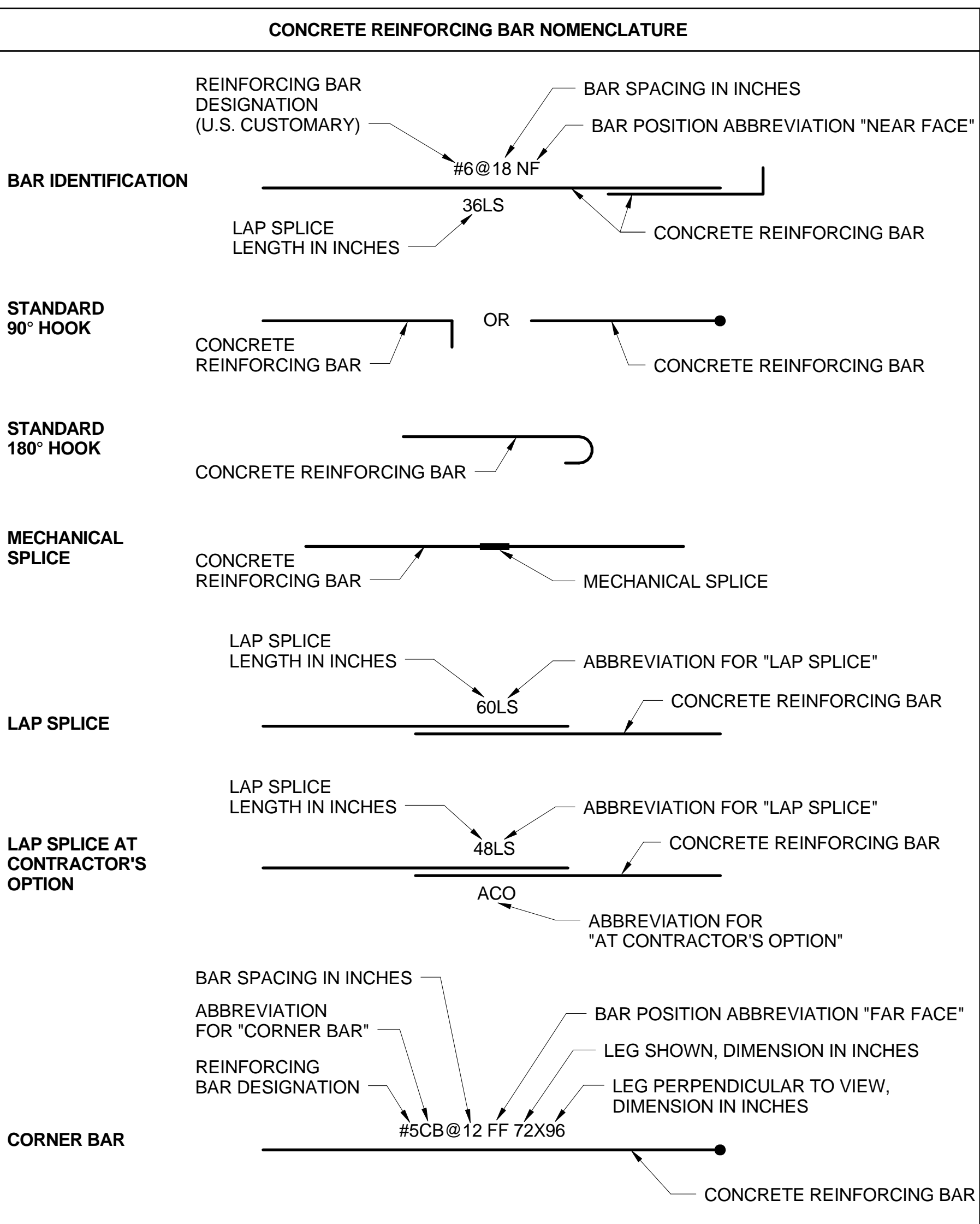


ABBREVIATIONS			
AA ALUMINUM ASSOCIATION	EXT EXTERIOR	PCA PORTLAND CEMENT ASSOCIATION	
AASHTO AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	FAB FABRICATE	PCF POUNDS PER CUBIC FOOT	
AB ABOUT	fc FLOOR FINISH	PCI PRESTRESSED CONCRETE INSTITUTE, POUNDS PER CUBIC INCH	
ACI AMERICAN CONCRETE INSTITUTE	FD FLOOR DRAIN	PED PEDESTAL	
ACO AT CONTRACTOR'S OPTION	FDN FOUNDATION	PEN PENETRATE	
ADH ADHESIVE	FF FAR FACE	PERP PERPENDICULAR	
AGGR AGGREGATE	FL FLOOR	PJF PREFORMED JOINT FILLER	
AHR ANCHOR	FLG FLANGE	PJTN PROJECTION	
AHU AIR HANDLING UNIT	fM FLOOR FINISH	PL PLATE, PROPERTY LINE	
AISC AMERICAN INSTITUTE OF STEEL CONSTRUCTION	FNSH FINISH	PLCS PLACES	
AISI AMERICAN IRON AND STEEL INSTITUTE	FRP FIBERGLASS REINFORCED PLASTIC	PLF POUNDS PER LINEAR FOOT	
AL, ALUM ALUMINUM	fs FIBERGLASS REINFORCED PLASTIC	PSF POUNDS PER SQUARE FOOT	
ALTN ALTERNATE	FS FAR SIDE	PSI POUNDS PER SQUARE INCH	
ANSI AMERICAN NATIONAL STANDARDS INSTITUTE	FT FEET, FOOT	PRV PRESSURE RELIEF VALVE	
APPROX APPROXIMATE	FTG FOOTING	PT POINT	
ARCH ARCHITECTURAL	FUT FUTURE	PVC POLYVINYL CHLORIDE	
ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS	Fy, fy YIELD STRESS	PWS PLASTIC WATERSTOP	
AWS AMERICAN WELDING SOCIETY	GA GAGE, GAUGE	R RISERS	
B, BOT BOTTOM	GAL GALLON	RAD RADIUS	
BBP BOTTOM OF BASE PLATE	GALV GALVANIZED	RD ROOF DRAIN	
BC BOLT CIRCLE	GF GRANULAR FILL	REF REFERENCE	
BETW BETWEEN	GND GROUND	REINF REINFORCEMENT	
BLDG BUILDING	GR GRADE	REQD REQUIRED	
BM BEAM	GRTG GRATING	REV REVISION	
BO BOTTOM OF	GS GRATING SUPPORT	RJ ROUGHENED JOINT	
BOC BOTTOM OF CONCRETE	H HIGH	RM ROOM	
BOS BOTTOM OF STEEL	HC HOLLOW CORE	S SOUTH	
BRG BEARING	HEX HEXAGON	SE SOUTHEAST, STEEL EDGE	
BRKT BRACKET	HK HOOK	SECT SECTION	
CAP CAPACITY	HR HANDRAIL	SHT SHEET	
CB CORNER BAR	HORIZ HORIZONTAL	SIM SIMILAR	
CC CLEAR COVER	HPT HIGH POINT	SJ SAWED JOINT	
C/C CENTER TO CENTER	HS HIGH STRENGTH	SLO SHORT LEG OUTSTANDING	
CE CONCRETE EDGE	HVAC HEATING, VENTILATION, AND AIR CONDITIONING	SLP SLOPE	
CF CUBIC FEET	IBC INTERNATIONAL BUILDING CODE	SLV SLEEVE	
CHKR CHECKERED	ID INSIDE DIAMETER	SP SPACE	
CIR CIRCLE	IF INSIDE FACE	SPEC SPECIFICATION	
CIRC CIRCULAR	IJ ISOLATION JOINT	SQ SQUARE	
CIRCUM CIRCUMFERENTIAL	INTR INTERIOR	SS, SST STAINLESS STEEL	
CIS CENTERED IN SLAB	INVT INVERT	ST SINGLE TEE	
CIW CENTERED IN WALL	JT JOINT	STD STANDARD	
CJ CONSTRUCTION JOINT	K KIP (1000 POUNDS)	STIF STIFFENER	
CL CENTER LINE	KB KNEE BRACE	STIR STIRRUP	
CLJ CONTROL JOINT	KPL KICK PLATE	STL STEEL	
CLR CLEAR	kg KILOGRAM	STR STRAIGHT, STAIR	
CM CENTIMETER	kN KILONEWTON	STRL STRUCTURAL	
CMU CONCRETE MASONRY UNIT	KSF KIPS PER SQUARE FOOT	STRUC STRUCTURE	
CO CONCRETE OPENING	KSI KIPS PER SQUARE INCH	SW SOUTHWEST	
COL COLUMN	L ANGLE, LONG	SYMM SYMMETRICAL	
CONC CONCRETE	LAD LADDER	T TON, TREAD, THICKNESS, TOP	
CONN CONNECTION	LB POUND	TEMP TEMPERATURE, TEMPORARY	
CONSTR CONSTRUCTION	LG LENGTH, LONG	THK THICK	
CONT CONTINUOUS	LL LIVE LOAD	THD THREAD	
CONTR CONTRACT	LLH LONG LEG HORIZONTAL	THRU THROUGH	
COORD COORDINATE	LLV LONG LEG VERTICAL	T&B TOP AND BOTTOM	
COR CORNER	LLO LONG LEG OUTSTANDING	TOB TOP OF BOLT	
CRSI CONCRETE REINFORCING STEEL INSTITUTE	LNTL LONGITUDINAL	TOC TOP OF CONCRETE	
CTR CENTER	LNG LONG	TOF TOP OF FLOOR	
CWB CAPILLARY WATER BARRIER	LPT LOW POINT	TOG TOP OF GRATING	
CY CUBIC YARD	LS LAP SPLICE	TOF TOP OF STEEL	
db BAR DIAMETER	M METER	TOW TOP OF WALL	
DBL DOUBLE	MATL MATERIAL	TSF TONS PER SQUARE FOOT	
DET DETAIL	MAX MAXIMUM	TRD TREAD	
DGA DENSE GRADED AGGREGATE	MECH MECHANICAL	TYP TYPICAL	
DIA DIAMETER	MEZZ MEZZANINE	UNO UNLESS OTHERWISE NOTED	
DIAG DIAGONAL	MFR MANUFACTURE(R)	VAR VARIES	
DIM DIMENSION	MH MANHOLE	VERT VERTICAL	
DK DECKING	MIN MINIMUM	WEST WEST, WIDE	
DL DEAD LOAD	MISC MISCELLANEOUS	WIDTH WIDTH	
DN DOWN	MJ MECHANICAL JOINT	WF WIDE FLANGE	
DT DOUBLE TEE	MK MARK	WP WORK POINT	
DWG DRAWING	MM MILLIMETER	WS WATERSTOP	
DWL DOWEL	MPa MEGAPASCAL	WT WEIGHT, WATERTIGHT	
E EAST	N NORTH	WW WASTEWATER	
EA EACH	NA NOT APPLICABLE	WWF WELDED WIRE FABRIC	
ED EQUIPMENT DRAIN	NE NORTHEAST	W/ WITHOUT	
EF EACH FACE	NF NEAR FACE	Y YARD	
EJ EXPANSION JOINT	NIC NOT IN CONTRACT	YD AND	
EL ELEVATION	NO NUMBER	& APPROXIMATELY	
ELEC ELECTRICAL	NOM NOMINAL	AT AT	
EMBED EMBEDMENT	NS NEAR SIDE	BY BY	
EP EQUIPMENT PAD	NTS NOT TO SCALE	DEGREE (PLANE ANGLE)	
EQ EQUAL	NW NORTHWEST	DIAMETER DIAMETER	
EQ SP EQUALLY SPACED	OC ON CENTER	EQUAL EQUAL	
EQUIP EQUIPMENT	OD OUTSIDE DIAMETER	GREATER THAN GREATER THAN	
EQUIV EQUIVALENT	OF OUTER FACE	LESS THAN LESS THAN	
ERCPC ELLIPTICAL REINF CONC PIPE	OPNG OPENING	NUMBER, POUND NUMBER, POUND	
EW EACH WAY	OPP OPPOSITE	PERCENT PERCENT	
EXP EXPANSION	OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION		
EXIST EXISTING	OZ OUNCE		
	Pa PASCAL		



MATERIALS LEGEND

	ALUMINUM		STEEL (LARGE SCALE)
	CHECKERED PLATE		WATER
	CONCRETE		EXPANSION MATERIAL
	CONCRETE MASONRY UNITS		FASTENERS
	EARTH		REINFORCING BARS
	COMPACTED STRUCTURAL FILL		STRUCTURAL STEEL (SMALL SCALE)
	GRANULAR FILL		
	GRATING		
	GROUT		
	ROCK		

- ### GENERAL NOTES:
- ITEMS WHICH ARE TO BE FURNISHED AND INSTALLED BY SEPARATE CONTRACTS ARE IDENTIFIED AND LABELED FOR EACH CONTRACT.
 - TOP BARS - NEAR MID SPAN
BOT BARS - OVER SUPPORTS
 - CONCRETE COVER FOR REINFORCING (UNLESS NOTED OTHERWISE):
 - CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3"
 - EXPOSED TO EARTH OR WEATHER:
 - #6 THRU #18 BARS = 2"
 - #5 BARS, 5/8" WIRE AND SMALLER = 1 1/2"
 - NOT EXPOSED TO EARTH OR WEATHER:
 - SLABS, WALLS AND JOISTS:
 - #8 AND LARGER BARS = 1 1/2"
 - #6 AND #7 BARS = 1"
 - #5 AND SMALLER BARS = 3/4"
 - BEAMS, GIRDERS AND COLUMNS:
 - PRINCIPAL REINFORCEMENT, TIES, STIRRUPS AND SPIRALS = 2"
 - MINIMUM CLEAR SPACING BETWEEN PARALLEL BARS IN A LAYER INCLUDING SPLICE BARS, SHALL NOT BE LESS THAN:
 - FOR COLUMNS AND PEDESTALS:
 1. THE DIAMETER OF THE BAR TIMES 1.5
 - 1 1/2"
 - 1.33 TIMES THE MAXIMUM AGGREGATE SIZE.
 - FOR ALL OTHER BARS:
 1. THE DIAMETER OF THE BAR
 - 1"
 - 1.33 TIMES THE MAXIMUM AGGREGATE SIZE.
 - CONCRETE REINFORCING DEVELOPMENT AND LAP SPLICE LENGTHS, HOOKED BAR EMBEDMENT LENGTHS, AND CONCRETE REINFORCING DETAILS FOR WALL CORNERS AND INTERSECTIONS AS SHOWN ON THIS DRAWING ARE APPLICABLE TO ALL DRAWINGS UNLESS OTHERWISE INDICATED.



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 PROJECT NO: 95307
 DATE: 4/14/17
 DISC. LEAD: PJG DESIGNER: AKF CHECKER: PJG

SHEET TITLE: STRUCTURAL
 SHEET: S001 REV: 0

GENERAL NOTES:

1. THESE NOTES, AND OTHER DRAWING NOTES CONTAINED WITHIN, ARE PROVIDED TO MEET SPECIFIC REQUIREMENTS AND TO SUPPLEMENT THE PROJECT SPECIFICATIONS. THESE NOTES NEITHER REPLACE NOR OVERRIDE THE PROVISIONS AND REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.
2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES FROM THE CONTRACT DRAWINGS TO THE ENGINEER PRIOR TO COMMENCING WORK. SCALING OF WORK DIMENSIONS FROM THE STRUCTURAL DRAWINGS IS PROHIBITED.
3. CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, SHORING AND TEMPORARY BRACING. CONTRACTOR SHALL UNDERTAKE ALL NECESSARY MEASURES TO ENSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE.
4. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE CONTRACT DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR CALLED FOR, WITH THE APPROVAL OF THE ENGINEER. WHERE THE SECTIONS VARY, CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS BETWEEN THEM, UNLESS NOTED OTHERWISE.
5. SEE CIVIL, ARCHITECTURAL, MECHANICAL, PROCESS, AND ELECTRICAL DRAWINGS FOR MISCELLANEOUS STEEL, CONCRETE, ANCHORS, EMBEDDED ITEMS, SUPPORTS, AND OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS.
6. CONTRACTOR SHALL COORDINATE ALL INFORMATION SHOWN ON THESE DRAWINGS WITH THE SPECIFICATIONS.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF TEMPORARY SHORING AS REQUIRED AND SHALL SUBMIT DRAWINGS AND CALCULATIONS OF TEMPORARY SHORING STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TENNESSEE. ALL TEMPORARY SHORING SHALL BE REMOVED PRIOR TO TURNING OFF DEWATERING PUMPS.
8. POST-INSTALLED CONCRETE ANCHORS AND DOWELS:
 - A. ALL POST-INSTALLED ANCHORS SHALL BE ADHESIVE TYPE, WITH TYPE 316 STAINLESS STEEL RODS.
 - B. SIZES AND EMBEDMENTS NOTED ON DRAWINGS.
 - C. ANCHORS SHALL BE MANUFACTURED BY THE FOLLOWING:
 1. HILTI INC. – TULSA, OKLAHOMA
 2. ITW RAMSET/REDHEAD – WOOD DATE, ILLINOIS.
 3. SIMPSON STRONG-TIE CO. – PLEASANTON, CALIFORNIA
 - D. INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - E. POST-INSTALLED ANCHORS SHALL COMPLY WITH THE 2012 INTERNATIONAL BUILDING CODE. NO EXCEPTIONS
 - F. CONTRACTOR SHALL SUBMIT ICC-ES REPORTS TO ENGINEER FOR REVIEW AND APPROVAL IN ACCORDANCE WITH THE SPECIFICATIONS.
9. MATERIALS:
 - A. CAST-IN-PLACE CONCRETE: $f_c = 4500$ PSI @ 28 DAYS.
 - B. REINFORCING STEEL: ASTM A615, $f_y = 60$ KSI.
 - C. MASONRY: $f_m = 1500$ PSI.
 - D. STRUCTURAL STEEL:
 1. WIDE FLANGE (WF) SHAPES AND TEES CUT FROM WF: ASTM A992, GRADE 50.
 2. M-SHAPES, S-SHAPES, CHANNELS, AND ANGLES: ASTM A36.
 3. ALL STRUCTURAL STEEL SHALL BE GALVANIZED AND CONFORM TO ASTM A123. NUTS, BOLTS, AND WASHERS SHALL BE HOT-DIPPED GALVANIZED TO CONFORM TO ASTM F2329 OR MECHANICALLY GALVANIZED TO CONFORM TO ASTM B695.
 - E. ADHESIVE FOR POST-INSTALLED ANCHORS AND DOWELS SHALL BE:
 1. HILTI HY-200 FOR CONCRETE.
 2. HILTI HY-70 FOR MASONRY.
 3. OR ENGINEER APPROVED EQUAL.
10. DESIGN LOADS PER 2012 INTERNATIONAL BUILDING CODE (IBC 2012):
 - A. DEAD LOADS:
 1. EQUIPMENT LOADS: REFER TO INDIVIDUAL DRAWINGS FOR EQUIPMENT WEIGHTS
 2. CABLETRAY: 20 PSF
 3. EQUIPMENT WEIGHTS:
 1. ODOR CONTROL UNIT: 8600 LBF
 2. ODOR CONTROL FAN: 1000 LBF
 3. RTU FAN: 1000 LBF
 4. GENERATOR: 109 KIP
 5. SWITCHGEAR: 20 KIP
 - B. LIVE LOADS:
 1. THICKENED TOP SLAB: HS-20 LOADING
 2. 10' SLAB: 250 PSF OR 9 KIP POINT LOAD OVER 24" DIA BASE
 3. CRANE LOAD: 12 KIPS
 - C. ROOF LIVE LOAD: 20 PSF
 - D. SOIL SURCHARGE LIVE LOAD: 2 ADDITIONAL FEET ADDED TO AT-REST EQUIVALENT LATERAL EARTH PRESSURE.
 - E. ROOF SNOW LOAD:
 1. GROUND SNOW LOAD, $p_g = 15$ PSF
 2. FLAT ROOF SNOW LOAD, $p_f = 12.5$ PSF
 3. SLOPED ROOF SNOW LOAD, $p_s = 12.5$ PSF
 4. EXPOSURE FACTOR, $C_e = 0.9$
 5. IMPORTANCE FACTOR, $I_s = 1.1$
 6. THERMAL FACTOR, $C_t = 1.2$
 7. SLOPE FACTOR, $C_s = 1.0$
 - F. WIND LOAD:
 1. BASIC WIND SPEED, $V = 120$ MPH
 2. IMPORTANCE FACTOR, $I_w = 1.15$
 3. EXPOSURE CATEGORY: C

G. EARTHQUAKE LOAD:

1. RISK CATEGORY: III
2. IMPORTANCE FACTOR, $I_s = 1.25$
3. SITE CLASS: D
4. MAPPED SPECTRAL ACCELERATION PARAMETERS:
 1. $S_s = 0.374g$
 2. $S_1 = 0.125g$
5. DESIGN SPECTRAL ACCELERATION PARAMETERS:
 1. $SD_s = 0.375g$
 2. $SD_1 = 0.192g$
6. SEISMIC DESIGN CATEGORY: C
7. BASIC SEISMIC FORCE RESISTING SYSTEMS:
 1. STEEL ORDINARY MOMENT FRAME WITH UNLIMITED HEIGHT, NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE.
8. RESPONSE MODIFICATION COEFFICIENT, $R = 1$
9. SEISMIC RESPONSE COEFFICIENT, $C_s = 0.47$
10. EQUIVALENT LATERAL FORCE PROCEDURE
- H. REFERENCE INDIVIDUAL STRUCTURE DRAWINGS FOR ALL OTHER DESIGN LOADS.
11. A GEOTECHNICAL DESIGN PARAMETERS: TAKEN FROM REPORT PREPARED BY S&ME, DATED APRIL 12, 2017:
 - A. NET ALLOWABLE BEARING CAPACITY = 1500 PSF
 - B. AT-REST LATERAL EARTH PRESSURE = 72 PSF/FT DEPTH
 - C. SUBGRADE MODULUS = 15 PCI
 - D. MINIMUM FOUNDATION FROST DEPTH = 30 INCHES
12. ALL ROUGHED JOINTS SHALL BE TO 1/4" AMPLITUDE AND HAVE EXPOSY BONDING AGENT APPLIED.
13. BASIN SHALL NOT BE BACKFILLED UNTIL BASIN HAS PASSED TIGHTNESS TESTING AND TOP SLAB HAS ATTAINED 28-DAY DESIGN COMPRESSIVE STRENGTH.
14. STANDARD DETAILS ARE ON DRAWINGS S501 THRU S504.

EQUIPMENT ROOM SUPPORT NOTES:

1. PLACE 2 INCH NON-SHRINK GROUT PAD UNDER ALL FLOOR MOUNTED EQUIPMENT.
2. SEE ELECTRICAL DRAWINGS FOR LOCATION OF CABLE TRAY. SUPPORT CABLE TRAY USING UNISTRUT P2543 OR ENGINEER APPROVED EQUAL. PRESSURE GROUT CELLS BEHIND ALL CABLE TRAY SUPPORTS BY ATTACH STRUT. MEMBER TO WALL WITH (2) 3/4 INCH EPOXY ANCHORS WITH 5 INCH EMBED INTO NEWLY GROUTED MASONRY CELL.
3. FOR ALL HVAC DUCT RUNNING PARALLEL TO WOODEN ROOF TRUSSES, CONTRACTOR SHALL MOUNT HANGER SUPPORTS TO ROOF AND ENSURE AT LEAST FOUR ROOF TRUSS MEMBERS ARE CONNECTED TO THE HANGER SUPPORT.



