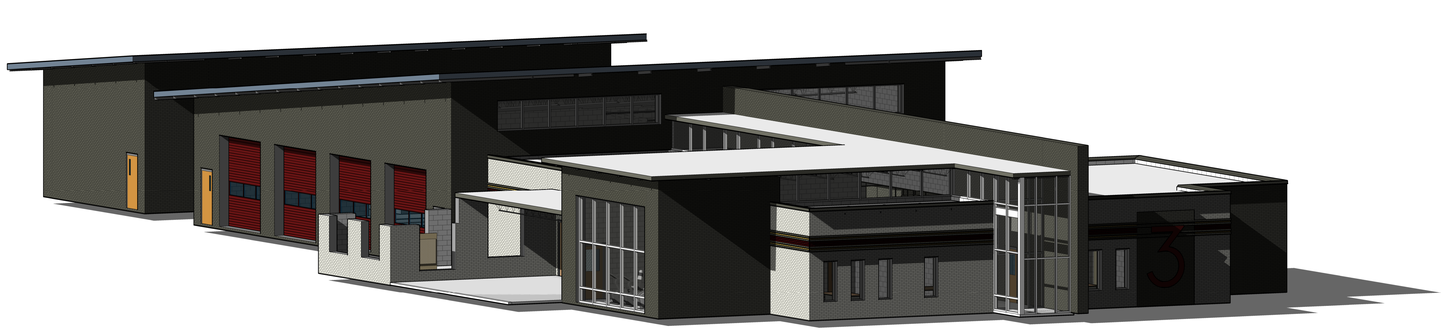
Exhibit D

FIRE STATION 3

The City of Mt Juliet

4370 Old Lebanon Dirt Road
Mt Juliet, TN 37122



THE HALL GROUP, LLC
Architecture + Planning
2050 Underwood Road
Mt. Juliet, TN 37122

615.477.3989

Email: jhall@hgarchitecture.com

INDEX OF DRAWINGS

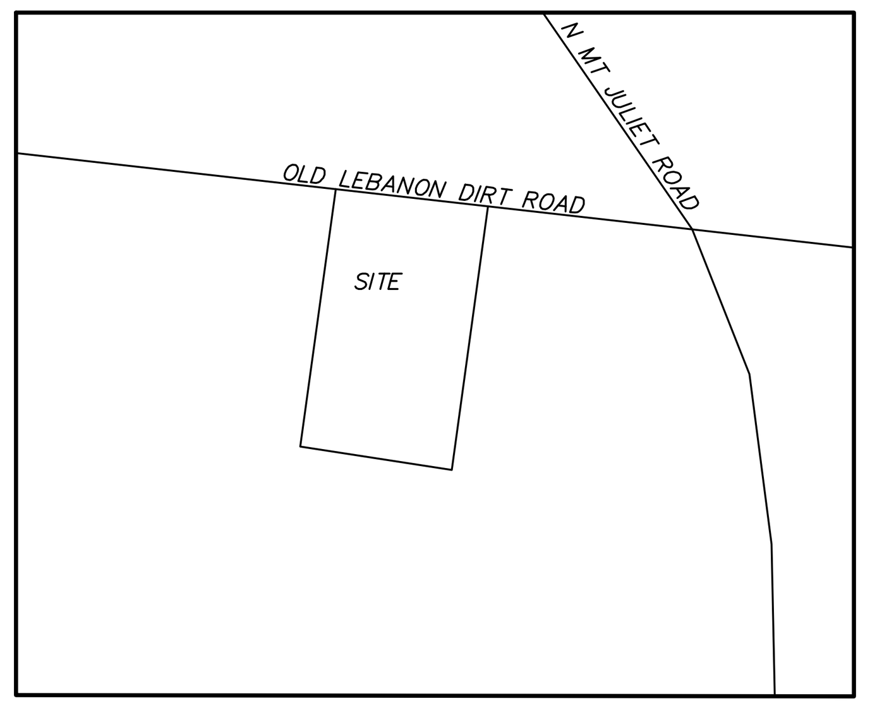
FIRE STATION 3

CONCEPT DESIGN

Date Issued:
07/24/24

Revision Dates:

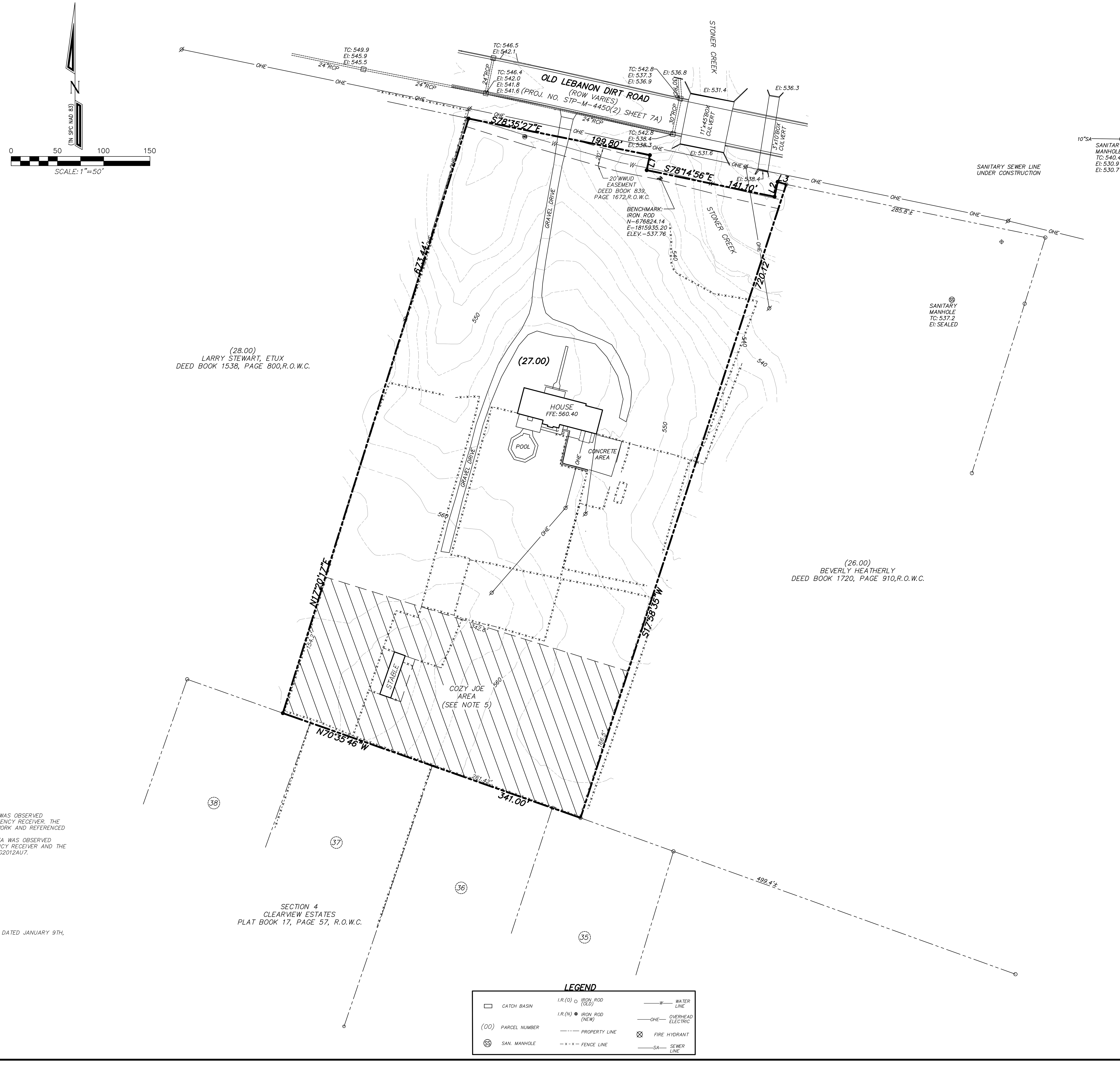
HGA Project #: 23014



VICINITY MAP
N.T.S.

UTILITY NOTE:
THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. THEREFORE, RELIANCE UPON THE TYPE, SIZE AND LOCATION OF UTILITIES SHOWN SHOULD BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION AND DEPTH SHOULD ALSO BE MADE PRIOR TO ANY DECISION RELATIVE THERETO IS MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY. IN TENNESSEE IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNERS, NO LESS THAN (3) THREE OR MORE THAN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. TENNESSEE ONE CALL 1-615-355-1987 OR 1-800-351-1111.

LINE	BEARING	DISTANCE
L1	S11°50'43"W	16.60'
L2	N11°45'03"E	16.41'
L3	S73°36'21"E	9.65'



SURVEYOR'S CERTIFICATE
To: CSDG
THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WAS DONE IN COMPLIANCE WITH CURRENT TENNESSEE MINIMUM STANDARDS OF PRACTICE AND MEETS THE REQUIREMENTS OF A CATEGORY I SURVEY. THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY DOES NOT EXCEED 1:10,000'.

J. ALAN CUMMINGS
REGISTERED LAND SURVEYOR
TENNESSEE NO. 2351
2-9-24

WARNING
THIS SURVEY WAS PREPARED FOR THE BENEFIT OF THE PARTY OR PARTIES NAMED HEREON AND IS INTENDED FOR THEIR SOLE USE. OTHER PARTIES ARE ADVISED NOT TO RELY UPON THIS. USE OF THIS DRAWING BY PARTIES OTHER THAN THOSE LISTED HEREON IS UNAUTHORIZED AND CONSTITUTES A VIOLATION OF FEDERAL COPYRIGHT LAWS.

FOR:
CSDG
Planning | Engineering | Landscape Architecture
2305 Kline Avenue, Suite 300
Nashville, Tennessee 37211
615.248.9999 office
csdgtn.com

DEED REFERENCE
TO: CITY OF MT.JULIET, TENNESSEE
FROM: CYNTHIA D. LAW
RECORD: DEED BOOK 2289, PAGE 1128, R.O.W.C.

PROPERTY MAP REFERENCE
SUBJECT SITE MAY BE IDENTIFIED AS PARCEL 27.00 ON WILSON COUNTY TAX MAP 77.

AREA: 238,213 SQUARE FEET±
OR 5.47 ACRES±

NOTES:
1.THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A TITLE COMMITMENT.
2.FOR BOUNDARY ASPECTS OF THIS SURVEY, RTK GPS POSITIONAL DATA WAS OBSERVED ON/BETWEEN THE DATE(S) OF 2-6-24, UTILIZING A TOPCON DUAL FREQUENCY RECEIVER. THE BEARINGS SHOWN WERE DERIVED USING THE TDOT GNSS REFERENCE NETWORK AND REFERENCED TO NAD 83 (2011), TENNESSEE ZONE 4100.
3.FOR TOPOGRAPHIC ASPECTS OF THIS SURVEY, RTK GPS POSITIONAL DATA WAS OBSERVED ON/BETWEEN THE DATES OF 2-6-24 UTILIZING A TOPCON DUAL FREQUENCY RECEIVER AND THE TDOT GNSS REFERENCE NETWORK. VERTICAL DATUM IS NAVD 88, GEOID G2012AU7.
CONTOUR INTERVAL: 2 FEET.
4.TN811, TICKET NUMBER: 240112163, DATED: 1-11-24
UTILITIES NOTIFIED:

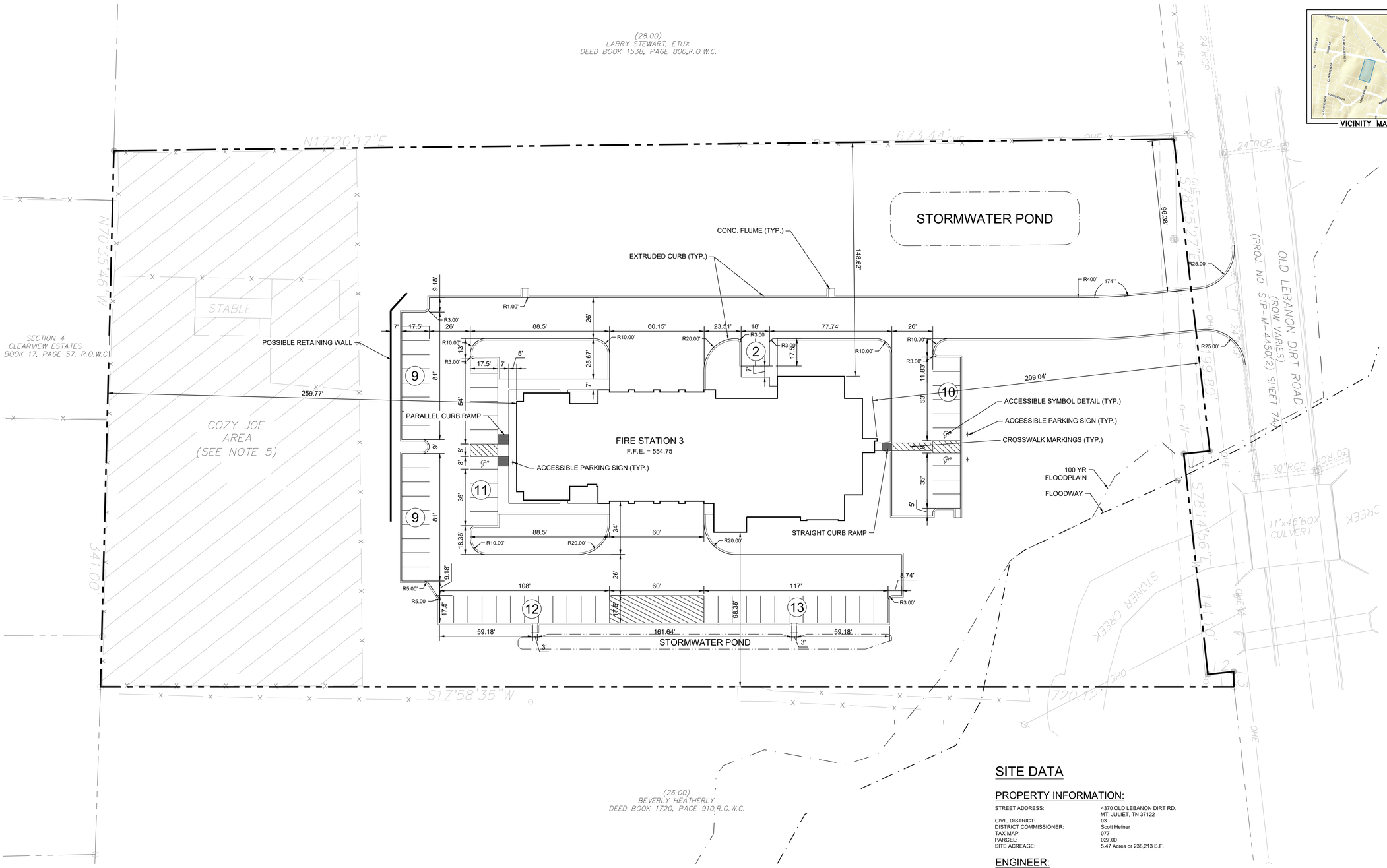
CODE	NAME
AFS	ZAYO (AMERICAN FIBER SYSTEMS) - AFS
INTWI	COMCAST - WILSON - INTWI
MTEMLE	MIDDLE TENN ELECTRIC MBRSHIP COOP-LEBANON-MTEML...
MTJUL	MT JULIET, CITY OF - MTJUL
NYG	PIEDMONT NATURAL GAS (NASHVILLE GAS) - NYG
TT1	TENNESSEE TELEPHONE (TDS TELECOM) - MT JULIET -...
UTEL	UNITED TELEPHONE COMPANY CHAPEL HILL - UTEL
WWILS	WEST WILSON UTILITY DISTRICT - WWILS F

5.THIS PROPERTY IS SUBJECT TO A HORSE BARN AND LEASE AGREEMENT DATED JANUARY 9TH, 2024.

GENERAL PROPERTY SURVEY
CITY OF MT.JULIET PROPERTY
4370 OLD LEBANON DIRT ROAD,
25TH CIVIL DISTRICT,
CITY OF MT.JULIET,
WILSON COUNTY, TENNESSEE

DATE: 2-9-24 CCPC JOB NO. 24-008
REVISED: 2-20-24

CCPC
RLS 2351
CRAWFORD & CUMMINGS, P.C.
8161 HWY 100, SUITE 163
NASHVILLE, TN. 37221
(615) 292-2661
ALAN@CCSURVEYORS.NET



VICINITY MAP

SITE DATA

PROPERTY INFORMATION:

STREET ADDRESS:	4370 OLD LEBANON DIRT RD. MT. JULIET, TN 37122
CIVIL DISTRICT:	03
DISTRICT COMMISSIONER:	Scott Hefner
TAX MAP:	077
PARCEL:	027.00
SITE ACREAGE:	5.47 Acres or 238,213 S.F.

ENGINEER:

COMPANY NAME:	PARA DESIGN, LLC
CONTACT:	JESSICA D. GORE, P.E.
ADDRESS:	145 BEAR CROSSING, SUITE 520 MT. JULIET, TN 37122
EMAIL:	jgore@ParaDesignLLC.com

PROJECT INFORMATION:

ZONING CLASSIFICATION:	RS-40
TOTAL BUILDING AREA:	16,255 S.F.
BUILDING FOOTPRINT:	16,255 S.F.
MAX. LOT COVERAGE (ALLOWED):	15%
PROPOSED LOT COVERAGE:	6.8%
MAX HEIGHT:	35'
PROPOSED HEIGHT:	1-STORY
BUILDING SETBACKS:	
FRONT:	50'
SIDE:	25'
REAR:	40'

PARKING INFORMATION:

PARKING SPACES PROVIDED:	66 SPACES (INCLUDES 3 ACCESSIBLE SPACES)

GRAPHIC SCALE
(IN FEET)
30 0 15 30 60
1 inch = **30** ft.

PARA DESIGN, LLC
145 BEAR CROSSING
SUITE 520
Mt. Juliet, TN 37122
615.701.2941

FIRE STATION 3

AT

4370 OLD LEBANON DIRT RD

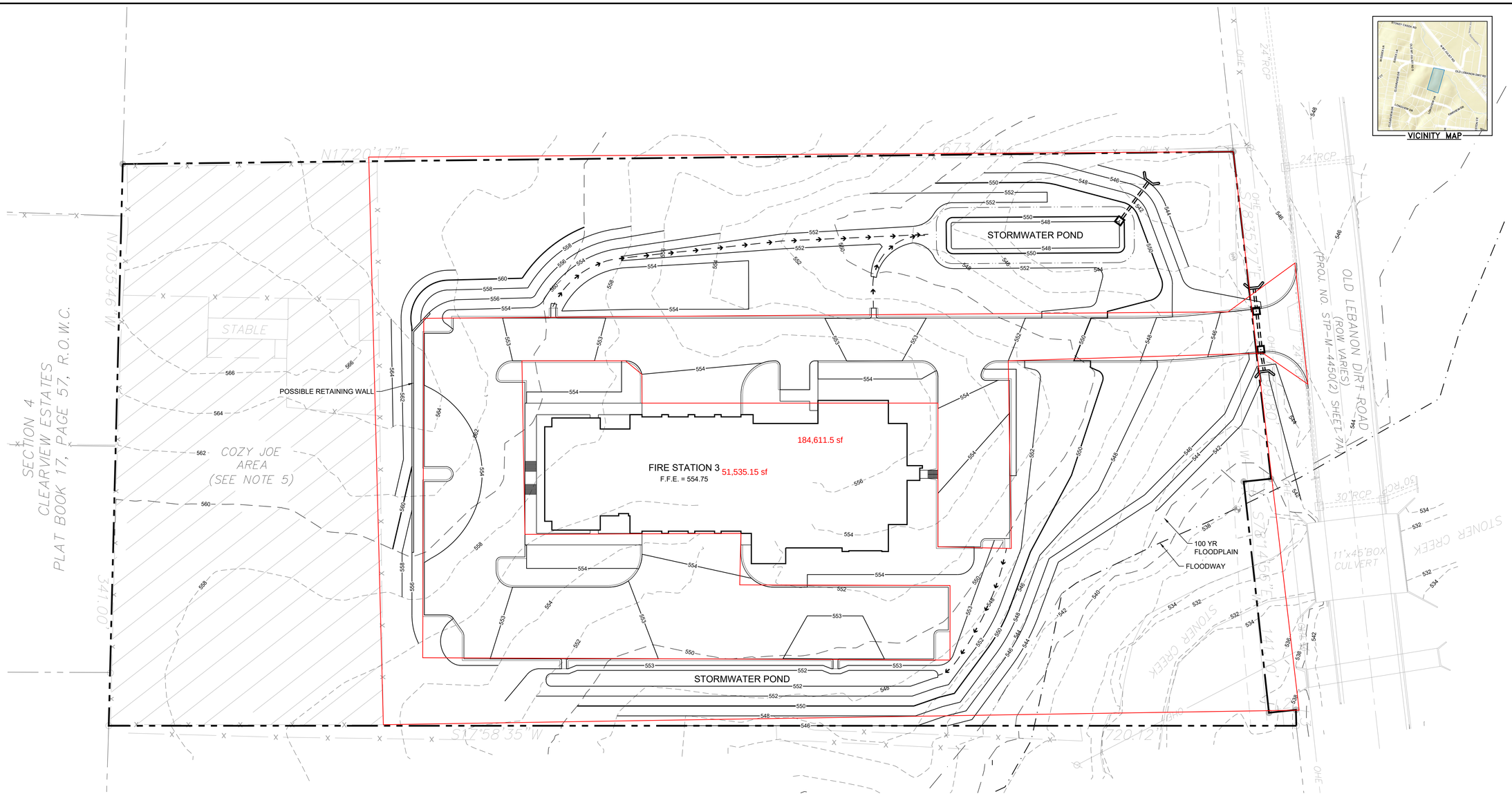
MT JULIET, WILSON COUNTY, TENNESSEE

CONCEPT PLAN
NOT FOR
CONSTRUCTION

DATE: 07/22/24
PROJECT NO: 2024-14

CONCEPT
SITE PLAN

C-1



N

W E

S

GRAPHIC SCALE
(IN FEET)

30 0 15 30 60

1 inch = **30** ft.

