

A

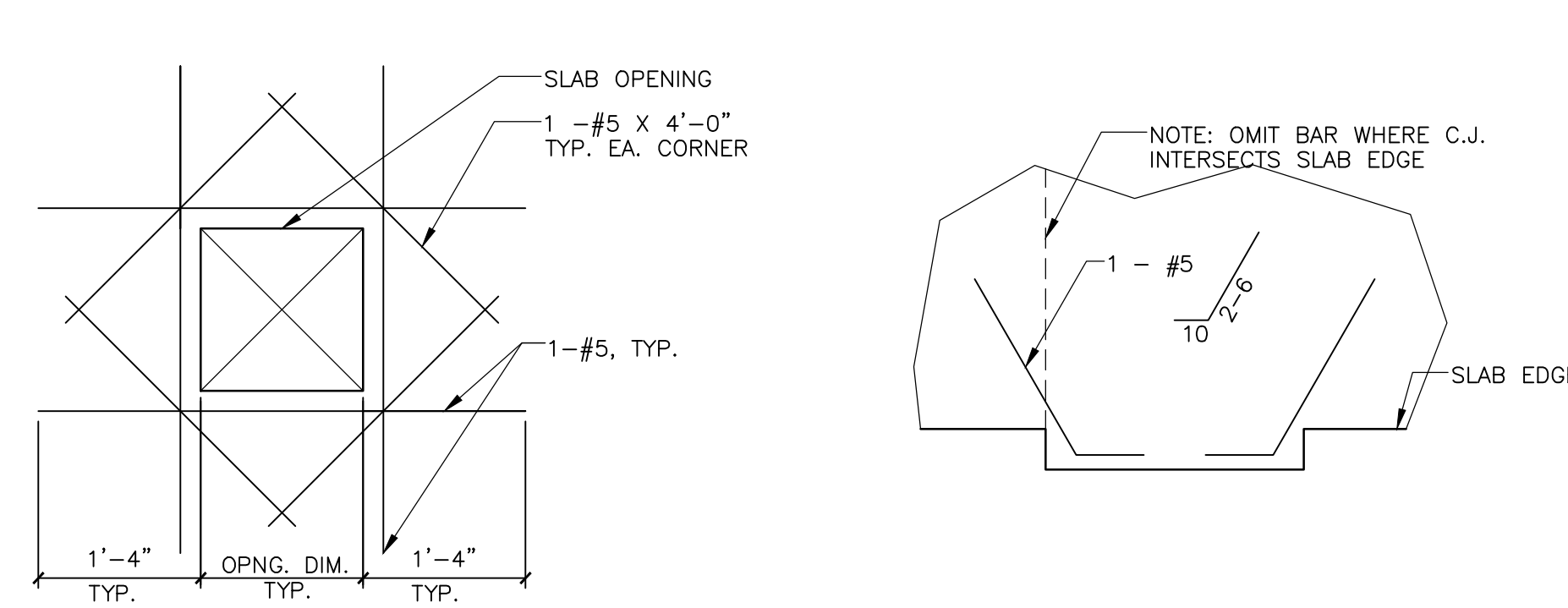
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C

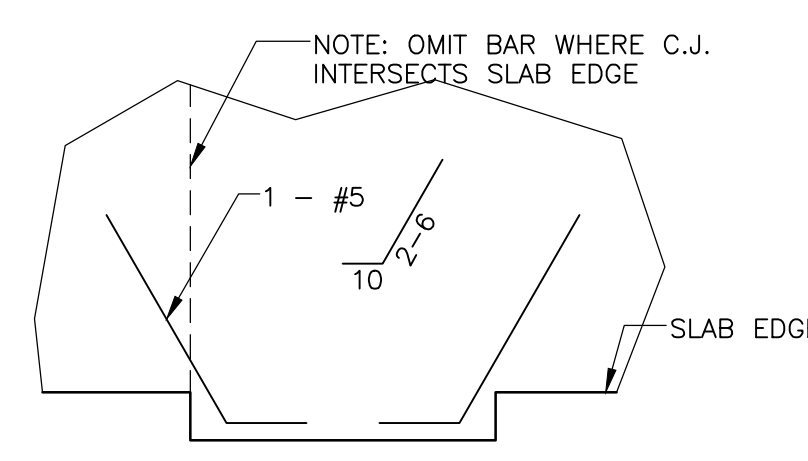
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E

