

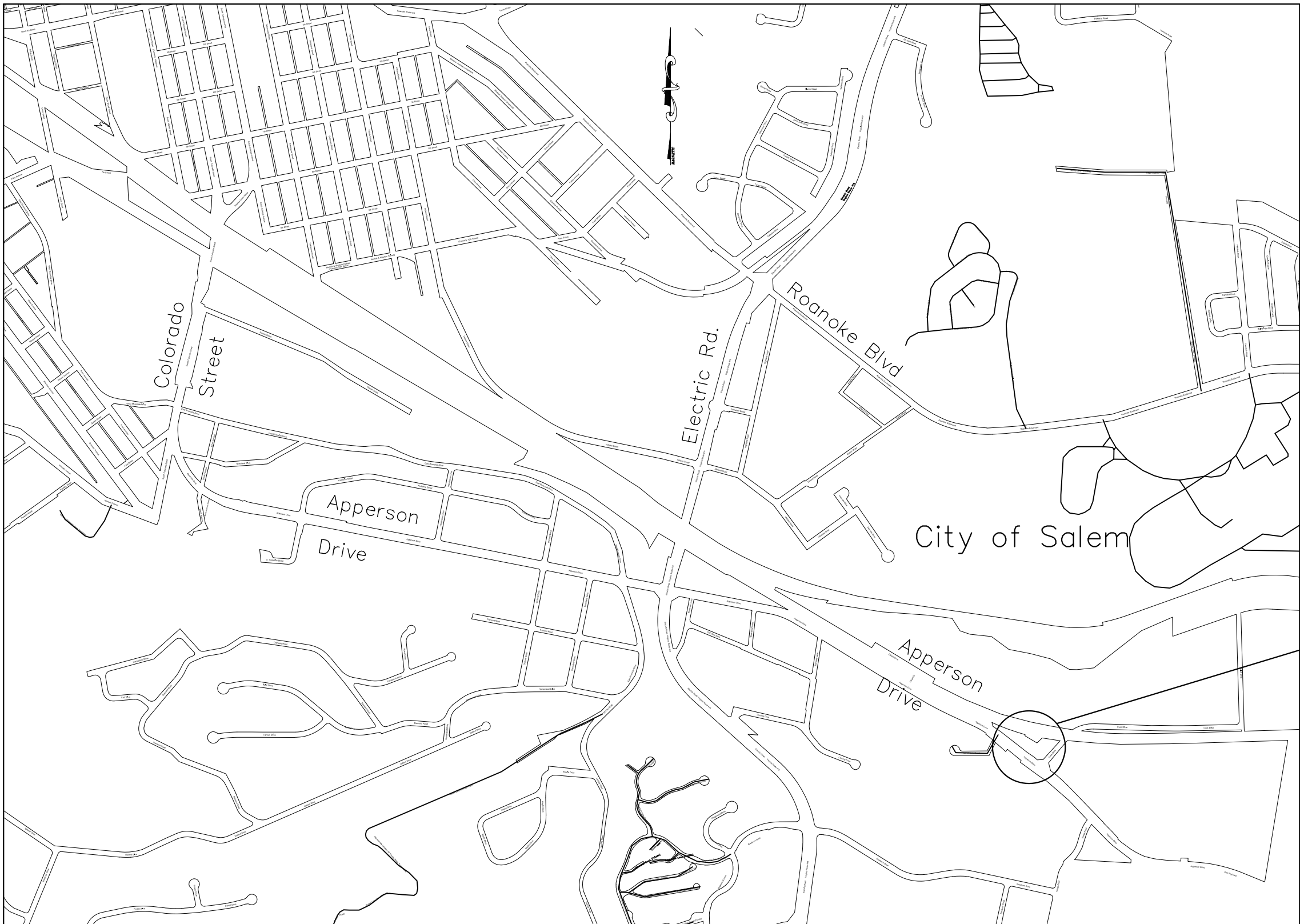
FOR INDEX OF SHEETS, SEE SHEET 2.

| STATE | FEDERAL AID | | STATE | | SHEET NO. |
|-------|-------------|---------|-------|---------|-----------|
| | ROUTE | PROJECT | ROUTE | PROJECT | |
| VA. | --- | N/A | 11 | | 1 |



CITY OF SALEM, VIRGINIA

PROPOSED BRIDGE SIDEWALK REPAIR OF APPERSON DRIVE OVER ROANOKE RIVER



Project Site
Apperson Drive


General construction note:

This project shall be constructed in accordance with Supplemental Specifications, VDOT Road and Bridge Specifications dated 2020 and the VDOT Road and Bridge Standards, 2016.

Legend:

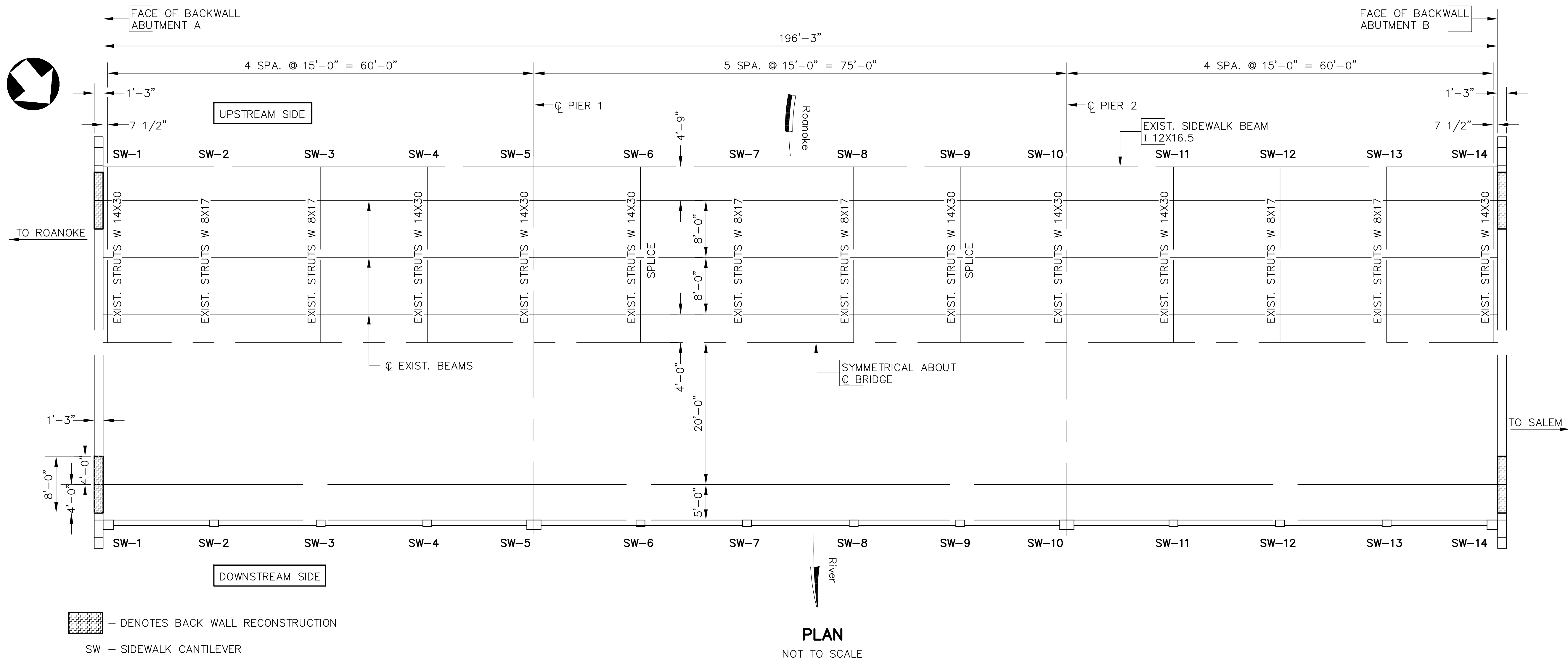
- | | |
|---|-----------------------|
| — | Existing object lines |
| — | Proposed object lines |
| — | Existing reinf. steel |
| — | Proposed reinf. steel |
| — | Cutting plane line |
| — | Center line |
| — | Hidden lines |

Location Map
Not to scale

| PLANS REVISED | | COMMONWEALTH OF VIRGINIA R.W. SCHWARTZ Lic. No. 4291 10-12-23 PROFESSIONAL ENGINEER |  SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. |
|------------------------|-------|---|--|
| SHEET NO. | DATE: | | |
| | | | |
| DESIGNED BY: RWS | | DRAWN BY: RES | CHECKED BY: RWS |
| SCALE: As shown | | PLAN NO.: | |
| DATE: OCTOBER 11, 2023 | | SHEET 1 OF 15 | |

CADD REFERENCE NO. COVER.dwg

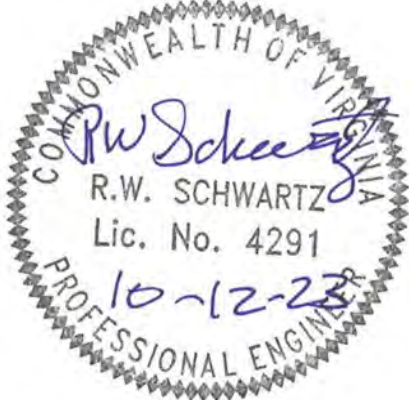

CADD REFERENCE NO.: BRIDGE2023010.DWG



| ESTIMATED QUANTITIES | | |
|-------------------------------------|-------|----------|
| Item | Units | Quantity |
| Mobilization | LS | 1 |
| Maintenance of Traffic | LS | 1 |
| Abutment Back Wall Reconstruction ☒ | LF | 36 |
| Silicone Joint Sealer (1 1/16"±) | LF | 36 |
| Sidewalk Tension Assembly ☒ | EA | 28 |
| Scab Plate Assembly ☒ | EA | 12 |
| Curb Block Replacement | EA | 6 |
| Shotcrete, Type B | SF | 100 |
| Strut Repair | LS | 1 |
| | | |

☒ — Denotes items to be paid for on basis of plan quantities in accordance with current road and bridge specifications.
LS = Lump Sum

| INDEX OF SHEETS | |
|-----------------|--|
| SHEET NO. | DESCRIPTION |
| 1 | COVER |
| 2 | PLAN, QUANTITY TABLE & INDEX OF SHEETS |
| 3 | GENERAL NOTES |
| 4 | PARTIAL TRANSVERSE SECTION (ABUTMENTS & PIERS) |
| 5 | PARTIAL TRANSVERSE SECTION (SPLICES, SW-4 & SW-11) |
| 6 | PARTIAL TRANSVERSE SECTION (W 8X17 STRUT) & STRUT REPAIR |
| 7 | SCAB PLATE ASSEMBLY & SHOTCRETE DETAIL |
| 8 | SIDEWALK TENSION ASSEMBLY |
| 9 | ABUTMENT BACK WALL RECONSTRUCTION, SILICONE JOINT SEALER (1 1/16"±) & CURB BLOCK REPLACEMENT |
| 10 | STAGE 1 TRAFFIC CONTROL |
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| 12 | STAGE 1 TRAFFIC CONTROL |
| 13 | STAGE 2 TRAFFIC CONTROL |
| 14 | STAGE 2 TRAFFIC CONTROL |
| 15 | STAGE 2 TRAFFIC CONTROL |

| | | | |
|---|---|-----------------------------|--|
|  |  | SCHWARTZ & ASSOCIATES, INC. | |
| | | CONSULTING ENGINEERS | |
| | | 7331 TIMBERLAKE ROAD | |
| | | LYNCHBURG, VA. | |
| APPERSON DRIVE OVER ROANOKE RIVER | | CITY OF SALEM, VA | |
| PLAN, QUANTITY TABLE & | | INDEX OF SHEETS | |
| DESIGNED BY: RWS | DRAWN BY: RES | CHECKED BY: RWS | |
| SCALE: NOT TO SCALE | PLAN NO.: NA | | |
| DATE: OCTOBER 11, 2023 | SHEET: 2 | OF 15 | |

CADD REFERENCE NO.: BRIDGE2023010.DWG

GENERAL NOTE:

Widths: 5’-0” sidewalk, 40’-0” Roadway, 5’-0” sidewalk. Overall width 50’-0” face-to-face of rails.

Span layout: 60’-7½” – 75’-0” – 60’-7½” steel beam spans.

Capacity: H20 loading.

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications, 2020.

Design: AASHTO Specifications for Highway Bridge, 1941.
Standards: Virginia Department of Transportation Road and Bridge Standards, 2016; including all current revisions.

These plans are incomplete unless accompanied by the Supplemental Specifications and Special Provisions included in the contract documents.

This project is to be constructed in accordance with the Virginia Department of Transportation Work Area Protection Manual, August 2011 and current revisions.

All reinforcing steel shall be deformed and shall conform to ASTM A615 Grade 60 except for reinforcing steels noted as CRR (corrosion resistant reinforcement) which shall conform to applicable specifications noted on the special provisions. All reinforcing bar dimensions on the detailed drawings are to centers of bars except where otherwise noted and are subject to fabrication and construction tolerances.

Corrosion resistant reinforcing (CRR) steels shall conform to one or more of the three classes listed in the special provision. The minimum yield strength shall be 100 ksi for low carbon/chromium and 60 ksi for stainless clad steel or solid stainless steel. The class(es) of CRR steel(s) required on the project is/are noted on plan sheets and in the reinforcing steel schedule. Corrosion resistant reinforcing steel, Class II or Class III, may be substituted for Class I. Corrosion resistant reinforcing steel, Class III, may be substituted for Class II.

Bridge No. of existing bridge is 1800.

Existing as-built bridge plans (Plan no. 086-07) are available from Schwartz & Associates, Inc..

The locations and limits of all surface repairs on superstructure shall be determined by the Engineer.

All existing concrete removed shall be removed to horizontal and vertical planes and to sound concrete and pneumatic hammers shall be worked at an angle of 45 to 60 degrees.

Contractor shall exercise extreme caution when removing existing concrete so that none of the portion of the structure or reinforcing steel to remain in place is damaged. Existing concrete shall be removed with pneumatic hammer (max. weight 35 lbs.) except use 15 lb. hammer for final trim work. Pneumatic hammers shall be worked at an angle of 45 to 60 degrees (Section 412.03 (a)).

No open flames or welding will be allowed on this project due to a gas line that is attached to the bridge.

The Contractor shall submit to the Engineer a detailed plan for containing construction related material (i.e. sand & shot blasting media. concrete debris, uncured concrete, tools, materials, etc.) and preventing its falling onto or around the Roanoke River, or any other area accessible to pedestrians. This work shall be included in the price bid for appropriate bid items.

Bolt holes in new material that are required to match the existing holes shall be drilled full size in the field using the existing holes as a template.

The contractor shall use all new bolts, washers and nuts.

The Contractor shall plan and execute the work such that no more than 10,000 square feet of land disturbance occurs at any given time.

The Contractor shall provide the Engineer safe access to all areas of work throughout course of construction and for final inspection after all work is complete.

All areas disturbed during this project, not covered by other notes, shall be restored to its original or better conditions as directed by the engineer. All costs for this work shall be included in other items.

All temporary erosion and siltation control shall be in accordance with the Virginia Erosion and Sediment Control Handbook, these drawings & Contract Documents.

All costs for maintenance of all erosion and siltation control items, as directed by the Engineer, shall be included in the appropriate bid items.

All costs for covering or removing existing signs during construction & uncovering or re-erecting signs at project completion shall be included in the lump sum bid item "Maintenance of Traffic."

Dimensions of existing structures shown on the plans are taken from as-built drawings dated August 25th, 1942. The contractor shall verify in the field all dimensions necessary for construction of the project. Plans for the existing bridge are available from Schwartz & Associates, Inc..

Before proceeding with any work within or adjacent to the existing structure, the contractor shall become familiar with existing conditions. During construction operations, it shall be the contractor's responsibility to maintain the integrity of the existing structure where the existing structure is modified to accommodate new construction, and to protect from damage those portions of the structure which are to remain.

All of the concrete within a span lane that is to be removed shall be removed before recasting any concrete within that span lane unless otherwise directed by the engineer.

The use of stay-in-place forms will not be permitted.

Contractor shall take extreme caution in his operations so that no damage is done to utilities in the vicinity of bridge or on the bridge.

The contractor shall verify, in field all dimensions, skew and elevations before beginning construction and before submitting shop drawings.

All open repair areas shall be covered completely with ½” minimum thick steel plates before contractor leaves the site each day (as directed by the engineer) and uncovered when the contractor returns. All costs shall be included in other bid items.

I. TRAFFIC CONTROL:

Cost of pavement line eradication and pavement message marking eradication (permanent & temporary) shall be included in the lump sum bid item "Maintenance of Traffic."

All new concrete shall have obtained full design strength before allowing traffic on new portion of structure.

Bridge shall be constructed in two stages as shown on these contract drawings.

II. CONCRETE

All concrete used for repairs, except for shotcrete repairs, shall be A4 P&R.

Cost of adhesive anchors shall be included in unit price bid for item where used.

In areas of the structure where existing concrete is to be removed and replaced by new class A4 concrete, and where new concrete is cast against existing concrete, the requirements of Section 412 of the Specifications shall apply, except as amended below:

- Whenever existing reinforcing bars are exposed, concrete shall be removed no less than 1 inch behind the bar.
- Existing concrete shall be removed as shown on the plan details or as directed by the Engineer, to horizontal and vertical planes only, and to sound concrete, taking care not to damage the existing reinforcing steel.
- Within twenty-four hours prior to placing new concrete, exposed reinforcing steel and faces of existing concrete shall be cleaned by abrasive blast cleaning. Reinforcing steel shall be blasted until corroded steel material and foreign material are removed to clean white metal. Concrete material shall be blasted for a time sufficient to expose sound concrete and coarse aggregate.
- Immediately prior to placing new concrete, exposed reinforcing steel and faces of existing concrete shall be cleaned of all dust and debris.
- The perimeter of all surface repair areas shall be saw cut rectangular pattern.