PARA DESIGN, LLC
145 BEAR CROSSING
SUITE 520
Mt. Juliet, TN 37122
615.701.2941

FIRE STATION 3

AT

4370 OLD LEBANON DIRT RD

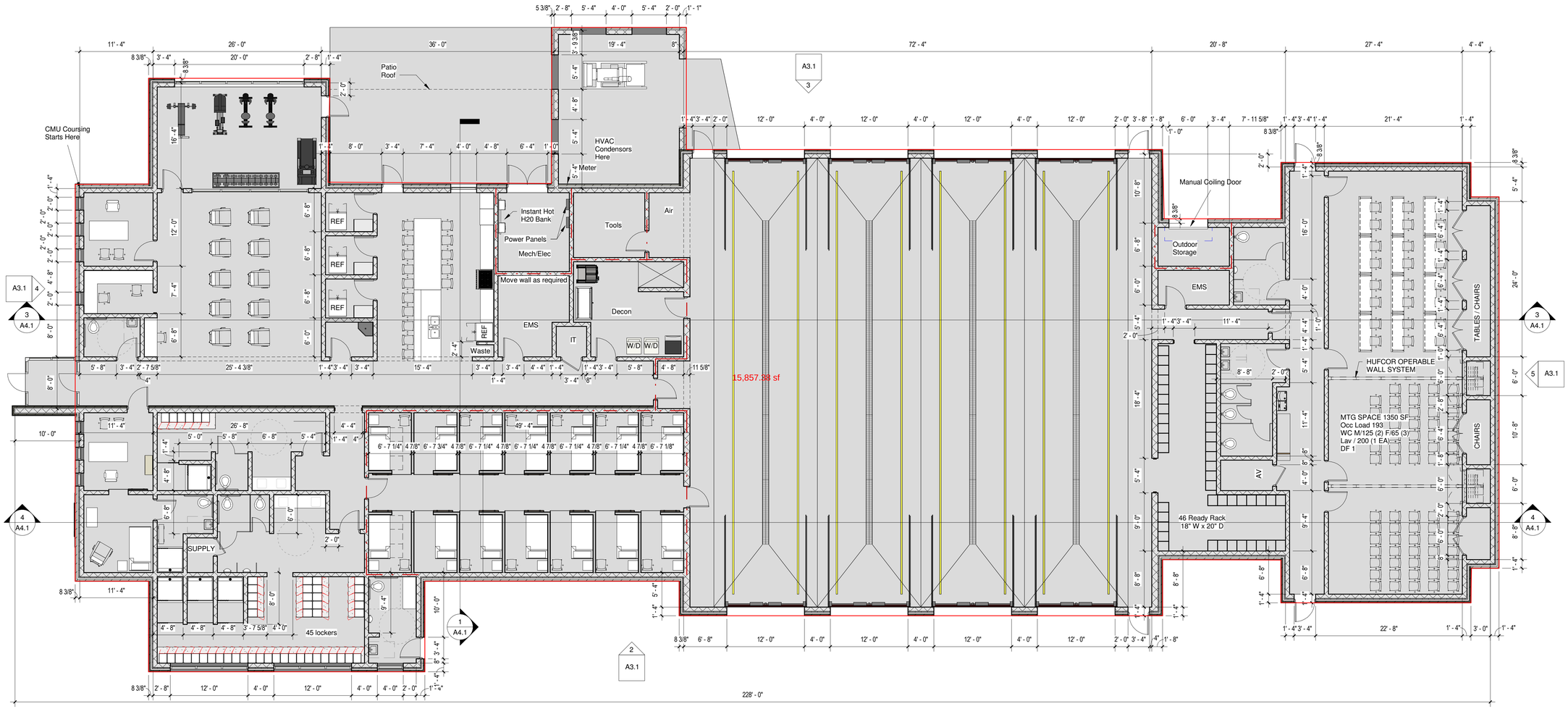
MT JULIET, WILSON COUNTY, TENNESSEE

CONCEPT PLAN
NOT FOR
CONSTRUCTION

DATE: 07/22/24
PROJECT NO: 2024-14

CONCEPT
GRADING PLAN

C-2



1 Level 1
1/8" = 1'-0"

THE HALL GROUP ARCHITECTURE

THE HALL GROUP, LLC
ARCHITECTURE
2050 Underwood Road
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615.477.3989

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<< ATTENTION >>
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CONCEPT DESIGN

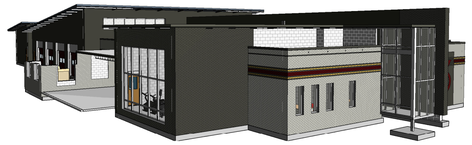
FIRE STATION 3
The City of Mt Juliet
4370 Old Lebanon Dirt Road
Mt Juliet, TN 37122

REVISION DATA

23014 7.22.2024

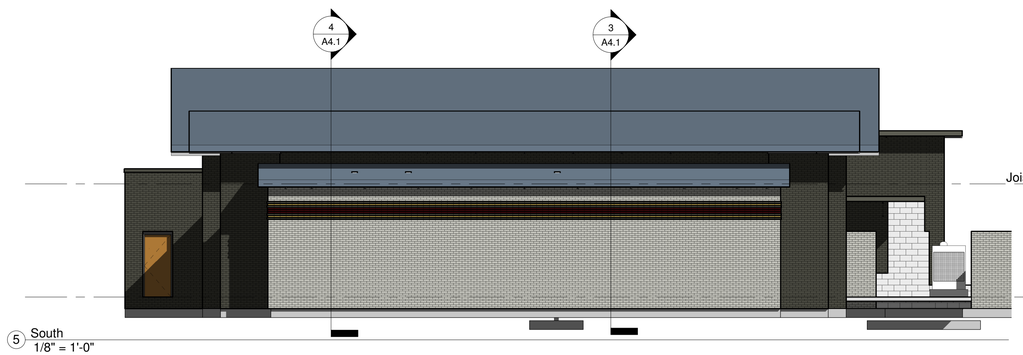
FLOORPLAN

A2.1

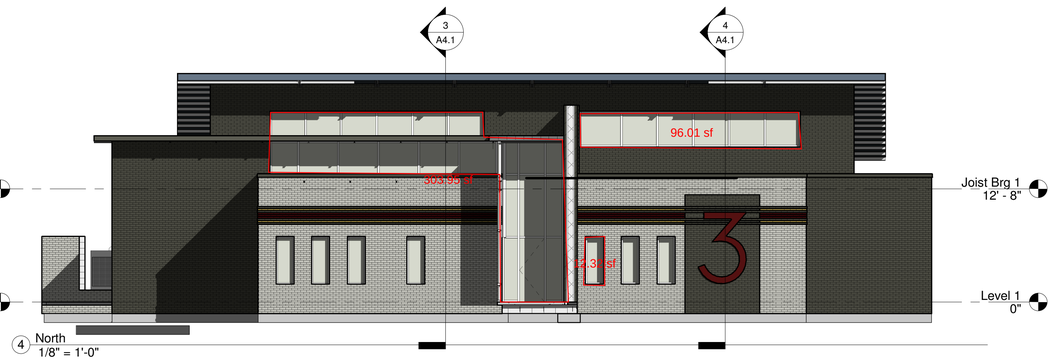


6 3D View 1

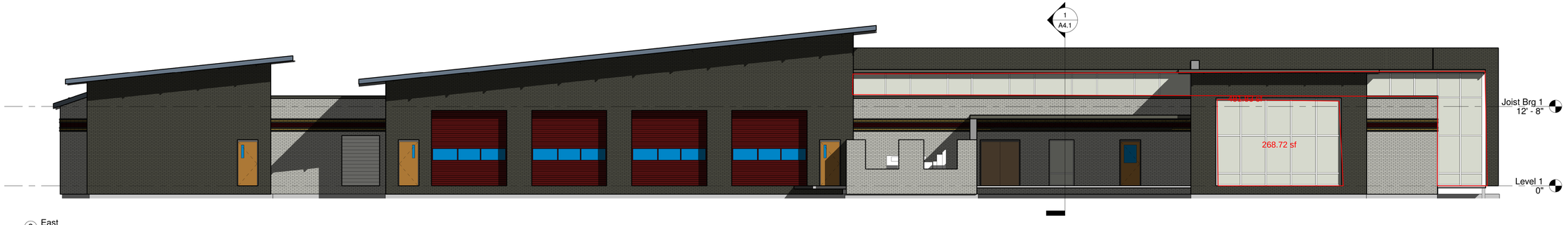
7 3D View 2



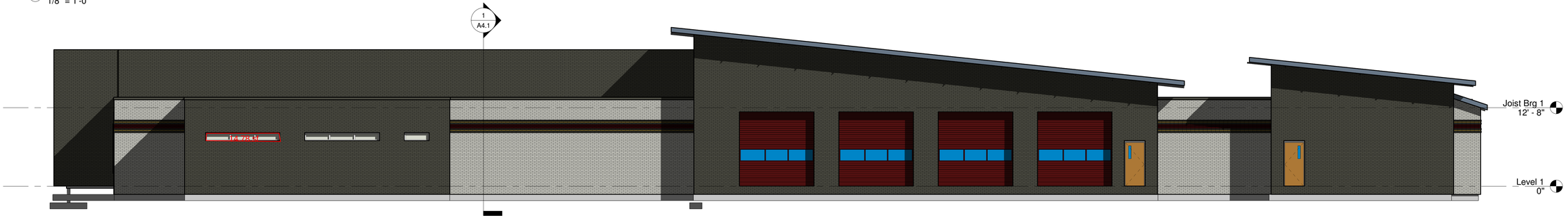
5 South
1/8" = 1'-0"



4 North
1/8" = 1'-0"



3 East
1/8" = 1'-0"



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

THE HALL GROUP ARCHITECTURE

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CONCEPT DESIGN

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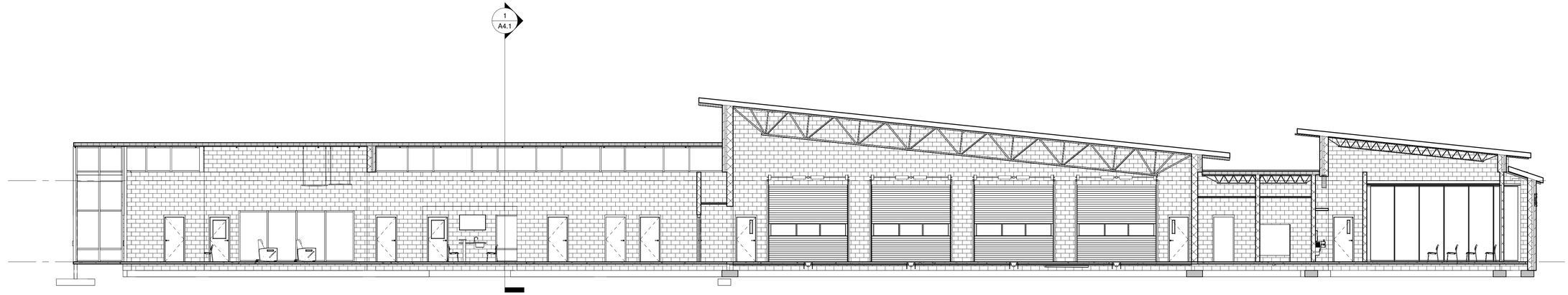
REVISION DATA

23014 7.22.2024

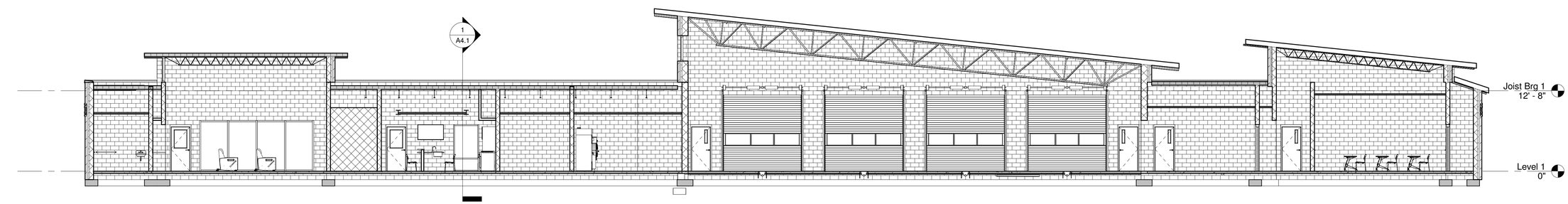
Presentation Elevations

A3.1

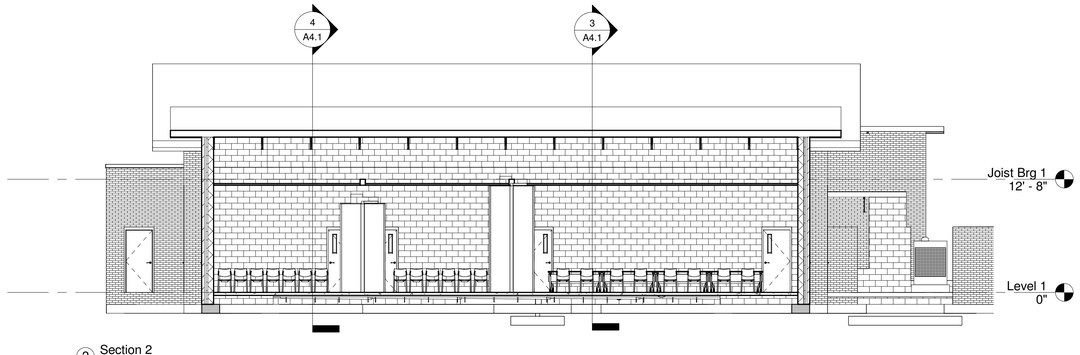


5 Section 5
1/8" = 1'-0"

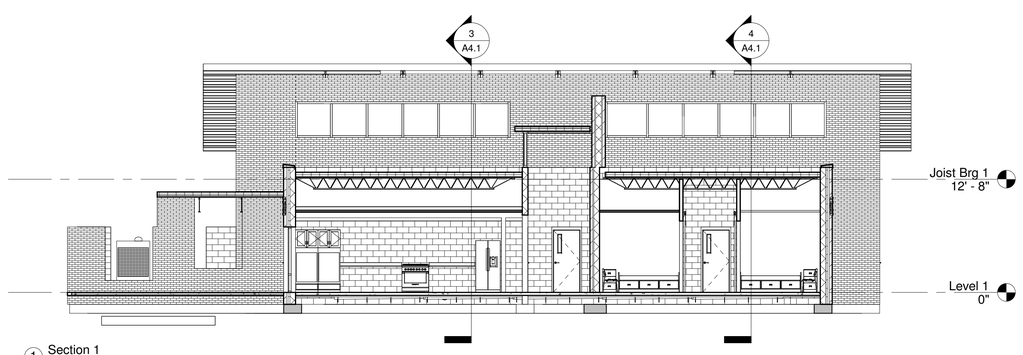
4 Section 4
1/8" = 1'-0"



3 Section 3
1/8" = 1'-0"



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



1 Section 1
1/8" = 1'-0"

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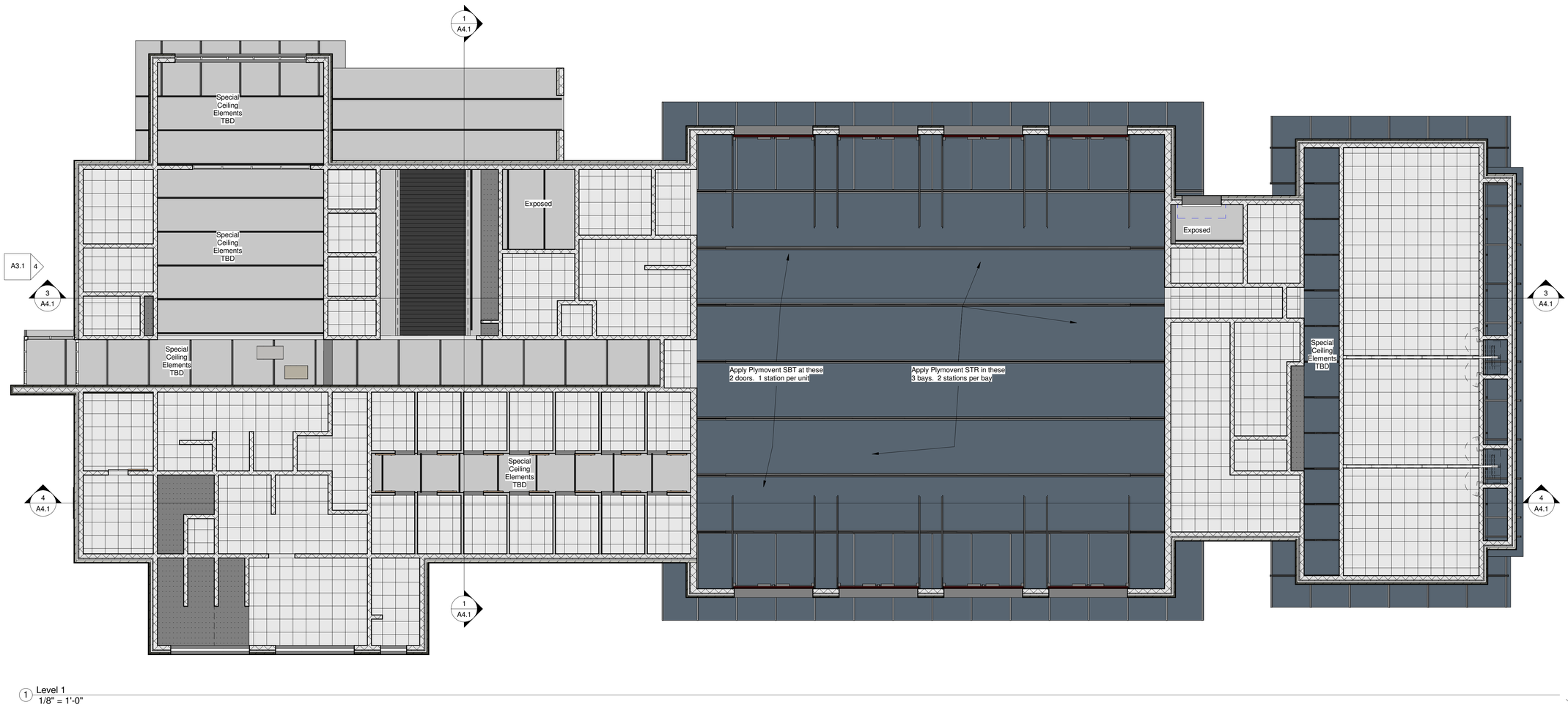
REVISION DATA

23014 7.22.2024

BUILDING SECTIONS

A4.1



1 Level 1
1/8" = 1'-0"

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CONCEPT DESIGN

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4370 Old Lebanon Dirt Road
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REVISION DATA

23014 7.22.2024

REFLECTED CEILING

A6.1

STRUCTURAL GENERAL NOTES

1.0 DESIGN AND CODE INFORMATION

1. ALL CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2018 EDITION.

2. VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS AND NOTIFY ARCHITECT OF ANY CONDITIONS WHICH CONFLICT WITH OTHER PLANS AND SPECIFICATIONS. STRUCTURAL DRAWINGS MUST BE COORDINATED WITH ARCHITECTURAL DRAWINGS. STRUCTURAL DRAWINGS ARE NOT INTENDED FOR BUILDING LAYOUT.

3. SHOP DRAWINGS WILL NOT BE REVIEWED BY THE DESIGNER UNTIL AFTER THE GENERAL CONTRACTOR HAS THOROUGHLY REVIEWED THE SHOP DRAWINGS, VERIFIED EXISTING CONDITIONS, AND COORDINATED THE SHOP DRAWINGS WITH OTHER AFFECTED TRADES. SUBMIT PDF COPIES OF REVIEWED DRAWINGS FOR ENGINEER'S REVIEW. ONLY PDF SETS OF MARKED UP SHOP DRAWINGS SHALL BE RETURNED BY THE DESIGNER. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.

4. COMPLETE SHOP DRAWINGS AND CALCULATIONS FOR COMPONENTS NOT DESIGNED BY THE ENGINEER OF RECORD AND NOT SPECIFIED ON THE PROJECT CONSTRUCTION DOCUMENTS SHALL BE SEALED AND SIGNED BY A DESIGNATED PROFESSIONAL ENGINEER REGISTERED IN THE PROJECT STATE AND SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO BEGINNING FABRICATION, INCLUDING BUT NOT LIMITED TO THE FOLLOWING COMPONENTS:

   (X) STRUCTURAL STEEL CONNECTION DESIGNS
   (X) STEEL JOISTS
   (X) GLAZED SYSTEM (INCLUDING BUT NOT LIMITED TO WINDOW UNITS, CURTAIN WALLS, AND STOREFRONT (S) WHICH EXCEEDS TEN (10) FEET IN HEIGHT)
   (X) ROOFTOP EQUIPMENT AND ANCHORAGES

5. THE STRUCTURE IS UNSTABLE UNTIL ALL LOAD BEARING WALLS ARE ERECTED AND STEEL MEMBERS ARE ERECTED, CONNECTIONS ARE COMPLETELY BOLTED AND/OR WELDED AND INSPECTED, THE STEEL DECK ATTACHED TO THE STEEL FRAMING, AND THE CONCRETE FLOORS PLACED AND ATTAINS 75% OF 28-DAY STRENGTH. UNTIL SUCH TIME, TEMPORARY BRACING IS REQUIRED. THE DESIGN ADEQUACY OF TEMPORARY BRACING AND SHORING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

6. DO NOT SCALE STRUCTURAL DRAWINGS, AND FOR LOCATION OF MISCELLANEOUS ITEMS (OPENINGS, BENT PLATES, INSERTS, ETC.) AFFECTING STRUCTURAL WORK, SEE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.

7. DEAD LOADS:
   SELF-WEIGHT OF STRUCTURE
   ROOF: 20 PSF

8. LIVE LOADS:
   OFFICES: 100 PSF (INCLUDING PARTITIONS) REDUCIBLE PER CODE
   MECH: 125 PSF
   ROOFS: 20 PSF (REDUCIBLE PER CODE)

9. ROOF LOADS:
   GROUND SNOW LOAD: 10 PSF
   SNOW EXPOSURE Ce: .9
   SNOW IMPORTANCE I: 1.0
   THERMAL FACTOR Ct: 1.0
   FLAT ROOF SNOW LOAD: 10 PSF

10. WIND LOADS:
   BASIC WIND SPEED: CATEGORY IV BASIC WIND SPEED 116 MPH
   WIND EXPOSURE FACTOR: B
   INTERNAL PRESSURE COEFFICIENT: ± 0.18
   CLADDING LOAD: SEE DIAGRAMS ON ____________

11. RAIN LOADS:
   DESIGN LOAD: _______ PSF
   RAIN INTENSITY: _______ IN/HOUR

12. SEISMIC LOADS:
   RISK CATEGORY: IV
   SEISMIC IMPORTANCE Ie:
   .2 SEC SPECTRAL RESPONSE ACCELERATION Ss:
   1.0 SEC SPECTRAL RESPONSE ACCELERATION S1:
   SITE CLASS: A B C D E F
   DESIGN SPECTRAL RESPONSE SDS:
   DESIGN SPECTRAL RESPONSE SD1:
   SEISMIC DESIGN CATEGORY: A B C D E F
   RESISTING SYSTEM:
   RESPONSE MODIFICATION FACTOR R:
   SYSTEM OVERSTRENGTH FACTOR Ω_o =
   DEFLECTION AMPLIFICATION FACTOR C_d =
   SEISMIC RESPONSE COEFFICIENT Cs:
   ANALYSIS PROCEDURE: SIMPLIFIED, EQUIVALENT LATERAL FORCE, MODAL
   BASE SHEAR:

13. TORNADO SHELTER:

   WIND SPEED: 250 MPH (RISK CATEGORY IV)
   WIND EXPOSURE: C
   SHELTER ROOF: 100 PSF
   INTERNAL PRESSURE COEFFICIENT: ± 0.18
   CLADDING LOAD: SEE DIAGRAM S________

2.0 SPECIAL INSPECTIONS AND TESTING

1. THE CONTRACTOR/OWNER SHALL EMPLOY AN INDEPENDENT TESTING COMPANY TO PERFORM SITE INSPECTIONS AND TESTING IN ACCORDANCE WITH THE QUALITY ASSURANCE PLAN SHEET S002.

3.0 STRUCTURAL OBSERVATIONS

1. THE ENGINEER OF RECORD HAS BEEN EMPLOYED TO PERFORM PERIODIC VISUAL OBSERVATIONS OF THE STRUCTURE DURING CONSTRUCTION FOR GENERAL CONFORMANCE TO THE DESIGN DRAWINGS.

4.0 FOUNDATION NOTES

1. FOUNDATION DESIGN IS BASED ON A REPORT MADE BY__________________________ DATED______________________ (REPORT NO. ______________________________).

2. INDIVIDUAL FOOTINGS ARE DESIGNED TO BEAR ON UNIFORM SOIL CAPABLE OF SUPPORTING 2000 PSF. CONTINUOUS FOOTINGS ARE DESIGNED TO BEAR ON SOIL CAPABLE OF SUPPORTING 2000 PSF. DESIGN ASSUMES DIFFERENTIAL AND TOTAL SETTLEMENT ARE WITHIN ACCEPTED TOLERANCES FOR THE TYPE OF CONSTRUCTION USED.

3. DESIGN ASSUMES DIFFERENTIAL AND TOTAL SETTLEMENT ARE WITHIN ACCEPTED TOLERANCES FOR THE TYPE OF CONSTRUCTION USED.

4. RETAINING WALLS ARE DESIGNED FOR LATERAL PRESSURES:

- WALL (ACTIVE): 30 PCF
- BACKFILL WITH CLEAN #57 OR #67 STONE UNO. THE BACKFILL SHALL BE DRAINED WITH NO BUILDUP OF WATER PRESSURE BEHIND THE WALLS

BASEMENT WALLS ARE DESIGNED FOR LATERAL PRESSURES:

- WALL: 45 PCF
- BACKFILL WITH CLEAN #57 OR #67 STONE UNO. THE BACKFILL SHALL BE DRAINED WITH NO BUILDUP OF WATER PRESSURE BEHIND THE WALLS

5. THE SOIL BEARING CAPACITY AND CONSISTENCY SHALL BE VERIFIED FOR THE BUILDING LIMITS BY A REGISTERED GEOTECHNICAL ENGINEER WHEN FOUNDATION EXCAVATIONS HAVE BEEN CARRIED DOWN TO THE PROPOSED ELEVATIONS. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 2'-0" MINIMUM BELOW FINISHED GRADE.

6. WHERE FOOTING EXCAVATIONS ARE TO REMAIN OPEN AND MAY BE EXPOSED TO RAINFALL, THE EXCAVATIONS SHALL BE UNDERCUT AND A 3-INCH-THICK MUD MAT OF 2000 PSI CONCRETE SHALL BE PLACED IN THE BOTTOM TO PROTECT THE BEARING SOILS.

7. WHERE FOOTING STEPS ARE NECESSARY, THEY SHALL BE NO STEEPER THAN 1 VERTICAL TO 2 HORIZONTAL, UNLESS SHOWN OTHERWISE ON PLANS.

8. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE ADJACENT BUILDING FOUNDATIONS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITION AND TAKE ALL STEPS TO PROTECT THE EXISTING STRUCTURES DURING CONSTRUCTION.