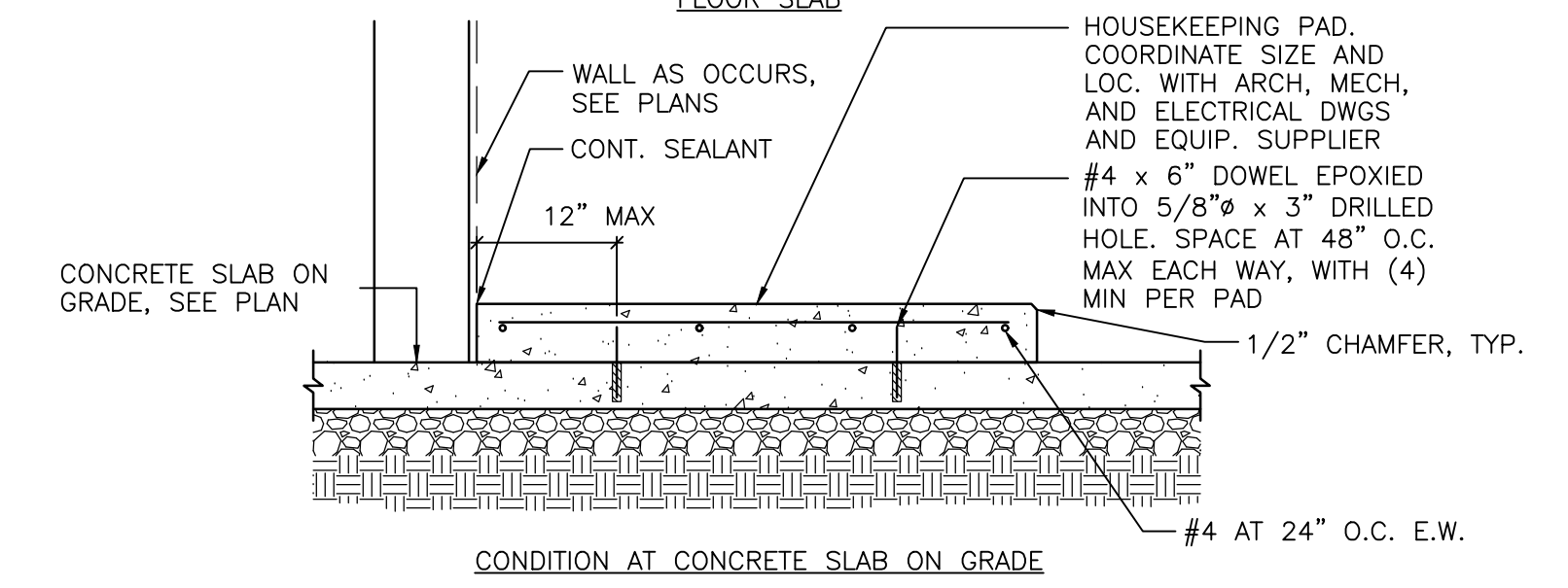
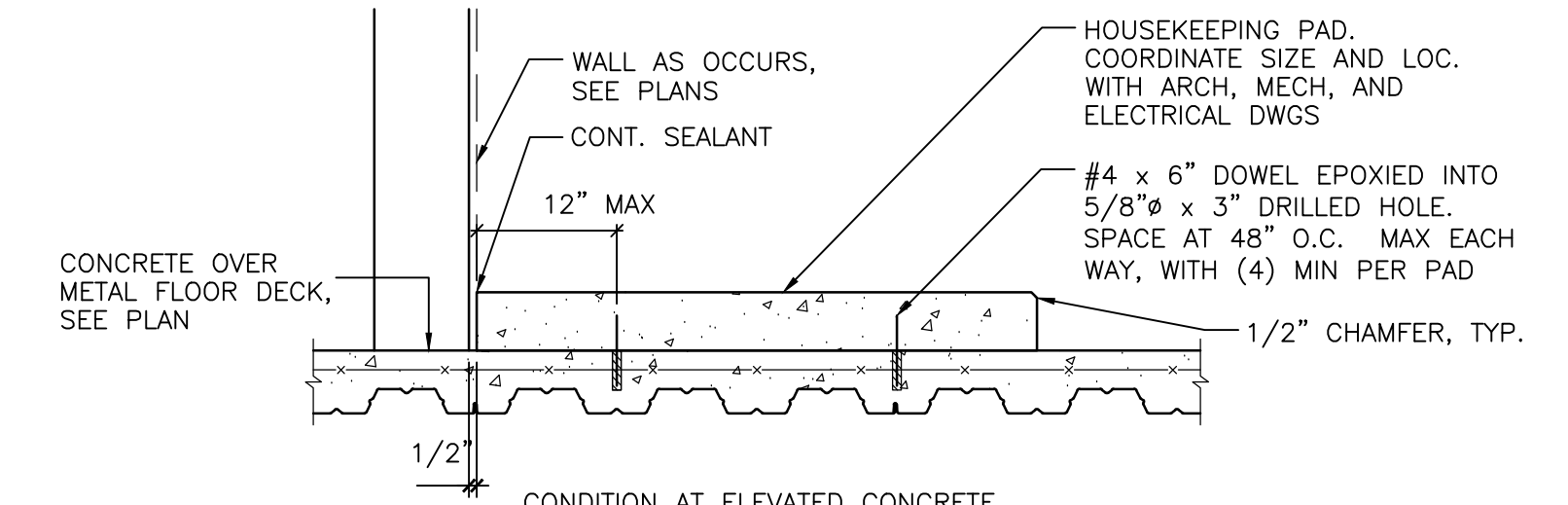
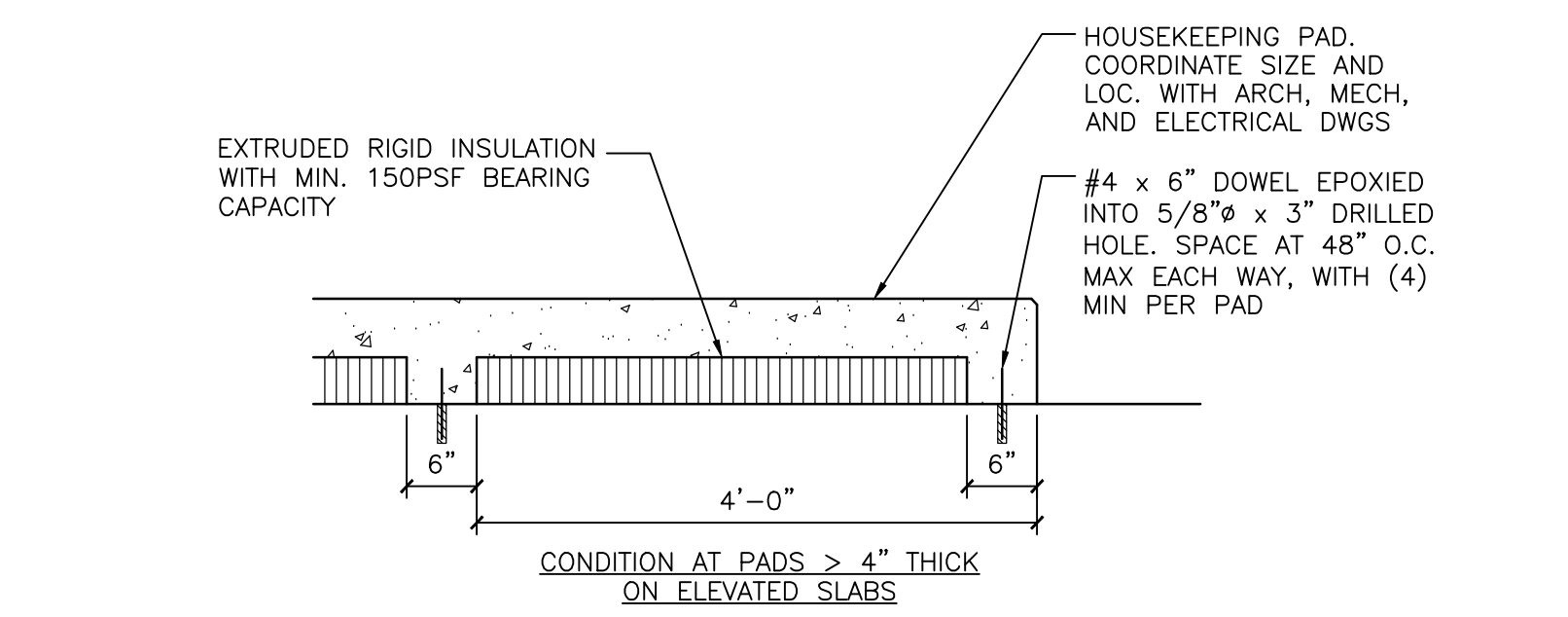
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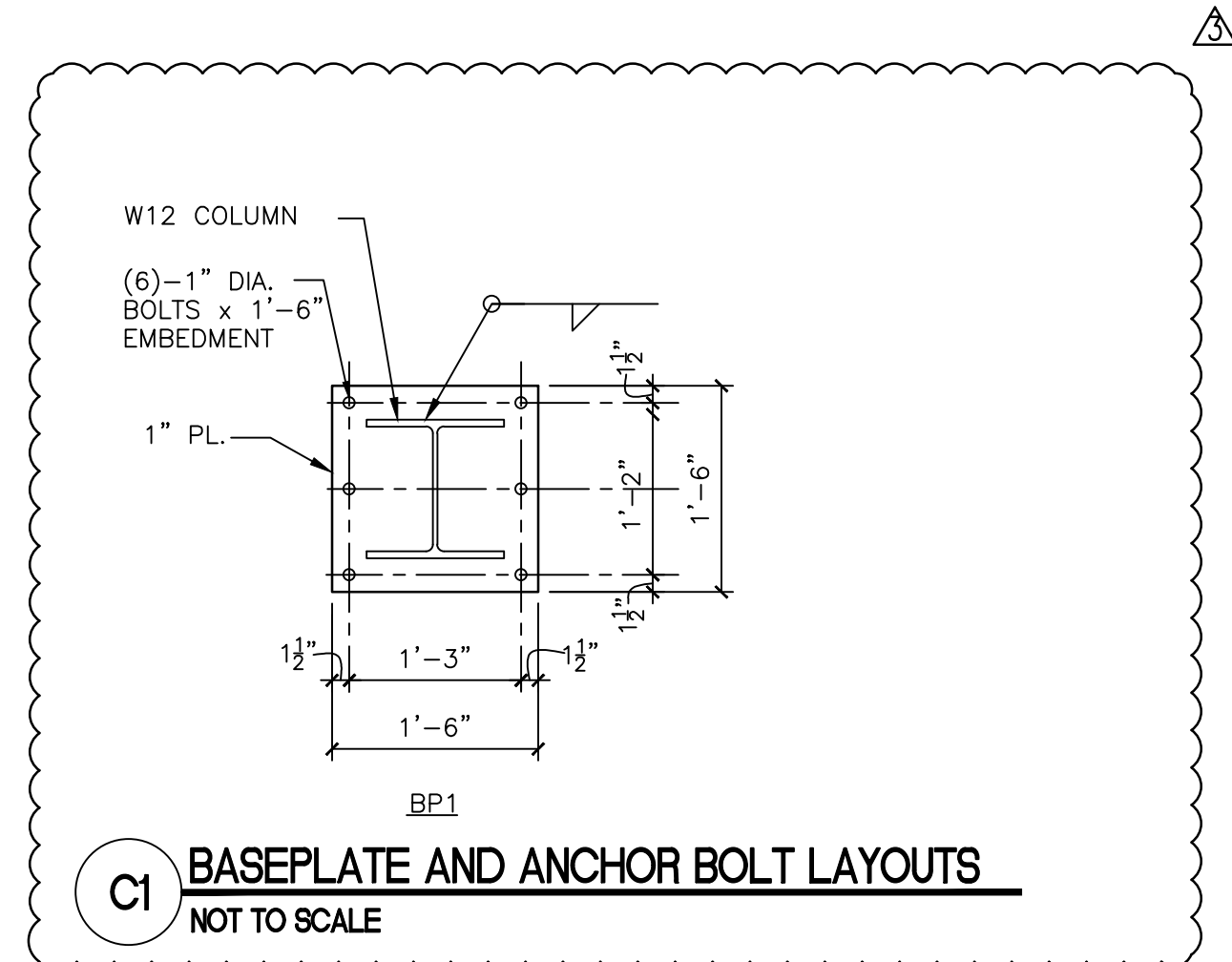
B6 SLAB OPENING DETAIL - PLAN
3/4"-1'-0"



