

GENERAL NOTES:

- 1. DESIGN SCOPE FOR THE STRUCTURAL DRAWINGS PRODUCED BY VONARX ENGINEERING IS FOR THE FOUNDATION DESIGN AND SUPERSTRUCTURE DESIGN. ITEMS NOT INCLUDED ON THESE DRAWINGS ARE AS FOLLOWS:
1.1. ARCHITECTURAL, MECHANICAL, AND ELECTRICAL ITEMS
1.2. WINDOWS AND DOORS
1.3. MOISTURE BARRIERS AND WATERPROOFING
1.4. PLUMBING ITEMS
1.5. FINISHES
2. DURING CONSTRUCTION, IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND PROVIDE ALL TEMPORARY BRACING, FORMWORK, AND/OR SHORING WHEREVER NECESSARY TO SUPPORT ALL LOADS TO WHICH THE STRUCTURES OR EXCAVATIONS MAY BE SUBJECTED TO DURING CONSTRUCTION...

CODES AND STANDARDS:

THE DESIGN, DETAILING, FABRICATION AND ERECTION OF ALL STRUCTURES SHALL CONFORM TO THE FOLLOWING CODES, SPECIFICATIONS AND MANUALS, UNLESS NOTED OTHERWISE:

- 1. "INTERNATIONAL BUILDING CODE" 2009.
2. "AMERICAN SOCIETY OF CIVIL ENGINEERS MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" (ASCE 7-05)
3. "ASTM STANDARDS IN BUILDING CODES" FOURTY-SECOND EDITION, 2005.
4. AMERICAN CONCRETE INSTITUTE:
4.1. "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318-05)
4.2. "ACI DETAILING MANUAL" - 2004 (ACI SP-66)
4.3. "COLD WEATHER CONCRETING" (ACI 306-88)
4.4. "HOT WEATHER CONCRETING" (ACI 305R-99)
4.5. "SPECIFICATION FOR STRUCTURAL CONCRETE" (ACI 301-05)
5. AMERICAN INSTITUTE OF STEEL CONSTRUCTION:
5.1. "MANUAL OF STEEL CONSTRUCTION, ASD 14TH EDITION"
5.2. "DETAILING FOR STEEL CONSTRUCTION"
5.3. "ENGINEERING FOR STEEL CONSTRUCTION"
5.4. "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
6. AMERICAN WELDING SOCIETY:
6.1. "STRUCTURAL WELDING CODE - STEEL" (AWS D1.1-2006)
7. OSHA STANDARDS FOR GENERAL INDUSTRY - (29 CFR, PART 1910) WITH AMENDMENTS AS OF JANUARY 2005.
8. RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS"
9. OSHA SAFETY AND HEALTH STANDARDS (29 CFR 1910) AND OSHA 3124- STAIRWAYS AND LADDERS.

DESIGN LOADS:

THE FOLLOWING WILL APPLY TO THE STRUCTURES, UNLESS NOTED OTHERWISE ON THE PLANS:

- 1. ROOF LIVE LOAD: (LARGER OF)
a. LIVE LOAD: 20 PSF
b. SNOW LOAD: (BASED ON Pg = 20 PSF)
2. CLASSIFICATION OF BUILDINGS AND OTHER STRUCTURES FOR IMPORTANCE FACTORS: CATEGORY II
3. WIND LOAD:
a. BASIC WIND SPEED(3--SECOND GUST): 90 MPH
b. IMPORTANCE FACTOR: 1.00
c. EXPOSURE--CATEGORY: C
4. SEISMIC LOAD:
a. SEISMIC USE GROUP: I
b. IMPORTANCE FACTOR (I): 1.00
c. MAPPED SPECTRAL RESPONSE ACCELERATION (Ss): 54.00 (%g)
d. MAPPED SPECTRAL RESPONSE ACCELERATION (S1): 18.00 (%g)
e. SITE CLASS: C
f. SPECTRAL RESPONSE COEF. (Sds): 0.426
g. SPECTRAL RESPONSE COEF. (Sd1): 0.194
h. SEISMIC DESIGN CATEGORY: C
i. BASIC STRUCTURAL SYSTEM: ORDINARY REINFORCED CONCRETE SHEAR WALLS
j. SEISMIC RESISTING SYSTEM: ORDINARY REINFORCED CONCRETE SHEAR WALLS
k. DESIGN BASE SHEAR (V): 0.107W
l. SEISMIC RESPONSE COEF. (Cs): 0.107
m. RESPONSE MODIFICATION FACTOR (R): 4
n. ANALYSIS PROCEDURE: EQUIVALENT--LATERAL FORCE ANALYSIS

CONCRETE NOTES:

