

12837 W. 54TH PLACE  
ARVADA, CO 80002  
OFFICE: (303) 715-9885

May 21, 2025

Meritage Homes  
7900 E. Union Avenue, Suite 400  
Denver, Colorado 80237

Attn: Jared Stanton

**Subject: Foundation Wall Form with UFER Observation**  
**10226 Hartwood Drive**  
**Lot 102, Filing 14, Paint Brush Hills Subdivision**  
**El Paso County, Colorado**

Dear Jared,

As requested, a foundation wall form observation for the subject site was performed on May 15, 2025.

At the time of our observation, the foundation wall reinforcing was placed in general conformance with the construction drawings. Placement for cover, overall spacing, and reinforcement splices appeared to be adequate. The foundation forms appear clear of debris and loose soil. We observed vertical dowels that extended from the footing into the foundation wall forms.

We observed a UFER rod, consisting of a minimum #4 bar, was placed, and tied to the foundation wall steel in the northeast part of the garage.

The dimensions, overall geometry, step locations, and desired options have not been, and will not be, verified by this office. These items should be reviewed by others. Anchor hardware location and placement is the sole responsibility of the contractor and was not reviewed.

This office was not present during concrete placement and cannot verify that the conditions remain as observed. It is the responsibility of others to verify these items remain as designed.

The scope of our site visit was limited to the items listed above.

Please contact this office if you have any questions or require clarification.

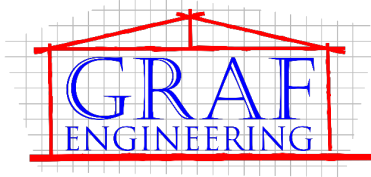
Sincerely,

**Graf Engineering, LLC**



Jeremiah Willis, P.E.

JRG - cc: file



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May 21, 2025

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7900 E. Union Avenue, Suite 400  
Denver, Colorado 80237

Attn: Jared Stanton

**Subject: Foundation Wall Post-Pour & Void Integrity Observation**  
**10226 Hartwood Drive**  
**Lot 102, Filing 14, Paint Brush Hills Subdivision**  
**El Paso County, Colorado**

Dear Jared,

As requested, a post-pour condition of the foundation wall and a void integrity observation for the subject site was performed on May 19, 2025.

At the time of our observation, we observed no notable surface defects in the foundation walls and the exposed concrete form ties were removed. Also, the integrity of the void material appeared to be in general conformance with the construction drawings.

This office was not present during back filling operations and cannot verify that the conditions remain as observed. It is the responsibility of others to verify these items remain as designed.

The scope of our site visit was limited to the items listed above.

Please contact this office if you have any questions or require clarification.

Sincerely,

**Graf Engineering, LLC**



Jeremiah Willis, P.E.

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HOLDOWN SCHEDULE		
CONTRACTOR TO VERIFY ALL HOLDOWN LOCATIONS w/ARCHITECTURAL DRAWINGS AND LATERAL PAGES. PROVIDED DIMENSIONS <b>MUST</b> BE VERIFIED PRIOR TO PLACEMENT. ALL HOLDOWNS/STRAPS TO BE NAILED TO FULL HEIGHT STUDS, NAILED TO SHEATHING w/EDGE NAILING.		
ID	SIMPSON	USP
HD1 OR HD2*	STHD14 / STDH14R <sub>12</sub>	STAD14 / STAD14R <sub>12</sub>
HD3	CS16x48*	RS16-R
HD4	(2)CS16x48*	(2)RS16-R
HD5 OR HD6	HTT5 (1)	HTT22 (1)
* USE (3)CS16 OR (1)CMST14 @FRAMED SHEARWALL BELOW OR (1)CS16 @ WSP OR CS-WSP BRACED WALLS.		
(1)REQUIRES 5/8"Ø THREADED ROD ANCHOR (A193 GR B7 OR F593 304SS) w/SIMPSON AT-XP <sup>®</sup> ADHESIVE. LOCATE ROD 4" (MIN) FROM EDGE OF CONC. AND EMBED 9"Ø (MIN) INTO CONC.		
(2)IF STRAP IS PLACED IN THE MIDDLE OF WALL, BEND STRAIGHT. RE: MANUFACTURER FOR INSTALLATION INSTRUCTIONS		
(R) RJ SERIES REQUIRED AT GARAGE CURB AT BLOCKOUT. PLACE BENEATH CURB AS REQ'D		

FOUNDATION LEGEND	
	PLACE 4" (MIN) VOID, PER SOILS REPORT, IN BOTTOM OF FOOTING FORM WHERE HATCH IS SHOWN ON PLAN. THE FOOTING MAY BE BULKHEADED IF DESIRED. RE: SECTIONS/FD1
	HATCH INDICATES TO HOLD TOW DOWN TO BELOW GRADE/ SLAB.

TOP OF WALL STEPS	
STEPS MAY VARY WITH SITE CONDITIONS. VERIFY PRIOR TO CONSTRUCTION	
STEP T.O.W DOWN IN DIRECTION OF ARROW (LOT SPECIFIC ONLY)	
ID	STEP SIZE
9A	1'-0"
9B	2'-0"
9C	3'-0"
9D	4'-0"
9E	5'-0"
9F	7'-8"

BOTTOM OF WALL STEPS	
STEPS MAY VARY WITH SITE CONDITIONS. VERIFY PRIOR TO CONSTRUCTION	
STEP B.O.W DOWN IN DIRECTION OF ARROW (LOT SPECIFIC ONLY)	
ID	STEP SIZE
8A	1'-0"
8B	1'-8"
8C	3'-0" @8ft BSMT
8D	4'-0" @8ft BSMT
8E	5'-0" @8ft BSMT
8F	6'-0" @8ft BSMT

WINDOW SCHEDULE	
VERIFY MFG, SPEC, AND SIZE w/BUILDER AND VERIFY WINDOW WELL SIZE w/ARCH PRIOR TO CONSTRUCTION.	
ID	WINDOW SIZE
3A	4040
3B	2-3050
3C	3050
3E	5050
3F	5036
3G	6040

† NOTE: HOLDOWN DIMENSIONS ARE PROVIDED FOR REFERENCE ONLY AND MUST BE VERIFIED BY BUILDER OR BUILDER REPRESENTATIVE PRIOR TO USE. SIGNING BELOW INDICATES BUILDER HAS VERIFIED DIMENSIONS NOT VALID WITHOUT SIGNATURE. DIMENSIONS ARE TO CENTERLINE OF STRAP/BOLT.	
BUILDER	xREPRESENTATIVE

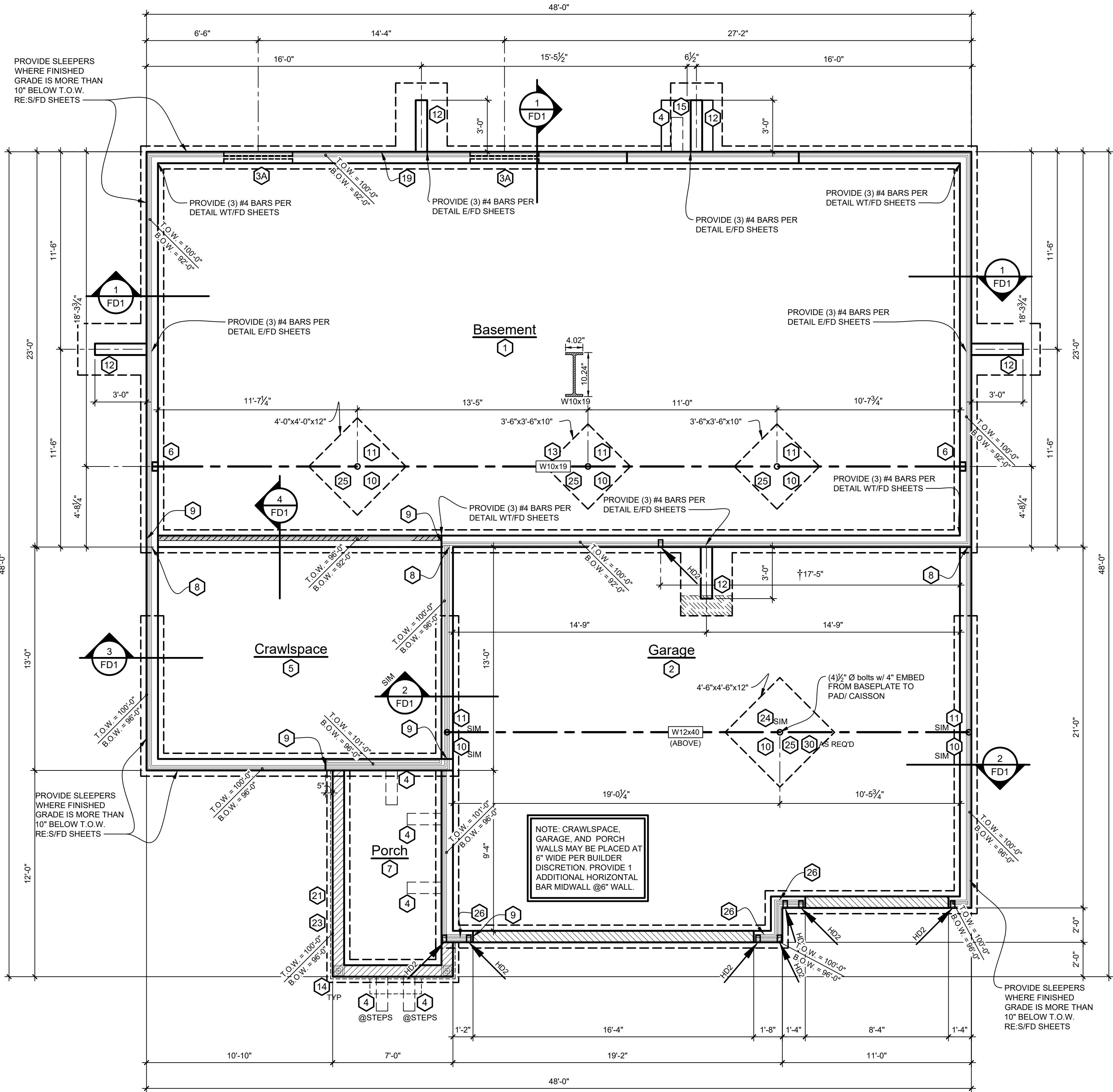
NOTE: STEPS AND WALL ELEVATIONS ARE PROVIDED FOR REFERENCE ONLY AND MUST BE VERIFIED BY BUILDER OR BUILDER REPRESENTATIVE PRIOR TO USE. SIGNING BELOW INDICATES BUILDER HAS VERIFIED STEPS AND WALL ELEVATIONS. STEPS AND WALL ELEVATIONS ARE NOT VALID WITHOUT SIGNATURE.	
BUILDER	xREPRESENTATIVE

IF BOX IS 1" SQ. THEN SCALE IS 1/2" = 1'-0" IF BOX IS 2" SQ. THEN SCALE IS 1/2" = 1'-0" IF BOX IS NOT 1/2" OR 1" SQ. THEN DRAWING IS NOT TO SCALE. WE NOTE THAT THESE DRAWINGS ARE NOT TO BE SCALED. SCALE IS PROVIDED FOR REFERENCE ONLY. REFER TO PLAN DIMENSIONS. DIMENSIONS NOT PROVIDED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR AREA IN QUESTION.	
ALL DIMENSIONS ARE TO BE VERIFIED WITH ARCH PRIOR TO CONSTRUCTION.	

