

12728 Cypress Valley Rd, Ste 100, Cypress, TX 77429

Texas Firm No F-22235 | 281-3937773

STRUCTURAL

**B.N.R.**

ENGINEERING

GENERAL NOTES

THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2024 EDITION OF THE INTERNATIONAL BUILDING CODE WITH CITY OF CONVERSE AMENDMENTS.

THE DESIGN LOADS ARE AS FOLLOWS:

ROOF LIVE LOAD	20 PSF (REDUCIBLE)
WIND LOAD	PER CODE SECTION 1609
BASIC WIND SPEED	V <sub>asd</sub> = 83 MPH, V <sub>ult</sub> = 107 MPH
WIND EXPOSURE	EXPOSURE B
RISK CATEGORY	II
SNOW LOAD	P <sub>g</sub> = 5 PSF
SEISMIC LOAD	A
SEISMIC DESIGN CATEGORY	II
RISK CATEGORY	D
SITE CLASS	S <sub>s</sub>
	0.051
S <sub>1</sub>	0.024
S <sub>1s</sub>	0.081
S <sub>u1</sub>	0.058
S <sub>os</sub>	0.054
S <sub>o1</sub>	0.039
F <sub>a</sub>	1.6
F <sub>v</sub>	2.4
T <sub>L</sub>	12

THE STRUCTURE IS DESIGNED FOR A BASIC WIND SPEED OF V<sub>asd</sub> = 83 MPH, V<sub>ult</sub> = 107 MPH EXPOSURE B AND RISK CATEGORY II. REFER TO SECTION 1609 OF THE INTERNATIONAL BUILDING CODE FOR THE APPLICABLE COEFFICIENTS TO DETERMINE THE ACTUAL WIND PRESSURES ON THE VARIOUS STRUCTURAL COMPONENTS.

THE FOUNDATION FOR THE STRUCTURE HAS BEEN DESIGNED BASED ON THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER, INTEGRATED TESTING AND ENGINEERING COMPANY OF SAN ANTONIO, AS PRESENTED IN THEIR REPORT NUMBER S241748 AND DATED OCTOBER 16, 2024. THE FOLLOWING ALLOWABLE BEARING PRESSURES WERE USED TO PROPORTION THE FOUNDATION BEARING ON UNTREATED SOIL AT A DEPTH OF TWENTY FIVE FEET (25' - 0") BELOW EXISTING GRADE UNLESS NOTED OTHERWISE.

END BEARING	12,000 PSF
SKIN FRICTION	875 PSF

ANY FOUNDATION CONDITIONS WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED IMMEDIATELY TO THE STRUCTURAL ENGINEER.

PRINCIPAL OPENINGS ARE SHOWN ON THE DRAWINGS. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR SLEEVES, CURBS, INSERTS, SMALL OPENINGS, ETC.

PROVIDE CRACK CONTROL JOINTS AT SLAB ON GRADE AREAS AS SHOWN ON STRUCTURAL DRAWINGS. REFER TO SHEET S2.1 FOR TYPICAL JOINT DETAILS.

CONCRETE IN THE FOLLOWING AREAS SHALL HAVE NATURAL SAND FINE AGGREGATES, NORMAL WEIGHT COARSE AGGREGATES CONFORMING TO ASTM C33, TYPE I PORTLAND CEMENT, AND SHALL HAVE THE FOLLOWING DESIGNATED COMPRESSIVE STRENGTH (f'<sub>c</sub>) IN 28 DAYS:

DRILLED FOOTINGS	3000 PSI
GRADE BEAMS, TIE BEAMS, & PLINTHS	3000 PSI
SLAB ON GRADE (WATER TO CEMENT RATIO < 0.50)	4000 PSI

THE SLAB ON GRADE SHALL BE THICKNESS NOTED ON PLAN AND REINFORCED IN ACCORDANCE WITH THE SLAB NOTES ON THE FOUNDATION PLAN. REFER TO TYPICAL SLAB ON GRADE CONTROL AND CONSTRUCTION JOINT DETAILS FOR REINFORCEMENT PLACEMENT, ETC. SLAB SHALL BE CAST ON A VAPOR RETARDER ON A PREPARED SUBGRADE. THE SUBGRADE SHALL BE PREPARED AS SPECIFIED IN THE GEOTECHNICAL REPORT, RESULTING IN A MAXIMUM POTENTIAL VERTICAL RISE OF ONE INCH.

CORNER BARS SHALL BE PROVIDED AT ALL GRADE BEAM CORNERS AND INTERSECTIONS. BARS SHALL BE PLACED TOP AND BOTTOM AND SHALL BE 4 FOOT LONG BENT 90 DEGREES AT THE CENTER AND SIZED TO MATCH THE GRADE BEAM REINFORCING.

CONCRETE REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. NUMBER THREE BARS MAY CONFIRM TO ASTM A615, GRADE 40.

REINFORCEMENT DESIGNATED AS "CONTINUOUS" SHALL LAP 36 BAR DIAMETERS AT SPLICES, UNLESS NOTED OTHERWISE.

REINFORCING BARS MAY NOT BE WELDED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.

DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE STANDARDS AS PRESCRIBED IN ACI 301-10. MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301-10.

CONCRETE COVER PROTECTION FOR REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-19.

HORIZONTAL JOINTS WILL NOT BE PERMITTED IN CONCRETE CONSTRUCTION, EXCEPT AS SHOWN ON THE STRUCTURAL DRAWINGS. ALL CONSTRUCTION JOINTS SHALL BE MADE WITH A VERTICAL BULKHEAD AND KEY WAY AT LOCATIONS APPROVED BY THE STRUCTURAL ENGINEER.

ANCHOR BOLTS SHALL CONFORM TO ASTM A307, UNLESS NOTED OTHERWISE.

THE ARCHITECTURAL GLAZING SYSTEMS SHALL BE DESIGNED BY A REGISTERED ENGINEER LICENSED IN THE STATE OF TEXAS. THE DESIGN CALCULATIONS SHALL BE PREPARED BY THE ENGINEER AND SUBMITTED WITH GLAZING SHOP DRAWINGS FOR APPROVAL.

THE SUPERSTRUCTURE SHALL BE A PRE-ENGINEERED METAL BUILDING DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS. THE SUPERSTRUCTURE SHALL BE DESIGNED PER BUILDING CODE PRESCRIBED GRAVITY AND LATERAL LOADS. THE BASES OF MAIN FRAMES SHALL BE DESIGNED AS "PIN BASES" SUCH THAT NO SIGNIFICANT BENDING MOMENT IS TRANSFERRED TO THE FOUNDATION. METAL BUILDING SHOP DRAWINGS SHALL INCLUDE ALL FOUNDATION REACTIONS AND ANCHOR BOLT SETTING PLAN AND SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING FOUNDATION CONSTRUCTION.

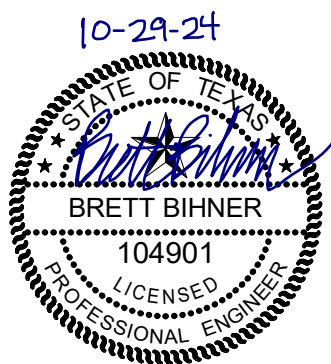
KNEUPPER BUSINESS PARK

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CONVERSE, TX



Written dimensions on these drawings shall have precedence over scale dimensions. Sub Contractors shall verify and be responsible for all dimensions and conditions on the job and this office must be notified of any variation from the dimensions and conditions shown on these drawings.