- 1. REFERENCES:
ACI 117 - SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS
ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE
ACI 311 - MANUAL OF CONCRETE INSPECTION.
ACI 315 - DETAILS OF CONCRETE REINFORCEMENT.
ACI 318 - BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
ASTM C31 - STANDARD PRACTICES FOR MAKING AND CURING CONCRETE TEST SPECIMENS IN THE FIELD
ASTM C39 - STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS.
ASTM C94/C 94M - READY MIX CONCRETE
ASTM C143 - STANDARD TEST METHOD FOR SLUMP OF HYDRAULIC CEMENT CONCRETE.
ASTM C494 - CHEMICAL ADMIXTURES FOR CONCRETE.
2. SUBMIT A COPY OF EACH CONCRETE MIXTURE, INCLUDING DATA AND SUBMITTALS TO COMPLY WITH THE REQUIREMENTS OF ACI 301.
3. CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AND PLACED WHERE NOTED:
3.1. CLASS A 3500 psi
3.1.1. SLAB ON GRADE
3.2. CLASS B 4000 psi
3.1.2. FOUNDATION AND BASEMENT WALLS
3.1.3. BEAMS (UNO)
3.1.4. SLAB ON METAL DECK
4. ALL MATERIAL AND CONSTRUCTION FOR CONCRETE WORK SHALL CONFORM TO THE LOCAL BUILDING CODE REQUIREMENTS, THE A.C.I. 318 BUILDING CODE (LATEST EDITION) AND THE FOLLOWING:
4.1. CEMENTITIOUS MATERIAL: USE THE FOLLOWING CEMENTITIOUS MATERIALS, OF THE SAME TYPE, BRAND, AND SOURCE THROUGHOUT THE PROJECT.
4.2. PORTLAND CEMENT: ASTM C 150, TYPE I, SUPPLEMENT WITH THE FOLLOWING AS NECESSARY:
4.2.1. FLY ASH: ASTM C 618, CLASS C OR F
4.3. NORMAL-WEIGHT AGGREGATE: ASTM C 33, GRADED, 1-INCH NOMINAL MAXIMUM AGGREGATE SIZE
4.4. LIGHT WEIGHT AGGREGATE: ASTM C 330, 3/4-INCH NOMINAL MAXIMUM AGGREGATE SIZE
4.5. WATER: ASTM C 94/C 94M; POTABLE
4.6. AIR--ENTRAINING ADMIXTURE: ASTM C 260
4.6.1. CONCRETE EXPOSED TO FREEZING AND THAWING SHALL HAVE 6% (±1%)
4.6.2. DO NOT TROWEL FINISH AN AIR--ENTRAINED CONCRETE FLOOR
4.7. CHEMICAL ADMIXTURES: PROVIDE ADMIXTURES CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES AND THAT WILL NOT CONTRIBUTE WATER--SOLUBLE CHLORIDE IONS EXCEEDING THOSE PERMITTED IN HARDENED CONCRETE. DO NOT USE CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE.
4.7.1. WATER REDUCING ADMIXTURE: ASTM C 494/C 494M, TYPE A
4.7.2. RETARDING ADMIXTURE: ASTM C 494/C 494M, TYPE B
4.7.3. WATER--REDUCING AND RETARDING ADMIXTURE: ASTM C 494/C 494M, TYPE D OR G
4.7.4. HIGH--RANGE WATER--REDUCING ADMIXTURE: ASTM C 494/C 494M, TYPE F, HIGH--RANGE
4.7.5. PLASTICIZING AND RETARDING ADMIXTURE: ASTM C 1017/C 1017M, TYPE II
5. ALL CONCRETE SHALL HAVE A MAXIMUM WATER--CEMENT RATIO OF 0.45 FOR ALL CONCRETE CAST AGAINST OR PERMANENTLY EXPOSED TO EARTH OR WEATHER. 0.50 IS PERMITTED FOR ALL OTHER INSTANCES.
6. MAXIMUM SLUMP FOR ALL CONCRETE IS 4" UNLESS NOTED OTHERWISE ON PLAN DRAWINGS.
7. WATER IS NOT ALLOWED TO BE ADDED TO CONCRETE DURING DELIVERY, AT THE PROJECT SITE, OR DURING PLACEMENT.
8. WATER SHALL NOT BE APPLIED DIRECTLY TO AN UNFINISHED SLAB SURFACE.
9. CURING MATERIALS SHALL CONFORM WITH ONE OF THE FOLLOWING:
9.1. CLEAR, WATERBORNE, MEMBRANE FORMING COMPOUND; ASTM C 309, TYPE I, CLASS B
9.2. EVAPORATION RETARDER: WATERBORNE, MONOMOLECULAR FILM FORMING; MANUFACTURED FOR APPLICATION TO FRESH CONCRETE.
9.3. ABSORPTIVE COVER: AASHTO M 182, CLASS 2, BURLAP CLOTH MADE FROM JUTE OR KENAF, WEIGHING APPROX. 90Z./SQ. YD. WHEN DRY.
9.4. MOISTURE RETAINING COVER: ASTM C 171, POLYETHYLENE FILM OR WHITE BURLAP--POLYETHYLENE SHEET.
9.5. WATER: ASTM C 94/C 94M; POTABLE
10. ALL CONCRETE WORK SHALL BE CURED AND MAINTAINED ABOVE 50°F FOR AT LEAST 7 DAYS ACCORDING TO THE STANDARD PRACTICE FOR CURING CONCRETE, ACI 308 AND ACI 318.
11. PRIOR TO PLACING CONCRETE, PREPARE AND COMPACT THE SUB--GRADE AND SUB--BASE PER PLAN DRAWINGS AND CONTRACT DOCUMENTS. DAMPEN THE SUB--GRADE/SUB--BASE BY SPRAYING WATER BEFORE CONCRETING.
12. FORMWORK SHALL BE CHECKED FOR PROPER LOCATION, ELEVATION, ORIENTATION AND ANCHORAGE AGAINST MOVEMENT. FORMWORK SURFACES SHALL BE CLEAN AND FREE OF DEBRIS AND HARDENED CONCRETE.
13. FORMS SHALL PRODUCE A CLEAN, UNIFORM AND DURABLE FINISH AS SPECIFIED ON ARCHITECTURAL DRAWINGS. IF FINISH IS NOT SPECIFIED, ALL EXPOSED SURFACES SHALL CONFORM TO ACI 347R CLASS C.
14. FORM RELEASE AGENT SHALL BE APPLIED PRIOR TO PLACEMENT OF REINFORCING AND EMBEDDED ITEMS TO AVOID CONTACT WITH REINFORCING AND EMBEDDED ITEMS.
15. MINIMUM CONCRETE CLEAR COVER FOR REINFORCING IS AS FOLLOWS:
15.1. CONCRETE CAST AGAINST EXISTING CONCRETE EXPOSED TO EARTH: 3"
15.2. CONCRETE EXPOSED TO EARTH OR WEATHER: 2"
15.3. CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
15.3.1. SLABS AND WALLS: 3/4"
15.3.2. BEAMS AND COLUMNS: 1 1/2"
16. ANCHORS, SEATS, PLATES AND OTHER ITEMS CAST INTO CONCRETE SHALL BE ACCURATELY PLACED AND SECURED. EMBEDMENT MUST BE SUPPORTED BY FORMWORK OR TIED TO REINFORCEMENT, NEVER WELDED TO REINFORCEMENT.
17. ALL ANCHORS RODS/BOLTS SHALL BE SET WITH TEMPLATES.
18. ALL ANCHOR ROD PROJECTIONS NOTED OR SHOWN ON THE DRAWINGS SHALL BE MEASURED FROM THE TOP OF THE ROUGH CONCRETE AND NOT FROM THE GROUT.
19. EXPOSED EDGES OF CONCRETE ABOVE FINISH GRADE AND EXPOSED CORNERS OF COLUMNS, WALLS AND BEAMS SHALL HAVE 3/4" x 3/4" CHAMFERS, UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.
20. REPAIRS TO CONCRETE, MECHANICAL, AND ELECTRICAL DRAWINGS FOR WINDOW AND DOOR OPENINGS, BLOCKOUTS, AND EMBEDDED ITEMS, SUCH AS DRIP SLOTS, REGLETS, ANCHORS, BEARING LEDGES, MISC. EMBEDDED PLATES, ANCHOR BOLTS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS.
21. PIPE AND CONDUIT EMBEDDED THROUGH BEAMS OR WALLS SHALL NOT BE PLACED CLOSER THAN 3 DIAMETERS ON CENTER AND SHOULD NOT BE LARGER THAN 2" IN DIAMETER.
22. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES. IF FINISH IS NOT SPECIFIED, CONFORM TO REQUIREMENTS OF ACI 301 AS MODIFIED BY THESE NOTES.
23. CONCRETE SHALL NOT DROP MORE THAN 5 FEET WHEN PLACED, WHERE GREATER DROPS ARE REQUIRED, USE TREMIES SPACED CLOSE ENOUGH TO AVOID SEGREGATION OF COURSE AGGREGATE DUE TO HORIZONTAL FLOW.
24. MAXIMUM TEMPERATURE OF MIXED CONCRETE PRIOR TO AND DURING PLACEMENT SHALL BE 90°F.
25. WHEN AIR TEMPERATURE IS ABOVE 80°F, HOT WEATHER CONCRETING, ACI 305R SHALL APPLY. WHEN THE AIR TEMPERATURE IS BELOW 40°F, COLD WEATHER CONCRETING, ACI 306R SHALL APPLY.
26. REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR SLAB SLOPE DIRECTION. FOR TROWELED SLAB FINISHES ACHIEVE LEVEL SURFACE PLANE SO THAT DEPRESSIONS BETWEEN HIGH SPOTS DO NOT EXCEED 1/4" USING A 10' STRAIGHT EDGE. LOCALLY SLOPE FLOOR TOWARDS FLOOR DRAINS.
27. CONSTRUCTION VERTICAL JOINT SPACING SHALL NOT EXCEED 60 FEET FOR FOUNDATION WALLS AND OTHER FOUNDATION WORK, EXCEPT FOOTINGS. JOINTS SHALL BE LOCATED AS SHOWN OR NOTED AS TO LEAST IMPAIR STRENGTH AND APPEARANCE OF STRUCTURE. FOOTINGS OR FOUNDATION WALLS SHALL NOT HAVE HORIZONTAL JOINTS.
28. PROVIDE CONSTRUCTION AND CONTROL JOINTS IN SLAB ON GRADE AS INDICATED ON THE PLAN DRAWINGS. IF JOINT PATTERN IS NOT INDICATED, PROVIDE JOINTS AT 15' (3rd) CENTERS IN BOTH DIRECTIONS. LOCATE IN ACCORDANCE WITH BAY SPACING, IE COLUMN CENTERLINES, HALF BAYS, THIRD BAYS, ETC.
29. INTERFACE OF CONSTRUCTION JOINTS SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4". SURFACE OF CONSTRUCTION JOINTS SHALL BE CLEAN AND FREE OF LAITANCE, IMMEDIATELY BEFORE NEW CONCRETE IS PLACED. CONSTRUCTION JOINT SHALL BE WETTED AND STANDING WATER REMOVED.
30. SAWCUTS SHALL BE MADE IMMEDIATELY AFTER FINAL FINISHING WITHOUT DISLODGING AGGREGATE.
31. JOINT FILLER SHALL BE ELASTOMERIC SEALANT FOR AREAS WHERE NO VEHICLE TRAFFIC EXISTS AND SEMI--RIGID EPOXY WHERE VEHICLE TRAFFIC EXISTS.
32. AT EXPANSION JOINTS AND BETWEEN SLAB ON GRADE AND WALL AND COLUMN INTERFACES THAT ARE NOT DOWELED TOGETHER (UNLESS NOTED OTHERWISE); PROVIDE COMPRESSIBLE FILLER AND JOINT FILLER (AS STATED IN NOTE #25)
33. FIELD INSPECTOR SHALL BE NOTIFIED 24 HOURS PRIOR TO CONCRETE PLACEMENT.
34. CONCRETE PADS FOR EQUIPMENT, STAIRS AND LADDERS SHALL BE LOCATED AND INSTALLED BY THE CONTRACTOR.

SPECIAL INSPECTIONS AND TESTING:

- 1. THE OWNER SHALL EMPLOY ONE OR MORE QUALIFIED INSPECTORS TO PROVIDE INSPECTIONS AND REQUIRED TESTING DURING CONSTRUCTION IN ACCORDANCE WITH THE CODES LISTED IN THE DESIGN CRITERIA SECTION OF THESE GENERAL NOTES, SPECIFICALLY THE 2009 INTERNATIONAL BUILDING CODE, CHAPTER 17. THE INSPECTOR SHALL BE CERTIFIED BY THE BUILDING OFFICIAL TO PERFORM THE TYPES OF INSPECTIONS SPECIFIED BELOW.
2. SPECIAL INSPECTION AND TESTING REPORTS SHALL BE FURNISHED TO THE BUILDING OFFICIAL, OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND CONTRACTOR. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR IMMEDIATELY, THEN IF NOT CORRECTED, SHALL BE REPORTED IN WRITING TO THE BUILDING OFFICIAL, OWNER, ARCHITECT, AND STRUCTURAL ENGINEER OF RECORD.
3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT STATING THAT THE STRUCTURAL WORK WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
4. THE FOLLOWING TYPES OF WORK REQUIRE SPECIAL INSPECTIONS: (REFER TO THE BUILDING CODE FOR DETAILED INSPECTION REQUIREMENTS.)
4.1. FOUNDATION EXCAVATION AND PREPARATION, INCLUDING ENGINEERED SOIL FILL SUPPORTING FOOTINGS OR SLAB ON GRADE
4.2. REINFORCEMENT PLACEMENT, PRIOR TO CLOSING THE FORMS AND DELIVERY OF CONCRETE
4.3. CONCRETE PLACEMENT, INCLUDING CONVEYING AND DEPOSITING
4.4. CONCRETE CURING PROCEDURES AND MAINTENANCE OF CURING TEMPERATURES
4.5. BOLTS AND STUDS INSTALLED IN CONCRETE, PRIOR TO THE PLACEMENT OF CONCRETE AROUND THE BOLTS
4.6. PLACEMENT OF EPOXY ANCHORED BOLTS
4.7. STRUCTURAL STEEL
4.8. FIELD WELDING
4.9. DECK FASTENING
4.10. HIGH--STRENGTH BOLTING
4.11. DURING AND PREPARATION OF TAKING TEST SPECIMENS
5. TESTS: PREFORMED ACCORDING TO ACI 301
5.1. TESTING FREQUENCY: ONE COMPOSITE SAMPLE FOR EACH DAY'S POURS OF EACH CONCRETE MIX EXCEEDING 5 CU. YD., BUT LESS THAN 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD.

