



PURCHASING

August 5 2025

MEMO TO: Prospective Bidders

FROM: Kimberly Toon, Purchasing Manager

SUBJECT: **Addendum #1:** ITB-Lyon & Ivy Rd Storm Drainage & Utility Improvements

DUE DATE AND TIME: **AUGUST 18, 2025; 2:00 p.m.**

1. The Bid Documents are hereby modified per the attached Addendum #1 dated August 5, 2025. To include the following:

- a. **Structural Drawings that were missing from original structural drawings.**

2. The foregoing changes shall be incorporated in the Bid Documents, and a copy of the Addendum #1, signed by the Bidder, must accompany the Bid to indicate the Bidder's familiarity with the changes.

- a. **Missing structural drawings.**

Bidder Acknowledgement:

Bidder Name (Print): _____

Bidder Signature: _____

Date of Signature: _____

General Notes

1. Design Load Data

Risk Category II

Importance Factors:
Snow, $I_s = 1.0$
Seismic, $I_e = 1.0$

Ground Snow Load, (P_g) : 10 psf

Retaining Wall Design Parameters (assumed until geotechnical subsurface report finalized):
At Rest Earth Pressure = 58 psf
Active Earth Pressure = 37 psf
Angle of Internal Friction = 35°
Unit Weight of Soil = 135 pcf (drainage must be provided to prevent hydrostatic pressure)
Coefficient of Friction = 0.35 (at concrete - soil interface)

Wind Design Data:
Ultimate Design Wind Speed, V_{ult} (3-second gust) 120 mph (ASCE 7-10/
2018 NC State Building Code)

Exposure Category C

2. Materials

A. Concrete
 $f_c = 4,500$ psi Reg. wt. (air content 6%±1.5% at all walls).
All concrete to have max water/cement ratio of 0.45.

B. Reinforcing Steel
ASTM A-615 Grade 60

C. Structural Steel
ASTM A-36 U.N.O.

D. Expansion Bolts
Hilti Kwik Bolt III (or equal)

E. Epoxy Anchoring System
Hilti HIT-RE 500 VG (or equal) for anchorage to concrete

3. Foundations

A. Allowable soil bearing is 2,000 psf. Site will be proofrolled, densified and/or undercut, tested, and repaired according to subsurface exploration report by Timmons Group dated June 16, 2023. Project #54960.001

B. A horizontal shear key with reinforcing continuous through the joint will be used at all cold joints in continuous wall footings.

C. Compact bottom of all footing excavations with a vibratory hand operated compactor before placing reinforcing in footing excavations.

D. The general contractor will coordinate and lower footings where required to be below any new or existing utility lines. Notify Engineer of any footing adjustment required before beginning work. In no condition will utilities be allowed under footings.

E. Use 2-7 lap splices for all continuous footing reinforcing unless shown otherwise. Do not splice mat footing reinforcing. Only splice vertical retaining wall reinforcement if specifically permitted on the drawings.

F. Provide reinforcing corner bars at all continuous footing and wall corners and intersections (including 45° angles). Corner bar sizes are to match footing or wall bar sizes.

G. Sides of all all concrete walls (both sides) and exposed vertical faces of wall footings are to be formed.

H. No heavy equipment will be used within 8 feet of all retaining walls U.N.O.

I. No backfill is to be placed against retaining walls until concrete has cured and reached design strength.

J. All concrete work will comply with ACI 301 "Specifications for Structural Concrete" and ACI 318-14 "Building Code Requirements for Structural Concrete" unless otherwise noted on the drawings and specifications.

K. Use type "B" laps for all reinforcing lap splices U.N.O.

L. No field bending of reinforcement permitted.

M. See ACI 318-14 Table 20.6.1.3.1 for concrete cover of cast-in-place reinforced concrete. All reinforcement is to be placed within +1/2" tolerance of that indicated on plans or ACI tables but not less than clear cover indicated.

4. Superstructure

A. All welders, shop and field, will be certified for the type of work involved. Submit certifications.

B. Bolts will be 3/4" diameter, Gr.A-325N, unless otherwise noted. All bolts will be tightened by a few impacts of an impact wrench or the full effort of a man using an ordinary spud wrench with a minimum of 200 foot pounds of torque and a maximum of 250 foot pounds of torque for a snug tight condition.

C. All structural bolts will have heavy hex nuts.

D. Unless shown otherwise all field welds will be 3/16 inch fillet welds.

E. All detailing, fabricating, and erection shall conform to the following specifications (latest editions), except as otherwise indicated:
AISC 360-10 - "Specification for Structural Steel Buildings."
AISC 303-10 - "Code of Standard Practice for Steel Buildings and Bridges."
Paragraph 4.4.1 of the above code is hereby modified by deletion of the following sentences:
a) "Confirmation that the Fabricator has correctly interpreted the Contract Documents in the preparation of those submittals";
b) "Confirmation that the Owner's Designated Representative for Design has reviewed and approved the Connection details shown on the Shop and Erection Drawings and submitted in accordance with Section 3.1.2, if applicable";
AWS D1.1 - "Structural Welding Code - Steel."

F. Steel Coating - Provide stainless steel or hot-dip galvanize steel straps and fastening components according to ASTM A-123. Stainless steel and galvanized elements are not to be intermixed. Touch up welds and damaged areas with a field applied galvanizing according to ASTM A780.

G. General Contractor shall have sole responsibility for site safety. Fabricator and Erector shall review Contract Documents and if the structure, as shown on those documents, is in conflict with the requirements of any erection safety regulations, Fabricator shall notify Structural Engineer prior to commencing erection shop drawing production. If Fabricator and/or Erector fail to notify Structural Engineer, as stated above, they shall become responsible for all costs for correcting such conflicts with the requirements of any and all safety regulations.

H. General Contractor will be responsible for properly bracing the structure to resist live, dead, wind, and construction loads during construction. An unstable condition exists until all the components are in place. Walls are not designed as free-standing and must be adequately braced until concrete has reached 75% of design strength.