B7 SLAB DOWELS AT DOORS - PLAN
3/4"-1'-0"



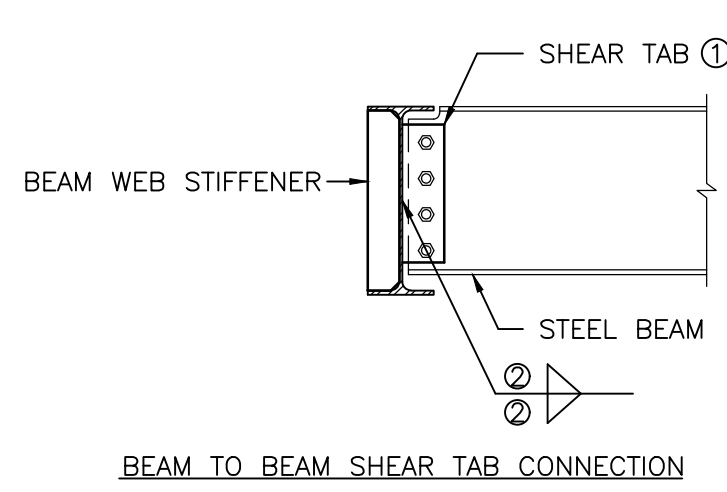
B8 SECTION - HOUSEKEEPING/EQUIPMENT PAD
3/4"-1'-0"



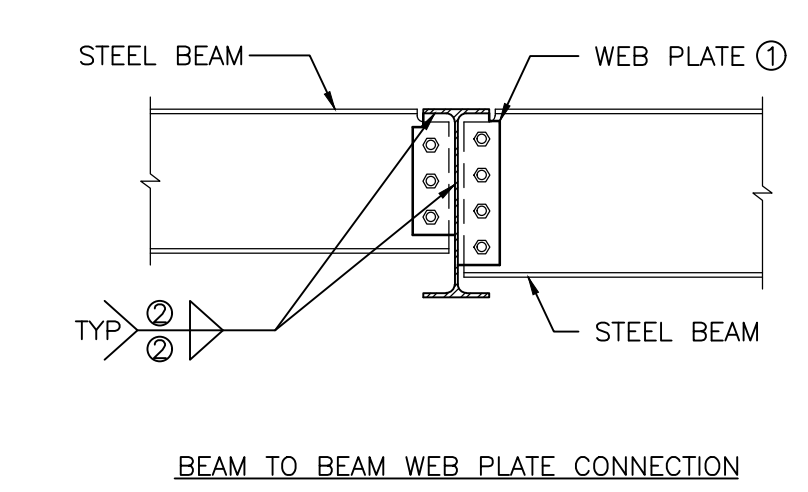
C1 BASEPLATE AND ANCHOR BOLT LAYOUTS
NOT TO SCALE

