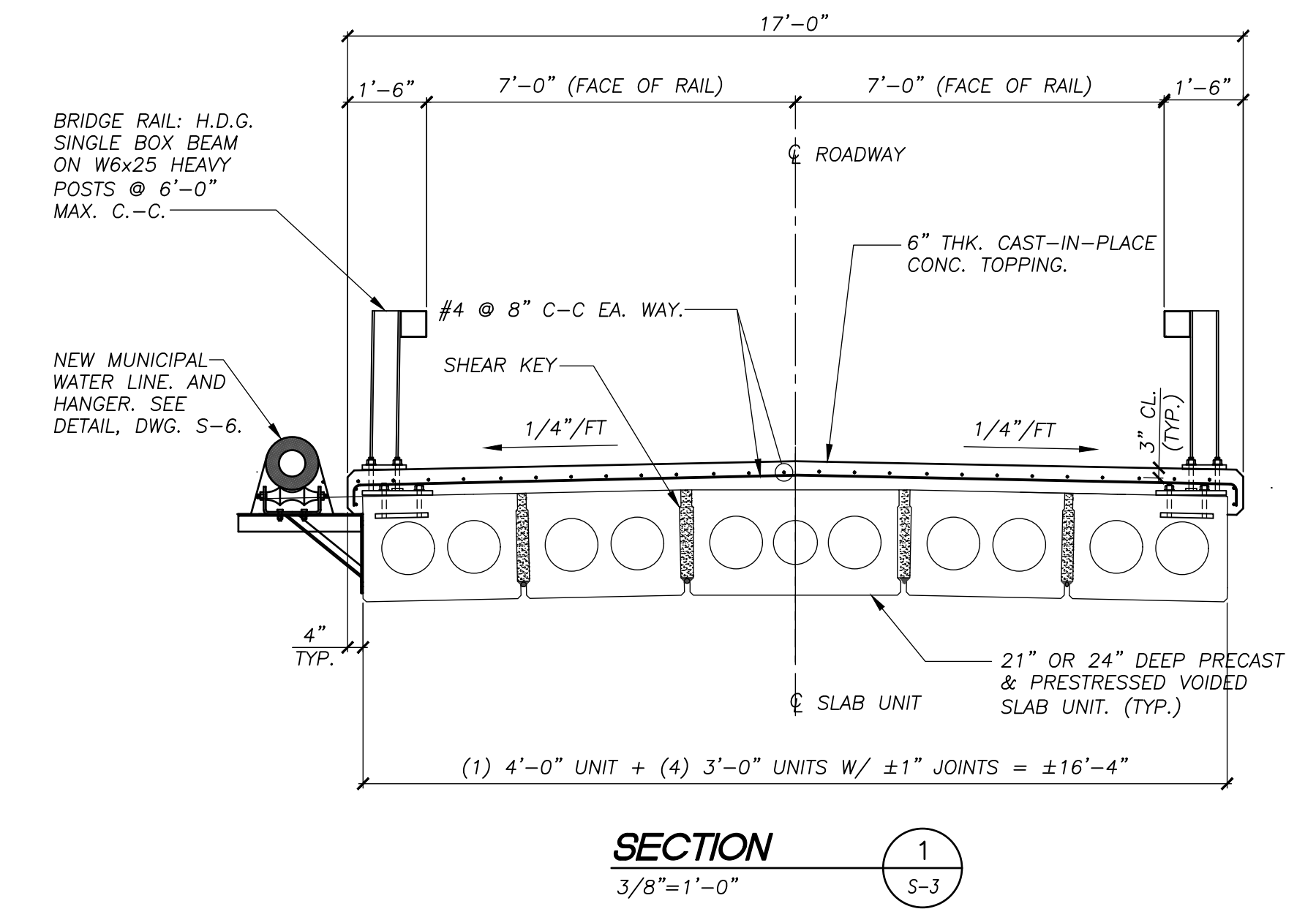
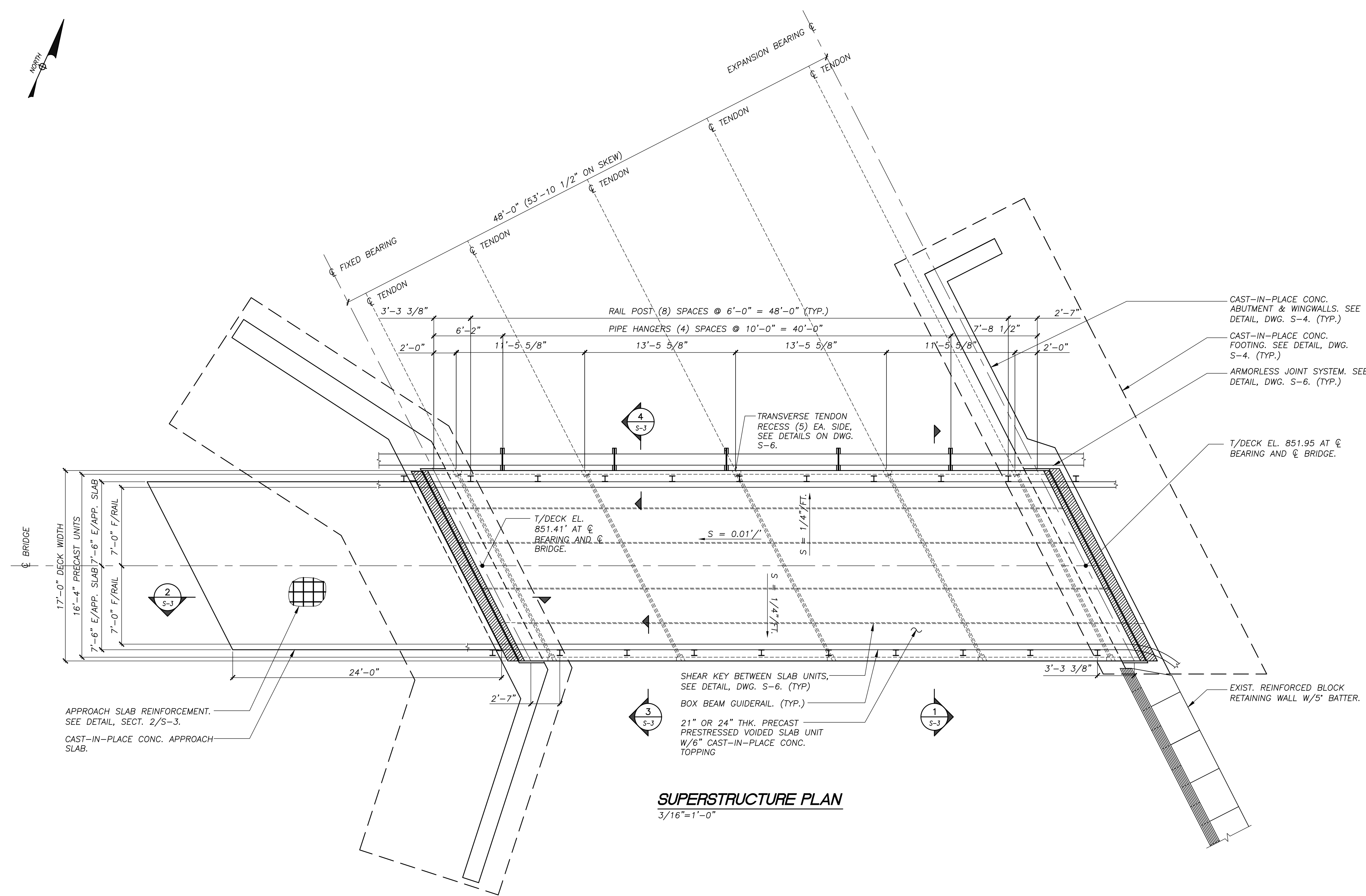
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 Queensbury, New York 12804
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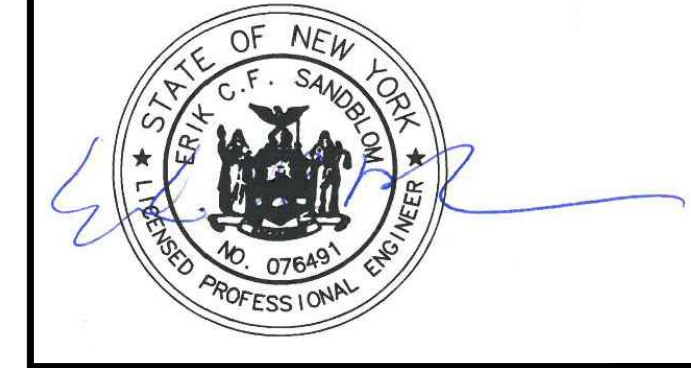
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
 Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II BUCKS LANE BRIDGE PROFILE, ELEVATION, SECTIONS & DETAILS

DRAWING NO. **S-2** SHT. 20 OF 25
 REV. 1



REV.	DATE	REVISIONS DESCRIPTION
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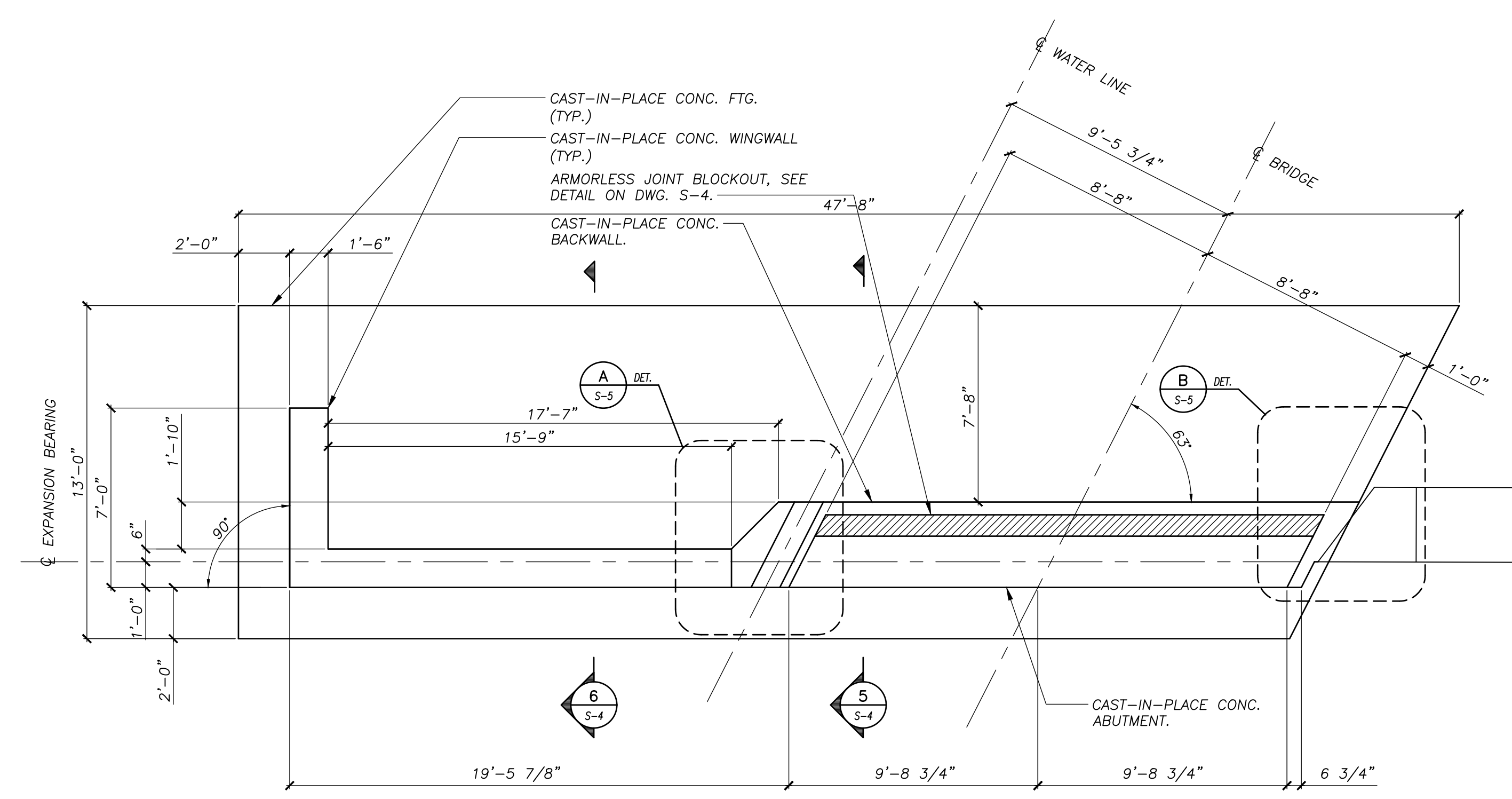
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(518) 761-0417, FAX: (518) 761-0513