5. Utilities and Architectural Components

A. Do not undermine new or existing footings when placing utilities. Provide soil shoring as needed to prevent undermining new or existing footings.

B. All penetrations of walls shall be approved by the structural engineer if not indicated on the structural drawings.

C. Do not core through or otherwise damage structural walls or footings when placing utilities. Provide structural steel sleeves and waterstops set in concrete prior to placement. Sleeves are to be provided by the trade requiring the penetration.

6. Miscellaneous

A. General Contractor to notify our office during major phases of construction so observations can be made by our office as required.

B. All shop drawings will be checked by the fabricator before being submitted to the Architect/Engineer for review. When submitting electronic shop drawings, one (1) hard copy must be provided to the structural engineer before review can begin.

7. Post-Installed Anchors (Hilti anchors)

A. Anchor capacity used in design is based on the technical data published by Hilti. Substitution requests for alternate products or drilling methods must be approved in writing by the Structural Engineer of Record prior to use. Contractor shall provide calculations demonstrating that the substituted product meets or exceeds the performance capacities of the specified product. Substitutions will be evaluated by their having an ICC ESR showing compliance with the relevant building code for seismic uses, load resistance, installation category, and/or availability of comprehensive installation instructions. Adhesive anchor evaluation will also consider creep, in-service temperature, and installation temperature.

B. Use of diamond core bit with roughening tool for anchor holes requires approval from Engineer of Record prior to drilling. Unless otherwise shown in the drawings, all holes shall be drilled perpendicular to the concrete surface.

C. Install anchors per the manufacturer's printed installation instructions, as included in the anchor packaging.

D. Overhead adhesive anchors must be installed using the Hilti Profi Piston Plug System.

E. The Contractor shall arrange for an anchor manufacturer's representative to provide onsite installation training for all anchor products specified. The structural Engineer of Record must receive documented confirmation that all personnel who install anchors are trained prior to the commencement of anchor installation.

F. Anchor capacity is dependent upon spacing between adjacent anchors and proximity of anchors to edge of concrete/masonry. Install anchors in accordance with spacing and edge clearances indicated on the drawings.

G. Existing reinforcing bars in the concrete structure may conflict with specific anchor locations. Do not cut reinforcing. Minor anchor location adjustment is permitted to avoid existing reinforcing. Notify Engineer for approval before making any significant adjustments.

GENERAL NOTES

NO SCALE

1

S1

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
ALUM.	ALUMINUM	E.W.	EACH WAY	REG.	REGULAR
ARCH.	ARCHITECT	EXIST.	EXISTING	REINF.	REINFORCING
BLDG.	BUILDING	EXP.	EXPANSION	RM.	ROOM
BM.	BEAM	FDN.	FOUNDATION	REQ'D.	REQUIRED
B.O.B.	BOTTOM OF BEAM	F.S.	FAR SIDE	REQ'T.	REQUIREMENT
B.O.D.	BOTTOM OF DECK	GALV.	GALVANIZED	SHT.	SHEET
B.O.F.	BOTTOM OF FOOTING	G.C.	GENERAL CONTRACTOR	SQ.	SQUARE
BOTT.	BOTTOM	G.T.	GIRDER TRUSS	S.S.	STAINLESS STEEL
BRG.	BEARING	GEN.	GENERAL	STIFF.	STIFFENER
CHK'D.	CHECKED	HORIZ.	HORIZONTAL	STD.	STANDARD
C.J.	CONTROL JOINT	H.C.	HOLLOW CORE	THICK.	THICKENED
CLR.	CLEAR	HORZ.	HORIZONTAL	THR'D.	THREADED
C.M.U.	CONCRETE MASONRY UNITS	JT.	JOINT	T & B	TOP AND BOTTOM
COL.	COLUMN	LLH	LONG LEG HORIZONTAL	T & G	TONGUE & GROOVE
CONC.	CONCRETE	LLV	LONG LEG VERTICAL	T.O.B.	TOP OF BEAM
CONN.	CONNECTION	LVL	LAMINATED VENEER LUMBER	T.O.F.	TOP OF FOOTING
CONSTR.	CONSTRUCTION	MAX.	MAXIMUM	T.O.P.	TOP OF PIER
CONT.	CONTINUOUS	MIN.	MINIMUM	T.O.S.	TOP OF SLAB
DWGS.	DRAWINGS	MECH.	MECHANICAL	T.O.W.	TOP OF WALL
EA.	EACH	MFG.	MANUFACTURER	TYP.	TYPICAL
E.F.	EACH FACE	N.S.	NEAR SIDE	U.N.O.	UNLESS NOTED OTHERWISE
EL.	ELEVATION	N.T.S.	NOT TO SCALE	WT.	WEIGHT
ELEV.	ELEVATION	O/C	ON CENTER	W.W.F.	WELDED WIRE FABRIC
E.S.	EACH SIDE	OPP.	OPPOSITE	W.P.	WORK POINT

SCHEDULE OF ABBREVIATIONS

NO SCALE

2

S1

SCHEDULE OF STRUCTURAL SPECIAL INSPECTION SERVICES

Risk Category II

The following are the structural special inspection categories for this project. See the tables on this sheet for the special inspections recommended to be performed under each category. The special inspector should be familiar with the requirements of the NC Building Code Chapter 17 and the items in each category that require special inspections. See specifications for required testing not included on this sheet:

- ☒ Soils
☒ Concrete Construction

The Owner or the Owner's Agent is to hire a special inspection agent to oversee, record and document all indicated special inspections according to the requirements of the NC Building Code Chapter 17. The inspection and testing agents shall be engaged by the Owner or the Owner's Agent and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The inspection and testing agents are to be certified for the type of work involved. Tests and inspections indicated will be based upon the requirements of the applicable building codes and the contract documents (full procedures for required testing and inspections are not included in these tables).

