





GENERAL NOTES

DESIGN SPECIFICATIONS

- 1. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGHTH EDITION, 2017, AND AS SUPPLEMENTED BY PENNDOT DESIGN MANUAL, PART 4, DECEMBER 2019.
2. DESIGN IS IN ACCORDANCE WITH THE LRFD METHOD.

CONSTRUCTION SPECIFICATIONS

- 1. PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH SPECIFICATIONS, PENNDOT PUBLICATION 408-2020 (PUB 408), SPECIAL PROVISIONS, ANSI/AASHTO/AWS D1.5-2008 BRIDGE WELDING CODE, 2002, AND CONTRACT SPECIAL PROVISIONS. USE ANSI/AWS D1.1-2008 FOR WELDING NOT COVERED IN ANSI/ASSHTO/AWS D1.5-2002.

DESIGN LIVE LOADS

- 1. 3 FEET OF LIVE LOAD SURCHARGE.

GENERAL

- 1. VERIFY ALL DIMENSIONS AND GEOMETRY OF THE EXISTING STRUCTURE IN THE FIELD AS NECESSARY FOR PROPER FIT OF THE PROPOSED CONSTRUCTION.
2. PROVIDE 2 INCH CONCRETE COVER ON REINFORCEMENT BARS, EXCEPT AS NOTED.
3. USE CLASS A CEMENT CONCRETE IN RIVER WALL, FOOTINGS, AND ANCHOR SUPPORTS.
4. USE CLASS C CEMENT CONCRETE IN THE DRAINAGE PIPE REPAIR COLLAR.
5. A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE CLIENT.
6. STRUCTURAL STEEL TO CONFORM TO ASTM A709, GRADE 50, GALVANIZED IN ACCORDANCE WITH PENNDOT PUB 408, SECTION 1105.
7. HARDWARE TO BE GALVANIZED IN ACCORDANCE WITH PENNDOT PUB 408, SECTION 1105.
8. PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM A 615/A 615, A 996/A 996M OR A 706/A 706M. DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED. GRADE 40 REINFORCING STEEL BARS MAY BE SUBSTITUTED WITH A PROPORTIONAL INCREASE IN CROSS-SECTIONAL AREA, IF APPROVED BY THE ENGINEER. DO NOT USE RAIL STEEL A 996/A 996M REINFORCEMENT BARS FOOTINGS, PILES OR WHERE BENDING OF THE REINFORCEMENT IS INDICATED.
9. NOTIFY THE REGIONAL HEADQUARTERS OF THE FISH COMMISSION PRIOR TO CONSTRUCTION AND COOPERATE WITH FISH COMMISSION DURING CONSTRUCTION.
MICHAEL JOHNSON
SOUTHEAST REGIONAL OFFICE
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ELM, PA 19521
(717) 626-0228

- 10. CHAMFER EXPOSED CONCRETE EDGES 1 INCH BY 1 INCH, EXCEPT AS NOTED.
11. ALL DIMENSIONS SHOWN ARE HORIZONTAL, EXCEPT AS NOTED.
12. BEFORE DRIVING PILES, PLACE AND COMPACT, TO FOOTING ELEVATION, SPECIALLY SELECTED MATERIAL WHICH CONTAINS NO ROCK TO INTERFERE WITH PILE DRIVING. AUGURING OR PRE-BORING WILL BE PERMITTED TO THE ORIGINAL GROUND. (NOTE: TO BE USED IF FOOTING IS ABOVE EXISTING GROUNDLINE.)
13. DO NOT CONSIDER ANY DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE TO YOU BY THE CLIENT OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT YOU WILL ENCOUNTER IN THE FIELD.
14. THERE IS NO EXPRESSED OR IMPLIED AGREEMENT THAT EXISTING INFORMATION IS CORRECTLY SHOWN. THE BIDDER IS NOT TO RELY ON THIS INFORMATION, BUT IS TO ASSUME THE POSSIBILITY THAT CONDITIONS AFFECTING THE COST AND/OR QUANTITIES OF WORK TO BE PERFORMED MAY DIFFER FROM THOSE INDICATED.
15. CARE SHOULD BE TAKEN WHEN PERFORMING WORK IN THE VICINITY OF THE RIVER WALL. ANY DAMAGE TO THE WALL OR UTILITIES SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.
16. THE REPAIRS SHOWN ARE BASED ON THE FINDINGS OF THE UNDERWATER INSPECTION REPORT DATED 03/23/2018 AND THE ADDITIONAL PROBING INSPECTION REPORTS DATED 07/19/2018 AND 01/28/2022.
17. PROVIDE CONCRETE TESTING AS PER PENNDOT PUB 408, SECTIONS 0704 AND 1001.

UTILITY NOTES

- 1. COORDINATE, LOCATE, AND CONDUCT ALL WORK RELATED TO PUBLIC AND PRIVATE UTILITIES IN ACCORDANCE WITH PUBLICATION 408, SECTIONS 105.06 AND 107.12.

TIMBER NOTES

- 1. AT THE COMPLETION OF PRESERVATIVE TREATMENT, CLEAN THE TREATED MATERIAL BY A POST-TREATMENT STEAMING SPECIFIED FOR THE INDIVIDUAL TYPE OF MATERIAL OR SPECIES.

TEMPORARY EXCAVATION AND SUPPORT SYSTEM

- 1. SYSTEM SHALL BE DESIGNED FOR CONSTRUCTION VEHICULAR LINE LOAD.
2. PROVIDE TEMPORARY EXCAVATIONS AND SUPPORT SYSTEM IN ACCORDANCE WITH SPECIAL PROVISION.
3. TEMPORARY EXCAVATION SUPPORT AND PROTECTION SOIL PARAMETERS:
a. EFFECTIVE ANGLE OF FRICTION 0°
b. MOIST UNIT WEIGHT OF SOIL 100 LB/FT³
c. SATURATED UNIT WEIGHT OF SOIL 105 LB/FT³
d. EFFECTIVE COHESION 200 LB/FT²
e. STATIC GROUNDWATER LEVEL AT ELEVATION 9.5 FT (AVERAGE)
f. UNDRAINED SHEAR STRENGTH OF COHESIVE SOIL N/A
g. SHEAR STRENGTH FOR ROCK MASS 30,000 LB/FT²

REINFORCING STEEL

- 1. GALVANIZED REINFORCING BARS MAY BE SUBSTITUTED FOR EPOXY-COATED REINFORCING STEEL BARS AT NO ADDITIONAL COST TO THE CITY OF PHILADELPHIA.
2. WELDING OF REINFORCEMENT BARS DURING FABRICATION OR CONSTRUCTION IS NOT PERMITTED UNLESS SPECIFIED.
3. PROVIDE MINIMUM LAP AND EMBEDMENT LENGTH OF 30 DIAMETERS OR IN ACCORDANCE WITH AASHTO AS MODIFIED BY DM-4, WHICHEVER IS GREATER.
4. SPACING FOR REINFORCEMENT IS A MAXIMUM, UNLESS NOTED OTHERWISE.

ARCHITECTURAL TREATMENT

- 1. EXISTING FRONT FACING STONES AND CAP STONES TO BE REUSED.
2. NEW STONES, MATCHING EXISTING TYPE, SIZE AND COLOR, SHALL REPLACE DAMAGED STONES, AS DETERMINED BY THE CITY.
3. PLACE STONES SO THAT DAMAGE DOES NOT OCCUR TO WALL OR STONES. STONES DAMAGED DURING CONSTRUCTION WILL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY.

FOUNDATION NOTES

- 1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT DEWATERING SO THAT THE EXCAVATIONS ARE DRY ENOUGH TO BE INSPECTED.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL EXCAVATED SLOPES. DIRECT SURFACE RUNOFF AWAY FROM THE EXCAVATION. PERFORM ALL EXCAVATIONS IN ACCORDANCE WITH OSHA REQUIREMENTS.
3. CONTROL PILE DRIVING BY THE WAVE EQUATION ANALYSIS.
4. DRIVE TEST PILES TO A DRIVING RESISTANCE AND/OR A TIP ELEVATION PREDETERMINED BY THE ENGINEER FROM A WAVE EQUATION ANALYSIS OF THE TEST PILES.
5. DO NOT DRIVE BEARING PILES BEFORE THE REPRESENTATIVE PILE LOAD TEST IS COMPLETED AND THE RESULTS ARE EVALUATED BY THE ENGINEER.
6. DRIVE BEARING PILES TO A TIP ELEVATION AND A DRIVING RESISTANCE PREDETERMINED BY THE ENGINEER FROM THE PILE LOAD TESTS. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE BEARING PILES WHICH ATTAIN ABSOLUTE REFUSAL ABOVE THE PREDETERMINED TIP ELEVATIONS.
PILE LOAD TEST DATA:
a. LOCATION SEE SHEET S-104
b. TYPE AND SIZE OF PILE TIMBER (12" BUTT DIAMETER, 8" MIN. TIP DIAMETER)
c. DESIGN LOAD 12.4 KIPS
d. ESTIMATED LENGTH 22'-0"
e. MINIMUM REQUIRED RESISTANCE FACTOR (φ) 0.45
f. MINIMUM REQUIRED ULTIMATE BEARING CAPACITY 27 KIPS
g. MINIMUM REQUIRED CAPACITY OF TEST EQUIPMENT 27 KIPS
7. TABLE TO BE COMPLETED FOR THE TEST PILES AFTER INSTALLATION OF THE AS-BUILT PLANS:

Table with 7 columns: SUBSTRUCTURE UNIT, PILE TYPE, PILE TIP (NONE/NORMAL/ HEAVY DUTY), PILE TIP ELEVATIONS, FACTORED DESIGN LOAD (KIPS), ULTIMATE PILE CAPACITY AT END OF DRIVING (KIPS), WEAP OR PDA

- 8. PROVIDE TIMBER PILES IN ACCORDANCE WITH PUBLICATION 408, SECTIONS 1005.1, 1005.2, AND 1005.3. PILE DIAMETER IN ACCORDANCE WITH SECTION 1005.2(a). DRIVE PILES TO THE LENGTH NECESSARY TO OBTAIN \_\_\_ TON BEARING VALUE AS DETERMINED BY THE WAVE EQUATION.
9. CONTROL PILE DRIVING BY THE WAVE EQUATION ANALYSIS. DRIVE TEST PILES TO ABSOLUTE REFUSAL. THE ENGINEER SHALL VERIFY, FROM THE TEST PILE DRIVING RESULTS, THE CAPABILITY OF THE PILE HAMMER SELECTED BY THE CONTRACTOR. DRIVE BEARING PILES TO ABSOLUTE REFUSAL INTO THE STRATUM DEFINED BY A TIP ELEVATION WHICH IS PREDETERMINED BY THE ENGINEER FROM TEST PILES. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE BEARING PILES WHICH ATTAIN ABSOLUTE REFUSAL ABOVE THE PREDETERMINED TIP ELEVATION.
10. REMOVE EXISTING SUBSTRUCTURES AND FOUNDATIONS THAT INTERFERE WITH THE CONSTRUCTION OF THE PROPOSED FOUNDATIONS IN ACCORDANCE WITH PENNDOT PUBLICATION 408, SECTION 1018.

SUGGESTED CONSTRUCTION SEQUENCE (BASE BID):

- 1. INSTALL E&S MEASURES AS INDICATED ON PLANS.
2. INSTALL COFFERDAM.
3. REMOVE EXISTING PORTION OF WALL (STEM AND CRIBBING) AND CUT THE EXISTING TIMBER PILES FROM STA 1+88.50 TO 3+06.50. FRONT FACING STONES AND CAP STONES TO BE USED FOR THE CONSTRUCTION OF THE NEW WALL.
4. DRIVE NEW TIMBER PILES AND CONSTRUCT THE MUD SLAB AND THE NEW PORTION OF WALL FROM STA 1+88.50 TO STA 3+06.50.
5. RESET THE EXISTING FRONT FACING STONES AND CAP STONES FROM STA 1+88.50 TO 3+06.50.
6. REMOVE VEGETATION FROM WALL FROM STA -1+00 TO 1+88.50.
7. INSTALL THE TIMBER PILE JACKET REPAIRS.
8. PERFORM GROUT INJECTION REPAIR FROM STA -1+00 TO 1+88.50.
9. REPOINT MASONRY WALL FROM STA -1+00 TO 3+06.50.
10. REMOVE COFFERDAM.
11. INSTALL SCOUR PROTECTION FROM STA -1+00 TO 3+06.50.
12. SEED AND MULCH DISTURBED AREAS AS INDICATED ON PLANS.
13. REMOVE E&S MEASURES AS INDICATED ON PLANS.

SUGGESTED CONSTRUCTION SEQUENCE (BID ALTERNATE):

- 1. INSTALL E&S MEASURES AS INDICATED ON PLANS.
2. INSTALL COFFERDAM.
3. REMOVE VEGETATION FROM WALL FROM STA 3+06.50 TO 12+00.
4. PERFORM GROUT INJECTION REPAIR FROM STA 3+06.50 TO 12+00.
5. REPOINT MASONRY WALL FROM STA 3+06.50 TO 12+00.
6. REMOVE COFFERDAM.
7. INSTALL SCOUR PROTECTION FROM STA 3+06.50 TO 12+00.
8. SEED AND MULCH DISTURBED AREAS AS INDICATED ON PLANS.
9. REMOVE E&S MEASURES AS INDICATED ON PLANS.

CONSTRUCTION RESTRICTIONS:

- 1. SCHUYLKILL RIVER TRAIL MUST BE MAINTAINED AND REMAIN OPEN TO PEDESTRIAN TRAFFIC AT ALL TIMES.
2. CONSTRUCTION ACTIVITIES AND RELATED CLOSURES, SHALL NOT BE ALLOWED DURING SPECIAL EVENTS:
a. MARATHON\*
b. REGATTA SCHEDULE\*\*
\*CONFIRM DATES WITH THE CITY OF PHILADELPHIA PARKS AND RECREATION BEFORE COMMENCING CONSTRUCTION.
\*\* REFER TO SCHEDULE.

LEGEND OF ABBREVIATIONS:

Legend of abbreviations table with columns: ABBREVIATION, MEANING, ABBREVIATION, MEANING. Includes BFE, BOT, C, CLR, CONC, CONSTR, CY, DIA, EF, EL, FF, ID, JT, MAX, MIN, MVM, N/A, OC, OD, PUB, RF, REINF, REQ'D, SPA, STA, TEMP, TFE, TYP, VCP, REAR FACE, REINFORCING, REQUIRED, SPACES/SPACED, STATION, TEMPORARY, TOP OF FOOTING ELEVATION, TYPICAL, VITRIFIED CLAY PIPE.