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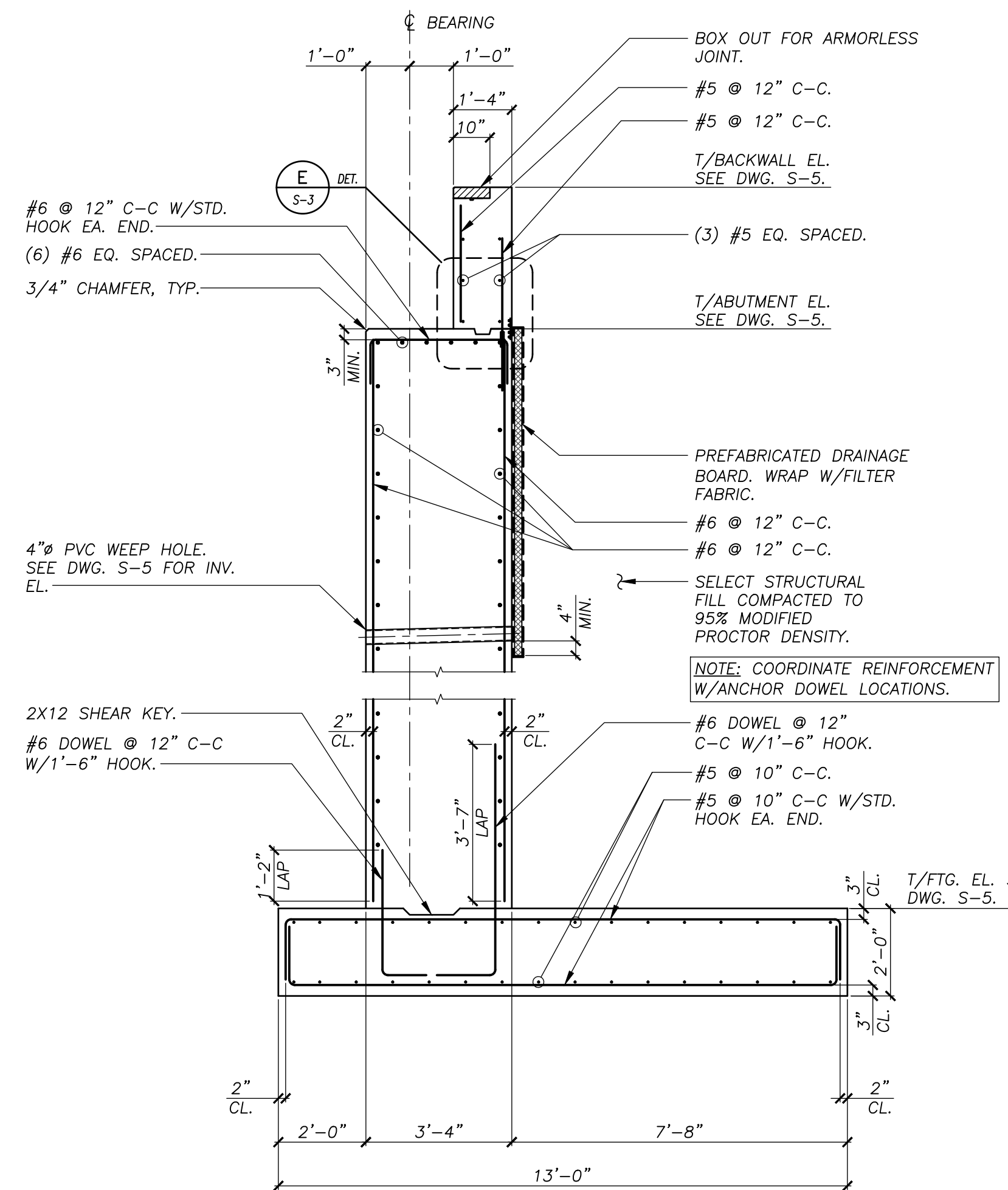
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II BUCKS LANE BRIDGE SUPERSTRUCTURE PLAN & SECTIONS

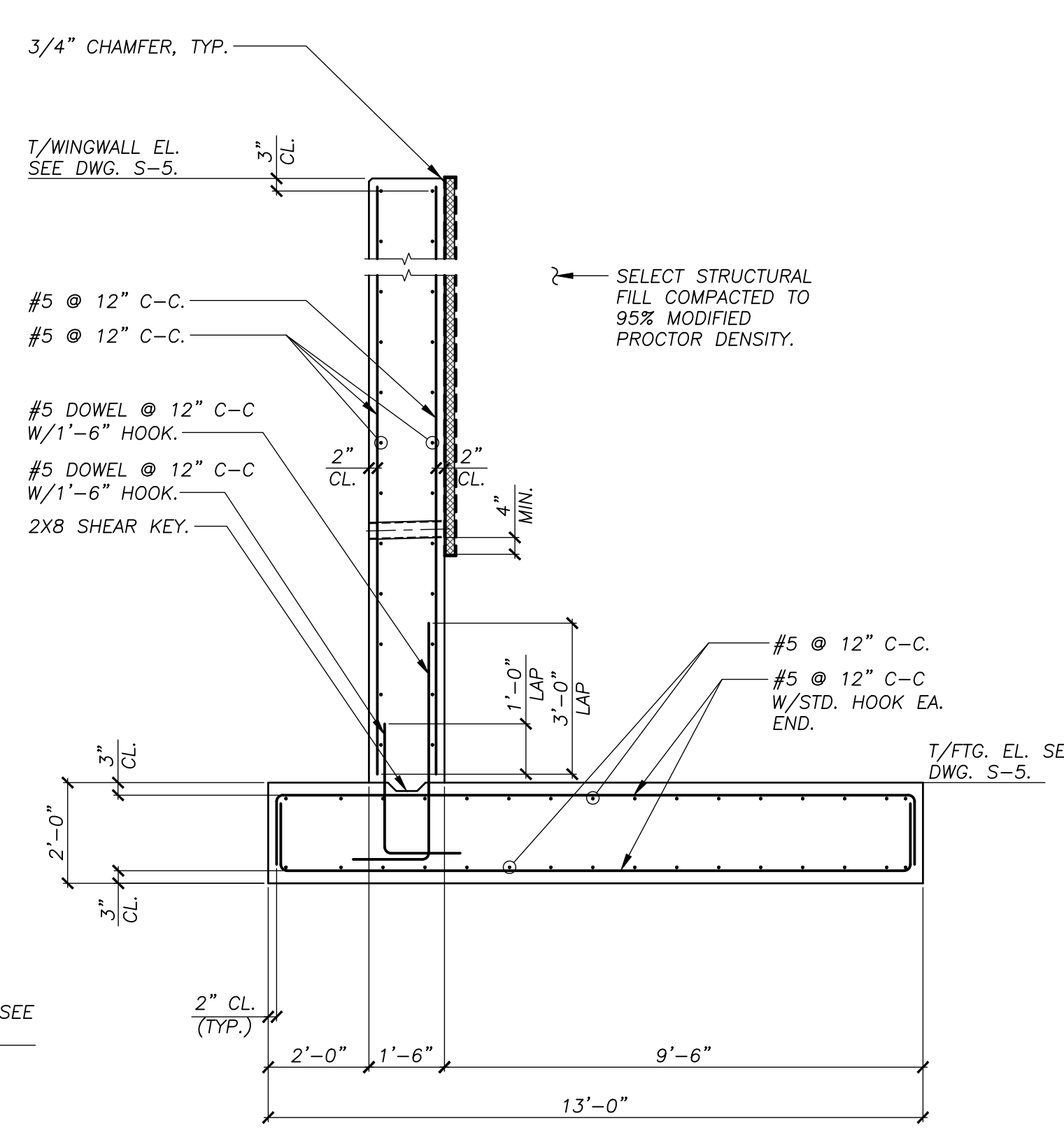
DRAWING NO. **S-3** SHT. 21 OF 25
REV. 1



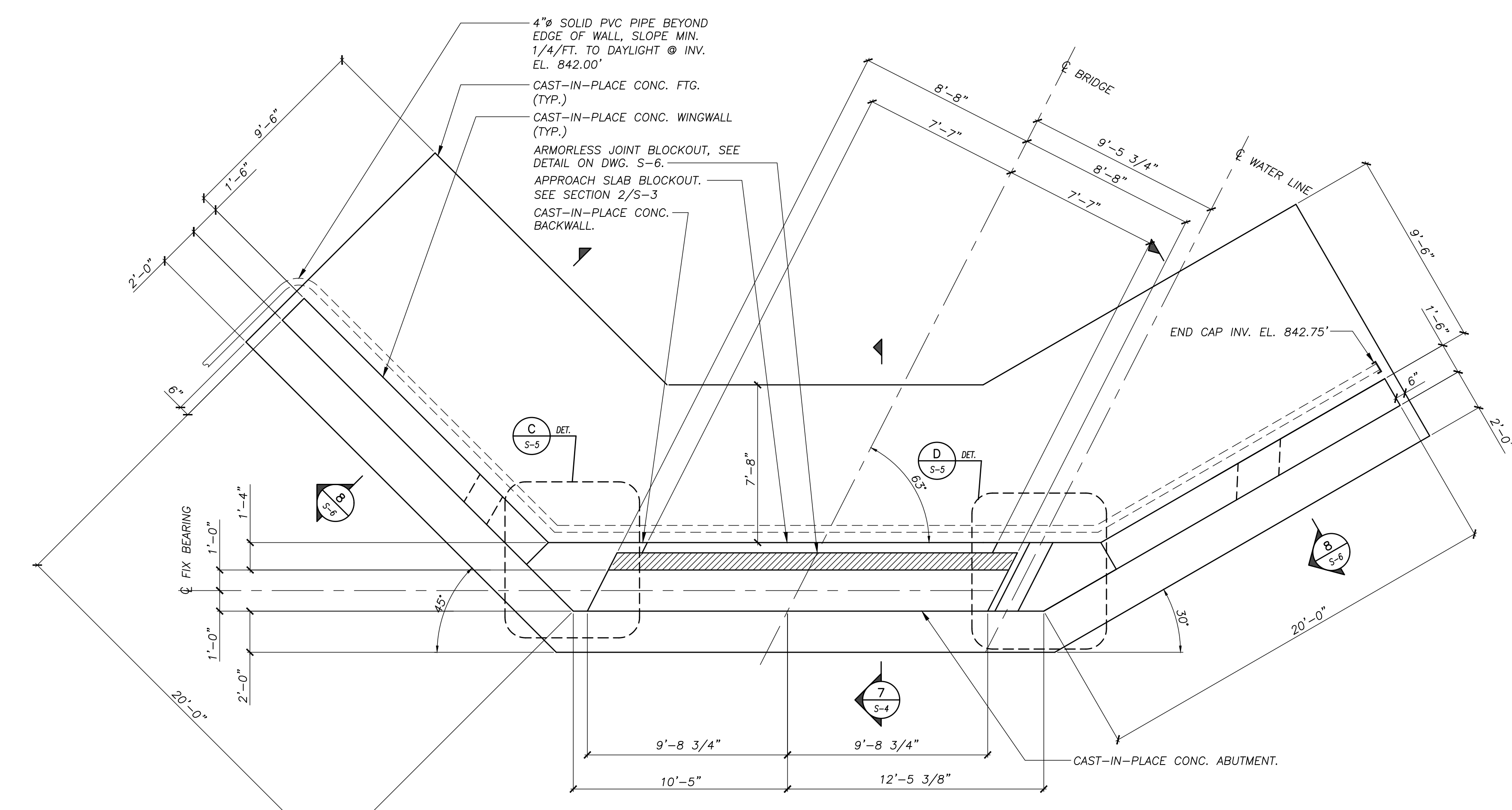
EAST ABUTMENT PLAN
1/4"=1'-0"