REQUIRED SPECIAL INSPECTION AND TESTS OF SOILS		
VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTION	
	CONTINUOUS DURING TASK LISTED	PERIODIC DURING TASK LISTED
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	—	X
2. Verify excavations are extended to proper depth and have reached proper material.	—	X
3. Perform classification and testing of controlled fill materials.	—	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	—
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.	—	X

Note: The approved geotechnical report and the construction documents shall be used to determine compliance. During fill placement, the special inspector shall verify that the proper materials and procedures are used in accordance with the provisions of the approved geotechnical report and construction documents.

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

Inspections shall verify general compliance with the design documents and approved submittals as well as referenced code sections.

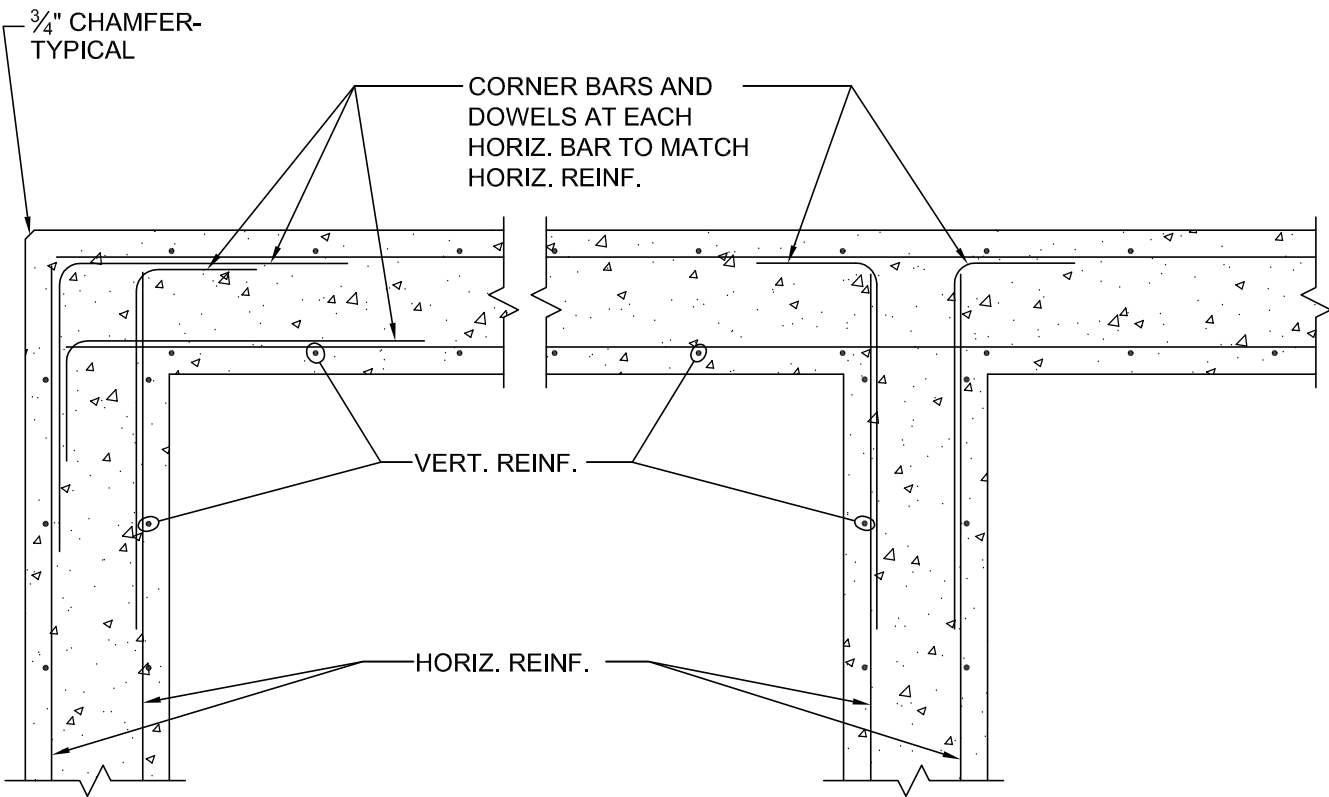
VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION		REFERENCED STANDARD
	CONTINUOUS DURING TASK LISTED	PERIODIC DURING TASK LISTED	
1. Inspection of reinforcing steel and placement for general compliance with the design documents and approved submittals.	—	X	ACI 318: Ch.20, 25.2, 25.3, 26.6, 1-26.6.3
2. Inspect anchors cast in concrete for general compliance with the design documents (including grade, diameter, gauge, and embedment depth).	—	X	ACI 318: 17.8.2
3. Inspect anchors/rebar post-installed in hardened concrete members. Verify installation procedure is in strict compliance with the manufacturer's instructions. Obtain installer's certification for installation of adhesive anchors/rebar before work begins. a. Adhesive anchors/rebar installed in horizontally or upwardly inclined orientations to resist sustained tension loads. b. Mechanical anchors and adhesive anchors/rebar not defined in 3.a.	X —	— X	ACI 318: 17.8.2.4 ACI 318: 17.8.2
4. Verify use of required design mix.	—	X	ACI 318: Ch.19, 26.4.3, 26.4.4
5. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete. Verify compliance.	X	—	ASTM C 172 ASTM C 31 ACI 318: 26.4, 26.12
6. Inspection of concrete placement for proper application techniques.	X	—	ACI 318: 26.5
7. Verify maintenance of specified curing temperature and techniques.	—	X	ACI 318: 26.5.3-26.5.5
8. Verification of In-situ concrete strength prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 26.11.2
9. Inspect formwork for shape, general location and dimensions of the concrete member being formed.	—	X	ACI 318: 26.11.1.2(b)
10. Inspect footing excavations for shape, general location and dimensions of the concrete member being formed.	—	X	