ITEMS table with columns: PUB 408 SECTION, ITEM, UNIT, BASE BID QUANTITY, ADD. ALT. QUANTITY, TOTAL QUANTITY. Includes items like CLEARING AND GRUBBING, CLASS 3 EXCAVATION, SCOUR PROTECTION, ASPHALT OVERLAY, MILLING OF ASPHALT PAVEMENT SURFACE, MOBILIZATION, NO. 57 COARSE AGGREGATE, PLACING STOCKPILED TOPSOIL, SEEDING AND SOIL SUPPLEMENTS, MULCHING - STRAW, ROCK CONSTRUCTION ENTRANCE, STORM INLET PROTECTION, COMPOST FILTER SOCK, WATERBORNE PAVEMENT MARKINGS, CLASS A CEMENT CONCRETE, CLASS C CEMENT CONCRETE, SELECTED BORROW EXCAVATION, REINFORCEMENT BARS, COFFERDAM, SEDIMENT FILTER BAG, TEMPORARY PROTECTIVE FENCE, GROUT INJECTION REPAIR, MASONRY REPOINTING, REMOVAL OF VEGETATION, REMOVAL OF PORTION OF WALL, TIMBER PILE REPAIR, CONCRETE WASHOUT STATION, COLLAPSED DRAINAGE PIPE REPAIR, TREATED TIMBER BEARING PILES, TIMBER TEST PILES.

NOTES:

- 1. QUANTITIES IN THE TABLE ABOVE ARE APPROXIMATE AND FOR INFORMATION ONLY.
2. (SP) = SEE CONTRACT SPECIAL PROVISIONS.

SPECIAL INSPECTIONS, TESTING AND OBSERVATIONS

- 1. INSPECTION AND MATERIAL TESTING WILL BE REQUIRED FOR THE FOLLOWING BUILDING SYSTEMS IN COMPLIANCE WITH THE APPLICABLE REFERENCED CODE SECTION. SUBMIT A STATEMENT OF RESPONSIBILITY FOR WIND OR SEISMIC SITES AND PROJECTS IF INDICATED BELOW.

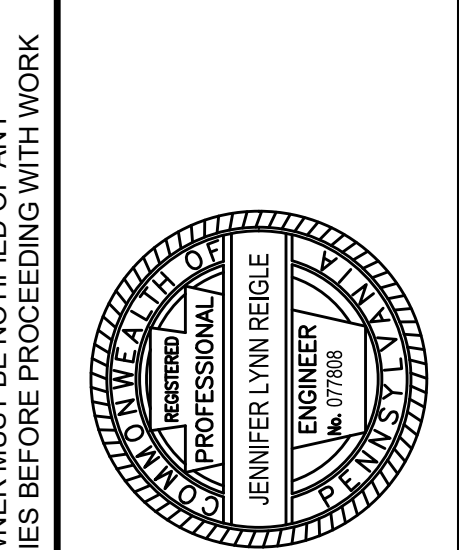
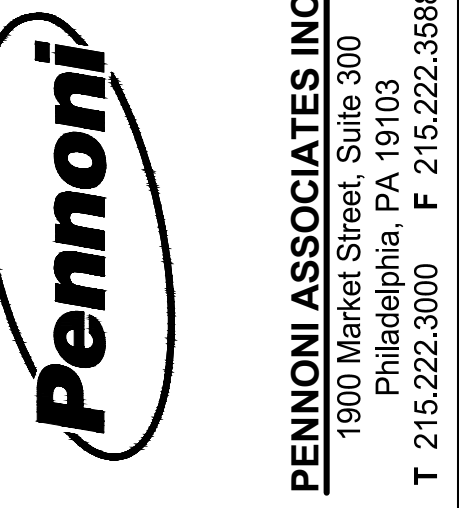
Table for Special Inspections, Testing and Observations with columns: SOILS, DRIVEN DEEP FOUNDATIONS, CONCRETE.

- 2. UNLESS OTHERWISE NOTED, SPECIAL INSPECTIONS ARE OWNER FURNISHED.
3. COORDINATE AND PROVIDE ACCESS TO THE WORK FOR REQUIRED SPECIAL INSPECTIONS AND PROVIDE NOTICE OF REQUIRED SPECIAL INSPECTIONS, GEOTECHNICAL, AND STRUCTURAL OBSERVATIONS.
SPECIAL INSPECTIONS AND TESTS
1. SPECIAL INSPECTIONS WILL BE PROVIDED FOR EACH SYSTEM AND/OR MATERIAL.
2. UNLESS OTHERWISE NOTED THE OWNER WILL SECURE AND PAY FOR THE SERVICES OF THE AGENCY TO PERFORM ALL SPECIAL INSPECTION AND ASSOCIATED TESTS.
3. THE SPECIAL INSPECTOR WILL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. ALL DISCREPANCIES WILL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
4. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS WILL BE SUBMITTED TO THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION.

STRUCTURAL OBSERVATIONS

- 1. STRUCTURAL AND GEOTECHNICAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY OF ANY REQUIRED SPECIAL INSPECTION OR INSPECTIONS REQUIRED BY THE BUILDING OFFICIAL.
2. STRUCTURAL AND GEOTECHNICAL OBSERVATIONS WILL INCLUDE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEMS NOTED BELOW AT THE CONSTRUCTION STAGES INDICATED FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS:

Table for Structural Observations with columns: STRUCTURAL SYSTEM, STAGE, ITEMS FOR OBSERVATION. Includes FOUNDATIONS, ALL DRIVING CONDITIONS SHALL BE INSPECTED UNDER THE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL, CONDITION AND ACCEPTABILITY OF SUBGRADE, DEPTH OF FOOTINGS, PROPER LOGGING OF DRILLING OPERATIONS AND SIMILAR ITEMS.



RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS
GENERAL NOTES
CITY OF PHILADELPHIA
1516 ARCH STREET, 11TH FLOOR
PHILADELPHIA, PA 19102

Table with columns: BMS, REVISIONS, DATE. Includes row for 03/01/23.

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES. AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

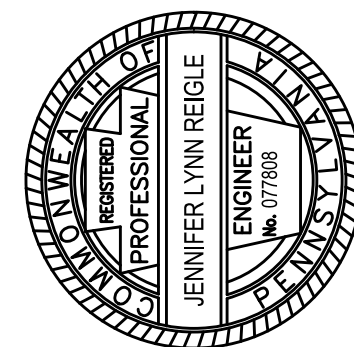
Table with columns: PROJECT, DATE, DRAWING SCALE, DRAWN BY, APPROVED BY. Includes PHILP18003, 2021-08-20, AS SHOWN, BMS, SFM.

PROJECT STATUS: PLOTTED: 3/11/2023 11:05 AM BY: Brandon M. Smith PLOT STYLE: PABStructural.dwg



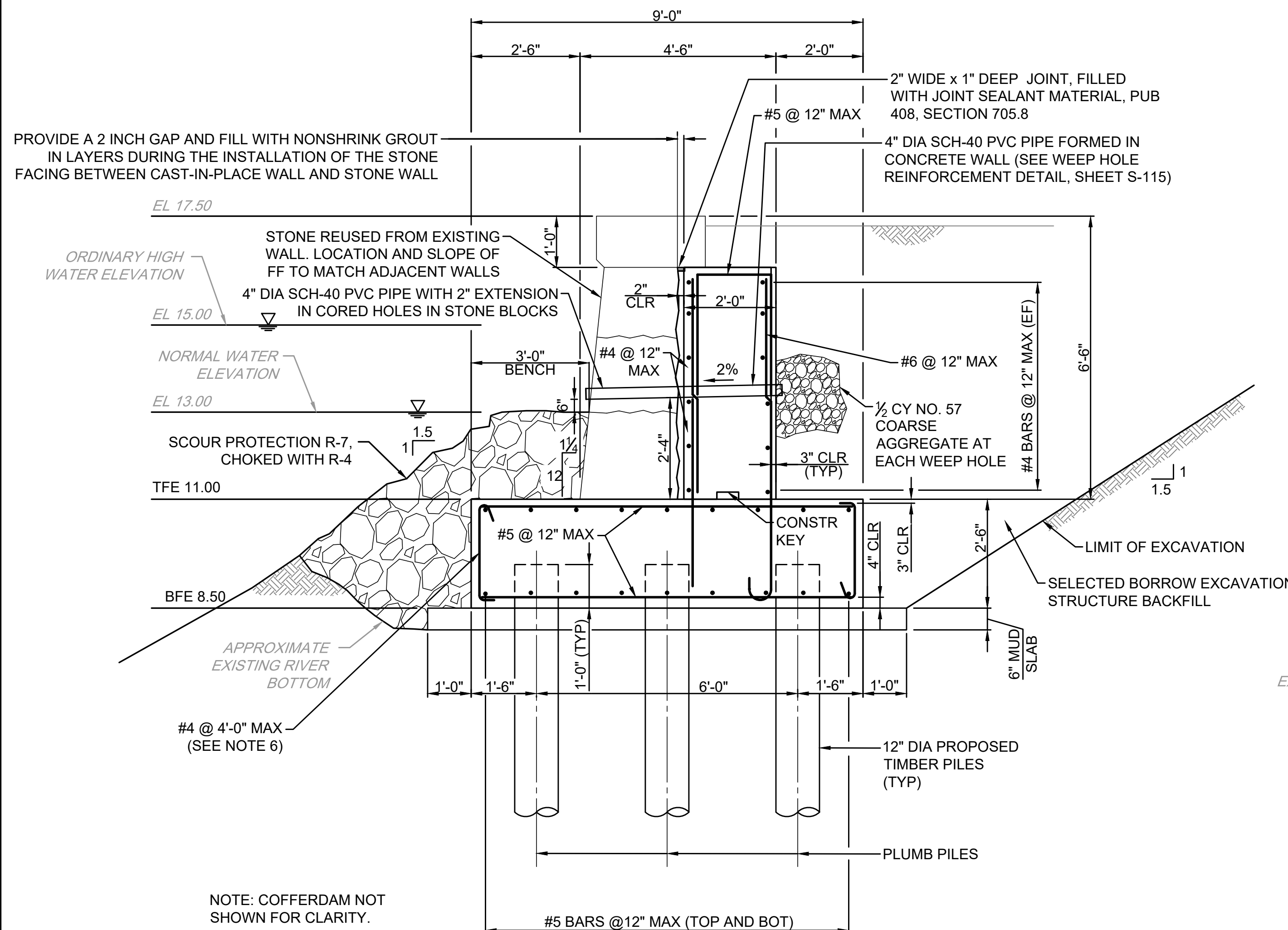


**PENNONI ASSOCIATES INC.**  
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ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

**RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS**  
 PHILADELPHIA, PA  
**TYPICAL SECTION**  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 11TH FLOOR  
 PHILADELPHIA, PA 19102



**PROPOSED REPLACEMENT TYPICAL SECTION**

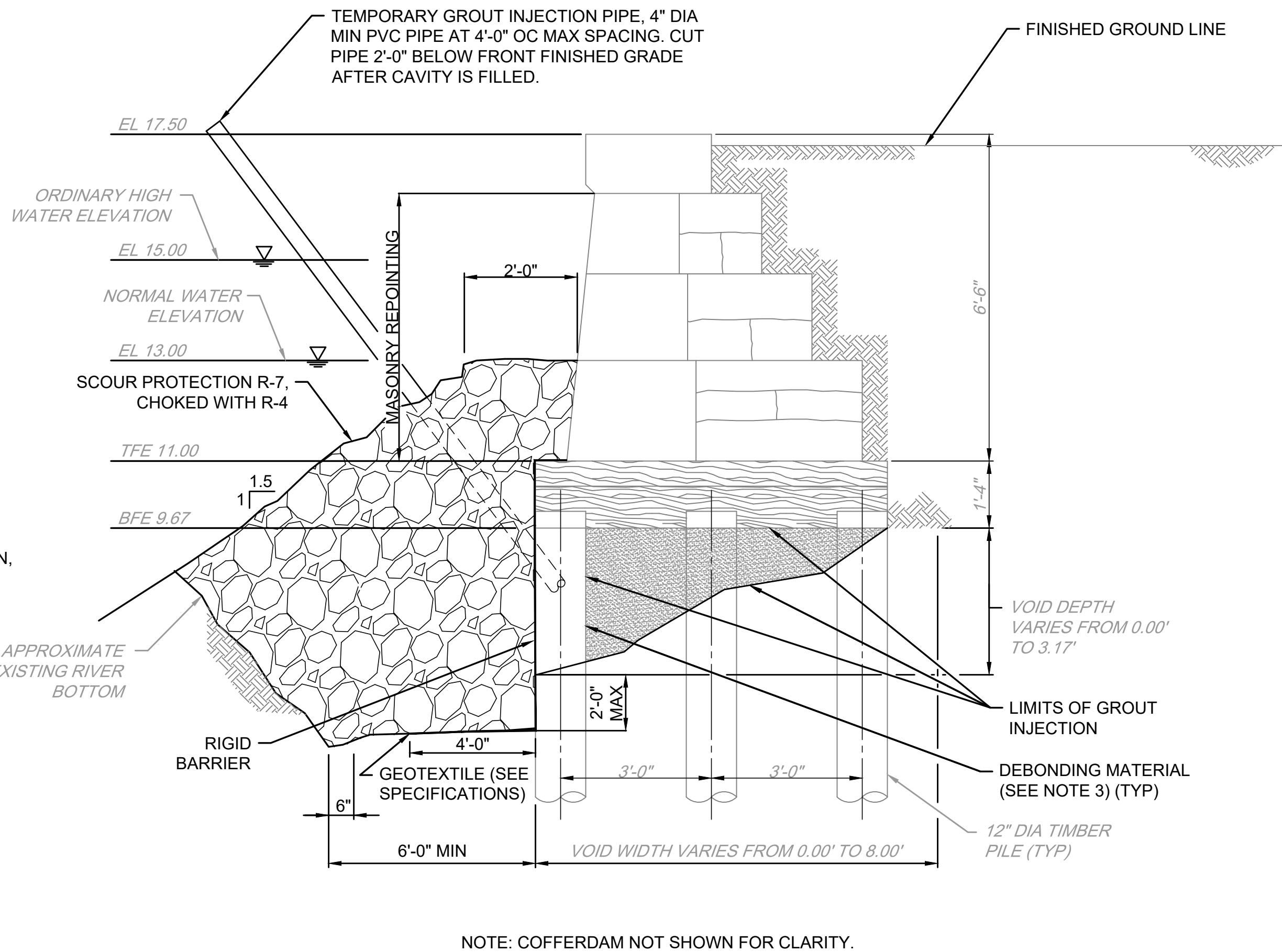
(LOOKING NORTH)  
 (BASE BID: STA 1+88.50 TO STA 3+06.50)  
 1 0 1 2 FEET  
 SCALE: 1/2" = 1'-0"