5.0 REINFORCED CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," (ACI 318).

2. REINFORCING STEEL SHALL BE DEFORMED BARS ASTM A-615 (GRADE 60).

3. MATERIAL PROPERTIES – CONCRETE:

		CLASS EXPOSURE	F'c PSI MAX. at 28 DAYS	MAX.* W/C RATIO	TOTAL AIR SLUMP INCHES	NOM. MAX. CONTENT (±1.5%)	AGGREGATE SIZE
3.1	Cast-in-Place Concrete						
	A. Footings	C1	4,000	0.50	4	No Test	2"
	B. Drilled Piers	C1	4,000	0.50	6-8**	No Test	2"
	C. Pier Caps	C1	4,000	0.50	4	No Test	2"
	D. Grade Beams	C1	4,000	0.45	4	No Test	3/4"
	E. Columns						
	Int. Columns		5,000	0.45	3	No Test	3/4"
	Ext. Columns	F1, C1	5,000	0.45	3	5	3/4"
	F. Superstructure						
	Slabs, Beams						
	Int.		5,000	0.40	3	No Test	3/4"
	Ext.	F2, C2	5,000	0.40	3	6	3/4"
	G. Walls						
	Int. Walls		4,000	0.45	3	No Test	3/4"
	Ext. Walls	F1, C2	4,000	0.45	3	5	3/4"
	H. Slab-on-Grade						
	Int. Slab		4,000	0.45	4	No Test	1"
	Ext. Slab	F2, C2	4,500	0.40	4	6	1"
	I. Stairs, Landings, Lobbies						
	Int.		4,000	0.45	4	No Test	3/4"
	Ext.	F2, C2	4,500	0.40	4	6	3/4"
	J. All Other		4,000	0.45	4	5	3/4"
	K. Concrete Fill on Metal Deck (Lightweight and Normal) 116-117 PCF 140-150 PCF		4,000	0.45	4	3	3/4"
3.2	Other Concrete						
	A. Masonry Wall						
	Grout Fill		3,000		8 to 10	No Test	3/8"
	B. NSNS Grout		8,000			No Test	No. 4
	*Before adding water reducer						
	**After adding water reducer						

4. EXPOSURE CLASS SHALL BE FO, SO, PO, AND CO PER ACI 318 UNO.

5. LAP SPLICES FOR REINFORCING BARS SHALL BE CLASS B IN ACCORDANCE WITH ACI 318, UNLESS NOTED OTHERWISE.

6. THE LONGITUDINAL REINFORCING STEEL IN BOND BEAMS, WALLS, AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS. SEE TYPICAL DETAILS.

7. CLEAR CONCRETE COVER FOR REINFORCING STEEL:

   SLABS: 3/4”
   GRADE BEAMS AND PIERS: 2”
   WALLS: 2” EXTERIOR FACES
   3/4” INTERIOR FACES
   MASONRY WALLS: LOCATE IN CENTER OF WALL (UNO)
   SLAB ON GRADE: 3/4” TOP STEEL
   1½” BOTTOM STEEL
   BEAMS AND COLUMNS: 1½” FORMED EDGES
   FOOTINGS: 2” FORMED EDGES
   3” CAST AGAINST GROUND

8. CONCRETE WALLS AND SLABS SHALL BE REINFORCED AROUND ALL OPENINGS WITH 2-#5 BARS IN EACH FACE, ON ALL SIDES AND EXTENDED 2'-0" BEYOND THE OPENING, UNLESS SHOWN OTHERWISE.

9. CONSTRUCTION JOINTS IN BEAMS, GIRDERS AND SLABS SHALL OCCUR AT MID-SPAN AND SHALL BE KEYED. IN ALL CASES THE LOCATION OF CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. KEYWAYS SHALL BE ONE THIRD THE DEPTH OF THE MEMBER AND PLACED AT MID-DEPTH.

10. MECHANICAL VIBRATORS SHALL VIBRATE ALL CONCRETE.

11. CHAMFER EXPOSED CORNERS OF BEAMS, COLUMNS AND WALLS 3/4 INCH.

12. UNLESS OTHERWISE DIRECTED BY THE OWNER, CONCRETE SLABS SHALL BE FINISHED TO THE FOLLOWING FLATNESS CRITERIA. THESE FLOOR FLATNESS CRITERIA ARE NOT APPLICABLE TO COMPOSITE STEEL CONSTRUCTION. SEE ARCHITECTURAL REQUIREMENTS FOR ADDITIONAL FLOOR FINISH INFORMATION:

   SPECIFIED OVERALL F NUMBERS
   FLATNESS FF = 35
   LEVEL FL = 25

   MINIMUM LOCAL F NUMBERS
   FLATNESS FF = 24
   LEVEL FL = 17

13. COORDINATE ALL VAPOR RETARDERS, VAPOR BARRIERS, AND WATERPROOFING OF CONCRETE SLABS-ON-GRADE AND CONCRETE WALLS WITH FINISH MATERIAL REQUIREMENTS AND ARCHITECTURAL SPECIFICATIONS.

6.0 CONCRETE MASONRY

1. MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530/TMS 402 AND ACI 530.1/TMS 602.

2. MASONRY WALL CONTROL JOINTS SHALL BE LOCATED AS SHOWN ON THE ARCHITECTURAL DRAWINGS. IF NOT SHOWN IN ARCHITECTURAL DRAWINGS, PROVIDE CONTROL JOINTS AS FOLLOWS:

   A. 24 FEET ON CENTER, HORIZONTAL MAXIMUM.
   B. 12 FEET FROM CORNERS MAXIMUM.
   C. 8 INCHES (8” CMU) / 12 INCHES (12” CMU) FROM EDGE OF OPENING MAXIMUM.
   D. INTERSECTION OF LOAD-BEARING AND NON-LOAD-BEARING WALLS.

3. CONCRETE MASONRY SHALL CONFORM TO THE NATIONAL CONCRETE MASONRY ASSOCIATION SPECIFICATIONS, AND HAVE A DENSITY OF 125 PCF AND SHALL HAVE A MINIMUM PRISM STRENGTH (F'M) OF 2000 PSI.

4. GROUT FOR FILLING CONCRETE MASONRY CELLS SHALL CONFORM TO STANDARD SPECIFICATIONS FOR "MORTAR AND GROUT FOR REINFORCED MASONRY, "ASTM C-476, AND SHALL HAVE A COMPRESSIVE PRISM STRENGTH (F'M) OF 3000 PSI AT 28 DAYS. THE SLUMP SHALL BE BETWEEN 9 INCHES AND 11 INCHES. WHERE THE MINIMUM DIMENSION OF ANY CONTINUOUS VERTICAL CELL IS 3 INCHES OR LESS, USE FINE GROUT, OTHERWISE USE COARSE (PEA GRAVEL) GROUT.

5. MORTAR FOR CONCRETE MASONRY SHALL BE TYPE "S" AND SHALL CONFORM TO ASTM C-270.

6. MASONRY CONSTRUCTION SHALL BE BUILT IN LIFTS NOT TO EXCEED 4 FEET PRIOR TO GROUTING CORES. KEY NEXT GROUT LIFT INTO PRIOR LIFT BY STOPPING FIRST LIFT 2" BELOW TOP OF BLOCK.

7. ALL REINFORCING BARS IN FILLED CELLS SHALL BE DOWELED INTO FOOTINGS WITH STANDARD 90-DEGREE HOOKS AND DOWELED 7 INCHES INTO BOND BEAMS AT TOP OF WALLS.

8. MASONRY LAP SPLICES SHALL BE 48 BAR DIAMETERS (U.N.O.).

9. REINFORCEMENT IN WALLS SHALL BE PLACED IN THE CENTER OF THE WALL.

7.0 STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE AISC "MANUAL OF STEEL CONSTRUCTION LRFD.

2. STRUCTURAL STEEL ROLLED SHAPES SHALL BE ASTM A-992 GRADE 50 UNLESS NOTED OTHERWISE. STRUCTURAL STEEL PLATES AND ANGLES SHALL BE ASTM A-36.

3. STRUCTURAL PIPE COLUMNS SHALL BE ASTM A-53, TYPE E OR S, GRADE B. STRUCTURAL TUBES SHALL BE ASTM A500, GRADE B.

4. STEEL FRAMING CONNECTIONS SHALL BE BOLTED OR WELDED. BOLTS SHALL BE 3/4 INCH DIAMETER MINIMUM AND SHALL BE ASTM A-325-N, UNLESS NOTED OTHERWISE.

5. STEEL JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE STEEL JOIST INSTITUTE, LATEST EDITION. STEEL JOISTS SHALL BE GRADE 50 STEEL.

6. METAL DECK SHALL BE INSTALLED IN ACCORDANCE WITH THE STEEL DECK INSTITUTE SPECIFICATIONS, LATEST EDITION.

7. WELD WASHERS SHALL BE USED WITH METAL DECK THINNER THAN 22 GAGE.

8. MISCELLANEOUS ANCHOR BOLTS SHALL BE ASTM A-307 HEADED BOLTS.

9. ANCHOR RODS AT COLUMN BASE PLATES SHALL BE ASTM F-1554 GRADE 55. MINIMUM ANCHOR BOLT EMBEDMENT SHALL BE 16 BOLT DIAMETERS UNLESS NOTED OTHERWISE. CLEAN ANCHOR BOLTS OF ALL GREASE, DIRT, ETC., BEFORE INSTALLATION. COLUMN ANCHOR RODS SHALL BE HELD IN PLACE BY TEMPLATES AND POSITIONED PRIOR TO CASTING CONCRETE.

10. FRAMED BEAM CONNECTIONS SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER EMPLOYED BY THE FABRICATOR TO DEVELOP THE REACTION SHOWN FOR THE ENDS OF BEAMS ON STRUCTURAL PLANS. IN NO CASE SHALL THE LENGTH OF THE FRAMED CONNECTION BE LESS THAN 1/2 THE "T" DIMENSION OF THE BEAM WEB. WHERE REACTIONS ARE NOT SHOWN, THE CONNECTION SHALL DEVELOP ONE-HALF THE ALLOWABLE UNIFORM LOAD FOR LATERALLY SUPPORTED BEAMS AS SHOWN IN PART 2 OF THE AISC MANUAL.

11. WELDS SHOWN ON THE STRUCTURAL DRAWINGS ARE THE MINIMUM REQUIRED BY DESIGN. THE FABRICATOR'S DRAWINGS SHALL SHOW WELDS AND THEY SHALL CONFORM TO AWS SPECIFICATIONS. ALL WELDING SHALL BE DONE WITH E-70 SERIES ELECTRODES.

12. HARDENED WASHERS SHALL BE INSTALLED OVER SHORT SLOTTED OR OVERSIZE HOLES OCCURRING IN AN OUTER PLY OF A CONNECTION.

13. THE STEEL JOIST MANUFACTURER SHALL INVESTIGATE THE ROOF JOISTS FOR A NET UPLIFT FORCE OF 15 PSF AND FURNISH THE NECESSARY FRAMING TO ENSURE PROPER JOIST PERFORMANCE UNDER UPLIFT DUE TO WIND AS WELL AS GRAVITY LOADING CONDITIONS.

14. PROVIDE SPECIAL JOIST SEATS WHERE REQUIRED BY NARROW BEARING CONDITIONS.

15. PAINT ALL STRUCTURAL STEEL THAT DOES NOT RECEIVE SPRAY-ON FIREPROOFING WITH ONE COAT OF RUST-INHIBITIVE PRIMER 2.5 MILS IN THICKNESS. THE COMPATIBILITY OF PRIMER AND ANY TOPCOAT SHALL BE VERIFIED BEFORE ANY PAINTING IS PERFORMED. TOUCH-UP ALL EXPOSED METAL AFTER FIELD INSTALLATION. ALL STRUCTURAL STEEL, WHICH IS EXPOSED TO THE ELEMENTS SHALL RECEIVE TWO COATS OF EXTERIOR ENAMEL WHICH IS COMPATIBLE WITH THE PRIMED SURFACE.

16. STRUCTURAL STEEL SHOP DRAWINGS SHALL INCLUDE COMPLETE DETAILS, CONNECTIONS, AND SCHEDULES FOR FABRICATION AND ASSEMBLY OF STRUCTURAL STEEL MEMBERS. STRUCTURAL STEEL SHOP DRAWINGS SHALL NOT INCLUDE MISCELLANEOUS STEEL.

17. THE STRUCTURAL DESIGN OF STEEL STAIRS, LANDINGS AND GUARDRAILS (INCLUDING EMBEDS) SHALL BE PERFORMED BY A STRUCTURAL ENGINEER REGISTERED IN THE PROJECT STATE. CALCULATIONS AND SHOP DRAWINGS WITH THE ENGINEER’S SEAL SHALL BE SUBMITTED FOR APPROVAL. NO FABRICATION SHALL BEGIN UNTIL THE SUBMITTAL IS APPROVED. DESIGN LOADS SHALL BE AS SPECIFIED BY THE CONTRACT DOCUMENTS AND/OR THE APPLICABLE CODES, WHICHEVER IS MORE STRINGENT.

18. STEEL JOIST AND JOIST GIRDER SHOP DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF A REGISTERED ENGINEER IN THE PROJECT STATE CONFIRMING THE DESIGN OF JOISTS AND JOIST GIRDERS TO SJI SPECIFICATIONS AND FOR ALL LOADINGS SPECIFIED ON THE DRAWINGS. SHOP DRAWINGS WILL NOT BE REVIEWED BY THE DESIGNER UNTIL AFTER THE STRUCTURAL STEEL SUBCONTRACTOR AND GENERAL CONTRACTOR HAVE THOROUGHLY REVIEWED THE SHOP DRAWINGS, VERIFIED EXISTING CONDITIONS, AND COORDINATED THE SHOP DRAWINGS WITH OTHER AFFECTED TRADES.

8.0 POST-INSTALLED ANCHORS

1. UNLESS NOTED OTHERWISE, POST-INSTALLED CONCRETE ANCHORS SHALL COMPLY WITH ICC-ES ACCEPTANCE CRITERIA FOR ANCHORS IN CRACKED CONCRETE AND SEISMIC APPLICATIONS.

2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS UNLESS APPROVED OTHERWISE BY THE ENGINEER.

3. PLACE POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR AND EMBEDS.

4. DRILL AND PREPARE HOLES AND INSTALL ANCHORS IN ACCORDANCE WITH EVALUATION REPORTS.

5. POST-INSTALLED ANCHORS SHALL BE INSPECTED BY A QUALIFIED SPECIAL INSPECTOR IN ACCORDANCE WITH THE PROJECT STATEMENT OF SPECIAL INSPECTION AND THE ICC-ES REPORT.

   UNLESS OTHERWISE NOTED IN THE ICC-ES REPORT, THE SPECIAL INSPECTOR SHALL INSPECT THE INITIAL INSTALLATION OF EACH TYPE OF ANCHOR AND PERIODICALLY INSPECT INSTALLATION THEREAFTER.

6. MECHANICAL ANCHORS FOR USE IN CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ACI 355.2 AND ICC-ES193. ACCEPTABLE MECHANICAL ANCHORS FOR USE IN CONCRETE INCLUDE THE FOLLOWING:

   HILTI KWIK BOLT TZ2 (ICC-ES ESR 1917)
   HILTI KWIK HUS-EZ (ICC-ES ESR 3027)
   SIMPSON STRONG-TIE STRONG-BOLT 2 (ICC-ES ESR 3037)
   SIMPSON STRONG-TIE TITEN-HD (ICC-ES ESR-2713)
   DEWALT POWER – STUD + SP2 (ICC ESR-2713)
   DEWALT SCREW-BOLT + (ICC ESR-3889)

7. ADHESIVE ANCHORS, INCLUDING REBAR, FOR USE IN CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308. ADHESIVE ANCHOR SHALL BE INSTALLED INTO DRY HOLES DRILLED USING A CARBIDE DRILL BIT THAT HAS CURED FOR AT LEAST 21 DAYS. ACCEPTABLE ADHESIVE ANCHORS FOR USE IN CONCRETE INCLUDE THE FOLLOWING:

   HILTI HIT RE 500 V3 (ICC-ESR 3814)
   HILTI HIT-HY 200 ANCHOR RODS AND REINFORCING BAR (ICC-ES ESR 3187)
   SIMPSON STRONG-TIE SET-XP (ICC-ES ESR 2508)
   DEWALT PURE 110 + (ICC ESR-3298)

8. MECHANICAL ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ICC-ES AC01. ACCEPTABLE MECHANICAL ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY INCLUDE THE FOLLOWING:

   HILTI KWIK BOLT 3 (ICC-ES ESR 1385)
   SIMPSON STRONG-TIE WEDGE-ALL (ICC-ES ESR 1396)
   DEWALT POWER- STUDS-SD1 (ICC ESR 2966)

9. ADHESIVE ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ICC-ES AC58. ACCEPTABLE ADHESIVE ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY INCLUDE THE FOLLOWING:

   HILTI HIT-HY 270 (ICC-ES ESR 2682)
   SIMPSON STRONG-TIE SET-XP (IAPMO UES ER 265)
   DEWALT AC100 + GOLD (ICC ESR-3200)

9.0 MAINTENANCE STATEMENT

1. STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND THE SERVICE LIFE AND TO ENSURE STRUCTURAL INTEGRITY FROM ENVIRONMENTAL EXPOSURE. A MAINTENANCE PROGRAM SHALL BE DEVELOPED BY THE BUILDING OWNER. THE PROGRAM SHALL INCLUDE SUCH ITEMS BUT NOT LIMITED TO THE FOLLOWING:

   - PAINTING OF STRUCTURAL STEEL
   - PROTECTIVE COATING FOR CONCRETE
   - SEALANTS
   - CAULKED JOINTS
   - EXPANSION JOINTS
   - CONTROL JOINTS
   - SPALLS AND CRACKS IN CONCRETE

2. CONCRETE SURFACES SHALL BE CLEANED VIA PRESSURE WASHING, ETC. TO REMOVE SALT OR OTHER CHEMICALS.

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<< ATTENTION >>
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CONCEPT DESIGN

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GENERAL NOTES

S0.1

STATEMENT OF STRUCTURAL SPECIAL INSPECTIONS/QUALITY ASSURANCE PROGRAM

GENERAL:

THIS STATEMENT OF STRUCTURAL SPECIAL INSPECTIONS PLAN IDENTIFIES THE RESPONSIBILITIES OF THE CONTRACTOR AND THE SPECIAL INSPECTOR IN PERFORMING THE STRUCTURAL TESTING AND INSPECTION OF THE WORK REQUIRED BY CHAPTER 17 OF THE BUILDING CODE THAT IS WITHIN THE SCOPE OF THE STRUCTURAL ENGINEERING SERVICES FOR THIS PROJECT. REFER TO OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS FOR TESTING AND INSPECTIONS REQUIRED OF ARCHITECTURAL, MECHANICAL, ELECTRICAL, OR OTHER BUILDING COMPONENTS.

CONTRACTOR RESPONSIBILITIES:

THE CONTRACTOR SHALL SUBMIT TO THE BUILDING OFFICIAL AND THE ARCHITECT A WRITTEN STATEMENT OF RESPONSIBILITY THAT CONTAINS THE FOLLOWING:

1. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED WITHIN THIS STATEMENT OF STRUCTURAL SPECIAL INSPECTIONS.
2. ACKNOWLEDGEMENT THAT CONTROL SHALL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING, AND THE DISTRIBUTION OF REPORTS.
4. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

THE STRUCTURAL TESTING/INSPECTION AGENCY THAT IS TO ACT AS THE SPECIAL INSPECTOR WILL BE HIRED BY THE OWNER, BUT CONTRACTOR SHALL PAY FOR ANY ADDITIONAL STRUCTURAL TESTING/INSPECTION REQUIRED FOR WORK OR MATERIALS NOT COMPLYING WITH THE CONSTRUCTION DOCUMENTS DUE TO NEGLIGENCE OR NONCONFORMANCE AND SHALL PAY FOR ANY ADDITIONAL STRUCTURAL TESTING/INSPECTION REQUIRED FOR HIS CONVENIENCE.

CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SPECIAL INSPECTOR IS PRESENT FOR ALL WORK REQUIRING SPECIAL INSPECTION. ANY WORK THAT REQUIRES SPECIAL INSPECTION AND IS PERFORMED WITHOUT THE SPECIAL INSPECTOR BEING PRESENT IS SUBJECT TO BEING DEMOLISHED AND RECONSTRUCTED.

CONTRACTOR HAS THE FOLLOWING RESPONSIBILITIES TO THE SPECIAL INSPECTOR:

1. PROVIDE COPY OF CONSTRUCTION DOCUMENTS TO THE SPECIAL INSPECTOR.
2. NOTIFY THE SPECIAL INSPECTOR SUFFICIENTLY IN ADVANCE OF OPERATIONS TO ALLOW ASSIGNMENT OF PERSONNEL AND SCHEDULING OF TESTS.
3. COOPERATE WITH SPECIAL INSPECTOR AND PROVIDE ACCESS TO WORK.
4. PROVIDE SAMPLES OF MATERIALS TO BE TESTED IN REQUIRED QUANTITIES.
5. PROVIDE STORAGE SPACE FOR THE SPECIAL INSPECTOR'S EXCLUSIVE USE, SUCH AS FOR STORING AND CURING CONCRETE TESTING SAMPLES.
6. PROVIDE LABOR TO ASSIST THE SPECIAL INSPECTOR IN PERFORMING TESTS/INSPECTIONS.

SPECIAL INSPECTOR'S RESPONSIBILITIES:

THE SPECIAL INSPECTOR SHALL BE A PROFESSIONAL ENGINEER LICENSED IN AND PRACTICING IN THE STATE OF TENNESSEE. SPECIAL INSPECTORS SHALL BE A LICENSED ENGINEER IN THE STATE OF TENNESSEE OR IS PERFORMING APPROPRIATE DUTIES DIRECTLY UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TENNESSEE AND HAS A THOROUGH UNDERSTANDING OF THE SPECIAL INSPECTION REQUIREMENTS OF THE 2012 IBC. THE SPECIAL INSPECTOR SHALL BE AN INDIVIDUAL OR INDIVIDUALS CERTIFIED OR EXPERIENCED TO PERFORM SUCH INSPECTIONS IN A PARTICULAR FIELD.

THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND FURNISH REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. PERIODIC REPORTS SHALL BE PROVIDED AND SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED TO THE SATISFACTION OF THE SPECIAL INSPECTOR, THE DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.

A WEEKLY REPORT OF INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED. AT THE COMPLETION OF THE SPECIAL INSPECTIONS, THE LICENSED PROFESSIONAL ENGINEER IN CHARGE OF PERFORMING THE SPECIAL INSPECTION SHALL CERTIFY THE FINAL SPECIAL INSPECTION REPORT AND AFFIX HIS/HER SEAL TO THE SPECIAL INSPECTOR'S FINAL REPORT. PROVIDE THREE (3) COPIES OF THIS REPORT; TWO TO THE ARCHITECT AND ONE TO THE STRUCTURAL ENGINEER OF RECORD.

THE SPECIAL INSPECTOR FOR THIS PROJECT IS AS FOLLOWS:

SOILS AND FOUNDATIONS:

SPECIAL INSPECTOR SHALL PERFORM PERIODIC INSPECTIONS TO VERIFY THE FOLLOWING:

1. STRUCTURAL FILL COMPLIES WITH SPECIFICATIONS AND THE PROJECT GEOTECHNICAL.
2. OBSERVE PROOFROLLING.
3. PERFORM FIELD DENSITY TEST TO VERIFY COMPACTION OF STRUCTURAL FILL. AS A MINIMUM, PERFORM ONE TEST PER LIFT FOR EVERY 2500 SQUARE FEET OF FILL PLACED.
4. FOUNDATION BEARING CAPACITY OF ALL FOOTINGS.

CAST-IN-PLACE CONCRETE:

CONTRACTOR SHALL PERFORM THE FOLLOWING:

1. SUBMIT MANUFACTURER'S DATA FOR TENSILE AND COMPRESSIVE SPLICES.
2. ESTABLISH CONCRETE MIX DESIGN PROPORTIONS PER ACI 318, CHAPTER 5. SUBMIT THREE COPIES OF THE CONCRETE MIX DESIGNS. INCLUDE THE FOLLOWING:

   A. TYPE AND QUANTITIES OF MATERIALS
   B. SLUMP
   C. AIR CONTENT
   D. FRESH UNIT WEIGHT
   E. AGGREGATES SIEVE ANALYSIS
   F. DESIGN COMPRESSIVE STRENGTH
   G. LOCATION OF PLACEMENT IN STRUCTURE
   H. METHOD OF PLACEMENT
   I. METHOD OF CURING
   J. SEVEN-DAY AND 28-DAY COMPRESSIVE STRENGTHS

3. SUBMIT A CERTIFICATION FROM EACH MANUFACTURER OR SUPPLIER STATING THAT MATERIALS MEET THE REQUIREMENTS OF THE SPECIFIED ASTM AND ACI STANDARDS.
4. SUBMIT CERTIFICATION THAT THE READY-MIXED CONCRETE PLANT COMPLIES WITH THE REQUIREMENTS OF THE NATIONAL READY-MIX CONCRETE ASSOCIATION.

SPECIAL INSPECTOR SHALL PERFORM THE FOLLOWING:

1. VERIFY GRADE, QUANTITY, LOCATION, AND THE PLACEMENT OF REINFORCING STEEL AND POST TENSION CABLES PRIOR TO CONCRETE PLACEMENT.
2. EXAMINE CONCRETE IN TRUCK TO VERIFY THAT CONCRETE APPEARS PROPERLY MIXED.
3. PERFORM A SLUMP TEST AS DEEMED NECESSARY FOR EACH CONCRETE LOAD. RECORD IF WATER OR ADMIXTURES ARE ADDED TO THE CONCRETE AT THE JOB SITE. PERFORM ADDITIONAL SLUMP TESTS AFTER JOB SITE ADJUSTMENTS.
4. INSPECT SIZE, POSITIONING AND EMBEDMENT OF ANCHOR RODS. INSPECT CONCRETE PLACEMENT AND CONSOLIDATION AROUND ANCHORS.
5. INSPECT PLACEMENT OF CONCRETE. VERIFY THAT CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION, VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED.
6. INSPECT CURING, COLD WEATHER PROTECTION AND HOT WEATHER PROTECTION PROCEDURES.
7. MOLD FIVE SPECIMENS PER SET FOR COMPRESSIVE STRENGTH TESTING; ONE SET FOR EACH 50 CUBIC YARDS OF EACH MIX DESIGN PLACED IN ANY ONE DAY. FOR EACH SET MOLDED, RECORD:

   A. SLUMP
   B. AIR CONTENT
   C. UNIT WEIGHT
   D. TEMPERATURE, AMBIENT, AND CONCRETE
   E. LOCATION OF PLACEMENT
   F. ANY PERTINENT INFORMATION, SUCH AS ADDITION OF WATER, ADDITION OF ADMIXTURES, ETC.

