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 reestablished 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



Evergreen Professional Park 453 Dixon Road, Ste. 7, Bldg. 3 Queensbury, NY 12804 Tel. (518) 761-0417 Fax (518) 761-0513

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.

- 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).
- 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.
- 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 SANDEROM	9CHODER- RIVERS ASSEC	518-714-0417 x21	518-714-0417 xz1 Crills@gravengineus.com
10M MANFRED	REALE CO	518-505-6702 TOM	518-585-6782 TOM MANFRED @ REALE CONSTRUCTION
Michel Hayes	Percas Excauting	315-250-4014 Mitehares@nerascomanies.com	O DESCASSOOM ANTES COM
DAME MSOGNA	S	SP4656254 Linsogna DM crism burrowes.com	offy crisin buroues com
Suzanna Randall	GOSR	5184732394 Svanna, Radall@Storn recovery, 174, 801	Radall @ Storm Pecurey, My. god
Colla Dand	Essex Co.	518-573-7731 cbut @ co.esser. M. Us	& co.esser. NY. Us
I'm Ducated	ECO PW	518-873-5739 JOUGA	JODUCAN C CU.ESSEY.NY. US
Jason Westony	Pime Hyphway	518-354-2192 ; westone @ primetighway con	breg @ princhaphway.com
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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 in formation 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 MAP SCALE: NTS

LIST OF ABBREVIATIONS

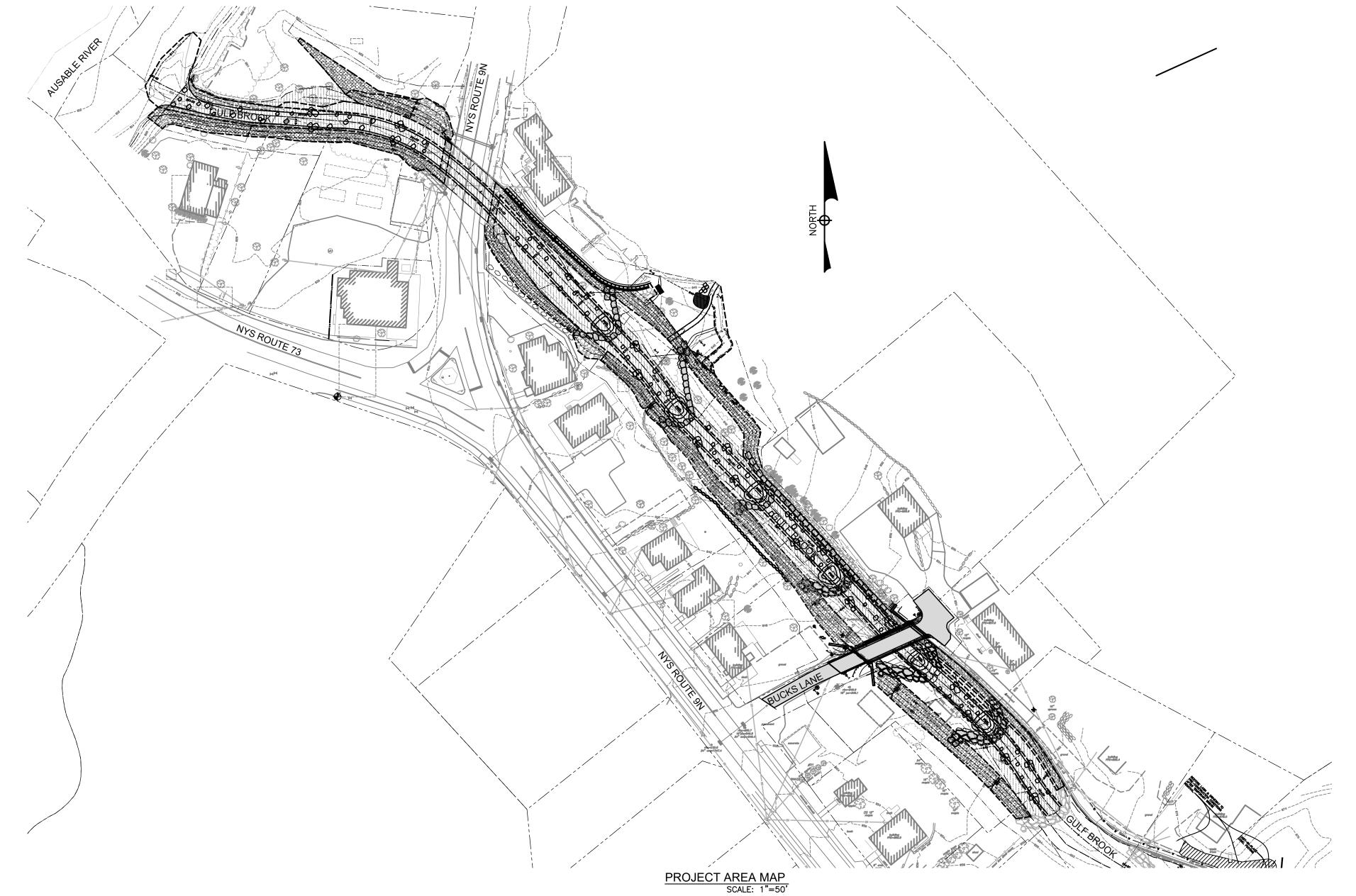
CONTAINER EASTING GRADE ELEVATION FINISHED GRADE FINISHED FLOOR ELEVATION NORTHING NOT TO SCALE ORDINARY HIGH WATERMARK POINT OF CURVATURE POINT OF TANGENCY REINFORCED CONCRETE PIPE SOIL BORING TO BE DECIDED TYPICAL TOP OF WALL

VERTICAL

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**

SECTION WITH A MINIMUM BANK FULL WIDTH OF 40—FEET, INSTALLATION OF CHANNEL BANK ROCK ARMOR PROTECTION, CONSTRUCTION OF BOULDER VANES, CHANNEL BANKS, AND ADDITIONAL MISCELLANEOUS WORK PER THESE DESIGN PLANS.



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

SCHODER RIVERS ASSOCIATES

Consulting Engineers, P.C.

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

DESIGN TEAM:



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

NEW YORK STATE MAP SCALE: NTS

PREPARED FOR:

ESSEX COUNTY COMMUNITY RESOURCES 7533 COURT STREET P.O. BOX 217

ELIZABETHTOWN, N.Y. 12932

TOWN OF KEENE, N.Y.

IN PARTNERSHIP WITH:

N.Y.S. GOVERNORS OFFICE OF STORM

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

LIST OF DRAWINGS:

NAME TITLE

CV.001: COVER SHEET

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

BUCKS LANE BRIDGE - DEMOLITION AND SITE PLAN

BUCKS LANE BRIDGE - PROFILE, ELEVATION, SECTIONS AND DETAILS

SUPERSTRUCTURE PLANS AND SECTIONS

ABUTMENT PLANS AND SECTIONS

ABUTMENT ELEVATIONS AND DETAILS

RETAINING WALL DETAILS AND CROSS SECTIONS



GENERAL NOTES

- 1. DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION 2017 INCLUDING ALL CURRENT REVISIONS.
- 2. MATERIAL SPECIFICATIONS: NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYSDOT) STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, 2008 DATED TO THE JANUARY 1, 2019 LETTING.
- 3. STREAM PROTECTION: DURING THE COURSE OF CONSTRUCTION, THE WORK SHALL BE CONDUCTED IN A MANNER AS TO PREVENT OR REDUCE TO A MINIMUM ANY DAMAGE TO THE STREAM FROM POLLUTION BY DEBRIS, SEDIMENT OR OTHER FOREIGN MATERIAL, OR FROM MANIPULATION OF EQUIPMENT AND/OR MATERIALS IN OR NEAR THE STREAM.
- 4. WATER WHICH HAS BEEN USED FOR WASH PURPOSES OR OTHER SIMILAR OPERATIONS WHICH CAUSE THIS WATER TO BECOME POLLUTED WITH SAND, SILT, CEMENT, OIL, OR OTHER IMPURITIES, SHALL NOT BE RETURNED TO THE STREAM. IF WATER IS USED FROM THE STREAM, AN INTAKE OR TEMPORARY DAM SHALL BE CONSTRUCTED TO PROTECT AND MAINTAIN WATER RIGHTS AND TO PROTECT FISH LIFE DOWNSTREAM.
- 5. DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THE CONSTRUCTION DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTIONS AND OTHER AVAILABLE INFORMATION. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO THE CONSTRUCTION DETAILS AND WORK QUANTITIES.
- 6. THE OWNER HAS OBTAINED PERMITS FOR THIS PROJECT FROM APPROPRIATE REGULATORY AGENCIES. PERMIT CONDITIONS SHALL BE CONSIDERED A PART OF THIS WORK AND SHALL BE STRICTLY ADHERED TO, INCLUDING NOTIFICATION AND SIGN POSTING REQUIREMENTS. COPIES OF PERMITS ARE AVAILABLE FROM THE ESSEX COUNTY COMMUNITY RESOURCES IN ELIZABETHTOWN, NY AND ARE PROVIDED IN THE BID SPECIFICATION (PROJECT CONSTRUCTION MANUAL). THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIGN POSTING AND NOTIFICATION REQUIREMENTS PER THE PERMIT CONDITIONS.
- 7. UNDERGROUND PIPELINE AND UTILITY LOCATIONS, IF INDICATED, ARE BASED ON VISUAL EVIDENCE ABOVE EXISTING GRADE AND ARE APPROXIMATE ONLY. THE LOCATIONS OF ALL UTILITIES SHALL BE DETERMINED PRIOR TO COMMENCING CONSTRUCTION AND PROTECTED OR REROUTED AS REQUIRED TO PREVENT DAMAGE OR INTERRUPTION OF UTILITY SERVICE.
- 8. <u>SUBMITTALS:</u> THE CONTRACTOR SHALL SUBMIT MIN. (5) COPIES OF SHOP DRAWINGS AND SUBMITTALS FOR THE FOLLOWING ITEMS FOR REVIEW BY ESSEX COUNTY AND THE ENGINEER. IN LIEU OF (5) HARD COPIES, (1) COPY OF SHOP DRAWINGS AND SUBMITTALS MAY BE TRANSMITTED ELECTRONICALLY. NO FABRICATION OF THESE ITEMS SHALL BE PERMITTED UNTIL THE SUBMITTALS HAVE BEEN REVIEWED AND ACCEPTED.
 - A. PRESTRESSED SLAB UNIT CALCULATIONS
 B. PRESTRESSED SLAB UNIT SHOP DRAWINGS
 - C. ELASTOMERIC BEARING PADS
 - D. POST—TENSIONING SYSTEM TENDONS AND ANCHORS
 - E. CONCRETE MIX DESIGNSF. CONCRETE REINFORCING STEEL SHOP DRAWINGS
 - G. SILT FENCE
 - H. ADHESIVE GROUT
 I. JOINT SEALANTS AND CAULKING
 - J. BRIDGE RAIL AND GUIDE RAIL SHOP DRAWINGS
 - K. DEWATERING PLAN L. BACKFILL AND SUBBASE MATERIAL
 - M. DRAINAGE BOARD
 N. ARMORLESS JOINT MATERIALS
 - O. SEALANTS AND PENETRATING SEALER
 - P. STORM DRAINAGE PIPING
 Q. PRECAST CONCRETE SEGMENTAL BLOCK RETAINING WALL SHOP
 - DRAWINGS R. PRECAST CONCRETE SEGMENTAL BLOCK RETAINING WALL DESIGN
 - CALCULATIONS AND INSTALLATION MANUAL S. GEOTEXTILE FABRICS
 - T. TRAFFIC CONTROL PLAN
 U. TEMPORARY EARTH SHORING PLAN(S)
- V. DEWATERING PLAN W. EMERGENCY OPERATION PLAN
- 9. REFER ALSO TO DRAWING C.404 FOR ADDITIONAL REQUIRED SUBMITTALS FOR THE WATERMAIN INSTALLATION WORK.
- 10. THE WORK SHALL CONFORM WITH THE REQUIREMENTS OF NYSDOT SPEC SECTION 107-05 - "SAFETY AND HEALTH REQUIREMENTS" AT ALL TIMES.

SURVEY NOTES

- 1. THE LAYOUT OF ALL WORK FOR THE PROJECT SHALL BE COMPLETED BY A LICENSED SURVEYOR RETAINED BY THE CONTRACTOR.
- 2. WALL LAYOUT CONSTRUCTION BASELINE STATIONING INDICATED ON THE DRAWINGS WAS DERIVED USING REDI—ROCK, AS MANUFACTURED BY CARROLL CONCRETE CO., NEWPORT, NEW HAMPSHIRE AS A BASIS FOR DESIGN. OTHER PRECAST CONCRETE SEGMENTAL BLOCK RETAINING WALL SYSTEMS MAY BE PROPOSED AS EQUIVALENTS SUBJECT TO REVIEW BY THE OWNER AND ENGINEER. IF OTHER SUCH SYSTEMS ARE PROPOSED AND THE SUGGESTED WALL SYSTEM RADII AND STEP LOCATIONS DEVIATE FROM THE CONSTRUCTION BASELINE LAYOUT INFORMATION SHOWN ON DRAWINGS C.201 THRU. C.203 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING PLAN, ELEVATION AND WALL SECTION DRAWINGS INDICATING THE LOCATION OF ALL PERTINENT WALL DIMENSIONS WITH REGARD TO THE APPROPRIATE CONSTRUCTION BASELINE STATIONING FOR REVIEW BY THE ENGINEER.

RIPRAP NOTES

- 1. ALL RIPRAP SHALL BE SOUND CLEAN ANGULAR STONE OF THE SIZES INDICATED ON THE DRAWINGS. RIPRAP SHALL BE FREE OF ORGANIC MATERIALS, DEBRIS, SOIL AND OTHER DELETERIOUS MATTER.
- 2. STONE SIZES SHALL CONFORM TO THE REQUIREMENTS OF NYSDOT STANDARD SPECIFICATION SECTION 620 AND SHALL BE WELL GRADED WITHIN THE LIMITS INDICATED WITH SUFFICIENT SMALLER STONE TO FILL THE VOIDS BETWEEN LARGER STONES. ALL RIPRAP SHALL BE MACHINE OR HAND PLACED AND HAND CHINKED TO PROVIDE A UNIFORM FINISH SURFACE TRUE TO THE GRADES INDICATED ON THE DRAWINGS. STONE SIZES SHALL BE EVENLY DISTRIBUTED THROUGHOUT.
- 3. THE MINIMUM LAYER THICKNESS SHALL BE AS INDICATED ON THE DRAWINGS.

STORM SEWER NOTES

1. STORM SEWER PIPING SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION 603.

DEMOLITION AND REMOVAL NOTES

- 1. THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DEMOLITION QUANTITIES AND CONDITIONS WHICH MAY EFFECT THE WORK AND SHALL INCLUDE IN HIS BID ALL COSTS ASSOCIATED WITH THE REQUIRED DEMOLITION OF THE EXISTING STRUCTURES.
- 2. DURING DEMOLITION AND REMOVAL OPERATIONS, DO NOT DROP WASTE CONCRETE, TIMBER, STEEL, DEBRIS OR OTHER MATERIAL INTO THE AREA BELOW THE BRIDGE. PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH DEMOLITION DEBRIS. IF, IN THE OPINION OF THE OWNER, ADEQUATE PROTECTION DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED. ANY DEBRIS FALLING INTO THE WATERWAY SHALL BE PROMPTLY REMOVED.
- 3. THE CONTRACTOR SHALL EXERCISE DUE CARE SUCH THAT ANY MATERIALS THAT ARE TO REMAIN IN PLACE OR THAT WILL BE SALVAGED WILL NOT BE DAMAGED. ANY SUCH ITEMS DAMAGED DURING THE COURSE OF WORK SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF ESSEX COUNTY AT THE EXPENSE OF THE CONTRACTOR.
- 4. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL ITEMS TO BE REMOVED IN THE CONTRACT SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
- 5. ALL ITEMS INDICATED TO BE SALVAGED SHALL BE DELIVERED TO THE TOWN OF KEENE HIGHWAY DEPARTMENT GARAGE AND OFF—LOADED BY THE CONTRACTOR, UNLESS OTHERWISE INDICATED.
- 6. THE PAINT SYSTEM ON THE EXISTING SUPERSTRUCTURE FRAMING AND BRIDGE RAILS HAS NOT BEEN TESTED TO DETERMINE THE PRESENCE OF LEAD, ASBESTOS, OR OTHER HAZARDOUS MATERIALS, BUT MAY CONTAIN SUCH MATERIALS DUE TO THE AGE OF THE EXISTING STRUCTURE. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS, INCLUDING TESTING OF THE EXISTING PAINT SYSTEM FOR HAZARDOUS MATERIALS, AS THEY DEEM APPROPRIATE AND NECESSARY TO PROTECT THEIR WORKERS AT ALL TIMES DURING DEMOLITION OPERATIONS.

EARTHWORK NOTES

- 1. EXCAVATION SHALL BE TO ELEVATIONS INDICATED WITH A TOLERANCE OF PLUS OR MINUS 1". EXCAVATIONS SHALL BE OF SUFFICIENT SIZE FOR PLACING AND REMOVING FORMS, AS WELL AS INSPECTIONS.
- 2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL STAKE OUT ALL IMPROVEMENTS AND VERIFY GRADES AND ELEVATIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 3. BACKFILL MATERIALS SHALL BE SELECT STRUCTURAL FILL CONFORMING WITH NYSDOT SPEC SECTION 203. ALL BACKFILL SHALL BE PLACED IN MAXIMUM 12" LIFTS AND COMPACTED TO 95% OF THE MAXIMUM DENSITY AS ESTABLISHED THROUGH THE MODIFIED PROCTOR COMPACTION TEST PER ASTM D1557.
- 4. SUBBASE COURSE MATERIAL SHALL BE A TYPE 2 SUBBASE CONFORMING WITH NYSDOT SPEC. SECTIONS 304 AND 733-04.
- 5. MATERIAL STOCKPILES, IF REQUIRED, SHALL BE LOCATED WHOLLY WITHIN THE WORK AREA. ADDITIONAL SILT FENCES SHALL BE PROVIDED AT THE BASE OF ALL STOCKPILES AND AS DIRECTED IN THE FIELD BY THE ENGINEER OR THE OWNER.
- 6. ALL TRENCHES AND OTHER EXCAVATED SIDE SLOPES INDICATED ON THE DRAWINGS ARE DIAGRAMMATIC ONLY AND ARE NOT INTENDED TO INDICATE A STABLE EXCAVATION SLOPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND STABILITY OF ALL EXCAVATION SLOPES, SHEETING, SHORING, TRENCH BOXES, AND ANY OTHER MEANS REQUIRED FOR A SAFE WORK ENVIRONMENT AND FOR PROTECTION OF ADJACENT ROADWAYS AND OTHER STRUCTURES. ALL EXCAVATION WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING REGULATORY AGENCIES:
 - -SUBPART 23-4, "EXCAVATION OPERATIONS", OF NEW YORK DEPARTMENT OF LABOR INDUSTRIAL CODE RULE 23.
 - -SUBPART P, "EXCAVATIONS" OF THE UNITED STATES
 DEPARTMENT OF LABOR OSHA REGULATIONS FOR
 CONSTRUCTION
 - -ALL OTHER MUNICIPAL, COUNTY, STATE OR FEDERAL AGENCIES, REGULATIONS OR LAWS PERTAINING TO EXCAVATION SAFETY AS MAY APPLY AT THE WORK SITE.
 - THE MORE STRINGENT PROVISION IN EACH OF THE ABOVE CODES SHALL APPLY. THESE PROVISIONS SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND SHALL BE INCREASED IF NECESSARY TO PROVIDE SAFE WORKING CONDITIONS.
- 7. ALL NEW GRADES SHALL BE BLENDED SMOOTHLY WITH EXISTING GRADES TO PROVIDE A SMOOTH TRANSITION BETWEEN NEW GRADING AND EXISTING SURFACES TO REMAIN.
- B. GEOTEXTILE FABRIC SHALL COMPLY WITH NYSDOT STANDARD SPEC. SECTION 737—01. ALL FABRIC SHALL APPEAR ON THE NYSDOT LIST OF APPROVED MATERIALS FOR THE USAGE INDICATED.
- 9. THE OWNER SHALL RETAIN AN INDEPENDENT QUALIFIED GEOTECHNICAL TESTING AGENCY TO PERFORM SOIL COMPACTION TESTING. SUBMIT ONE COPY OF ALL TEST REPORTS TO THE OWNER AND THE ENGINEER. FIELD IN-PLACE DENSITY TESTS SHALL BE PERFORMED BY EITHER ASTM D1556 (SAND CONE METHOD) OR ASTM D2922 (NUCLEAR METHOD). TESTS SHALL BE PERFORMED IN ALL BACKFILL, ONE TEST PER 250 SQUARE FEET OF BACKFILL SURFACE, MINIMUM (2) TESTS PER LIFT.
- 10. TOPSOIL, SEEDING AND MULCHING SHALL COMPLY WITH NYSDOT STANDARD SPEC. SECTION 713.
- 11. CONTRACTOR SHALL NOTE THAT AMBIENT AIR TEMPERATURE DURING THE CONSTRUCTION PERIOD FOR THIS PROJECT MAY BE BELOW FREEZING. CONTRACTOR SHALL PROTECT ALL SUBGRADES AND PREVIOUSLY INSTALLED BACKFILL LIFTS FROM FREEZING. COSTS FOR ALL BLANKETS, GROUND HEATERS OR OTHER ACCEPTABLE METHODS AS REQUIRED TO PROTECT IN—PLACE SOILS FROM FREEZING SHALL BE INCLUDED IN HIS BID. THE PLACEMENT OF FILL MATERIALS ON FROZEN SOILS OR USE OF FROZEN BACKFILL MATERIALS IS STRICTLY PROHIBITED.
- 12. SURPLUS NATIVE STREAMBED MATERIAL CONSISTING OF CLEAN COBBLES, GRAVEL, AND SAND SHALL BE DELIVERED TO THE TOWN OF KEENE HIGHWAY DEPARTMENT GARAGE. PRIOR TO MOVING ANY SURPLUS MATERIAL FROM THE SITE, THE OWNER SHALL RETAIN A TESTING LABORATORY TO COLLECT REPRESENTATIVE SAMPLES FOR ANALYSIS FOR GRAIN SIZE DISTRIBUTION AND TOTAL ORGANIC CARBON IN ACCORDANCE WITH 6 NYCRR PART 360.12 BENEFICIAL USE, SUB-PART (C)(1)(iv) PRE-DETERMINED BENEFICIAL USES OF NAVIGABLE DREDGE MATERIAL (NDM).

