

A

B

C

D

E

F

A

B

C

D

E

F

NON-COATED REINFORCING BAR DEVELOPMENT AND SPLICE LENGTHS

f'c = 4000 PSI					ALL CONCRETE STRENGTHS				
BAR SIZE	Ld	Ldt	Lt	Ltt	BAR SIZE	Lb	Lc	Lcs	
#3	15	20	20	26	#3	9	12	12	
#4	19	25	25	33	#4	11	13	12	
#5	24	32	32	41	#5	14	16	15	
#6	29	38	38	50	#6	17	19	17	
#7	42	55	55	71	#7	20	22	20	
#8	48	63	63	82	#8	22	25	23	
#9	54	71	71	92	#9	25	29	26	
#10	60	78	78	102	#10	28	32	29	
#11	66	86	86	112	#11	31	35	31	

EPOXY COATED REINFORCING BAR DEVELOPMENT AND SPLICE LENGTHS

f'c = 4000 PSI					ALL CONCRETE STRENGTHS				
BAR SIZE	Ld	Ldt	Lt	Ltt	BAR SIZE	Lb	Lc	Lcs	
#3	22	29	29	38	#3	9	12	12	
#4	29	38	38	50	#4	11	13	12	
#5	36	47	47	61	#5	14	16	15	
#6	43	56	56	73	#6	17	19	17	
#7	63	82	82	107	#7	20	22	20	
#8	72	94	94	122	#8	22	25	23	
#9	81	106	106	137	#9	25	29	26	
#10	89	116	116	151	#10	28	32	29	
#11	98	128	128	166	#11	31	35	31	

- NOTES:**
- d_b = NOMINAL BAR DIAMETER
 L_d = TENSION DEVELOPMENT LENGTH
 L_{dt} = DEVELOPMENT LENGTH OF TOP BARS IN TENSION
 L_t = TENSION LAP SPLICE LENGTH
 L_{lt} = TENSION LAP SPLICE LENGTH OF TOP BARS
 L_c = COMPRESSION DEVELOPMENT LENGTH
 L_{cs} = TIED COLUMN LAP SPLICE IN COMPRESSION
 L_{cs} = SPIRAL COLUMN LAP SPLICE IN COMPRESSION
 - REBAR DEVELOPMENT/SPLICE LENGTHS ARE BASED ON ACI 318, REINFORCEMENT YIELD STRENGTH, $F_y = 60$ KSI.
 - "TOP BARS" = HORIZONTAL BEAM, MAT, OR SLAB REINFORCING WITH MORE THAN 12" CAST BELOW.
 - ALL SPLICES SHALL BE TENSION SPLICES, UNO.

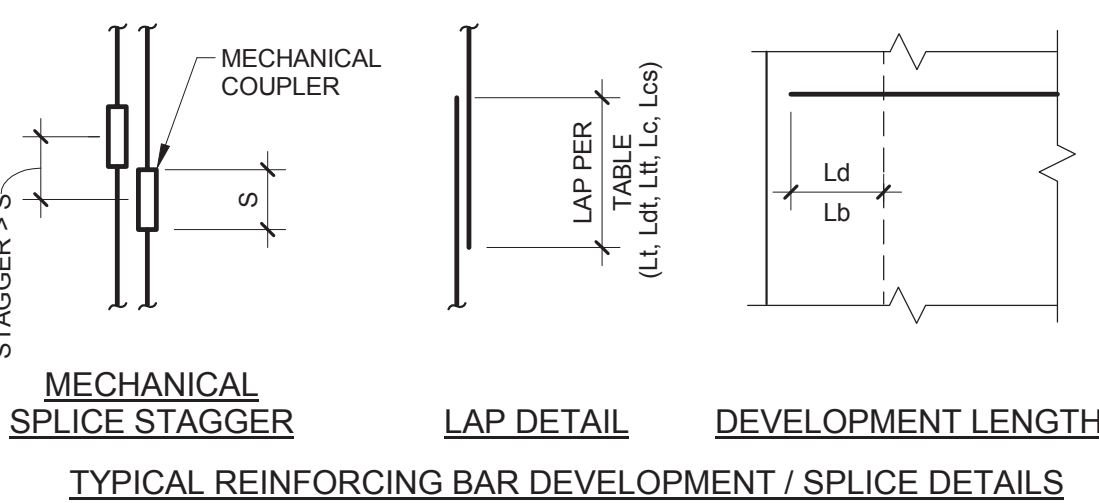
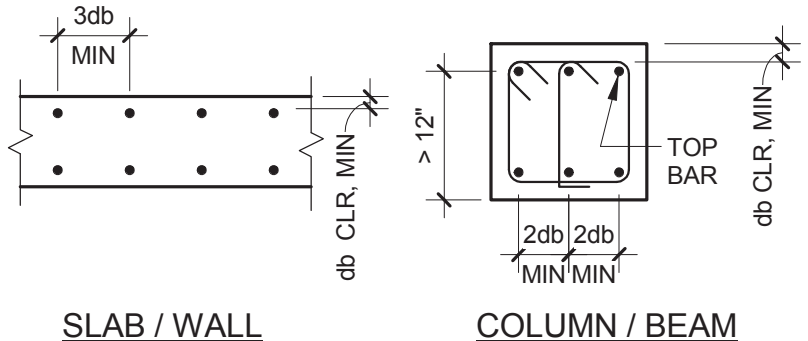
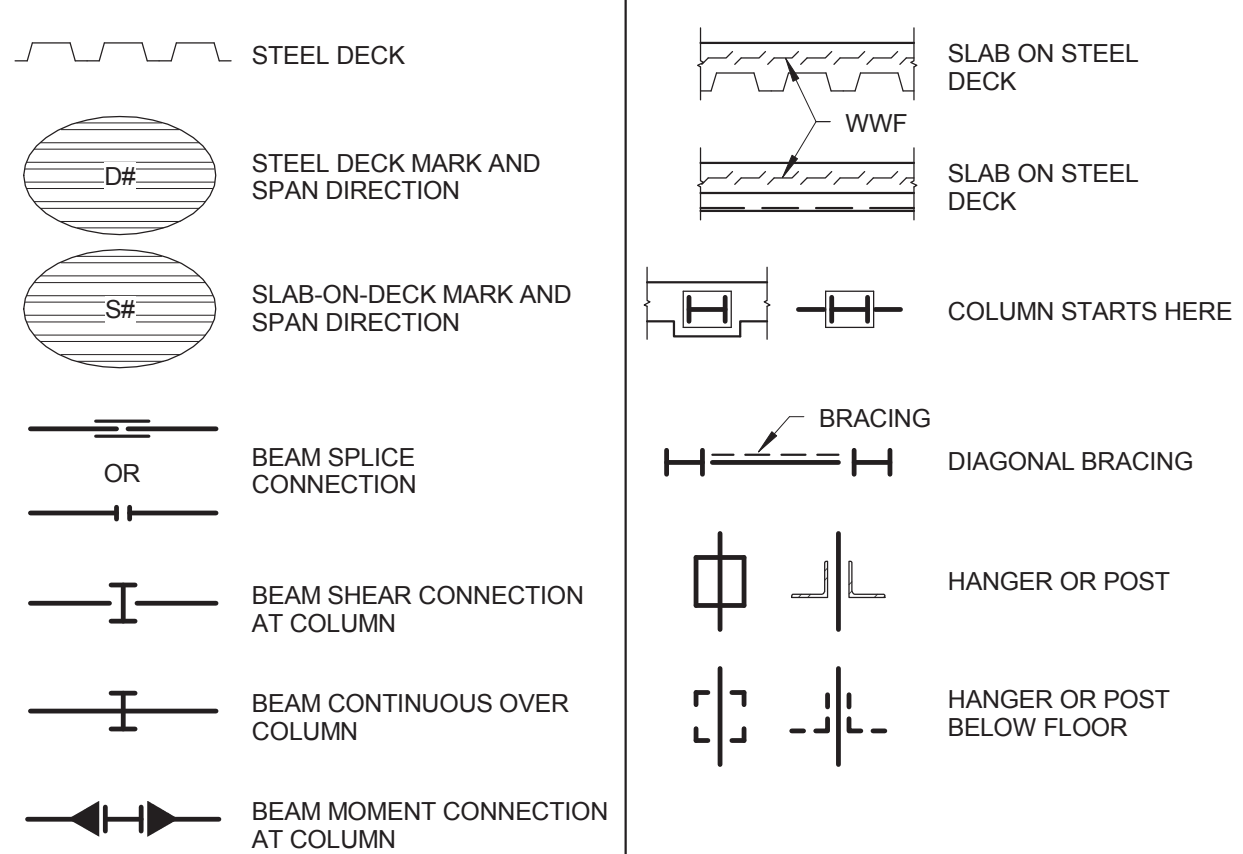


TABLE VALUES SHALL BE MULTIPLIED BY 1.5 IF THE FOLLOWING CRITERIA ARE NOT MET:



STEEL SYMBOLS



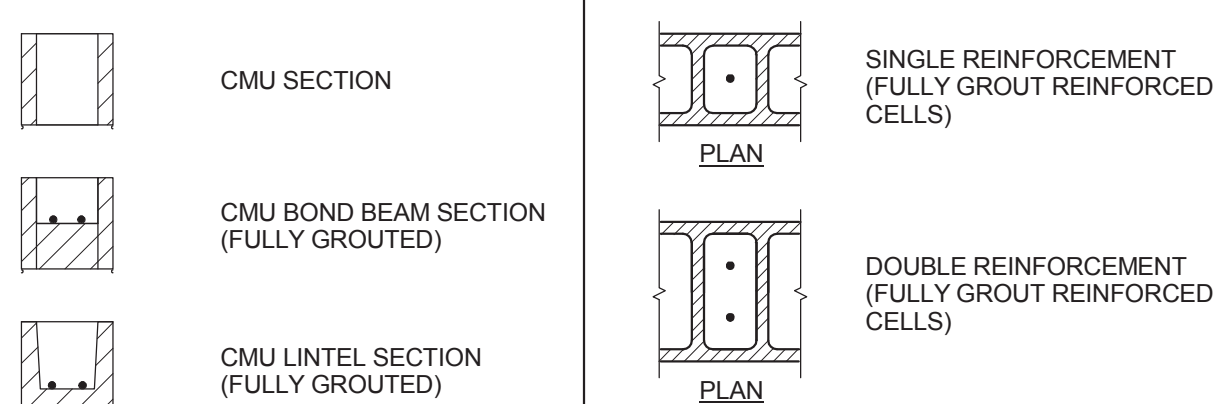
STEEL MEMBERS

SHAPE	SECTION	ELEVATION	PLAN VIEW
W-SHAPE BEAM			
CHANNEL			
ANGLE			
DOUBLE ANGLE			
HOLLOW STRUCTURAL SECTION - RECTANGULAR			
HOLLOW STRUCTURAL SECTION - CIRCULAR (PIPE)			
OPEN WEB STEEL JOIST			

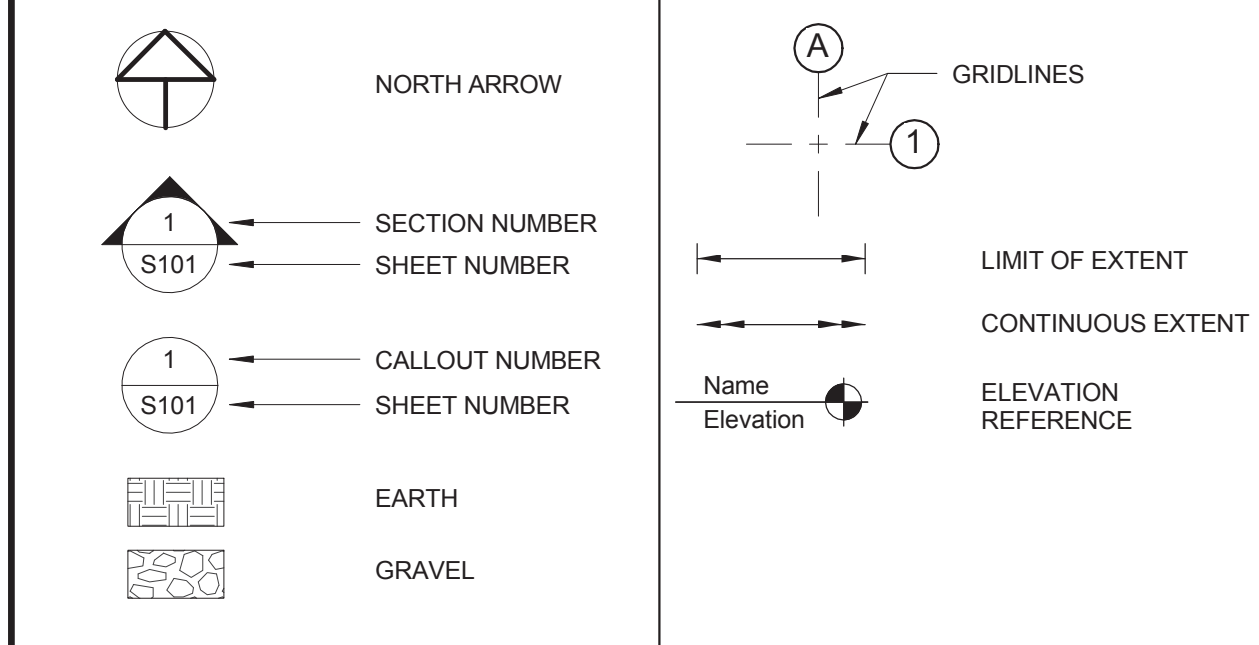
PRECAST MEMBERS

SHAPE	SECTION	ELEVATION	PLAN VIEW
DOUBLE TEE			
GIRDER			
SPANDREL			
PLANK			
HOLLOW-CORE			

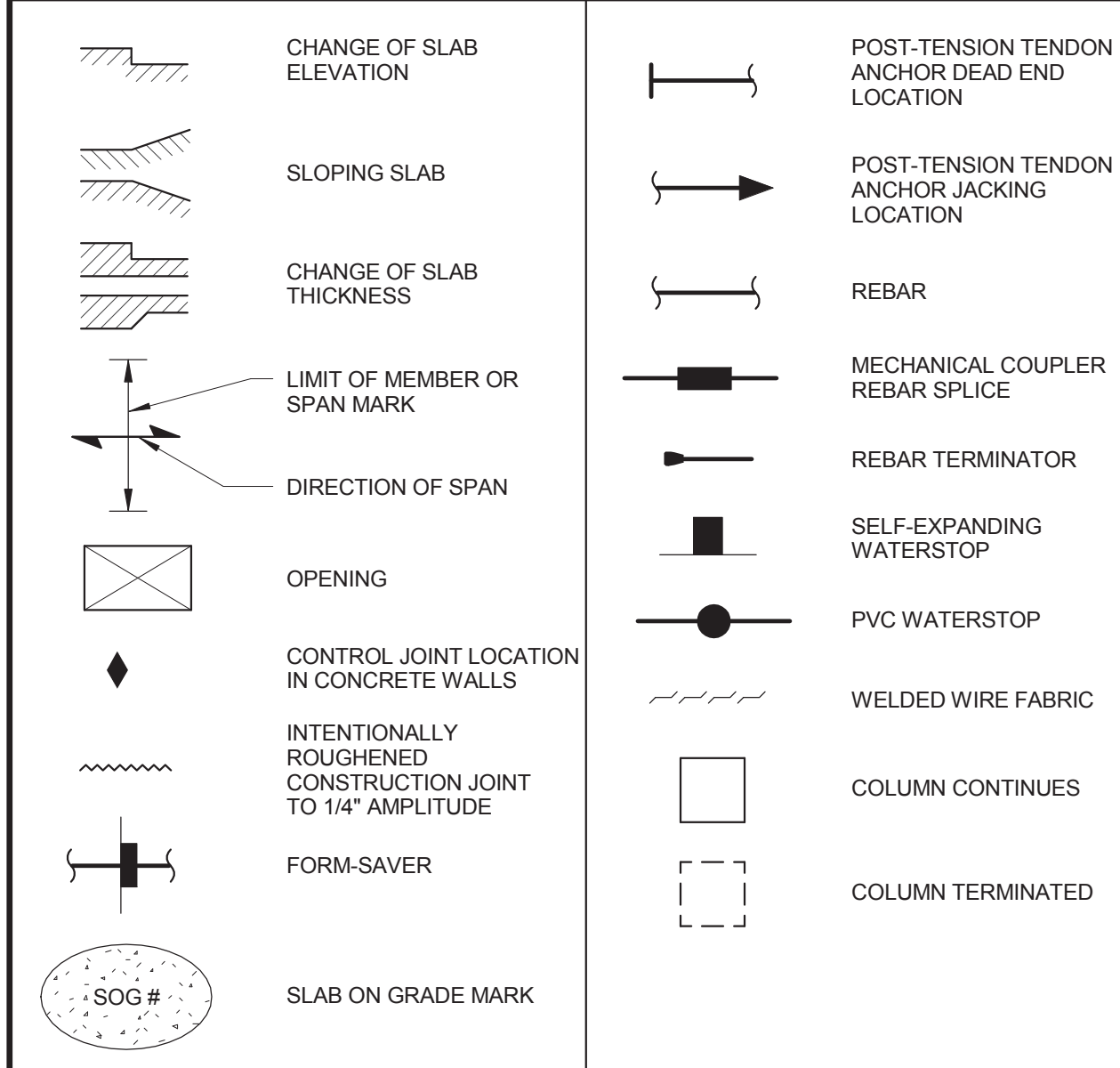
MASONRY MEMBERS



MISCELLANEOUS SYMBOLS



CONCRETE SYMBOLS



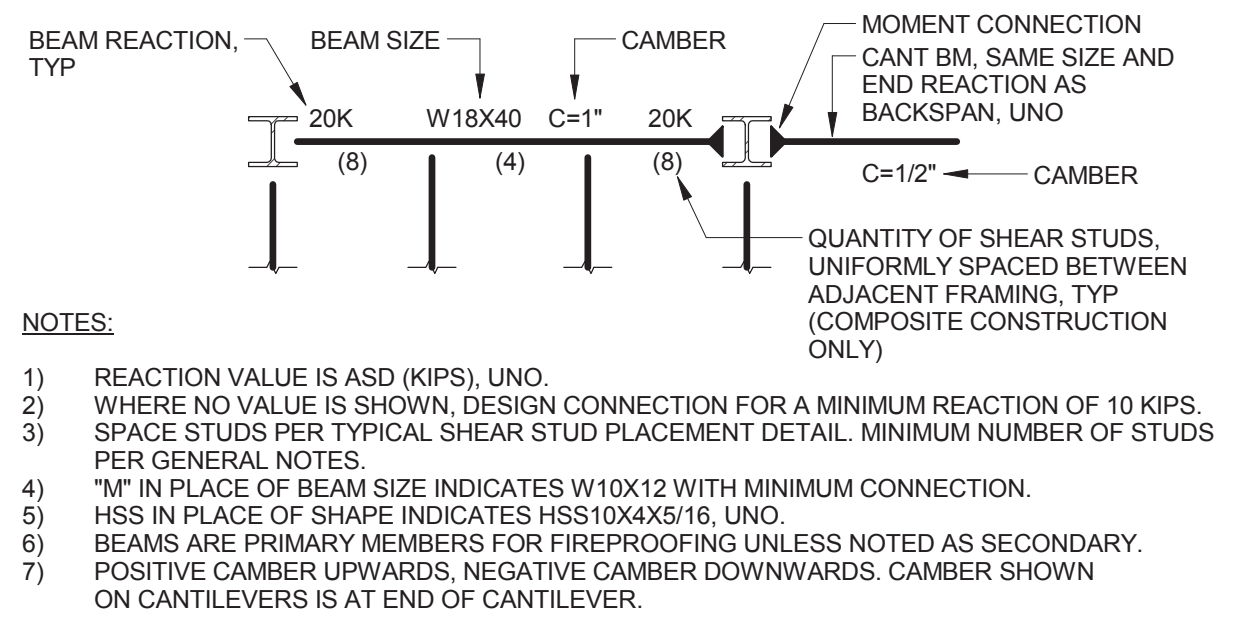
CONNECTORS

CONNECTOR	SECTION	END/ALT VIEW
CAST-IN ANCHOR ROD		
POST-INSTALLED MECHANICAL ANCHOR		
POST INSTALLED ADHESIVE ANCHOR		
HEADED STUD		
BOLT		

STRUCTURAL DRAWINGS ABBREVIATIONS

A/E	ARCHITECT/ENGINEER	JST	JOIST
ACI	AMERICAN CONCRETE INSTITUTE	JT	JOINT
ADL	ADDITIONAL	KB	KNEE BRACE
ADJ	ADJACENT	KIP, K	1,000 POUNDS
AGGR	AGGREGATE	KO	KNOCK-OUT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	KSI	KIPS PER SQUARE INCH
ALT	ALTER	L	ANGLE OR LENGTH
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	LAB	LABORATORY
APA	AMERICAN PLYWOOD ASSOCIATION	LB	POUND
APPROX	APPROXIMATE	LF	LINEAL FOOT
AR	ANCHOR ROD	LN	LINEAL, LINEAR
ARCH	ARCHITECTURAL	LLH	LONG LEG HORIZONTAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LLV	LONG LEG VERTICAL
AWS	AMERICAN WELDING SOCIETY	LONGIT	LONGITUDINAL
B/	BOTTOM	LP	LOW POINT
BAL	BALANCE	LSL	LAMINATED STRAND LUMBER
BD	BOARD	LSLT	LONG SLOTTED HOLE
BLDG	BUILDING	LTWT	LIGHT WEIGHT
BLK	BLOCK	LVL	LAMINATED VENEER LUMBER
BLKG	BLOCKING	MAS	MASONRY
BM	BEAM	MATL	MATERIAL
BOT	BOTTOM	MAX	MAXIMUM
BRG	BEARING	MB	MACHINE BOLT
BRKT	BRACKET	MC	MISCELLANEOUS CHANNEL
BTWN	BETWEEN	MECH	MECHANICAL
BU	BUILT UP	MEMB	MEMBRANE
C	STANDARD CHANNEL	MEP	MECHANICAL / ELECTRICAL / PLUMBING
CANT	CANTILEVER	MFR	MANUFACTURER
CC	CENTER TO CENTER	MIN	MINIMUM
CF	COLD FORMED	MISC	MISCELLANEOUS
CG	CENTER OF GRAVITY	MO	MASONRY OPENING
CIP	CAST-IN-PLACE	MULT	MULTIPLE
CJ	CONTROL JOINT OR CONSTRUCTION JOINT	N/A	NOT APPLICABLE
CJP	COMPLETE JOINT PENETRATION	NO	NUMBER
CL	CENTERLINE	NOM	NOMINAL
CLR	CLEARANCE, CLEAR	NS	NEAR SIDE
CMU	CONCRETE MASONRY UNIT	NOT TO SCALE	NOT TO SCALE
COL	COLUMN	OC	ON CENTER
CONC	CONCRETE	OD	OUTSIDE DIAMETER
CONC	CONCRETE	OF	OUTSIDE FACE
CONST	CONSTRUCTION	OFD	OVERFLOW DRAIN
CONT	CONTINUOUS	OH	OPENING
CONTR	CONTRACTOR	OPNG	OPENING
CTR	CENTER	OPP	OPPOSITE
CTRD	CENTERED	OPPHD	OPPOSITE HAND
CU FT	CUBIC FEET	ORIG	ORIGINAL
CU IN	CUBIC INCH	OVS	OVERSIZED HOLE
CYD	CUBIC YARD	OWJ	PRE-MANUFACTURED OPEN WEB JOIST
DBA	DEFORMED BAR ANCHOR	PC	PRECAST CONCRETE
DBL	DOUBLE	PERIM	PERIMETER
DEG	DEGREE	PERM	PERMANENT
DEMO	DEMOLITION, DEMOLISH	PERP	PERPENDICULAR
DEPT	DEPARTMENT	PJP	PARTIAL JOINT PENETRATION
DET	DIAMETER	PL	PLATE
DIA	DIAGONAL	PLF	POUNDS PER LINEAL FOOT
DIAPH	DIAPHRAGM	PLYWD	PLYWOOD
DIM	DIMENSION	PREFAB	PREFABRICATED
DN	DOWN	PRELIM	PRELIMINARY
DO	DITTO	PREP	PREPARATION, PREPARE
DP	DEEP	PROJ	PROJECTION
DWG	DRAWING	PS	PRESTRESSED
DWL	DOWELS	PSF	POUNDS PER SQUARE FOOT
EA	EACH	PSI	POUNDS PER SQUARE INCH
EF	EACH FACE	PSL	PARALLEL STRAND LUMBER
EJ	EXPANSION JOINT	PT	POST-TENSIONED
EL ELEV	ELEVATION	R	RADIUS
ELEC	ELECTRICAL	RD	ROOF DRAIN
ENCL	ENCLOSURE	REF	REFERENCE
ENGR	ENGINEER	REINF	REINFORCEMENT, REINFORCE
EQPT	EQUIPMENT	REQD	REQUIRED
ES	EACH SIDE	RO	ROUGH OPENING
EW	EACH WAY	RTU	ROOFTOP MECHANICAL UNIT
EX	EXISTING	S	SLOPE
EXP	EXPANSION	SCHED	SCHEDULE
EXT	EXTERIOR	SECT	SECTION
FD	FLOOR DRAIN	SF	SQUARE FEET
FDN	FOUNDATION	SHT	SHEET
FIN	FINISH	SIM	SIMILAR
FLG	FLANGE	SOG	SLAB-ON-GRADE
FLR	FLOOR	SPA	SPACES, SPACE
FS	FAR SIDE	SQ	SQUARE
FT	FEET	SS	STAINLESS STEEL
FTG	FOOTING	SSLT	SHORT SLOTTED HOLE
FTGD	FOOTING DRAIN	STD	STANDARD
FV	FIELD VERIFY	STIFF	STIFFENER
GA	GAUGE	STL	STEEL
GALV	GALVANIZED	STRUC	STRUCTURAL
GB	GRADE BEAM	SYM	SYMMETRICAL
GL	GLUED LAMINATED TIMBER (GLULAM)	T & B	TOP AND BOTTOM
GRND	GROUND	TJ	TOP OF
GT	GIRDER TRUSS	TGB	TOP OF GRADE BEAM
HAS	HEADED ANCHOR STUD	TBS	MECHANICAL TENSION BUTT SPLICE
HORIZ	HORIZONTAL	TEMP	TEMPERATURE
HP	HIGH POINT	THRU	THROUGH
HSS	HOLLOW STRUCTURAL SECTION	TJI	PREFABRICATED WOOD I-JOIST
HT	HIP TRUSS	TRANS	TRANSVERSE
HVAC	HEATING, VENTILATION, AIR CONDITIONING	TYP	TYPICAL
ID	INSIDE DIAMETER	UL	UNDERWRITERS' LABORATORY INC.
IF	INSIDE FACE	UNO	UNLESS NOTED OTHERWISE
IN	INCH	UT	ULTRA-SONIC TEST
INCL	INCLUDE	VERT	VERTICAL
INFO	INFORMATION	W	WIDE FLANGE
INSUL	INSULATION	W/	WITH
INT	INTERIOR	W/O	WITHOUT
JBRG	JOIST BEARING	WD	WOOD
		WH	WEEP HOLE
		WP	WORK POINT
		WT	WEIGHT, STRUCTURAL T
		WWF	WELDED WIRE FABRIC
		XS	EXTRA STRONG (PIPE)
		XXS	DOUBLE EXTRA STRONG (PIPE)

BEAM LEGEND



STRUCTURAL INDEX

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S1004	LOAD MAPS
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SF102	LEVEL 2 - FRAMING PLAN
SF103	LEVEL 3 - FRAMING PLAN
SF201	SHEARWALL ELEVATIONS AND SCHEDULES
SF202	SHEARWALL ELEVATIONS AND SCHEDULES
SF203	SHEARWALL ELEVATIONS AND SCHEDULES
SF301	BUILDING SECTIONS AND ELEVATIONS
SF302	BUILDING SECTIONS AND ELEVATIONS
SF401	ENLARGED PLANS
SF402	ENLARGED PLANS
SF403	ENLARGED PLANS
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SF502	TYPICAL FOUNDATION DETAILS
SF504	PILE / PILE CAP DETAILS / SCHEDULES
SF505	TYPICAL FRAMING SECTIONS AND DETAILS
SF506	TYPICAL FRAMING SECTIONS AND DETAILS
SF507	FRAMING SECTIONS AND DETAILS
SF508	FRAMING SECTIONS AND DETAILS
SF509	FRAMING SECTIONS AND DETAILS
SF510	MISCELLANEOUS DETAILS
SF901	AXONOMETRICS

DEDUCT ALTERNATES

1	DEDUCT PLANTING BY 50%.
2	DEDUCT NORTH PARKING AREA.
3	DEDUCT FALL DETERRENT FROM 2ND LEVEL.
4	DEDUCT PLANTING BY 100%.
5	DEDUCT THINSET BRICK.
6	DEDUCT CANOPY CONNECTOR.
7	DEDUCT FALL DETERRENT COMPLETELY.
8	DEDUCT SOUTH ELEVATOR (SHAFT TO REMAIN).
9	DEDUCT PARTIAL THIRD FLOOR (BETWEEN COLUMN LINES 1-4 TO B-C).
10	DEDUCT PARTIAL THIRD FLOOR (BETWEEN COLUMN LINES 4-9 TO B-C AND COLUMN LINES 1-9 TO C-D). DEDUCT ONE LEVEL FROM BOTH EGRESS STAIR TOWERS AND ELEVATOR TOWER. ADD SIMPLE STAIR FROM LEVEL 2 TO LEVEL 3 ALONG COLUMN LINE B BETWEEN COLUMN LINE 7-8.

REFER TO ALL SHEETS FOR INDICATION OF ALTERNATES. ALTERNATES WILL BE INDICATED WITH REFERENCE TAG. REFER TO SPECIFICATION SECTION 00 45 23 FOR ADDITIONAL INFORMATION.

BID SET

Revisions:	Date:
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VA U.S. Department of Veterans Affairs

SALISBURY VAMC
Dept. of Veterans Affairs
1601 Brenner Ave.
Salisbury, NC 28144



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PROJECT LEADER/ARCHITECT:



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SUSTAINABLE ARCHITECTURE + ENGINEERING

Drawing Title ABBREVIATIONS AND SYMBOLS	Project Title CONSTRUCT NEW PARKING GARAGE	Project Number 13.1044 Building Number Bldg 9	OFFICE OF FACILITIES MANAGEMENT
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC Date 11/14/2014 Checked By: JAP Drawn By: BGC	Drawing Number S1001	VA Project Number 659-342 VA U.S. Department of Veterans Affairs

GENERAL

THE STRUCTURE HAS BEEN DESIGNED FOR THE IN-SERVICE LOADS ONLY. THE METHODS, MEANS, PRECAUTIONS AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO INSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, TIEDOWNS, ETC.

THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND PRECAST CONCRETE DRAWINGS AND SPECIFICATIONS.

THE GENERAL NOTES ON THE DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE FULL WRITTEN MATERIAL SPECIFICATIONS (IF ANY) FOR THE PROJECT. IF A DISCREPANCY OCCURS BETWEEN THE NOTES AND THE FULL SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

NO PENETRATIONS THROUGH STRUCTURAL ELEMENTS, OTHER THAN THOSE SHOWN ON THE DRAWINGS, SHALL BE MADE WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.

CONCRETE MIX DESIGN SUBMITTAL

THE CONTRACTOR SHALL SUBMIT FOR THE REVIEW OF THE STRUCTURAL ENGINEER A MIX DESIGN FOR EACH PROPOSED CLASS OF CONCRETE. EACH MIX DESIGN SHALL BE IDENTIFIED BY A MIX NUMBER OR OTHER UNIQUE IDENTIFICATION. THE CONTRACTOR SHALL NOT VARY FROM THE MIX DESIGNS NOR USE ANY CONCRETE OTHER THAN THE APPROVED MIX DESIGNS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER. MIX DESIGN SUBMITTALS SHALL INCLUDE THE FOLLOWING INFORMATION:

- MIX DESIGN NUMBER OR UNIQUE IDENTIFICATION AND INTENDED LOCATION OF PLACEMENT
- CEMENT TYPE, PROPORTION AND NAME OF MANUFACTURER
- FLY ASH PROPORTION (WHEN USED), LABORATORY ANALYSIS CERTIFICATION, AND NAME AND LOCATION OF SUPPLIER
- COURSE AGGREGATE PROPORTION, GRADATION REPORT, NAME AND LOCATION OF SUPPLIER
- FINE AGGREGATE PROPORTION, GRADATION REPORT, NAME AND LOCATION OF SUPPLIER
- MIXING WATER PROPORTION AND SOURCE
- AD MIXTURE DOSAGES (PRODUCT NAMES) AND MANUFACTURER NAME(S)
- FIBER REINFORCEMENT DOSAGE (WHEN USED), PRODUCT NAME AND MANUFACTURER NAME
- DESIGN 28-DAY COMPRESSIVE STRENGTH (FC)
- DESIGN SLUMP RANGE
- DESIGN AIR ENTRAINMENT (FOR CONCRETE REQUIRING ENTRAINED AIR)
- STATISTICAL ANALYSIS OF LABORATORY STRENGTH TEST DATA IN ACCORDANCE WITH STANDARD DEVIATION DETERMINATION OUTLINED IN ACI 318

SHOP DRAWING SUBMITTALS

THE CONTRACTOR SHALL PREPARE DETAILED SHOP DRAWINGS TO ENABLE HIM TO FABRICATE, ERECT AND CONSTRUCT ALL PARTS OF THE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. THESE SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ALL DIMENSIONS, ACCURACY AND FIT OF WORK.

ALL SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER. DRAWINGS SUBMITTED WITHOUT CONTRACTOR'S REVIEW WILL BE RETURNED UNCHECKED.

SUBMIT HARD COPIES AND ELECTRONIC VERSIONS OF SHOP DRAWINGS. SUBMIT A MINIMUM OF THREE COPIES OF SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW (ONE COPY SHALL BE RETAINED BY THE STRUCTURAL ENGINEER AND ONE COPY SHALL BE RETAINED BY THE VA). FOR ELECTRONIC VERSION, SUBMIT SHOP DRAWINGS IN ADOBE PDF FORMAT.

SUBMIT SHOP DRAWINGS FOR EACH OF THE FOLLOWING ITEMS:

- CONCRETE REINFORCEMENT
- CONCRETE MASONRY REINFORCEMENT
- STRUCTURAL STEEL (INCLUDING DESIGN CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS CONSTRUCTED FOR ALL CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS)
- PRECAST CONCRETE COMPONENTS (PRECAST LINTELS, ARCHITECTURAL PRECAST)
- PRECAST PLANKS
- GLASS CURTAIN WALL SYSTEM (INCLUDING DESIGN CALCULATIONS AND CONNECTION DETAILS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS CONSTRUCTED)
- STRUCTURAL PRECAST CONCRETE (INCLUDING DESIGN CALCULATIONS, FRAMING LAYOUTS, MEMBER SIZES, MATERIALS AND CONNECTION DETAILS, SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS CONSTRUCTED) INCLUDING BUT NOT LIMITED TO:
 - LOAD BEARING PRECAST WALL PANELS
 - PRECAST COLUMN, BEAMS AND SPANDRELS
 - PRECAST DOUBLE TEES
 - PREFABRICATED CONCRETE FORMWORK SYSTEMS

PRODUCT DATA SUBMITTALS

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL PRODUCT DATA FOR THE SPECIFIC ITEMS LISTED BELOW. CONTRACTOR SHALL NOT USE PRODUCTS OTHER THAN THOSE SUBMITTED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.

SUBMIT HARD COPIES OR ELECTRONIC VERSIONS OF PRODUCT DATA. FOR HARD COPY OPTION, SUBMIT A MINIMUM OF TWO COPIES OF PRODUCT DATA TO THE STRUCTURAL ENGINEER FOR REVIEW (ONE COPY SHALL BE RETAINED BY THE STRUCTURAL ENGINEER); FOR ELECTRONIC OPTION, SUBMIT PRODUCT DATA IN ADOBE PDF FORMAT.

- FIBER REINFORCEMENT FOR CONCRETE
- CONCRETE CURING COMPOUND
- CONCRETE JOINT SEALANT
- WATER STOPS
- MASONRY JOINT REINFORCEMENT
- EXPANSION ANCHORS
- ADHESIVE ANCHORS
- NON-SHRINK GROUT

FOUNDATIONS

FOUNDATION EXCAVATIONS AND SOIL RELATED WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT NUMBER 70135144. PREPARED BY TERRACON CONSULTANTS, INC. DATED DECEMBER 18TH, 2013.

DESIGN NET SOIL PRESSURE:

SPREAD FOOTINGS:	2000 PSF
CONTINUOUS WALL FOOTINGS:	2000 PSF

FOUNDATIONS AND SOILS RELATED WORK SHALL BE INSPECTED BY A LICENSED GEOTECHNICAL ENGINEER. WRITTEN FIELD REPORTS SHALL BE FORWARDED TO THE STRUCTURAL ENGINEER AS SOON AS THEY BECOME AVAILABLE.

FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION, WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT, SHALL BE REPORTED TO THE STRUCTURAL ENGINEER AND GEOTECHNICAL ENGINEER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.

EXCAVATIONS FOR SPREAD FOOTINGS, COMBINED FOOTINGS, CONTINUOUS FOOTINGS AND MAT FOUNDATIONS SHALL BE CLEANED AND HAND TAMPED TO UNIFORM SURFACE AND SHALL BE PROTECTED AND MAINTAINED UNIFORM UNTIL CONCRETE IS PLACED.

DESIGN ALLOWABLE PILE LOADS:

COMPRESSION:	180 KIPS
TENSION:	60 KIPS
LATERAL:	14 KIPS

FOR PURPOSES OF BIDDING, SEE SB101 FOR ESTIMATED PILE LENGTHS BELOW THE BOTTOM OF PILE CAP WHICH ACHIEVES EITHER 25 FEET OF PENETRATION INTO VERY DENSE SOIL OR BORING TERMINATION AT PARTIALLY WEATHERED ROCK AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL REPORT INDICATES THAT THIS ELEVATION OF THIS STRATA VARIES ACROSS THE SITE. ACTUAL TIP ELEVATION TO BE DETERMINED BY SPECIFIED TESTING PROGRAM AND CRITERIA. SEE SPECIFICATIONS.

BELOW-GRADE WALLS

DO NOT BACKFILL AGAINST BELOW-GRADE CONCRETE (OR MASONRY) WALLS UNTIL THE CONCRETE (OR MASONRY ASSEMBLAGE) HAS REACHED ITS 28-DAY COMPRESSIVE STRENGTH.

WHERE BACKFILL IS REQUIRED ON BOTH SIDES OF BELOW-GRADE WALLS, BACKFILL EVENLY ON EACH SIDE OF EACH WALL TO PREVENT UNBALANCED SOIL LOADS AGAINST THE WALL.

UNLESS NOTED OTHERWISE, DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL THE BASEMENT AND GROUND FLOOR SLABS HAVE BEEN COMPLETELY INSTALLED AND REACHED THEIR 28-DAY COMPRESSIVE STRENGTH AND ALL FLOOR FRAMING AND SLAB CONNECTIONS TO THE BASEMENT WALLS HAVE BEEN COMPLETELY INSTALLED.

WHERE BASEMENT WALLS OCCUR, BACKFILL EVENLY ON ALL SIDES OF THE BUILDING TO PREVENT UNBALANCED SOIL LOADS AGAINST THE BASEMENT STRUCTURE, UNLESS NOTED OTHERWISE.

AUGER CAST PILES

CONTRACTOR SHALL SHALE BIDS ON THE INDICATED NUMBER, DIAMETER AND DESIGN CAPACITIES. AUGER CAST PILES PLUS TEST PILES OF THE SAME DIAMETER AND LENGTH. PILE CONTRACTOR SHALL SUBMIT WITH BID WRITTEN CERTIFICATION THAT CONTRACTOR HAS THE TECHNICAL QUALIFICATIONS, EXPERIENCE, TRAINED PERSONNEL, AND FACILITIES TO INSTALL AUGER CAST PILES AS INDICATED.

SUBMIT TO THE STRUCTURAL ENGINEER THE PROPOSED CONCRETE GROUT MIX DESIGN FOR REVIEW PRIOR TO COMMENCEMENT OF PILING OPERATIONS.

GROUT FLUIDIFIER SHALL CONFORM TO ASTM C 897, EXCEPT THAT EXPANSION SHALL NOT EXCEED 4 PERCENT. THE FLUIDIFIER SHALL BE A COMPOUND POSSESSING CHARACTERISTICS THAT WILL INCREASE THE FLOWABILITY OF THE MIXTURE, ASSIST IN THE DISPERSAL OF FLY ASH TO TOTAL CEMENTITIOUS MATERIALS IN THE MIX SHALL NOT EXCEED 25 PERCENT.

LOCATE EXISTING UNDERGROUND UTILITIES BEFORE INSTALLING PILES. IF ADJACENT UTILITIES ARE TO REMAIN IN PLACE, PROVIDE PROTECTION FROM DAMAGE DURING PILING OPERATIONS. SHOULD UNCHARTED OR INCORRECTLY CHARTED PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, ADAPT INSTALLATION PROCEDURE IF NECESSARY TO PREVENT DAMAGE TO UTILITIES. COOPERATE WITH OWNER AND UTILITY COMPANIES IN PROVIDING SERVICES AND FACILITIES IN OPERATION WITHOUT INTERRUPTION. REPAIR DAMAGED UTILITIES TO SATISFACTION OF UTILITY OWNER.

PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES FROM DAMAGE CAUSED BY PILE INSTALLATION OPERATIONS.

ENGAGE A QUALIFIED LAND SURVEYOR OR PROFESSIONAL ENGINEER TO PERFORM SURVEYS, LAYOUTS AND MEASUREMENTS FOR AUGER CAST PILES.

RECORD AND MAINTAIN DETAILED INFORMATION PERTINENT TO EACH PILE AND COORDINATE WITH OWNERS TESTING AND INSPECTING AGENCY TO PROVIDE DATA FOR REQUIRED REPORTS.

CONSTRUCT TEST PILES OF SAME DIAMETER, LENGTH AND DEPTH AS PERMANENT PILES TO VERIFY PILE DESIGN LOAD AND TO DEMONSTRATE INSTALLER'S CONSTRUCTION METHODS, EQUIPMENT, STANDARDS OF WORKMANSHIP, AND QUALITY CONTROL. UNLESS NOTED OTHERWISE, CONSTRUCT TEST PILE AT LEAST 3 DIAMETERS CLEAR OF PERMANENT PILES.

TESTING SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH ASTM D1143 AND SHALL BE OBSERVED BY A REPRESENTATIVE OF THE OWNER'S TESTING AGENCY. IF OWNER DETERMINES THAT TEST PILE DOES NOT COMPLY WITH REQUIREMENTS, CAST AND TEST ADDITIONAL PILES UNTIL COMPLIANCE IS ASSURED.

INSTALL PILES TO DEPTHS AND ELEVATIONS INDICATED. CAST TOPS OF PILES SQUARE WITH PILE AXIS. PLACE CONTINUOUS CENTER REINFORCING THROUGH THE HOLLOW-STEMMED AUGER PRIOR TO PLACEMENT OF GROUT. USE BAR SPACERS TO CENTER REINFORCING BARS AND PROPERLY POSITION FOR EMBEDMENT IN PILE CAPS.

