

## DESIGN CRITERIA

- CODES:  
INTERNATIONAL BUILDING CODE (IBC) 2015 WITH WISCONSIN AMENDMENTS.  
AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14)  
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS  
LOAD AND RESISTANCE FACTOR DESIGN (LRFD)(AISC 360-10) FOURTEENTH EDITION, 2010  
SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS (AISC 341-10)  
AMERICAN WELDING SOCIETY D1.1
- DESIGN LOADS:  

RISK CATEGORY	IV
BACKFILL EQUIVALENT FLUID PRESSURE	70 PCF
SEISMIC SOIL CLASSIFICATION	D
SPECTRAL RESPONSE ACCELERATION, S <sub>s</sub>	0.094 g
SPECTRAL RESPONSE ACCELERATION, S <sub>1</sub>	0.036 g
SHORT PERIOD DESIGN ACCELERATION, S <sub>ds</sub>	0.089 g
LONG PERIOD DESIGN ACCELERATION, S <sub>d1</sub>	0.096 g
IMPORTANCE FACTOR	1.5
SEISMIC DESIGN CATEGORY	A
SEISMIC FORCE RESISTING SYSTEM	ORDINARY STEEL MOMENT FRAMES
RESPONSE MODIFICATION FACTOR, R	3
ANALYSIS PROCEDURE	SIMPLIFIED ANALYSIS
SEISMIC RESPONSE COEFFICIENT, C <sub>s</sub>	0.01
DESIGN BASE SHEAR, V = C <sub>s</sub> x W	0.01 x W

WIND - PARAMETERS BASIC WIND SPEED	120
EXPOSURE CLASS	C

WIND - MAIN WIND FORCE RESISTING SYSTEM PRESSURES DESIGN PRESSURE	33 PSF
ROOF UPLIFT PRESSURE	30 PSF (GROSS) (LC, 1.0WL)
ROOF UPLIFT PRESSURE	12 PSF (NET) (LC, 0.9D, +1.0 WL)

WIND - ELEMENTS AND COMPONENTS PER APPLICABLE BUILDING CODE	
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LIVE LOADS HOSPITAL SPACES, UNO	100 PSF REDUCIBLE
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SNOW LOADS GROUND SNOW LOAD	40 PSF
SNOW EXPOSURE FACTOR	1.0
THERMAL FACTOR	1.1
IMPORTANCE FACTOR	1.1
FLAT-ROOF SNOW LOAD	31 PSF
DESIGN LOAD	35 PSF
DRIFTING LOAD	REFER TO PLAN
- NET ALLOWABLE SOIL BEARING PRESSURE  
10,000 PSF
- MINIMUM FROST PROTECTION DEPTH FROM ADJACENT GRADE:  
EXTERIOR FOOTING ADJACENT TO HEATED AREA -3'-6"  
EXTERIOR FOOTINGS IN UNHEATED AREA -4'-0"
- SPECIFIED 28-DAY CONCRETE COMPRESSIVE STRENGTHS (f'<sub>c</sub>)  
FOOTINGS 3000 PSI  
FOUNDATION WALLS 4000 PSI  
SLABS ON GRADE 3500 PSI  
TYPICAL - UNLESS NOTED OTHERWISE 4000 PSI
- CONCRETE REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO THE FOLLOWING STANDARDS:  
DEFORMED BARS ASTM A615, GRADE 60 F<sub>y</sub> = 60 KSI  
WELDED WIRE REINFORCING ASTM A185 F<sub>y</sub> = 65 KSI
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:  
WIDE FLANGE SECTIONS ASTM A992 F<sub>y</sub> = 50 KSI  
OTHER ROLLED SECTIONS ASTM A36 F<sub>y</sub> = 36 KSI  
SQUARE AND RECTANGULAR HSS ASTM A500, GR B F<sub>y</sub> = 46 KSI  
ROUND HSS ASTM A500, GR B F<sub>y</sub> = 42 KSI  
SQUARE, RECTANGULAR, ROUND HSS ASTM A1085 F<sub>y</sub> = 50 KSI  
PIPE SECTIONS ASTM A53, GR B F<sub>y</sub> = 35 KSI  
CAP AND BASE PLATES ASTM A36 F<sub>y</sub> = 36 KSI  
CONNECTION MATERIAL ASTM A36 F<sub>y</sub> = 36 KSI  
STIFFENER PLATES ASTM A36 F<sub>y</sub> = 36 KSI  
ANCHOR RODS ASTM F1554, GR 36 F<sub>y</sub> = 36 KSI  
HIGH STRENGTH BOLTS ASTM F1554, GRADE A325 F<sub>y</sub> = 36 KSI  
HEAVY HEX NUTS ASTM A563 120 KSI  
WASHERS ASTM F436  
HEADED WELDED STEEL STUDS ASTM A108, TYPE B  
ELECTRODES FOR ARC WELDING AWS E1.1, E70XX
- STEEL DECK AND ALL ACCESSORIES SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO THE FOLLOWING STANDARDS:  
GALVANIZED COMPOSITE FLOOR DECK ASTM A653, GR 40 F<sub>y</sub> = 40 KSI
- STRUCTURAL THERMAL BREAK MATERIAL, BUSHINGS AND WASHERS SHALL CONFIRM TO THE FOLLOWING MINIMUM STANDARDS:  

COMPRESSIVE STRENGTH	ASTM D638	38,900 PSI
COMPRESSIVE MODULUS	ASTM D695	291,194 PSI FOR 1/2"
		673,400 PSI
SHEAR STRENGTH	ASTM D732	15,000 PSI
THERMAL CONDUCTIVITY	ASTM C518	1.8 BTU IN/HR SF °F
COEFFICIENT OF THERMAL EXPANSION	ASTM E831	2.2 x 10 <sup>-6</sup> IN/IN/°F
THERMAL RESISTANCE (R VALUE)	ASTM C518	0.95 HR SF °F/BTU
ACCEPTABLE MANUFACTURERS	FABREKKA OR OTHER PRE-APPROVED MANUFACTURER	

## GENERAL NOTES

- NEITHER THE PROFESSIONAL ACTIVITIES OF THE ENGINEER, NOR THE PRESENCE OF THE ENGINEER OR HIS OR HER EMPLOYEES AND SUBCONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES, AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES, OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING, OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE ENGINEER AND HIS OR HER PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE JOBSITE SAFETY. THE ENGINEER AND THE ENGINEER'S CONSULTANTS SHALL BE MADE ADDITIONAL INSURED UNDER THE CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.
- STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS. CONTRACTOR SHALL SO CONSTRUCT THE WORK SO THAT IT WILL CONFORM TO THE CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL AND ELECTRICAL DESIGN.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS NOTED OTHERWISE, THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION.
- DETAILS AND NOTES ON THE STRUCTURAL DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS ELSEWHERE.
- ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPES, INSERTS AND OTHER PENETRATIONS WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.
- DIMENSIONS, NOTES, AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- WHERE NEW CONSTRUCTION INTERFACES WITH EXISTING CONDITIONS, FIELD VERIFY EXISTING DIMENSIONS, MEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAWINGS PRIOR TO STARTING CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWINGS:  
A. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, UNLESS NOTED OTHERWISE.  
B. SIZE AND LOCATIONS OF ALL INTERIOR AND EXTERIOR MASONRY WALLS.  
C. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLOOR DRAINS, SLOPES, DEPRESSED AREAS, CHANGES IN LEVEL, CHAMFERS, GROOVES, INSERTS, ETC.  
D. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS UNLESS NOTED OTHERWISE.  
E. FLOOR, WALL AND ROOF FINISHES.  
F. STAIR FRAMING AND DETAILS. ALSO REFER TO STAIR MANUFACTURER'S APPROVED SHOP DRAWINGS.  
G. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.  
H. FIRE PROTECTION REQUIREMENTS.
- REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:  
A. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN.  
B. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.  
C. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL OR PLUMBING FIXTURES.  
D. SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES OR CURBS AND ANCHOR BOLTS FOR MOTOR MOUNTS.
- BEFORE SUBMITTING A PROPOSAL FOR THIS WORK, EACH BIDDER SHALL VISIT THE PREMISES AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS. TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPES OF EQUIPMENT, ETC. THE BID SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK WITHIN THE EXISTING CONDITIONS. DISRUPTION OF NORMAL ACTIVITIES IN THE WORK AREA SHALL BE KEPT TO A MINIMUM.
- SHOP DRAWINGS PREPARED BY SUPPLIERS, SUBCONTRACTORS, AND OTHERS SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT. EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED, INITIALED AND DATED INDICATING REVIEW BY THE CONSTRUCTION MANAGER/GENERAL CONTRACTOR.

- SHOP DRAWINGS PREPARED BY THE SUBCONTRACTORS, SUPPLIERS, AND OTHERS SHALL BE REVIEWED BY THE ARCHITECT ONLY FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. REVIEW BY THE ARCHITECT SHALL NOT BEGIN WITHOUT THE PRIOR COORDINATION AND REVIEW BY THE GENERAL CONTRACTOR. WORK SHALL NOT BEGIN WITHOUT REVIEW BY THE ARCHITECT. NOTATIONS MADE BY THE ARCHITECT ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
- OPTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES RESULTING FROM CHOOSING AN OPTION AND SHALL COORDINATE ALL DETAILS. THE COST OF ADDITIONAL DESIGN WORK NECESSITATED BY SELECTION OF AN OPTION SHALL BE BORNE BY THE CONTRACTOR.
- THE COST OF ADDITIONAL DESIGN WORK DUE TO ERRORS OR OMISSIONS BY THE CONTRACTOR IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.
- ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW OR RECORD SHALL BEAR THE STAMP AND SIGNATURE OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WISCONSIN.
- ELEVATIONS ARE BASED ON THE FIRST FLOOR ELEVATION OF (+56' - 0") WHICH IS EQUAL TO EXISTING FIRST FLOOR ELEVATION.

## FOUNDATIONS/SLAB-ON-GRADE

- CROSS REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS TO ASSURE PROPER DIMENSIONS AND PLACEMENT OF ALL ANCHOR BOLTS, INSERTS, NOTCHES, EDGES IN GRADE BEAMS, FOUNDATION WALLS AND PIERS.
- FOUNDATION DESIGN BASED ON GEOTECHNICAL ENGINEERING REPORT DATED NOVEMBER 28, 2001 BY BRAUN INTERTEC. REPORT IS ON FILE WITH THE ARCHITECT. CURRENT SITE CONDITIONS ARE TO BE VERIFIED IN FIELD DURING CONSTRUCTION.
- ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE HAS ATTAINED SPECIFIED COMPRESSIVE STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL WALLS BELOW GRADE FROM LATERAL LOADS UNTIL SUPPORTING FLOOR IS COMPLETELY IN PLACE AND HAS ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS, AND INSTALLATION OF SHORING AND/OR SHEETING. BACKFILLING IS NOT PERMITTED FOR FOUNDATION WALLS UNTIL SUPPORTED SLAB ABOVE IS IN PLACE OR THE WALL IS ADEQUATELY BRACED TO RESIST LATERAL LOADS.
- UNLESS NOTED OTHERWISE, ALL FOOTINGS SHALL BE CENTERED UNDER WALLS, PIERS OR COLUMNS.
- PROVIDE SAW CUT CONTROL JOINTS IN ALL SLABS-ON-GRADE. LOCATE JOINTS ALONG COLUMN LINES WITH INTERMEDIATE JOINTS SPACED PER THE TABLE BELOW. UNLESS NOTED OTHERWISE, CONTROL JOINTS SHALL BE CONTINUOUS, NOT STAGGERED OR OFFSET. SLAB PANELS SHALL HAVE A MAXIMUM LENGTH TO WIDTH RATIO OF 1.5 TO 1. PROVIDE ADDITIONAL CONTROL JOINTS AT ALL RE-ENTRANT CORNERS FORMED IN SLAB ON GRADE.

SLAB ON GRADE THICKNESS	MAX JOINT SPACING
5"	13'-0"

## REINFORCING STEEL

- FOR CAST-IN-PLACE CONCRETE THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT UNLESS NOTED OTHERWISE:  

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER	2 INCHES
NO. 5 BARS OR SMALLER	1 1/2 INCHES

  
SLABS, WALLS NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH  
NO. 14 AND NO. 18 BARS 1 1/2 INCHES  
NO. 11 BARS OR SMALLER 3/4 INCHES
- DIMENSIONS OF CONCRETE COVER FOR REINFORCEMENT INDICATED ON DRAWINGS ARE TO OUTERMOST REINFORCING BARS. FOR BEAMS OR COLUMNS WITH STIRRUPS OR TIES, CLEAR COVER INDICATED IS TO STIRRUPS OR TIES.
- BAR SPLICES: SPLICE REINFORCING WHERE INDICATED ON THE DRAWINGS. ALL SPLICES SHALL BE CLASS 'B' AS DEFINED IN ACI 318. IF SPlice LENGTH IS NOT GIVEN ON THE DRAWINGS, PROVIDE LAP LENGTHS (IN INCHES) AS FOLLOWS:

	3000 PSI CONCRETE		4000 PSI CONCRETE	
BAR SIZE	OTHER	TOP	OTHER	TOP
#3	22	28	19	25
#4	29	38	25	33
#5	38	47	31	41
#6	43	56	37	49
#7	63	81	54	71
#8	72	93	62	81

LAP LENGTHS ASSUME CLEAR SPACING BETWEEN BARS OF 2 BAR DIAMETERS, AND A MINIMUM COVER OF 1 BAR DIAMETER. FOR DEVELOPMENT LENGTHS, DIVIDE BY 1.3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 1'-0" OF FRESH CONCRETE BELOW.

## POST INSTALLED ANCHORS

- POST INSTALLED EXPANSION ANCHORS SERVING AS THE BASIS OF DESIGN ARE SHOWN ON THE DRAWINGS. ACCEPTABLE ALTERNATE ANCHORS MAY BE SUPPLIED PROVIDED THAT THE QUANTITY AND CONFIGURATION MATCHES THE CAPACITY OF THE DESIGN ANCHOR QUANTITY AND CONFIGURATION. ANY ACCEPTABLE ALTERNATES ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. THE FOLLOWING TABLE SUMMARIZES THE EXPANSION ANCHORS USED ON THE PROJECT:

ANCHORED INTO:	BASIS OF DESIGN	ACCEPTABLE ALTERNATES AT CONTRACTOR'S OPTION
CONCRETE	HILTI KWIK BOLT Z	DEWALT/POWERS POWER STUD+ S82 TITAN TITEN BOLT SIMPSON STRONG BOLT 2

- POST INSTALLED THREADED ANCHORS SERVING AS THE BASIS OF DESIGN ARE SHOWN ON THE DRAWINGS. ACCEPTABLE ALTERNATE ANCHORS MAY BE SUPPLIED PROVIDED THAT THE QUANTITY AND CONFIGURATION MATCHES THE CAPACITY OF THE DESIGN ANCHOR QUANTITY AND CONFIGURATION. ANY ACCEPTABLE ALTERNATES ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. THE FOLLOWING TABLE SUMMARIZES THE THREADED ANCHORS USED ON THE PROJECT:

ANCHORED INTO:	BASIS OF DESIGN	ACCEPTABLE ALTERNATES AT CONTRACTOR'S OPTION
CONCRETE	HILTI KWIK HUS	DEWALT/POWERS SCREW-BOLT+ SIMPSON TITEN HD
GROUTED MASONRY	HILTI HIT-HY 70	DEWALT/POWERS AC 100+ GOLD ITW AT ACRYLIC SIMPSON SET
CONCRETE	HILTI HIT-HY 200	DEWALT/POWERS AC 200+ SIMPSON SET XP

## STRUCTURAL STEEL

- REFER TO DRAWINGS FOR DETAIL OF DECK OPENINGS. REFER TO ARCHITECTURAL MECHANICAL, ELECTRICAL DRAWINGS, ETC., FOR EXACT SIZE, LOCATION, AND COUNT OF REQUIRED OPENINGS.
- UNLESS NOTED OTHERWISE ALL WELDS SHALL BE CONTINUOUS 1/4" FILLET WELDS.
- HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS." REFER TO DETAILS FOR BOLT SIZE AND MATERIAL ASTM DESIGNATION.
- BOLTS IN SLOTTED HOLES SHALL BE LOCATED IN THE CENTER OF THE HOLE AFTER FIELD ASSEMBLY IS COMPLETE. UNLESS DETAILED OTHERWISE.
- USE BACKING FOR ALL FULL PENETRATION WELDS. ALL FULL AND/OR PARTIAL PENETRATION WELDS SHALL BE FULLY DETAILED ON THE SHOP DRAWINGS.
- LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDING IN THE COMPLETED STRUCTURE IS PROVIDED BY A COMBINATION OF MOMENT FRAMES BOLTED BEAM TO COLUMN CONNECTIONS FRAMED IN THE EAST-WEST DIRECTION (SEE PLAN SHEETS FOR LOCATIONS) AND CONNECTIONS INTO THE EXISTING STRUCTURE FOR THE REST OF THE EAST-WEST AND ALL OF THE NORTH-SOUTH LOADS. THE ROOF SERVES AS A HORIZONTAL DIAPHRAGM THAT DISTRIBUTES THE LATERAL SOIL WIND, AND SEISMIC FORCES HORIZONTALLY INTO THE VERTICAL LATERAL FRAMES. THE VERTICAL MOMENT FRAMES CARRY THE APPLIED LATERAL LOADS TO THE BUILDING FOUNDATION. .