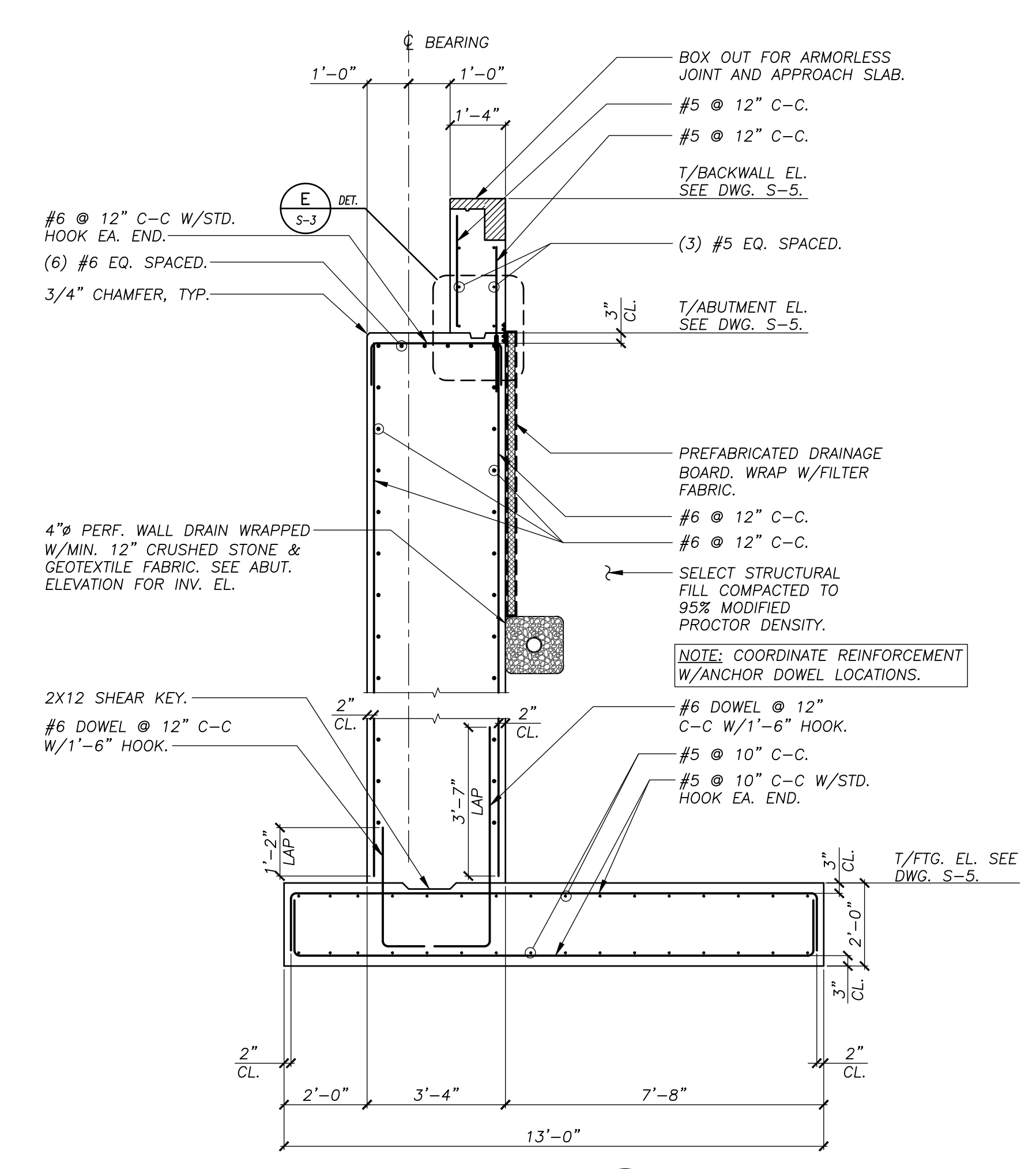
SECTION 5
3/8"=1'-0"



SECTION 6
3/8"=1'-0"



WEST ABUTMENT PLAN
1/4"=1'-0"



SECTION 7
3/8"=1'-0"

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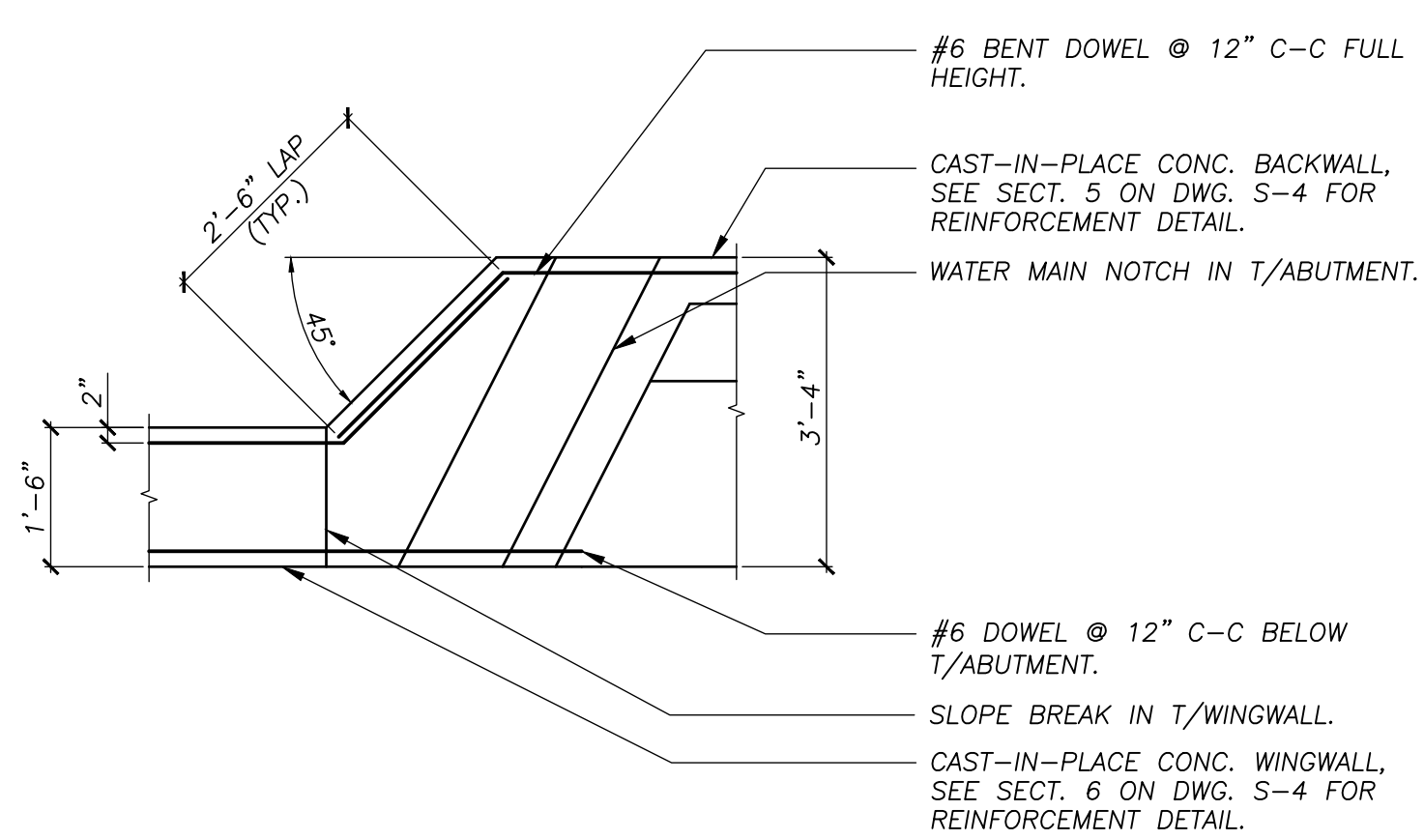
SR SCHODER RIVERS ASSOCIATES
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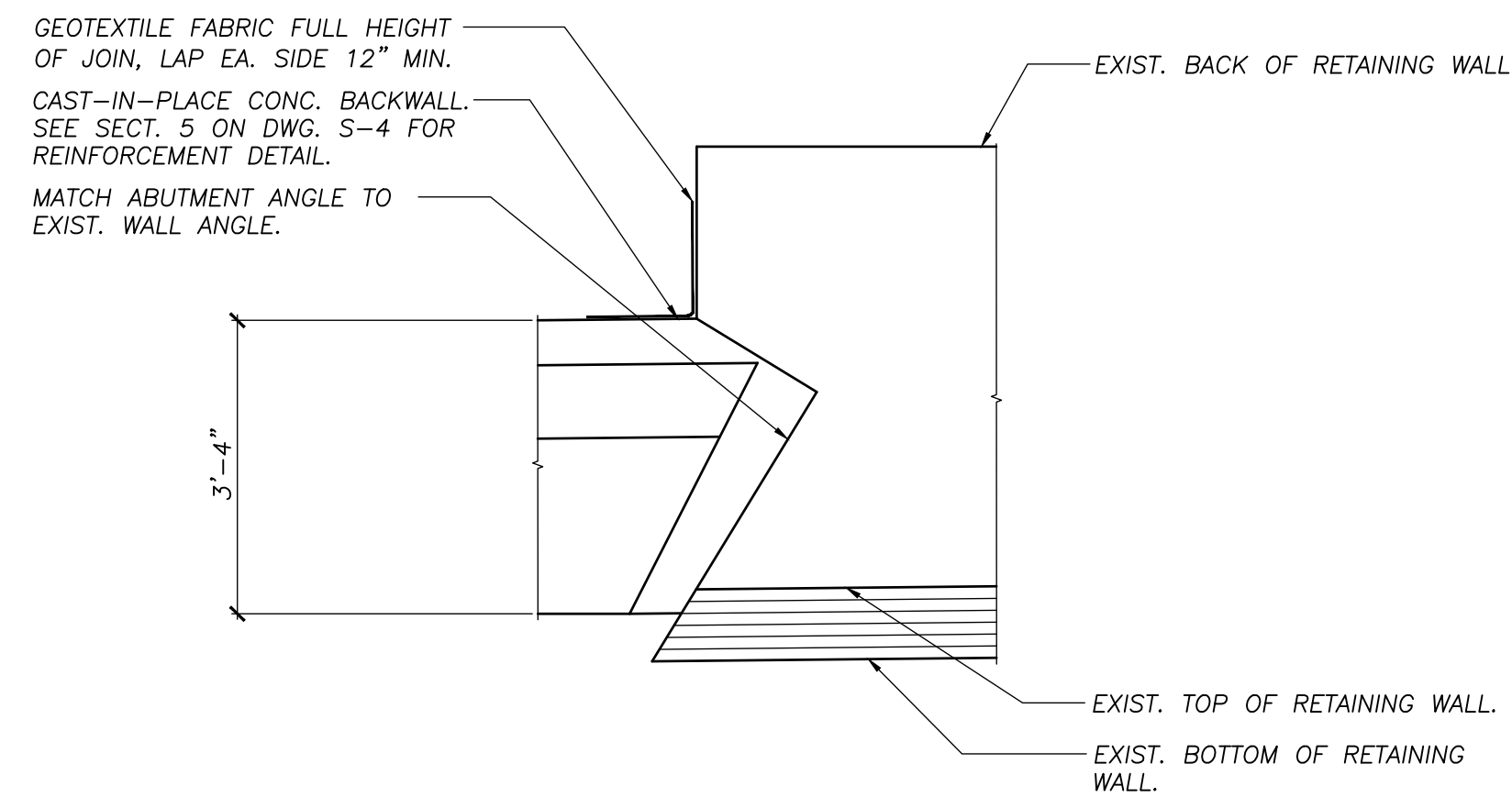
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II BUCKS LANE BRIDGE ABUTMENT PLANS AND SECTIONS