A-325 BOLT SCHEDULE		A-325N BOLTS		ASD CAPACITY
MAX BEAM SIZE IN BEAM DEPTH GROUP	No. PER BEAM	SIZE	ASD CAPACITY	
W8	2	3/4"	16.45K	21.2K
W10	2	3/4"	24.45K	31.8K
W12	3	3/4"	31.8K	42.4K
W14	3	3/4"	42.4K	53.0K
W16	4	3/4"	53.0K	63.6K
W18	5	3/4"	63.6K	74.2K
W21	6	3/4"	74.2K	84.8K
W24	7	3/4"	84.8K	95.4K
W27	8	3/4"	95.4K	
W30	9	3/4"		

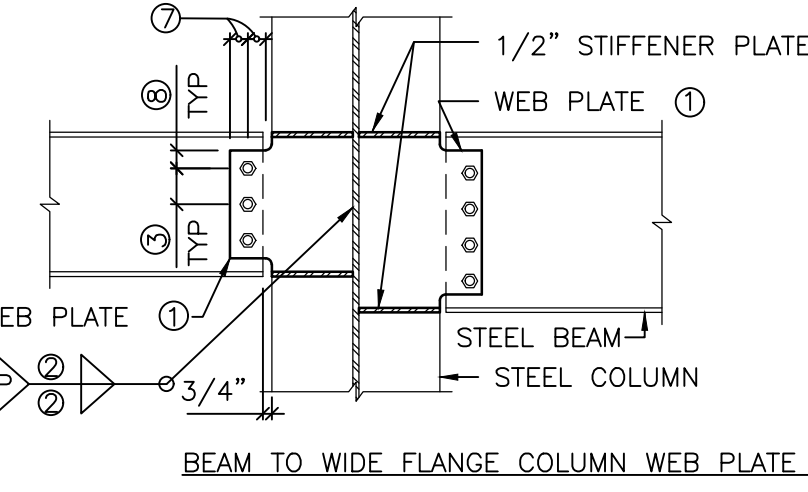
- ① SHEAR TAB SHALL BE 3/8" THICK.
- ② 5/16" FILLET WELD EACH SIDE OF SHEAR TAB.
- ③ BOLT SPACING SHALL BE 3" MIN. TYP.
- ④ WHEN MORE THAN ONE ROW OF BOLTS IS NEEDED, THE FIRST ROW SHALL BE A COMPLETE ROW WITH THE REMAINDER OF THE BOLTS PLACED IN THE SECOND ROW. HSS COLUMN SHALL HAVE A MINIMUM 1/4" THICKNESS USE A SINGLE ANGLE CONNECTION WHERE STEEL TUBE WALL IS TOO THIN.
- ⑤ AT MOMENT FRAME COLUMNS, SEE MOMENT CONNECTION DETAILS FOR CONTINUITY PLATE REQUIREMENTS.
- ⑥ BOLT EDGE DISTANCE, Le_b SHALL BE EQUAL TO TWICE THE BOLT DIAMETER FOR BOTH THE PLATE AND THE BEAM WEB.
- ⑦ BOLT EDGE DISTANCE, Le_w SHALL BE 1 1/4" FOR BOLT DIAMETERS 7/8" OR LESS AND 1 3/4" BOLT DIAMETER FOR BOLT DIAMETERS GREATER THAN 7/8".