INSTALL PILES TO THE FOLLOWING TOLERANCES:

HORIZONTAL:	MAXIMUM 3 INCHES FROM DESIGN LOCATION
TOP OF PILE:	MAXIMUM 1 INCH FROM DESIGN TOP ELEVATION
PLUMBNESS:	MAXIMUM 2 PERCENT FROM PLUMB

THE GEOTECHNICAL CONSULTANT SHALL CONTINUOUSLY INSPECT ALL PILE OPERATIONS. THE PILE CONTRACTOR SHALL COOPERATE WITH THE INSPECTOR IN THE PERFORMANCE OF THE PILING WORK. THE INSPECTOR SHALL IMMEDIATELY ADVISE THE OWNER, PILE CONTRACTOR AND STRUCTURAL ENGINEER IF ANY PILE IS NOT IN CONFORMANCE WITH THE DESIGN DOCUMENTS. IF THE STRUCTURAL ENGINEER DEEMS THAT MODIFYING AND REPLACING PILES THAT ARE NOT IN CONFORMANCE SHALL BE BORNE BY THE PILE CONTRACTOR, AT NO ADDITIONAL CHARGE TO THE OWNER. ABANDONED PILES SHALL BE CUT OFF A MINIMUM OF 12 INCHES BELOW THE BOTTOM OF THE PILE CAP AND WILL NOT BE PAID FOR BY THE OWNER.

PREPARE A MINIMUM OF SIX CONCRETE GROUT SPECIMENS FOR EACH DAY DURING WHICH PILES ARE PLACED. TEST TWO SPECIMENS AT 7 DAYS, TWO AT 28 DAYS, AND HOLD TWO IN RESERVE FOR LATER TESTING IF REQUIRED. CURE AND TEST IN ACCORDANCE WITH ASTM 1198.

CONCRETE SLABS ON GRADE

SLABS ON GRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION (ACI 302.1R).

PLACE CONCRETE IN A MANNER SO AS TO PREVENT SEGREGATION OF THE MIX. DELAY CASTING AND PILING OPERATIONS UNTIL THE CONCRETE HAS LOST SURFACE WATER SHEEN OR ALL FREE WATER. DO NOT SPRINKLE FREE CEMENT ON THE SLAB SURFACE.

PROVIDE CURING OF CONCRETE SLABS IMMEDIATELY AFTER FINISHING USING A SPRAYED ON DISSIPATING-RESIN LIQUID CURING COMPOUND CONFORMING TO ASTM C691. UNLESS NOTED OTHERWISE, ALL SCUFFS OR ABRASIONS TO THE CURING MEMBRANE SHALL BE RECOATED DAILY. OTHER CURING METHODS MAY BE USED WITH APPROVAL BY THE STRUCTURAL ENGINEER.

SLABS ON GRADE IN LOBBIES SHALL RECEIVE A SMOOTH TROWEL FINISH, AND BE PLACED TO ACHIEVE THE FOLLOWING MINIMUM TOLERANCES:

OVERALL VALUES:	FF = 35	FL = 25	FL = 15
LOCAL VALUES:	FF = 25	FL = 15	FL = 15

THE MINIMUM LOCAL AREA SHALL BE ANY BAY DEFINED BY COLUMN LINES.

UNLESS SHOWN OR NOTED OTHERWISE, PROVIDE CONTROL JOINT OR CONSTRUCTION JOINTS IN SLABS-ON-GRADE AT A MAXIMUM SPACING OF 36 TIMES THE SLAB THICKNESS. PROVIDE CONTROL JOINTS AT ALL COLUMN LOCATIONS. LOCATE JOINTS TO ELIMINATE RE-ENTRANT CORNERS AND TO CREATE SQUARE OR RECTANGULAR SECTIONS WITH MAXIMUM LONG SIDE TO SHORT SIDE RATIO OF 1.5 TO 1.

CONTROL JOINTS IN SLABS ON GRADE SHALL NOT RECEIVE JOINT FILLER MATERIAL UNLESS NOTED OTHERWISE.

NON-SHRINK GROUT

GROUT SHALL BE A NON-METALLIC, SHRINKAGE RESISTANT (WHEN TESTED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM C827 OR CRD-C821), PREMIXED, NON-CORROSIVE, NON-STAINING PRODUCT CONTAINING PORTLAND CEMENT, SILICA SANDS, SHRINKAGE COMPENSATING AGENTS AND FLUIDITY IMPROVING COMPOUNDS. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (FC) OF 5,000 PSI IN 28 DAYS.

WATERSTOPS

SELF-EXPANDING STRIP WATER STOPS SHALL BE VOLCLAY WATERSTOP-RX11 UNLESS NOTED OTHERWISE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

PVC WATERSTOPS

PROVIDE FACTORY MADE WATERSTOP FABRICATIONS FOR ALL CHANGES OF DIRECTION, INTERSECTIONS, AND TRANSITIONS LEAVING ONLY STRAIGHT BUTT JOINT SPLICES FOR THE FIELD.

PROVIDE HOG RINGS OR GROMMETS SPACED AT 12 INCHES ON CENTER ALONG LENGTH OF WATERSTOP.

PROVIDE TEFLON COATED THERMOSTATICALLY CONTROLLED WATERSTOP SPLICING IRONS FOR FIELD BUTT SPLICES.

FIELD BUTT SPLICES SHALL BE HEAT FUSED WELDED USING A TEFLON COATED THERMOSTATICALLY CONTROLLED WATERSTOP SPLICING IRON AT APPROXIMATELY 380 DEGREES F. FOLLOW APPROVED MANUFACTURER RECOMMENDATIONS.

LAPPING OF WATERSTOP, USE OF ADHESIVES, OR SOLVENTS SHALL NOT BE ALLOWED.

CENTER WATERSTOP IN JOINT AND SECURE WATERSTOP IN CORRECT POSITION USING HOG RINGS OR GROMMETS SPACED AT 12 INCHES ON CENTER ALONG THE LENGTH OF THE WATERSTOP AND WIRE TIE TO ADJACENT REINFORCING STEEL.

MASTIC COATING

MASTIC COATING FOR PROTECTION OF INDICATED ITEMS SHALL BE BITUMASTIC 50 COAL TAR MASTIC BY CARBOLINE OR EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER. INSTALL AT LOCATIONS INDICATED ON DRAWINGS.

UNLESS NOTED OTHERWISE, APPLY MASTIC TO A COATING THICKNESS OF 18 MILS. PROVIDE FULL COVERAGE OVER ITEMS INDICATED TO RECEIVE COATING.

CONCRETE

REINFORCED CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318) AND COMMENTARY (ACI 318R).

MIXING, TRANSPORTING, AND PLACING OF CONCRETE SHALL CONFORM TO THE LATEST EDITION OF THE SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301). READY-MIXED CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C94. IN CASE OF A DISCREPANCY BETWEEN THE FULL SPECIFICATIONS SHALL GOVERN.

CEMENT SHALL CONFORM TO ASTM C150, TYPE I.

FLY ASH SHALL CONFORM TO ASTM C618, CLASS C OR F. THE RATIO OF THE AMOUNT OF BARS AND SMALLER EXPOSED TO EARTH OR WEATHER: 1-1/2 INCHES BEAM AND COLUMN TIES, STIRRUPS AND SPIRALS: 3/4 INCH ELEVATED SLAB BARS NOT EXPOSED TO EARTH OR WEATHER: 3/4 INCH

NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C33.

WATER-REDUCING ADMIXTURES SHALL CONFORM TO ASTM C494.

AIR-ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260 AND SHALL BE CERTIFIED BY THE MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES.

CALCIUM CHLORIDE ADMIXTURES OR ADMIXTURES CONTAINING MORE THAN 0.1 PERCENT CHLORIDE IONS SHALL NOT BE USED.

IN COLD WEATHER CONDITIONS, MIXING, PLACING, FINISHING, CURING AND PROTECTION OF CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 306R, COLD WEATHER CONCRETING.

IN HOT WEATHER CONDITIONS, MIXING, PLACING, FINISHING, CURING AND PROTECTION OF CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 305R, HOT WEATHER CONCRETING.

USE OF CONSTRUCTION JOINTS AT LOCATIONS OTHER THAN THOSE INDICATED ON THE DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW.

SLUMP FOR PUMPED CONCRETE SHALL BE MEASURED AT POINT OF DISCHARGE. NORMAL WEIGHT CONCRETE SHALL BE USED IN THE FOLLOWING AREAS AND SHALL HAVE THE PROPERTIES AS SHOWN BELOW:

- FOOTINGS AND MATS
- COMPRESSIVE STRENGTH (28 DAYS): 3000 PSI
 - MAXIMUM SLUMP: 4 INCHES
 - MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP)
 - MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.50
 - MAXIMUM COARSE AGGREGATE SIZE: 1-1/2 INCHES
 - AIR CONTENT: N/A

- PILE CAPS
- COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI
 - MAXIMUM SLUMP: 4 INCHES
 - MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP)
 - MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48
 - MAXIMUM COARSE AGGREGATE SIZE: 1-1/2 INCHES
 - AIR CONTENT: N/A

- PILES
- COMPRESSIVE STRENGTH (28 DAYS): 5000 PSI
 - MAXIMUM SLUMP: 4 INCHES
 - MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP)
 - MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48
 - MAXIMUM COARSE AGGREGATE SIZE: 1 INCH
 - AIR CONTENT: N/A

- FOUNDATION WALLS AND GRADE BEAMS
- COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI
 - MAXIMUM SLUMP: 4 INCHES
 - MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP)
 - MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48
 - MAXIMUM COARSE AGGREGATE SIZE: 1 INCH
 - AIR CONTENT: N/A

- ENTRANCE PLATFORMS, RETAINING WALLS, AND CURBS/SIDEWALKS/SLABS EXPOSED TO DE-ICERS
- COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI
 - MAXIMUM SLUMP: 4 INCHES
 - MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP)
 - MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48
 - MAXIMUM COARSE AGGREGATE SIZE: 1 INCH
 - AIR CONTENT: 5.5% +/- 1%

- INTERIOR SLABS ON GRADE
- COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI
 - MAXIMUM SLUMP: 4 INCHES
 - MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP)
 - MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48
 - MAXIMUM COARSE AGGREGATE SIZE: 1 INCH
 - AIR CONTENT: N/A

- TOPPING SLABS
- COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI
 - MAXIMUM SLUMP: 4 INCHES
 - MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP)
 - MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48
 - MAXIMUM COARSE AGGREGATE SIZE: 3/4 INCH
 - AIR CONTENT: N/A

EXPANSION ANCHORS

EXPANSION ANCHORS SHALL BE HILTI "KWIK BOLT 1/2" OR AN EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER, UNO.

ANCHOR FINISH SHALL BE CARBON STEEL FOR INTERIOR EXPOSURES AND AISI 316 STAINLESS STEEL FOR EXTERIOR AND BELOW GRADE EXPOSURES, UNO.

ANCHORS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS BY INSTALLERS TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

ANCHORS SHALL NOT BE INSTALLED IN CONCRETE OR MASONRY UNTIL IT HAS ATTAINED ITS SPECIFIED MINIMUM 28 DAY COMPRESSIVE STRENGTH.

ADHESIVE ANCHORS FOR SOLID SUBSTRATES

ADHESIVE ANCHORS FOR SOLID SUBSTRATES SHALL BE HILTI "HIT-HY 200" OR AN EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER, UNO.

ANCHORS SHALL BE ASTM A36 THREADED RODS FOR INTERIOR EXPOSURES AND AISI 316 STAINLESS STEEL FOR EXTERIOR AND BELOW GRADE EXPOSURES, UNO.

ANCHORS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS BY INSTALLERS TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

ANCHORS SHALL NOT BE INSTALLED IN CONCRETE OR MASONRY UNTIL IT HAS ATTAINED ITS SPECIFIED MINIMUM 28 DAY COMPRESSIVE STRENGTH.

MINIMUM EMBEDMENT DEPTH SHALL BE 8 BOLT DIAMETERS UNLESS NOTED OTHERWISE.

ADHESIVE ANCHORS FOR HOLLOW SUBSTRATES

ADHESIVE ANCHORS FOR HOLLOW SUBSTRATES SHALL BE HILTI "HIT-HY 70" WITH HILTI "HIT-SC" SCREEN TUBE OR AN EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER, UNO.

ANCHORS SHALL BE ASTM A36 THREADED RODS FOR INTERIOR EXPOSURES AND AISI 316 STAINLESS STEEL FOR EXTERIOR AND BELOW GRADE EXPOSURES, UNO.

ANCHORS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS BY INSTALLERS TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

SEPARATION OF DISSIMILAR METALS

DISSIMILAR METALS SHALL BE ELECTRICALLY ISOLATED TO PREVENT GALVANIC CORROSION VIA NON-CONDUCTIVE WASHERS, GASKETS, COATINGS, OR EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER, UNO.

REINFORCING STEEL

REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI.

REINFORCING BAR DETAILING, FABRICATING, AND PLACING SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING STANDARDS: ACI 301, ACI 315, ACI 318 AND ACI DETAILING MANUAL (SP98).

UNLESS A GREATER AMOUNT OF COVER IS INDICATED ON THE DRAWINGS, PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS:

- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 INCHES
- #6 BARS AND LARGER EXPOSED TO EARTH OR WEATHER: 2 INCHES
- #6 BARS AND SMALLER EXPOSED TO EARTH OR WEATHER: 1-1/2 INCHES
- BEAM AND COLUMN TIES, STIRRUPS AND SPIRALS: 1-1/2 INCHES
- ELEVATED SLAB BARS NOT EXPOSED TO EARTH OR WEATHER: 3/4 INCH

REINFORCING STEEL SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT UNLESS INDICATED ON THE CONTRACT DOCUMENTS OR APPROVED BY THE STRUCTURAL ENGINEER.

WHERE LAP SPICE LENGTHS ARE NOT SHOWN OR NOTED, PROVIDE A CLASS "B" LAP.

ALL 90 DEGREE AND 180 DEGREE BENDS SHOWN ON THE DRAWINGS SHALL BE STANDARD HOOKS, UNLESS NOTED OTHERWISE.

PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF ALL WALLS, WALL, FOOTINGS AND GRADE BEAMS, UNLESS NOTED OTHERWISE. LAP SPICE CORNER BARS WITH STRAIGHT BARS.

UNLESS OTHERWISE SHOWN OR NOTED, PROVIDE 2-#5 BARS (ONE EACH FACE) ALONG UNFRAMED OPENINGS IN CONCRETE WALLS AND GRADE BEAMS. PLACE BARS PARALLEL TO THE SIDES OF THE OPENING AND EXTEND 24" BEYOND CORNERS.

WELDABLE REINFORCING STEEL

REINFORCING STEEL WHICH IS TO BE WELDED SHALL CONFORM TO ASTM A706. WELDING OF REINFORCING STEEL, WHEN APPROVED BY THE STRUCTURAL ENGINEER, SHALL CONFORM TO THE LATEST EDITION OF AMERICAN WELDING SOCIETY STANDARD D11.4. ELECTRODES FOR SHOP AND FIELD WELDING OF REINFORCING STEEL SHALL CONFORM TO ASTM A233, CLASS E90X.

EPOXY-COATED REINFORCING STEEL

EPOXY COATED REINFORCING STEEL SHALL CONFORM TO ASTM A775 AND SHALL BE USED ONLY WHERE SHOWN OR NOTED ON THE DRAWINGS.

WELDED WIRE FABRIC

WELDED WIRE FABRIC SHALL BE SMOOTH WIRE FABRIC CONFORMING TO ASTM A185. FABRIC SHALL BE SUPPLIED IN FLAT SHEETS AND LAPPED A MINIMUM OF ONE SPACE PLUS 2 INCHES.

WELDED WIRE FABRIC SHALL BE PLACED AS FOLLOWS, UNLESS NOTED OTHERWISE: SLABS ON GRADE: 2 INCHES DOWN FROM TOP OF SLAB.

FIBER REINFORCEMENT

FIBER REINFORCEMENT SHALL BE 3/4" LONG, VIRGIN (NON-RECYCLED) NYLON OR POLYPROPYLENE FIBERS, INTRODUCED INTO THE CONCRETE MIX AT THE BATCH PLANT, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DOSAGE SHALL BE 1.5 POUNDS PER CUBIC YARD OF CONCRETE.

CONCRETE TESTING

MAKE ONE SET OF TEST CYLINDERS IN ACCORDANCE WITH ASTM C31 FOR EACH DAY'S POUR AND FOR EACH 100 CUBIC YARDS. EACH SET SHALL INCLUDE ONE SPECIMEN TESTED AT 7 DAYS, 2 SPECIMENS TESTED AT 28 DAYS AND ONE SPECIMEN RETAINED IN RESERVE TO BE TESTED AT THE DIRECTION OF THE STRUCTURAL ENGINEER. SPARE CYLINDER MAY BE DISCARDED 80 DAYS AFTER CASTING UNLESS DIRECTED OTHERWISE BY THE STRUCTURAL ENGINEER. THIS SET OF TEST CYLINDERS SHALL BE PROTECTED AGAINST FREEZING.

WHEN THE AMBIENT TEMPERATURE IS EXPECTED TO FALL BELOW 40 DEGREES DURING THE COURSE OF A CONCRETE POUR OR SUBSEQUENT CURING PROCESS, AN ADDITIONAL SET OF CONCRETE TEST CYLINDERS SHALL BE MADE AND TESTED. THESE CYLINDERS SHALL BE STORED IMMEDIATELY ADJACENT TO, AND CURED UNDER THE SAME CONDITIONS AS THE BUILDING CONCRETE. SPECIAL CURING BOXES ARE NOT PERMITTED FOR THESE TEST CYLINDERS.

FORWARD COPIES OF TEST RESULTS TO THE ARCHITECT, STRUCTURAL ENGINEER, READY-MIX SUPPLIER AND CONTRACTOR WITHIN 24 HOURS AFTER TESTING.

MASONRY

CONCRETE MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES (ACI 530).

CONCRETE MASONRY SHALL CONSIST OF HOLLOW UNITS CONFORMING TO THE REQUIREMENTS OF ASTM C90, WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1800 PSI. CONCRETE MASONRY ASSEMBLAGES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (FM) OF 1,500 PSI AT 28 DAYS.

MORTAR SHALL BE TYPE S PROPORTIONED IN ACCORDANCE WITH ASTM C270.

GROUT FOR REINFORCED MASONRY SHALL BE PROPORTIONED IN ACCORDANCE WITH ASTM C476. COARSE AND FINE AGGREGATES SHALL CONFORM TO ASTM C494. USE COARSE GROUT FOR ALL GROUTING EXCEPT HIGH-LIFT POURS DEFINED BY ACI 530-05 TABLE 11.6.1, WHERE FINE GROUT SHALL BE USED.

PROVIDE 9-GAUGE GALVANIZED STEEL WIRE JOINT REINFORCEMENT IN ALL MASONRY CONSTRUCTION. REINFORCEMENT SHALL BE CONTINUOUS AND BE LAPPED EIGHT INCHES AT SPLICES. CUT REINFORCEMENT AT ALL CONTROL AND EXPANSION JOINTS. SPACE REINFORCEMENT AT 6" ON CENTER FOR PARAPETS AND BELOW GROUND FLOOR ELEVATION. ELSEWHERE SPACE REINFORCEMENT AT 16 INCHES ON CENTER.

BEAMS AND LINTELS SHALL BEAR A MINIMUM

SPECIAL INSPECTION SERVICES SCHEDULE - STEEL CONSTRUCTION

REFERENCED STANDARDS PER IBC, CHAPTER 17				
VERIFICATION AND INSPECTION TASK	TEST/INSPECTION	DESCRIPTION OF TEST/INSPECTION	APPLICABLE TO PROJECT (Y/N)	FREQUENCY
FABRICATOR QUALITY CONTROL PROCESS	INSPECTION	VERIFY THE FABRICATOR MEETS AISC CERTIFIED FABRICATOR REQUIREMENT LISTED IN THE PROJECT SPECIFICATIONS.	Y	ONE-TIME
QUALITY	INSPECTION	VISUALLY INSPECT STEEL AS IT IS RECEIVED FOR POSSIBLE DAMAGE IN SHIPPING, WORKMANSHIP, AND PIECE MARKING.	Y	PERIODIC
MILL TEST REPORTS	INSPECTION	REVIEW CERTIFIED MILL TEST REPORTS AND IDENTIFICATION MARKINGS ON WIDE-FLANGE SHAPES, HIGH-STRENGTH BOLTS, NUTS AND WELDING ELECTRODES.	Y	PERIODIC
WELDED CONNECTIONS	INSPECTION	INSPECT FIELD WELDED CONNECTIONS AS FOLLOWS: INSPECT <100% OF COMPLETE JOINT PENETRATION FIELD WELDS. ULTRASONIC TESTING OF ALL COMPLETE PENETRATIONS WELDS.	Y	CONTINUOUS
		INSPECT <100% OF PARTIAL JOINT PENETRATION FIELD WELDS.	Y	CONTINUOUS
		INSPECT <100% OF MULTI-PASS FILLET FIELD WELDS.	Y	CONTINUOUS
		INSPECT <100% OF FILLET FIELD WELDS IN LATERAL-LOAD-RESISTING BRACED FRAMES AND MOMENT FRAMES.	Y	CONTINUOUS
		INSPECT <10% OF OTHER FILLET FIELD WELDS.	Y	PERIODIC
		PERFORM PRE-WELDING INSPECTIONS TO VERIFY THAT MATERIALS (I.E. STRUCTURAL STEEL, WELD FILLER MATERIAL, ETC.), WELDING PROCEDURES, AND WELDING PERSONNEL QUALIFICATIONS ARE APPROPRIATE.	Y	PERIODIC
		VISUALLY INSPECT FIELD WELDS ACCORDING TO AWS D1.1/D1.1M.	Y	PERIODIC
		VERIFY WELDING PROCEDURES ARE IN ACCORDANCE WITH AWS REQUIREMENTS.	Y	PERIODIC
		INSPECT PRE-HEAT, POST-HEAT AND SURFACE PREPARATION BETWEEN PASSES.	Y	PERIODIC
		VERIFY SIZE AND LENGTH OF FILLET WELDS.	Y	PERIODIC
BOLTED CONNECTIONS	INSPECTION	VERIFY THAT WELDS ARE CLEAN; WELDER IDENTIFICATION IS LEGIBLE; SIZE, LENGTH AND LOCATION OF WELDS; VERIFY THAT WELDS MEET ACCEPTANCE CRITERIA; PLACEMENT OF REINFORCEMENT FILLETS; REMOVAL OF BACKING BARS AND WELD TABS AS REQUIRED; AND REPAIR ACTIVITIES.	Y	PERIODIC
		INSPECT BOLTED CONNECTIONS AS FOLLOWS: INSPECT <100% OF ALL PRE-TENSIONED AND SLIP-CRITICAL BOLTED CONNECTIONS.	Y	CONTINUOUS
		INSPECT <100% OF BOLTED CONNECTIONS IN LATERAL-LOAD-RESISTING BRACED FRAMES AND MOMENT FRAMES.	Y	PERIODIC
		INSPECT <20% OF ALL OTHER BOLTED CONNECTIONS.	Y	PERIODIC
		FOR SLIP-CRITICAL BOLTED CONNECTIONS, VERIFY INSTALLATION IS PERFORMED IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS: TURN-OF-NUT: ACCORDING TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A 325 OR A 490 BOLTS."	Y	CONTINUOUS
		CALIBRATED WRENCH: ACCORDING TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A 325 OR A 490 BOLTS."	Y	CONTINUOUS
		TWIST-OFF TENSION CONTROL BOLT: ASTM F 1852.	Y	CONTINUOUS
		DIRECT-TENSION CONTROL BOLT: ASTM F 1852.	Y	CONTINUOUS
		FOR ALL BOLTED CONNECTIONS, VERIFY QUANTITY, SIZE AND GRADE OF BOLTS, REQUIRED SURFACE PREPARATION AND PROPER FIT-UP OF CONNECTED ELEMENTS.	Y	PERIODIC
		VERIFY THAT STEEL MEMBER SIZES AND STEEL GRADE CONFORM TO THE CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS.	Y	PERIODIC
STEEL FRAMING, DETAILS AND CONNECTORS	INSPECTION	INSPECT STEEL FRAME FOR COMPLIANCE WITH STRUCTURAL DRAWINGS, INCLUDING BRACING, MEMBER CONFIGURATION AND CONNECTION DETAILS AS FOLLOWS: CHECK THE INSTALLATION OF BASE PLATES FOR PROPER LEVELING AND VERIFY PROPER GROUT TYPE AND INSTALLATION PROCEDURES ARE FOLLOWED.	Y	PERIODIC
		INSPECT <100% OF BEAM AND GIRDER CONSTRUCTION AND ASSEMBLIES.	Y	PERIODIC
		INSPECT <100% OF ALL BRACED FRAME AND MOMENT FRAME ASSEMBLIES.	Y	CONTINUOUS
		INSPECT <100% OF THE COLUMN SPICES AND BASE JOINTS FOR VERIFICATION THAT GAPS IN CONTACT BEARING DO NOT EXCEED 1/16 INCH. GAPS GREATER THAN 1/16 INCH SHALL BE REPORTED TO THE ENGINEER OF RECORD FOR ASSESSMENT.	Y	CONTINUOUS
		INSPECT COMPOSITE STEEL BEAM SHEAR CONNECTORS AS FOLLOWS: OBSERVE THE WELDING OF SHEAR CONNECTORS. INSPECT STUDS FOR FULL 360 DEGREE FLASH.	N	CONTINUOUS
		INSPECT SIZE, NUMBER, POSITIONING AND WELDING OF SHEAR CONNECTORS.	N	CONTINUOUS
		RING TEST <100% OF SHEAR CONNECTORS WITH A 3 LB HAMMER.	N	PERIODIC
		BEND TEST ALL QUESTIONABLE STUDS TO 15 DEGREES.	N	CONTINUOUS
		INSPECT STEEL GRATING AS FOLLOWS: VISUALLY INSPECT THE GRATING FOR DAMAGE DURING SHIPPING.	N	PERIODIC
		VERIFY THAT THE GRATING DEPTH, TYPE OR PROPERTIES, AND FINISH COMPLY WITH THE CONTRACT DOCUMENTS AND/OR APPROVED SHOP DRAWINGS.	N	PERIODIC
COMPOSITE BEAM SHEAR CONNECTORS	TEST	VERIFY ALL GRATING ATTACHMENT TO THE SUPPORTING CONCRETE, STEEL, AND/OR MASONRY AS SPECIFIED IN THE CONTRACT DOCUMENTS AND/OR APPROVED SHOP DRAWINGS.	N	PERIODIC
GRATING	INSPECTION			

SPECIAL INSPECTION SERVICES SCHEDULE - STEEL ROOF DECK

REFERENCED STANDARDS PER IBC, CHAPTER 17				
VERIFICATION AND INSPECTION TASK	TEST/INSPECTION	DESCRIPTION OF TEST/INSPECTION	APPLICABLE TO PROJECT (Y/N)	FREQUENCY
QUALITY	INSPECTION	VISUALLY INSPECT THE DECK PRIOR TO INSTALLATION FOR DAMAGE.	Y	PERIODIC
DECK MATERIAL	INSPECTION	VERIFY THAT THE DECK DEPTH, GAUGE, TYPE, PROPERTIES, AND FINISH COMPLY WITH THE CONTRACT DOCUMENTS.	Y	PERIODIC
DECK ATTACHMENT	INSPECTION	VERIFY THAT THE DECK ATTACHMENT TO THE SUPPORTING STEEL IS AS SPECIFIED IN THE CONTRACT DOCUMENTS.	Y	PERIODIC
DECK SUPPORT	INSPECTION	VERIFY THAT THE PROPER DECK SUPPORT IS USED AROUND OPENINGS.	Y	PERIODIC
DECK ACCESSORIES	INSPECTION	VERIFY THAT DECK ACCESSORIES ARE BEING INSTALLED ACCORDING TO THE CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS.	Y	PERIODIC

SPECIAL INSPECTION SERVICES SCHEDULE - SOILS AND EARTHWORK

REFERENCED STANDARDS PER IBC, CHAPTER 17				
VERIFICATION AND INSPECTION TASK	TEST/INSPECTION	DESCRIPTION OF TEST/INSPECTION	APPLICABLE TO PROJECT (Y/N)	FREQUENCY
FOOTING SUBGRADE	TEST	REFERENCE EARTH-WORK SPECIFICATION FOR EXTENT OF TESTING REQUIRED.	Y	PERIODIC
COMPACTION OF SOILS	TEST	REFERENCE EARTH-WORK SPECIFICATION FOR EXTENT OF TESTING REQUIRED.	Y	PERIODIC
CONTROLLED STRUCTURAL FILL	TEST	REFERENCE EARTH-WORK SPECIFICATION FOR EXTENT OF TESTING REQUIRED.	Y	PERIODIC
FOOTING SUBGRADE MATERIAL	INSPECTION	INSPECT SOILS BELOW FOUNDATIONS AND SLABS FOR ADEQUATE COMPACTION AND BEARING CAPACITY PRIOR TO PLACEMENT OF CONCRETE.	Y	PERIODIC
EXCAVATION	INSPECTION	VERIFY EXCAVATIONS ARE EXTENDED TO THE PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	Y	PERIODIC
CLASSIFICATION OF CONTROLLED FILL	INSPECTION	1) INSPECT PLACEMENT, LIFT THICKNESS AND COMPACTION OF CONTROLLED FILL. 2) VERIFY EXTENT AND SLOPE OF FILL PLACEMENT.	Y	PERIODIC
USE OF PROPER MATERIALS	INSPECTION	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.	Y	CONTINUOUS
OBSERVATION OF SUBGRADE	INSPECTION	PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	Y	PERIODIC

SPECIAL INSPECTION SERVICES SCHEDULE - CONCRETE CONSTRUCTION

REFERENCED STANDARDS PER IBC, CHAPTER 17				
VERIFICATION AND INSPECTION TASK	TEST/INSPECTION	DESCRIPTION OF TEST/INSPECTION	APPLICABLE TO PROJECT (Y/N)	FREQUENCY
MATERIAL TESTING	TEST	REFERENCE CAST-IN-PLACE CONCRETE SPECIFICATION FOR EXTENT OF TESTING REQUIRED.	-	-
QUALITY CONTROL	INSPECTION	VERIFY THAT QUALITY CONTROL TESTING IS PROVIDED IN ACCORDANCE WITH THE PROJECT REQUIREMENTS.	Y	PERIODIC
REINFORCING STEEL	INSPECTION	INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS (WHEN USED) AND PLACEMENT AS FOLLOWS: VERIFY THAT REINFORCEMENT SURFACES ARE FREE OF EXCESS RUST OR OTHER COATINGS THAT MAY ADVERSELY AFFECT BONDING CAPACITY. IF OILING OF FORMS IS REQUIRED, VERIFY THAT IT IS APPLIED BEFORE REINFORCING IS PLACED.	Y	PERIODIC
		VERIFY REINFORCING BARS FOR COMPLIANCE WITH CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS AS FOLLOWS: MATERIAL GRADE, SIZE, QUANTITY, SPACING, AND LAYERING; BARS ARE ADEQUATELY TIED AND SUPPORTED ON CHAIRS OR BOLSTERS; PROPER HOOK TYPE AND LOCATION; SPlice LOCATIONS AND REQUIRED LENGTH OF LAP; PROPER CLEARANCE AND COVER REQUIREMENTS FROM CONCRETE SURFACES; SUFFICIENT SPACING BETWEEN REINFORCEMENT FOR CONCRETE PLACEMENT; VERIFY THAT UNSCHEDULED/ADDITIONAL REINFORCING BARS SHOWN ON PLAN, IN DETAIL, OR SPECIFIED IN NOTES ARE PROVIDED AND ARE IN COMPLIANCE WITH CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS.	Y	PERIODIC
		MECHANICAL SPLICES:	Y	PERIODIC
		(TENSION AND/OR COMPRESSION) ON THE PROJECT, VERIFY COMPLIANCE WITH SPECIFICATIONS AND CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION. VERIFY THAT THE MANUFACTURER IS PRESENT FOR THE FIRST INSTALLATION OF EACH TYPE OF SPICE ON THE PROJECT.	Y	CONTINUOUS
		VERIFY THAT WELDED WIRE REINFORCEMENT IS COMPOSED OF FLAT SHEETS, HAS PROPER WIRE GAGE AND SPACING, IS PROPERLY SUPPORTED, AND IS PROPERLY LAPPED.	Y	PERIODIC
		INSPECT HEADED STUD SHEAR REINFORCEMENT TO ENSURE THAT IT CONFORMS TO THE PROJECT REQUIREMENTS.	Y	PERIODIC
		REVIEW TYPE AND SPACING, VERIFY THAT REINFORCING IS ADEQUATELY SUPPORTED TO RESIST DISPLACEMENT OR SHIFTING DURING CONCRETE PLACEMENT; VERIFY WELDING OF REINFORCEMENT IS PERFORMED ACCORDING TO AWS REQUIREMENTS AND THAT IT IS INSPECTED BY THE TESTING LABORATORY.	Y	PERIODIC
		INSPECT BOLTS AND ANCHOR RODS TO BE CAST IN CONCRETE PRIOR TO PLACEMENT OF CONCRETE FOR SIZE, QUANTITY, LOCATION, POSITION AND EMBEDMENT. INSPECT DURING PLACEMENT FOR PROPER CONCRETE CONSOLIDATION AROUND BOLTS AND ANCHORS.	Y	PERIODIC
		ALLOWABLE LOADS HAVE BEEN INCREASED PER PLAN NOTES.	Y	CONTINUOUS
		BOLTS AND/OR ANCHOR RODS USED IN LATERAL FORCE RESISTING SYSTEM AT THE FOLLOWING LOCATIONS <LIST GRID LOCATIONS>	Y	CONTINUOUS
CAST-IN-PLACE BOLTS AND ANCHOR RODS	INSPECTION	<20% OF BOLTS AND/OR ANCHOR RODS USED ELSEWHERE.	Y	PERIODIC
		REVIEW AND BECOME FAMILIAR WITH THE MIX DESIGNS SPECIFIED ON THE PROJECT. VERIFY MIX DESIGN PROVIDED BY THE CONTRACTOR IS CONSISTENT WITH PROJECT SPECIFICATIONS AT LOCATION INDICATED. REVIEW CONCRETE BATCH TICKETS TO PROPER MIX ID, TYPE OF CONCRETE AND STRENGTH FOR THE PLACEMENT LOCATION. VERIFY THAT WATER ADDED AT SITE (IF PERMITTED), DOES NOT EXCEED THAT ALLOWED BY THE MIX DESIGN.	Y	PERIODIC
CONCRETE MIX DESIGN	INSPECTION	VERIFY THAT ALL DEBRIS AND FOREIGN MATTER HAVE BEEN REMOVED BEFORE CONCRETE IS PLACED.	Y	PERIODIC
INSPECTION OF FORMED AREA	INSPECTION	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED, VERIFY FORMWORK USED IN COMPLIANCE WITH THE SPECIFICATIONS AND APPROVED SHOP DRAWINGS (WHEN REQUIRED).	Y	PERIODIC
FORMWORK	INSPECTION	AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	Y	CONTINUOUS
MATERIAL SAMPLING AND TESTING	TEST	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES AS FOLLOWS: VERIFY THE CONCRETE IS NOT OVER 90 MINUTES OLD AT TIME OF PLACEMENT; HOT-WEATHER OR COLD-WEATHER TECHNIQUES ARE BEING APPLIED AS REQUIRED; CONCRETE BEING DEPOSITED IN UNIFORM MANNER THAT THE VERTICAL DROP DOES NOT EXCEED SIX FEET, AND THAT CONCRETE IS NOT PERMITTED TO DROP FREELY OVER REINFORCEMENT CAUSING SEGREGATION; CONCRETE IS PROPERLY VIBRATED; EMBEDDED ITEMS AND REINFORCING STEEL ARE NOT ADVERSELY ALTERED DURING PLACEMENT. NOTE IF ANYTHING WAS DISPLACED OR OTHERWISE ALTERED DURING PLACEMENT; VERIFY THAT THERE ARE NO COLD JOINTS WITHIN THE AREA OF THE POUR.	Y	CONTINUOUS
CONCRETE PLACEMENT	INSPECTION	VERIFY THE CURING PROCESS IS AS SPECIFIED IN THE CONTRACT DOCUMENTS AND THAT ANY CURING COMPOUND USED IS APPLIED IN ACCORDANCE WITH MANUFACTURER'S PRINTED APPLICATION INSTRUCTIONS.	Y	PERIODIC
CURING AND PROTECTION	INSPECTION	VERIFY THAT LOCATION OF VERTICAL AND HORIZONTAL CONSTRUCTION JOINTS FOR COMPLIANCE WITH THE CONSTRUCTION JOINT LOCATION PLAN SUBMITTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD. VERIFY THAT REINFORCEMENT, DOWELS, KEYS, AND BULKHEADS AT CONSTRUCTION JOINTS ARE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS.	Y	PERIODIC
CONSTRUCTION JOINTS	INSPECTION			

SPECIAL INSPECTION SERVICES SCHEDULE - FOUNDATION WALLS AND PITS

REFERENCED STANDARDS PER IBC, CHAPTER 17				
VERIFICATION AND INSPECTION TASK	TEST/INSPECTION	DESCRIPTION OF TEST/INSPECTION	APPLICABLE TO PROJECT (Y/N)	FREQUENCY
CONCRETE PLACEMENT	INSPECTION	THE INSPECTOR MUST BE PRESENT FULL TIME DURING THE ENTIRE PLACEMENT OF THE FIRST <2> SHALLOW FOUNDATION CONCRETE POURS AND THEN MUST BE PRESENT AT THE START OF <100% OF OTHER CONCRETE POURS.	Y	PERIODIC
FORMWORK	INSPECTION	VERIFY THAT FORMS ARE PLUMB AND STRAIGHT, BRACED AGAINST MOVEMENT, AND LUBRICATED FOR REMOVAL.	Y	PERIODIC
DIMENSIONS	INSPECTION	VERIFY WALL/PIT DIMENSIONS.	Y	PERIODIC
EMBEDDED ITEMS	INSPECTION	VERIFY ANCHOR RODS AND/OR DOWELS ARE INSTALLED WITH THE EMBEDMENT AND PROJECTED LENGTHS AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.	Y	PERIODIC
REINFORCEMENT	INSPECTION	VERIFY PIT/WALL REINFORCEMENT PRIOR TO PLACEMENT OF CONCRETE.	Y	PERIODIC
WATERSTOPS	INSPECTION	VERIFY WATER STOPS ARE PROPERLY INSTALLED AND ANCHORED INTO POSITION PRIOR TO PLACEMENT OF CONCRETE.	Y	PERIODIC
BACKFILL OPERATIONS	INSPECTION	VERIFY THAT FOUNDATION AND PIT WALLS WITH UNEVEN BACKFILL CONDITIONS ARE NOT BACKFILLED UNTIL FLOOR CONSTRUCTION AT TOP OF WALL IS COMPLETE OR TEMPORARY BRACING IS PROVIDED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.	Y	PERIODIC
CONCRETE	INSPECTION	VERIFY CONCRETE PLACEMENT AS OUTLINED IN THIS INSPECTION PLAN.	Y	PERIODIC

SPECIAL INSPECTION SERVICES SCHEDULE - FOUNDATIONS

REFERENCED STANDARDS PER IBC, CHAPTER 17				
VERIFICATION AND INSPECTION TASK	TEST/INSPECTION	DESCRIPTION OF TEST/INSPECTION	APPLICABLE TO PROJECT (Y/N)	FREQUENCY
CONCRETE PLACEMENT	INSPECTION	THE INSPECTOR MUST BE PRESENT FULL TIME DURING THE ENTIRE PLACEMENT OF THE FIRST <2> FOUNDATION CONCRETE POURS AND THEN MUST BE PRESENT AT THE START OF <100% OF OTHER CONCRETE POURS.	Y	PERIODIC
FOOTING SUBGRADE	INSPECTION	VERIFY APPROVAL OF THE FOOTING SUBGRADE PRIOR TO PLACEMENT OF FOUNDATION CONCRETE.	Y	PERIODIC
FORMWORK	INSPECTION	VERIFY THAT FORMS ARE PLUMB AND STRAIGHT, BRACED AGAINST MOVEMENT, AND LUBRICATED FOR REMOVAL.	Y	PERIODIC
EARTH-FORMED FOUNDATION	INSPECTION	FOR EARTH-FORMED FOUNDATIONS, VERIFY THAT EARTH FORMS ARE SUFFICIENTLY UNIFORM TO ALLOW FOR PROPER DIMENSIONS AND REQUIRED CONCRETE COVER OVER REINFORCEMENT.	Y	PERIODIC
DIMENSIONS	INSPECTION	VERIFY FOUNDATION DIMENSIONS.	Y	PERIODIC
EMBEDED ITEMS	INSPECTION	VERIFY ANCHOR RODS AND/OR DOWELS ARE INSTALLED WITH THE EMBEDMENT AND PROJECTED LENGTHS AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.	Y	PERIODIC
REINFORCEMENT	INSPECTION	VERIFY FOUNDATION REINFORCEMENT PRIOR TO PLACEMENT OF CONCRETE.	Y	PERIODIC
CONCRETE	INSPECTION	VERIFY CONCRETE PLACEMENT AS OUTLINED IN THIS INSPECTION PLAN.	Y	PERIODIC

SPECIAL INSPECTION SERVICES SCHEDULE - MASONRY CONSTRUCTION (LEVEL 1 INSPECTION)

REFERENCED STANDARDS PER IBC, CHAPTER 17				
VERIFICATION AND INSPECTION TASK	TEST/INSPECTION	DESCRIPTION OF TEST/INSPECTION	APPLICABLE TO PROJECT (Y/N)	FREQUENCY
MATERIAL TESTING	TEST	REFERENCE MASONRY SPECIFICATION FOR EXTENT OF TESTING REQUIRED.	-	-
QUALITY CONTROL	INSPECTION	VERIFY THAT QUALITY CONTROL TESTING IS PROVIDED IN ACCORDANCE WITH THE PROJECT REQUIREMENTS.	Y	PERIODIC
MATERIALS	INSPECTION	VERIFY THE MATERIALS ARE STORED PROPERLY BEFORE PLACEMENT IN THE STRUCTURE.	Y	PERIODIC
WALL LOCATIONS	INSPECTION	VERIFY THE WALL LOCATIONS AND THICKNESSES.	Y	PERIODIC
CONTROL JOINTS	INSPECTION	VERIFY THE PROPER INSTALLATION OF CONTROL JOINTS, TYPE AND LOCATION.	Y	PERIODIC
OPENINGS	INSPECTION	VERIFY THE PROPER INSTALLATION OF STRUCTURAL ELEMENTS AROUND OPENINGS INCLUDING LIFELINE, SILLS, AND DOOR OR WINDOW JAMBS INCLUDING MASONRY UNIT TYPE AND REINFORCEMENT.	Y	PERIODIC
		VERIFY THE MASONRY IS PROPERLY CONNECTED TO THE SUPPORTING STRUCTURE(S).	Y	PERIODIC
		INSPECTION OF REINFORCING STEEL AND PLACEMENT AS FOLLOWS: VERIFY THAT REINFORCEMENT SURFACES ARE FREE OF EXCESS RUST OR OTHER COATINGS THAT MAY ADVERSELY AFFECT BONDING CAPACITY.	Y	PERIODIC
		VERIFY REINFORCING BARS AND HORIZONTAL JOINT REINFORCEMENT FOR COMPLIANCE WITH CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS AS FOLLOWS: MATERIAL GRADE, SIZE, QUANTITY, SPACING, AND LAYERING; BARS ARE ADEQUATELY TIED AND SUPPORTED ON CHAIRS OR BOLSTERS; PROPER HOOK TYPE AND LOCATION; SPlice LOCATIONS AND REQUIRED LENGTH OF LAP; PROPER CLEARANCE AND COVER REQUIREMENTS FROM MASONRY SURFACES; SUFFICIENT SPACING BETWEEN REINFORCEMENT FOR GROUT PLACEMENT; VERIFY THAT UNSCHEDULED/ADDITIONAL REINFORCING BARS SHOWN ON PLAN, IN DETAILS, OR SPECIFIED IN NOTES ARE PROVIDED AND ARE IN COMPLIANCE WITH CONTRACT DOCUMENTS AND APPROVED SHOP DRAWINGS.	Y	PERIODIC
		INSPECT EMBEDDED ITEMS TO BE CAST IN MASONRY PRIOR TO PLACEMENT OF GROUT FOR SIZE, QUANTITY, LOCATION, POSITION AND EMBEDMENT. INSPECT DURING PLACEMENT FOR PROPER GROUT CONSOLIDATION EMBEDDED ITEMS.	Y	PERIODIC
		INSPECT THE MORTAR AND GROUT USED ON THE PROJECT AS FOLLOWS: VERIFY THAT MORTAR AND GROUT MATERIALS COMPLY WITH THE CONTRACT DOCUMENTS AND APPROVED SUBMITTALS.	Y	PERIODIC
		SITE-MIXED MORTAR: VERIFY THE MORTAR IS MIXED IN ACCORDANCE WITH SPECIFIED PROPORTIONS.	Y	PERIODIC
		BAG-MIX MORTAR: VERIFY THE MORTAR IS MIXED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.	Y	PERIODIC
		VERIFY PROPER MORTAR PLACEMENT.	Y	PERIODIC
		GROUT BAG MIX: VERIFY THAT THE GROUT IS MIXED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.	Y	PERIODIC
EMBEDDED ITEMS	INSPECTION	READY-MIX GROUT: VERIFY THE MIX NUMBER AND GROUT STRENGTH.	Y	PERIODIC
		PRIOR TO ANY GROUTING PROCEDURE, INSPECT THE GROUT SPACE TO VERIFY THAT IT IS CLEAN AND THAT CLEANOUTS, IF REQUIRED, ARE IN PLACE AND CONFORM TO THE PROJECT SPECIFICATIONS AND APPROVED SHOP DRAWINGS.	Y	PERIODIC
MORTAR AND GROUT	INSPECTION	VERIFY THE PROPER GROUT PLACEMENT AND CONSOLIDATION.	Y	CONTINUOUS
		VERIFY THAT GROUT TESTING IS PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.	Y	PERIODIC
		VERIFY THE PROPER CONSTRUCTION TECHNIQUES ARE FOLLOWED FOR PROTECTION OF MASONRY DURING HOT-WEATHER AND/OR COLD-WEATHER CONSTRUCTION.	Y	PERIODIC

SPECIAL INSPECTION

SPECIAL INSPECTION IS A MANDATORY REQUIREMENT BY SECTION 704.1 OF THE REFERENCED BUILDING CODE FOR VERIFYING CONFORMANCE OF THE STRUCTURAL CONSTRUCTION. SPECIAL INSPECTION IS REQUIRED IN ADDITION TO ALL MATERIAL TESTS AND INSPECTIONS IDENTIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.