FOUNDATIONS:

- 1. REFER TO GEOTECHNICAL REPORT FOR "700 BILTMORE DRIVE" BY SHANNON & WILSON, INC. DATED AUGUST 3, 2000 FOR BORINGS, SUBSURFACE PROFILES, EXCAVATION AND STRUCTURAL BACKFILL AND COMPACTION REQUIREMENTS.
2. FOUNDATIONS SHALL BEAR ON PREPARED SOIL OR ENGINEERED FILL HAVING AN ALLOWABLE BEARING CAPACITY OF 3000 PSF MIN. AS APPROVED BY THE GEOTECHNICAL ENGINEER REPORT STATED ABOVE. IF SOFT SOIL IS ENCOUNTERED, IT WILL NEED TO BE REMOVED AND REPLACED WITH COMPETENT GRANULAR ENGINEERED FILL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
3. VARIATIONS IN SUBSOIL CONDITIONS FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT AND ALTERATIONS PROPOSED TO THE FOUNDATIONS AND STRUCTURES ARE TO BE REPORTED TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO MAKING CHANGES.
4. THE MINIMUM DEPTH TO THE BOTTOM OF THE EXTERIOR FOOTING FROM THE TOP OF THE FINISH GRADE SHALL BE 2'-6" FOR FROST PROTECTION.
5. FILL IN STRUCTURAL AREAS AND PAVEMENT AREAS SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY ACCORDING TO MODIFIED PROCTOR (ASTM D-1557) PER THE GEOTECHNICAL REPORT.
6. GRANULAR BASE MATERIAL UNDER STRUCTURES SHALL BE FREE DRAINING GRANULAR MATERIAL (3/4" CLEAN CRUSHED ROCK HAVING LESS THAN 10 PERCENT FINES).
7. CONSTRUCT SLAB ON GRADES WITH THE GRANULAR FILL LAYER BELOW AS REQUIRED PER PLAN NOTES. PLACE GRANULAR FILL ON 18" MINIMUM OF NON--EXPANSIVE SOIL LAYER IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
8. SUBGRADE MODULUS (k): SLABS AND FOUNDATIONS: 125 PCI
9. USE LIGHT WEIGHT EQUIPMENT TO COMPACT THE SOIL WITHIN 2 FEET AROUND FOUNDATION/BASEMENT WALLS.
10. GRANULAR BASE WALLS SHALL BE WELDED TO THE FOUNDATION AS SHOWN ON THE DRAWINGS OR EQUIVALENT APPROVED BY GEOTECHNICAL ENGINEER. EXTEND STONE HORIZONTALLY FROM BASE OF THE WALLS OUTWARD AT A 45 DEGREE VERTICAL ANGLE AND PROVIDE A 4" PERFORATED TOE DRAIN WRAPPED IN FILTER FABRIC.
11. BACK FILL SHOULD NOT BE PLACED BEHIND WALLS BEFORE THEY HAVE ATTAINED THEIR DESIGN STRENGTH AND ROOF DIAPHRAGM ATTACHMENT HAS BEEN COMPLETED AND INSPECTED. UNLESS ADEQUATE BRACING IS INSTALLED UNTIL THE SUPPORTING MEMBERS ARE IN PLACE AND HAVE DEVELOPED THEIR SPECIFIED STRENGTH TO RESIST LATERAL LOADS.
12. BACK FILL ON EITHER SIDE OF THE WALL IN EVEN LIFTS ALTERNATING FROM SIDE TO SIDE WITH A MAXIMUM DIFFERENCE IN LIFTS OF 2'-0".
13. WHEN INTERIOR SPACE ELEVATION IS LOWER THAN THE OUTSIDE FINISHED GRADE, OR WHEN IT IS REQUIRED BY THE GEOTECHNICAL REPORT OR BUILDING DEPARTMENT, PROVIDE A 4" DIAMETER PERFORATED DRAIN PIPE BELOW THE TOP OF THE FOOTING. ENCASE THE PIPE IN 18"x18" FREE--DRAINING CRUSHED STONE AND FILTER FABRIC AT THE PERIMETER OF THE CRUSHED STONE.
14. ROOF AND AREA DRAINAGE SHOULD BE DIRECTED AWAY FROM THE FOUNDATION.
15. EARTH TRENCHES MAY BE USED FOR FORMING FOOTINGS ONLY.
16. COEFFICIENT OF HORIZONTAL FRICTION BETWEEN CONCRETE AND SOIL IS 0.30.
17. REFER TO GEOTECHNICAL LETTER FOR "TOPS UNLIMITED, INC" BY MAAG GEOTECHNICAL SERVICES DATED MARCH 28, 2017 FOR THE SEISMIC DESIGN CATEGORY EVALUATION.

REINFORCEMENT:

- 1. ALL REINFORCING BARS SHALL CONFORM TO ASTM A 615 GRADE 60 (fy=60 KSI), DEFORMED BARS. INCLUDING TIES AND STIRRUPS, EXCEPT AS NOTED IN NOTE #5.
2. WELDED WIRE FABRIC SHALL BE ASTM A185 AND SHALL BE CONTACT LAP SPliced TWO FULL WIRE SPACES.
3. PROVIDE CONCRETE PROTECTION FOR REINFORCING STEEL PER ACI 318 (LATEST EDITION) OR AS SHOWN ON THE DRAWINGS, WHICHEVER IS MORE STRINGENT.
4. ALL REINFORCING BARS SHALL BE DETAILED, FABRICATED, SUPPORTED AND PLACED IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" AND CRSI'S "MANUAL OF STANDARD PRACTICE, 2001" PROVIDE ALL REINFORCING ACCESSORIES NECESSARY TO MAINTAIN EXACT BAR POSITIONS, IE CHAIRS, SPACERS, AND SAND PLATES. BARS SHALL BE PROPERLY TIED TO CROSSING BARS AND AT SPliced LOCATIONS.
5. FIELD BENDING OF REINFORCING PARTIALLY EMBEDDED IN CONCRETE IS NOT ALLOWED UNLESS SPECIFICALLY NOTED IN THE STRUCTURAL DOCUMENTS.
6. ALL REINFORCING STEEL SPlices SHALL CONFORM TO ACI 318, CLASS B AND SHALL BE CONTACT LAP SPliced AS FOLLOWS (UNLESS NOTED OTHERWISE):
6.1. SPlices SHALL BE STAGGERED WHENEVER POSSIBLE MINIMUM STRAIGHT BAR LAP SPlices SHALL BE AS SHOWN IN THE TABLE BELOW OR AS SHOWN ON THE CONCRETE DRAWINGS
6.2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM
6.3. CASE 1 MAY BE USED WHEN BOTH THE SPACING OF THE BARS IS GREATER THAN 3 BAR DIAMETERS AND CLEAR COVER IS GREATER THAN 1 BAR DIAMETER, OTHERWISE USE CASE 2.
6.4. FOR LIGHTWEIGHT CONCRETE MULTIPLY LENGTHS IN TABLE BY 1.33
6.5. FOR EPOXY COATED BARS MULTIPLY LENGTHS IN TABLE BY 1.5

Table with 4 columns: BAR SIZE, TOP BARS, OTHER BARS, and SPlice LENGTH (INCHES). It provides splice length requirements for f'c=3,500 psi and f'c=4,000 psi across various bar sizes and cases.

- 7. UNLESS NOTED OTHERWISE, SPlice CONTINUOUS TOP AND BOTTOM BARS AS FOLLOWS:
7.1. TOP BARS AT MIDSPAN
7.2. BOTTOM BARS OVER SUPPORT
8. FULL MECHANICAL REBAR SPICES MAY BE USED IN LIEU OF STANDARD SPICES PROVIDED THEY DEVELOP AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH (fy) OF THE BAR CAPACITY. ALL MECHANICAL SPICES SHALL BE DETAILED ON THE REINFORCING STEEL SHOP DRAWINGS. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS.
9. ALL SPICES SHALL BE STAGGERED IN ACCORDANCE WITH ACI 318-05.
10. REINFORCEMENT SHALL BE CHECKED FOR CORRECT SIZE, LOCATION, ANCHORAGE AGAINST MOVEMENT AND WHETHER IT IS FREE OF DIRT AND DEBRIS.
11. VERTICAL BARS SHALL BE DOWELED INTO SUPPORTING MEMBERS WITH THE SAME SIZE, GRADE, AND SPACING OF REINFORCEMENT AS SHOWN ON THE DRAWINGS. DOWELS SHALL BE SECURELY TIED AND CAST IN PLACE WITH LOWER MEMBER.
12. PROVIDE CORNER BARS TO MATCH HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS.
13. ALL CONCRETE IS REINFORCED CONCRETE UNLESS SPECIFICALLY CALLED OUT AS "UNREINFORCED." REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH SAME STEEL AS IN SIMILAR SECTIONS OR AREAS.
14. PLACING REINFORCING AFTER CONCRETE HAS BEEN PLACED IS NOT PERMITTED.