FOUNDATION IS DESIGNED IN ACCORDANCE w/ARCHITECTURE DRAWINGS DATED AUGUST 9, 2024, AND STRUCTURAL DRAWINGS DATED JANUARY 31, 2025. DO NOT CONSTRUCT WITH ANY OTHER DRAWING SET. CONTACT BUILDER FOR CURRENT DRAWING DATES & REQUEST REVISED FOUNDATION AS NECESSARY. DRAWINGS ARE NOT VALID FOR USE BEYOND 2 YEARS FROM ISSUE DATE.	
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THIS PLAN WAS PREPARED WITH PLOT PLANS RECEIVED FROM B&J SURVEYING, INC., AND DATED FEBRUARY 12, 2025. FOUNDATION MODIFICATIONS NOT APPLICABLE WITH ANY OTHER PLOT PLAN RELEASE.	
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ANCHOR BOLT SCHEDULE	
SPACE A.B. @ 32" O.C. U.O.N. AS INDICATED BELOW. LOCATE BOLTS 12" MAX AND NO LESS THAN 3/2" (4/8" @ 3/8" BOLTS) FROM THE END OF EACH PLATE. PROVIDE (2) BOLTS PER PLATE MIN.	
B	= 1/2" ANCHOR BOLT @23" O.C.
C	= 1/2" ANCHOR BOLT @15" O.C.
D	= 1/2" ANCHOR BOLT @12" O.C.
E	= 1/2" ANCHOR BOLT @9" O.C.
* = 3/8" ANCHOR BOLT	
NOTE: SPACING INDICATED IS APPLICABLE TO ENTIRE WALL. HOWEVER, LENGTH AND LOCATION OF SPACING MAY BE MODIFIED IF COORDINATED WITH LATERAL RESISTANCE PLAN U.O.N. A.B.'s IN THIS TABLE REQUIRE 0.229"x3"x3" WASHERS AT SHEAR WALL PANELS D & E. CUT WASHER MAY BE USED FOR B & C WHERE HEIGHT TO WIDTH RATIO OF WALL PANEL DOES NOT EXCEED 2:1	
SIMPSON MASA MUDDL ANCHORS MAY REPLACE 1/2" Ø ANCHOR BOLTS 1:1 (ONE FOR ONE) 3/8" ANCHOR SUBSTITUTION ARE NOT PERMITTED.	



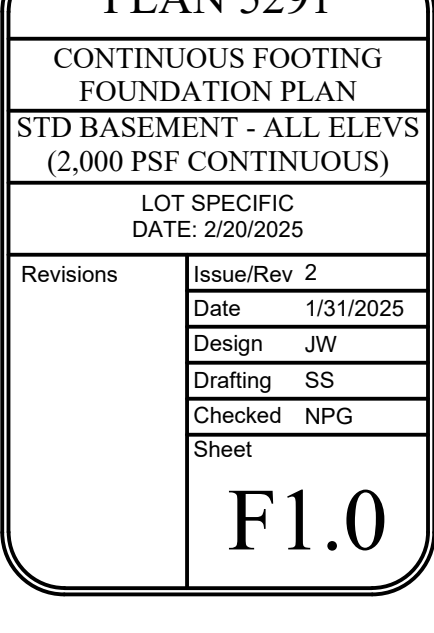
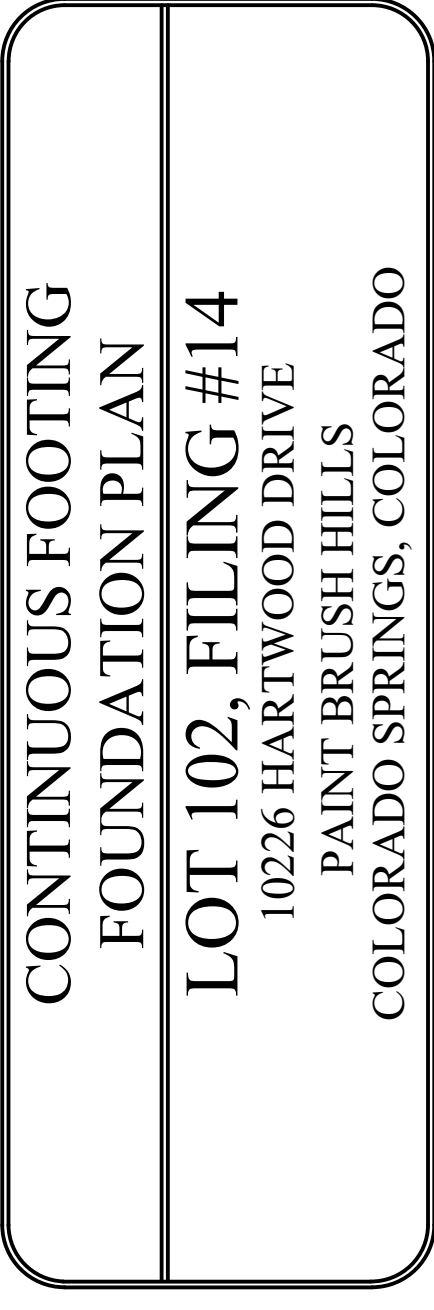
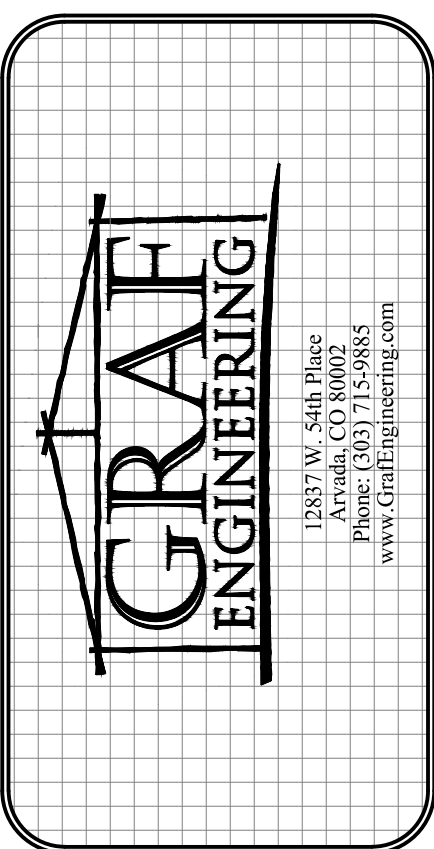
## FOUNDATION PLAN - ELEV A

### STD BASEMENT

SEE SHEETS CS1/FD1 FOR GENERAL NOTES, SECTIONS AND DETAILS. ALL FOUNDATION WALLS TO BE 8" WIDE UNLESS NOTED OTHERWISE. PROVIDE SLIP JOINT IN HUNG PARTITION WALLS IN BASEMENT. RE: C/FD1 TOP OF FOUNDATION WALL ELEVATION = 100'-0" U.O.N. ALL FOOTINGS TO BE 20" WIDE X 8" DEEP U.O.N.