## STEEL DECK

- DECK SIZE AND GAGE INDICATED IN THE DRAWINGS ARE BASED ON THE FOLLOWING:  
A. VULCRAFT 2008 CATALOG FOR GRAVITY DESIGN LOADS AND UNSHORED CONSTRUCTION SPANS.  
B. STEEL DECK INSTITUTE (SDI) DIAPHRAGM DESIGN MANUAL 3RD EDITION FOR DIAPHRAGM LOADS.
- STEEL ROOF DECK GALVANIZING SHALL CONFORM TO ASTM A653 WITH A MINIMUM COATING OF G60.
- COMPOSITE STEEL FLOOR DECK GALVANIZING SHALL CONFORM TO ASTM A653 WITH A MINIMUM COATING OF G60.
- UNLESS NOTED OTHERWISE, DECK SHALL BE FASTENED WITH 5/8" DIAMETER PUDDLE WELDS AT 12" OC AT ALL SUPPORTS AND EDGES. SIDE LAPS SHALL BE FASTENED WITH #10 TEK SCREWS. MINIMUM ONE AT EACH MIDSPAN. OPENING EDGES SHALL RECEIVE THE SAME WELDING AS REQUIRED AT DECK ENDS. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS EXPERIENCED IN COLD-FORMED STEEL DECK WORK.
- PROVIDE 16 GAGE WELD WASHERS AT PUDDLE WELD CONNECTIONS TO 24 GAGE AND LIGHTER STEEL DECKS.
- DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO STEEL ROOF DECKING (LIMITATION NOT REQUIRED WITH CONCRETE ON STEEL DECK). THIS 25 LBS LOAD AND 2'-0" SPACING INCLUDES ADJACENT MECHANICAL, ELECTRICAL, AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING SUPPORTED OFF STEEL FRAMING WILL NEED TO BE ADDED. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING LOCATION AND WEIGHT OF ALL THE ELEMENTS BEING HUNG.
- USE SUMP PANS AT ALL ROOF DRAINS. MINIMUM THICKNESS FOR SUMP PANS SHALL BE 14 GAGE.

## LINTELS

- PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY CONSTRUCTION.
- THE STRUCTURAL DOCUMENTS REFLECT THE BEST ATTEMPT TO IDENTIFY ALL WALL PENETRATIONS IN THE EXISTING AND NEW CONSTRUCTION. PENETRATIONS NOT IDENTIFIED ON THE DOCUMENTS ARE TO BE TREATED IN A MANNER SIMILAR TO THE IDENTIFIED LOCATIONS. LINTELS IN NON-BEARING MASONRY WALL OPENINGS CAN BE SIZED IN ACCORDANCE WITH THE MISCELLANEOUS LINTEL SCHEDULE OR THE NOTE BELOW. LINTELS THAT OCCUR IN EXISTING BEARING WALLS ARE TO BE SIZED ACCORDING TO SIMILAR CONDITIONS AND SPANS IN THE NEW CONSTRUCTION AND LINTEL SCHEDULE. BOTTOM PLATE SIZE SHALL BE MINIMUM OF 3/8" THICK. THE WIDTH OF THE PLATE SHALL BE 3/4" LESS THAN THE FIELD VERIFIED WALL THICKNESS. THE PLATE SHALL BE THE FULL LENGTH OF THE LINTEL MEMBER. LINTELS ARE NOT REQUIRED OVER OPENINGS THAT ARE 12" WIDE OR LESS AND AT LEAST 1 COURSE BELOW THE TOP OF THE WALL.
- ALL LINTELS SHALL HAVE A MINIMUM OF 8" END BEARING.
- ALL LINTELS IN EXTERIOR WALL CONSTRUCTION SHALL BE HOT-DIP GALVANIZED, UNO.
- FOR ALL OPENINGS NOT OTHERWISE DETAILED OR SCHEDULED, MINIMUM LINTELS SHALL BE:

SPAN	STEEL OPTION (FOR EACH 4-INCH OF MASONRY WIDTH)
0 TO 2'-0"	5/16" PLATE (3/4" LESS THAN WALL WIDTH)
2'-0" TO 4'-0"	L3 1/2x3 1/2x1/4
4'-0" TO 6'-0"	L4x3 1/2x5/16 (LLV)
6'-0" TO 8'-0"	L5x3 1/2x5/16 (LLV)
8'-0" TO 10'-0"	L6x3 1/2x3/8 (LLV)

ALL ANGLES THAT ARE BACK TO BACK SHALL BE WELDED TOP AND BOTTOM 3" AT 12" MINIMUM.

- BEARING PLATES NOT REQUIRED FOR LINTELS UNLESS NOTED OTHERWISE.

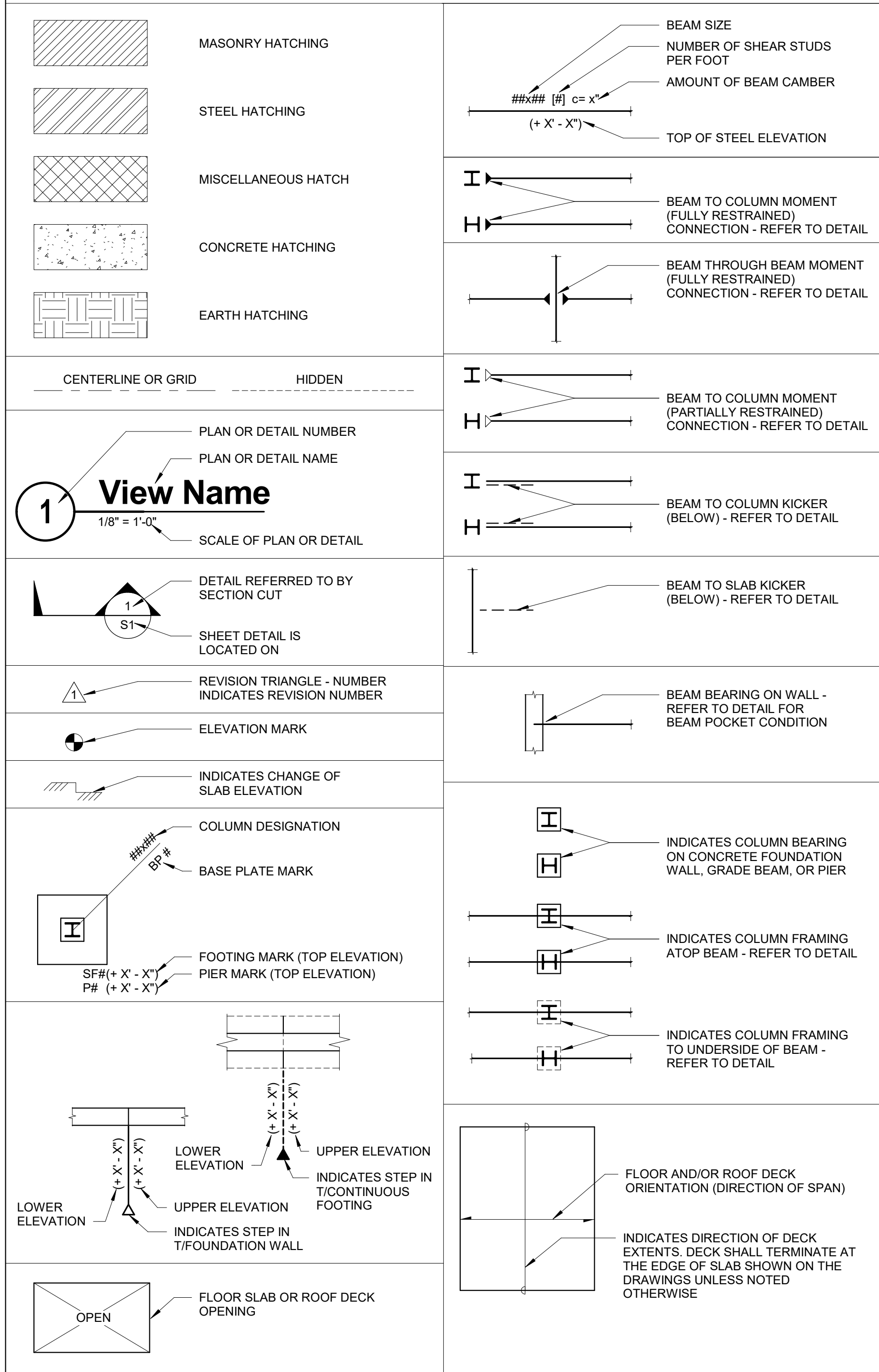
## EXISTING STRUCTURAL INFORMATION

- EXISTING STRUCTURAL INFORMATION SHOWN WAS OBTAINED FROM EXISTING DRAWINGS DATED:  
A. 2002 BY ELLERBE BECKET ARCHITECTS.  
CONTRACTOR TO VERIFY EXISTING INFORMATION, DIMENSIONS, AND SIZES AS REQUIRED TO COMPLETE THEIR WORK.
- EXISTING STRUCTURAL INFORMATION SHOWN WAS OBTAINED FROM FIELD TAKE-OFF BY IMEG. CONTRACTOR TO VERIFY EXISTING INFORMATION DIMENSIONS AND SIZES AS REQUIRED TO COMPLETE THEIR WORK.

## STRUCTURAL ABBREVIATIONS LIST

#	NUMBER	KSF	KIPS PER SQUARE FOOT
@	AT	LB	POUNDS
Ø	DIAMETER	LF	LINEAR FOOT
AHU	AIR-HANDLING UNIT	LL	LIVE LOAD
APPROX	APPROXIMATE, -LY	LH	LONG LEG HORIZONTAL
ARCH	ARCHITECT, -URE, -URAL	LLV	LONG LEG VERTICAL
B.O.	BOTTOM OF	LSH	LONG SIDE HORIZONTAL
BEAM	BEAM FLANGE WIDTH	LSV	LONG SIDE VERTICAL
BM	BEAM	LONG	LONGITUDINAL
BP	BASE PLATE	ME	MECHANICAL/ELECTRICAL
BRG	BEARING	MAX	MAXIMUM
CFSF	COLD FORM STEEL FRAMING	MECH	MECHANICAL
CJ	CONTROL JOINT	MEZZ	MEZZANINE
CL	CLEAR	MIN	MINIMUM
CMU	CONCRETE MASONRY UNIT	MISC	MISCELLANEOUS
CONC	CONCRETE	NK	MARK
CONST	CONSTRUCTION	CONST	CONST
CONT	CONTINUOUS	N	LENGTH (AS PLATES)
D	DEPTH	NIC	NOT IN CONTRACT
DBL	DOUBLE	NO	NUMBER
DEG	DEGREE	NTS	NOT TO SCALE
DIM	DIMENSION	OC	ON CENTER
DL	DEAD LOAD	OPNG	OPENING
DTL	DETAIL	OPP	OPPOSITE
DWG	DRAWING	PAP	POWER ACTUATED FASTENER
EA	EACH	PRECAST	PRECAST
EF	EACH FACE	PCF	POUNDS PER CUBIC FOOT
EL	EXPANSION JOINT	PL	PLATE
ELEV	ELEVATION	PLS	POUNDS PER SQUARE FOOT
ELEC	ELECTRICAL	PSI	POUNDS PER SQUARE INCH
EMBED	EMBEDDED	PVC	POLYVINYL CHLORIDE
EDGE OF DECK	EDGE OF DECK	RAD	RADIUS
EOS	EDGE OF SLAB	RD	ROOF DRAIN
EQUIP	EQUAL	REIN	REINFORCING, -MENT, -ED
EQUIP	EQUIPMENT	REQ	REQUIRED
EW	EACH WAY	REF	REFERENCE. REFER TO
EXIST, (E)	EXISTING	RTU	ROOF-TOP UNIT
EXP	EXPANSION	TC	TO WITH CLASS A FAYING SURFACE
EXT	EXTERIOR	SCHED	SCHEDULE
F <sub>c</sub>	CONCRETE COMPRESSIVE STRENGTH	SM	SIMILAR
FDN	FOUNDATION	SL	SNOW LOAD
FIN	FINISHED	SP	SPACE(S)
FL	FLOOR	SPC	SPECIFICATION(S)
FT	FOOT	SPEC'D	SPECIFIED
FTG	FOOTING	SQ	SQUARE
FY	YIELD STRESS	STD	STANDARD
GA	GAUGE OR GAUGE	STIFF	STIFFENER
GALV	GALVANIZED	T.O.	TOP OF
GB	GRADE BEAM	TC	PRE-TENSIONED BOLT
GC	GENERAL CONTRACTOR	TEMP	TEMPERATURE
GYP	GYPSPUM	IF	BEAM FLANGE THICKNESS
HDS	HOT-DIPPED GALVANIZED	TRANS	TRANSVERSE
HORIZ	HORIZONTAL	TYP	TYPICAL
HVAC	HEATING, VENTILATION, AIR CONDITIONING	UNO	UNLESS NOTED OTHERWISE
HWS	HEADED, WELDED STUD	VERT	VERTICAL
INCH	INCH	VF	VERIFY IN FIELD
INT	INTERIOR	VVA	VERIFY WITH ARCHITECTURAL DRAWINGS
JST	JOIST	WP	WORKING POINT
JT	JOINT	WT	WEIGHT
K, KIP	KILOPOUND (1,000 POUNDS)	WWR	WELDED WIRE REINFORCING
KO	KNOCK-OUT	YD	YARD

## STRUCTURAL DRAWING SYMBOLS



EXISTING FOOTING SCHEDULE				
TYPE	SIZE	DEPTH	REINFORCING BOTT. UNO	
F14.5	14'-6" x 14'-6"	4'-6"	22 - #9 EW	
F10-20.5	10'-0" x 20'-6"	4'-6"	20 - #11 LONG 40 - #8 SHORT	

CONTINUOUS FOOTING SCHEDULE				
MARK	WIDTH	THICKNESS	REINFORCING	
			LONG DIRECTION	SHORT DIRECTION
CF2.0	2'-0"	1'-0"	(2) #5	WALL DOWEL
CF3.0	3'-0"	1'-0"	(3) #5	WALL DOWEL
CF10.0	10'-0"	2'-6"	(15) #11 AT BOTTOM & (12) #9 AT TOP	#8 @ 12" OC BOTTOM