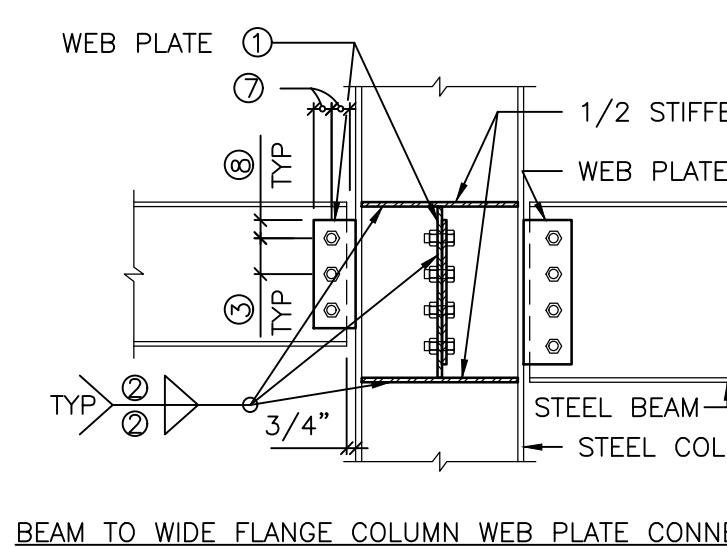
BEAM TO BEAM SHEAR TAB CONNECTION



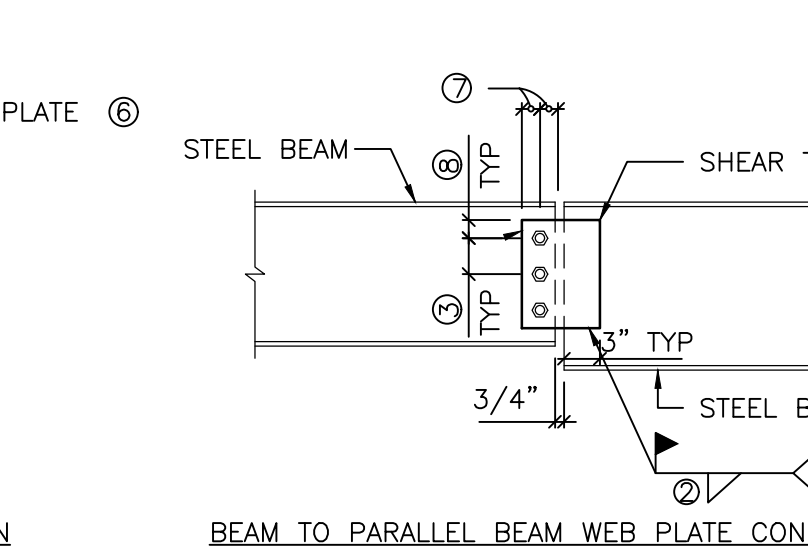
BEAM TO BEAM WEB PLATE CONNECTION



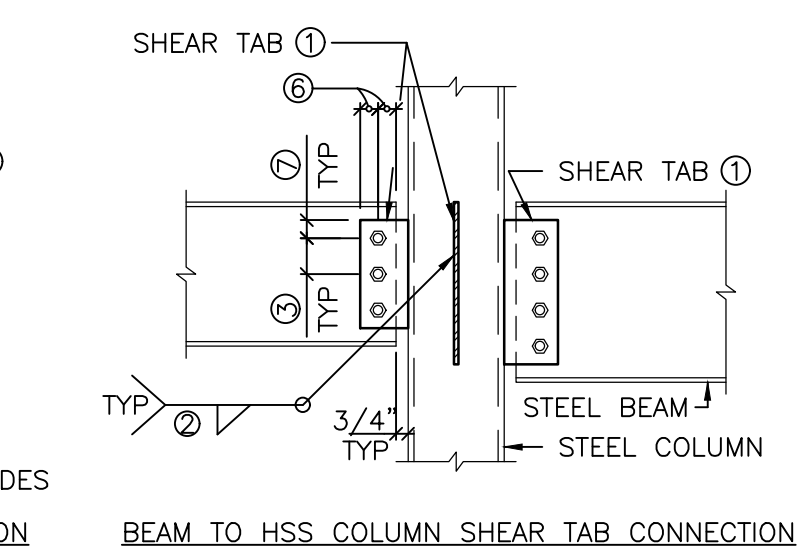
BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION



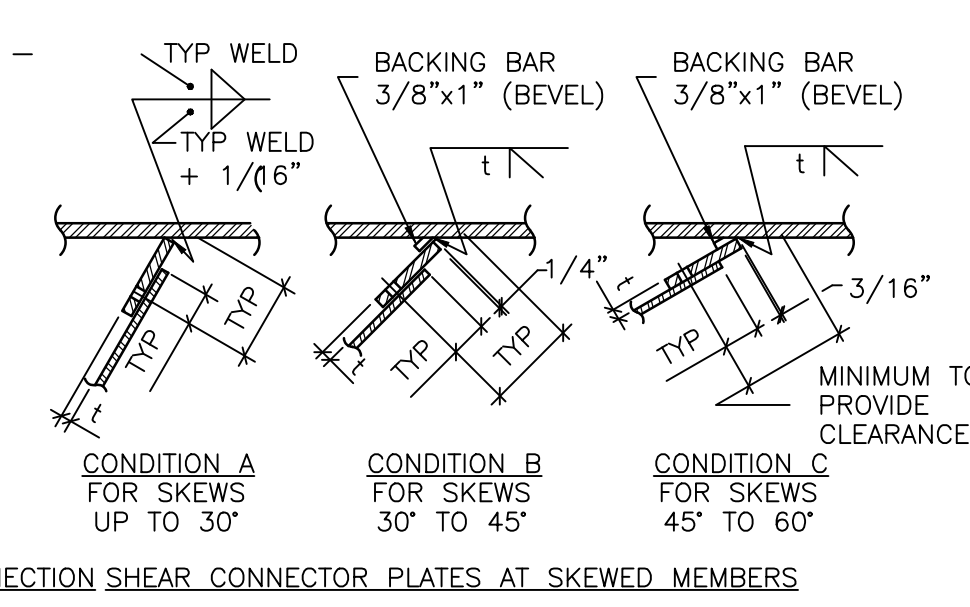
BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION



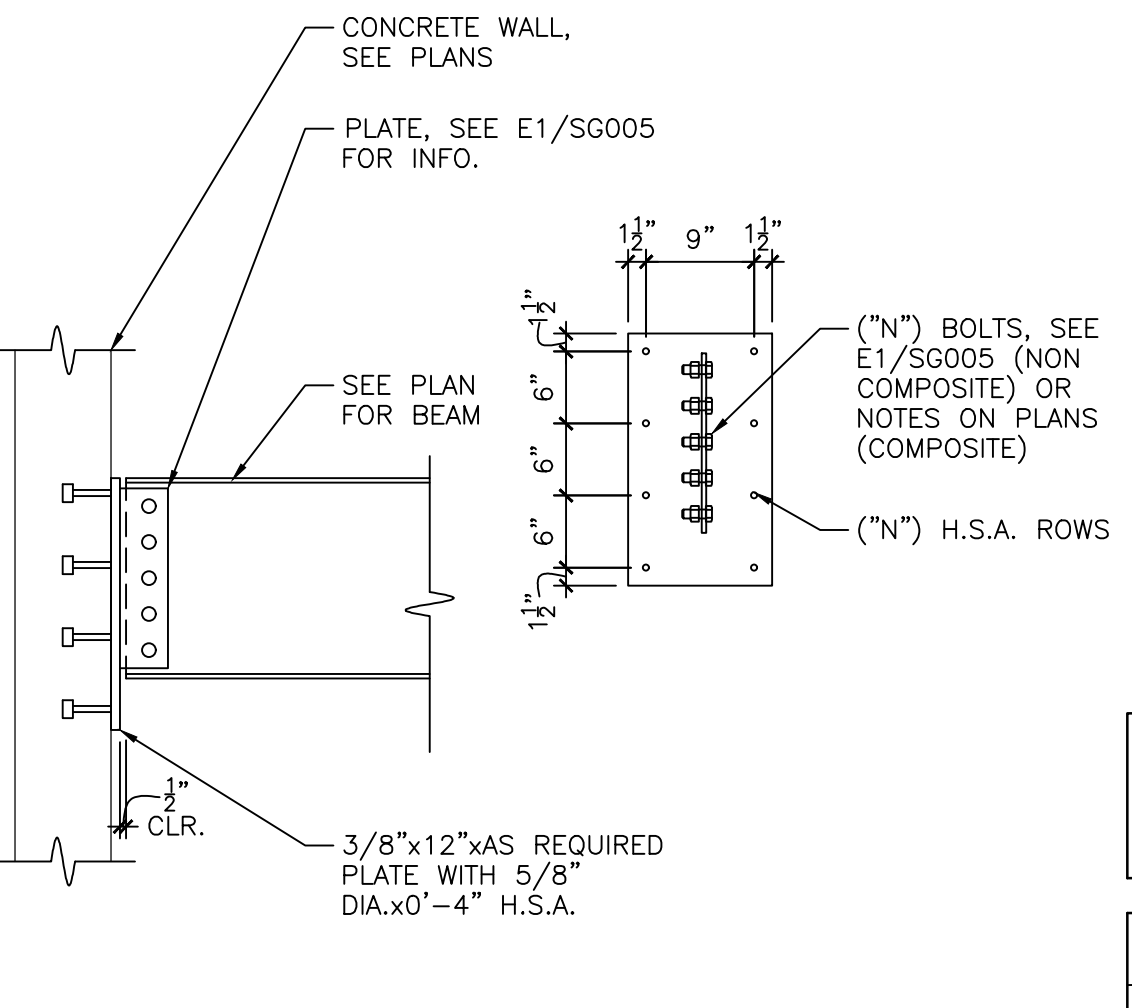
BEAM TO PARALLEL BEAM WEB PLATE CONNECTION