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DATE:  
10.29.2024

SHEET TITLE:  
GENERAL  
NOTES

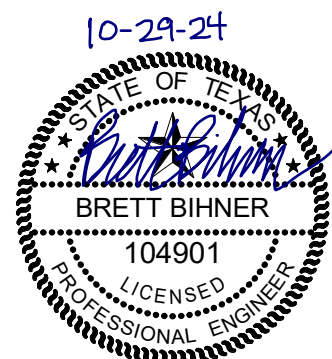
SHEET NO:  
S1.0



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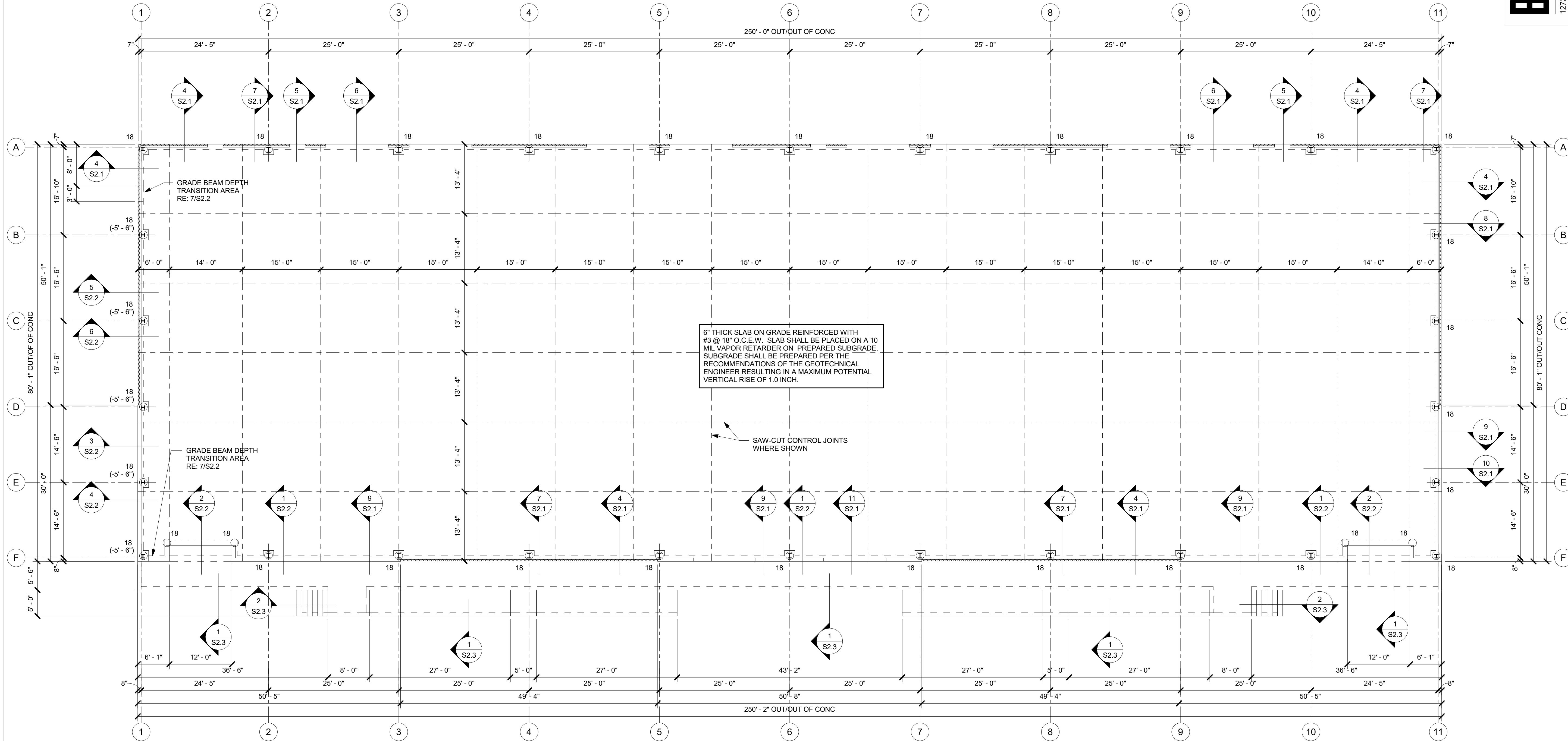


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SHEET TITLE:  
FOUNDATION  
PLAN

SHEET NO:  
S1.1



**1 FOUNDATION PLAN**  
SCALE: 1" = 10'-0"

**LEGEND**

- 24
- DENOTES DRILLED PIER
  - DENOTES DRILLED PIER SIZE  
SHAFT DIAMETER / UNDERREAM DIAMETER  
(EXAMPLE SIZE SHOWN)

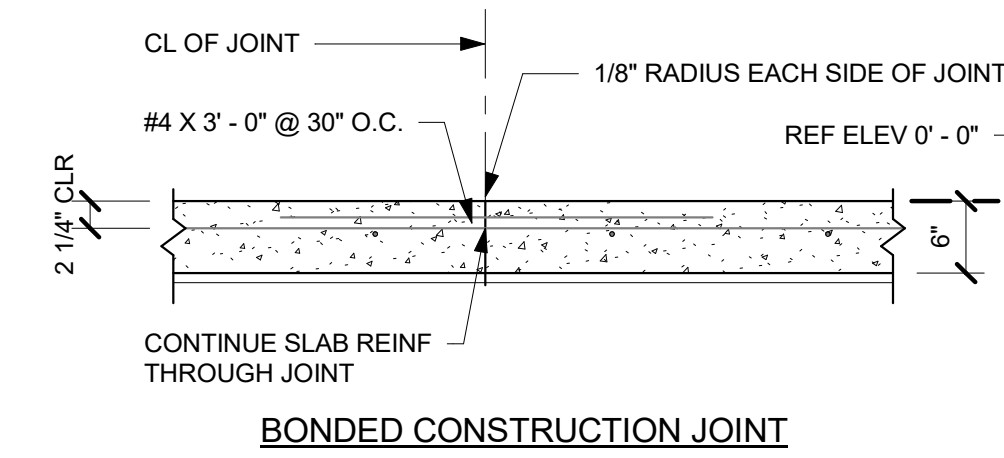
**REFERENCE NOTES**

- REFER TO SHEET S1.0 FOR GENERAL NOTES.
- DETAILS ARE REFERENCED TO SHEET NUMBERS.
- TOP OF CONCRETE SLAB ELEVATION EQUALS REFERENCE ELEVATION 0' - 0".  
REFER TO CIVIL FOR ACTUAL FINISHED FLOOR ELEVATION.
- TOP OF PERIMETER FOOTING ELEVATION SHALL BE 4' - 6" BELOW REFERENCE  
ELEVATION 0' - 0" UNLESS NOTED OTHERWISE ON PLANS OR DETAILS.
- TOP OF INTERIOR FOOTING ELEVATION SHALL BE 0' - 6" BELOW REFERENCE  
ELEVATION 0' - 0" UNLESS NOTED OTHERWISE ON PLANS OR DETAILS.
- GENERAL CONTRACTOR SHALL SUBMIT FINAL PRE-ENGINEERED METAL BUILDING  
BUILDING DRAWINGS TO THE STRUCTURAL ENGINEER FOR FINAL COORDINATION  
PRIOR TO COMMENCEMENT OF FOUNDATION CONSTRUCTION.