SPREAD FOOTING SCHEDULE					
MARK	LENGTH	WIDTH	THICKNESS	REINFORCING	
				LONG DIRECTION	SHORT DIRECTION
SF8.0	8'-0"	8'-0"	1'-6"	(8) #6 TOP AND BOTTOM	(8) #6 TOP AND BOTTOM

Revisions	Date	Description
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## 100% CONSTRUCTION DOCUMENTS

Drawing Date  
07/10/2018

## MCHS CAMS BUILDING

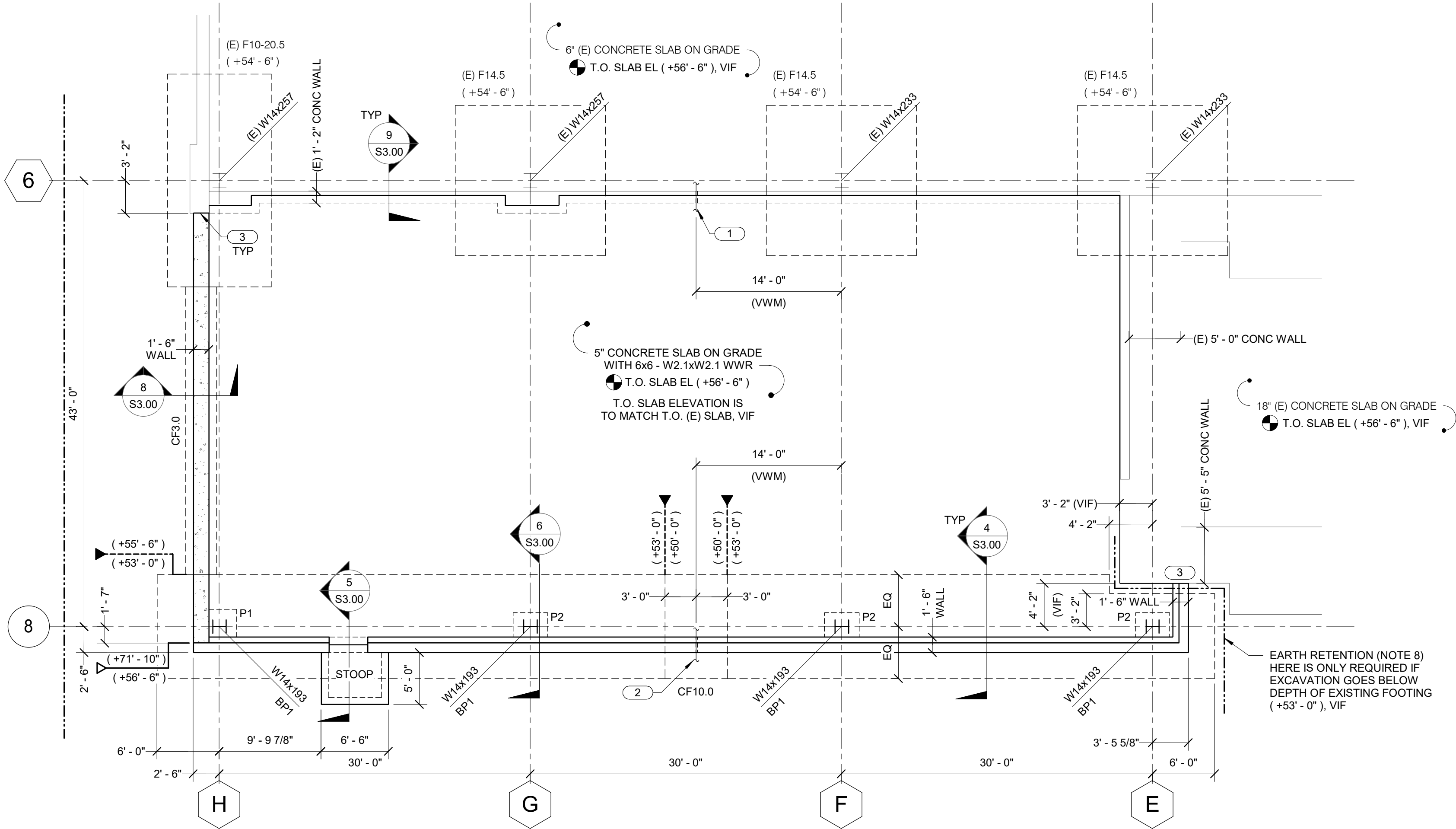
700 West Avenue South, La Crosse, WI 54601

Project No. MCHS  
217050

Sheet Title

## GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

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## FOUNDATION PLAN

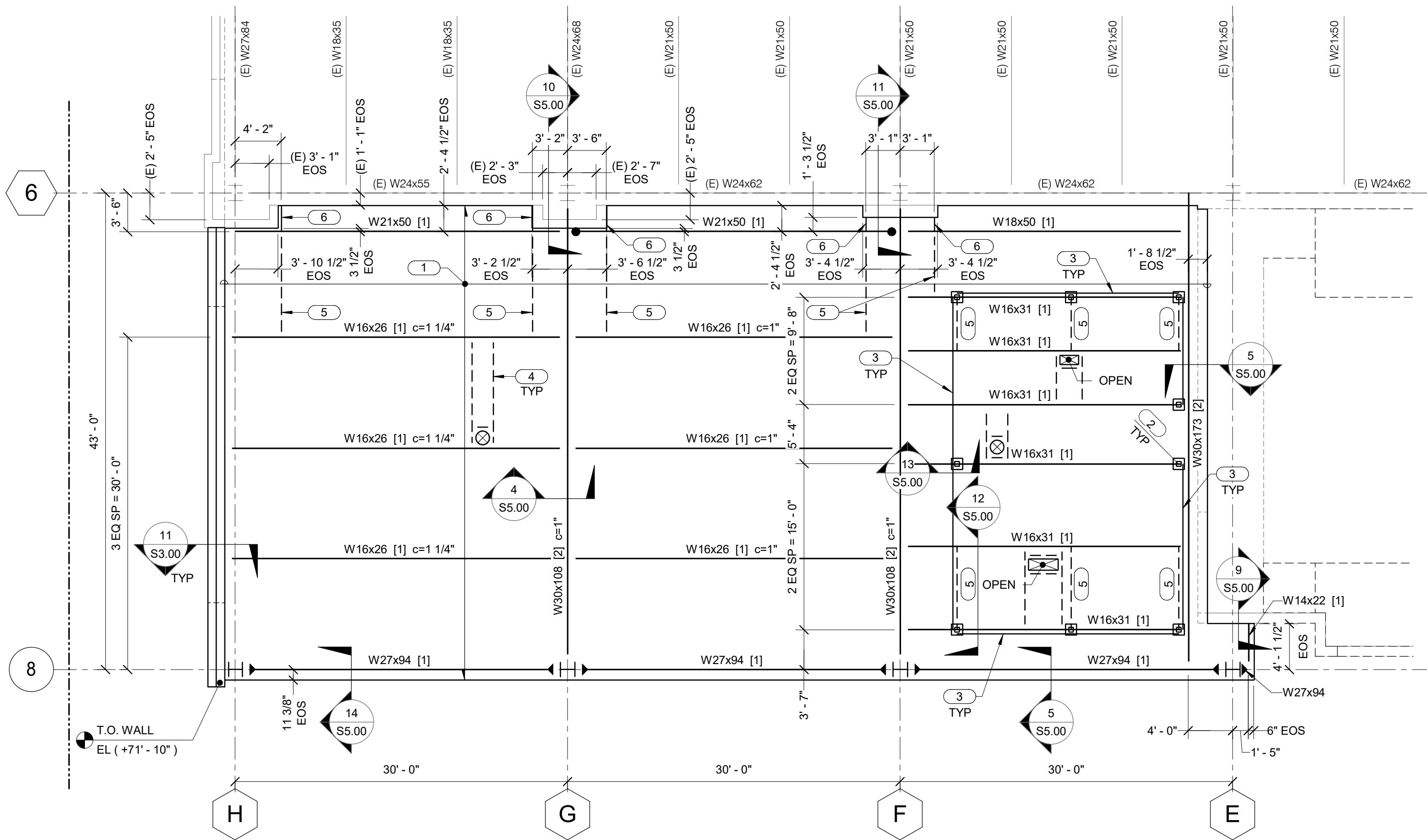
1/8" = 1'-0"

NOTES:

- STRUCTURE IS DESIGNED TO BE A ONE-STORY BUILDING WITH A FUTURE VERTICAL EXPANSION OF SEVEN ADDITIONAL FLOORS PLUS ROOF THAT TIES INTO THE EXISTING STRUCTURE AT GIRDER TO EXISTING COLUMN CONNECTIONS.
- TOP OF FOUNDATION WALL ELEVATION (+56'-6"), UNO.
- BP# INDICATES BASE PLATE - REFER TO S5.00 FOR ANCHOR ROD AND BASE PLATE DETAILS.
- PH# INDICATES CONCRETE PIER - REFER TO S3.00 FOR DETAILS.  
TOP OF PIER ELEVATION (+55'-6"), UNO.
- SFH# AND CF# INDICATE SPREAD AND CONTINUOUS FOOTINGS - REFER TO S0.00 FOR SCHEDULES.  
TOP OF FOOTING ELEVATION (+53'-0"), UNO.
- REFER TO 1, 2 AND 3/S3.00 FOR TYPICAL SLAB ON GRADE CONSTRUCTION DETAILS.
- PROVIDE 2'-6" x 2'-6" CORNER BARS FOR FOOTING AND WALL INTERSECTIONS. BAR SIZE AND QUANTITY TO MATCH LONGITUDINAL AND HORIZONTAL BARS.
- INDICATES APPROXIMATE LOCATION OF EARTH RETENTION SYSTEM. CONTRACTOR TO PROVIDE DESIGN FOR INSTALLATION AND NOT DISTURB THE EXISTING PARKING LOT OR FOUNDATIONS. GEOTECHNICAL REPORT WILL BE PROVIDED. COORDINATE DRAIN TILE INSTALLATION WITH LOCATION OF EARTH RETENTION SYSTEM. CONTRACTOR OPTION TO USE EARTH RETENTION SYSTEM AS FORMWORK.
- OVER EXCAVATION OF 3'-0" BENEATH BOTTOM OF NEW FOOTINGS IS REQUIRED. SANDY SOIL IS TO BE SLOPED OUT AT A 1:1 TO 1 SLOPE. AFTER OVER EXCAVATION THE EXPOSED SOIL IS TO BE COMPACTED. THEN ENGINEERED FILL OR LEAN CONCRETE FILL CAN BE PLACED TO ACHIEVED DESIRED GRADES. SCHEDULING OF COMPACTION WORK IS TO BE COORDINATED WITH THE OWNER.

### KEYNOTES:

- CORE THROUGH EXISTING FOUNDATION WALL AS REQUIRED FOR UTILITY ROUTING.
- SLEEVE UTILITIES THROUGH FOUNDATION PER 7/S3.00. COORDINATE SIZE AND LOCATION WITH MECHANICAL AND PLUMBING CONTRACTORS.
- DOWEL HORIZONTAL WALL AND FOOTING REINFORCING INTO EXISTING CONCRETE 6" WITH ADHESIVE PER S0.00.



## FRAMING PLAN

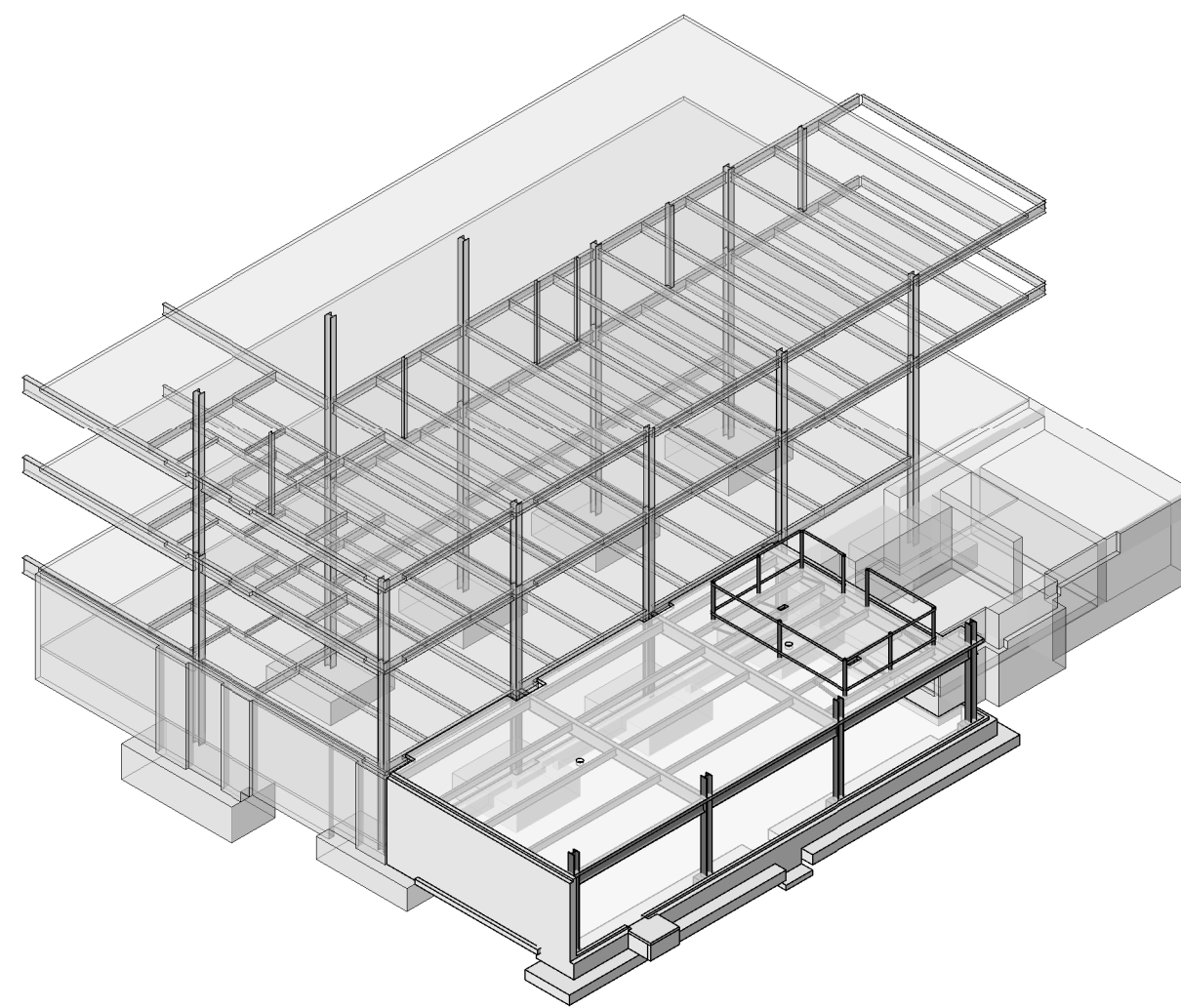
1/8" = 1'-0"

NOTES:

- STRUCTURE IS DESIGNED TO BE A ONE-STORY BUILDING WITH A FUTURE VERTICAL EXPANSION OF SEVEN ADDITIONAL FLOORS PLUS ROOF THAT TIES INTO THE EXISTING STRUCTURE AT GIRDER TO EXISTING COLUMN CONNECTIONS.
- INDICATES ASTM F1852 BOLTS WITH A CLASS A FAYING SURFACE IS TO BE PROVIDED IN SHEAR CONNECTION.
- REFER TO 7/S5.00 FOR TYPICAL SHEAR CONNECTION.
- INDICATES MOMENT CONNECTION PER 8/S5.00.
- [#] INDICATES NUMBER OF 1/2"Ø x 4 1/2" HEADED WELDED STUDS PER FOOT OF BEAM LENGTH.
- FOR LINTELS IN NON-STRUCTURAL WALLS - REFER TO GENERAL NOTES FOR SCHEDULE.
- TOP OF COLUMNS ELEVATION (+75'-6").