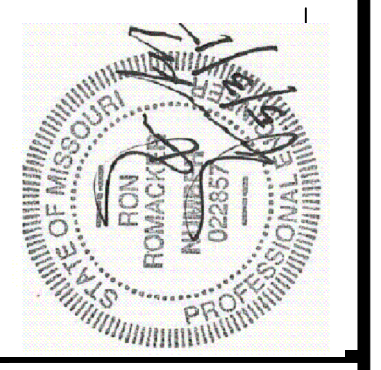
ADHESIVE ANCHOR SYSTEM:

- 1. POST INSTALLED ANCHOR RODS/BOLTS SHALL BE USED ONLY WHERE SPECIFIED ON THE DESIGN DRAWINGS.
2. ALL POST INSTALLED ANCHORS SHALL BE INSTALLED USING HILTI HIT HY 200 ADHESIVE ANCHOR SYSTEM -- INCLUDING HAS 193 B7 RODS, WASHERS AND NUTS. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
3. REINFORCING DOWELS ANCHORED IN EXISTING CONCRETE SHALL BE INSTALLED USING HILTI HIT HY 200 ADHESIVE ANCHOR SYSTEM -- INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MINIMUM EMBEDMENT LENGTH SHALL BE AS SHOWN ON THE DESIGN DRAWINGS.

GENERAL NOTES

Table with 2 columns: Date (05/03/2017) and Issued For Construction.

ROB BERNER
TOPS UNLIMITED, INC
700 BILTMORE DRIVE
FENTON, MISSOURI 63026

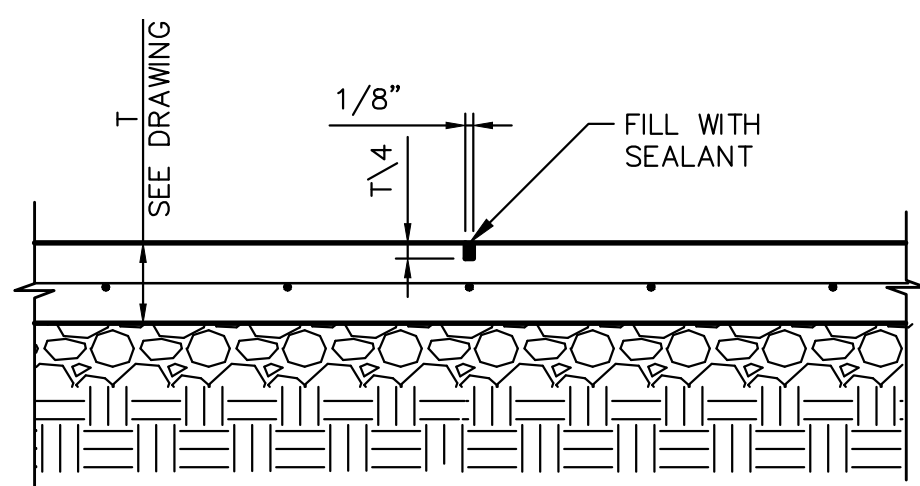


VonArx Engineering
10705 BUSINESS 21, SUITE A
HILLSBORO, MISSOURI 63050
OFFICE: (636) 709-8425
chris@vonarxengineering.com
CERTIFICATE OF AUTHORITY 0295

TOPS UNLIMITED
686 BILTMORE
BUILDING ADDITION
FENTON, MISSOURI

ISSUE DATE
05/03/2017
SCALE
N.T.S
Job Number
14887
Sheet Number

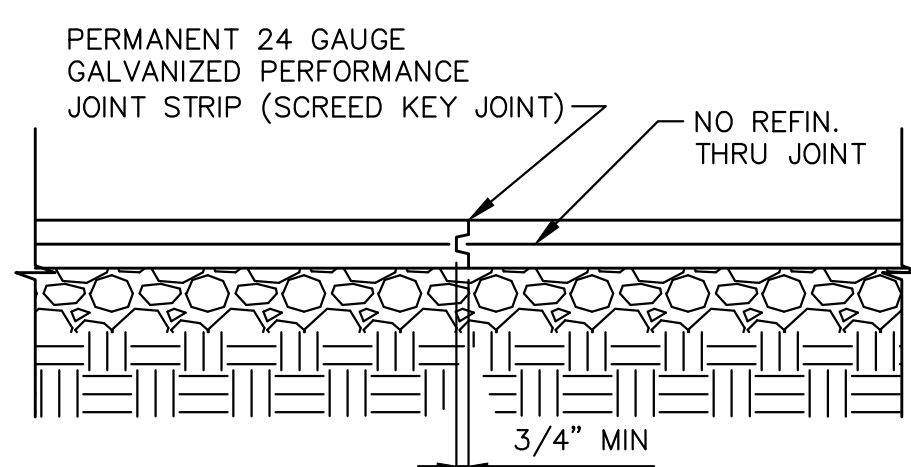
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NOTES:
 1. CONTROL JOINTS TO BE SAWED WITH WET CUT SAW AS SOON AS THE CONCRETE HAS GAINED ENOUGH STRENGTH TO SUPPORT THE OPERATION.
 2. SEE PLAN FOR SLAB REINFORCEMENT AND THICKNESS.
 3. PROVIDE SEALANT AT ALL JOINTS.

SLAB CONTROL JOINT

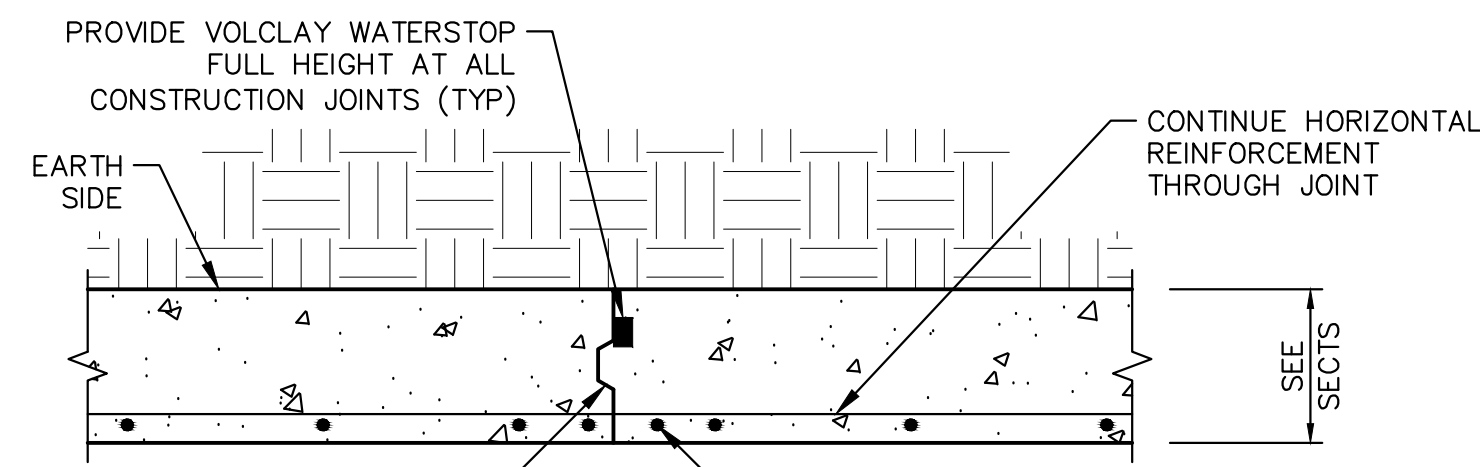
SCALE: N.T.S



NOTES:
 1. SEE PLAN FOR LOCATION.
 2. SEE PLAN FOR SLAB REINFORCEMENT AND THICKNESS.
 3. PROVIDE SEALANT AT ALL JOINTS.