SCHEDULE OF SPECIAL INSPECTIONS

NO SCALE

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S1

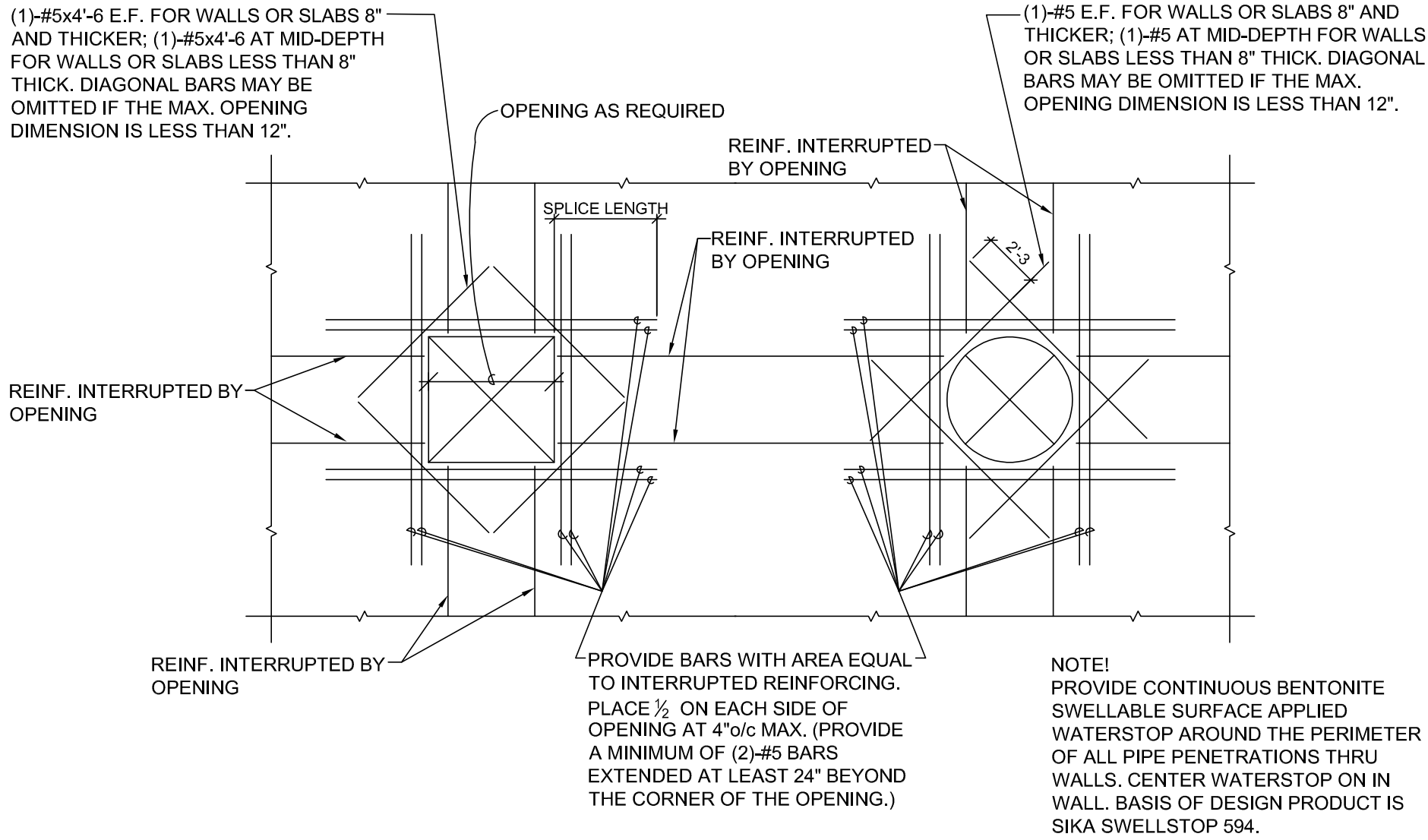


TYPICAL WALL REINF. DETAIL AT CORNERS AND INTERSECTIONS

3/4" = 1'-0"

4

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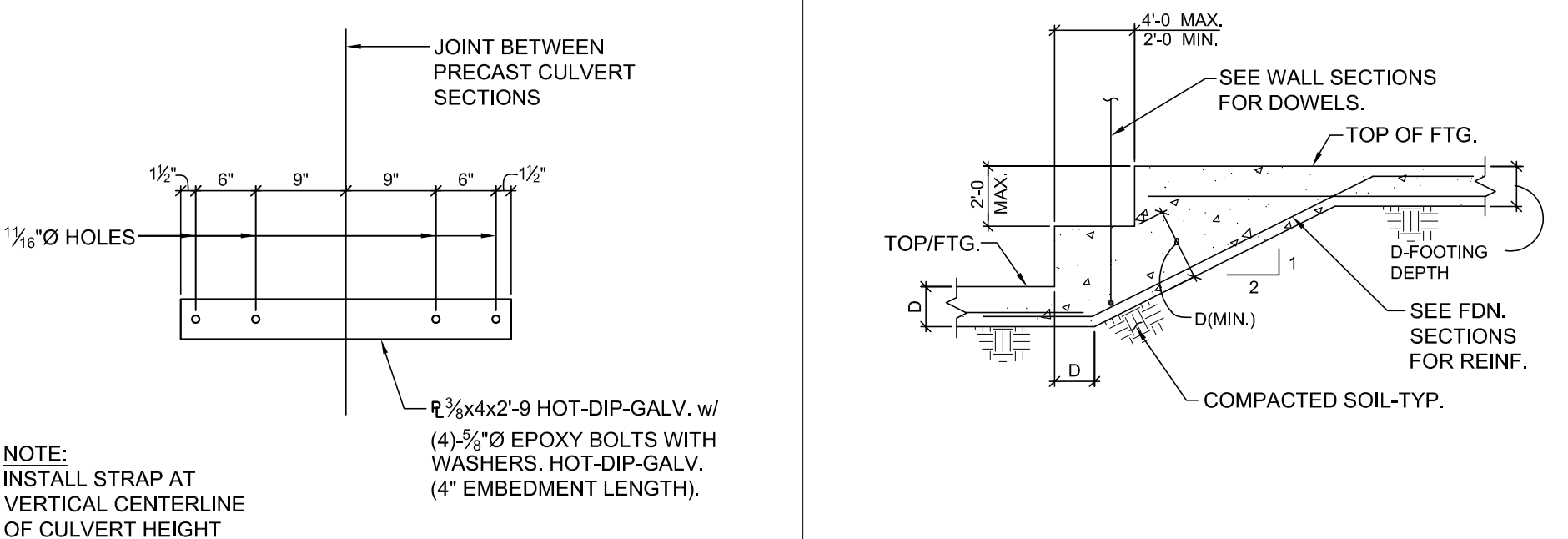