All costs related to bonding construction joints, as shown on these contract drawings, shall be included in cost bid for that concrete item.

The locations and limits of all surface repairs shall be determined by the Engineer.

Prior to casting Concrete and Shotcrete, contractor shall pre-wet existing concrete surfaces with water for a minimum of 2 hours. All costs shall be included in the appropriate item.

III. BLASTING – GENERAL

All concrete areas blasted shall be blasted for a time sufficient to expose sound concrete and coarse aggregate, unless otherwise noted. they shall be blasted using an abrasive material or a mixture of water (8,000 psi min.) and abrasive.

All reinforcing steel areas blasted shall be blasted until all concrete, rust, scale, corroded steel material and foreign material are removed to clean white metal.

IV. REINFORCING STEEL:

When drilling for adhesive anchors, extreme caution shall be taken in order that existing reinforcing steel is not damaged. Any reinforcing steel damaged shall be corrected at the Contractor's expense.

Great care shall be taken during the removal of concrete in the superstructure in order that the existing reinforcing steel to be re-used is not damaged.

Any existing reinforcing steel that is to remain in structure and is damaged in superstructure remodeling, as determined by the engineer, shall be corrected at the Contractor's expense.

All exposed reinforcing steel in concrete remodeling areas shall be blasted and covered with bonding epoxy immediately prior to recasting concrete.

V. EPOXIES:

All new concrete cast in structure shall be bonded to existing concrete with bonding epoxy (except shotcrete). Bonding epoxy used on structure shall be Sika Armatec 110 (or approved equivalent) unless otherwise noted on plans.

All costs related to bonding construction joints, as shown on these contract drawings, shall be included in cost bid for other items.

VI. STRUCTURAL STEEL:

Regardless of the relative humidity under the bridge deck, the contractor will not be permitted to apply paint to structural steel when there is condensation on the structural steel or when it is raining.

The contractor shall immediately notify the engineer of any cracks found in structural steel while working on this project.

All structural steel including , Strut Repair, Bolts, Nuts, Washers, Sidewalk Tension & Scab Plate Assemblies, shall be painted with Paint System B and Finish Color shall Match existing Bridge Color.

All structural steel including , Sidewalk Tension & Scab Plate Assemblies shall be Shop Primed.

VII. INCIDENTALS:

The locations of existing utilities, including underground utilities, is indicated on the drawings insofar as their existence and location were known at the time of preparation of the drawings. However, nothing in these contract documents shall be construed as a guarantee that such utilities are in the location indicated or that they actually exist, or that other utilities are not within the area of operations. The Contractor shall make all necessary investigations to determine the existence and locations of such utilities. The Contractor shall pay for any damage to and for maintenance and protection of existing utilities and structures.

All costs for grading, shaping, seeding, fertilizing, liming, overseeding, furnishing & placing topsoil and mulching, in disturbed areas of the project shall be included in other bid items. Contractor shall replace all damaged shrubs, flowers, etc. any shrubs or flowers damaged shall be replaced with the original size and type that was damaged. All costs shall be included in other bid items.

The costs of any necessary construction surveying shall be included in unit price bid for other items in contract.

Silicone Joint Sealer shall be Black Color.

VIII. OPERATIONS:

1. SHOTCRETE:

The Contractor shall prepare a minimum of 100 sq. ft. of the shotcrete areas so that they will be ready for viewing at one time. Contractor shall then shotcrete a minimum of 100 sq. ft. of the areas in one continuous operation.

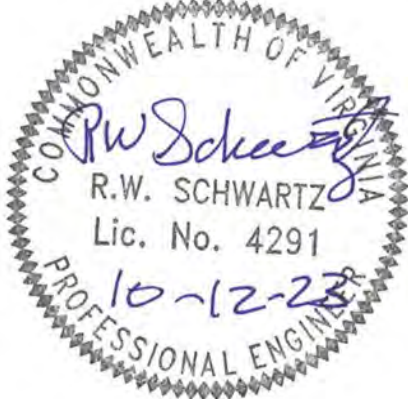

2. CLASS A4 CONCRETE:

All Class A4 concrete cast in each repair stage (Stage 1 or 2) shall be cast in no more than one continuous operations per stage.

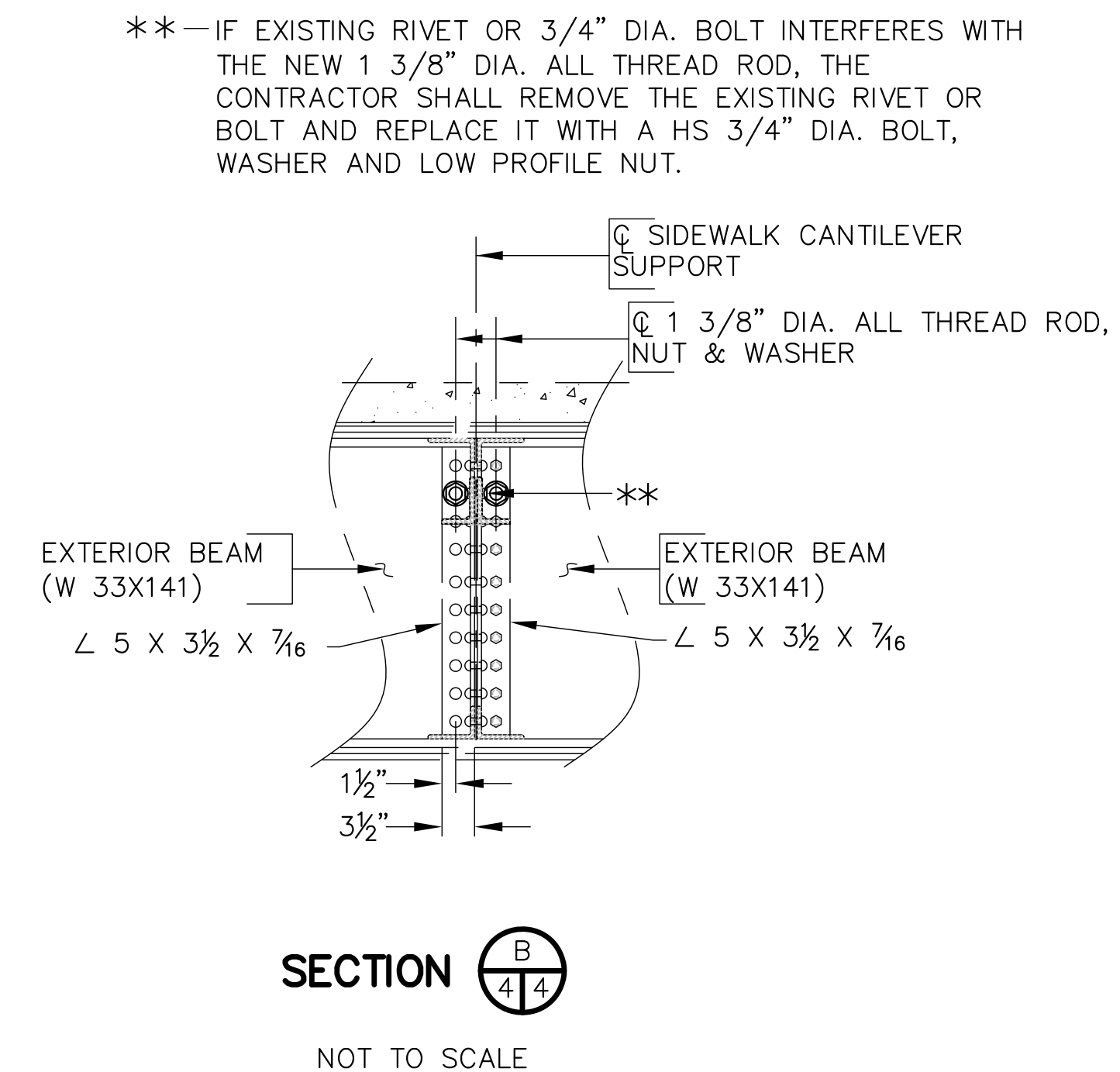
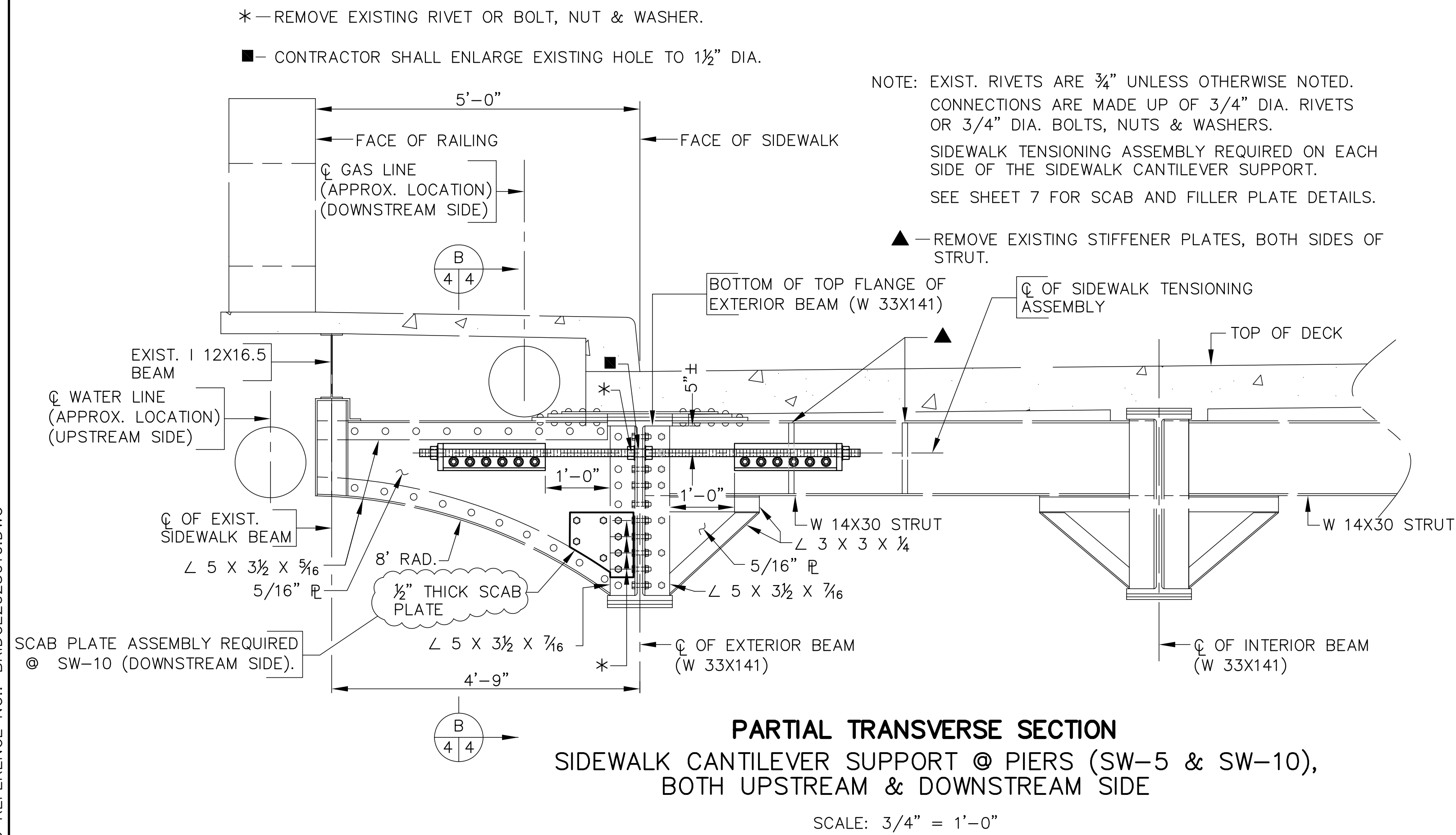
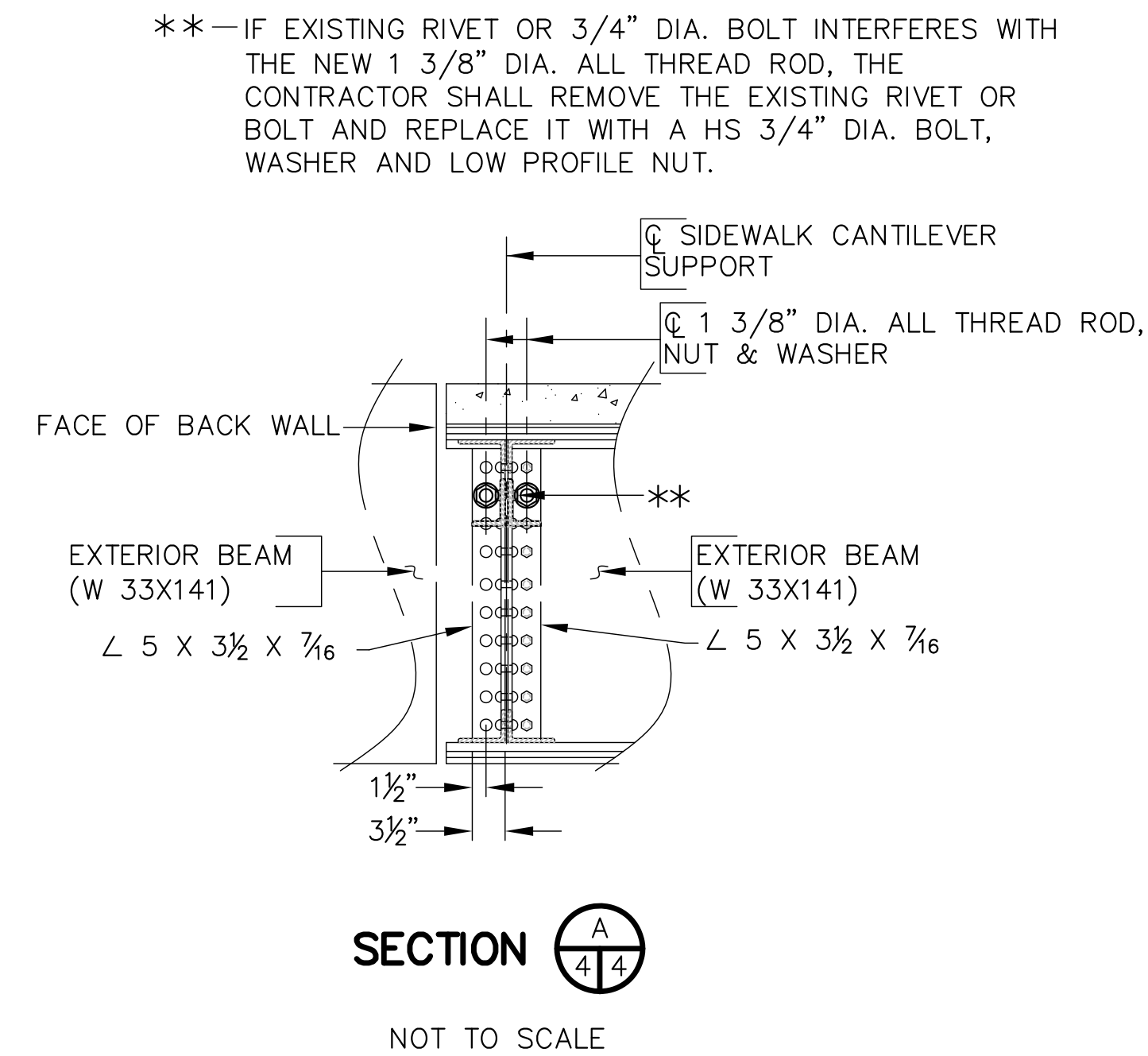
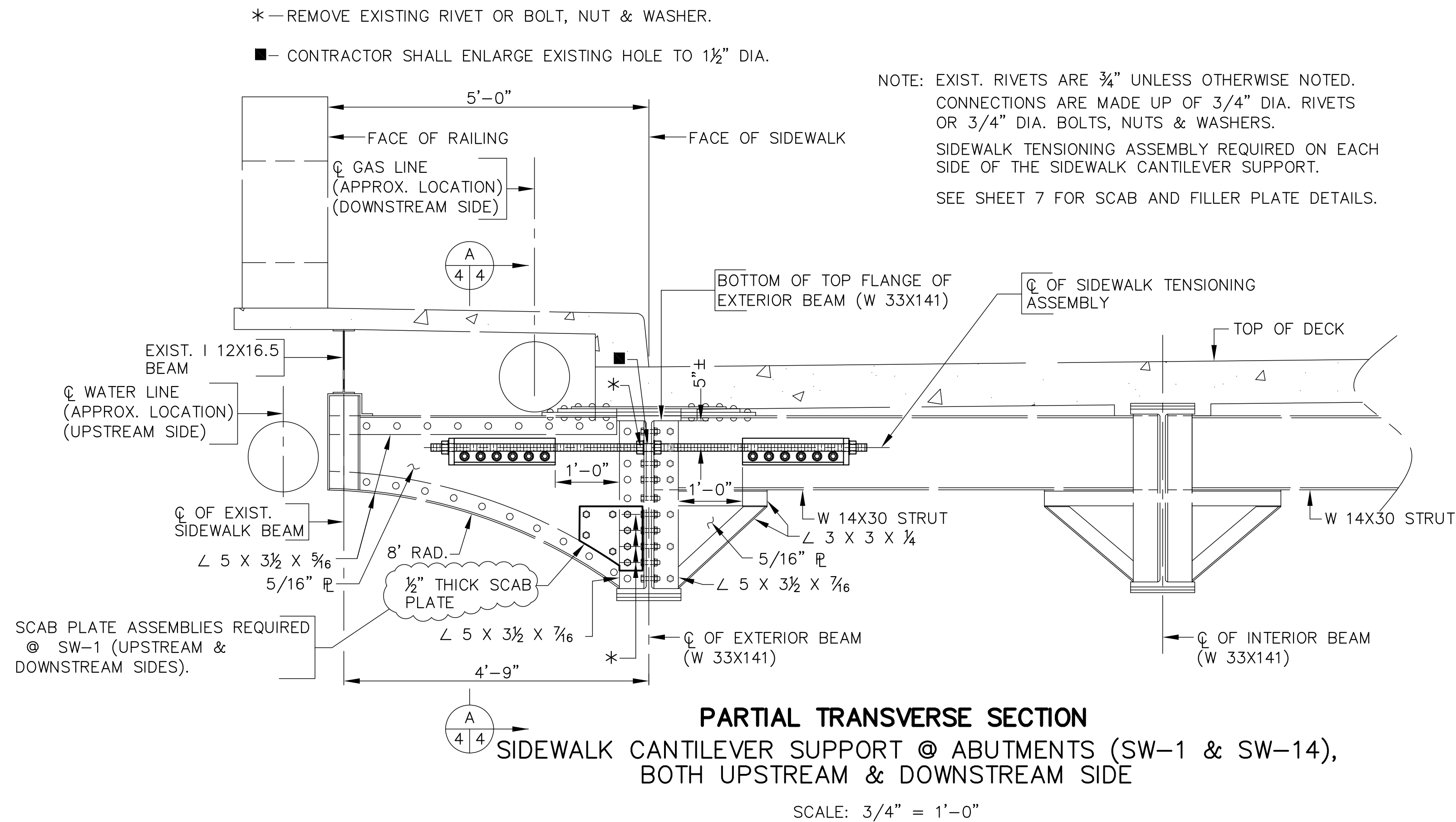
SEQUENCE OF CONSTRUCTION:

- INSTALL STAGE 1 TRAFFIC CONTROL.
- ABUTMENT BACK WALL RECONSTRUCTION.
- STRUT REPAIR.
- INSTALL SCAB PLATE ASSEMBLIES.
- INSTALL SIDEWALK TENSION ASSEMBLIES.
- PAINT SCAB PLATE AND TENSION ASSEMBLIES.
- SHOTCRETE AND CURB BLOCK REPLACEMENT.
- INSTALL SILICONE JOINT SEALER.
- REMOVE STAGE 1 TRAFFIC CONTROL AND INSTALL STAGE 2 TRAFFIC CONTROL.
- REPEAT STEPS 2, 4, 5, 6, 7 & 8.
- COMPLETE ALL INCIDENTAL ITEMS.
- REMOVE ALL TRAFFIC CONTROL.
- GENERAL CLEAN UP.

UNLESS OTHERWISE APPROVED OR DIRECTED BY THE ENGINEER IN WRITING, THE CONTRACTOR SHALL PLAN AND PROSECUTE WORK IN ACCORDANCE WITH THE ABOVE NOTED CONSTRUCTION SEQUENCE.

| | | | |
|---|--|----------------|-----------------|
|  |  SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. | | |
| | APPERSON DRIVE OVER ROANOKE RIVER CITY OF SALEM, VA GENERAL NOTES | | |
| | DESIGNED BY: RWS | DRAWN BY: RES | CHECKED BY: RWS |
| | SCALE: AS NOTED | PLAN NO.: NA | |
| COMM. NO. 2023010 | DATE: OCTOBER 11, 2023 | SHEET: 3 OF 15 | |

CADD REFERENCE NO.: BRIDGE2023010.DWG



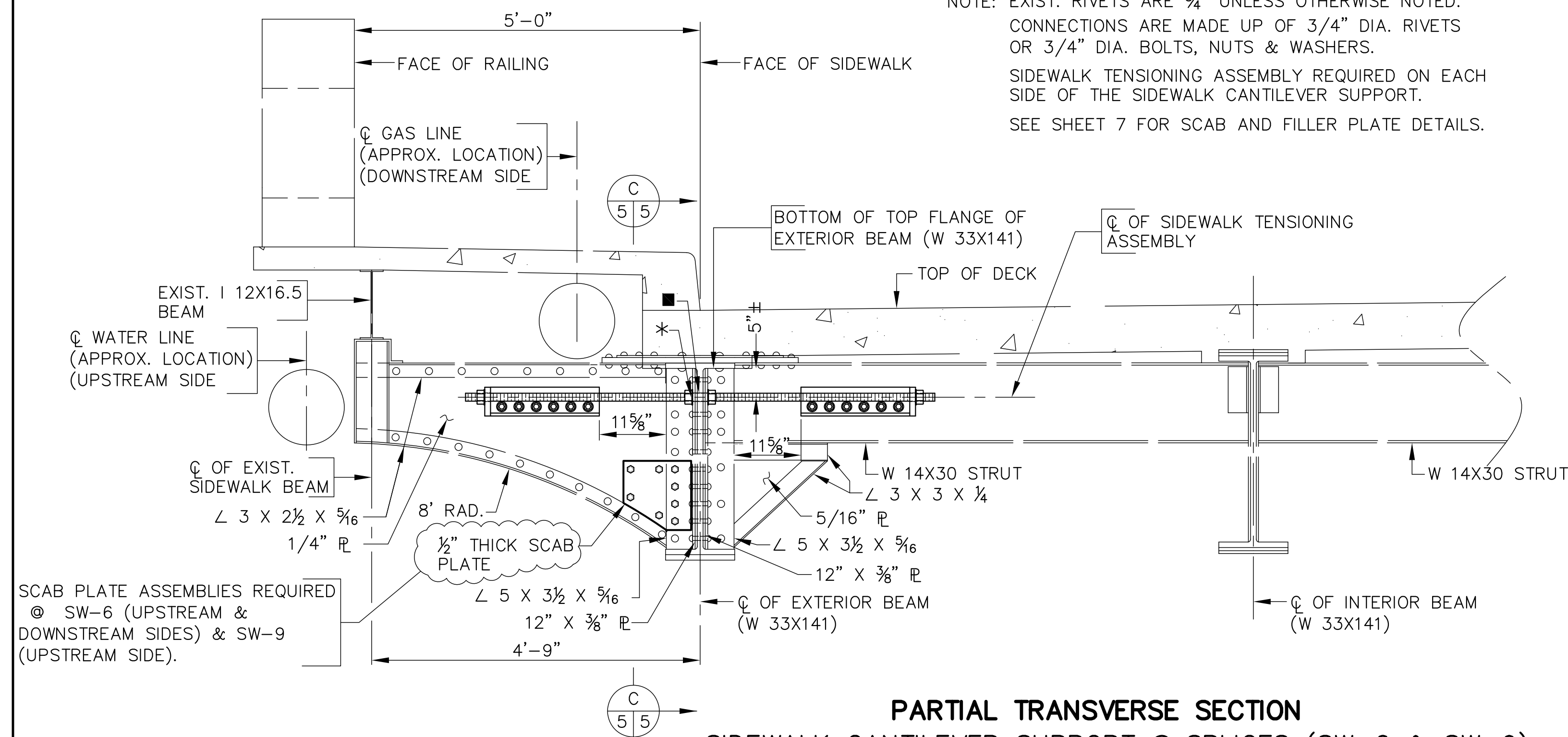
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| | SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. | | |
| | APPERSON DRIVE OVER ROANOKE RIVER CITY OF SALEM, VA PARTIAL TRANSVERSE SECTION (ABUTMENTS & PIERS) | | |
| | DESIGNED BY: RWS | DRAWN BY: RES | CHECKED BY: RWS |
| | SCALE: AS NOTED | DATE: OCTOBER 11, 2023 | PLAN NO.: NA SHEET: 4 OF 15 |

CADD REFERENCE NO.: BRIDGE202035.DWG

*—REMOVE EXISTING RIVET OR BOLT, NUT & WASHER.

■— CONTRACTOR SHALL ENLARGE EXISTING HOLE TO 1½" DIA.

NOTE: EXIST. RIVETS ARE ¾" UNLESS OTHERWISE NOTED.
CONNECTIONS ARE MADE UP OF ¾" DIA. RIVETS
OR ¾" DIA. BOLTS, NUTS & WASHERS.
SIDEWALK TENSIONING ASSEMBLY REQUIRED ON EACH
SIDE OF THE SIDEWALK CANTILEVER SUPPORT.
SEE SHEET 7 FOR SCAB AND FILLER PLATE DETAILS.



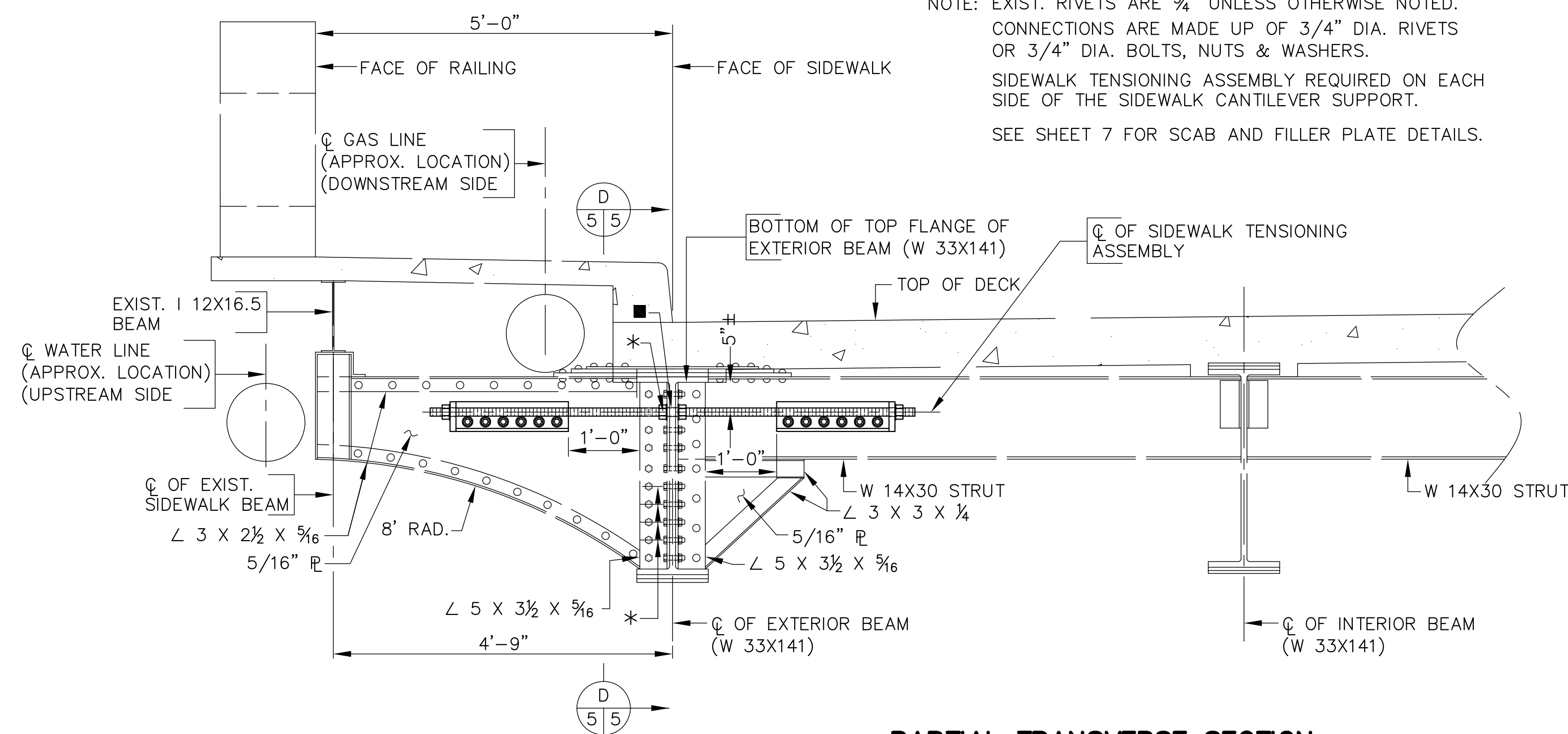
PARTIAL TRANSVERSE SECTION
SIDEWALK CANTILEVER SUPPORT @ SPLICES (SW-6 & SW-9),
BOTH UPSTREAM & DOWNSTREAM SIDE

SCALE: 3/4" = 1'-0"

*—REMOVE EXISTING RIVET OR BOLT, NUT & WASHER.

■— CONTRACTOR SHALL ENLARGE EXISTING HOLE TO 1½" DIA.

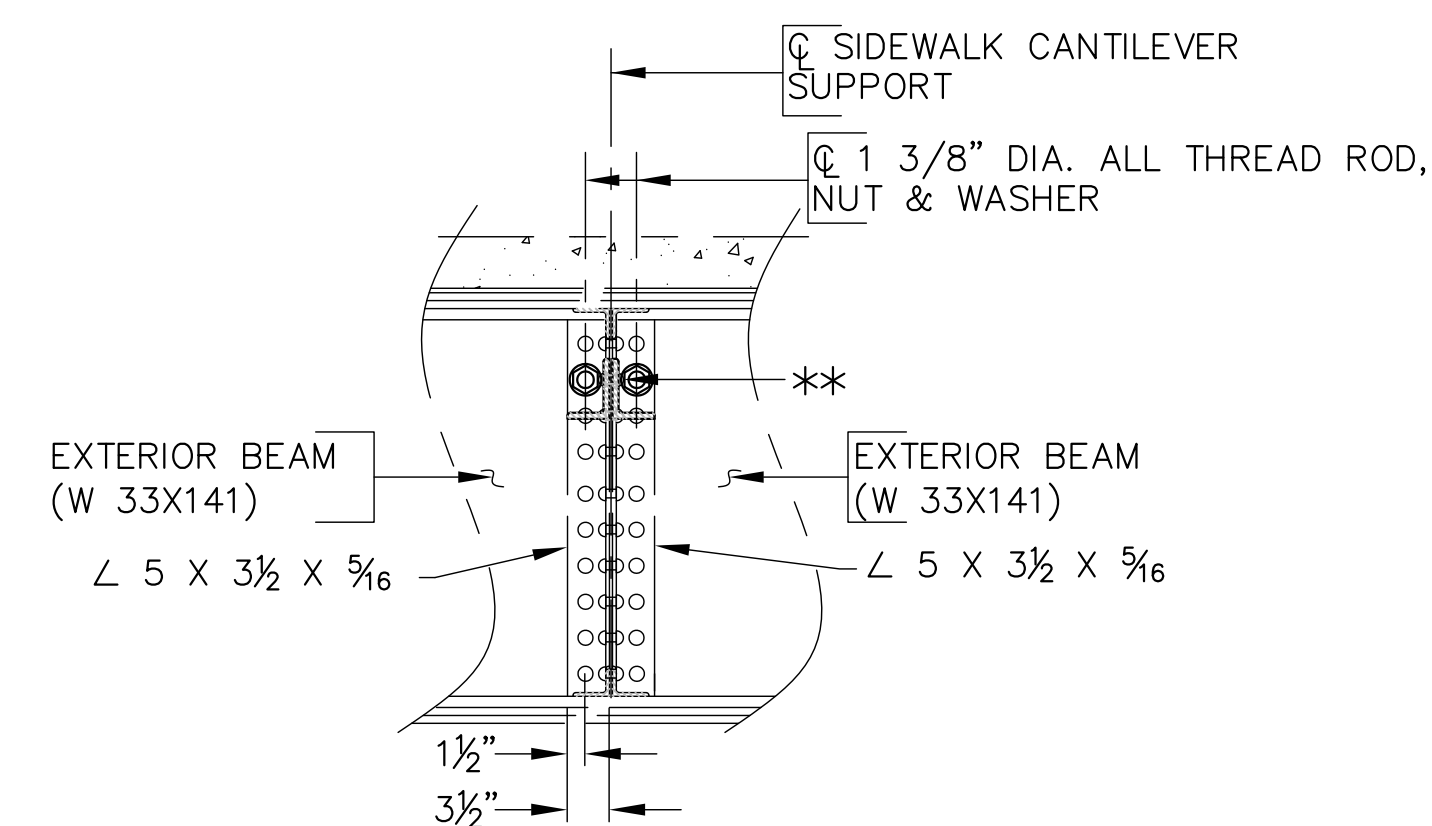
NOTE: EXIST. RIVETS ARE ¾" UNLESS OTHERWISE NOTED.
CONNECTIONS ARE MADE UP OF ¾" DIA. RIVETS
OR ¾" DIA. BOLTS, NUTS & WASHERS.
SIDEWALK TENSIONING ASSEMBLY REQUIRED ON EACH
SIDE OF THE SIDEWALK CANTILEVER SUPPORT.
SEE SHEET 7 FOR SCAB AND FILLER PLATE DETAILS.