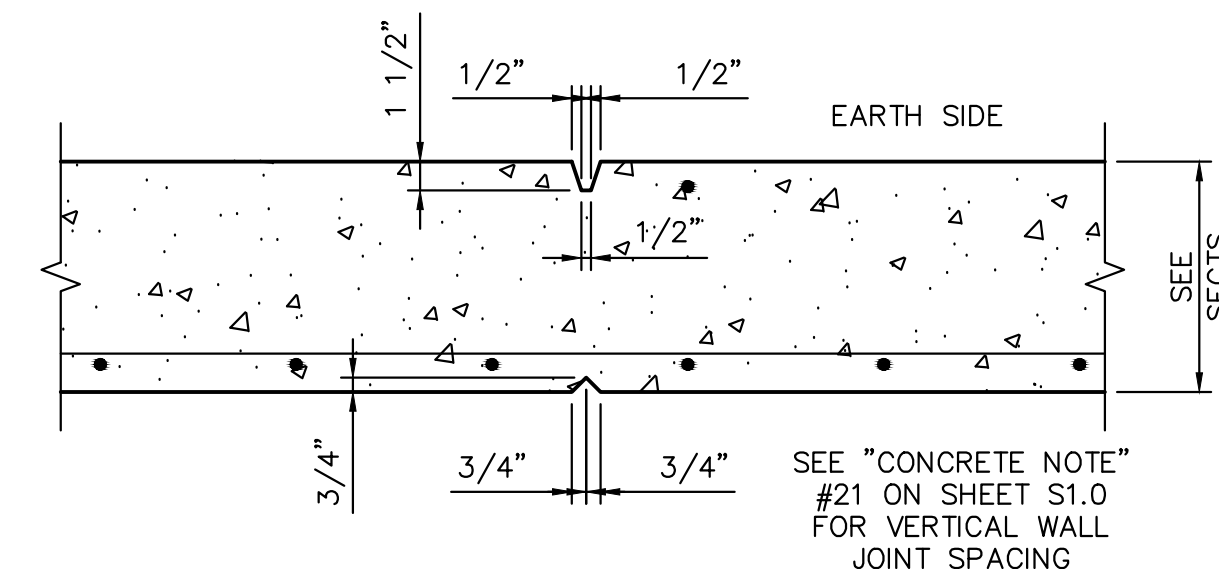
SLAB CONSTRUCTION JOINT

SCALE: N.T.S



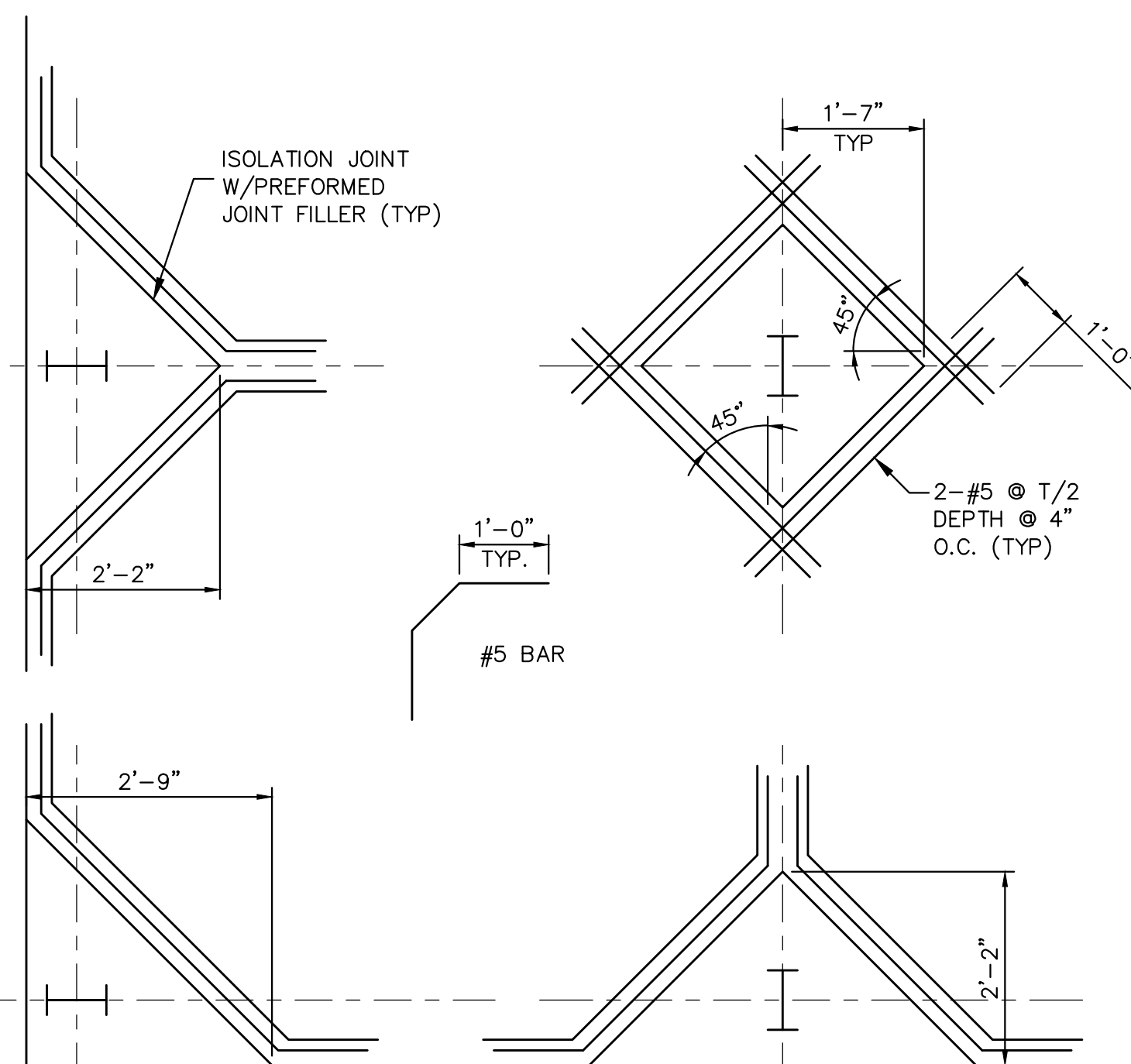
TYP FOUNDATION WALL CONSTRUCTION JOINT DETAIL

SCALE: N.T.S



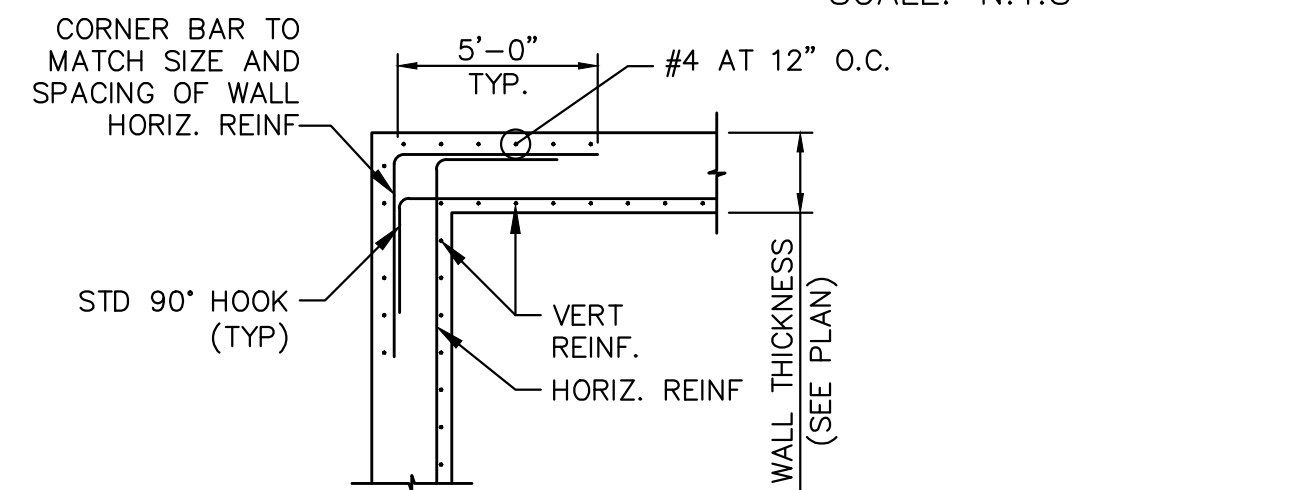
TYP FOUNDATION WALL CONTROL JOINT DETAIL