TREE REMOVAL NOTES

- 1. ALL TREE AND BRUSH REMOVAL WORK SHALL BE BY THE CONTRACTOR AND SHALL INCLUDE ONLY TREES INDICATED FOR REMOVAL ON THE DRAWINGS.
- A SURVEY FOR THE PRESENCE OF BATS IN THE VICINITY OF THE TREES TO BE REMOVED SHALL BE PERFORMED BY THE COUNTY THE NIGHT PRIOR TO THE CUTTING OF ANY TREES. THE CONTRACTOR SHALL PROVIDE AT LEAST FOUR WORKING DAYS NOTICE TO THE COUNTY BEFORE TREE CUTTING WORK IS SCHEDULED TO BE PERFORMED. NO CUTTING OF TREES SHALL BE PERFORMED BEFORE THE BAT CONSULTANT ADVISES THE CONTRACTOR THAT NO BATS ARE PRESENT IN THE WORK AREA.

CONCRETE NOTES

- 1. CAST-IN-PLACE CONCRETE FOR THE FOR THE ABUTMENTS AND WINGWALLS SHALL CONFORM TO NYSDOT SPEC. SECTION 501, CLASS A.
- 2. HIGH PERFORMANCE CONCRETE FOR THE APPROACH SLABS AND BRIDGE DECK TOPPING SLAB CONSTRUCTION SHALL BE IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF NYSDOT SPEC. SECTIONS 501, CLASS HP.
- 3. CONCRETE WORK SHALL BE PERFORMED IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF NYSDOT SPEC. SECTION 555, "STRUCTURAL CONCRETE" AND NYSDOT SPEC. SECTION 557 "SUPERSTRUCTURE SLABS, SIDEWALKS ON BRIDGES AND STRUCTURAL APPROACH SLABS".
- 4. CONTRACTOR TO NOTE THAT AMBIENT AIR TEMPERATURE DURING THE PERIOD ANTICIPATED FOR CONSTRUCTION OF CONCRETE WORK FOR THIS PROJECT MAY REQUIRE PROVISIONS FOR COLD WEATHER CONCRETING. CONTRACTOR SHALL INCLUDE IN THEIR BID ALL LABOR AND MATERIALS NECESSARY FOR SUCH COLD WEATHER CONCRETING PROVISIONS.
- 5. APPROACH SLAB AND BRIDGE DECK WEARING SURFACES SHALL BE TEXTURED WITH LONGITUDINAL SAW CUT GROOVING. TEXTURING SHALL BE APPLIED IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF NYSDOT SPEC. SECTION 558.
- 6. SIDEWALK SURFACE SHALL RECEIVE A TRANSVERSE STIFF BROOM FINISH IN ACCORDANCE WITH NYSDOT SPEC. SECTION 557.

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN CONFORMANCE WITH

- THE REQUIREMENTS OF NYSDOT SPEC SECTION 709-04, UNLESS NOTED OTHERWISE. REINFORCING STEEL SHALL BE PLACED IN CONFORMANCE WITH THE REQUIREMENTS OF NYSDOT SPEC. SECTION 556.
- 8. ADHESIVE FOR GROUTING REINFORCING DOWELS INTO EXISTING CONCRETE SHALL BE HILTI HY 150 INJECTION ADHESIVE AS MANUFACTURED BY HILTI CORP. OR EQUIVALENT.
- 9. NON-SHRINK GROUT SHALL BE "5-STAR" GROUT AS MANUFACTURED BY FIVE STAR PRODUCTS, INC. OR EQUIVALENT. MIX AND PLACE GROUT IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 10. THE OWNER SHALL RETAIN A TESTING LABORATORY CERTIFIED BY THE NYS DEPARTMENT OF TRANSPORTATION TO CONDUCT CONCRETE TESTING DURING CONSTRUCTION. REPRESENTATIVES OF THE TESTING LABORATORY SHALL BE PRESENT ON—SITE DURING ALL CONCRETE PLACEMENT OPERATIONS AS SPECIFIED IN NYSDOT SPEC. SECTION 555. THE FOLLOWING TESTING SHALL BE PERFORMED:
 - -SAMPLING FRESH CONCRETE: ASTM C172 EXCEPT AS MODIFIED FOR SLUMP TO COMPLY WITH ASTM C94.
 - -SLUMP: ASTM C143, ONE TEST AT THE POINT OF DISCHARGE FOR EACH SET OF COMPRESSIVE TEST SPECIMENS. PERFORM ADDITIONAL TESTS WHEN THE CONSISTENCY OF THE CONCRETE APPEARS TO CHANGE.
 - -AIR CONTENT: ASTM C173, VOLUMETRIC METHOD OR ASTM C231, PRESSURE METHOD FOR EACH SET OF COMPRESSIVE TEST SPECIMENS.
 - -CONCRETE TEMPERATURE: ASTM C1064 FOR EACH SET OF COMPRESSIVE TEST SPECIMENS. TEST HOURLY WHEN AIR TEMPERATURE FALLS BELOW 40 DEG. F. OR WHEN AIR TEMPERATURE EXCEEDS 80 DEG, F.
 - -COMPRESSIVE TEST SPECIMENS: ASTM C31 ONE SET OF 4 STANDARD CYLINDERS FOR EACH COMPRESSIVE STRENGTH TEST. MOLD AND STORE CYLINDERS FOR LABORATORY CURED TEST SPECIMENS.
 - -COMPRESSIVE STRENGTH TESTS: ASTM C39, ONE SET FOR EACH DAY'S PLACEMENT EXCEEDING 5 CU. YDS. PLUS ONE ADDITIONAL SET FOR EACH ADDITIONAL 20 CU. YDS. PLACED IN ANY ONE DAY. TEST ONE SAMPLE AT 7 DAYS AND TWO AT 28 DAYS, WITH ONE SAMPLE HELD IN RESERVE FOR LATER TESTING. WHEN FREQUENCY OF TESTING WILL PROVIDE LESS THAN 5 STRENGTH TESTS CONDUCT ADDITIONAL TESTS FROM RANDOMLY SELECTED
 - -TEST REPORTS: TEST RESULTS WILL BE REPORTED IN WRITING TO ESSEX CO. DPW AND TO THE ENGINEER WITHIN 24 HOURS OF THE TESTS. REPORTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF PLACEMENT, NAME OF THE TESTING SERVICE, CONCRETE TYPE AND CLASS, LOCATION OF THE CONCRETE IN THE STRUCTURE, DESIGN COMPRESSIVE STRENGTH, BATCH PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH AND TYPE OF BREAK FOR BOTH 7 AND 28 DAYS TESTS.
- 11. SILICONE JOINT SEALANT MATERIAL SHALL BE IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF NYSDOT SPECIAL SPEC. ITEM 567.51010003.
- 12. UPON COMPLETION OF THE BRIDGE DECK CONSTRUCTION, ALL TOP OF DECK SURFACES, VERTICAL DECK FASCIA SURFACES, SIDEWALKS AND EXPOSED CIRB SURFACES SHALL BE COATED WITH A PENETRATING TYPE PROTECTIVE SEALER APPLIED IN ACCORDANCE WITH SEALER MANUFACTURER'S RECOMMENDATIONS. THE PENETRATING SEALER SHALL BE ON THE NYSDOT LIST OF APPROVED MATERIALS AND SHALL COMPLY WITH NYSDOT STANDARD SPECIFICATION SECTION 717-03.

BRIDGE RAIL AND GUIDERAIL NOTES

- GUIDERAIL SHALL COMPLY NYSDOT SPEC. SECTIONS 606 AND 710-21.
- 2. FABRICATION AND INSTALLATION OF GUIDERAIL SHALL COMPLY WITH NYSDOT STANDARD DETAIL SHEET 606-04, BOX BEAM GUIDERAIL.
- FABRICATION AND INSTALLATION OF BRIDGE RAIL SHALL COMPLY WITH THE NYSDOT BRIDGE DESIGN DETAIL SHEETS REFERENCED ON THE DRAWINGS.
- BRIDGE RAIL SUPPLIER SHALL SUPPLY ANCHORS FOR THE BRIDGE RAIL. COORDINATE ANCHOR SPACING AND LOCATION WITH THE CONTRACTOR.
- 5. ANCHOR ROD MATERIAL SHALL CONFORM TO ASTM F1554, GRADE 36
 MATERIAL. ANCHORS SHALL BE SUPPLIED WITH HEAVY HEX NUTS
 CONFORMING TO ASTM A563 AND HARDENED CARBON STEEL WASHERS
 CONFORMING TO ASTM F436.
- ALL STEEL SHAPES, PLATES, ETC. FOR THE GUIDERAIL AND BRIDGE RAIL SHALL BE HOT—DIP GALVANIZED CONFORMING WITH ASTM A123 AND NYSDOT SPEC. SECTION 719—01. REPAIRS TO DAMAGED GALVANIZING SHALL COMPLY WITH NYSDOT SPEC. SECTION 719—01.
- 7. STEEL BOLTS, NUTS, WASHERS AND MISC. HARDWARE SHALL BE HOT DIP GALVANIZED CONFORMING WITH ASTM A153 AND NYSDOT SPEC. SECTION

DEWATERING NOTES

- 1. DEWATERING FACILITIES SHALL BE PROVIDED BY THE CONTRACTOR TO DEWATER AREAS WHERE EXCAVATION WORK WILL BE PERFORMED AS NECESSARY TO COMPLETELY DEWATER WORK AREAS FOR NEW ABUTMENT CONSTRUCTION, RETAINING WALL CONSTRUCTION, AND CHANNEL EXCAVATION.
 - THE CONTRACTOR SHALL RETAIN A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEW YORK STATE TO DESIGN A DEWATERING SYSTEM FOR THE PROJECT. THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN, SEALED AND SIGNED BY THEIR PROFESSIONAL ENGINEER, WHICH SHALL INDICATE PROPOSED COFFERDAM SIZES, LOCATIONS AND MATERIALS, PROPOSED DIVERSION PUMP SIZES AND LOCATIONS, PIPING SIZES AND OTHER ELEMENTS OF THE DEWATERING SYSTEM. THE DEWATERING PLAN SHALL BE DESIGNED TO PROVIDE A STABLE EXCAVATION DEWATERED TO A LEVEL BELOW THE BOTTOM OF FOOTING AND PILE CAP ELEVATIONS. THE CONTRACTOR SHALL SUBMIT THE DEWATERING PLAN, INCLUDING CALCULATIONS, SIGNED AND SEALED BY THE DEWATERING DESIGN ENGINEER, FOR REVIEW AND ACCEPTANCE BY ESSEX COUNTY AND THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BEFORE COMMENCING ANY EXCAVATION OR DEMOLITION WORK FOR THE PROJECT.
 - 3. THE DEWATERING SYSTEM DESIGN SHALL INCLUDE PUMPS TO DISCHARGE WATER FROM THE EXCAVATION AREA TO SEDIMENT FILTRATION BAGS ENCLOSED WITHIN A SILT FENCE TO BE INSTALLED AT LOCATIONS INDICATED ON THE SITE PLAN.
- 4. THE CONTRACTOR SHALL PROVIDE A STANDBY PUMP OF EQUAL CAPACITY TO THE PUMPS TO BE USED IN THE DEWATERING SYSTEM.

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES

- 1. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE AND PROTECTION OF TRAFFIC PLAN DETAILING ANY AND ALL TEMPORARY CHANGES IN EXISTING TRAFFIC PATTERNS NECESSARY TO FACILITATE CONSTRUCTION OF THE PROJECT. THE PLAN SHALL INCLUDE THE TYPES AND LOCATIONS OF ALL PROPOSED SIGNAGE AND TRAFFIC CONTROL DEVICES, PROPOSED TRAFFIC FLOW PATHS AND SIMILAR ITEMS. THE PLAN SHALL BE PREPARED AND ALL SIGNS AND DEVICES IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION WITH REVISION NUMBERS 1 AND 2 INCORPORATED, DATED MAY 2012.
- 2. THE EXISTING BUCKS LANE BRIDGE AND APPROACH ROADWAYS SHALL BE CLOSED TO TRAFFIC DURING THE COURSE OF WORK FOR THE CONSTRUCTION OF THE NEW BRIDGE AND APPROACH ROADWAYS.
- 3. THE SAFE MAINTENANCE AND PROTECTION OF TRAFFIC, VEHICULAR AND PEDESTRIAN, IN AND AROUND THE SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR DURING THE COURSE OF THE WORK.
- 4. WORK SHALL CONFORM TO THE NYSDOT STANDARD SPECIFICATIONS FOR WORK ZONE TRAFFIC CONTROL SECTION 619 AND CONSTRUCTION SIGNING SHALL CONFORM TO THE STANDARDS IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

5. ADEQUATE PEDESTRIAN ACCESS MUST BE MAINTAINED THROUGHOUT THE

- COURSE OF CONSTRUCTION, IN PARTICULAR ALONG BUCKS LANE ON THE EAST SIDE OF GULF BROOK DURING BRIDGE CLOSURE AND CONSTRUCTION OF THE BRIDGE.
- 6. NO STAGING OF EQUIPMENT OR MATERIALS ON THE EAST SIDE OF THE BRIDGE IS ALLOWED.
- 7. TEMPORARY CONCRETE BARRIERS AND LIGHTED CLOSURE BARRICADES SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AT EACH END OF THE CLOSED ROADWAY DURING BRIDGE CONSTRUCTION AND AT THE EDGE OF NEW YORK ROUTE 9N WHEN CONDUCTING CONSTRUCTION AND MATERIAL STAGING FOR CHANNEL EXCAVATION AND WALL CONSTRUCTION IN THE VICINITY OF THE ROUTE 9N BRIDGE. CONTRACTOR SHALL PROVIDE A SMALL UTILITY VEHICLE OR GOLF CART WITH 4 SEATS, CAP AND BED OR OTHER CARGO HOLD FOR RESIDENTS OF BUCKS LANE TO USE DURING CONSTRUCTION.

ELASTOMERIC BEARING NOTES

- 1. ELASTOMERIC BRIDGE BEARINGS SHALL BE NYSDOT TYPE "EL" CONFORMING WITH NYSDOT STANDARD SPECIFICATION SECTION 565 AND 716-11 AND BRIDGE DESIGN DETAIL SHEET BD-BG1E.
- 2. ALL ELASTOMER SHALL BE 50 DUROMETER ON THE SHORE "A" SCALE.
- 3. ANCHOR RODS SHALL BE DRILLED AND GROUTED IN CONFORMANCE WITH NYSDOT STANDARD SPECIFICATION SECTIONS 586—2 AND 586—3.
- 4. PREMOULDED RESILIENT JOINT FILLER SHALL BE IN CONFORMANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 705-07.
- 5. ASPHALT FILLER AROUND EXPANSION END ANCHOR DOWELS SHALL BE IN CONFORMANCE WITH NYSDOT STANDARD SPECIFICATION SECTION 702-0700.
- 6. CONCRETE GROUTING MATERIAL AROUND FIXED END ANCHOR DOWELS SHALL BE IN CONFORMANCE WITH NYSDOT STANDARD SPECIFICATION SECTIONS 721-03, 721-01, 701-05 OR 701-06.

ARMORLESS JOINT SYSTEM NOTES

- 1. ELASTOMERIC CONCRETE HEADER MATERIAL AND PREFORMED CLOSED—CELL FOAM SEALS FOR THE DECK JOINTS AT EACH END OF THE BRIDGE SHALL COMPLY WITH THE REQUIREMENTS INDICATED FOR ARMORLESS BRIDGE JOINT SYSTEMS IN NYS STANDARD SPECIFICATION SECTION 705—04 FOR SYSTEMS WITH PREFORMED CLOSED—CELL FOAM MATERIAL AND SHALL BE LISTED ON THE NYSDOT APPROVED LIST FOR THIS TYPE OF SYSTEM.
- 2. THE JOINT OPENING WIDTH SHALL BE FIELD VERIFIED AND THE FOAM SEAL WIDTH AND DEPTH SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS FOR THE MEASURED JOINT OPENING.
- 3. THE PREPARATION OF ALL SURFACES TO RECEIVE THE JOINT HEADER MATERIALS AND THE INSTALLATION OF ALL HEADER AND SEAL MATERIALS SHALL BE IN STRICT ACCORDANCE WITH ALL MANUFACTURER'S INSTALLATION REQUIREMENTS FOR A WATERTIGHT INSTALLATION.
- 4. FOAM JOINT SEALS SHALL BE PREFABRICATED TO CONFORM TO THE GEOMETRIC REQUIREMENTS OF THE BRIDGE CROSS—SECTION FOR A ONE—PIECE CONTINUOUS FOAM SEAL INSTALLATION.
- 5. THE SUPPLIER SHALL PROVIDE A REPRESENTATIVE FOR TECHNICAL ASSISTANCE AT THE JOB SITE AT ALL TIMES DURING INSTALLATION OF THE JOINT SYSTEM. NO INSTALLATION OF NEW MATERIALS SHALL BE PERMITTED PRIOR TO RECEIVING ACCEPTANCE OF THE SUBSTRATE PREPARATION BY THE MANUFACTURER'S REPRESENTATIVE.
- 6. ALLOWABLE AMBIENT TEMPERATURES FOR JOINT SYSTEM INSTALLATION SHALL CONFORM STRICTLY TO ALL MANUFACTURER'S REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE TEMPORARY HEAT OR COOLING OF THE WORK AREA IN A MANNER ACCEPTABLE TO THE ENGINEER TO MAINTAIN APPROPRIATE AMBIENT AND SUBSTRATE TEMPERATURES THROUGHOUT THE INSTALLATION AND CURING PERIODS.

BRIDGE SUPERSTRUCTURE NOTES

- 1. THE BRIDGE DECK SYSTEM SHALL CONSIST OF PRECAST PRESTRESSED CONCRETE VOIDED SLAB UNITS WITH CAST—IN—PLACE CONCRETE TOPPING SLAB. THE BRIDGE DECK SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF NYSDOT STANDARD SPECIFICATION SECTION 563, NYSDOT BRIDGE DETAIL SHEETS BD—PA1E THRU BD—PA10E, THE NYSDOT PRECAST CONCRETE CONSTRUCTION MANUAL (PCCM) AND THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION. THE SLAB UNITS SHALL BE POST—TENSIONED AFTER INSTALLATION.
- 2. DESIGN LOADS FOR THE BRIDGE DECK SYSTEM SHALL BE AS FOLLOWS:

VEHICULAR LIVE LOAD:

HL-93 - DESIGN TRUCK OR DESIGN TANDEM AND DESIGN LANE LOAD.

DEAD LOADS:

PER AASHTO REQUIREMENTS PLUS 20 PSF ALLOWANCE FOR FUTURE ASPHALT WEARING SURFACE.