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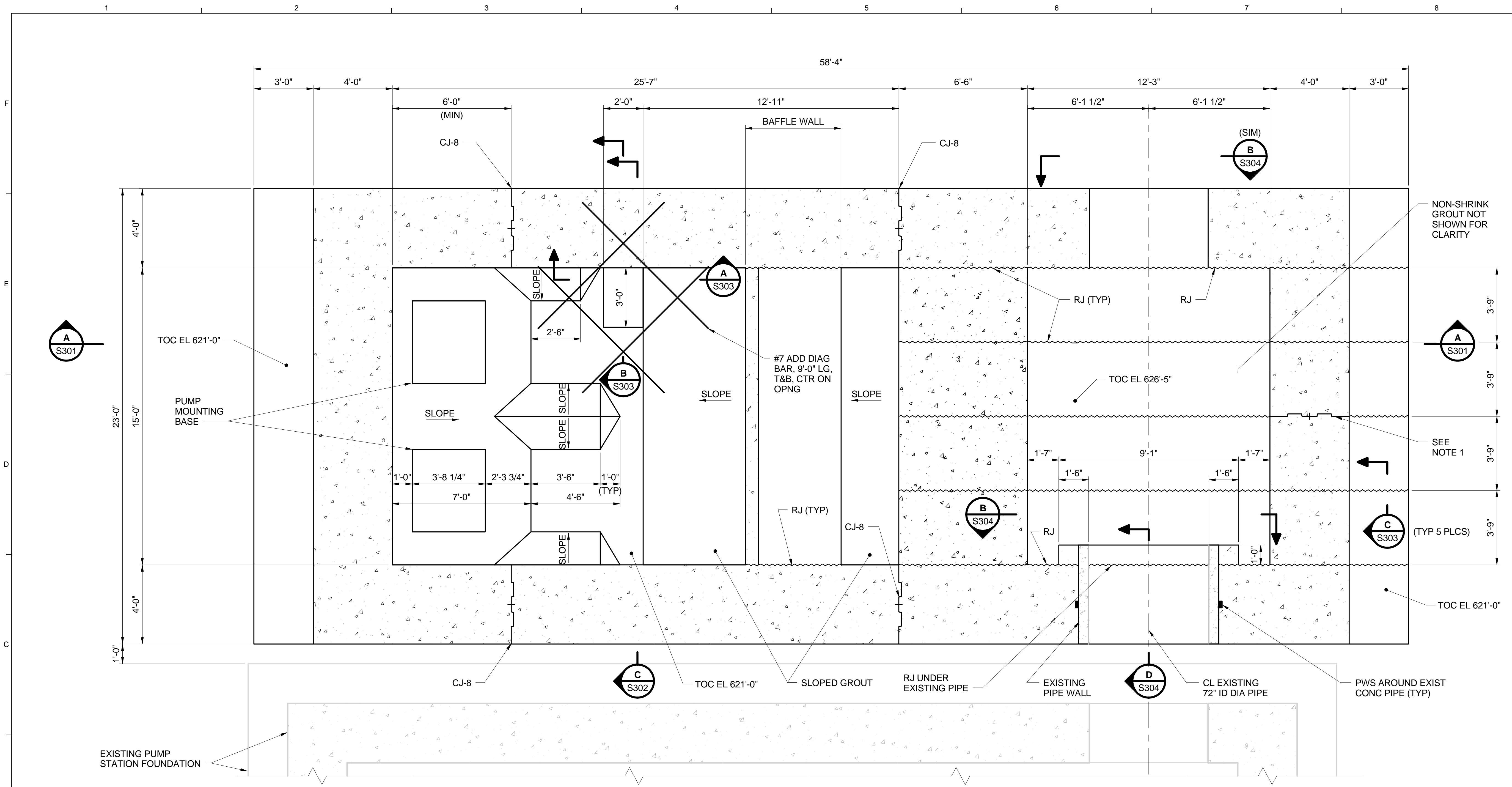
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PJG	AKF	PJG

SHEET TITLE

STRUCTURAL

GENERAL NOTES

SHEET **S002** REV **0**



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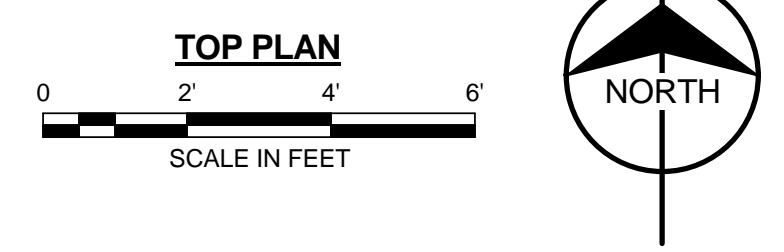
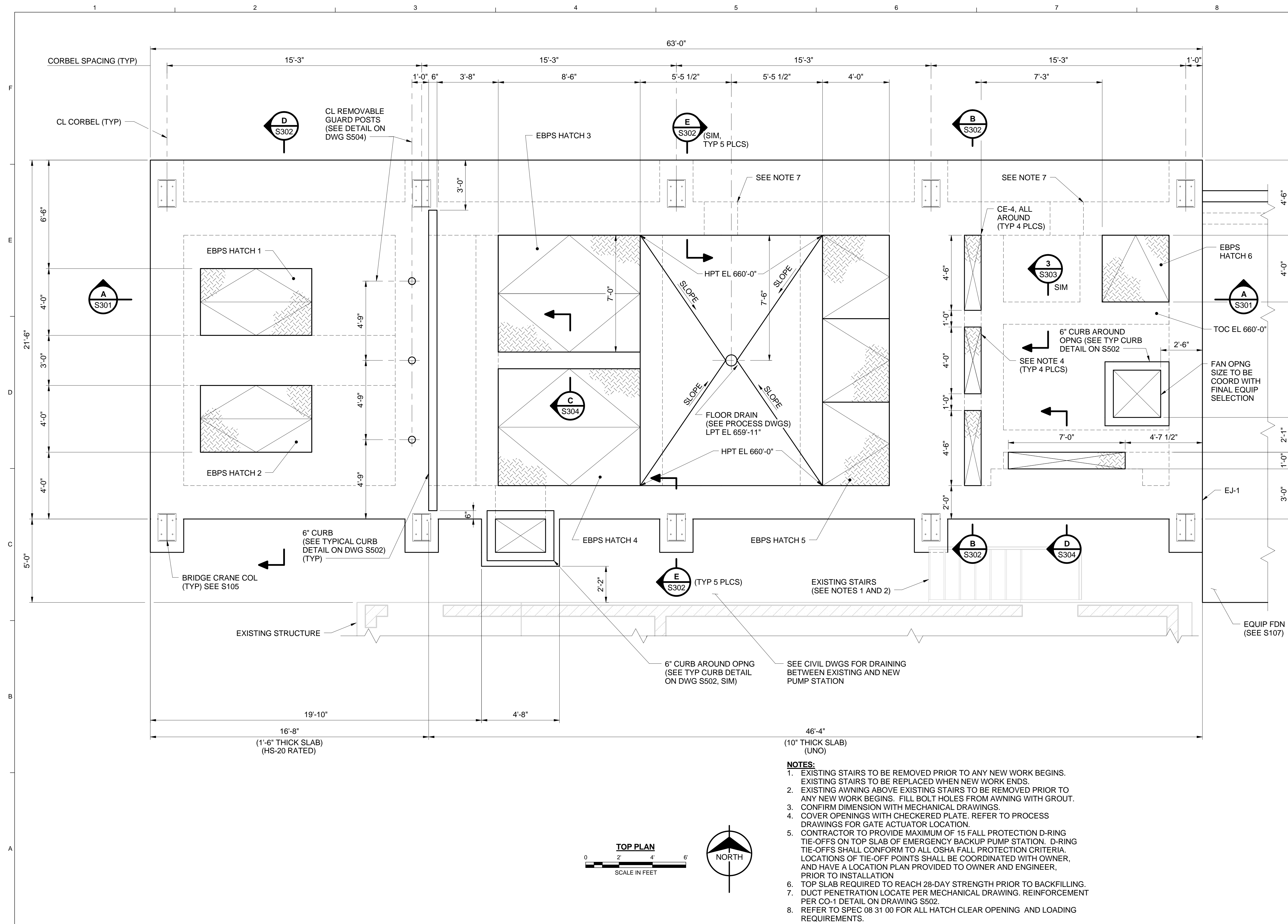
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 DATE: 4/14/17
 DISC. LEAD: PJG DESIGNER: AKF CHECKER: PJG

SHEET TITLE
 STRUCTURAL
 BASE PLAN

NOTE:
 1. AT EAST WALL:
 ROUGHENED JOINT FROM ELEVATION 618'-0" TO ELEVATION 626'-5".
 CJ-8 FROM ELEVATION 626'-5" TO ELEVATION 646'-0".



- NOTES:**
- EXISTING STAIRS TO BE REMOVED PRIOR TO ANY NEW WORK BEGINS. EXISTING STAIRS TO BE REPLACED WHEN NEW WORK ENDS.
 - EXISTING AWNING ABOVE EXISTING STAIRS TO BE REMOVED PRIOR TO ANY NEW WORK BEGINS. FILL BOLT HOLES FROM AWNING WITH GROUT.
 - CONFIRM DIMENSION WITH MECHANICAL DRAWINGS.
 - COVER OPENINGS WITH CHECKERED PLATE. REFER TO PROCESS DRAWINGS FOR GATE ACTUATOR LOCATION.
 - CONTRACTOR TO PROVIDE MAXIMUM OF 15 FALL PROTECTION D-RING TIE-OFFS ON TOP SLAB OF EMERGENCY BACKUP PUMP STATION. D-RING TIE-OFFS SHALL CONFORM TO ALL OSHA FALL PROTECTION CRITERIA. LOCATIONS OF TIE-OFF POINTS SHALL BE COORDINATED WITH OWNER, AND HAVE A LOCATION PLAN PROVIDED TO OWNER AND ENGINEER, PRIOR TO INSTALLATION
 - TOP SLAB REQUIRED TO REACH 28-DAY STRENGTH PRIOR TO BACKFILLING.
 - DUCT PENETRATION LOCATE PER MECHANICAL DRAWING. REINFORCEMENT PER CO-1 DETAIL ON DRAWING S502.
 - REFER TO SPEC 08 31 00 FOR ALL HATCH CLEAR OPENING AND LOADING REQUIREMENTS.

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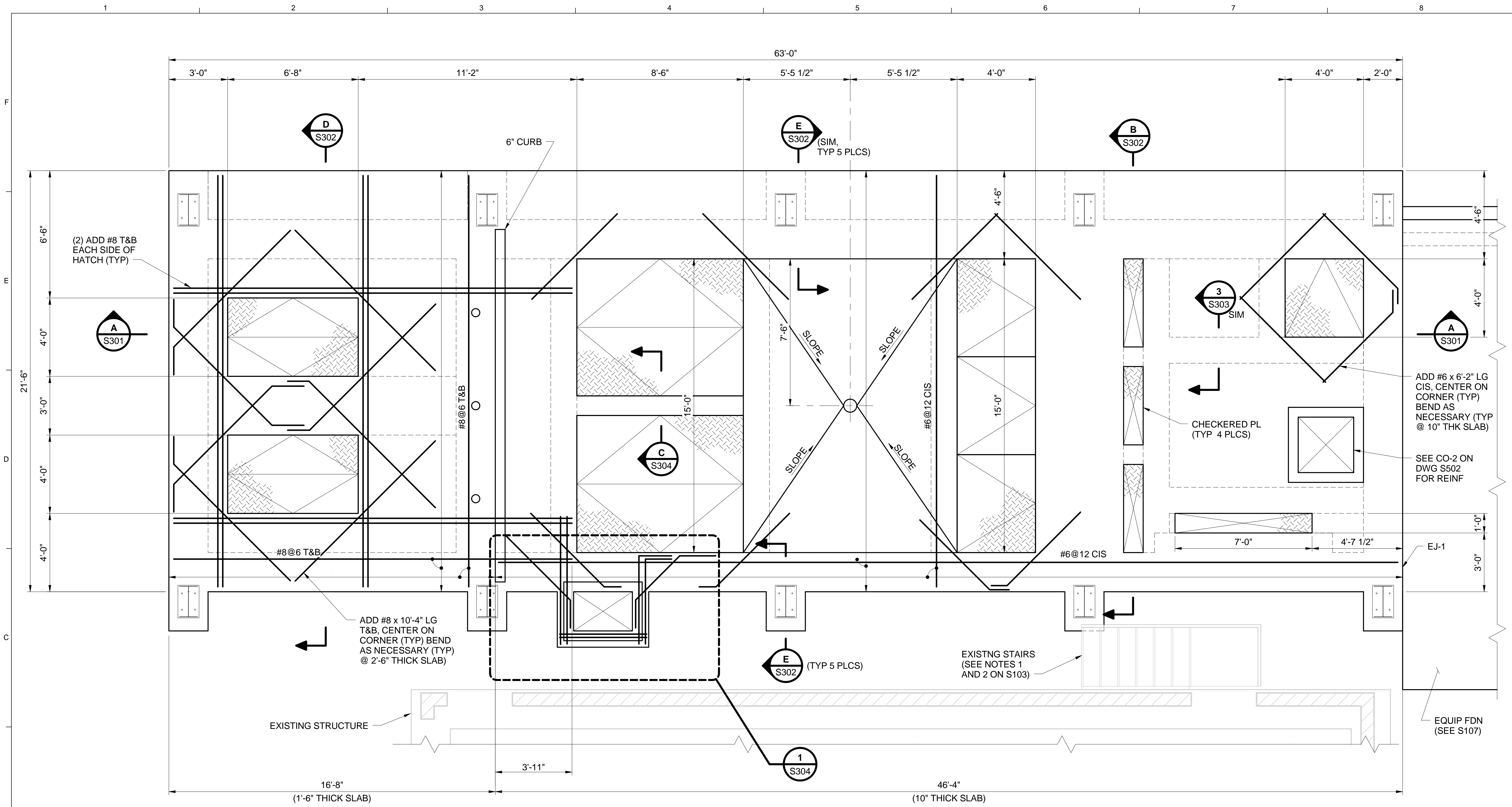
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 DISC. LEAD: P J G DESIGNER: A K F CHECKER: P J G

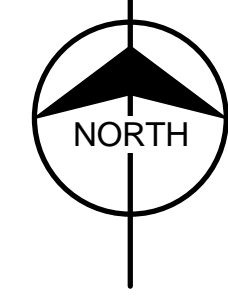
SHEET TITLE: STRUCTURAL
 TOP PLAN

SHEET **S103** REV **0**



NOTE:
 1. TOP SLAB REQUIRED TO REACH 28-DAY STRENGTH PRIOR TO BACKFILLING.

TOP SLAB REINFORCEMENT PLAN



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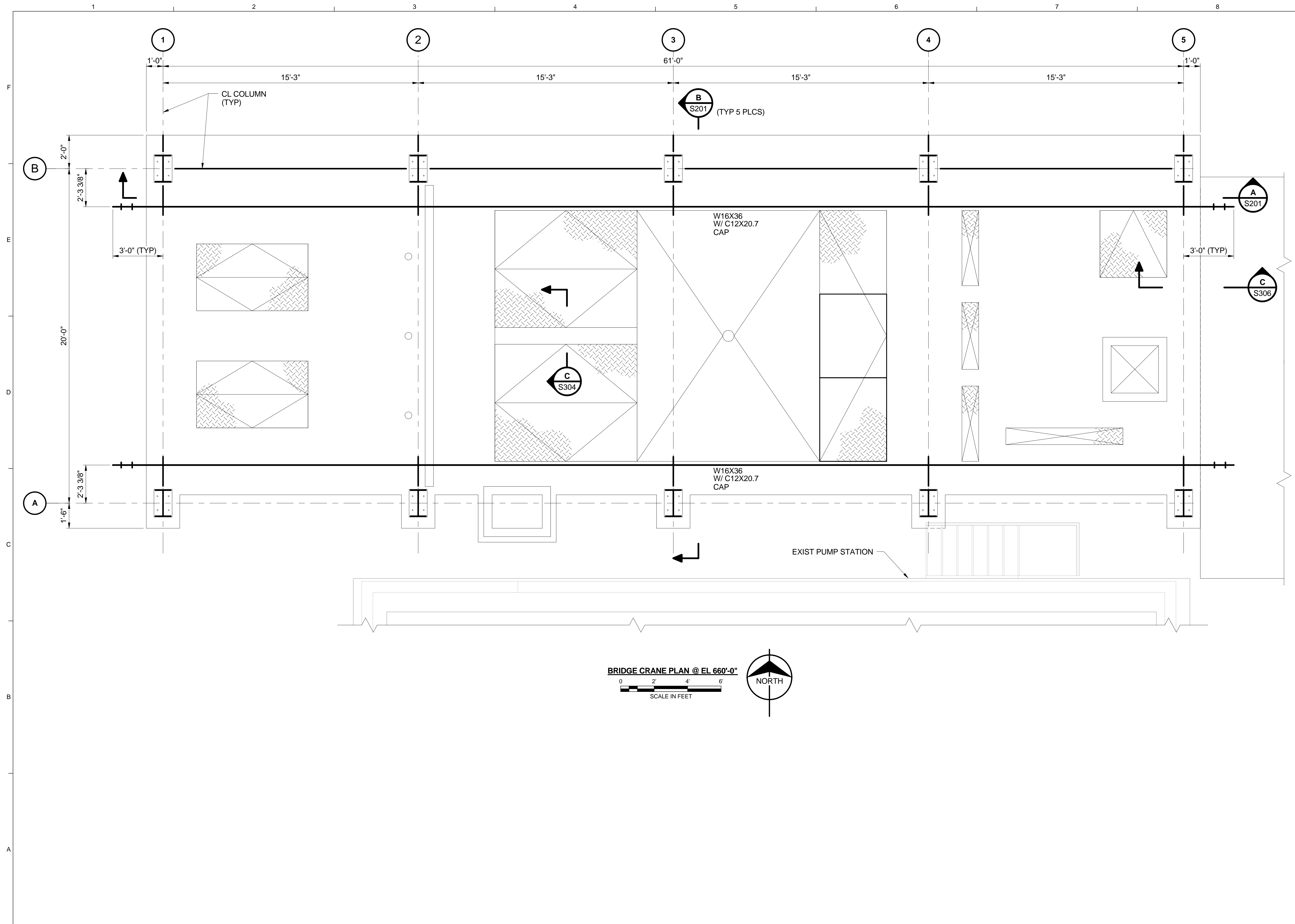
DATE: 4/14/17

DISC. LEAD:	DESIGNER:	CHECKER:
PJG	AKF	PJG

SHEET TITLE
 STRUCTURAL

TOP SLAB REINFORCEMENT PLAN

SHEET **S104** REV **0**



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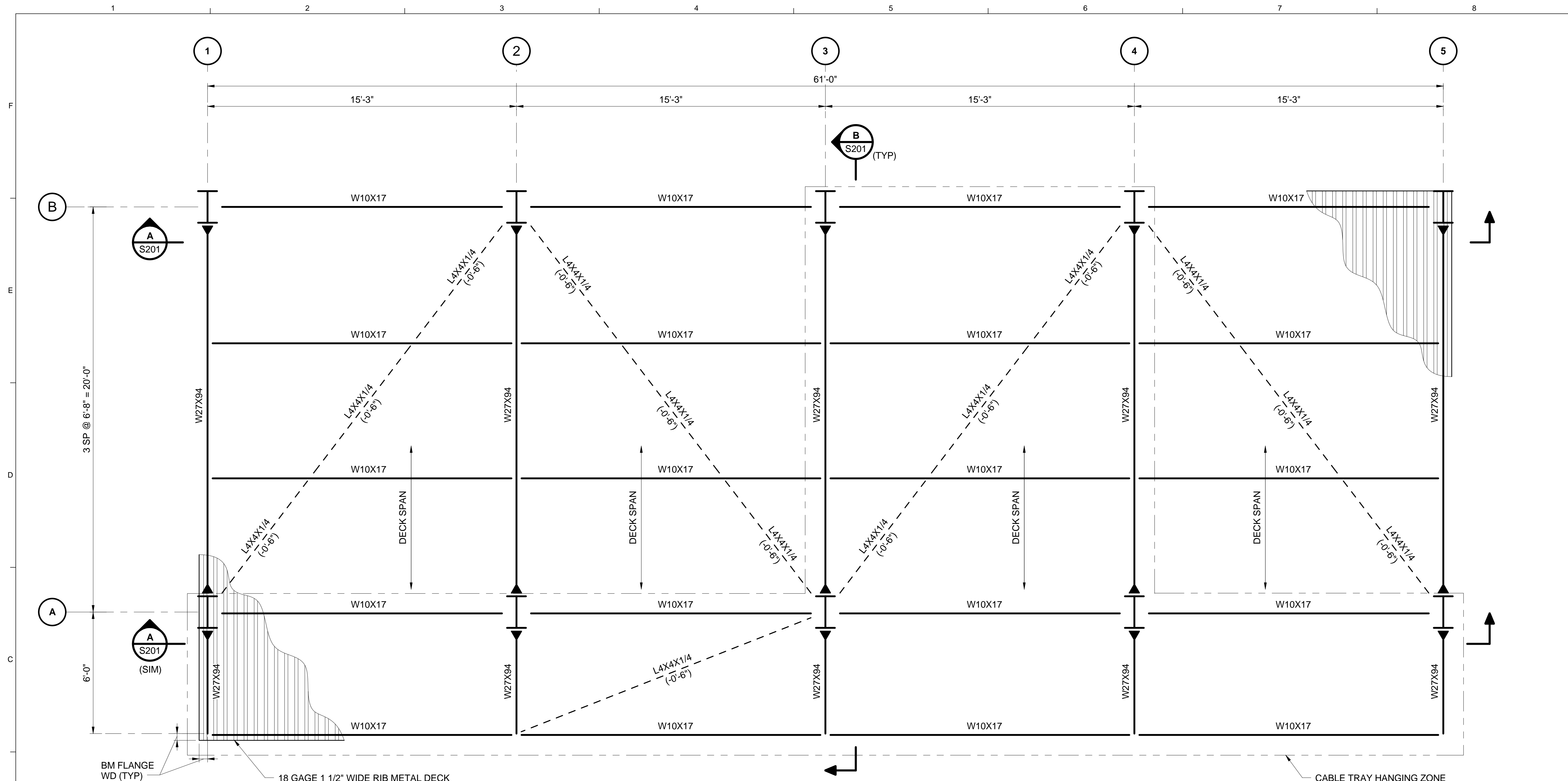


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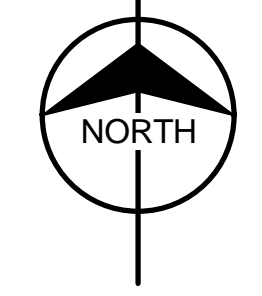
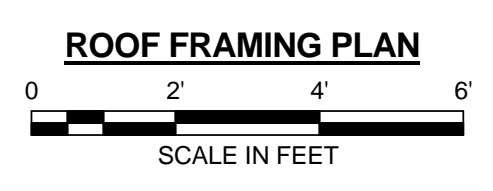
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 SHEET TITLE: STRUCTURAL
 BRIDGE CRANE PLAN @ EL 660'-0"
 SHEET **S105** REV **0**



BM FLANGE WD (TYP)

18 GAGE 1 1/2" WIDE RIB METAL DECK FASTEN TO STRUCTURE WITH #12 TEK SCREWS AT 36/4 PATTERN (TYP)

NOTE:
1. SEE BRACING DETAILS ON SHEET S503.