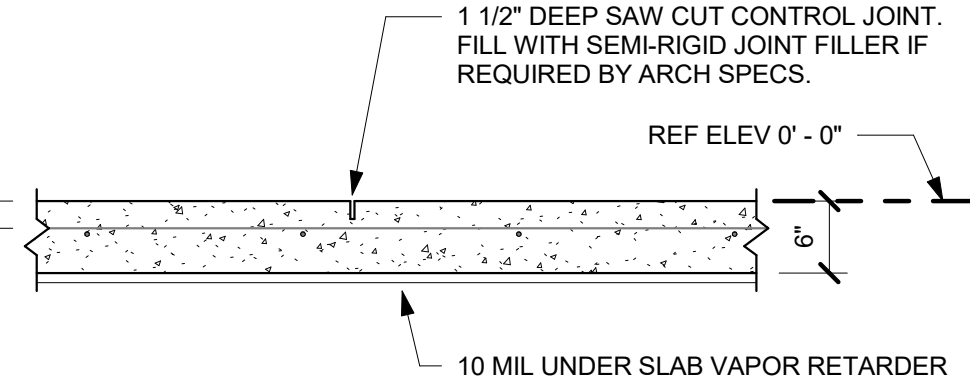
### 3 ANCHOR BOLT EMBEDMENT SCHEDULE

NOTE: BONDED CONSTRUCTION JOINT SHALL BE USED WHEN  
CONC PLACEMENT IS INTERRUPTED FOR MORE THAN 30 MINUTES



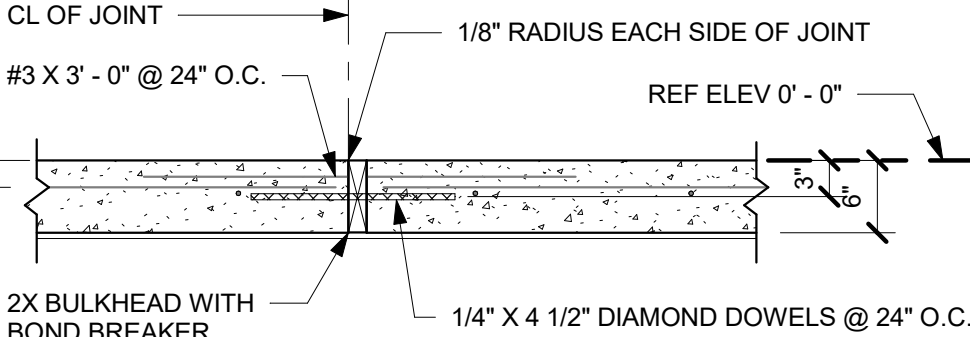
ISOLATION JOINT

SAW CUT CONTROL  
JOINTS SHALL BE MADE  
AS SOON AS POSSIBLE  
AFTER SLAB POUR

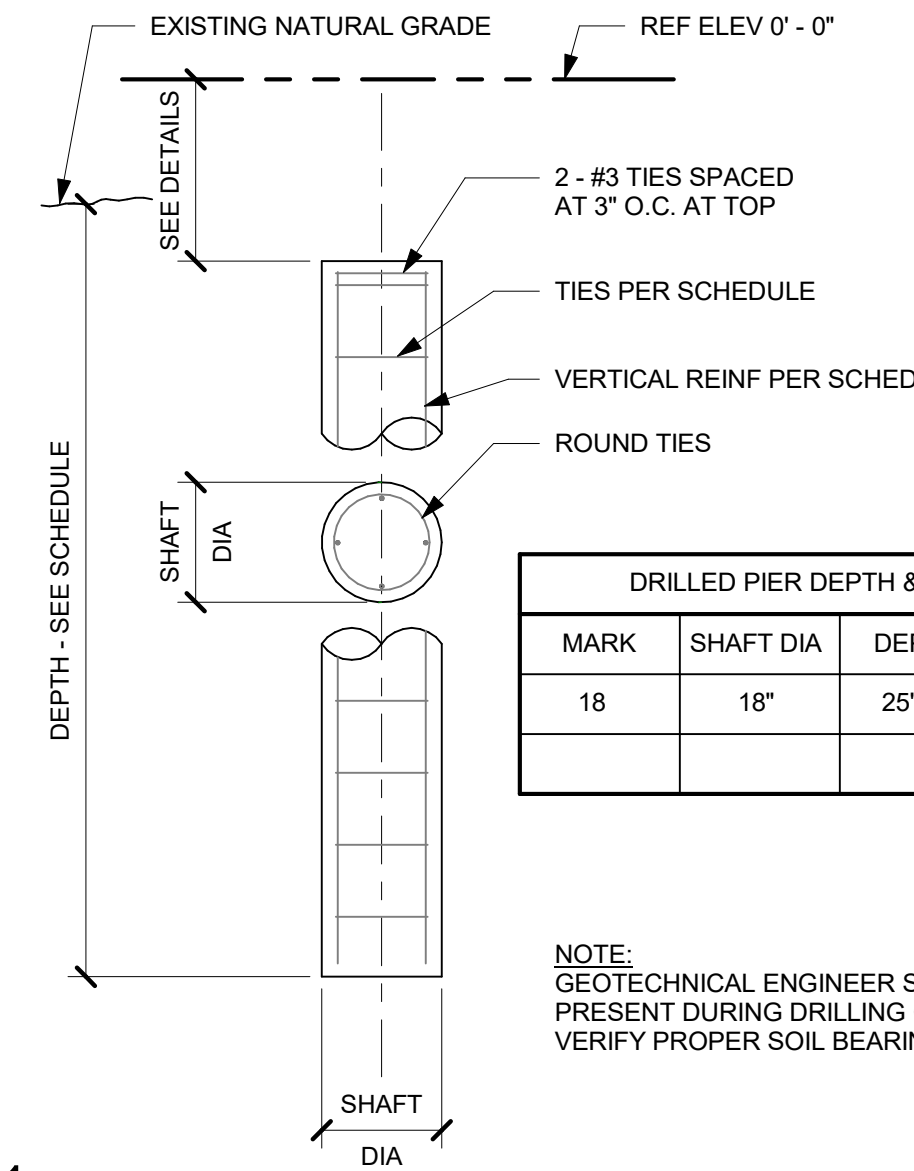


SAW CUT CONTROL JOINT

NOTE: ALL CONSTRUCTION JOINTS SHALL BE FREE OF DEBRIS PRIOR TO FILLING OF JOINTS.



CONSTRUCTION JOINT



**NOTE:**  
GEOTECHNICAL ENGINEER SHALL BE  
PRESENT DURING DRILLING OPERATIONS TO  
VERIFY PROPER SOIL BEARING STRATA.

## 1 DRILLED STRAIGHT SHAFT FOOTING

RE: 4/S2.1 FOR GRADE BEAM AND SLAB REINF (NOT SHOWN FOR CLARITY)

RE: ARCH FOR MASONRY VENEER

REF ELEV 0'-0"

2'-0"

1 1/2"

7"

6"

1 - #5 HAIRPIN AROUND ANCHOR BOLTS

24" X 24" PLINTH REINF W/ 4 VERT AND #3 TIES @ 12" O.C. WITH 2 TIES AT TOP @ 3" O.C.

EXTEND VERT FTG REINF 2'-0" INTO PLINTH

CL FOOTING

1'-0" 1'-0" 2'-0" (X 2'-0")

2'-0"

TOP OF FOOTING

## 7 SECTION AT MAIN FRAME COLUMN AT MASONRY VENEER

AT DOOR LOCATIONS, DISCONTINUE NOTCH AND PROVIDE 7/8" x 1' - 2' SMOOTH DWLS @ 12" O.C. WITH SLEEVE OR GREASE ON ONE END.

7"

RE: ARCH

#4 DWLS @ 30" O.C. X 2' - 0" X

2' - 0"

REF ELEV 0' - 0"

RE: CIVIL FOR PAVING

1 1/2"

2' - 6"

1' - 0"

12" X 30" GRADE BEAM REINF W/ 2 - #6 CONT TOP AND BOTTOM AND #3 TIES SPACED AT 12" OC.

PROVIDE 10" VOID BOXES BENEATH ALL GRADE BEAMS. DISCONTINUE VOID BOXES AT FOOTINGS.

## 6 SECTION AT GRADE BEAM / OVERHEAD DOOR

AT DOOR LOCATIONS, DISCONTINUE NOTCH AND PROVIDE 5/8"Ø X 1' - 0" SMOOTH DWLS @ 12" O.C. WITH SLEEVE OR GREASE ON ONE END.

RE: CIVIL FOR PAVING

7"

#4 DWLS @ 30" O.C. X 2' - 0" X

2' - 0"

REF ELEV 0' - 0"

2' - 6"

12" X 30" GRADE BEAM REINF W/ 2 - #6 CONT TOP AND BOTTOM AND #3 TIES SPACED AT 12" OC.