- 3. DEFLECTION CHECK SHALL BE INCLUDED IN THE DESIGN CALCULATIONS. MAXIMUM DEFLECTION UNDER VEHICULAR LIVE LOAD SHALL BE L/800.
- 4. THE PRECAST CONCRETE SUPPLIER SHALL MEET OR EXCEED THE REQUIREMENTS OF THE PCCM AND SHALL BE A MEMBER OF THE PRECAST/PRESTRESSED CONCRETE INSTITUTE. THE SUPPLIER SHALL BE REGULARLY ENGAGED IN THE DESIGN AND FABRICATION OF PRECAST PRESTRESSED CONCRETE BRIDGE UNITS FOR A MINIMUM OF 5 YEARS.
- ALL PRECAST PRESTRESSED CONCRETE UNITS SHALL BE FABRICATED AND INSTALLED IN STRICT ACCORDANCE WITH ALL AASHTO AND PCCM REQUIREMENTS.
- 6. THE BRIDGE DECK SOLID SLAB UNITS SHALL BE TRANSVERSELY POST—TENSIONED IN ACCORDANCE WITH THE REQUIREMENTS OF THE PCCM AND AS SHOWN ON THE DRAWINGS.
- 7. THE PRECAST CONCRETE SUPPLIER SHALL DESIGN ALL PRECAST MEMBERS 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 THE LICENSED DESIGN ENGINEER.
- 8. NON-PRESTRESSED REINFORCING STEEL EPOXY COATED.

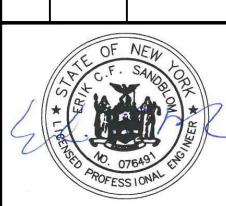
TEMPORARY EARTH SUPPORT SYSTEM NOTES

- 1. TEMPORARY EARTH SUPPORT SYSTEMS WILL BE REQUIRED FOR THE SAFE EXCAVATION AND CONSTRUCTION OF THE RETAINING WALL IN THE VICINITY OF THE EXISTING RESIDENTIAL STRUCTURE. THE CONTRACTOR MAY ALSO DEEM THAT A TEMPORARY EARTH SUPPORT SYSTEM WILL BE REQUIRED FOR THE SAFE EXCAVATION AND CONSTRUCTION OF THE EAST ABUTMENT OF THE BUCKS LANE BRIDGE. A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN NEW YORK STATE SHALL BE RETAINED BY THE CONTRACTOR TO DESIGN TEMPORARY EARTH SUPPORT SYSTEMS FOR THE EXCAVATION AND CONSTRUCTION OF THE RETAINING WALL AND IF DEEM NECESSARY, THE NEW BRIDGE SUBSTRUCTURE. THE CONTRACTOR SHALL SUBMIT A TEMPORARY EARTH SUPPORT SYSTEM PLAN AND DESIGN CALCULATIONS FOR REVIEW. THE SUBMITTAL SHALL INCLUDE ASSUMPTIONS MADE REGARDING SOIL PROPERTIES, GEOMETRY OF THE EXCAVATION, LATERAL PRESSURE DIAGRAMS, LOCATIONS AND MAGNITUDES OF ALL SURCHARGE LOADS, DEFLECTION ANALYSIS AND A PROPOSED MONITORING PROGRAM FOR THE CONSTRUCTION PERIOD.
- 2. EACH COMPONENT OF THE EXCAVATION SUPPORT SYSTEM SHALL BE DESIGNED TO SUPPORT THE MAXIMUM COMBINATION OF LOAD THAT CAN OCCUR.
- 3. THE TEMPORARY EARTH SUPPORT SYSTEM IS ANTICIPATED TO CONSIST OF DRIVEN OR DRILLED IN SOLIDER PILES WITH LAGGING. OTHER SOIL SUPPORT OR MODIFICATION METHODS THAT MAY BE SUITED TO THE CONDITIONS AND CONTRACTOR'S CAPABILITIES AND EQUIPMENT ALL DEPEND UPON THE ACTUAL EXCAVATION LIMITS AND THE GRADE REQUIRED FOR THE PARTICULAR CONTRACTOR'S EQUIPMENT AND METHODS PLANNED.

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SCALE: AS SHOWN DRAWN BY: KAS/SRA

DATE: 6/27/2019 ENG. BY: KAS/SRA

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ESSEX COUNTY COMMUNITY

RESOURCES

Elizabethtown, N.Y.

DRAWING TITLE

KFF1

KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II

NOTES

N-1

SHT. 2 OF 25 REV. 1

PRECAST CONCRETE RETAINING WALL NOTES

- 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.
- 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.
- 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.
- 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.
- 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.
- TOP WALL UNITS AT ALL STEPS IN ELEVATION SHALL HAVE SIMULATED STONE FINISH AT ALL EXPOSED VERTICAL SURFACES.

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.
- WATER SERVICE MAIN INSTALLATION SHALL BE SEQUENCED AS FOLLOWS:
- 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

(A) CONTRACTOR SHALL INSTALL TEMPORARY PEDESTRIAN BRIDGE PER

- (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.
- 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.
- PROVIDE THRUST BLOCKS IN ACCORDANCE WITH THE THRUST BLOCK DETAIL INDICATED ON DRAWING C.501 AT ALL DUCTILE IRON FITTINGS.

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

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

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.
- 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 H5 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.
 - THE BRIDGE SUPERSTRUCTURE SYSTEM SHALL CONFORM TO THE DIMENSIONS INDICATED ON THE CONTRACT DRAWINGS.
 - THE BRIDGE SUPERSTRUCTURE SYSTEM AND BEARINGS SHALL BE DESIGNED IN CONFORMANCE WITH ALL APPLICABLE REQUIREMENTS OF THE AASHTO SPECIFICATIONS.
 - 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.

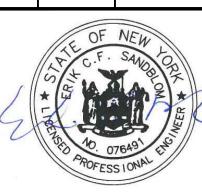
EROSION CONTROL NOTES

- 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 FARTHWORK 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
- 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.

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

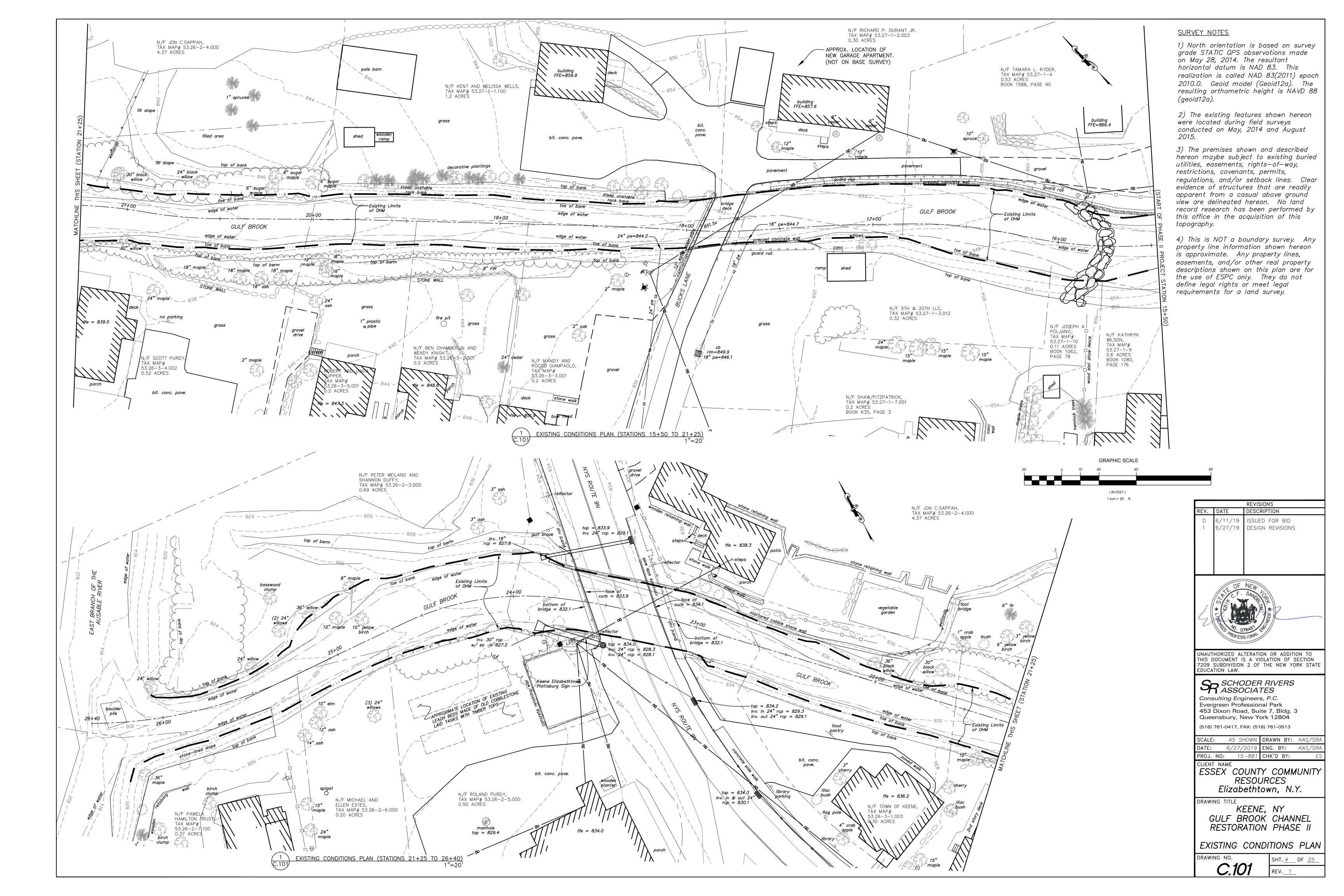
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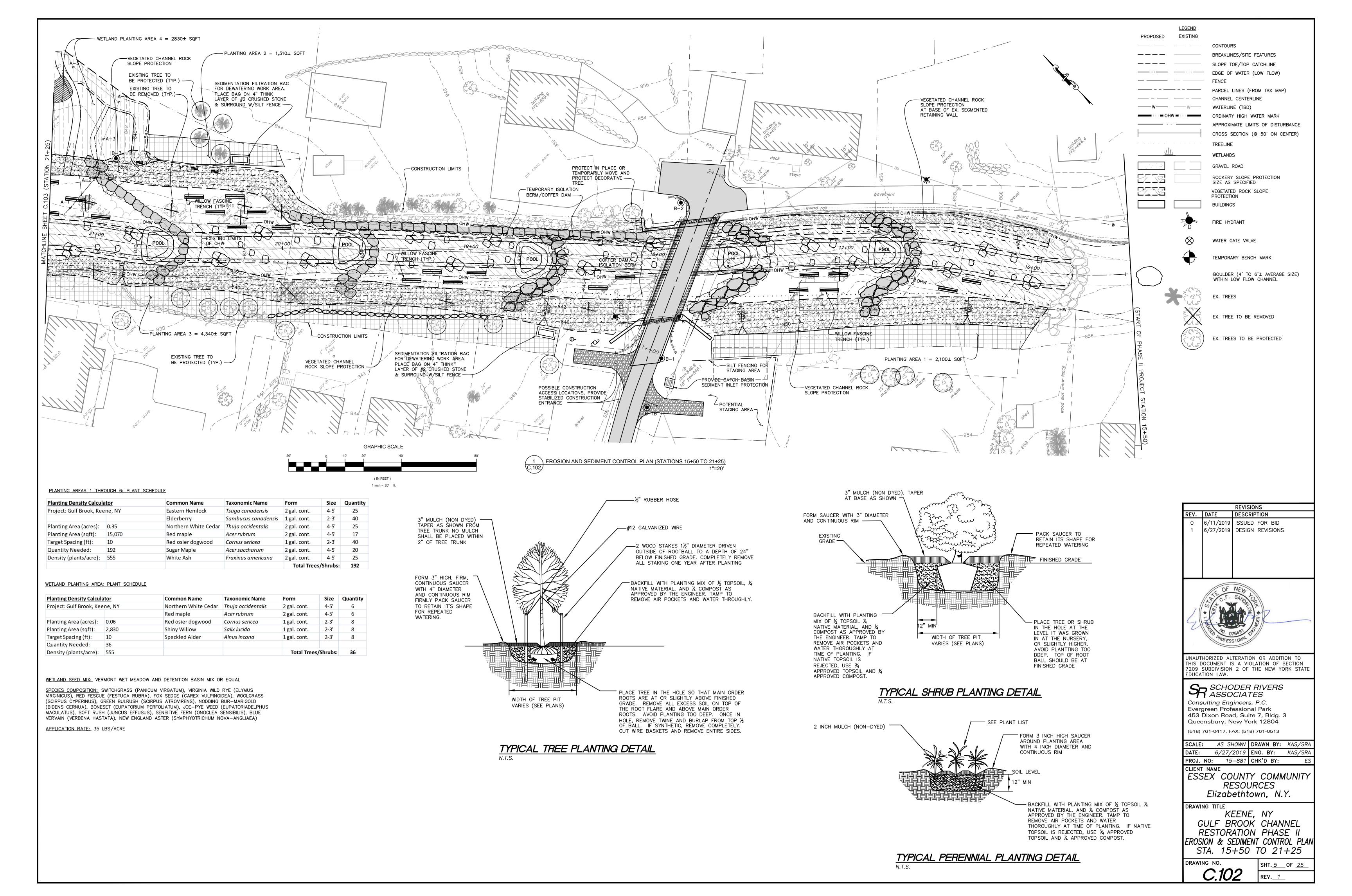
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE I

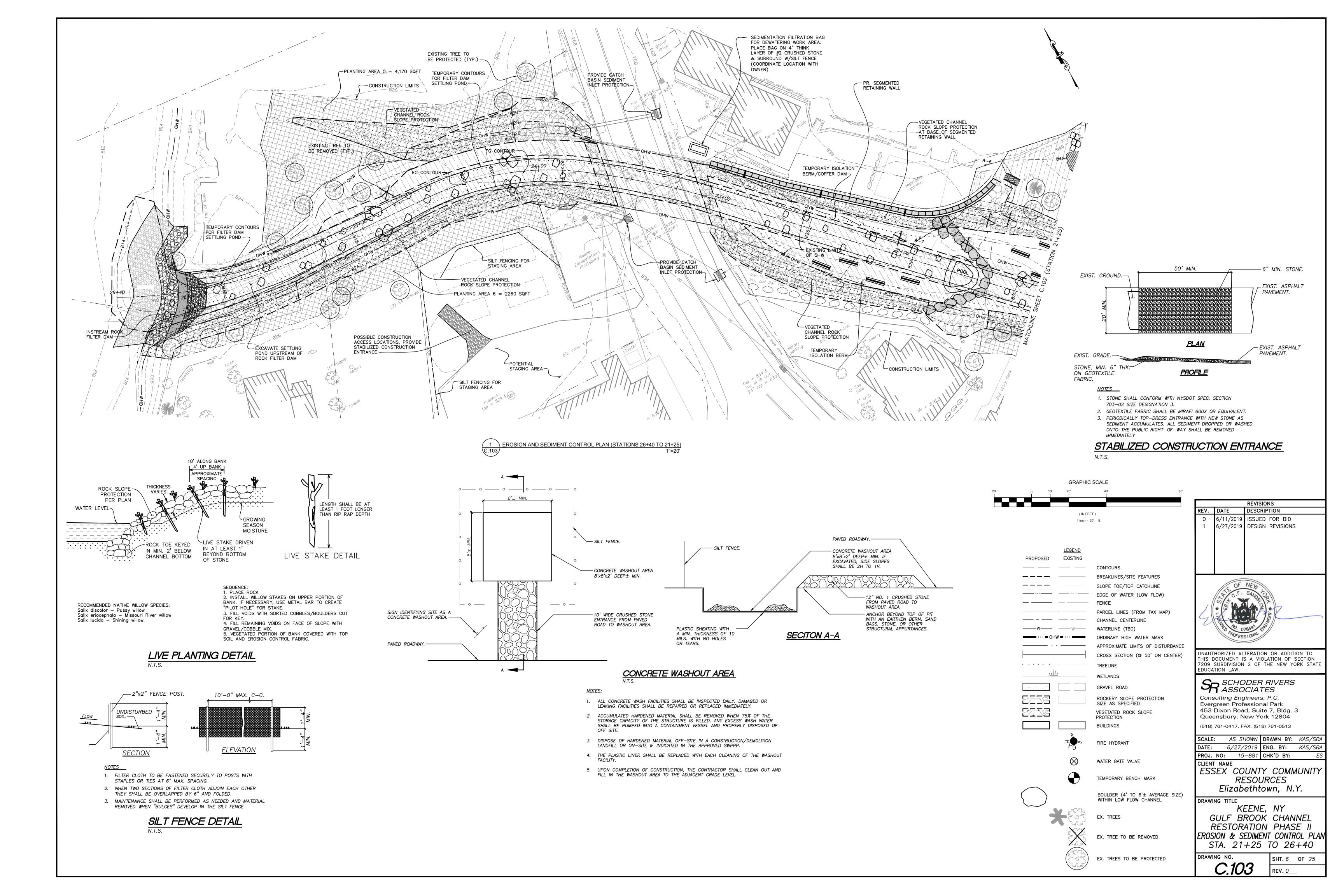
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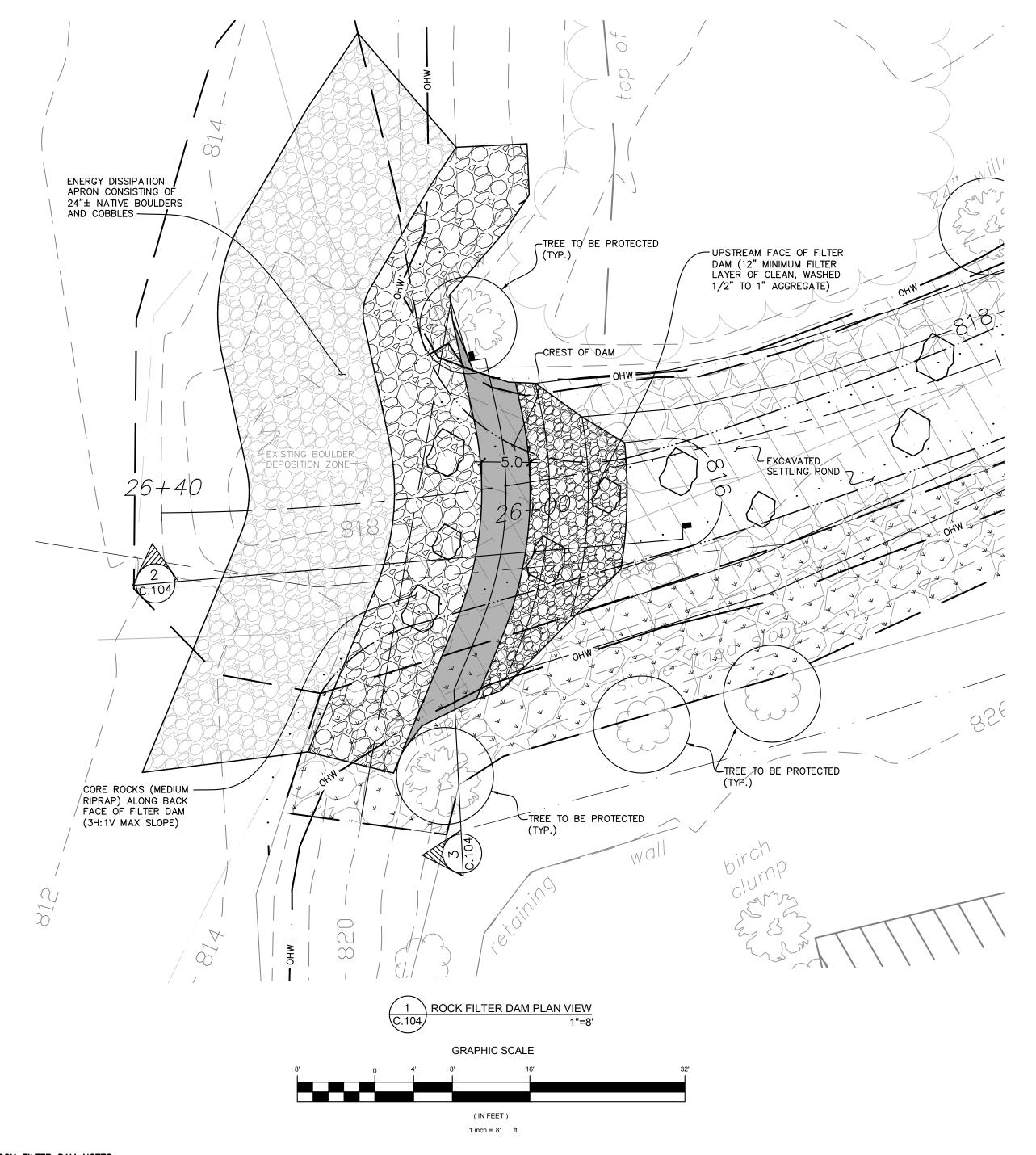
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SHT. 3 OF 25