TYP. REINF. AT OPNGS IN CONC. WALLS OR SLABS

3/4" = 1'-0"

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S1



CONNECTOR STRAP DETAIL AT BOX CULVERT JOINTS

3/4" = 1'-0"

6

S1

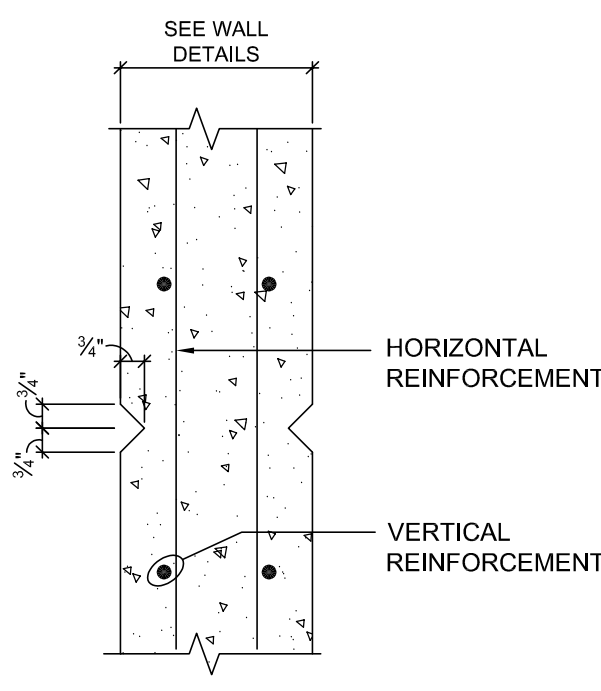
TYP. FTG. STEP DETAIL

3/4" = 1'-0"

7

S1

NOTE: USE THIS DETAIL AT INTERFACE OF INTERSECTION OF WING WALLS WITH HEAD WALLS AT BOTH SIDES OF CULVERT INLETS AND OUTLETS (8 LOCATIONS TOTAL) AND AT 10'-0" O/C (4) FOR THE REST OF THE WALL. CONTACT OUR OFFICE IF A COLD JOINT IS PREFERRED AT THESE LOCATIONS.



TYP. PLAN AT WALL CONTROL JT

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

8

S1

GENERAL NOTES & DETAILS

STRUCTURAL

S1

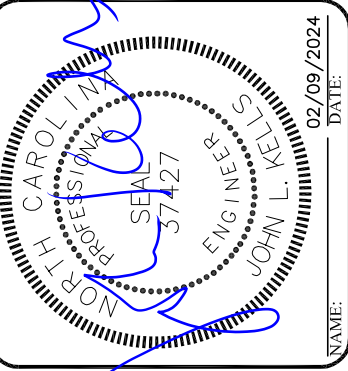
FLEMING & ASSOCIATES, P.A.

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FAYETTEVILLE
AMERICA'S CAN DO CITY