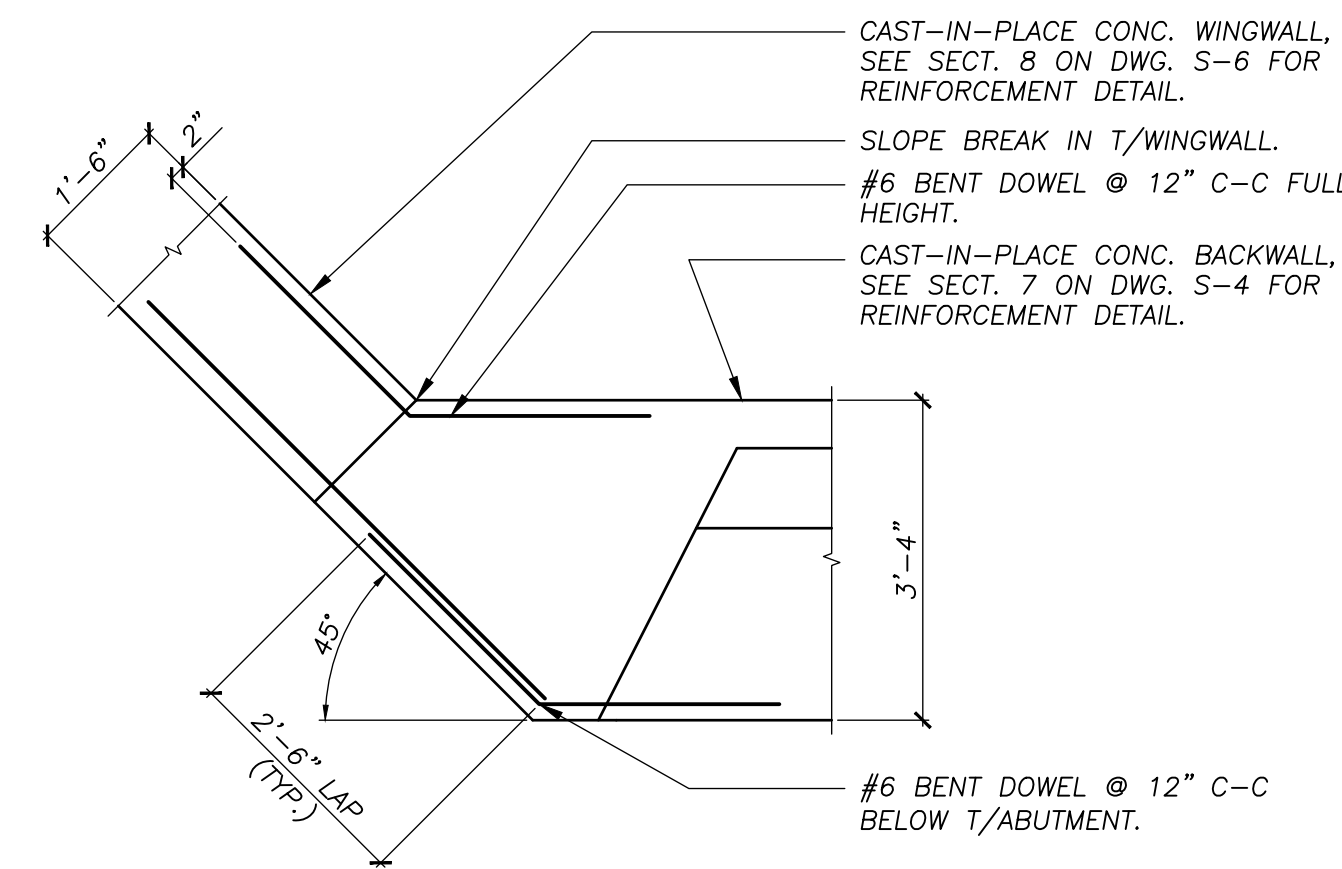
DRAWING NO. **S-4** SHT. 22 OF 25
REV. 1