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)

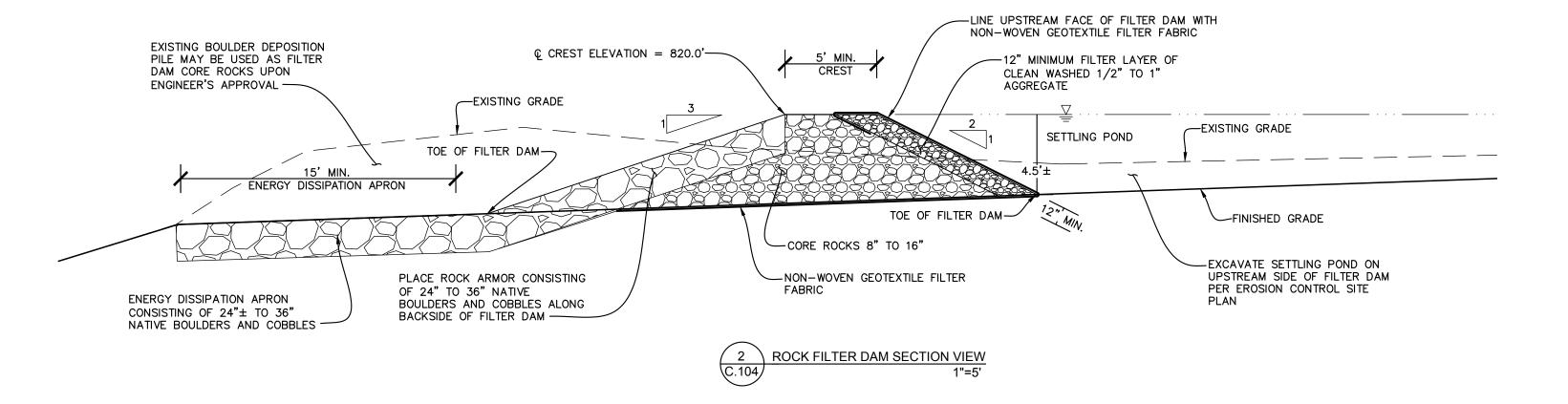
INSTALLATIO

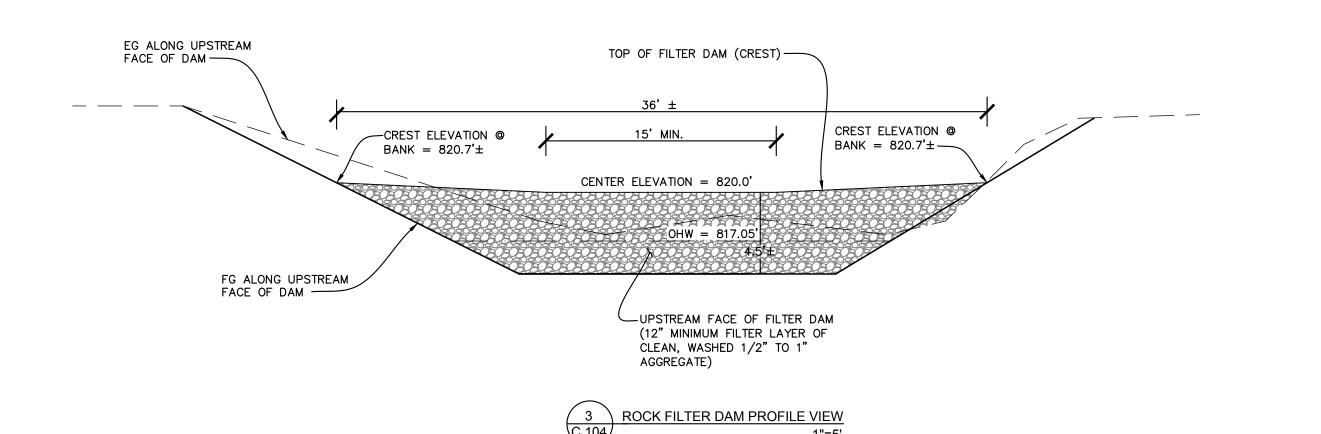
- 1. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL READ ALL CONDITIONS FOR ALL THE PERMITS ACQUIRED TO CONDUCT THE WORK FOR THIS PROJECT.
- 2. REFER TO APPROVED PLANS FOR LOCATION AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS, CONFLICTS OR PROBLEMS WITH THE LOCATION, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ONSITE OFFICER FOR ASSISTANCE AND/OR TO PRESENT AN ALTERNATIVE FOR CONSIDERATION.
- 3. IF THERE IS FLOW WITHIN THE WATERCOARSE OR CHANNEL AT THE TIME OF CONSTRUCTION OF THE ROCK FILTER DAM, THEN DOWNSTALL 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 EROSIVE 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 MATERIAL MAY BE MACHINE PLACED. INSTALL AND WORK SMALLER ROCKS AND/OR NATIVE COBBLES INTO THE VOIDS OF THE LARGER ROCKS.

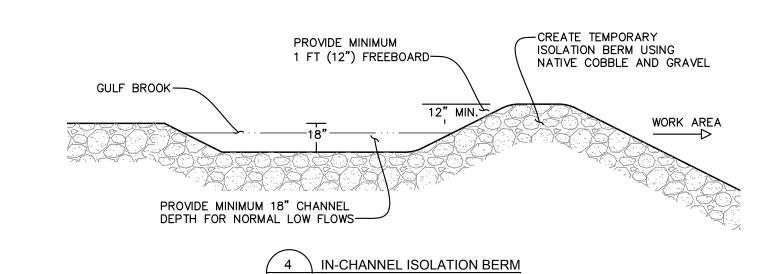
- 11. THE ROCK FILTER DAM SHALL BE CONSTRUCTED IN A SLIGHTLY CURVED PROFILE (IN PLAN VIEW) POINTING UPSTREAM. THE CENTER OF THE DAM'S CREST SHALL BE SLIGHTLY LOWER (TYPICALLY 8") THAN THE OUTER ABUTMENTS (WHERE THE DAM INTERSECTS THE CHANNEL BANKS) TO PROMOTE INITIAL OVERTOPPING AT OR NEAR THE CENTER 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.

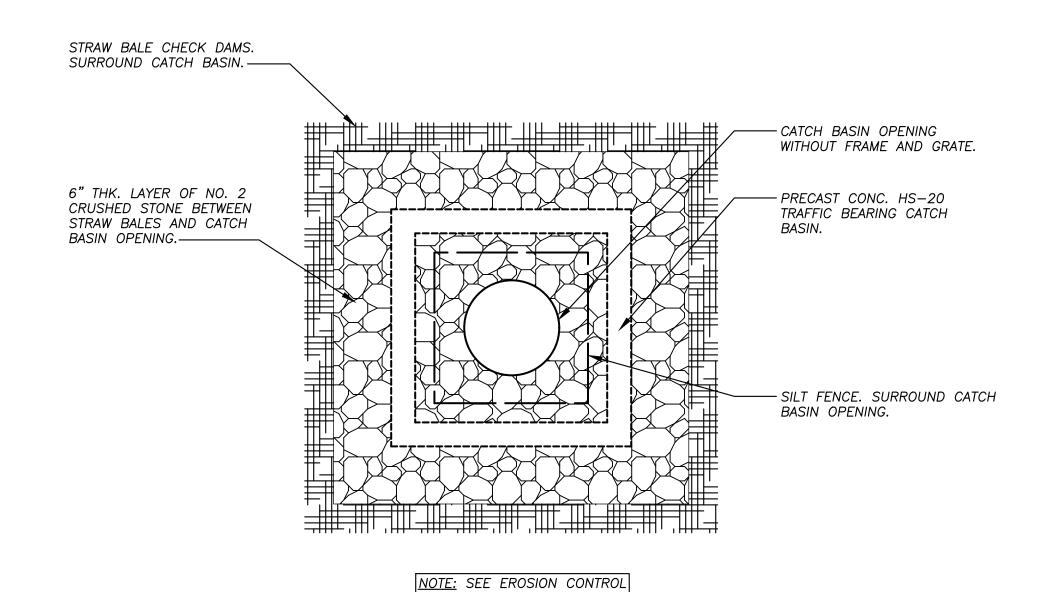
MAINTENANCE

- 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.
- 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.





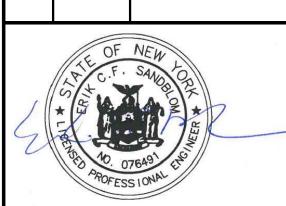




CATCH BASIN INLET PROTECTION DETAIL

|NOTES, DWG. N-2.

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



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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) 76 ⁻	1-0417, FAX: (51	8) 761-0513	
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DATE:	6/27/2019	ENG. BY:	KAS,

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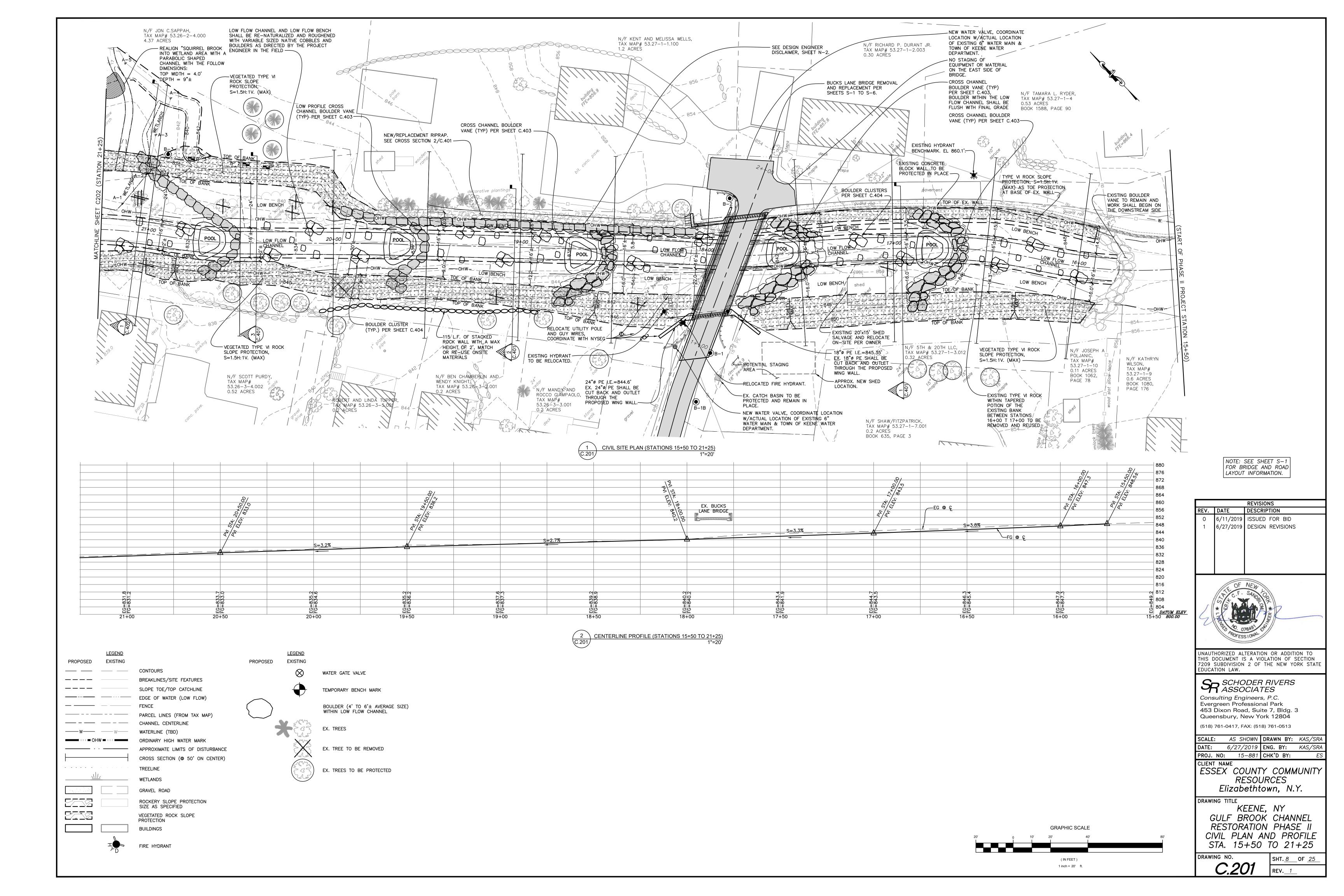
ESSEX COUNTY COMMUNITY
RESOURCES

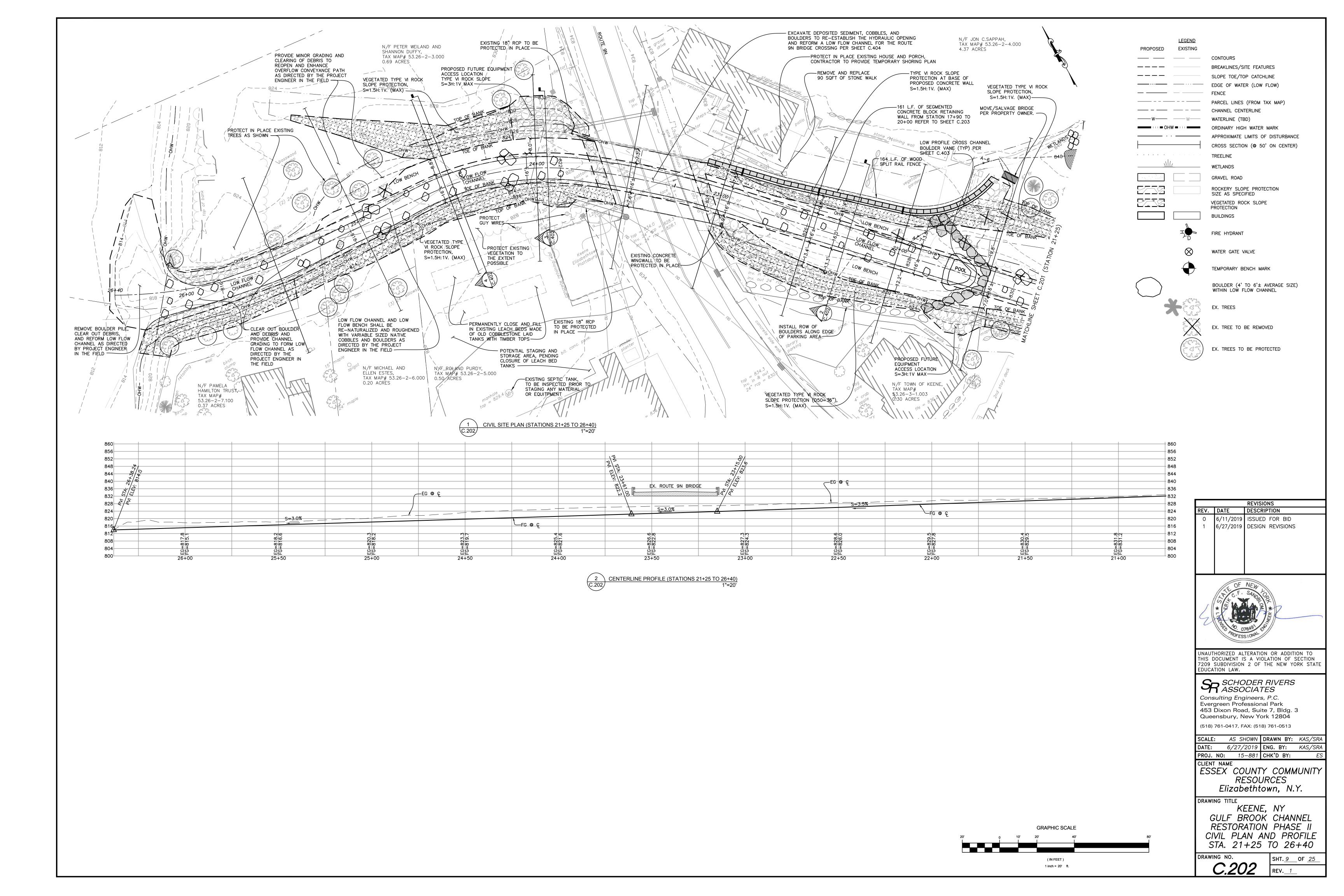
RESOURCES
Elizabethtown, N.Y.

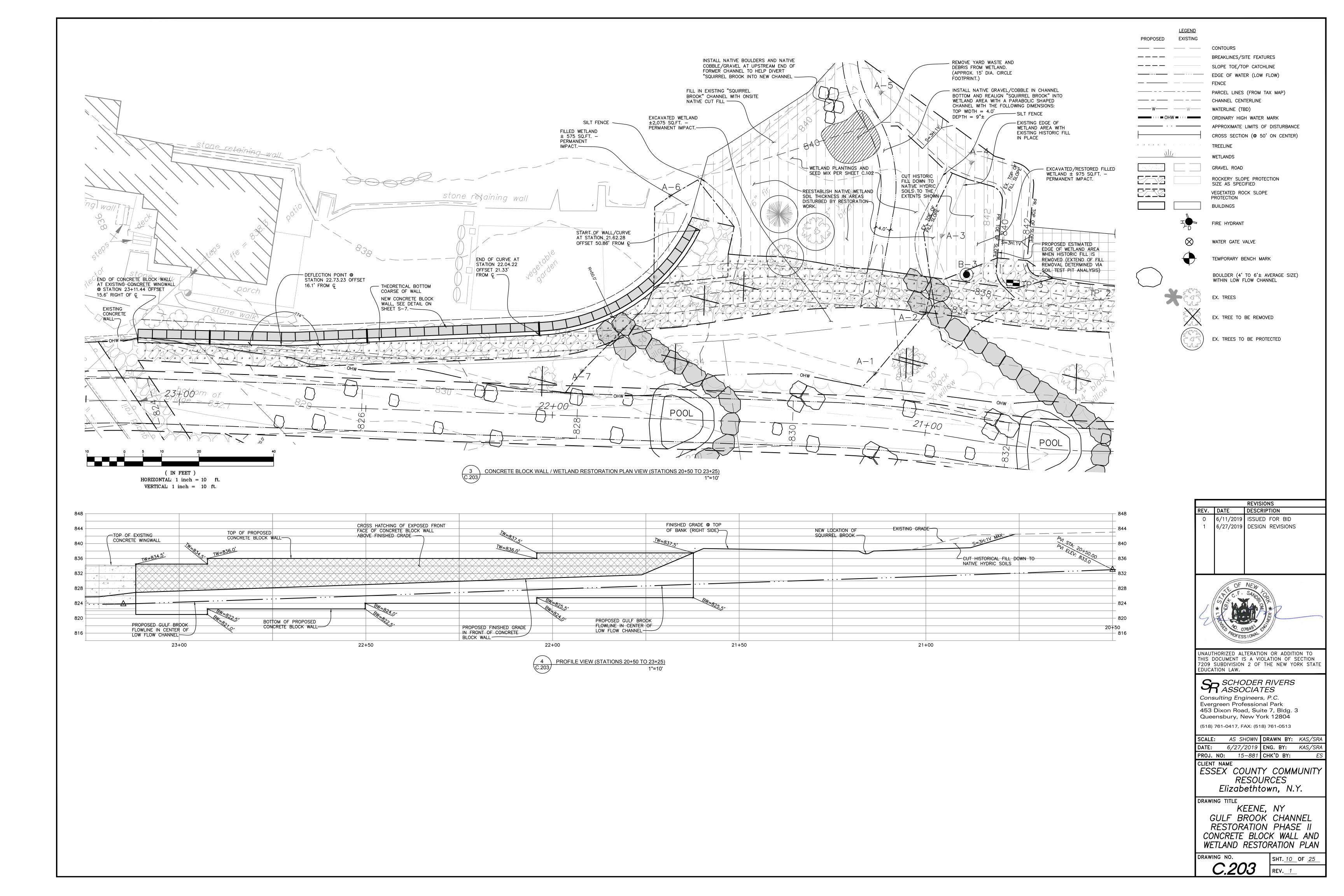
KEENE, NY
GULF BROOK CHANNEL
RESTORATION PHASE II
EROSION & SEDIMENT CONTROL PLAN
DETAILS