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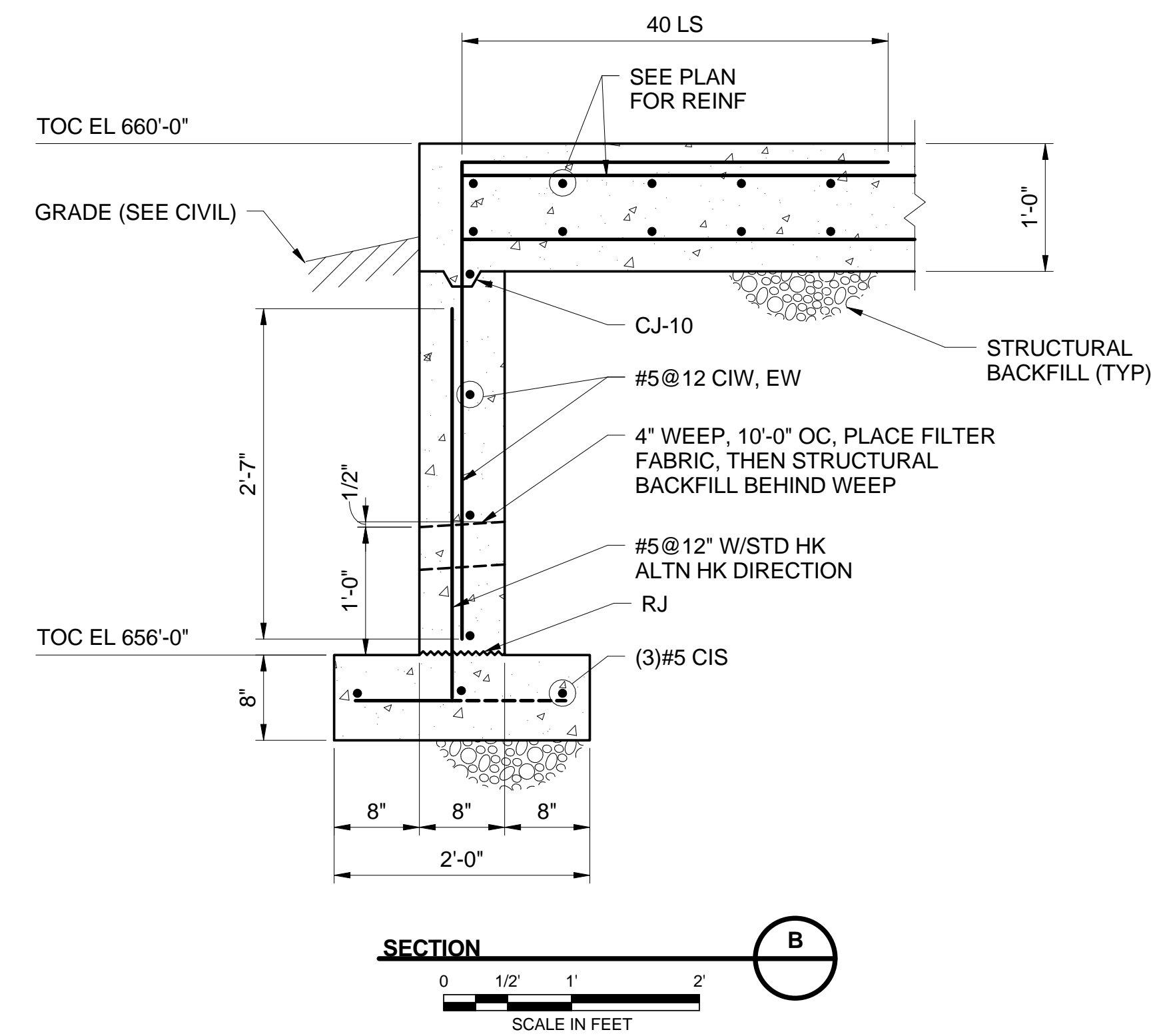
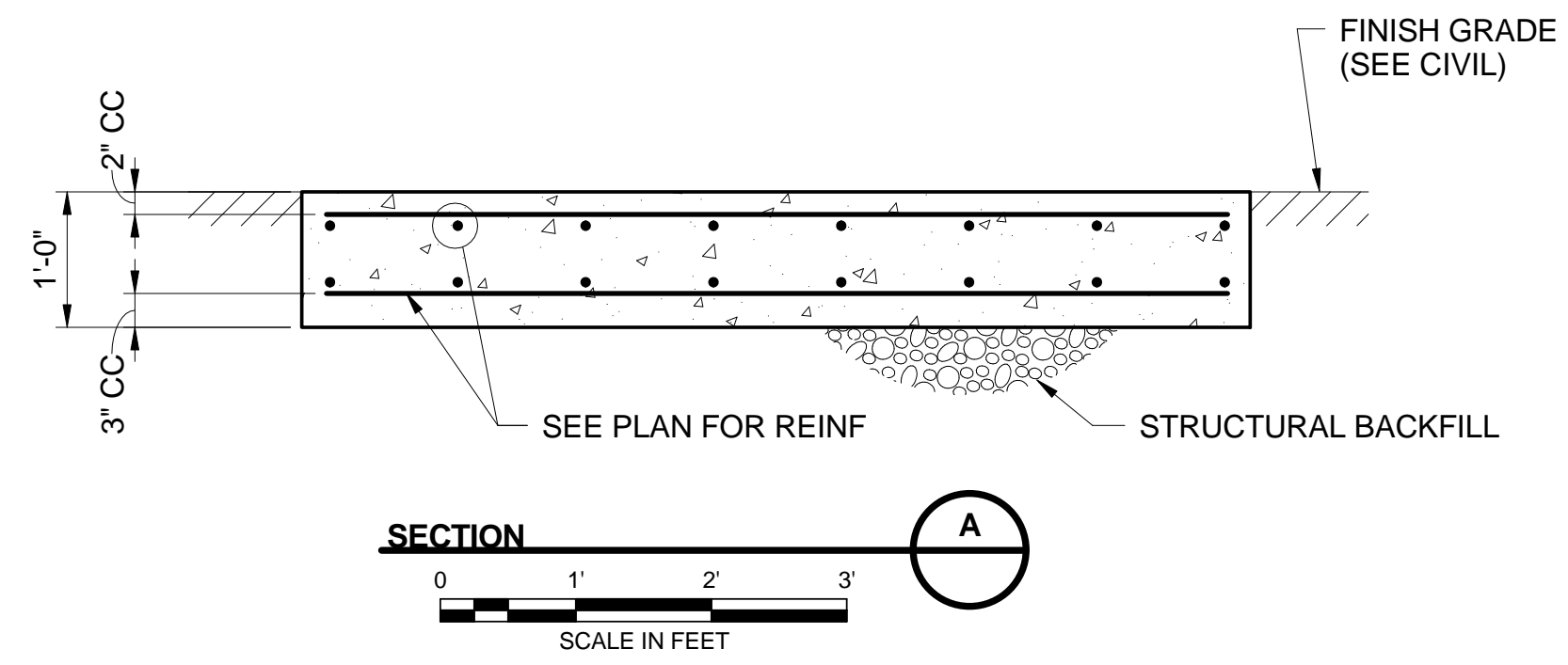
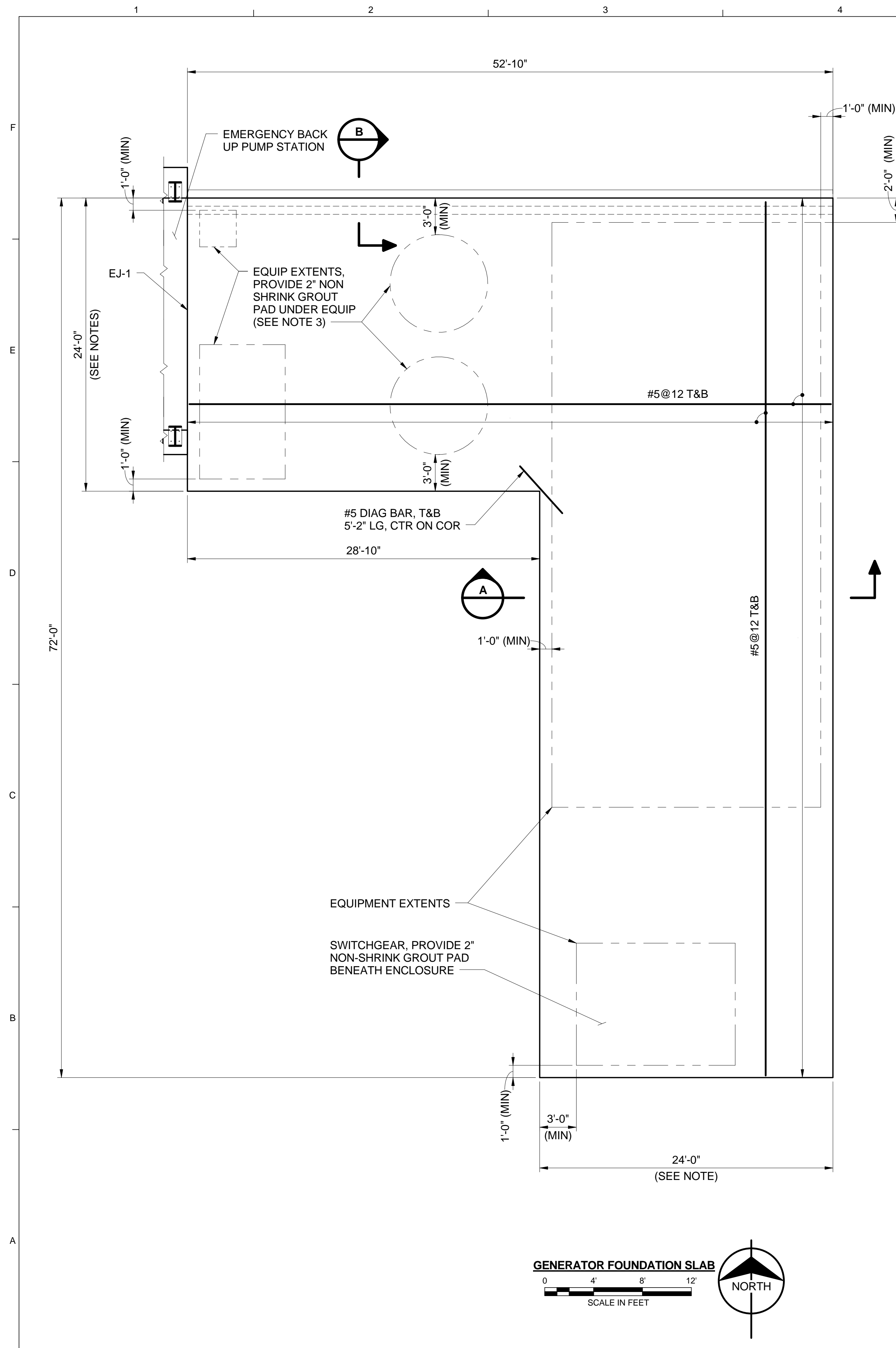
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SHEET TITLE
STRUCTURAL

ROOF FRAMING PLAN

SHEET **S106** REV **0**



NOTES:

1. COORDINATE EQUIPMENT LOCATIONS ON FOUNDATION WITH ELECTRICAL AND MECHANICAL DRAWINGS.
2. CONTRACTOR TO VERIFY DIMENSIONS WITH EQUIPMENT MANUFACTURER.
3. PLACE 2" GROUT PAD UNDER ALL MECHANICAL EQUIPMENT, INCLUDING ODOR CONTROL UNITS, ODOR CONTROL FAN, AND CONDENSING UNIT. (SEE MECHANICAL DRAWINGS)



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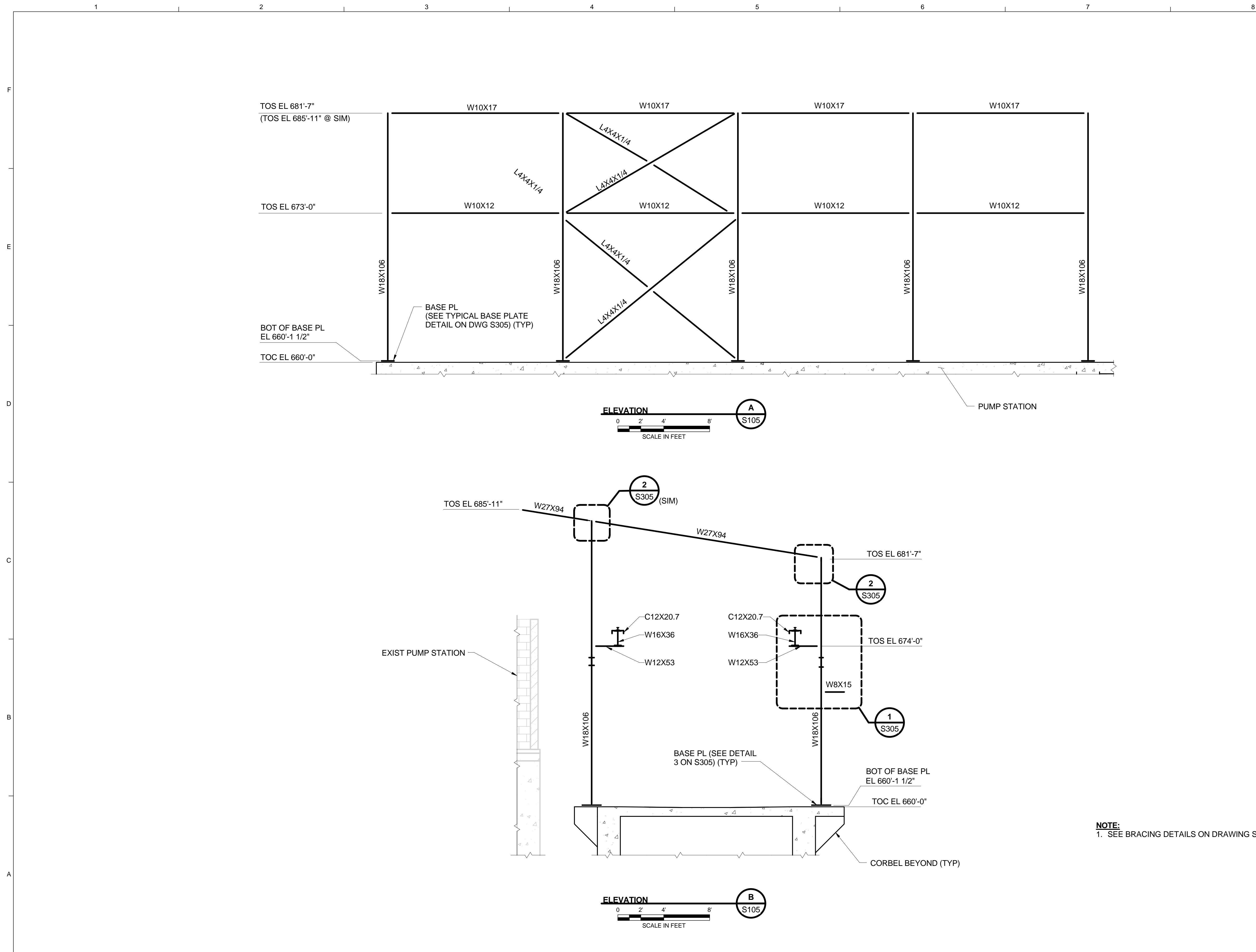
DATE: 4/14/17

DISC. LEAD:	DESIGNER:	CHECKER:
PJG	AKF	PJG

SHEET TITLE
STRUCTURAL

FOUNDATION PLAN AND SECTIONS

SHEET **S107** REV **0**



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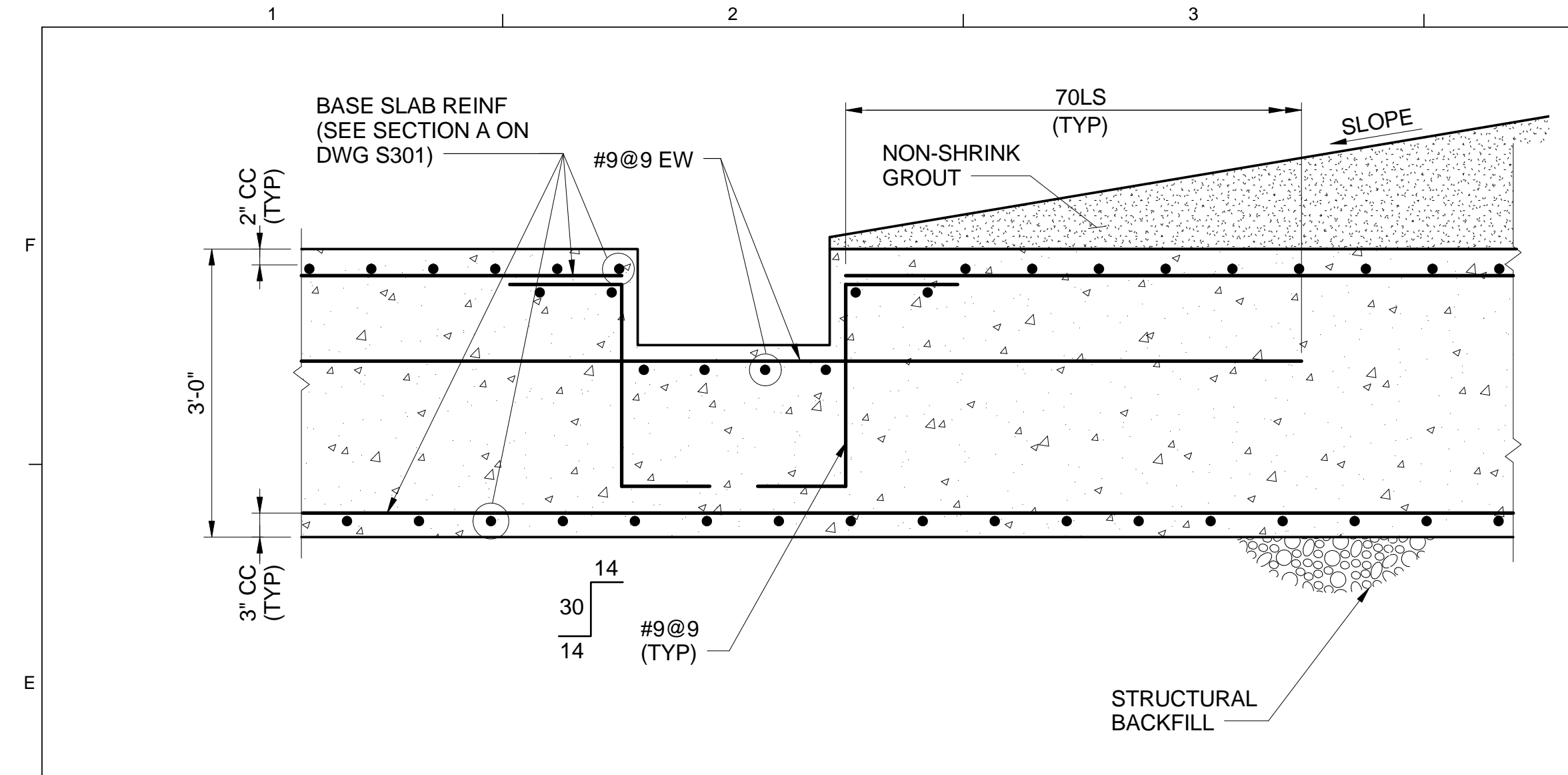
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PROJECT NO: 95307
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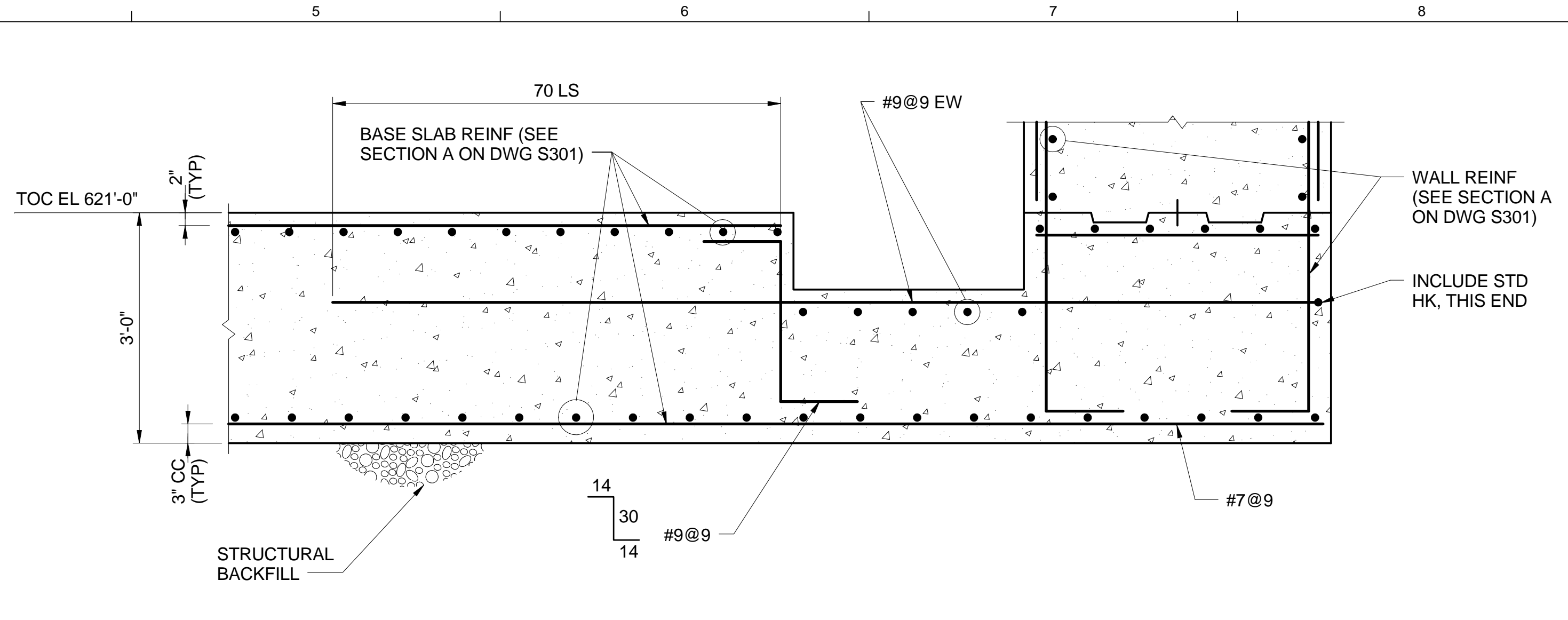
SHEET TITLE
 STRUCTURAL