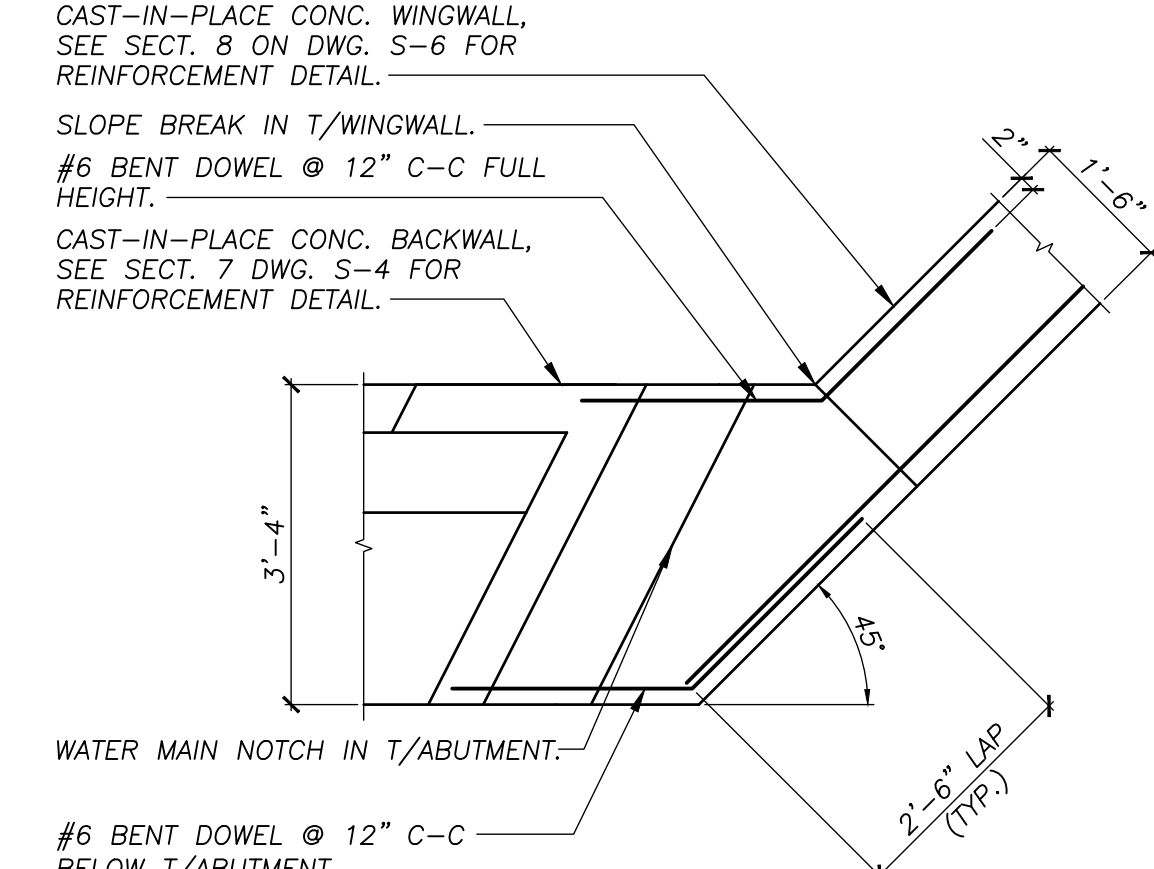
DETAIL A
1/2"=1'-0" S-5



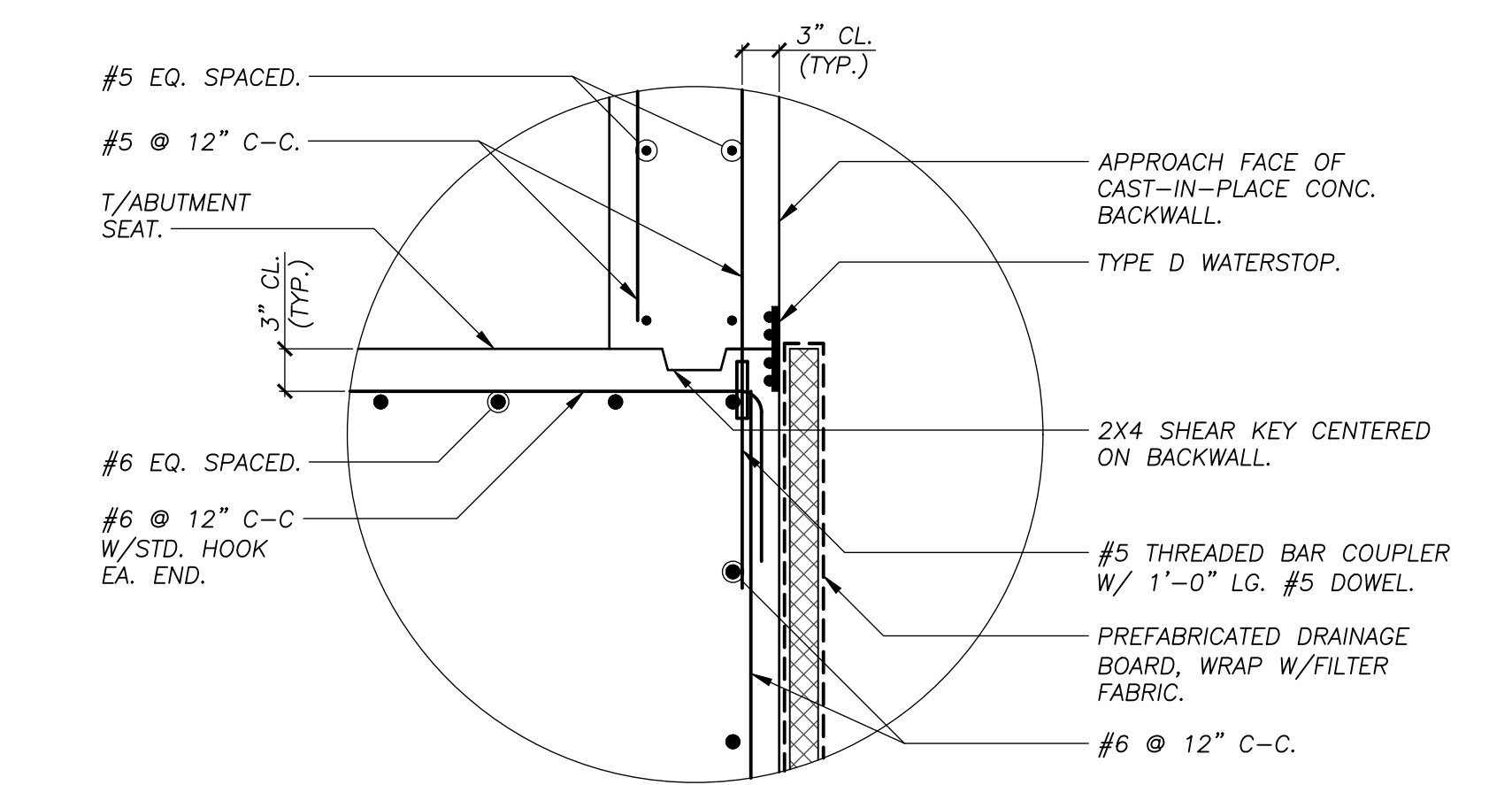
DETAIL B
1/2"=1'-0" S-5



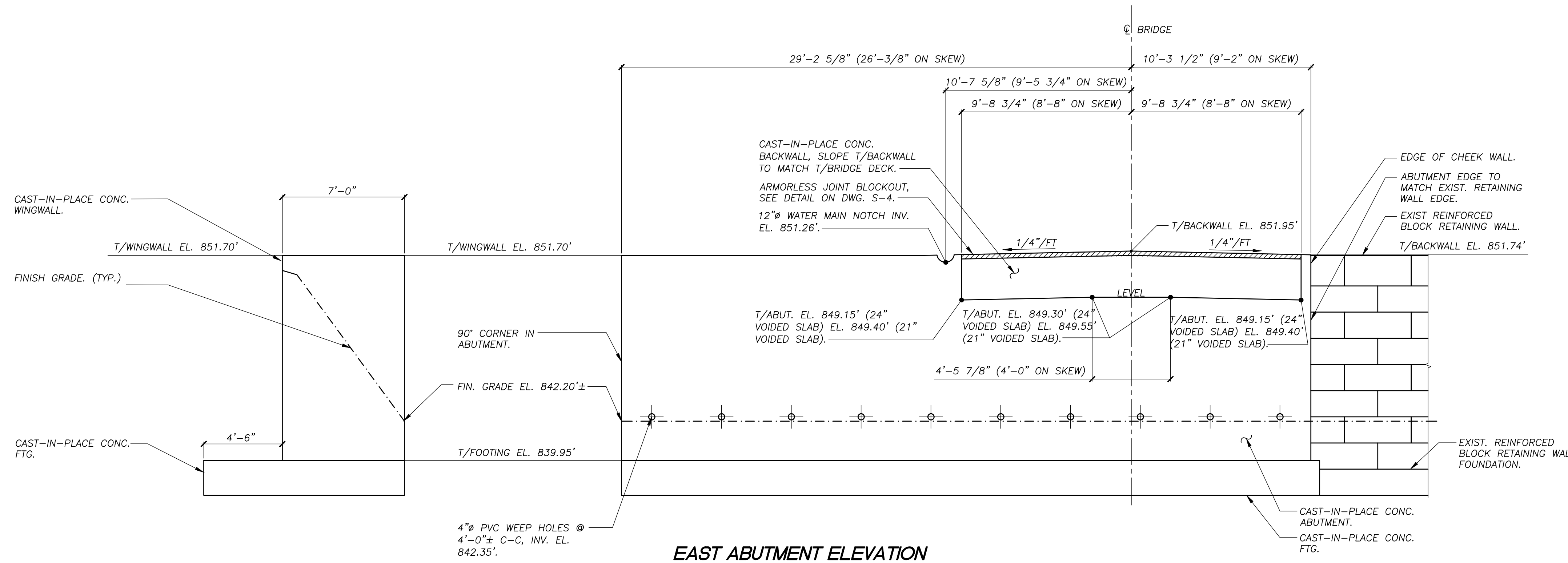
DETAIL C
1/2"=1'-0" S-5



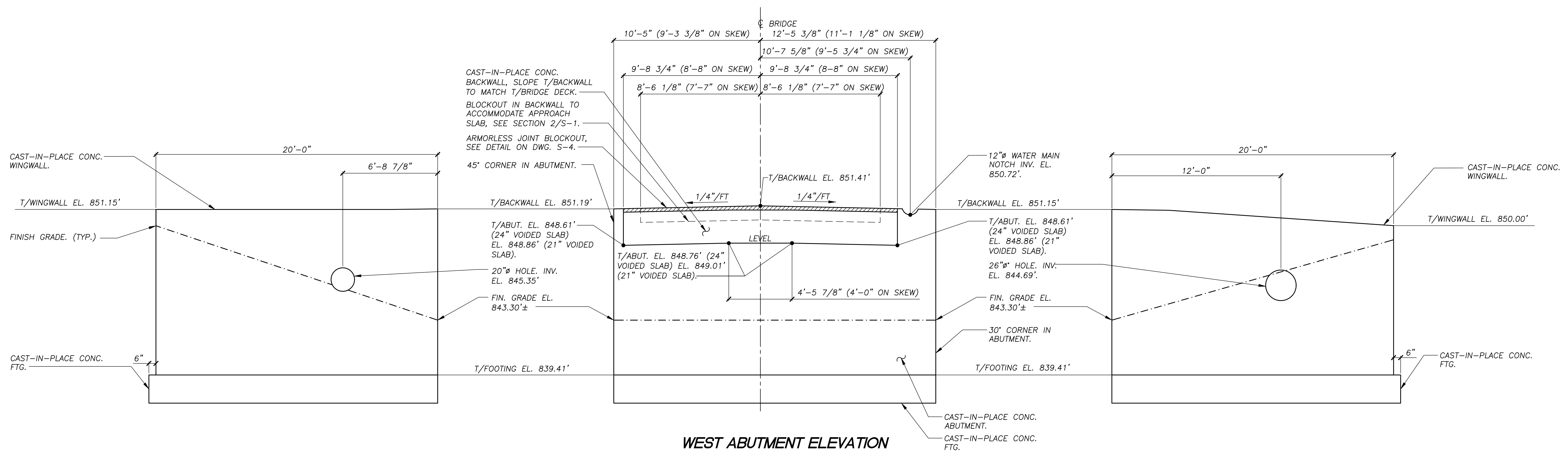
DETAIL D
1/2"=1'-0" S-5



DETAIL E
1"=1'-0" S-5

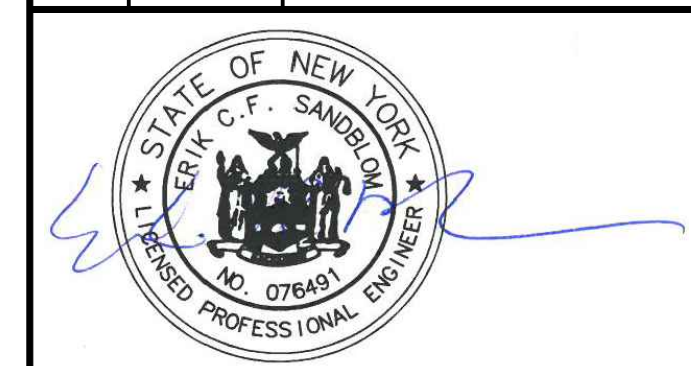


EAST ABUTMENT ELEVATION
1/4"=1'-0"



WEST ABUTMENT ELEVATION
1/4"=1'-0"

REVISIONS		
REV.	DATE	DESCRIPTION
0	6/11/2019	ISSUED FOR BID
1	6/27/2019	DESIGN REVISIONS



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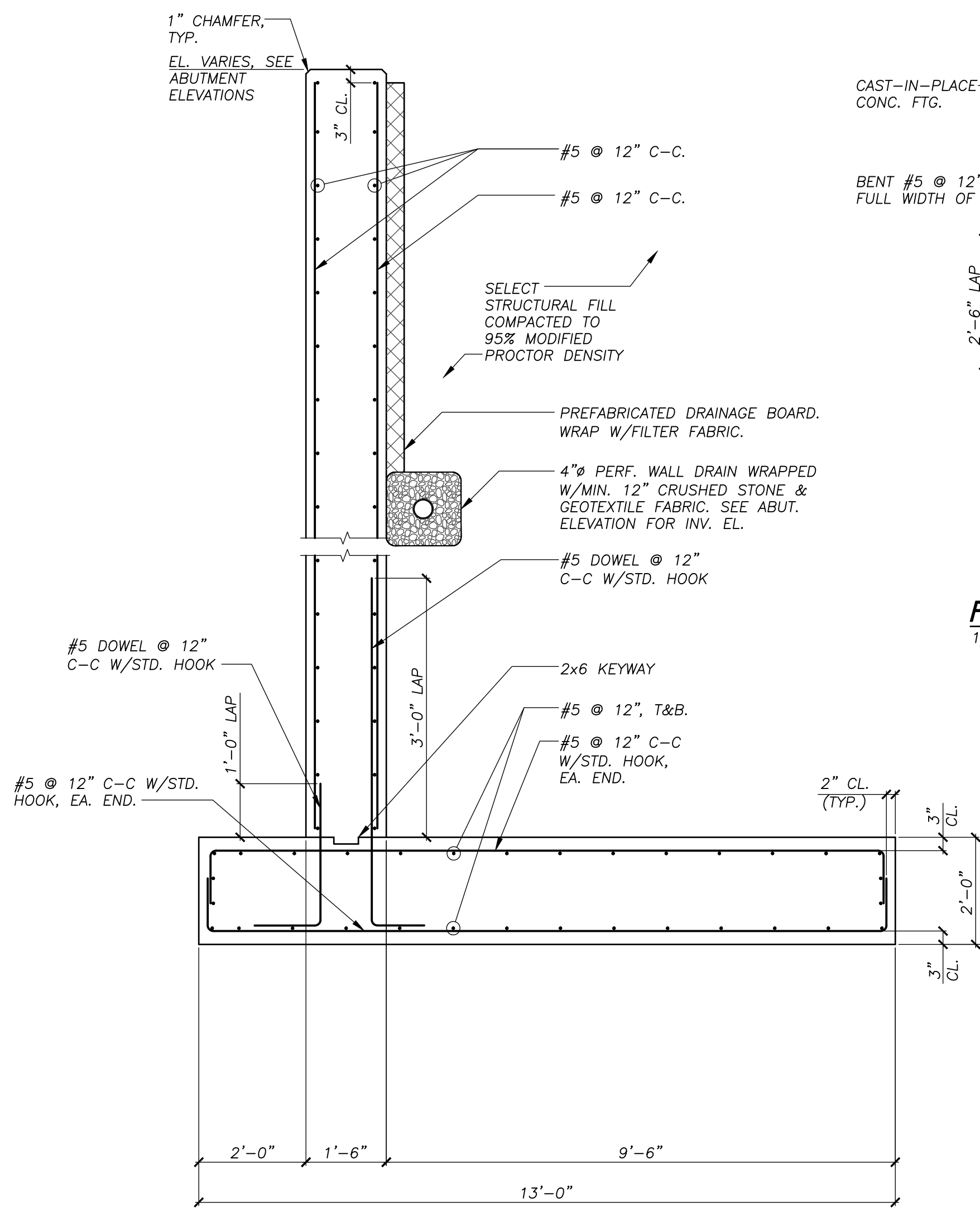
Sr SCHODER RIVERS ASSOCIATES
Consulting Engineers, P.C.
Evergreen Professional Park
453 Dixon Road, Suite 7, Bldg. 3
Queensbury, New York 12804
(518) 761-0417, FAX: (518) 761-0513

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DATE: 6/27/2019 ENG. BY: KAS/SRA
PROJ. NO: 15-881 CHK'D BY: ES

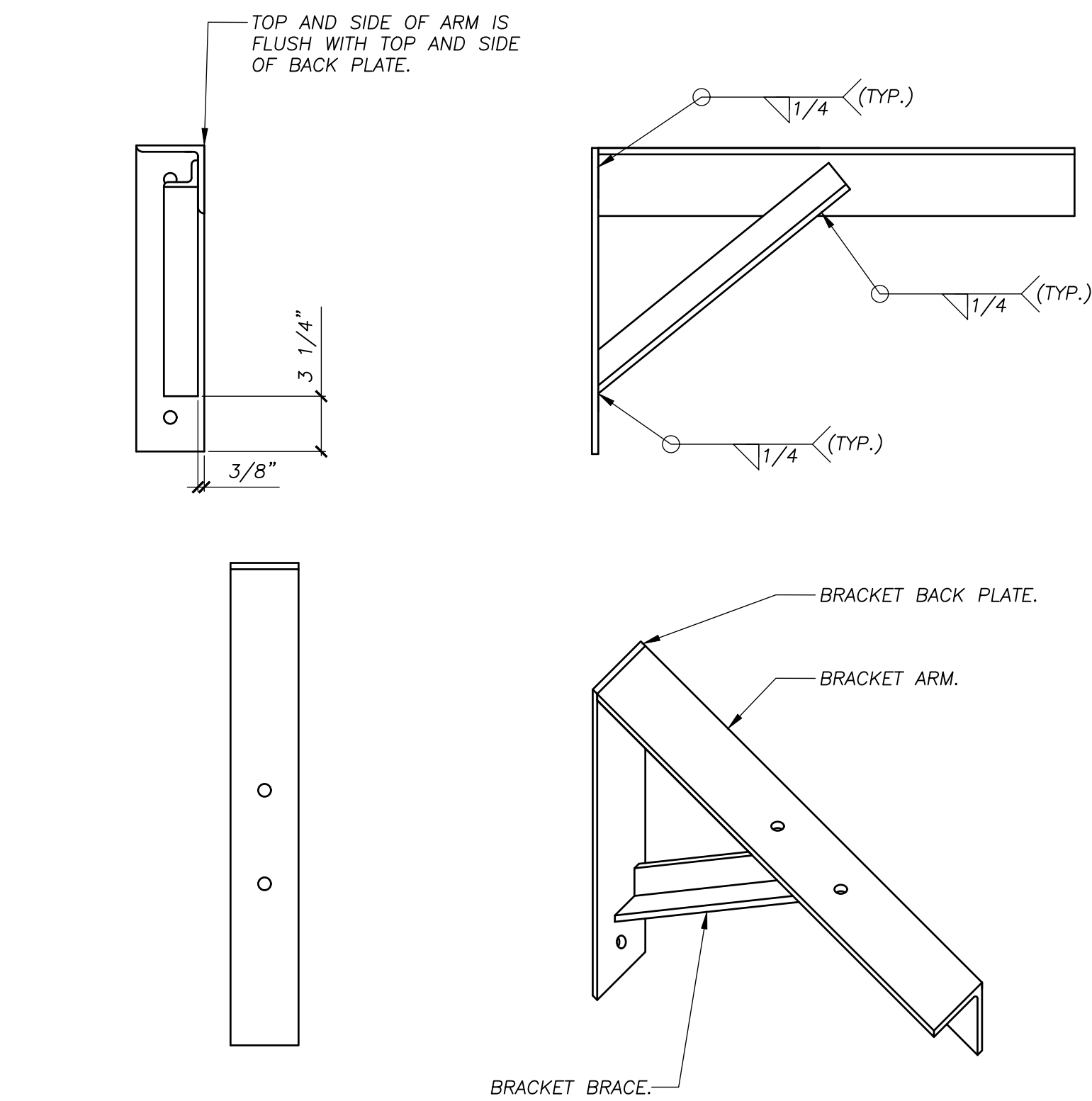
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II BUCKS LANE BRIDGE ABUTMENT ELEVATIONS AND DETAILS