THE GENERAL CONTRACTOR SHALL EMPLOY INDEPENDENT AGENCY(IES) OR INDIVIDUAL(S) TO PROVIDE SPECIAL INSPECTION FOR ITEMS AS INDICATED ON THE DRAWINGS.

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON, WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER, FOR INSPECTION OF EACH PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

"PERIODIC" SPECIAL INSPECTION IS DEFINED AS "THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK." THE PERIODIC PERCENTAGES LISTED IN THE TABLES ARE A MINIMUM REQUIREMENT.

"CONTINUOUS" SPECIAL INSPECTION IS DEFINED AS "THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED."

THE CONTRACTOR SHALL COORDINATE WITH THE SPECIAL INSPECTOR SUFFICIENTLY IN ADVANCE OF WORK REQUIRING SPECIAL INSPECTION AND SHALL PROVIDE ACCESS TO THE SITE AND TO THE CONSTRUCTION DOCUMENTS (CURRENT DRAWINGS AND SPECIFICATIONS) FOR THE SPECIAL INSPECTOR TO CARRY OUT THE REQUIRED OPERATIONS.

THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK REQUIRING SPECIAL INSPECTION FOR CONFORMANCE TO THE CONSTRUCTION DOCUMENTS. ALL NON-CONFORMING WORK SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE IMMEDIATE ATTENTION OF THE STRUCTURAL ENGINEER.

THE SPECIAL INSPECTOR SHALL SUBMIT PERIODIC PROGRESS REPORTS TO THE CONTRACTOR AND STRUCTURAL ENGINEER IDENTIFYING ALL SPECIAL INSPECTION OPERATIONS PERFORMED. REPORTS SHALL BE SUBMITTED NO MORE THAN 7 DAYS FOLLOWING EACH SPECIAL INSPECTION OPERATION. REPORTS SHALL IDENTIFY THE ITEM(S) INSPECTED AND AN INDICATION OF WHETHER THE INSPECTED ITEMS WERE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS.

AT THE COMPLETION OF ALL WORK REQUIRING SPECIAL INSPECTION, THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO THE CONTRACTOR AND STRUCTURAL ENGINEER STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS.

FAILURE TO CORRECT NON-CONFORMING WORK SHALL CONSTITUTE A BASIS FOR REJECTION OF THE WORK AND REMOVAL AND REPLACEMENT BY THE GENERAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, INCLUDING, BUT NOT LIMITED TO:

1. THE COST OF REMOVAL AND REPLACEMENT OF ALL WORK FOR WHICH SPECIAL INSPECTION WAS REQUIRED BUT NOT PERFORMED DUE TO LACK OF COMMUNICATION BY THE CONTRACTOR, INCLUDING THE COST OF TESTING AND SPECIAL INSPECTION FOR THE REPLACEMENT WORK.

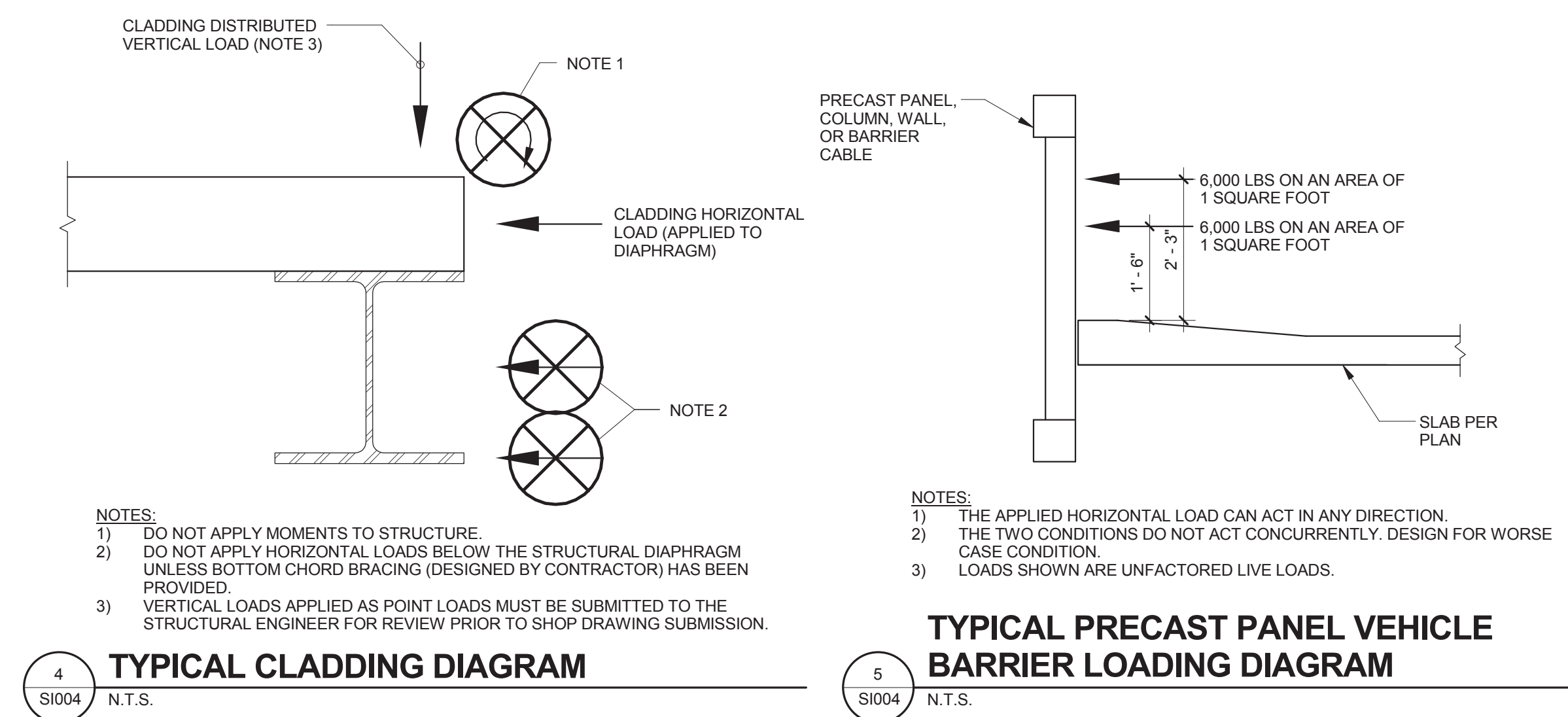
2. THE COST OF ALL RELATED WORK MADE NECESSARY BY THE REMOVAL AND REPLACEMENT OF THE UNINSPECTED WORK PER ITEM 1 ABOVE.

3. THE COST FOR DESIGN PROFESSIONAL'S SERVICES RELATED TO ALL WORK FOR WHICH SPECIAL INSPECTION WAS REQUIRED BUT NOT PERFORMED AND SERVICES RELATED TO THE REPLACEMENT WORK.

CONFLICTING REQUIREMENTS, REPORTS, AND TEST RESULTS:

BID SET

Revisions:		Date		VA		U.S. Department of Veterans Affairs		SALISBURY VAMC Dept. of Veterans Affairs 1601 Brenner Ave. Salisbury, NC 28144		SEAL OF THE PROFESSIONAL ENGINEER STATE OF NORTH CAROLINA 11/14/2014		Structural		MEP Engineer		Civil Engineer		Functional Design		PROJECT LEADER/ARCHITECT:		Drawing Title SPECIAL INSP. NOTES AND TABLES		Project Title CONSTRUCT NEW PARKING GARAGE		Project Number 13.1044		Office of Facilities Management	
												AMERICAN STRUCTUREPOINT		APOGEE CONSULTING GROUP		GUIDON DESIGN INC.		CARL WALKER INC.		905 N. CAPITOL AVE. SUITE 100 INDIANAPOLIS, IN. 46204 317.800.6388 WWW.GUIDONDESIGN.COM		Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000		Location W.G. (BILL) HEFNER VAMC		Building Number Bldg 9			
												7260 Shadeland Station Indianapolis, IN 46256		7330 Chappel Hill Road, Suite 202 Raleigh, NC 27607		905 N. Capitol Ave. Suite 100 Indianapolis, IN 46204		14045 Ballantyne Corp. Place, Suite 380 Charlotte, NC 28277				Checked By: JAP		Drawing Number S1003		VA Project Number 659-342			
																								Date 11/14/2014		Drawn By: BGC		VA	

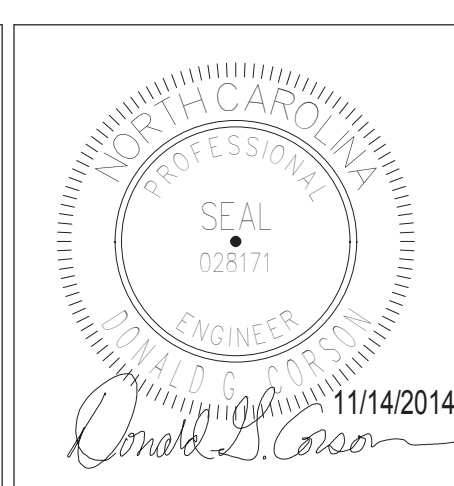
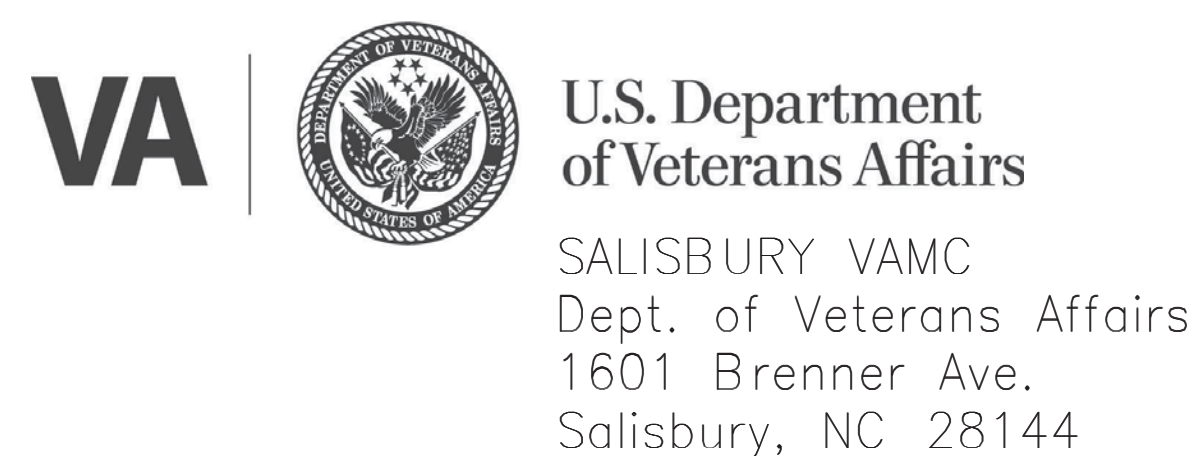


LOAD SCHEDULE							
MARK	OCCUPANCY / USE	SDL		SDL		LL	SL
		LOAD (PSF)	DESCRIPTION	POINT LOAD (LBS)	DESCRIPTION	LIVE LOAD (PSF)	SNOW LOAD (PSF)
A	TYP FLOOR	5	NOTE 1	--	--	40 (NR)	--
B	STAIRS	5	NOTE 1	--	--	100 (NR)	--
C	UPPER FLOOR	5	NOTE 1	--	--	40 (NR)	18 MINIMUM UNIFORM OR SEE LOAD MAP (DRIFT + BALANCE
D	ROOF	5	NOTE 1	--	--	20	18 MINIMUM UNIFORM
NOTES: 1. SDL INDICATES SUPERIMPOSED DEAD LOAD AND IS DEAD LOAD IN ADDITION TO THE SELF WEIGHT OF THE PRIMARY STRUCTURAL SYSTEM. 2. (NR) INDICATES NON-REDUCIBLE LIVE LOAD.							

FOUNDATION REACTION TABLE							
GRID LOCATION	SERVICE LEVEL AXIAL LOAD			GRID LOCATION	SERVICE LEVEL AXIAL LOAD		
	DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)		DEAD LOAD (KIPS)	LIVE LOAD (KIPS)	TOTAL LOAD (KIPS)
A-1	337	99	436	C-9	768	197	965
A-2	634	192	826	D-1	337	99	436
A-3	561	170	731	D-2	634	192	826
A-4	496	157	653	D-3	561	170	731
A-5	640	206	846	D-4	496	157	653
A-6	640	206	846	D-5	496	157	653
A-7	726	223	949	D-6	496	157	653
A-8	724	220	944	D-7	561	170	731
A-9	337	99	436	D-8	634	192	826
B-1	768	197	965	D-9	337	99	436
B-2	591	197	788				
B-8	591	197	788				
B-9	768	197	965				
C-1	768	197	965				
C-2	1132	377	1509				
C-3	997	334	1331				
C-4	873	308	1181				
C-5	873	308	1181				
C-6	873	308	1181				
C-7	997	334	1331				
C-8	1132	377	1509				

NOTES:

1. FOUNDATION REACTIONS INCLUDE FUTURE VERTICAL EXPANSION TO LEVEL 4.

[illegible]

Structural

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SUSTAINABLE ARCHITECTURE + ENGINEERING

Drawing Title
LOAD MAPS

Approved for Design Concept:
JOHN MONTGOMERY
PROJECT ENGINEER
704-638-9000

BID SET

Drawing Title	LOAD MAPS
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Project Title	CONSTRUCT NEW PARKING GARAGE
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Project Number	13.1044
Building Number	Bldg 9

OFFICE OF
FACILITIES
MANAGEMENT

Location	W.G. (BILL) HEFNER VAMC
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	9
	Drawing Number

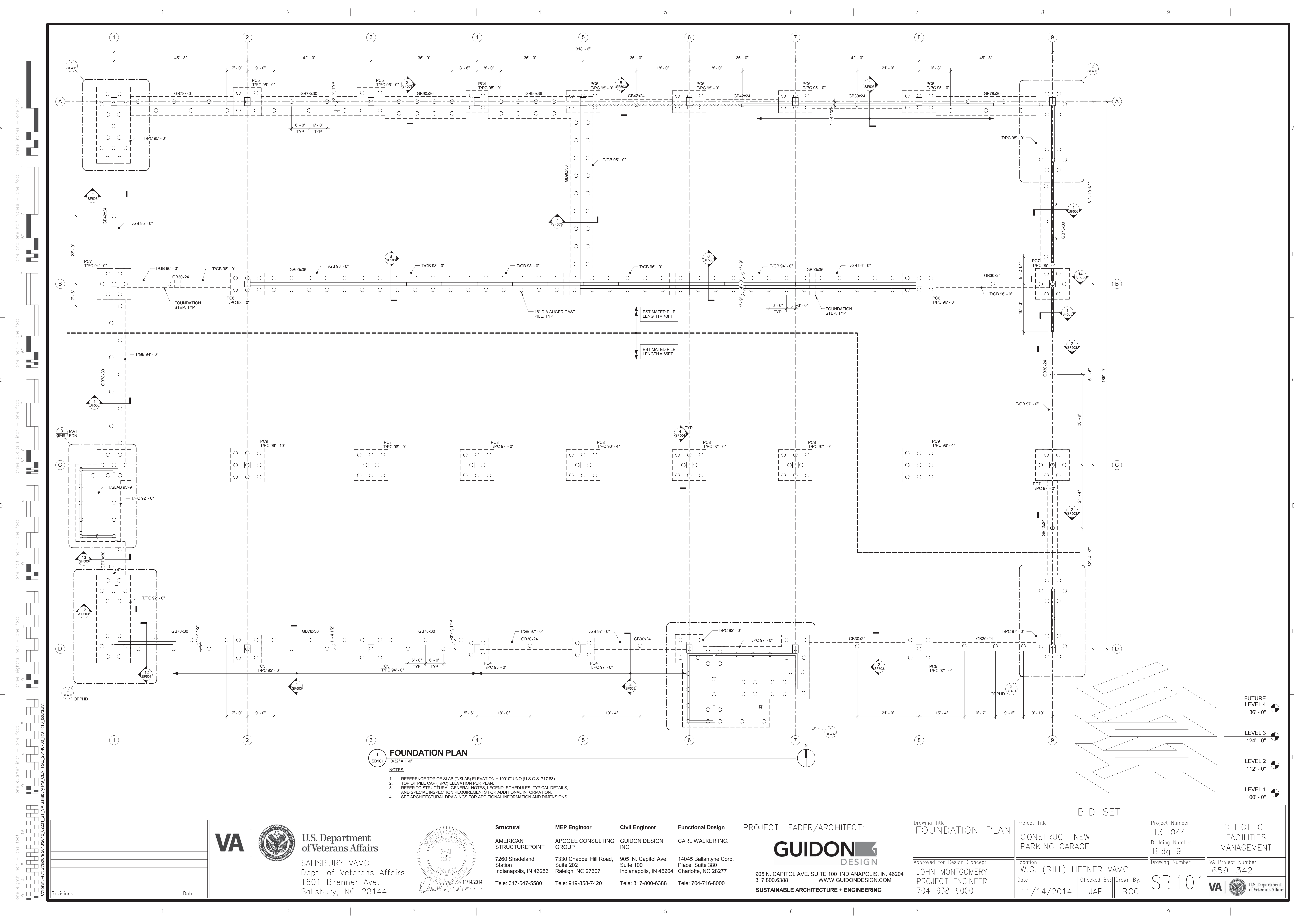
VA Project Number
659-342

Date
11/14/2014

Checked By:	Drawn By:
JAP	BGC

S1004

VA  U.S. Department
of Veterans Affairs



FOUNDATION PLAN

- NOTES:
- REFERENCE TOP OF SLAB (T/SLAB) ELEVATION = 100'-0" UNO (U.S.G.S. 717.83).
 - TOP-OF-PILE CAP (T/PC) ELEVATION PER PLAN.
 - REFER TO STRUCTURAL GENERAL NOTES, LEGEND, SCHEDULES, TYPICAL DETAILS, AND SPECIAL INSPECTION REQUIREMENTS FOR ADDITIONAL INFORMATION.
 - SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONS.

- FUTURE LEVEL 4
136' - 0"
- LEVEL 3
124' - 0"
- LEVEL 2
112' - 0"
- LEVEL 1
100' - 0"

Revisions:	Date

VA

U.S. Department of Veterans Affairs

SALISBURY VAMC
Dept. of Veterans Affairs
1601 Brenner Ave.
Salisbury, NC 28144



Structural	MEP Engineer	Civil Engineer	Functional Design
AMERICAN STRUCTUREPOINT	APOGEE CONSULTING GROUP	GUIDON DESIGN INC.	CARL WALKER INC.
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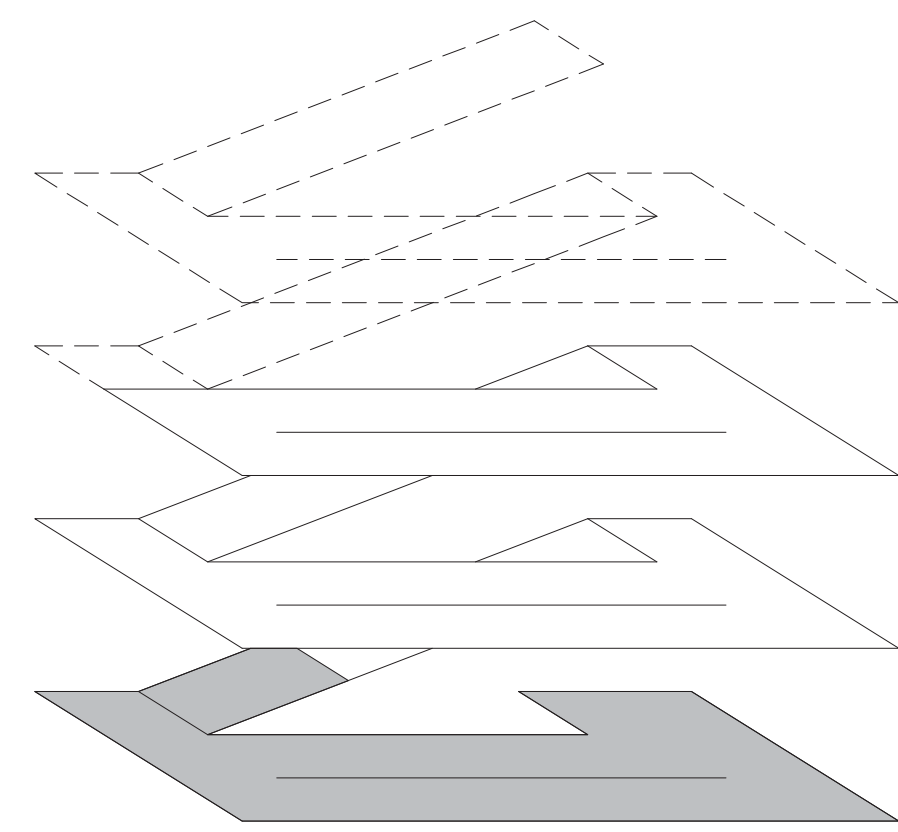
PROJECT LEADER/ARCHITECT:

GUIDON


DESIGN

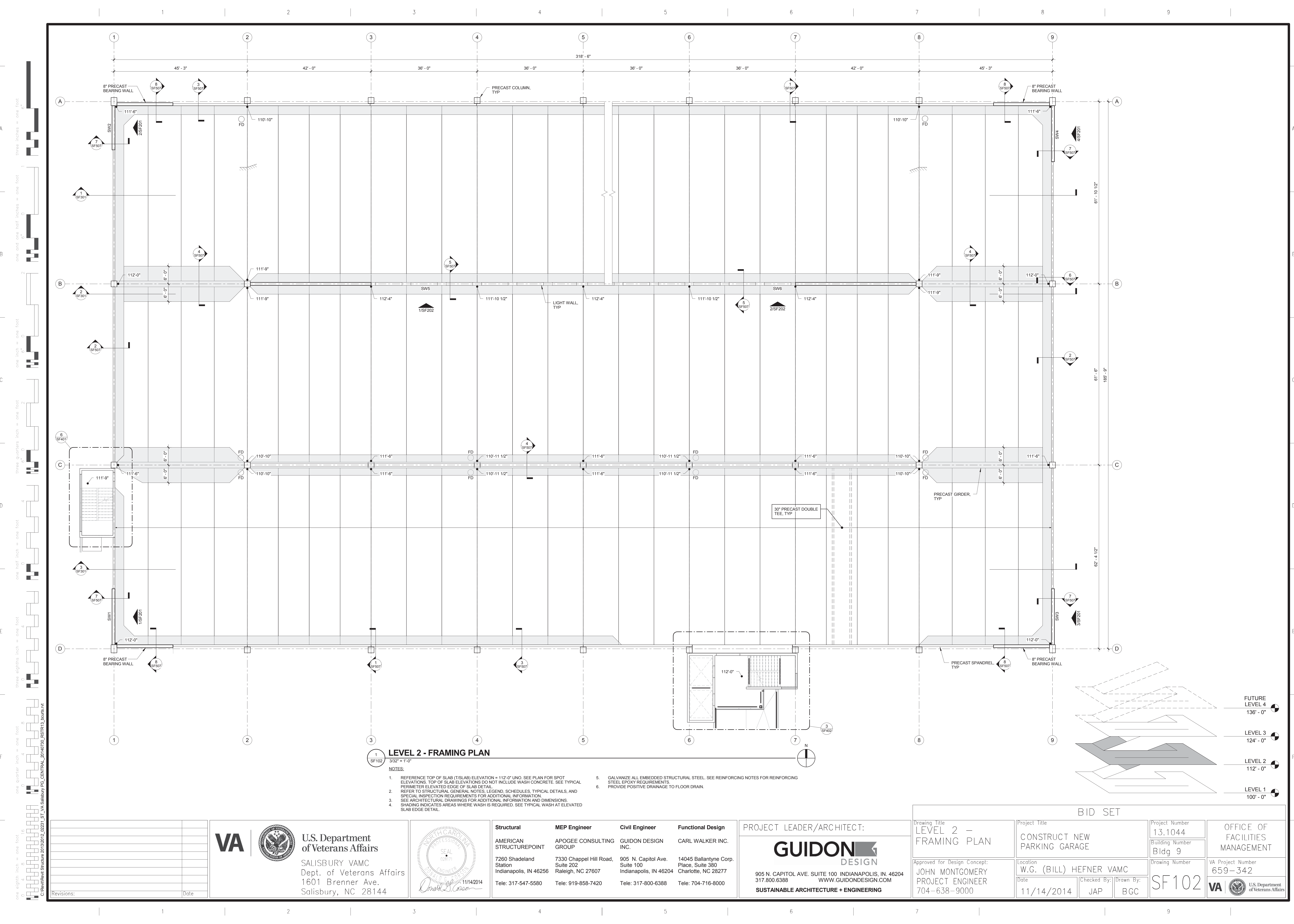
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317.800.6388
WWW.GUIDONDESIGN.COM
SUSTAINABLE ARCHITECTURE + ENGINEERING

BID SET			
Drawing Title FOUNDATION PLAN	Project Title CONSTRUCT NEW PARKING GARAGE	Project Number 13.1044 Building Number Bldg 9	OFFICE OF FACILITIES MANAGEMENT
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC Date 11/14/2014 Checked By: JAP Drawn By: BGC	Drawing Number SB101	VA Project Number 659-342 VA U.S. Department of Veterans Affairs



BID SET

Drawing Title LEVEL 1 — SLAB ON GRADE	Project Title CONSTRUCT NEW PARKING GARAGE		Project Number 13.1044	OFFICE OF FACILITIES MANAGEMENT
			Building Number Bldg 9	
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC		Drawing Number SF101	VA Project Number 659-342
	Date 11/14/2014	Checked By: JAP	Drawn By: BGC	VA  U.S. Department of Veterans Affairs



Scale: 3/32" = 1'-0"
Revisions:
Date:

U.S. Department of Veterans Affairs
SALISBURY VAMC
Dept. of Veterans Affairs
1601 Brenner Ave.
Salisbury, NC 28144

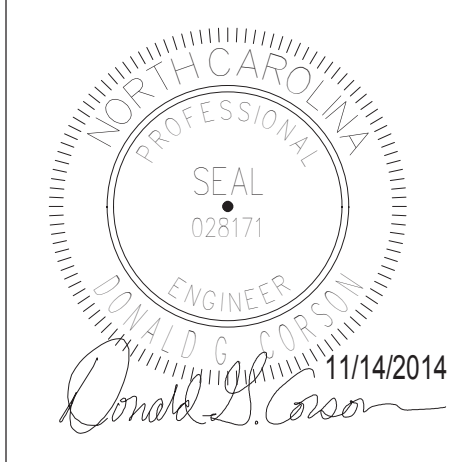
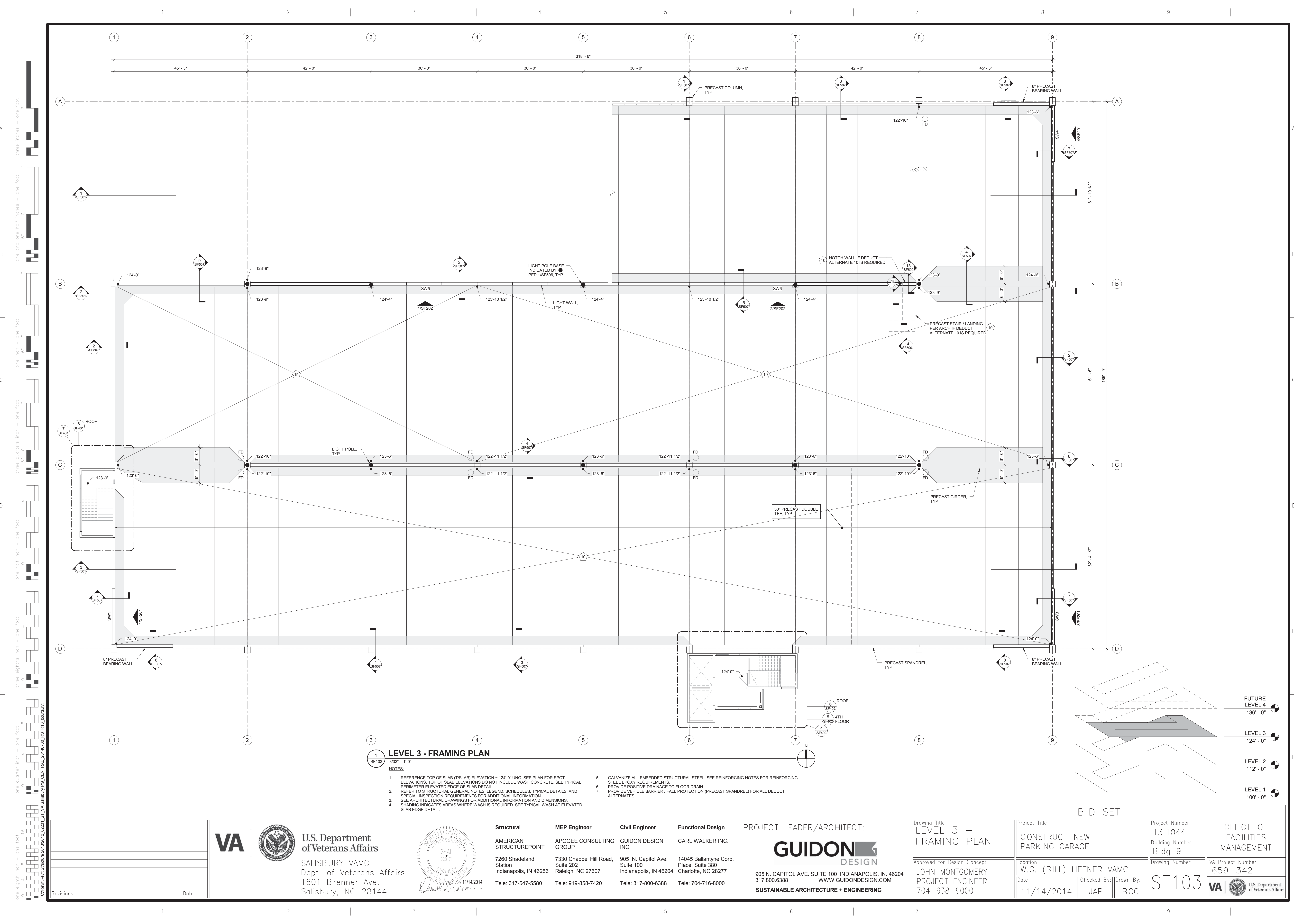


Table with 4 columns: Structural, MEP Engineer, Civil Engineer, Functional Design. Includes contact information for American Structurepoint, APOGEE CONSULTING GROUP, GUIDON DESIGN INC., and CARL WALKER INC.

PROJECT LEADER/ARCHITECT:
GUIDON DESIGN
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317.800.6388
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SUSTAINABLE ARCHITECTURE + ENGINEERING

Table with 4 columns: Drawing Title, Project Title, Project Number, Office of Facilities Management. Includes details for Level 2 - Framing Plan, Construct New Parking Garage, Project Number 13.1044, and Drawing Number SF102.



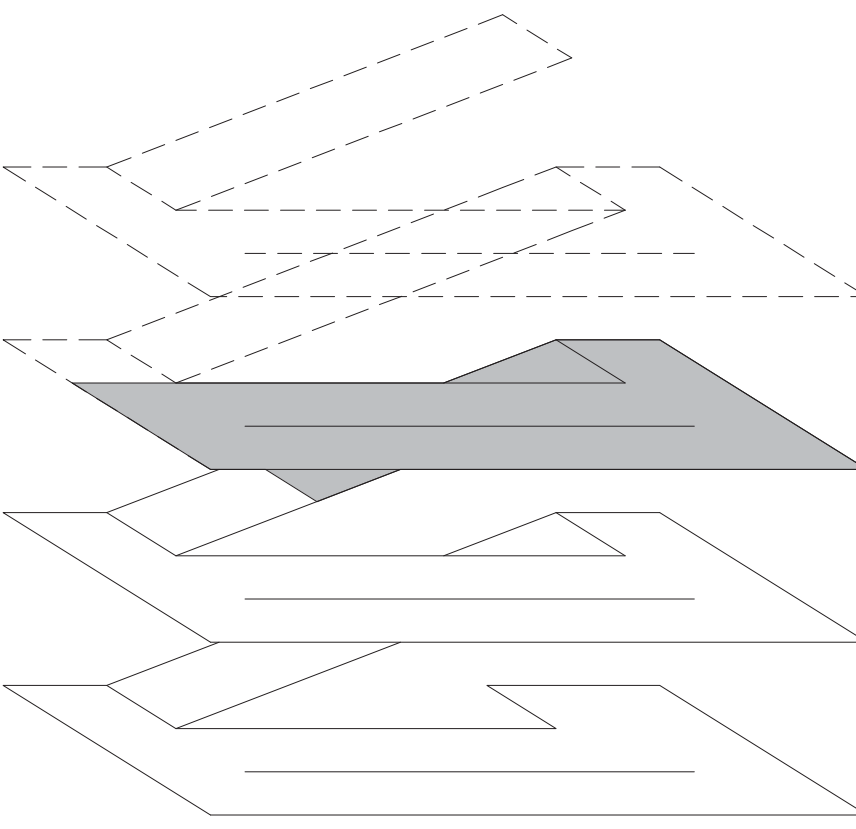
LEVEL 3 - FRAMING PLAN

1
SF103
3/32" = 1'-0"

NOTES:



1. REFERENCE TOP OF SLAB (TISLAB) ELEVATION = 124'-0" UNO. SEE PLAN FOR SPOT ELEVATIONS. TOP OF SLAB ELEVATIONS DO NOT INCLUDE WASH CONCRETE. SEE TYPICAL PERIMETER ELEVATED EDGE OF SLAB DETAIL.
2. REFER TO STRUCTURAL GENERAL NOTES, LEGEND, SCHEDULES, TYPICAL DETAILS, AND SPECIAL INSPECTION REQUIREMENTS FOR ADDITIONAL INFORMATION.
3. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION AND DIMENSIONS.
4. SHADING INDICATES AREAS WHERE WASH IS REQUIRED. SEE TYPICAL WASH AT ELEVATED SLAB EDGE DETAIL.

5. GALVANIZE ALL EMBEDDED STRUCTURAL STEEL. SEE REINFORCING NOTES FOR REINFORCING STEEL EPOXY REQUIREMENTS.
6. PROVIDE POSITIVE DRAINAGE TO FLOOR DRAIN.
7. PROVIDE VEHICLE BARRIER / FALL PROTECTION (PRECAST SPANDREL) FOR ALL DEDUCT ALTERNATES.



BID SET

Revisions:	Date:



U.S. Department of Veterans Affairs

SALISBURY VAMC
Dept. of Veterans Affairs
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Salisbury, NC 28144



Structural	MEP Engineer	Civil Engineer	Functional Design
AMERICAN STRUCTUREPOINT	APOGEE CONSULTING GROUP	GUIDON DESIGN INC.	CARL WALKER INC.
7260 Shadeland Station Indianapolis, IN 46256	7330 Chappel Hill Road, Suite 202 Raleigh, NC 27607	905 N. Capitol Ave. Suite 100 Indianapolis, IN 46204	14045 Ballantyne Corp. Place, Suite 380 Charlotte, NC 28277
Tele: 317-547-5580	Tele: 919-858-7420	Tele: 317-800-6388	Tele: 704-716-8000

PROJECT LEADER/ARCHITECT:

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SUSTAINABLE ARCHITECTURE + ENGINEERING

Drawing Title LEVEL 3 - FRAMING PLAN	Project Title CONSTRUCT NEW PARKING GARAGE	Project Number 13.1044	Office of Facilities Management
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC	Building Number Bldg 9	VA Project Number 659-342
Date 11/14/2014	Checked By: JAP	Drawn By: BGC	Drawing Number SF103





SHEARWALL SCHEDULE						
WALL	THICKNESS	LENGTH	REMARKS	DESIGN REACTIONS		
				DEAD LOAD (KIPS / FT)	LIVE LOAD (KIPS / FT)	TOTAL LOAD (KIPS / FT)
SW1	12"	19'-0"	-	9.0	0	9.0
SW2	12"	15'-0"	-	9.0	0	9.0
SW3	12"	19'-0"	-	9.0	0	9.0
SW4	12"	19'-0"	-	9.0	0	9.0
SW5	12"	113'-0"	-	33.5	10.9	44.4
SW6	12"	113'-0"	-	33.5	10.9	44.4
SW7	8"	6'-8"	-	14.4	5.3	19.7
SW8	8"	23'-4"	-	14.4	5.3	19.7
SW9	8"	12'-0"	-	7.8	3.5	11.3
SW10	8"	27'-3"	-	7.8	3.5	11.3
SW11	8"	11'-11"	-	10.0	3.5	13.5
SW12	8"	11'-11"	-	10.0	3.5	13.5

NOTE: REACTIONS INCLUDE FUTURE LEVEL 4. PRECASTER SHALL VERIFY WALL THICKNESSES. AT CONTRACTOR / PRECASTER OPTION WALL THICKNESS MAY BE REDUCED. 8" MINIMUM THICKNESS IS REQUIRED.

SHEARWALL LATERAL FORCE DISTRIBUTION SCHEDULE													
LEVEL	SW1 (KIPS)	SW2 (KIPS)	SW3 (KIPS)	SW4 (KIPS)	SW5 (KIPS)	SW6 (KIPS)	SW7 (KIPS)	SW8 (KIPS)	SW9 (KIPS)	SW10 (KIPS)	SW11 (KIPS)	SW12 (KIPS)	
(150'-7") HR	-	-	-	-	-	-	-	4	-	4	-	-	
(147'-7") LR	-	-	-	-	-	-	2.5	8	2.5	7.8	3.8	3.8	
(138'-11") MR	-	-	-	-	-	-	-	4	1	3.2	-	-	
4	153	131	153	153	279	279	3	10.2	3.2	10	3.8	3.8	
3	107	91	107	107	194	194	2.2	7	2.3	6.9	2.5	2.5	
2	53	45	53	53	97	97	1.2	3.6	1.2	3.5	1.4	1.4	
TOTAL AT FDN	V	313	267	313	313	570	570	8.9	36.8	10.2	35.4	11.5	11.5
	M	11216 K-FT	8906 K-FT	9651 K-FT	10277 K-FT	17904 K-FT	18144 K-FT	321 K-FT	1427 K-FT	374 K-FT	1372 K-FT	485 K-FT	485 K-FT

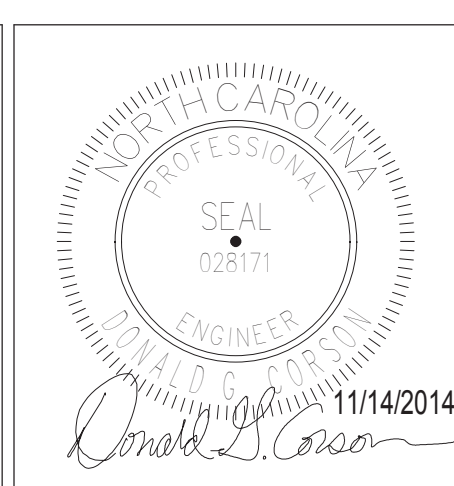
PRECAST SHEARWALL NOTES:

1. FORCES GIVEN ARE HORIZONTAL. SEISMIC SHEAR FORCES MUST NOT OTHERWISE AND SHALL BE USED WITH THE APPROPRIATE EQUATIONS FROM IBC2012 CODE TO DETERMINE THE MOST CRITICAL COMBINED EFFECT. FORCES SHOWN ARE REVERSIBLE AND SHALL BE APPLIED TO BOTH SIDES OF THE WALL.
2. PRECASTER SHALL DESIGN ALL SHEARWALLS FOR THE GREATER FORCE OF SEISMIC AS SHOWN AND SHOWN AS DEFINED IN THE GENERAL NOTES.
3. PRECASTER SHALL VERIFY THAT SHEARWALL SEISMIC AND WIND FORCES DO NOT EXCEED THOSE SHOWN IN THE LATERAL FORCE SCHEDULE.
4. INCREASE FORCES FOR DIAPHRAGM AND CONNECTION DESIGN AS REQUIRED BY ACSE 7-10 AND IBC 2012.
5. PRECASTER SHALL DESIGN ALL PRECAST ELEMENTS INCLUDING REINFORCING, CONNECTIONS, AND LATERAL FORCE TRANSFER DETAILS. SEE GENERAL SPECIFICATIONS FOR FURTHER INFORMATION.
6. FOR SHEARWALL SIZES, SEE SHEARWALL ELECTIONS AND SHEARWALL SCHEDULE.
7. SEE PLANS FOR SHEARWALL DESIGNATION.
8. SHEARWALLS AND COLUMN SPECIALIZATION ARE DETECTED WHERE APPLICABLE SO THAT THEY ACT AS ONE INTEGRAL UNIT.