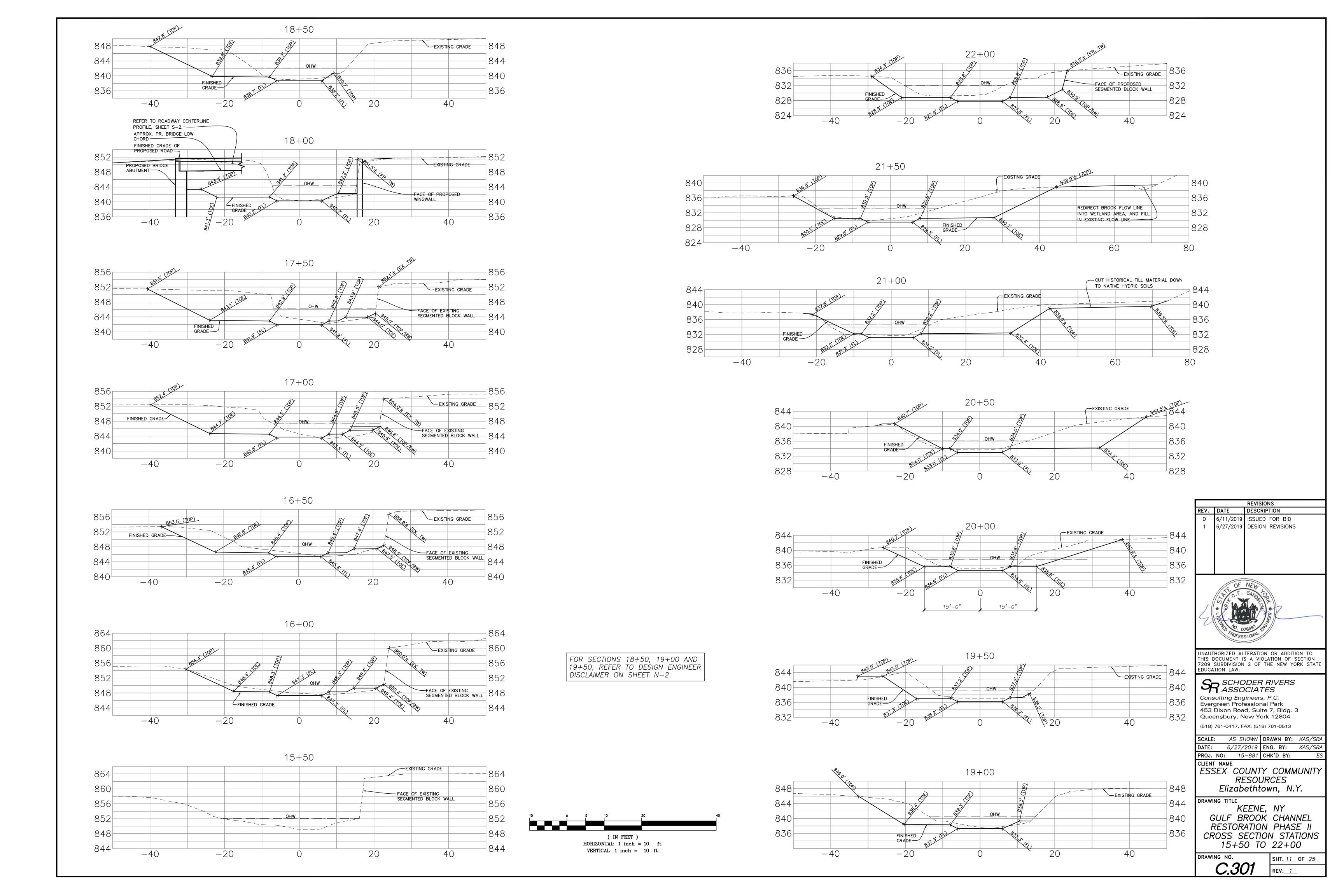
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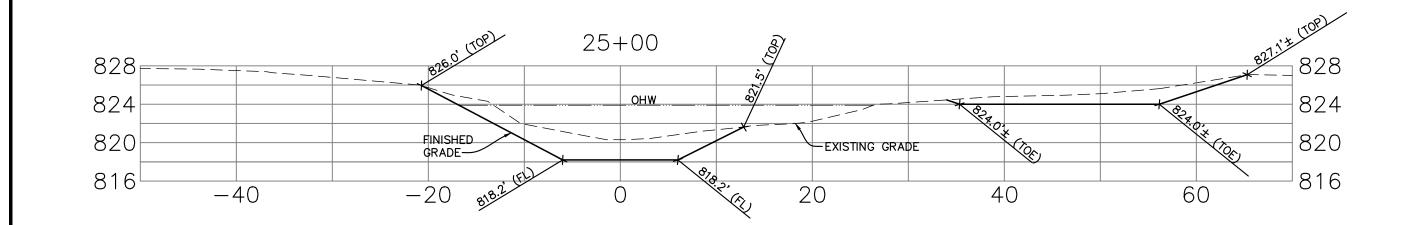
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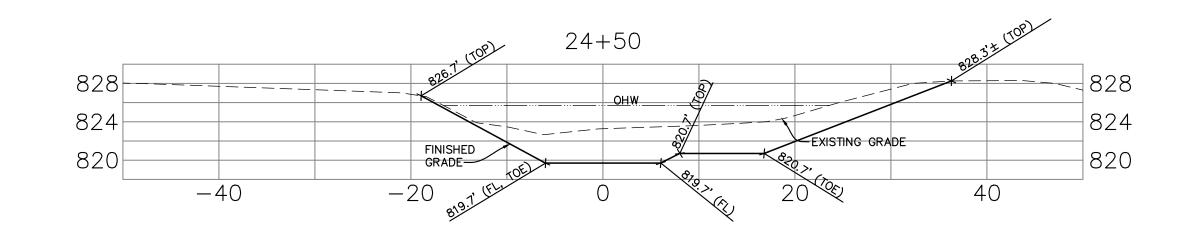


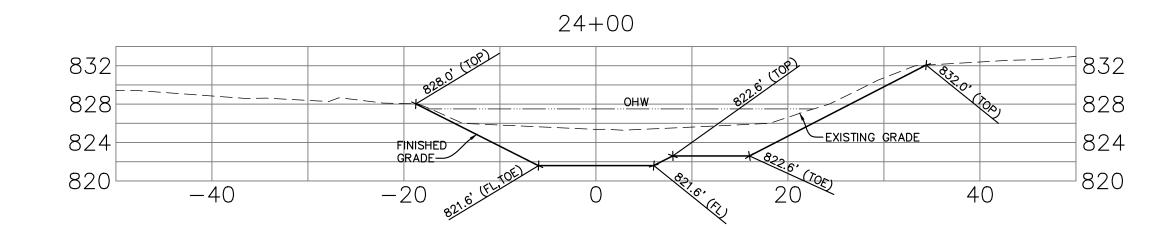


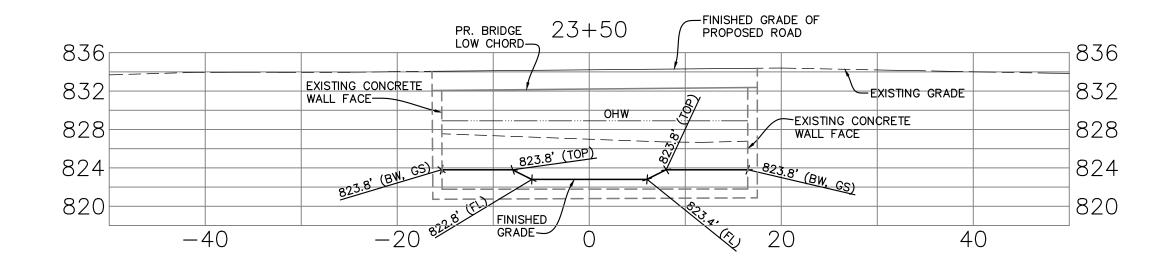


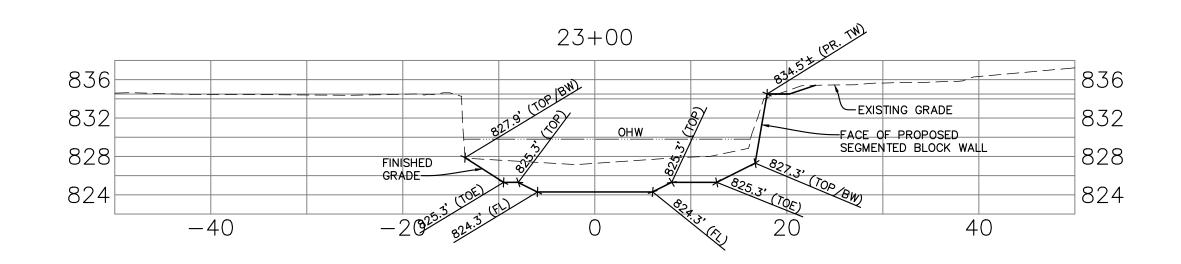


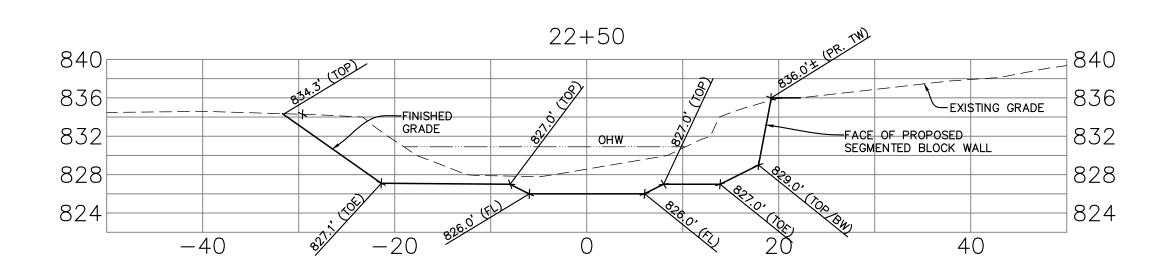


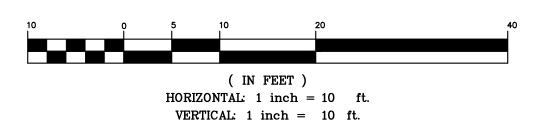


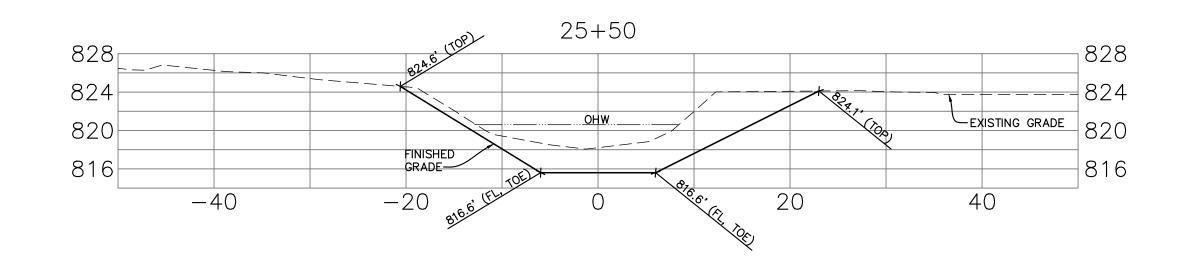




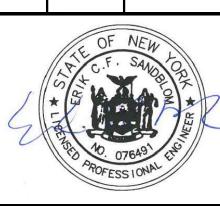








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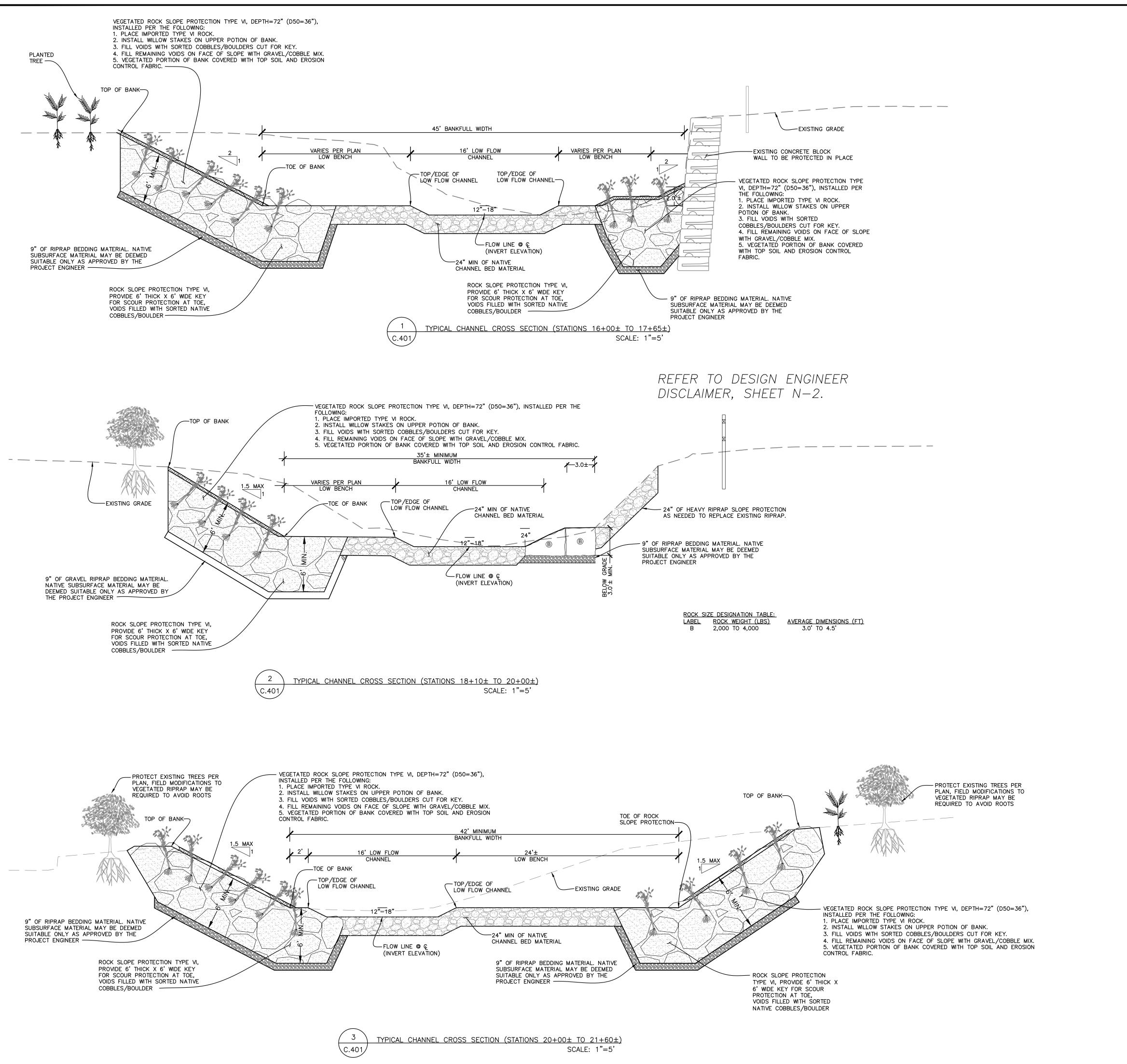
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ESSEX COUNTY COMMUNITY RESOURCES Elizabethtown, N.Y.

DRAWING TITLE

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

C.302



ROCK SLOPE and CHANNEL

PROTECTION NOTES

ROCK SELECTION: 1) ROCKS MUST BE APPROVED, HARD, ANGULAR, BLASTED, STRONG, RESISTANT TO WEATHERING, AND RING WHEN STRUCK WITH A GEOLOGY

2) ROCKS MUST BE FREE OF MAJOR WEAK ZONES SUCH AS CRACKS, SEAMS, ÁND FOLIATION.

3) 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.

4) 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.

5) WHEN ROCK SLOPE PROTECTION AND FILTER BLANKET ARE TO BE PLACED ÁS 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.

6) 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.

7) 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 FOE UPLIFT AND MOVEMENT.

8) 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.

9) DUMPING OF ROCK SLOPE PROTECTION AT THE TOP OF SLOPES AND ROLLING OR PUSHING INTO PLACE SHALL NOT BE PERMITTED.

10) ROCK SLOPE PROTECTION SHALL MEET THE GRADATION BELOW AS BEST AVAILABLE FROM LOCAL SOURCES.

TYPE VI ROCK SLOPE PROTECTION GRADATION

% PASSING 54"-66" 36"-48" 30"-42"

NATIVE CHANNEL BED MATERIAL NOTE

1) NATIVE CHANNEL BED MATERIAL SHALL BE EXISTING BED MATERIAL ÉXCAVATED DURING THE WORK UNDER THIS PROJECT. THE MATERIAL SHALL BE STOCKPILED AND REUSED AS SHOWN ON THE PLANS AND AS DIRECTED

LOW FLOW CHANNEL NOTE

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

PLACED RIPRAP WALL SECTION

1) ROCKS MUST BE CUBICAL, TABULAR, OR RECTANGULAR SO THAT THEY REST UPON EACH OTHER IN THE WALL.

2) ROCKS MUST BE HARD, STRONG, RESISTANT TO WEATHERING, AND RING WHEN STRUCK WITH A GEOLOGY HAMMER.

3) ROCKS MUST BE FREE OF MAJOR WEAK ZONES SUCH AS CRACKS, SEAMS, AND FOLIATION.

ROCK PLACEMENT RECOMMENDATIONS:

1) 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.

2) 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.

3) 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.

4) ROCKS SHOULD BE PLACED SO THAT THE LONG DIMENSION IS PLACED INTO THE SLOPE (PERPENDICULAR TO THE SLOPE) 5) ROCKS SHOULD BE SET SUCH THAT THERE ARE NO SLOPING FACES OUT

OF THE ROCK WALL, WHICH COULD CREATE A PLANE OF WEAKNESS OR 6) 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

7) 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.

8) FOOTER ROCK SHALL BE EMBEDDED A MINIMUM OF 4' BELOW THE

CHANNEL BOTTOM AND 6' BELOW FINISHED GRADE.

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PROJ. NO: 15-881 CHK'D BY:

(518) 761-0417, FAX: (518) 761-0513						
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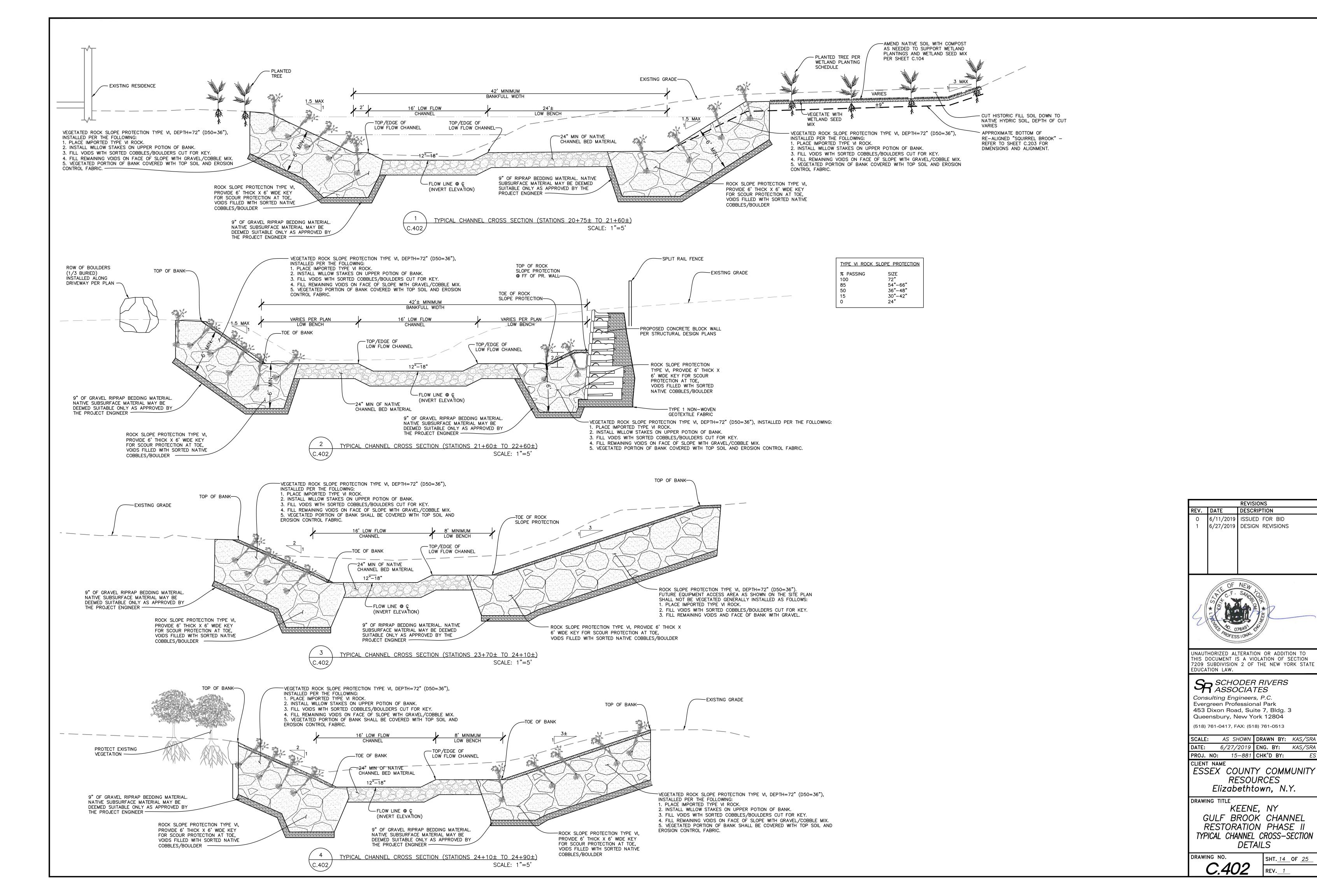
ESSEX COUNTY COMMUNITY RESOURCES Elizabethtown, N.Y.