FRAMING ELEVATIONS

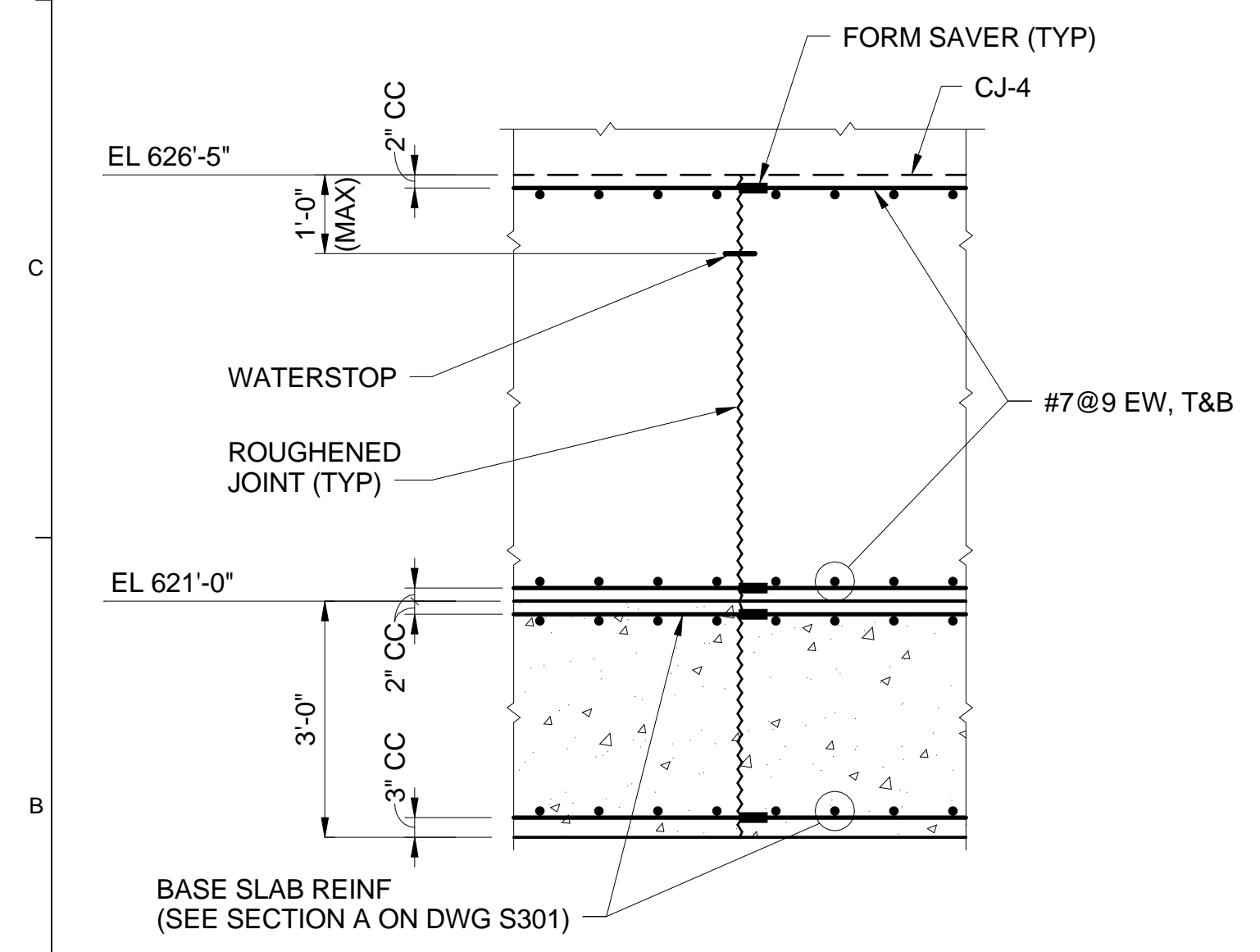
SHEET **S201** REV **0**



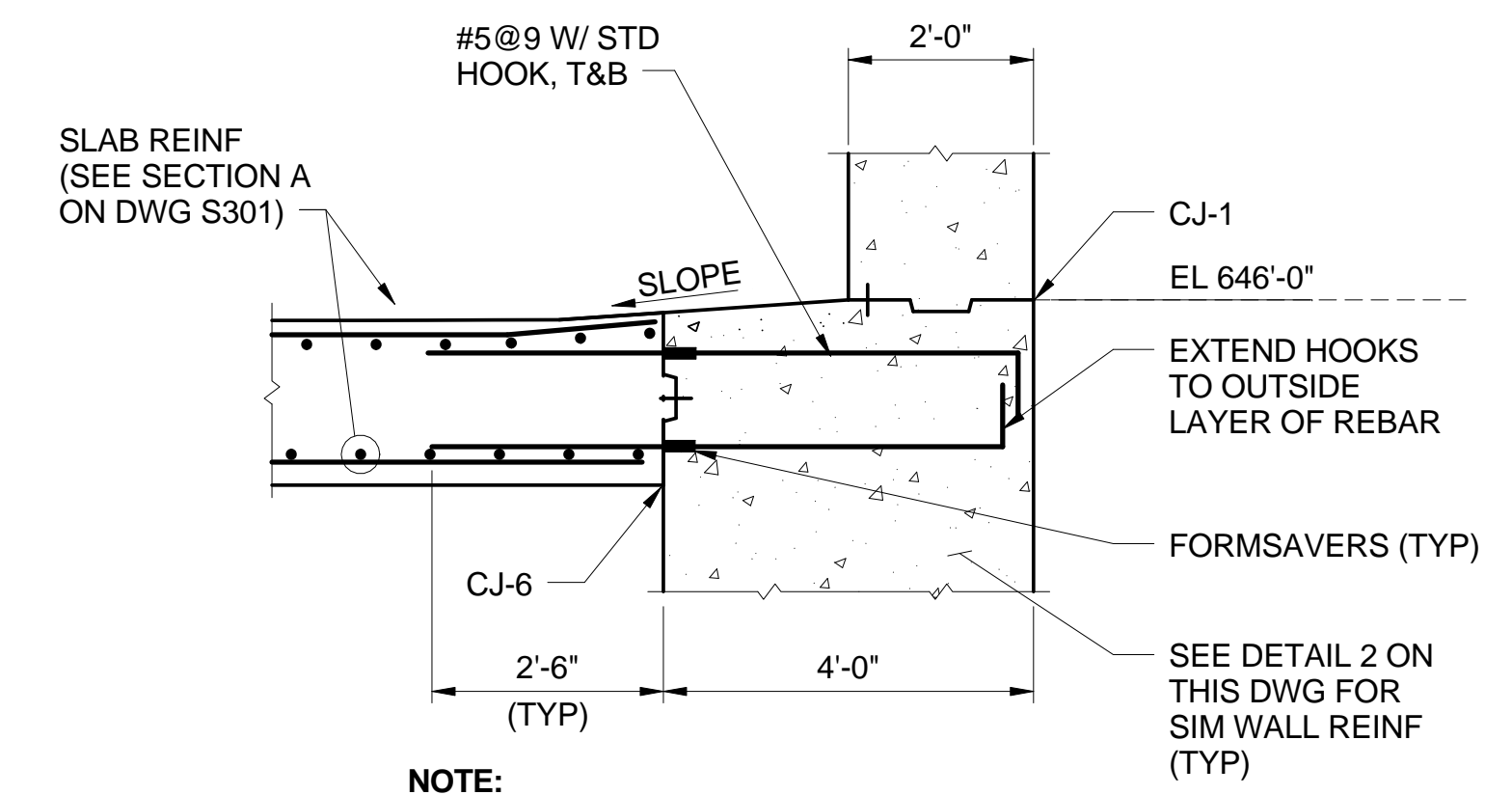
SECTION A
S101
SCALE IN FEET



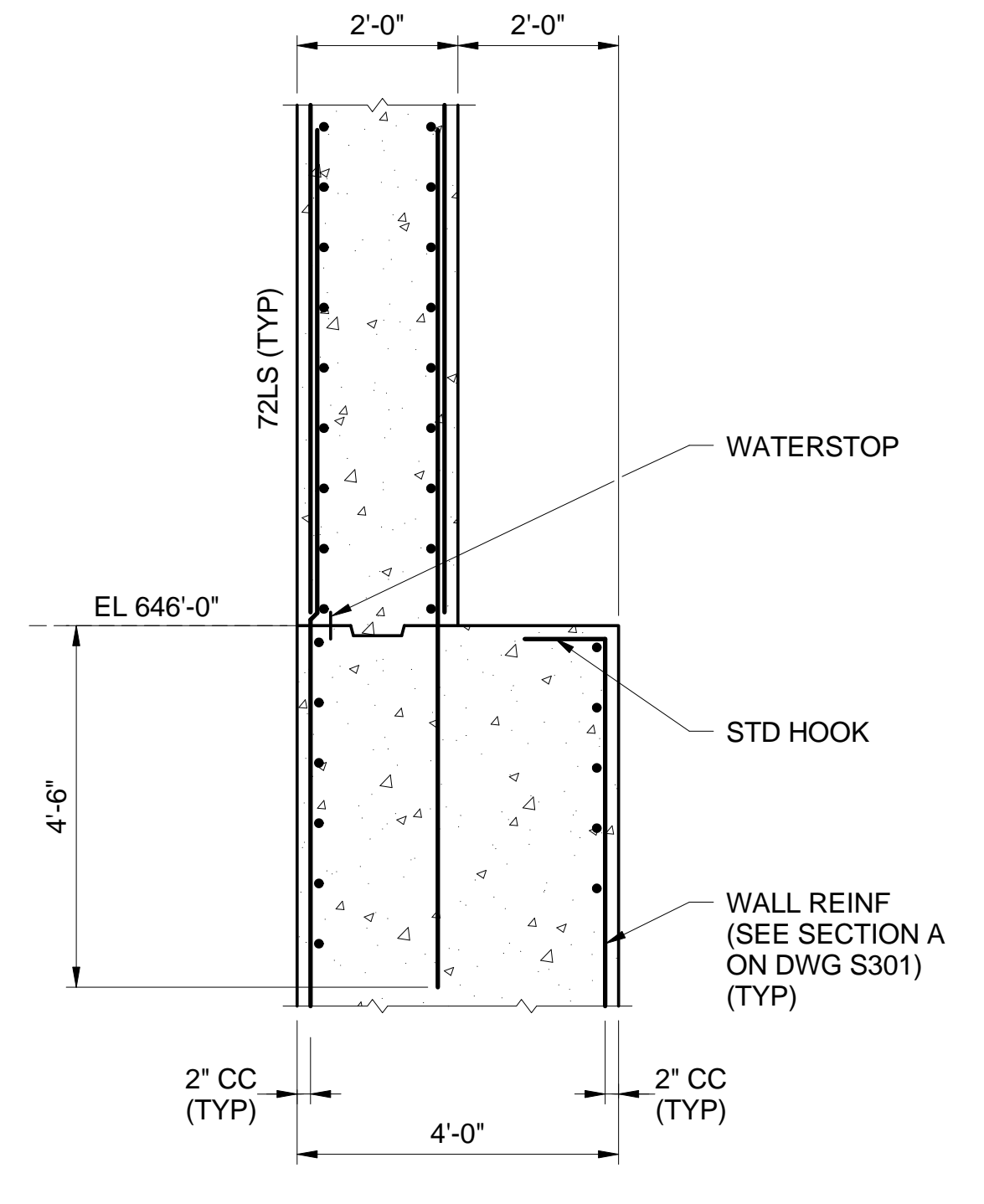
SECTION B
S101
SCALE IN FEET



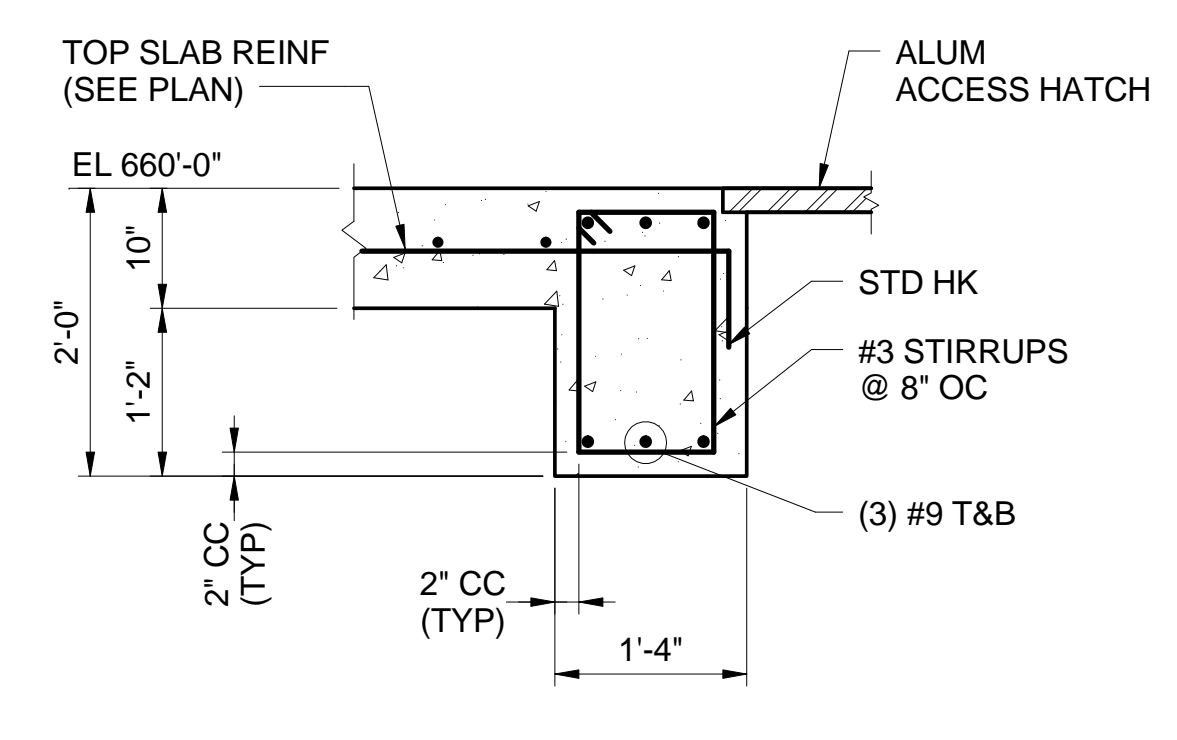
SECTION C
S101
SCALE IN FEET



NOTE:
1. SEE PROCESS DRAWINGS FOR DRAIN.
DETAIL 1
S301
SCALE IN FEET



DETAIL 2
S301
SCALE IN FEET



DETAIL 3
S103
S301
SCALE IN FEET

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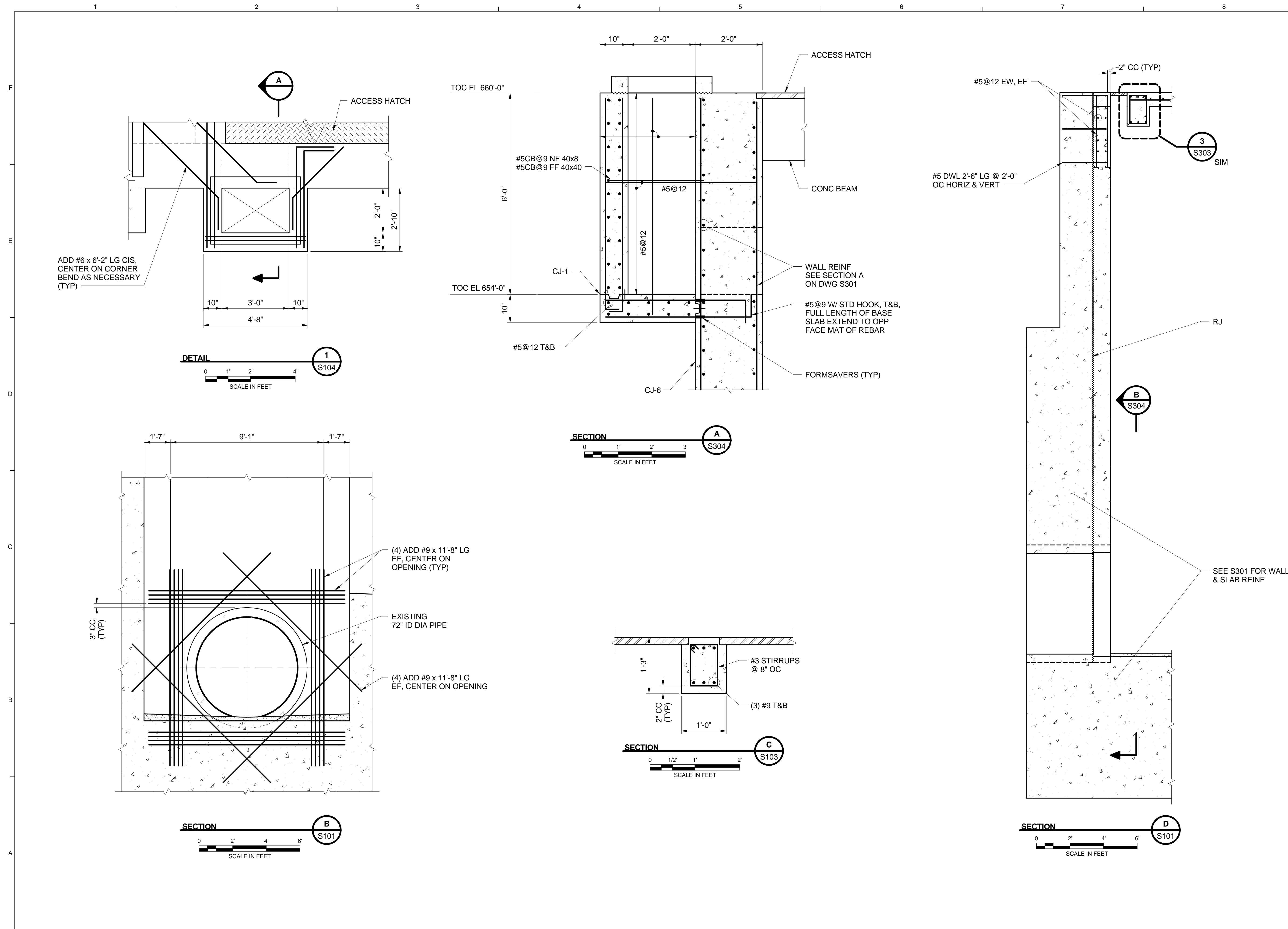


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SHEET TITLE
STRUCTURAL
STRUCTURAL SECTIONS AND DETAILS
1

SHEET **S303** REV **0**



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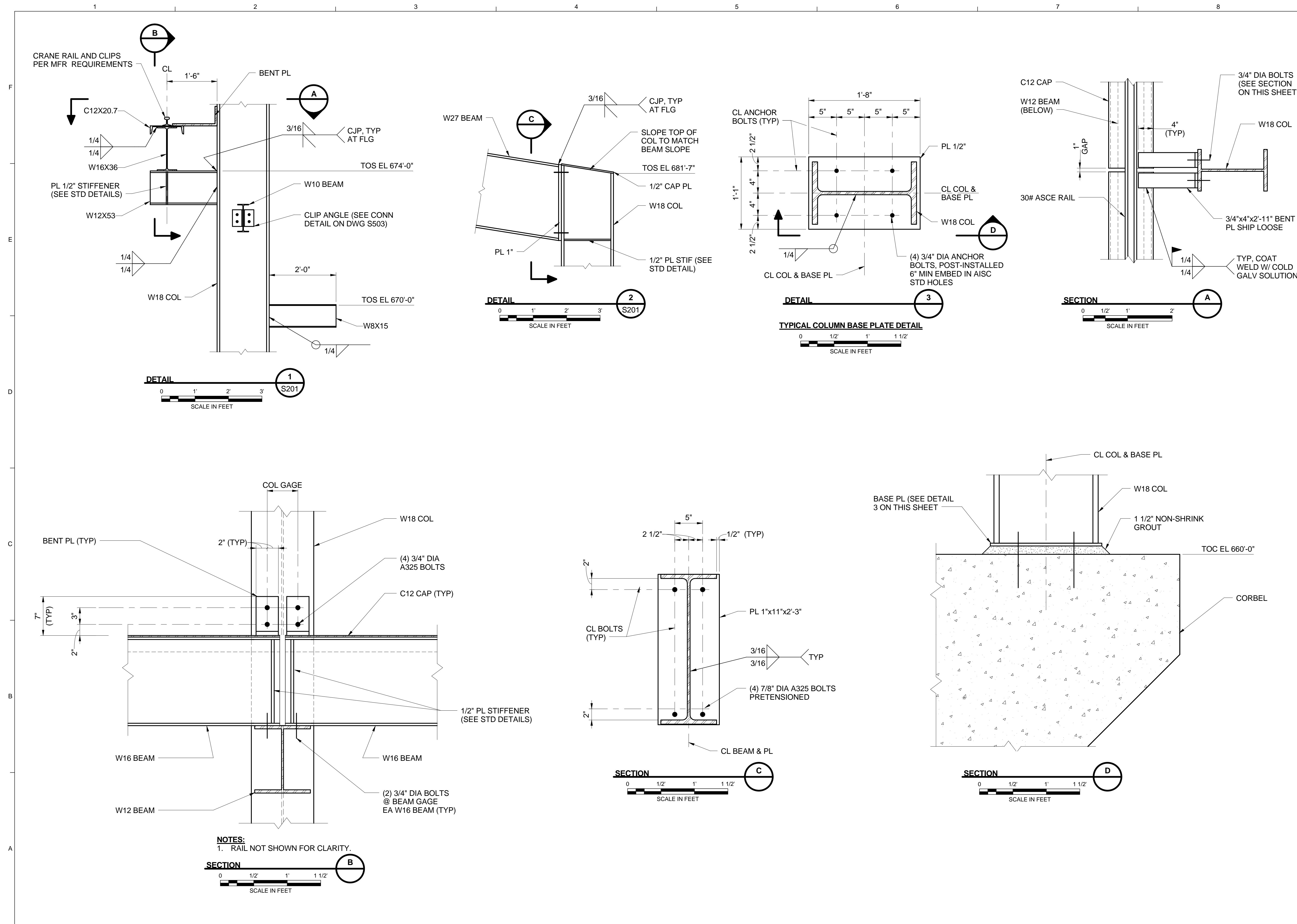
CITICO PUMP RELIABILITY IMPROVEMENTS
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 PROJECT NO: 95307
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SHEET TITLE
 STRUCTURAL
 STRUCTURAL SECTIONS AND DETAILS
 2



NOTES:
1. RAIL NOT SHOWN FOR CLARITY.

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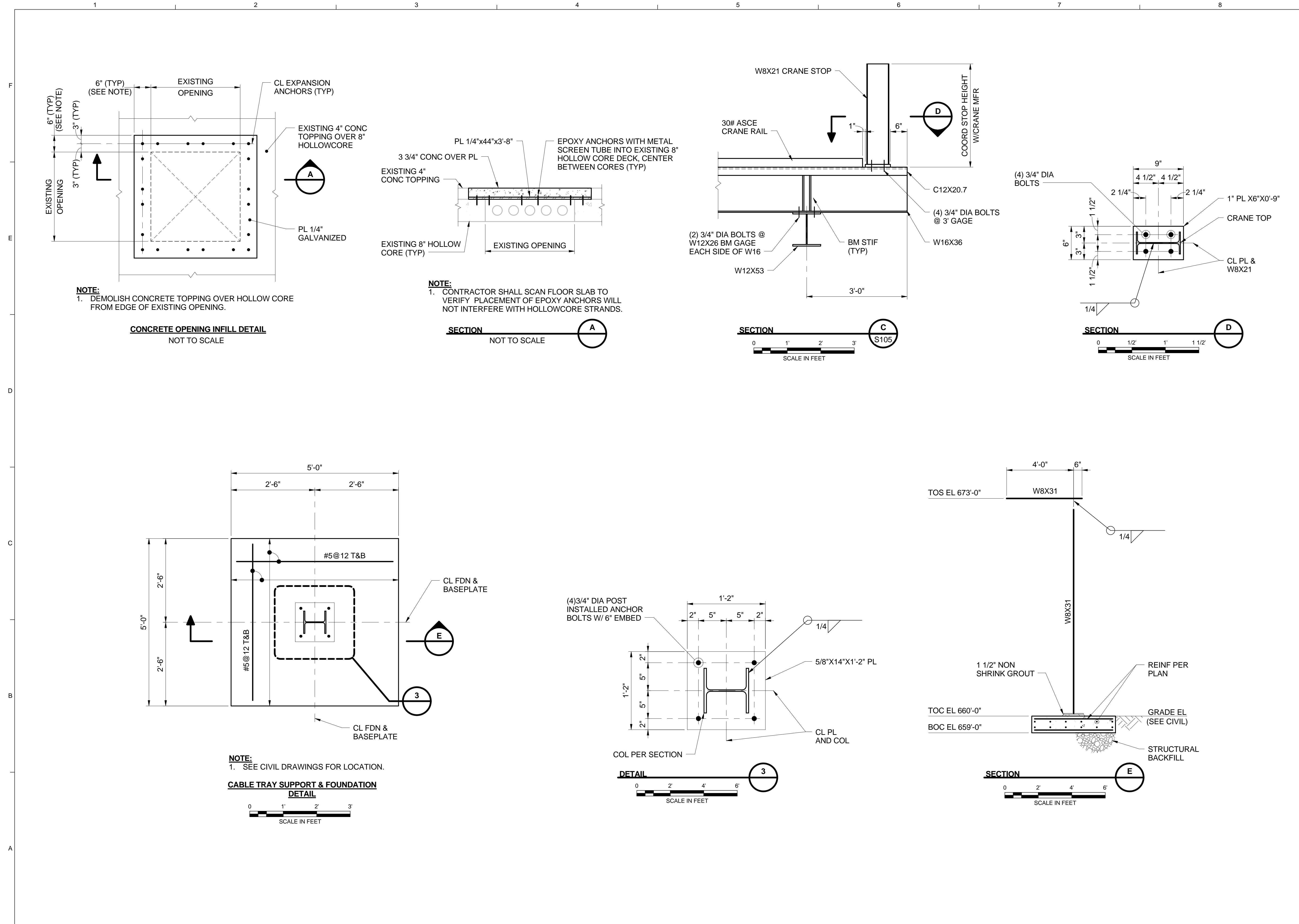


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SHEET TITLE
STRUCTURAL
STRUCTURAL SECTIONS AND DETAILS
3

SHEET **S305** REV **0**



NOTE:
1. DEMOLISH CONCRETE TOPPING OVER HOLLOW CORE FROM EDGE OF EXISTING OPENING.

NOTE:
1. CONTRACTOR SHALL SCAN FLOOR SLAB TO VERIFY PLACEMENT OF EPOXY ANCHORS WILL NOT INTERFERE WITH HOLLOWCORE STRANDS.

NOTE:
1. SEE CIVIL DRAWINGS FOR LOCATION.

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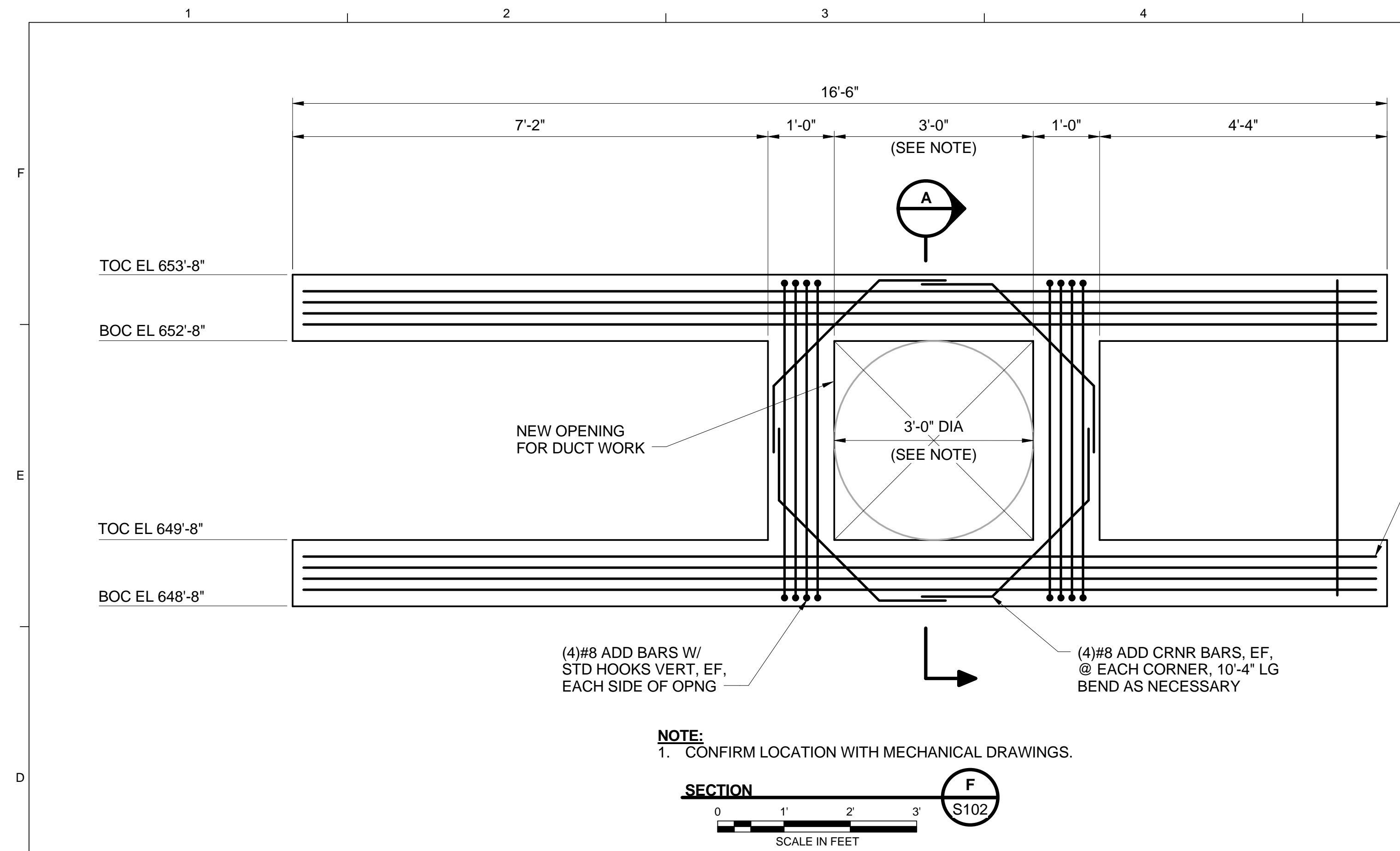