   PERFORM ONE 7-DAY AND TWO 28-DAY COMPRESSIVE STRENGTH TESTS. (USE TWO AS A SPARE TO BE BROKEN AS DIRECTED BY THE STRUCTURAL ENGINEER IF COMPRESSIVE STRENGTHS DO NOT APPEAR ADEQUATE.)

8. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AGENCY, CONCRETE DESIGN COMPRESSIVE STRENGTH, LOCATION OF CONCRETE PLACEMENT IN STRUCTURE, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH AND TYPE OF BREAK.

NON-SHRINK GROUT UNDER STEEL BASE PLATES:

SPECIAL INSPECTOR SHALL PERFORM THE FOLLOWING:

1. COMPRESSIVE STRENGTH TESTS PER ASTM C109.
2. NUMBER OF TEST: ONE TEST FOR EACH TEN BAGS OF GROUT USED OR MINIMUM OF ONE TEST FOR EACH DAY OF GROUTING.
3. CUBE SIZE: 2-INCH X 2-INCH.
4. TEST SCHEDULE: ONE CUBE AT 3 DAYS, TWO CUBES AT 7 DAYS, 3 CUBES AT 28 DAYS.

STRUCTURAL STEEL:

CONTRACTOR SHALL PERFORM THE FOLLOWING:

1. SUBMIT CERTIFICATION THAT THE FABRICATOR IS REGISTERED AND APPROVED BY THE BUILDING OFFICIAL TO PERFORM REQUIRED WORK WITHOUT SPECIAL INSPECTIONS.
2. IF FABRICATOR IS NOT REGISTERED AND APPROVED, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE REQUIRED. SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. SPECIAL INSPECTOR SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.
3. SUBMIT CERTIFIED MILL TEST REPORTS FOR STRUCTURAL STEEL.
4. SUBMIT MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR HIGH-STRENGTH BOLTING AND WELD FILLER MATERIALS.

SPECIAL INSPECTOR SHALL PERFORM THE FOLLOWING:

1. INSPECTION OF STEEL FRAMING TO VERIFY COMPLIANCE WITH DETAILS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS AND SHOP DRAWINGS INCLUDING MEMBER LOCATIONS, BRACING, CONNECTION DETAILS, ETC.
2. PROVIDE CONTINUOUS INSPECTION TO VERIFY COMPLIANCE OF THE FOLLOWING:

   A. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS. ULTRASONICALLY INSPECT 100% OF THE COMPLETE PENETRATION WELDS.
   B. MULTI-PASS FILLET WELDS AND SINGLE-PASS FILLET WELDS GREATER THAN 5/16".
   C. SLIP CRITICAL BOLTED CONNECTIONS.

3. PROVIDE PERIODIC INSPECTION TO VERIFY COMPLIANCE OF THE FOLLOWING:

   A. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS.
   B. MATERIAL VERIFICATION OF WELD FILLER MATERIAL.
   C. VERIFICATION OF ANCHOR ROD SIZE, CONFIGURATION, AND EMBEDMENT PRIOR TO PLACEMENT OF CONCRETE.
   D. VISUALLY INSPECT ALL BOLTED CONNECTIONS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. PRIOR TO VISUAL AND PHYSICAL TESTING, TENSION TESTING USING A CALIBRATION DEVICE (SKIDMORE-WILHELM) MUST INDICATE TENSIONS AT LEAST 5% IN EXCESS OF THE AISC MINIMUM. STRUCTURAL STEEL ERECTOR SHALL SUPPLY THE TENSION CALIBRATION DEVICE. TEST A MINIMUM OF 10% OF THE BOLTED CONNECTIONS.
   E. VISUALLY INSPECT ALL FIELD-WELDED CONNECTIONS. VISUAL INSPECTION OF WELDED JOINTS INCLUDES PERIODIC EXAMINATION OF FITUP.
   F. VERIFY STUD SHEAR CONNECTORS SPACING AND LOCATION. VISUALLY INSPECT WELDING OF STUD SHEAR CONNECTORS.

4. WELD INSPECTIONS TO INCLUDE THE FOLLOWING:

   A. WELD INSPECTIONS SHALL BE IN ACCORDANCE WITH AWS D1.1.
   B. REVIEW AND VERIFY COMPLIANCE OF WRITTEN WELDING PROCEDURES WITH AWS REQUIREMENTS.
   C. VERIFY THAT WELDING PROCEDURES ARE BEING ADHERED TO DURING FIELD WELDING.
   D. VERIFY WELDER QUALIFICATIONS.
   E. USE ALL MEANS NECESSARY TO DETERMINE THE QUALITY OF WELDS. THE INSPECTOR MAY USE GAMMA RAY, MAGNAFLUX, TREPANNING, SONICS OR ANY OTHER AID TO VISUAL INSPECTION THAT THE SPECIAL INSPECTOR MAY DEEM NECESSARY TO BE ASSURED OF THE ADEQUACY OF THE WELDING.
   F. KEEP A SYSTEMATIC RECORD OF ALL WELDS THAT INCLUDES, IN ADDITION TO OTHER REQUIRED RECORDS, THE IDENTIFICATION MARKS OF WELDERS, A LIST OF DEFECTIVE WELDS, AND THE MANNER OF CORRECTING DEFECTS.

STEEL JOISTS:

CONTRACTOR SHALL PERFORM THE FOLLOWING:

1. SUBMIT CERTIFICATION THAT THE FABRICATOR IS REGISTERED AND APPROVED BY THE BUILDING OFFICIAL TO PERFORM REQUIRED WORK WITHOUT SPECIAL INSPECTIONS.
2. IF FABRICATOR IS NOT REGISTERED AND APPROVED, SPECIAL INSPECTION OF THE FABRICATED ITEMS SHALL BE REQUIRED. SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. SPECIAL INSPECTOR SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.

SPECIAL INSPECTOR SHALL PERFORM PERIODIC INSPECTIONS OF THE FOLLOWING:

1. VISUAL INSPECTION OF BOLTED AND WELDED CONNECTIONS.
2. VERIFY INSTALLATION OF BRIDGING AND BRACES.
3. VERIFY CONNECTIONS FOR TOP AND BOTTOM CHORDS.
4. VERIFY REINFORCEMENT OF MEMBERS FOR CONCENTRATED LOADS.
5. VERIFY PROPER BEARING.

STEEL DECK:

CONTRACTOR SHALL PERFORM THE FOLLOWING:

1. SUBMIT MILL CERTIFICATION THAT THE SUPPLIED STEEL COMPLIES WITH THE SPECIFICATIONS.

SPECIAL INSPECTOR SHALL PERFORM PERIODIC INSPECTIONS OF THE FOLLOWING:

1. VERIFY DECK PROFILE, THICKNESS, GENERAL ALIGNMENT AND DECK LAP.
2. VERIFY WELDS OR SCREWS FOR SIZE AND PATTERN.
3. VERIFY SPACING AND TYPE OF SIDELAP ATTACHMENTS.
4. VERIFY INSTALLATION OF DECK CLOSURES.

STRUCTURAL MASONRY (CLASS C):

CONTRACTOR SHALL PERFORM THE FOLLOWING:

1. SUBMIT MANUFACTURER'S DATA FOR TENSILE AND COMPRESSIVE SPLICER'S.
2. SUBMIT A CERTIFICATION FROM EACH MANUFACTURER OR SUPPLIER STATING THAT MATERIALS MEET THE REQUIREMENTS OF THE SPECIFIED ASTM AND ACI STANDARDS.
3. SUBMIT CERTIFICATION THAT THE READY-MIXED CONCRETE PLANT COMPLIES WITH THE REQUIREMENTS OF THE NATIONAL READY-MIX CONCRETE ASSOCIATION.

SPECIAL INSPECTOR SHALL PERFORM PERIODIC INSPECTION TO VERIFY THE FOLLOWING:

1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

   A. PROPORTIONS OF SITE-PREPARED MORTAR AND PRESTRESSING GROUT.
   B. CONSTRUCTION OF MORTAR JOINTS.
   C. LOCATION OF REINFORCEMENT AND CONNECTORS AND PRESTRESSING TENDONS AND ANCHORS.

2. THE INSPECTION PROGRAM SHALL VERIFY:

   A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.
   B. SPECIFIED SIZE, GRADE, AND TYPE OF REINFORCEMENT.
   C. PLACEMENT OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEGREES FAHRENHEIT) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES FAHRENHEIT).

3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

   A. CLEANLINESS OF GROUT SPACE.
   B. PLACEMENT OF REINFORCEMENT AND CONNECTORS.
   C. PROPORTIONS OF SITE-PREPARED GROUT.
   D. CONSTRUCTION OF MORTAR JOINTS.

4. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.

SPECIAL INSPECTOR SHALL PERFORM CONTINUOUS INSPECTIONS TO VERIFY THE FOLLOWING:

1. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:

   A. GROUT SPACE PRIOR TO GROUTING.

2. THE INSPECTION PROGRAM SHALL VERIFY:

   A. WELDING OF REBAR.
   B. TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.
   C. APPLICATION AND MEASUREMENT OF PRESTRESS FORCE.

3. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS.
4. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, AND/OR PRISMS SHALL BE OBSERVED.

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CONCEPT DESIGN

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FIRE STATION 3

The City of Mt Juliet

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www.emsstructural.com

24135_RCA25

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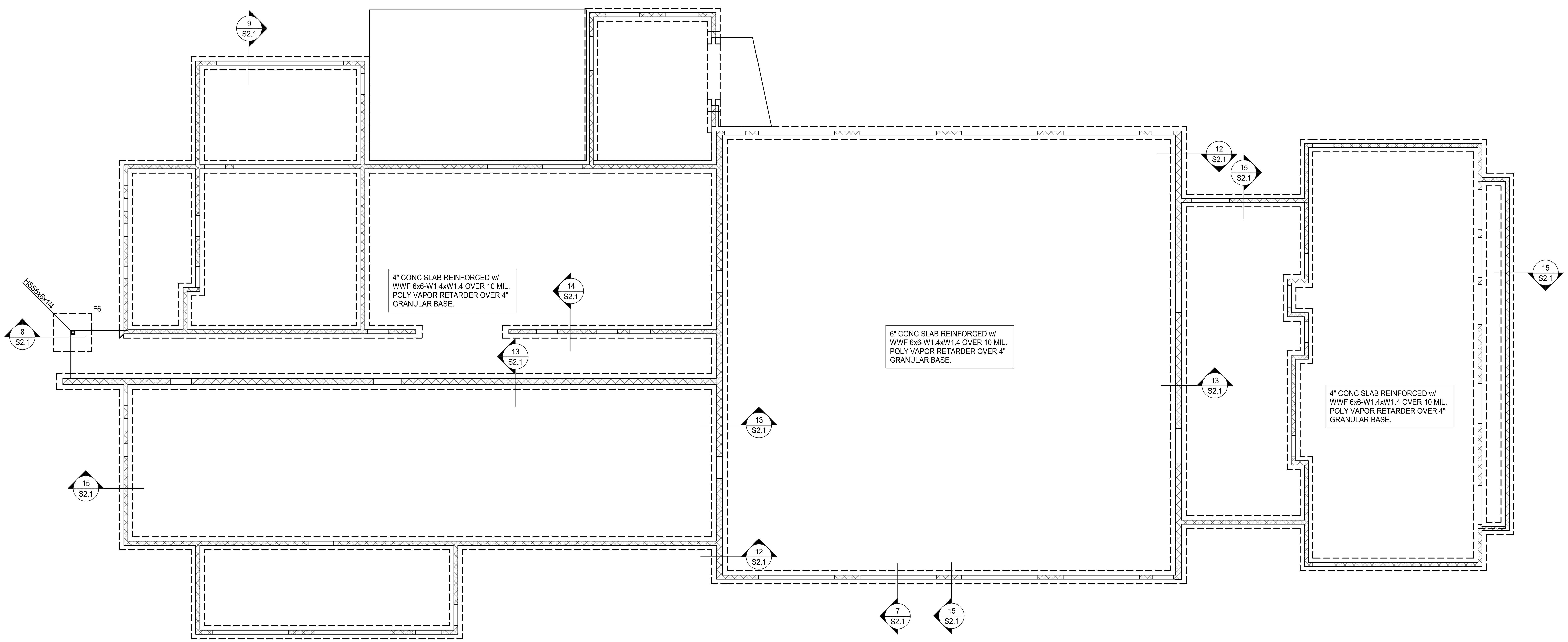
QUALITY ASSURANCE PLAN

S0.2



FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

NOTES:

1) TOP OF INTERIOR FTG. = F.F.E. -8" U.N.O.
2) TOP OF EXTERIOR FTG. = F.F.E. -16" OR 1'-0" BELOW EXTERIOR GRADE WHICHEVER IS LOWER U.N.O.
3) THE CONTRACTOR SHALL COORDINATE ANY UNDER SLAB PIPING, CONDUITS OR ANY UTILITIES PRIOR TO PLACING FOOTINGS. REPORT ANY CONFLICT TO ENGINEER IMMEDIATELY.
4) SEE ARCH. DWG FOR ANY LOCATIONS AND OR DIMENSIONS NOT SHOWN.
5) SEE DETAIL ?/S? FOR SLAB CONTROL JOINTS.
6) DOWELS SHOWN ON PLANS INDICATE GROUT FILLED REINFORCED CORES. (SEE DETAIL ?/S?)

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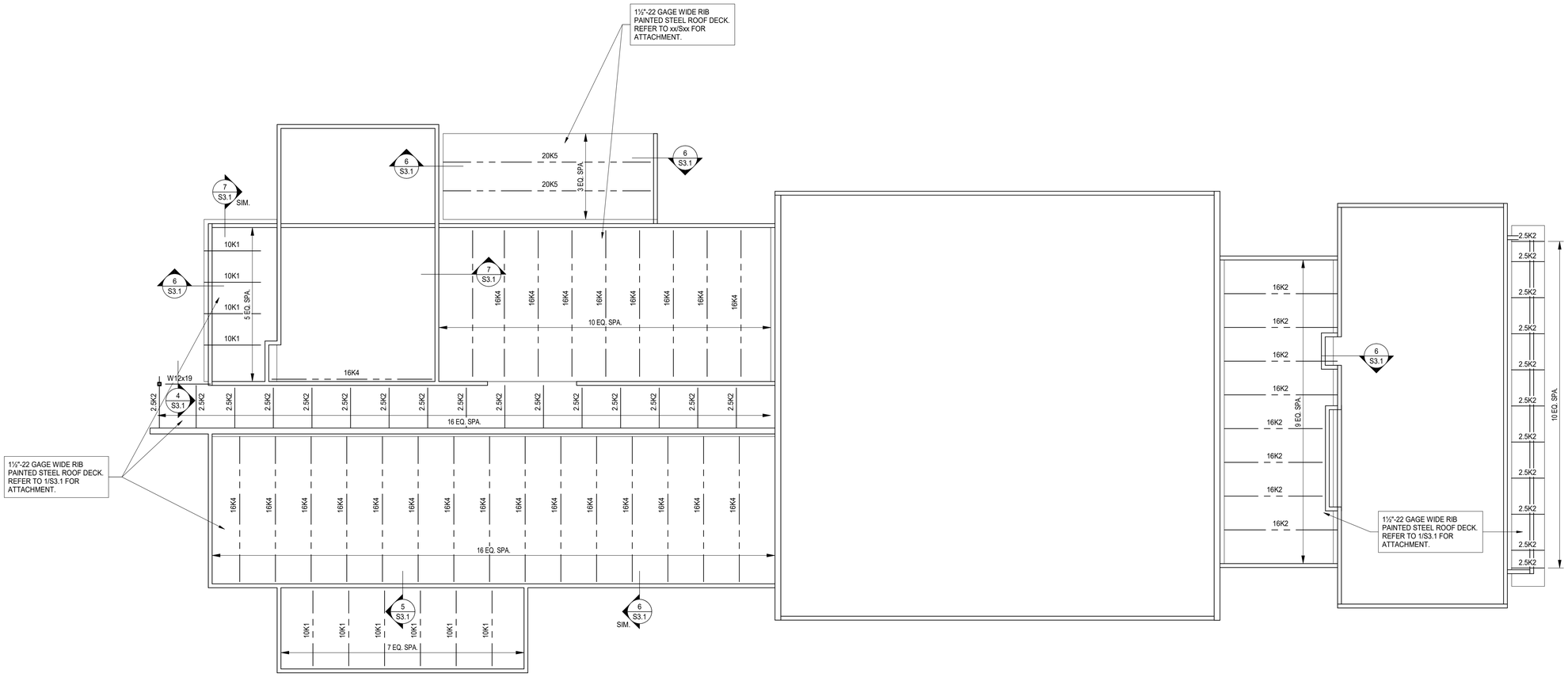
FOUNDATION PLAN

S1.1

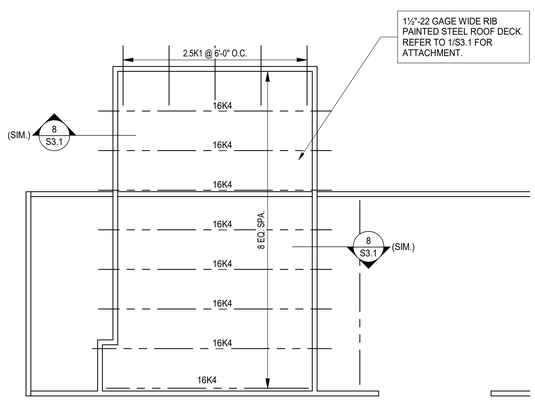


ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

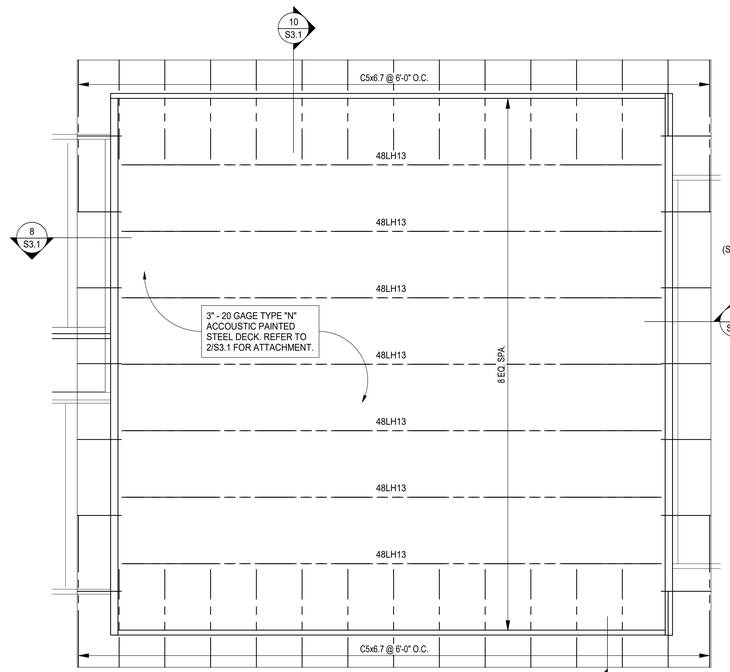
NOTES:

1. JOIST BEARING ELEVATION = SEE PLAN
2. ALL ROOF JOISTS TO HAVE 2½" SEATS (U.N.O.)
3. HORIZONTAL BRIDGING REQUIRED FOR ALL BAR JOISTS PER SJI CODE OF STANDARD PRACTICE.
4. SEE ARCH. DWGS FOR LOCATION OF BEARING WALLS AND DIMENSIONS NOT SHOWN.
5. BAR JOISTS SUPPORTING RTU SHALL BE DESIGNED TO CARRY THE ADDITIONAL LOAD AS INDICATED ON PLAN.
6. SEE ?/S? FOR ROOF TOP UNIT SUPPORT.
7. SEE ?/S? FOR ROOF OPENING AND ROOF DRAIN SUPPORT.
8. SEE ?/S? FOR ROOF DECK ATTACHMENT DETAIL.
9. IF BEAM REACTIONS NOT SHOWN, THE FACTORED DESIGN REACTION IS HALF OF THE "MAXIMUM TOTAL UNIFORM LOAD (LRFD)" TABULATED IN THE "MANUAL OF STEEL CONSTRUCTION" FOURTEENTH EDITION.
10. A= ___ INDICATES FACTORED AXIAL LOAD IN MEMBER.



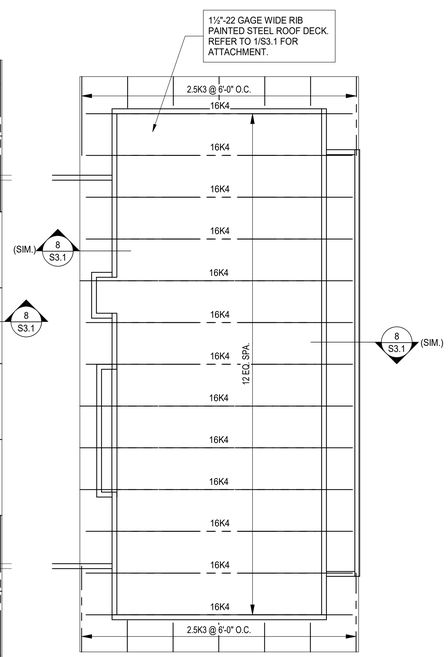
ROOF FRAMING PLAN HIGH (LIVING AREA)

SCALE: 1/8" = 1'-0"



ROOF FRAMING PLAN HIGH (GARAGE)

SCALE: 1/8" = 1'-0"



ROOF FRAMING PLAN HIGH

SCALE: 1/8" = 1'-0"