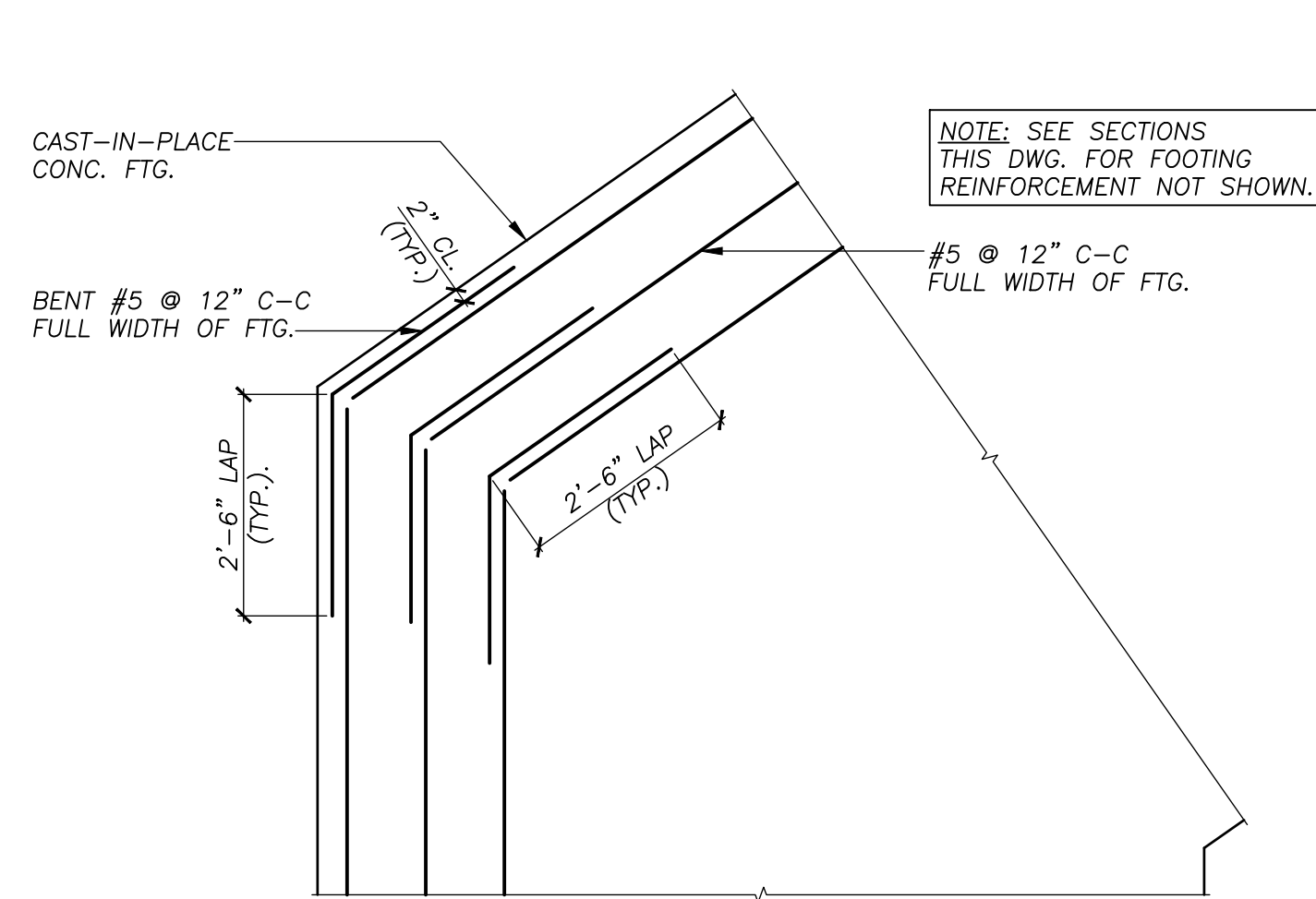
DRAWING NO. **S-5** SHT. 23 OF 25
REV. 1



SECTION 8
1/2"=1'-0"

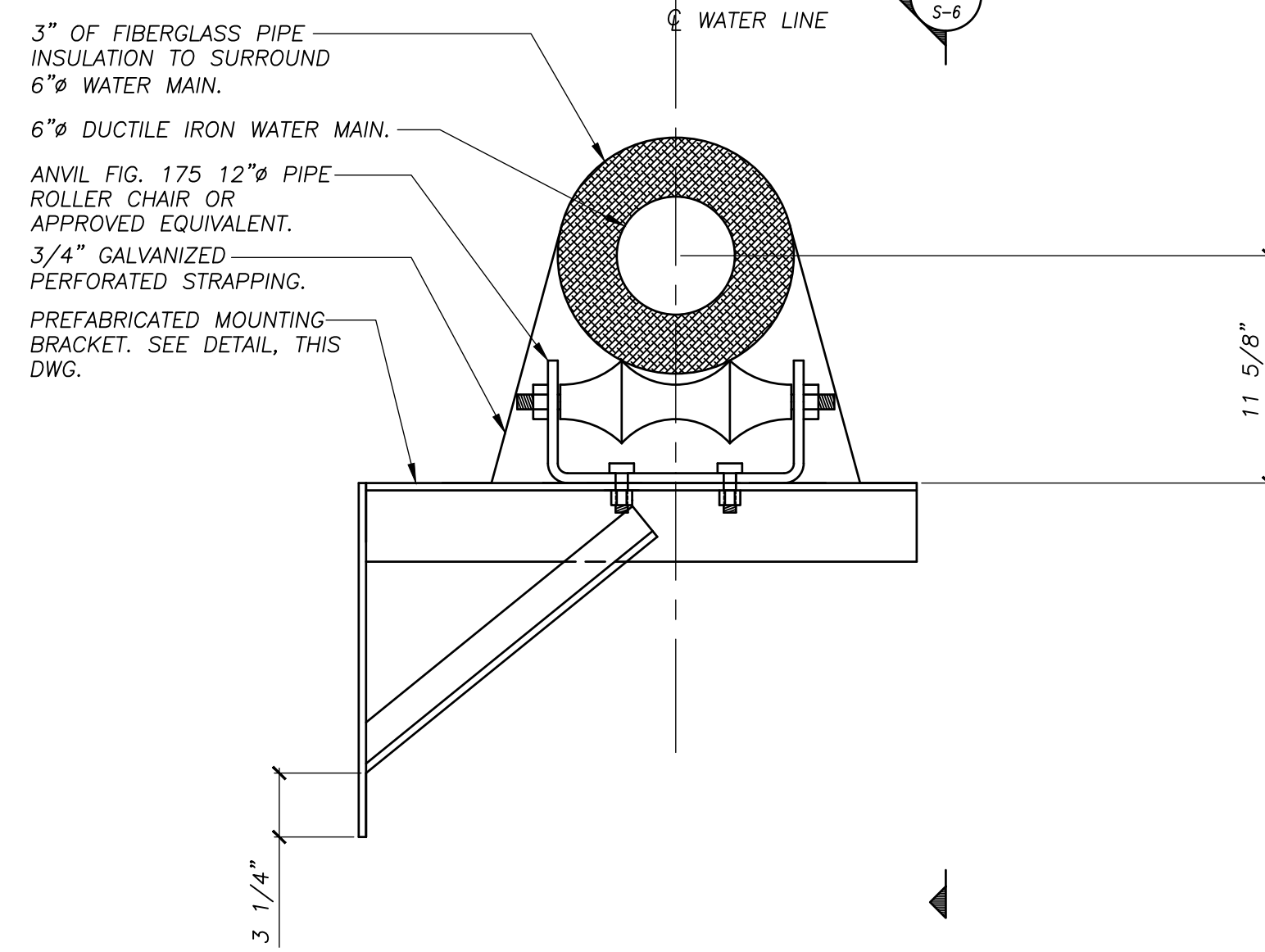


ASSEMBLED BRACKET
1/2"=1'-0"

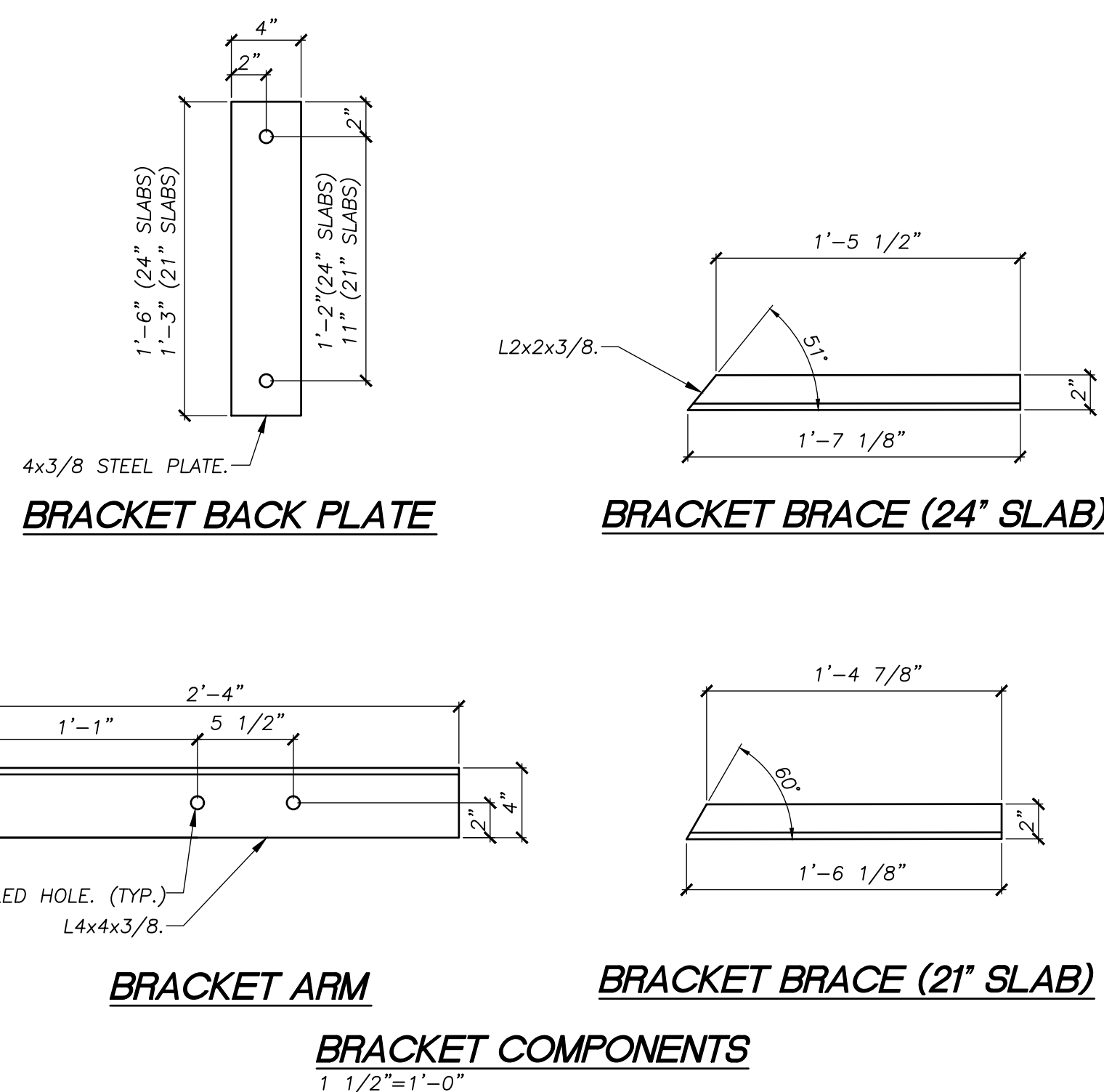


FOOTING CORNER REINFORCEMENT DETAIL
1/2"=1'-0"