## PLAN NOTES

- REFER TO PLAN FOR NOTE LOCATIONS. NOT ALL NOTES LISTED MAY BE APPLICABLE. REFER TO FD SHEETS FOR ADDITIONAL NOTES OR DETAILS NOT PROVIDED BELOW. **CONTRACTOR RESPONSIBLE TO VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION.**
- 4" CONCRETE SLAB-ON-GRADE. TOP OF SLAB ELEV. = RE: SECTION CALLOUTS & PLOT PLAN TOP OF FTG ELEV. = RE: SECTION CALLOUTS & PLOT PLAN. REFER TO FD SHEETS FOR SLAB SPECIFICATIONS.
  - 4" CONCRETE SLAB-ON-GRADE HOLD SLAB DOWN 2" MIN. FROM TOP OF WALL AT REAR OF GARAGE. SLOPE SLAB AS REQ'D (4" MIN) TOWARD DOOR. HOLD TOP OF WALL DOWN 14" AT DOOR (MAY VARY PER SITE CONDITIONS. VERIFY w/GRADING PLAN) AND POUR SLAB OVER WALL. MAINTAIN 18" MIN. BETWEEN HORIZ. REINFORCEMENT. RE: 2/FD SHEETS. TOP OF FOOTING ELEV. = 96'-0" U.O.N.
  - WINDOW OPENING PER SCHED. VERIFY SIZE, MFG, AND PLACEMENT w/ARCH. PRIOR TO CONST. RE: D/FD SHEETS (D1/FD FOR WINDOWS PARTIALLY EMBEDDED IN WALL) HAUNCH TO SUPPORT CONCRETE STOOP, PATIO, OR STEPS. RE: B/FD SHEETS. MANUFACTURED HAUNCHES RATED FOR 500LB VERTICAL MIN. w/21/2" THRU-BOLTS PERMITTED. **WHEN SUPPORTING STOOPS, PATIO SLABS, OR STEPS NO MORE THAN 2FT HIGH. LOCATE UNDIMENSIONED HAUNCHES**
  - 4'-0" O.C. CENTERED ON FEATURE ABOVE. CRAWLSPACE - PROVIDE VENTING AND ACCESS AS REQUIRED PER IRC REQUIREMENTS. REFER TO MECHANICAL PLAN/ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS. PROVIDE CLASS 1 VAPOR RETARDER (10MIL or GREATER) PER IRC REQUIREMENTS. FASTEN & SEALED TO FOUNDATION WALL TO ALL PENETRATIONS AND AT ALL SEAMS (LAP SEAMS 6" MIN) TOP OF FOOTING ELEV. = 96'-0" U.O.N.
  - BEAM POCKET. BEAR BEAM 3" IN POCKET AND GROUT SOLID. BEAM TO BE INSTALLED LEVEL IN POCKET. SHIM STACKS OVER 1" TALL ARE TO BE WELDED TOGETHER. RE: BEAM SECTION FOR BEAM SIZE. OVERSIZE BEAM POCKET 1" MIN EA. SIDE. RE: L/FD SHEETS FOR STEEL PLACEMENT.
  - PROVIDE STEEL PLATE BETWEEN STL BEAM & FND. w/12"Øx6" EXPANSION ANCHORS EA. END OF PLATE. WELD FLUSH BEAM TO PLATE w/(2)3.5"x0.25" FILLET WELDS. RE: A6/SD1.
  - PROVIDE STEEL PLATE BETWEEN STEEL BEAMS. WELD BEAM FLANGES CONT. TO SHIM @TOP & BOT. (INCREASE PLATE SIZE AS REQ'D FOR WELDING). RE: 6B/SD1.
  - 4" CONCRETE SLAB-ON-GRADE w/4x4-W2.9 WWF(MIN). LOCATED MID-DEPTH OF SLAB TO SLAB SCHEDULE FOR SLAB REQUIREMENTS FOR SLABS LABELED 7A - 7E.
  - BOTTOM OF WALL STEP. RE: STEP SCHEDULE (MAINTAIN 36" MIN FROST PROTECTION) RE: F/FD SHEETS FOR STEP DETAIL.
  - TOP OF WALL STEP. RE: STEP SCHEDULE (MAINTAIN 6" CLEARANCE ABOVE GRADE) RE: F/FD SHEETS FOR STEP DETAIL.
  - WRAP COLUMN w/1"THICK EXPANSION JOINT MATERIAL WHERE COLUMN EXTENDS THROUGH SLAB (TYP). PIN STEEL COLUMN BASE PLATE TO TOP PAD w/(2) 1/2"Ø EXPANSION ANCHORS.
  - 3"Ø SCH. 40 ADJ PIPE COLUMN (30 KIP CAPACITY). COLUMN MUST BE PLUMB TO 1/8" IN 8'-0" & MUST BE CENTERED ON BEAM ABOVE & PAD BELOW. WELD COLUMN CAP PLATE TO STEEL BEAM w/FILLET WELDS (2" MIN EA SIDE). RE: A/FD SHEETS.
  - COUNTERFORT RE: E/FD SHTS HOLD BELOW GRADE OR UNDER PATIO SLAB AS REQ'D. MIN. HEIGHT TO 6'-0". CONTACT THIS OFFICE IF GRADING REQUIRES SHORTER CFT. PROVIDE 3'-0"x4'-0"x10" FTG w/16"x36"x4" VOID @TOE OF FTG.
  - TOP OF MAIN FLOOR STEEL ELEV = 100'-1 1/2" @8FT BSMT. 100'-0" @8FT BSMT & GROUND CLUED. PLATE TO BEAM w/(2) ROWS HILTI X-UZTP836 @24" O.C. STAGGERED. CUT PLATE TO WIDTH OF BEAM FLANGE OR CENTER ON BEAM. 7FT MIN CLEARANCE BTWN BEAM & SLAB REQ'D (INCLUDING FINISHES).
  - STRUCTURAL COLUMN. RE: FRAMING FOR SIZE. ANCHOR POST TO WALL w/SIMPSON ABA SERIES POST BASE U.O.N. PROVIDE TREATED PLATE UNDER PORCH FRAMING. FASTENED TO WALL w/HILTI CP72P8S23 @12" O.C. & 6" FROM END OF PLATE. OR 1/2"Ø AB (RE: FD SHEETS) @6'-0" O.C. & 1'-0" MIN. FROM END OF PLATE. FASTEN MANUFACTURED COLUMNS PER MFG'S RECOMMENDATIONS. RE: ARCH FOR TYPE, SIZE, AND LOCATION. NOTE: OVERPOUR SLAB AS REQUIRED PER POST BASE INSTALLATION INSTRUCTIONS. CONCRETE STOOP. RE: ARCH FOR SIZE AND LOCATION.
  - WOOD PORCH ABOVE. (RE: S1.0 FOR FRAME) MAINTAIN 6" BTW GRADE AND PORCH FRAMING. PROVIDE DRAINAGE AS REQ'D.
  - FIELD LOCATE 12"x12"x3'-0" PILASTER ON 20"x20"x10" PAD. BEAR PAD ON SOLID MATERIAL. REIN. w/3-#5 BARS E.W. BOT. REIN. PLASTER SCORRENT TO PAD w/4-#4 BARS VERT. WITH 6" HOOK. ALT: 6'-0" PIER (SEE PLAN FOR SIZE) w/(3) #4. PROVIDE 12"x12"x10" PIER CAP PER ARCH RE: G/FD1 ANCHOR POST TO PILASTER/PIER CAP w/ABA SERIES POST BASE.
  - INDICATES TYP LOCATION OF 2x4(MIN) SILL PLATE. (PROVIDE 2x4 @FLOOR SYSTEM. MATCH WALL WHERE NO FLOOR SYSTEM TO BE INSTALLED. RE: STRUCT FOR STUD SIZE) PRESSURE TREATED MATERIAL TO BE ACQ. ADVANCE GUARD BORATE PRESSURE TREATED, OR ALTERNATE AS APPROVED BY THE AMERICAN WOOD PRESERVERS' ASSOCIATION. NOTE: HOT DIPPED GALVANIZED (G-95) OR STAINLESS STEEL FASTENERS ARE REQUIRED FOR USE w/ACQ TREATED PLATES. (EXCEPTION: 1/2" OR LARGER ANCHOR BOLTS) STACK ADDITIONAL 2x SILL PLATE AS REQ'D (P.T. NOT REQ'D) ON TOP OF P.T. SILL PLATE @8FT. BSMT. NAIL TO P.T. PLATE w/2-3"x0.148" @12" O.C.
  - BRICK LEDGE. HOLD DOWN TO GRADE RE: JFD SHEETS. ALT: L 3.5x3.5x0.25 STEEL ANGLE. TOP OF ANGLE 4" MIN. FROM TOP OF CONCRETE. BOLTED TO FDN WITH (2) SIMPSON STRONG BOLT 2 EXP ANCHORS. (4" MIN EMBEDMENT) EA. SIDE. TYP RETURN IS 2'-0" FROM FRONT EDGE OF FRAME WALL. RE: ARCH IF BRICK ANGLE IS LONGER THAN 2'-0" PLACE BOLTS @2'-0" O.C. SPACING FOR 10'-0" HIGH BRICK. @12" O.C. FOR 21'-0" HIGH BRICK.
  - HOLD TOP OF WALL DOWN AS REQ'D BELOW GRADE OR TO CONFORM w/PORCH SLAB. POUR SLAB OVER WALL AS REQ'D.
  - BLOCK-OUT FOR SERVICE DOOR. RE: ARCH FOR SIZE AND LOCATION (VERIFY OPTION w/BUILDER).
  - EDGE OF CONCRETE PATIO. OVERPOUR/CANTILEVER SLAB 6" MAX PAST FDN. RE: ARCH.
  - 4"Ø SCH40 ADJ PIPE COL. TYP (45 KIP CAPACITY). PROVIDE 8"x8"x1" BASE PLATE, ANCHORED RE: NOTE 10. PROVIDE 8"x(BEAMWIDTH)x1" CAP PLATE WELDED ON 2 SIDES. WELD COLUMN TO CAP BASE PLATES ALL AROUND. ALL WELDS TO BE 1/4" FILLET WELDS. INSTALL COLUMN RE: NOTE 11.
  - ISOLATED CONCRETE PAD w/#5 BARS @6"OC EW C/C BOTTOM. BEAR ON NATIVE SOILS. DO NOT UNDERMINE w/PERIMETER DRAIN. RE: PLAN FOR SIZE.
  - PROVIDE 2-PLY STACKED SILL PLATES w/(1)14" LONG 5/8"Ø A.B. w/2"x2"x3/16" PLATE WASHER. EXTEND A.B. ABOVE TOP OF 2-PLY SILL PLATES. RE: IRC R602.10.6.2
  - PROVIDE SINGLE PLATE w/ (2)1/2"Ø A.B. w/2"x2"x3/16" PLATE WASHERS. RE: IRC R602.10.6.4 or IRC R602.10.6.3
  - NOT USED.
  - BOLT STL. COL. BASE PLATE TO PAD/WALL w/(2) 1/2"Øx5" HILTI "XWKBOLT 11" EXP. ANCHOR (or EQUAL) RE: A/FD SHEETS SIM PROVIDE GREATER OF 12" OR 1/60 HEIGHT DIA. CAISSON ON TOP OF PAD w/4-#5 BARS FROM C/C TOP OF CAISSON AND HOOKED 12" INTO PAD C/C BOTTOM. PROVIDE (3) #3 HOOPS WITHIN 5" OF TOP AND @8" O.C. THERE AFTER.

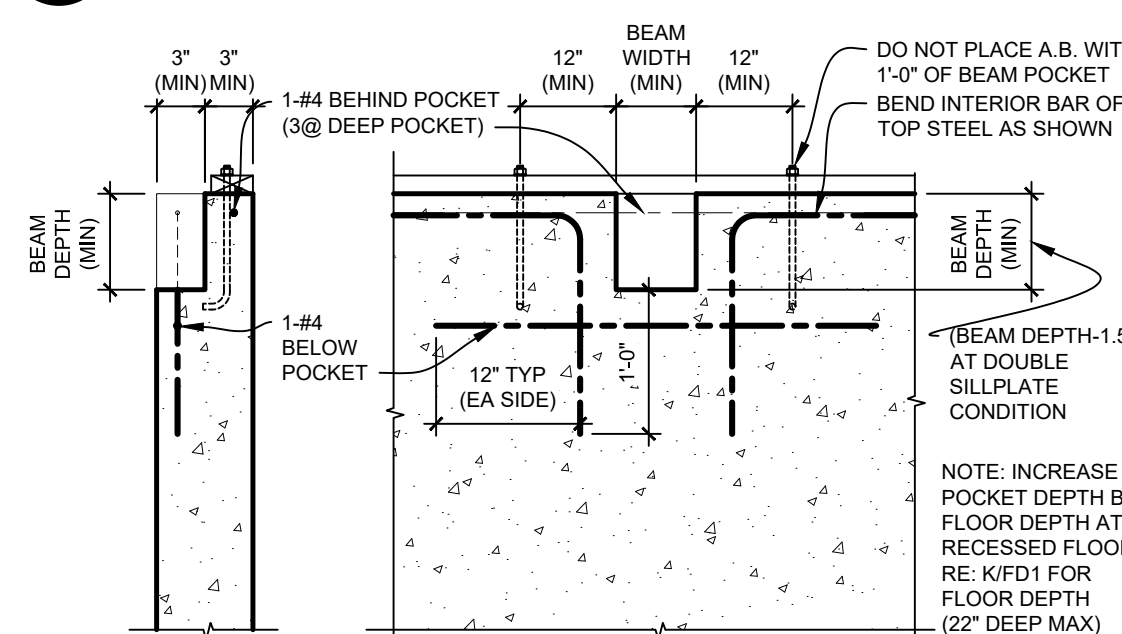




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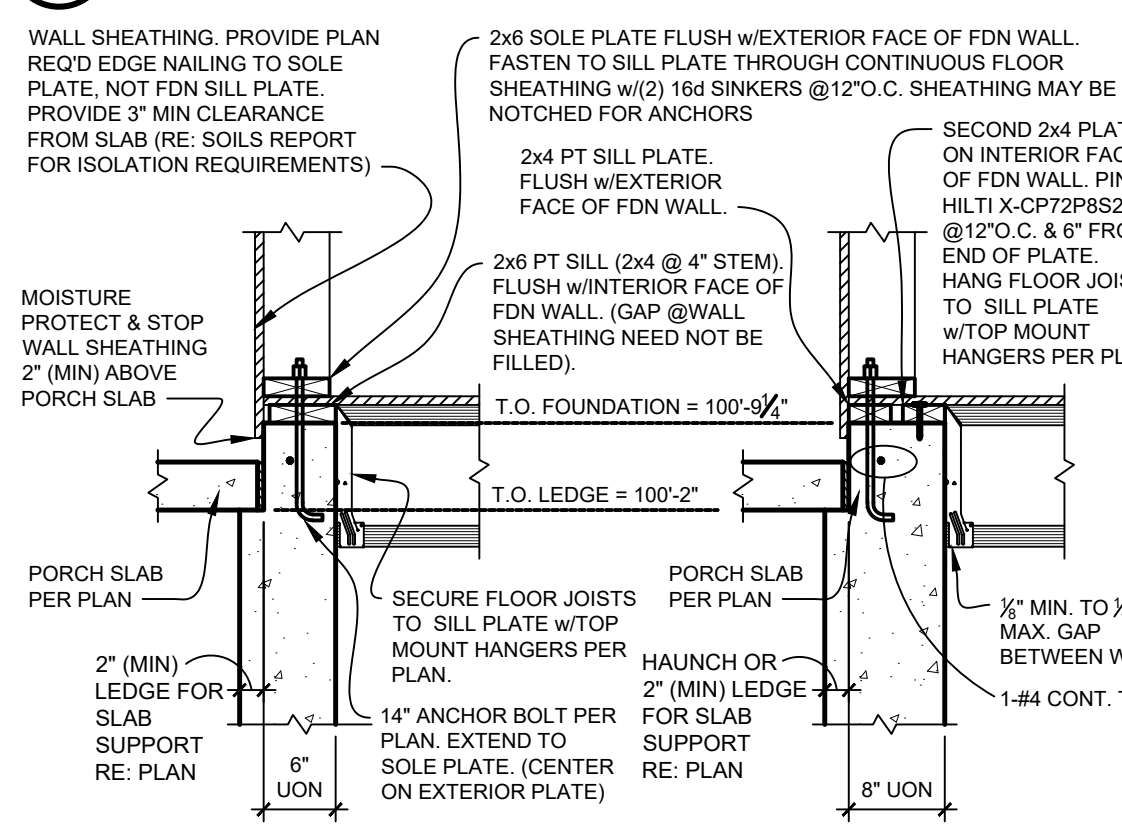
## A INTERIOR COLUMN DETAIL

N.T.S.