PRECASTER SHALL ACCOUNT FOR
FUTURE VERTICAL EXPANSION
TO FUTURE LEVEL 4

[illegible]

**U.S. Department
of Veterans Affairs**
SALISBURY VAMC
Dept. of Veterans Affairs
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Salisbury, NC 28144



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Civil Engineer

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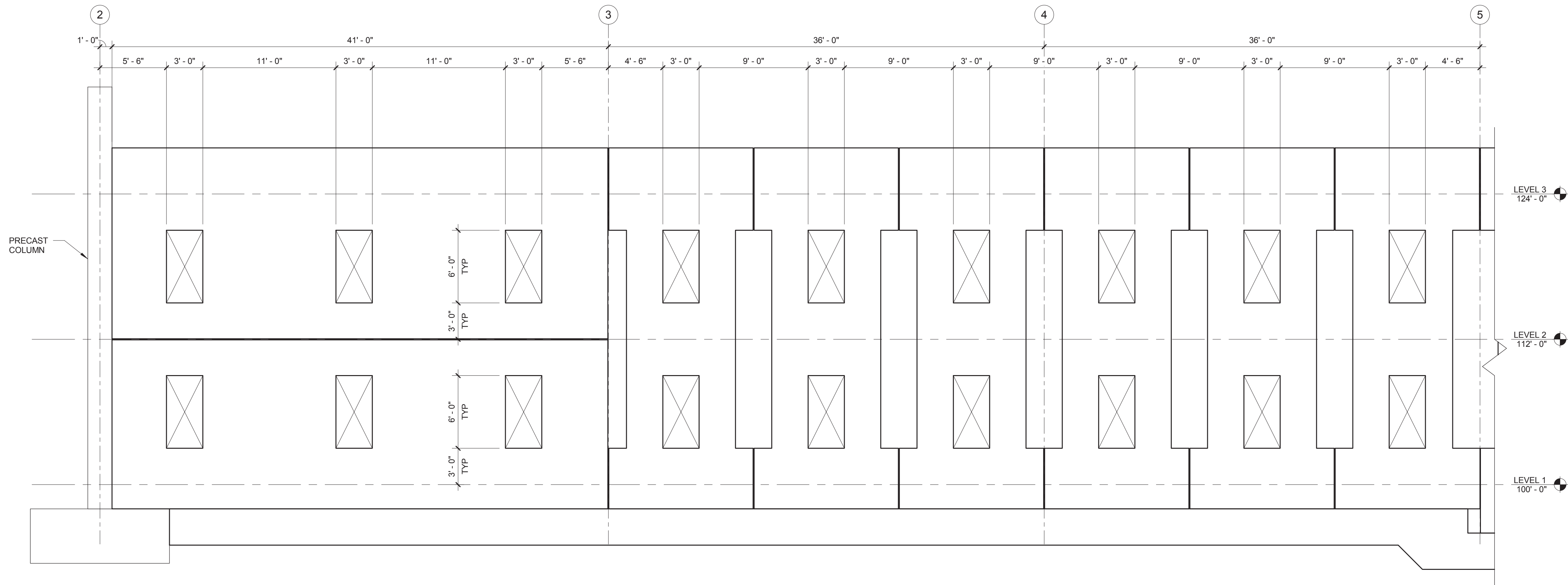
Functional Design
CARL WALKER INC.
14045 Ballantyne Corporate
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Charlotte, NC 28277
Tele: 704-716-8000

PROJECT LEADER/ARCHITECT:

GUIDON 
DESIGN

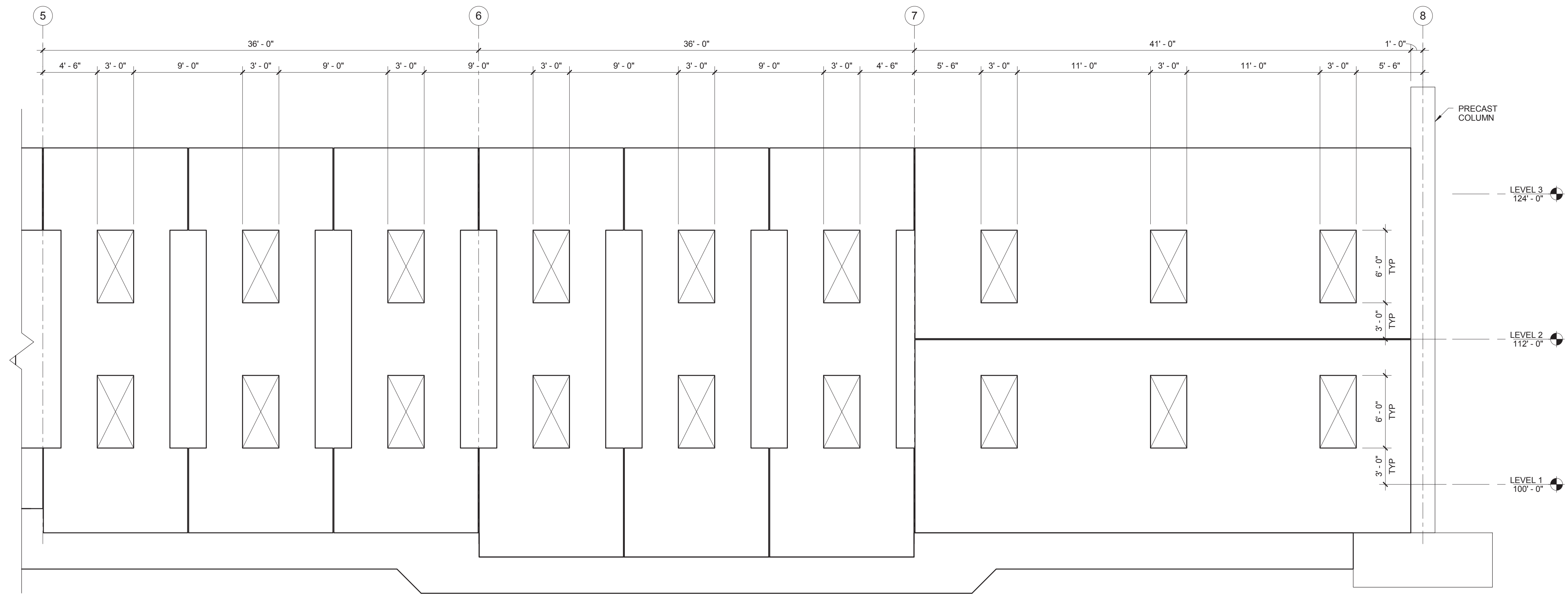
905 N. CAPITOL AVE. SUITE 100 INDIANAPOLIS, IN. 46204
317.800.6388 WWW.GUIDONDESIGN.COM
SUSTAINABLE ARCHITECTURE + ENGINEERING

Drawing Title SHEARWALL ELEVATIONS AND SCHEDULES	Project Title CONSTRUCT NEW PARKING GARAGE		Project Number 13.1044	OFFICE OF FACILITIES MANAGEMENT
			Building Number Bldg 9	
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC		Drawing Number	VA Project Number 659-342
	Date 11/14/2014	Checked By: JAP	Drawn By: BGC	SF201 VA  U.S. Department of Veterans Affairs



1
SF202
3/16" = 1'-0"

SHEARWALL ELEVATION GRID B - SW5



2
SF202
3/16" = 1'-0"

SHEARWALL ELEVATION GRID B - SW6

SHEARWALL SCHEDULE						
WALL	THICKNESS	LENGTH	REMARKS	DESIGN REACTIONS		
				DEAD LOAD (KIPS / FT)	LIVE LOAD (KIPS / FT)	TOTAL LOAD (KIPS / FT)
SW1	12"	19'-0"	-	9.0	0	9.0
SW2	12"	15'-0"	-	9.0	0	9.0
SW3	12"	19'-0"	-	9.0	0	9.0
SW4	12"	19'-0"	-	9.0	0	9.0
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SW9	8"	12'-0"	-	7.8	3.5	11.3
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SW11	8"	11'-11"	-	10.0	3.5	13.5
SW12	8"	11'-11"	-	10.0	3.5	13.5

NOTE: REACTIONS INCLUDE FUTURE LEVEL 4. PRECASTER SHALL VERIFY WALL THICKNESSES. AT CONTRACTOR / PRECASTER OPTION WALL THICKNESS MAY BE REDUCED. 8" MINIMUM THICKNESS IS REQUIRED.

SHEARWALL LATERAL FORCE DISTRIBUTION SCHEDULE												
LEVEL	SW1 (KIPS)	SW2 (KIPS)	SW3 (KIPS)	SW4 (KIPS)	SW5 (KIPS)	SW6 (KIPS)	SW7 (KIPS)	SW8 (KIPS)	SW9 (KIPS)	SW10 (KIPS)	SW11 (KIPS)	SW12 (KIPS)
(150'-7") HR	-	-	-	-	-	-	-	4	-	4	-	-
(147'-7") LR	-	-	-	-	-	-	2.5	8	2.5	7.8	3.8	3.8
(138'-11") MR	-	-	-	-	-	-	-	4	1	3.2	-	-
4	153	131	153	153	279	279	3	10.2	3.2	10	3.8	3.8
3	107	91	107	107	194	194	2.2	7	2.3	6.9	2.5	2.5
2	53	45	53	53	97	97	1.2	3.6	1.2	3.5	1.4	1.4
TOTAL AT FDN	V	313	267	313	570	570	8.9	36.8	10.2	35.4	11.5	11.5
	M	11216 K-FT	8906 K-FT	9651 K-FT	10277 K-FT	17004 K-FT	18144 K-FT	321 K-FT	1427 K-FT	374 K-FT	1372 K-FT	485 K-FT

- PRECAST SHEARWALL NOTES:
- FORCES GIVEN ARE HORIZONTAL SEISMIC SHEAR FORCES UNLESS NOTED OTHERWISE AND SHALL BE USED WITH THE APPROPRIATE EQUATIONS FROM IBC2012 CODE TO DETERMINE THE MOST CRITICAL COMBINED EFFECT. FORCES SHOWN ARE REVERSIBLE AND STRENGTH LEVEL.
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 - FOR SHEARWALL SIZES, SEE SHEARWALL ELEVATIONS AND SHEARWALL SCHEDULE.
 - SEE PLANS FOR SHEARWALL DESIGNATION.
 - SHEARWALLS AND COLUMNS SHALL BE CONNECTED WHERE APPLICABLE SO THAT THEY ACT AS ONE INTEGRAL UNIT.

PRECASTER SHALL ACCOUNT FOR
FUTURE VERTICAL EXPANSION
TO FUTURE LEVEL 4

Revisions:

Date:

VA



U.S. Department of Veterans Affairs
SALISBURY VAMC
Dept. of Veterans Affairs
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Salisbury, NC 28144



PROFESSIONAL ENGINEER
SEAL
018171
11/14/2014
Donald L. Coran

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SUSTAINABLE ARCHITECTURE + ENGINEERING

Drawing Title
**SHEARWALL
ELEVATIONS AND
SCHEDULES**

Approved for Design Concept:
JOHN MONTGOMERY
PROJECT ENGINEER
704-638-9000

Project Title
**CONSTRUCT NEW
PARKING GARAGE**

Location
W.G. (BILL) HEFNER VAMC

Date
11/14/2014

Checked By:
JAP

Drawn By:
BGC

Project Number
13.1044

Building Number
Bldg 9

Drawing Number
SF202

OFFICE OF
FACILITIES
MANAGEMENT

VA Project Number
659-342



A

B

C

D

E

F

A

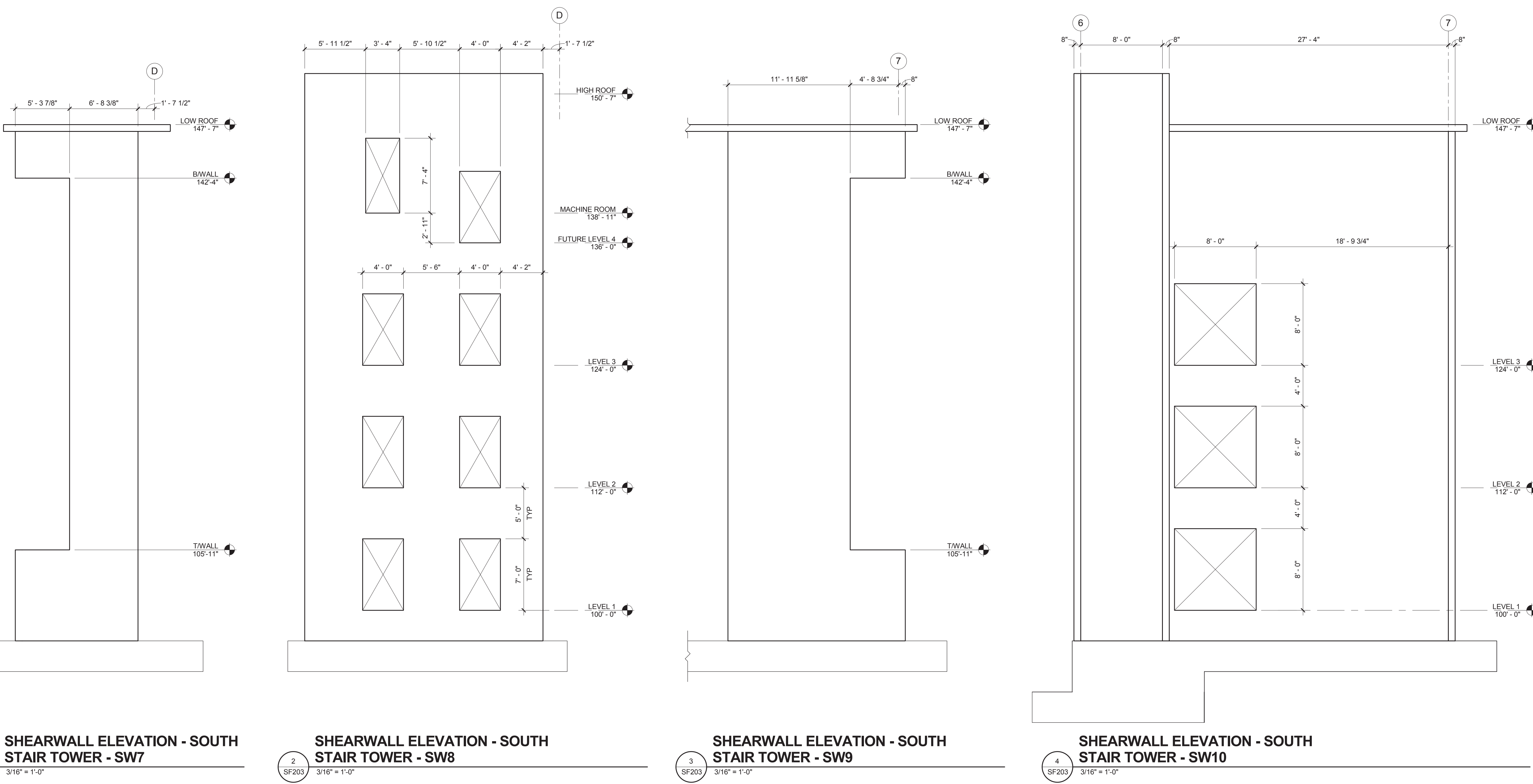
B

C

D

E

F



SHEARWALL SCHEDULE						
WALL	THICKNESS	LENGTH	REMARKS	DESIGN REACTIONS		
				DEAD LOAD (KIPS / FT)	LIVE LOAD (KIPS / FT)	TOTAL LOAD (KIPS / FT)
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SHEARWALL LATERAL FORCE DISTRIBUTION SCHEDULE													
LEVEL	SW1 (KIPS)	SW2 (KIPS)	SW3 (KIPS)	SW4 (KIPS)	SW5 (KIPS)	SW6 (KIPS)	SW7 (KIPS)	SW8 (KIPS)	SW9 (KIPS)	SW10 (KIPS)	SW11 (KIPS)	SW12 (KIPS)	
(150'-7") HR	-	-	-	-	-	-	-	4	-	4	-	-	
(147'-7") LR	-	-	-	-	-	-	2.5	8	2.5	7.8	3.8	3.8	
(138'-11") MR	-	-	-	-	-	-	-	4	1	3.2	-	-	
4	153	131	153	153	279	279	3	10.2	3.2	10	3.8	3.8	
3	107	91	107	107	194	194	2.2	7	2.3	6.9	2.5	2.5	
2	53	45	53	53	97	97	1.2	3.6	1.2	3.5	1.4	1.4	
TOTAL AT FDN	V	313	267	313	313	570	570	8.9	36.8	10.2	35.4	11.5	11.5
	M	11216 K-FT	8906 K-FT	9651 K-FT	10277 K-FT	17004 K-FT	18144 K-FT	321 K-FT	1427 K-FT	374 K-FT	1372 K-FT	485 K-FT	485 K-FT

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PRECASTER SHALL ACCOUNT FOR FUTURE VERTICAL EXPANSION TO FUTURE LEVEL 4

Revisions:

Date

VA



U.S. Department of Veterans Affairs
SALISBURY VAMC
Dept. of Veterans Affairs
1601 Brenner Ave.
Salisbury, NC 28144



SEAL
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ENGINEER
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SUSTAINABLE ARCHITECTURE + ENGINEERING

Drawing Title
SHEARWALL ELEVATIONS AND SCHEDULES

Approved for Design Concept:
JOHN MONTGOMERY
PROJECT ENGINEER
704-638-9000

Project Title
CONSTRUCT NEW PARKING GARAGE

Location
W.G. (BILL) HEFNER VAMC

Date
11/14/2014

Checked By:
JAP

Drawn By:
BGC

Project Number
13.1044

Building Number
Bldg 9

Drawing Number
SF203


OFFICE OF FACILITIES MANAGEMENT

VA Project Number
659-342




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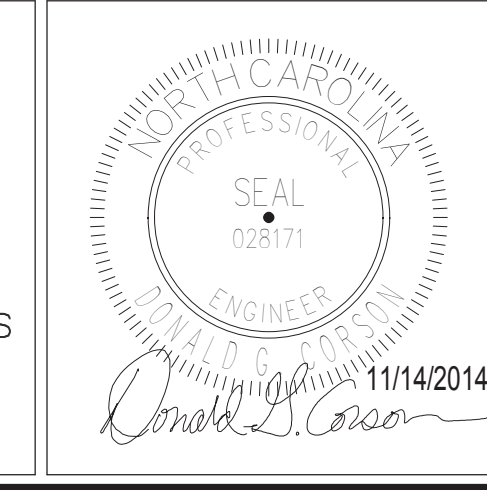


VA |  **U.S. Department
of Veterans Affairs**

SALISBURY VAMC
Dept. of Veterans Affairs
1601 Brenner Ave.
Salisbury, NC 28144



Drawing Title BUILDING SECTIONS AND ELEVATIONS	Project Title CONSTRUCT NEW PARKING GARAGE		Project Number 13.1044	OFFICE OF FACILITIES MANAGEMENT
			Building Number Bldg 9	
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC		Drawing Number SF301	VA Project Number 659-342
	Date 11/14/2014	Checked By: JAP	Drawn By: BGC	VA  U.S. Department of Veterans Affairs




Structural	MEP Engineer	Civil Engineer	Functional Design
AMERICAN STRUCTUREPOINT	APOGEE CONSULTING GROUP	GUIDON DESIGN INC.	CARL WALKER INC.
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Tele: 317-547-5580	Tele: 919-858-7420	Tele: 317-800-6388	Tele: 704-716-8000

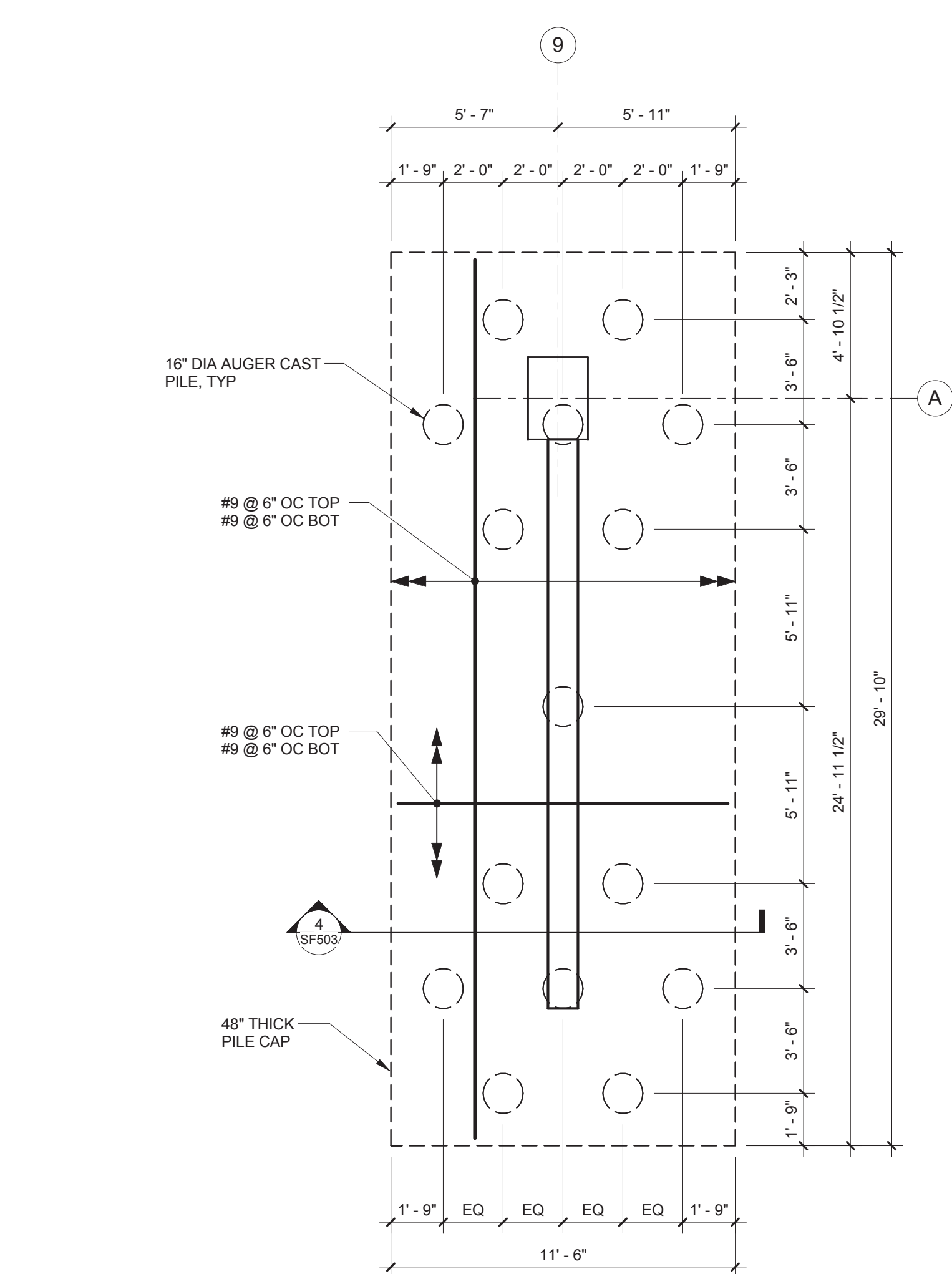
PROJECT LEADER/ARCHITECT:

GUIDON 
DESIGN

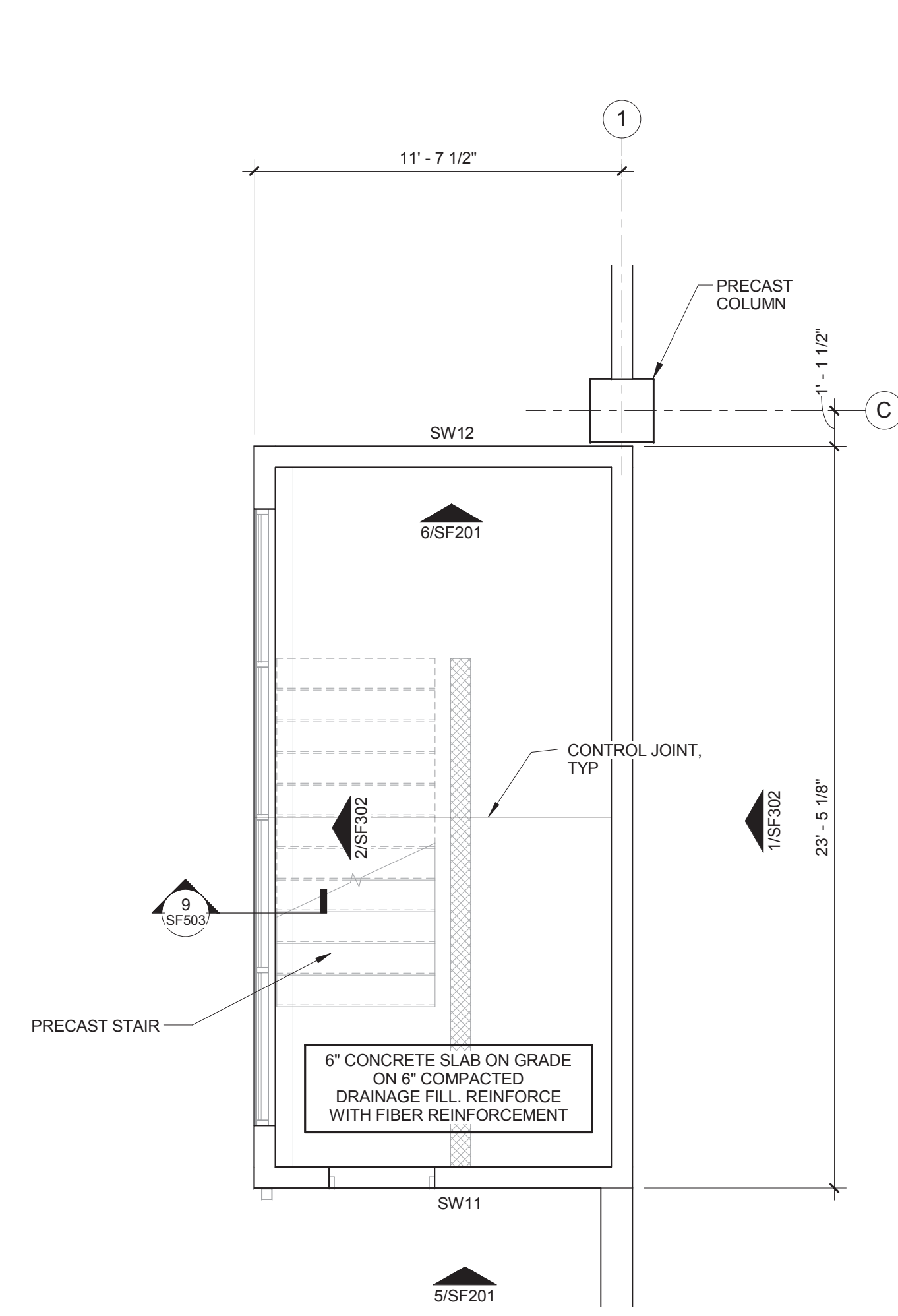
905 N. CAPITOL AVE. SUITE 100 INDIANAPOLIS, IN 46204
317.800.6388 WWW.GUIDONDESIGN.COM

SUSTAINABLE ARCHITECTURE + ENGINEERING

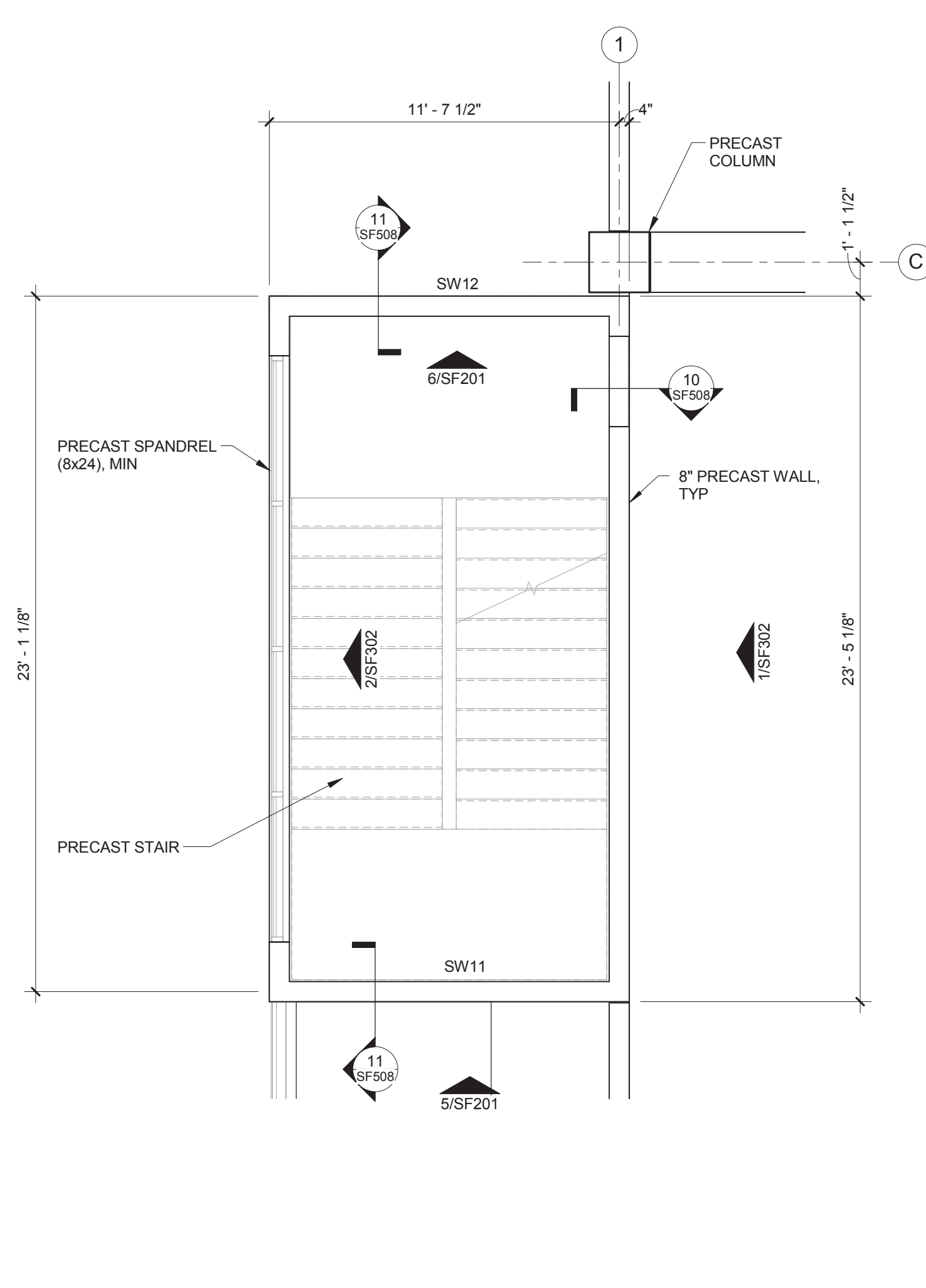
Drawing Title BUILDING SECTIONS AND ELEVATIONS	Project Title CONSTRUCT NEW PARKING GARAGE			Project Number 13.1044	OFFICE OF FACILITIES MANAGEMENT
				Building Number Bldg 9	
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC			Drawing Number SF302	VA Project Number 659-342
	Date 11/14/2014	Checked By: JAP	Drawn By: BGC	VA  U.S. Department of Veterans Affairs	



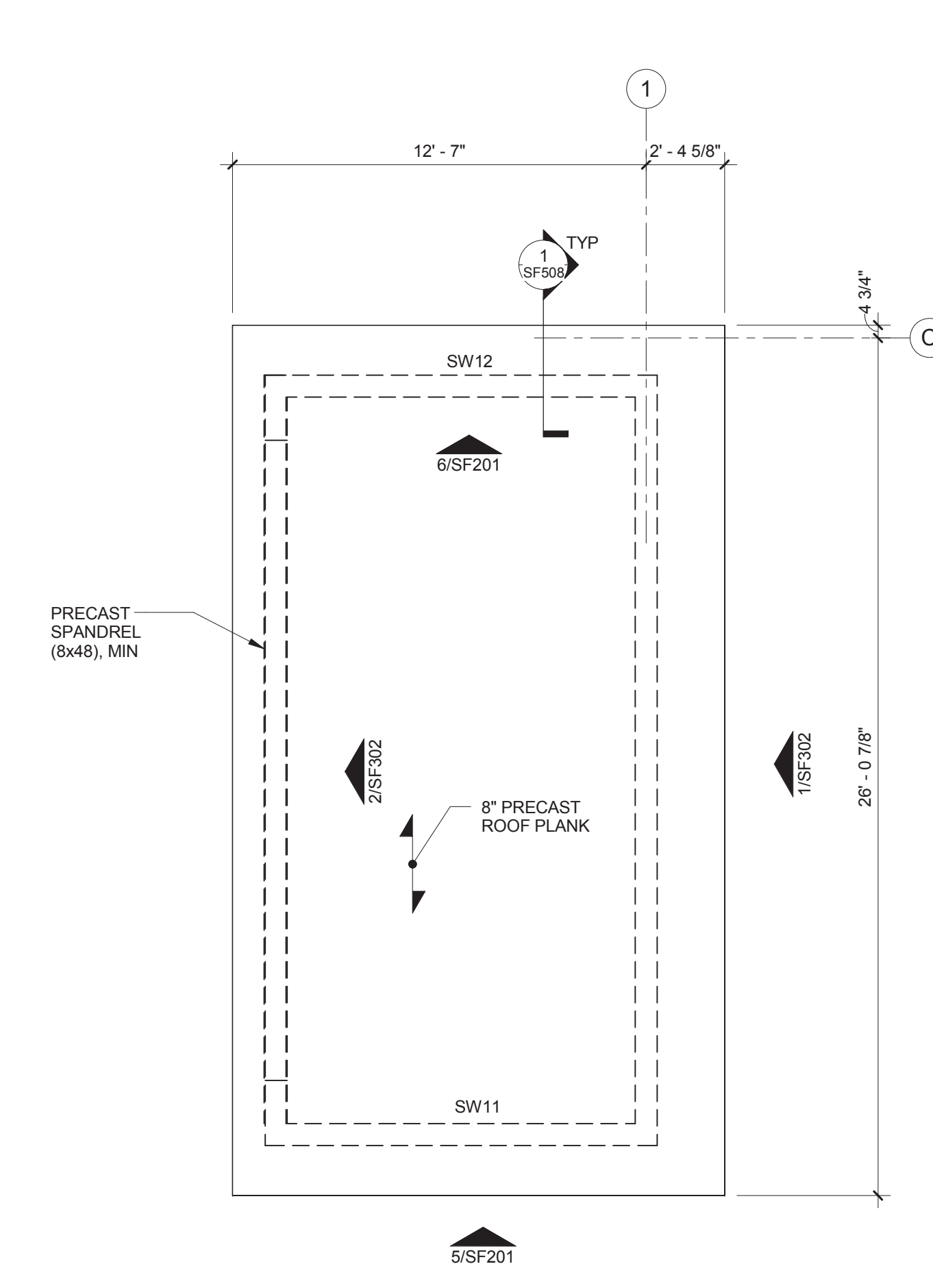
ENLARGED PILE CAP FOUNDATION





ENLARGED SLAB ON GRADE PLAN - WEST STAIR TOWER

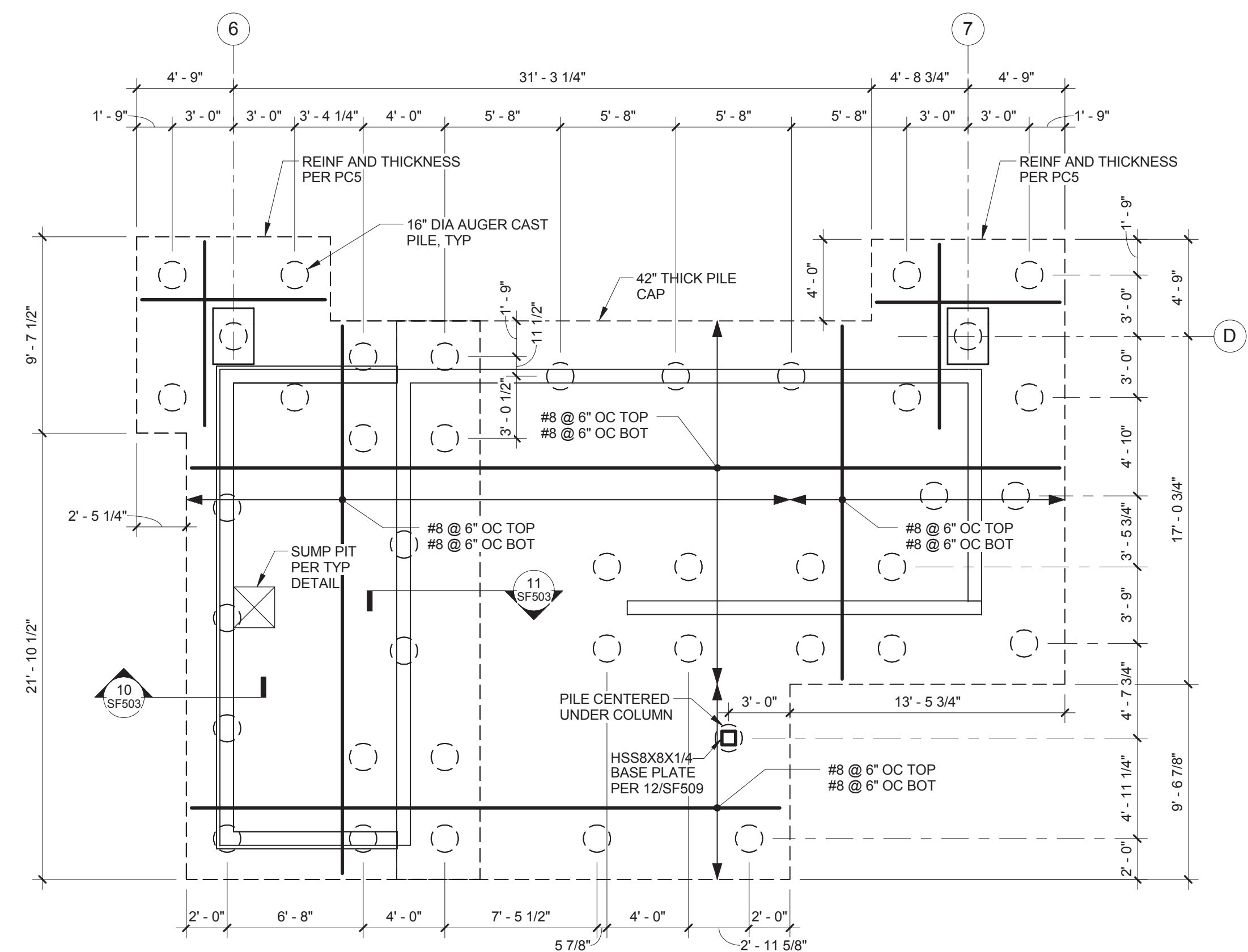


ENLARGED LEVEL 2 FRAMING PLAN - WEST STAIR TOWER

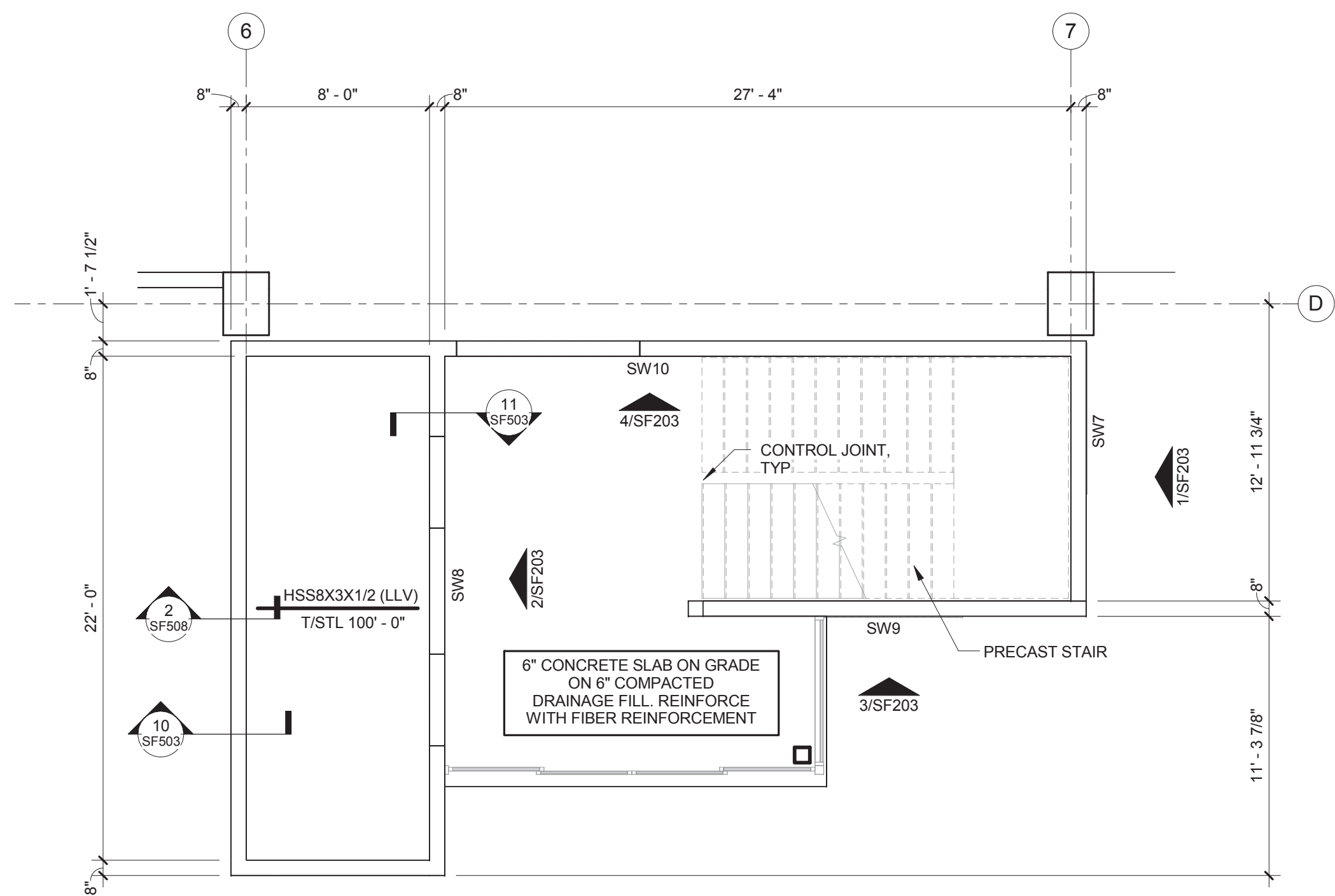


ENLARGED ROOF FRAMING PLAN - WEST STAIR TOWER

Drawing title ENLARGED PLANS	Project title CONSTRUCT NEW PARKING GARAGE	Project Number 13.1044	OFFICE OF FACILITIES MANAGEMENT
		Building Number Bldg 9	
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC	Drawing Number SF401	VA Project Number 659-342
	Date 11/14/2014	Checked By: JAP	 
		Drawn By: BGC	