### KEYNOTES:

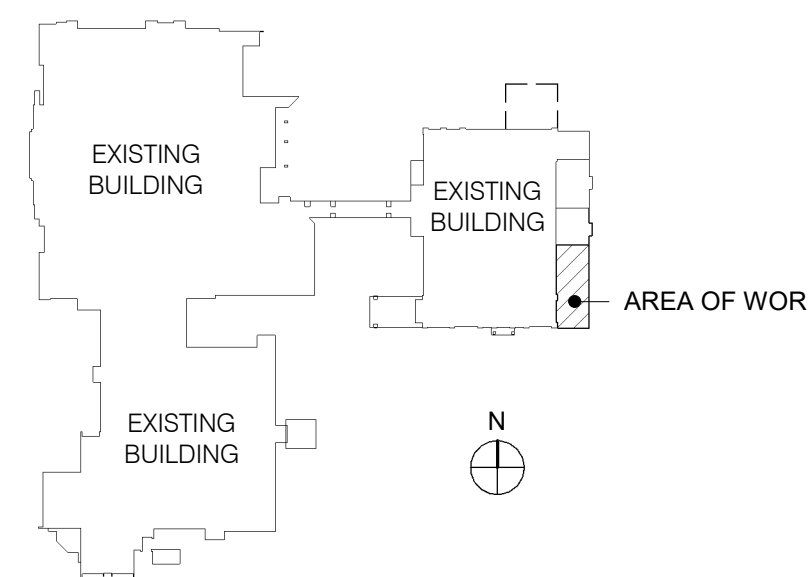
- 4 1/2" NORMAL-WEIGHT CONCRETE ON 3" (20 GA) COMPOSITE STEEL DECK. 2 SPAN MINIMUM. WITH 6x6 - W2.1xW2.1 WWR. TOTAL THICKNESS = 7 1/2". TOP OF SLAB ELEVATION (+71'-10").
- HSS6x6x3/8 (GALVANIZED) SCREEN WALL COLUMN.
- HSS3x3x1/4 (GALVANIZED) (+73'-3").  
HSS3x3x1/4 (GALVANIZED) (+79'-0").
- PROVIDE REINFORCEMENT AROUND OPENINGS PER DETAIL 6/S5.00.
- L4x4x1/4 KICKER.
- 3/8" STIFFENER PLATE.



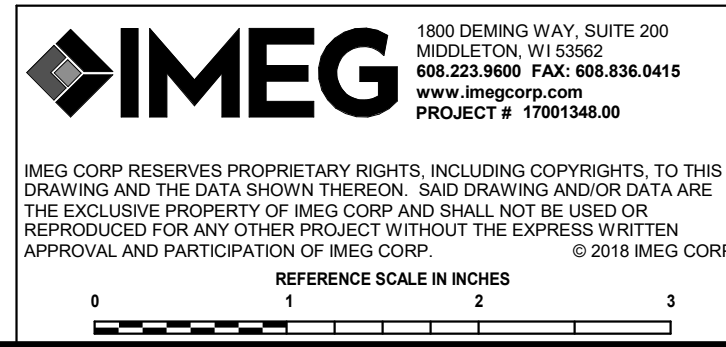
## 3D VIEW

NOTES:

- 3D VIEW IS FOR REFERENCE ONLY - NOT FOR CONSTRUCTION. REFER TO PLANS, DETAILS AND SPECIFICATIONS FOR ACTUAL CONSTRUCTION REQUIREMENTS.



KEY PLAN



## 100% CONSTRUCTION DOCUMENTS

Drawing Date  
07/10/2018

## MCHS CAMS BUILDING

700 West Avenue South, La Crosse, WI 54601

Project No. MCHS  
217050

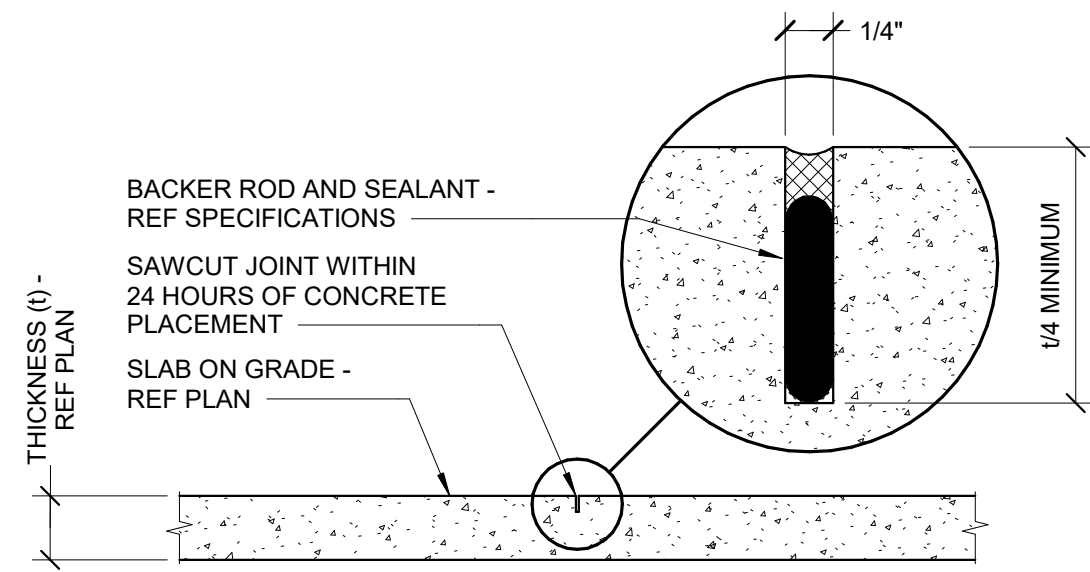
Sheet Title

## FOUNDATION AND FRAMING PLAN

111 West Wisconsin Avenue, Milwaukee, Wisconsin 53203  
Telephone 414.272.2000 Fax 414.272.2001  
44 East Milin Street, Suite 700, Madison, Wisconsin 53703  
Telephone 608.283.0300 Fax 608.283.0317

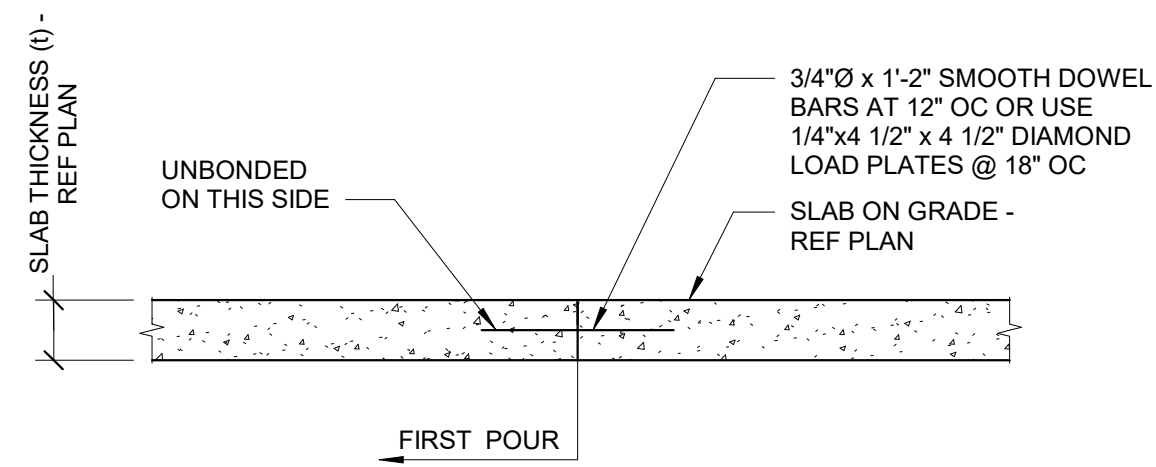
Sheet No.  
S2.00





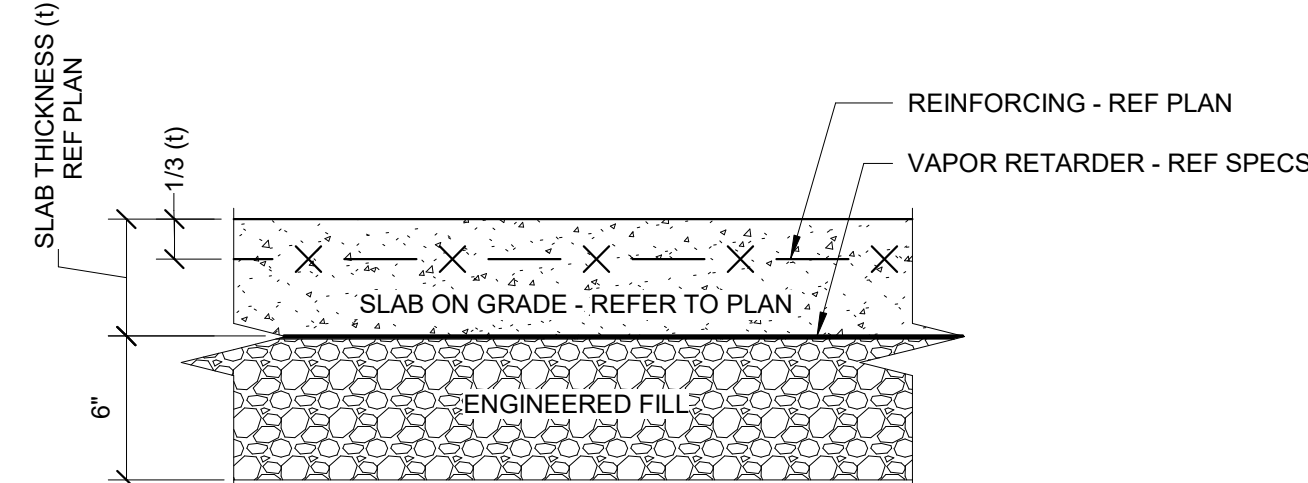
### 1 TYPICAL SLAB ON GRADE CONTROL JOINT

1" = 1'-0"



### 2 TYPICAL SLAB CONSTRUCTION JOINT

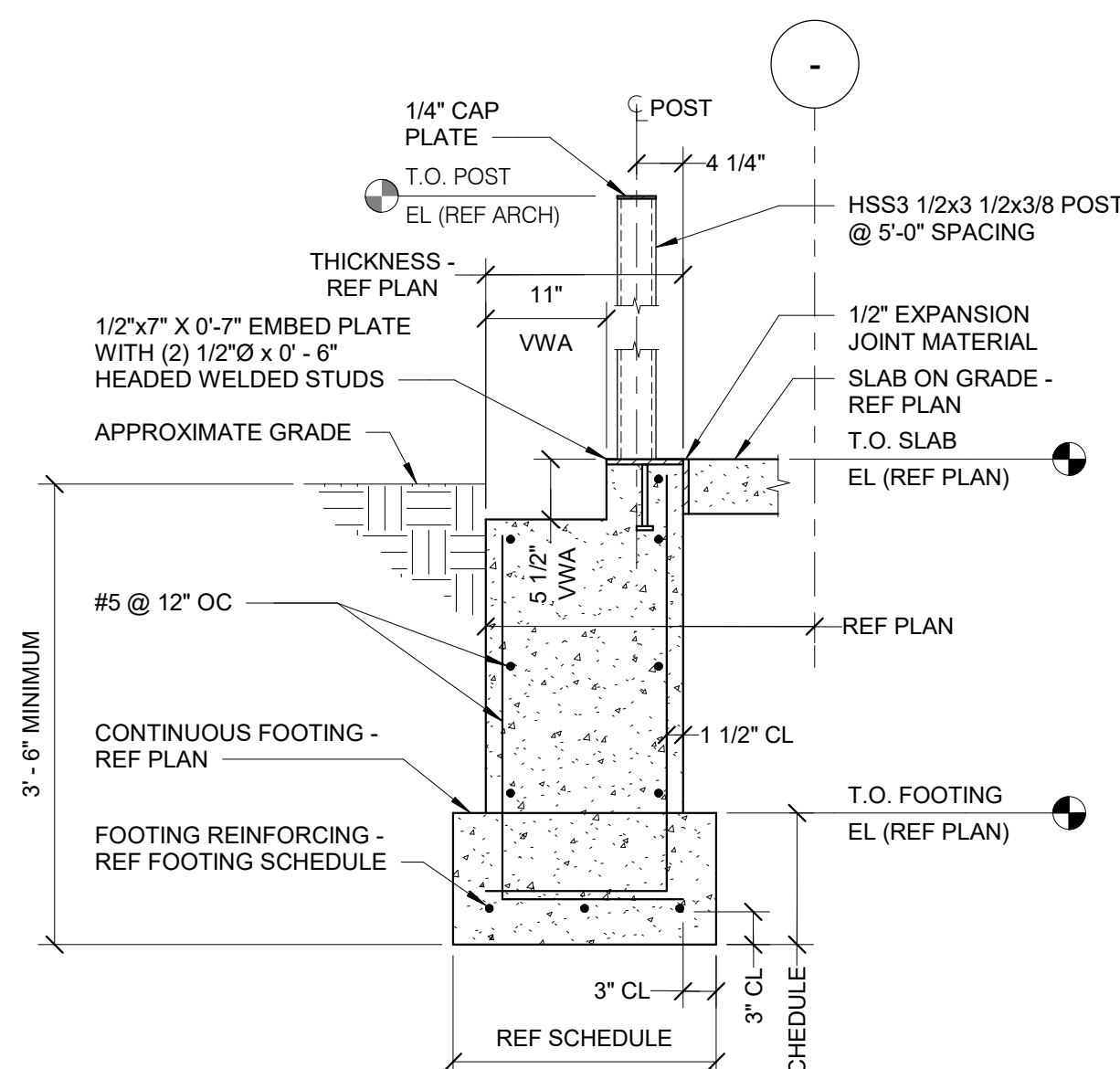
3/4" = 1'-0"



### 3 TYPICAL SLAB ON GRADE SECTION

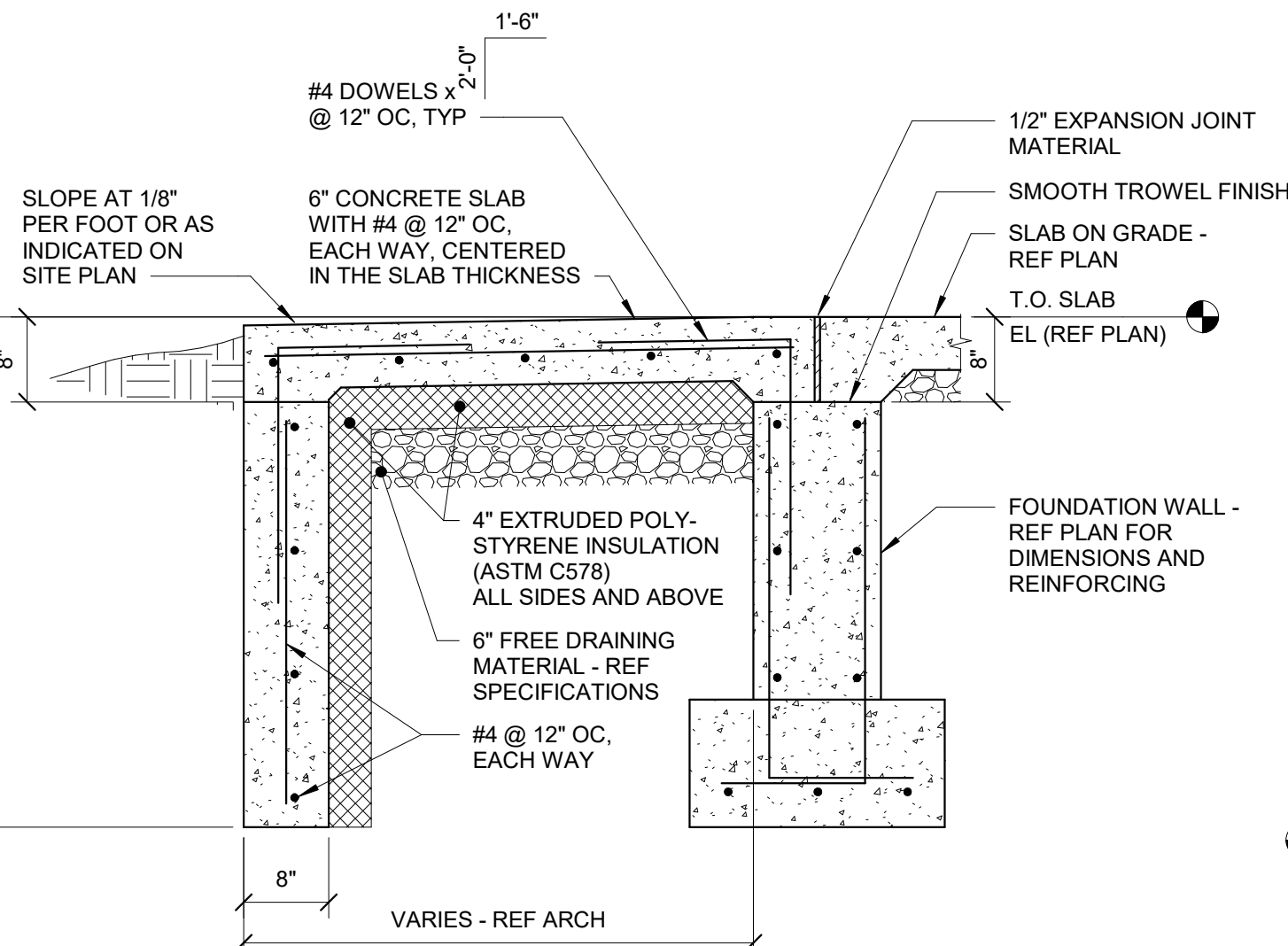
1 1/2" = 1'-0"

NOTES:  
1. REFERENCE SPECIFICATIONS FOR MATERIAL AND COMPACTION REQUIREMENTS.