PARTIAL TRANSVERSE SECTION
SIDEWALK CANTILEVER SUPPORT (SW-4 & SW-11),
BOTH UPSTREAM & DOWNSTREAM SIDE

SCALE: 3/4" = 1'-0"

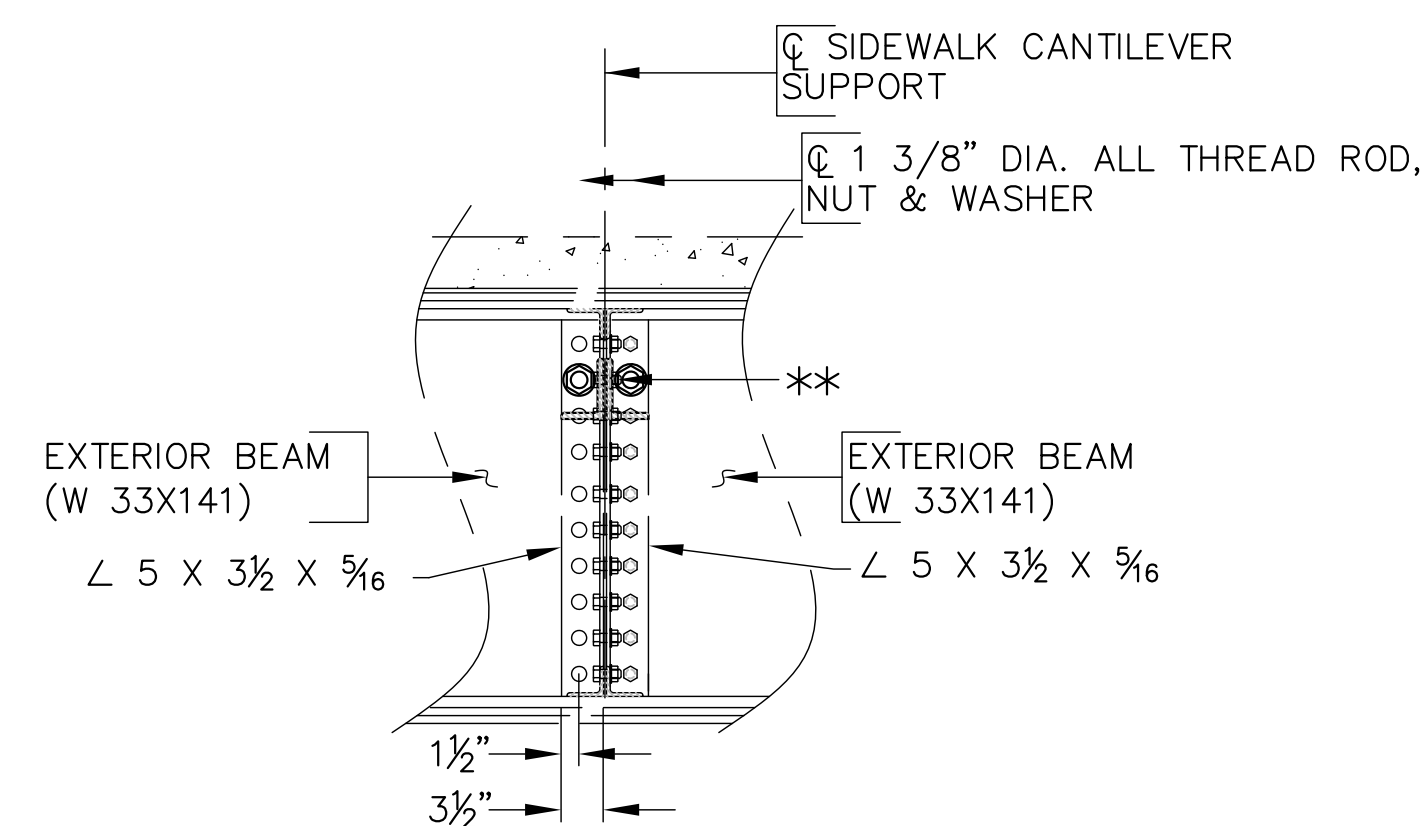
**—IF EXISTING RIVET OR ¾" DIA. BOLT INTERFERES WITH
THE NEW 1 3/8" DIA. ALL THREAD ROD, THE
CONTRACTOR SHALL REMOVE THE EXISTING RIVET OR
BOLT AND REPLACE IT WITH A HS ¾" DIA. BOLT,
WASHER AND LOW PROFILE NUT.



SECTION C

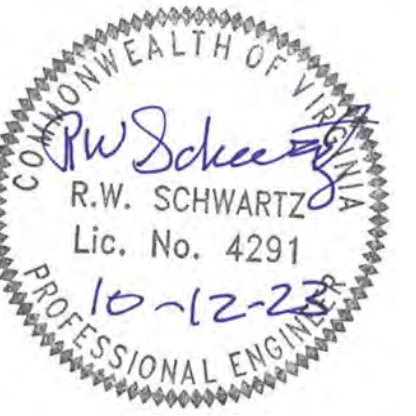

NOT TO SCALE

**—IF EXISTING RIVET OR ¾" DIA. BOLT INTERFERES WITH
THE NEW 1 3/8" DIA. ALL THREAD ROD, THE
CONTRACTOR SHALL REMOVE THE EXISTING RIVET OR
BOLT AND REPLACE IT WITH A HS ¾" DIA. BOLT,
WASHER AND LOW PROFILE NUT.



SECTION D

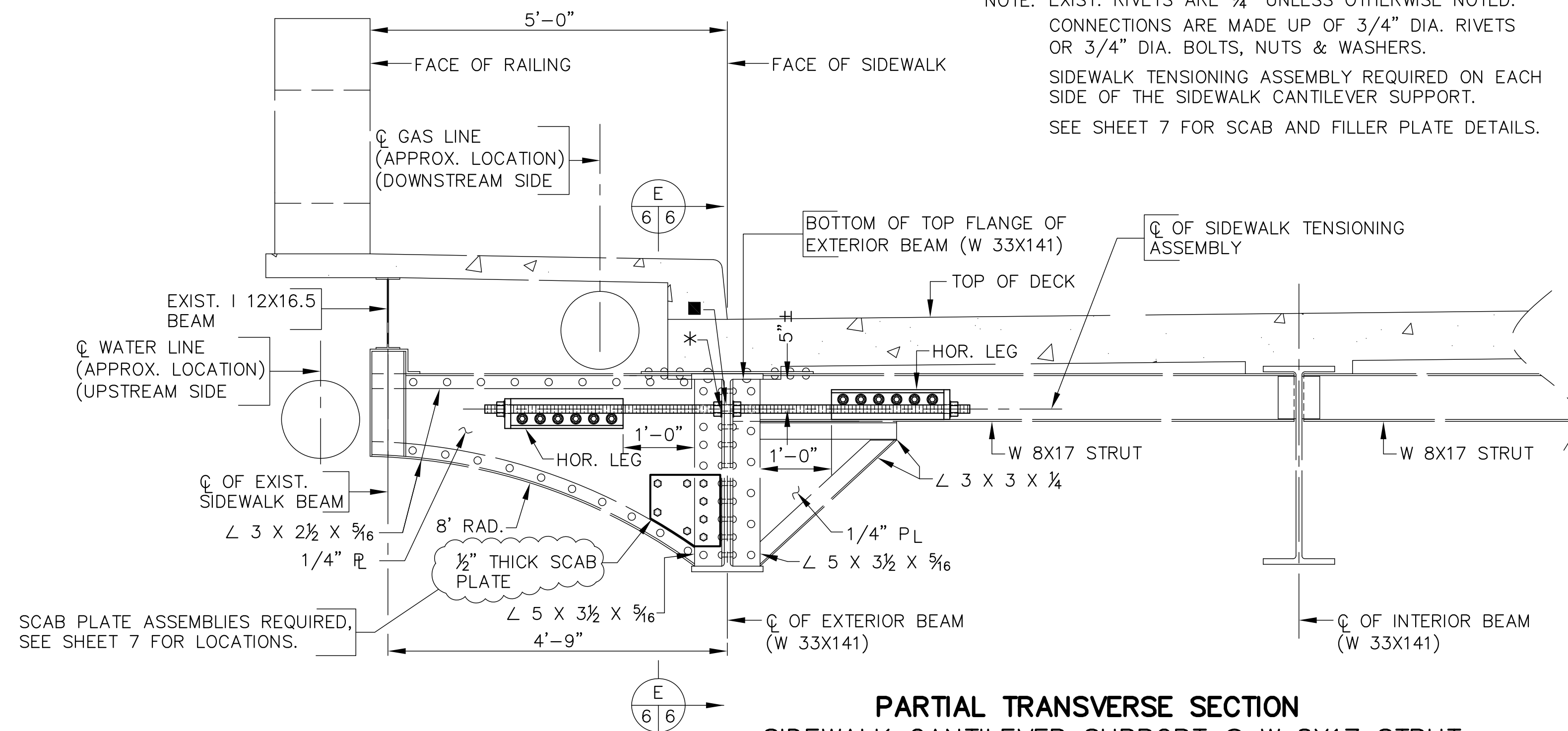
NOT TO SCALE

| | | | |
|---|---|-----------------------------|-------|
|  |  | SCHWARTZ & ASSOCIATES, INC. | |
| | | CONSULTING ENGINEERS | |
| | | 7331 TIMBERLAKE ROAD | |
| | | LYNCHBURG, VA. | |
| APPERSON DRIVE OVER ROANOKE RIVER | | CITY OF SALEM, VA | |
| PARTIAL TRANSVERSE SECTION | | (SPLICES, SW-4 & SW-11) | |
| DESIGNED BY: RWS | DRAWN BY: RES | CHECKED BY: RWS | |
| SCALE: AS NOTED | PLAN NO.: NA | | |
| DATE: OCTOBER 11, 2023 | SHEET: 5 | | OF 15 |

*—REMOVE EXISTING RIVET OR BOLT, NUT & WASHER.

■— CONTRACTOR SHALL ENLARGE EXISTING HOLE TO 1½" DIA.

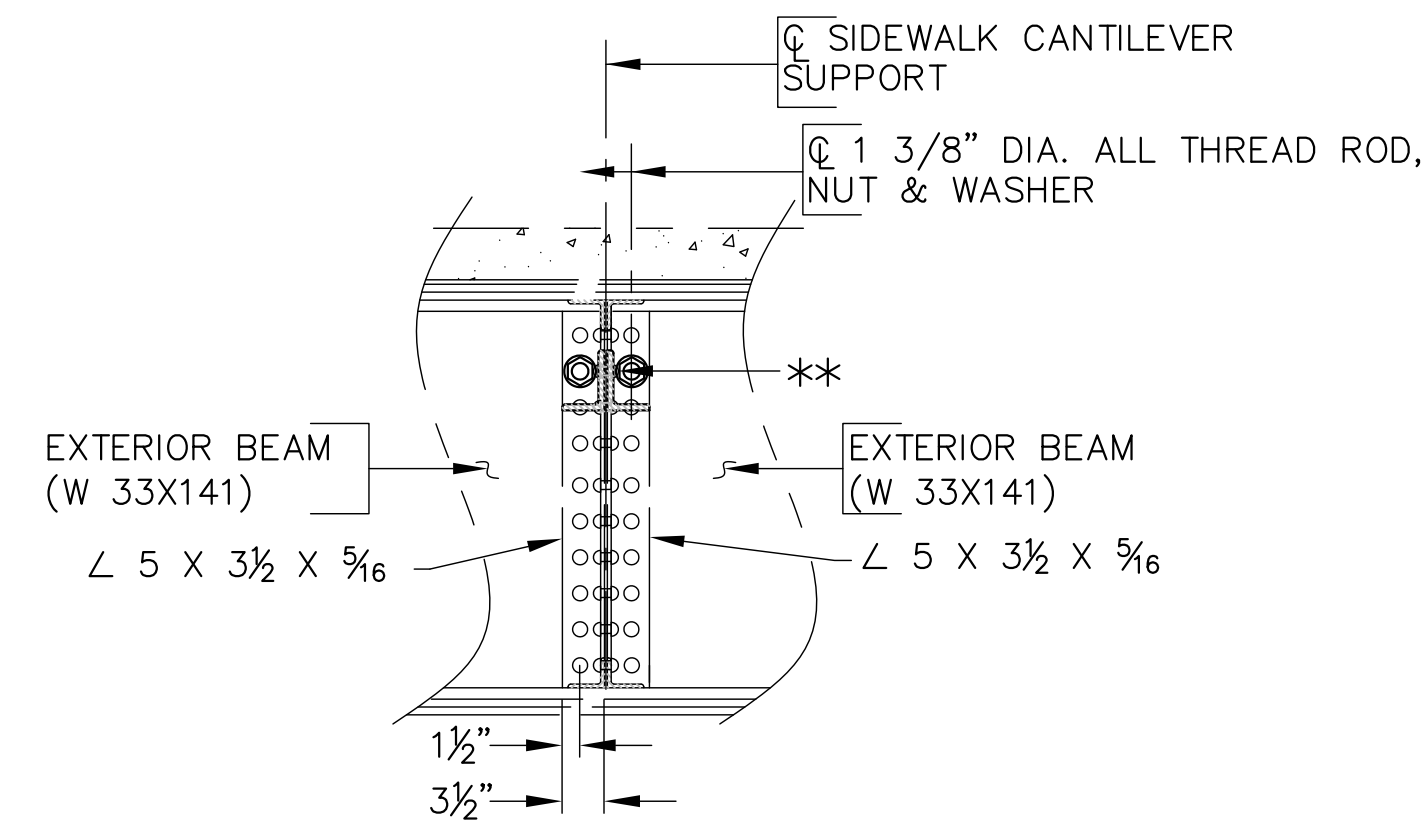
NOTE: EXIST. RIVETS ARE ¾" UNLESS OTHERWISE NOTED.
CONNECTIONS ARE MADE UP OF ¾" DIA. RIVETS
OR ¾" DIA. BOLTS, NUTS & WASHERS.
SIDEWALK TENSIONING ASSEMBLY REQUIRED ON EACH
SIDE OF THE SIDEWALK CANTILEVER SUPPORT.
SEE SHEET 7 FOR SCAB AND FILLER PLATE DETAILS.



PARTIAL TRANSVERSE SECTION
SIDEWALK CANTILEVER SUPPORT @ W 8X17 STRUT
(SW-2, SW-3, SW-7, SW-8, SW-12 & SW-13)
BOTH UPSTREAM & DOWNSTREAM SIDE

SCALE: ¾" = 1'-0"

**—IF EXISTING RIVET OR ¾" DIA. BOLT INTERFERES WITH
THE NEW 1 3/8" DIA. ALL THREAD ROD, THE
CONTRACTOR SHALL REMOVE THE EXISTING RIVET OR
BOLT AND REPLACE IT WITH A HS ¾" DIA. BOLT,
WASHER AND LOW PROFILE NUT.



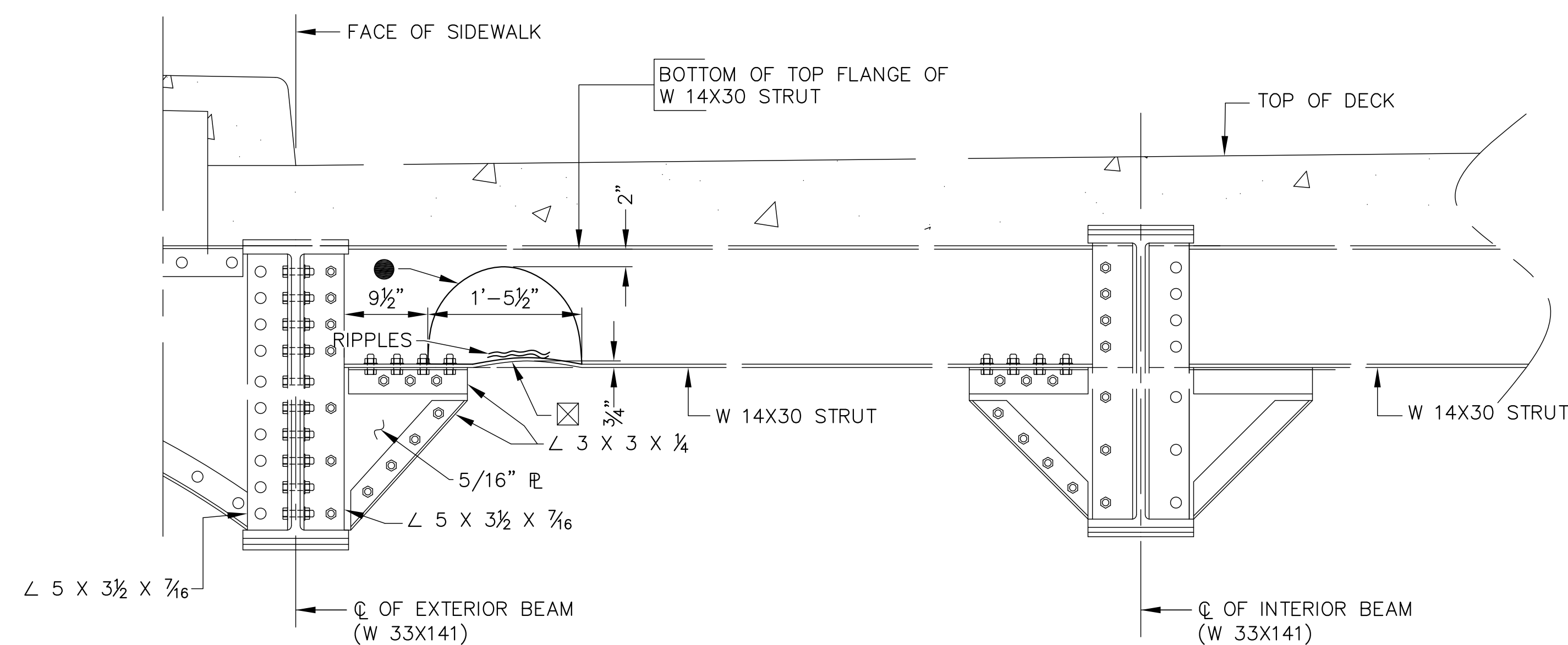
SECTION E 6/6

NOT TO SCALE

NOTE: CONTRACTOR HAS THE OPTION TO REPAIR THE EXISTING W 14X30 STRUT OR REPLACE IT WITH A NEW STRUT.
NO OPEN FLAMES OR WELDING WILL BE ALLOWED DURING REPAIR OR REPLACEMENT DUE TO A GAS LINE THAT
IS ATTACHED TO THE BRIDGE.