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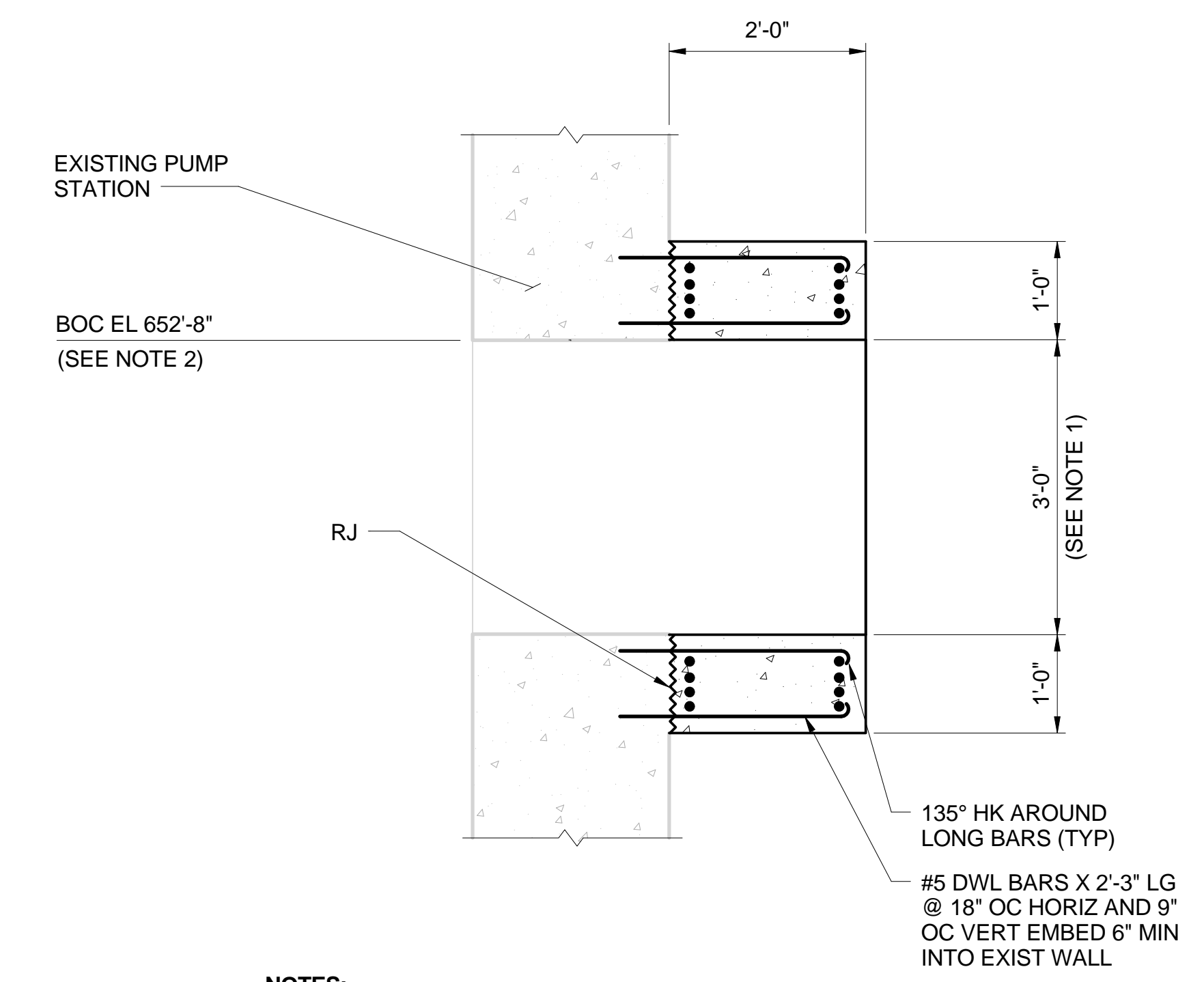
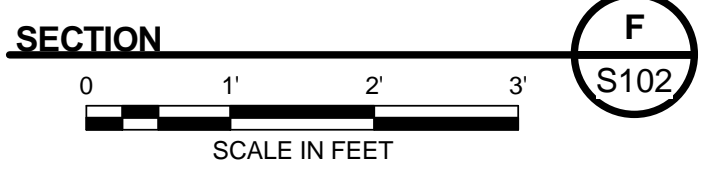
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SHEET TITLE
STRUCTURAL
STRUCTURAL SECTIONS AND DETAILS
4

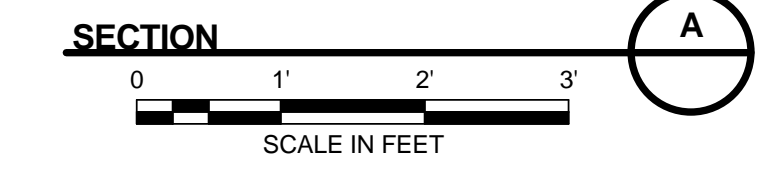
SHEET **S306** REV **0**



NOTE:
1. CONFIRM LOCATION WITH MECHANICAL DRAWINGS.



NOTES:
1. CONFIRM DIMENSION REQUIREMENTS WITH MECHANICAL DRAWINGS.
2. CONFIRM TOP OF OPENING ELEVATION WITH MECHANICAL DRAWINGS.



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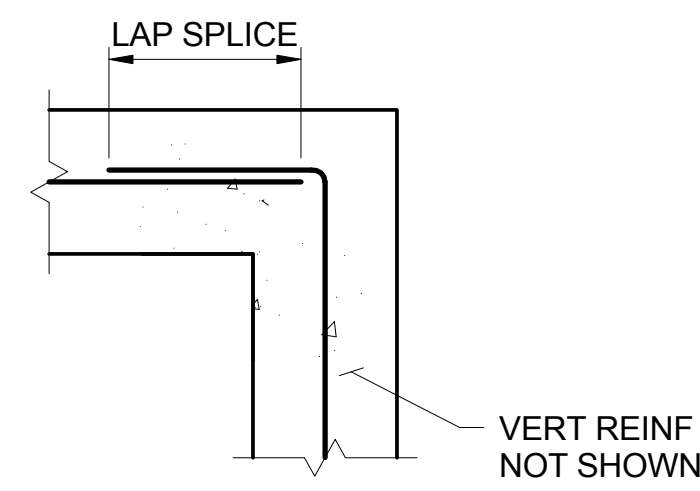


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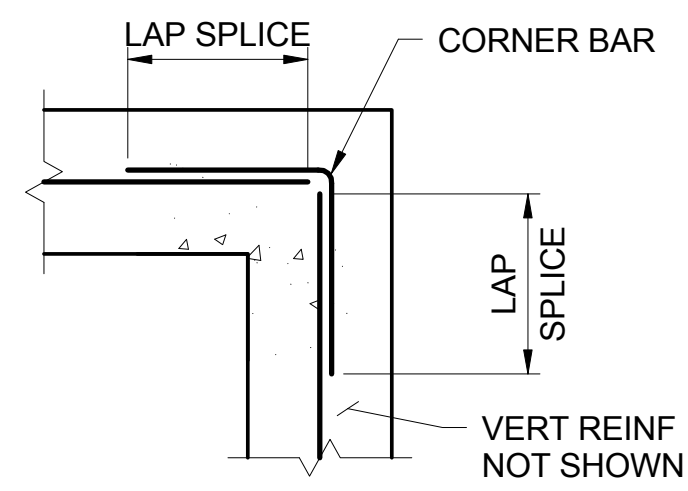
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SHEET TITLE
STRUCTURAL
STRUCTURAL SECTIONS AND DETAILS
5

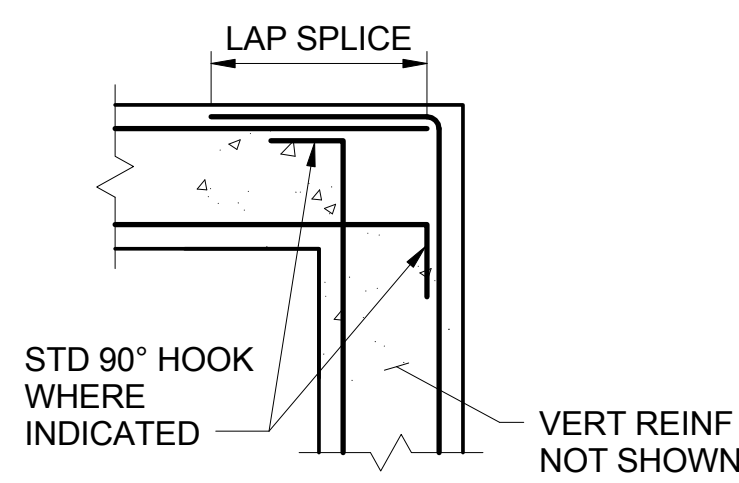
SHEET **S307** REV **0**



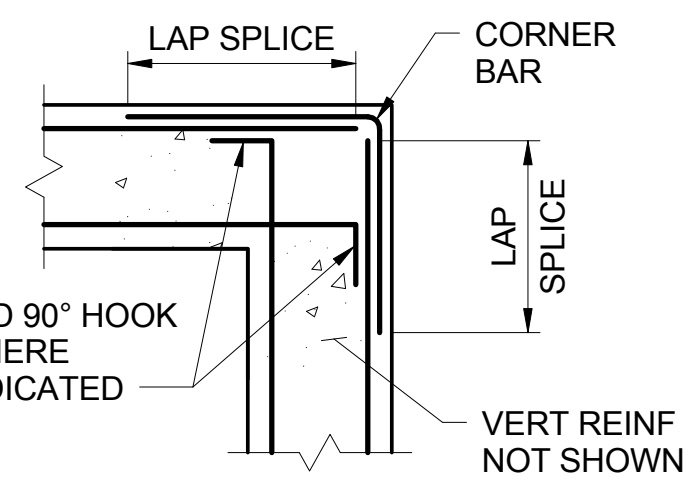
PLAN OPTION #1



PLAN OPTION #2

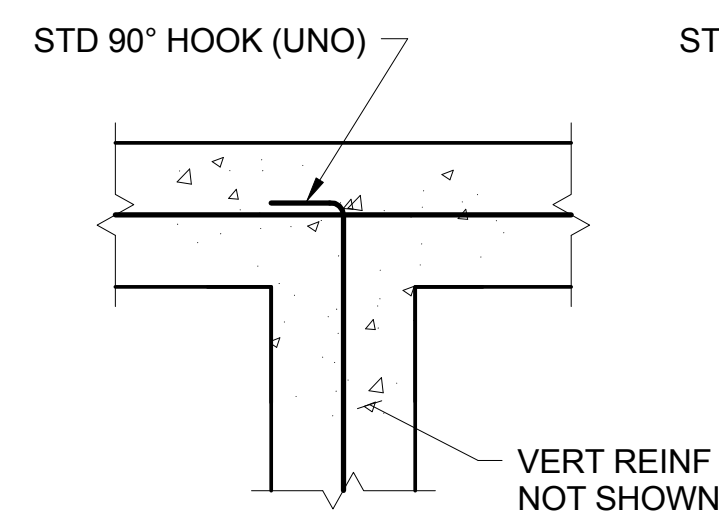


PLAN OPTION #1

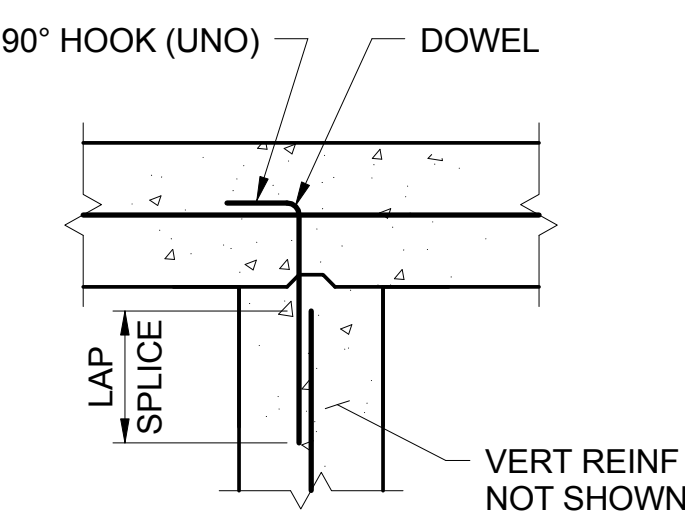


PLAN OPTION #2

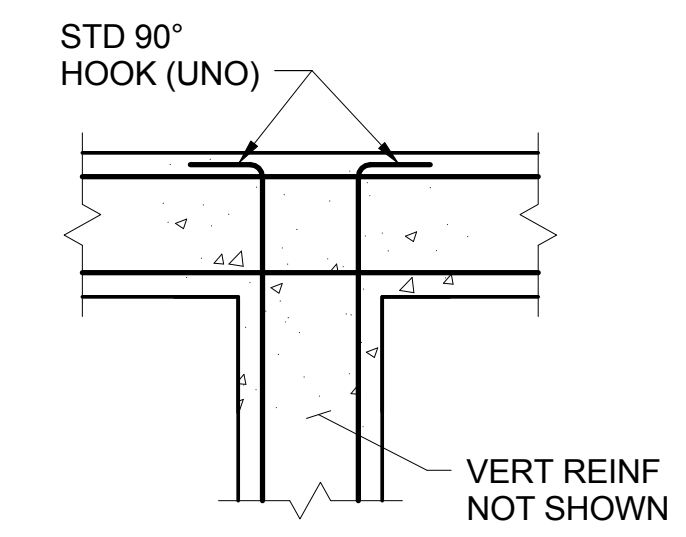
HORIZONTAL WALL REINFORCEMENT DETAILS CORNERS
SEE CORNER REINFORCEMENT NOTE 1



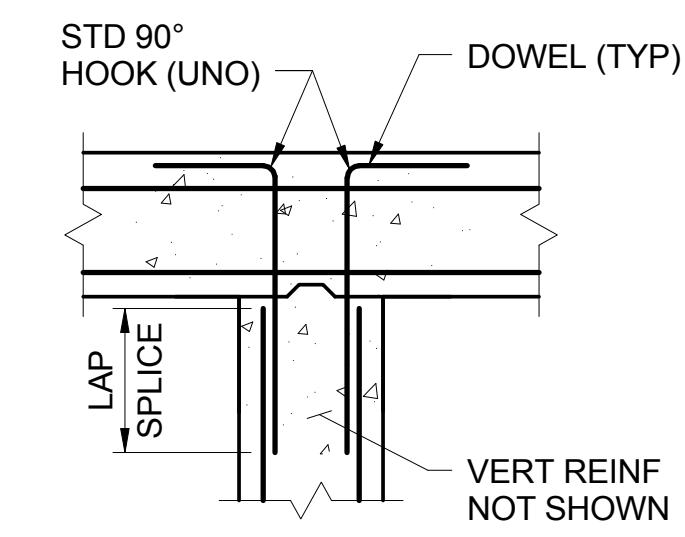
PLAN WITHOUT CJ



PLAN WITH CJ

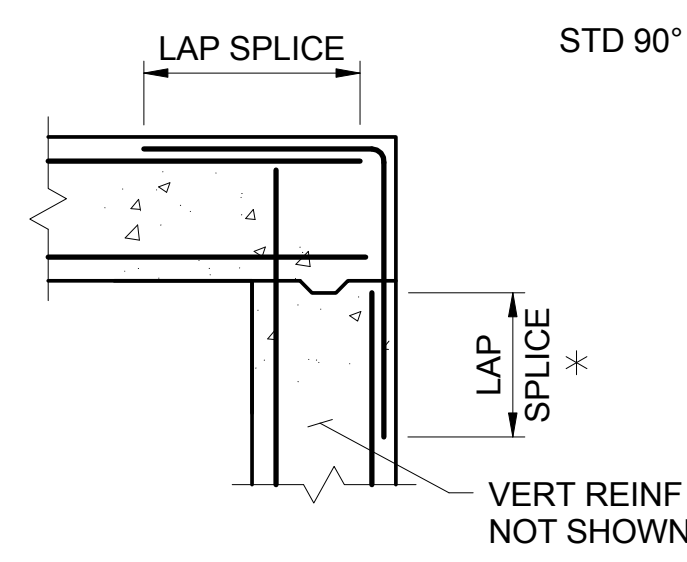


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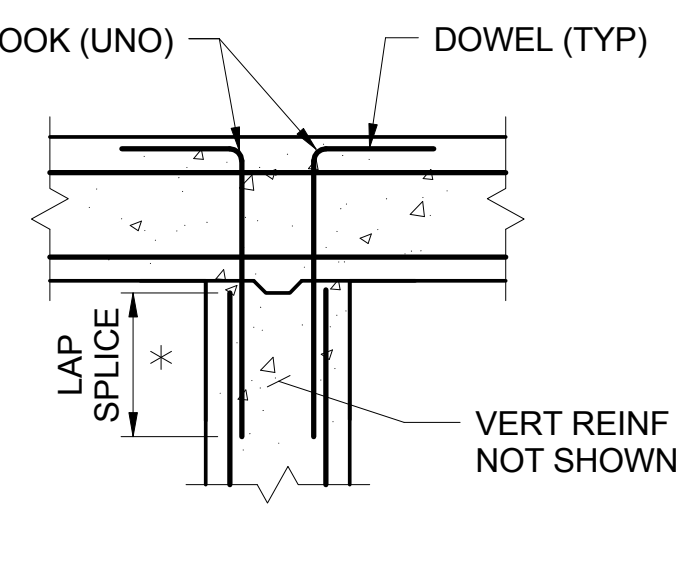


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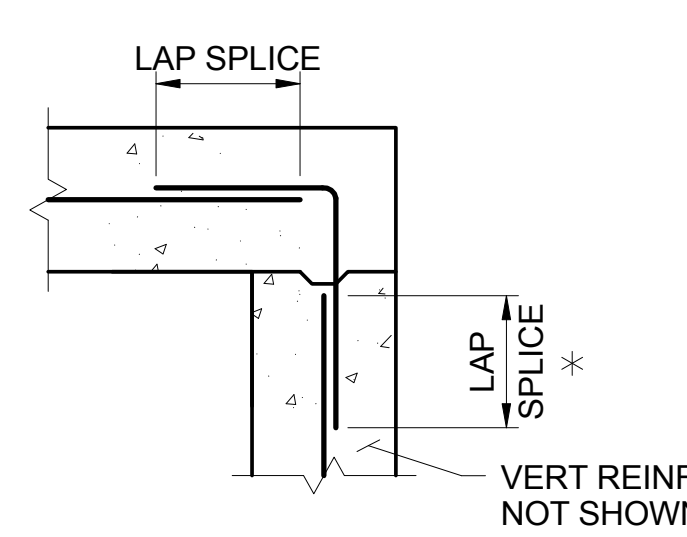
HORIZONTAL WALL REINFORCEMENT DETAILS INTERSECTIONS
SEE CORNER REINFORCEMENT NOTE 2



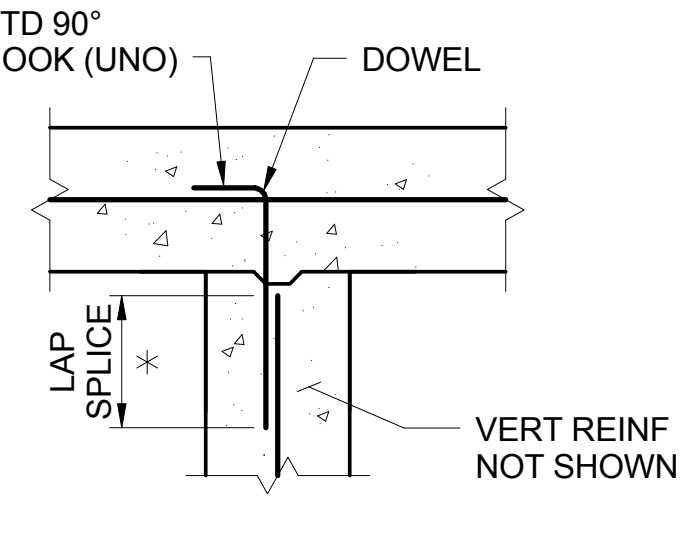
ELEVATION



ELEVATION



ELEVATION



ELEVATION

VERTICAL WALL TO SLAB CORNER AND INTERSECTION REINFORCEMENT DETAILS
SEE CORNER REINFORCEMENT NOTE 3

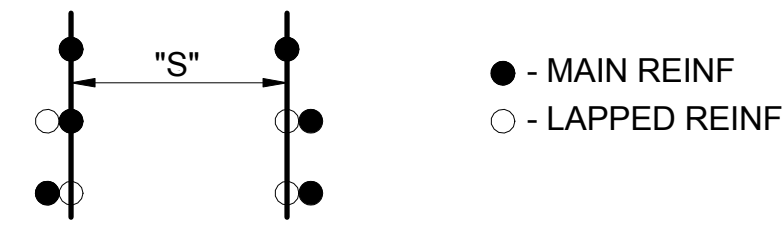
CORNER REINFORCEMENT NOTES:

- UNLESS OTHERWISE INDICATED, THE CONTRACTOR HAS THE OPTION OF REINFORCING CORNERS IN ACCORDANCE WITH OPTION #1 OR OPTION #2.
- UNLESS OTHERWISE INDICATED, THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING INTERSECTIONS WITH OR WITHOUT CONSTRUCTION JOINTS. REINFORCE PER APPLICABLE DETAIL.
- * INDICATES CONTRACTOR OPTION: WITH OR WITHOUT LAP SPLICE AT THESE LOCATIONS.

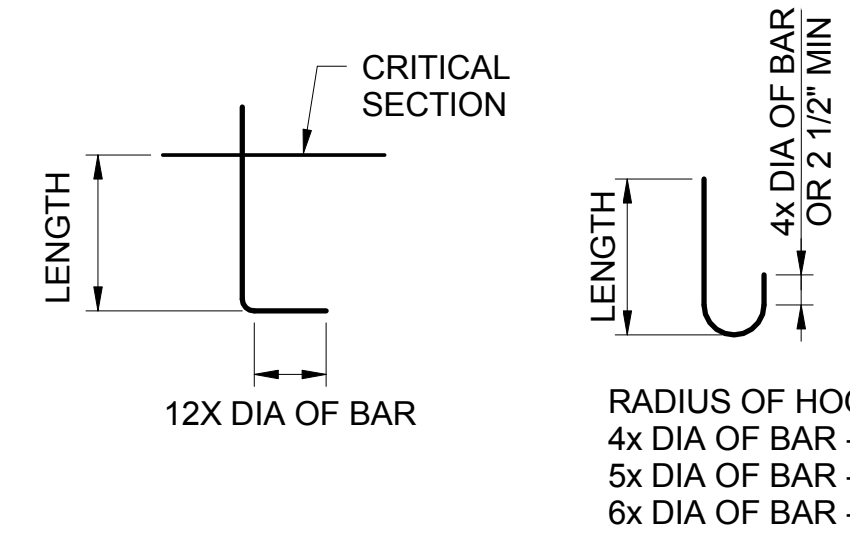
STANDARD REINFORCEMENT DETAILS

TYPICAL REINFORCING NOTES:

- REINFORCING BAR DEVELOPMENT AND LAP SPLICE LENGTHS SHALL BE AS SHOWN IN THESE TABLES UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- THE LENGTHS SHOWN IN THE TABLES ARE BASED ON THE FOLLOWING CONCRETE COVER AND REINFORCING C-C SPACING:
BEAMS OR COLUMNS: COVER $\geq 1.0bd$ (BAR DIAMETER)
CENTER TO CENTER (C-C) SPACING $\geq 2.0bd$
ALL OTHERS: COVER $\geq 1.0bd$
CENTER TO CENTER SPACING $\geq 3.0bd$
- TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.
- THE DEVELOPMENT AND SPLICE LENGTHS SHOWN SHALL NOT APPLY IF ANY OF THE FOLLOWING CONDITIONS OCCUR:
A) $f_c < 4000$ psi
B) $f_y > 60,000$ psi
C) THE COVER OR C-C BAR SPACING IS NOT AS LISTED ABOVE.
D) THE REINFORCING STEEL IS EPOXY COATED.
E) LIGHT WEIGHT CONCRETE IS USED.
- WHERE BAR SPLICES ARE STAGGERED SUCH THAT ONE-HALF OR LESS OF TOTAL REINFORCEMENT IS SPLICED WITHIN REQUIRED LAP LENGTH. SPLICE LENGTH MAY EQUAL DEVELOPMENT LENGTH.
- CENTER TO CENTER SPACING(S) IS DEFINED AS BELOW:



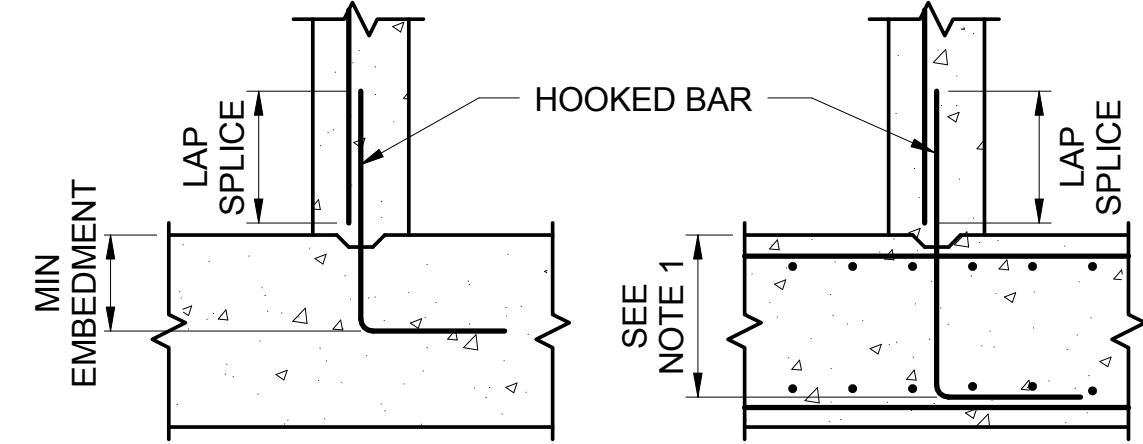
DEVELOPMENT LENGTHS HOOKED BARS ($f_c = 4500$ psi)	
BAR SIZE	LENGTH OR MIN EMBEDMENT
#3	7"
#4	10"
#5	1'-0"
#6	1'-3"
#7	1'-5"
#8	1'-7"
#9	1'-10"
#10	2'-0"
#11	2'-3"



RADIUS OF HOOK:
4x DIA OF BAR - #3 TO #8 BARS
5x DIA OF BAR - #9 TO #11 BARS
6x DIA OF BAR - #14 & #18 BARS

BAR SIZE	DEVELOPMENT LENGTH		SPLICE LENGTH	
	OTHER	TOP	OTHER	TOP
#3	1'-3"	1'-7"	1'-7"	2'-0"
#4	1'-7"	2'-1"	2'-1"	2'-8"
#5	2'-0"	2'-7"	2'-7"	3'-4"
#6	2'-5"	3'-1"	3'-1"	4'-0"
#7	3'-6"	4'-6"	4'-6"	5'-10"
#8	4'-0"	5'-2"	5'-2"	6'-8"
#9	4'-6"	5'-10"	5'-10"	7'-7"
#10	5'-1"	6'-7"	6'-7"	8'-6"
#11	5'-7"	7'-3"	7'-3"	9'-5"

TYPICAL REINFORCING DEVELOPMENT AND SPLICES



DETAIL 1

DETAIL 2

DEVELOPMENT LENGTH NOTES:

- WHERE DWGS ARE DETAILED SIMILAR TO DETAIL 2, EXTEND THE EMBEDMENT LENGTH SUCH THAT THE HOOKED BAR CONTACTS THE LAYER OF MAIN REINFORCING SHOWN.
- EMBEDMENT LENGTHS IN CHART ARE TYPICAL EXCEPT AS NOTED IN DETAIL 2, OR AS INDICATED ON DRAWINGS.