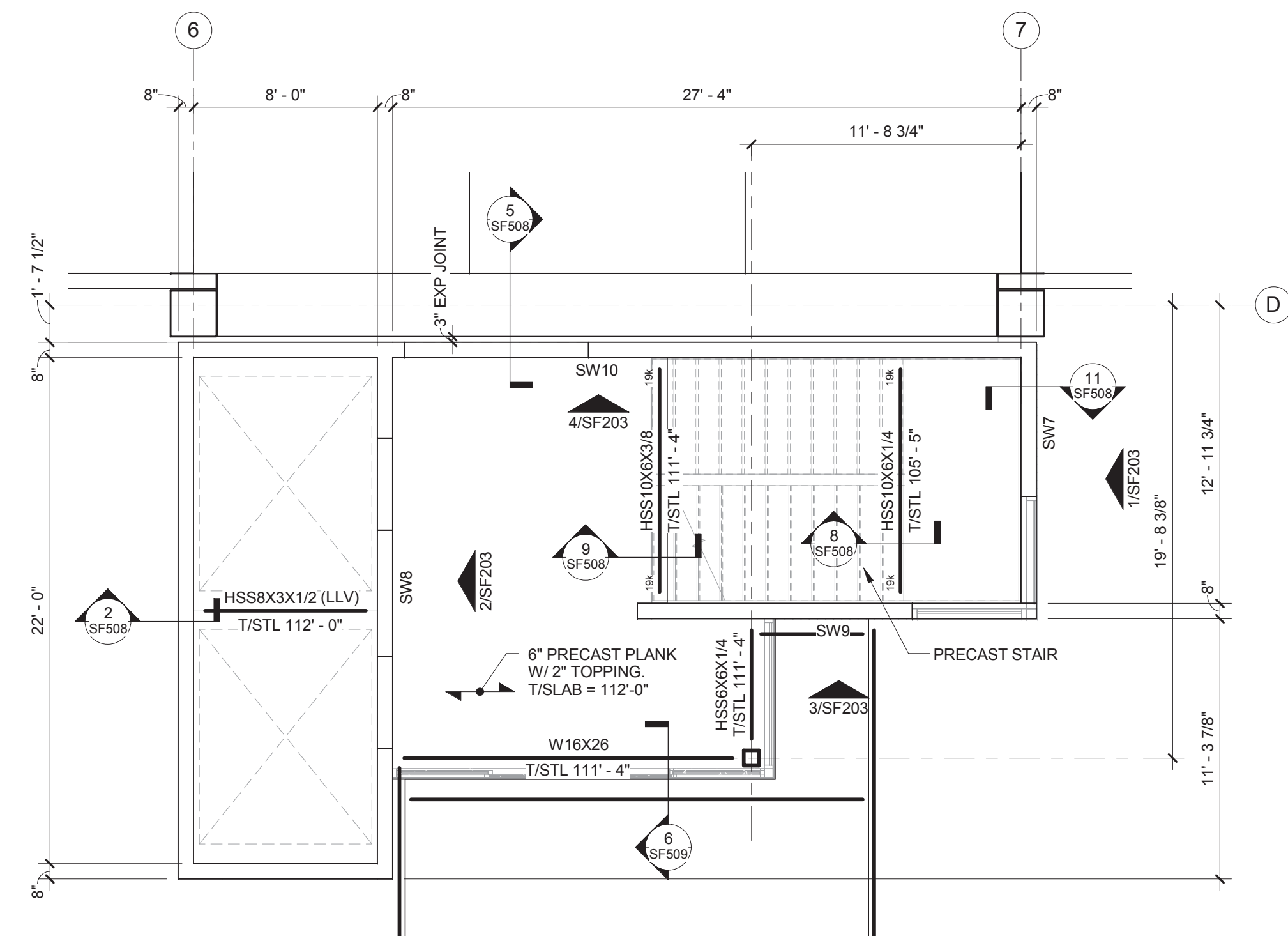


1 ENLARGED FOUNDATION PLAN - SOUTH STAIR TOWER
3/16" = 1'-0"



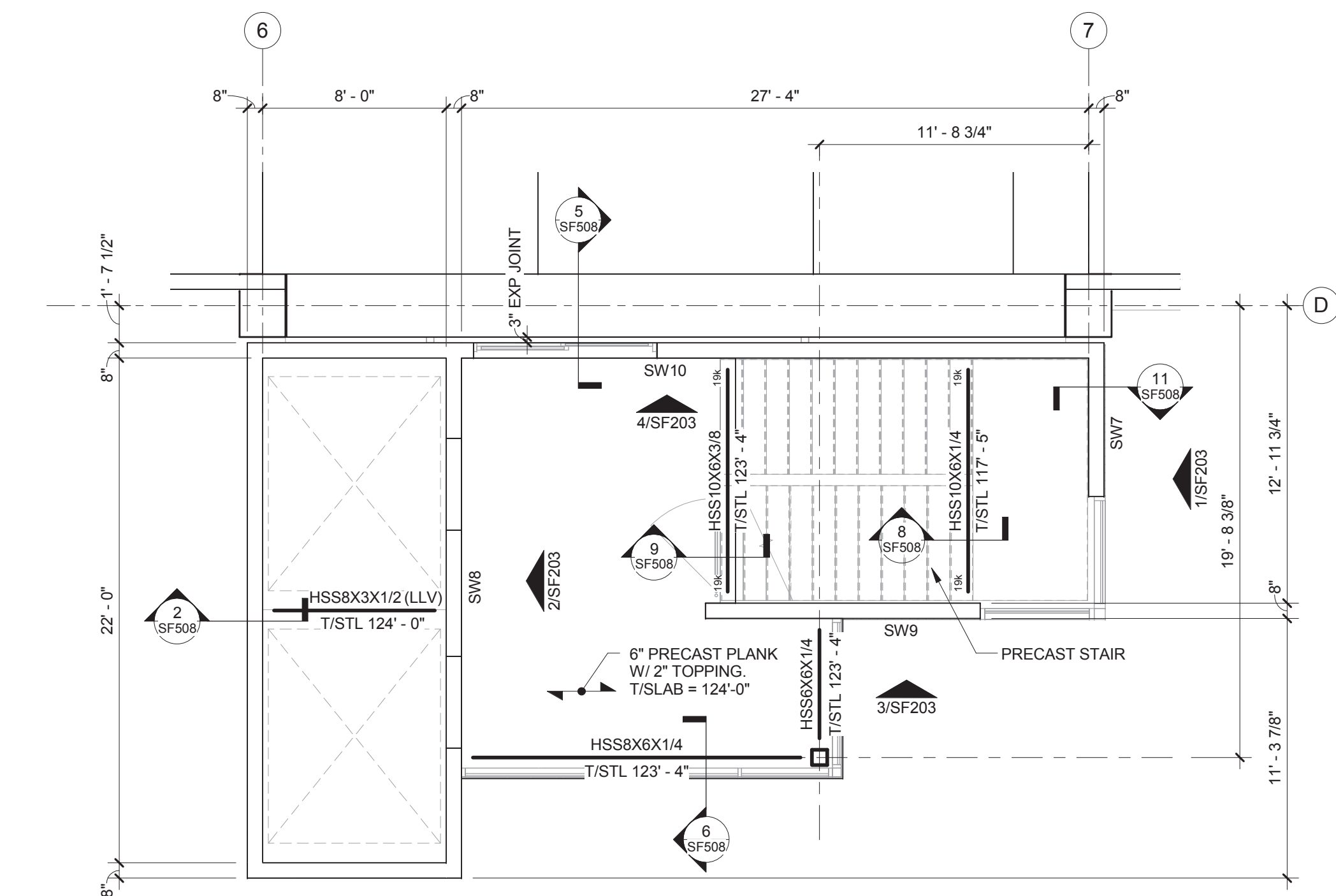
2 ENLARGED SLAB ON GRADE PLAN - SOUTH STAIR TOWER
3/16" = 1'-0"

NOTES:
1. PROVIDE END CAPS FOR ALL HSS MEMBERS



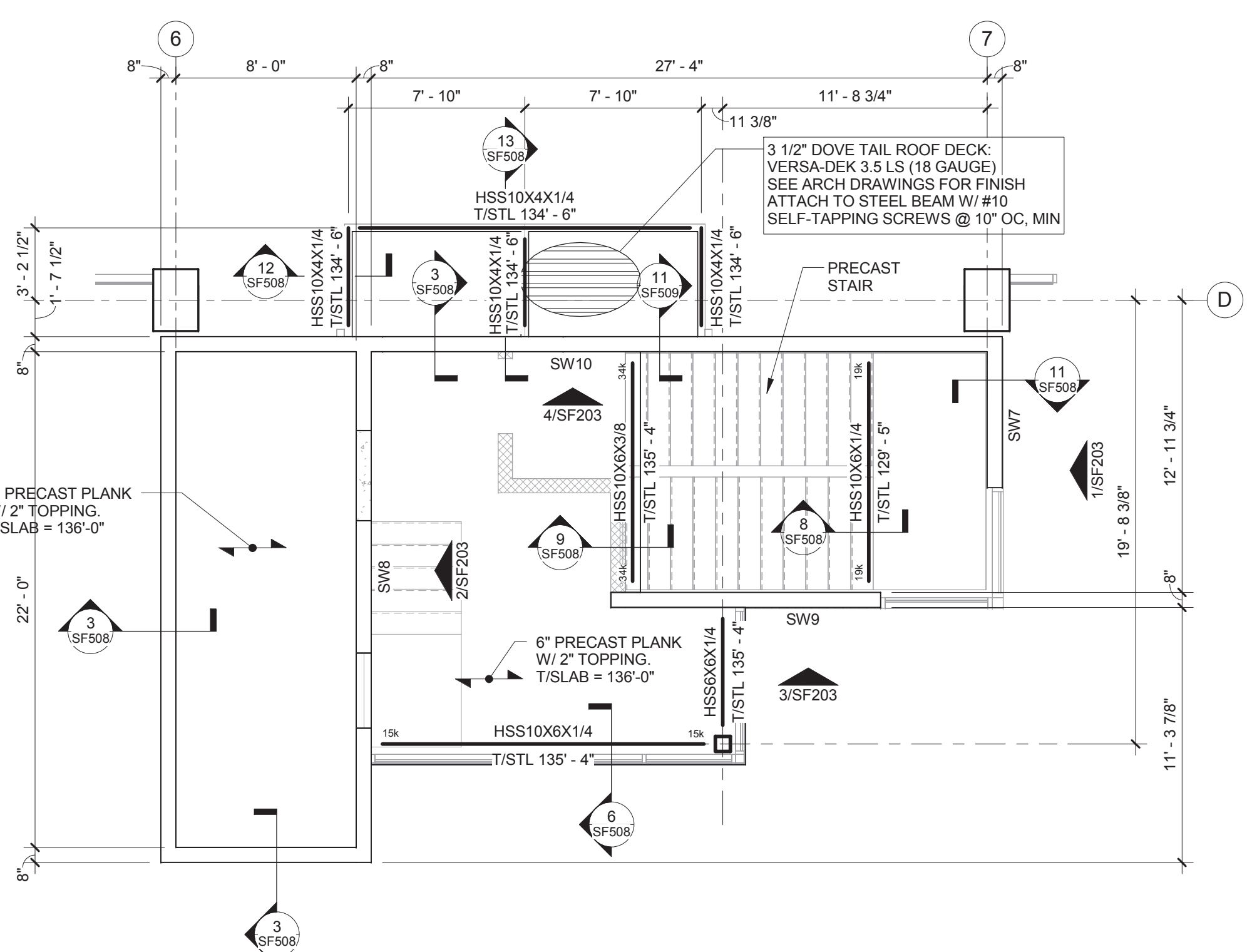
3 ENLARGED LEVEL 2 FRAMING PLAN - SOUTH STAIR TOWER
3/16" = 1'-0"

NOTES:
1. PROVIDE END CAPS FOR ALL HSS MEMBERS



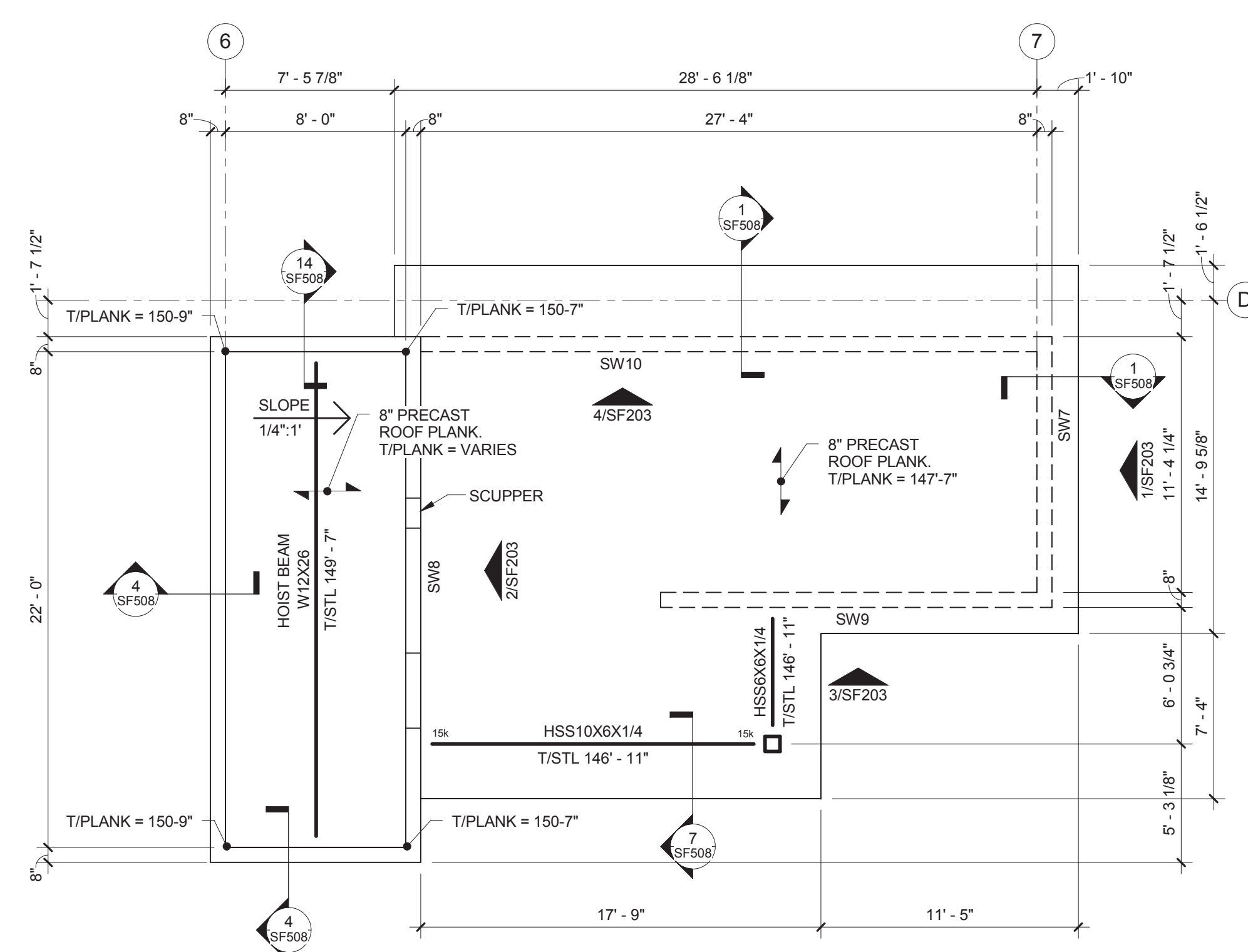
4 ENLARGED LEVEL 3 FRAMING PLAN - SOUTH STAIR TOWER
3/16" = 1'-0"

NOTES:
1. PROVIDE END CAPS FOR ALL HSS MEMBERS



5 ENLARGED LEVEL 4 FRAMING PLAN - SOUTH STAIR TOWER
3/16" = 1'-0"

NOTES:
1. PROVIDE END CAPS FOR ALL HSS MEMBERS



6 ENLARGED ROOF FRAMING PLAN - SOUTH STAIR TOWER
3/16" = 1'-0"

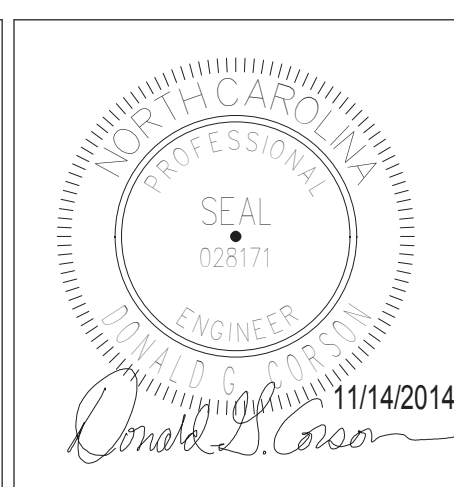
NOTES:
1. PROVIDE END CAPS FOR ALL HSS MEMBERS

Revisions:	Date

VA

U.S. Department of Veterans Affairs

SALISBURY VAMC
Dept. of Veterans Affairs
1601 Brenner Ave.
Salisbury, NC 28144



Structural	MEP Engineer	Civil Engineer	Functional Design
AMERICAN STRUCTUREPOINT	APOGEE CONSULTING GROUP	GUIDON DESIGN INC.	CARL WALKER INC.
7260 Shadeland Station Indianapolis, IN 46256	7330 Chappel Hill Road, Suite 202 Raleigh, NC 27607	905 N. Capitol Ave. Suite 100 Indianapolis, IN 46204	14045 Ballantyne Corp. Place, Suite 380 Charlotte, NC 28277
Tele: 317-547-5580	Tele: 919-858-7420	Tele: 317-800-6388	Tele: 704-716-8000

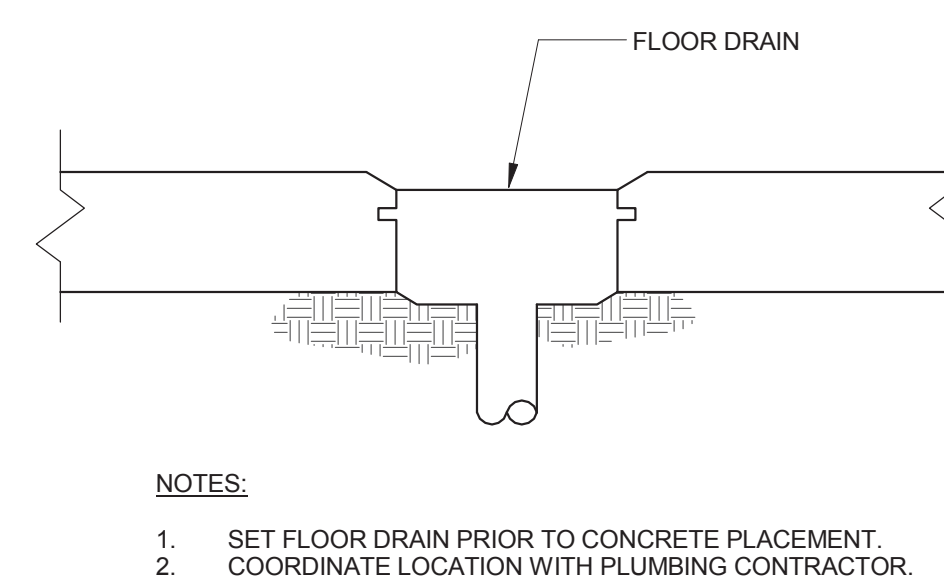
PROJECT LEADER/ARCHITECT:

GUIDON

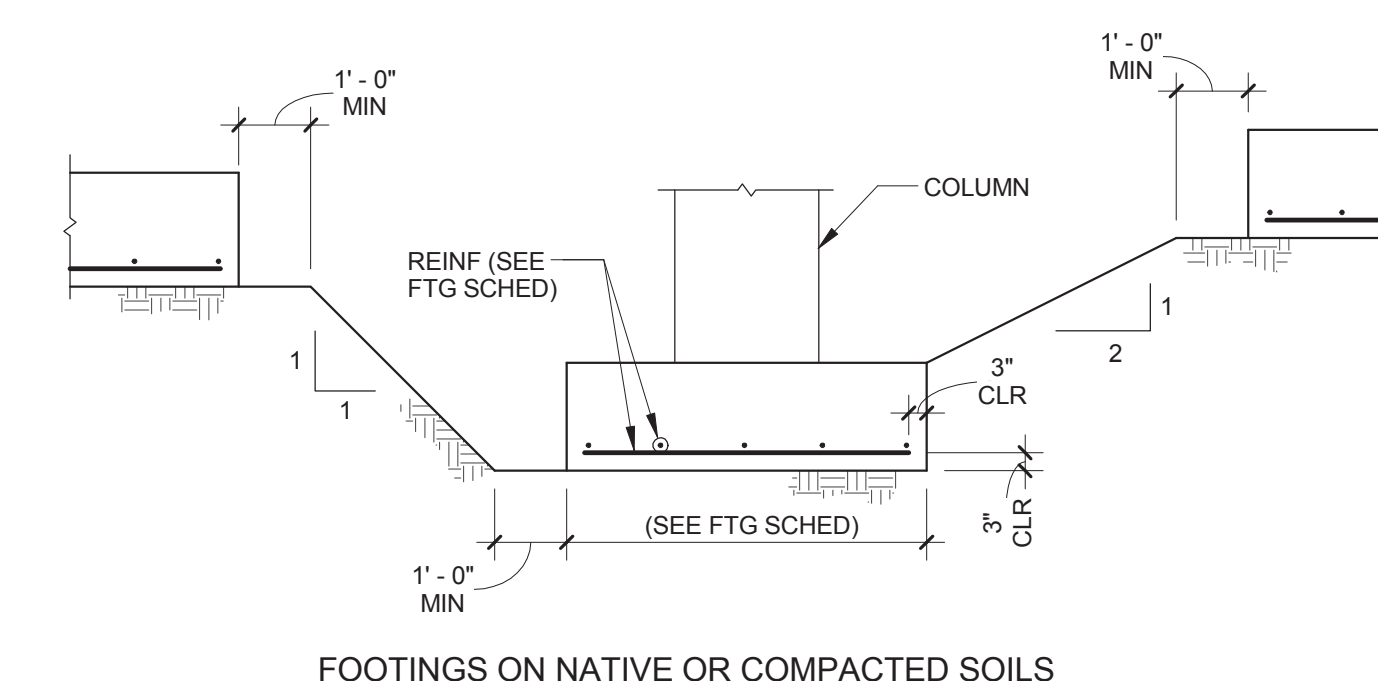
DESIGN

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317.800.6388
WWW.GUIDONDESIGN.COM
SUSTAINABLE ARCHITECTURE + ENGINEERING

BID SET					
Drawing Title ENLARGED PLANS	Project Title CONSTRUCT NEW PARKING GARAGE	Project Number 13.1044 Building Number Bldg 9	OFFICE OF FACILITIES MANAGEMENT		
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC Date 11/14/2014	Drawing Number SF402	Checked By: JAP	Drawn By: BGC	VA Project Number 659-342 VA U.S. Department of Veterans Affairs



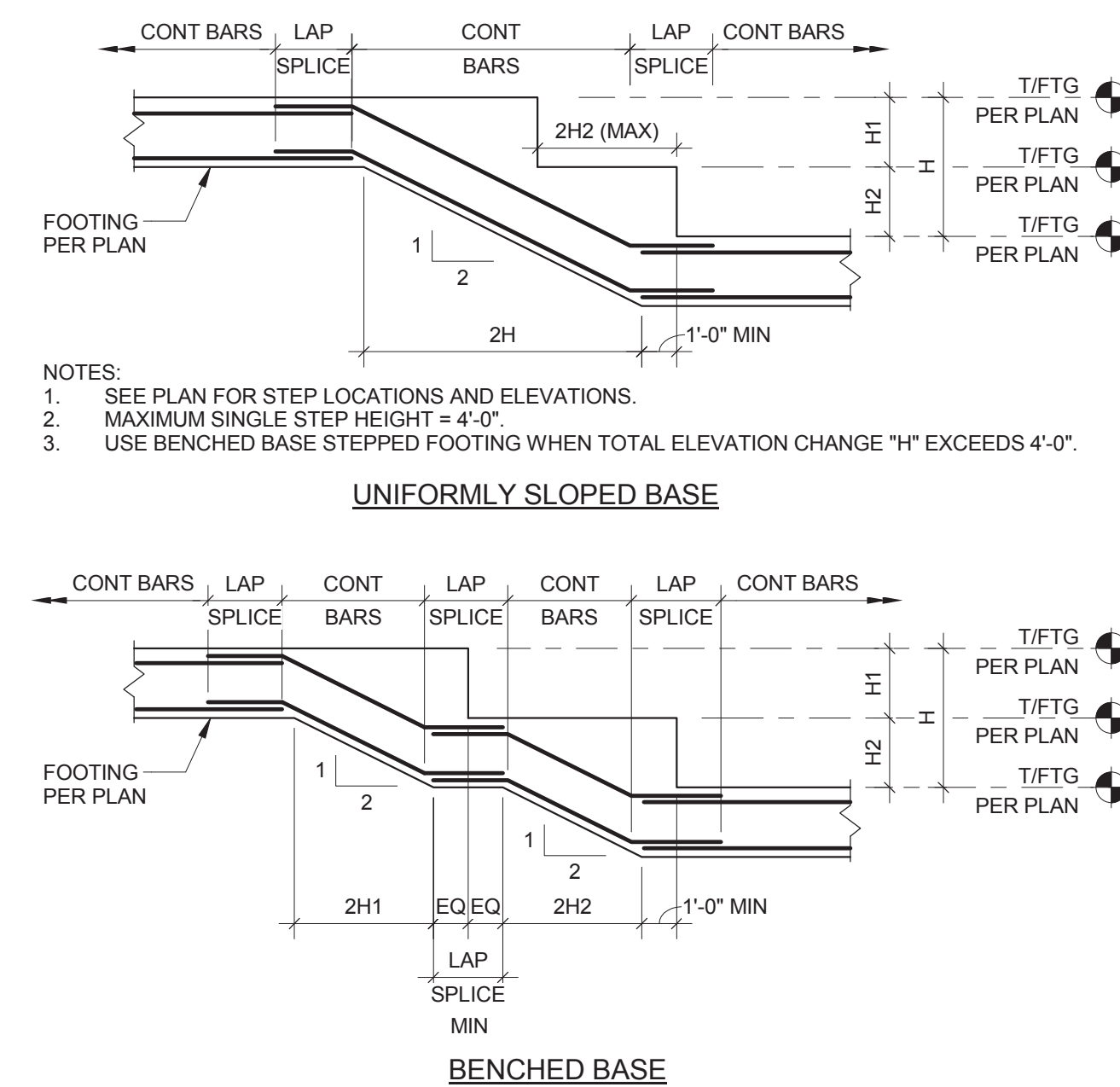
5
SF501 N.T.S.



10
SF501

TYPICAL COLUMN FTG/EXCAVATION LIMITS DETAIL

N.T.S.



13
SF501

TYPICAL STEPPED FOUNDATION
N.T.S.

GRADE BEAM SCHEDULE					
MARK	SIZE		REINFORCEMENT	TYPE	TIES
	WIDTH	DEPTH			
GB30x24	30"	24"	(4) #6 TOP & (4) #6 BOT	A	#4 TIES @ 12" OC
GB78x30	78"	30"	#7 @ 6" OC EW TOP & BOT	B	
GB90x36	90"	36"	#7 @ 6" OC EW TOP & BOT	B	

<p>TYPES:</p> <div style="display: flex; align-items: center; justify-content: space-around;"> <div style="text-align: center;"> <p>TYPE A</p> </div> <div>OR</div> <div style="text-align: center;"> <p>TYPE B</p> </div> </div>	
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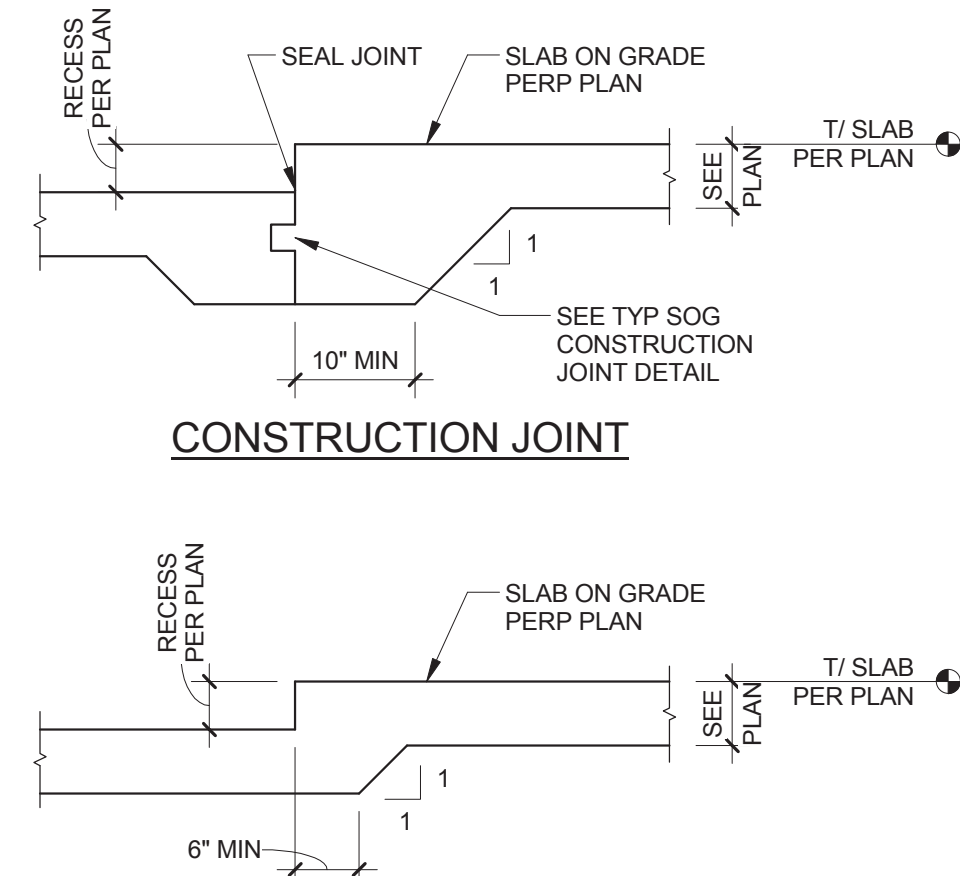
NOTES:

- EXTEND ALL LONGITUDINAL GRADE BEAM REINFORCEMENT INTO SUPPORTING PILE CAPS AT MINIMUM OF A FULL DEVELOPMENT LENGTH.

NOTES:

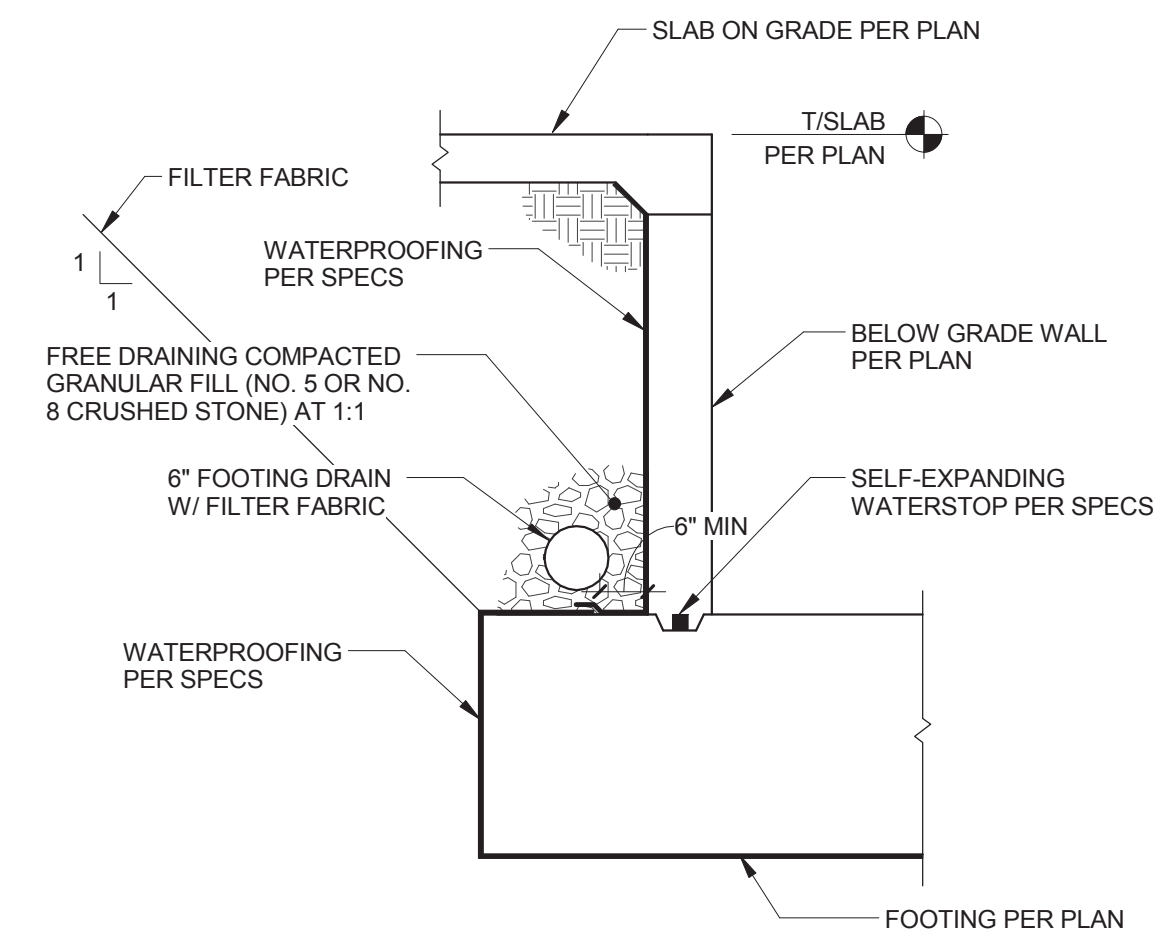
1. SEE PLAN FOR STEP LOCATIONS AND ELEVATIONS.
2. MAXIMUM SINGLE STEP HEIGHT = 4'-0".
3. USE BENCHED BASE STEPPED FOOTING WHEN TOTAL ELEVATION CHANGE "4H" EXCEEDS 4'-0".

UNIFORMLY SLOPED BASE



1. CONCRETE 28-DAY COMPRESSIVE STRENGTH = 4000 PSI, MINIMUM.
AIR ENTRAINMENT = 6% +/- 1%
MAX W/C RATIO = 0.45
BROOM FINISH SURFACE
2. PROVIDE SAW-CUT CONTROL JOINTS SPACED NOT MORE THAN 24 TIMES THE SLAB THICKNESS
CENTER-TO-CENTER, UNO. SEAL JOINTS WITH WEATHER-RESISTANT SEALANT.
3. SEE PLANS FOR OVERALL PAD DIMENSIONS.
4. COORDINATE EXACT LOCATION WITH CIVIL AND MECHANICAL DRAWINGS, AND EQUIPMENT SUPPLIER.

2 TYPICAL SLAB RECESS



1. THIS DETAIL APPLIES TO ALL BELOW GRADE WALLS.
2. REINFORCING IN SLAB, WALL, AND FOOTING NOT SHOWN FOR CLARITY.

The image contains two technical drawings of a column base plate assembly.

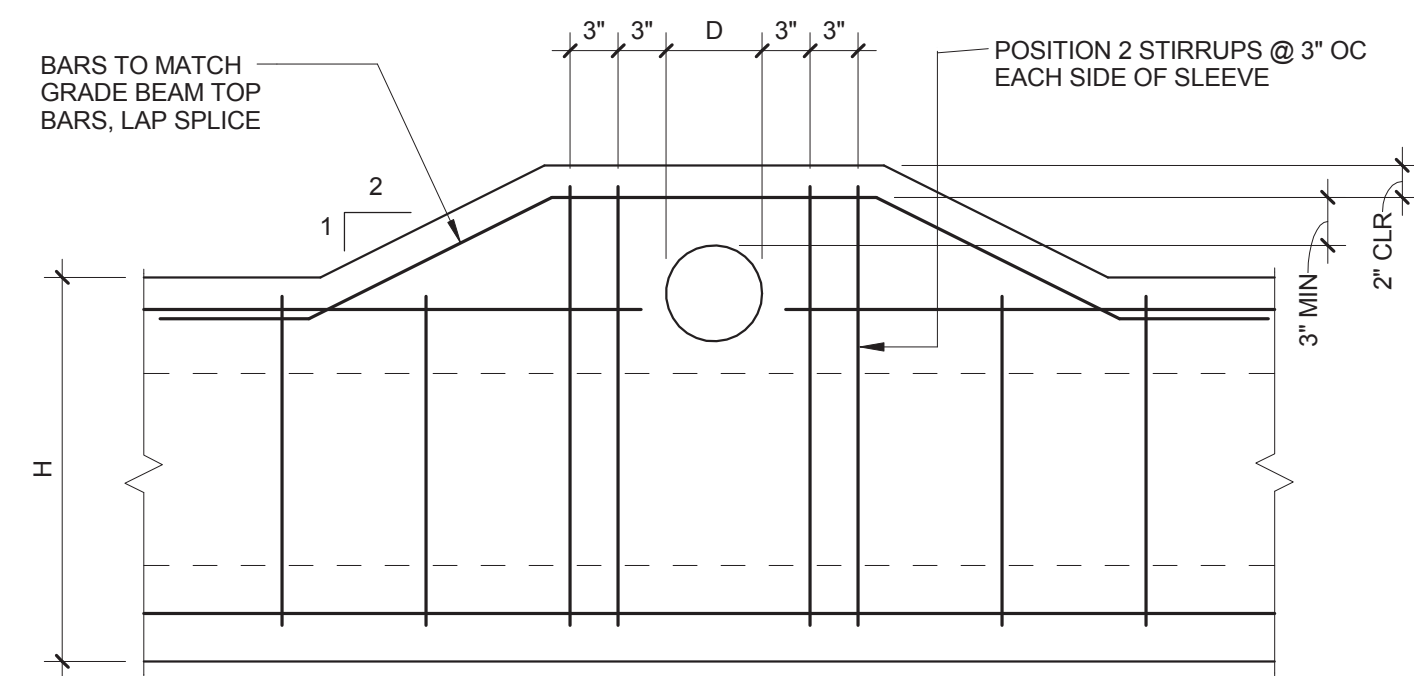
Top Drawing (Section View):

- Section Line:** A horizontal line with arrows at both ends, labeled "SECTION".
- Column Verticals:** The main vertical structural members of the column.
- Base Plate:** A horizontal plate welded to the bottom of the column verticals.
- Anchor Bolts:** Vertical bolts passing through the base plate into the foundation.
- Shim and Grout:** Material between the base plate and the foundation.
- Non-Shrink Grout:** Grout used to fill voids around the anchor bolts.
- Pockets:** Areas around the anchor bolts filled with non-shrink grout.
- Dowels:** Small vertical rods welded to the base plate.
- Plate Washers:** Washers between the base plate and the column verticals.
- Dimensions:**
 - $1\frac{1}{2}"$ CLR: Clear distance between dowels.
 - $2\frac{1}{2}"$: Dimension from the edge of the base plate to the center of the anchor bolts.
- Notes:**
 - "DOWELS BY PRECAST SUPPLIER WELDED TO BASE PLATE"
 - "TIES BY PRECAST SUPPLIER"
 - "POCKETS BY PRECAST SUPPLIER, FILL W/ NON-SHRINK GROUT"
 - "TIES BY PRECAST SUPPLIER"
 - "PLATE WASHERS (TOP AND BOT) WELDED TO BASE PLATE BY PRECAST SUPPLIER"
 - "NON-SHRINK GROUT"
 - "ANCHOR BOLTS"
 - "SHIM AND GROUT UNDER COLUMN BY PRECAST SUPPLIER"
- Scale:** "1/4\" = 1'-0\" PER PLAN"

Bottom Drawing (Plan View):

- Section Line:** A horizontal line with arrows at both ends, labeled "SECTION".
- Anchor Bolts:** Four anchor bolts arranged in a square pattern.
- Dowels:** Four dowels, one near each corner.
- Dimensions:**
 - $2\frac{1}{2}"$: Dimension from the edge of the base plate to the center of the anchor bolts.
 - $2\frac{1}{2}"$ CLR: Clear distance between dowels.
 - $2\frac{1}{2}"$ CLR, TYP: Typical clear distance between anchor bolts.
- Notes:**
 - "ANCHOR BOLTS BY PRECAST SUPPLIER"
 - "DOWELS BY PRECAST SUPPLIER WELDED TO BASE PLATE"