●—EXISTING W 14X30 STRUT WEB IS BOWED 1" TO 1¼" TOWARD ABUTMENT B BACK WALL (UPSTREAM SIDE).

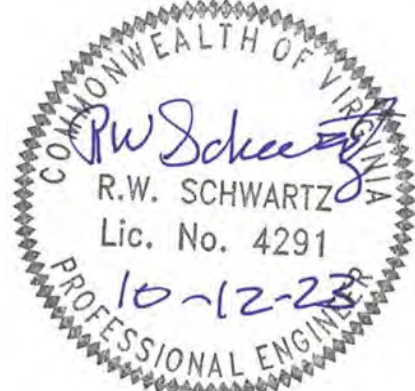

☒—BOTTOM FLANGE AN RIPPLES OF EXISTING W 14X30 STRUT IS BOWED ½" AWAY FROM ABUTMENT B BACK WALL
(UPSTREAM SIDE) TOWARD RIVER.



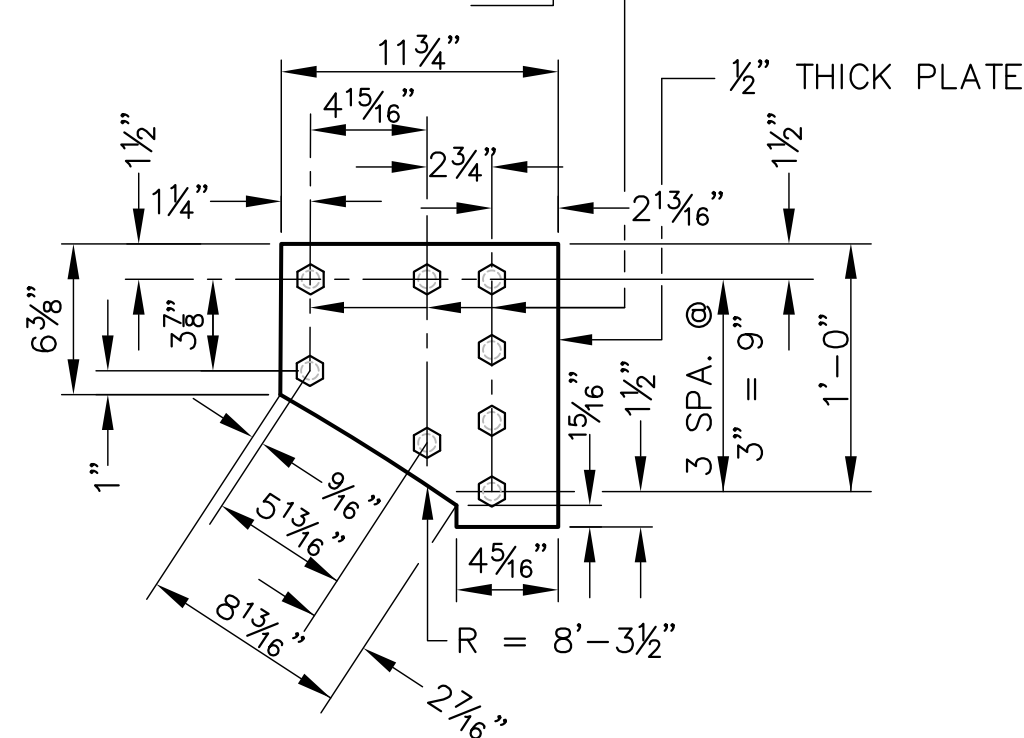
STRUT REPAIR
ABUTMENT B (SW-14), UPSTREAM SIDE, INTERIOR BAY

SCALE: 1" = 1'-0"

CADD REFERENCE NO.: BRIDGE202035.DWG

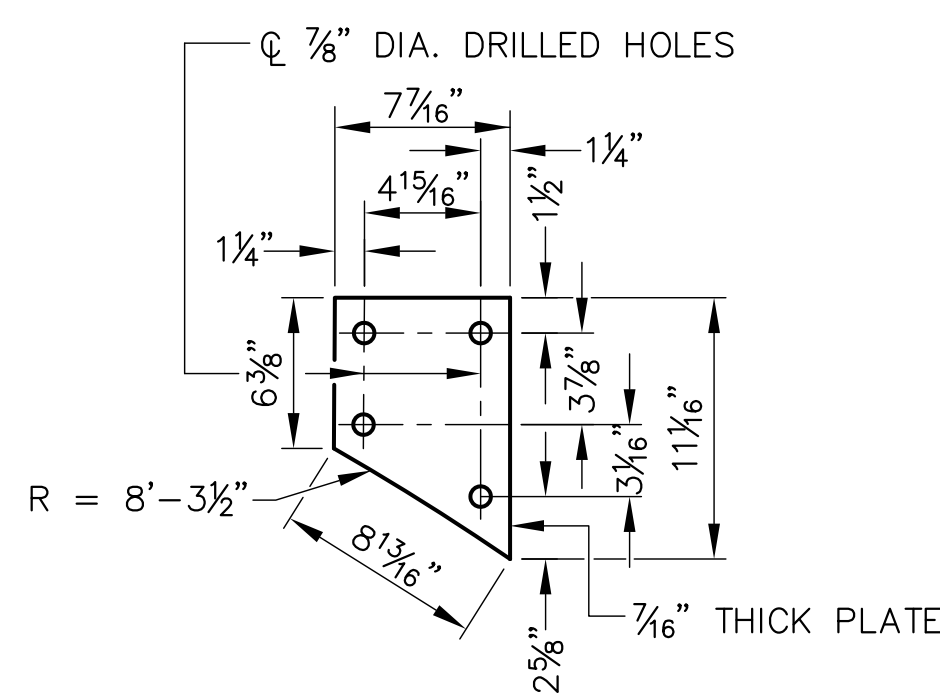
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|  |  SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. | | |
| | APPERSON DRIVE OVER ROANOKE RIVER CITY OF SALEM, VA PARTIAL TRANSVERSE SECTION (W 8X17 STRUT) & STRUT REPAIR | | |
| | DESIGNED BY: RWS | DRAWN BY: RES | CHECKED BY: RWS |
| | SCALE: AS NOTED | PLAN NO.: NA | |
| DATE: OCTOBER 11, 2023 | | SHEET: 6 OF 15 | |

Q 3/4" DIA. A325 HS BOLTS, NUTS &
WASHERS AND 7/8" DIA. DRILLED HOLES



(SW-1), BOTH UPSTREAM & DOWNSTREAM SIDES
(SW-10), DOWNSTREAM SIDE

1 FILLER PLATE REQUIRED ON EACH SIDE OF THE
SIDEWALK CANTILEVER SUPPORT WEB



(SW-1), BOTH UPSTREAM & DOWNSTREAM SIDES)
(SW-10), DOWNSTREAM SIDE

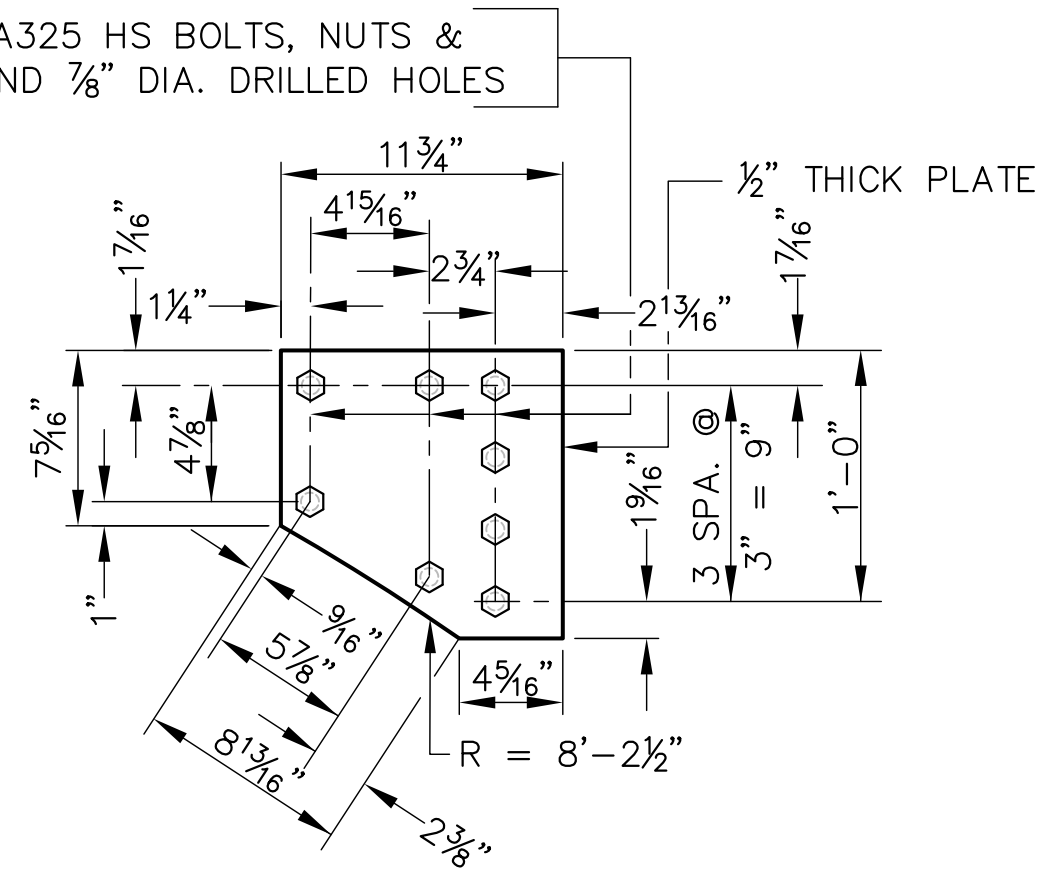
SCAB PLATE ASSEMBLY

4 EXIST. RIVETS THAT REQUIRE REMOVING IN EXIST. ANGLE SHALL BE REMOVED 1 AT A TIME.

1. CONTRACTOR SHALL REMOVE 1 RIVET, INSERT A 3/4"X 6" SMOOTH SOLID BAR IN EXIST. HOLE AND REPEAT THIS PROCESS ON THE OTHER THREE RIVET REMOVALS.
2. CONTRACTOR SHALL MARK AND DRILL HOLES IN CANTILEVER SUPPORT WEB THAT WILL BE USED IN SCAB PLATE ASSEMBLY.
3. CONTRACTOR SHALL PLACE NEW SCAB PLATE AND SHIMS IN PLACE OVER SMOOTH SOLID BARS. CONTRACTOR SHALL DRIVE ONE SOLID BAR OUT AND INSTALL A NEW 3/4" DIA. H.S. BOLT, NUT AND WASHER. CONTRACTOR SHALL TIGHTEN THE BOLT AND REPEAT THIS PROCESS ON THE OTHER THREE HOLES.
4. CONTRACTOR SHALL INSTALL ALL THE OTHER REQUIRED 3/4" DIA. H.S. BOLTS, NUTS, WASHERS AND TIGHTEN THEM.

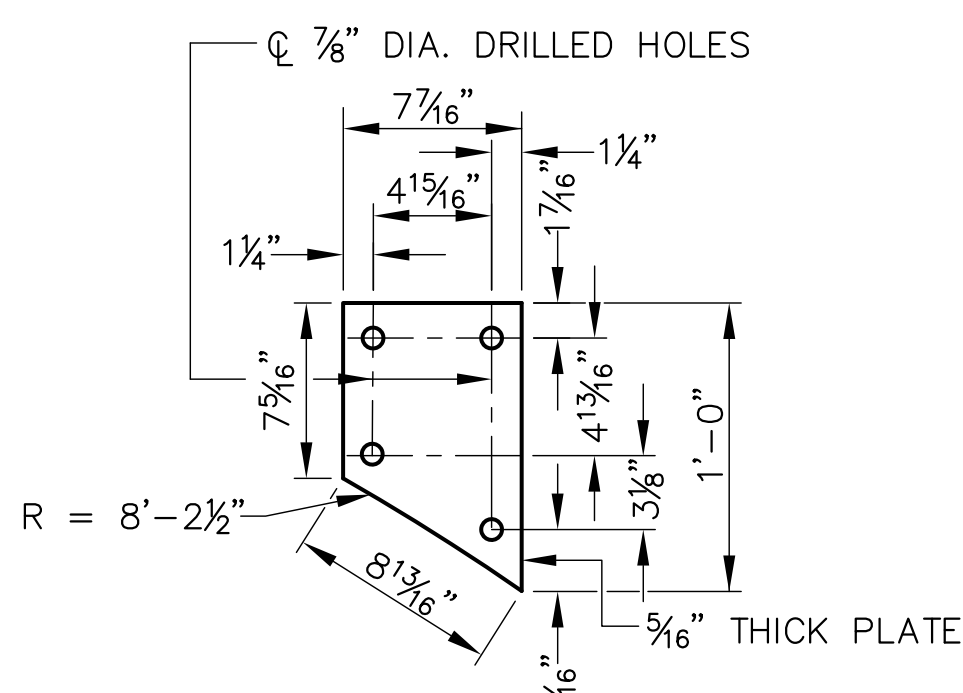
1 SCAB PLATE REQUIRED ON EACH SIDE OF THE
SIDEWALK CANTILEVER SUPPORT WEB

Q 3/4" DIA. A325 HS BOLTS, NUTS &
WASHERS AND 7/8" DIA. DRILLED HOLES



(SEE LOCATION CHART THIS SHEET)

1 FILLER PLATE REQUIRED ON EACH SIDE OF THE
SIDEWALK CANTILEVER SUPPORT WEB



(SEE LOCATION CHART THIS SHEET)

SCAB PLATE ASSEMBLY

| REQUIRED SCAB & SHIM PLATE LOCATIONS | |
|---|----------------------------|
| DESCRIPTION | LOCATION |
| SW-2 | DOWNSTREAM SIDE |
| SW-3 | UPSTREAM SIDE |
| SW-6 | UPSTREAM & DOWNSTREAM SIDE |
| SW-7 | UPSTREAM & DOWNSTREAM SIDE |
| SW-8 | DOWNSTREAM SIDE |
| SW-9 | UPSTREAM SIDE |
| SW-12 | UPSTREAM SIDE |

NOTE:

FOR ADDITIONAL SCAB PLATE ASSEMBLY LOCATIONS,
SEE DETAILS ON THE LEFT SIDE OF THIS SHEET.

* - Remove existing concrete to this line.

Not to scale

NOTES ON SHOTCRETE- TYPE B

NOTES ON SHOTCRETE- TYPE B

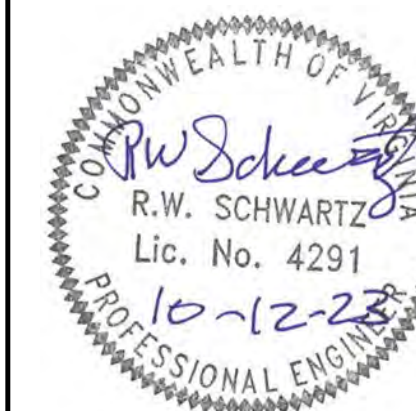
Shotcrete shall be used to cover exposed reinforcing steel, areas where reinforcing steel is corroded, and other areas of concrete deterioration, as directed by the engineer.

All patching shall be done with shotcrete.

Remove existing concrete to sound concrete and in areas of corroded reinforcing, as directed by the engineer, taking care not to damage any existing reinforcing steel. Sandblast exposed reinforcing (to near white surface) and faces of existing concrete that will contact the shotcrete.

There shall be a minimum cover of 2 3/4" on all exposed reinforcing steel (including shotcrete containing silica fume).

Locations of shotcrete will be determined in field by the engineer.



SCHWARTZ & ASSOCIATES, INC.
CONSULTING ENGINEERS
7331 TIMBERLAKE ROAD
LYNCHBURG, VA.