**WALL REPLACEMENT NOTES:**

- THE DESIGN IS BASED ON A SLOPED EXCAVATION OF THE WALL.
- ACTUAL GRADES AT BOTTOM OF RIVER TO BE DETERMINED BY CONTRACTOR. SEE SHEET 2 FOR GENERAL NOTES.
- ESTIMATED PILE TIP IS AT ELEVATION -12.50.
- LAP REINFORCING BARS AS FOLLOWS:  
 #4: 2'-2" MINIMUM  
 #5: 2'-9" MINIMUM  
 #6: 3'-3" MINIMUM
- MAXIMUM LENGTH OF REINFORCEMENT BARS SHALL BE 40'-0".
- TIE TOP AND BOTTOM MATS OF REINFORCING STEEL IN THE FOOTING WITH #4 BARS AT A MAXIMUM SPACING OF 4'-0" IN BOTH DIRECTIONS. PROVIDE TIE BAR WITH 90° HOOK AT ONE END AND 135° HOOK AT THE OTHER END. ALTERNATE 90° AND 135° HOOKS AT TOP IN ADJACENT TIES.

| UNDERMINING DIMENSIONS TABLE |       |       |          |       |       |          |       |       |
|------------------------------|-------|-------|----------|-------|-------|----------|-------|-------|
| LOCATION                     | DEPTH | WIDTH | LOCATION | DEPTH | WIDTH | LOCATION | DEPTH | WIDTH |
| -1+00                        | 0.00  | 0.50  | 3+50     | 1.00  | 6.00  | 8+00     | 3.17  | 2.40  |
| -0+75                        | 1.47  | 2.70  | 3+75     | 0.75  | 6.00  | 8+25     | 0.00  | 6.00  |
| -0+50                        | 0.80  | 1.50  | 4+00     | 0.50  | 5.00  | 8+50     | 0.47  | 2.00  |
| -0+25                        | 1.10  | 2.50  | 4+25     | 0.57  | 1.00  | 8+75     | 0.20  | 2.80  |
| 0+00                         | 0.00  | 0.50  | 4+50     | 0.57  | 7.00  | 9+00     | 0.60  | 2.40  |
| 0+25                         | 0.90  | 2.60  | 4+75     | 0.17  | 0.50  | 9+25     | 1.00  | 1.70  |
| 0+50                         | 0.50  | 5.00  | 5+00     | 0.37  | 0.50  | 9+50     | 2.00  | 2.70  |
| 0+75                         | 1.00  | 6.00  | 5+25     | 0.67  | 2.00  | 9+75     | 2.60  | 2.80  |
| 1+00                         | 1.50  | 8.00  | 5+50     | 1.27  | 6.40  | 10+00    | 1.97  | 4.50  |
| 1+25                         | 1.25  | 5.50  | 5+75     | 0.90  | 5.50  | 10+25    | 2.90  | 2.80  |
| 1+50                         | 1.75  | 8.00  | 6+00     | 1.57  | 6.40  | 10+50    | 2.57  | 3.00  |
| 1+75                         | 2.08  | 8.00  | 6+25     | 2.10  | 4.80  | 10+75    | 2.40  | 3.50  |
| 2+00                         | 1.83  | 6.00  | 6+50     | 1.57  | 7.00  | 11+00    | 2.37  | 6.70  |
| 2+25                         | 1.75  | 8.00  | 6+75     | 1.37  | 4.30  | 11+25    | 1.20  | 2.50  |
| 2+50                         | 1.25  | 8.00  | 7+00     | 1.97  | 5.30  | 11+50    | 0.70  | 1.80  |
| 2+75                         | 1.50  | 3.50  | 7+25     | 1.77  | 6.50  | 11+75    | 0.00  | 0.00  |
| 3+00                         | 1.58  | 6.00  | 7+50     | 2.07  | 4.60  | 12+00    | 0.37  | 6.20  |
| 3+25                         | 1.33  | 5.50  | 7+75     | 0.87  | 7.10  |          |       |       |

- UNDERMINING DIMENSIONS TABLE NOTES:**
- VALUES ARE BASED ON THE PROBING INSPECTION REPORTS DATED 07/19/2018, AND 01/28/2022.
  - VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.
  - DEPTH AND WIDTH DIMENSIONS ARE GIVEN IN FEET.



**PROPOSED REPAIR TYPICAL SECTION**

(LOOKING NORTH)  
 (BASE BID: STA -1+00 TO STA 1+88.50)  
 (ADD ALT: STA 3+06.50 TO STA 12+00.00)  
 1 0 1 2 FEET  
 SCALE: 1/2" = 1'-0"

**GROUT INJECTION REPAIR NOTES:**

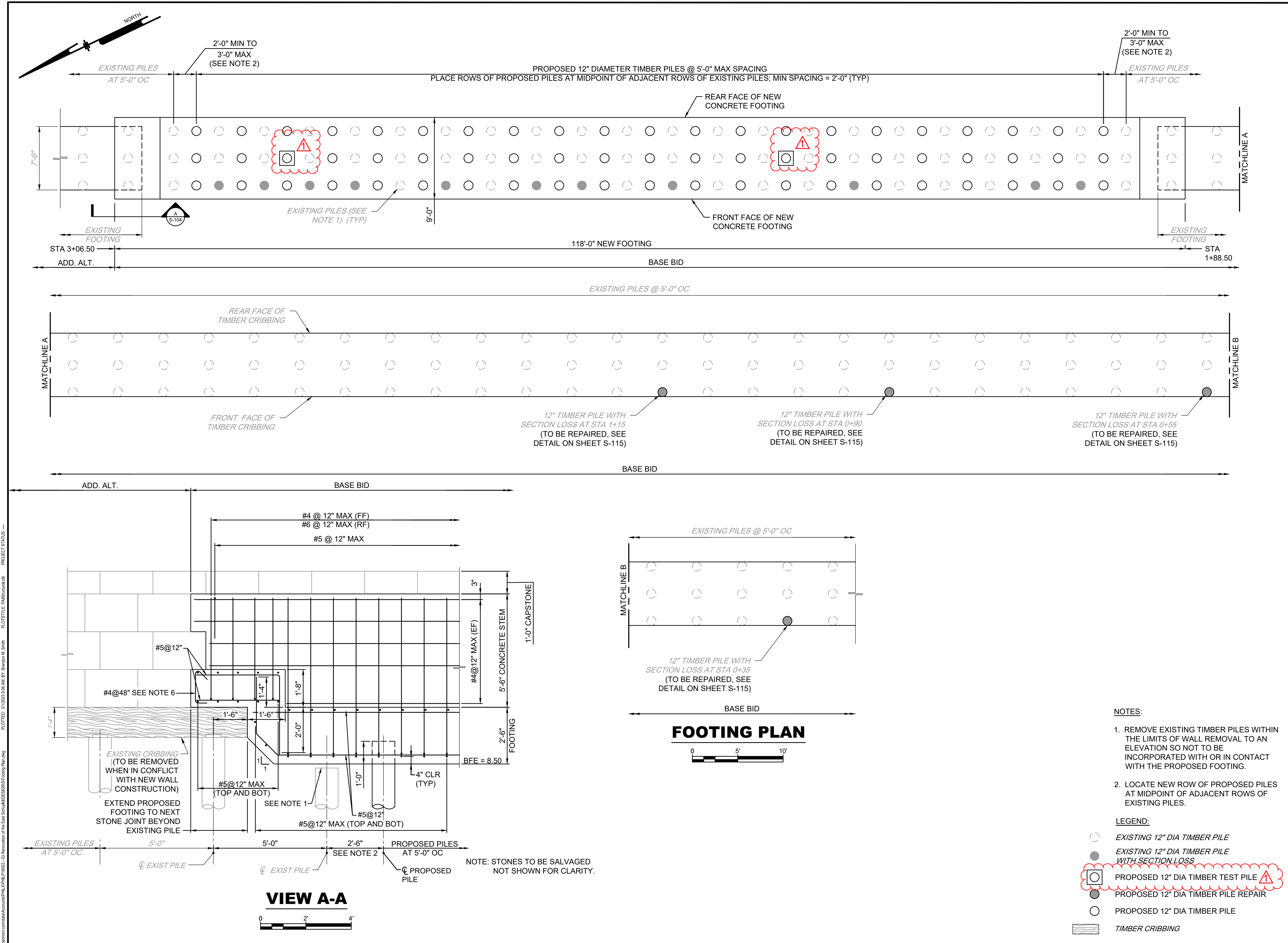
- REMOVE DEBRIS BEFORE INSTALLATION OF RIGID BARRIER.
- REMOVE LOOSE AND UNSTABLE SILT AT FACE OF WALL TO DETERMINE THE EXTENT OF THE UNDERMINING. REFER TO UNDERMINING DIMENSIONS TABLE ON THIS SHEET FOR ESTIMATED DIMENSIONS OF UNDERMINING.
- A DEBONDING MATERIAL TO PLACED AROUND PILES TO PREVENT GROUT FROM ADHERING TO THE TIMBER AND APPLYING ADDITIONAL LOAD TO THE PILES. CONTRACTOR TO SUBMIT A DEBONDING MATERIAL THAT WILL ADHERE TO THE PILE WITHOUT DAMAGING THE PILE TO THE ENGINEER FOR APPROVAL.
- INSTALL RIGID BARRIER, REFER TO ITEM NO 9000-0004.
- INJECT GROUT.
- PLACE FILTER FABRIC UNDER RIP-RAP.
- PLACE RIP-RAP.

- LEGEND:**
- SCOUR PROTECTION
  - GROUT INJECTION REPAIR
  - GROUND
  - TIMBER CRIBBING

| NO. | DATE | REVISIONS | BY |
|-----|------|-----------|----|
|     |      |           |    |
|     |      |           |    |
|     |      |           |    |

|               |            |
|---------------|------------|
| PROJECT       | PHILP18003 |
| DATE          | 2021-08-20 |
| DRAWING SCALE | AS SHOWN   |
| DRAWN BY      | BMS        |
| APPROVED BY   | SFM        |

PROJECT STATUS: — PLOTTED: 2/23/2023 11:41 AM BY: Brandon M. Smith PLOT STYLE: PABStructural.dwg  
 I:\penon.com\data\Accounts\PHILP\PHILP18003 - 03 Renovation of the East Schuylkill River Wall Typical Section.dwg



- NOTES:**
- REMOVE EXISTING TIMBER PILES WITHIN THE LIMITS OF WALL REMOVAL TO AN ELEVATION SO NOT TO BE INCORPORATED WITH OR IN CONTACT WITH THE PROPOSED FOOTING.
  - LOCATE NEW ROW OF PROPOSED PILES AT MIDPOINT OF ADJACENT ROWS OF EXISTING PILES.
- LEGEND:**
- EXISTING 12" DIA TIMBER PILE
  - EXISTING 12" DIA TIMBER PILE WITH SECTION LOSS
  - ⊗ PROPOSED 12" DIA TIMBER TEST PILE
  - PROPOSED 12" DIA TIMBER PILE REPAIR
  - PROPOSED 12" DIA TIMBER PILE
  - ▨ TIMBER CRIBBING

| BMS        | REVISIONS | DATE | NO. | BY |
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| 03/07/2023 | 1         |      |     |    |

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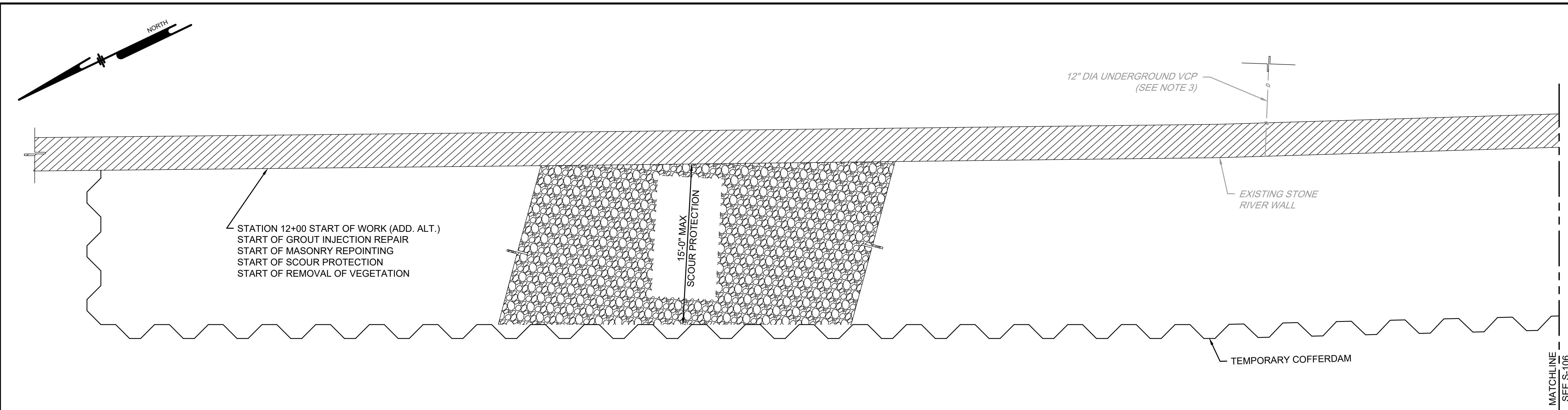
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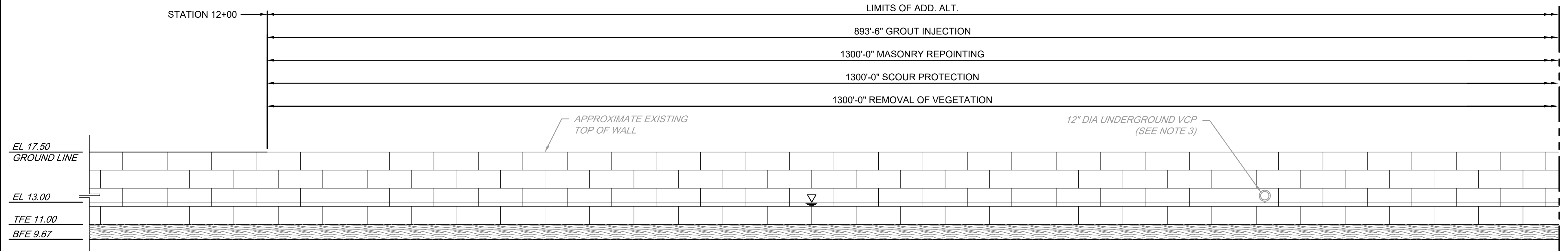
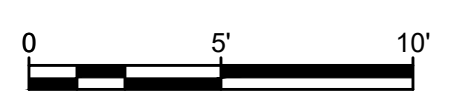
SHEET 4 OF 15

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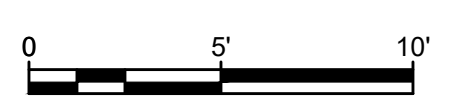
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 PLOTTED: 2/28/2023 4:48 PM BY: Brandon M. Smith PLOTSTYLE: PABStructural.ctb PROJECT STATUS: ---



### SCHUYLKILL RIVER WALL PLAN - 1



### SCHUYLKILL RIVER WALL ELEVATION - 1



- NOTES:**
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.
  - CARE SHOULD BE TAKEN WHEN PERFORMING WORK AROUND UTILITIES SO THAT ANY UTILITIES THAT WILL REMAIN IN PLACE WILL NOT BE DAMAGED. ANY DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE CITY.