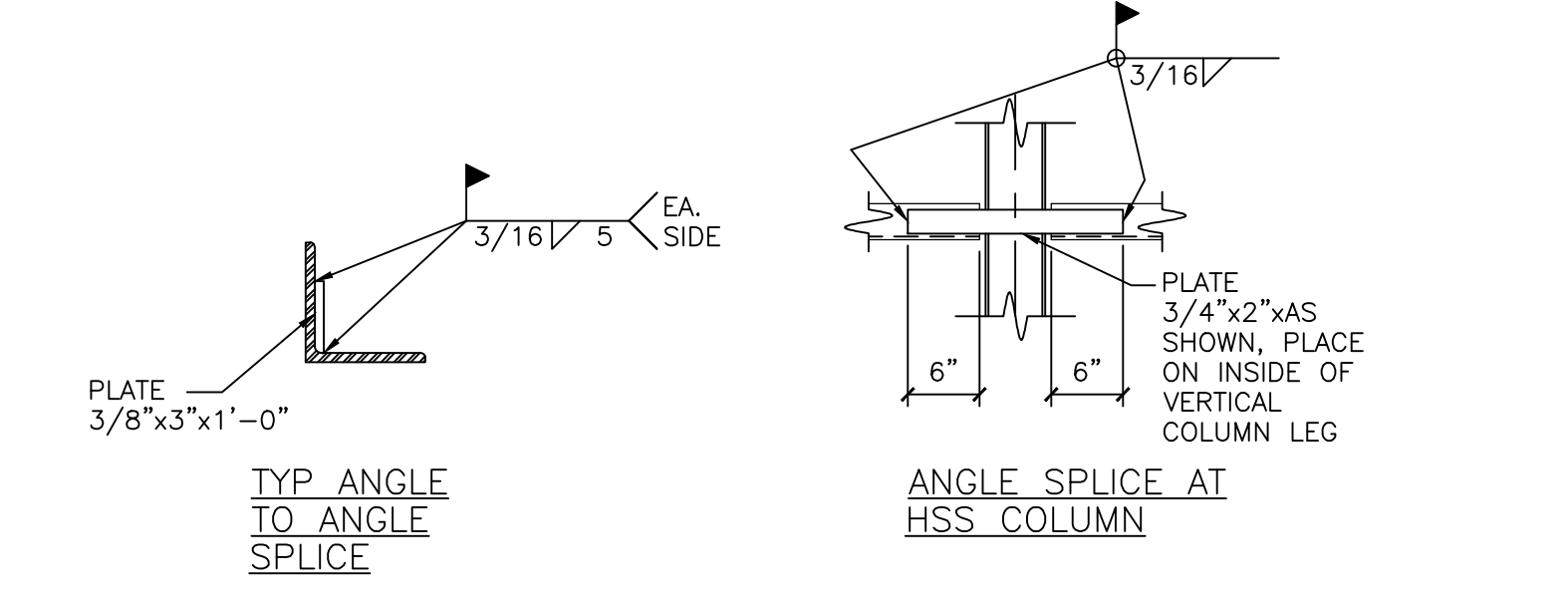
BEAM TO HSS COLUMN SHEAR TAB CONNECTION



SINGLE ANGLE CONNECTION WHERE REQUIRED BY NOTE No. 5

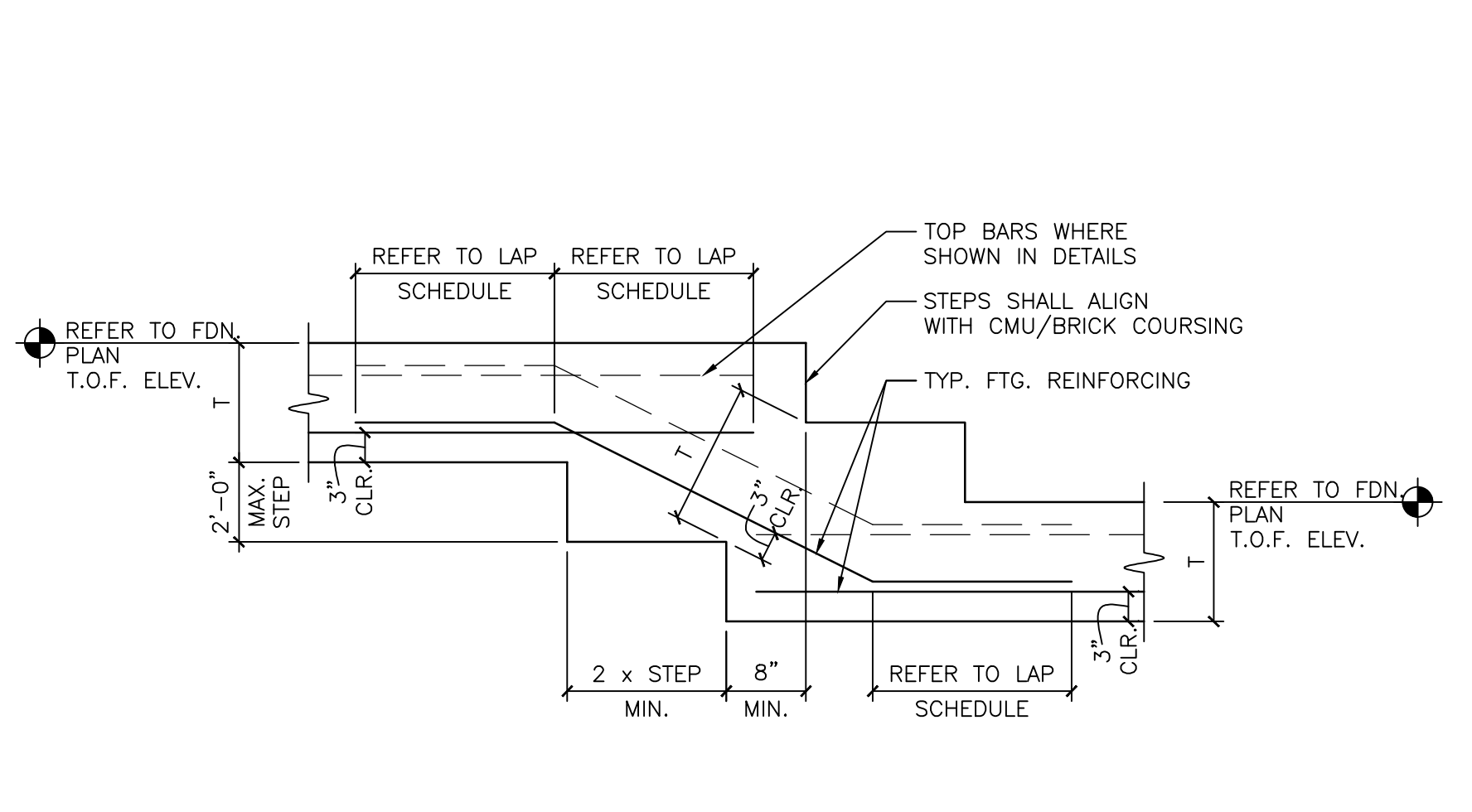


E7 BEAM EMBED DETAIL
3/4"-1'-0"