### 4 TYPICAL FOUNDATION WALL

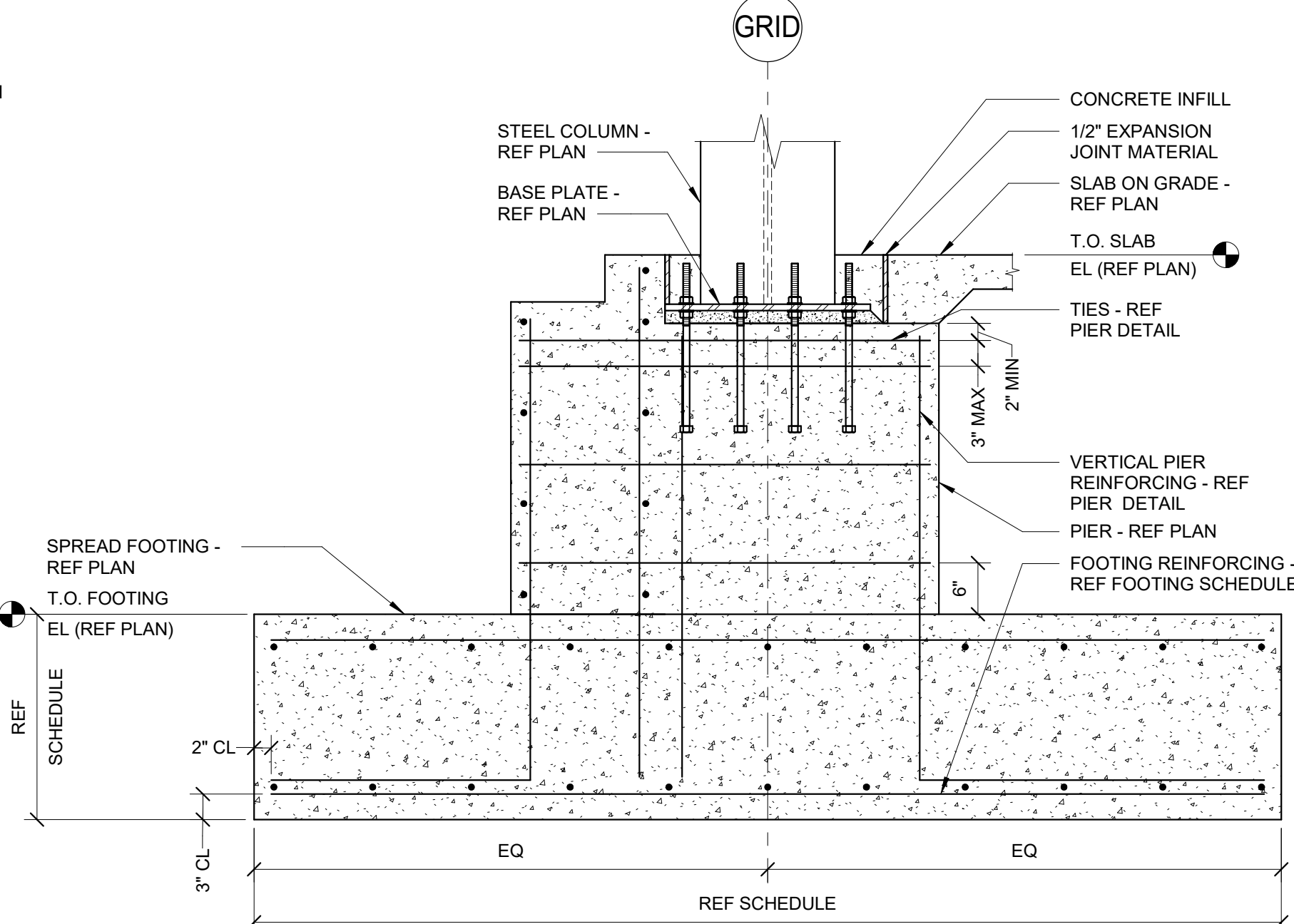
3/4" = 1'-0"



### 5 TYPICAL STOOP SECTION

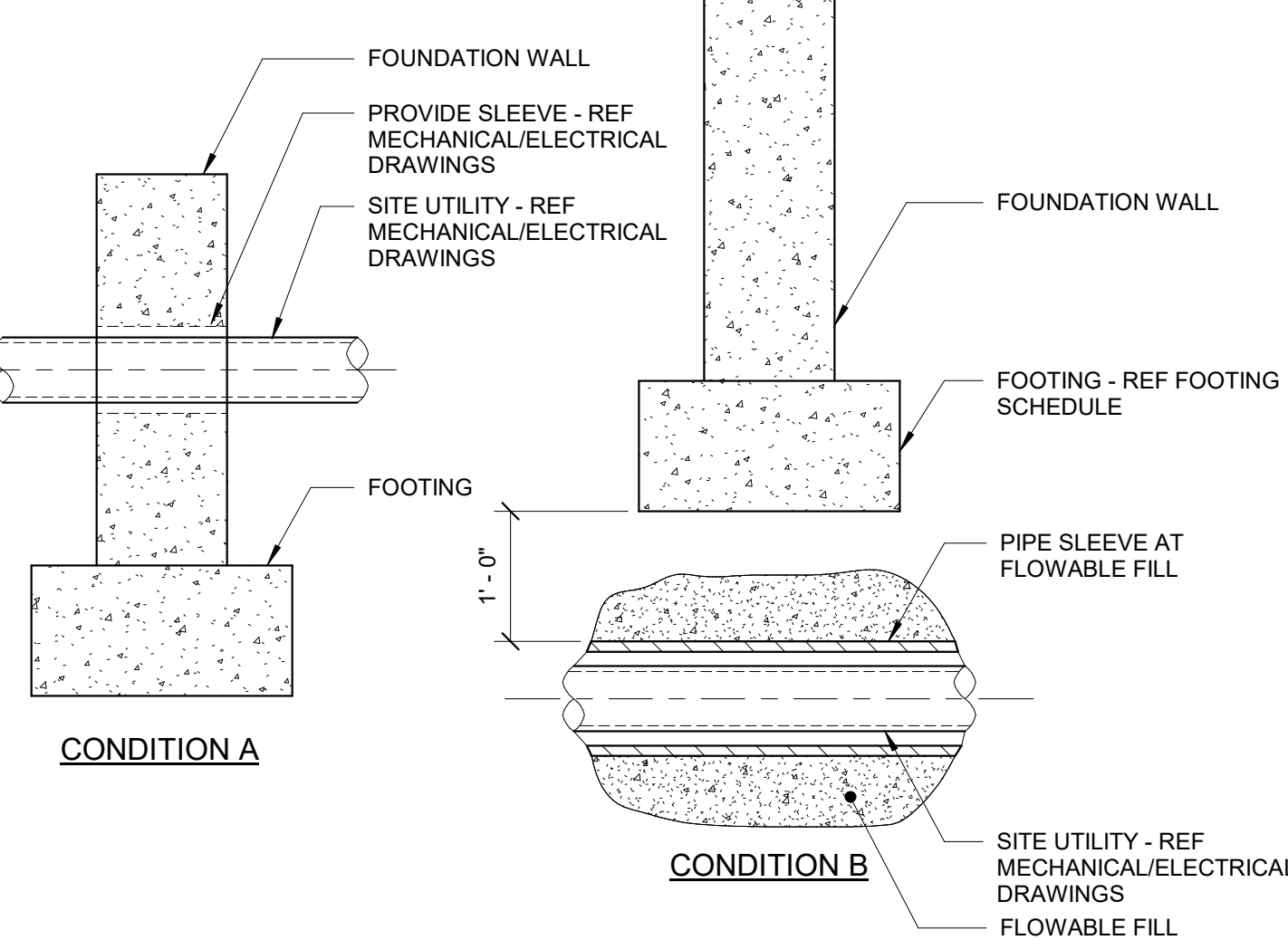
3/4" = 1'-0"

NOTES:  
1. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT STOOP LAYOUT AND LOCATIONS.  
2. REFER TO TYPICAL FOUNDATION WALL DETAIL FOR INFORMATION NOT SHOWN.



### 6 TYPICAL SPREAD FOOTING WITH PIER

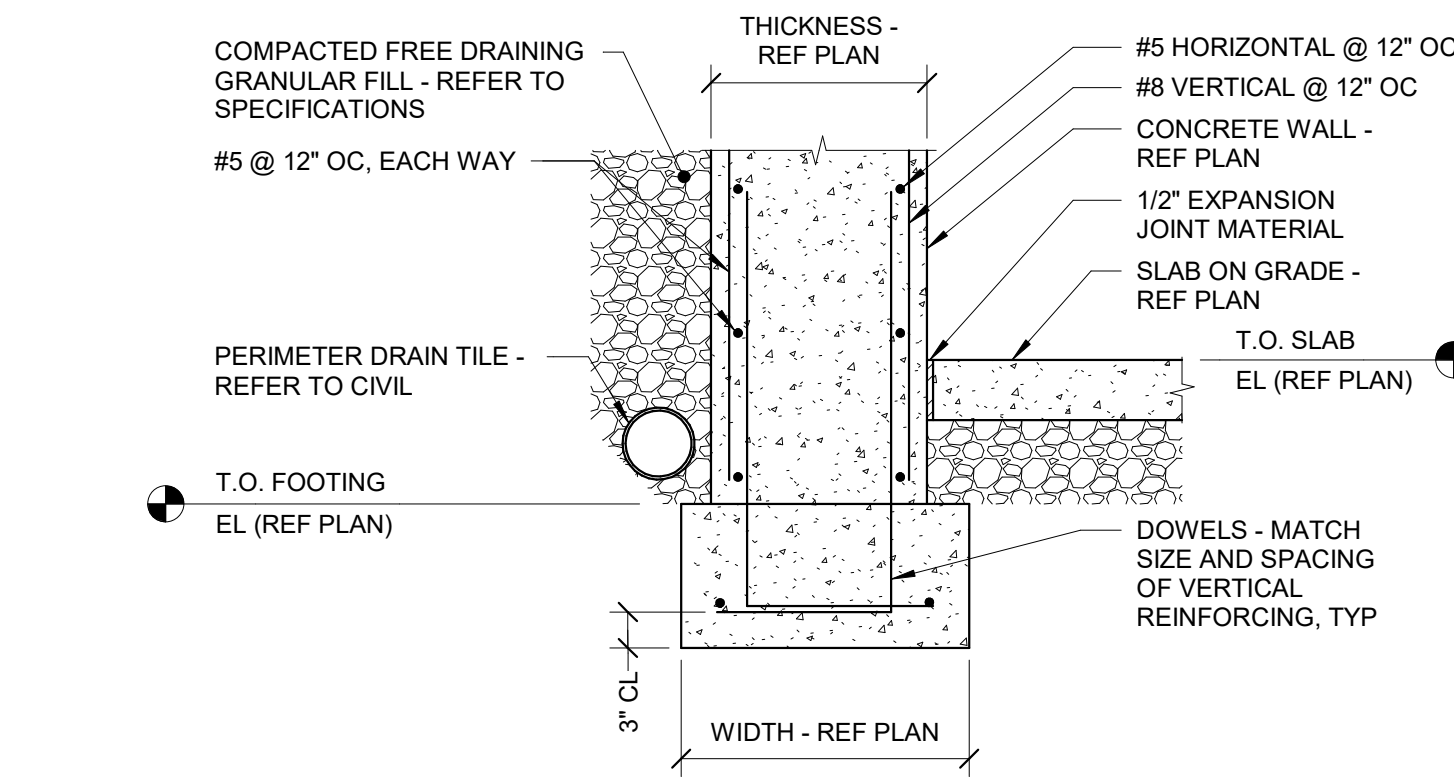
3/4" = 1'-0"



### 7 TYPICAL FOUNDATION DETAILS AT SITE UTILITIES

3/4" = 1'-0"

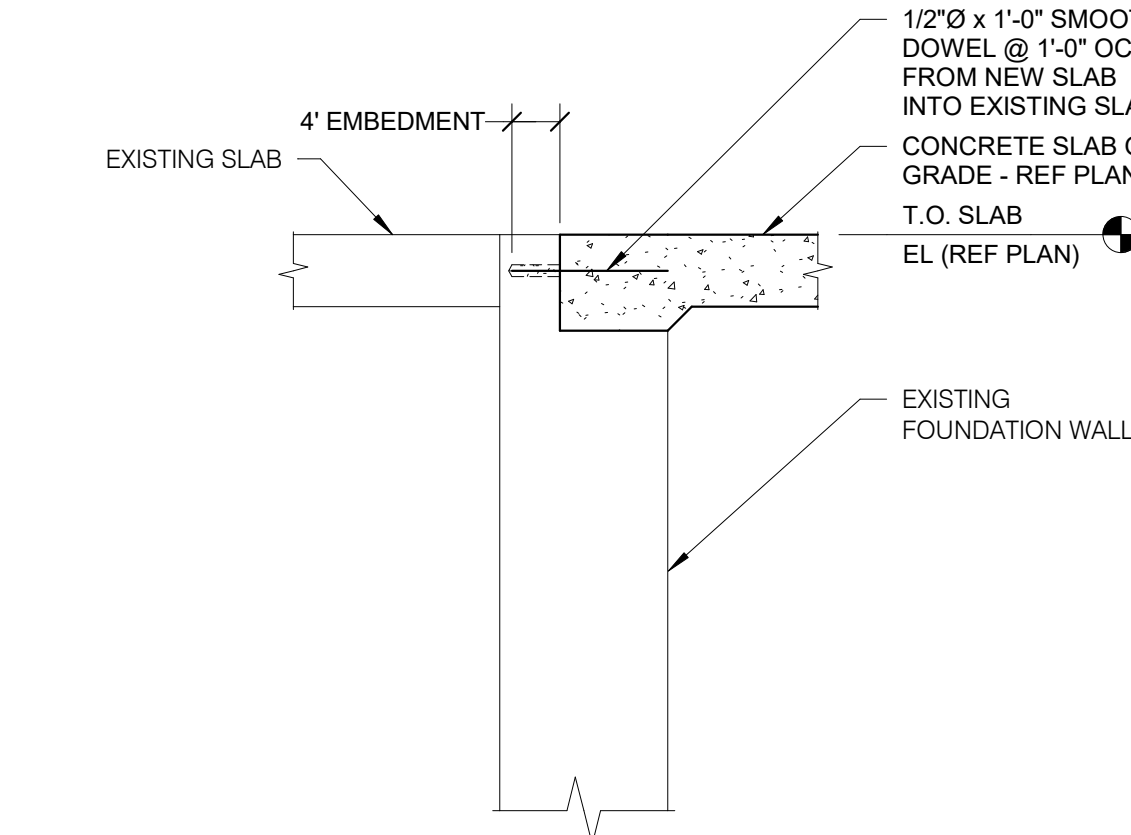
NOTES:  
1. REFERENCE MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL LOCATIONS, ELEVATIONS, ETC., OF SITE UTILITIES.  
2. DETAIL REQUIRED AT ALL UTILITIES HAVING A PLAN WIDTH UP TO 3'-0". FOR WIDTHS GREATER THAN 3'-0", REFERENCE PLAN FOR REQUIRED DETAIL.  
3. CONDITION B DOES NOT APPLY AT SPREAD FOOTING SITUATIONS. GENERAL CONTRACTOR SHALL NOTIFY ENGINEER SHOULD SUCH A CONDITION ARISE AND AWAIT FURTHER INSTRUCTIONS.