**LEGEND:**

|  |                     |
|--|---------------------|
|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

**PENNONI ASSOCIATES INC.**  
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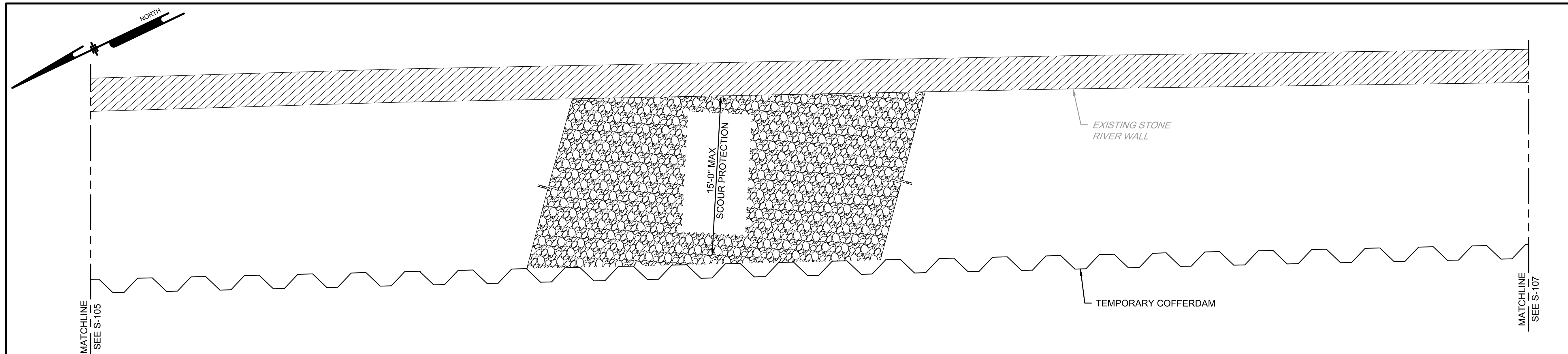
RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS PHILADELPHIA, PA  
 WALL PLAN AND ELEVATION - 1  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 11TH FLOOR  
 PHILADELPHIA, PA 19102

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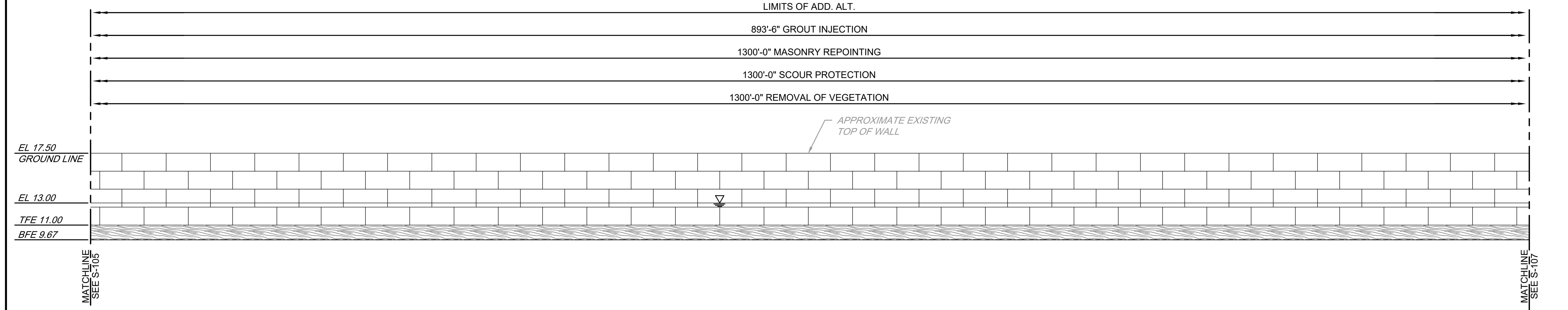
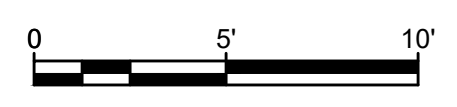
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| DATE          | 2021-08-20 |
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| DRAWN BY      | BMS        |
| APPROVED BY   | SFM        |





**SCHUYLKILL RIVER WALL PLAN - 2**



**SCHUYLKILL RIVER WALL ELEVATION - 2**



- NOTES:
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - 
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.

LEGEND:

|  |                     |
|--|---------------------|
|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

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JENNIFER LYNN REIGLE  
REGISTERED PROFESSIONAL ENGINEER  
No. 077888  
PA

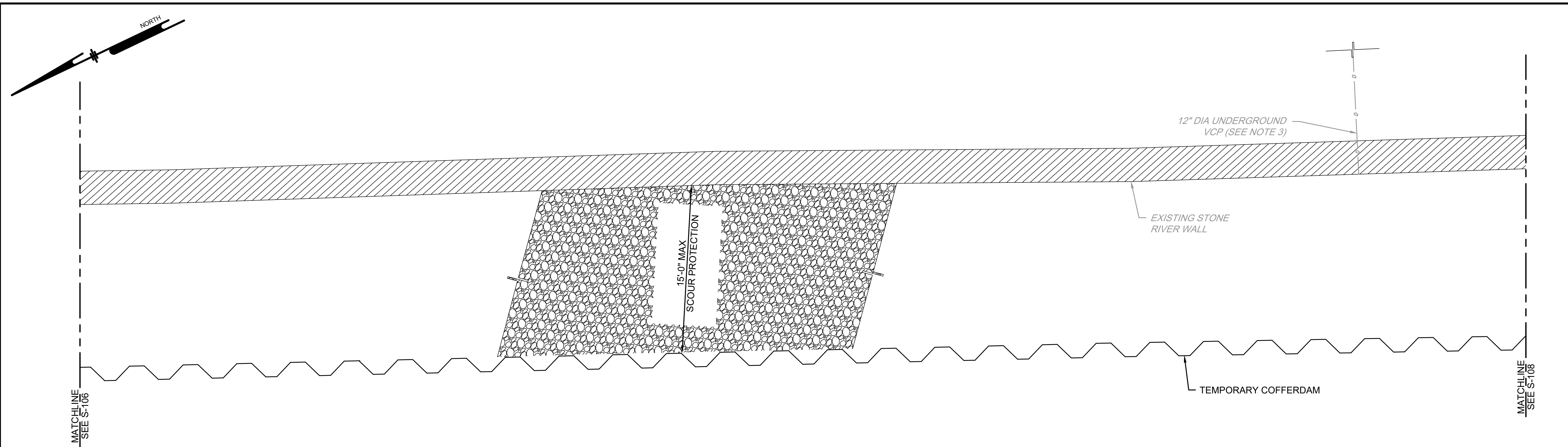
RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS PHILADELPHIA, PA  
WALL PLAN AND ELEVATION - 2  
CITY OF PHILADELPHIA  
1515 ARCH STREET, 14TH FLOOR  
PHILADELPHIA, PA 19102

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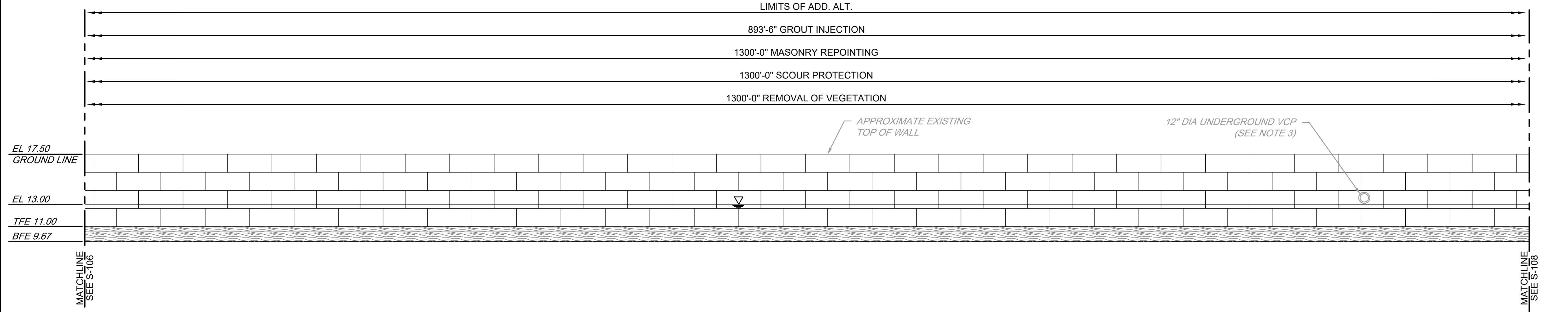
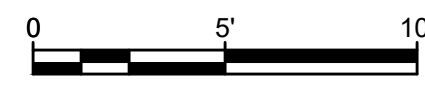
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| APPROVED BY   | SFM        |

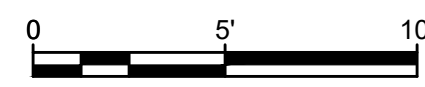
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### SCHUYLKILL RIVER WALL PLAN - 3



### SCHUYLKILL RIVER WALL ELEVATION - 3



- NOTES:**
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.
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**LEGEND:**

|  |                     |
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|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

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 T 215.222.3000 F 215.222.3588

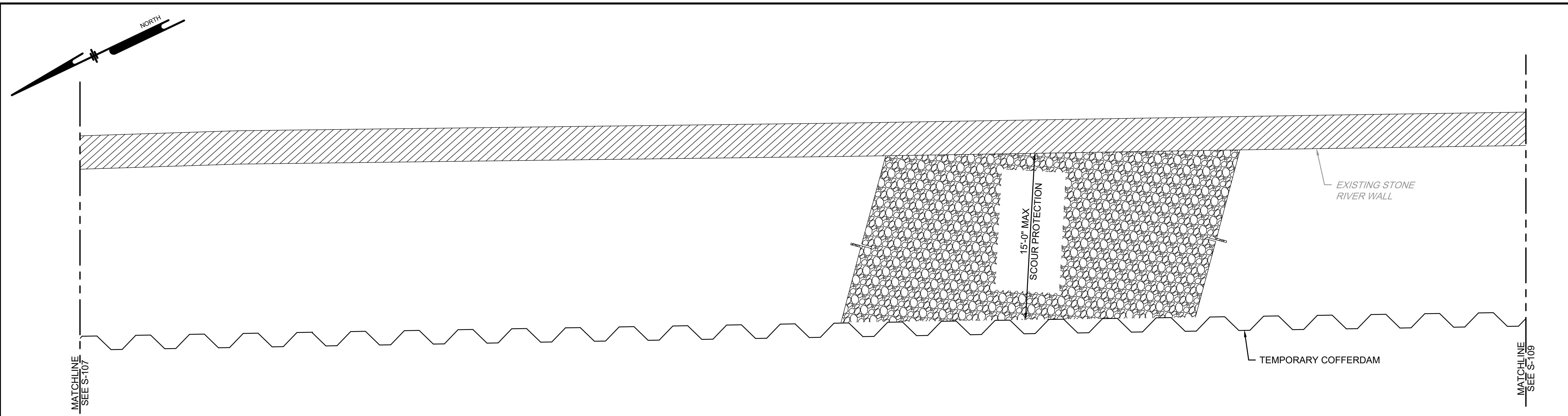
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**RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS WALL PLAN AND ELEVATION - 3**  
 PHILADELPHIA, PA  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 11TH FLOOR  
 PHILADELPHIA, PA 19102

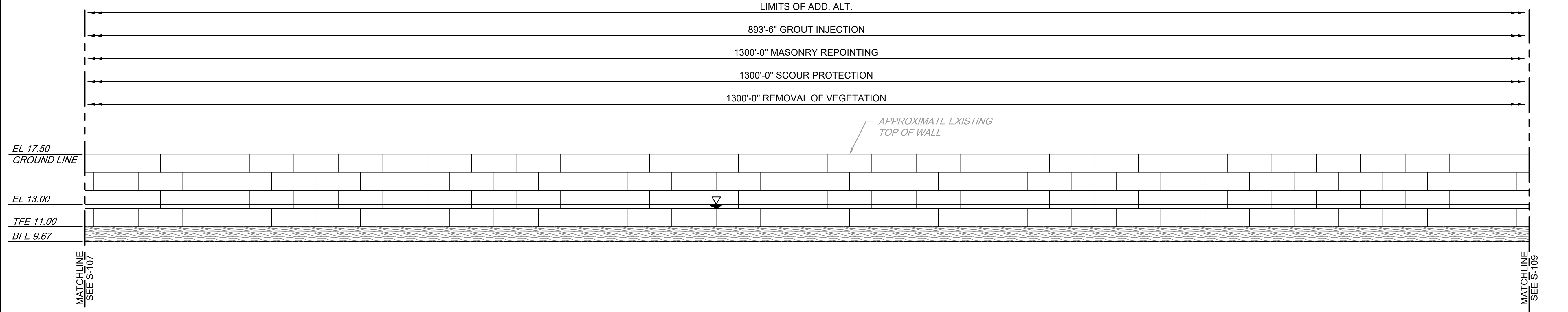
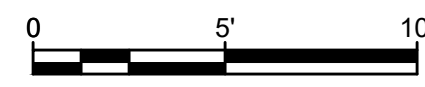
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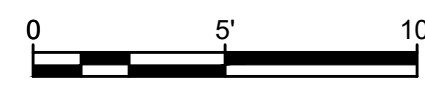
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| APPROVED BY   | SFM        |



### SCHUYLKILL RIVER WALL PLAN - 4



### SCHUYLKILL RIVER WALL ELEVATION - 4



- NOTES:**
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.