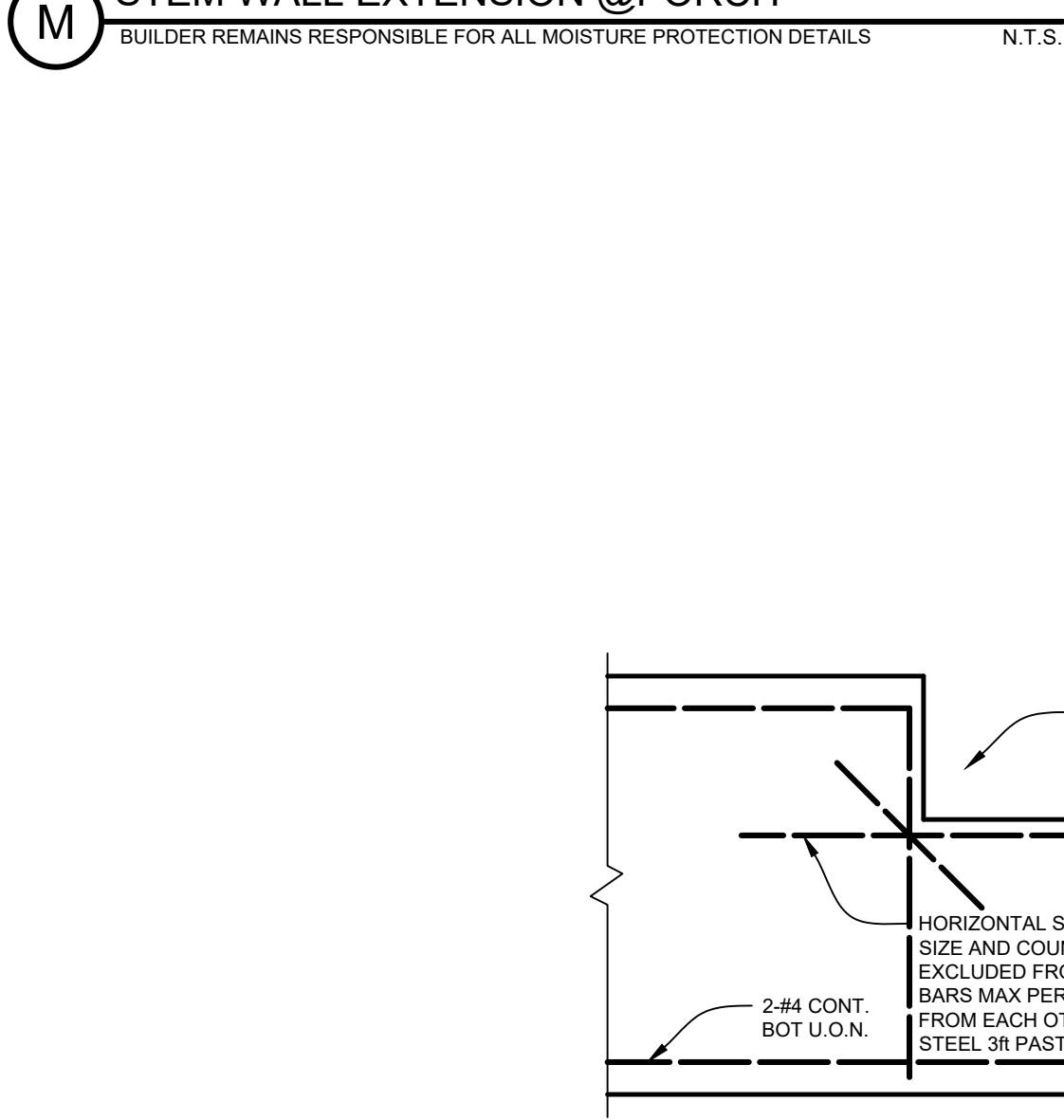
## L BEAM POCKET DETAIL

N.T.S.



## M STEM WALL EXTENSION @PORCH

N.T.S.



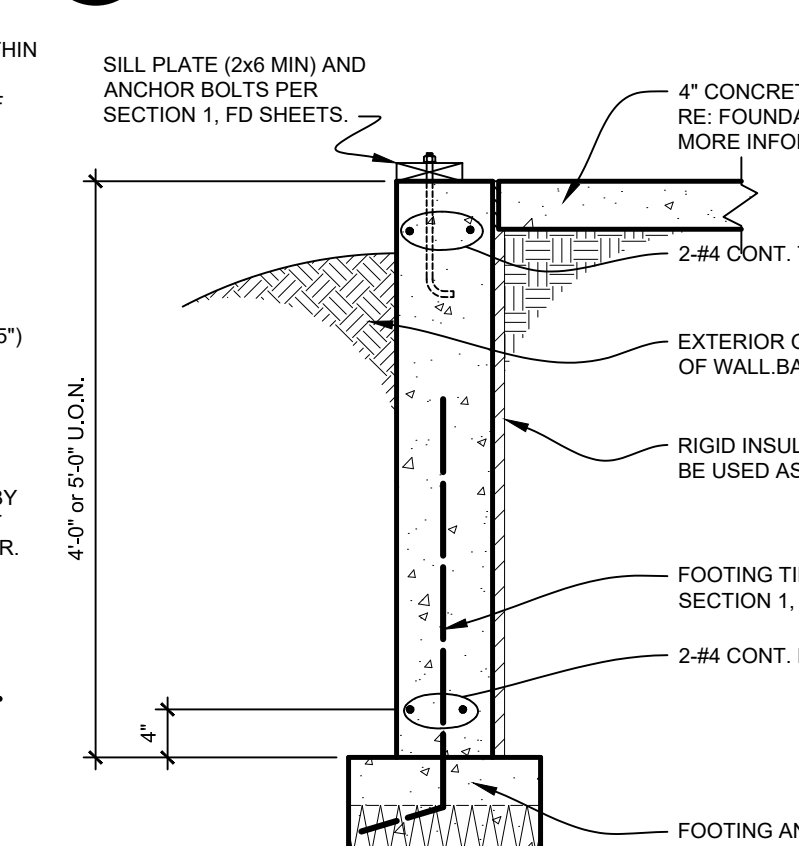
## D1 WALL DETAIL AT WINDOW BLOCK-OUTS

N.T.S.

N.T.S.

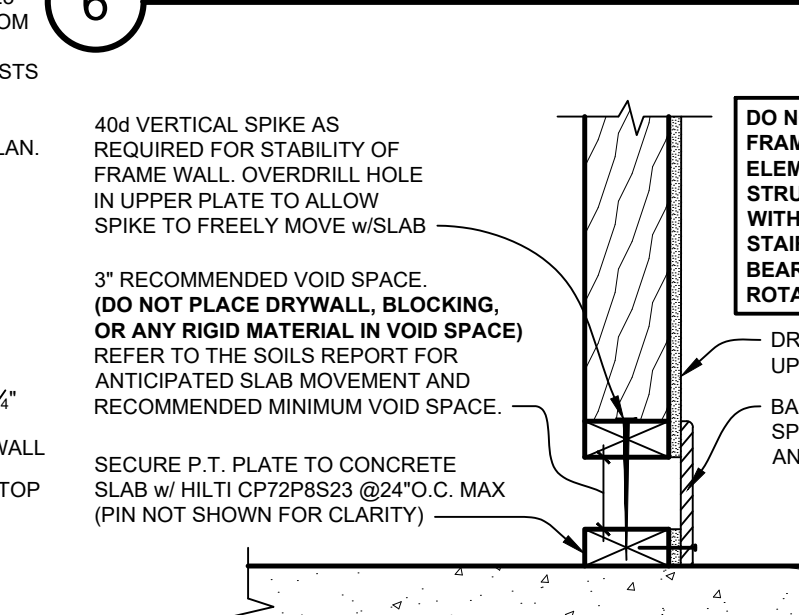
## 5 GARDEN LEVEL WALL SECTION

N.T.S.



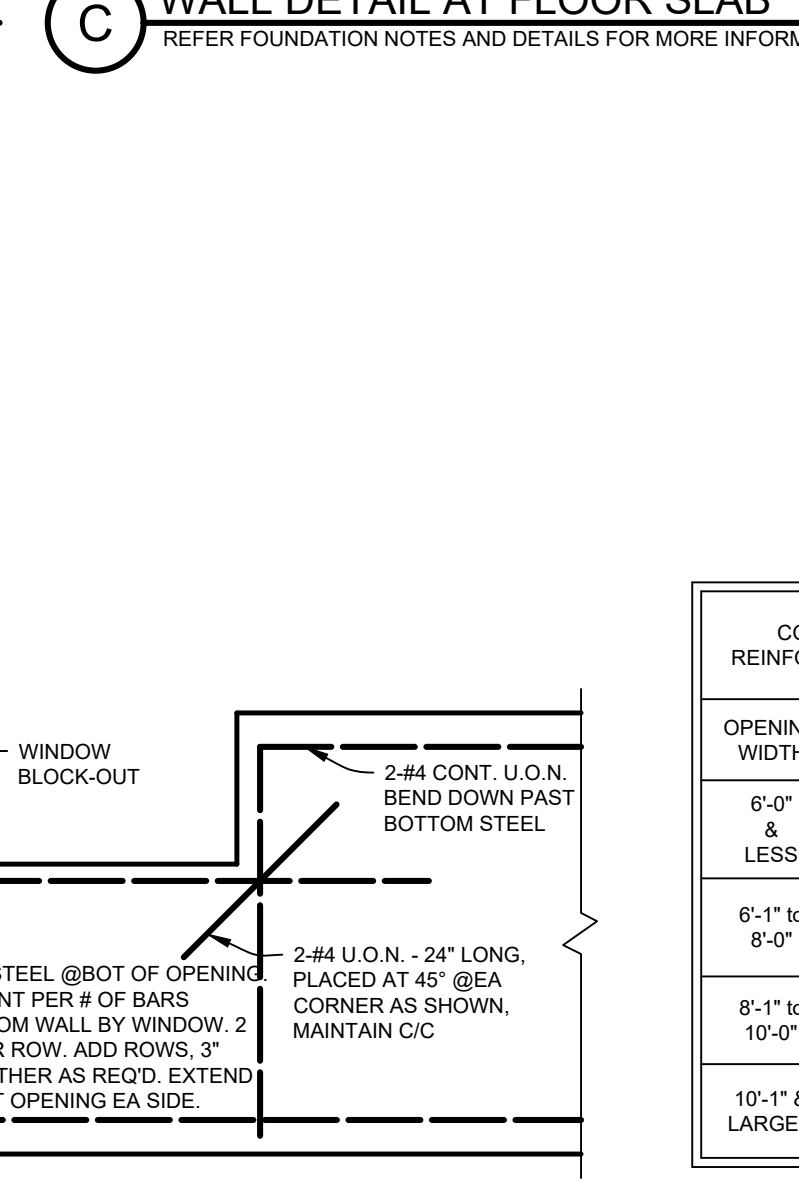
## 6 WALKOUT REAR WALL SECTION

N.T.S.