ENGINEERING DIVISION

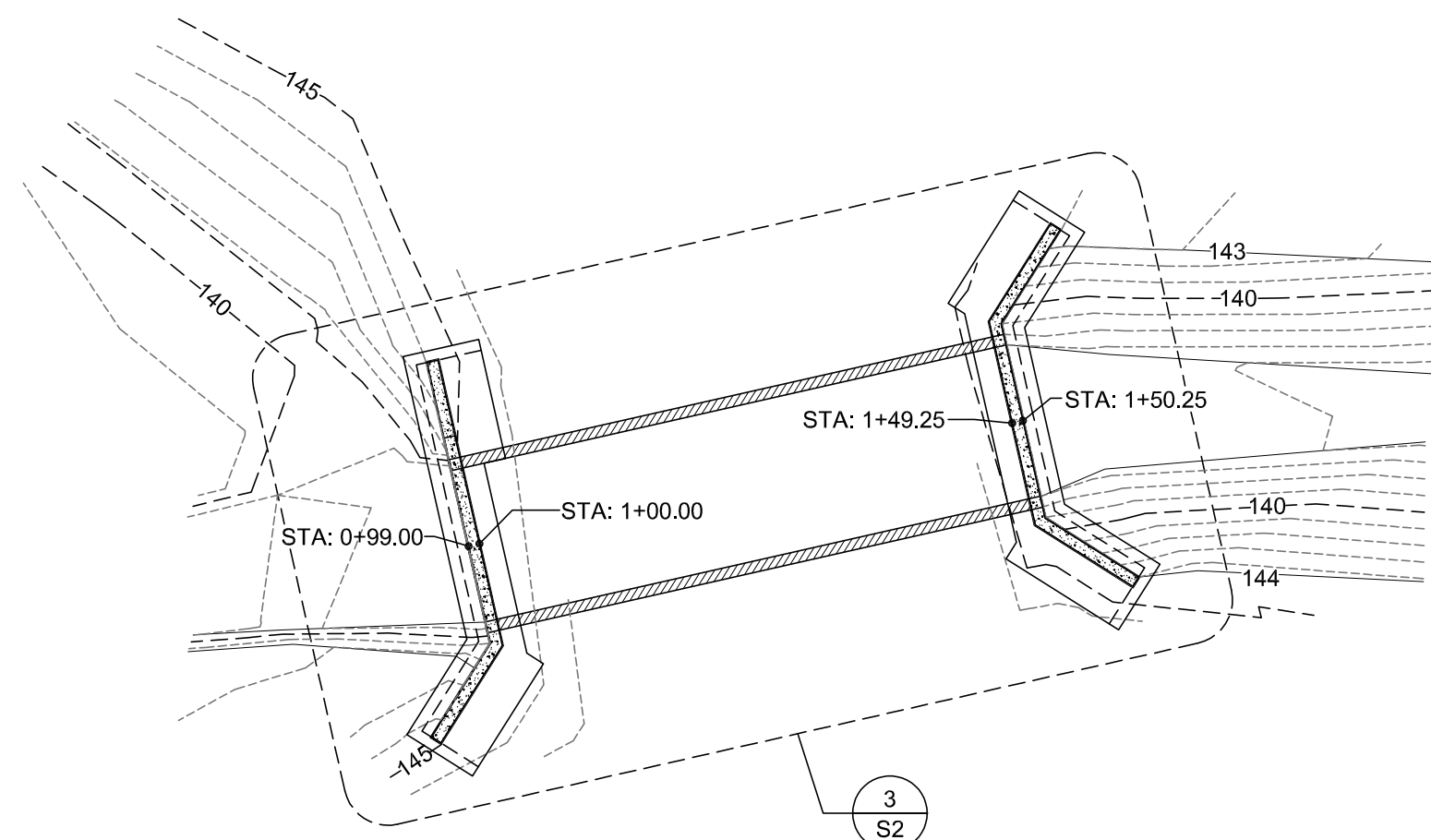
ENGINEERING & ARCHITECTURE DEPARTMENT
433 HAY STREET, FAYETTEVILLE, NC 28401



REVISIONS
REV # DESCRIPTION

CONSTRUCTION SET

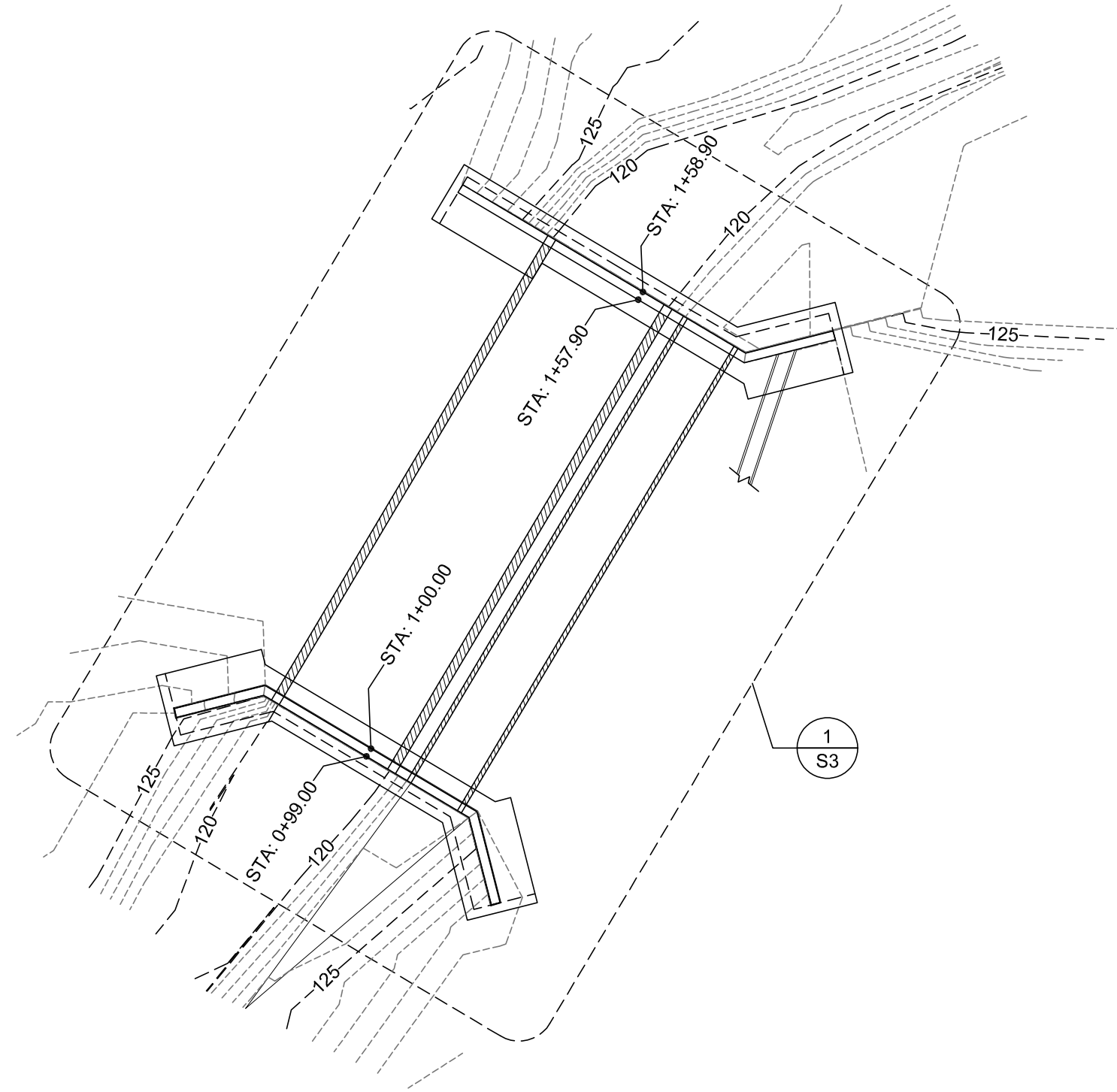
PROJECT # 54960.001
SUB-LEDGER #
CO/JSW/JK
DESIGN : JK
CHECK : JK
APPROVED : JK
NAME : VARIES
DATE : 02/09/2024



IVY ROAD GENERAL WALL ORIENTATION PLAN

1/16" = 1'-0"