SCALE: N.T.S



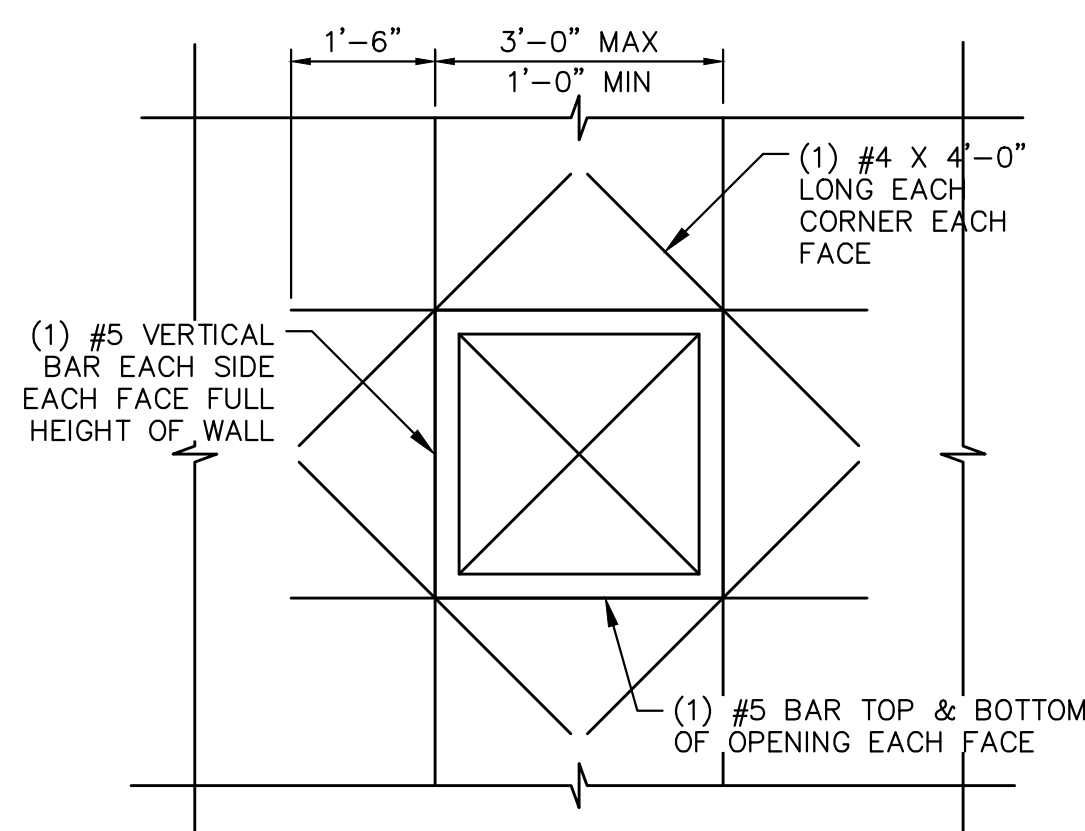
COLUMN ENCASEMENT DETAILS

SCALE: N.T.S



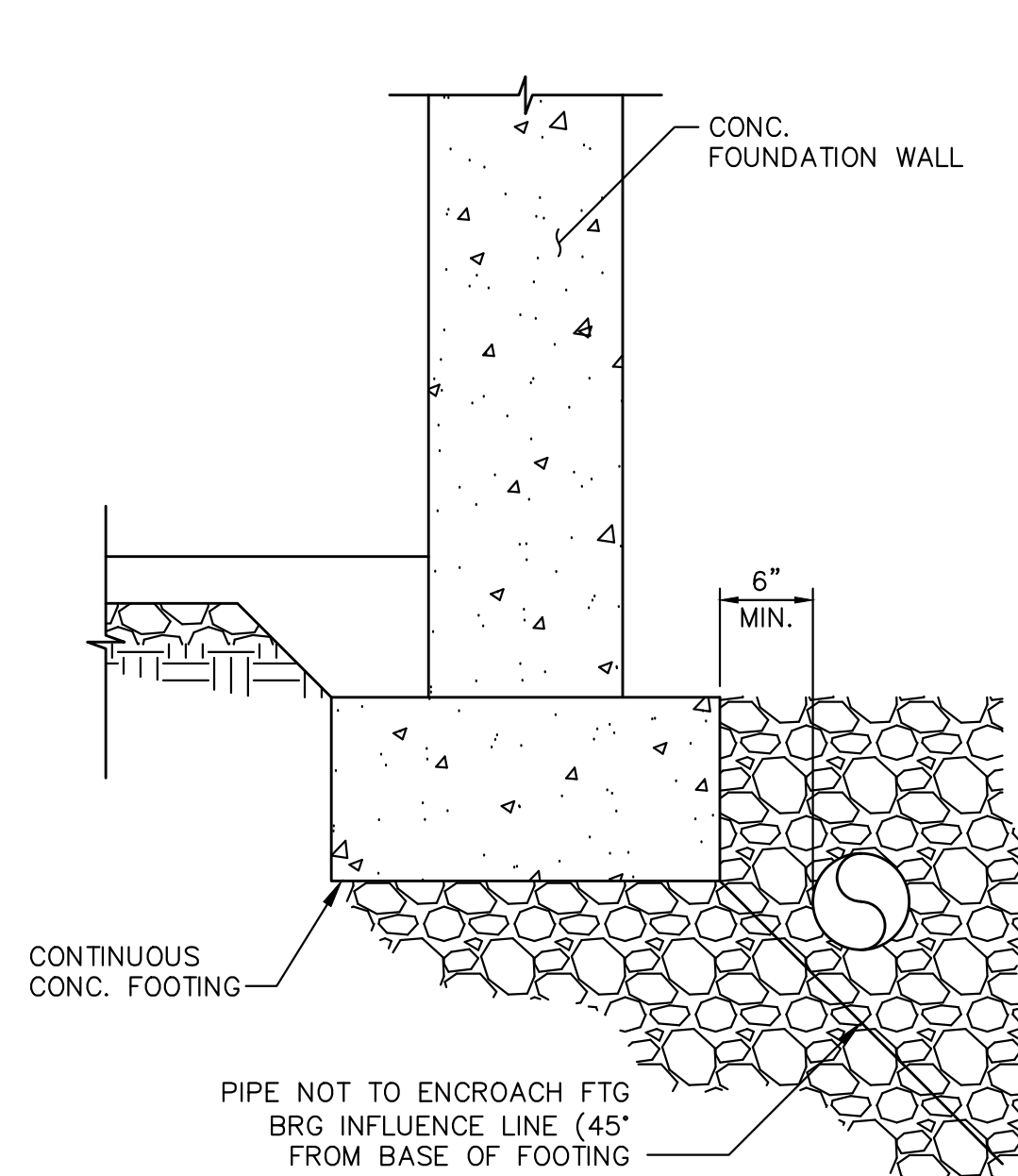
PLAN AT CORNER REINFORCING AT WALL CORNERS