## C WALL DETAIL AT FLOOR SLAB

N.T.S.



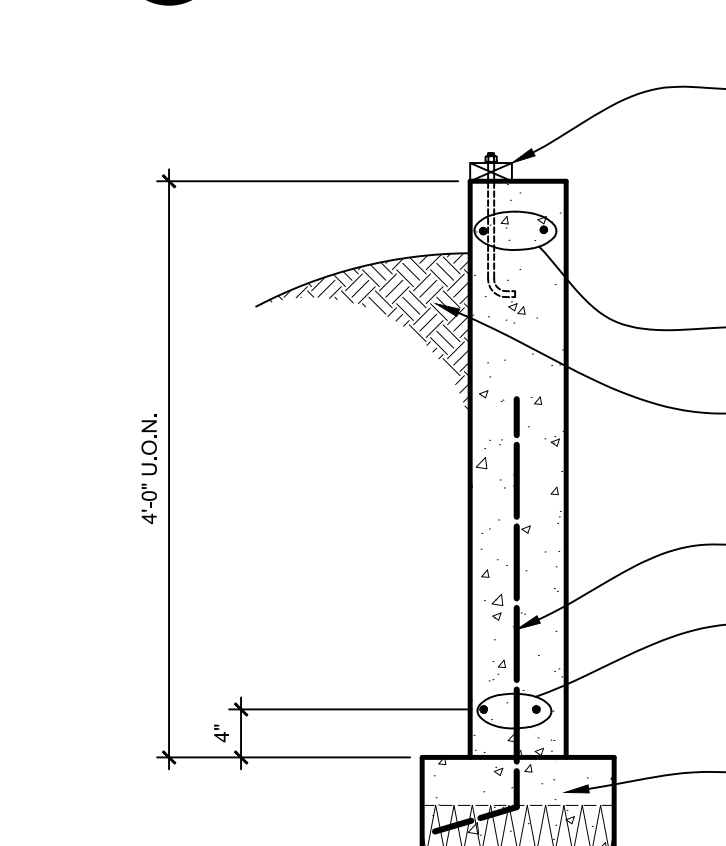
## D WALL DETAIL AT WINDOW

N.T.S.

N.T.S.

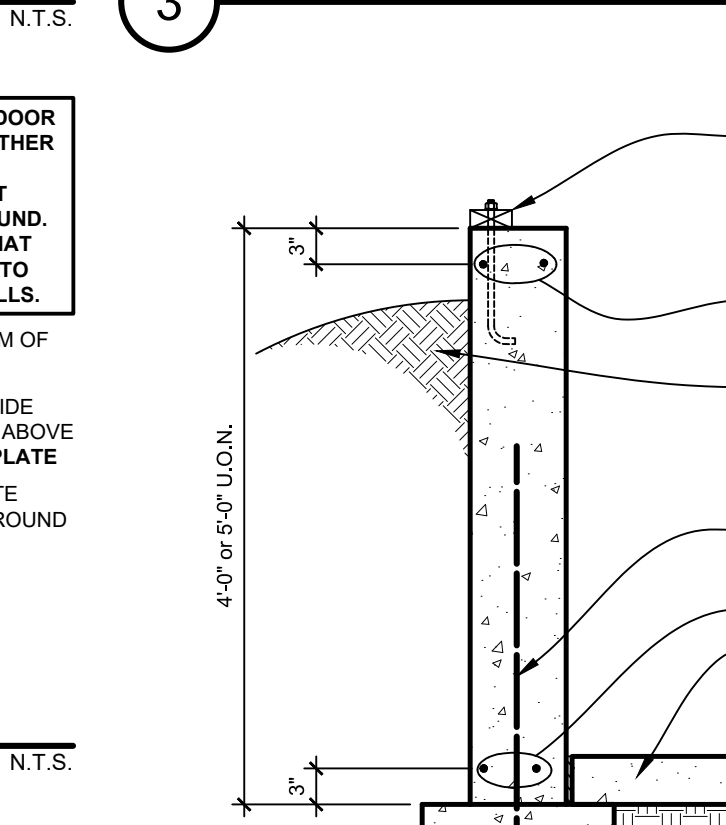
## 2 GARAGE WALL SECTION

N.T.S.



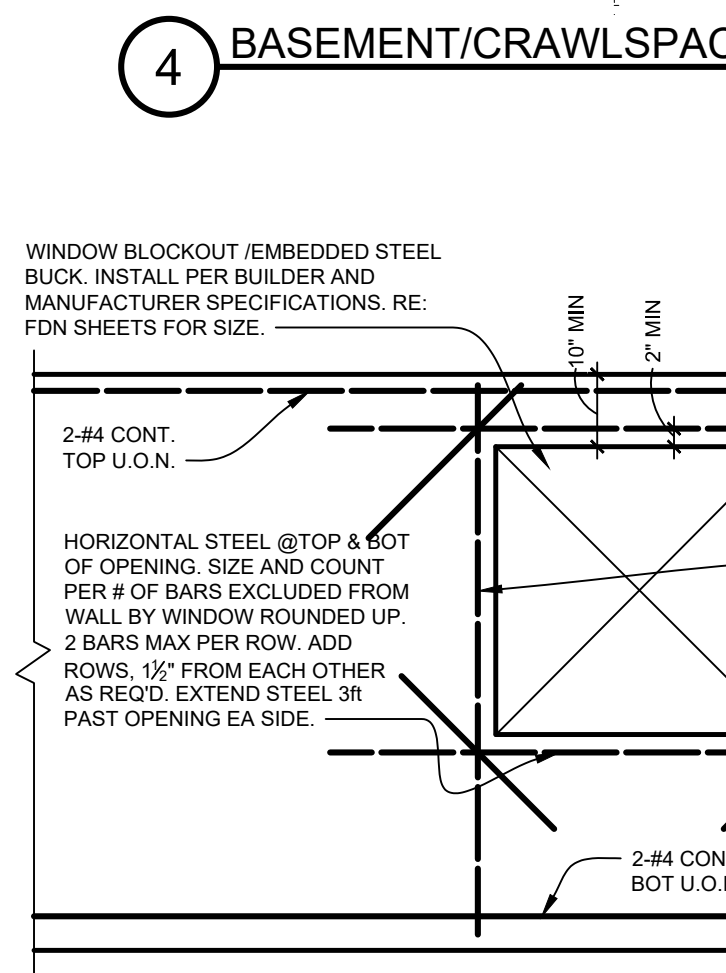
## 3 CRAWLSPACE WALL SECTION

N.T.S.



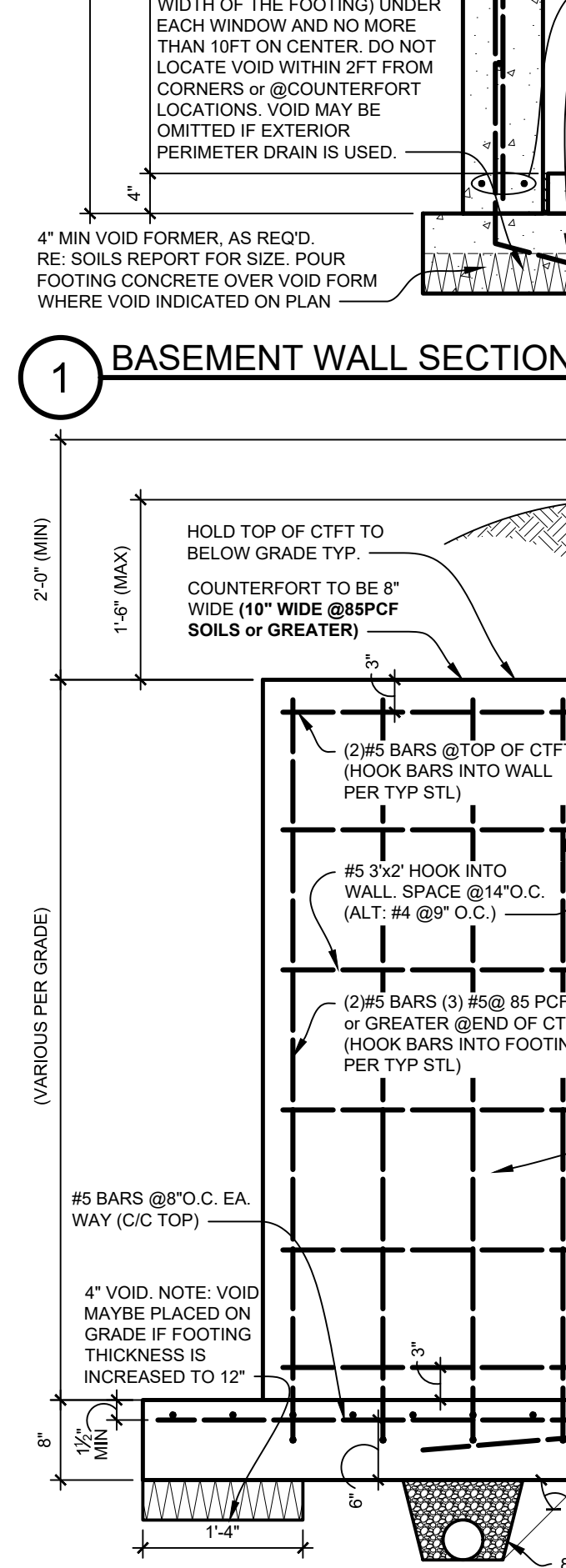
## 4 BASEMENT/CRAWLSPACE WALL SECTION

N.T.S.



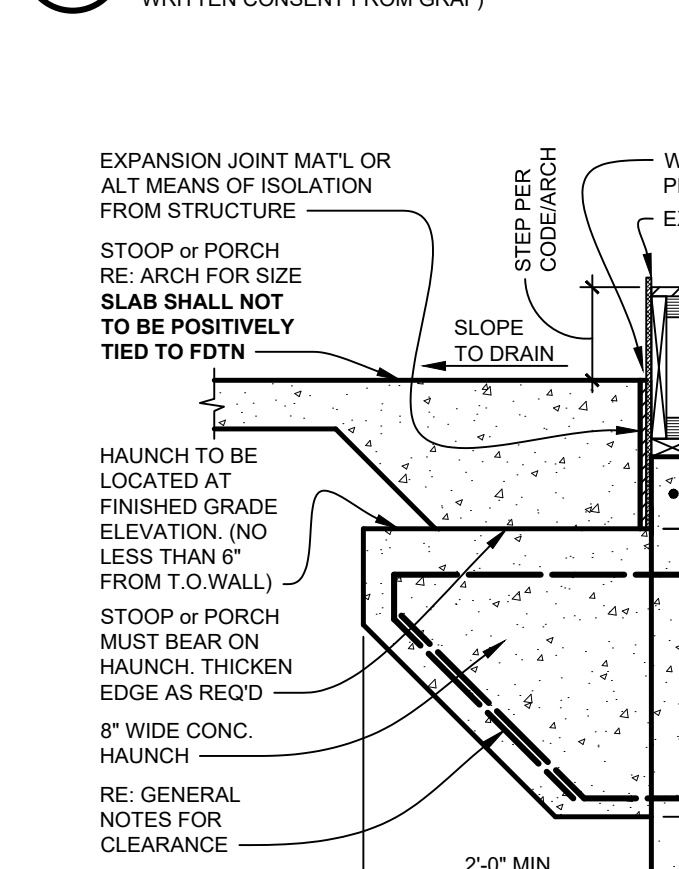
## 1 BASEMENT WALL SECTION

N.T.S.