**LEGEND:**

|  |                     |
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|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

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 No. 077888  
 PENNSYLVANIA

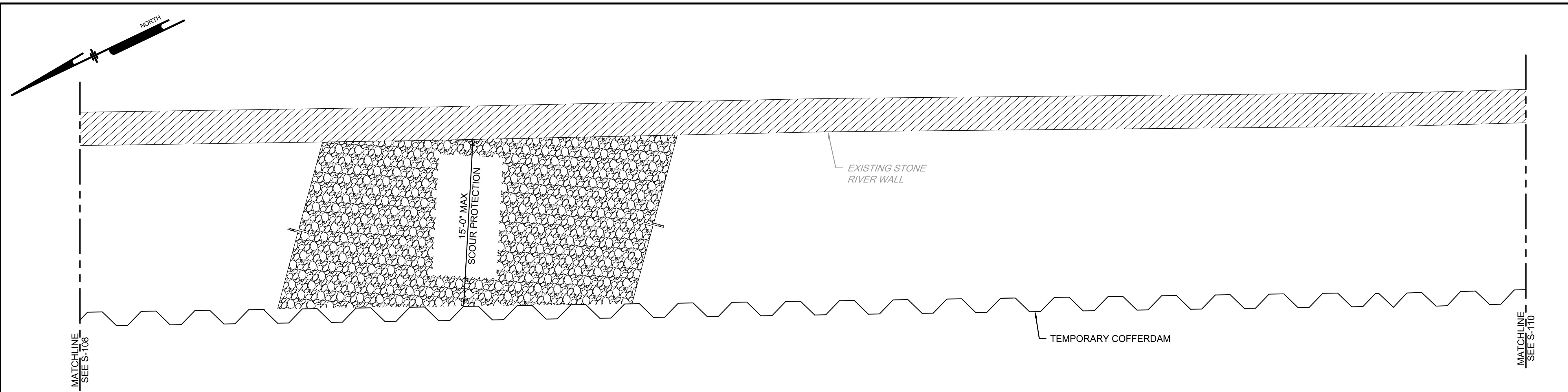
**RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS WALL PLAN AND ELEVATION - 1**  
 PHILADELPHIA, PA  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 11TH FLOOR  
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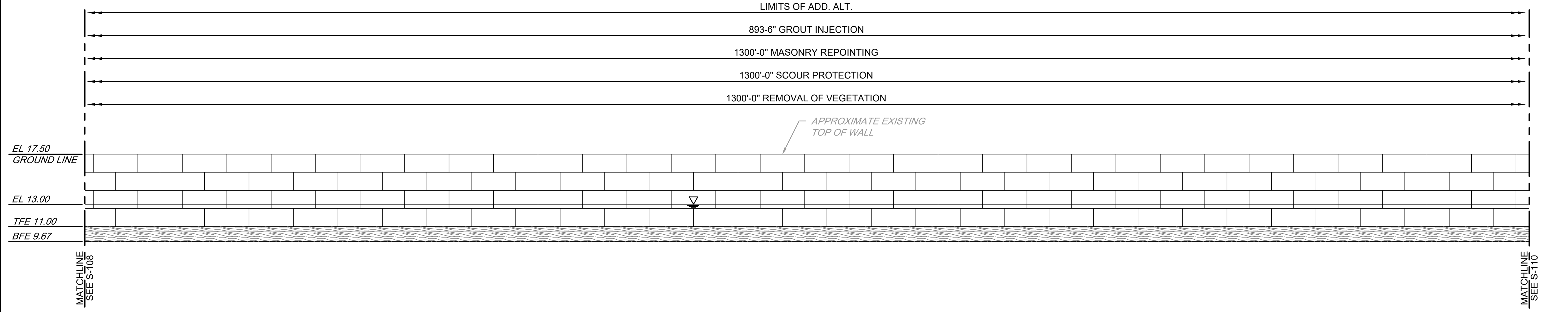
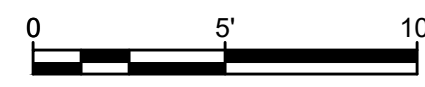
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| APPROVED BY   | SFM        |

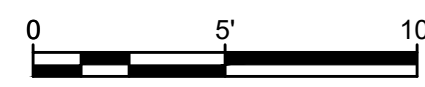




### SCHUYLKILL RIVER WALL PLAN - 5



### SCHUYLKILL RIVER WALL ELEVATION - 5



- NOTES:**
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.

**LEGEND:**

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|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

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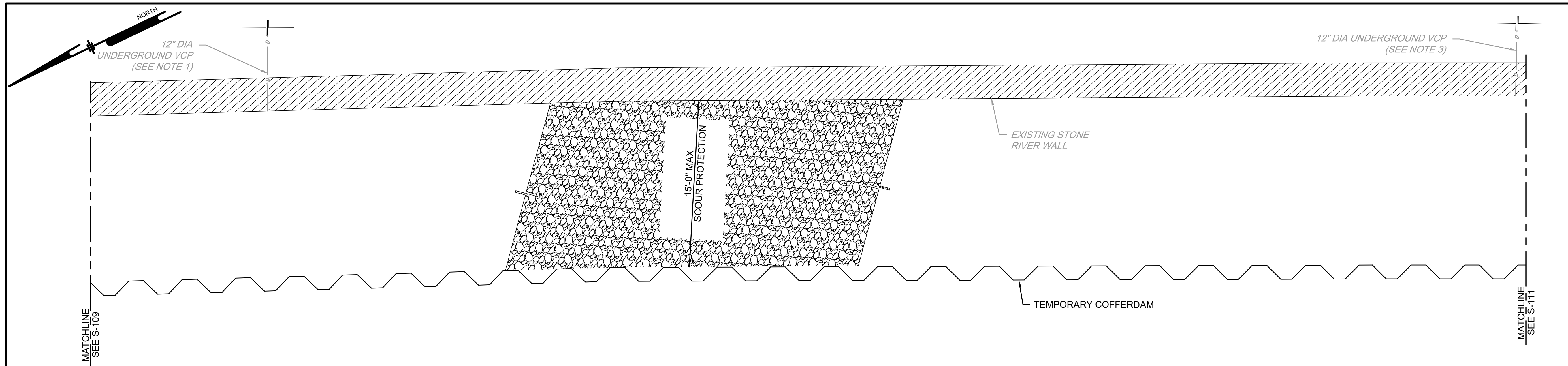
JENNIFER LYNN REIGLE  
 ENGINEER  
 No. 077888

**RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS**  
 PHILADELPHIA, PA  
**WALL PLAN AND ELEVATION - 2**  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 14TH FLOOR  
 PHILADELPHIA, PA 19102

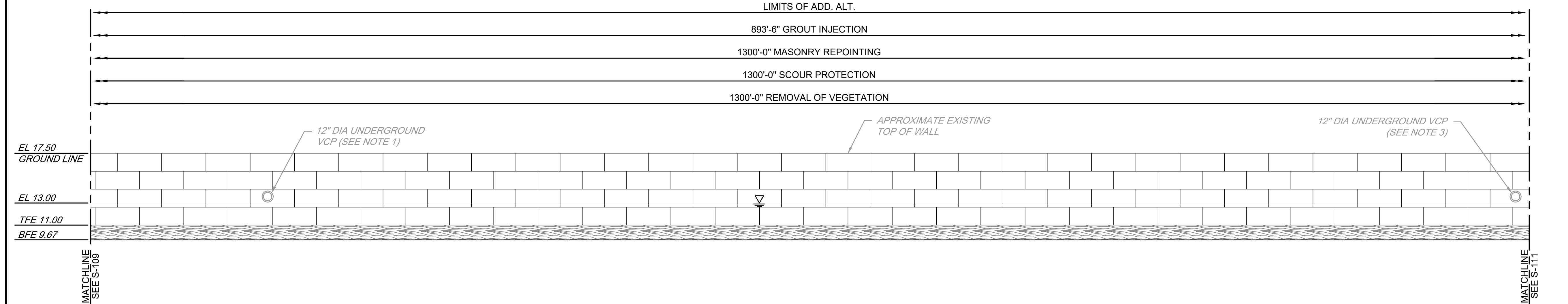
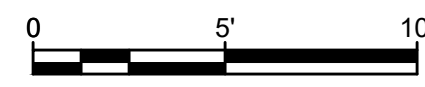
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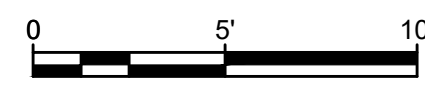
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| PROJECT       | PHILP18003 |
| DATE          | 2021-08-20 |
| DRAWING SCALE | AS SHOWN   |
| DRAWN BY      | BMS        |
| APPROVED BY   | SFM        |



### SCHUYLKILL RIVER WALL PLAN - 6



### SCHUYLKILL RIVER WALL ELEVATION - 6



- NOTES:**
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.
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**LEGEND:**

|  |                     |
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|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

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JENNIFER LYNN REIGLE  
 ENGINEER  
 No. 07788

RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS PHILADELPHIA, PA  
 WALL PLAN AND ELEVATION - 3  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 11TH FLOOR  
 PHILADELPHIA, PA 19102

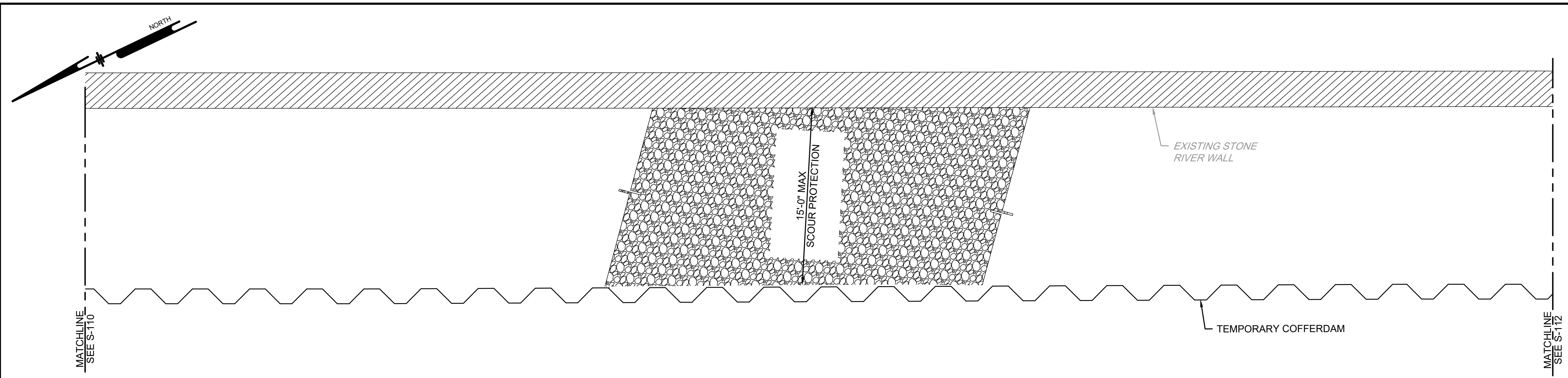
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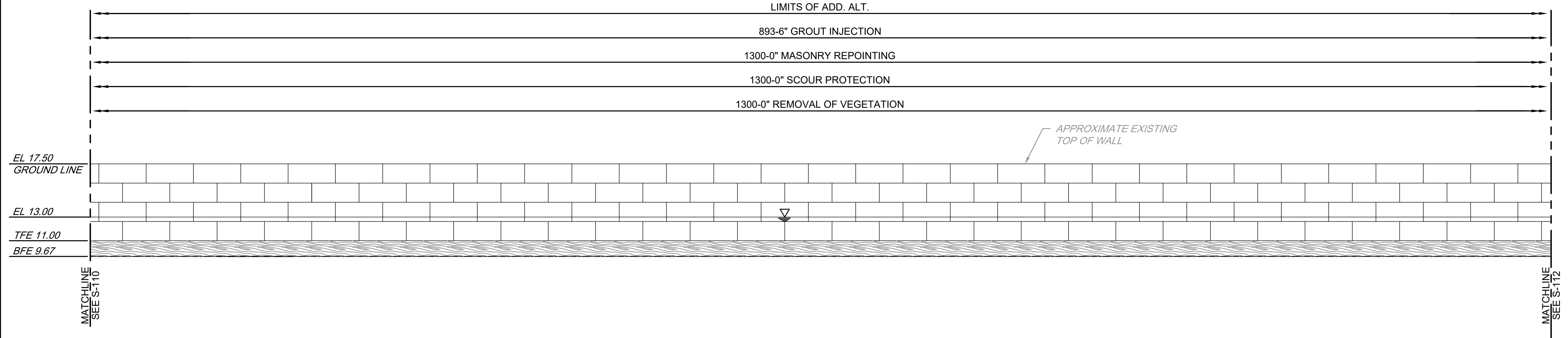
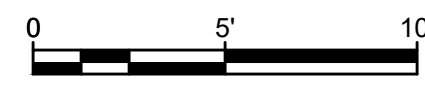
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| DRAWING SCALE | AS SHOWN   |
| DRAWN BY      | BMS        |
| APPROVED BY   | SFM        |

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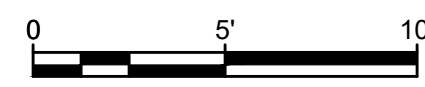




### SCHUYLKILL RIVER WALL PLAN - 7



### SCHUYLKILL RIVER WALL ELEVATION - 7



- NOTES:**
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.

**LEGEND:**

|  |                     |
|--|---------------------|
|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

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JENNIFER LYNI REGLE  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 077808

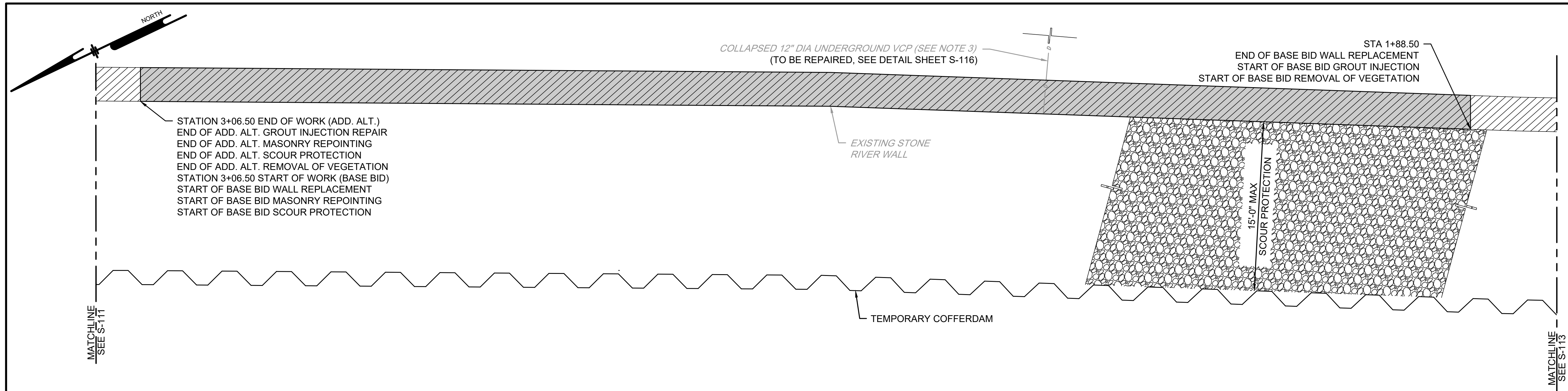
RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS PHILADELPHIA, PA  
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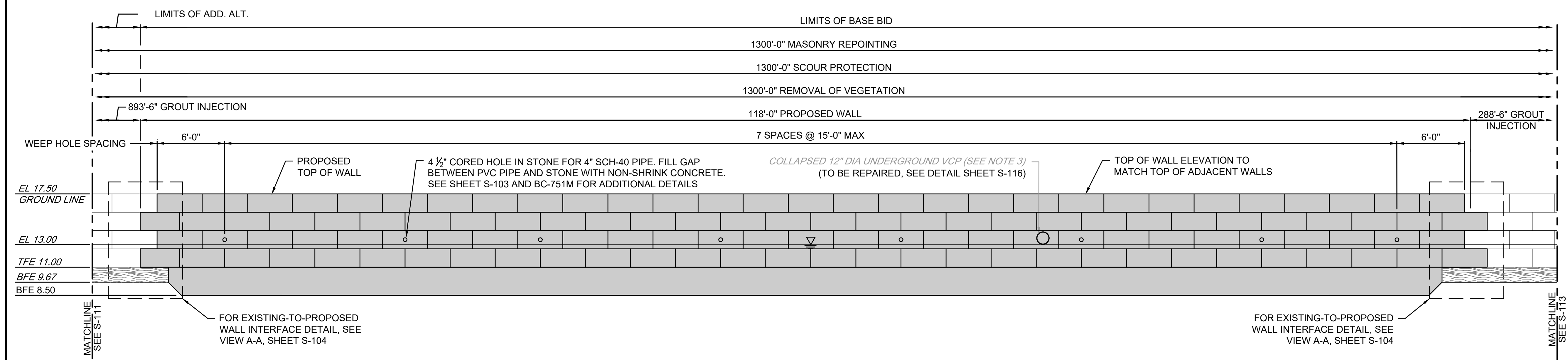
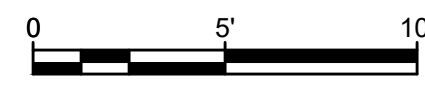
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| PROJECT       | PHILP18003 |
| DATE          | 2021-08-20 |
| DRAWING SCALE | AS SHOWN   |
| DRAWN BY      | BMS        |
| APPROVED BY   | SFM        |

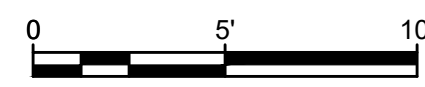
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### SCHUYLKILL RIVER WALL PLAN - 8



### SCHUYLKILL RIVER WALL ELEVATION - 8



- NOTES:**
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.
  - CARE SHOULD BE TAKEN WHEN PERFORMING WORK AROUND UTILITIES SO THAT ANY UTILITIES THAT WILL REMAIN IN PLACE WILL NOT BE DAMAGED. ANY DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE CITY.