PROVIDE 10" VOID BOXES BENEATH ALL GRADE BEAMS. DISCONTINUE VOID BOXES AT FOOTINGS.

1' - 0"

## 5 SECTION AT GRADE BEAM / PERSONNEL DOOR

7"

RE: ARCH FOR MASONRY VENEER

#4 DWLS @ 30" O.C. X 2' - 0" X 2' - 0"

2' - 0"

REF ELEV 0' - 0"

1 1/2'

2' - 6"

12" X 30" GRADE BEAM  
REINF W/ 2 - #6 CONT TOP  
AND BOTTOM AND #3 TIES  
SPACED AT 12" OC.

1' - 0"

PROVIDE 10" VOID BOXES  
BENEATH ALL GRADE  
BEAMS. DISCONTINUE VOID  
BOXES AT FOOTINGS.

#### 4 SECTION AT GRADE BEAM AT MASONRY VENEER

### 11 SECTION AT WIDENED GRADE BEAM / PERSONNEL DOOR

8"

RE: 9/S2.1 FOR GRADE BEAM AND SLAB REINF (NOT SHOWN FOR CLARITY)

ENDWALL COLUMN, BASEPLATE AND ANCHOR BOLTS BY PEMB MANUF

1'-11/2"

2'-6"

6"

25" X 24" PLINTH REINF W/ 4 - #6 VERT AND #3 TIES @ 12" O.C. WITH 2 TIES AT TOP @ 3" O.C.

EXTEND VERT FTG REINF 2'-0" INTO PLINTH

CL FOOTING

1'-1"

1'-0"

2'-1" (X 2'-0")

TOP OF FOOTING

## 10 SECTION AT ENDWALL COLUMN

## 9 SECTION AT WIDENED GRADE BEAM

RE: ARCH FOR MASONRY VENEER

7"

RE: 4/S2.1 FOR GRADE BEAM AND SLAB REINF (NOT SHOWN FOR CLARITY)

ENDWALL COLUMN, BASEPLATE AND ANCHOR BOLTS BY PEMB MANUF

2'-6"

1'-0"

1'-0"

2'-0" (X 2'-0")

24" X 24" PLINTH REINF W/ 4 - #6 VERT AND #3 TIES @ 12" O.C. WITH 2 TIES AT TOP @ 3" O.C.

EXTEND VERT FTG REINF 2'-0" INTO PLINTH

CL FOOTING

TOP OF FOOTING

6"

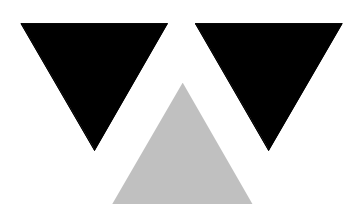
## 8 SECTION AT ENDWALL COLUMN AT MASONRY VENEER

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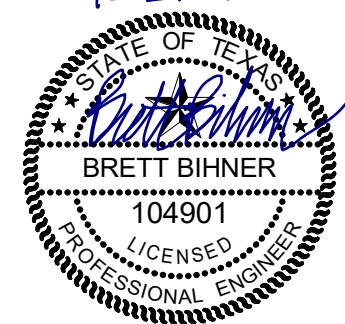
# KNEUPPER BUSINESS PARK