SCALE: N.T.S



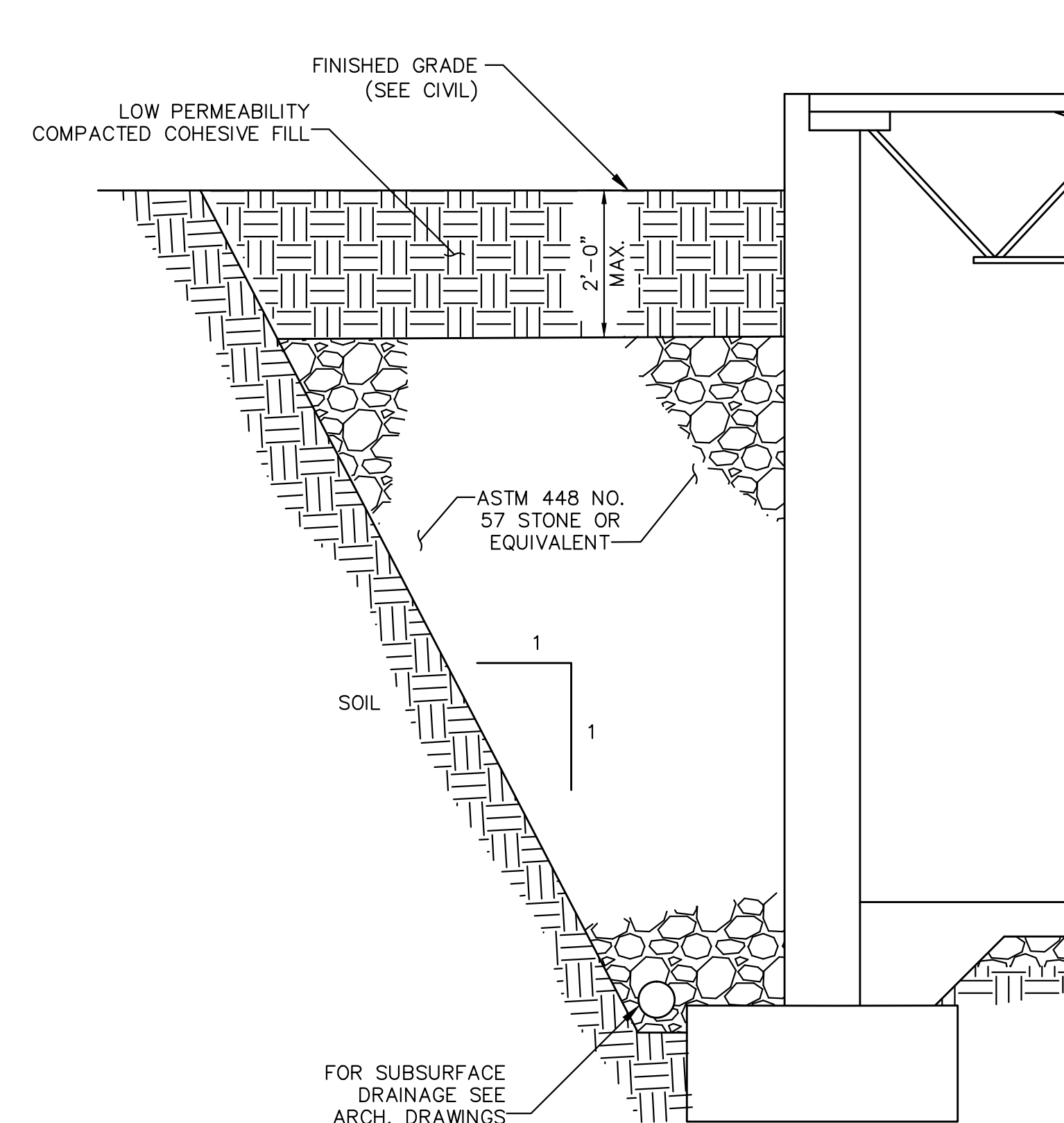
OPENING IN CONCRETE WALL

SCALE: N.T.S



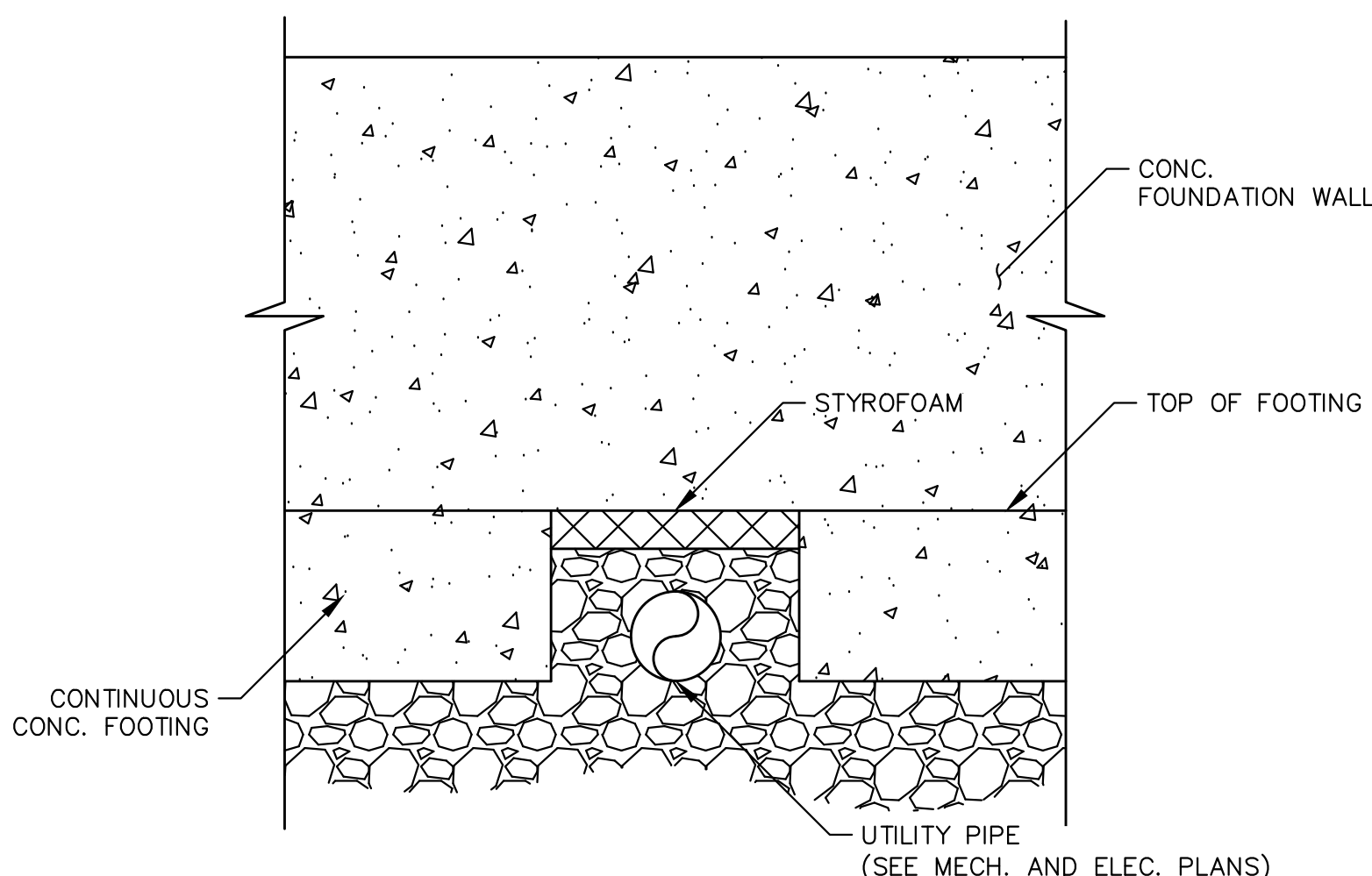
TYP PIPE AT FOOTING DETAIL

SCALE: N.T.S



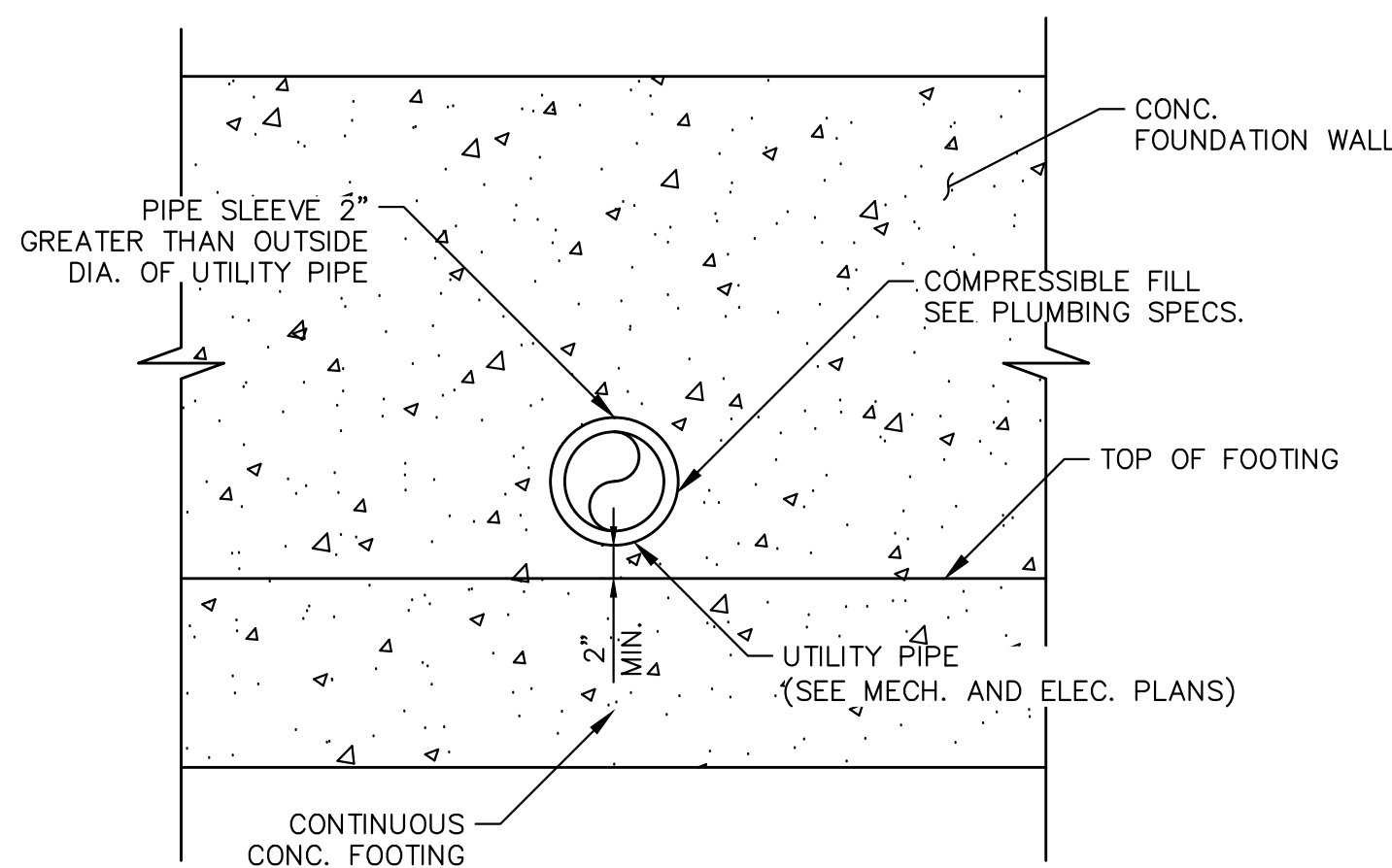
TYP BACKFILL AT RETAINING WALLS & BASEMENT WALLS

SCALE: N.T.S



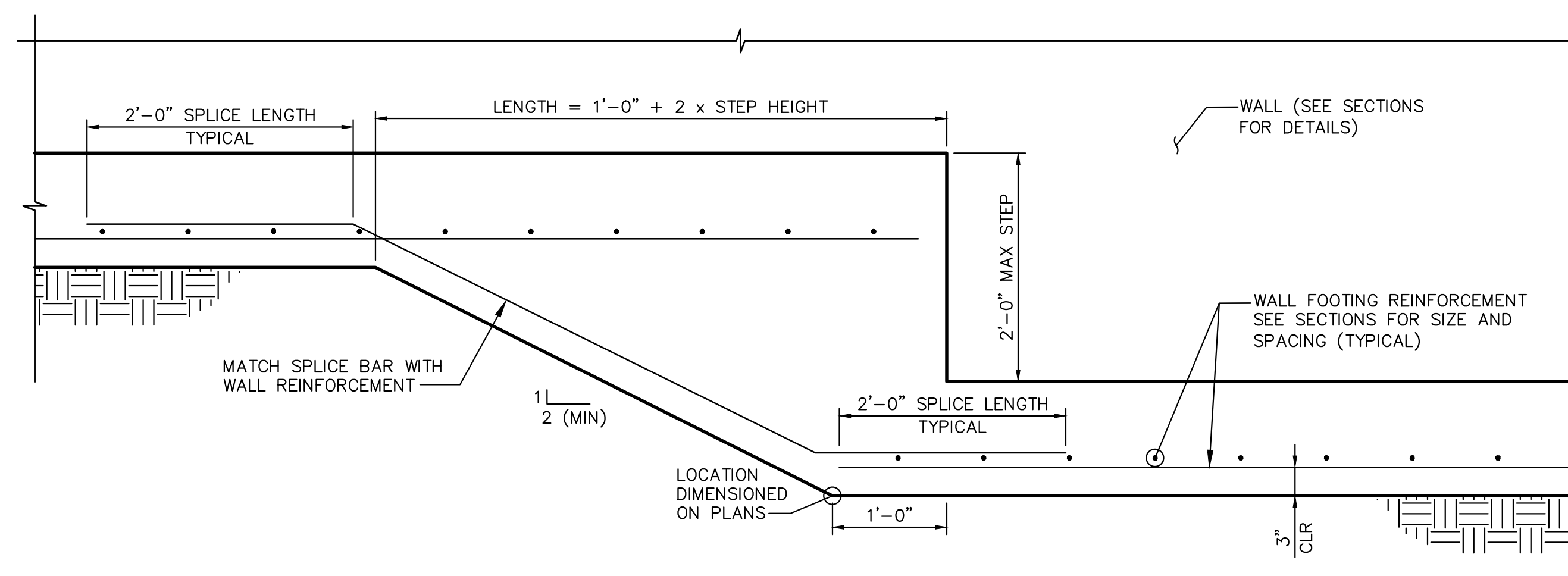
TYP UTILITY PIPE THRU FOUNDATION WALL

SCALE: N.T.S



TYP UTILITY PIPE THRU FOUNDATION WALL

SCALE: N.T.S



TYP WALL FOOTING STEP DETAIL

SCALE: N.T.S

Revisions	ISSUED FOR CONSTRUCTION
Date	05/03/2017

DEVELOPER:
ROB BERNER
TOPS UNLIMITED, INC
 700 BILTMORE DRIVE
 FENTON, MISSOURI 63026



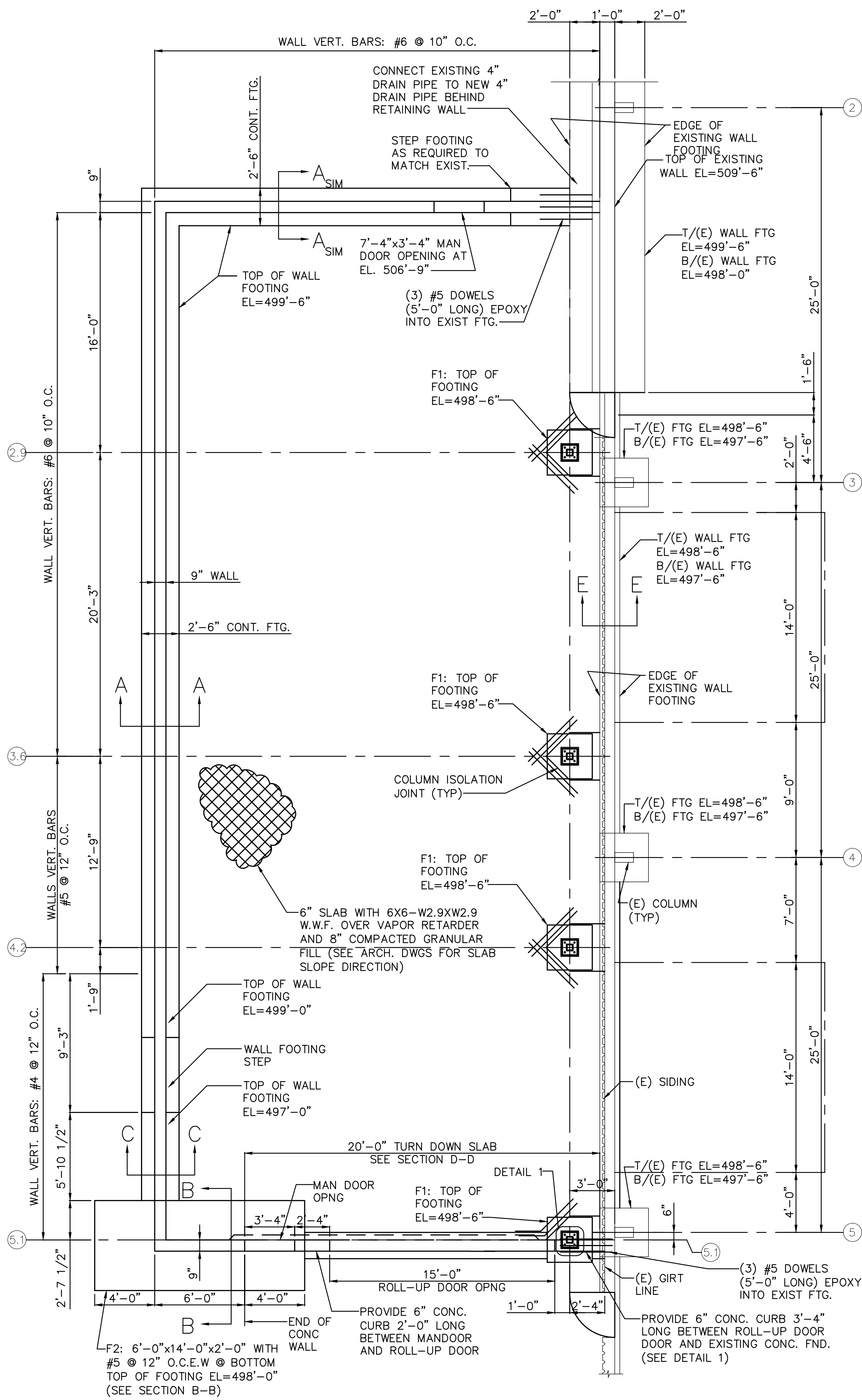
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 10736 BUSINESS 21, SUITE A
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 dvonarx@vonarxengineering.com