**LEGEND:**

|  |                     |
|--|---------------------|
|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |
|  | PROPOSED WALL       |

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 1900 Market Street, Suite 300  
 Philadelphia, PA 19103  
 T 215.222.3000 F 215.222.3588

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JENNIFER LYNN REGLE  
 ENGINEER  
 No. 077808  
 PENNSYLVANIA

RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS  
 PHILADELPHIA, PA  
 WALL PLAN AND ELEVATION - 5  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 14TH FLOOR  
 PHILADELPHIA, PA 19102

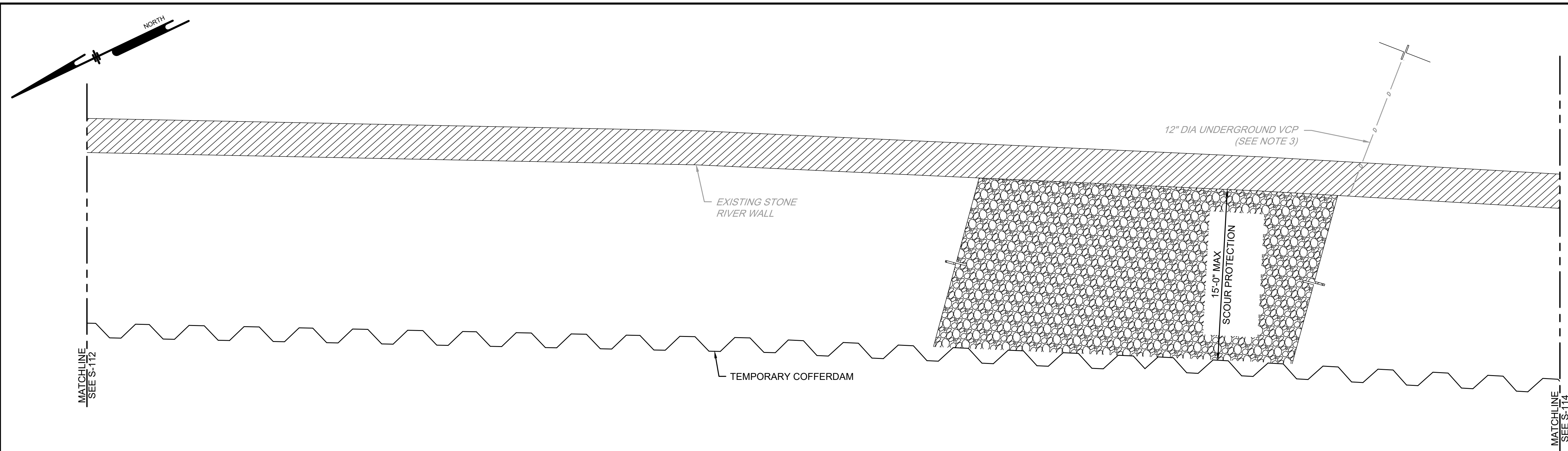
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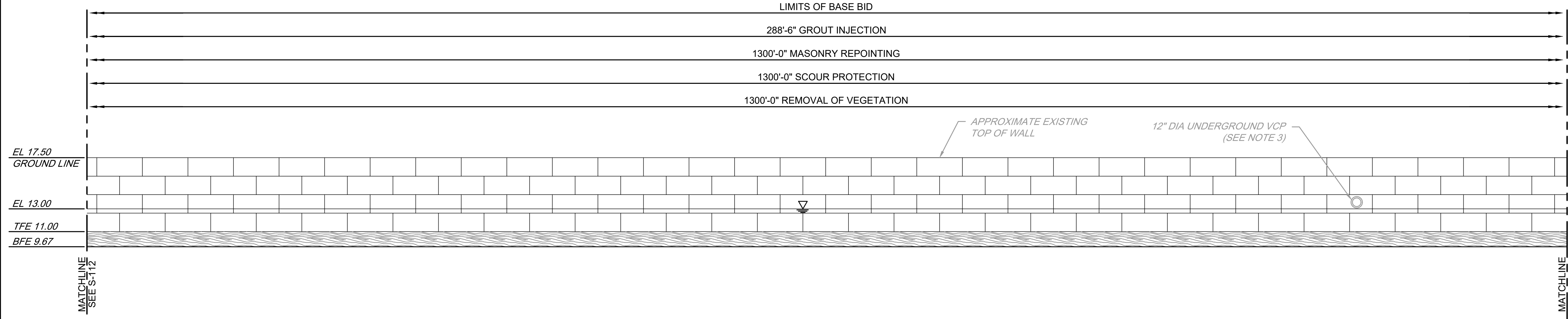
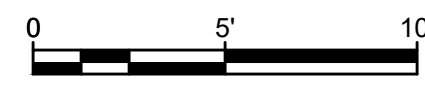
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| PROJECT       | PHILP18003 |
| DATE          | 2021-08-20 |
| DRAWING SCALE | AS SHOWN   |
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| APPROVED BY   | SFM        |

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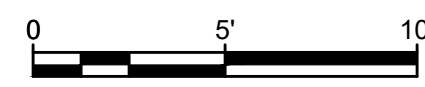




### SCHUYLKILL RIVER WALL PLAN - 9



### SCHUYLKILL RIVER WALL ELEVATION - 9



- NOTES:**
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.
  - CARE SHOULD BE TAKEN WHEN PERFORMING WORK AROUND UTILITIES SO THAT ANY UTILITIES THAT WILL REMAIN IN PLACE WILL NOT BE DAMAGED. ANY DAMAGED UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE CITY.

**LEGEND:**

|  |                     |
|--|---------------------|
|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

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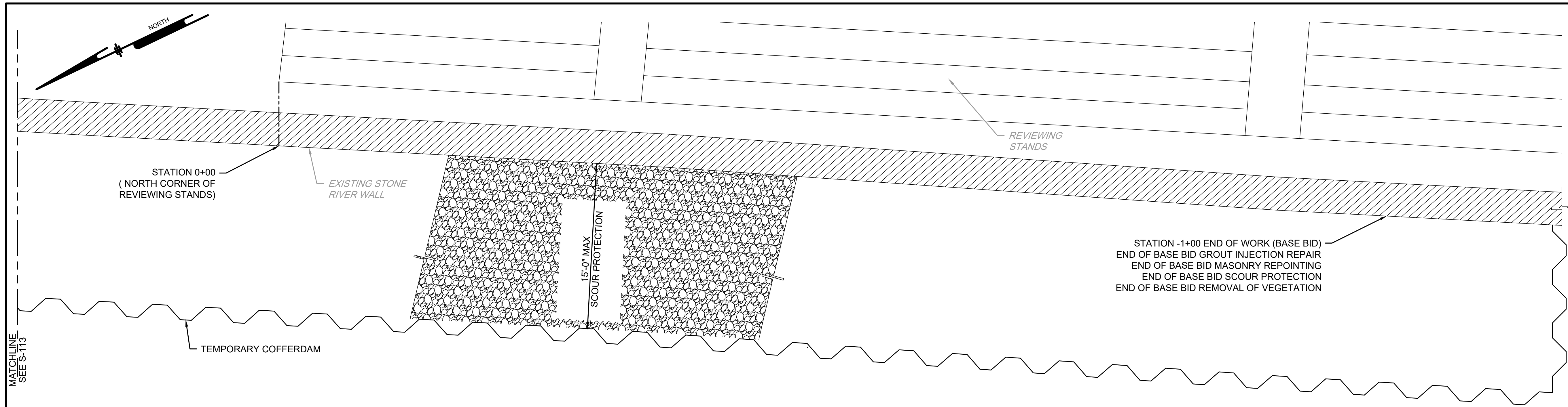
JENNIFER LYNN REIGLE  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 077888

**RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS WALL PLAN AND ELEVATION - 6**  
 PHILADELPHIA, PA  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 11TH FLOOR  
 PHILADELPHIA, PA 19102

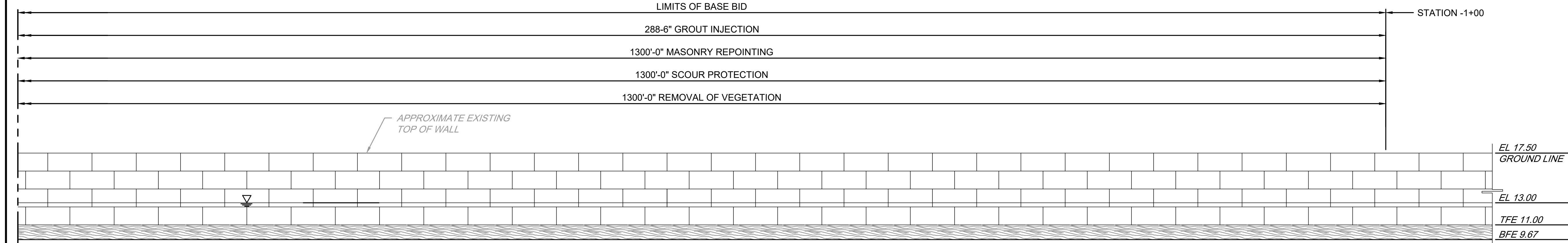
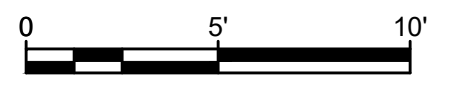
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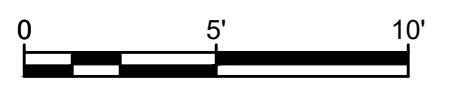
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| DATE          | 2021-08-20 |
| DRAWING SCALE | AS SHOWN   |
| DRAWN BY      | BMS        |
| APPROVED BY   | SFM        |



**SCHUYLKILL RIVER WALL PLAN - 10**



**SCHUYLKILL RIVER WALL ELEVATION - 10**



- NOTES:
- EXISTING PILES, PROPOSED SCOUR PROTECTION, COFFERDAM, AND MASONRY REPOINTING NOT SHOWN FOR CLARITY.
  - MASONRY REPOINTING LIMITS FROM TOP OF WALL TO MUDLINE.

**LEGEND:**

|  |                     |
|--|---------------------|
|  | SCOUR PROTECTION    |
|  | TEMPORARY COFFERDAM |
|  | TIMBER CRIBBING     |
|  | STONE RIVER WALL    |

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JENNIFER LYNN REGLE  
REGISTERED PROFESSIONAL ENGINEER  
No. 077888  
PA 000000

RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS  
PHILADELPHIA, PA  
WALL PLAN AND ELEVATION - 7  
CITY OF PHILADELPHIA  
1515 ARCH STREET, 14TH FLOOR  
PHILADELPHIA, PA 19102