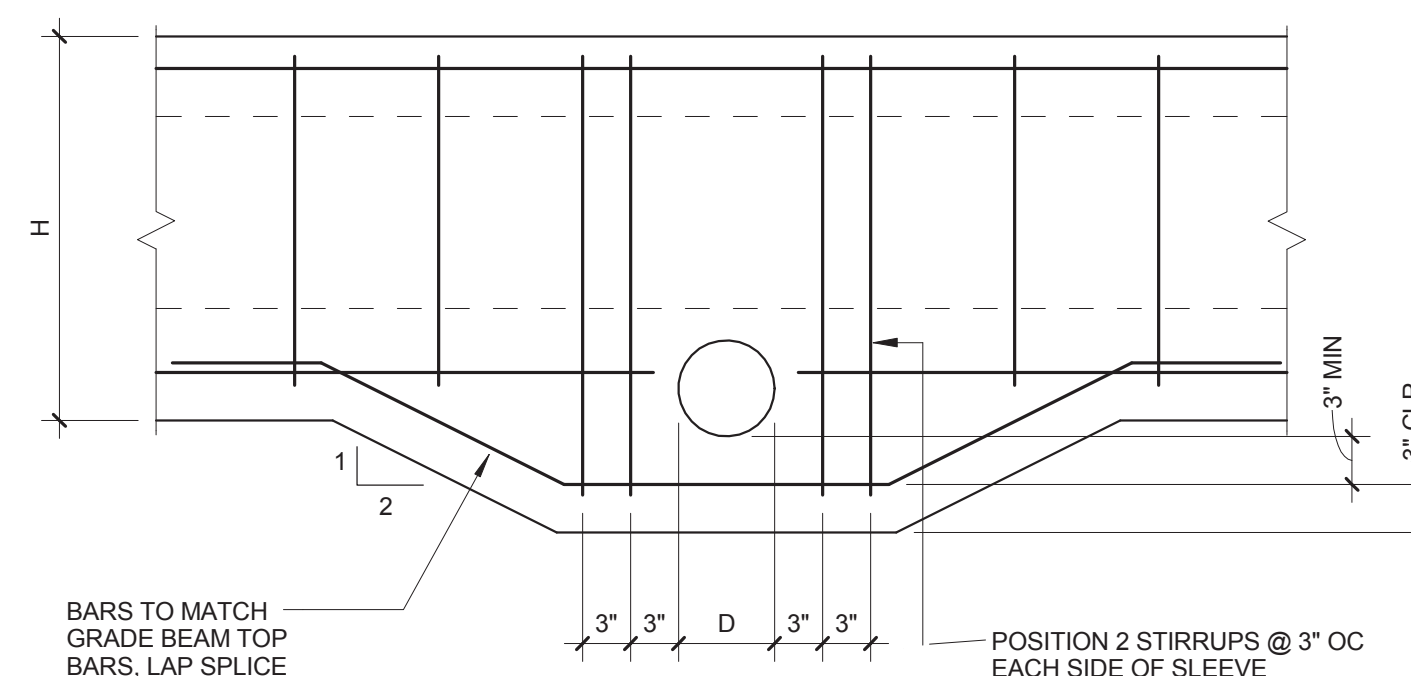
5 TYPICAL PRECAST COLUMN BASE DETAIL



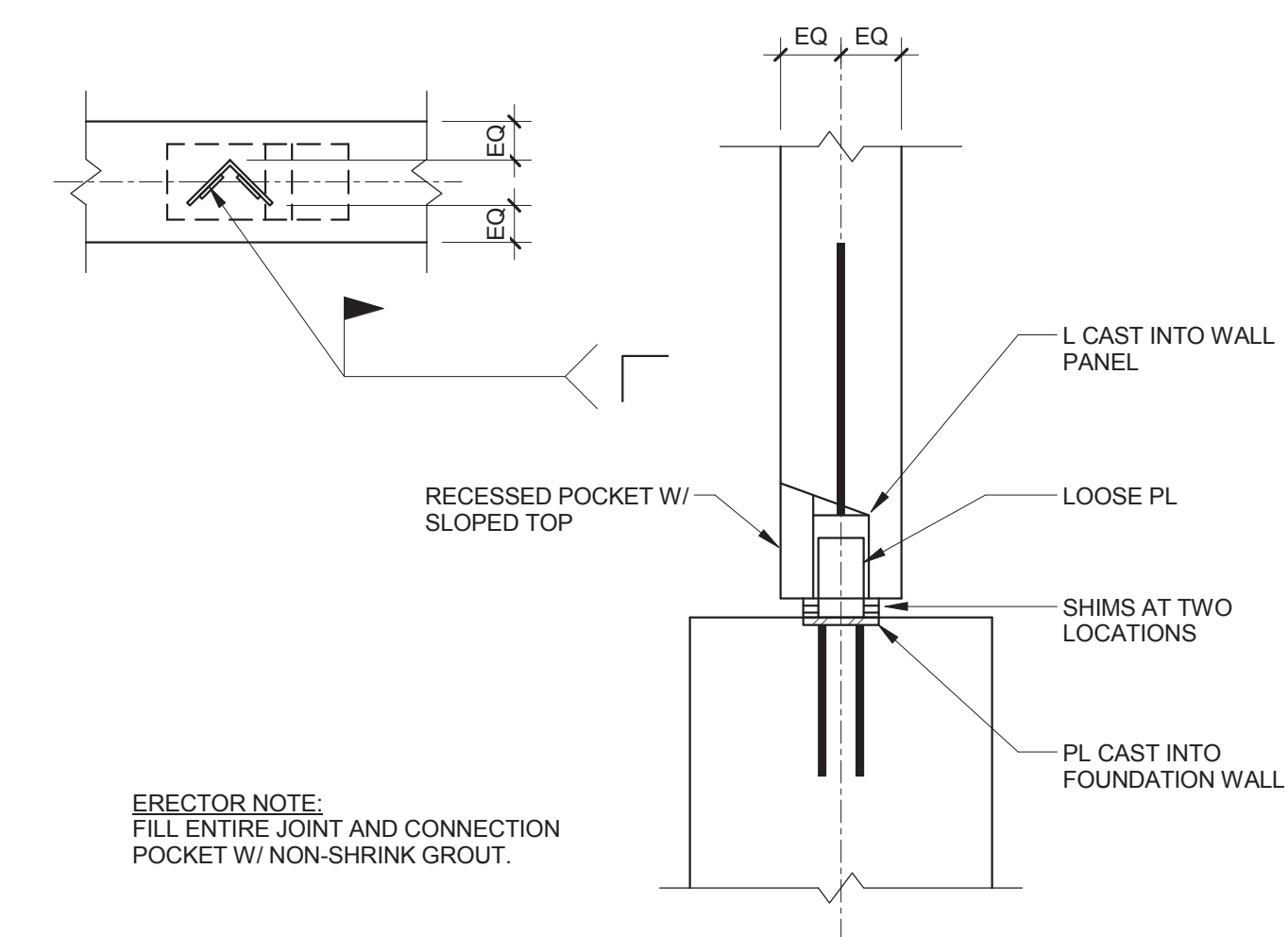
SLEEVE ABOVE ACCEPTABLE DEPTH

1. CONCRETE CONTRACTOR SHALL COORDINATE ALL PIPING RUNS AND ELEVATIONS WITH PLUMBING CONTRACTOR PRIOR TO CONSTRUCTION.
2. CONCRETE CONTRACTOR SHALL PROVIDE SCHEDULE 40 PVC PIPE SLEEVES AT ALL PIPING PENETRATIONS THROUGH GRADE BEAMS, INSTALL AT ELEVATION AND ALIGNMENT AS COORDINATED WITH PLUMBING.
3. Dmax= H/6
4. ALL SLEEVES THROUGH GRADE BEAMS MUST BE SUBMITTED TO ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

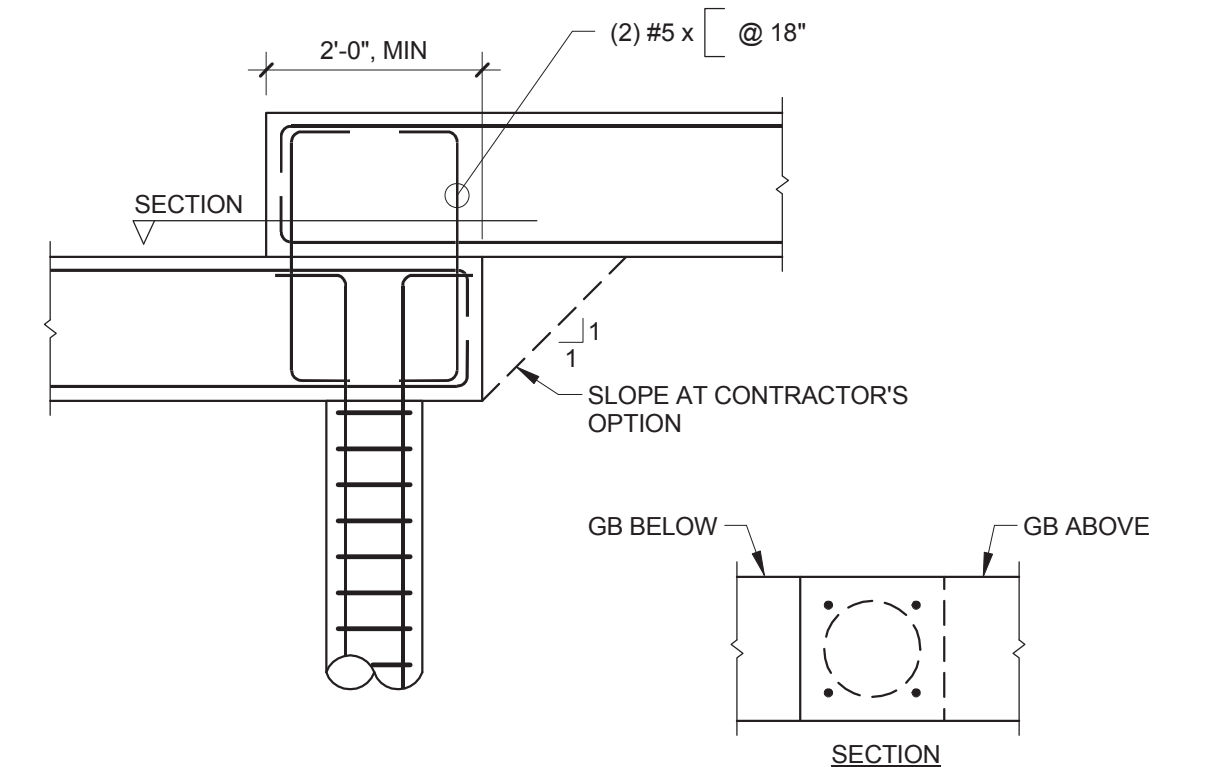
SLEEVE BELOW ACCEPTABLE DEPTH



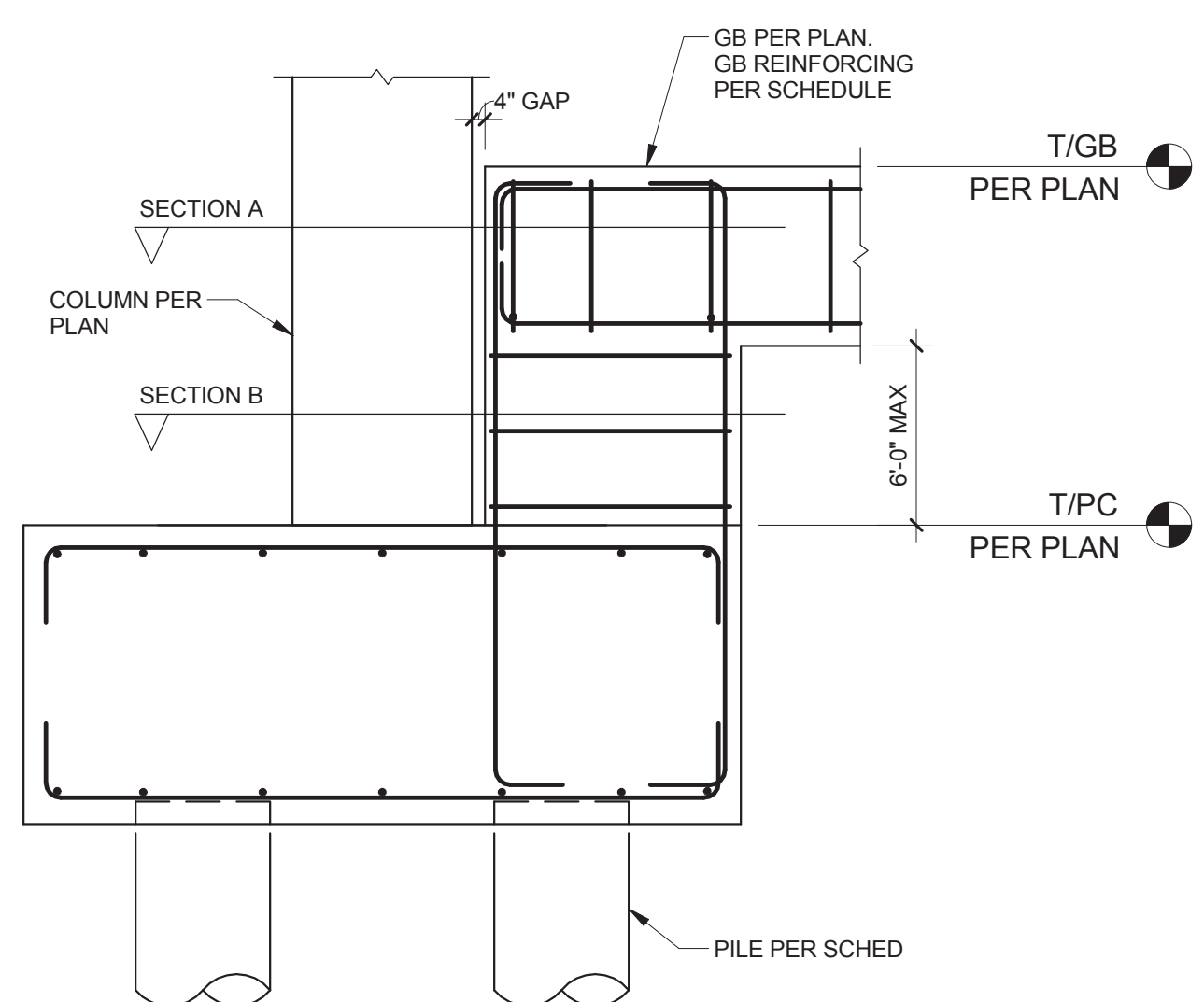
7
SF502



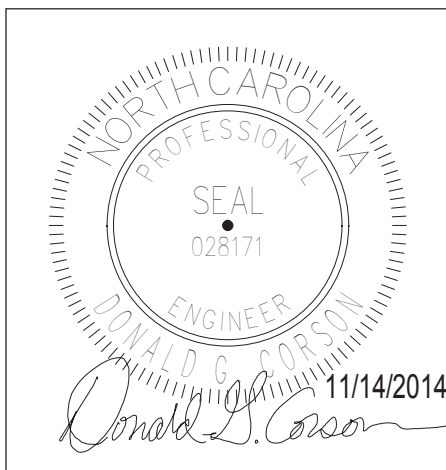
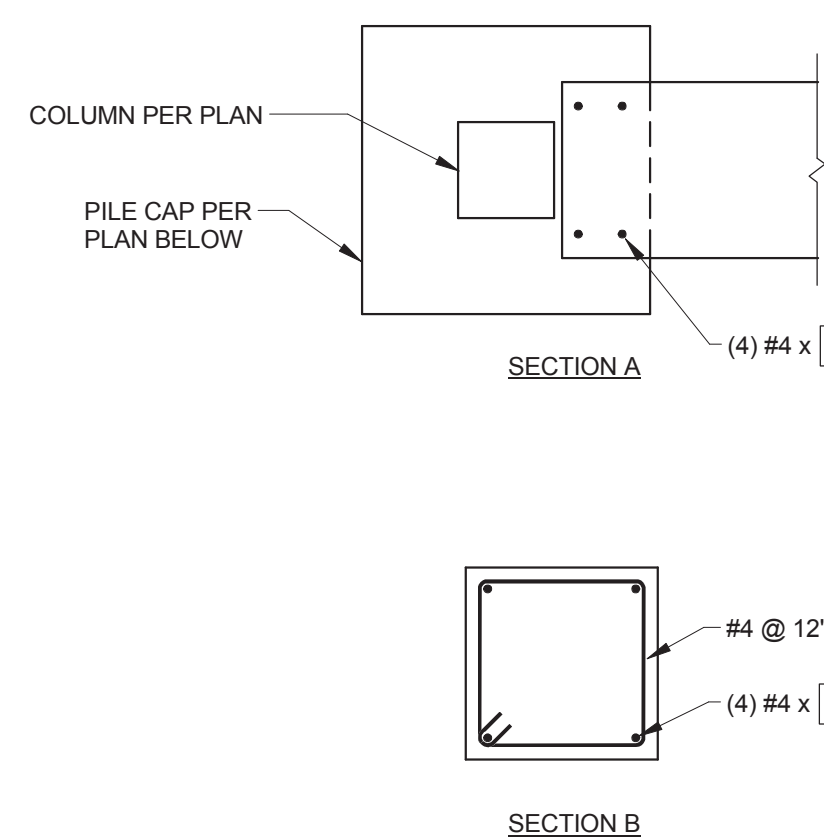
8 TY
SF502 N.T.S.



6 TY
SF502 N.T.S.



9 TY
SF502 N.T.S.



PROJECT LEADER/ARCHITECT:

GUIDON 
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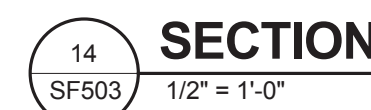
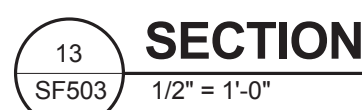
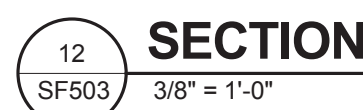
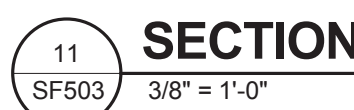
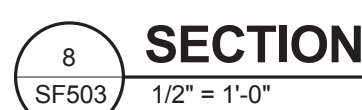
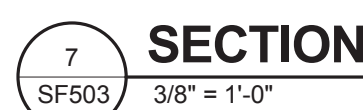
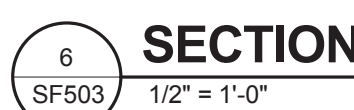
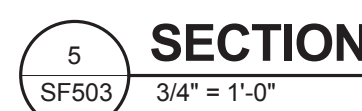
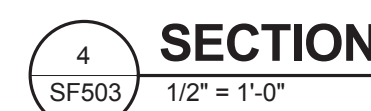
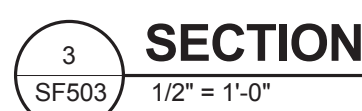
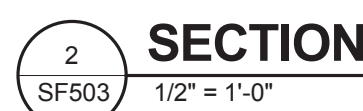
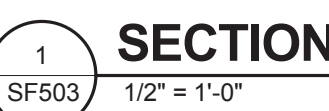
Approved for Design Concept
JOHN MONTGOMERY
PROJECT ENGINEER
704-638-9000

Location W.G. (BILL) HEFNER VAMC		
Date 11/14/2014	Checked By: JAP	Drawn By: BGC

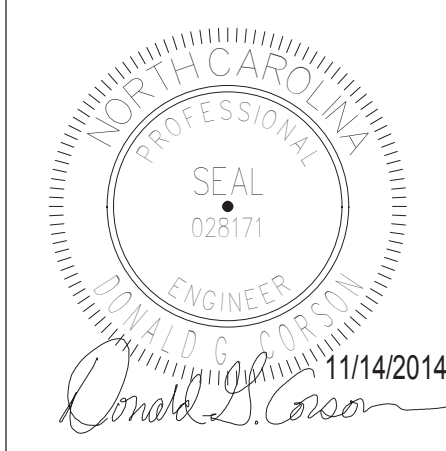
	Drawing Number
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Project Number
0-342

 U.S. Department
of Veterans Affairs

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**U.S. Department
of Veterans Affairs**
SALISBURY VAMC
Dept. of Veterans Affairs
1601 Brenner Ave.
Salisbury, NC 28144



Structural

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MEP Engineer

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Civil Engineer

GUIDON DESIGN
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Functional Design
CARL WALKER INC.
14045 Ballantyne Corporate
Place, Suite 380
Charlotte, NC 28277
Tele: 704-716-8000

PROJECT LEADER/ARCHITECT:

GUIDON 
DESIGN

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Drawing Title	FOUNDATION SECTIONS AND DETAILS
---------------	---------------------------------------

Approved for Design Concept:
JOHN MONTGOMERY
PROJECT ENGINEER
704-638-9000

Project Title	CONSTRUCT NEW PARKING GARAGE
---------------	---------------------------------

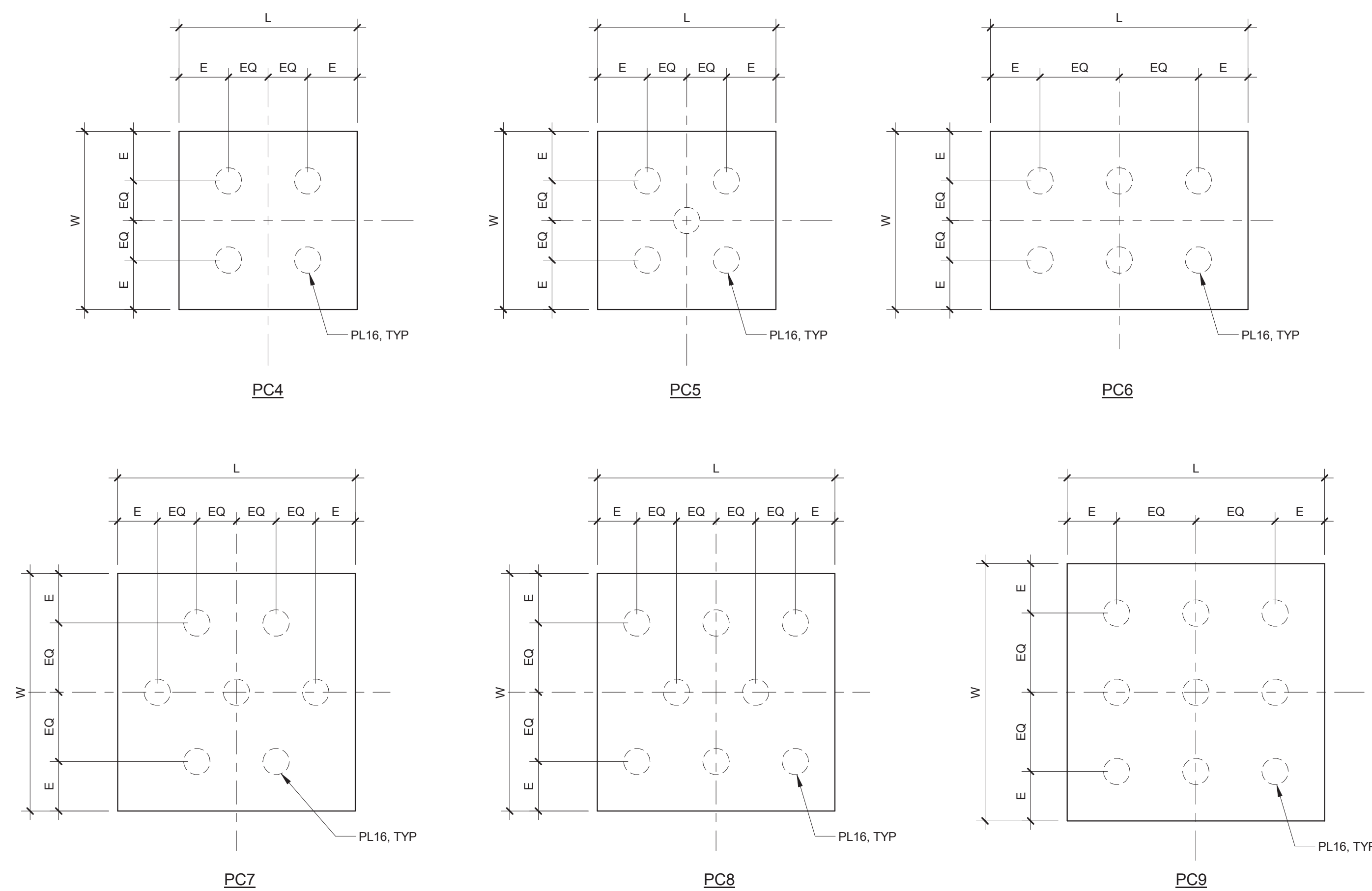
Location W.G. (BILL) HEFNER VAMC		
Date 11/14/2014	Checked By: JAP	Drawn B

Project Number	13.1044
Building Number	Bldg 9

Drawing Number	SF50
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OFFICE OF
FACILITIES
MANAGEMENT

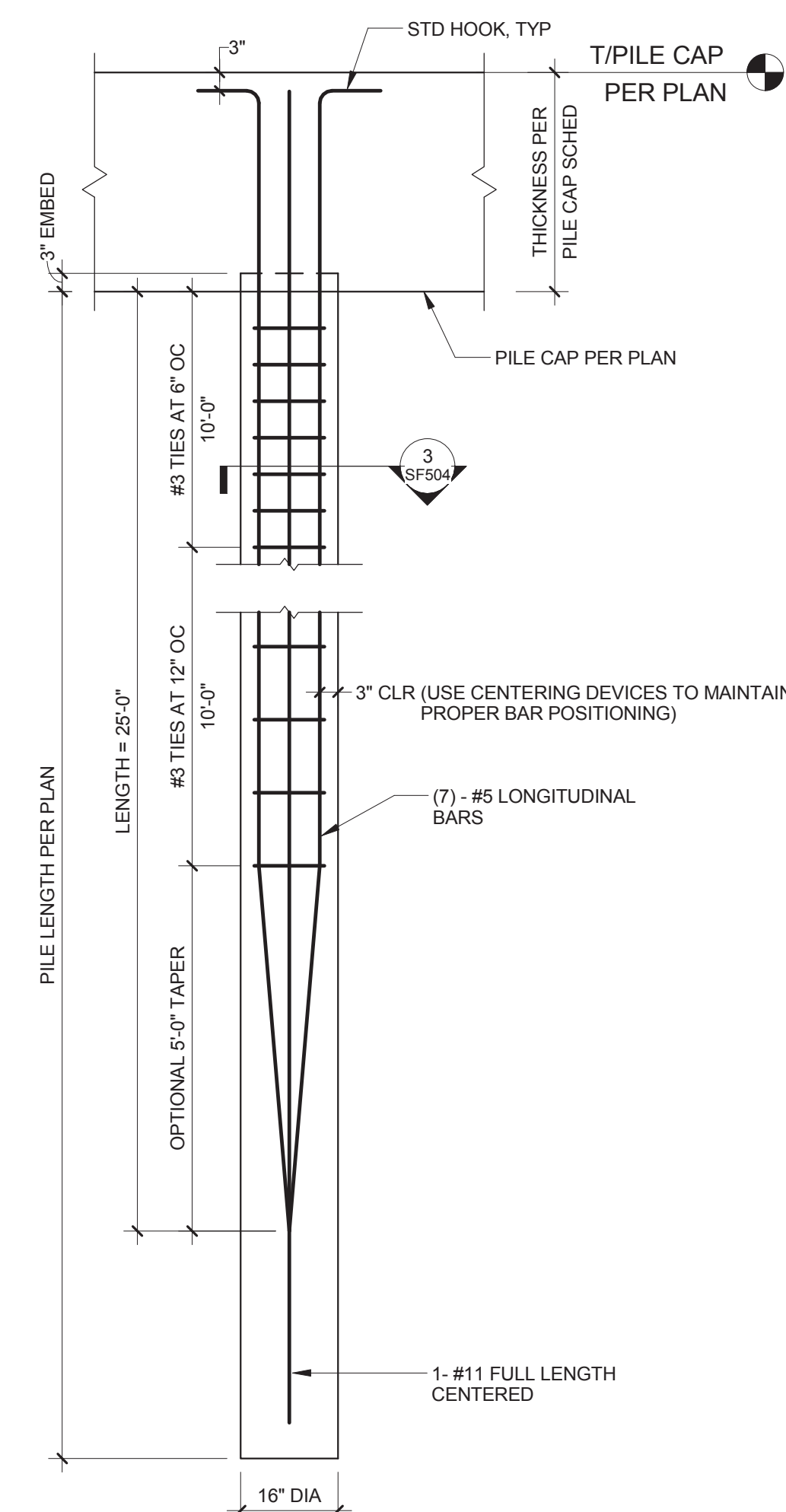
A Project Number
659-342



1
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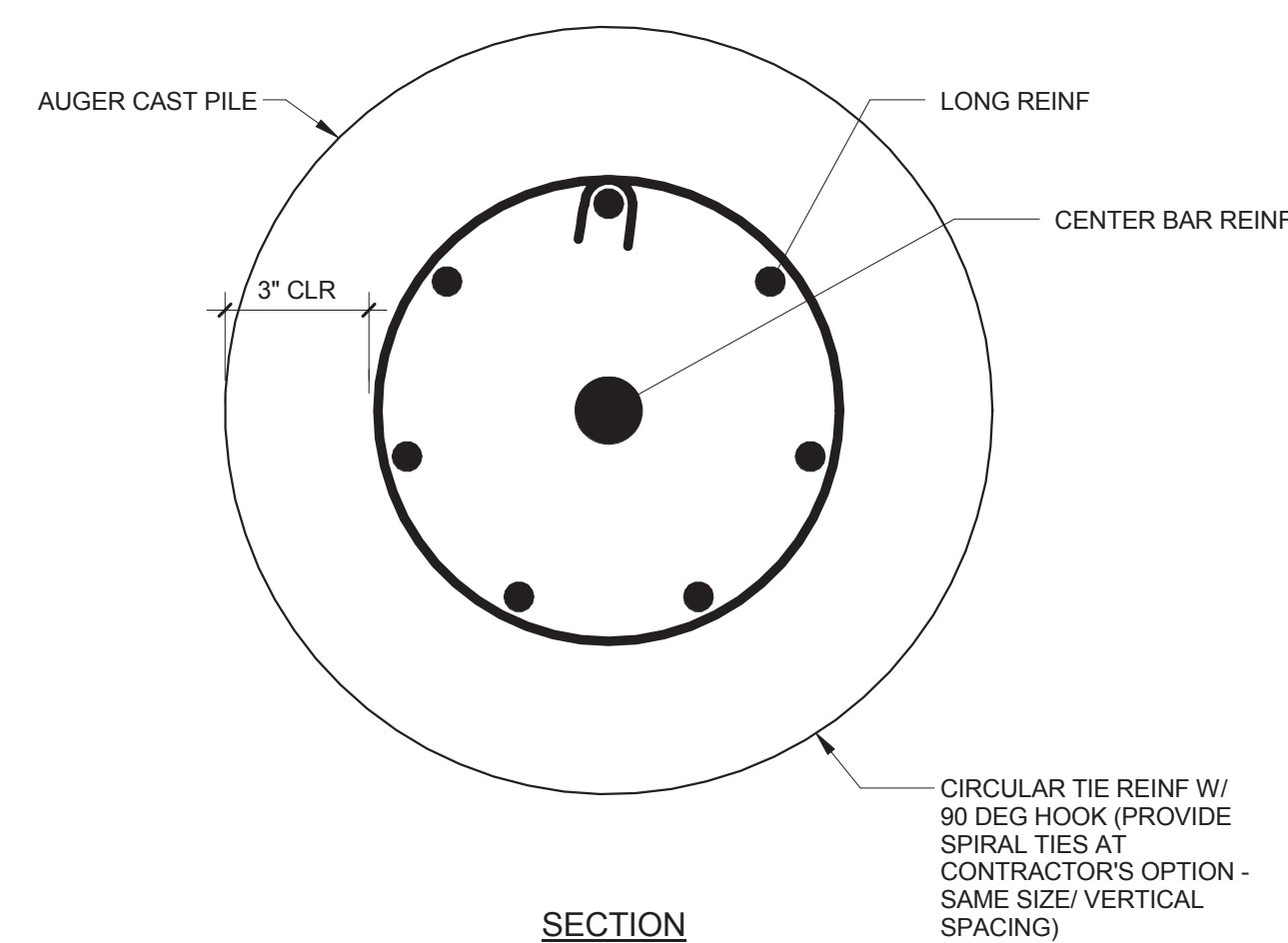
TYPICAL PILE CAP DETAILS

N.T.S.



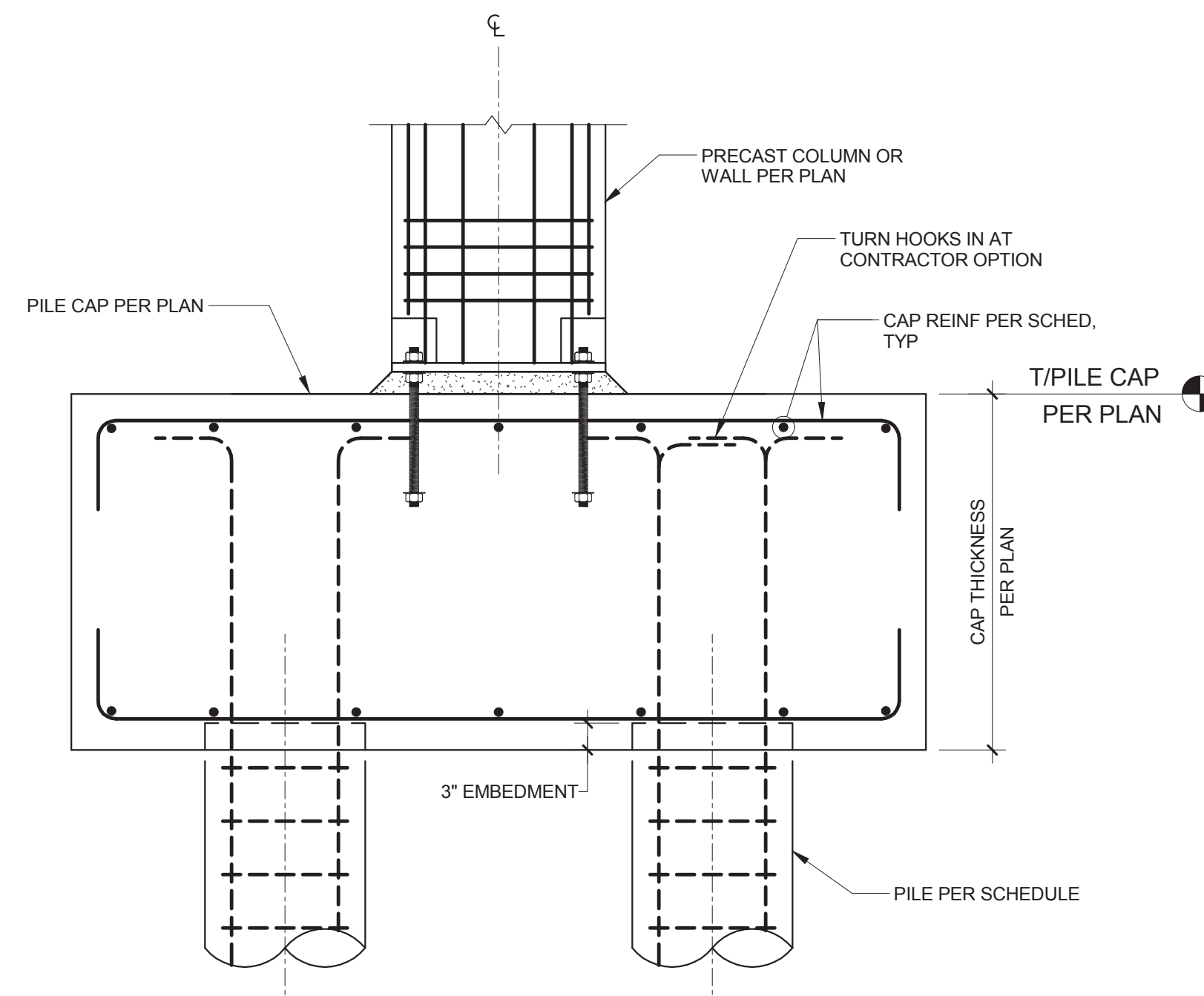
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SF504

TYPICAL AUGER CAST PILE (PL16)
N.T.S.



3
SF504

TYPICAL AUGER CAST PILE SECTION
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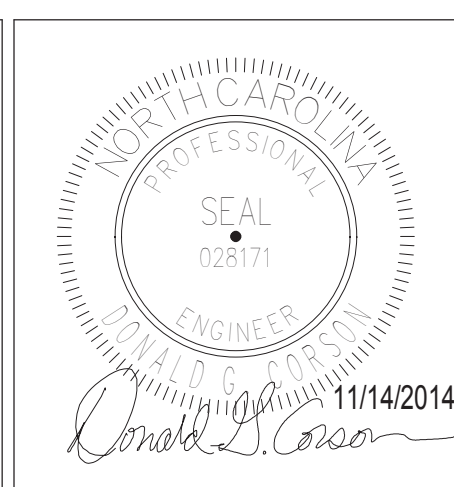
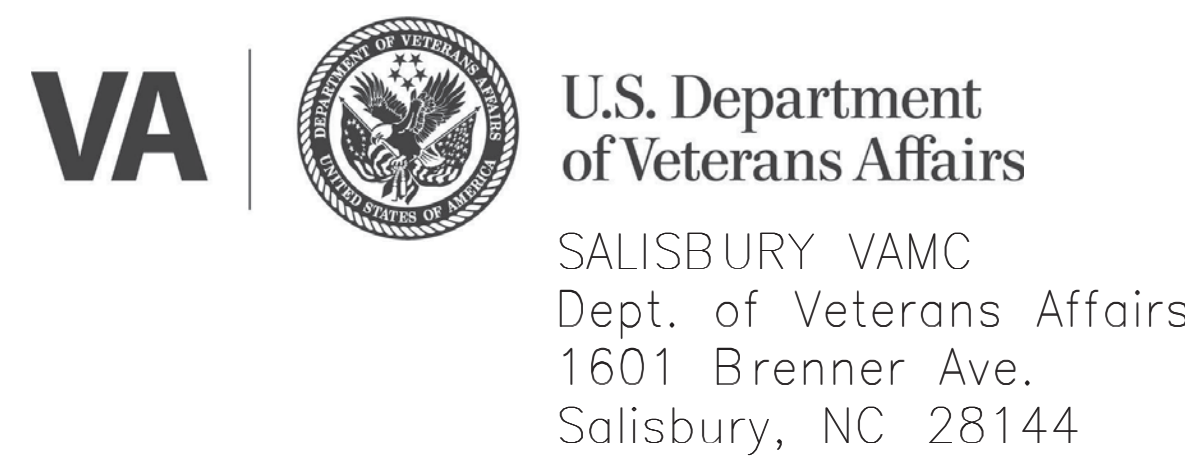


TYPICAL PILE CAP SECTION

[illegible]

NOTES:

1. PROVIDE STANDARD HOOKS AT BOTH ENDS OF BARS.

[illegible]


Structural	MEP Engineer	Civil Engineer	Functional Design
AMERICAN STRUCTUREPOINT	APOGEE CONSULTING GROUP	GUIDON DESIGN INC.	CARL WALKER INC.
7260 Shadeland Station Indianapolis, IN 46256	7330 Chappel Hill Road, Suite 202 Raleigh, NC 27607	905 N. Capitol Ave. Suite 100 Indianapolis, IN 46204	14045 Ballantyne Cor Place, Suite 2877 Charlotte, NC 28270
Tele: 317-547-5580	Tele: 919-858-7420	Tele: 317-800-6388	Tele: 704-716-8000

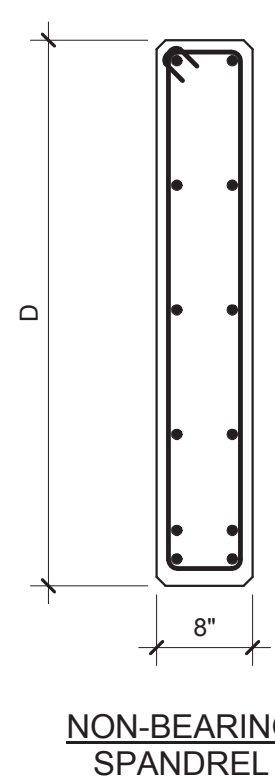
PROJECT LEADER/ARCHITECT:



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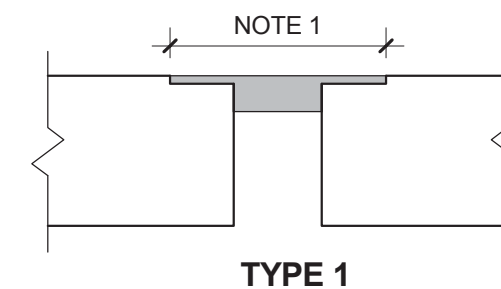
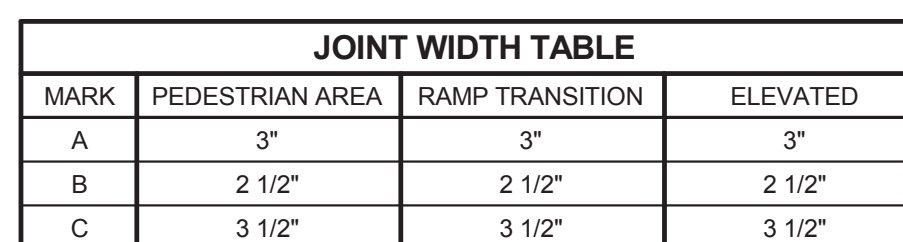
SUSTAINABLE ARCHITECTURE + ENGINEERING

BID SET				
Drawing Title PILE / PILE CAP DETAILS / SCHEDULES		Project Title CONSTRUCT NEW PARKING GARAGE		Project Number 13.1044
				Building Number Bldg 9
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000		Location W.G. (BILL) HEFNER VAMC		Drawing Number SF504
		Date 11/14/2014	Checked By: JAP	Drawn By: BGC
				VA Project Number 659-342
				VA  U.S. Department of Veterans Affairs



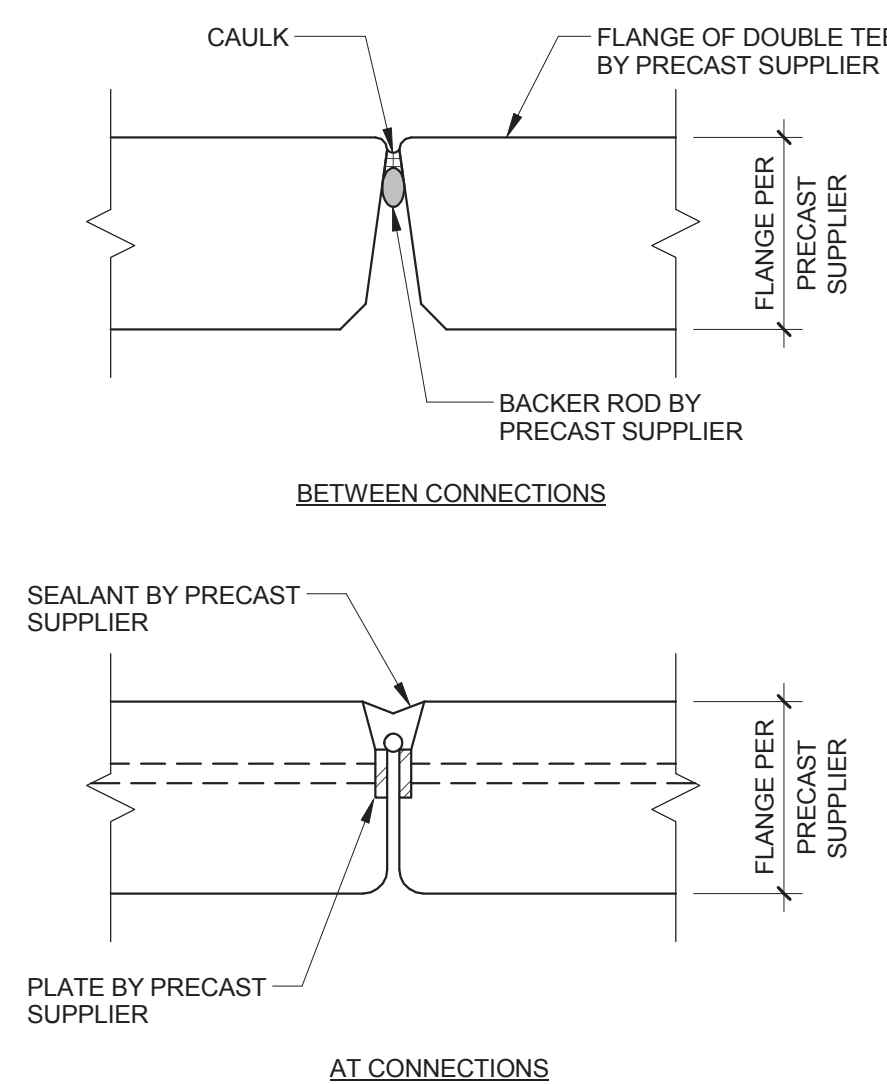
NON-BEARING
SPANDREL

N.T.S

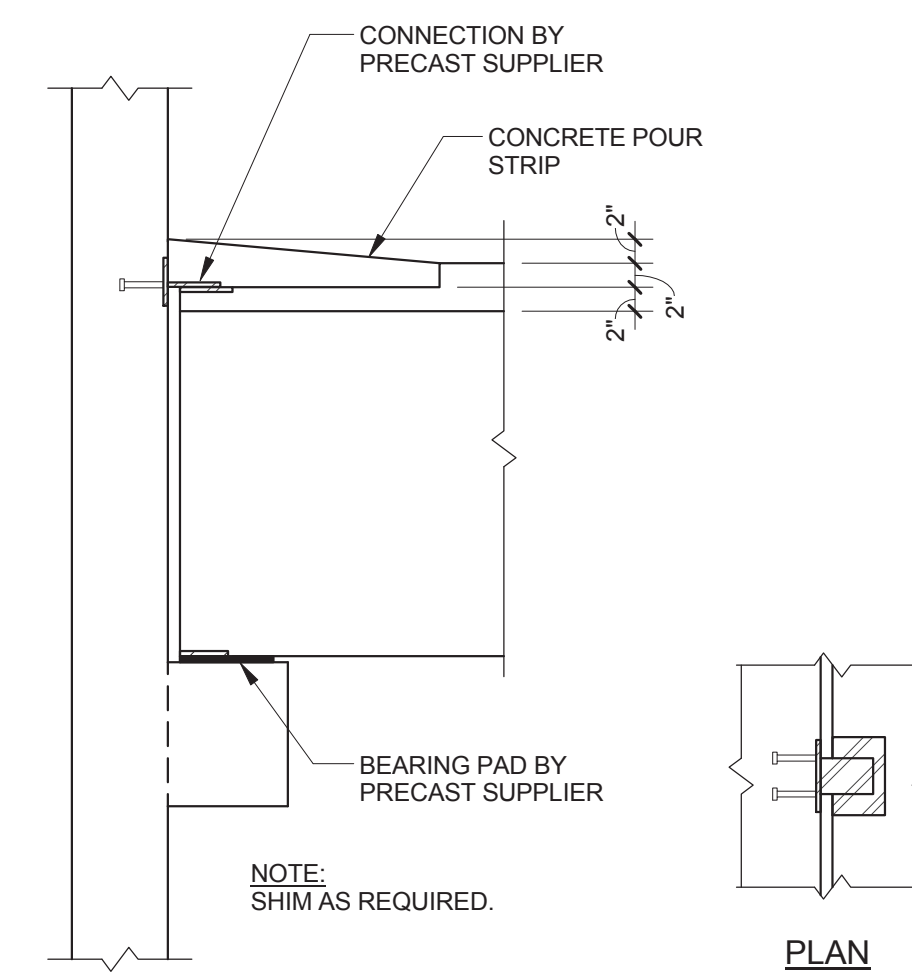


- NOTES:
- 1) BLOCK OUT DIMENSIONS PER EXPANSION JOINT MANUFACTURER.
 - 2) ACCOUNT FOR ACTUAL JOINT WIDTH AT TIME OF INSTALLATION DUE TO CREEP, SHRINKAGE, AND TEMPERATURE MOVEMENT.
 - 3) INSTALL EXPANSION JOINT WITHIN (4) WEEKS FOLLOWING CONCRETE PLACEMENT
 - 4) SEE ARCH PLANS FOR EXPANSION JOINT TYPE.