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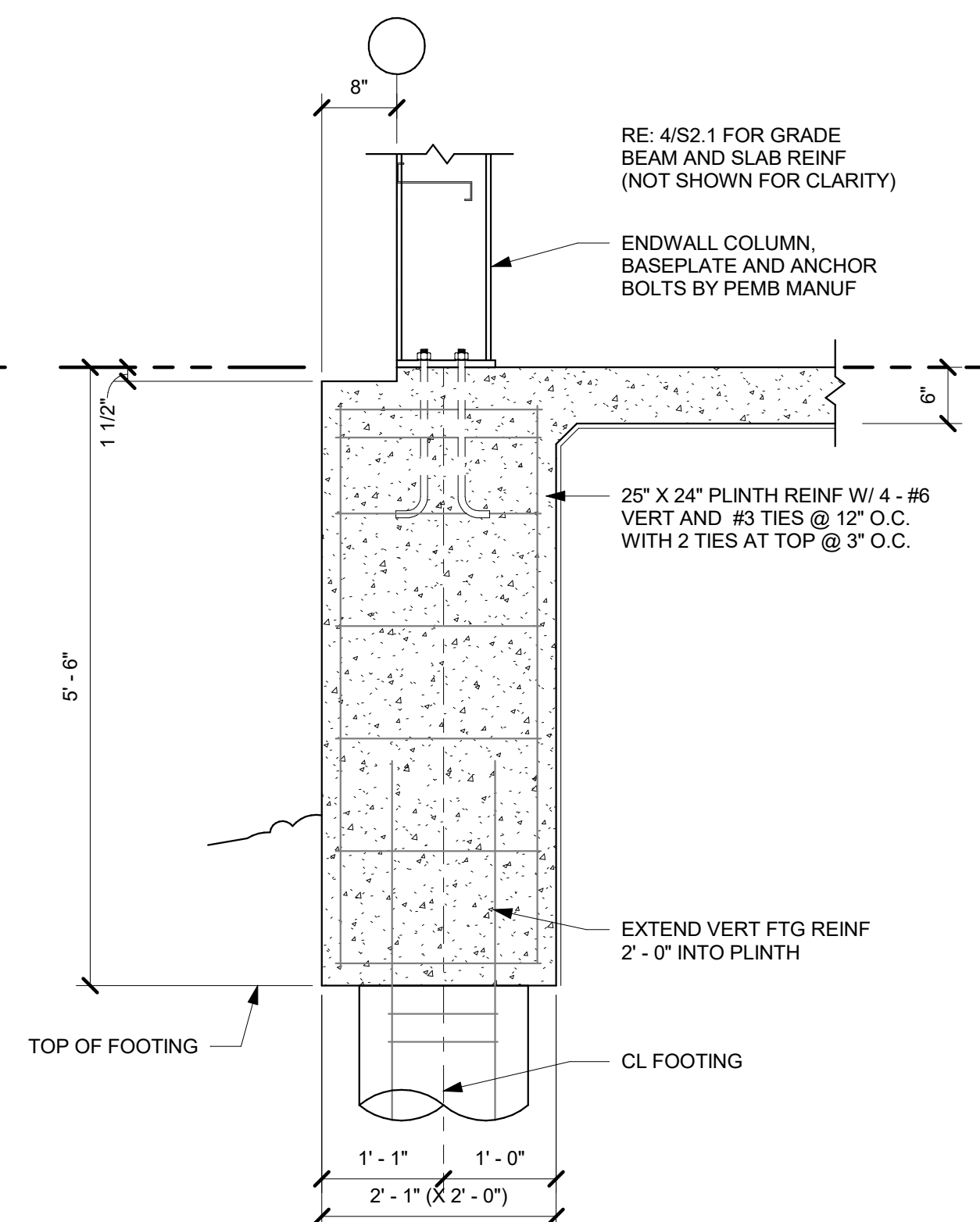
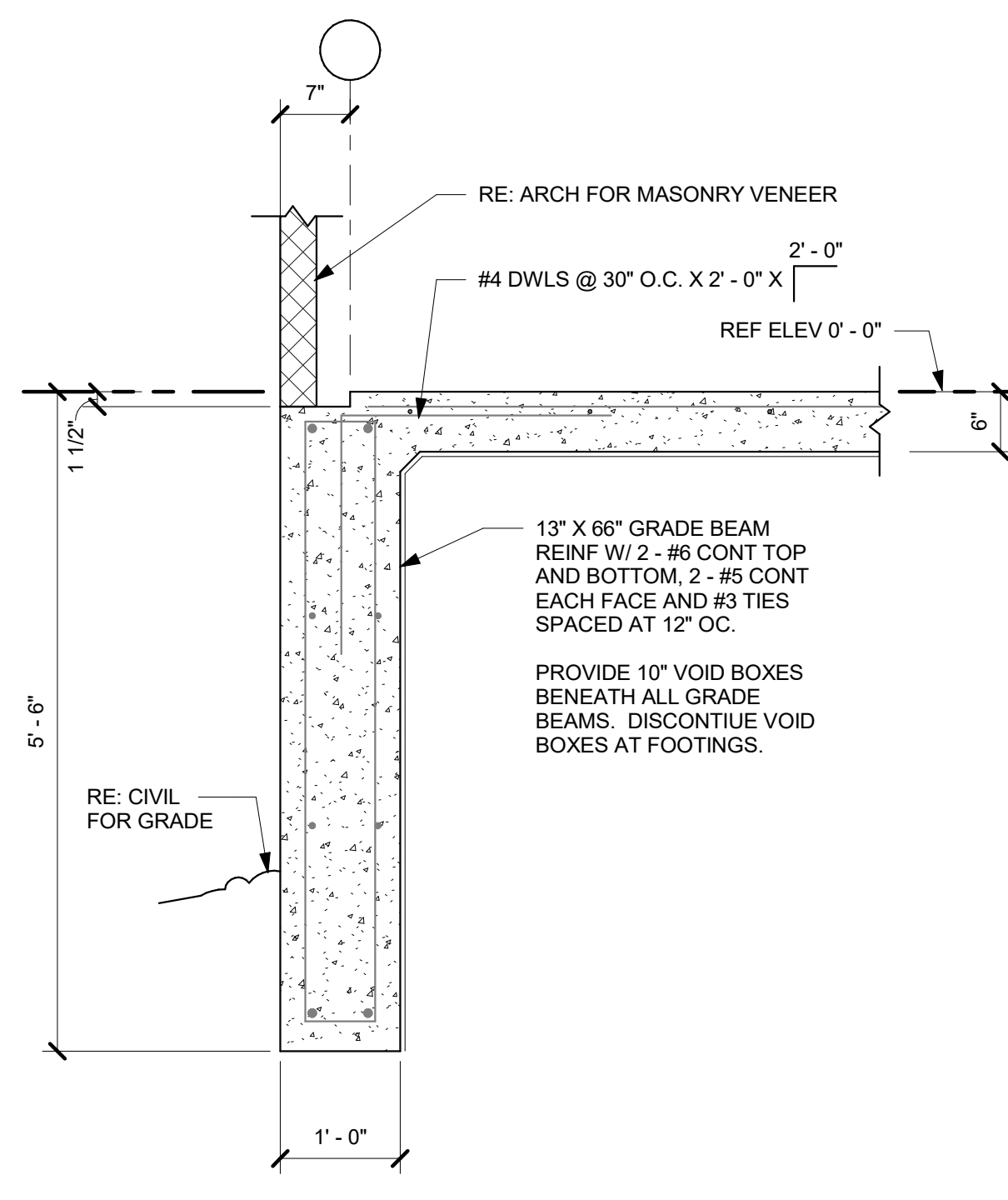