DRAWING TITLE

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

DRAWING NO.

SHT. <u>13</u> OF <u>25</u>



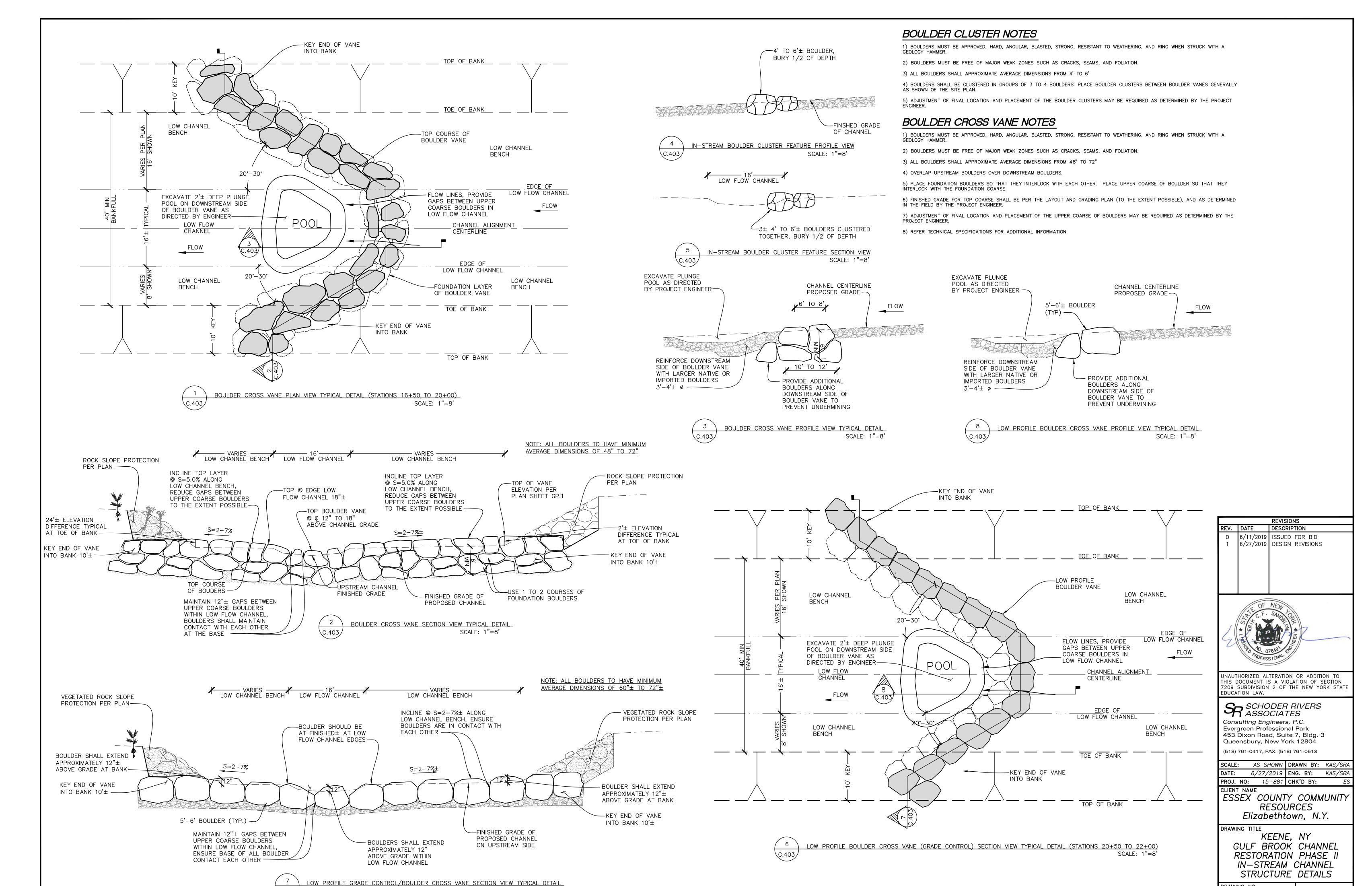
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RESOURCES

KEENE, NY

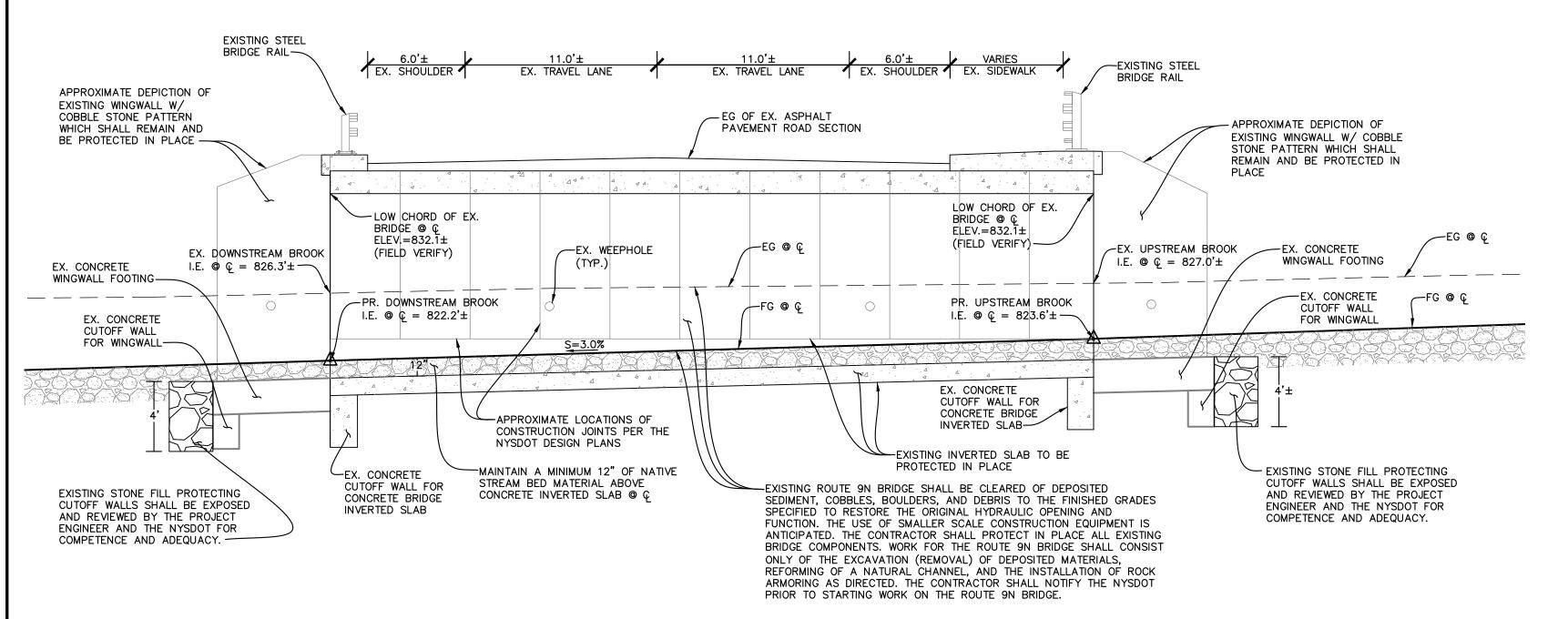
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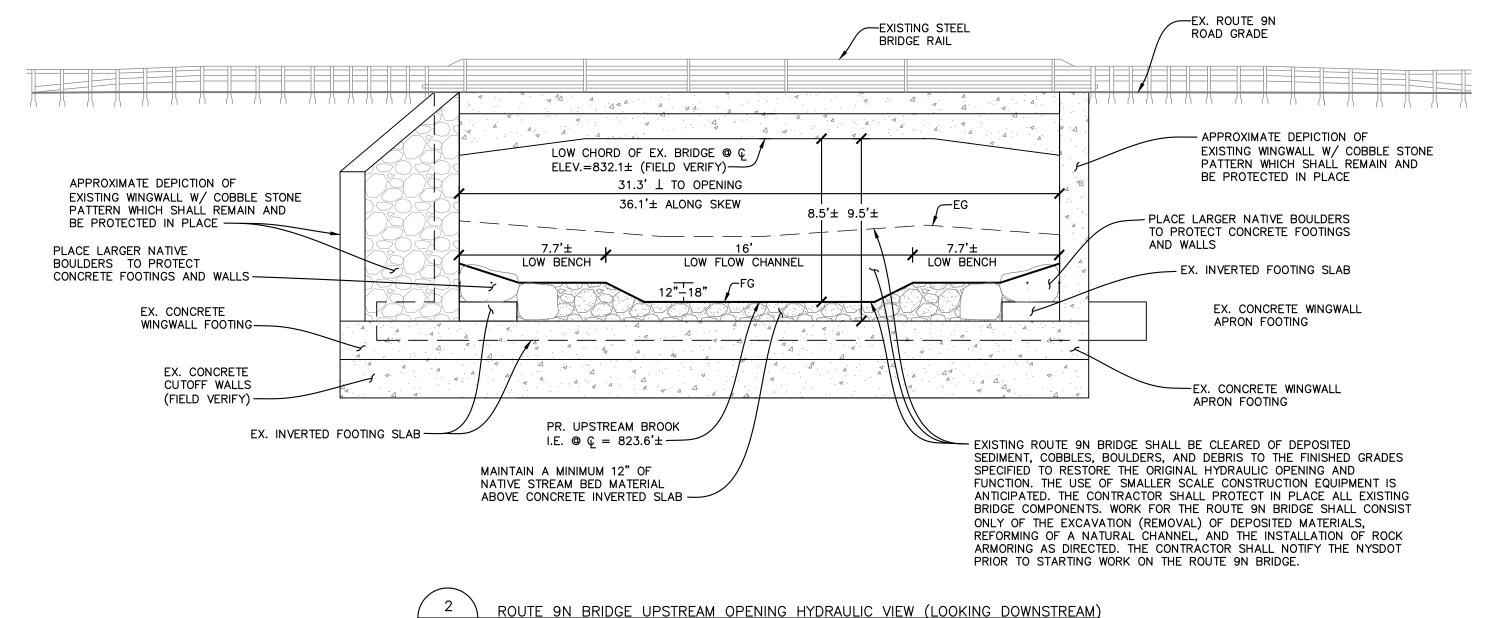
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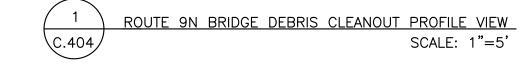
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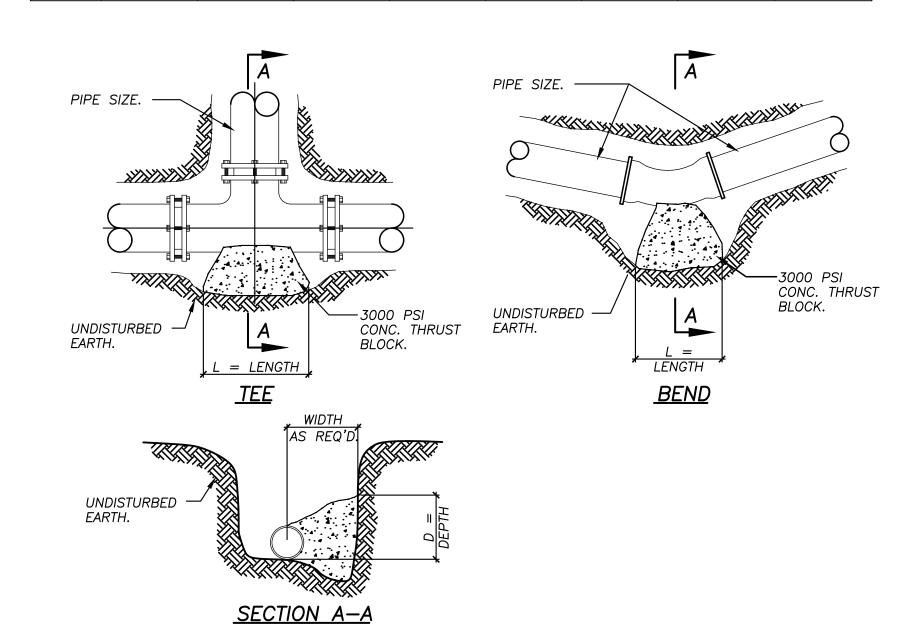




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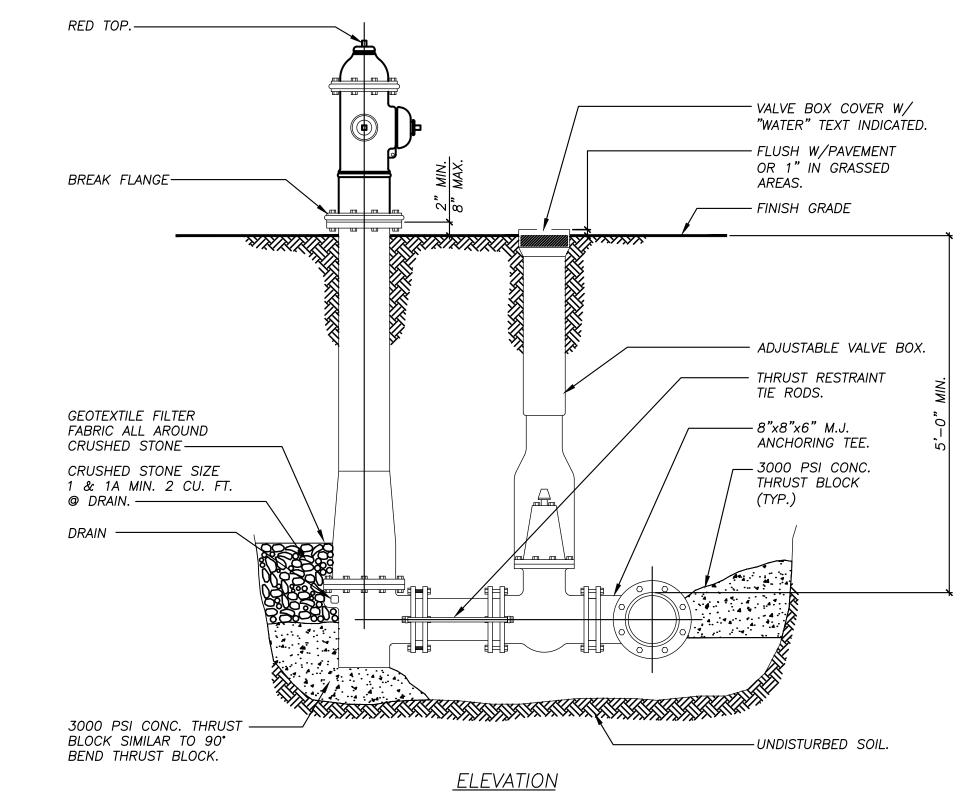
REQUIRED BEARING AREAS AND DIMENSIONS FOR CONCRETE THRUST BLOCKS								
PIPE	90° (1/	4) BEND	45° (1/	8) BEND	22.5° (1/	'16) BEND	TEE, WYE O	R DEAD END
SIZE (IN.)	AREA	DIMENSION	AREA	DIMENSION	AREA	DIMENSION	AREA	DIMENSION
(IN.)	SQ. FT.	DxL	SQ. FT.	DxL	SQ. FT.	DxL	SQ. FT.	DxL
6"	5.7	1.75 x 3.25	3.2	1.25 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



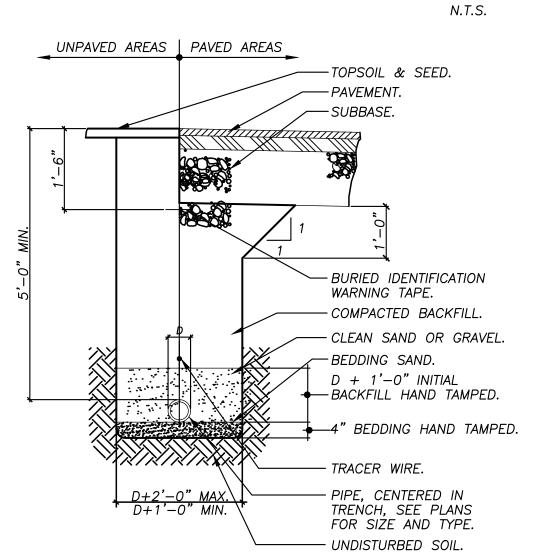
THRUST BLOCK NOTES

- 1. 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
- 2. CONCRETE NOT TO OVERLAP ANY JOINT.
- 3. CONCRETE TO BE PLACED SO AS NOT TO INTERFERE WITH REMOVING OR INSTALLING ANY OF THE JOINTING
- 4. 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.
- 5. 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.
- 6. 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.
- 7. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH AT 28 DAYS (f'c) EQUAL TO MIN. 3000 PSI.