### 8 TYPICAL BASEMENT WALL FOUNDATION

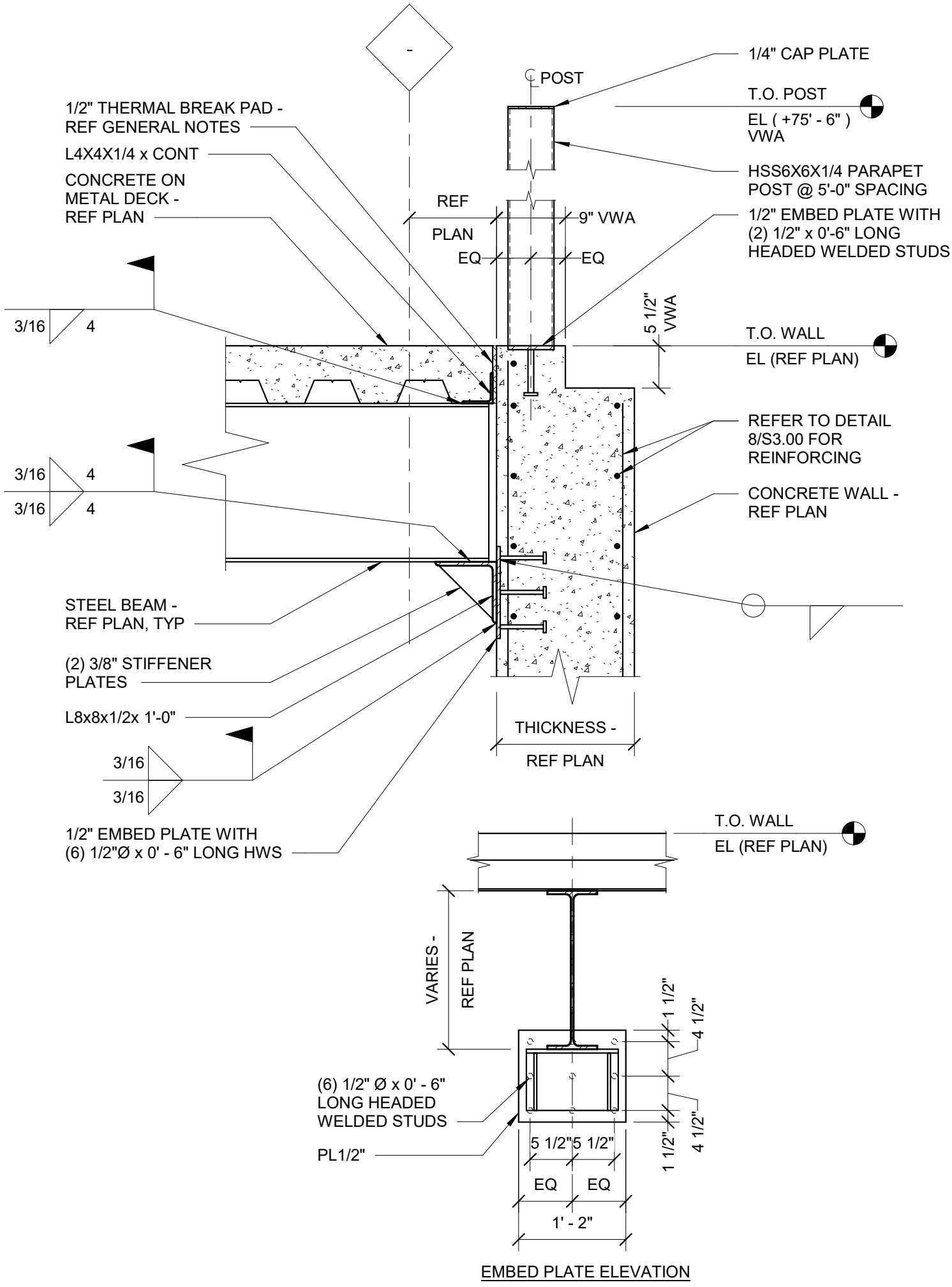
3/4" = 1'-0"

NOTES:  
1. WALL IS DESIGNED TO BE BRACED BY FIRST FLOOR DECK AND SLAB ON GRADE. DO NOT BACKFILL AGAINST WALL UNTIL SLAB ON METAL DECK AND SLAB ON GRADE HAVE BEEN INSTALLED AND REACHED 75% DESIGN STRENGTH.  
2. REFER TO DETAIL 10/S3.00 FOR TYPICAL WALL CONTROL JOINT DETAIL.



### 9 SLAB EDGE AT EXISTING

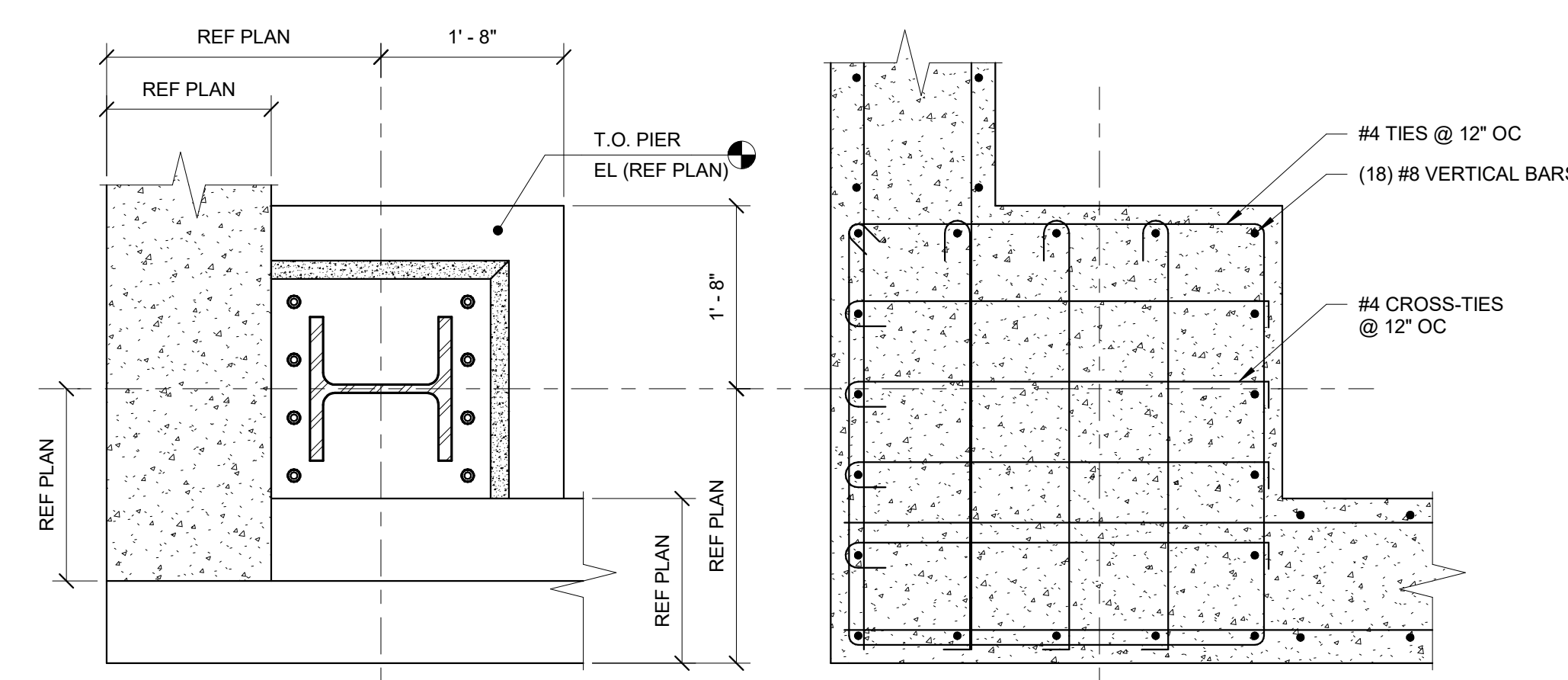
3/4" = 1'-0"



### 11 TOP OF BASEMENT WALL DETAIL

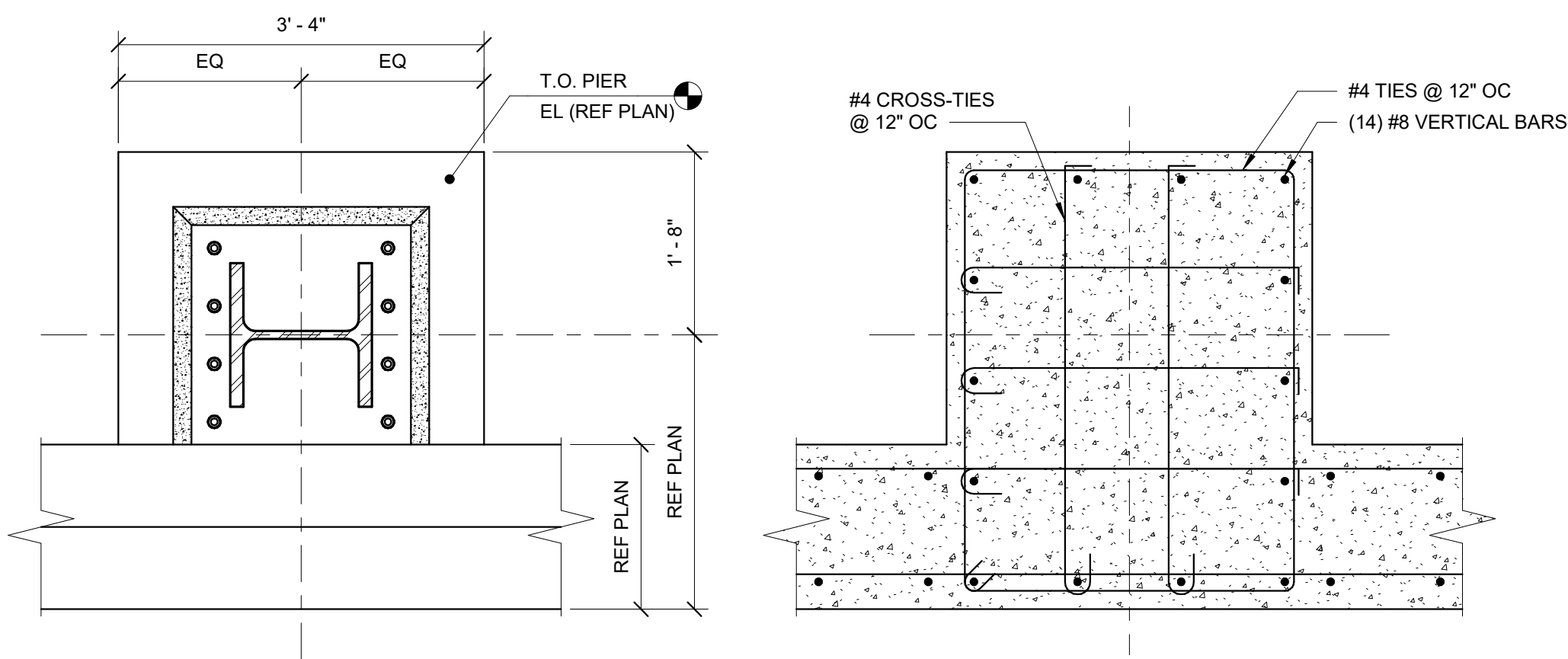
3/4" = 1'-0"

NOTES:  
1. WALL IS DESIGNED TO BE BRACED BY FIRST FLOOR DECK AND SLAB ON GRADE. DO NOT BACKFILL AGAINST WALL UNTIL SLAB ON METAL DECK AND SLAB ON GRADE HAVE BEEN INSTALLED AND REACHED 75% DESIGN STRENGTH.



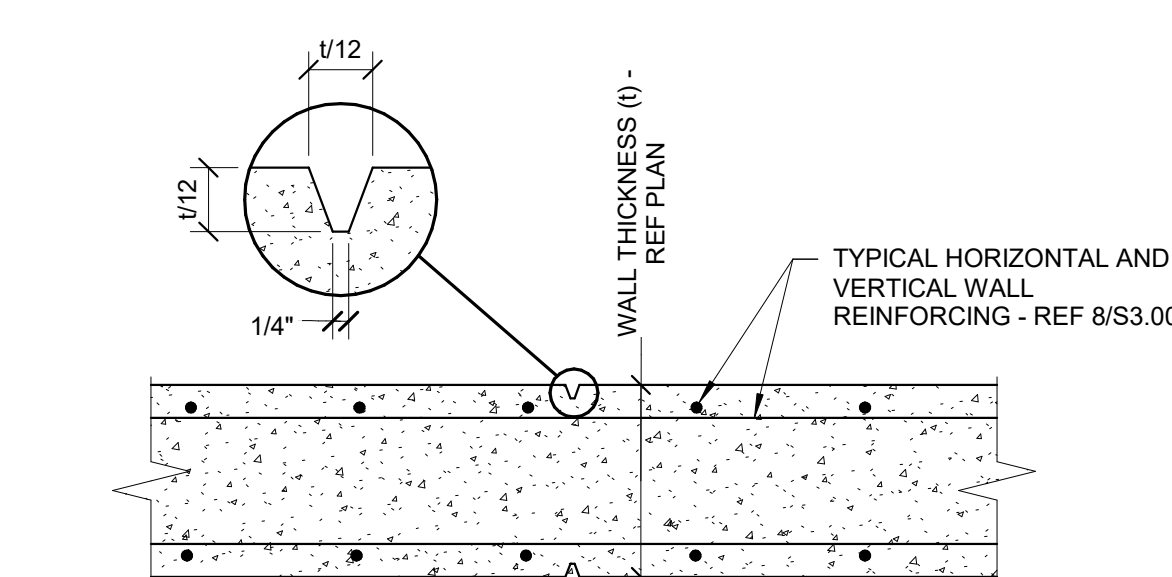
### 12 PIER (P1) DETAIL

3/4" = 1'-0"



### 13 PIER (P2) DETAIL

3/4" = 1'-0"



### 10 TYPICAL CONCRETE WALL CONTROL JOINT

1" = 1'-0"