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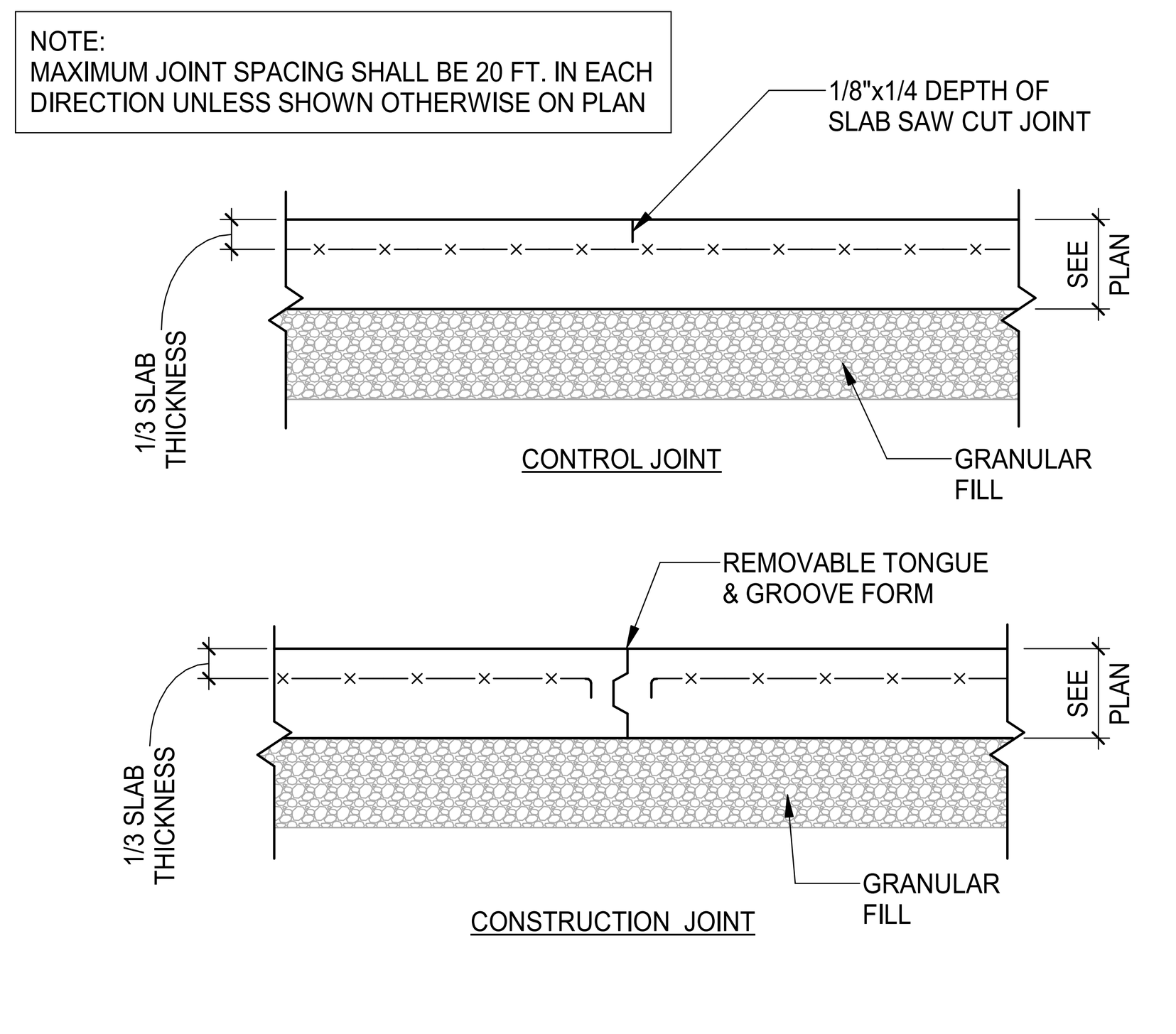
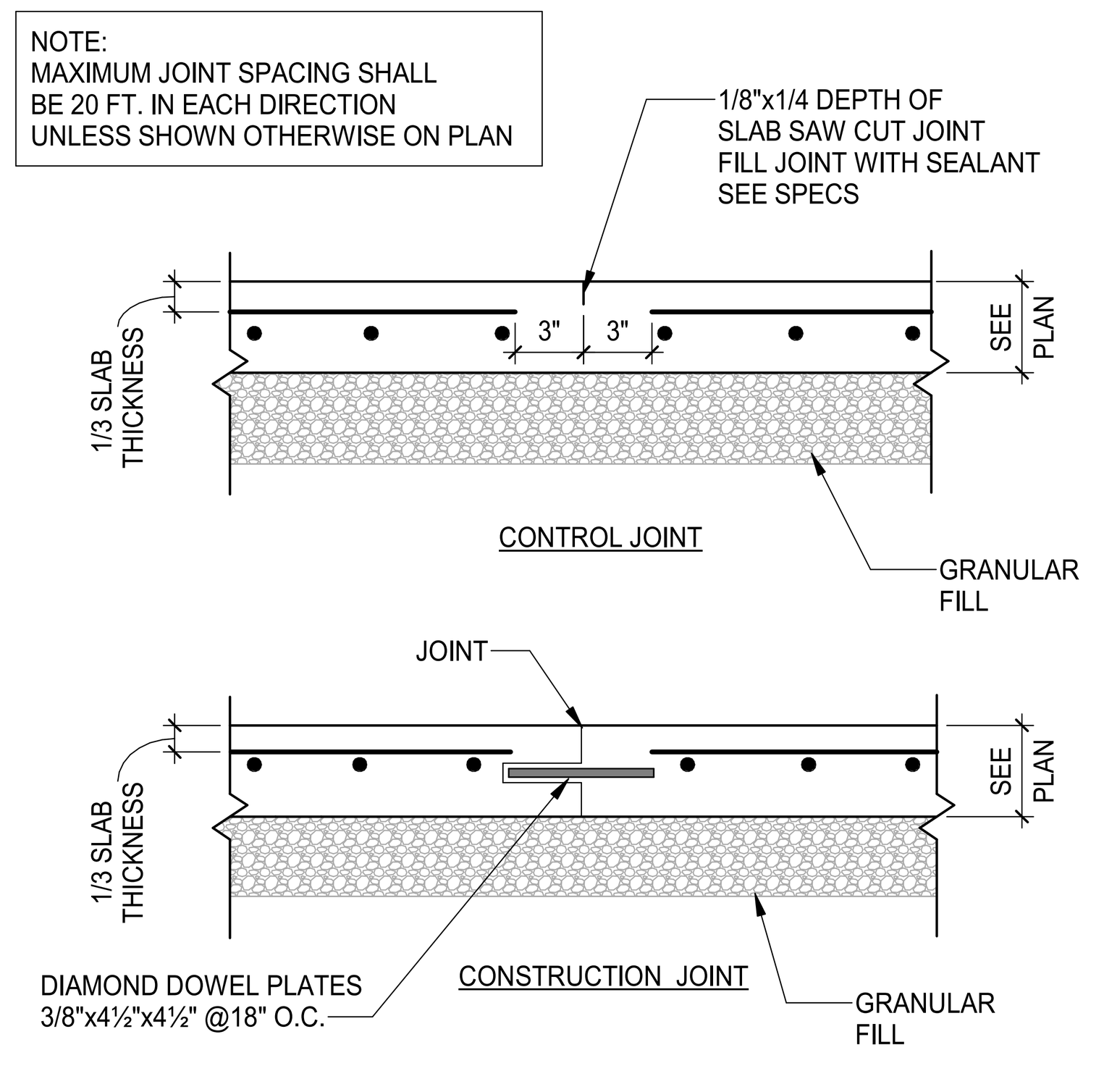
ROOF FRAMING PLAN

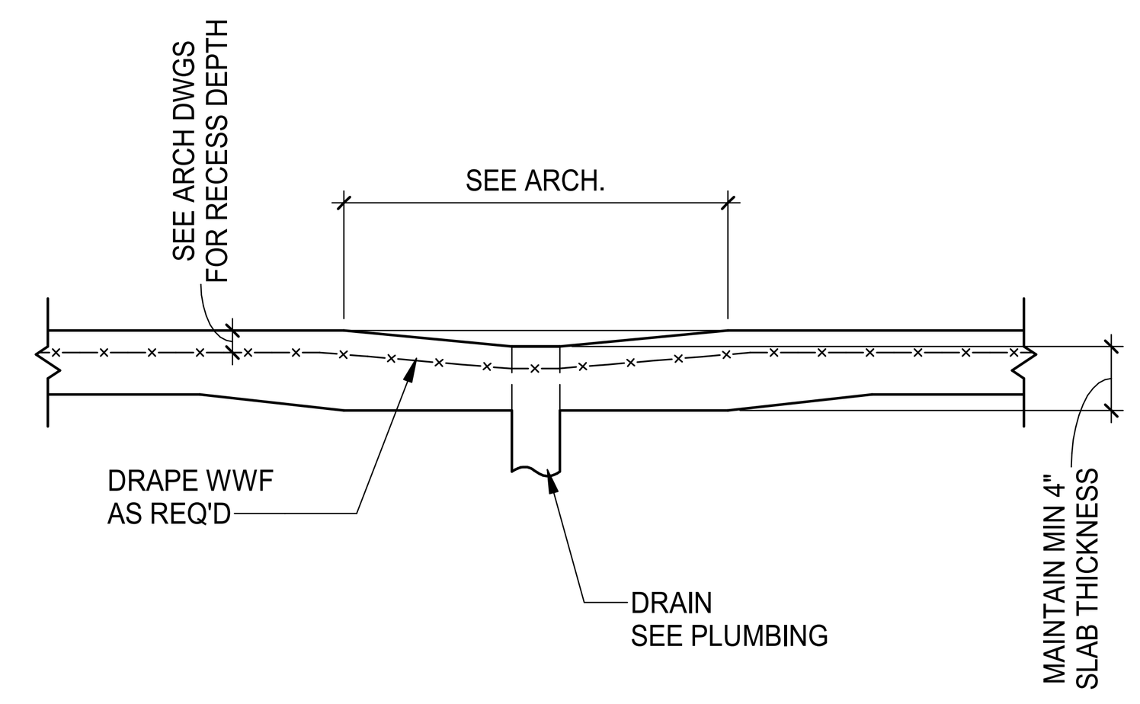
S1.2



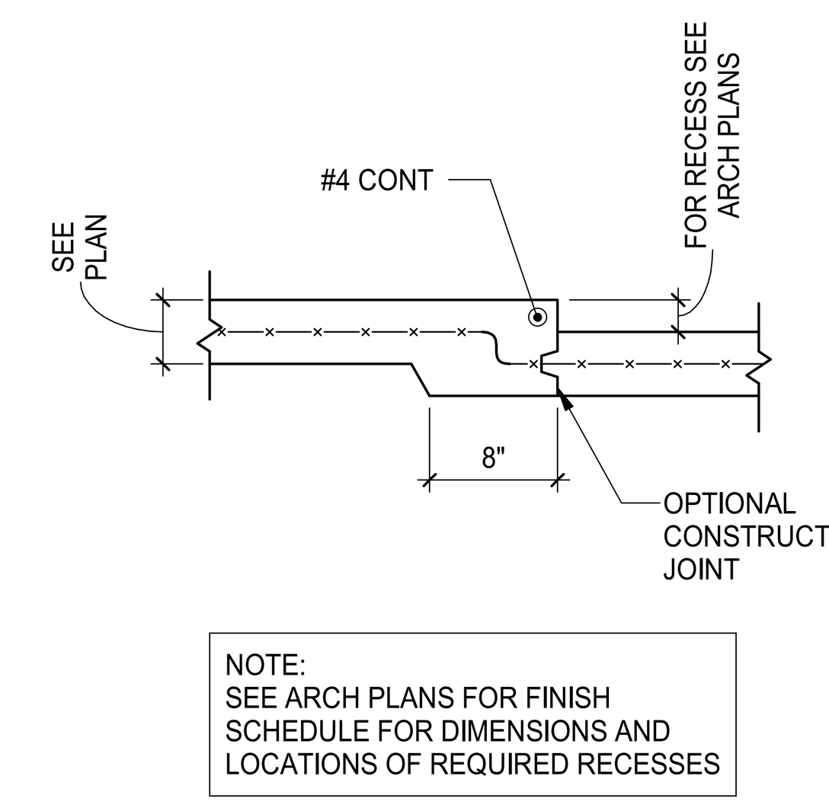
① SLAB ON GRADE JOINTS
SCALE: NONE



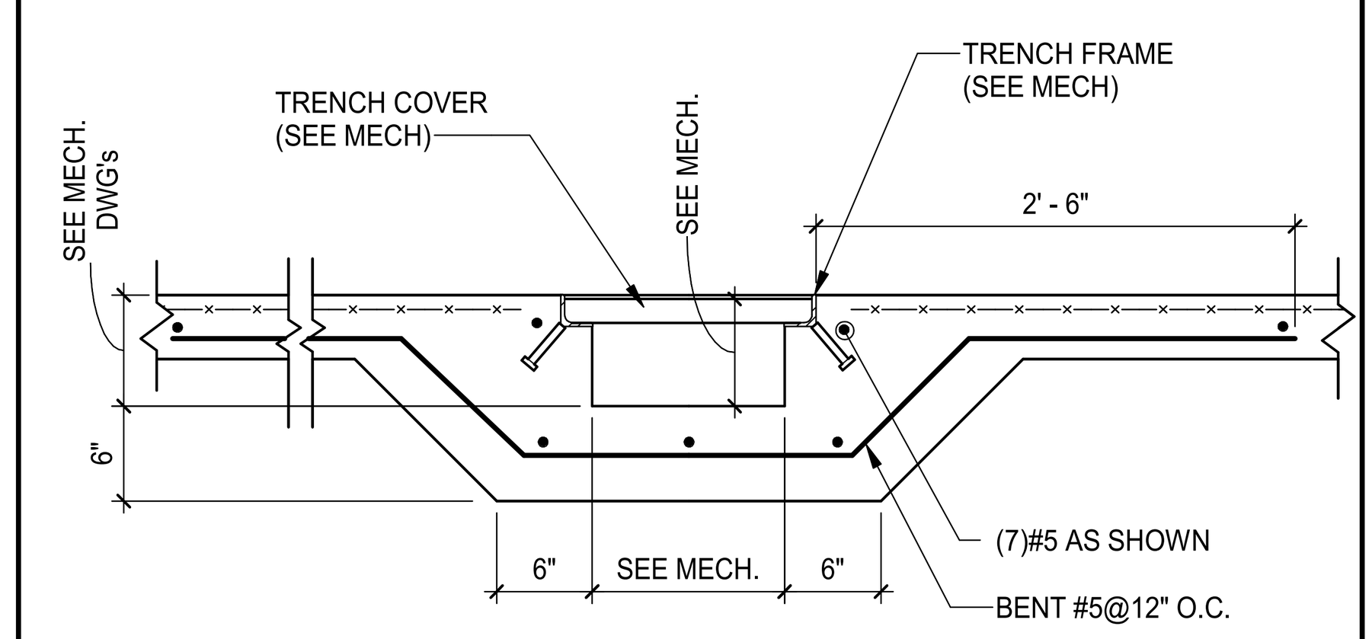
② SLAB ON GRADE JOINTS
SCALE: NONE



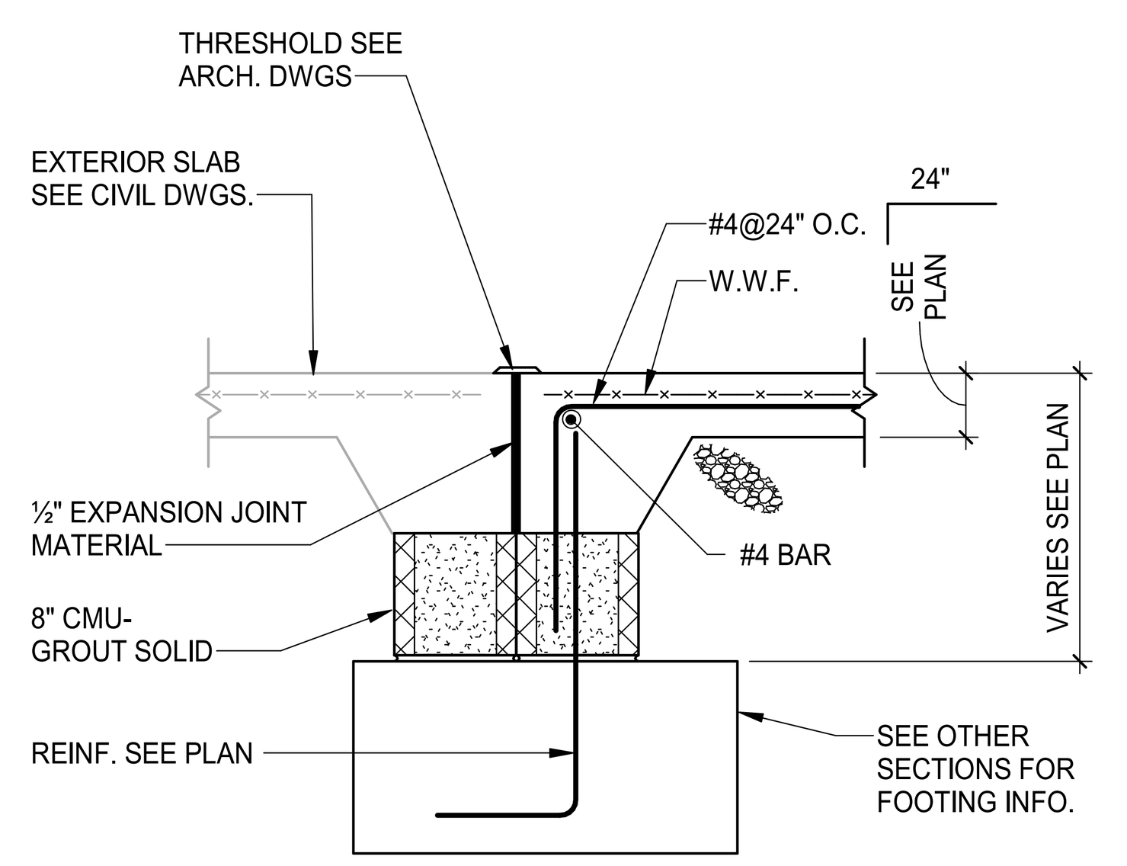
③ SECTION
SCALE: 1" = 1'-0"



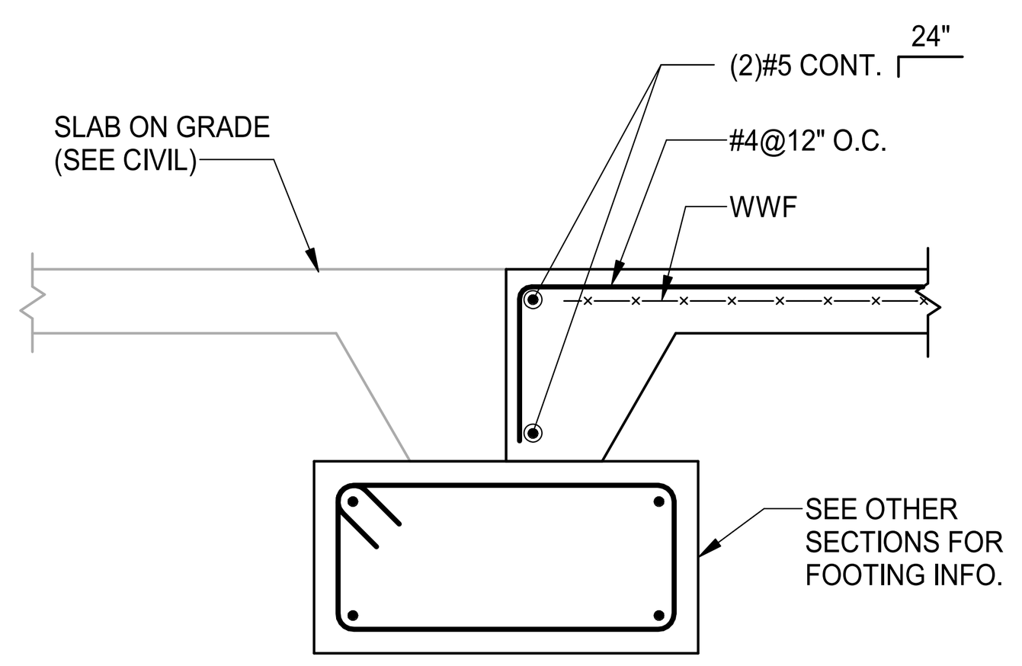
④ TYP RECESSED SLAB
SCALE: NONE



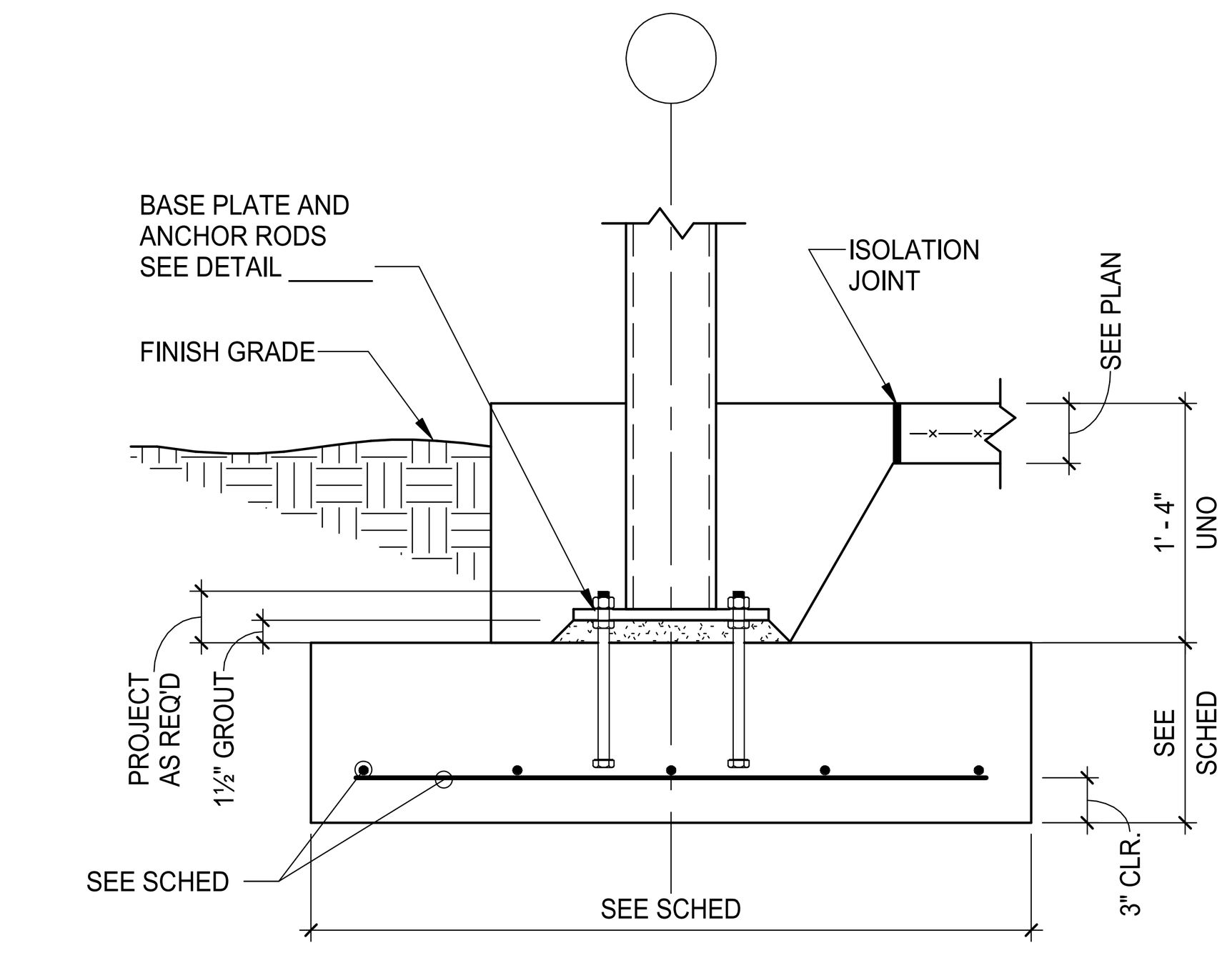
⑤ TRENCH DETAIL
SCALE: 1" = 1'-0"



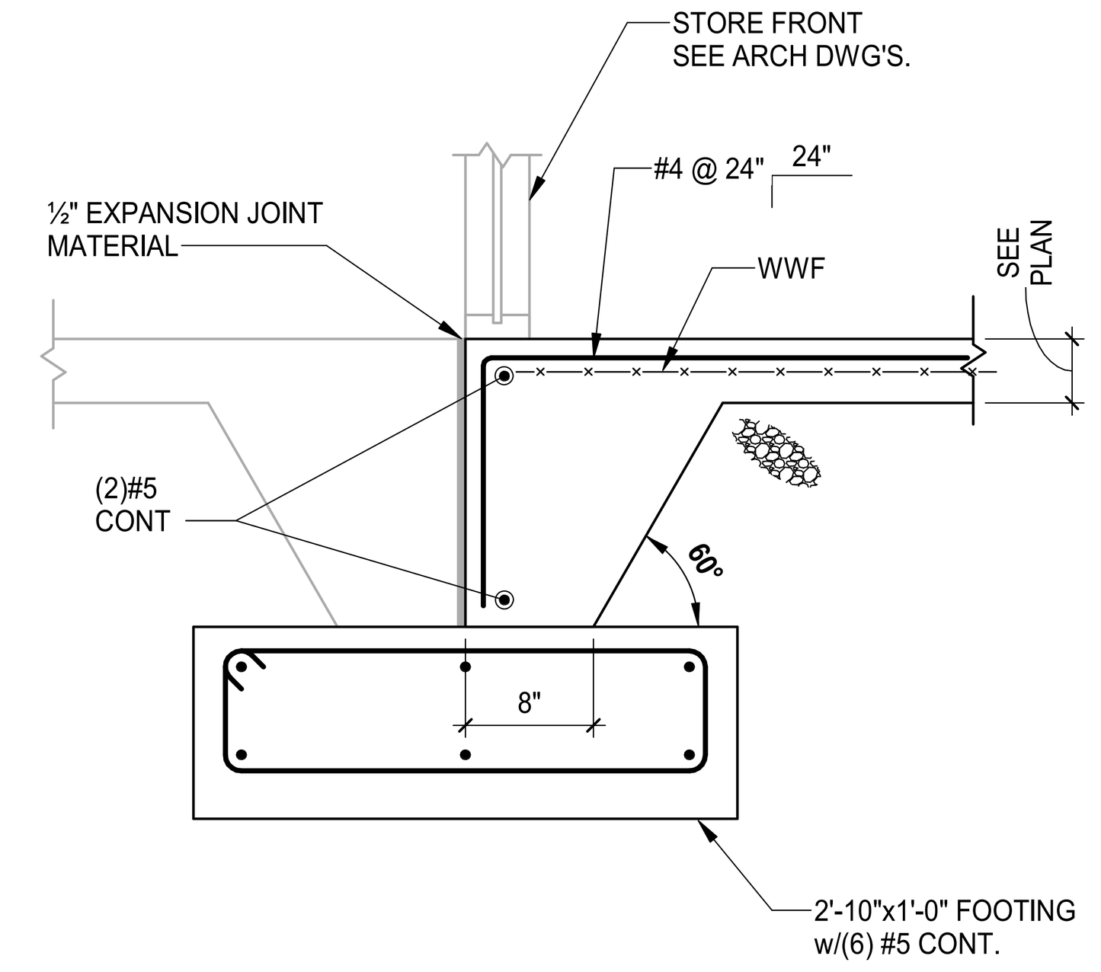
⑥ EXTERIOR DOOR SECTION
SCALE: 1" = 1'-0"



⑦ SECTION
SCALE: 1" = 1'-0"