TYPICAL DUCTILE IRON THRUST BLOCK DETAILS





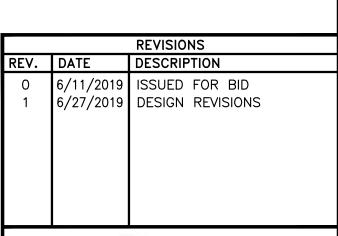


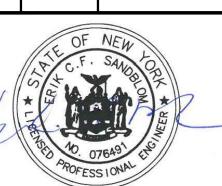
WATER MAIN TRENCH DETAIL

VALVE BOX COVER W/ "WATER" TEXT INDICATED. - FLUSH W/PAVEMENT OR 1" IN GRASSED AREAS. — FINISH GRADE - ADJUSTABLE VALVE BOX. — 8" GATE VALVE. —UNDISTURBED SOIL. <u>ELEVATION</u>

SCALE: 1"=5"

GATE VALVE DETAIL





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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) 76	1-0417, FAX: (51	8) 761-0513	
SCALE:	AS SHOWN	DRAWN BY:	KAS/
DATE:	6/27/2019	ENG. BY:	KAS/

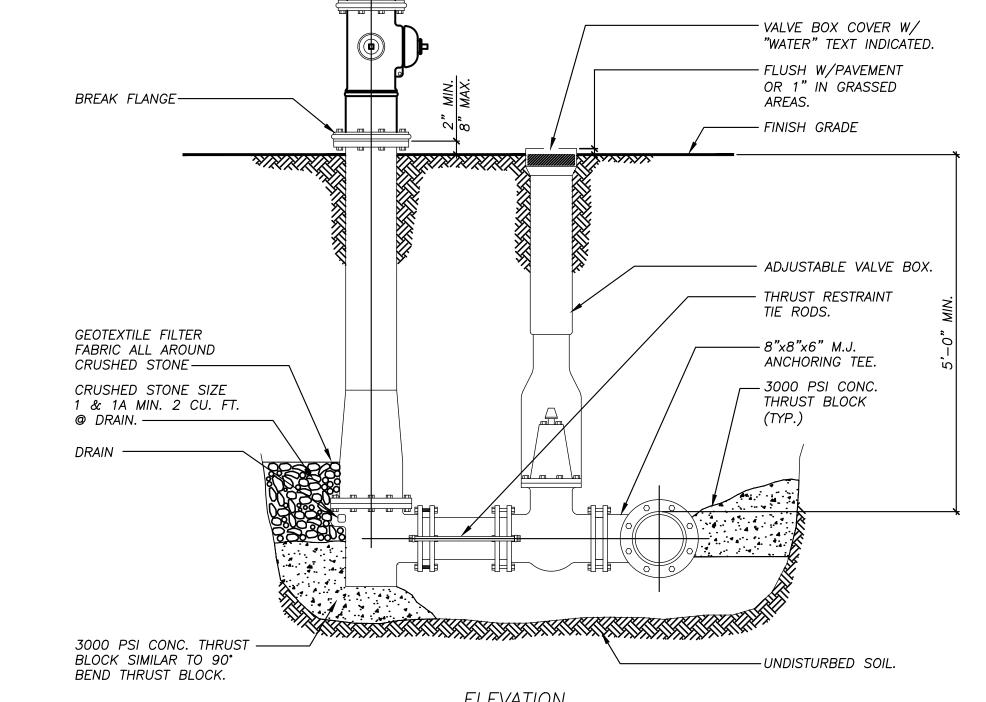
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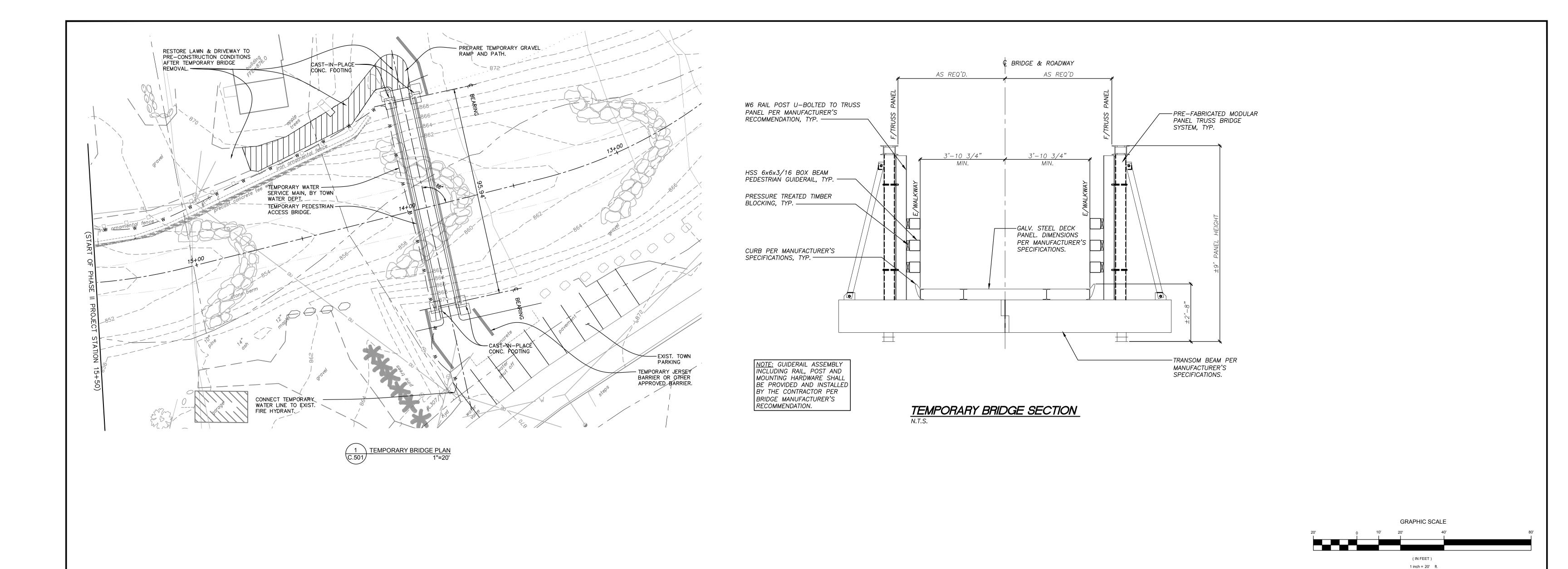
Elizabethtown, N.Y. DRAWING TITLE

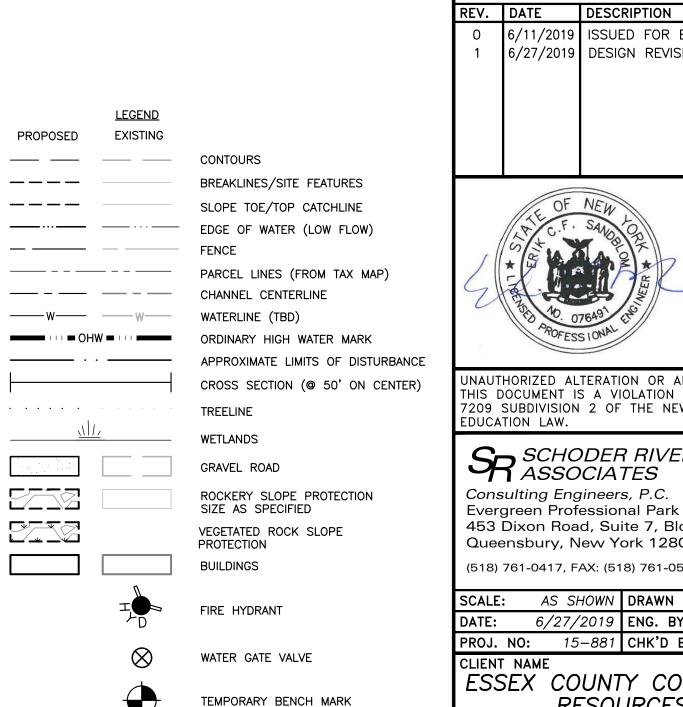
KEENE, NY GULF BROOK CHANNEL RESTORATION PHASE II ROUTE 9N BRIDGE CLEANOUT DETAILS AND WATER SYSTEM DETAILS

DRAWING NO.

SHT.<u>16</u> OF <u>25</u> C.404





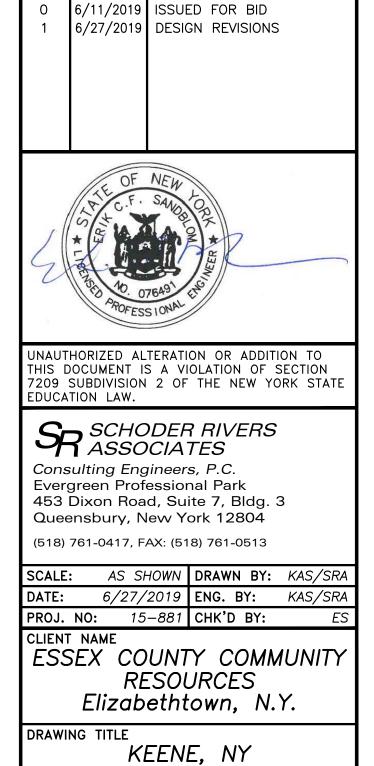


BOULDER (4' TO 6'± AVERAGE SIZE)

WITHIN LOW FLOW CHANNEL

EX. TREE TO BE REMOVED

EX. TREES TO BE PROTECTED



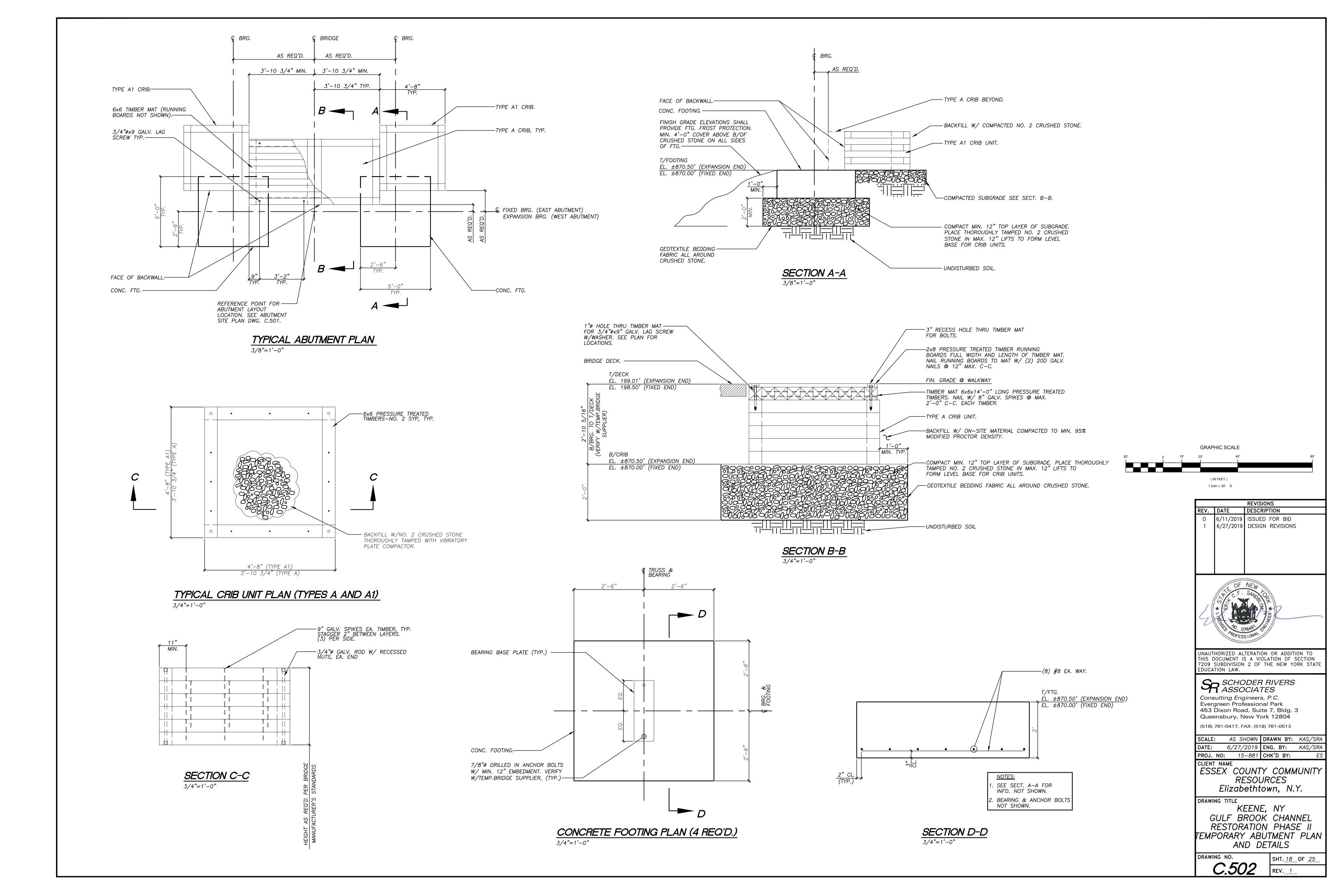
GULF BROOK CHANNEL RESTORATION PHASE II TEMPORARY BRIDGE PLAN

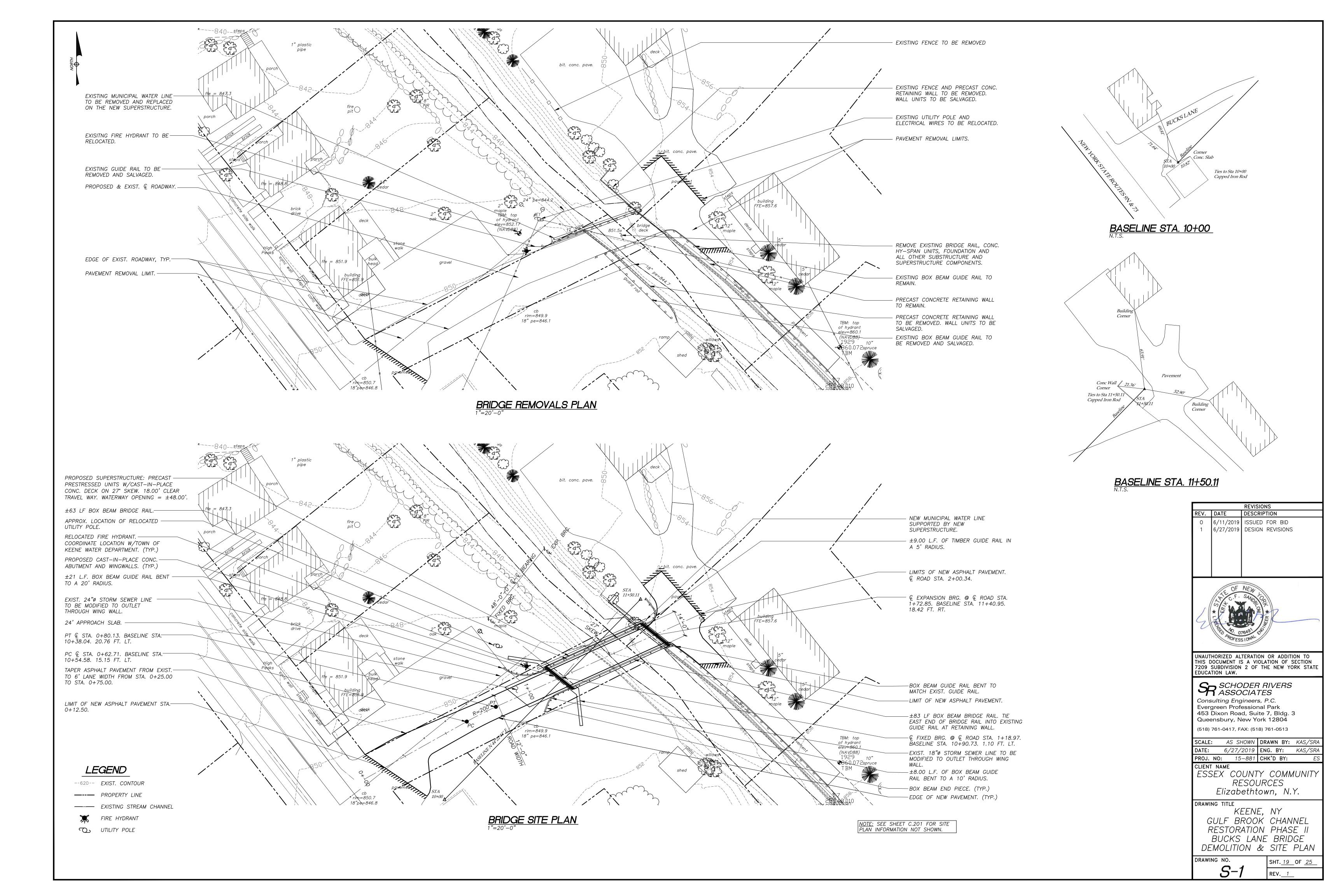
AND DETAILS

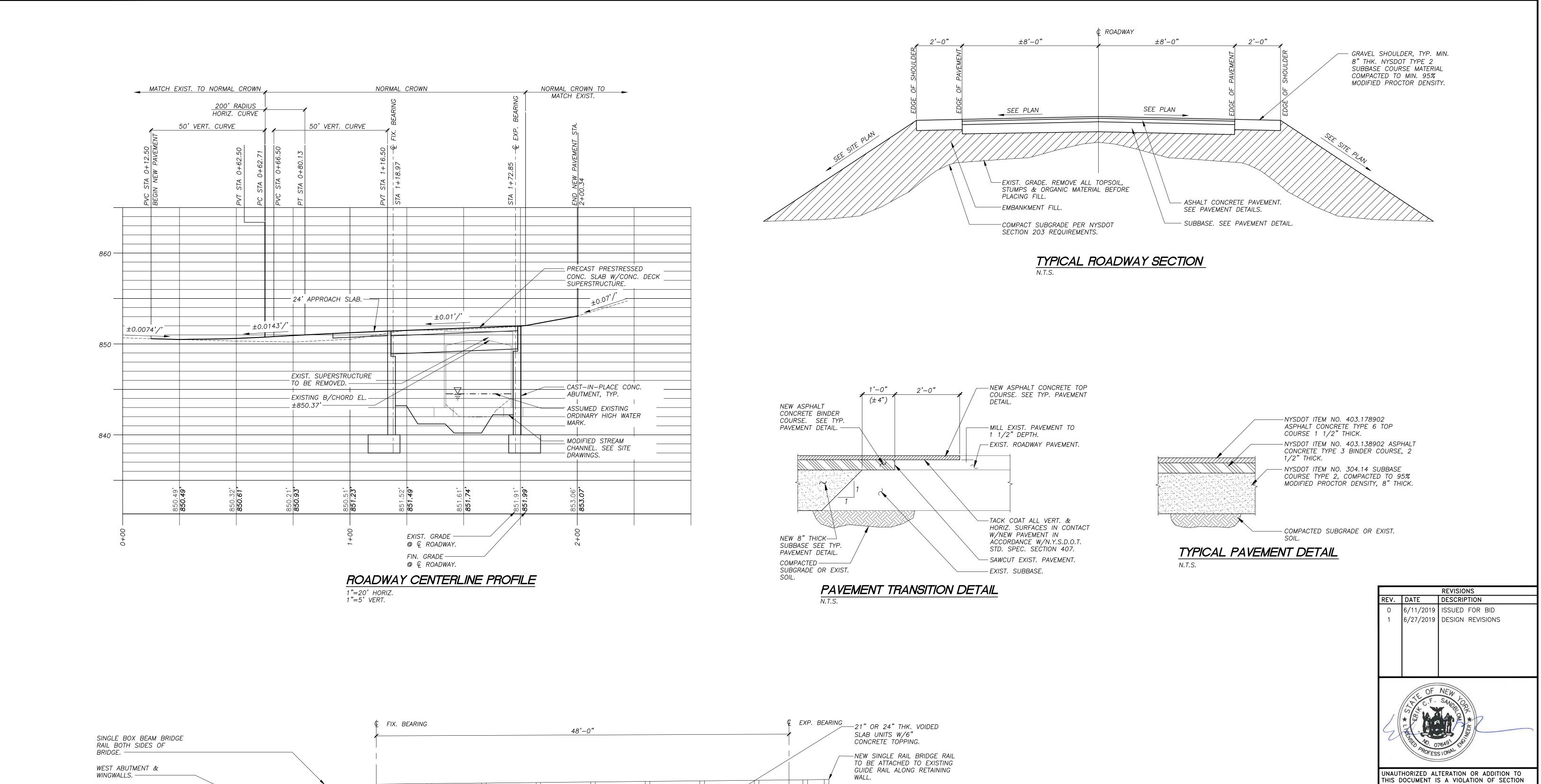
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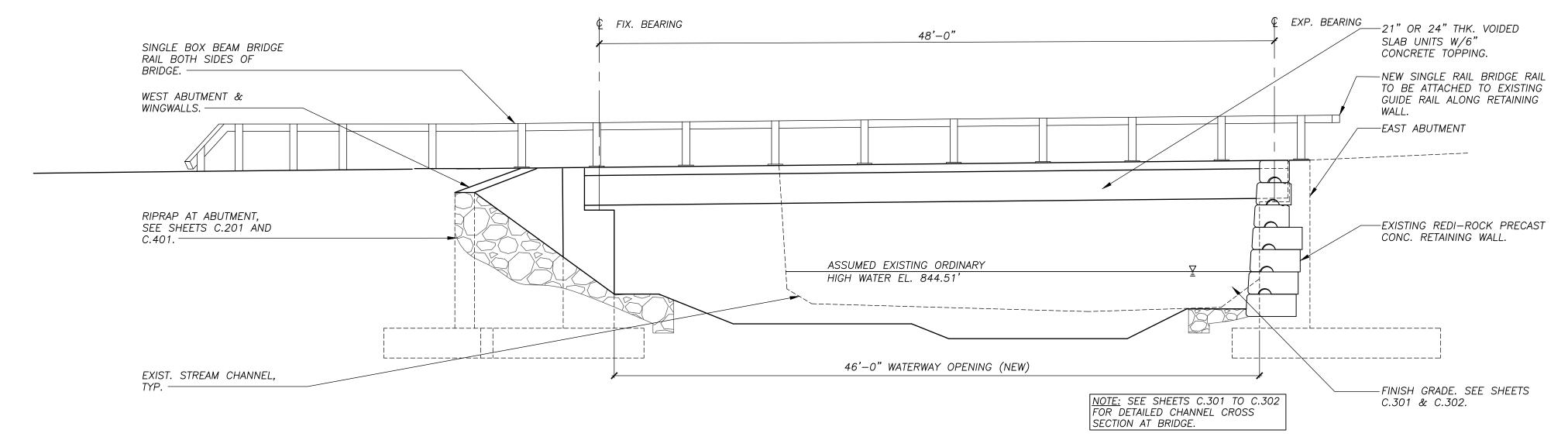
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REVISIONS









BRIDGE ELEVATION (LOOKING NORTHWEST)

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DATE: 6/27/19 ENG. BY: KAS/SRA
PROJ. NO: 15-881 CHK'D BY: ES
CLIENT NAME