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 CERTIFICATE OF AUTHORITY 03975

TOPS UNLIMITED
686 BILTMORE
BUILDING ADDITION
FENTON, MISSOURI

ISSUE DATE
05/03/2017
 SCALE
 N.T.S
 Job Number
14887
 Sheet Number

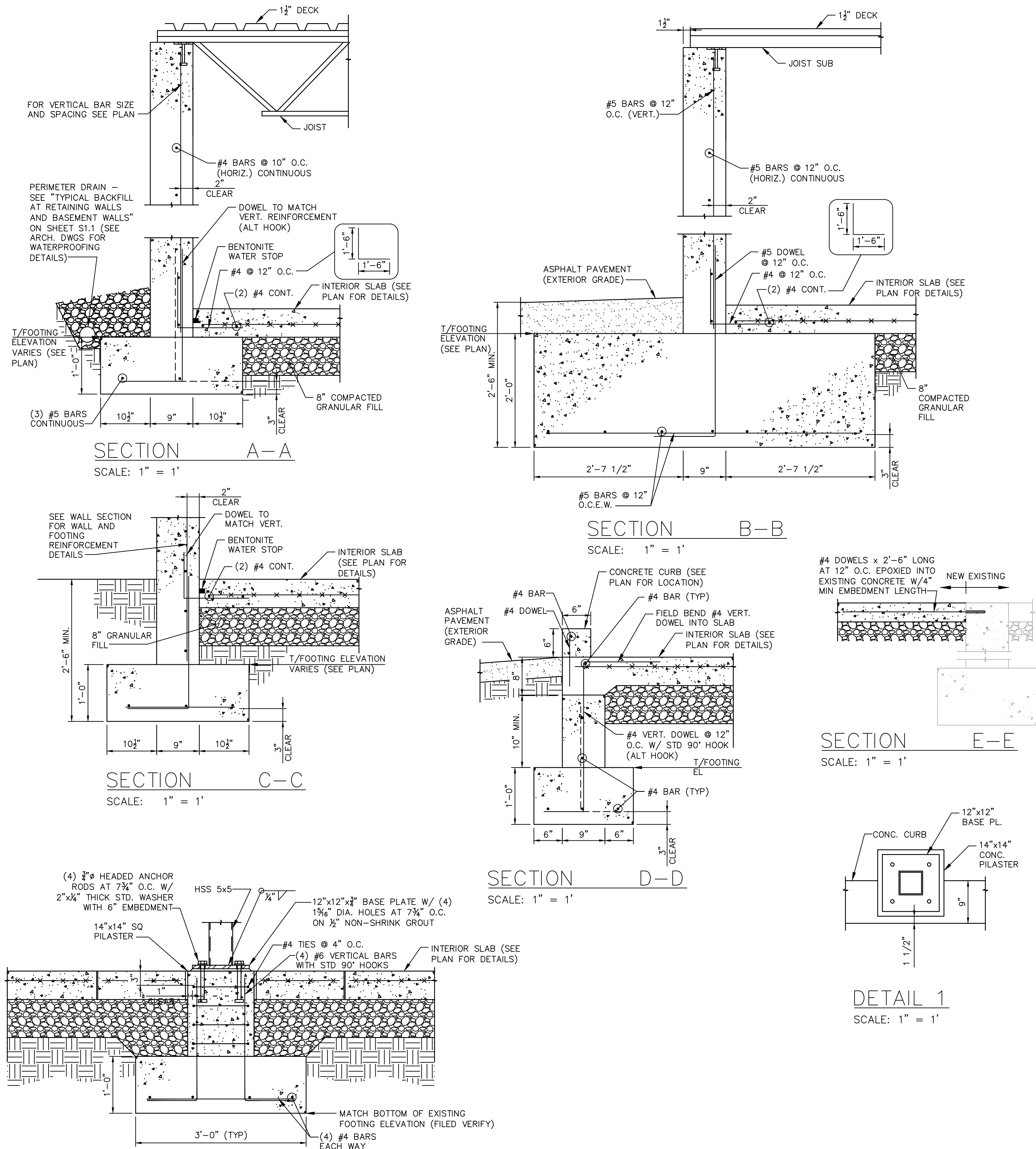
S1.1

TYPICAL DETAILS



FOUNDATION PLAN T/SLAB EL= 500'-0"
SCALE: 1" = 5'

- NOTES:
- SEE DRAWINGS S1.0 THROUGH S1.2 FOR GENERAL NOTES AND TYPICAL DETAILS.
 - SEE NOTE 22 ON SHEET S1.0 FOR SLAB CONTROL JOINT SPACING.



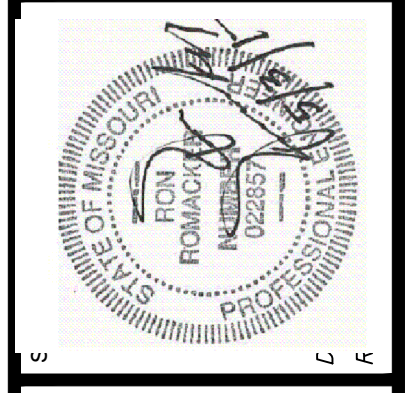
FOUNDATION "F-1" TYPICAL SECTION
1" = 1'

FOUNDATION PLAN AND DETAILS

Revisions	ISSUED FOR CONSTRUCTION
Date	05/03/2017

DEVELOPER:

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ISSUE DATE
05/03/2017

SCALE
1"=10'

Job Number
14887

Sheet Number

S2.0