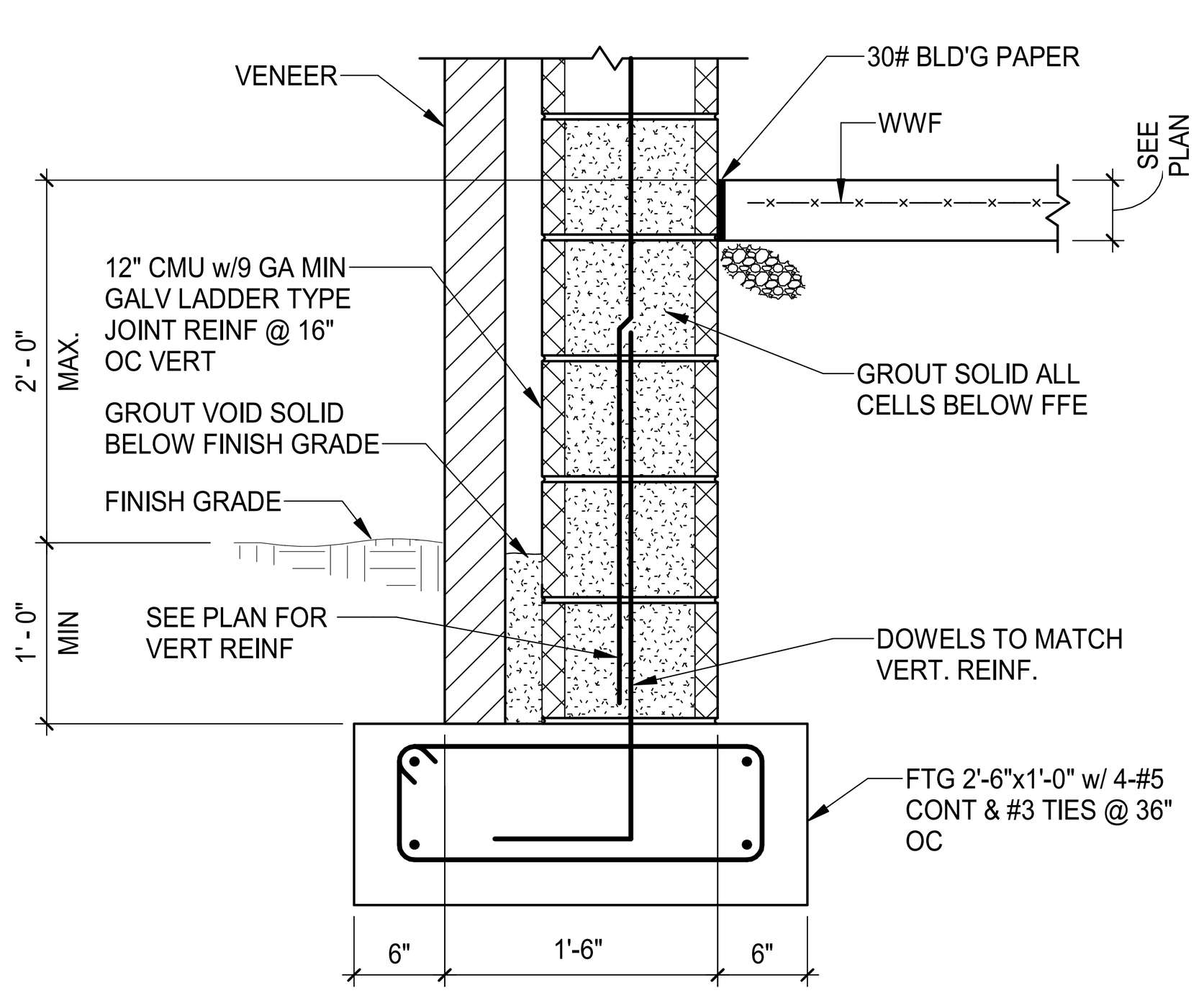
⑧ TYP EXTERIOR COLUMN
SCALE: 1" = 1'-0"



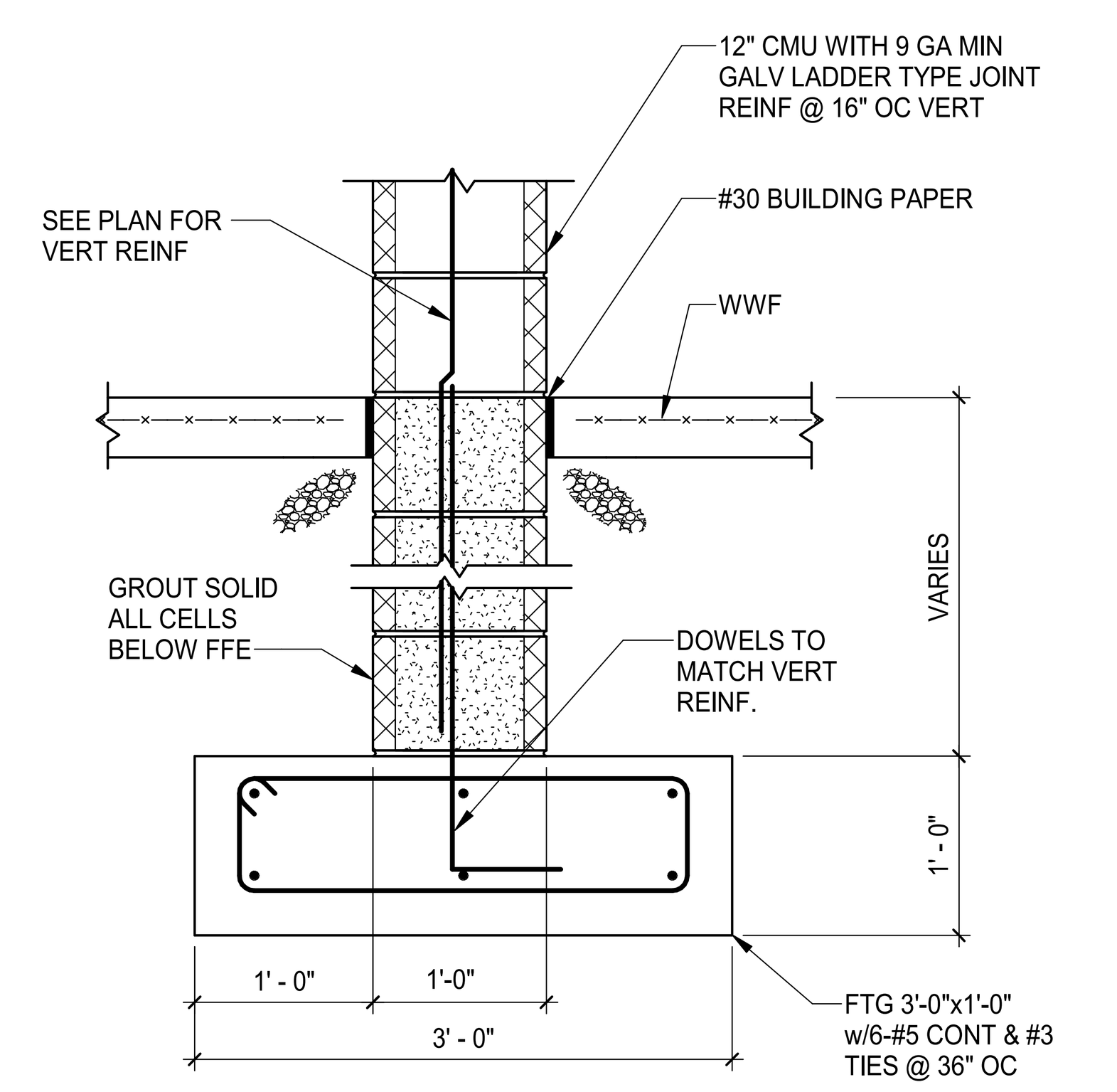
⑨ EXTERIOR SECTION
SCALE: 1" = 1'-0"

⑩ SCALE: 1" = 1'-0"

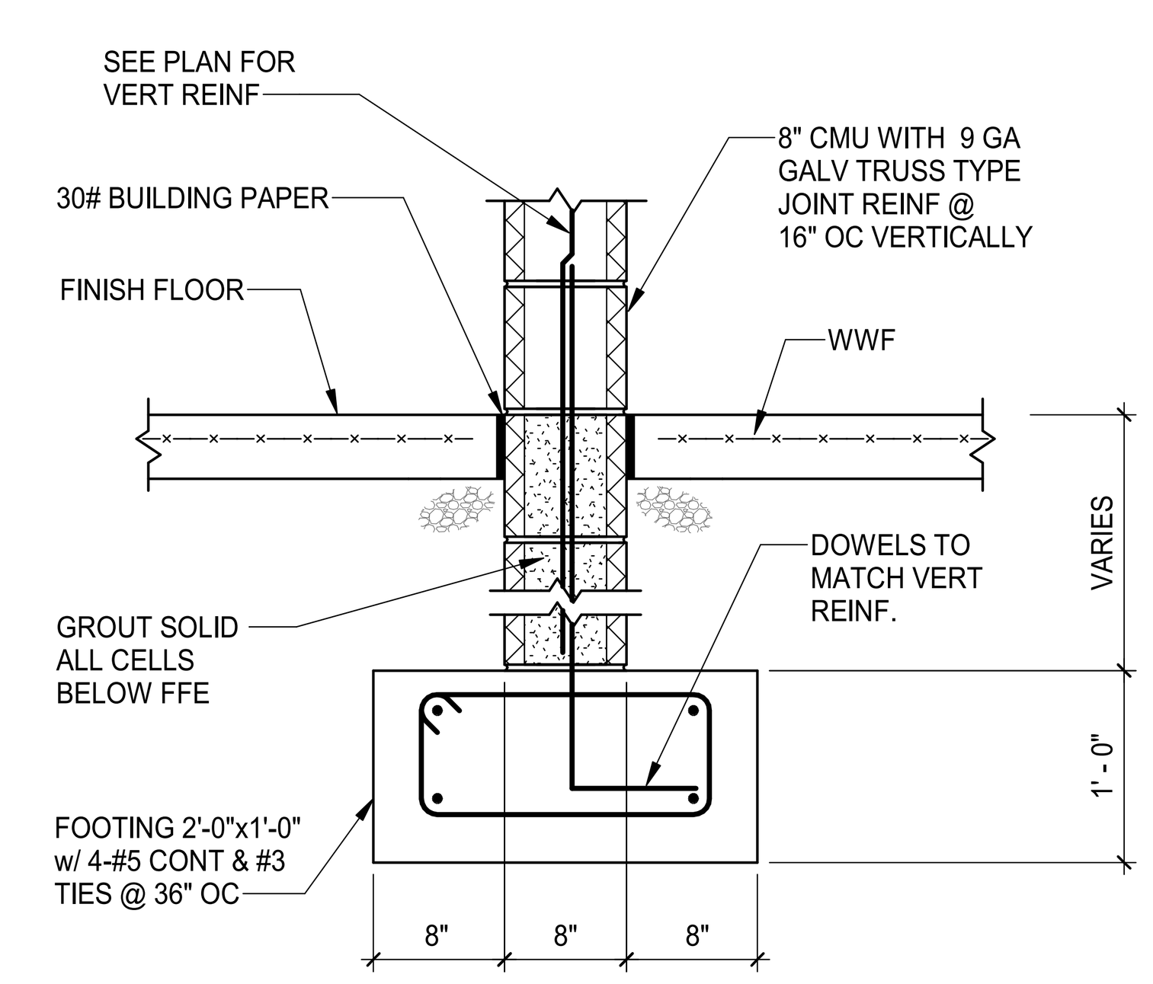
⑪ SCALE: 1" = 1'-0"



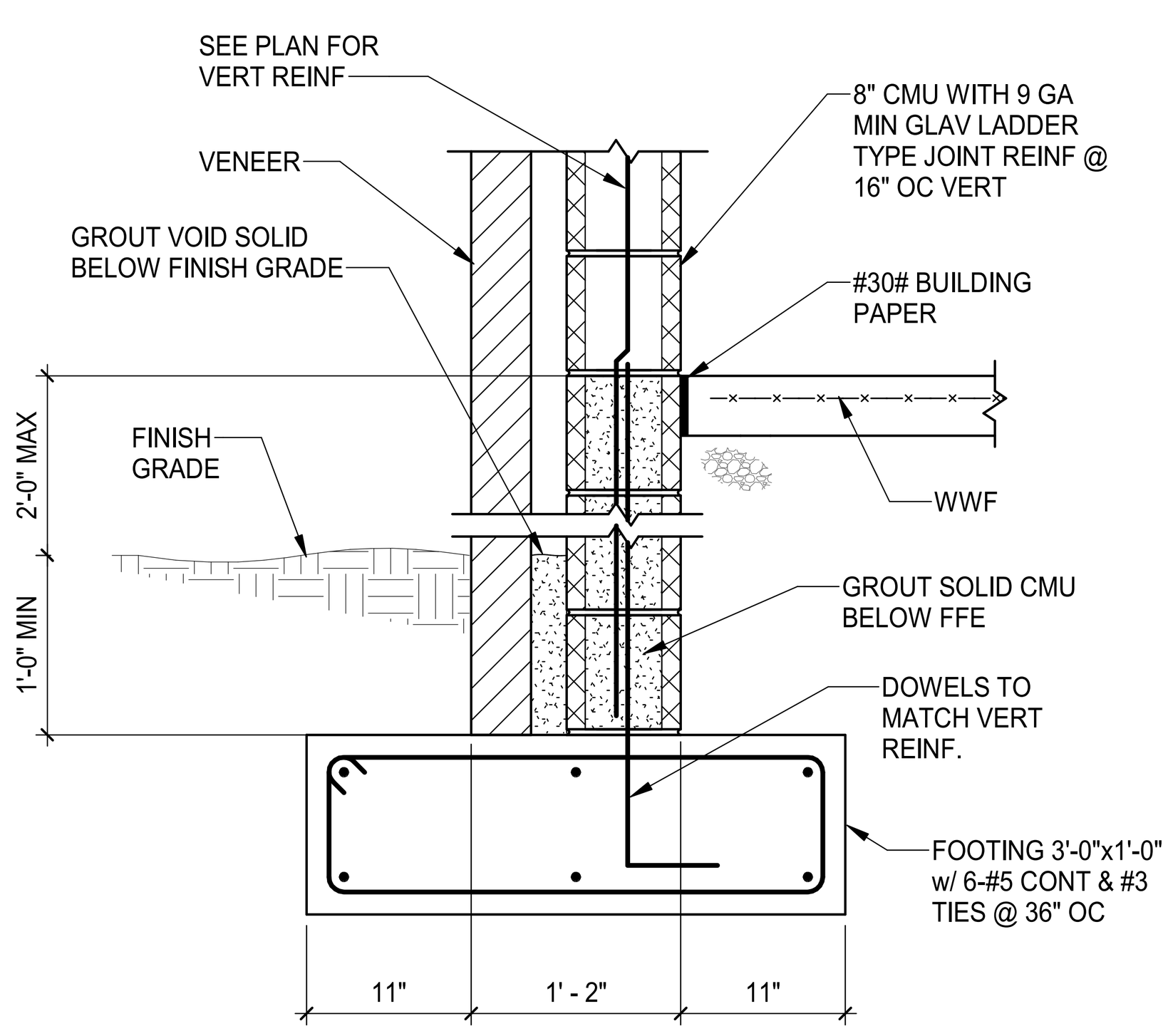
⑫ SECTION EXTERIOR WALL
SCALE: 1" = 1'-0"



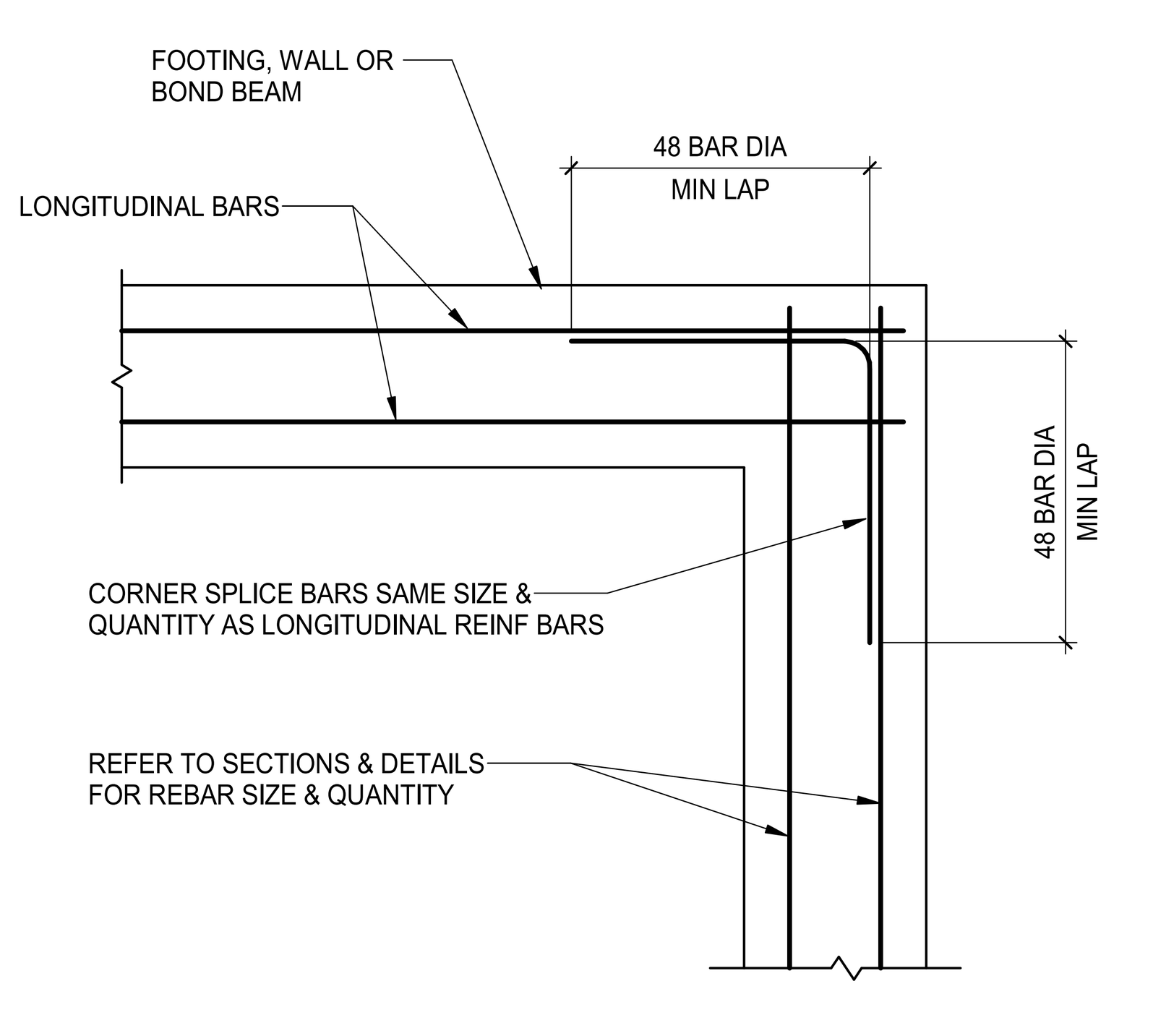
⑬ SECTION INTERIOR WALL
SCALE: 1" = 1'-0"



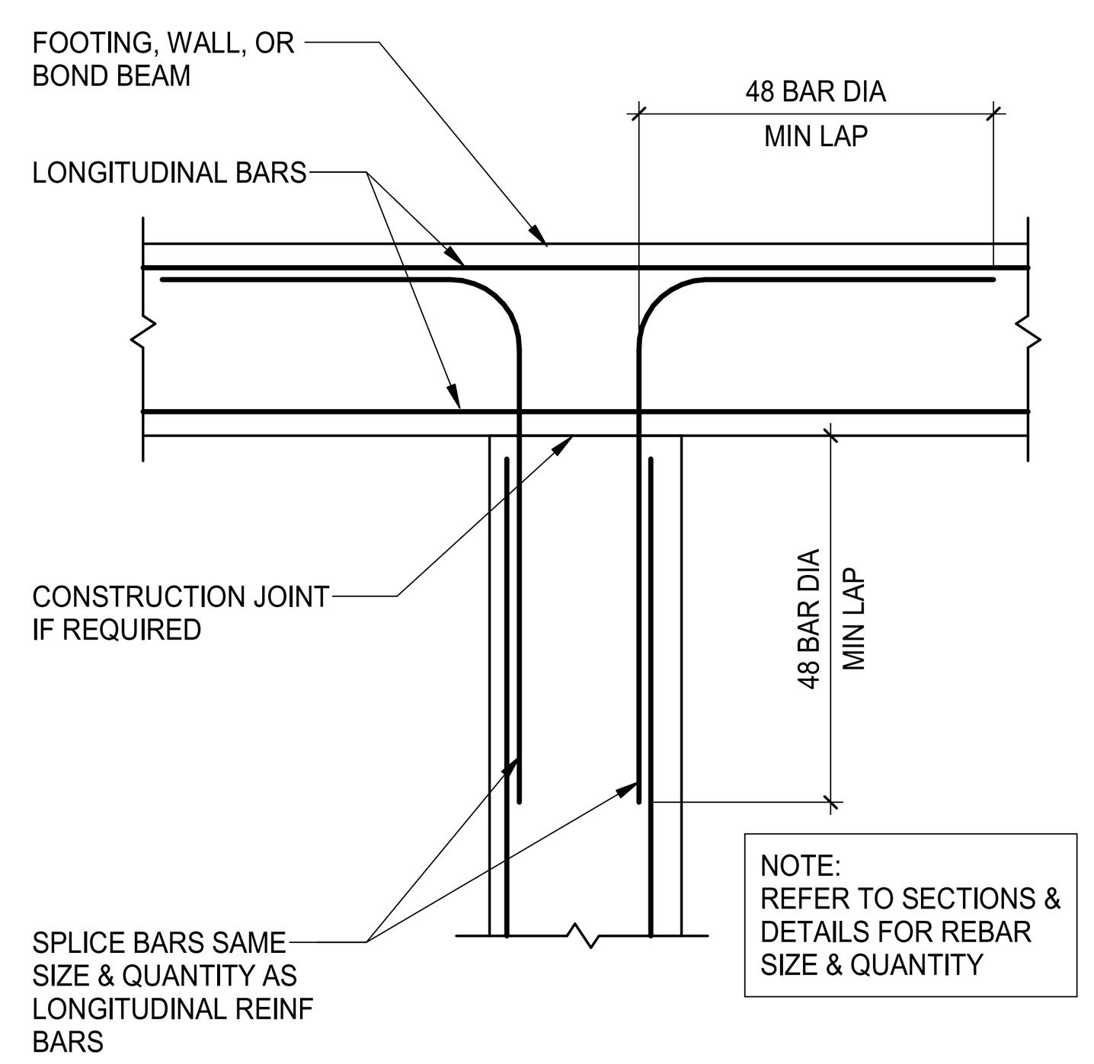
⑭ SECTION INTERIOR WALL
SCALE: 1" = 1'-0"



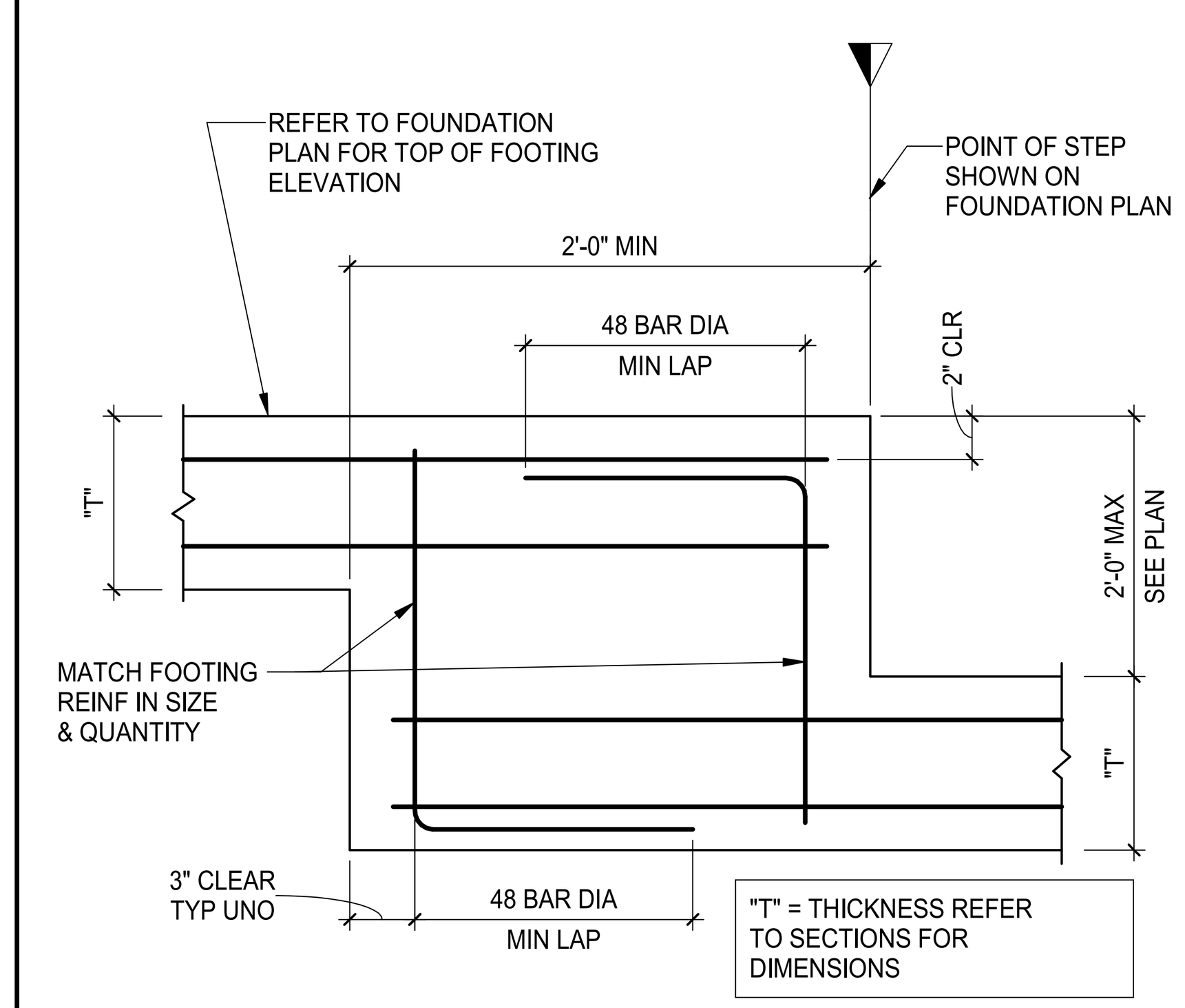
⑮ SECTION EXTERIOR WALL
SCALE: 1" = 1'-0"