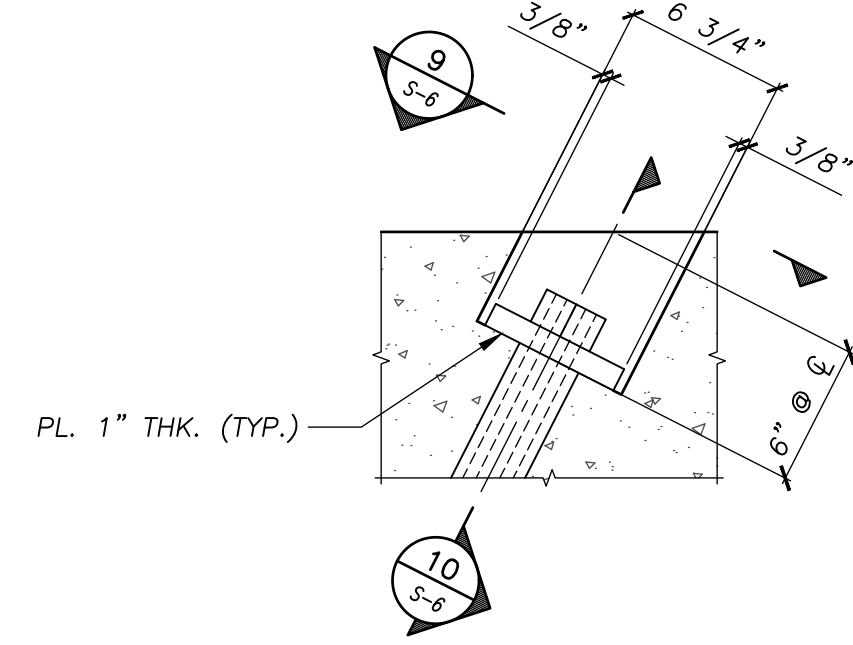
NOTE: SEE SECTIONS THIS DWG. FOR FOOTING REINFORCEMENT NOT SHOWN.



CUSTOM FABRICATED PIPE MOUNT
1/2"=1'-0"



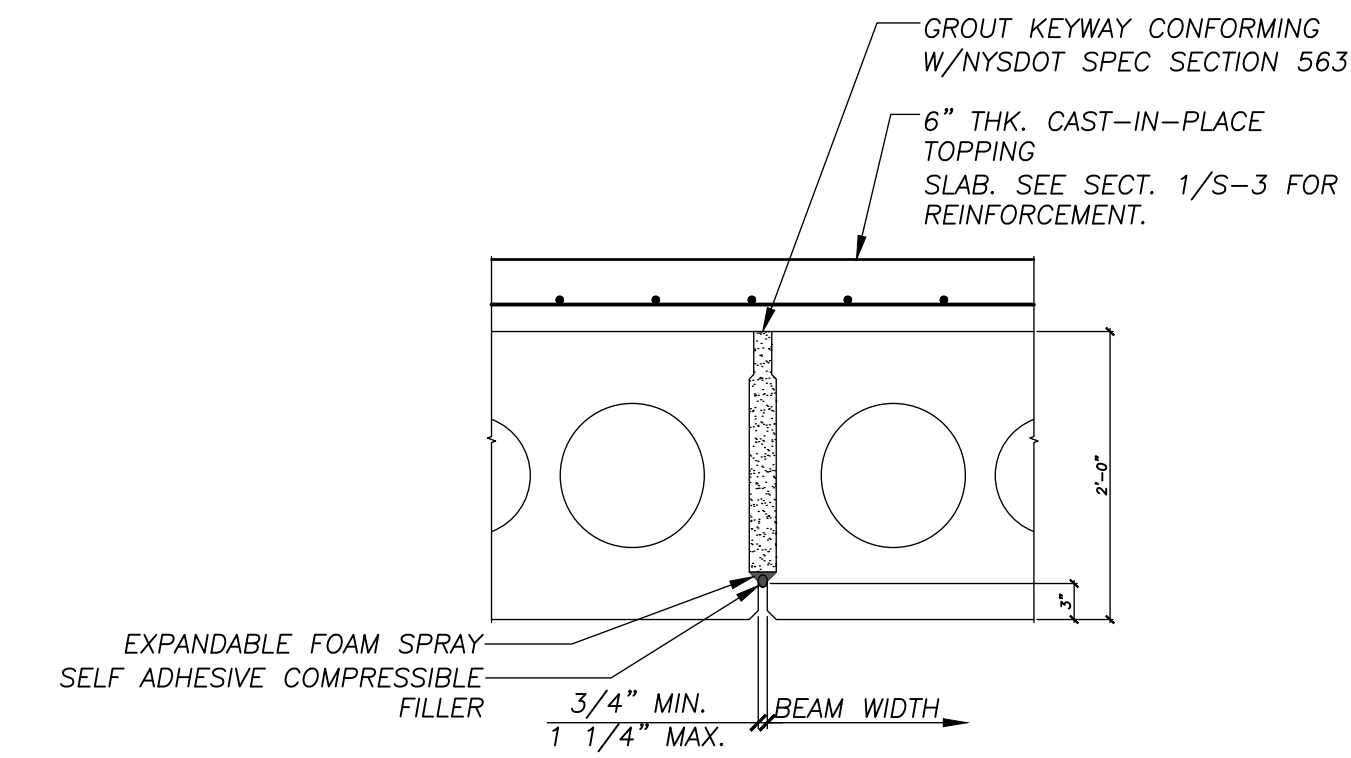
BRACKET ARM
BRACKET BRACE (24" SLAB)
BRACKET BRACE (21" SLAB)
BRACKET COMPONENTS
1/2"=1'-0"



TRANSVERSE TENDON RECESS
1/2"=1'-0"

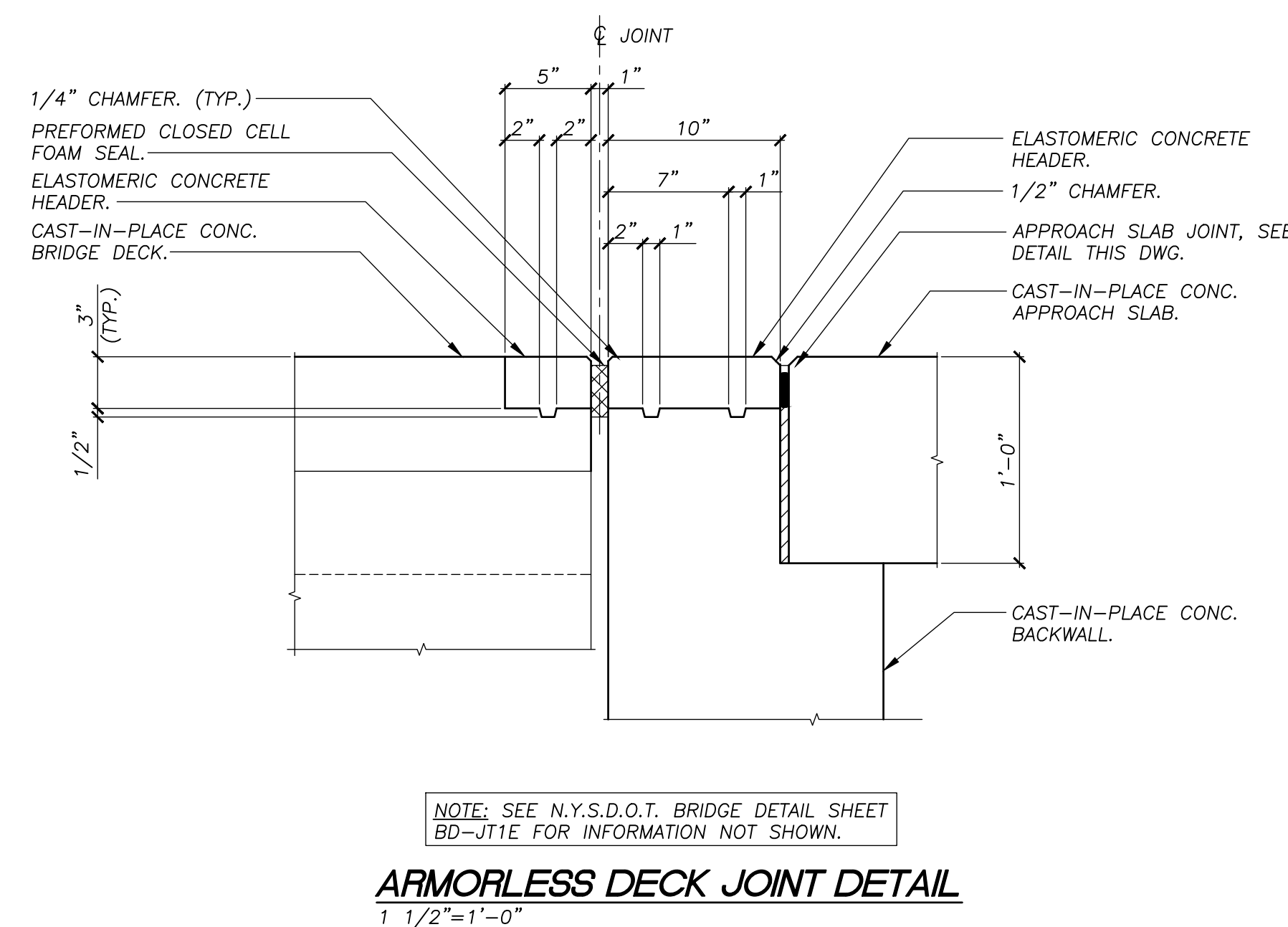
SECTION 9
1 1/2"=1'-0"

SECTION 10
1 1/2"=1'-0"



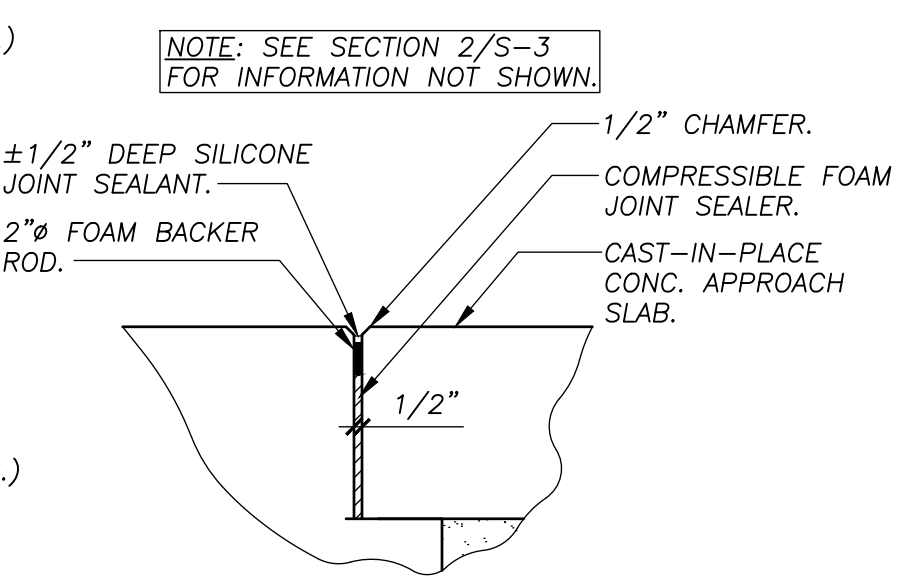
SHEAR KEY DETAIL
3/4"=1'-0"

SECTION 11
1 1/2"=1'-0"