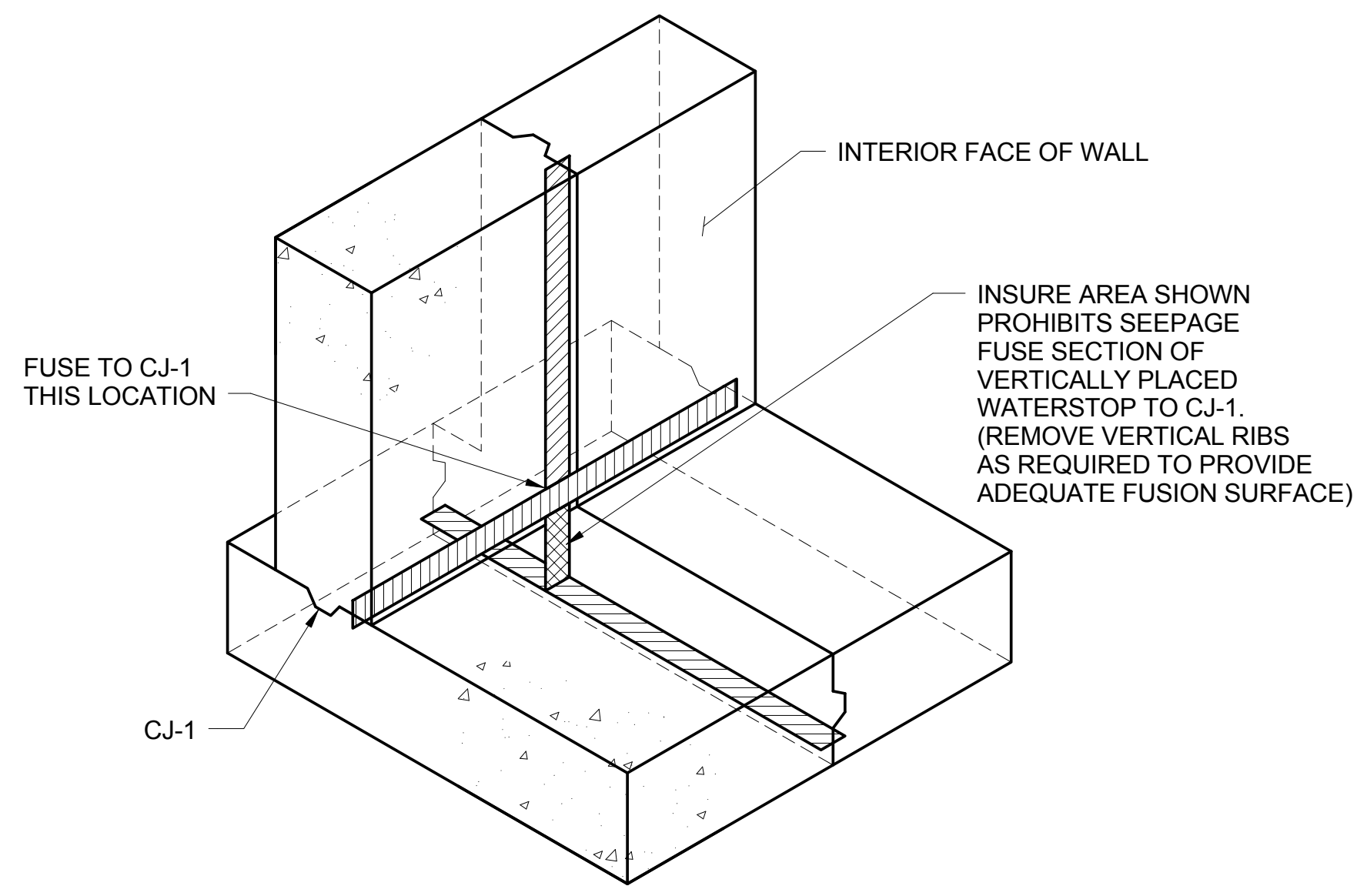
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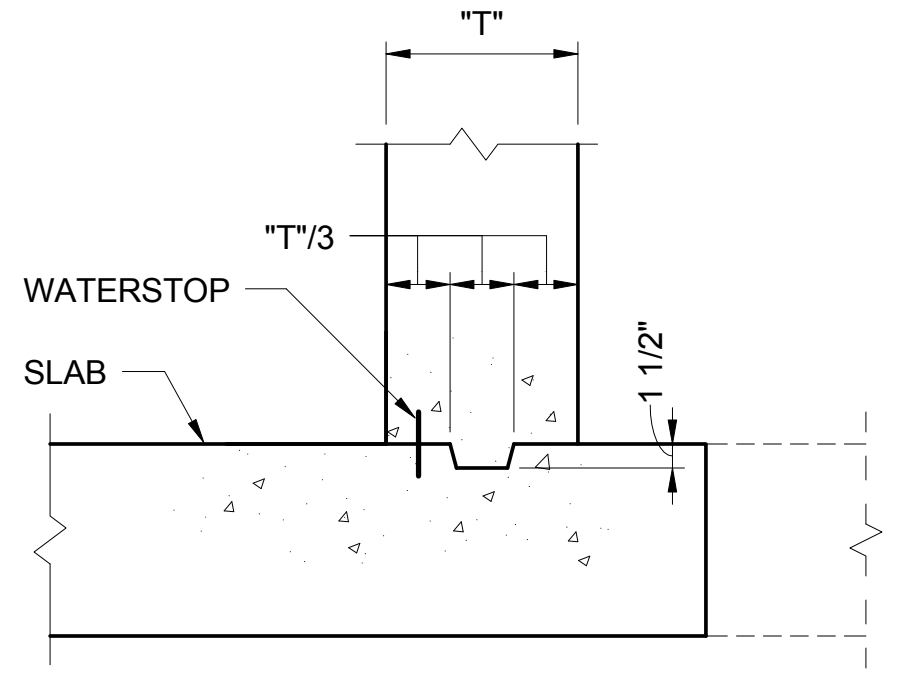


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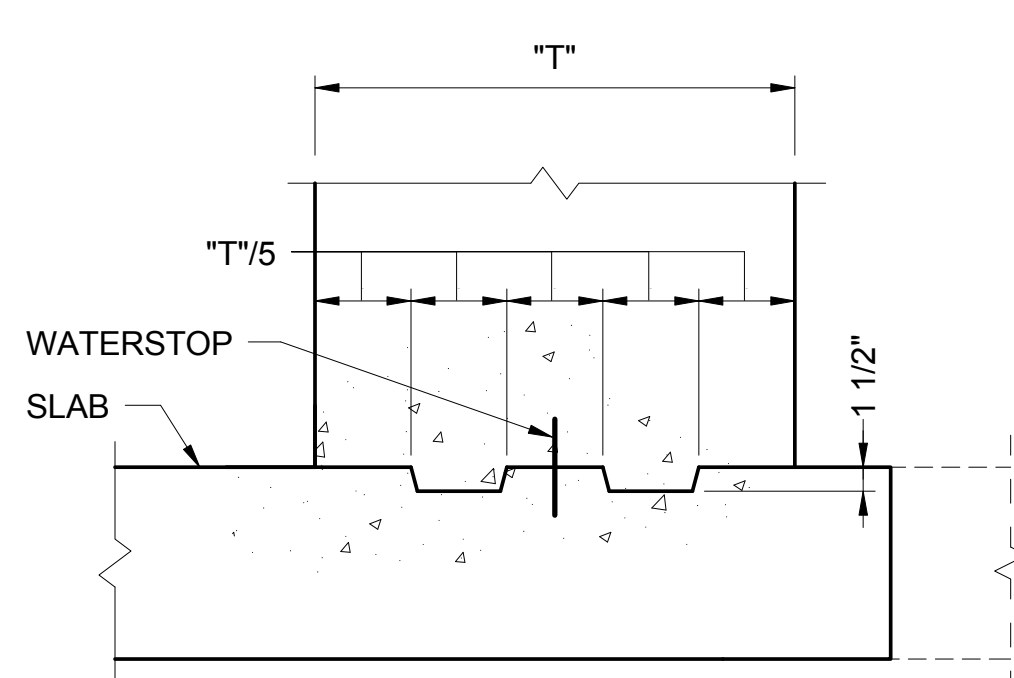
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SHEET TITLE: STRUCTURAL
STRUCTURAL STANDARD DETAILS 1
SHEET S501 REV 0



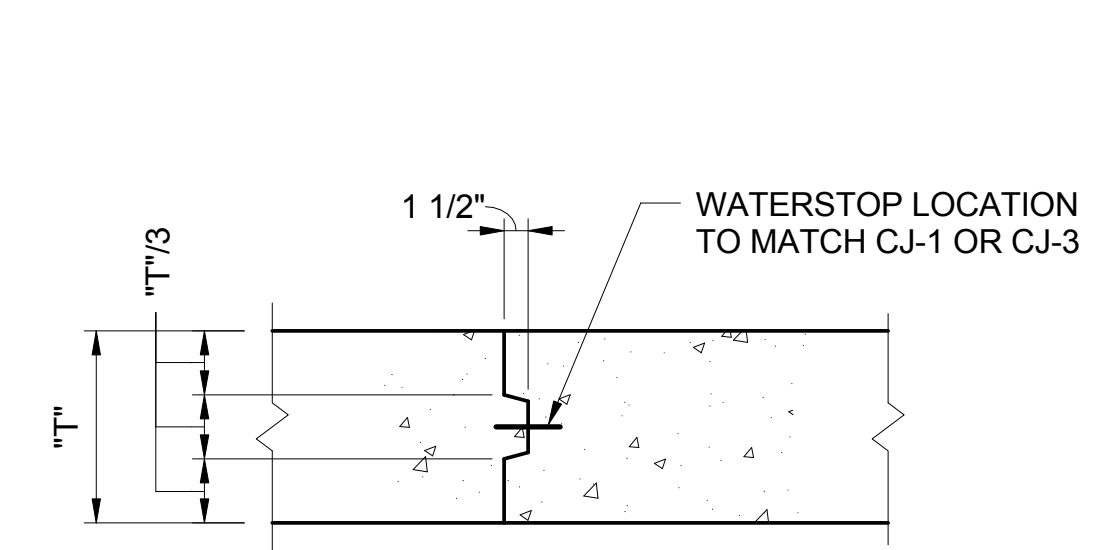
CONSTRUCTION JOINT INTERSECTION DETAIL



CJ-1 WITH WATERSTOP
CJ-2 WITHOUT WATERSTOP
 $T \leq 30"$

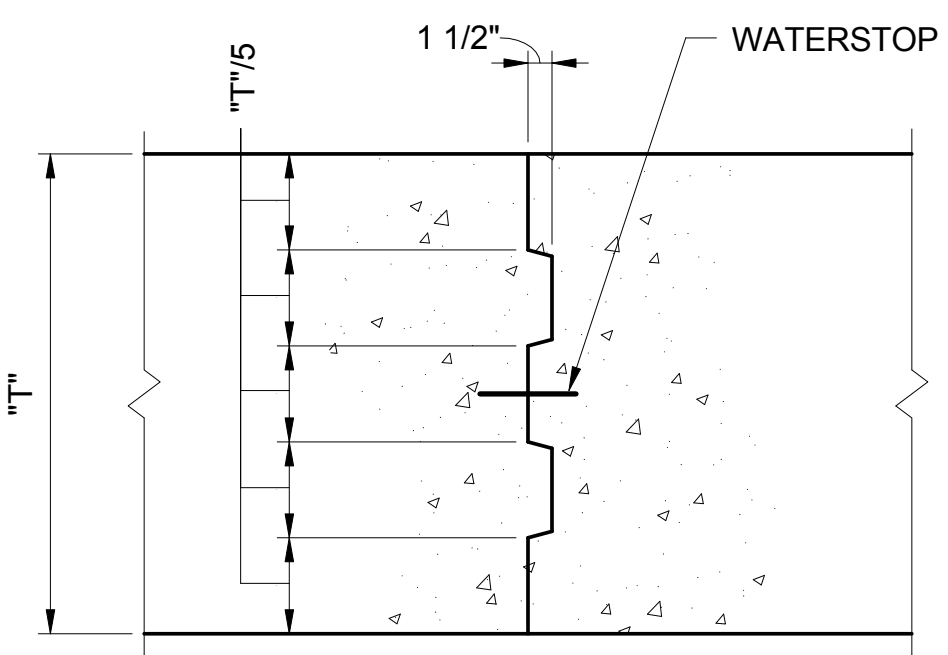


CJ-4 WITH WATERSTOP
CJ-5 WITHOUT WATERSTOP
 $30" < T \leq 52"$

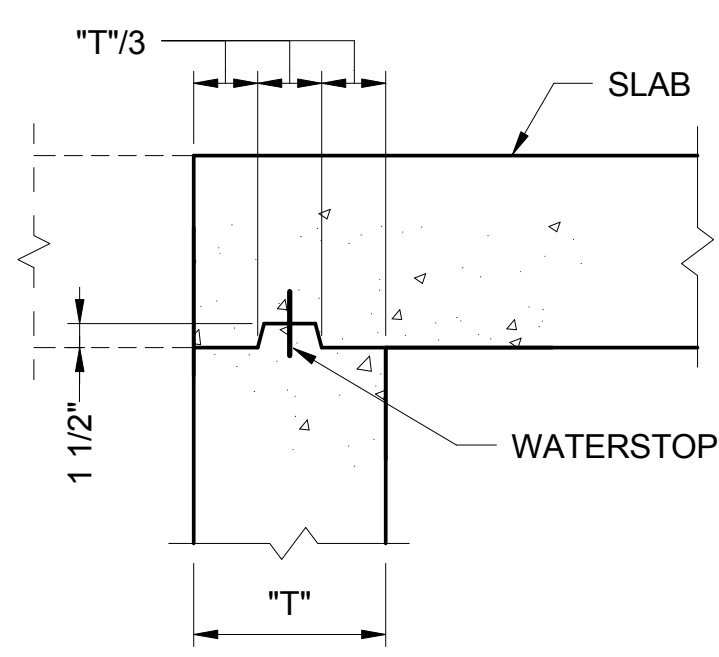


CJ-6 WITH WATERSTOP
CJ-7 WITHOUT WATERSTOP
 $T \leq 30"$

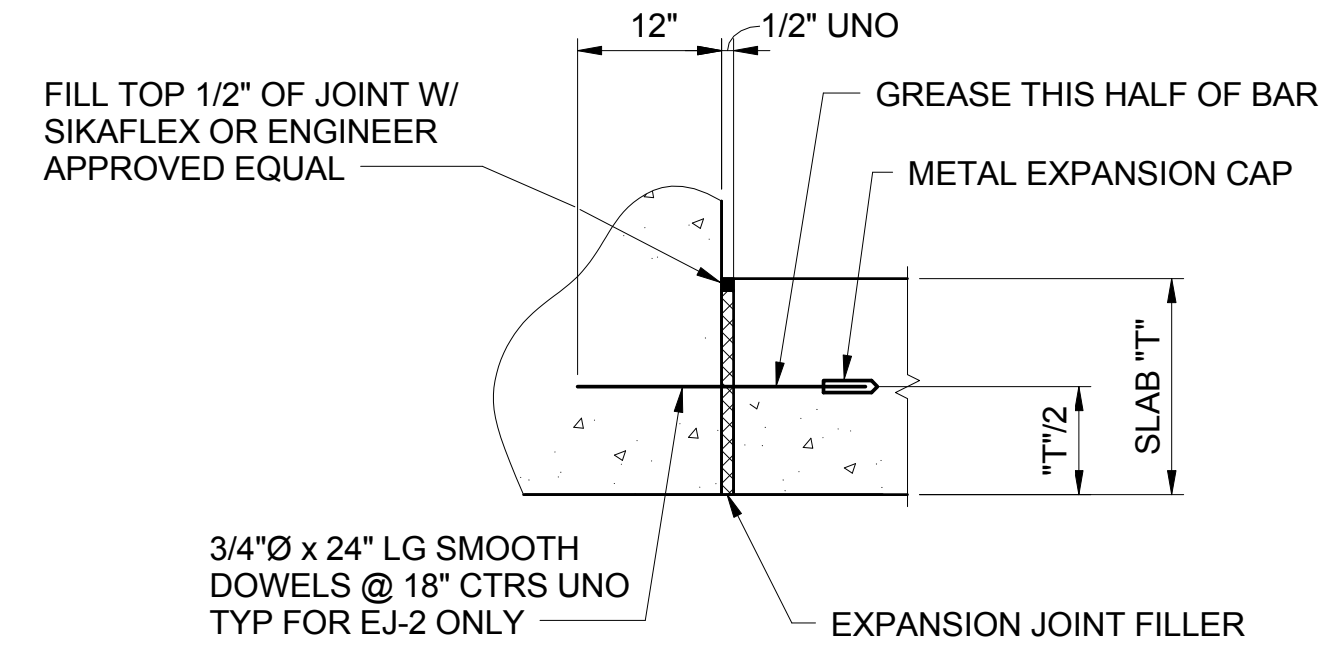
NOTE:
 USE FOR VERTICAL AND HORIZONTAL JOINTS.



CJ-8 WITH WATERSTOP
CJ-9 WITHOUT WATERSTOP
 $30" < T \leq 52"$



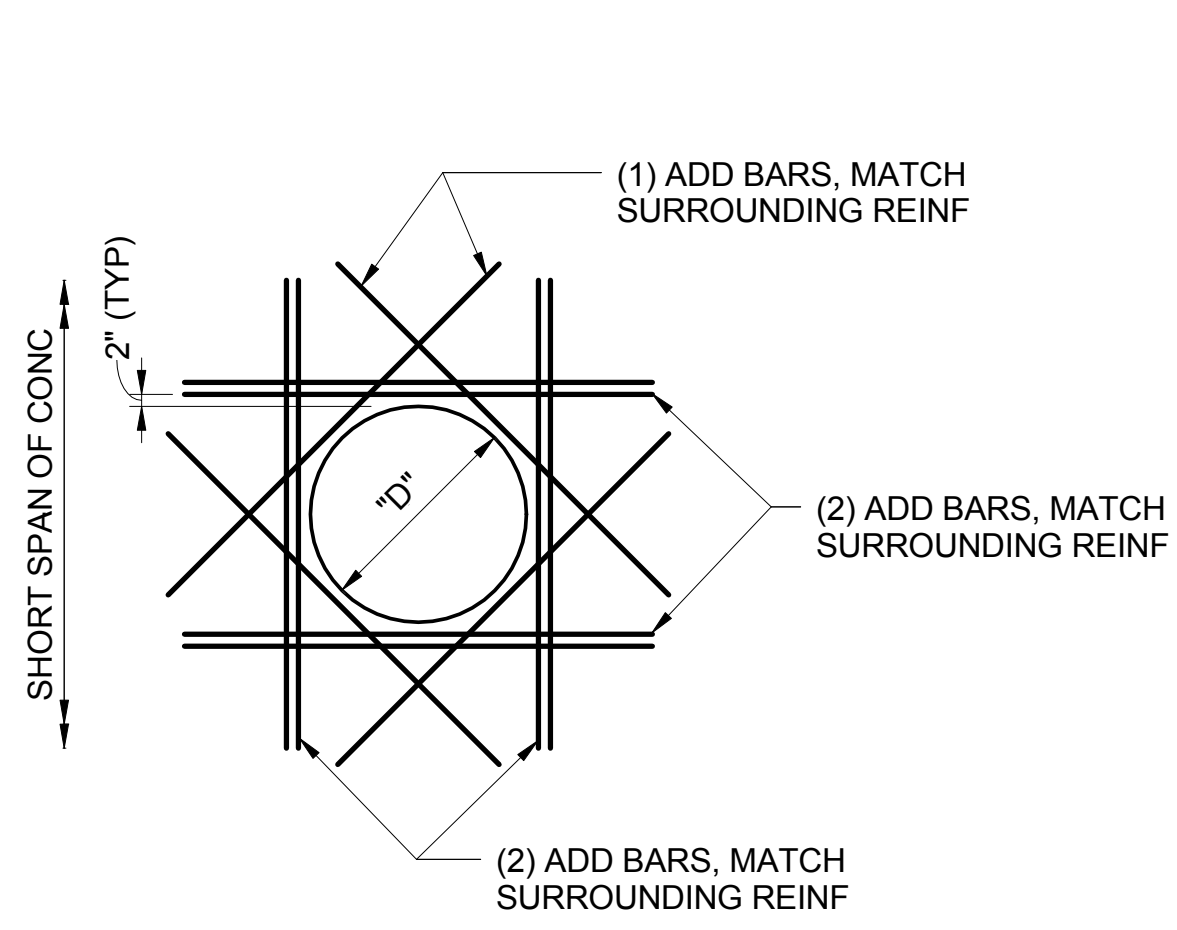
CJ-10 WITH WATERSTOP
CJ-11 WITHOUT WATERSTOP
 $T \leq 30"$