⑯ TYP CONTINUITY CORNER
SCALE: 1" = 1'-0"



⑰ TYP CONTINUITY INT
SCALE: 1" = 1'-0"



⑱ TYP STEPPED FOOTING
SCALE: 1" = 1'-0"

⑲ SCALE: 1" = 1'-0"

⑳ SCALE: 1" = 1'-0"

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CONCEPT DESIGN

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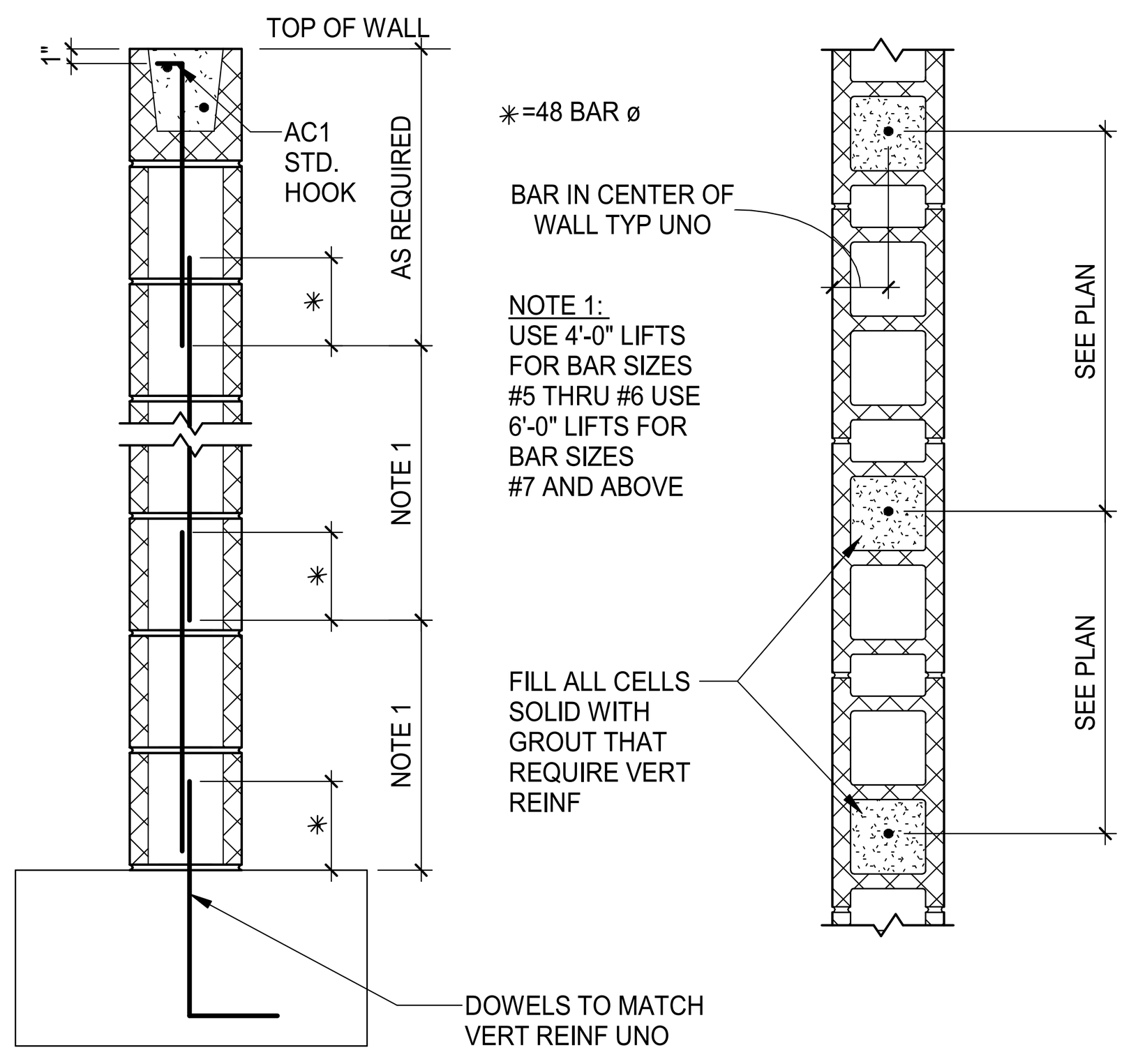
4370 Old Lebanon Dirt Road
Mt Juliet, TN 37122

REVISION DATA

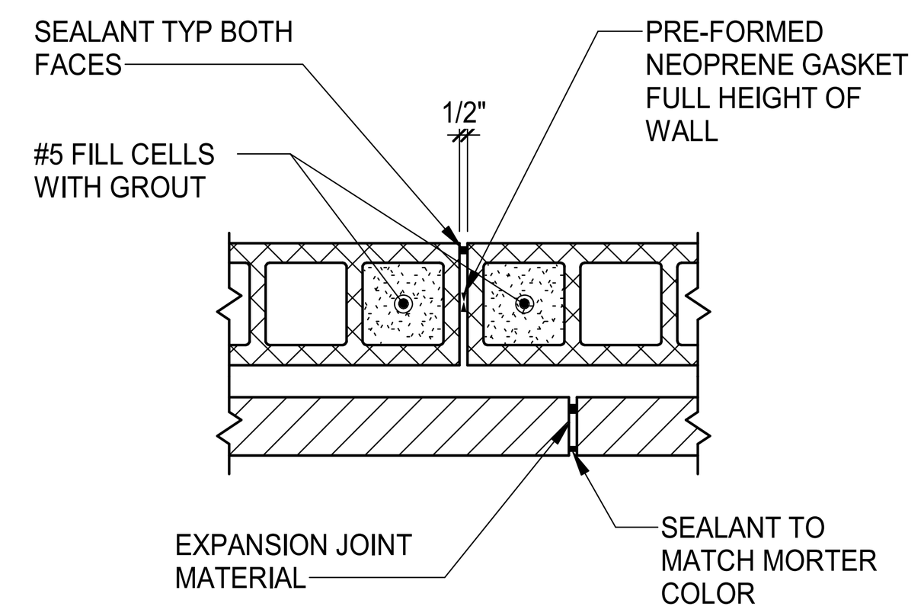
EMC STRUCTURAL ENGINEERS, P.C.
24135_RCA25

23014 7.22.2024
SECTIONS AND DETAILS
S2.1



1 DETAIL VERTICAL BARS

SCALE: NONE

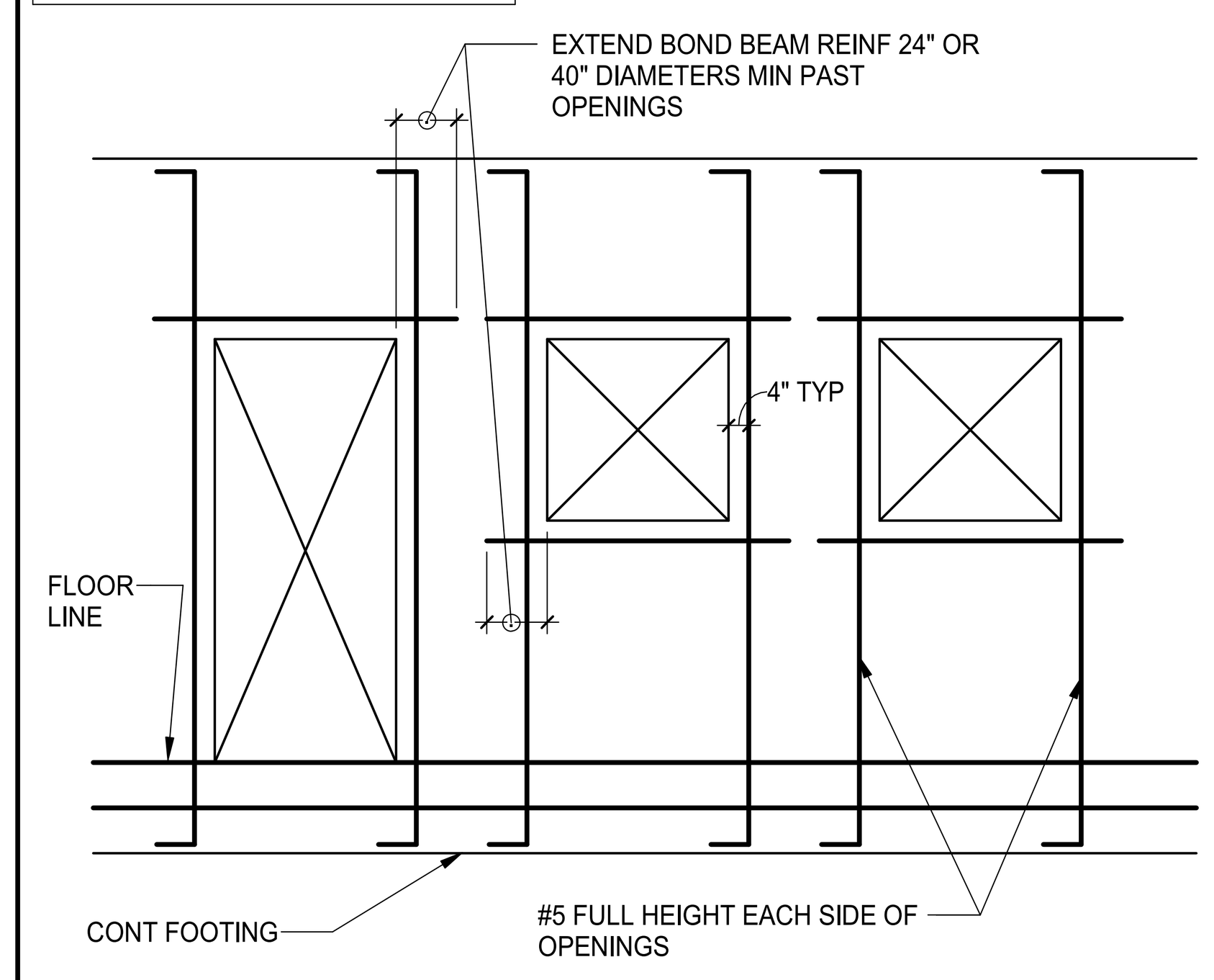


NOTES:
1. SEE ARCH FOR EXACT LOCATION OF CONTROL JOINTS.
2. DO NOT LOCATE CONTROL JOINTS WITHIN 2'-0" OF OPENINGS.
3. MAXIMUM SPACING OF CONTROL JOINTS TO BE 25 FEET OR 1.5 TIMES WALL HEIGHT WHICH EVER IS LESS.
4. HORIZONTAL JOINT REINFORCEMENT TO BE DISCONTINUOUS AT JOINT.

2 CONTROL JOINT DETAIL

SCALE: NONE

NOTE: BOND BEAM REINF AT TOP OF WALL NOT SHOWN



3 TYPICAL CMU WALL REINFORCING

SCALE: NONE

OPENINGS UP TO 6'-0"		
WALL SIZE	LINTEL TYPE	REMARKS
4" VENEER	L6x6x5/16	
8" BLOCK	8"x8" CONC w/ 2-#4 T&B & #3 TIES @ 6" OC	
12" BLOCK	12"x8" CONC w/ 2-#4 T&B & #3 TIES @ 6" OC	
OPENINGS 6'-1" TO 10'-0"		
WALL SIZE	LINTEL TYPE	REMARKS
4" VENEER	L6x6x5/16	
8" BLOCK	8"x16" CONC w/ 2-#6 T&B & #3 TIES @ 6" OC	
12" BLOCK	12"x16" CONC w/ 2 - #6 T&B & #3 TIES @ 6" OC	
OPENINGS 10'-1" TO 16'-0"		
WALL SIZE	LINTEL TYPE	REMARKS
4" VENEER	L6x6x5/16	BOLT TO CONC LINTEL w/ ¾" ANCHOR BOLTS @ 24" OC
8" BLOCK	8"x24" CONC w/ 2-#6 T&B & #3 TIES @10" OC	
12" BLOCK	12"x24" CONC w/ 2 - #6 T&B & #3 TIES @10" OC	

4 STAND. LINTEL SCHED. @ LOAD BRG WALLS

SCALE: NONE

5 SCALE: 1" = 1'-0"

6 SCALE: 1" = 1'-0"

7 SCALE: 1" = 1'-0"

8 SCALE: 1" = 1'-0"

9 SCALE: 1" = 1'-0"

10 SCALE: 1" = 1'-0"

11 SCALE: 1" = 1'-0"

12 SCALE: 1" = 1'-0"

13 SCALE: 1" = 1'-0"

14 SCALE: 1" = 1'-0"

15 SCALE: 1" = 1'-0"

16 SCALE: 1" = 1'-0"

17 SCALE: 1" = 1'-0"

18 SCALE: 1" = 1'-0"

19 SCALE: 1" = 1'-0"

20 SCALE: 1" = 1'-0"

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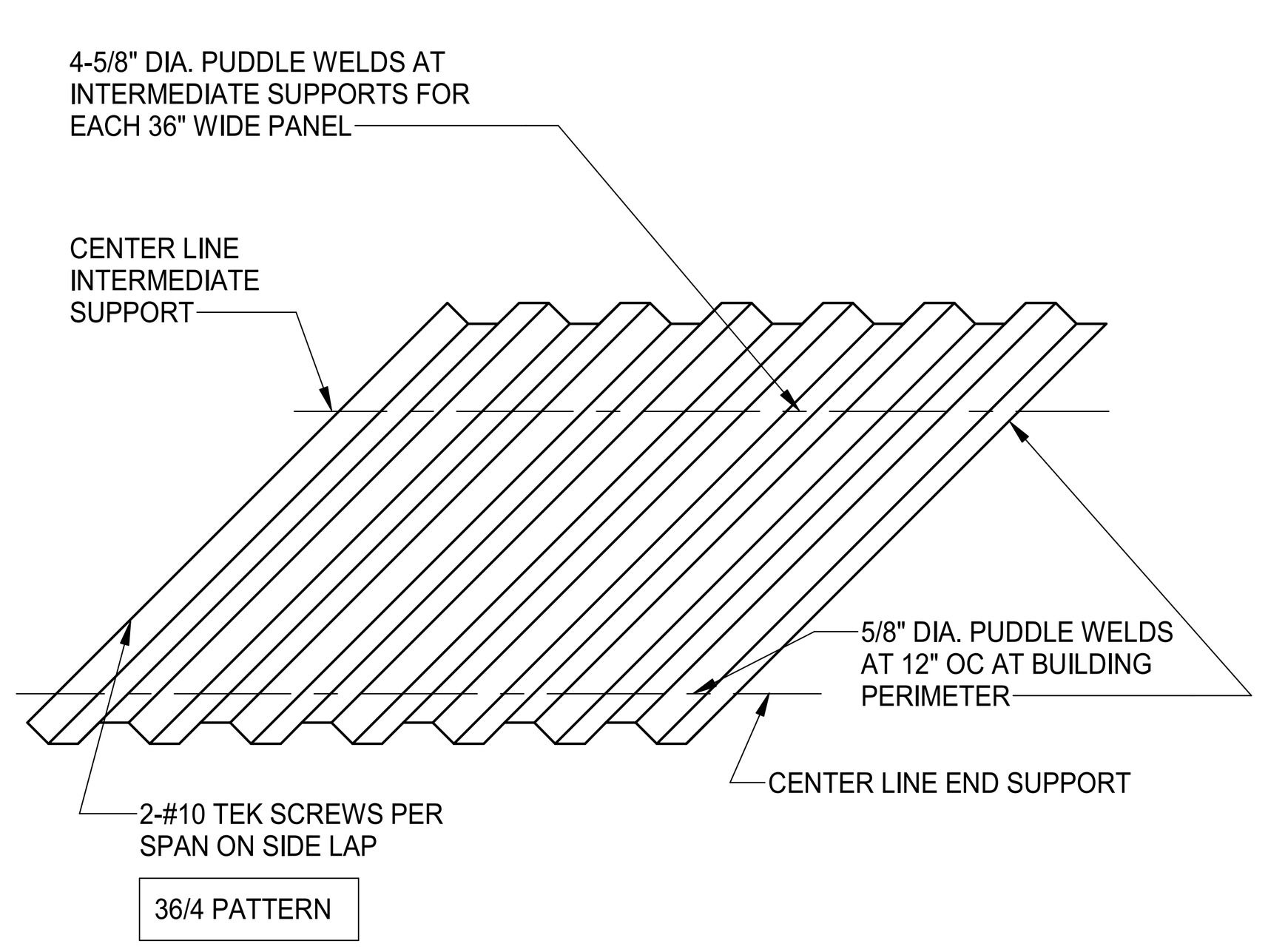
SECTIONS AND DETAILS

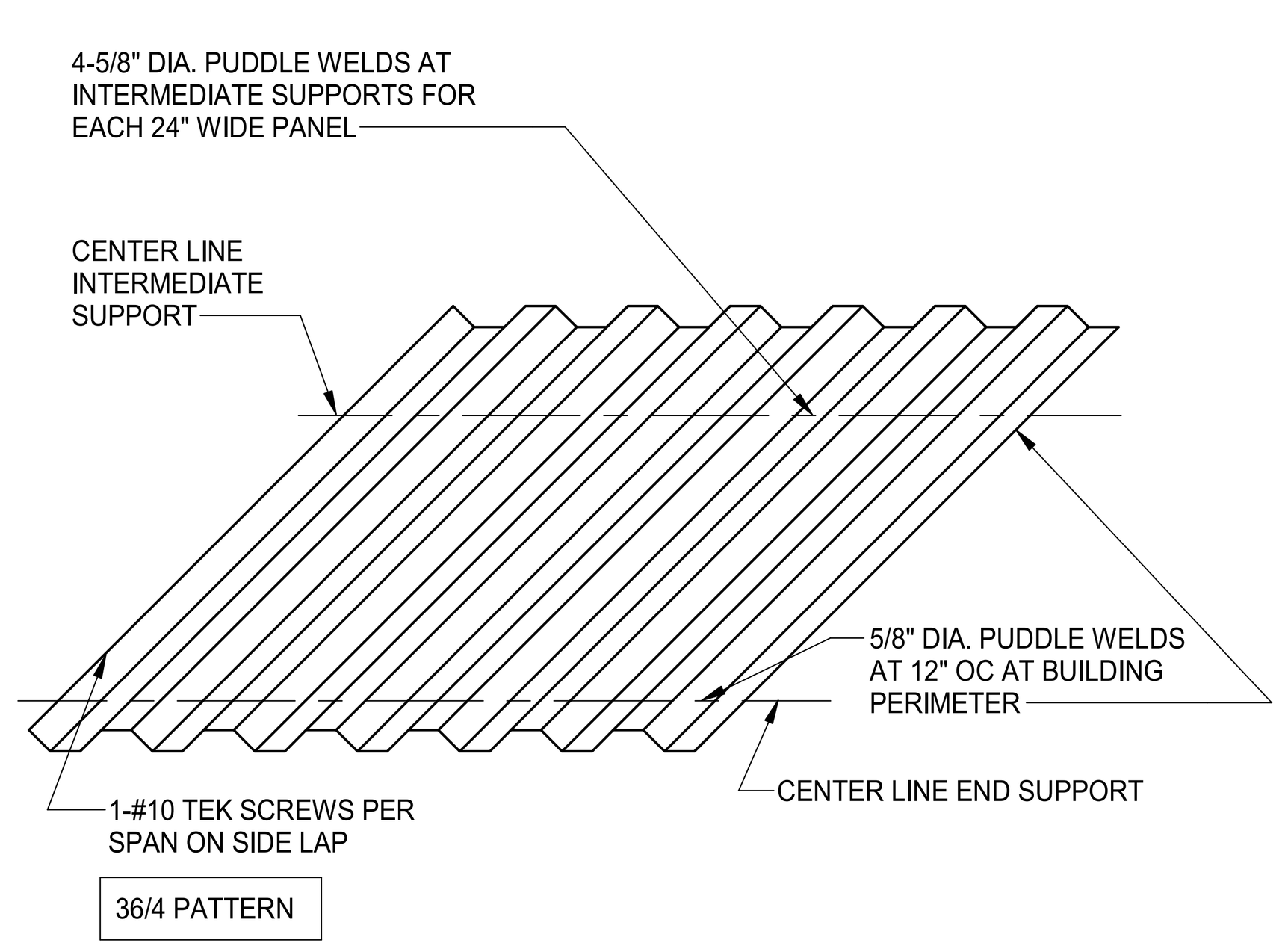
S2.2

NOTE: WELDING WASHERS MUST BE USED WITH DECK THINNER THAN 22 GA.

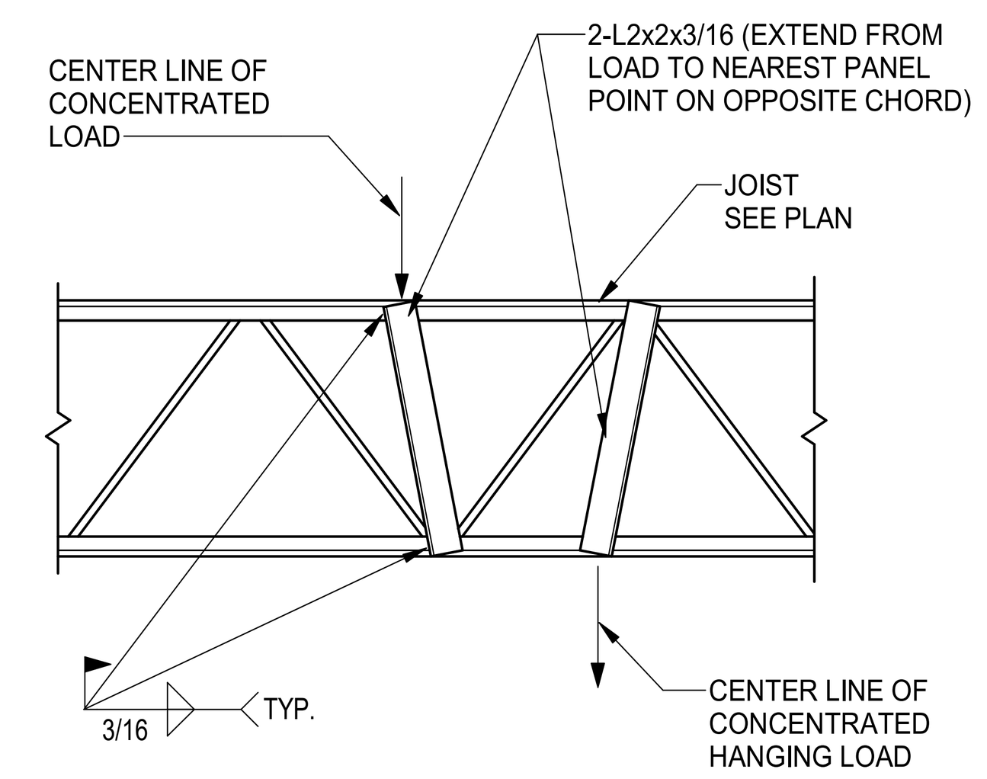


1 ROOF DECK ATTACHMENT
SCALE: NONE

NOTE: WELDING WASHERS MUST BE USED WITH DECK THINNER THAN 22 GA.