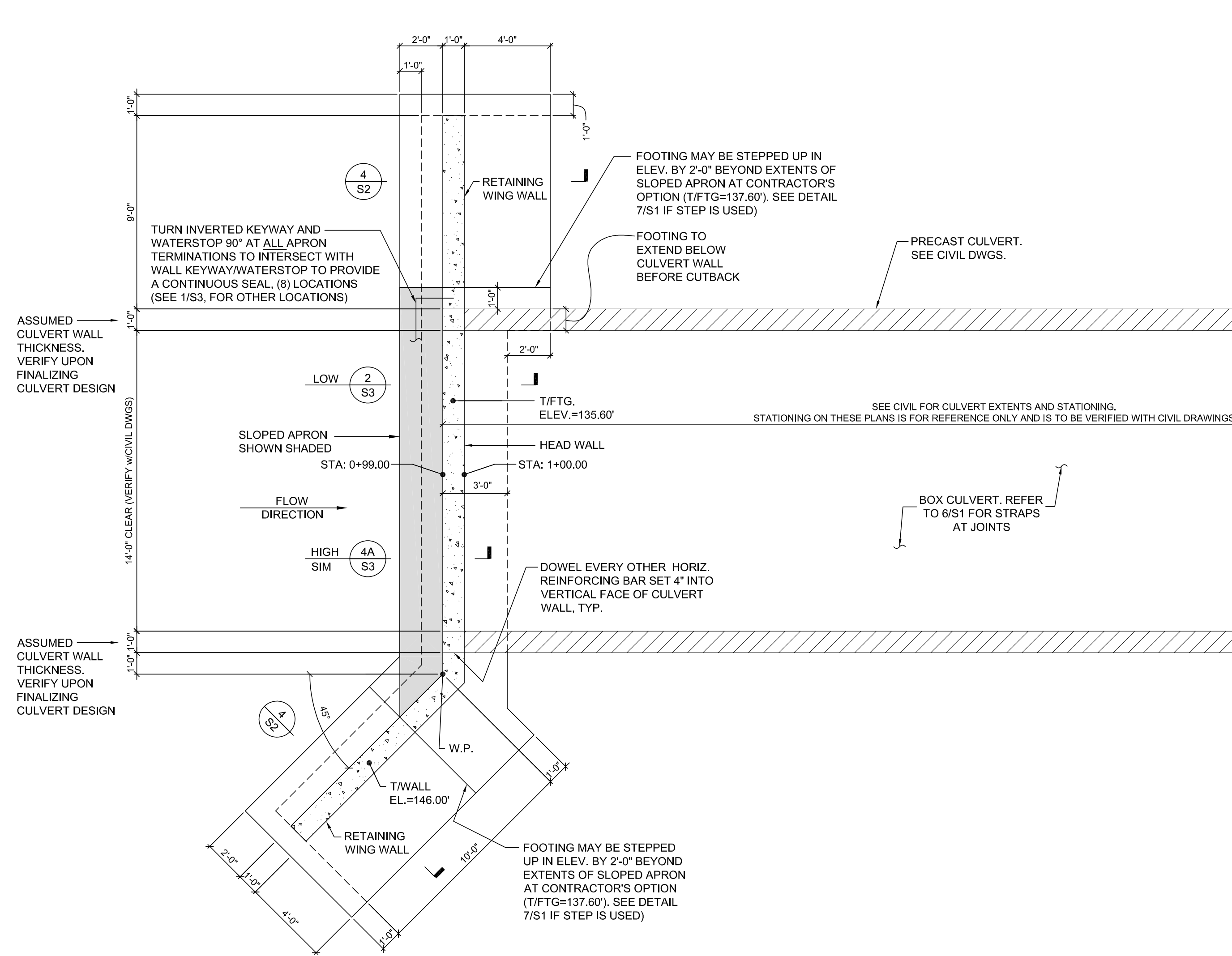
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S2



McGOUGAN ROAD GENERAL WALL ORIENTATION PLAN

1/16" = 1'-0"

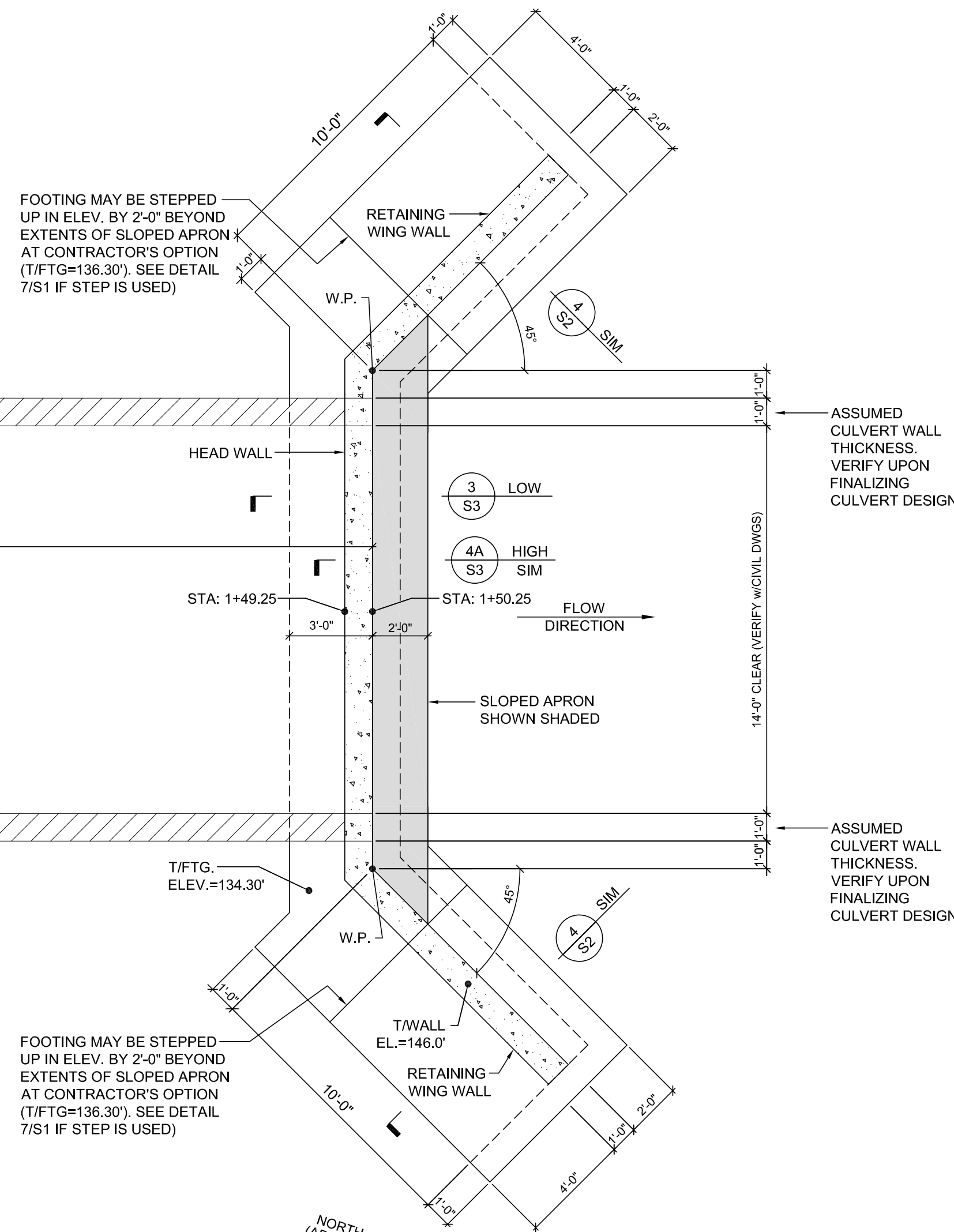
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S2