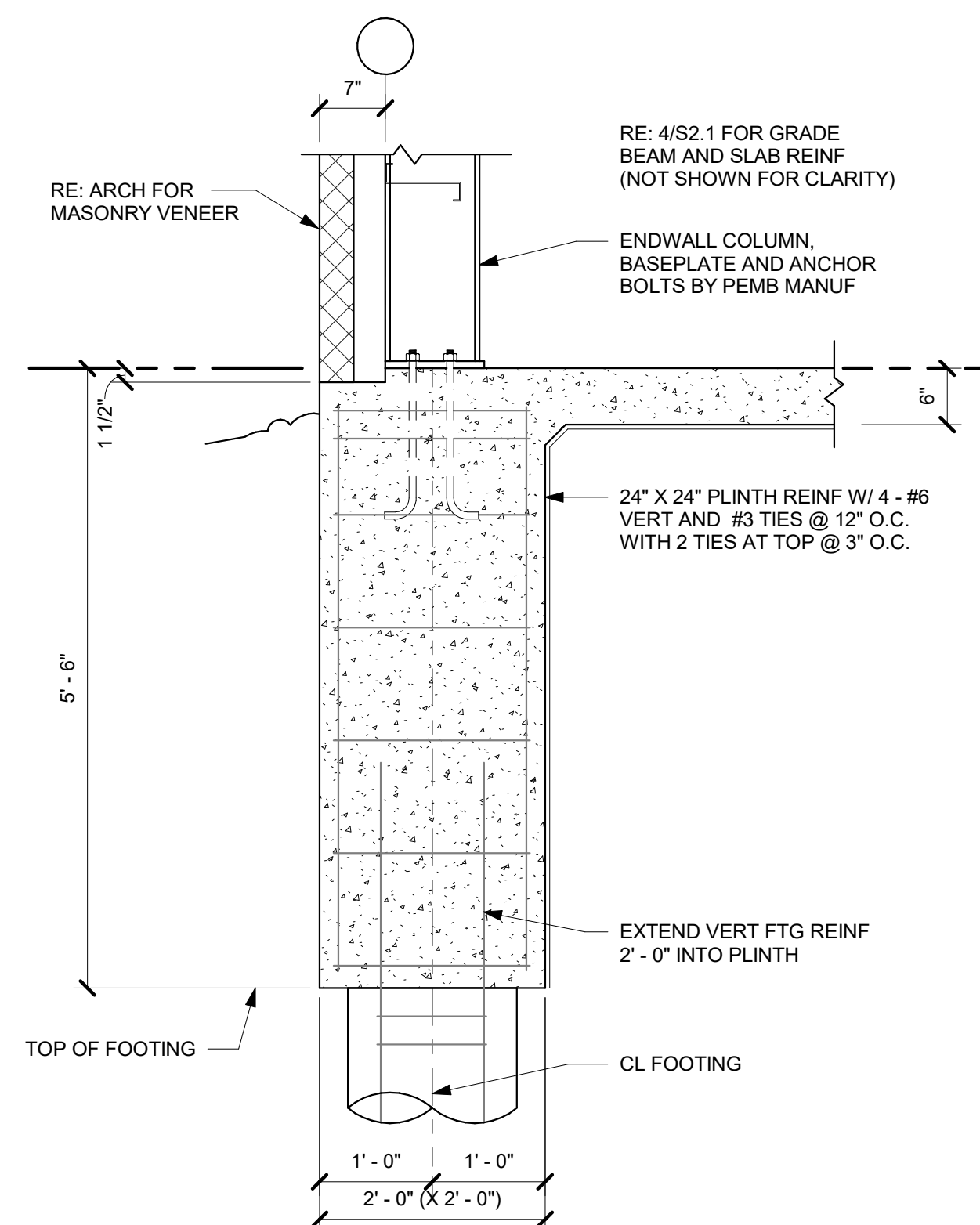
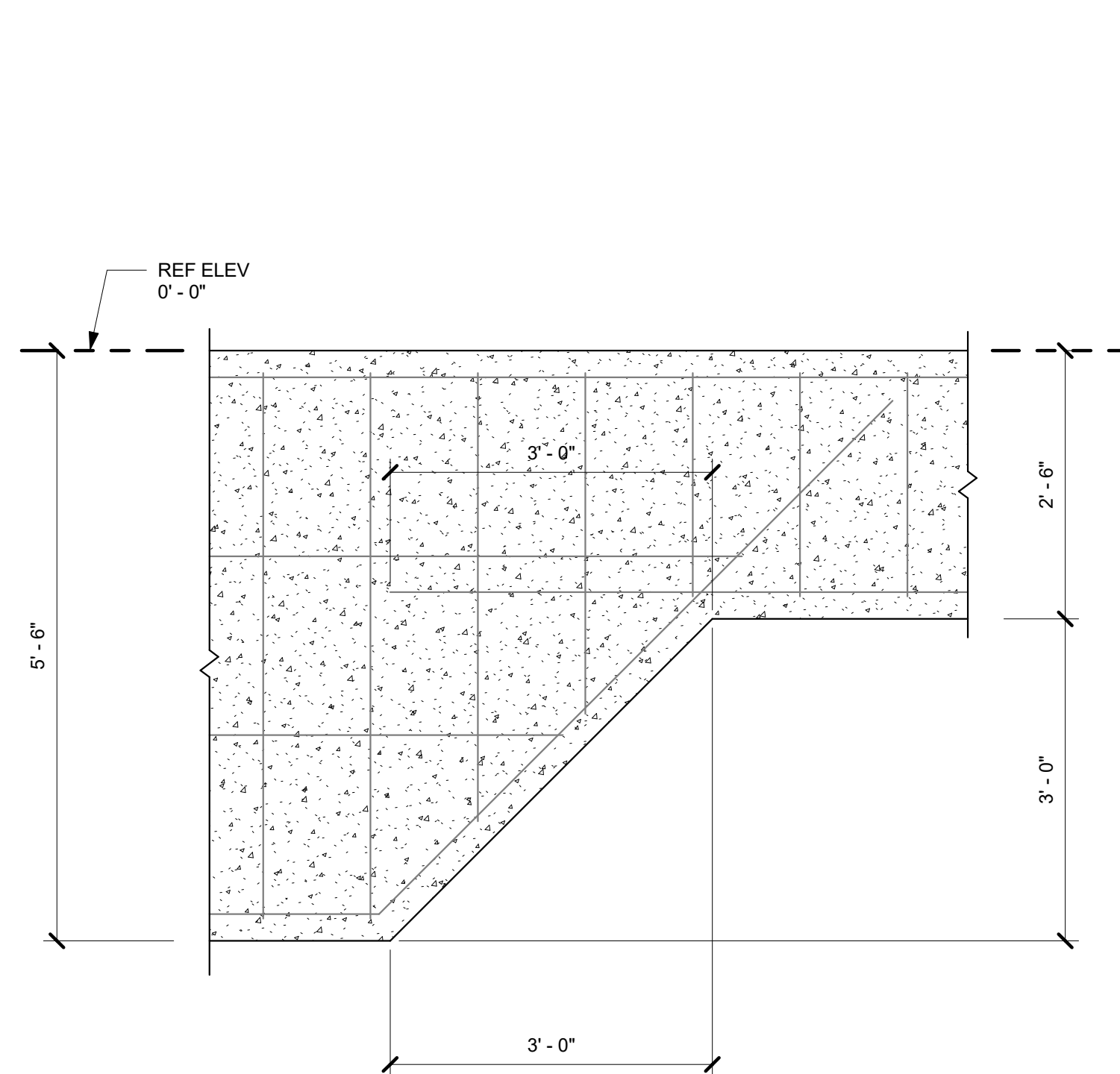