APPERSON DRIVE OVER ROANOKE RIVER
CITY OF SALEM, VA
SCAB PLATE ASSEMBLY DETAILS &
SHOTCRETE DETAIL

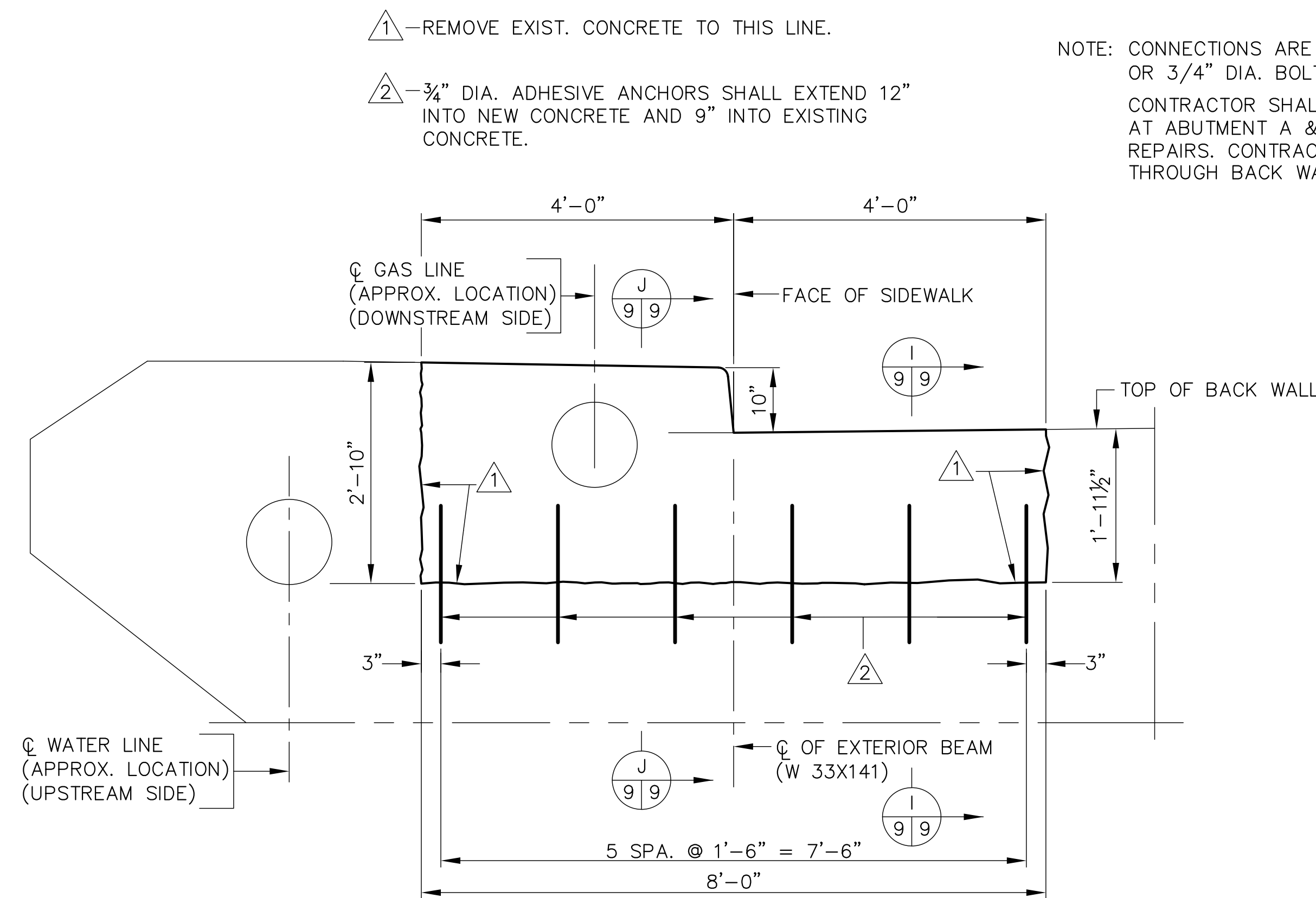
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| DESIGNED BY: RWS | DRAWN BY: RES | CHECKED BY: RWS |
| SCALE: AS NOTED | | PLAN NO.: NA |

COMM. NO. 2023010

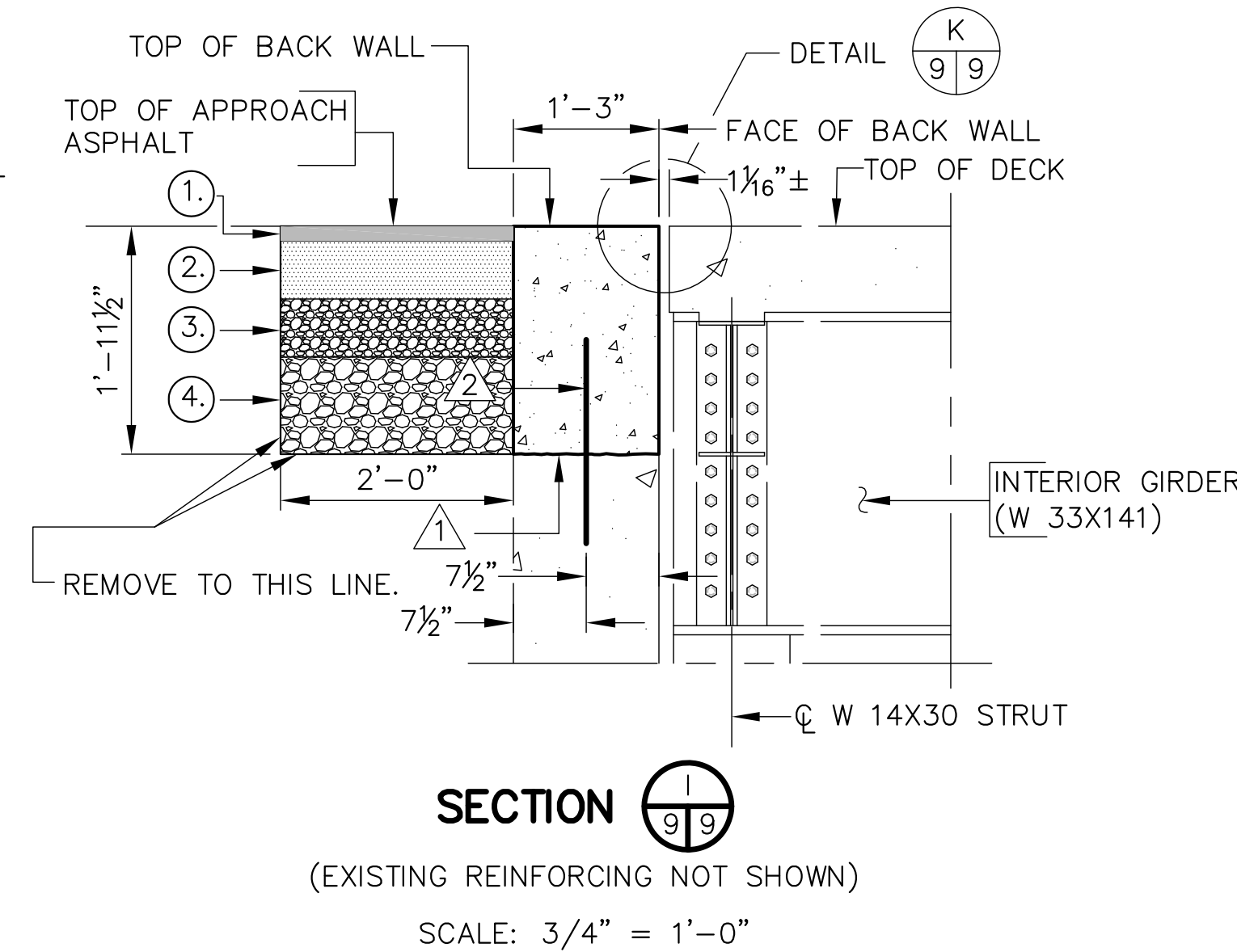
| |
|------------------------|
| DATE: OCTOBER 11, 2023 |
|------------------------|

SHEET: 7 OF 15

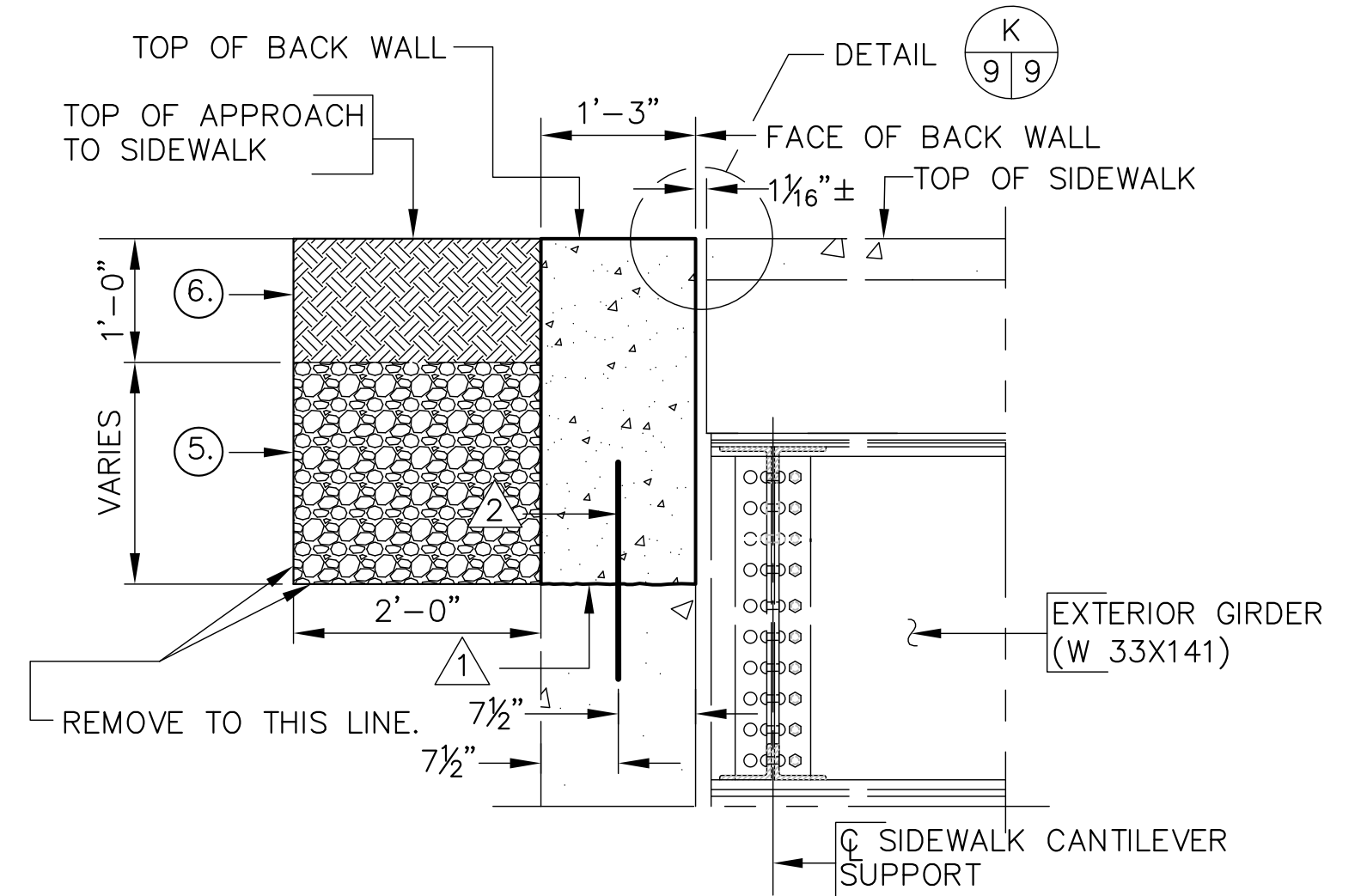
CADD REFERENCE NO.: BRIDGE2023010.DWG



BACK WALL REPAIR
ABUTMENT A & B
(SW-1 & SW-14, BOTH UPSTREAM AND DOWNSTREAM SIDES)
(EXISTING REINFORCING NOT SHOWN)
SCALE: $\frac{3}{4}$ " = 1'-0"



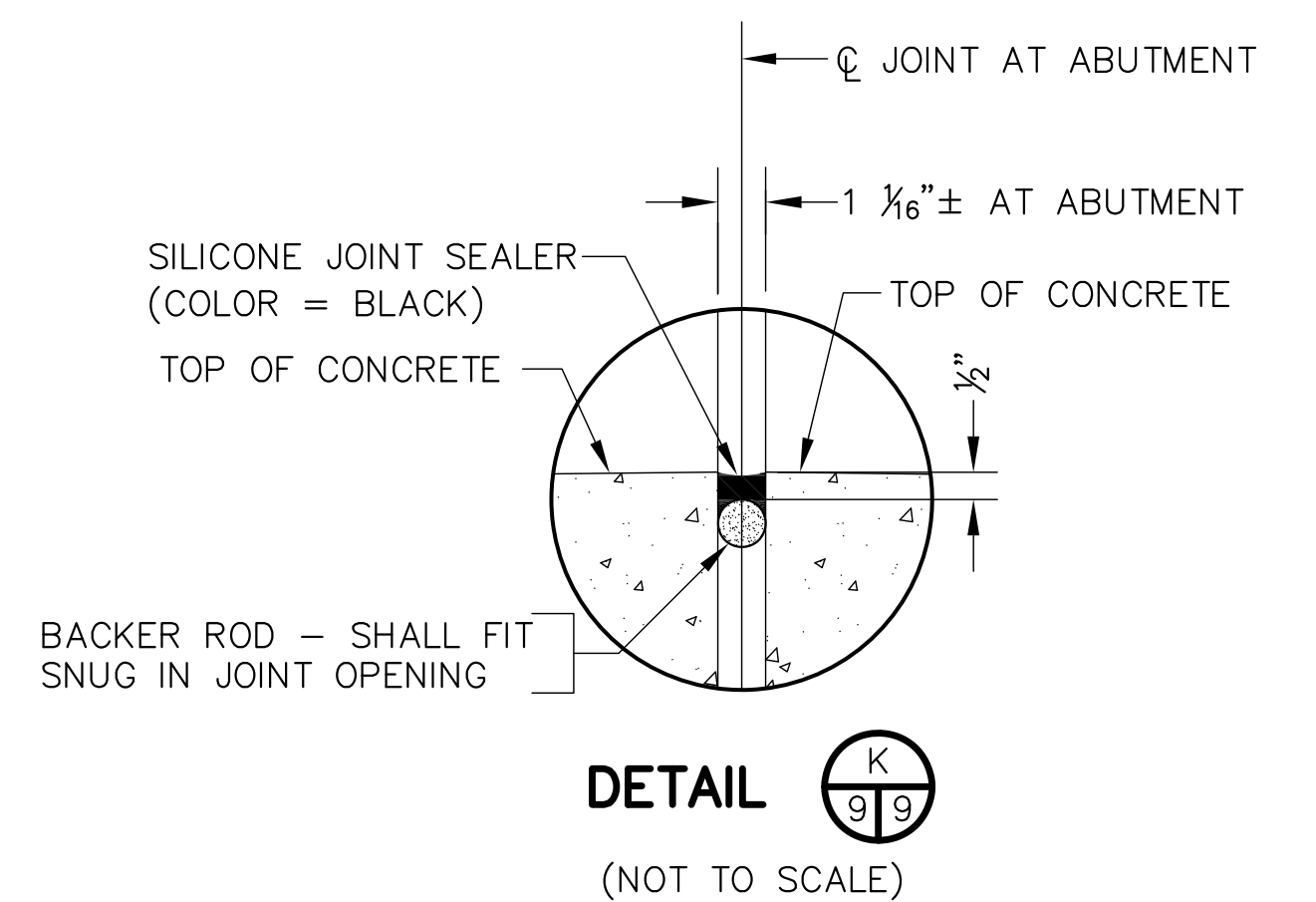
SECTION
(EXISTING REINFORCING NOT SHOWN)
SCALE: $\frac{3}{4}$ " = 1'-0"



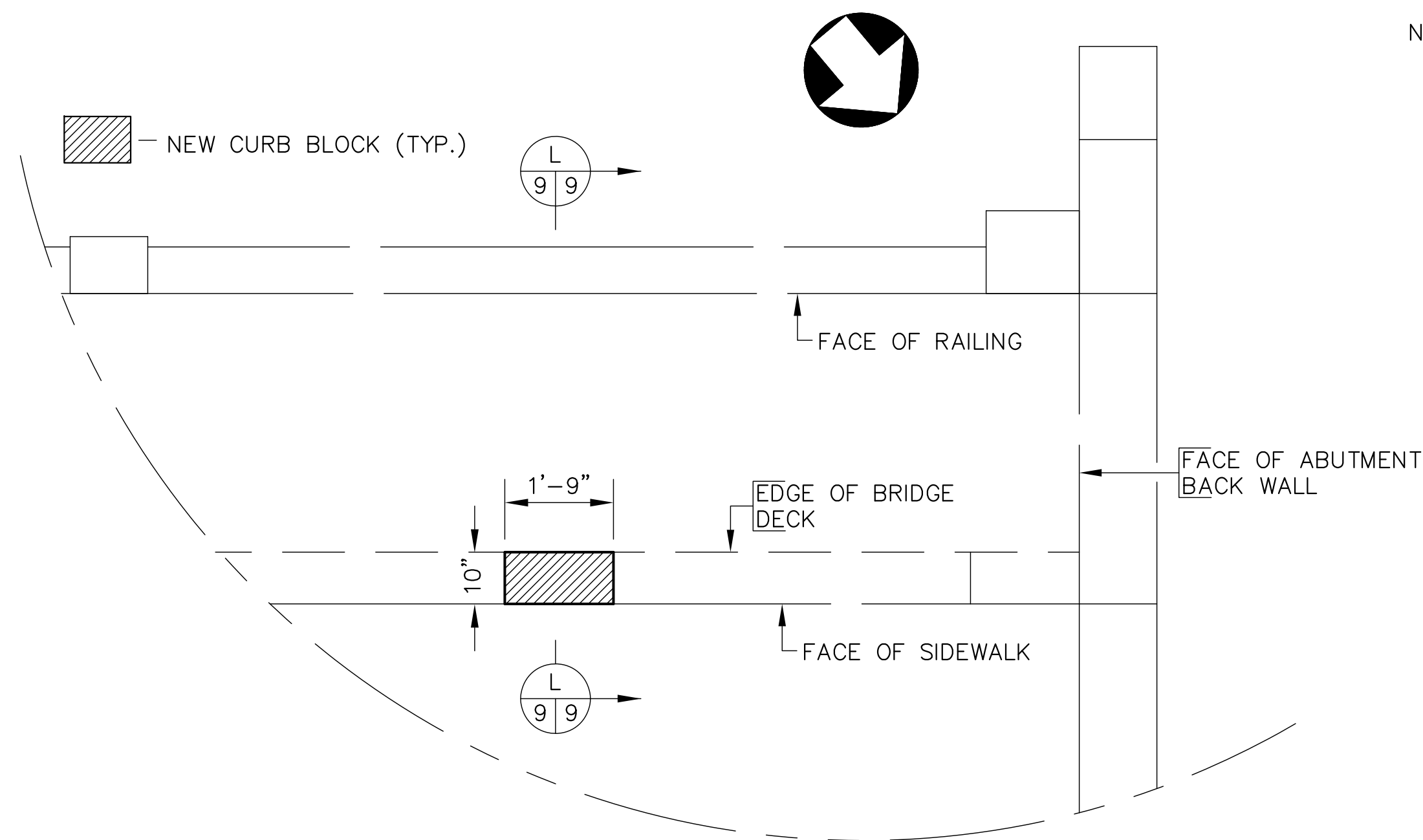
SECTION
(EXISTING REINFORCING NOT SHOWN)
SCALE: $\frac{3}{4}$ " = 1'-0"

LEGEND

1. ASPHALT CONCRETE, TYPE SM-9.5D (1 1/2") (NON-POLISHING AGGREGATE)
2. ASPHALT CONCRETE BASE COURSE, TYPE BM-25.0A (6" DEPTH)
3. COMPACTED AGGREGATE BASE MATERIAL, TYPE I, SIZE NO. 21-A (6" DEPTH)
4. AGGREGATE BASE COURSE, SIZE NO. 57 STONE (10" DEPTH)
5. AGGREGATE BASE COURSE, SIZE NO. 57 STONE (VAR. DEPTH)
6. BACKFILL MATERIAL - ON THE ABUTMENT B (UPSTREAM SIDE) SIDEWALK APPROACH, THE CONTRACTOR SHALL PLACE 2" OF ASPHALT CONCRETE, TYPE SM-9.5D.