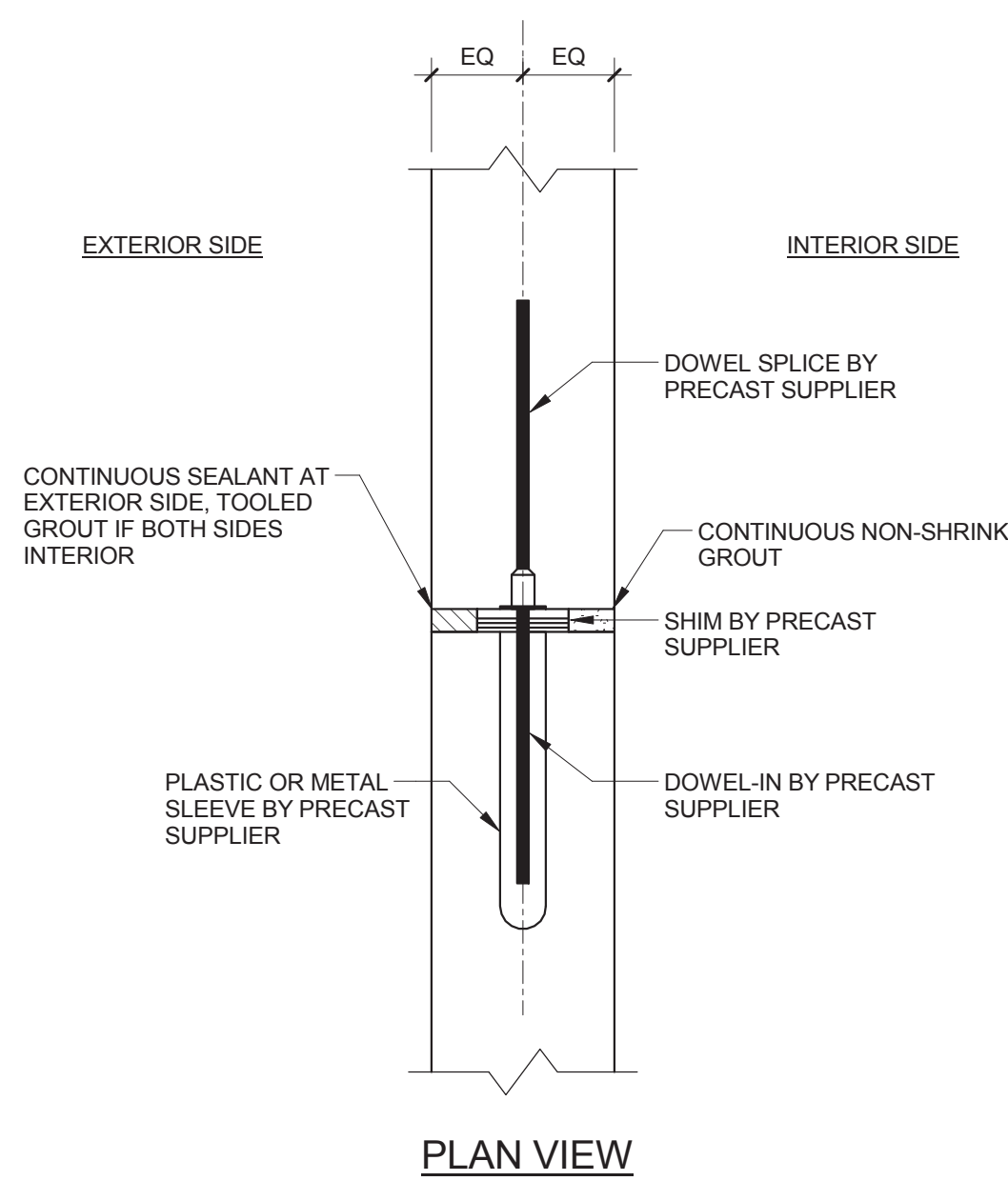
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5) N.T.



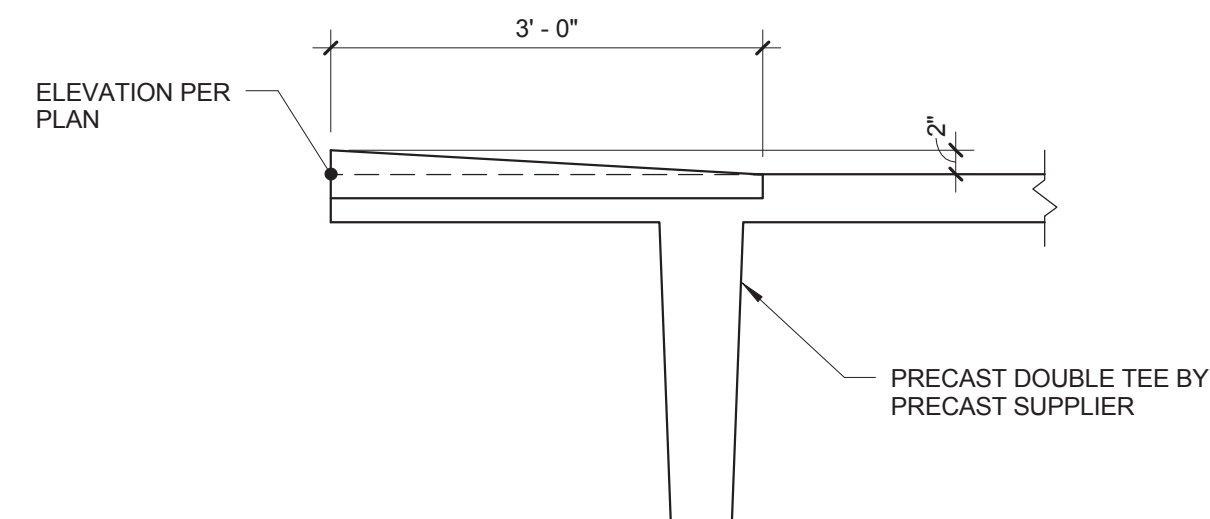
5) N.T.S

PLAN VIEW

- NOTES:
1. THIS CONNECTION CAN ALSO BE USED AT THE FOUNDATION



F505) N.T.S

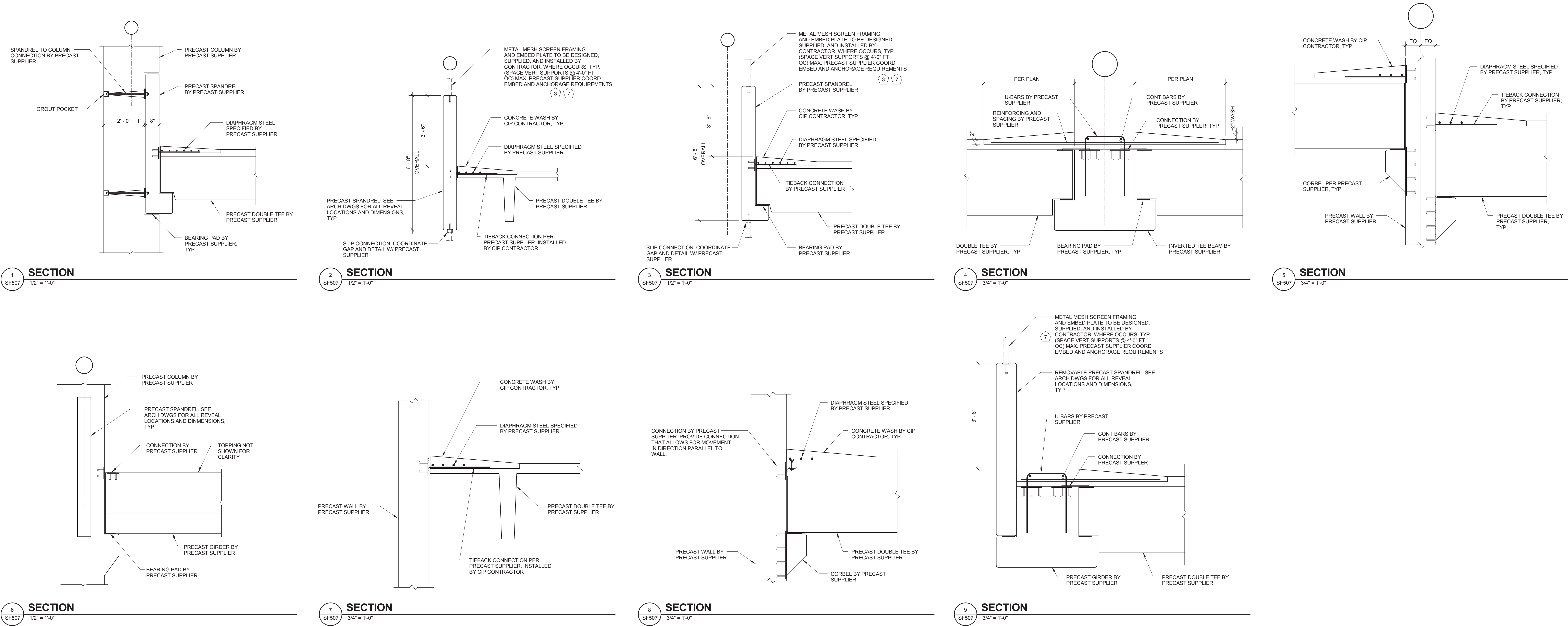
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- NOTE:
1. T/SLAB ELEVATIONS ON PLANS DO NOT INCLUDE WASH CONCRETE

N.T.S

BID SET				
Drawing Title TYPICAL FRAMING SECTIONS AND DETAILS		Project Title CONSTRUCT NEW PARKING GARAGE		Project Number 13.1044
				Building Number Bldg 9
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000		Location W.G. (BILL) HEFNER VAMC		Drawing Number SF505
		Date 11/14/2014	Checked By: JAP	Drawn By: BGC
				VA Project Number 659-342
		 		



Revisions:

Date:

VA

U.S. Department of Veterans Affairs

SALISBURY VAMC

Dept. of Veterans Affairs

1601 Brenner Ave.

Salisbury, NC 28144

NORTH CAROLINA

PROFESSIONAL SEAL

0128171

ENGINEER

11/14/2014

Structural

AMERICAN STRUCTUREPOINT

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Tele: 317-547-5580

MEP Engineer

APOGEE CONSULTING GROUP

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Raleigh, NC 27607

Tele: 919-858-7420

Civil Engineer

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Indianapolis, IN 46204

Tele: 317-800-6388

Functional Design

CARL WALKER INC.

14045 Ballantyne Corp. Place, Suite 380

Charlotte, NC 28277

Tele: 704-716-8000

PROJECT LEADER/ARCHITECT:

GUIDON DESIGN

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317.800.6388 WWW.GUIDONDESIGN.COM

SUSTAINABLE ARCHITECTURE + ENGINEERING

Drawing Title

FRAMING SECTIONS AND DETAILS

Approved for Design Concept:

JOHN MONTGOMERY PROJECT ENGINEER

704-638-9000

Project Title

CONSTRUCT NEW PARKING GARAGE

Location

W.G. (BILL) HEFNER VAMC

Date

11/14/2014

Checked By:

JAP

Drawn By:

BGC

Project Number

13.1044

Building Number

Bldg 9

Drawing Number

SF507

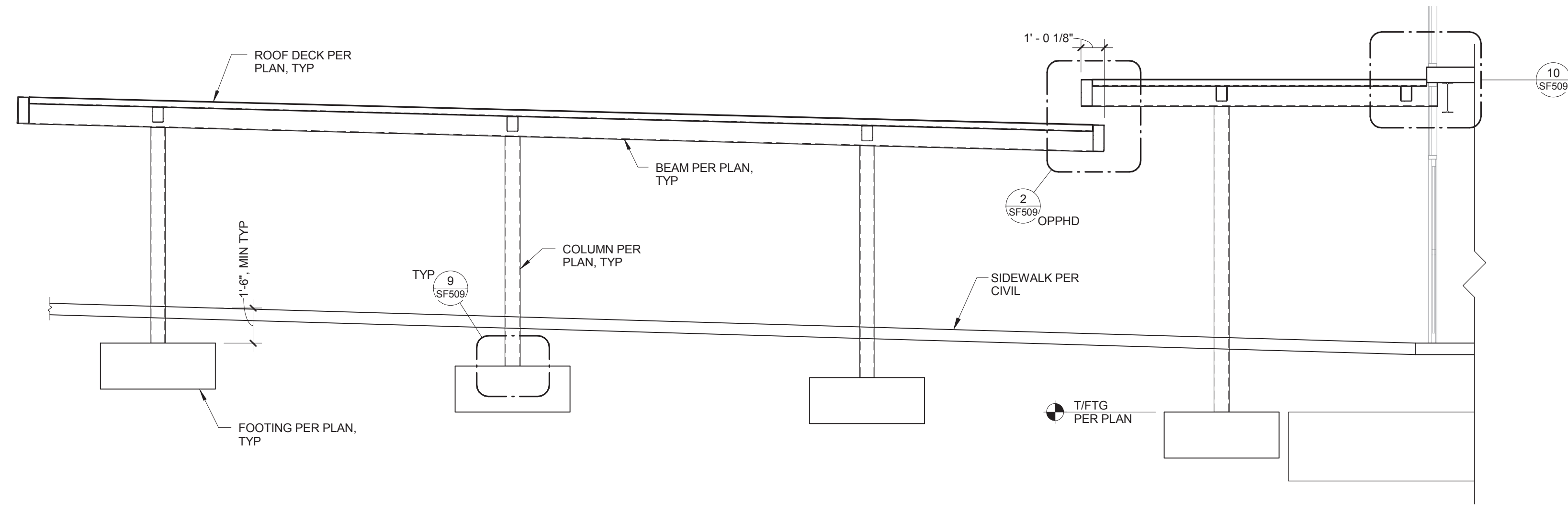
OFFICE OF FACILITIES MANAGEMENT

VA Project Number

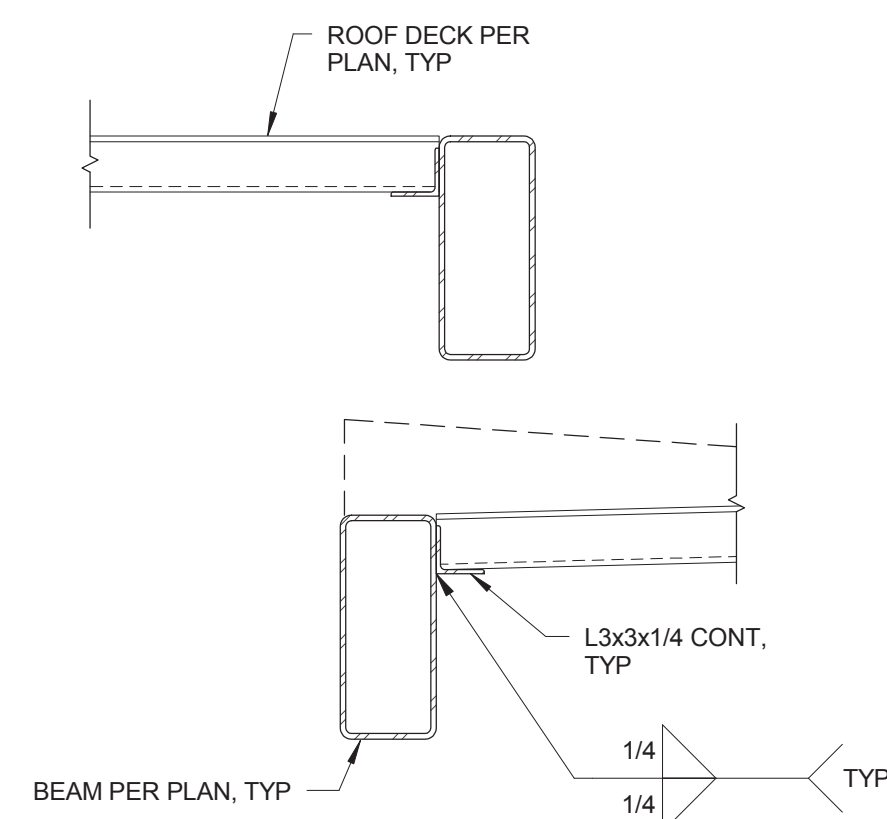
659-342

VA

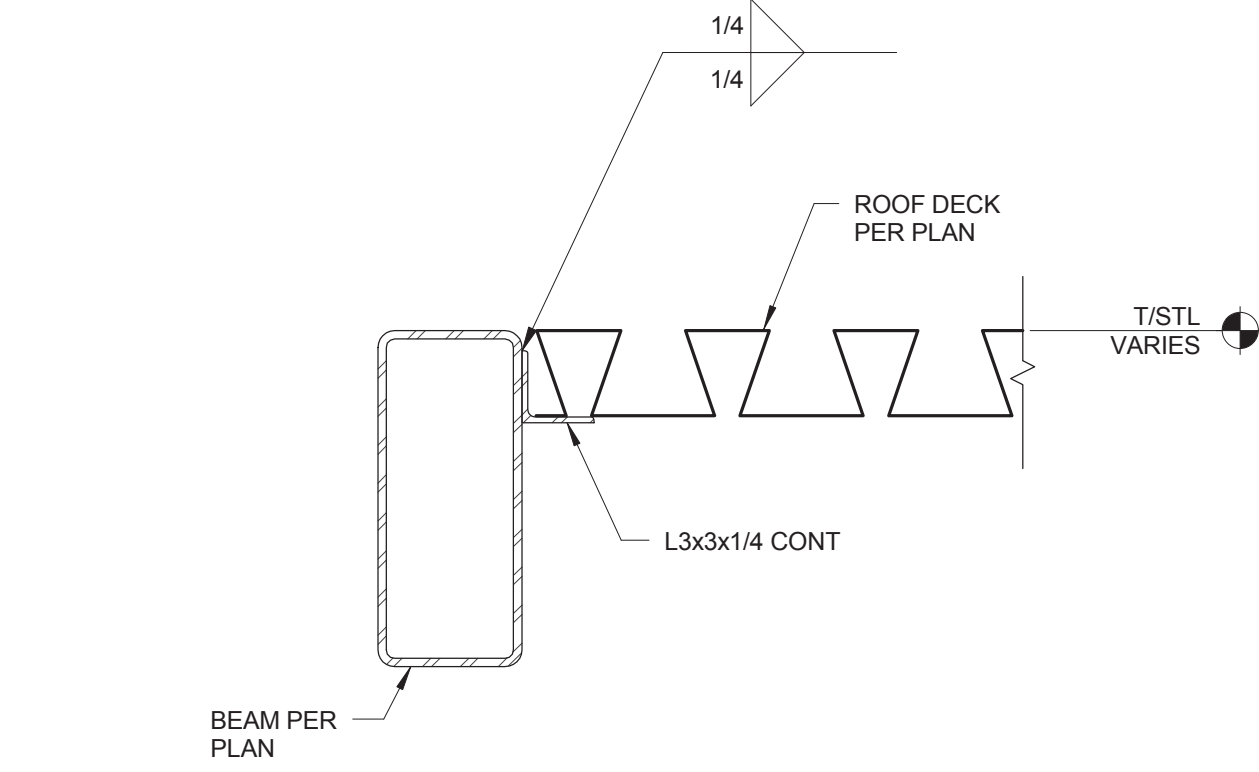
U.S. Department of Veterans Affairs



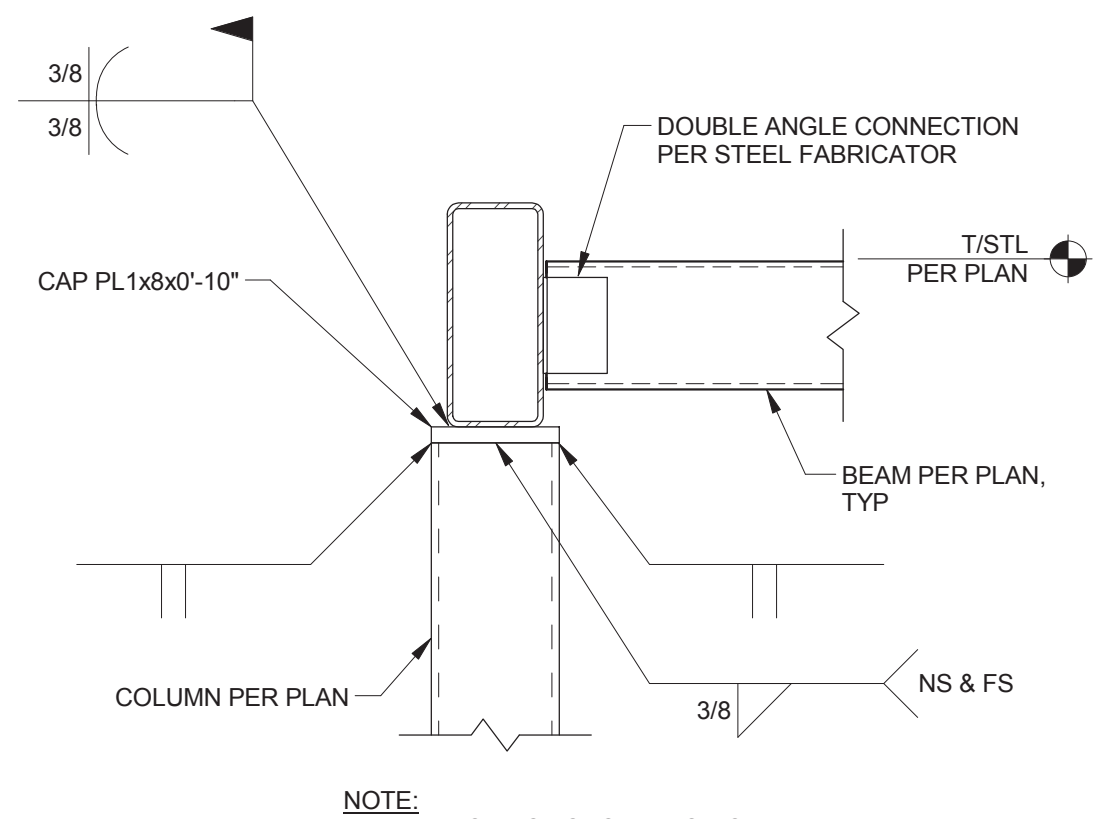
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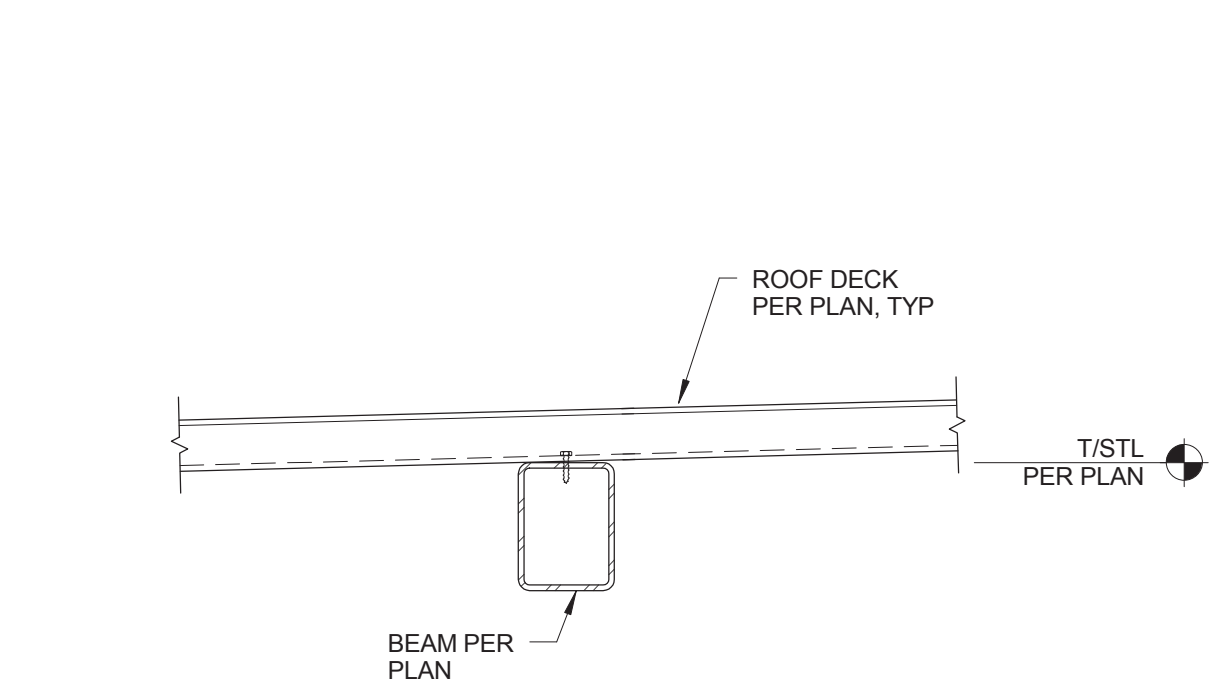
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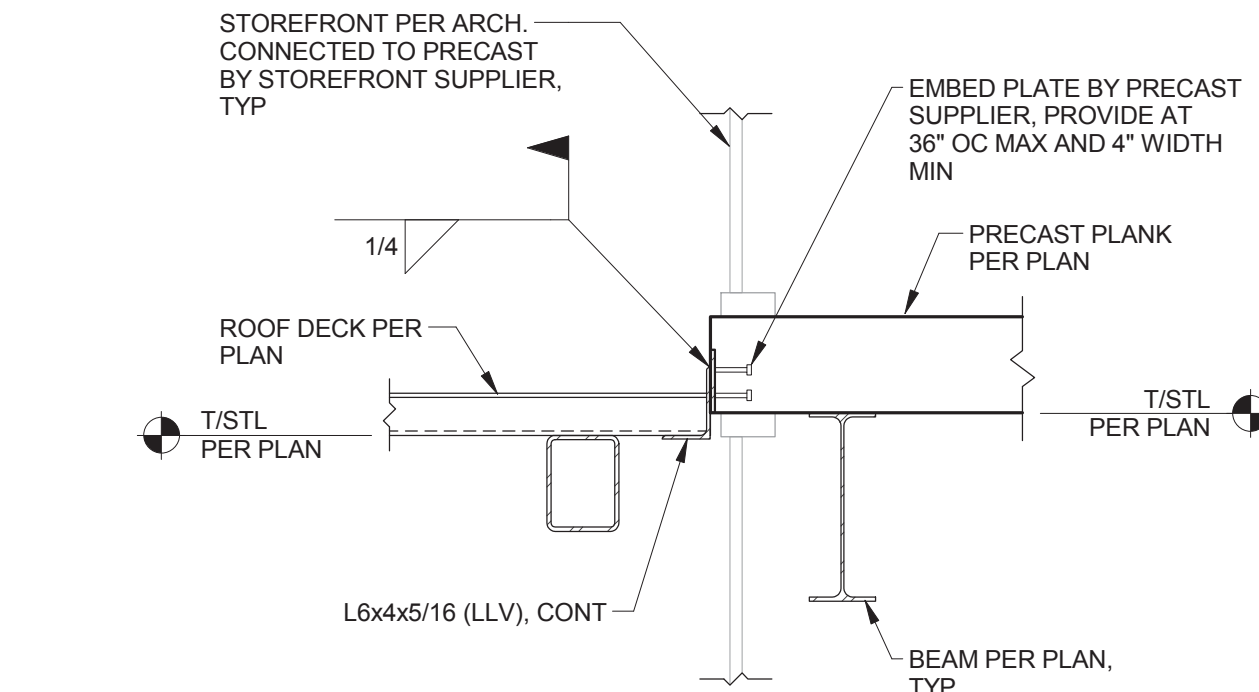
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1 1/2" = 1'-0"



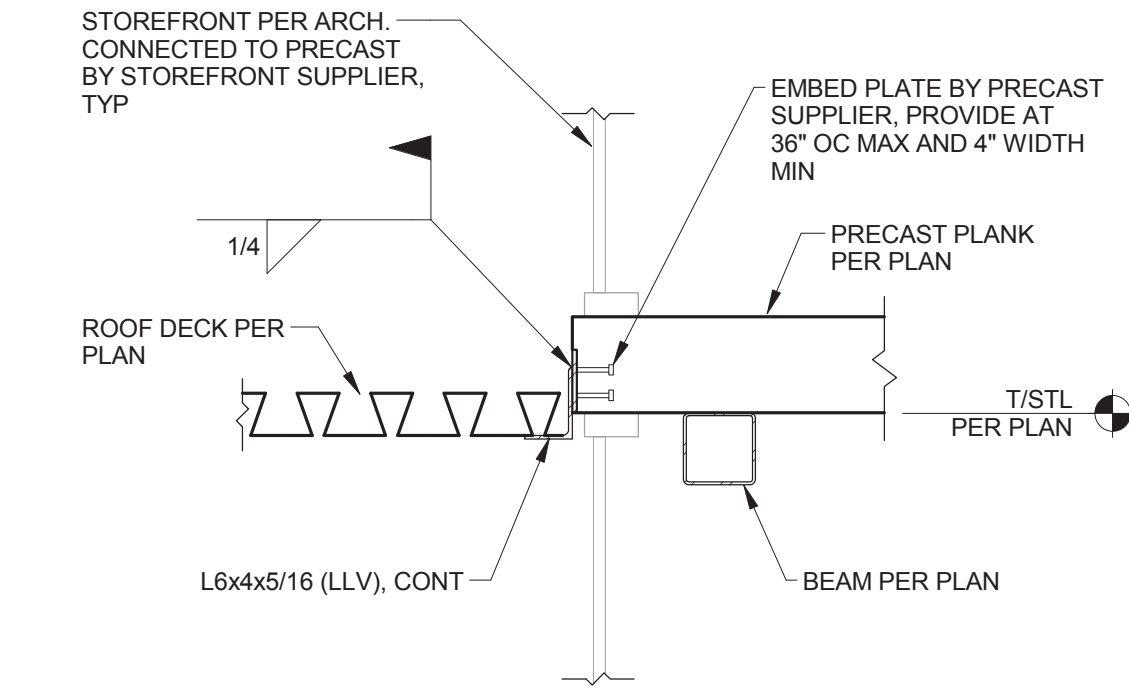
4 SECTION
1" = 1'-0"



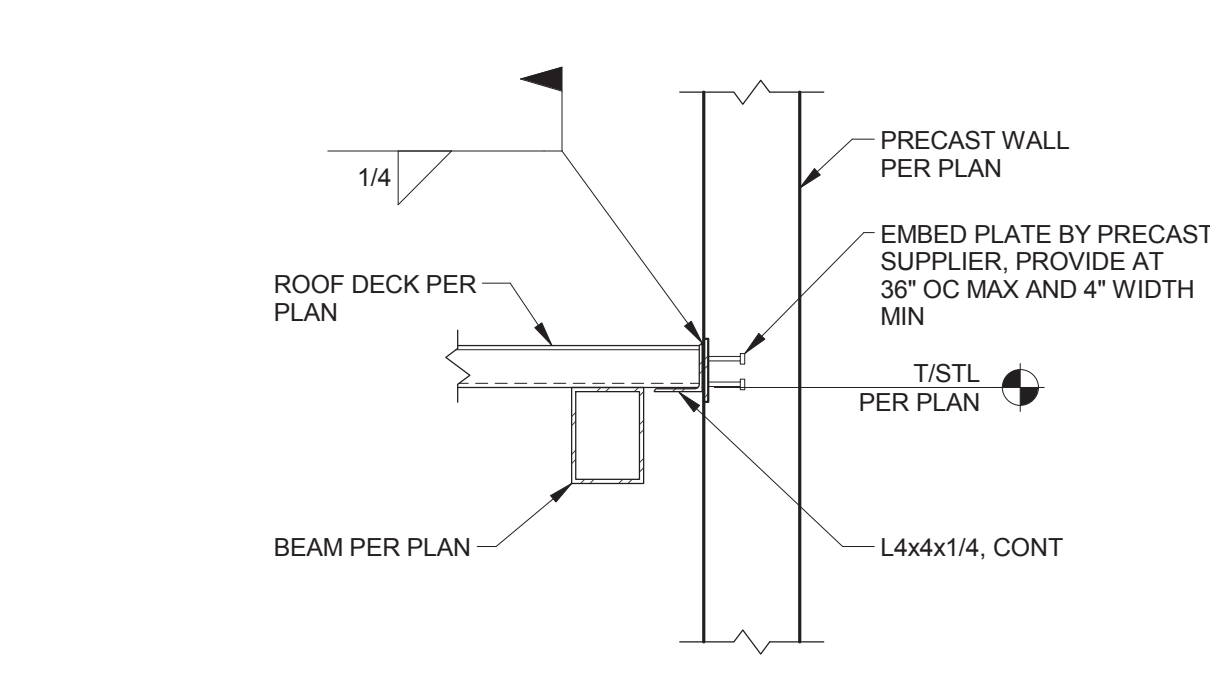
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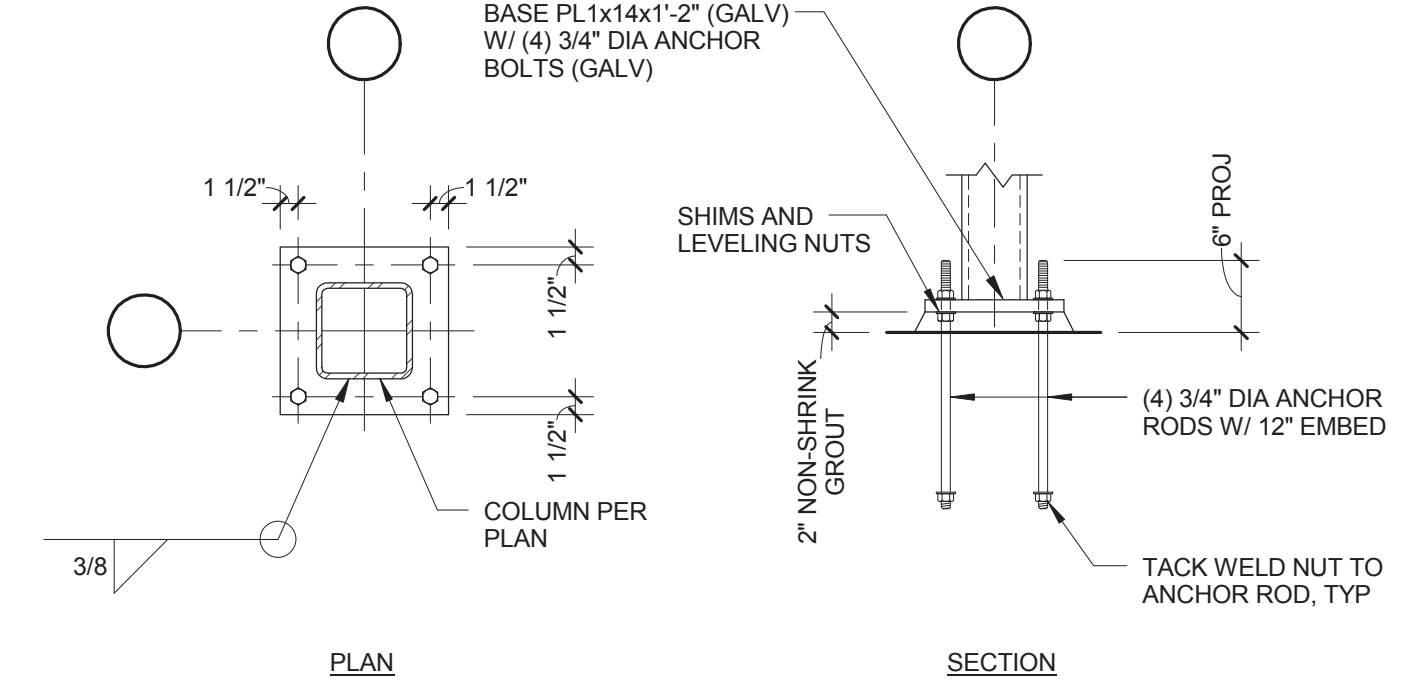
6 SECTION
3/4" = 1'-0"



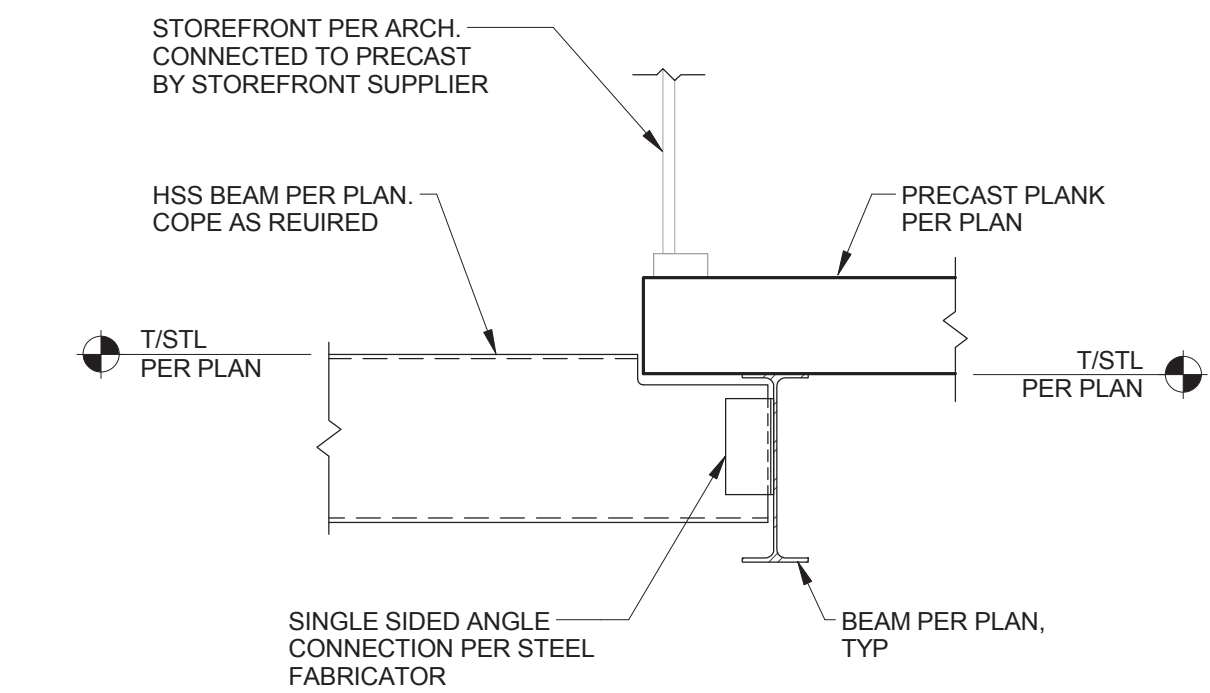
7 SECTION
3/4" = 1'-0"



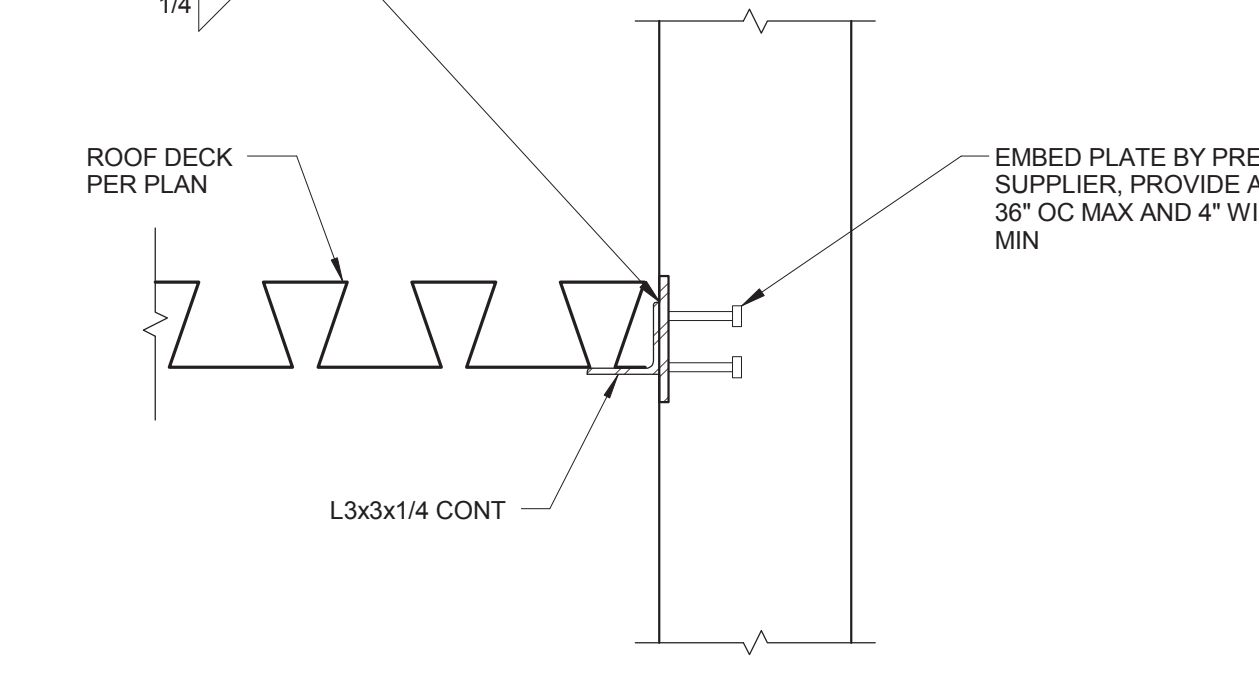
8 SECTION
3/4" = 1'-0"



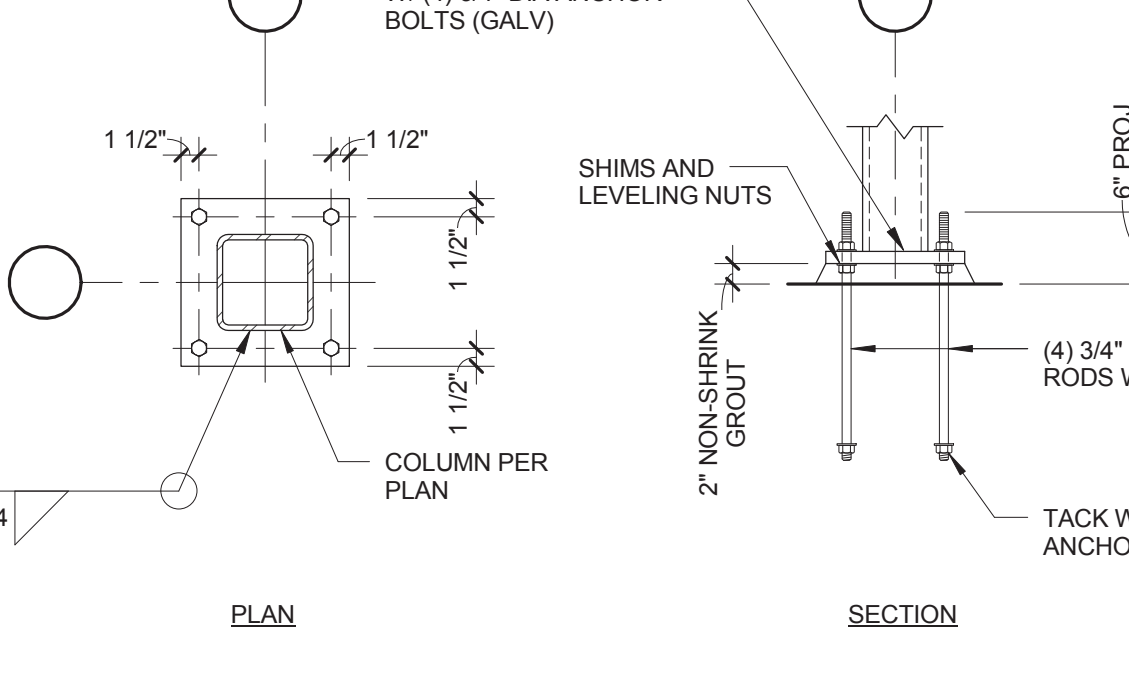
9 TYPICAL CANOPY COLUMN BASE DETAIL
N.T.S.