EJ-1 WITHOUT DOWEL
EJ-2 WITH DOWEL

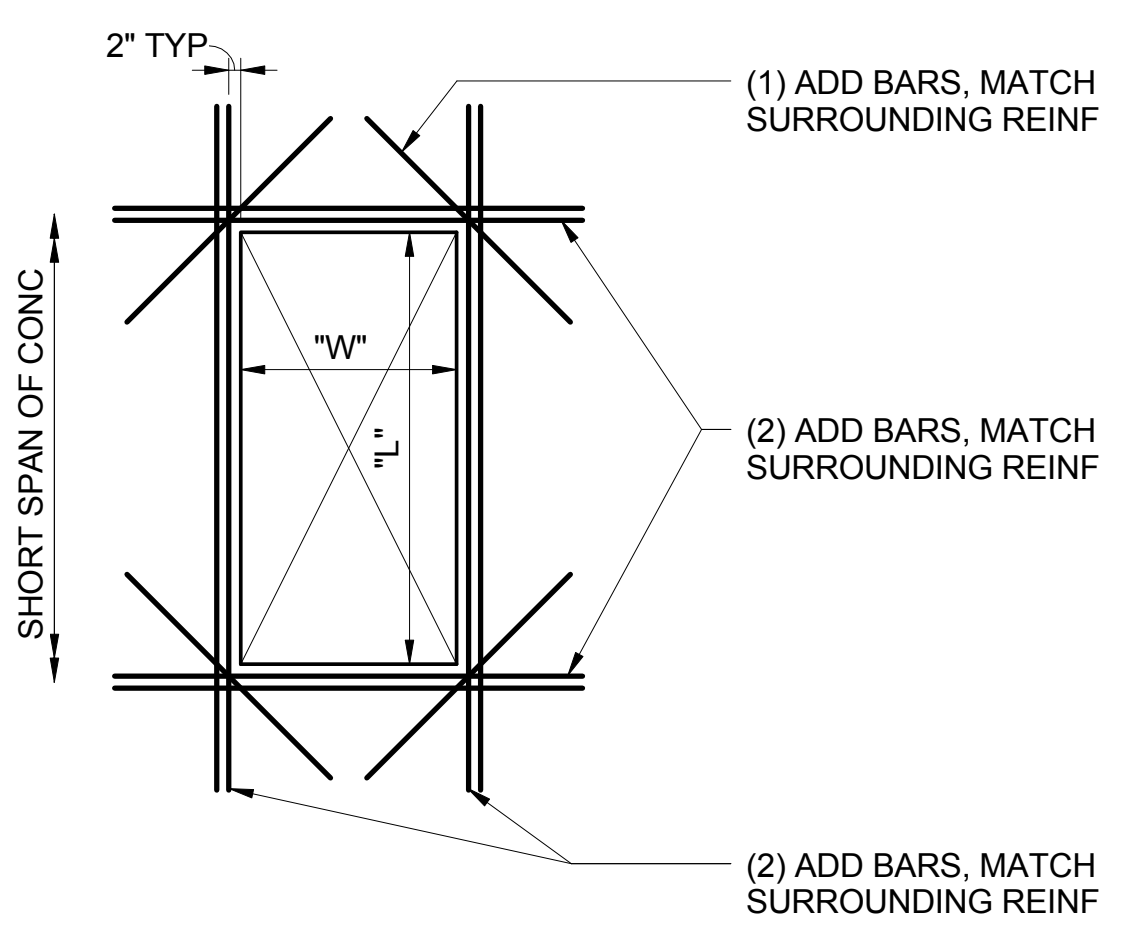
FILL TOP 1/2" OF JOINT W/
 SIKAFLEX OR ENGINEER
 APPROVED EQUAL

3/4"Ø x 24" LG SMOOTH
 DOWELS @ 18" CTRS UNO
 TYP FOR EJ-2 ONLY



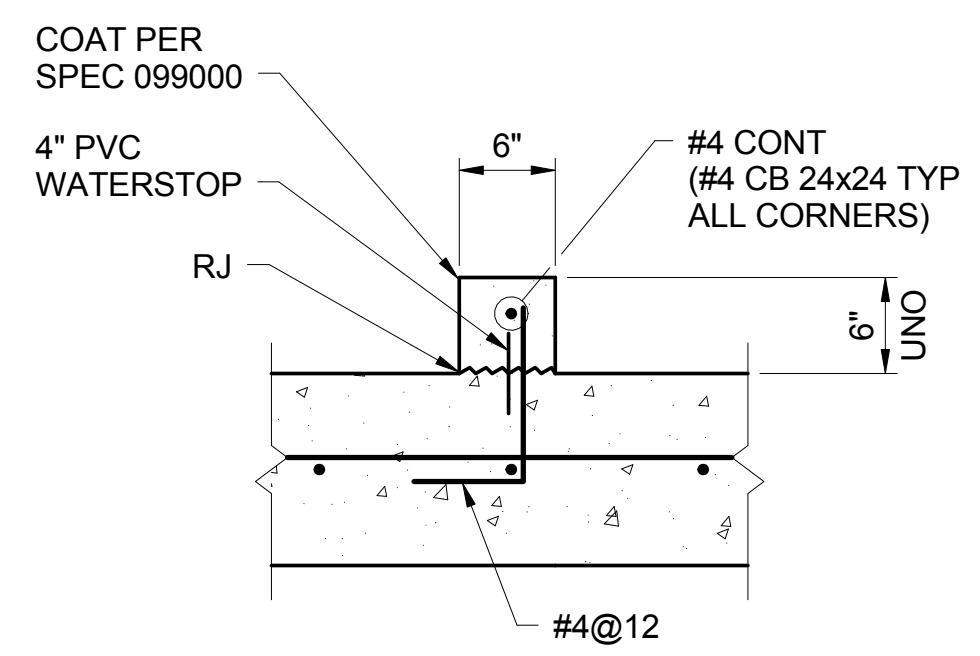
CO-1
UNSLEEVED OPENING

- NOTES:**
- MINIMUM LENGTH OF ALL BARS SHALL BE "D" + 3'-6" WITH BARS CENTERED ON OPENING.
 - FOR OPENINGS LESS THAN 12" IN DIAMETER, THE ADD BARS ARE NOT REQUIRED IF NO REINFORCING IS CUT BY THE OPENING.
 - SHORT SPAN OF CONC = LESSER DISTANCE BETWEEN SUPPORT MEMBERS.
 - REINFORCE OPENINGS WITH "D" LARGER THAN 3'-0" AS INDICATED ON THE DRAWINGS. IF NOT INDICATED, CONTACT THE ENGINEER.
 - FOR CONCRETE OPENINGS THROUGH STEEL DECKING, BLOCK OUT CONCRETE WITHIN OPENING WITH STYROFOAM OR OTHER APPROVED MATERIAL AND SEAL WITH DUCT TAPE. CUT DECK TO MATCH INSIDE DIMENSIONS OF OPENING AFTER CONCRETE HAS SET FOR 7 DAYS.
 - METAL DECKING HOLES AND OPENINGS SHALL NOT BE CUT UNTIL IMMEDIATELY PRIOR TO BEING PERMANENTLY FILLED WITH THE EQUIPMENT OR STRUCTURE INTENDED TO FULFILL ITS SPECIFIC USE OR SHALL BE IMMEDIATELY COVERED. SEE OSHA SECTION 29CFR1926 SUBPART R.
 - REINFORCING SHOWN REPRESENTS THE MINIMUM REQUIRED AT ALL CO-1 OPENINGS UNO.

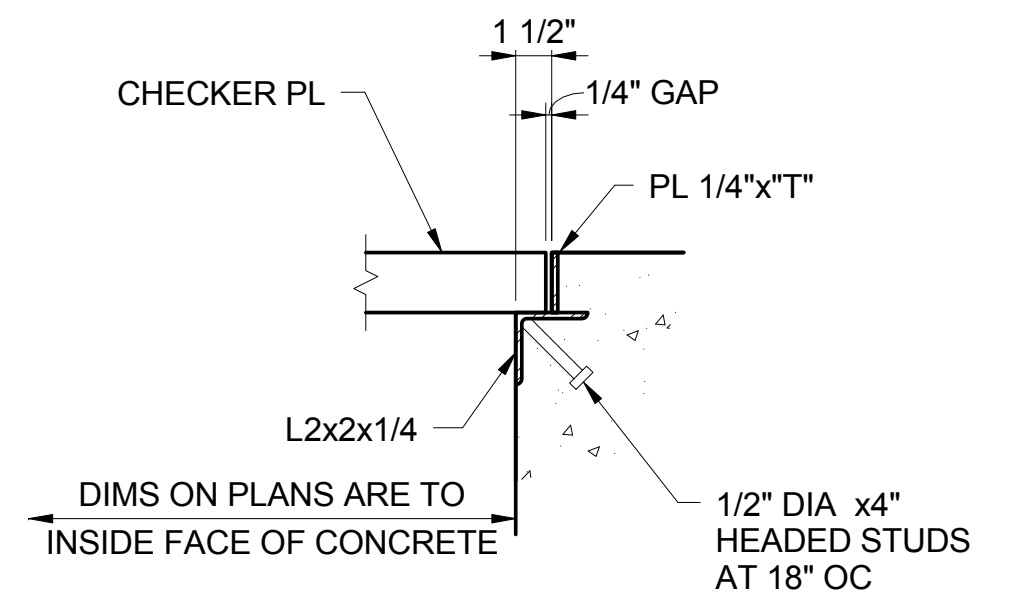


CO-2
UNSLEEVED OPENING

- NOTES:**
- MINIMUM LENGTH OF ALL BARS SHALL BE ("L" OR "W") + 3'-6" WITH BARS CENTERED ON OPENING.
 - FOR OPENINGS ("L" OR "W") LESS THAN 12", THE ADD BARS ARE NOT REQUIRED IF NO REINFORCING IS CUT BY THE OPENING.
 - SHORT SPAN OF CONC = LESSER DISTANCE BETWEEN SUPPORT MEMBERS.
 - REINFORCE OPENINGS WITH "L" OR "W" LARGER THAN 3'-0" AS INDICATED ON THE DRAWINGS. IF NOT INDICATED, CONTACT THE ENGINEER.
 - FOR CONCRETE OPENINGS THROUGH STEEL DECKING, BLOCK OUT CONCRETE WITHIN OPENING WITH STYROFOAM OR OTHER APPROVED MATERIAL AND SEAL WITH DUCT TAPE. CUT DECK TO MATCH INSIDE DIMENSIONS OF OPENING AFTER CONCRETE HAS SET FOR 7 DAYS.
 - METAL DECKING HOLES AND OPENINGS SHALL NOT BE CUT UNTIL IMMEDIATELY PRIOR TO BEING PERMANENTLY FILLED WITH THE EQUIPMENT OR STRUCTURE INTENDED TO FULFILL ITS SPECIFIC USE OR SHALL BE IMMEDIATELY COVERED. SEE OSHA SECTION 29CFR1926 SUBPART R.
 - REINFORCING SHOWN REPRESENTS THE MINIMUM REQUIRED AT ALL CO-2 OPENINGS UNO.



TYPICAL CURB DETAIL
 NOT TO SCALE



CE-4

NOTE:
 MITER, WELD AND GRIND SMOOTH ANGLES AT ALL CORNERS.

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PROJECT NO: 95307

DATE: 4/14/17

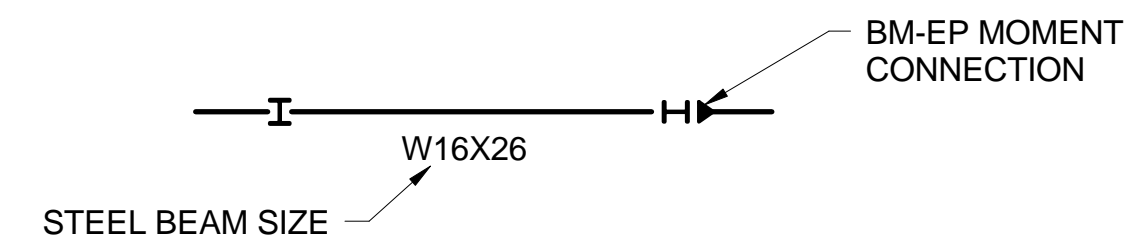
DISC. LEAD:	DESIGNER:	CHECKER:
PJG	AKF	PJG

SHEET TITLE
 STRUCTURAL

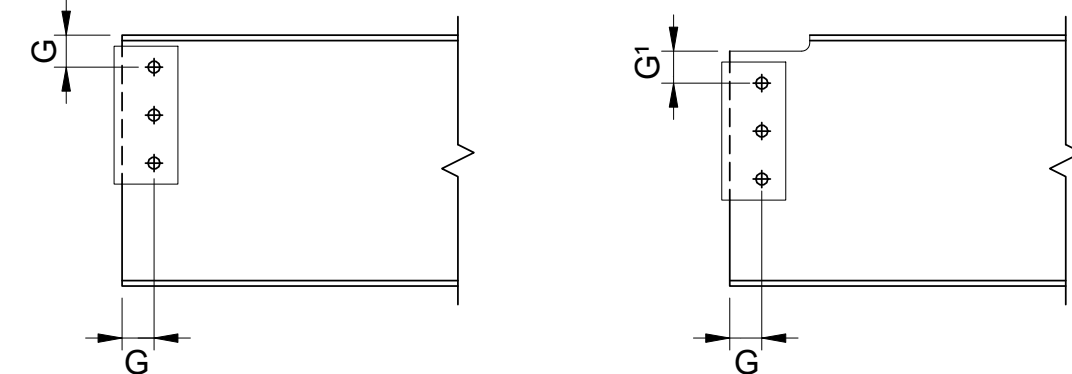
STRUCTURAL
 STANDARD DETAILS 2

SHEET **S502** REV **0**

STANDARD FRAMED BEAM CONNECTIONS



NOTES:
 1. G & G' = 2" MIN FOR STD HOLES (G' = 1 1/4" MIN FOR BEAMS LESS THAN A W12).
 G & G' = 2 1/4" MIN FOR OVERSIZED AND SHORT SLOTTED HOLES
 G = 1 3/8" MIN FOR BEAMS LESS THAN A W12
 MINIMUM CLIP ANGLE THICKNESS SHALL BE 5/16" BEAM TO BEAM CONNECTION.
 MINIMUM CLIP ANGLE THICKNESS SHALL BE 3/8" BEAM TO BEAM CONNECTION.
 MINIMUM CLIP ANGLE THICKNESS SHALL BE 3/8" BEAM TO COLUMN CONNECTION. TABLE III CASE I WELDS TO BE 3/16"



2. BEAM END CONNECTIONS SHALL BE IN ACCORDANCE WITH THESE NOTES AND WITH THE FOLLOWING MINIMUM NUMBER OF HIGH STRENGTH BOLTS:

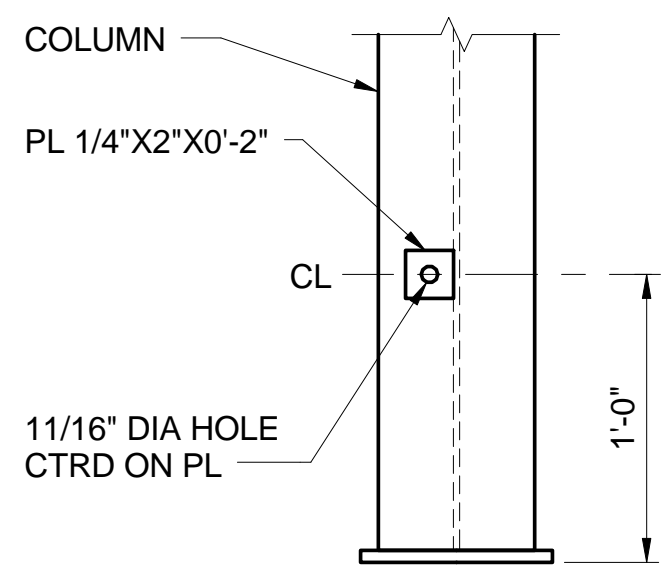
C6, W6, OR LESS	= 2 ROWS	(2 BOLTS ON WEB)
C8 OR W8	= 2 ROWS	W21 = 4 ROWS
C10 OR W10	= 2 ROWS	W24 = 5 ROWS
C12 OR W12	= 2 ROWS	W27 = 6 ROWS
W14	= 2 ROWS	W30 = 7 ROWS
C15 OR W16	= 3 ROWS	W33 = 8 ROWS
W18	= 3 ROWS	W36 = 8 ROWS

3. THE NUMBER OF BOLTS AND NUMBER OF ROWS OF BOLTS INDICATED OR STATED IS THE MINIMUM NUMBER OF BOLTS OR ROWS. PROVIDE ADDITIONAL BOLTS OR CONNECTION DEVICES, IF NECESSARY, TO COMPLY WITH OSHA REGULATION 29CFR1926 SUBPART R-STEEL ERECTION.

4. ROWS OF BOLTS: THE NUMBER OF FASTENERS IN A VERTICAL ROW.

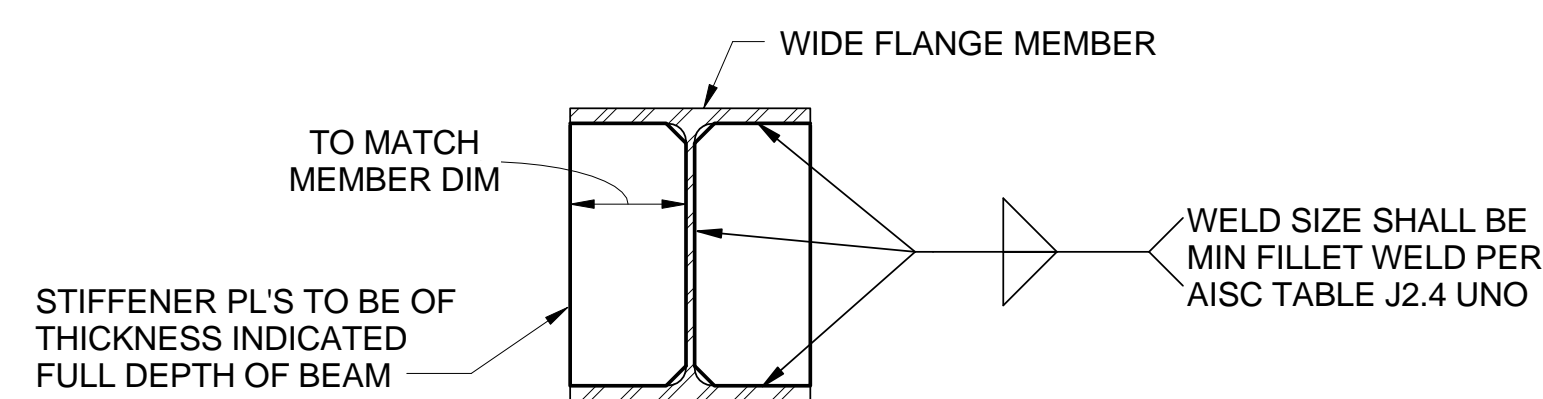
5. BEAM CONNECTIONS ARE BASED ON THE USE OF STANDARD, OVERSIZED OR SHORT-SLOTTED HOLES AS DEFINED BY AISC STEEL CONSTRUCTION MANUAL 13TH EDITION. LONG-SLOTTED HOLES ARE NOT PERMITTED.

6. BEAM CONNECTIONS GAGE SHALL BE 5 1/2" MAX GAGE MAY BE REDUCED AT FABRICATORS OPTION.



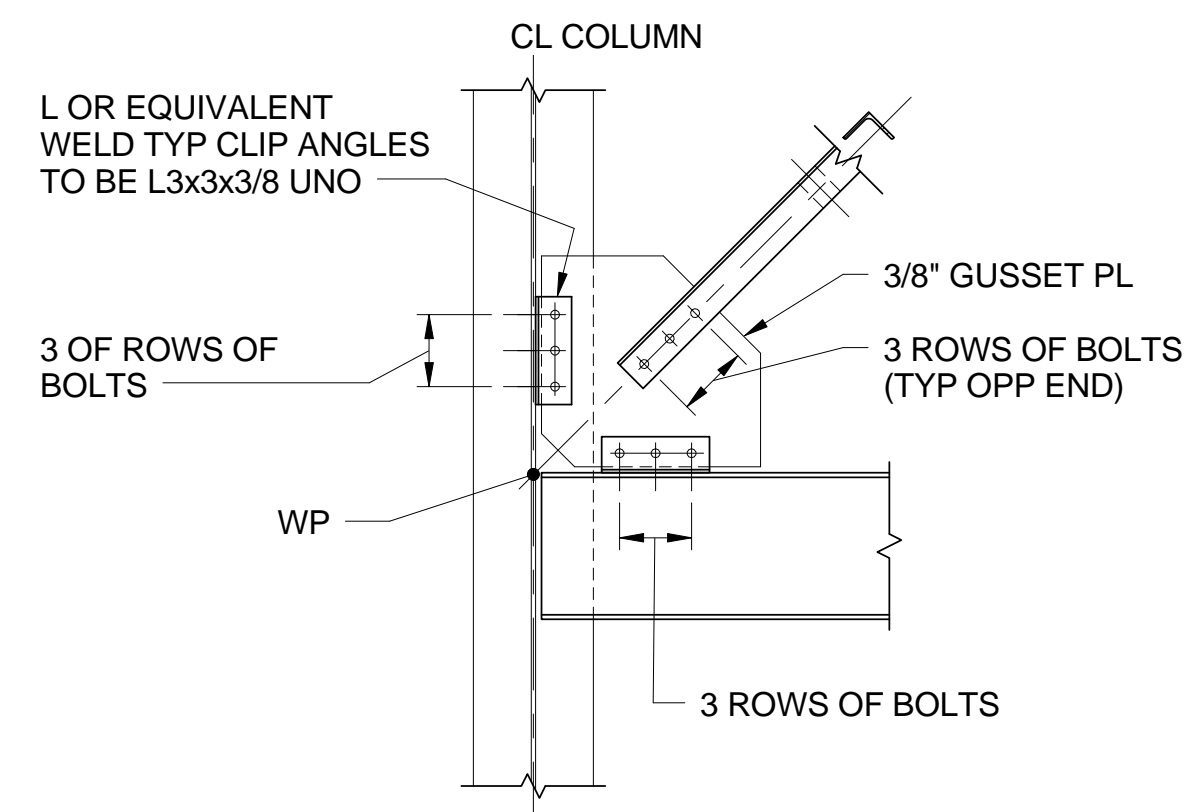
NOTES:
 1. INSTALL GROUNDING TAB PRIOR TO GALVANIZING.
 2. REFERENCE ELECTRICAL DRAWINGS FOR GROUNDING TAB LOCATIONS.

GROUNDING TAB COLUMN
NOT TO SCALE

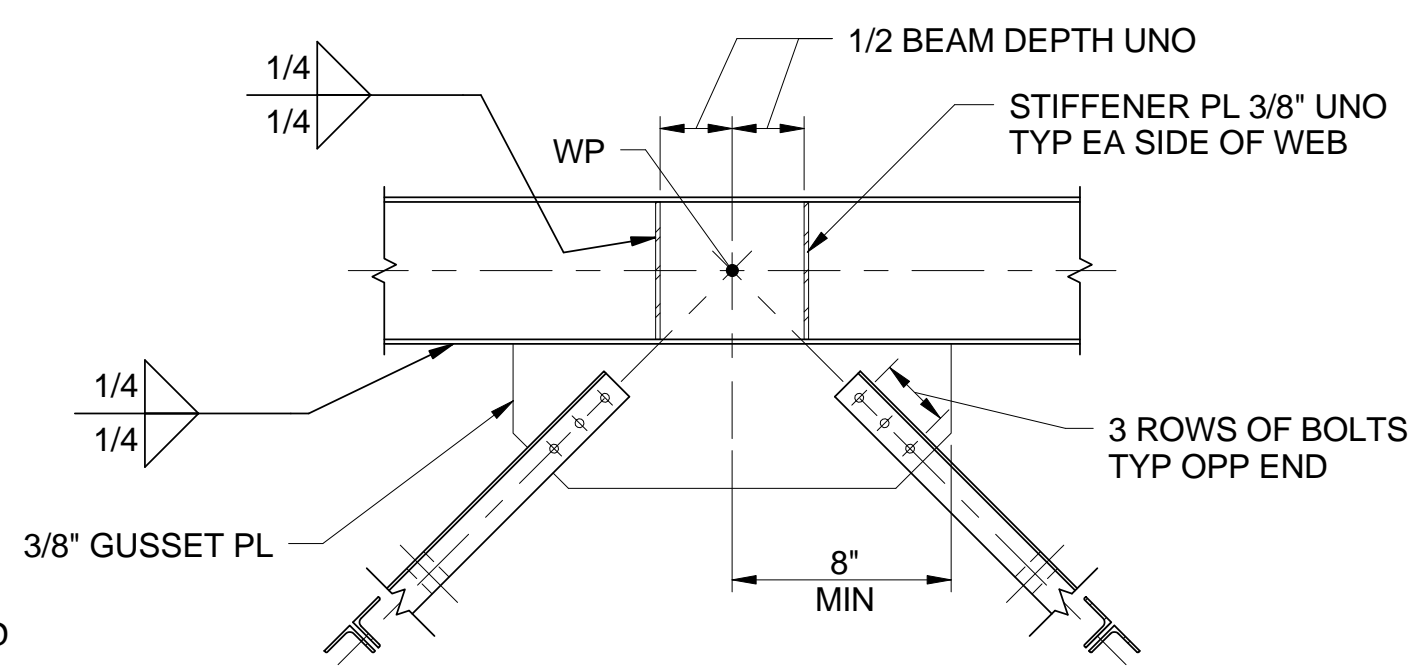


NOTE:
USE THIS DETAIL FOR STIFFENERS AT ALL LOCATIONS ON DRAWINGS INDICATED AS "STIFFENER PL'S", UNLESS NOTED OTHERWISE.