Revisions	
Date	Description

100% CONSTRUCTION DOCUMENTS

Drawing Date  
07/10/2018

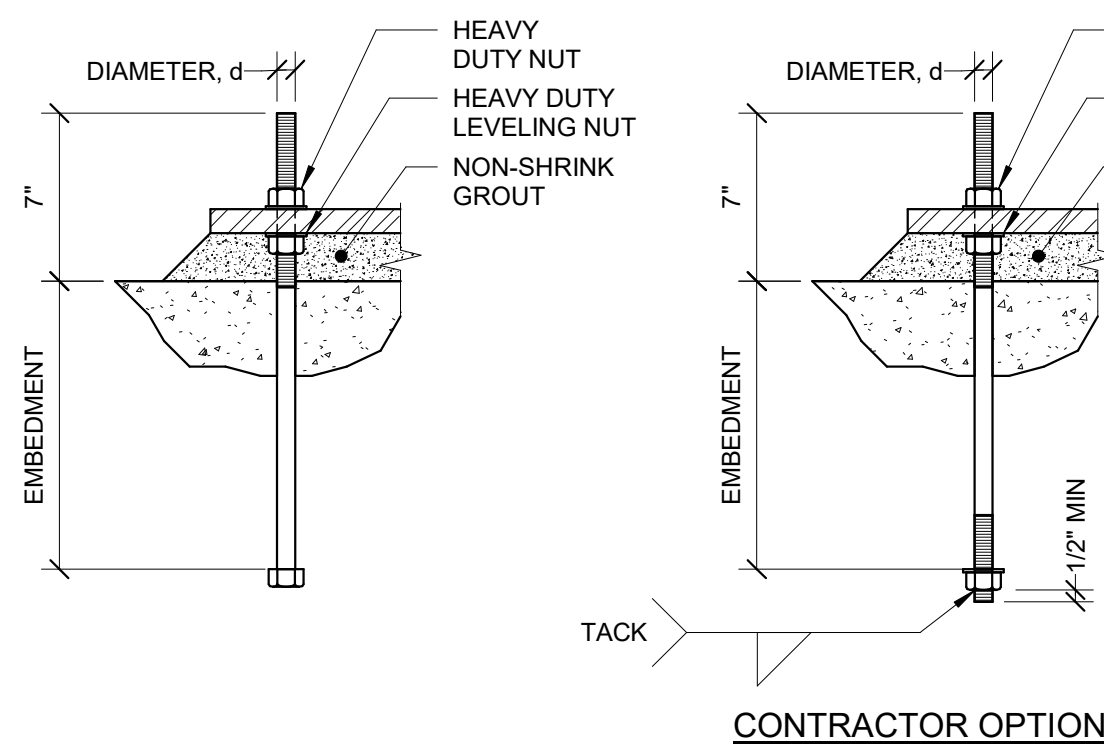
MCHS CAMS BUILDING

700 West Avenue South, La Crosse, WI 54601

Project No. MCHS  
217050

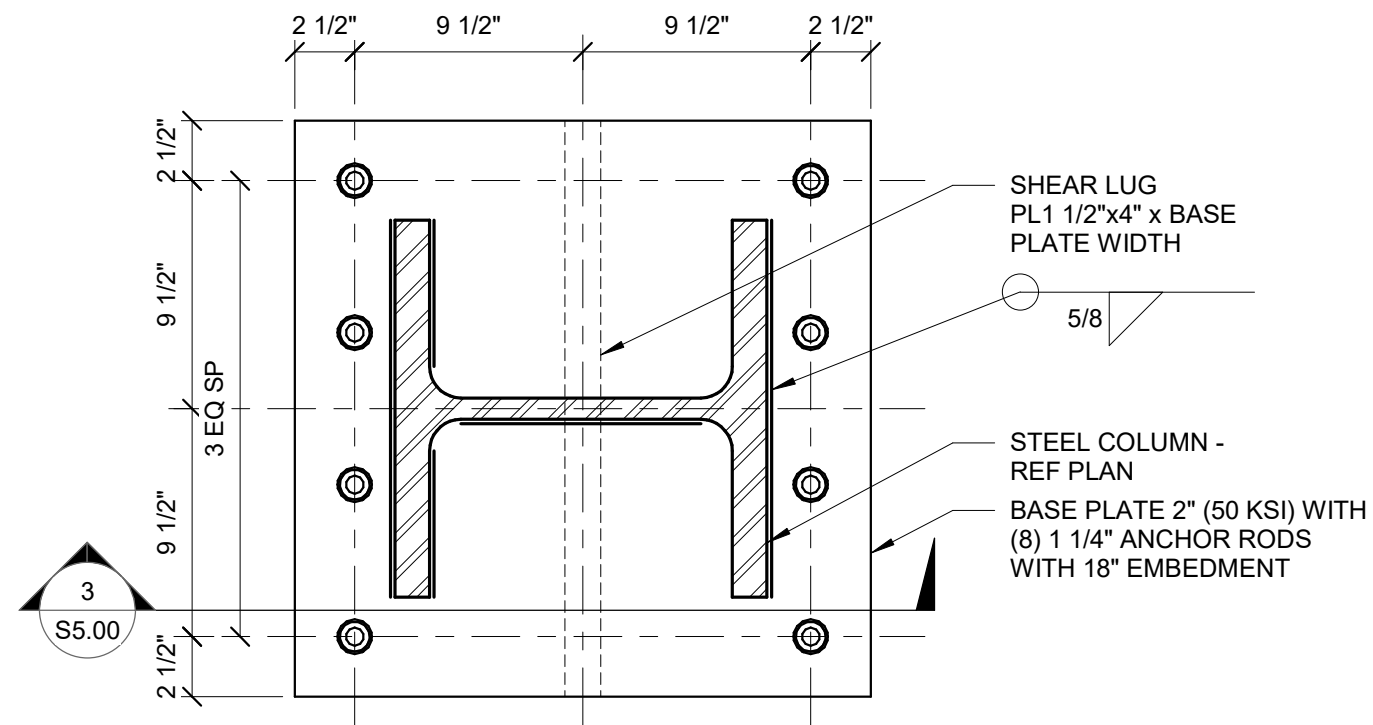
Sheet Title  
FOUNDATION DETAILS

Sheet No.  
S3.00



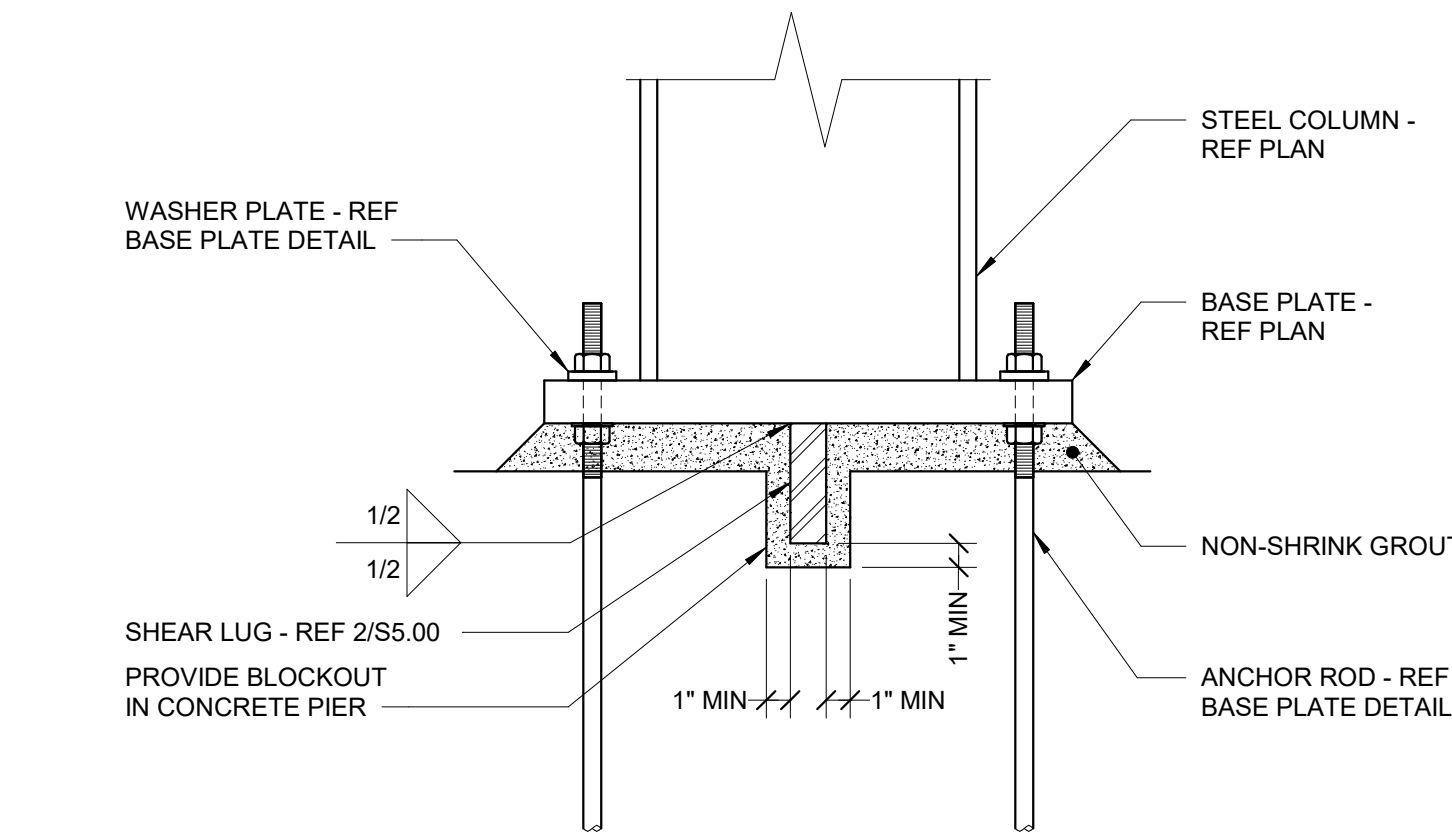
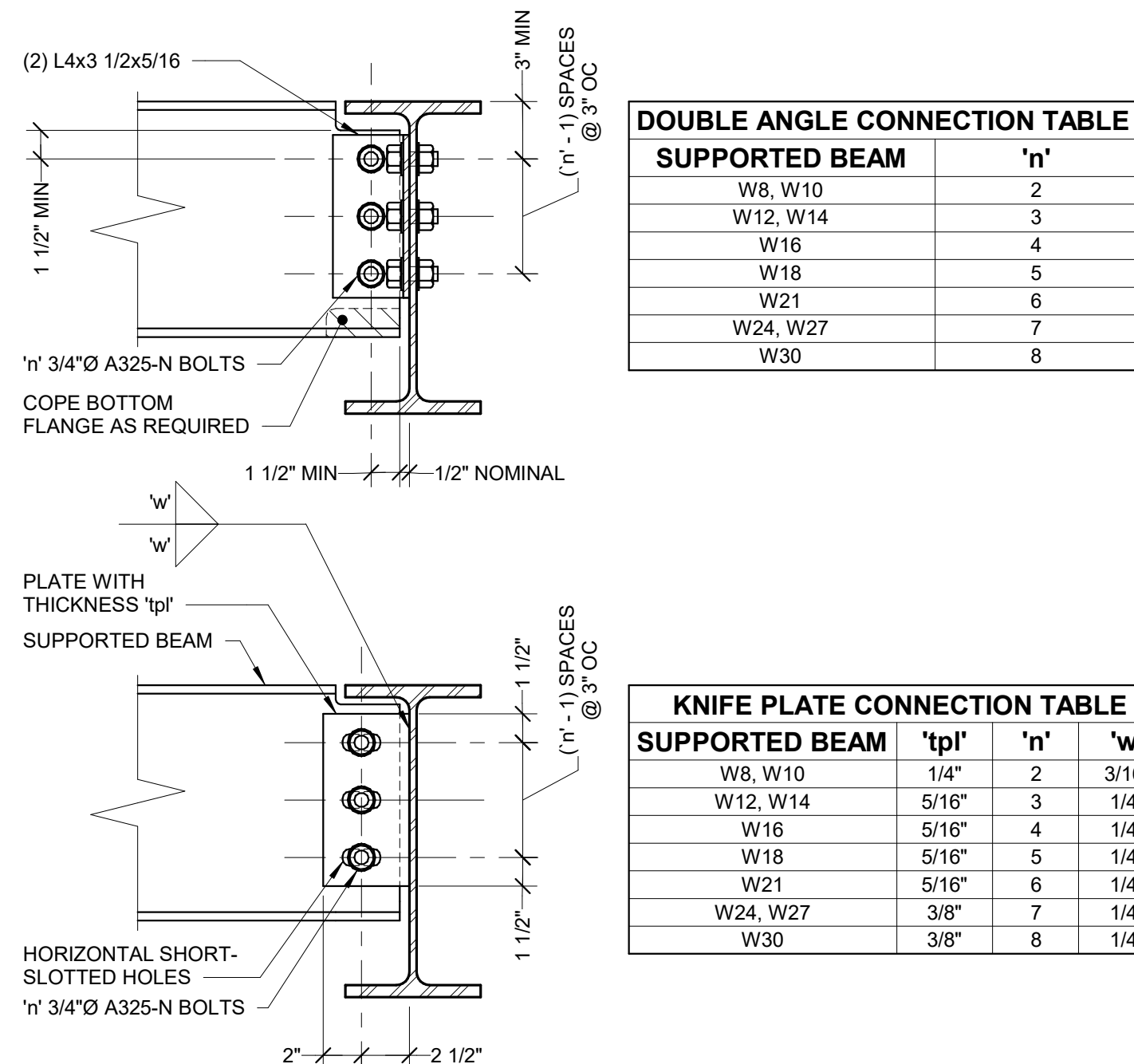
## 1 TYPICAL ANCHOR ROD

- 1/2" = 1'-0"
- NOTES:
- REFERENCE BASE PLATE DETAILS FOR DIAMETER AND EMBEDMENT.
  - REFERENCE GENERAL NOTES FOR MATERIAL REQUIREMENTS.
  - ANCHOR RODS SHALL BE SET PRIOR TO PLACEMENT OF CONCRETE.
  - PROTECT ANCHOR RODS FROM DAMAGE.
  - ANCHOR SHALL BE SET SO AS NOT TO VARY FROM THE DIMENSIONS SHOWN ON THE ERECTION DRAWINGS BY MORE THAN THE FOLLOWING:
    - 1/8" CENTER TO CENTER OF ANY TWO RODS WITHIN AN ANCHOR ROD GROUP.
    - 1/4" CENTER TO CENTER OF ADJACENT ANCHOR ROD GROUPS.
    - ELEVATION OF THE TOP OF ANCHOR RODS ± 1/2"
    - MAXIMUM ACCUMULATION OF 1/4" PER HUNDRED FEET ALONG THE ESTABLISHED COLUMN LINE.
    - 1/4" FROM THE CENTER OF ANY ANCHOR ROD GROUP TO THE ESTABLISHED COLUMN LINE THROUGH THAT GROUP.
    - REFERENCE AISC CODE OF STANDARD PRACTICE FOR ADDITIONAL INFORMATION.
  - SET ANCHOR RODS PERPENDICULAR TO BEARING SURFACE, UNLESS NOTED OTHERWISE.
  - PROVIDE 2" NON-SHRINK GROUT AT ALL BASE PLATES.