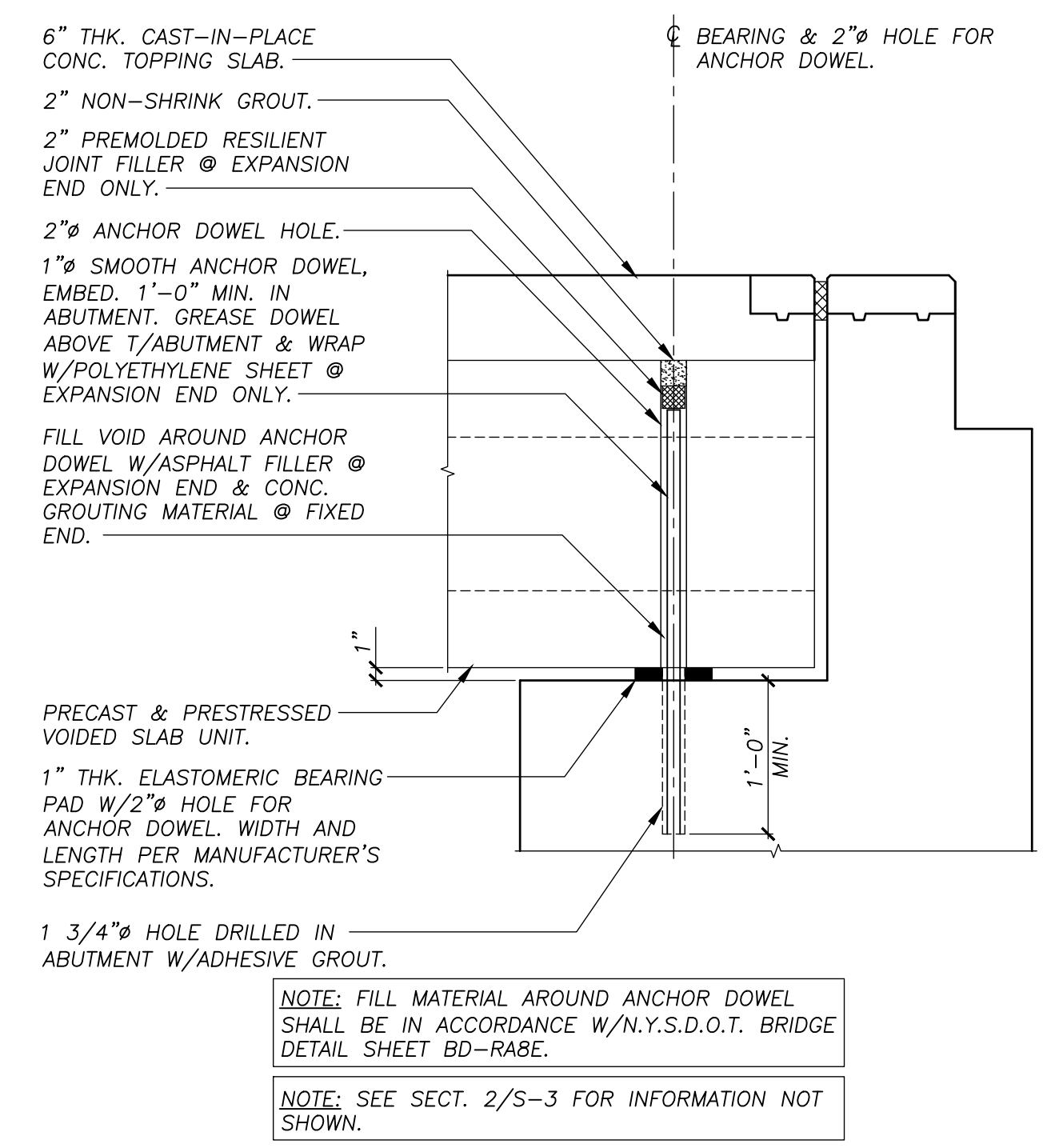
NOTE: SEE N.Y.S.D.O.T. BRIDGE DETAIL SHEET BD-J11E FOR INFORMATION NOT SHOWN.

ARMORLESS DECK JOINT DETAIL
1/2"=1'-0"



NOTE: SEE SECTION 2/S-3 FOR INFORMATION NOT SHOWN.

APPROACH SLAB JOINT DETAIL
1"=1'-0"



NOTE: FILL MATERIAL AROUND ANCHOR DOWEL SHALL BE IN ACCORDANCE W/N.Y.S.D.O.T. BRIDGE DETAIL SHEET BD-RABE.

NOTE: SEE SECT. 2/S-3 FOR INFORMATION NOT SHOWN.

TYPICAL BEARING DETAIL
1"=1'-0"

REVISIONS		
REV.	DATE	DESCRIPTION
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1	6/27/2019	DESIGN REVISIONS



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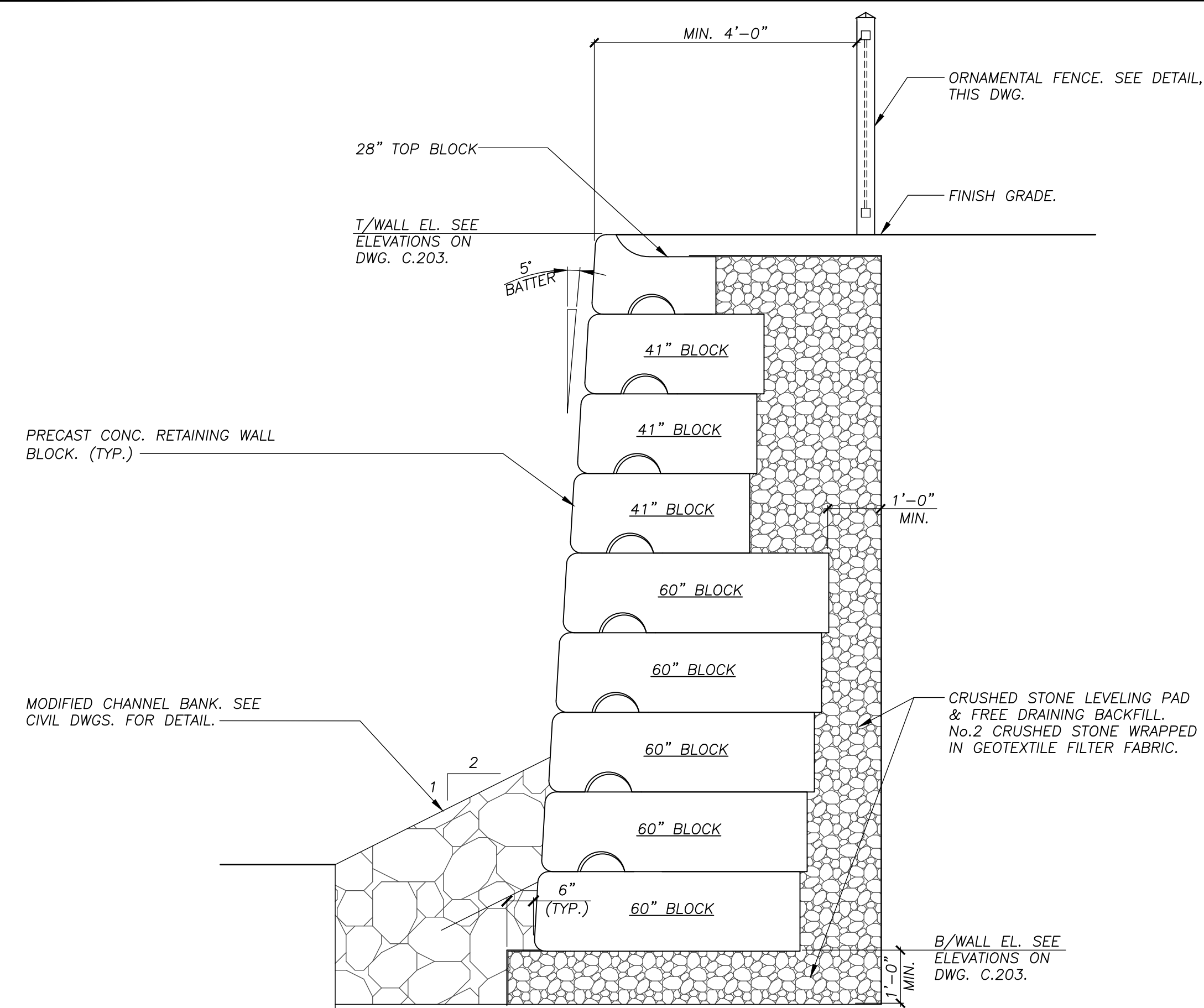
SR SODNER RIVERS ASSOCIATES
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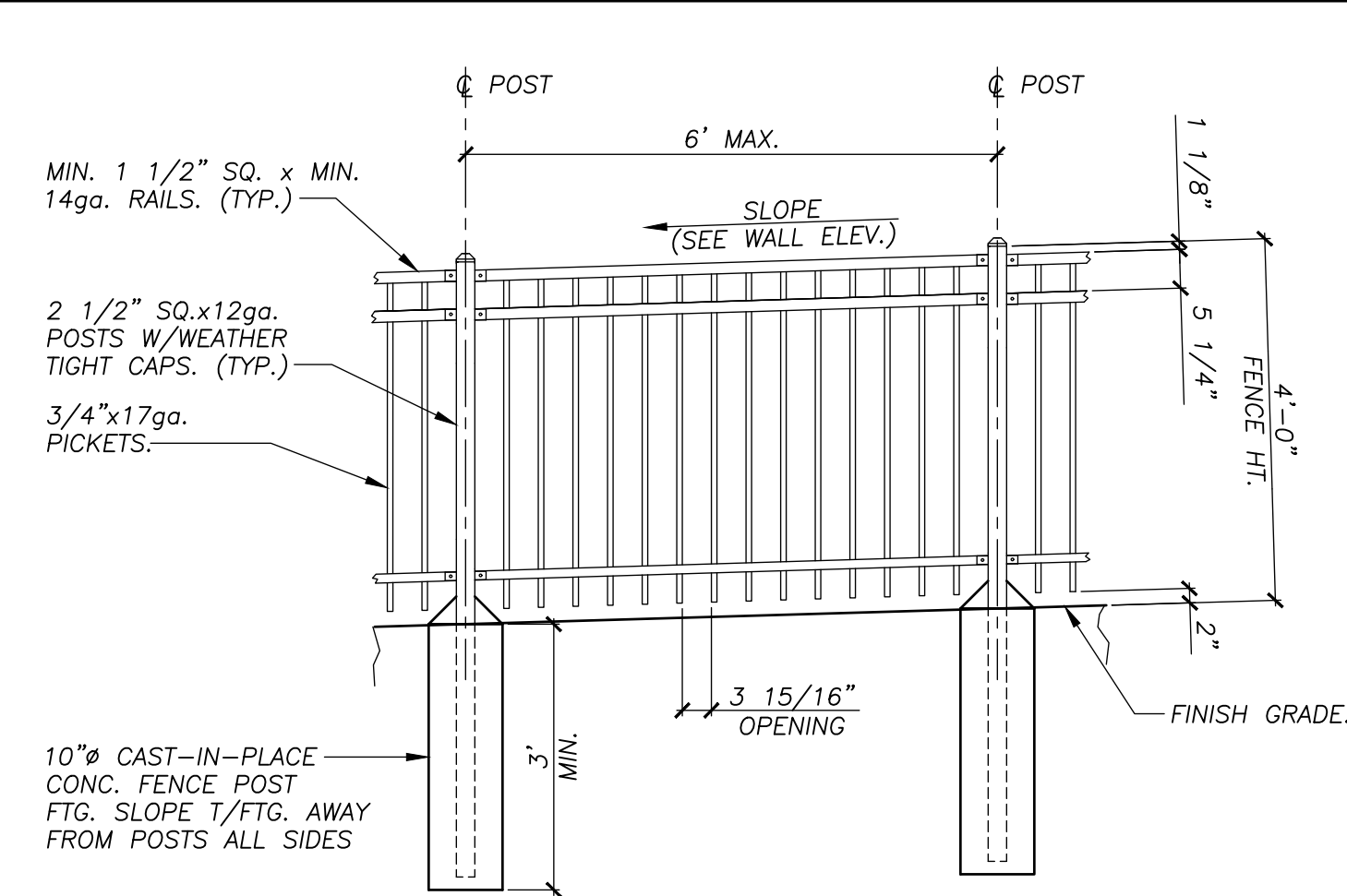
CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II BUCKS LANE BRIDGE BRIDGE DETAILS

DRAWING NO. **S-6** SHT. 24 OF 25
REV. 1



PRECAST CONCRETE BLOCK WALL TYPICAL SECTION
1/2"=1'-0"



ORNAMENTAL STEEL FENCE DETAIL
1/2"=1'-0"

REVISIONS		
REV.	DATE	DESCRIPTION
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CLIENT NAME
ESSEX COUNTY COMMUNITY RESOURCES
Elizabethtown, N.Y.

DRAWING TITLE
KEENE, NY
GULF BROOK CHANNEL RESTORATION PHASE II
BUCKS LANE BRIDGE
RETAINING WALL DETAILS & CROSS SECTION

DRAWING NO. S-7 SHT. 25 OF 25
REV. 1