## E COUNTERFORT

N.T.S.



## B HAUNCH DETAIL

N.T.S.

N.T.S.

## FOUNDATION NOTES

- A. FOUNDATION DESIGN UTILIZED THE DESIGN CRITERIA NOTED BELOW AS PROVIDED IN FOLLOWING GEOTECHNICAL ENGINEERING REPORT:
- PREPARED BY TERRADYNE ENGINEERING
  - REPORT NUMBER: C241043
  - DATED AUGUST 6, 2024
1. FOOTINGS AND FOUNDATIONS SHALL BE DESIGNED FOR:
- MAXIMUM BEARING PRESSURE = 2,000 PSF
  - MINIMUM DEADLOAD PRESSURE = NA
  - EQUIVALENT FLUID PRESSURE = 60 PCF
  - MINIMUM FOOTING WIDTH = 18 IN
  - MINIMUM FOOTING THICKNESS = 8 IN, (10 IN MINIMUM IF REINFORCED)
  - VOID THICKNESS = 4 IN, MINIMUM FROST PROTECTION = 36 IN
  - REFER TO SOILS REPORT FOR ANY ADDITIONAL REQUIREMENTS.
2. CONCRETE SHALL BE DESIGNED FOR THE CHECKED SITE SULFATE EXPOSURE CLASSIFICATION AND REQUIREMENTS PER ACI308:
- ☐ NO INFORMATION PROVIDED, DESIGN FOR SEVERE (RS2).
  - ☒ NEGLIGIBLE (RS0)
  - ☐ SEVERE (RS2)
  - ☐ MODERATE (RS1)
  - ☐ VERY SEVERE (RS3)
- B. ALL VALUES AND DIMENSIONS TO BE VERIFIED BEFORE CONSTRUCTION.
- C. CONCRETE MIX DESIGN BY CONCRETE CONTRACTOR TO BE PURSUANT TO IRC R402.2 AND SHALL MEET MOST RESTRICTIVE REQUIREMENTS OF R402.2. THIS PLAN, OR GEOTECHNICAL REPORT.
- D. ALL CONCRETE SHALL BE MADE WITH STONE AGGREGATE AND SHALL BE TYPE II AND DEVELOP A MINIMUM OF 3,000 PSI COMPRESSIVE STRENGTH IN 28 DAYS. ADDITIONAL STRENGTH REQUIREMENTS AS FOLLOWS:
- 4,500 PSI w/ 5 IN SLUMP, w/cm 0.45, TYPE II CONCRETE @ ALL GARAGE AND EXTERIOR FLATWORK.
  - 3,000 PSI w/ 5 IN SLUMP, w/cm 0.5, TYPE II CONCRETE @ MODERATE SULFATE SOILS.
  - 3,000 PSI w/ 5 IN SLUMP, w/cm 0.45, TYPE V CONCRETE @ SEVERE SULFATE SOILS.
  - 3,000 PSI w/ 5 IN SLUMP, w/cm 0.45, TYPE V w/ POZZOLAN OR SLAG @ VERY SEVERE SULFATE SOILS.
- THIS OFFICE DOES NOT RECOMMEND THE USE OF TYPE I CONCRETE.
- E. SUBGRADE SOILS SHALL MEET THE REQUIREMENTS NOTED IN THE SOILS REPORT ABOVE BEFORE PLACING ANY CONCRETE. THE GEOTECHNICAL ENGINEER OF RECORD IS TO APPROVE THAT THE EXCAVATION MEETS THESE CRITERIA AND MATCHES THE ANTICIPATED CONDITIONS IN THEIR REPORT. THIS OFFICE CAN NOT AND DOES NOT PROVIDE THIS SERVICE DURING FOOTING OBSERVATIONS.
- F. SEE SOIL REPORT/GEOTECHNICAL ENGINEER & IRC R508 FOR SLAB ON GROUND CONSTRUCTION. SCORE SLAB EACH WAY w/ 1\"/>

## DESIGN CRITERIA

PIKES PEAK REGIONAL BUILDING DEPARTMENT	
1) DESIGN CODES/SPECIFICATIONS	
A. PIKES PEAK REGIONAL BUILDING CODE - 2023 EDITION	
B. INTERNATIONAL BUILDING CODE (IBC) - 2021 EDITION	
C. AISC STEEL CONSTRUCTION MANUAL (FIFTEENTH EDITION)	
D. AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD-2018 EDITION	
E. ANSIS/ITP 1 (CURRENT EDITION)	
F. ACI 318-19 & 332-19	
G. AF&PA WOOD FRAMED CONSTRUCTION MANUAL (WFCM) - 2018 EDITION	
H. ASCE 7-16 w/ SUPPLEMENT 1, MIN DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES	
2) LOADS USED FOR DESIGN	
A. GROUND SNOW LOAD (Pg)	BELOW 7,000FT & 7,000FT ABOVE
B. FLOOR AND STAIR LIVE LOAD	40 PSF 40 PSF
C. EXTERIOR DECK LIVE LOAD	40 PSF 12 PSF
D. EXTERIOR DECK DEAD LOAD	10 PSF 10 PSF
E. DECK LEDGER LOADS (TOTAL)	60 PSF 72 PSF
F. WIND SPEED (Vwd)	60 MPH 130 MPH
G. WIND EXPOSURE (LATERAL/UPLIFT DESIGN)	C C
H. WIND EXPOSURE (SNOW LOADING)	B B
I. SEISMIC DESIGN CATEGORY	B B
J. MINIMUM FROST PROTECTION DEPTH	36\"/>
3) TRUSS CRITERIA	
A. MAX TRUSS DEFLECTION FOR SPANS UP TO 25FT	0.5\"/>
B. MAX TRUSS DEFLECTION FOR SPANS OVER 25FT	1.0\"/>
IT IS THE DUTY OF EVERY PERSON WHO PERFORMS WORK UNDER THE CODE TO COMPLY WITH THE CODE (IRC - SECTION R105.8)	

IF DESIRED, BUILDER MAY USE THE 4EQ GFRP BAR MANUFACTURED BY MST REBAR, INC. YOU MUST FOLLOW ALL STORAGE, HANDLING, AND INSTALLATION REQUIREMENTS AS STATED BY THE MANUFACTURER. SUBSTITUTIONS MUST BE EVALUATED AND APPROVED, IN WRITING, BY GRAF ENGINEERING, LLC.

THE BUILDER MUST UNDERSTAND AND ACCEPT THAT USE OF FRP BARS SUCH AS THE 4EQ GFRP BAR FUNDAMENTALLY CHANGES THE RESILIENCY OF THE FOUNDATION ELEMENTS IN CERTAIN SITUATIONS. IF FOUNDATION WALLS ARE BOWED DURING BACKFILLING OPERATIONS, THEY WILL NEED TO BE REPLACED. IF EXCESSIVE WETTING OR PONDING OF WATER AROUND FOUNDATIONS IS ALLOWED TO OCCUR, POTENTIALLY FAILURE IS POSSIBLE. FOUNDATIONS EXPOSED TO FIRE WILL LIKELY NEED REPLACED.

FURTHERMORE IF PLACEMENT OBSERVATIONS ARE NOT CONDUCTED, THERE IS NO METHOD FOR DETECTING AND VERIFYING THE ACTUALLY INSTALLED FRP REINFORCEMENT, AND APPROVAL MAY NOT BE GRANTED.