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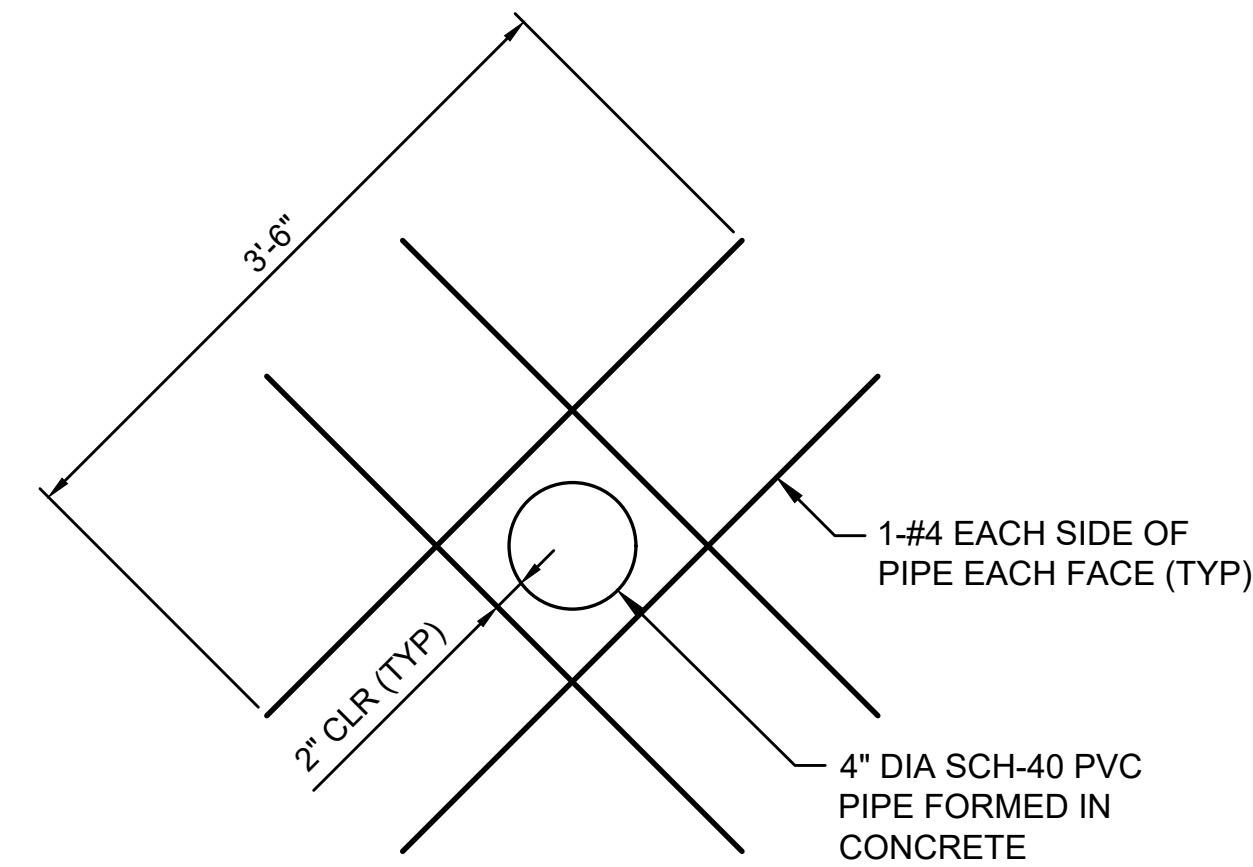
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| PROJECT       | PHILP18003 |
| DATE          | 2021-08-20 |
| DRAWING SCALE | AS SHOWN   |
| DRAWN BY      | BMS        |
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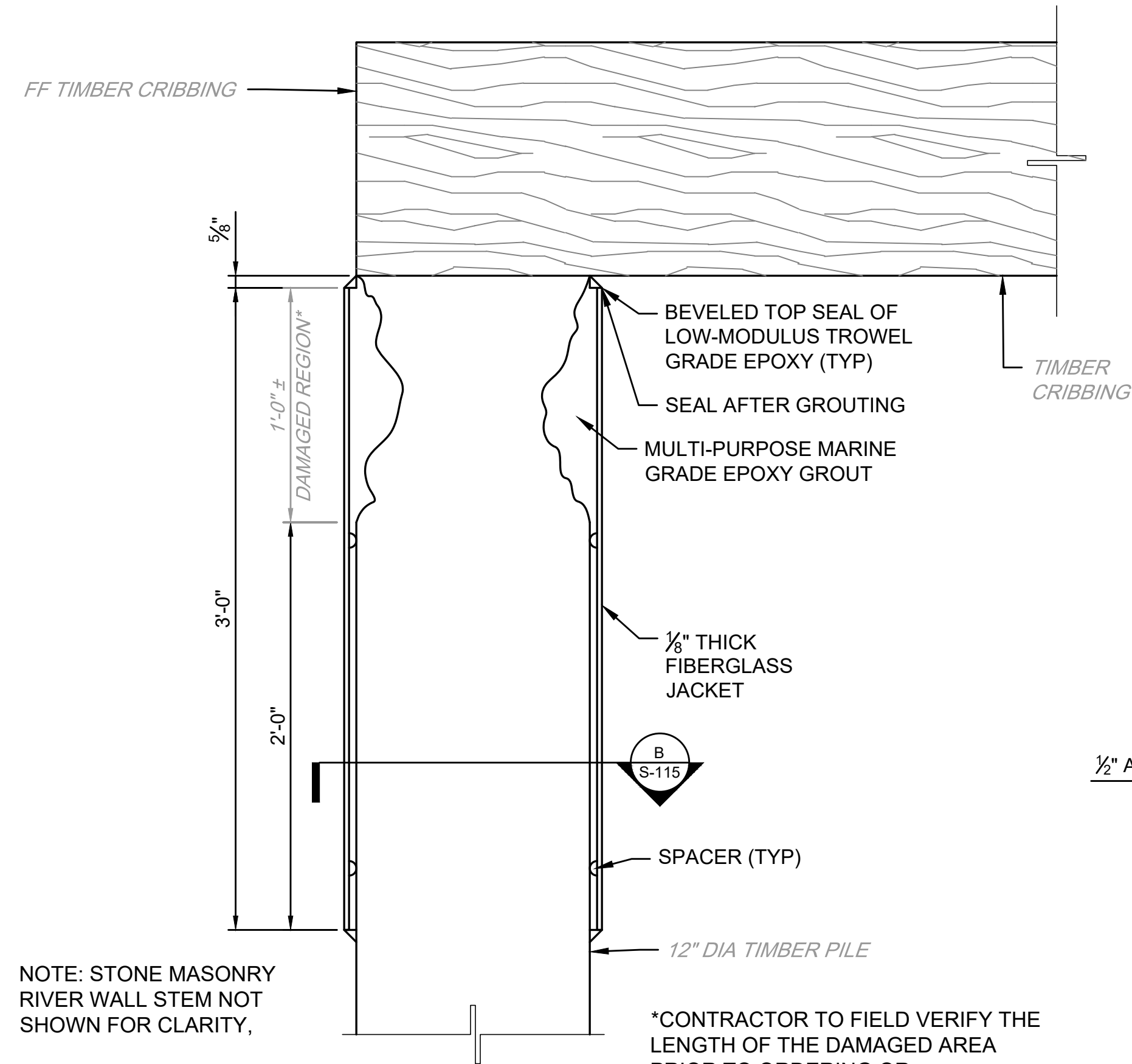


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### WEEP HOLE REINFORCEMENT DETAIL

(BASE BID ONLY, SEE SHEET S-112  
FOR LOCATIONS OF WEEPHOLES)  
NOT TO SCALE

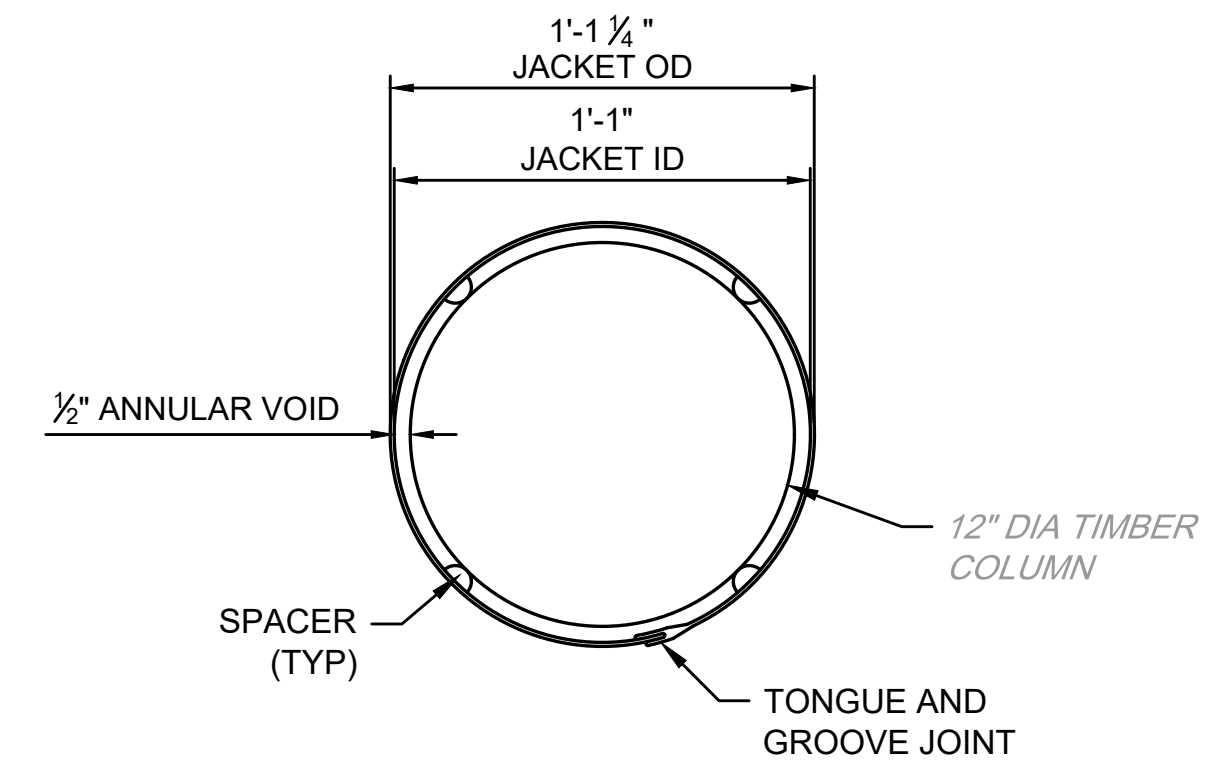
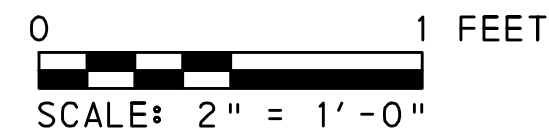


NOTE: STONE MASONRY  
RIVER WALL STEM NOT  
SHOWN FOR CLARITY,

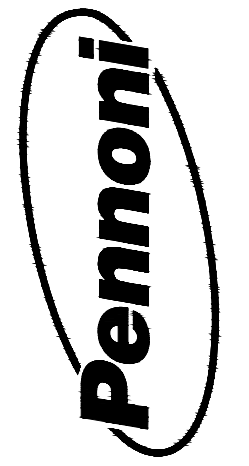
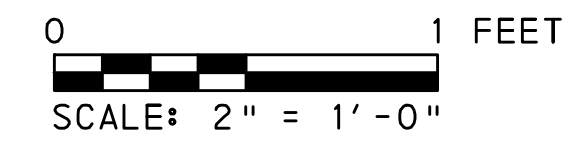
\*CONTRACTOR TO FIELD VERIFY THE  
LENGTH OF THE DAMAGED AREA  
PRIOR TO ORDERING OR  
FABRICATING MATERIALS. DRILL AND  
INSTALL INJECTING PORTS AS PER  
THE TIMBER PILE REPAIR SYSTEM.

### TIMBER PILE REPAIR DETAIL

(BASE BID ONLY, SEE SHEET S-104  
FOR LOCATIONS OF REPAIR)  
(LOOKING NORTH)

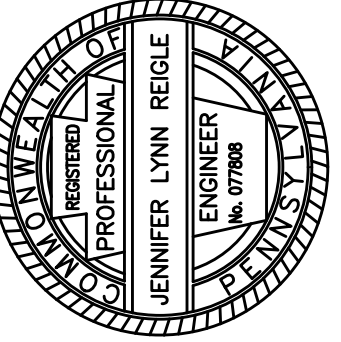


### SECTION B-B



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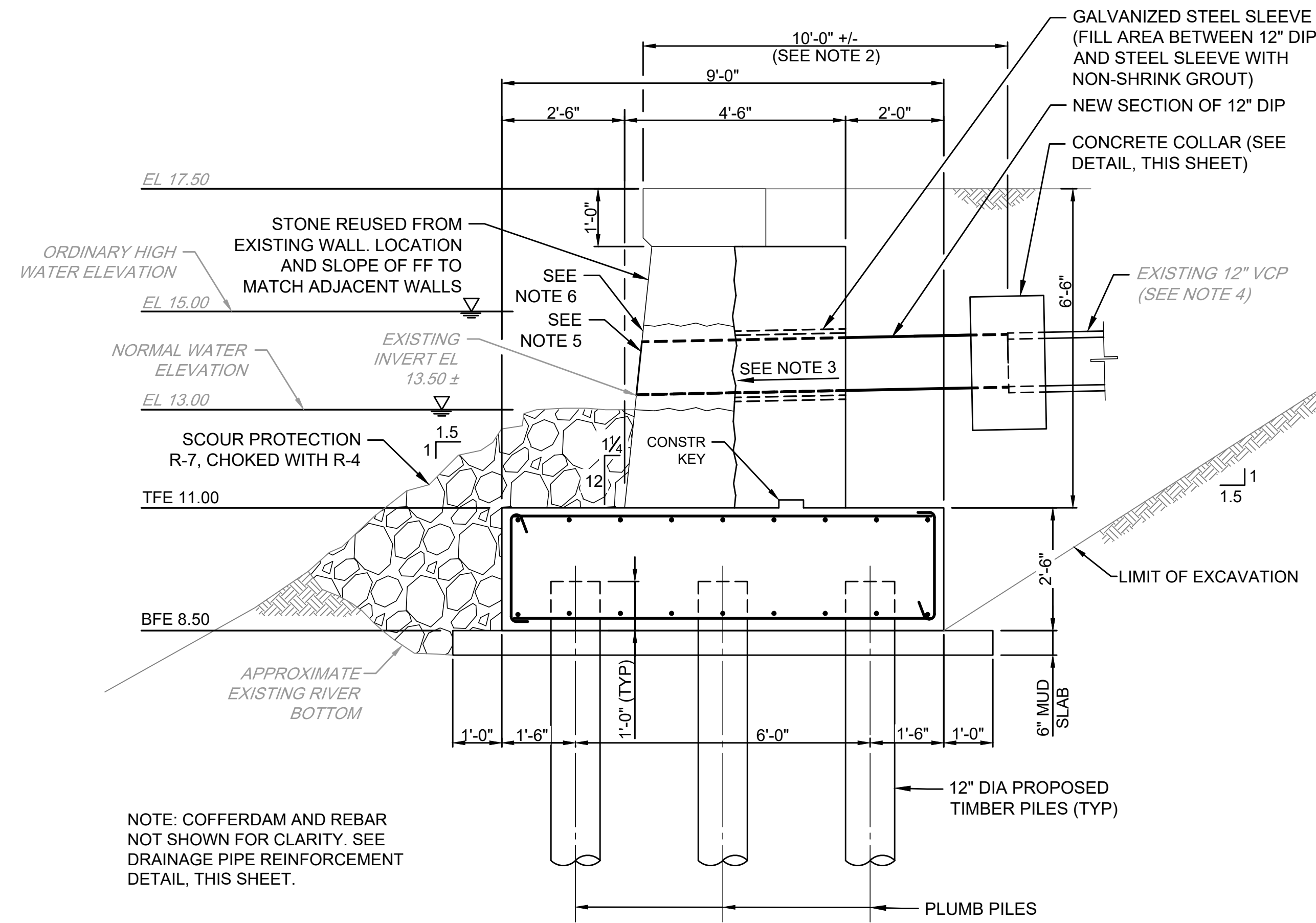
**RENOVATION OF THE EAST  
SCHUYLKILL RIVER WALL AT  
REVIEWING STANDS**  
PHILADELPHIA, PA  
**WALL DETAILS - 1**  
CITY OF PHILADELPHIA  
1515 ARCH STREET, 11TH FLOOR  
PHILADELPHIA, PA 19102

| NO. | DATE | REVISIONS | BY |
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OR ADAPTATION BY PENNONI ASSOCIATES FOR THE  
SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS  
SOLE RISK AND WITHOUT LIABILITY OR LEGAL  
EXPOSURE TO PENNONI ASSOCIATES, AND OWNER  
SHALL INDEMNIFY AND HOLD HARMLESS PENNONI  
ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND  
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| PROJECT       | PHILP18003 |
| DATE          | 2021-08-20 |
| DRAWING SCALE | AS SHOWN   |
| DRAWN BY      | BMS        |
| APPROVED BY   | SFM        |