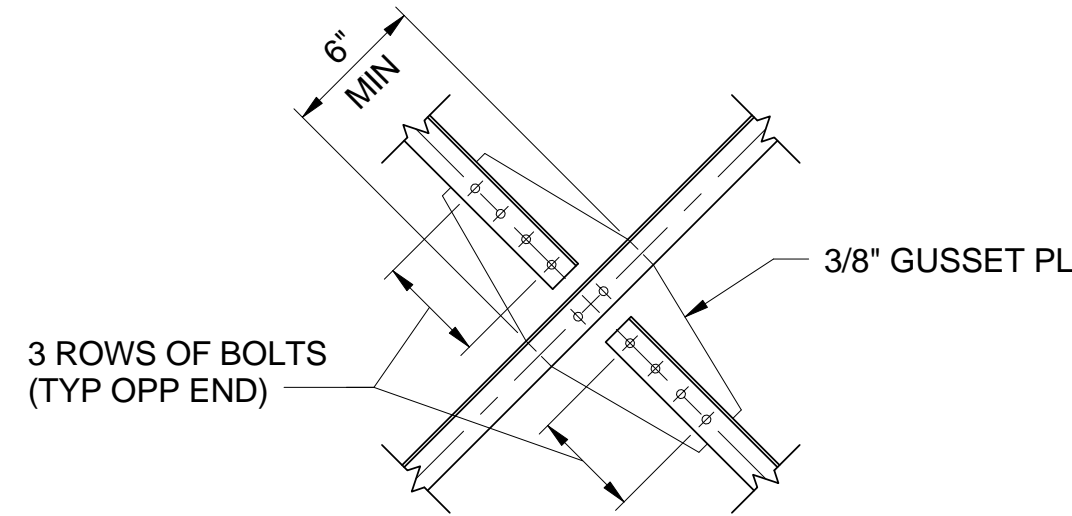
TYPICAL STIFFENER DETAIL



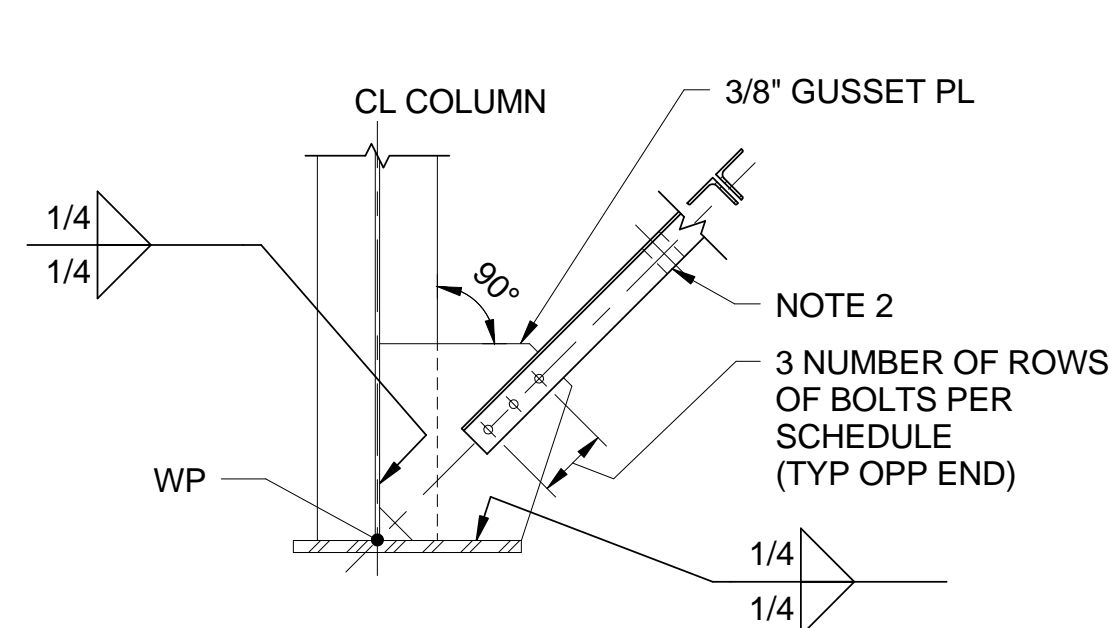
FLANGE TO WEB CONNECTION



INTERMEDIATE BEAM CONNECTION



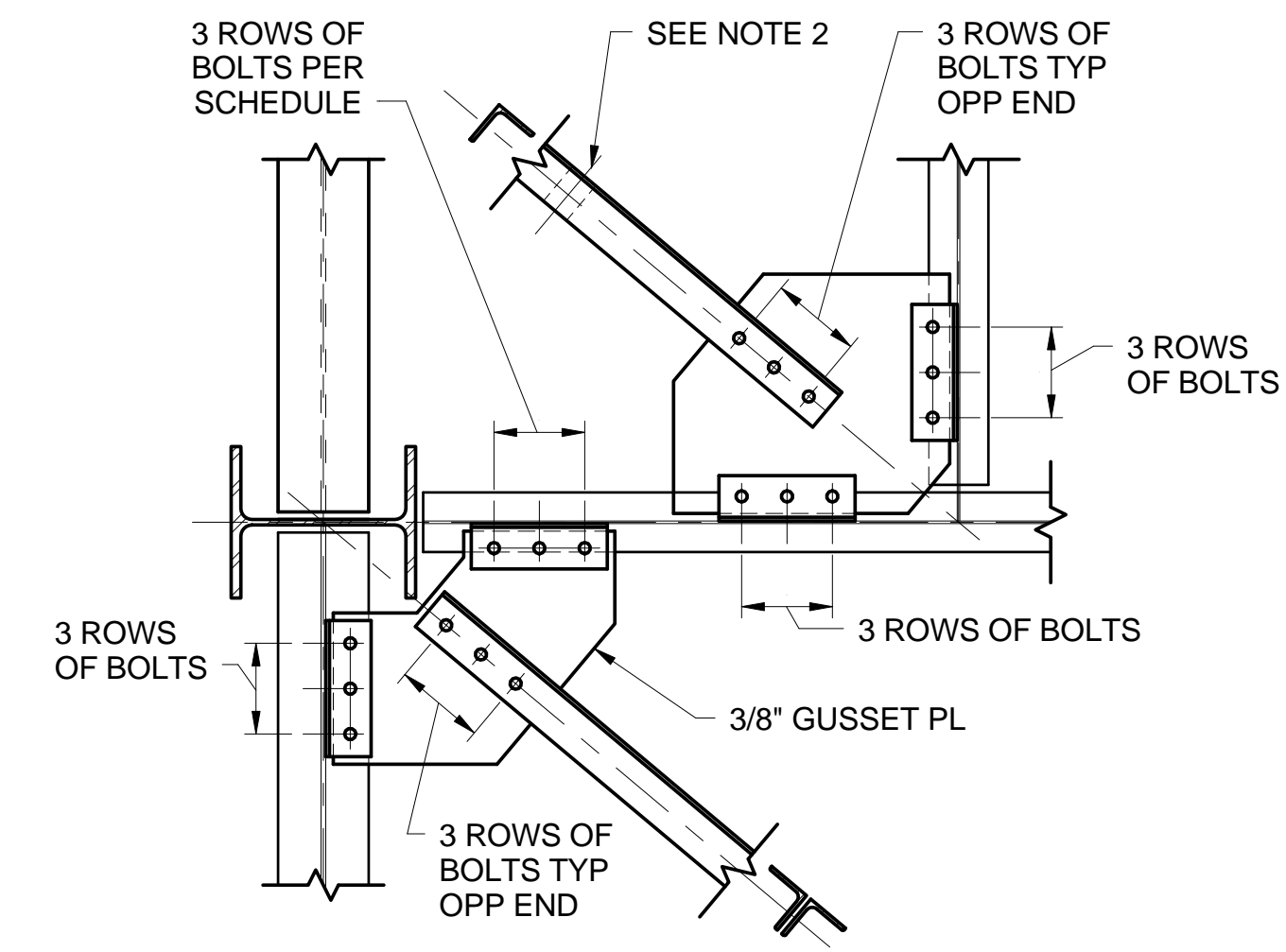
INTERSECTION



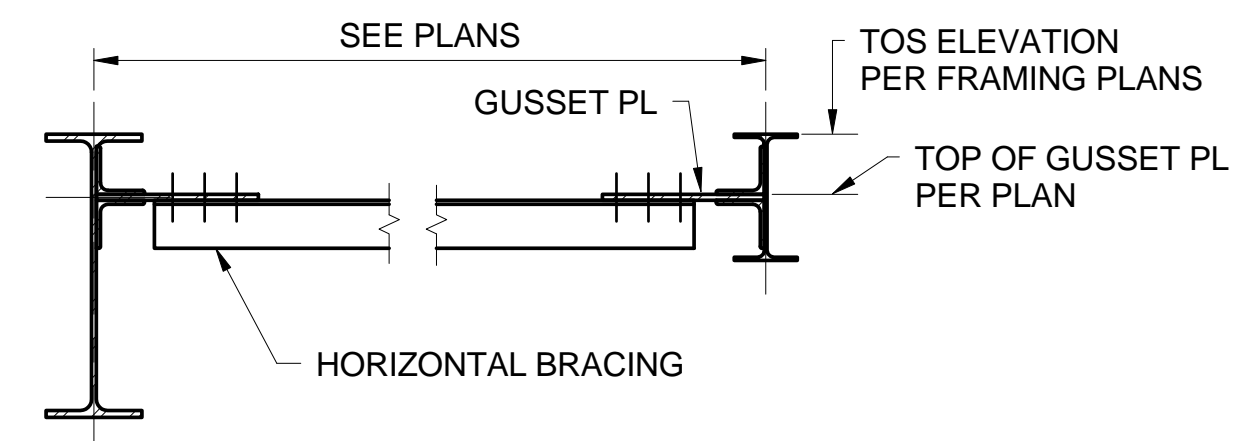
WEB CONNECTION AT BASE PLATE

ELEVATION
TYPICAL VERTICAL BRACING CONNECTIONS
DOUBLE ANGLE BRACING

NOTES:
 1. AXIS OF "Z" ROWS OF BOLTS IS PARALLEL TO CENTERLINE OF BRACING.
 2. CLIP ANGLES TO BE L3x3x3/8, UNLESS NOTED OTHERWISE.



PLAN
TYPICAL HORIZONTAL BRACING
TYPE II



SECTION
HORIZONTAL BRACING
ELEVATION

BURNS MEDONNELL
 3650 MANSELL ROAD, SUITE 300
 ALPHARETTA, GA 30022
 770-587-4776
 1234567890

CITICO PUMP RELIABILITY IMPROVEMENTS
 CITY OF CHATTANOOGA, TN
 CONSENT DECREE PROGRAM



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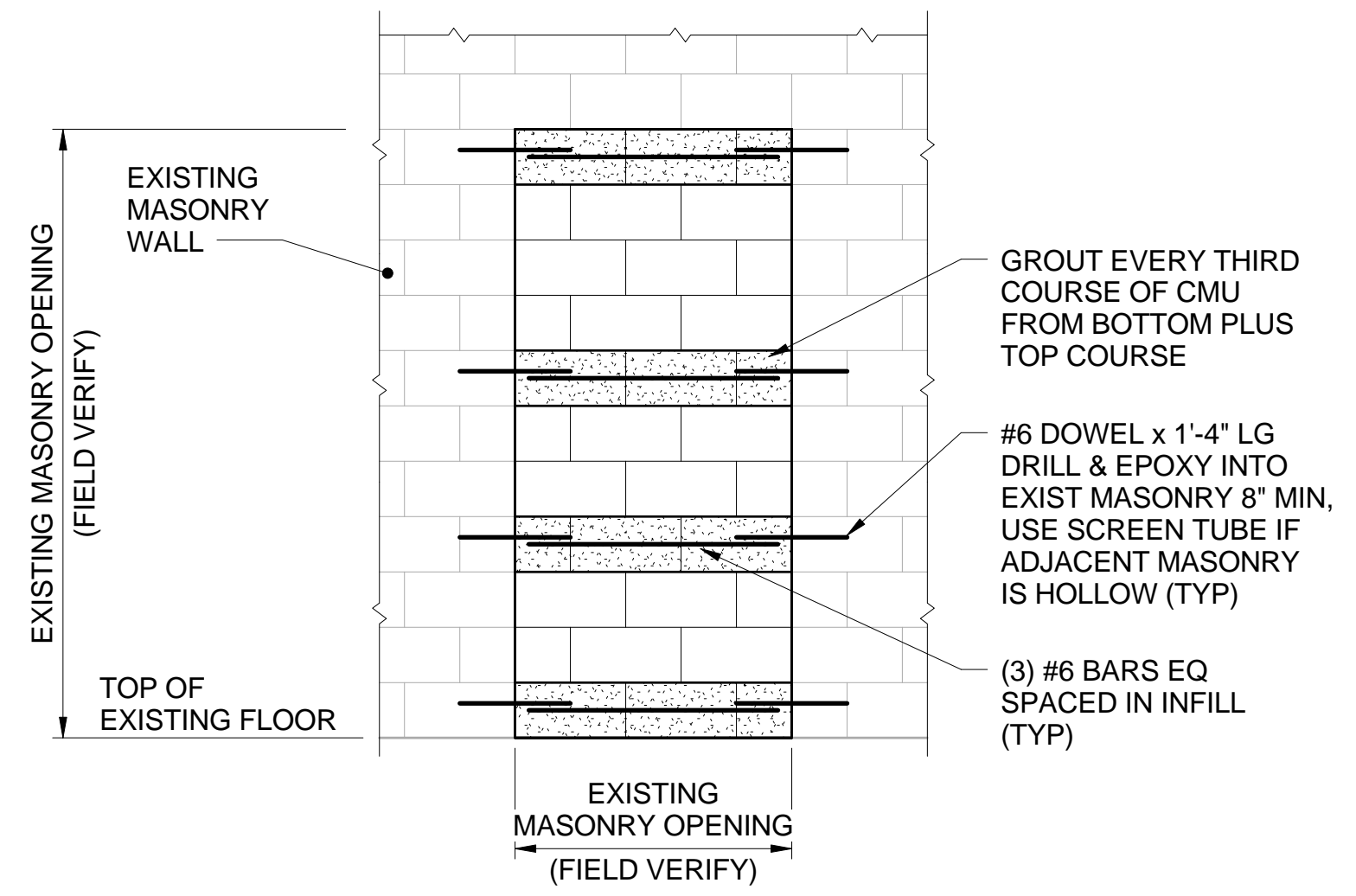
DATE: 4/14/17

DISC. LEAD: PJG DESIGNER: AKF CHECKER: PJG

SHEET TITLE
STRUCTURAL

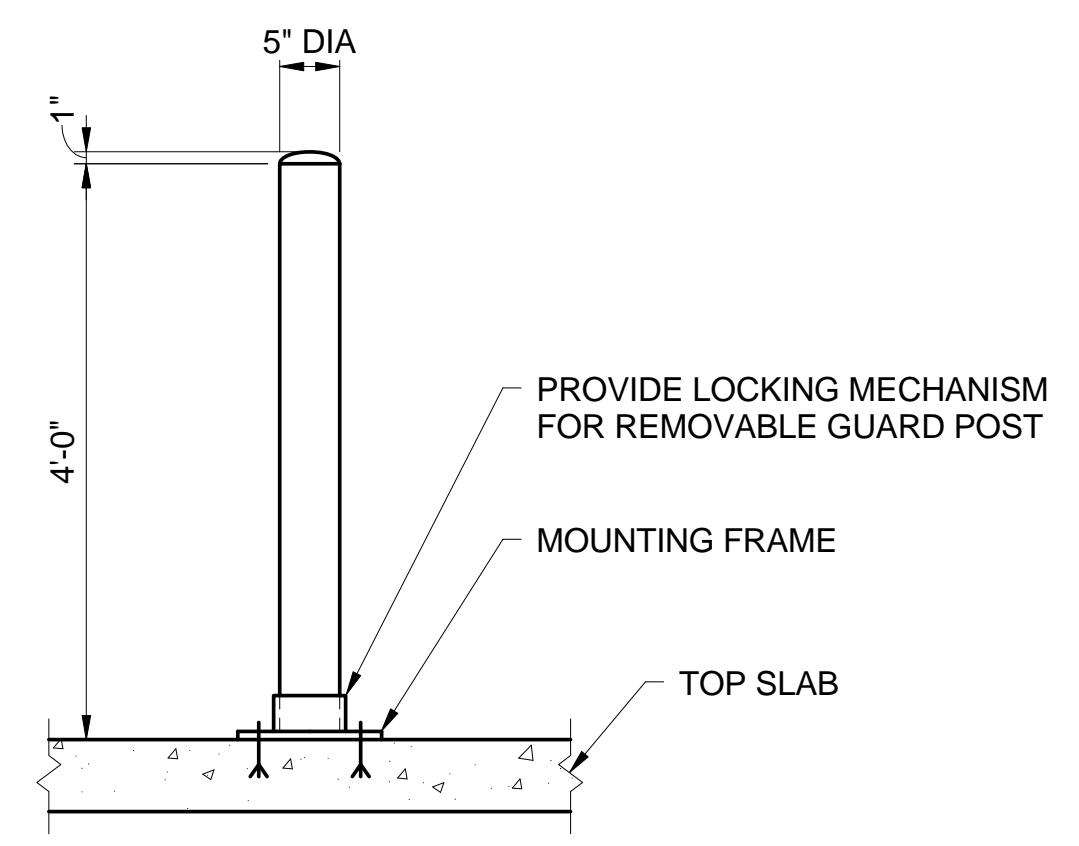
STRUCTURAL
STANDARD DETAILS 3

SHEET **S503** REV **0**

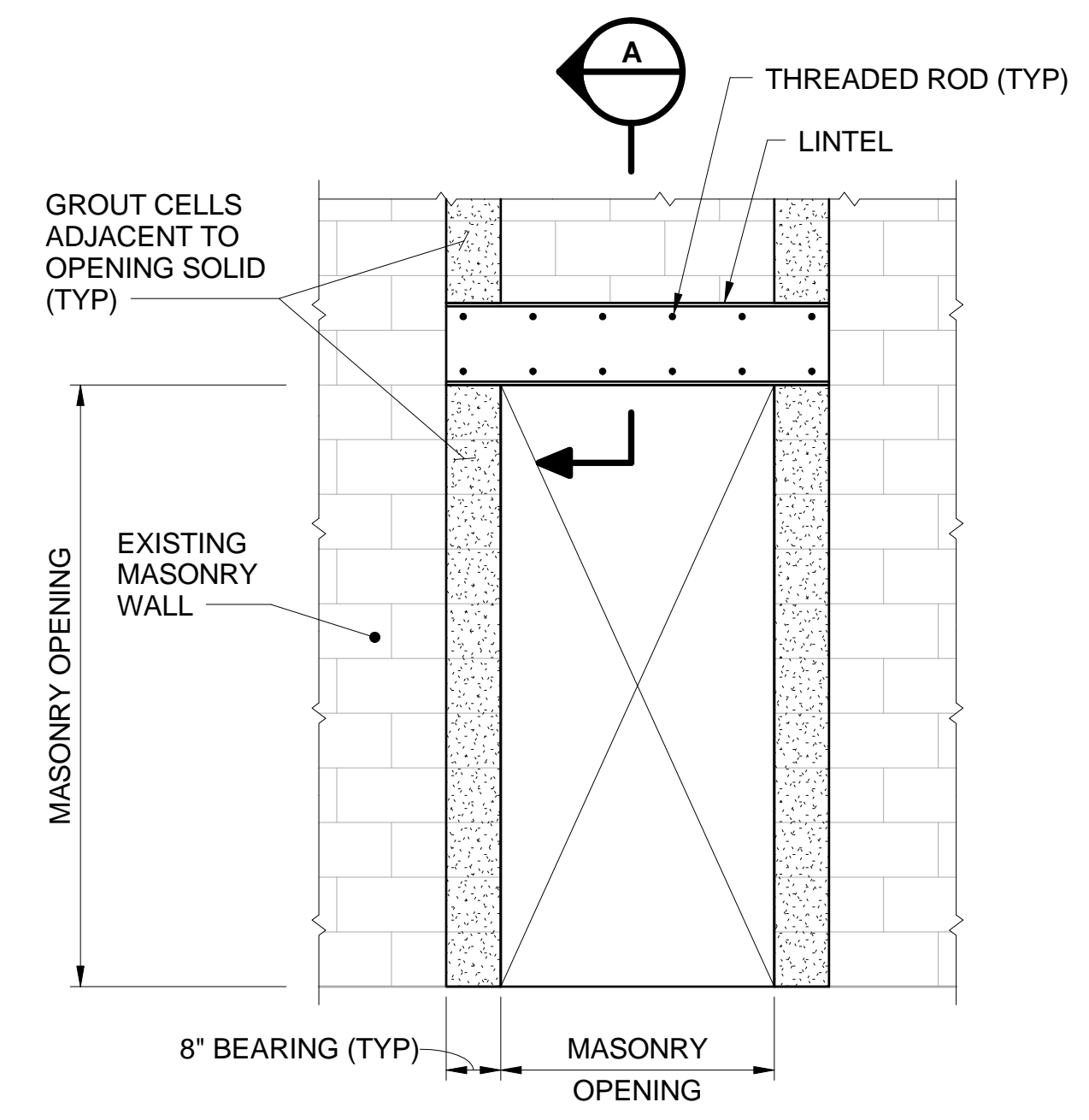


NOTE:
1. FOR ALL ELECTRICAL EQUIPMENT MOUNTED TO NEWLY INFILLED WALLS, GROUT SOLID ALL CELLS WITH EQUIPMENT MOUNTING ATTACHMENTS.

TYPICAL MASONRY INFILL DETAIL
NOT TO SCALE

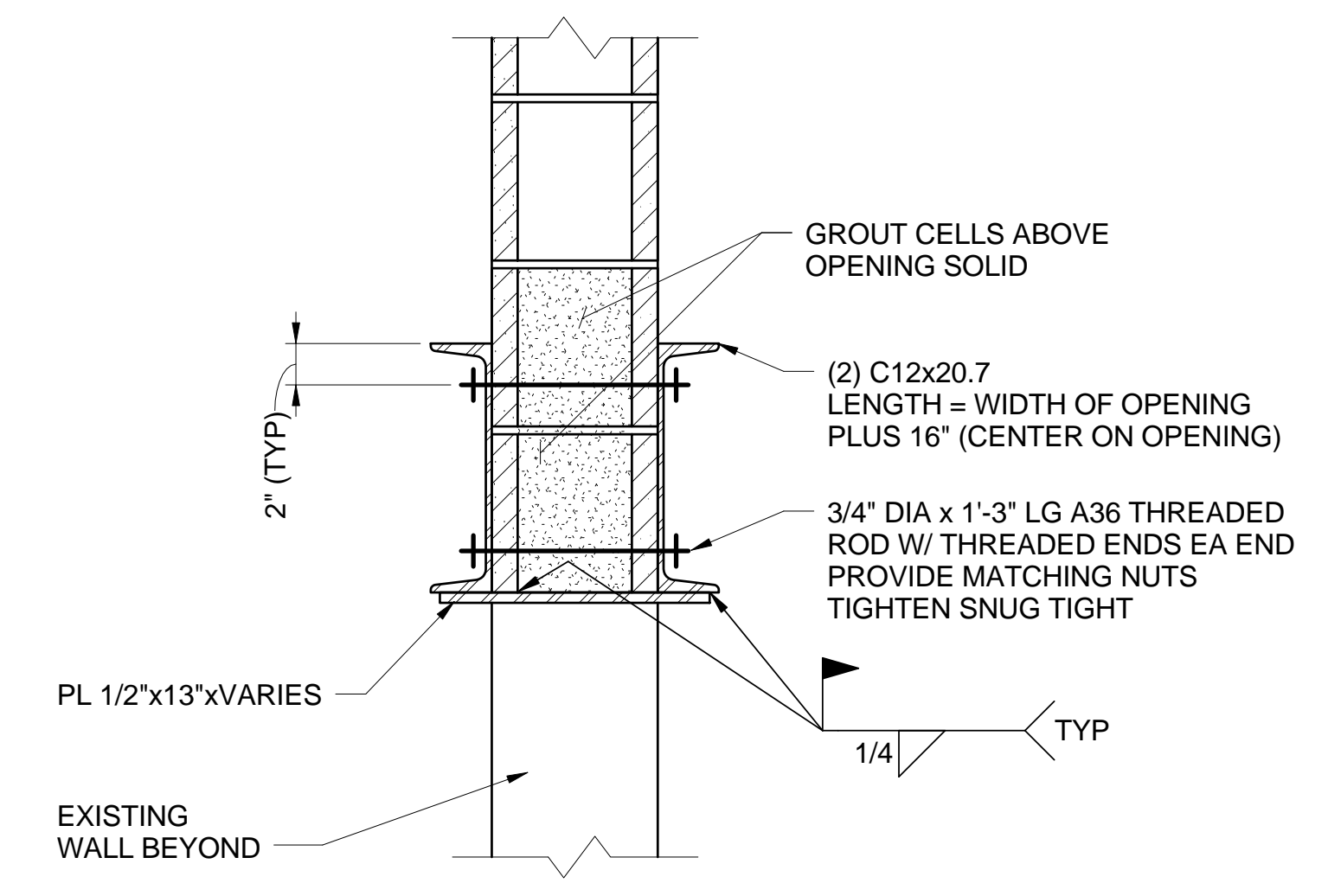


REMOVABLE GUARD POST DETAIL
NOT TO SCALE



NOTES:
1. THREADED RODS SHALL BE TYPE 316 STAINLESS STEEL.
2. CHANNEL SECTIONS SHALL BE GALVANIZED STEEL.
3. PRESSURE GROUT CELLS SOLID BY DRILLING HOLE AND INJECT GROUT INTO CELLS. GROUT CELLS ADJACENT TO OPENINGS FROM TOP OF WALL TO BOTTOM OF WALL.
4. FOR PENETRATIONS THAT DO NOT GO TO FLOOR, GROUT SOLID ALL CELLS UNDER MASONRY OPENING.

NEW OPENING IN EXISTING MASONRY WALL
NOT TO SCALE



NOTE:
1. CONTRACTOR TO PLACE CHANNELS, THREADED RODS AND GROUT PRIOR TO REMOVING MASONRY FOR OPENING.

SECTION A
NOT TO SCALE

BURNS MEDONNELL
3650 MANSELL ROAD, SUITE 300
ALPHARETTA, GA 30022
770-587-4776
1234567890

CITICO PUMP RELIABILITY IMPROVEMENTS
CITY OF CHATTANOOGA, TN
CONSENT DECREE PROGRAM



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DATE: 4/14/17

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SHEET TITLE
STRUCTURAL

STRUCTURAL
STANDARD DETAILS 4

SHEET **S504** REV **0**