## FOUNDATION SECTION & DETAIL SHEET

LOT 102, FILING #14

10226 HARTWOOD DRIVE

PAINT BRUSH HILLS

COLORADO SPRINGS, COLORADO

PLAN 5291

FOOTING SECTION & DETAIL SHEET

SLAB-ON-GROUND FLOOR

LOT SPECIFIC DATE: 2/20/2025

Revisions 1/31/2025

Issue/Rev 2 Date 1/31/2025

Drafting JW

Checked NPG

Sheet

FD1

10226 Hartwood Drive, Paint Brush Hills, Colorado Springs, Colorado 80927

(720) 482-0202

Meritage Homes

7900 E. Union Ave, Suite 400

Denver, Colorado 80237

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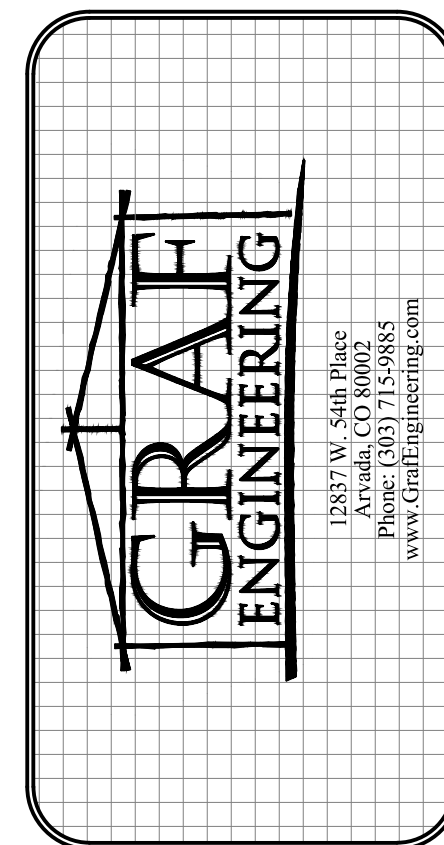
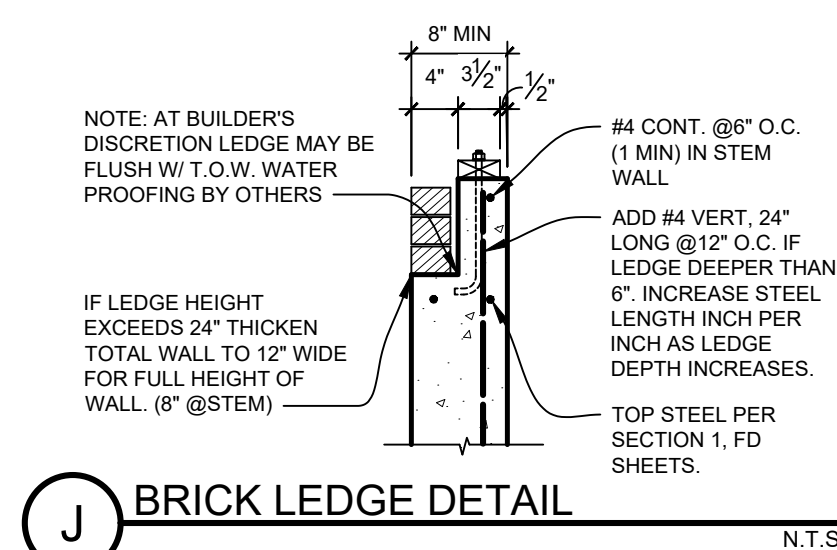
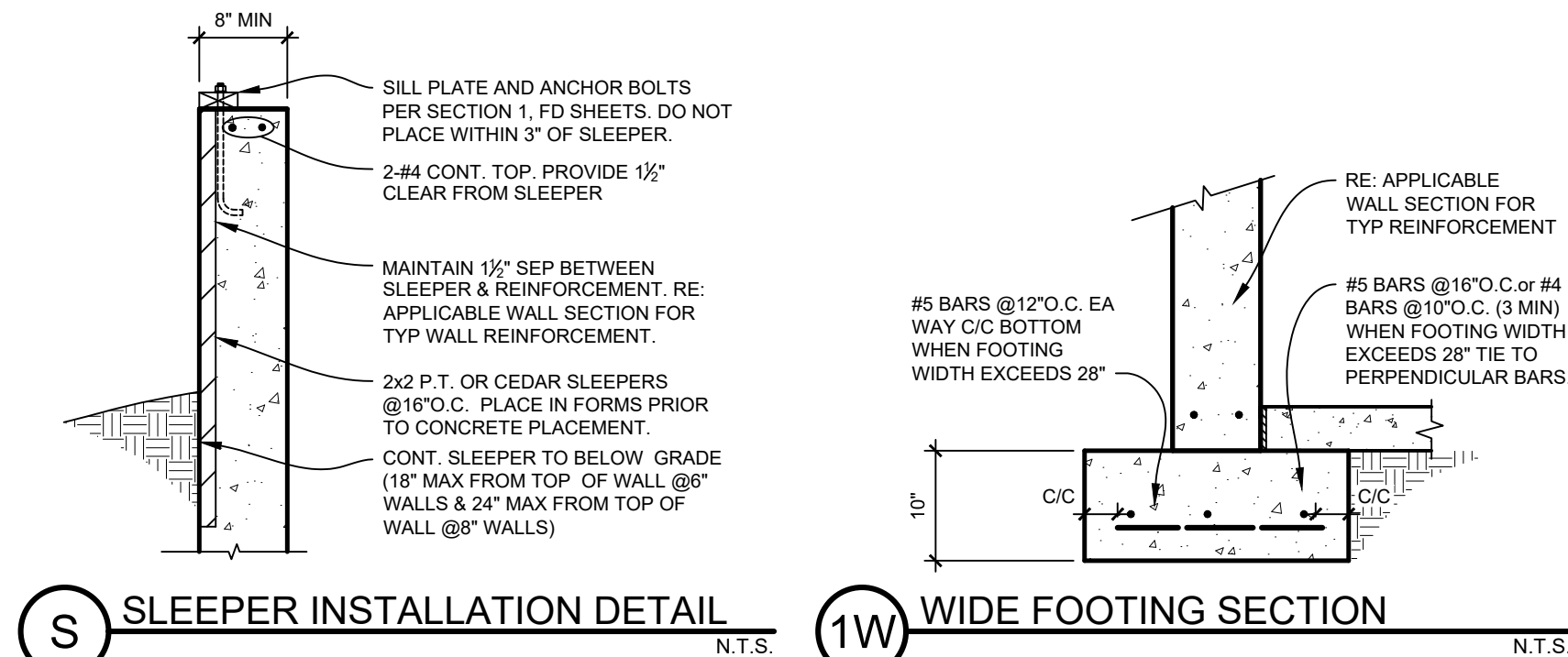
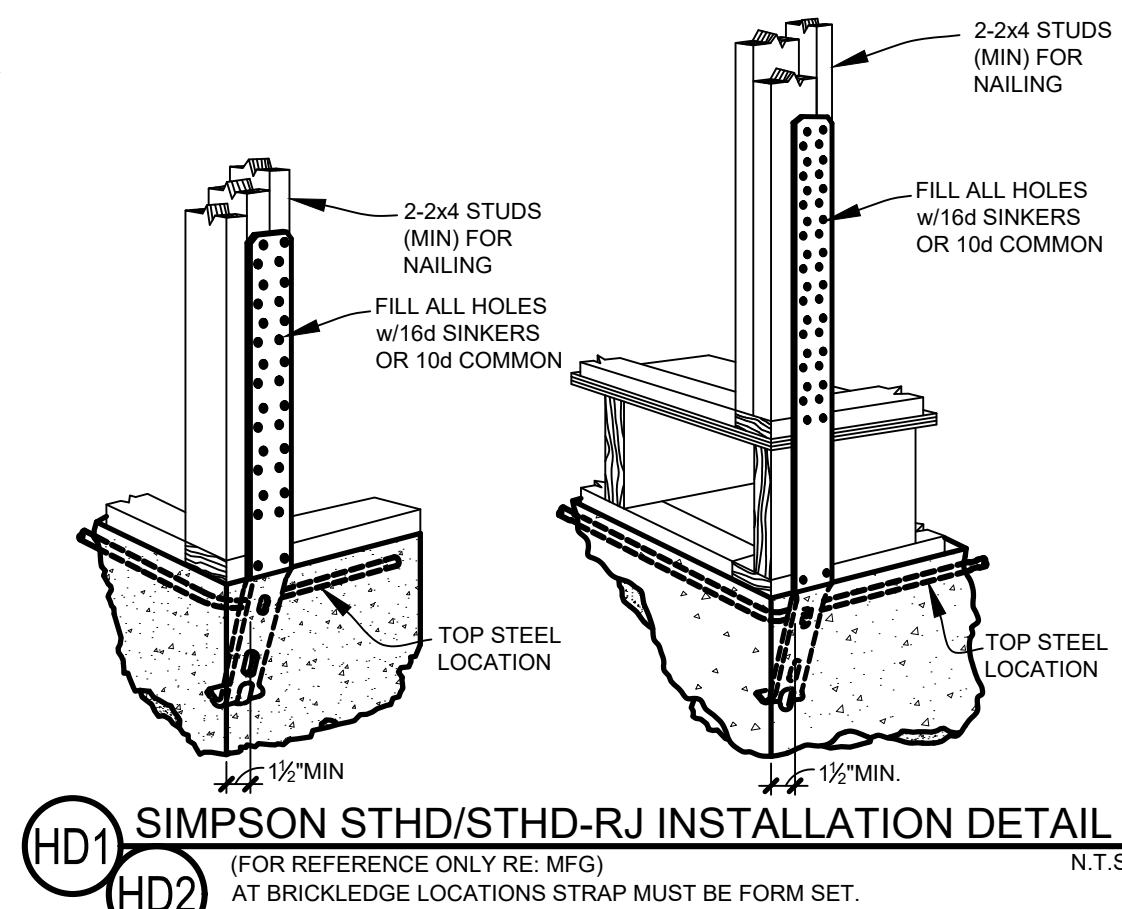
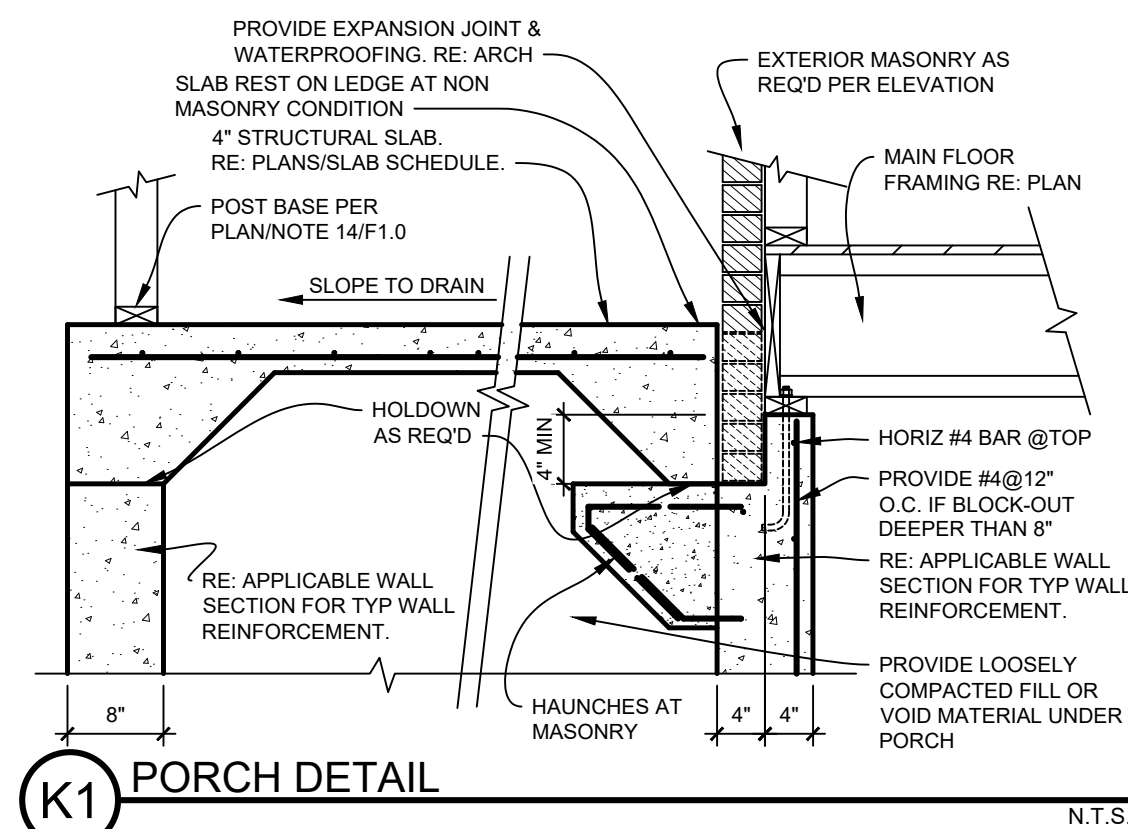
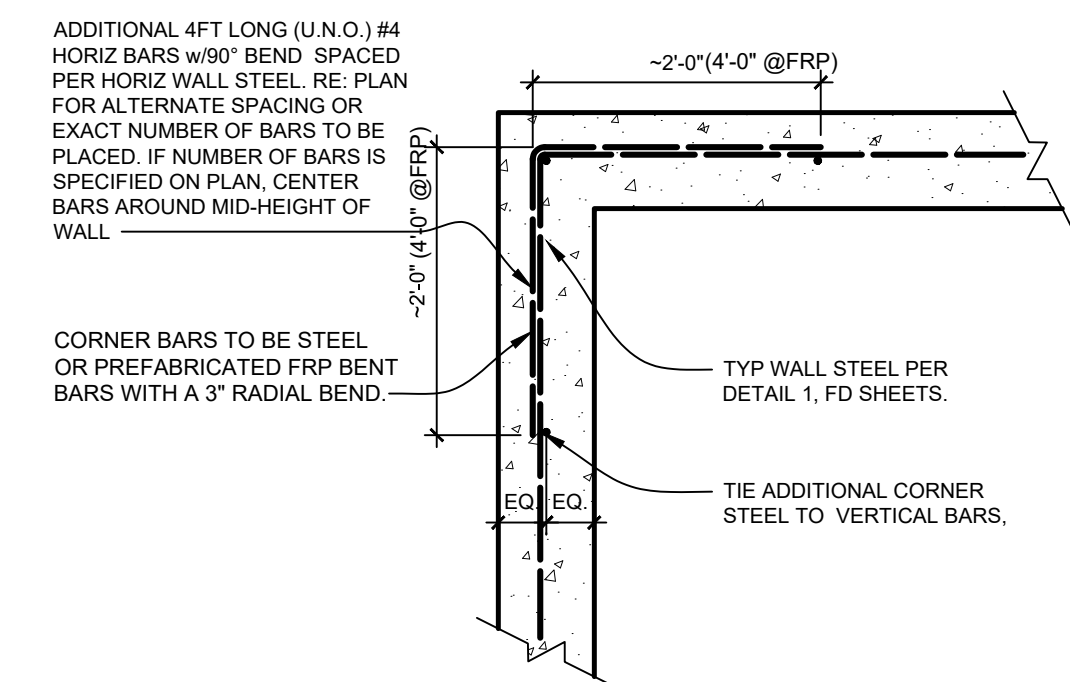
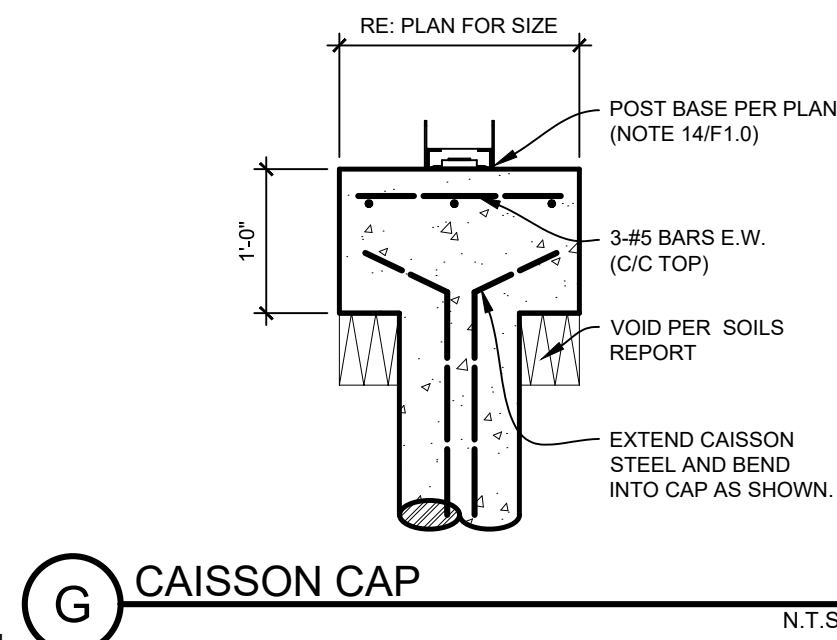
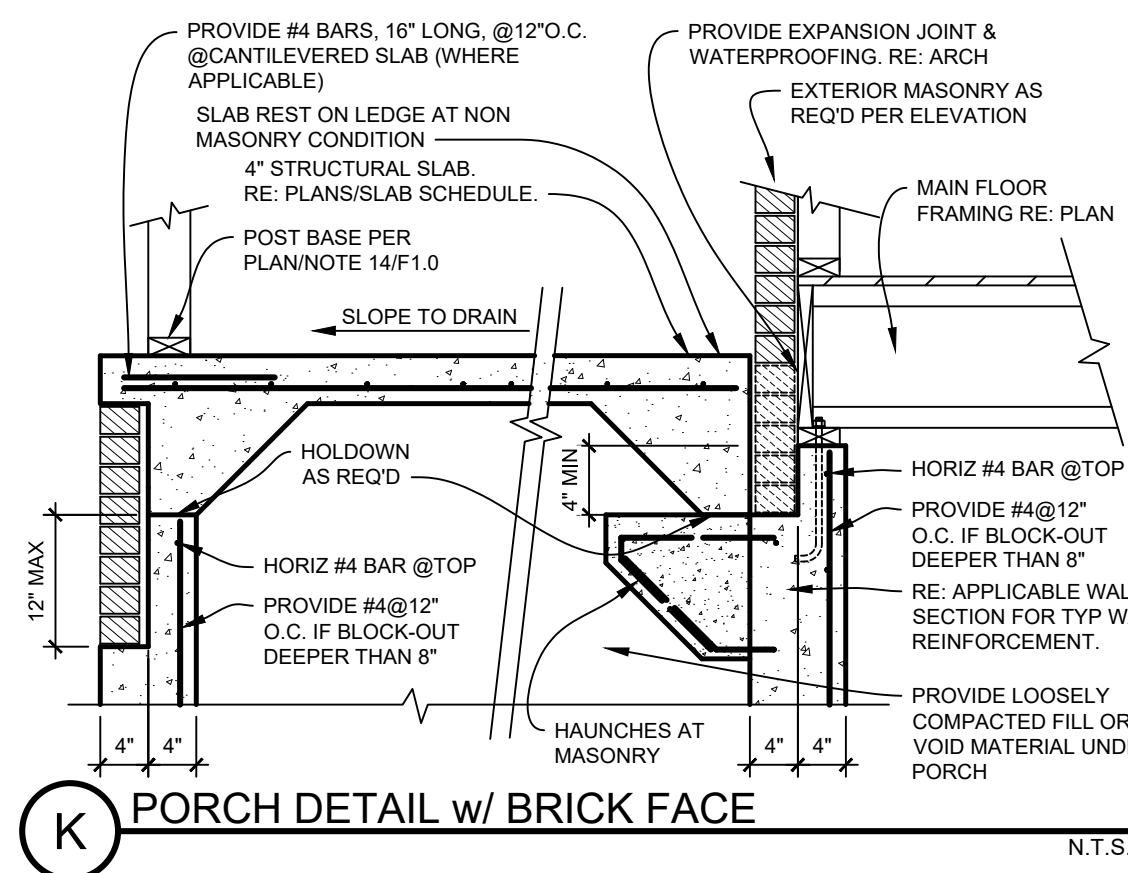
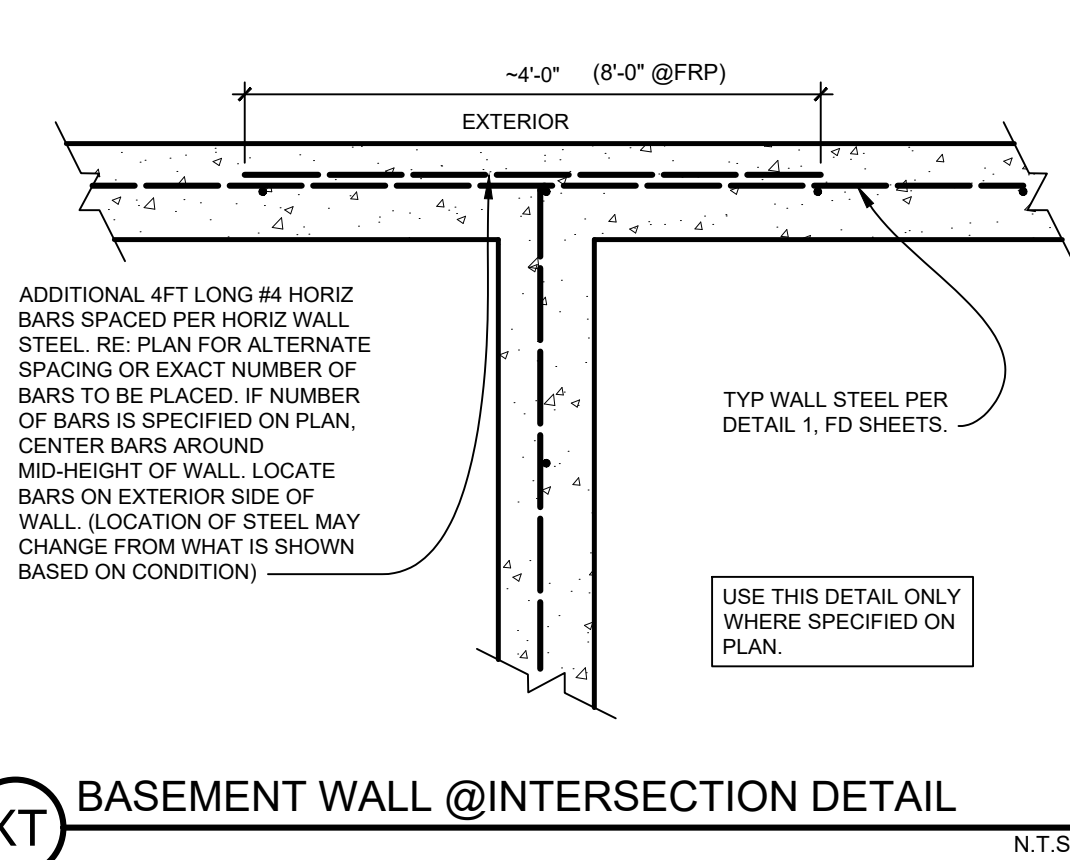
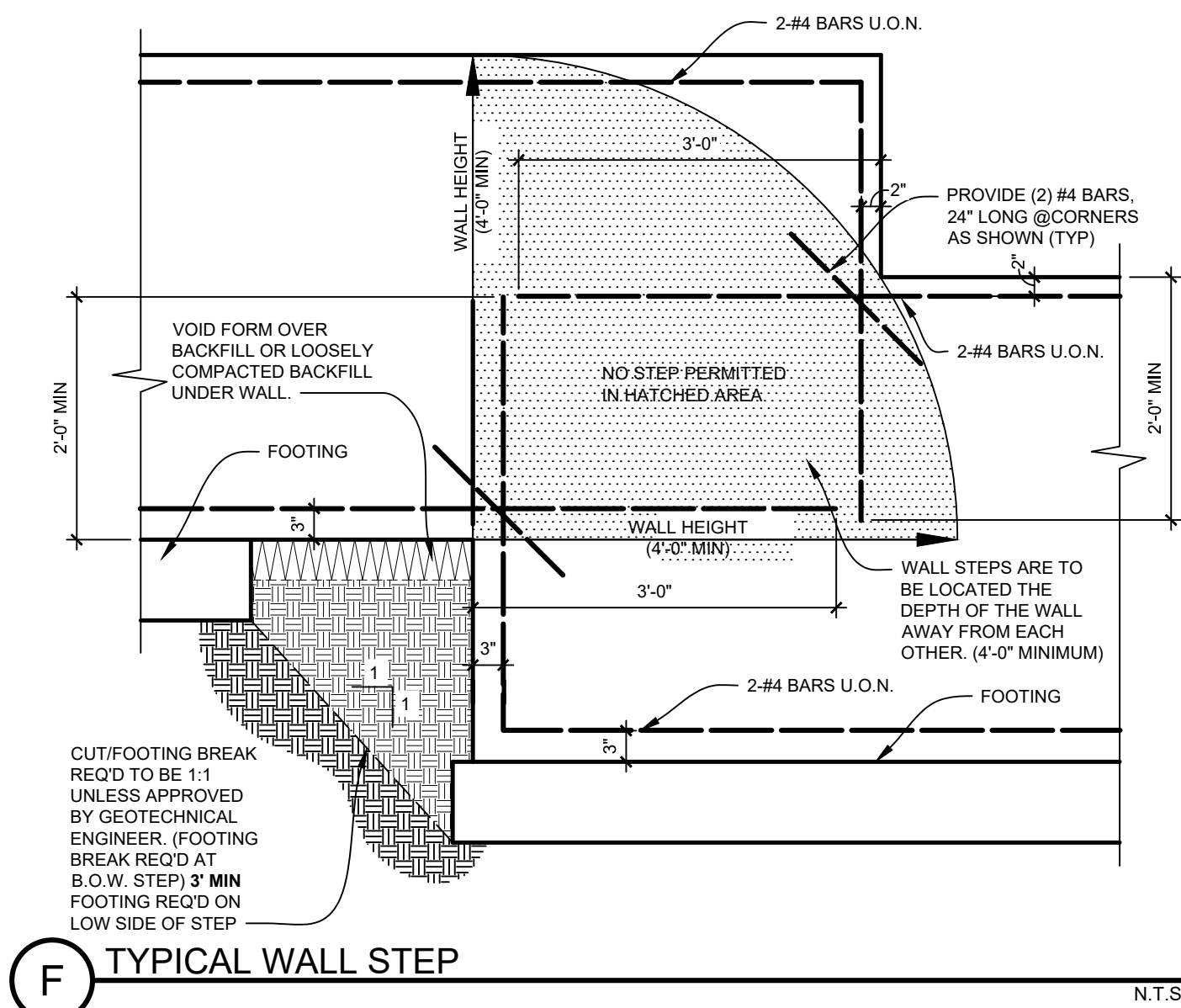
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