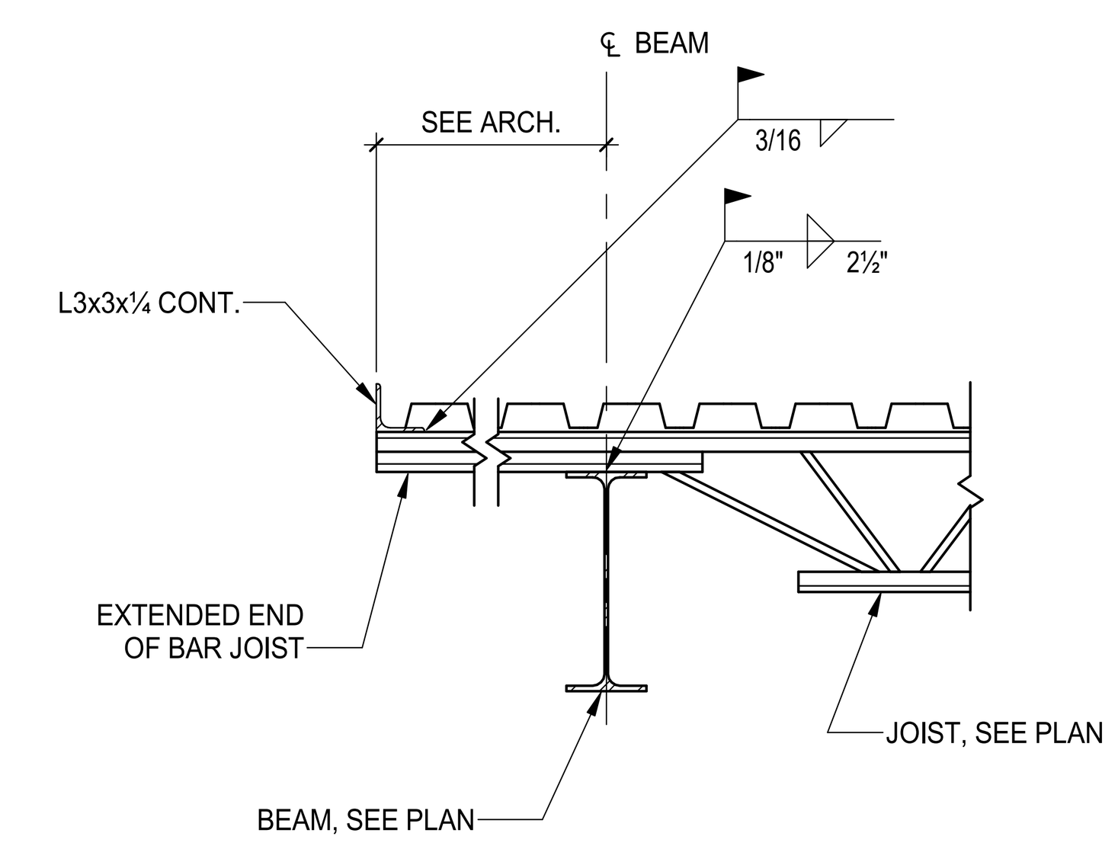


2 ROOF DECK ATTACHMENT (3" DECK)
SCALE: NONE

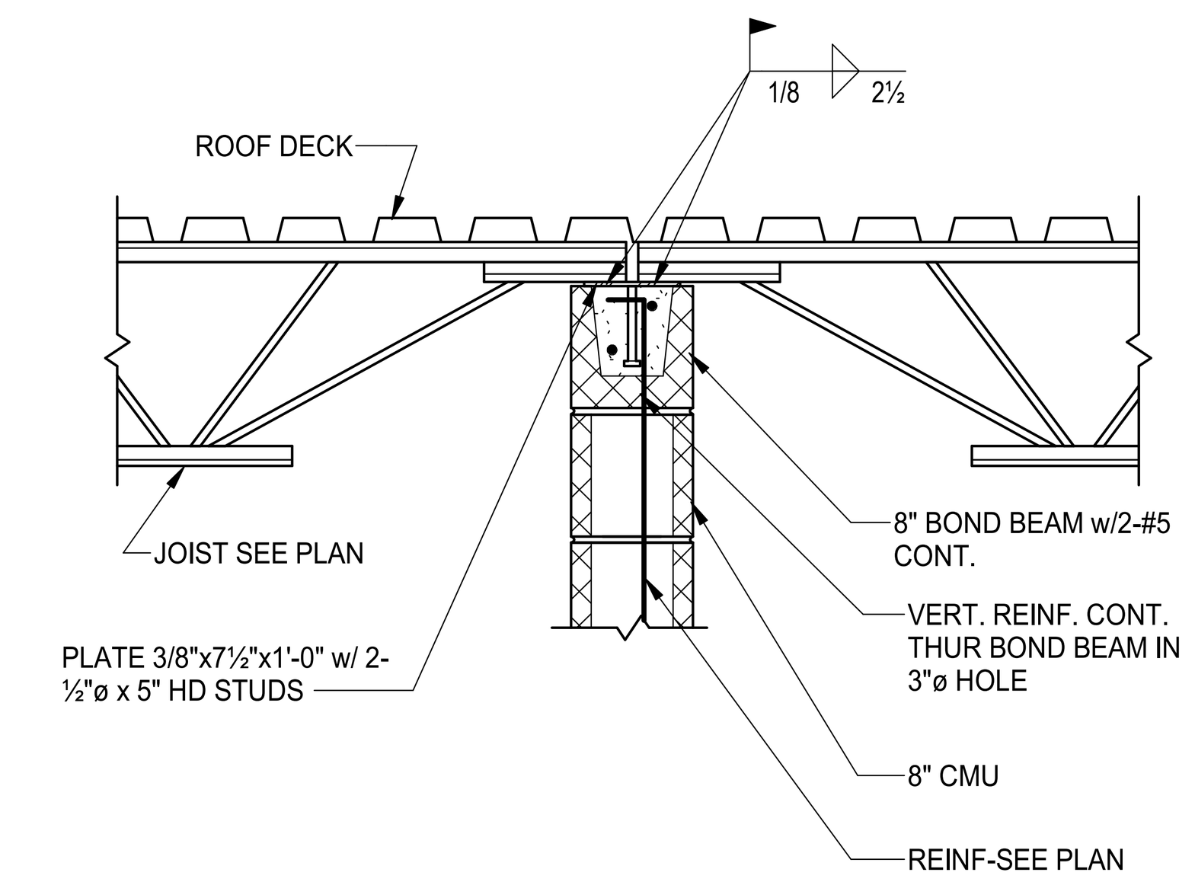


NOTE: AT ALL CONCENTRATED LOADS NOT OCCURRING AT PANEL PTS.

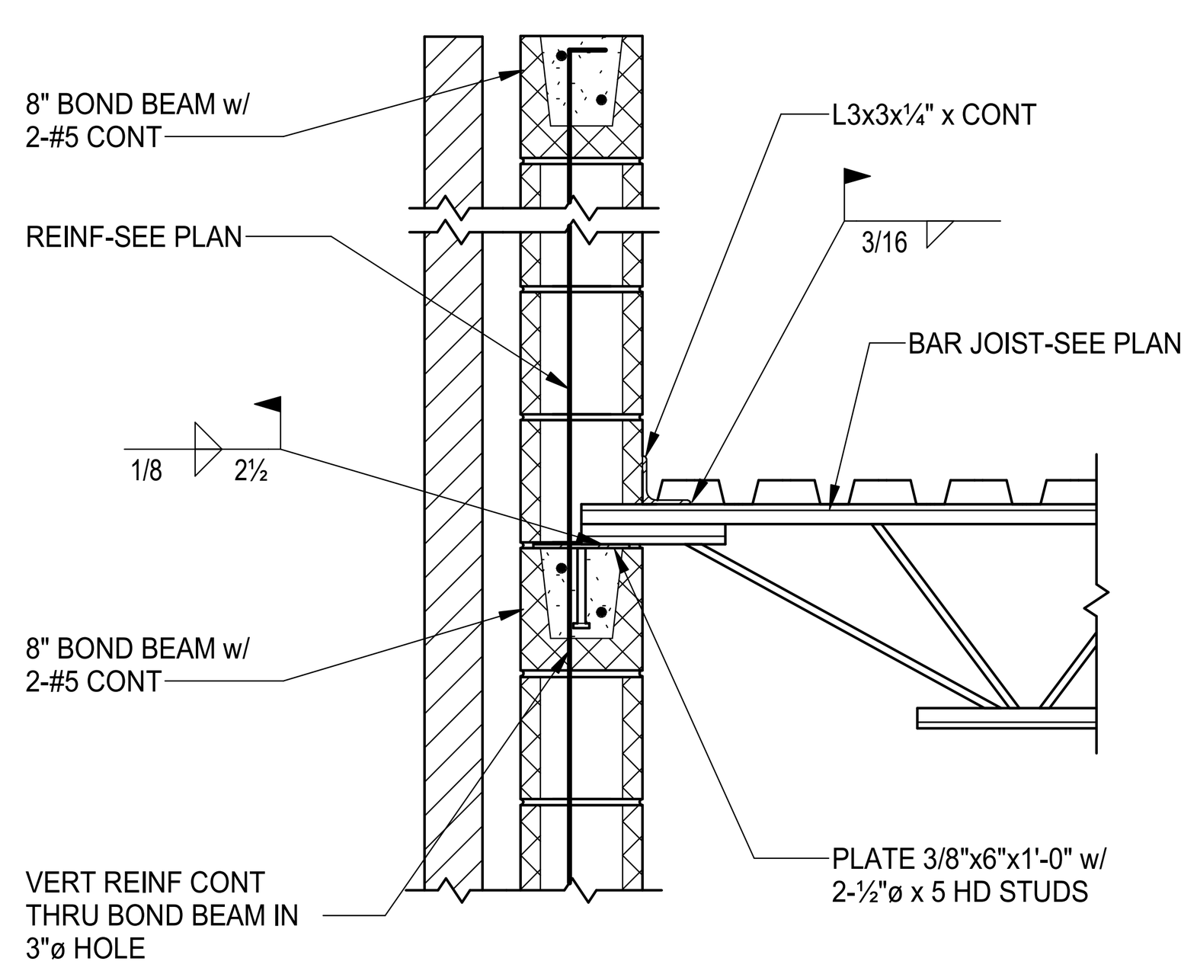
3 TYP. JOIST REINF.
SCALE: 1" = 1'-0"



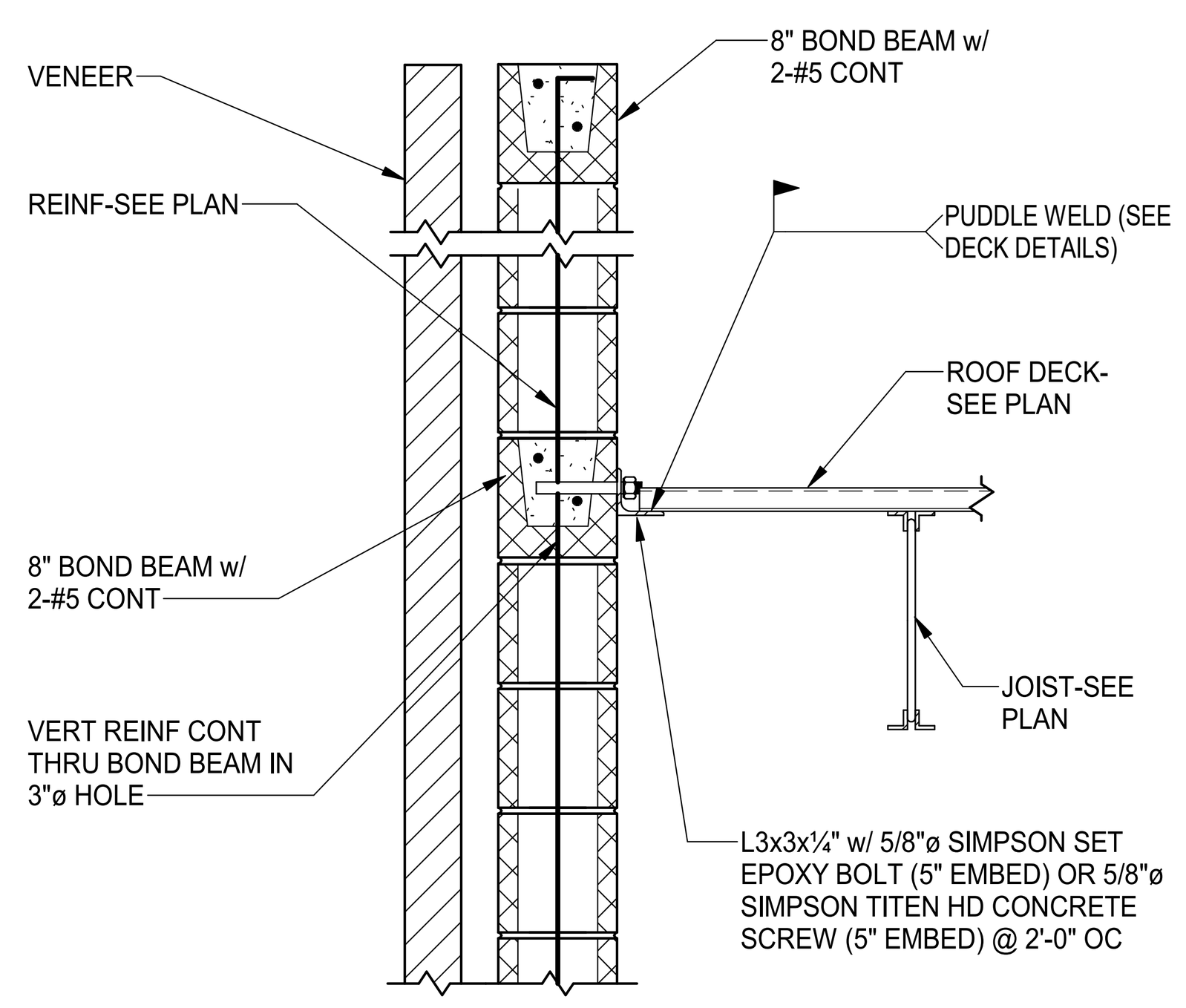
4 JOIST BEARING @ BEAM
SCALE: 1" = 1'-0"



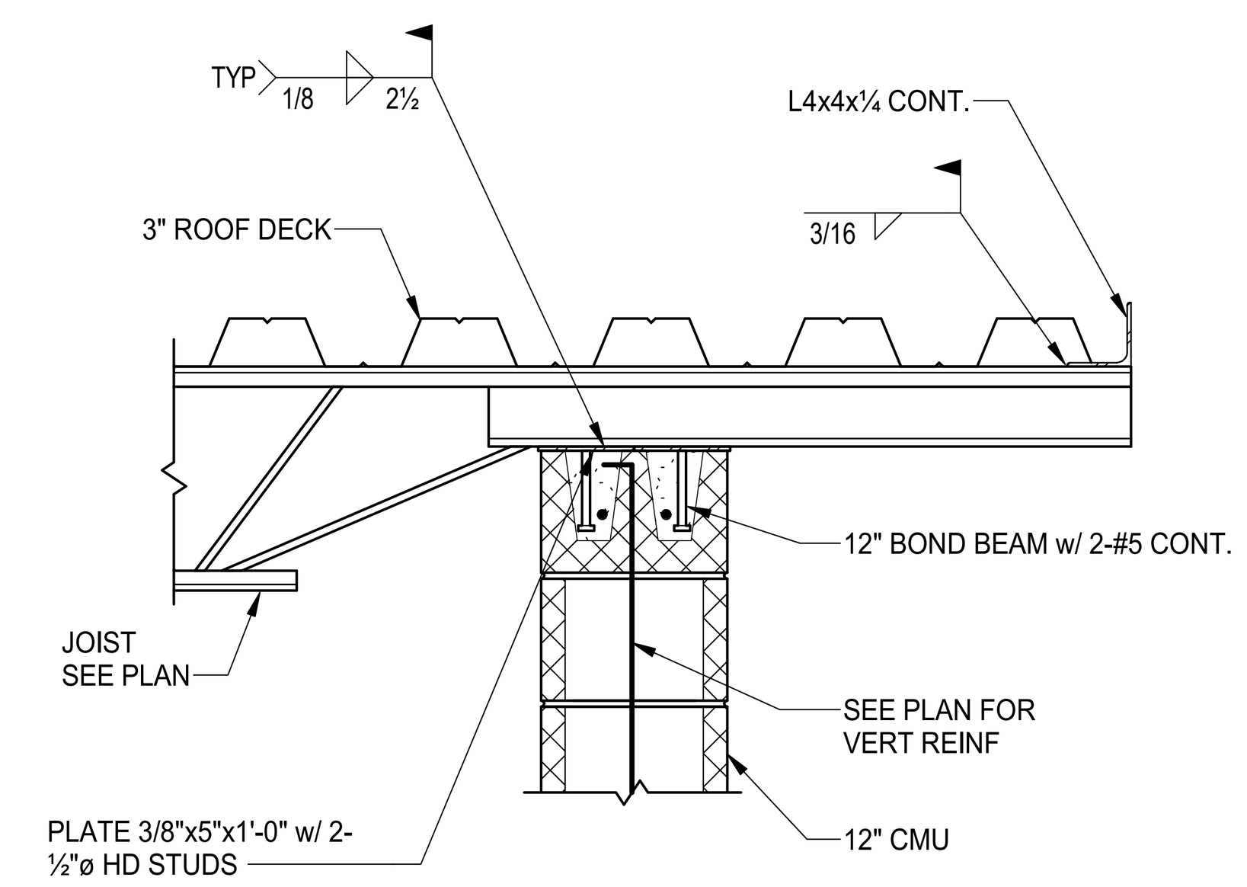
5 JOIST BEARING ON BLOCK
SCALE: 1" = 1'-0"



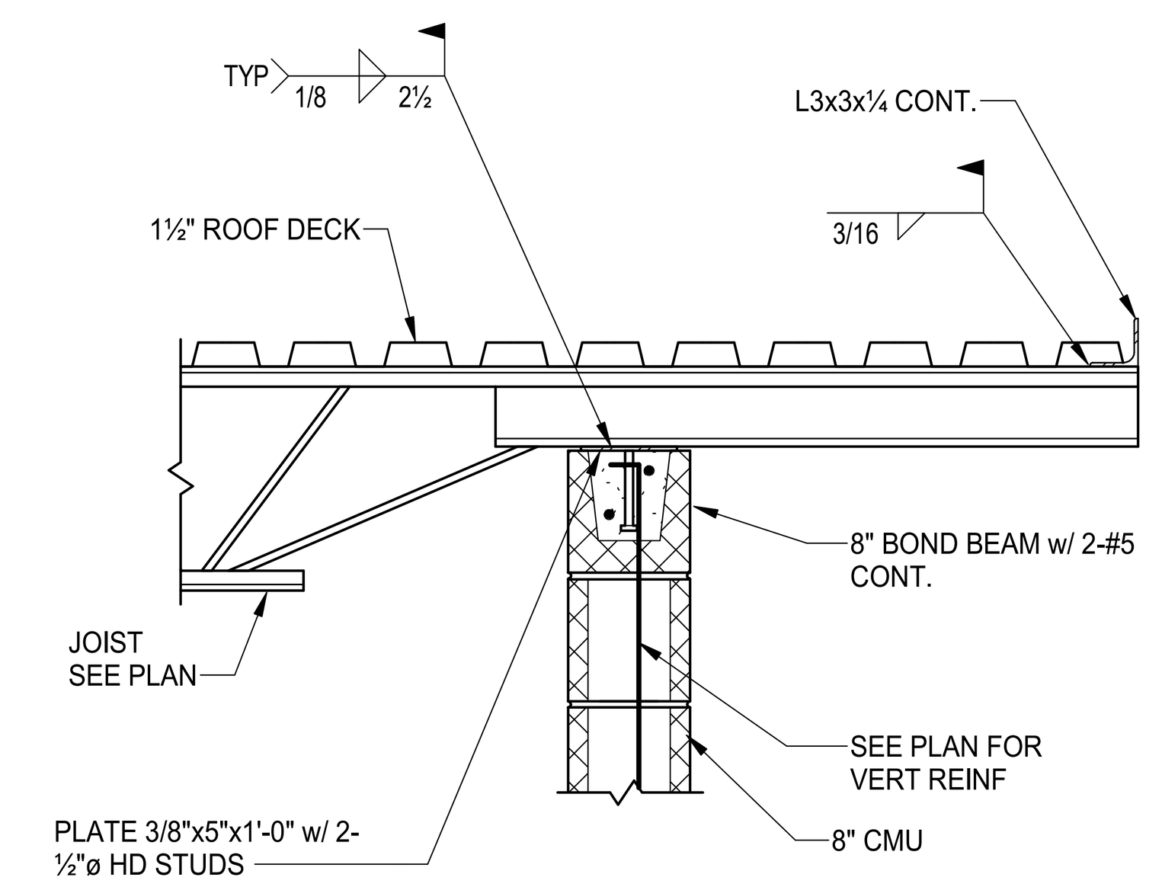
6 SECTION
SCALE: 1" = 1'-0"



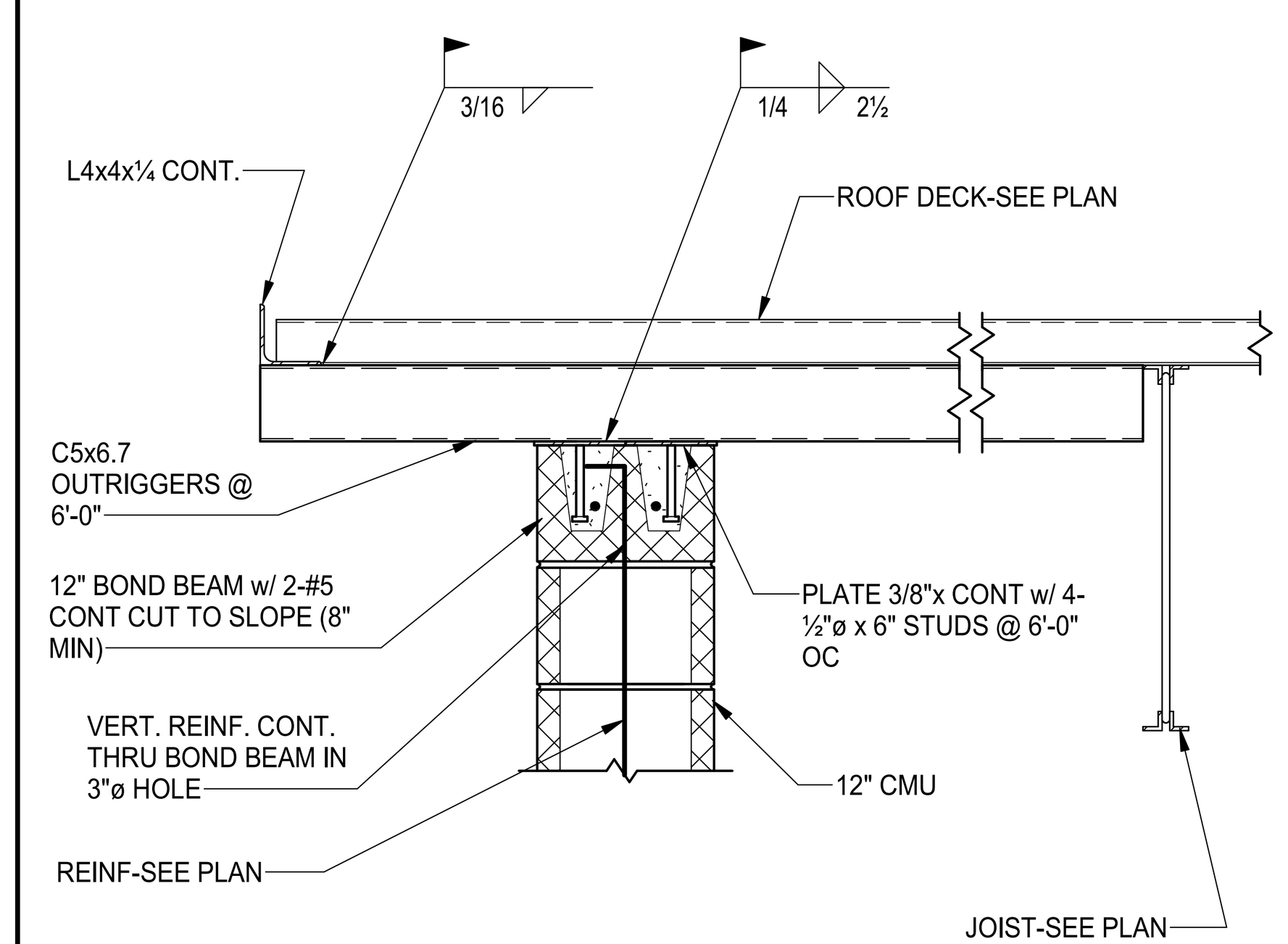
7 SECTION
SCALE: 1" = 1'-0"



8 JOIST BEARING
SCALE: 1" = 1'-0"



9 JOIST BEARING
SCALE: 1" = 1'-0"



10 SECTION
SCALE: 1" = 1'-0"

11 SCALE: 1" = 1'-0"

12 SCALE: 1" = 1'-0"

13 SCALE: 1" = 1'-0"

14 SCALE: 1" = 1'-0"

15 SCALE: 1" = 1'-0"

16 SCALE: 1" = 1'-0"

17 SCALE: 1" = 1'-0"

18 SCALE: 1" = 1'-0"

19 SCALE: 1" = 1'-0"

20 SCALE: 1" = 1'-0"

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CONCEPT DESIGN

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FIRE STATION 3
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Mt Juliet, TN 37122

REVISION DATA

24135_RCA25

23014 7.22.2024
SECTIONS AND DETAILS

S3.1