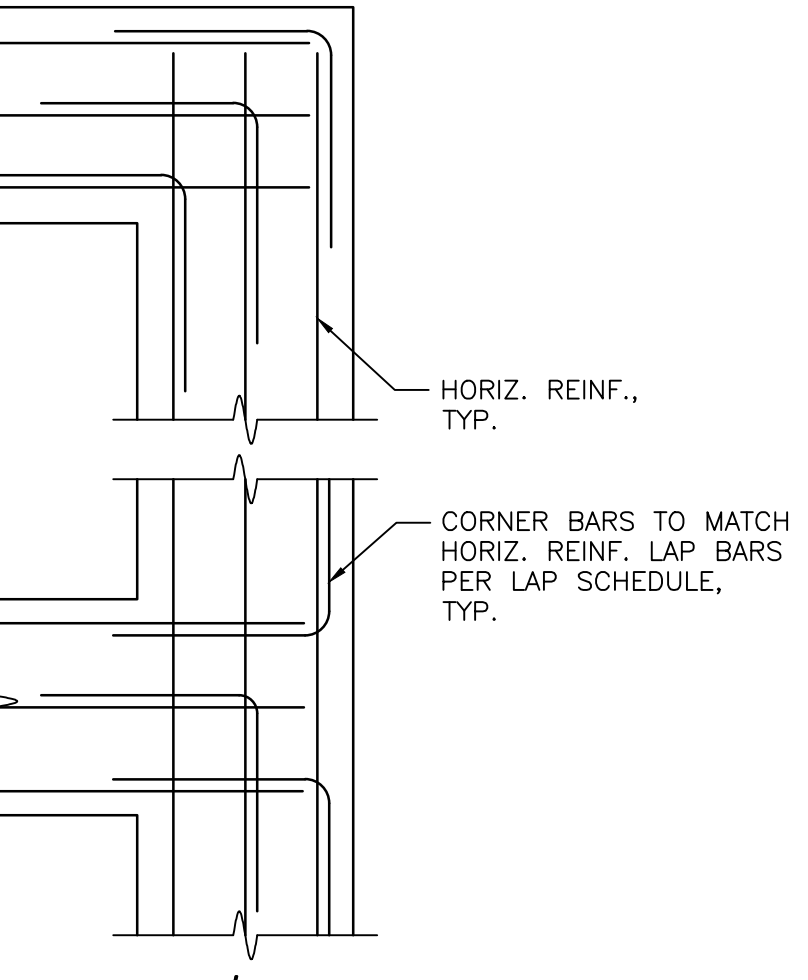


D8 CONTINUOUS ANGLE SPlice DETAIL
3/4"-1'-0"

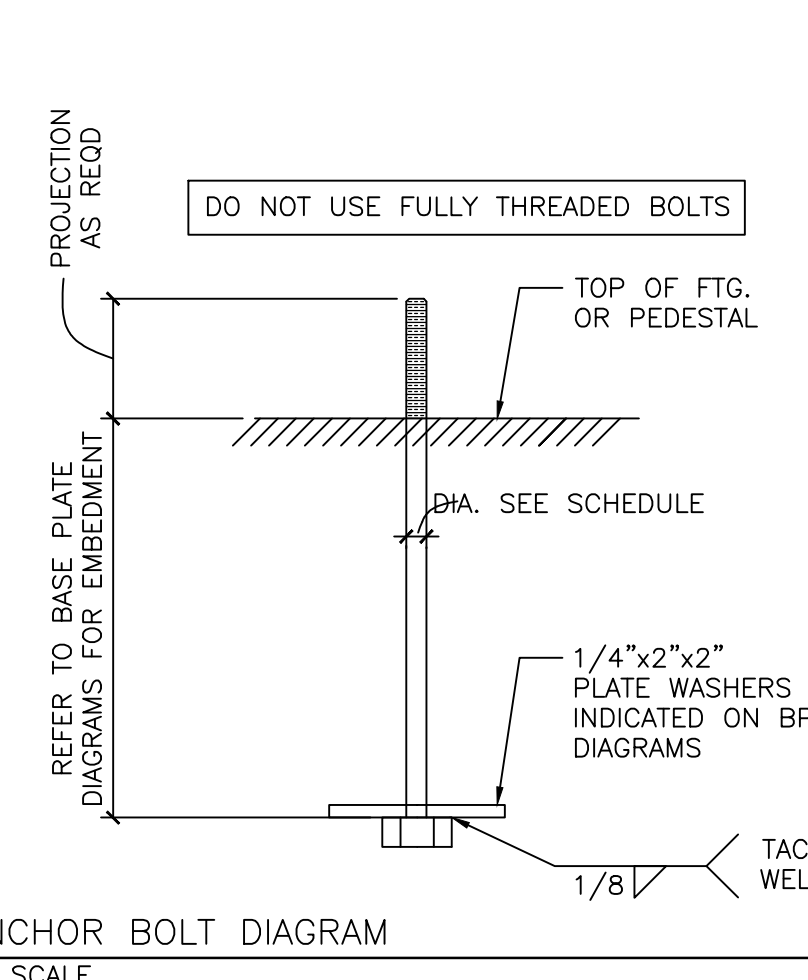
E1 TYPICAL BEAM CONNECTION DIAGRAM FOR NON-COMPOSITE BEAMS
3/4" BOLTED WEB PLATE CONNECTIONS WITH BOLT SCHEDULE