IVY ROAD ENLARGED WALL PLAN

1/4" = 1'-0"

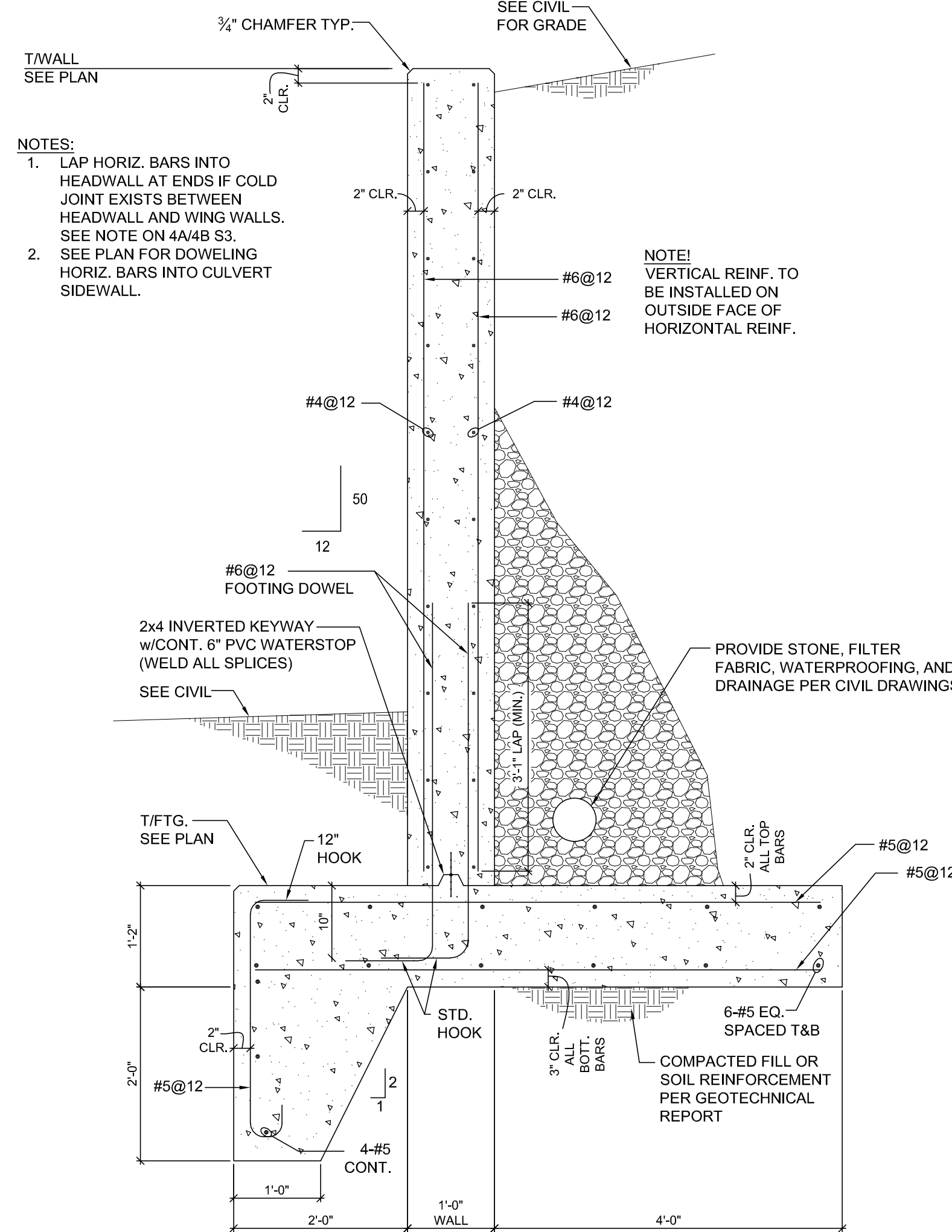
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McGOUGAN ROAD RETAINING WALL SECTION

3/4" = 1'-0"

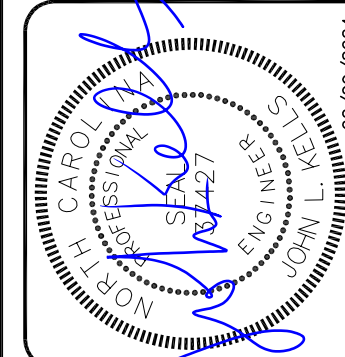
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IVY ROAD RETAINING WALL SECTION

3/4" = 1'-0"

4
S2



REV.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	02/09/2024

PROJECT NAME	IVY ROAD AND McGOUGAN ROAD IMPROVEMENTS
SCALE	VARIES
DATE	02/09/2024

PROJECT # 54960.001
SUB-LEADER #

CONSTRUCTION SET

PLANS & SECTIONS
STRUCTURAL

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