ESSEX COUNTY COMMUNITY

RESOURCES

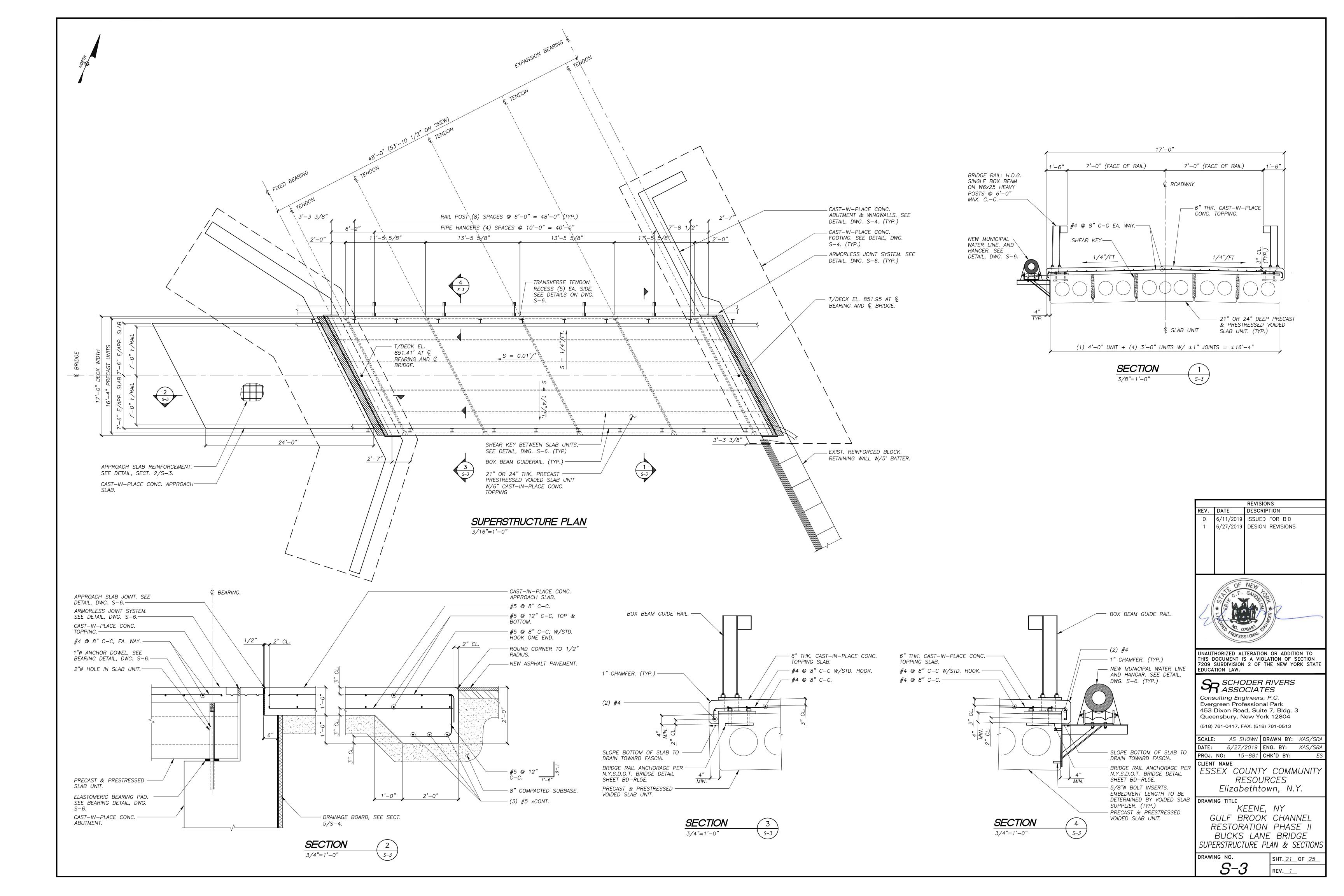
Elizabethtown, N.Y.

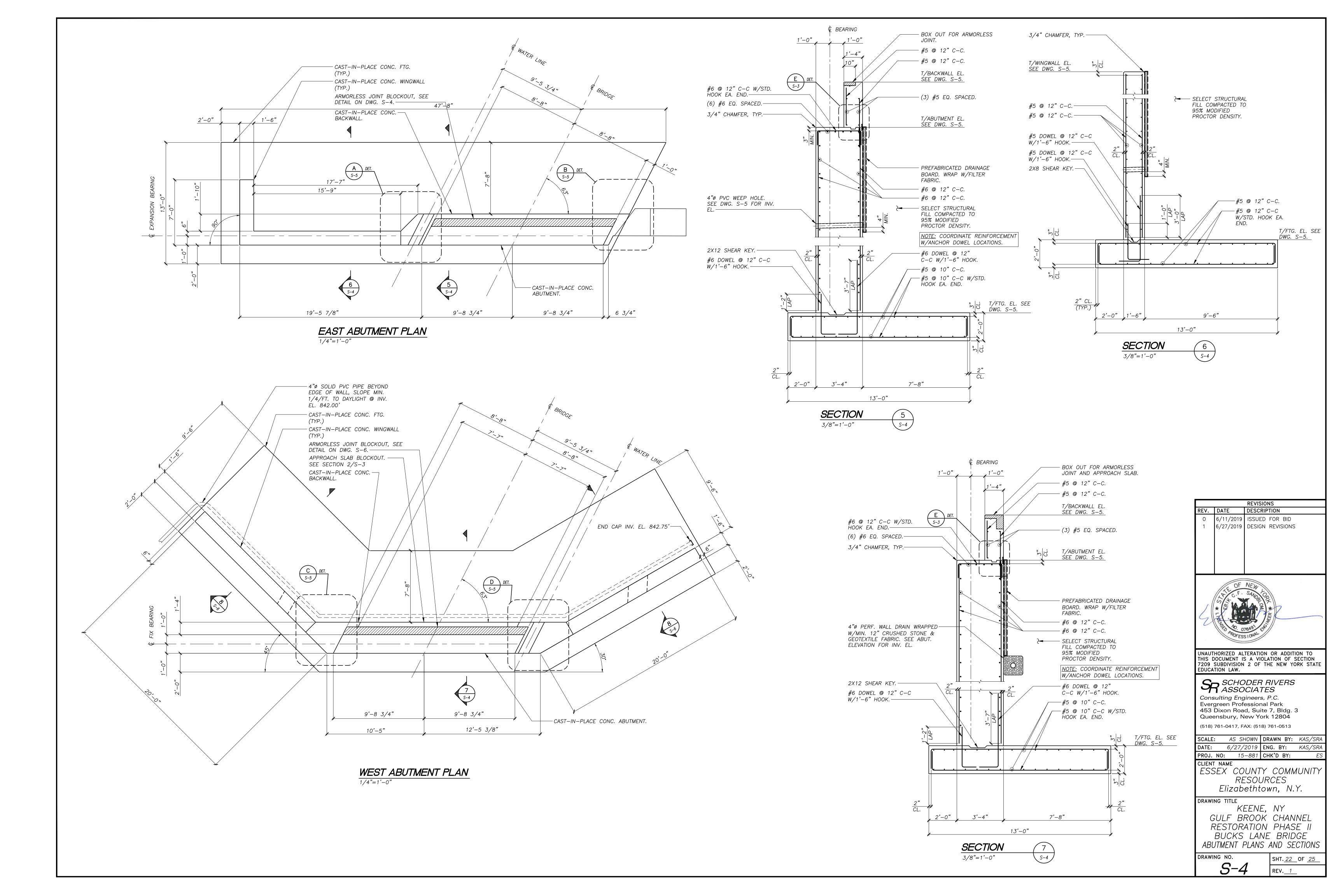
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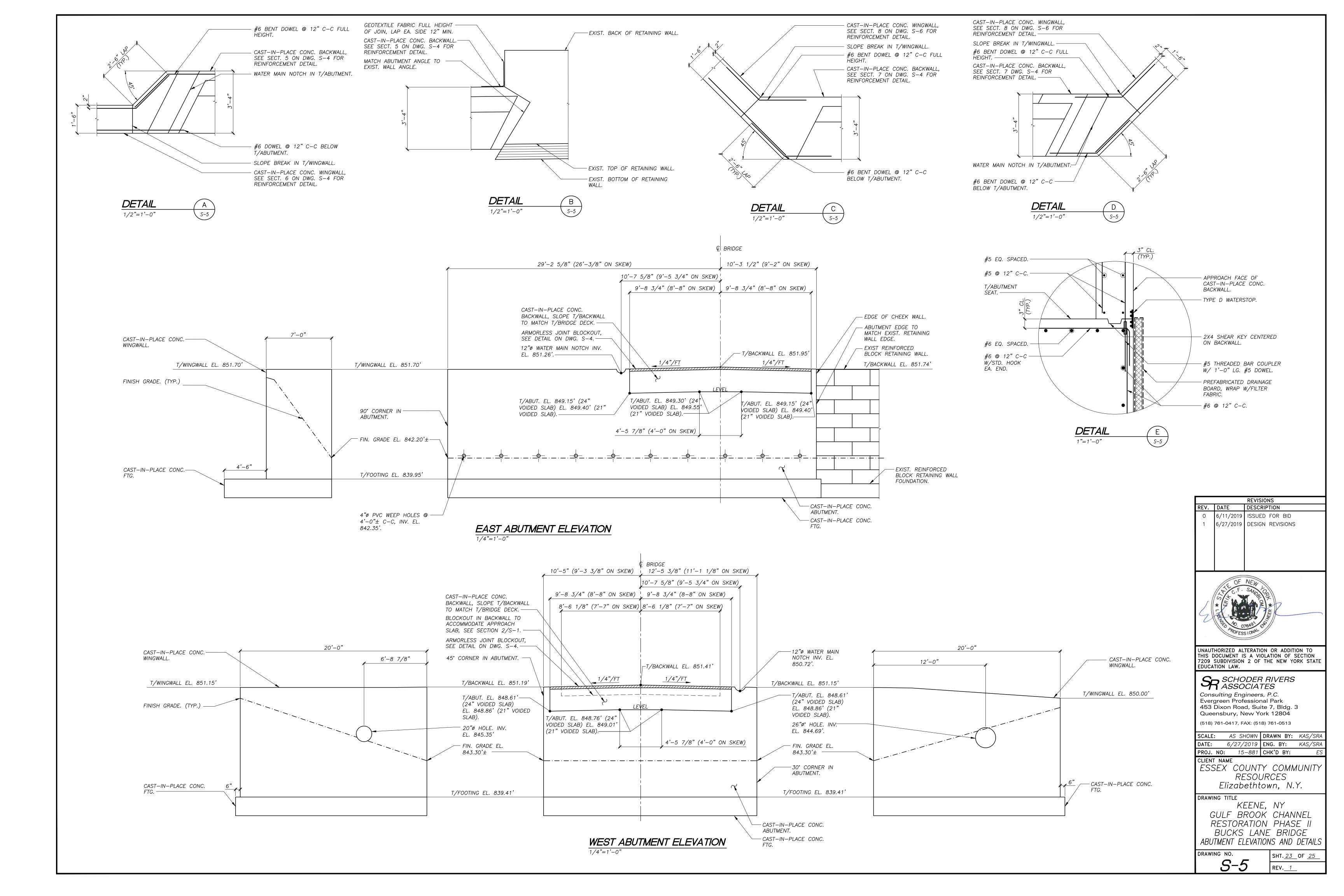
KEENE, NY
GULF BROOK CHANNEL
RESTORATION PHASE II
BUCKS LANE BRIDGE

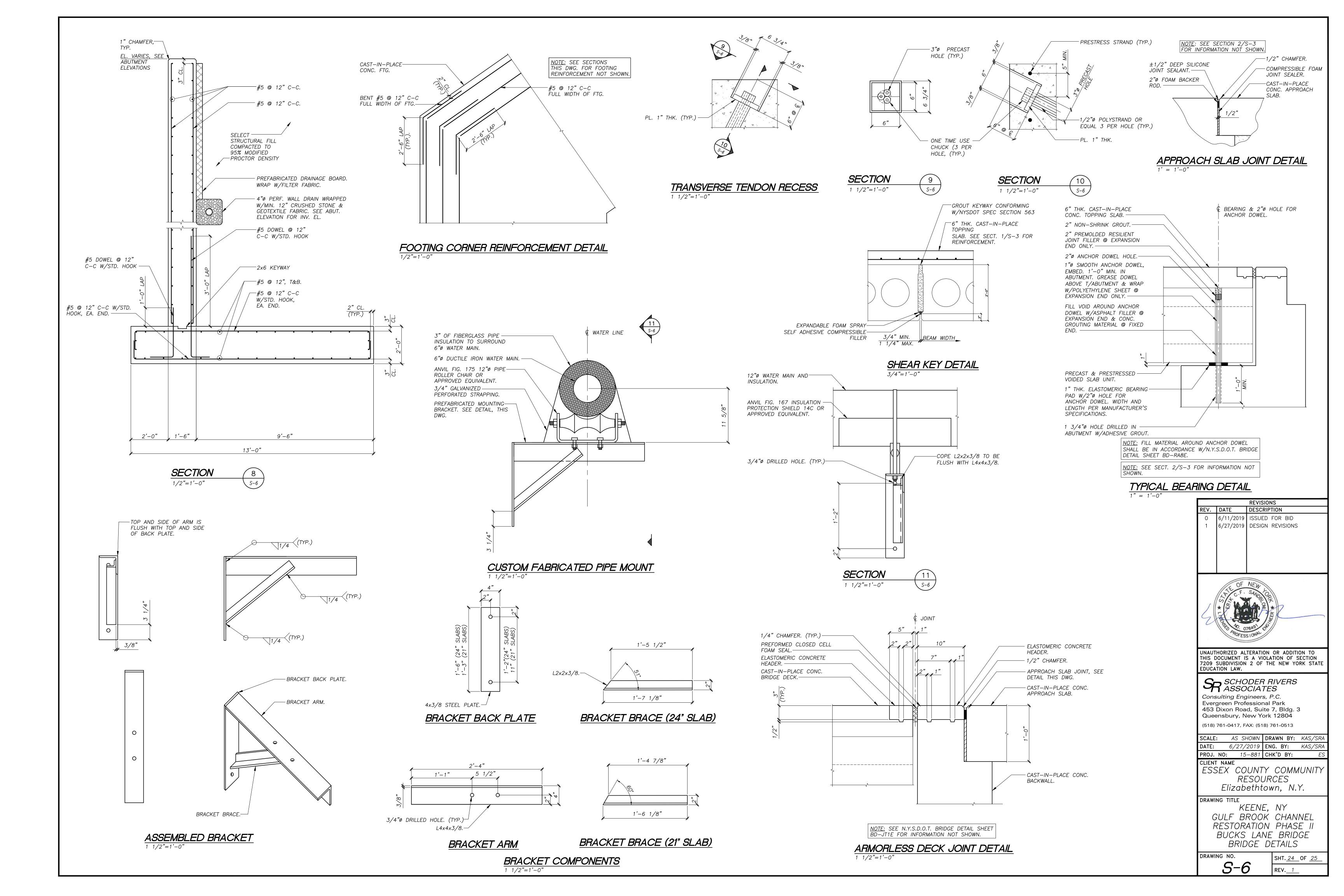
BUCKS LANE BRIDGE PROFILE, ELEVATION, SECTIONS & DEATILS DRAWING NO. SHT. 20 OF 25

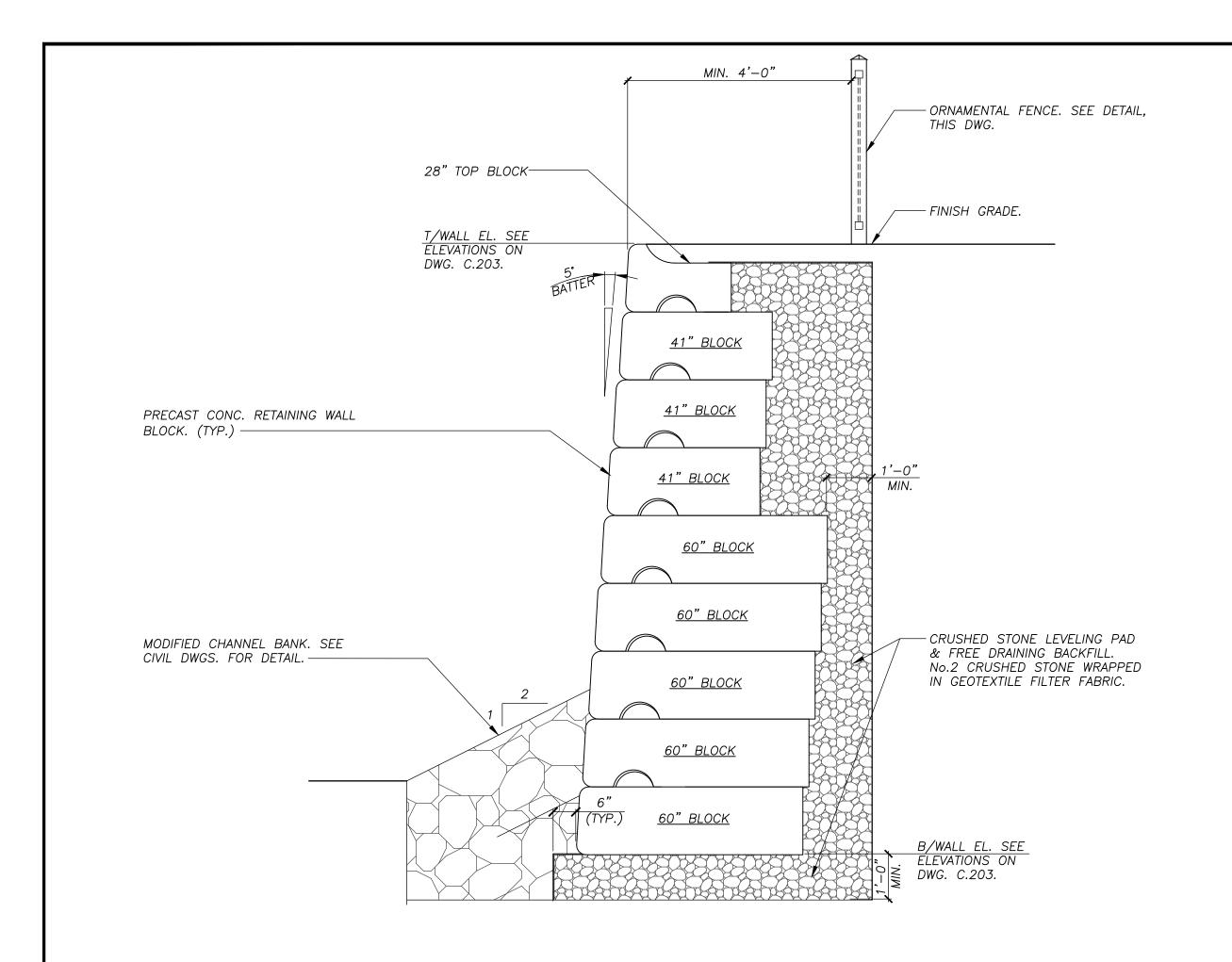
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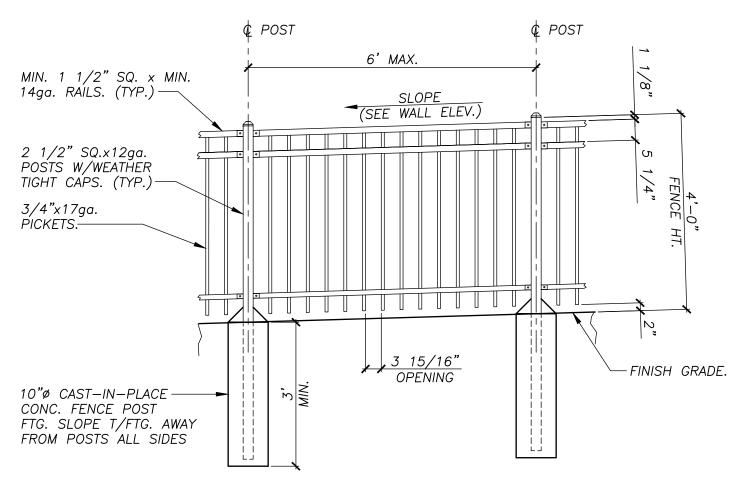








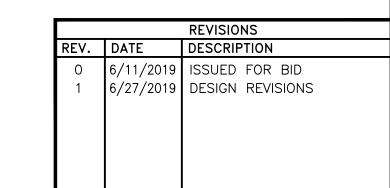


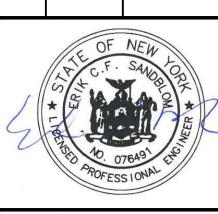


ORNAMENTAL STEEL FENCE DETAIL

1/2"=1'-0"

PRECAST CONCRETE BLOCK WALL TYPICAL SECTION





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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. <u>25</u> OF <u>25</u> REV. 1