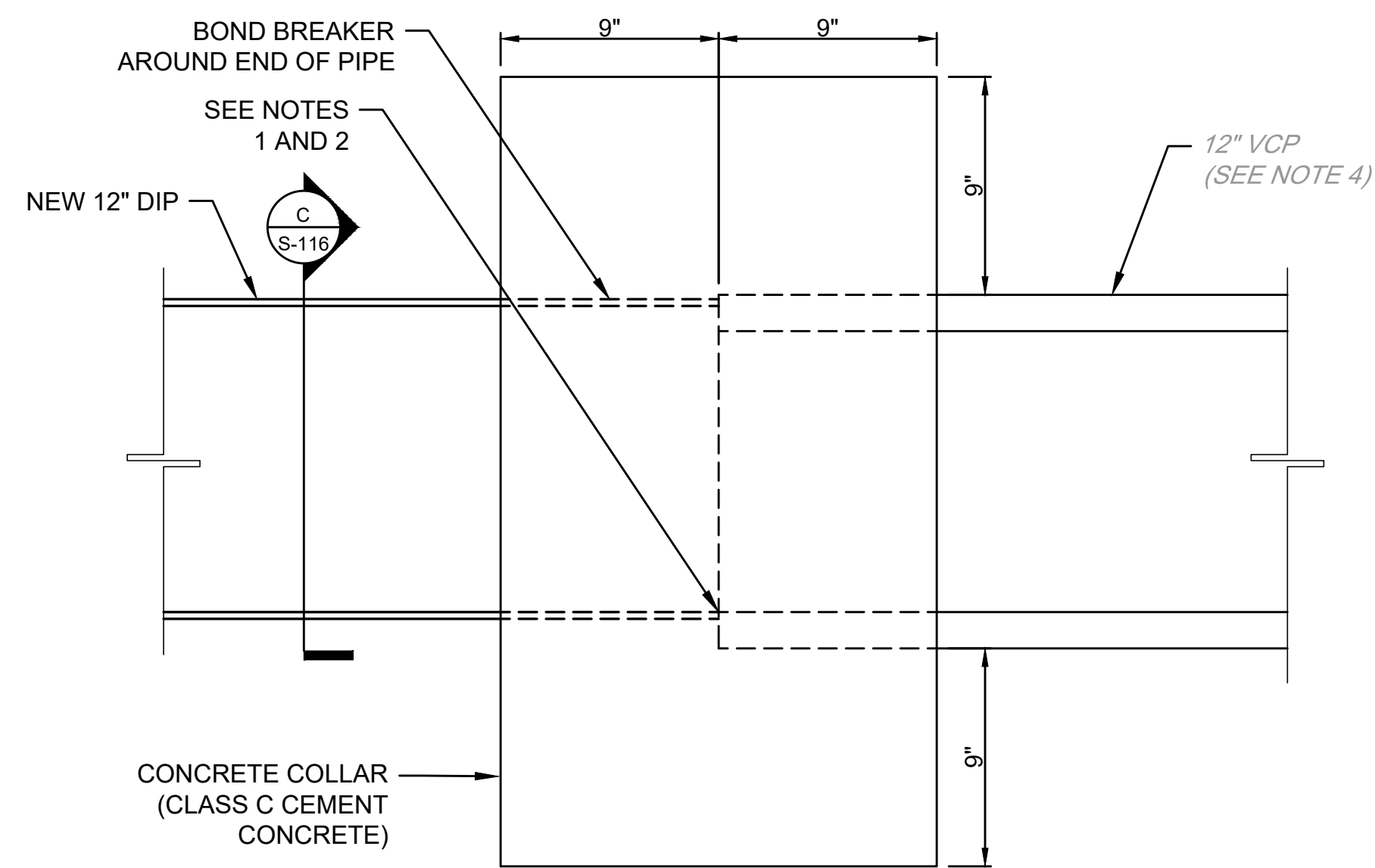
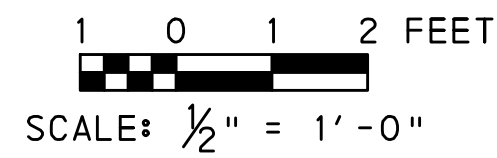
## S-115



NOTE: COFFERDAM AND REBAR NOT SHOWN FOR CLARITY. SEE DRAINAGE PIPE REINFORCEMENT DETAIL, THIS SHEET.

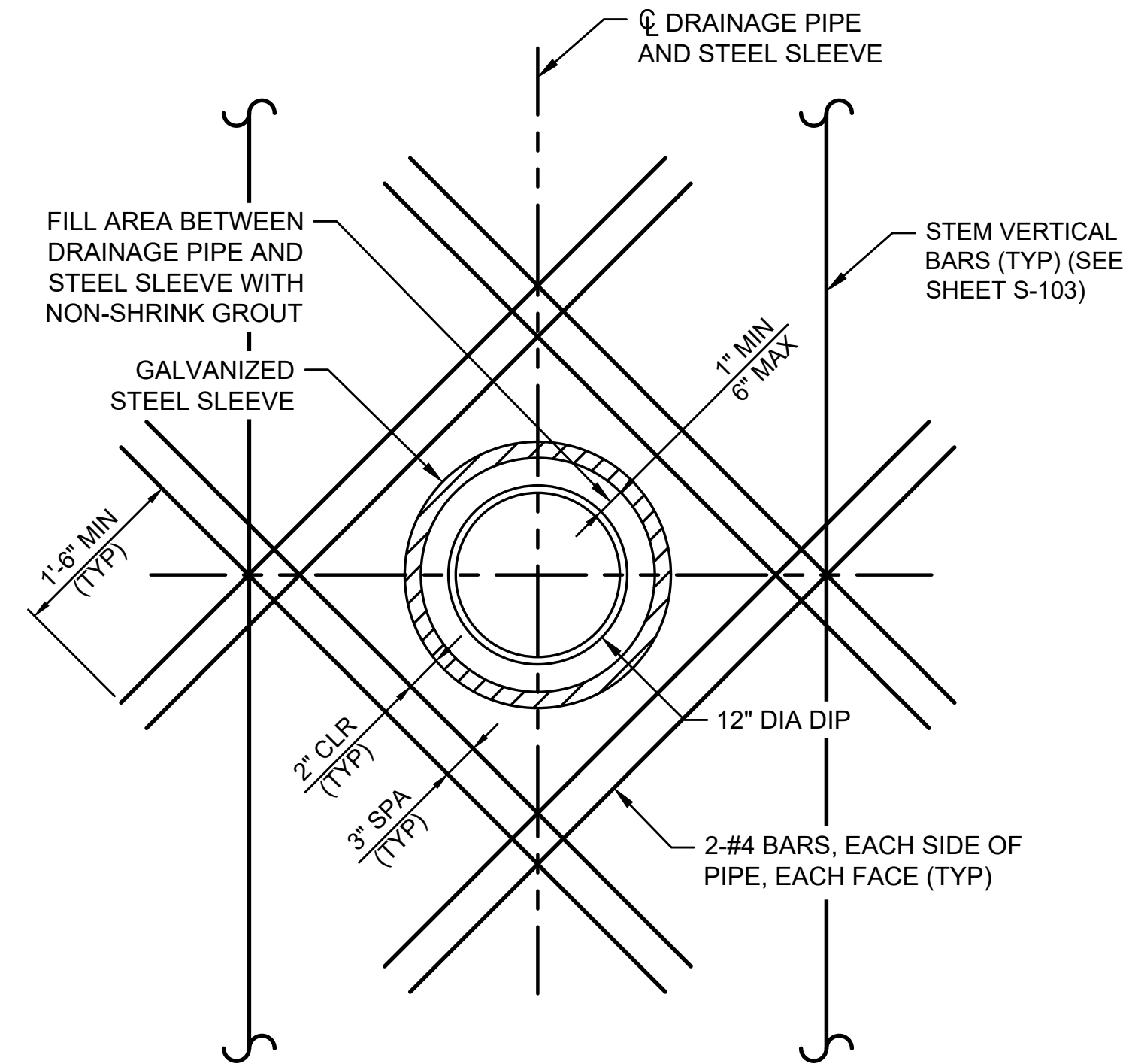
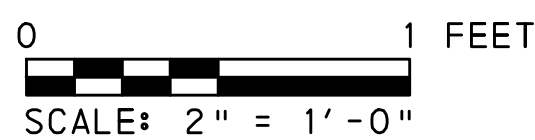
**PROPOSED REPLACEMENT TYPICAL SECTION AT DRAINAGE PIPE**

(BASE BID ONLY)  
(LOOKING NORTH)



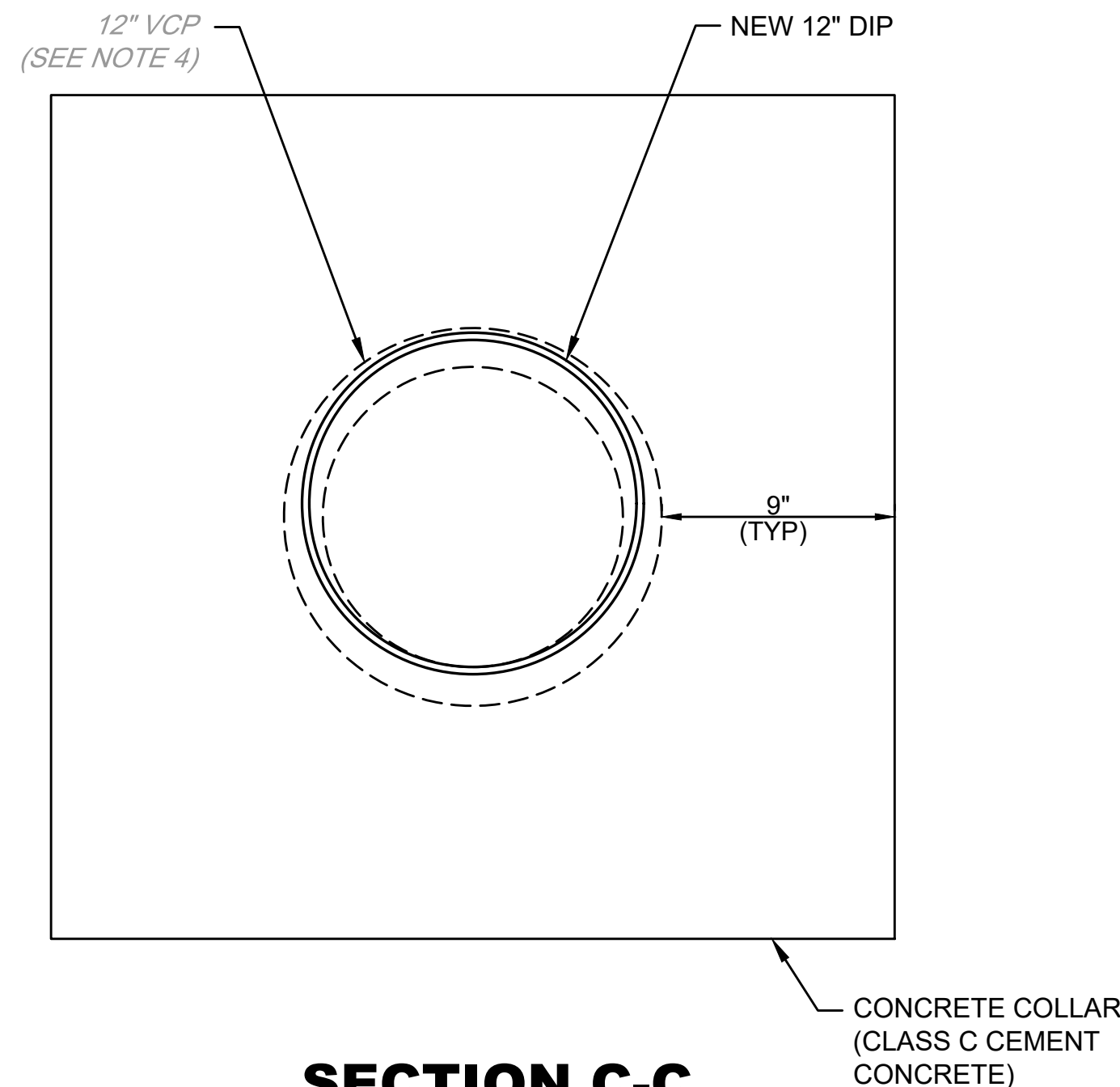
**DRAINAGE PIPE CONCRETE COLLAR DETAIL**

(BASE BID ONLY)



**DRAINAGE PIPE REINFORCEMENT DETAIL**

(BASE BID ONLY)  
(FOR CONCRETE WALL)  
NOT TO SCALE



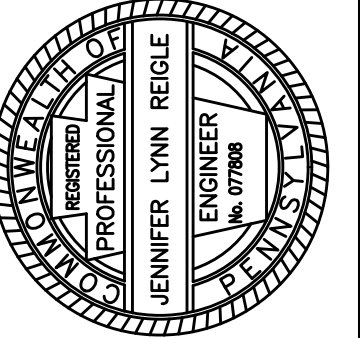
**SECTION C-C**



**NOTES:**

1. MATCH PIPE INVERT ELEVATIONS AT THE INTERFACE OF THE NEW AND EXISTING SECTIONS OF PIPE.
2. CONTRACTOR TO VERIFY THE EXTENTS OF THE COLLAPSED PIPE. CUT THE EXISTING PIPE AT A LOCATION SUCH THAT THE NEW SECTION OF PIPE WILL BE CONNECTED TO A SOUND PORTION OF EXISTING PIPE. EXISTING PIPE TO BE CUT VERTICALLY.
3. GRADE OF NEW SECTION OF PIPE TO MATCH GRADE OF EXISTING PIPE.
4. CONTRACTOR TO VERIFY SIZE OF EXISTING DRAINAGE PIPE PRIOR TO ORDERING OR FABRICATING NEW SECTION OF PIPE.
5. CUT OUTLET OF PROPOSED SECTION OF PIPE FLUSH WITH THE FRONT FACE OF THE RIVER WALL.
6. FILL VOID BETWEEN NEW SECTION OF PIPE AND RESET MASONRY STONES WITH NON-SHRINK GROUT.

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK



**RENOVATION OF THE EAST SCHUYLKILL RIVER WALL AT REVIEWING STANDS**

PHILADELPHIA, PA  
**WALL DETAILS - 2**  
 CITY OF PHILADELPHIA  
 1515 ARCH STREET, 11TH FLOOR  
 PHILADELPHIA, PA 19102

| NO. | DATE | REVISIONS | BY |
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| DATE          | 2021-08-20 |
| DRAWING SCALE | AS SHOWN   |
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