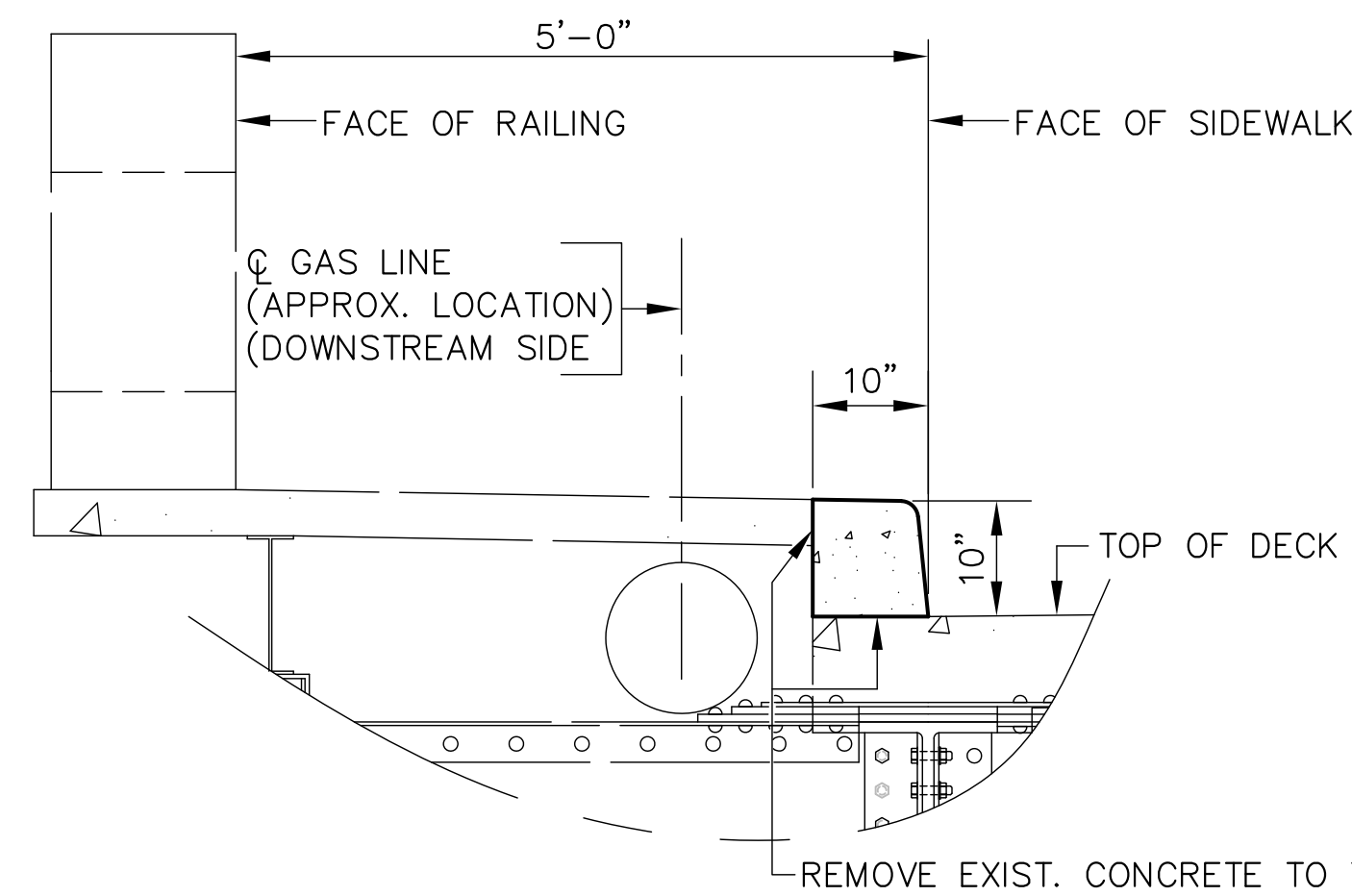


DETAIL
(NOT TO SCALE)



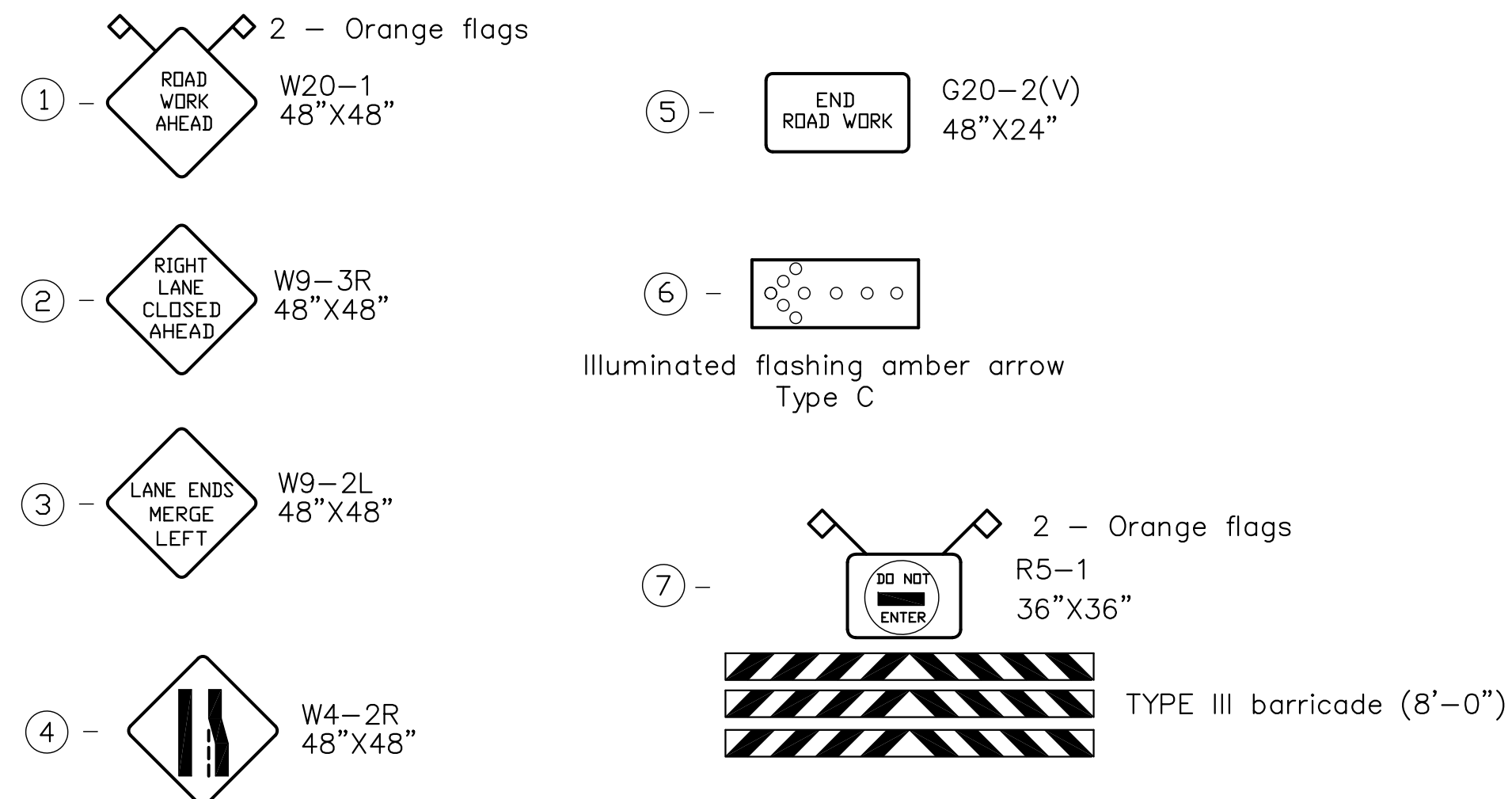
PARTIAL PLAN
CURB BLOCK REPLACEMENT
(EXISTING REINFORCING NOT SHOWN)
SCALE: $\frac{1}{2}$ " = 1'-0"

NOTE: PRIOR TO REMOVING CURB BLOCK, CONTRACTOR SHALL INSTALL TEMPORARY OAK BLOCKS AND WEDGES ON EACH SIDE OF CURB BLOCK IN OPEN DRAIN SLOTS TO SUPPORT SIDEWALK. AFTER COMPLETION OF CURB BLOCK REPLACEMENT, CONTRACTOR SHALL REMOVE OAK BLOCKS AND WEDGES. CONCRETE SHALL HAVE A MINIMUM OF 85% OF THE CONCRETE DESIGN STRENGTH BEFORE REMOVING OAK BLOCKS




DETAIL
(EXISTING REINFORCING NOT SHOWN)
SCALE: $\frac{3}{4}$ " = 1'-0"

| | | | |
|--|---|------------------------|-----------------|
| | SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. | | |
| | APPERSON DRIVE OVER ROANOKE RIVER CITY OF SALEM, VA ABUTMENT BACK WALL RECONSTRUCTION, SILICONE JOINT SEALER (1 1/16"±) & CURB BLOCK REPLACEMENT | | |
| | DESIGNED BY: RWS | DRAWN BY: RES | CHECKED BY: RWS |
| | SCALE: AS NOTED | PLAN NO.: NA | |
| | COMM. NO. 2023010 | DATE: OCTOBER 11, 2023 | SHEET: 9 OF 15 |



LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 1 TRAFFIC CONTROL

- (A) 4" Construction Pavement Marking (Type D, Class III – White)
- (B) 8" Construction Pavement Marking (Type D, Class III – White)
- (C) Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)
- (E) Eradication of pavement line markings

 - denotes temporary eradication of pavement message markings
(to be done with Type E blackout tape)

- – denotes signs

● - denotes Group 2 channelizing devices

 - denotes temporary pavement line erradication

Note:
A minimum 12' clear roadway shall be maintained at all times.

PCMS REQUIREMENTS



- * * (8) - PCMS PORTABLE CHANGEABLE MESSAGE SIGN
MESSAGES 10 DAYS PRIOR TO CONSTRUCTION:

1st MESSAGE: APPERSON
DRIVE

2nd MESSAGE: BRIDGE
WORK



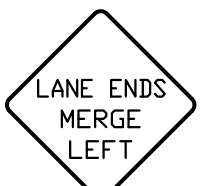
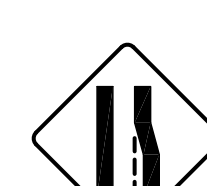
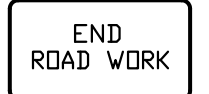
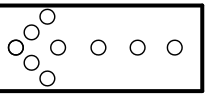
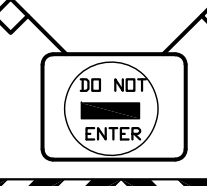



3rd MESSAGE: PROJECT
STARTS
??/??/?? ← Put Date

※※ — The portable changeable message sign shall be used 10 days prior to construction starting, as directed by the Engineer. The City reserves the right to change the messages on the signs to inform the traveling public, as the City deems necessary.

| | | | | | | | |
|-------------------|-------------|------|---|---|---|--|--|
| | | |  |  <div>SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA.</div> | ROUTE 11 (APPERSON DRIVE) OVER ROANOKE RIVER CITY OF SALEM STAGE 1 TRAFFIC CONTROL | | |
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| No. | Description | Date | DESIGNED BY: RSH | DRAWN BY: RSH | CHECKED BY: RES | | |
| REVISIONS | | | SCALE: AS NOTED | PLAN NO.: | | | |
| COMM. NO. 2023010 | | | DATE: OCTOBER 11, 2023 | SHEET: 10 OF 15 | | | |




LEGEND – REQUIRED SIGNAGE FOR STAGE 1 TRAFFIC CONTROL


- ① –  2 – Orange flags W20-1 48"X48"
- ② –  W9-3R 48"X48"
- ③ –  W9-2L 48"X48"
- ④ –  W4-2R 48"X48"
- ⑤ –  G20-2(V) 48"X24"
- ⑥ –  Illuminated flashing amber arrow Type C
- ⑦ –  2 – Orange flags R5-1 36"X36"
- ⑧ –  FLAGS R9-9 30"X18"
-  TYPE III barricade (8'-0")
-  TYPE III barricade (4'-0")

LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 1 TRAFFIC CONTROL

- Ⓐ 4" Construction Pavement Marking (Type D, Class III – White)
- Ⓑ 8" Construction Pavement Marking (Type D, Class III – White)
- Ⓒ Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)
- Ⓔ Eradication of pavement line markings



 – denotes temporary eradication of pavement message markings (to be done with Type E blackout tape)

 – denotes signs

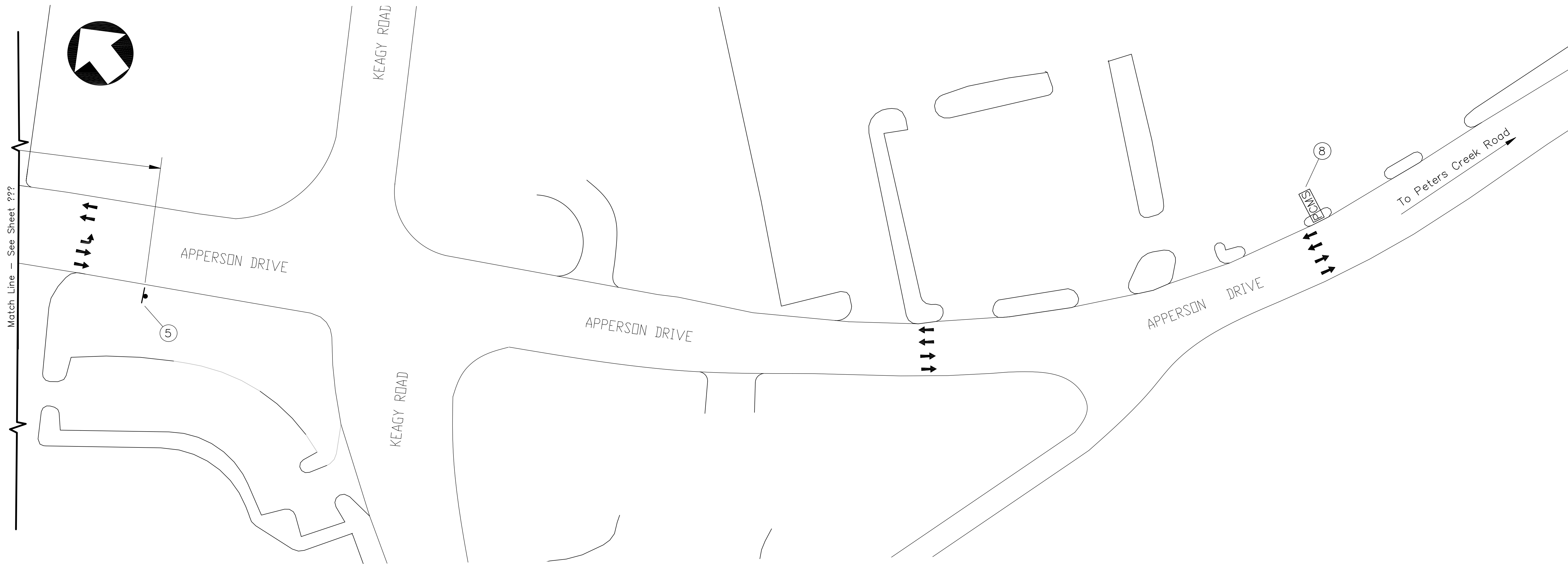
 – denotes Group 2 channelizing devices

   – denotes temporary pavement line erradication


Note:
A minimum 12' clear roadway shall be maintained at all times.


| | | | | |
|-----------|-------------|------|---|--|
| | | |  |  SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. |
| | | | | |
| | | | | ROUTE 11 (APPERSON DRIVE) OVER ROANOKE RIVER CITY OF SALEM STAGE 1 TRAFFIC CONTROL |
| | | | | DESIGNED BY: RSH DRAWN BY: RSH CHECKED BY: RES |
| | | | | SCALE: AS NOTED PLAN NO.: |
| | | | | DATE: OCTOBER 11, 2023 SHEET: 11 OF 15 |
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| No. | Description | Date | | |
| REVISIONS | | | COMM. NO. 2023010 | |


CADD REFERENCE NO.: 2023010 MOT.dwg

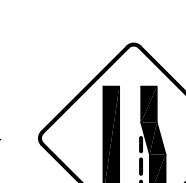



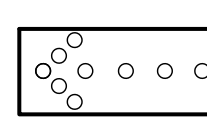
LEGEND – REQUIRED SIGNAGE FOR STAGE 1 TRAFFIC CONTROL

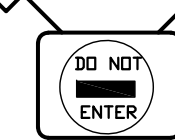
- ① -  2 - Orange flags
W20-1
48"X48"


② -  W9-3R
48"X48"

③ -  W9-2L
48"X48"

④ -  W4-2R
48"X48"
- ⑤ -  G20-2(V)
48"X24"

⑥ - 
Illuminated flashing amber arrow
Type C

⑦ -  2 - Orange flags
R5-1
36"X36"

 TYPE III barricade (8'-0")

LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 1 TRAFFIC CONTROL

- (A) 4" Construction Pavement Marking (Type D, Class III – White)
- (B) 8" Construction Pavement Marking (Type D, Class III – White)
- (C) Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)
- (E) Eradication of pavement line markings



- denotes temporary eradication of pavement message markings
(to be done with Type E blackout tape)



- denotes signs




- denotes Group 2 channelizing devices



- denotes temporary pavement line erradication

Note:
A minimum 12' clear roadway shall be maintained at all times.