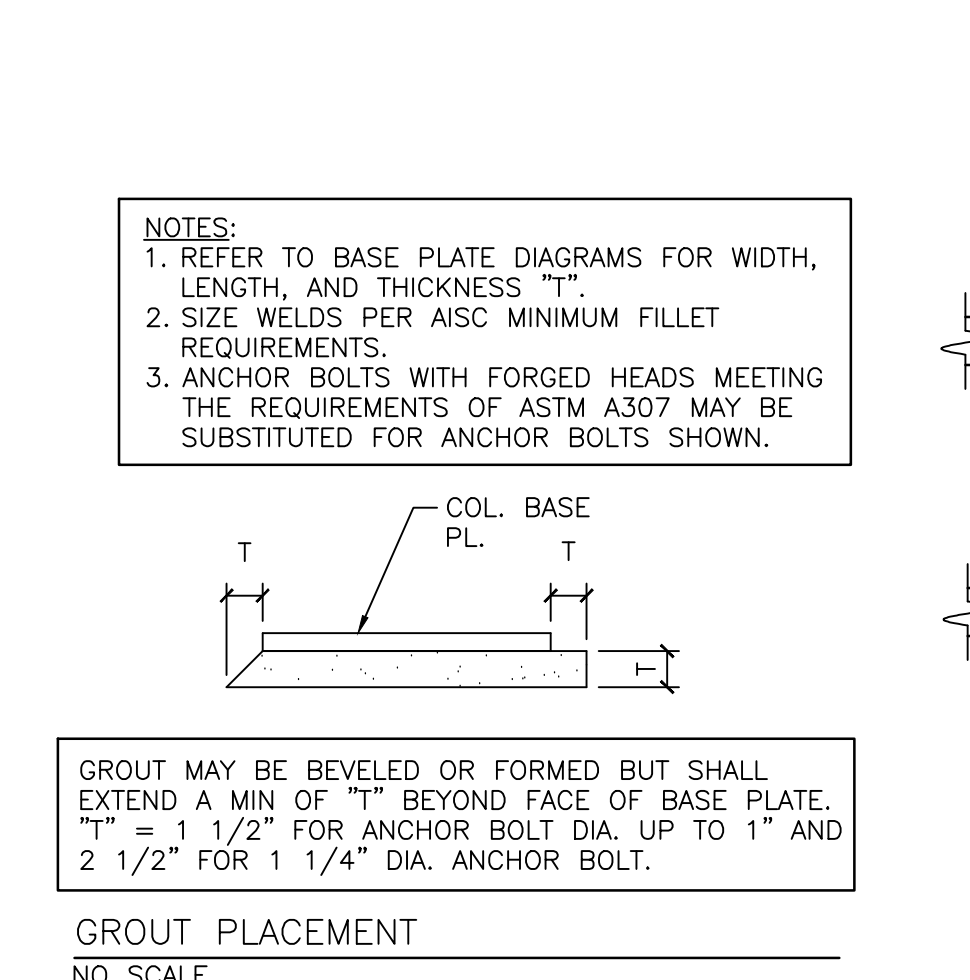
F1 FOOTING STEP DETAIL
NTS



F3 FOOTING/WALL CORNER AND INTERSECTION
3/4"-1'-0"



F4 BASEPLATE AND ANCHOR BOLT DETAILS
3/4"-1'-0"



F7 SLAB JOINT DETAILS
3/4"-1'-0"

REINFORCEMENT TENSION LAPS, EMBEDMENT LENGTHS AND HOOK LENGTHS

CONCRETE	BAR SIZE	LAP CLASS	f _c =3,000 PSI		f _c =4,000 PSI		CMU f' _m =2,000 PSI					
			SPlice	HOOK LENGTH	SPlice	HOOK LENGTH	BAR SIZE	SPlice				
f' _c =60,000 PSI	#3	B	28"	22"	6"	25"	19"	8"	f' _c =60,000 PSI	#3	18"	18"
	#4	B	38"	29"	8"	33"	25"	10"		#4	24"	24"
	#5	B	47"	36"	10"	41"	31"	12"		#5	30"	30"
	#6	B	56"	43"	12"	49"	37"	15"		#6	x	36"
	#7	B	81"	63"	14"	71"	54"	17"		#7	x	48"
	#8	B	93"	72"	16"	81"	62"	19"		#8	x	x
	#9	B	105"	81"	18"	91"	70"	22"		#9	x	x

- NOTES
- LENGTHS SHOWN CONFORM WITH NON-SEISMIC PROVISIONS OF THE CURRENT EDITION OF ACI 318/530 IBC FOR UNCOATED BARS NOT ENCLOSED BY CLOSELY SPACED SPIRALS OR TIES. DEVELOPMENT OF REINFORCEMENT NOT COVERED BY THE TABLE SHALL CONFORM WITH THE CURRENT EDITION OF CODES.
 - LAP AND EMBEDMENT LENGTHS SHOWN APPLY WHEN BAR MINIMUM CONCRETE COVER OVER BARS CONFORMS WITH VALUES GIVEN IN THE TABLE FOR "CONCRETE COVER". THESE COVER VALUES CONFORM WITH THE CURRENT EDITION OF ACI 318.
 - HOOK LENGTH GIVEN IS THE STRAIGHT LINE DISTANCE FROM THE LOCATION OF MAXIMUM STRESS IN THE BAR TO THE OUTSIDE END OF THE HOOK. MULTIPLY LENGTHS GIVEN BY 1.43 FOR HOOKS WITH SIDE COVER NORMAL TO THE HOOK LESS THAN 2 1/2 INCHES AND FOR 90 DEGREE HOOKS COVER ON BAR EXTENSION BEYOND HOOK LESS THAN 2 INCHES.
 - TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THE REINFORCEMENT.
 - MULTIPLY LAP AND EMBEDMENT LENGTHS GIVEN BY 2.0 FOR BARS WITH CLEAR SPACING OF TWO BAR DIAMETERS OR LESS OR CONCRETE COVER OF ONE BAR DIAMETER OR LESS.
 - MINIMUM CONCRETE COVER FROM FACE OF MEMBER TO EDGE OF BAR SHALL NOT BE LESS THAN TWO AND ONE HALF BAR DIAMETERS. THIS REQUIREMENT IS IN ADDITION TO ACI MINIMUM DETAILING CONCRETE COVER.

F8 REINFORCING BAR LAP SCHEDULE
3/4"-1'-0"

Revisions:	Date:
ADDENDUM 1	08-09-24
ADDENDUM 2 (NO STRUCTURAL CHANGES)	XX-XX-XX
ADDENDUM 3	01-17-25

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STAMP

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title

GENERAL STRUCTURAL DETAILS

Approved: Project Director

Phase

100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title

DESIGN REPLACE BOILER PLANT

Location

SIoux FALLS VAMC
SIoux FALLS, SD 57105

Issue Date

08-09-2024

Checked

TWW

Drawn

DRW

Project Number

438-22-900

Building Number

12

Drawing Number

SG005