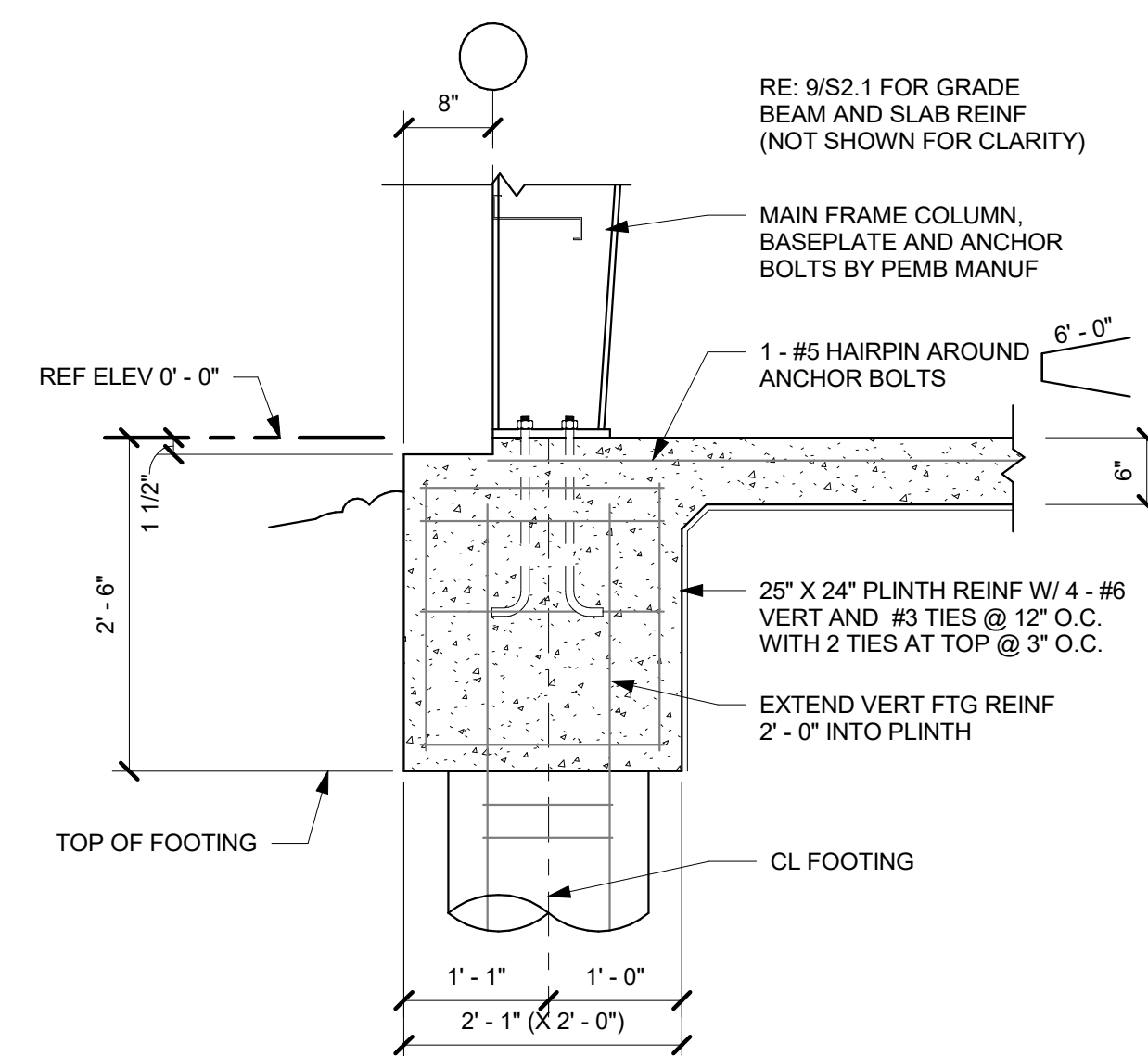
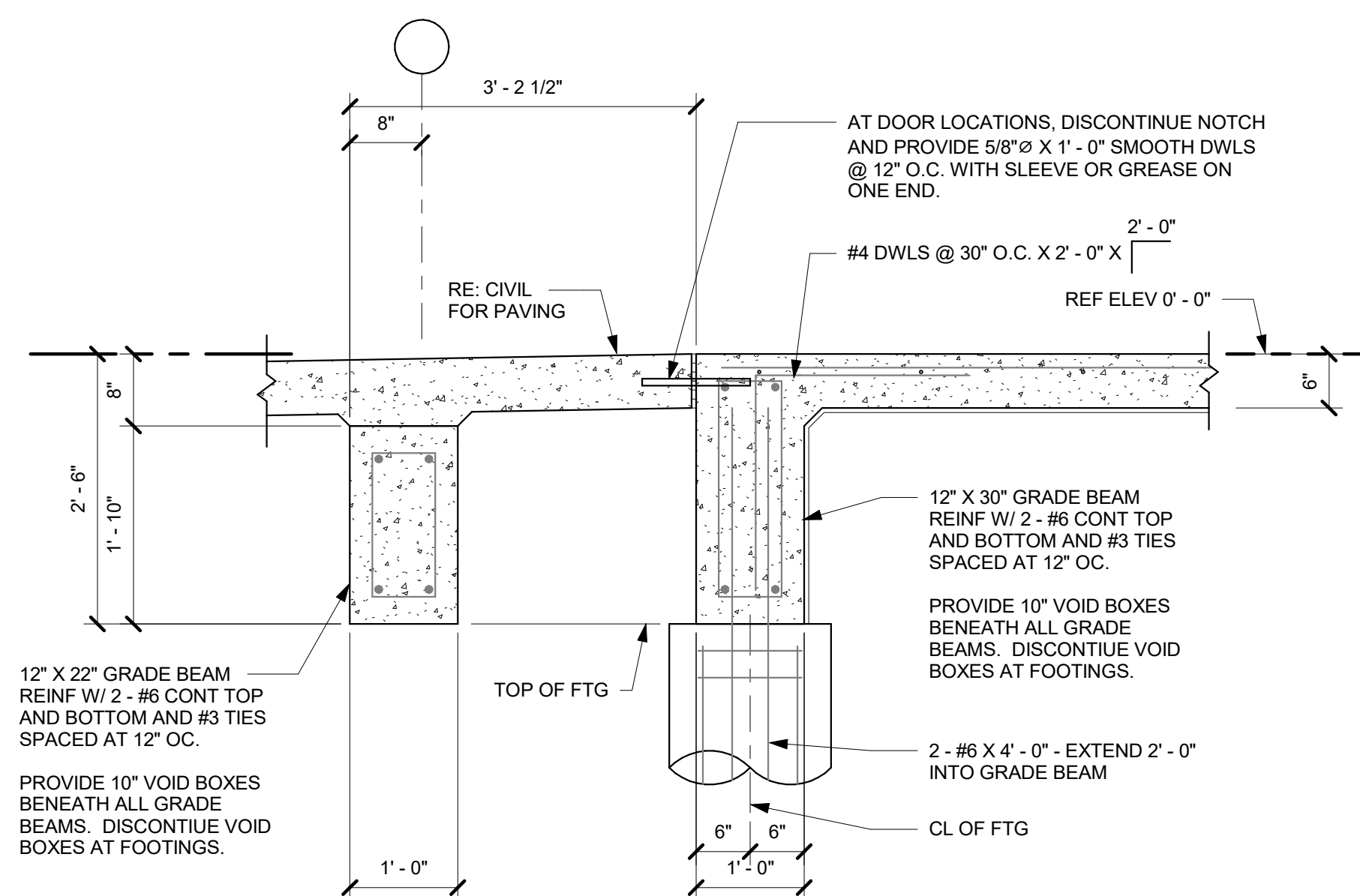
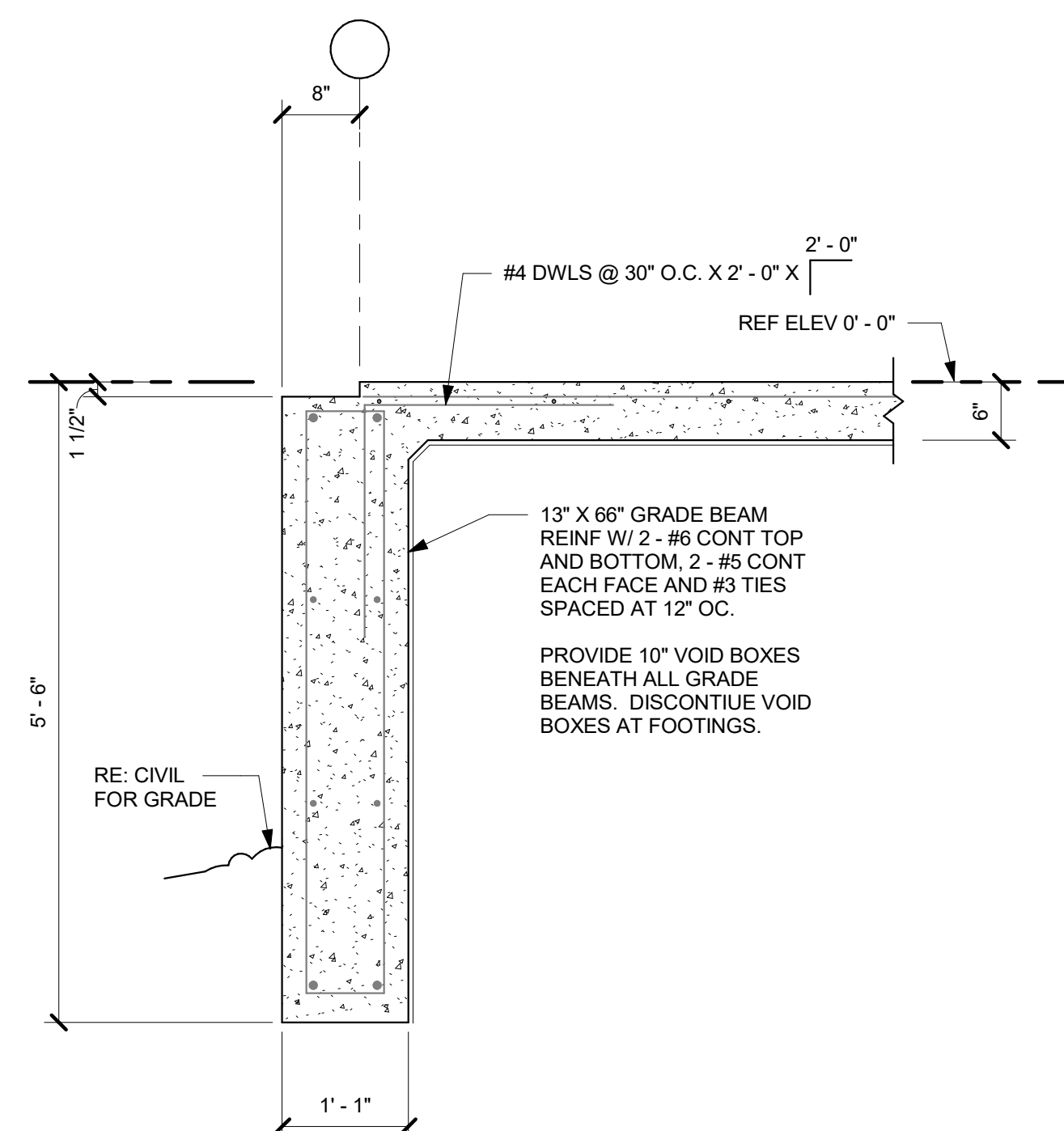
SHEET TITLE:

## FOUNDATION DETAILS

SHEET NO:

## S2.1

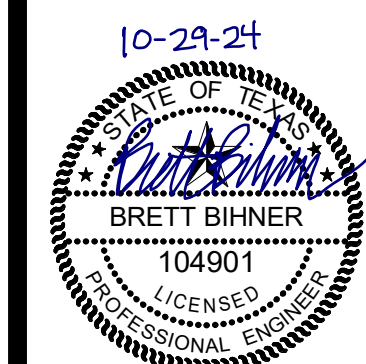




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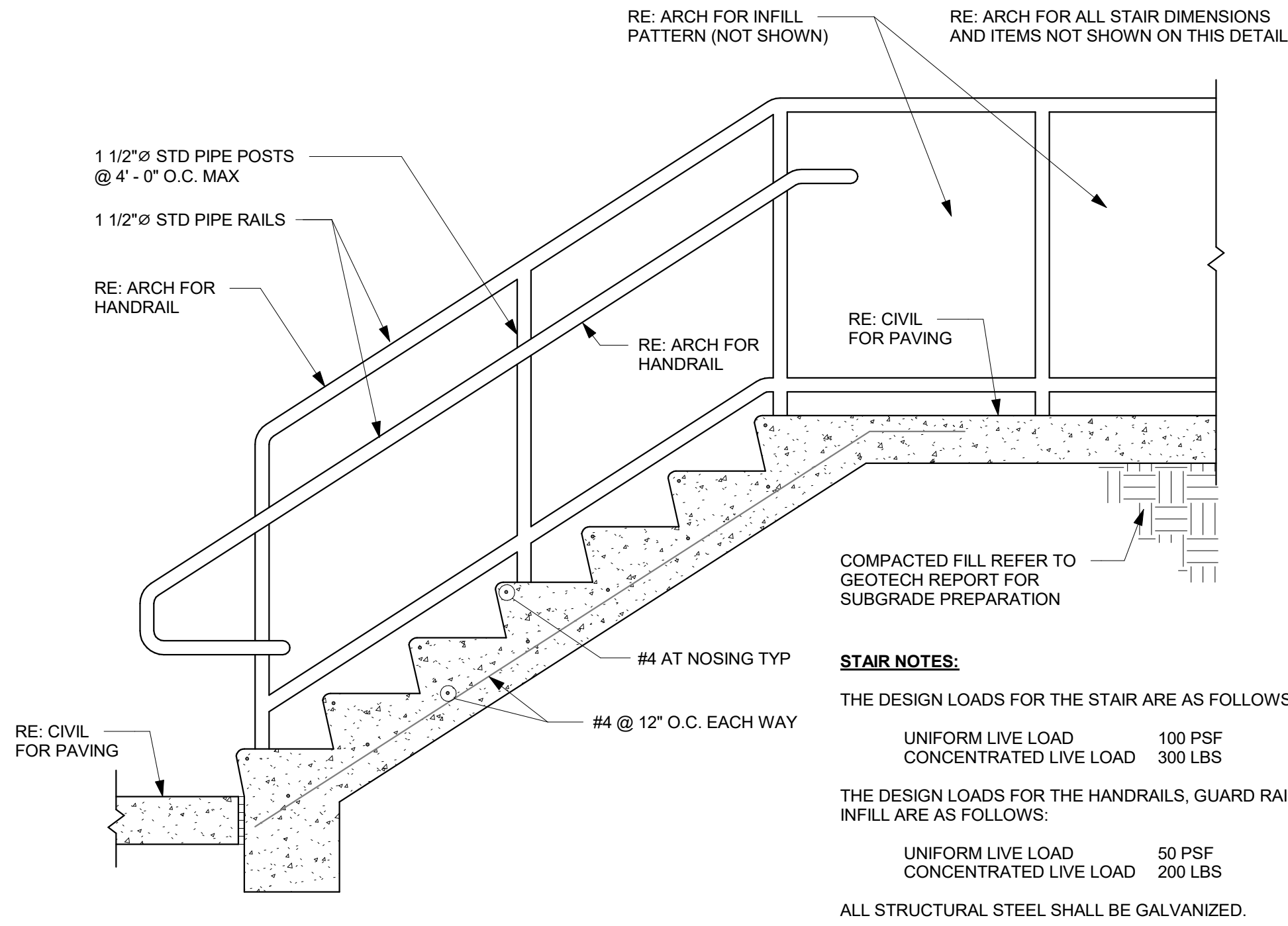
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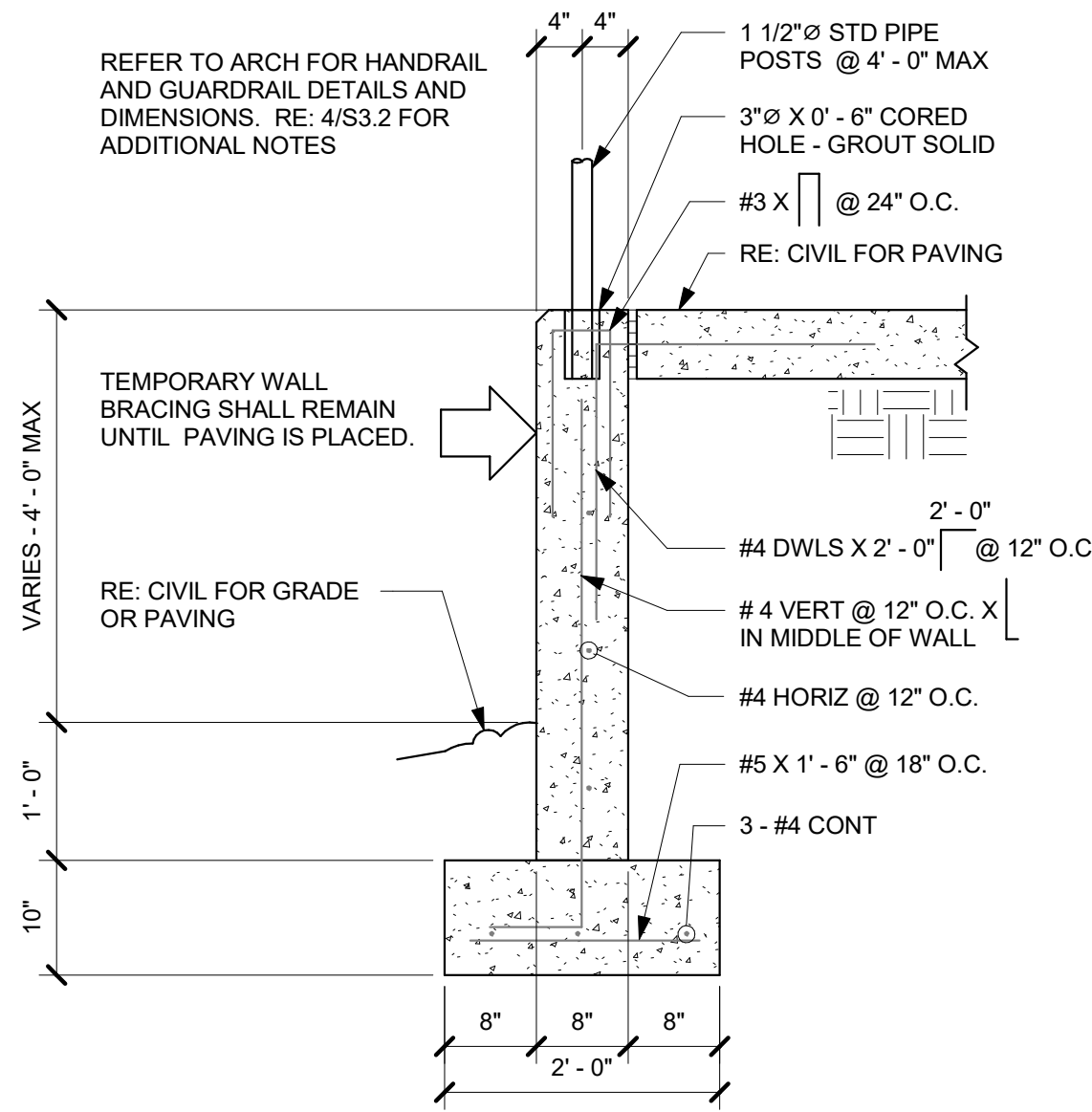
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FOUNDATION  
DETAILS

SHEET NO:

**S2.2**



2 SECTION AT CONCRETE STAIRS  
SCALE: 3/4" = 1'-0"



1 SECTION AT RETAINING WALL  
SCALE: 3/4" = 1'-0"

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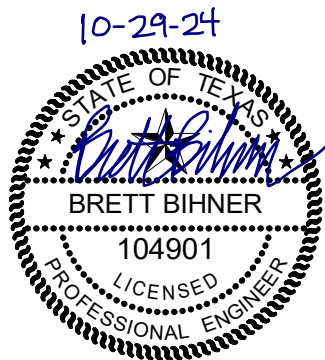
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SHEET TITLE:  
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DETAILS

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S2.3