PCMS REQUIREMENTS

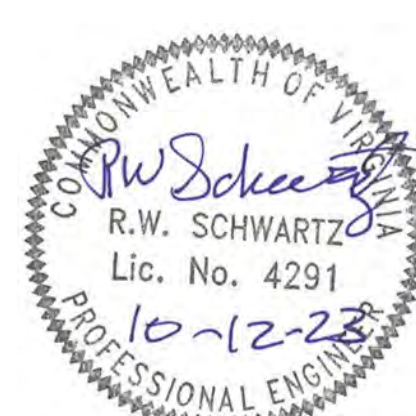

** ⑧ -  PORTABLE CHANGEABLE MESSAGE SIGN
MESSAGES 10 DAYS PRIOR TO CONSTRUCTION:

1st MESSAGE: APPERSON
DRIVE

2nd MESSAGE: BRIDGE
WORK

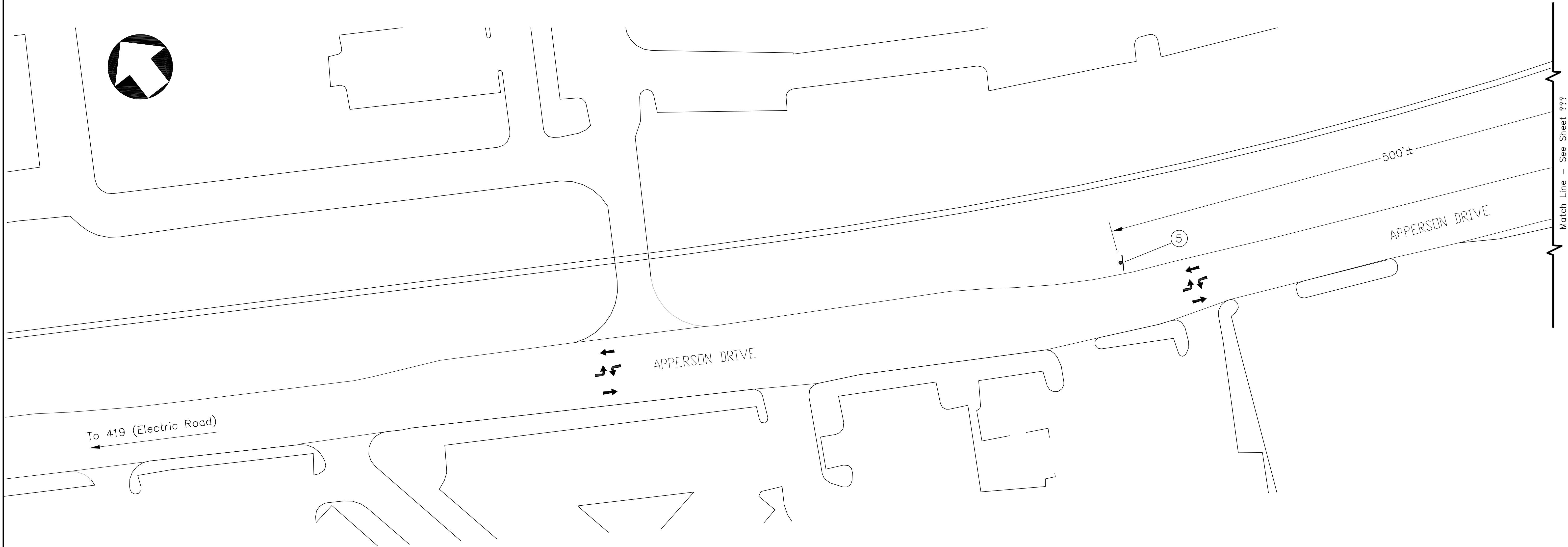
3rd MESSAGE: PROJECT
STARTS
??/??/?? ← Put Date

** - The portable changeable message sign shall be used 10 days
prior to construction starting, as directed by the Engineer.
The City reserves the right to change the messages on the
signs to inform the traveling public, as the City deems
necessary.


| | | | | | |
|-------------------|-------------|------|---|--|-----------------|
| | | |  |  SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. | |
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| No. | Description | Date | ROUTE 11 (APPERSON DRIVE) OVER ROANOKE RIVER CITY OF SALEM STAGE 1 TRAFFIC CONTROL | | |
| REVISIONS | | | | | |
| COMM. NO. 2023010 | | | | | |
| | | | DESIGNED BY: RSH | DRAWN BY: RSH | CHECKED BY: RES |
| | | | SCALE: AS NOTED | | PLAN NO.: |
| | | | DATE: OCTOBER 11, 2023 | | SHEET: 12 OF 15 |


**ROUTE 11 (APPERSON DRIVE)
OVER ROANOKE RIVER
CITY OF SALEM
STAGE 1 TRAFFIC CONTROL**

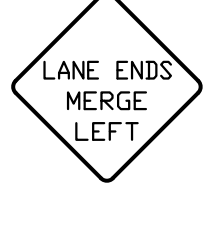
CADD REFERENCE NO.: 2023010 MOT

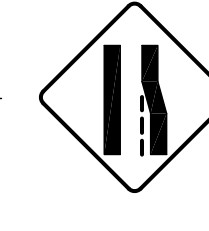
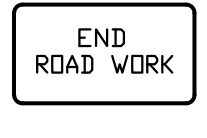


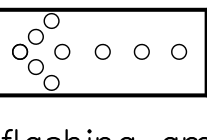
LEGEND – REQUIRED SIGNAGE FOR STAGE 2 TRAFFIC CONTROL

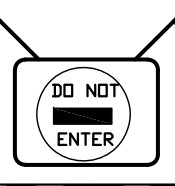
- ① –  2 – Orange flags
W20-1
48"X48"

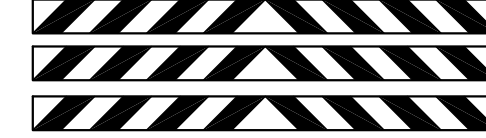
② –  W9-3R
48"X48"

③ –  W9-2L
48"X48"

④ –  W4-2R
48"X48"
- ⑤ –  G20-2(V)
48"X24"

⑥ – 
Illuminated flashing amber arrow
Type C

⑦ –  2 – Orange flags
R5-1
36"X36"


 TYPE III barricade (8'-0")

LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 2 TRAFFIC CONTROL

- Ⓐ 4" Construction Pavement Marking (Type D, Class III – White)
- Ⓑ 8" Construction Pavement Marking (Type D, Class III – White)
- Ⓒ Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)
- Ⓔ Eradication of pavement line markings

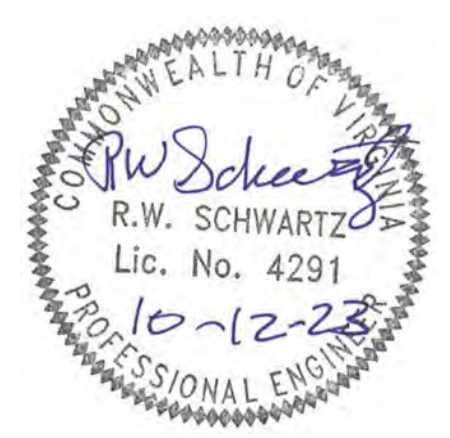

 – denotes temporary eradication of pavement message markings
(to be done with Type E blackout tape)

 – denotes signs

 – denotes Group 2 channelizing devices

 – denotes temporary pavement line eradication



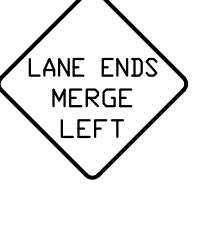
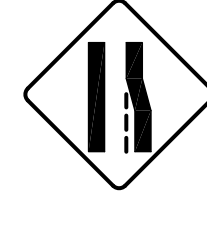
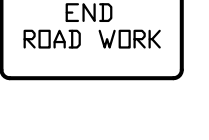
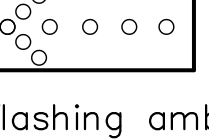
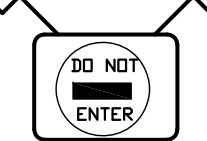
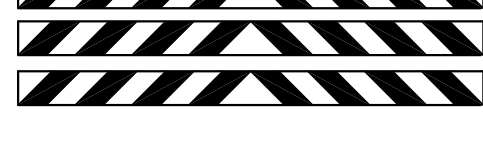

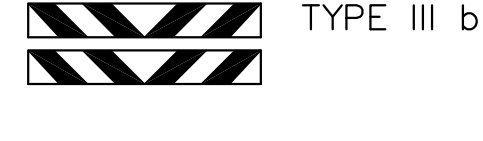
Note:
A minimum 12' clear roadway shall be maintained at all times.

| | | | | | |
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| | | |  |  SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. | |
| | | | | | |
| | | | | ROUTE 11 (APPERSON DRIVE) OVER ROANOKE RIVER CITY OF SALEM STAGE 2 TRAFFIC CONTROL | |
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| No. | Description | Date | DESIGNED BY: RSH | DRAWN BY: RSH | CHECKED BY: RES |
| REVISIONS | | | SCALE: AS NOTED | | PLAN NO.: |
| | | | DATE: OCTOBER 11, 2023 | | SHEET: 13 OF 15 |
| | | | COMM. NO. 2023010 | | |

CADD REFERENCE NO.: 2023010 MOT.dwg



LEGEND – REQUIRED SIGNAGE FOR STAGE 2 TRAFFIC CONTROL


- ① -  2 - Orange flags
W20-1
48"X48"
- ② -  W9-3R
48"X48"
- ③ -  W9-2L
48"X48"
- ④ -  W4-2R
48"X48"
- ⑤ -  G20-2(V)
48"X24"
- ⑥ -  Illuminated flashing amber arrow
Type C
- ⑦ -  2 - Orange flags
R5-1
36"X36"
-  TYPE III barricade (8'-0")
- ⑧ -  FLAGS
R9-9
30"X18"
-  TYPE III barricade (4'-0")

LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 2 TRAFFIC CONTROL

- Ⓐ 4" Construction Pavement Marking (Type D, Class III - White)
- Ⓑ 8" Construction Pavement Marking (Type D, Class III - White)
- Ⓒ Double Yellow 4" Construction Pavement Marking (Type D, Class III - Yellow)
- Ⓔ Eradication of pavement line markings



 - denotes temporary eradication of pavement message markings
(to be done with Type E blackout tape)

 - denotes signs

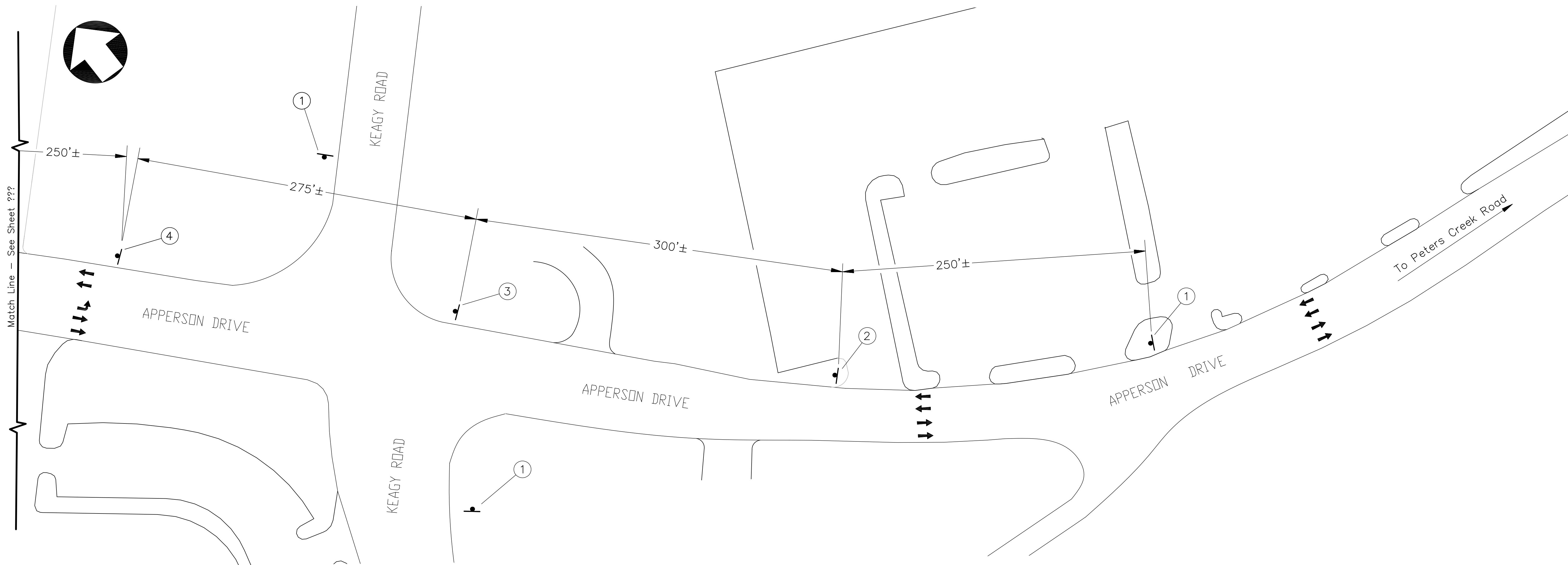
 - denotes Group 2 channelizing devices

   - denotes temporary pavement line eradication



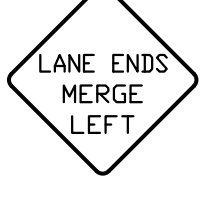
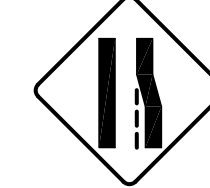
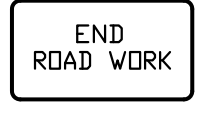
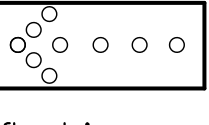
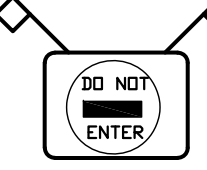

Note:
A minimum 12' clear roadway shall be maintained at all times.

| | | | | |
|-----------|-------------|------|---|--|
| | | |  |  SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. |
| | | | | |
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| | | | | |
| No. | Description | Date | | ROUTE 11 (APPERSON DRIVE) OVER ROANOKE RIVER CITY OF SALEM STAGE 2 TRAFFIC CONTROL |
| REVISIONS | | | COMM. NO. 2023010 | DESIGNED BY: RSH DRAWN BY: RSH CHECKED BY: RES |
| | | | | SCALE: AS NOTED PLAN NO.: |
| | | | | DATE: OCTOBER 11, 2023 SHEET: 14 OF 15 |

CADD REFERENCE NO.: 2023010 MOT.dwg

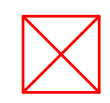


LEGEND – REQUIRED SIGNAGE FOR STAGE 2 TRAFFIC CONTROL


- ① –  2 – Orange flags
W20-1
48"X48"
- ② –  W9-3R
48"X48"
- ③ –  W9-2L
48"X48"
- ④ –  W4-2R
48"X48"
- ⑤ –  G20-2(V)
48"X24"
- ⑥ –  Illuminated flashing amber arrow
Type C
- ⑦ –  2 – Orange flags
R5-1
36"X36"
-  TYPE III barricade (8'-0")


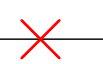
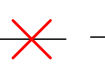
LEGEND – REQUIRED TEMPORARY PAVEMENT LINE MARKINGS FOR STAGE 2 TRAFFIC CONTROL

- Ⓐ 4" Construction Pavement Marking (Type D, Class III – White)
Ⓑ 8" Construction Pavement Marking (Type D, Class III – White)
Ⓒ Double Yellow 4" Construction Pavement Marking (Type D, Class III – Yellow)
Ⓔ Eradication of pavement line markings



 – denotes temporary eradication of pavement message markings
(to be done with Type E blackout tape)

 – denotes signs

 – denotes Group 2 channelizing devices

   – denotes temporary pavement line eradication

Note:
A minimum 12' clear roadway shall be maintained at all times.

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| | | |  |  SCHWARTZ & ASSOCIATES, INC. CONSULTING ENGINEERS 7331 TIMBERLAKE ROAD LYNCHBURG, VA. |
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| No. | Description | Date | | ROUTE 11 (APPERSON DRIVE) OVER ROANOKE RIVER CITY OF SALEM STAGE 2 TRAFFIC CONTROL |
| REVISIONS | | | COMM. NO. 2023010 | DESIGNED BY: RSH DRAWN BY: RSH CHECKED BY: RES SCALE: AS NOTED PLAN NO.: DATE: OCTOBER 11, 2023 SHEET: 15 OF 15 |