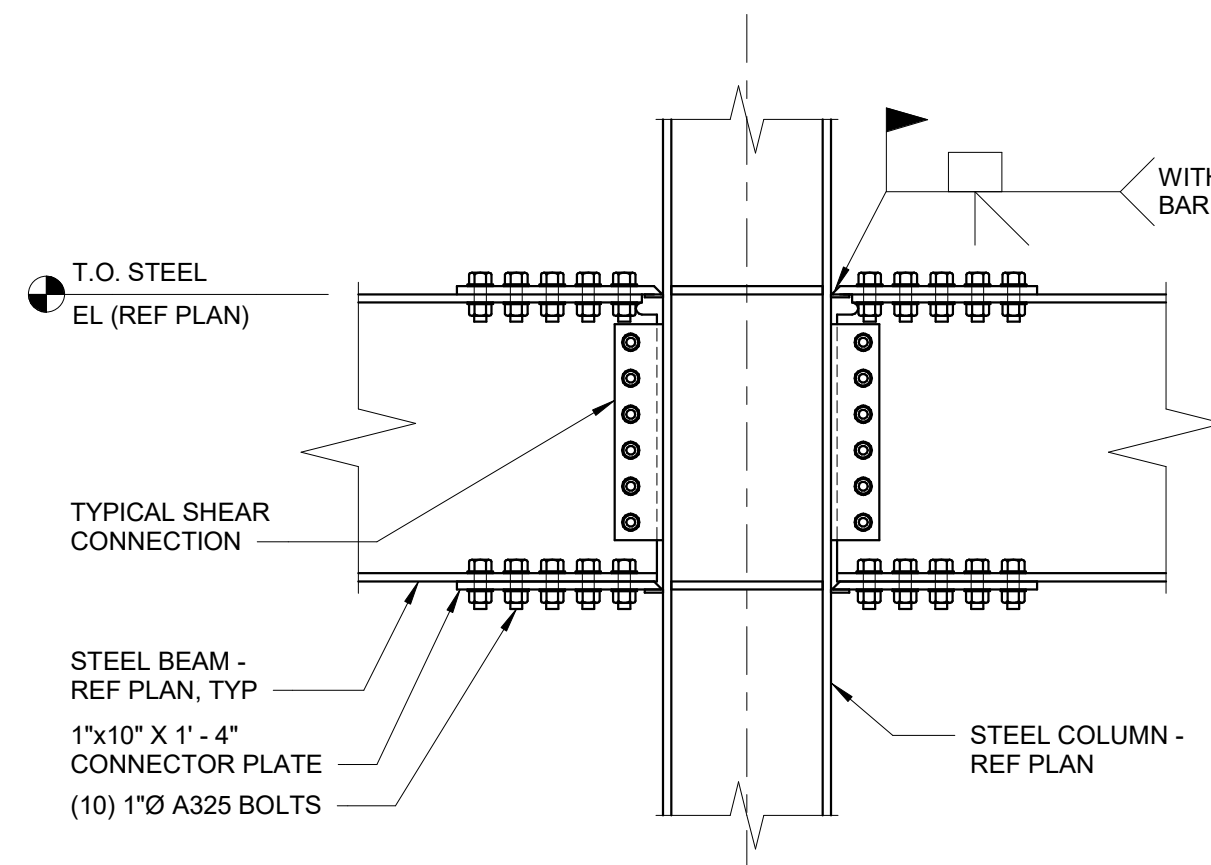
## 2 WIDE FLANGE BASE PLATE (BP1) DETAIL

- 1/2" = 1'-0"
- NOTES:
- REFER TO TYPICAL ANCHOR ROD DETAIL 1/55.00 FOR ADDITIONAL INFORMATION.
  - NO WELDS REQUIRED AT FLANGE TOES AND RADIISES.



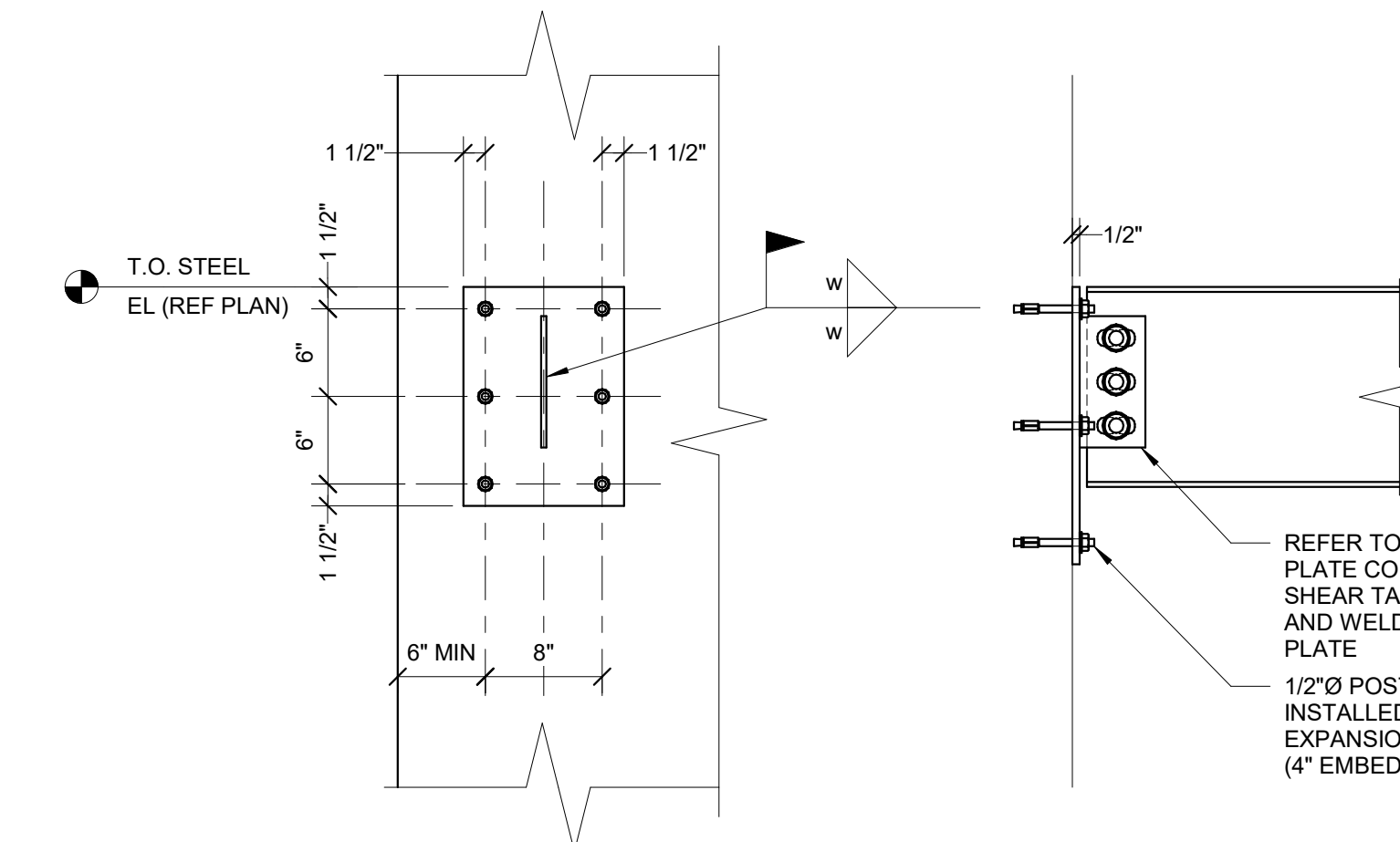
## 3 TYPICAL SHEAR LUG DETAIL

1 1/2" = 1'-0"



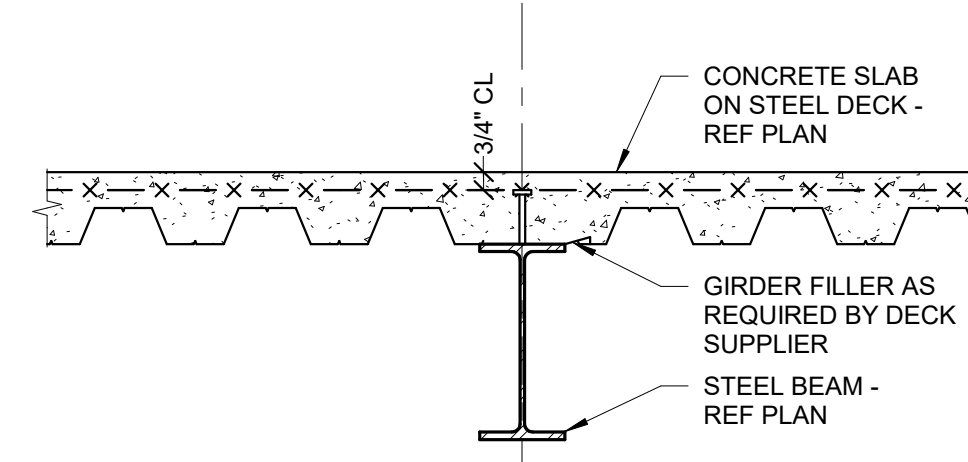
## 8 BEAM TO COLUMN MOMENT CONNECTION

3/4" = 1'-0"



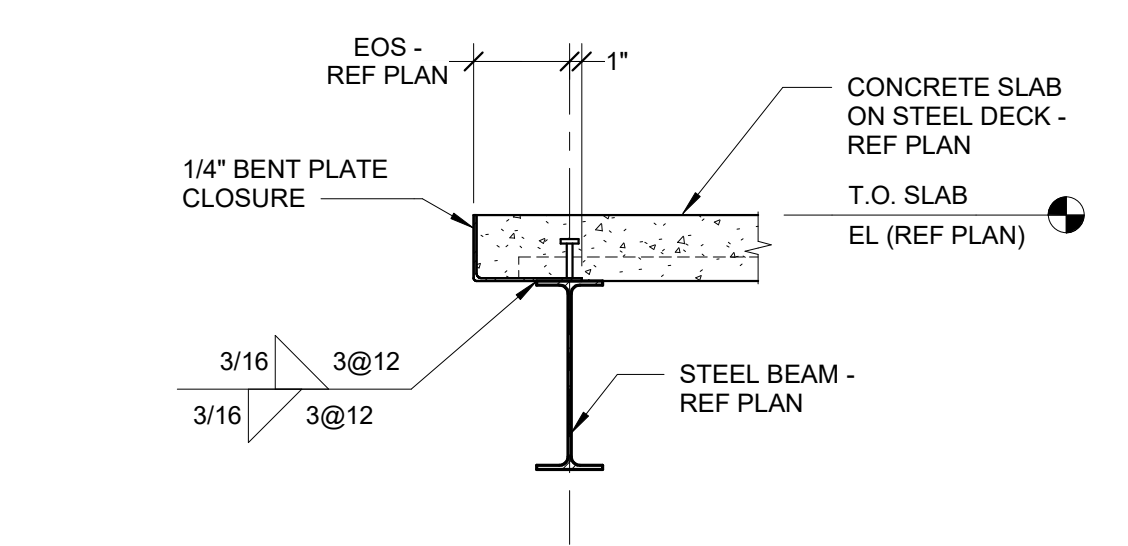
## 9 POST INSTALLED EMBED DETAIL

1" = 1'-0"



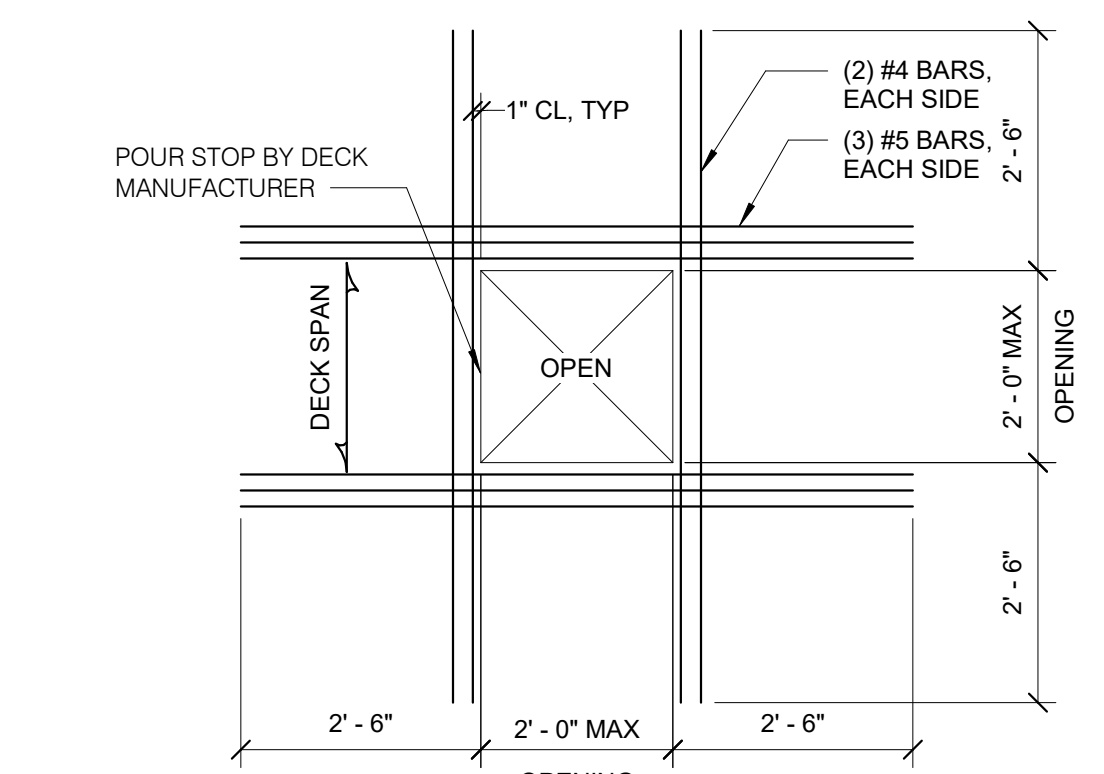
## 4 TYPICAL GIRDER DETAIL

- 3/4" = 1'-0"
- NOTES:
- A STEEL GIRDER IS DEFINED AS A STEEL BEAM FRAMING BETWEEN COLUMNS AND SUPPORTING OTHER BEAMS.
  - REFER TO TYPICAL SHEAR STUD SPACING DETAIL FOR ADDITIONAL INFORMATION.



## 5 TYPICAL SLAB EDGE DETAIL

3/4" = 1'-0"



## 6 TYPICAL FLOOR PENETRATION

- 1/2" = 1'-0"
- NOTES:
- USE ABOVE FRAMING AT ALL OPENINGS EXCEEDING 1'-0" UNO.
  - REFERENCE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS.
  - ROOF OPENING FRAMING NOT REQUIRED AT SIDE DISCHARGE ROOF DRAINS. COORDINATE WITH MECHANICAL CONTRACTOR.

## 7 TYPICAL SHEAR CONNECTION

- 1/2" = 1'-0"
- NOTES:
- BOTH DOUBLE ANGLE AND KNIFE PLATE CONNECTION CONFIGURATIONS ARE ACCEPTABLE, UNLESS NOTED OTHERWISE. FABRICATOR AND DETAILER SHALL SELECT WHICH OPTION IS BEST SUITED FOR THEIR FABRICATION PROCESS AND THE ANTICIPATED ERECTION PROCEDURES.
  - DETAIL TO BE SIMILAR AT CONNECTIONS TO WIDE FLANGE OR HSS COLUMNS.
  - UNLESS NOTED OTHERWISE, PROVIDE SHEAR CONNECTIONS AS INDICATED BY THIS DETAIL.
  - DETAILER IS RESPONSIBLE FOR FULLY DEVELOPING GEOMETRY AND DIMENSIONAL INFORMATION REQUIRED TO FABRICATE.
  - WHERE TYPICAL SHEAR CONNECTION DETAIL IS NOT APPLICABLE, FABRICATOR SHALL SELECT AND DETAIL ALTERNATE CONNECTION CAPABLE OF DEVELOPING EQUAL STRENGTH. ALTERNATE CONNECTION SHALL BE SELECTED IN ACCORDANCE WITH AISC ASD CONNECTION TABLES.
  - WHERE SHEAR CONNECTION INTO EXISTING APPLIES, PROVIDE KNIFE PLATE WITH A FIELD WELD TO EXISTING STEEL.