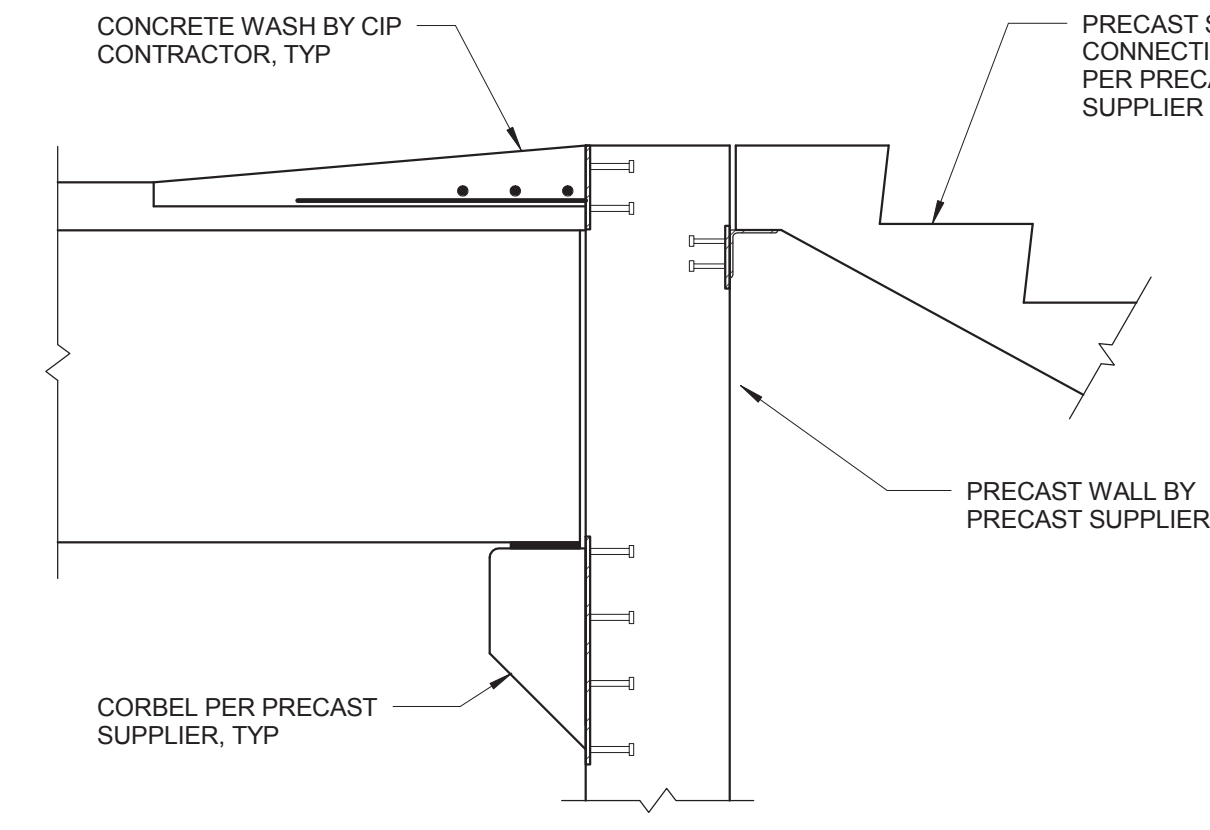
10 SECTION
3/4" = 1'-0"



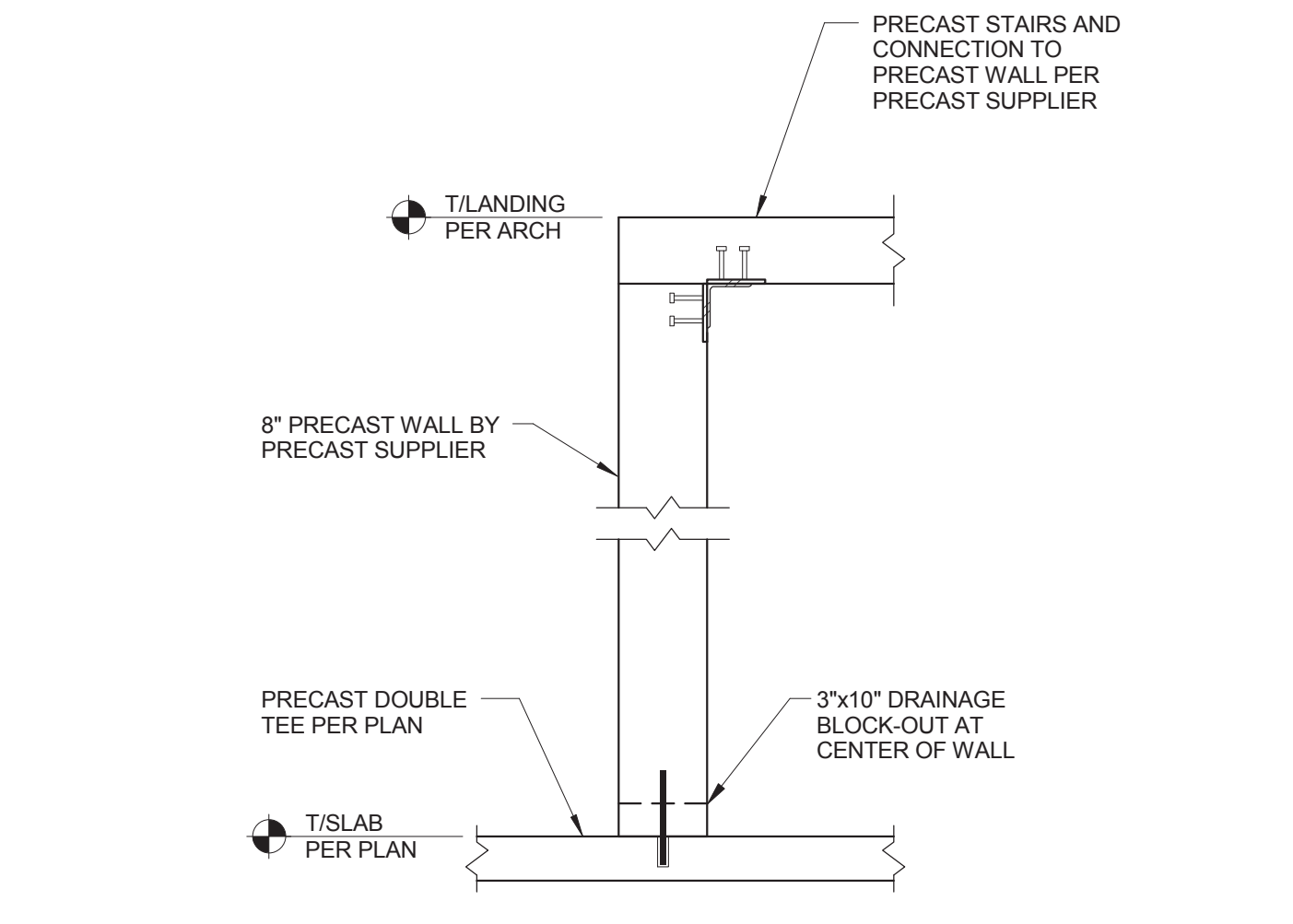
11 SECTION
1 1/2" = 1'-0"



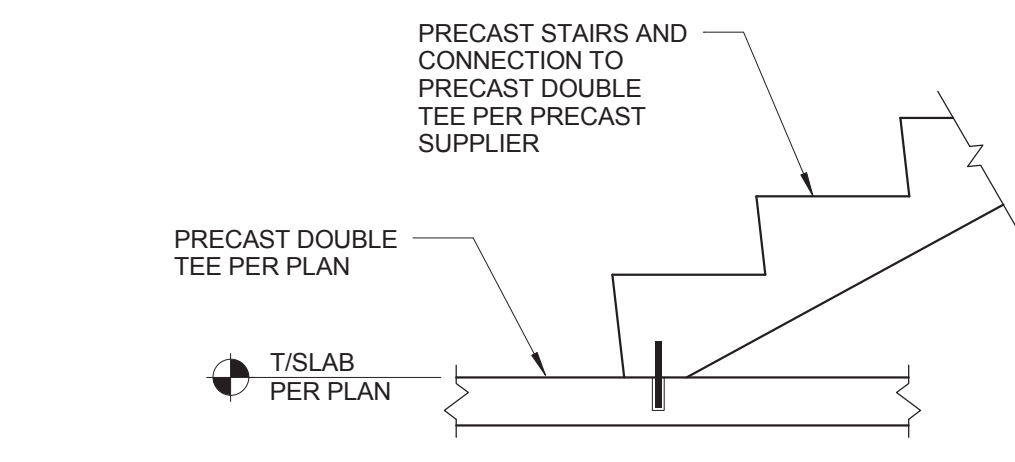
12 ENLARGED COLUMN BASE DETAIL
N.T.S.



13 SECTION
3/4" = 1'-0"





14 SECTION
3/4" = 1'-0"



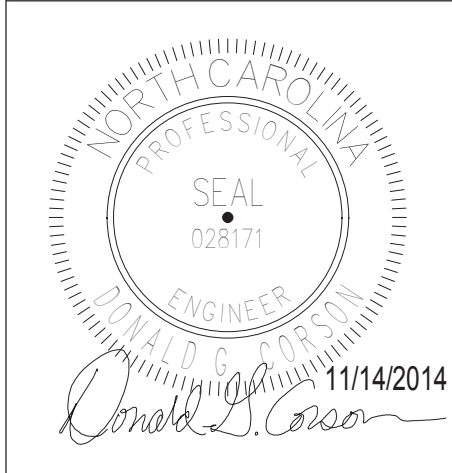
15 SECTION
3/4" = 1'-0"

Revisions:	Date



U.S. Department of Veterans Affairs

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Structural	MEP Engineer	Civil Engineer	Functional Design
AMERICAN STRUCTUREPOINT 7260 Shadeland Station Indianapolis, IN 46256 Tele: 317-547-5580	APOGEE CONSULTING GROUP 7330 Chappel Hill Road, Suite 202 Raleigh, NC 27607 Tele: 919-858-7420	GUIDON DESIGN INC. 905 N. Capitol Ave. Suite 100 Indianapolis, IN 46204 Tele: 317-800-6388	CARL WALKER INC. 14045 Ballantyne Corp. Place, Suite 380 Charlotte, NC 28277 Tele: 704-716-8000

PROJECT LEADER/ARCHITECT:



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SUSTAINABLE ARCHITECTURE + ENGINEERING

BID SET			
Drawing Title FRAMING SECTIONS AND DETAILS	Project Title CONSTRUCT NEW PARKING GARAGE	Project Number 13.1044	OFFICE OF FACILITIES MANAGEMENT
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC	Building Number Bldg 9	VA Project Number 659-342
Date 11/14/2014	Checked By: JAP	Drawn By: BGC	Drawing Number SF509
		 U.S. Department of Veterans Affairs	

A

B

C

D

E

F

A

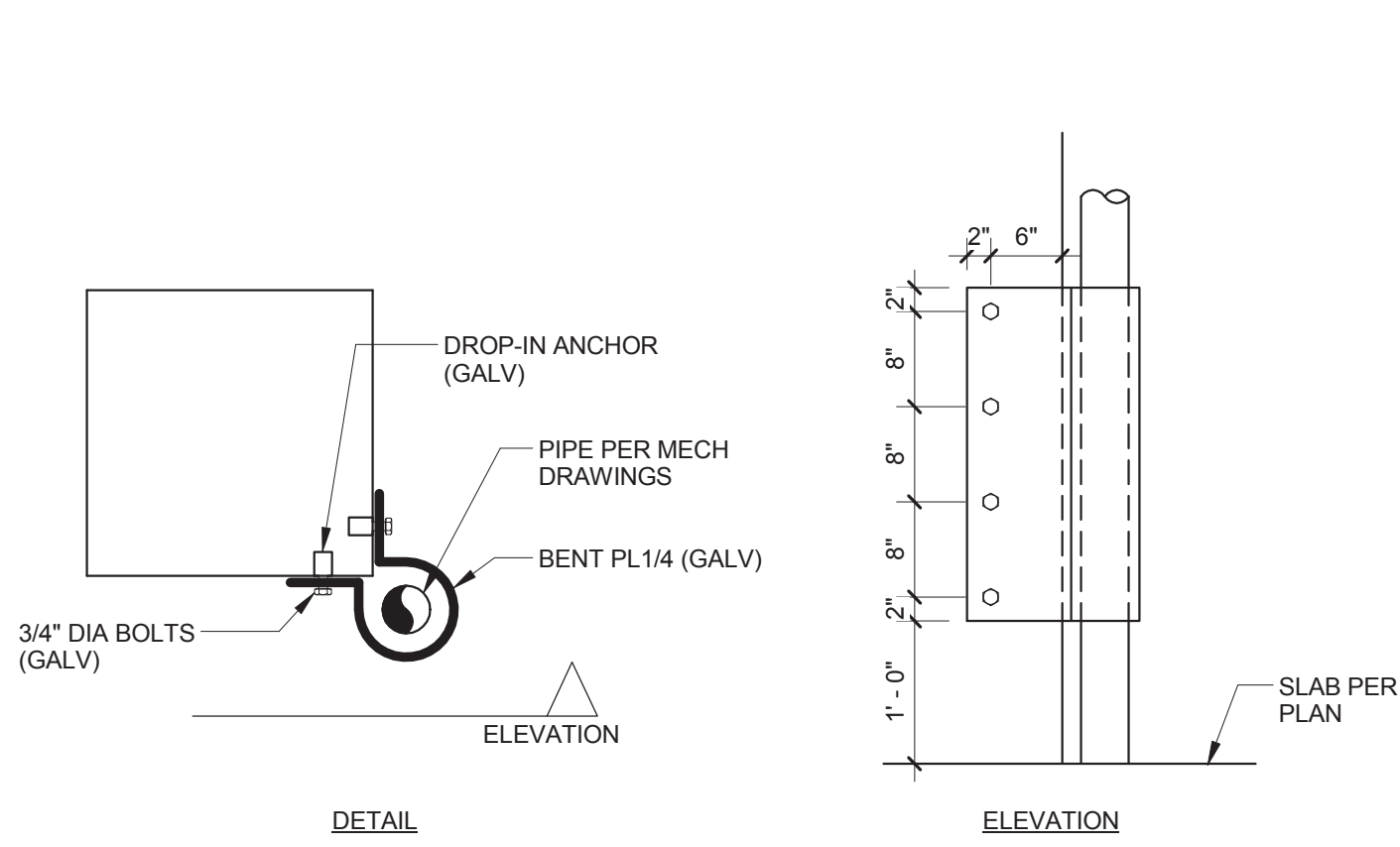
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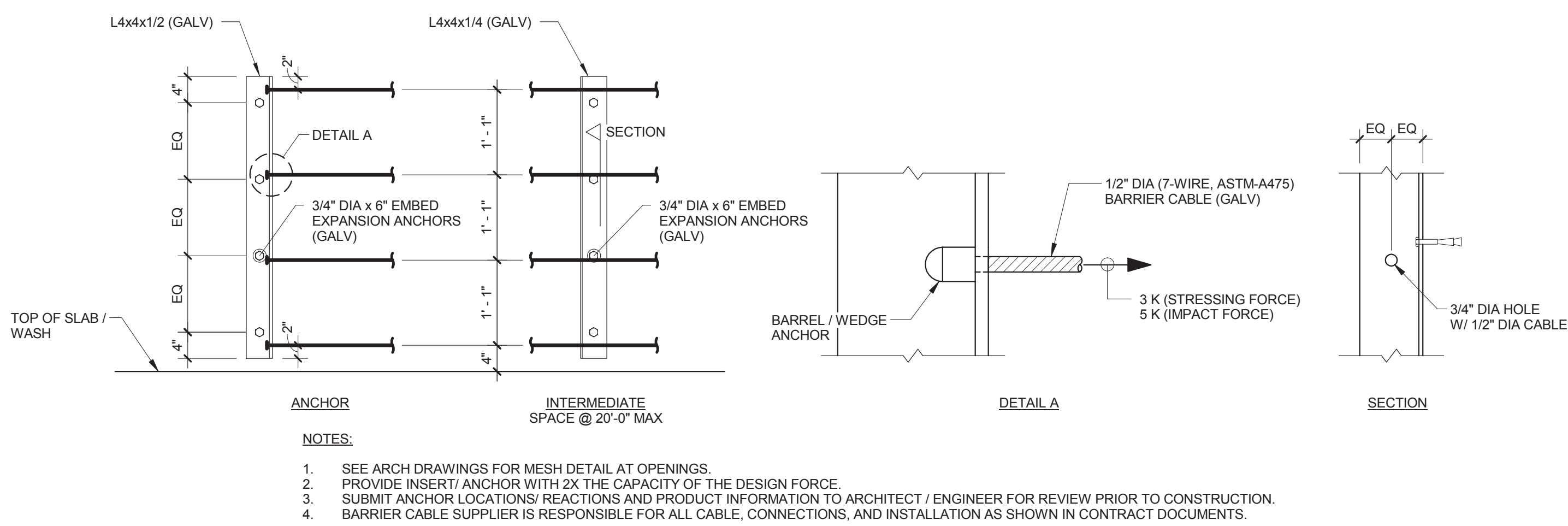
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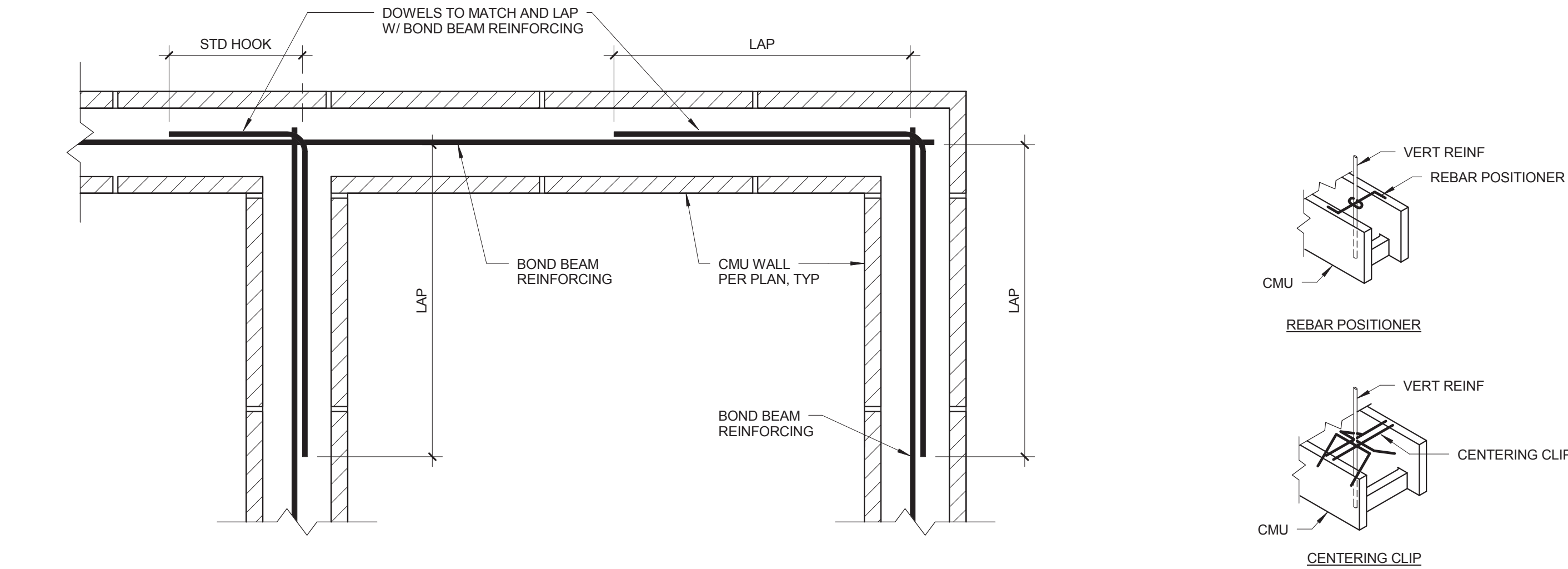
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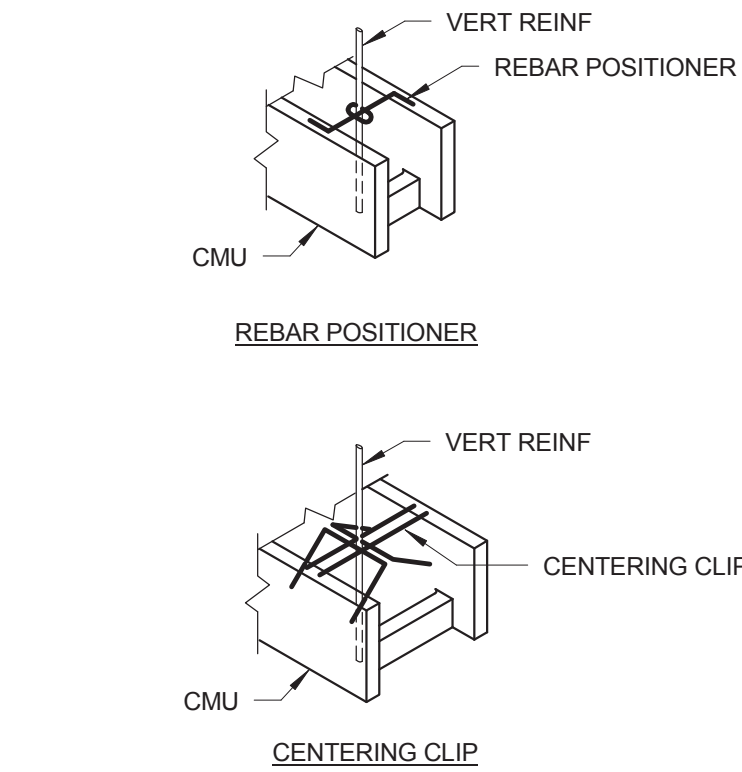
1 TYPICAL PIPE BENT PLATE WRAP DETAIL
SF510 N.T.S.



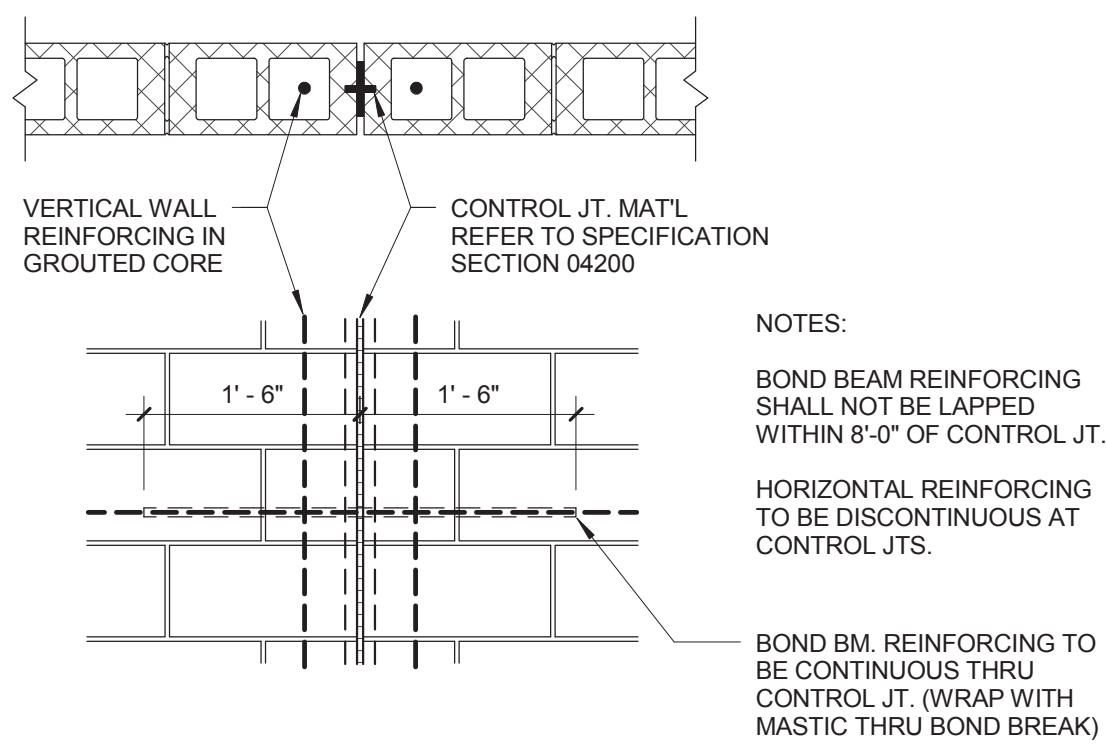
2 TYPICAL BARRIER CABLE DETAIL
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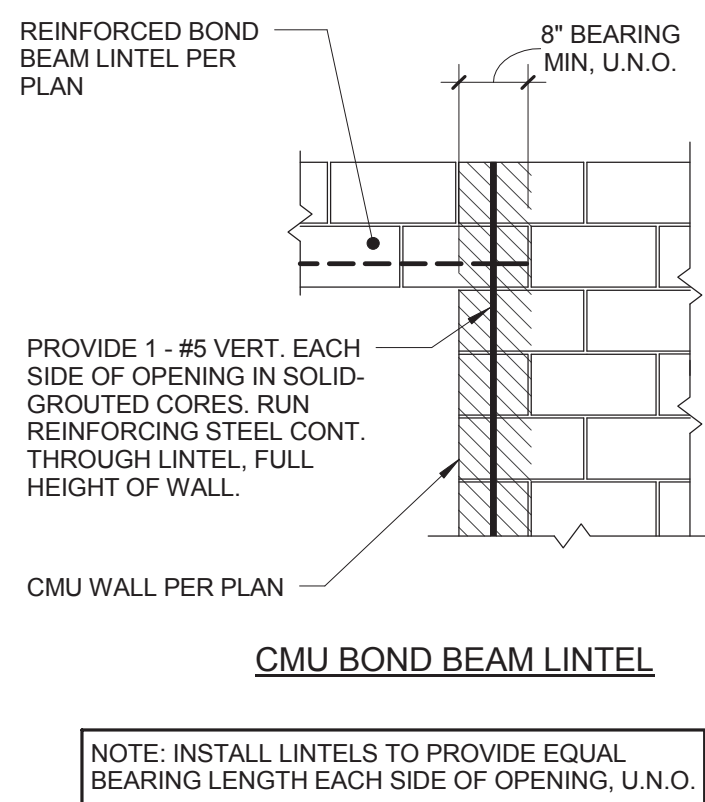
3 TYPICAL BOND BEAM REINFORCING DETAIL
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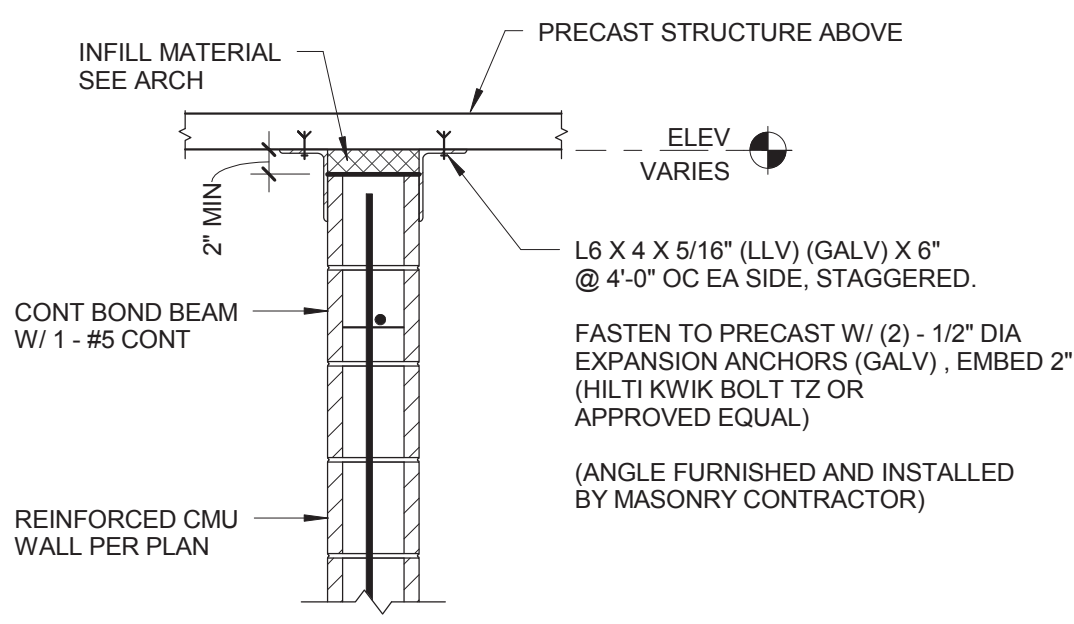
4 TYPICAL REBAR POSITIONER
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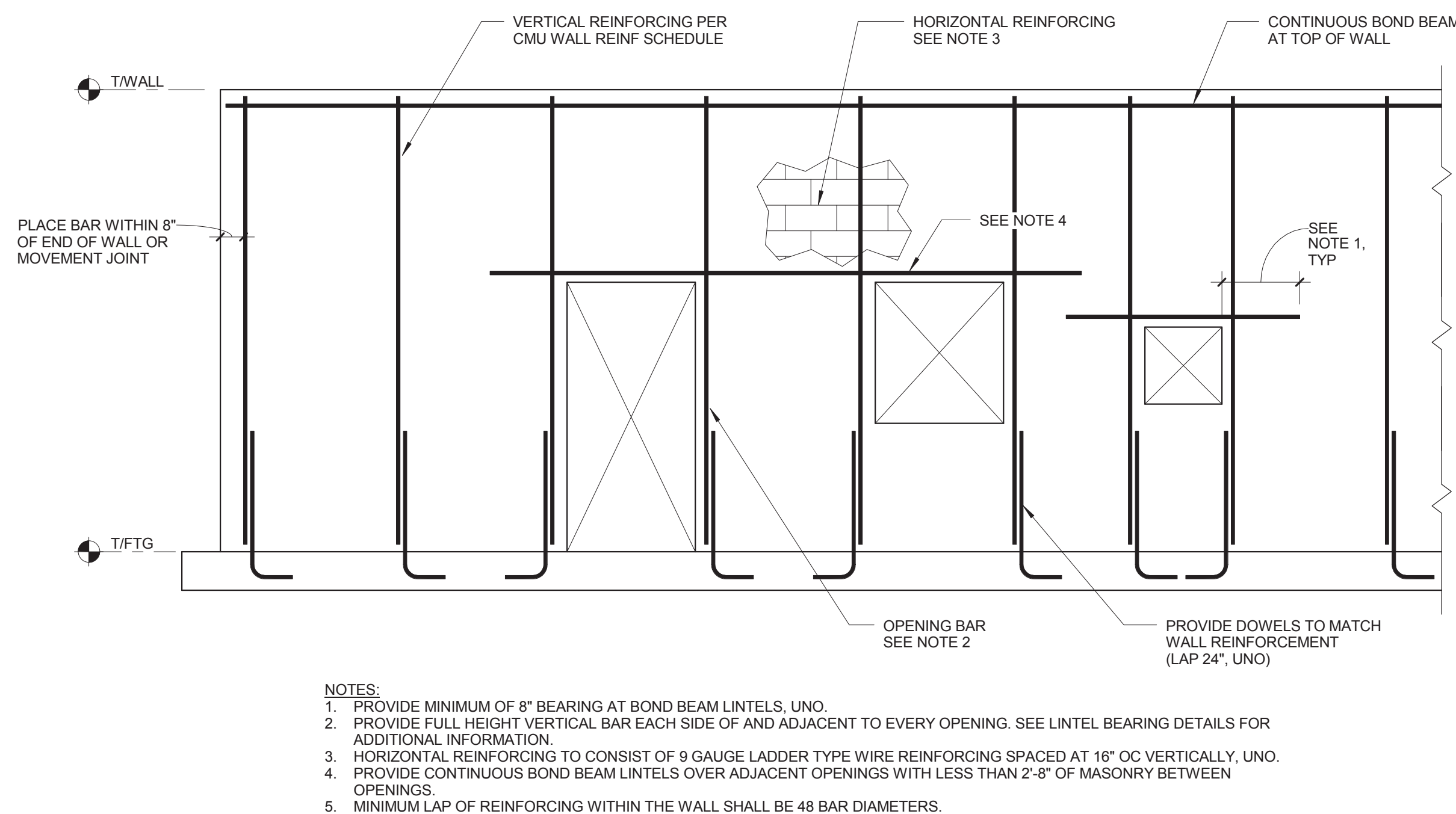
5 TYPICAL CMU CONTROL JOINT DETAIL
SF510 N.T.S.



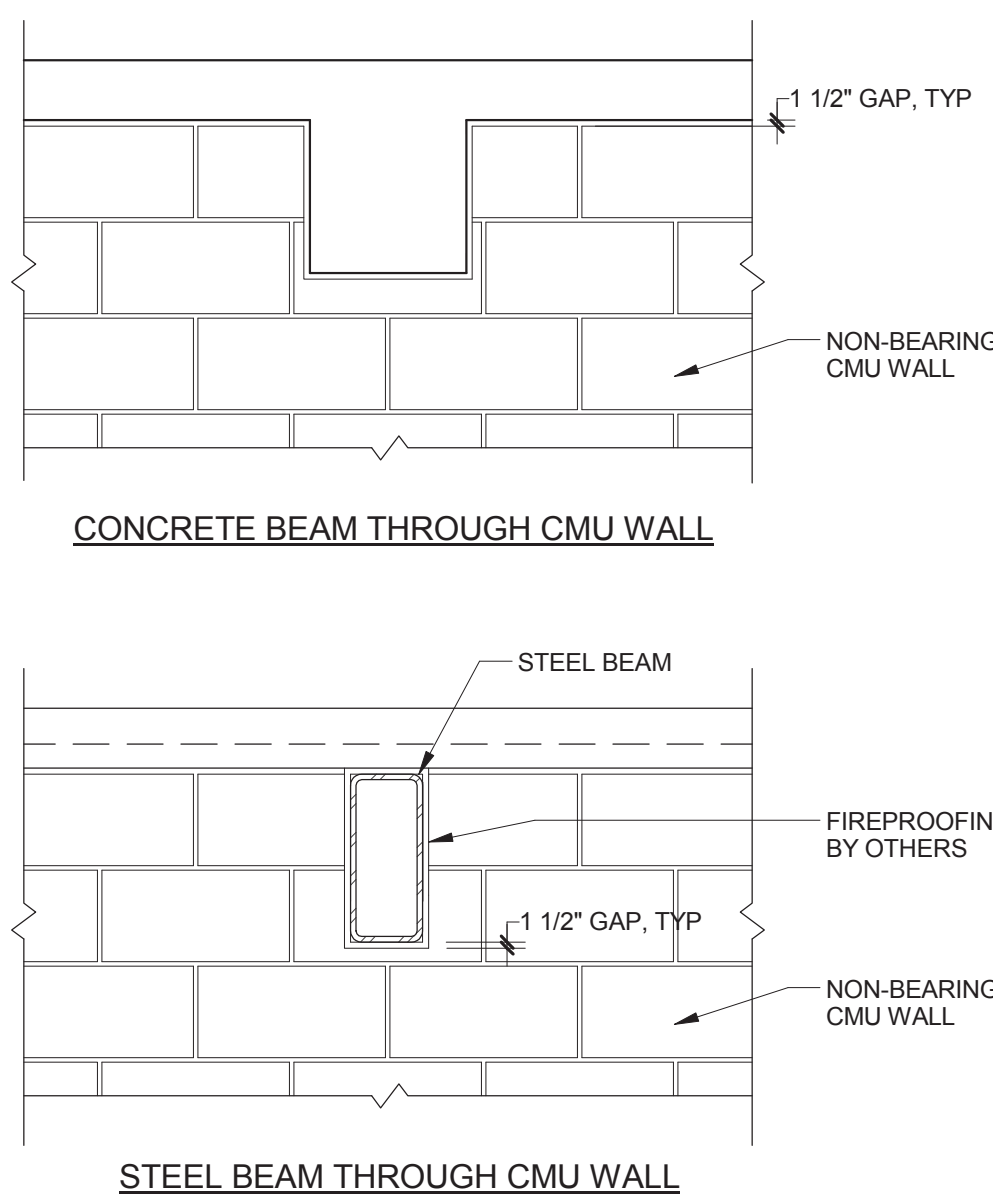
6 TYPICAL LINTEL BEARING DETAIL
SF510 N.T.S.



7 TYPICAL NON-LOAD BEARING CMU WALL BRACING
SF510 3/4" = 1'-0"



8 TYPICAL REINFORCING AT CMU WALLS
SF510 N.T.S.



11 TYPICAL CMU NON-BEARING WALL DETAILS
SF510 N.T.S.

MASONRY REINFORCING STEEL LAP SPLICE CHART	
BAR SPLICE LENGTHS	
BAR	SPLICE LENGTHS
#3	27"
#4	36"
#5	45"
#6	54"
#7	63"
#8	72"
#9	82"

NOTES:
BARS LARGER THAN #9 ARE REQUIRED TO BE SPLICED BY MECHANICAL CONNECTORS UNLESS SPECIFICALLY SHOWN ON PLANS.
SPLICES BASED ON f_m TAKEN EQUAL TO 100% OF THE ALLOWABLE TENSILE STRESS OF 24000 PSI.
BASED ON $f_m \geq 1500$ PSI

9 TYPICAL MASONRY LAP SPLICE CHART
SF510 N.T.S.

CMU WALL REINFORCEMENT SCHEDULE			
NON-BEARING WALLS:			
WALL HIT (FT)	SIZE	REINFORCEMENT	REMARKS
13'-0" MAX	8"	#5 @ 48" OC VERT / #5 @ 48" OC HORIZ BOND BEAMS	ALL DOWEL BARS SHALL BE EPOXY COATED REINFORCING

NOTES:
1) SEE THE STRUCTURAL DRAWINGS, ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED HORIZONTAL (BOND BEAM AND JOINT) REINFORCEMENT AND REQUIRED ADDITIONAL VERTICAL REINFORCEMENT.
2) PROVIDE MATCHING HOOKED DOWELS INTO THE FOUNDATION FOR ALL VERTICAL REINFORCEMENT. GROUT SOLID ALL CELLS CONTAINING VERTICAL REINFORCEMENT. LAP 40 x 8.
3) POSITION DBL BAR REINFORCEMENT IN 12" CMU AS SHOWN. BELOW. USE BAR POSITIONERS AS REQUIRED TO MAINTAIN PROPER ALIGNMENT.

TYP BAR PLACEMENT

10 CMU WALL REINFORCEMENT SCHEDULE
SF510 N.T.S.

LINTEL SCHEDULE				
MARK	SECTION	LENGTH	TYPE	NOTES
L1	8" W x 16" H	PER ARCH	A	TYPICAL, UNO

TYPES:

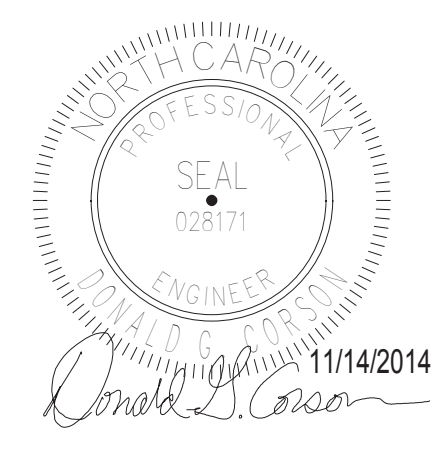
LINTEL SCHEDULE NOTES:
1. ALL LINTELS BEAR 0'-8" ONTO SUPPORTING WALLS, UNO.
2. ALL STEEL LINTELS AND SHELF ANGLES IN EXTERIOR WALLS SHALL BE GALVANIZED.
3. BOTTOM PLATES SHALL EXTEND THE FULL LENGTH OF THE LINTEL, INCLUDING BEARING LENGTH, UNO.
4. AT CMU INFILL (SOAPS) AT STEEL LINTELS, PROVIDE METAL ANCHORAGE AT EVERY COURSE @ 16" OC TO TIE CMU TO STEEL.

12 LINTEL SCHEDULE
SF510 N.T.S.

Revisions:	Date

VA U.S. Department of Veterans Affairs

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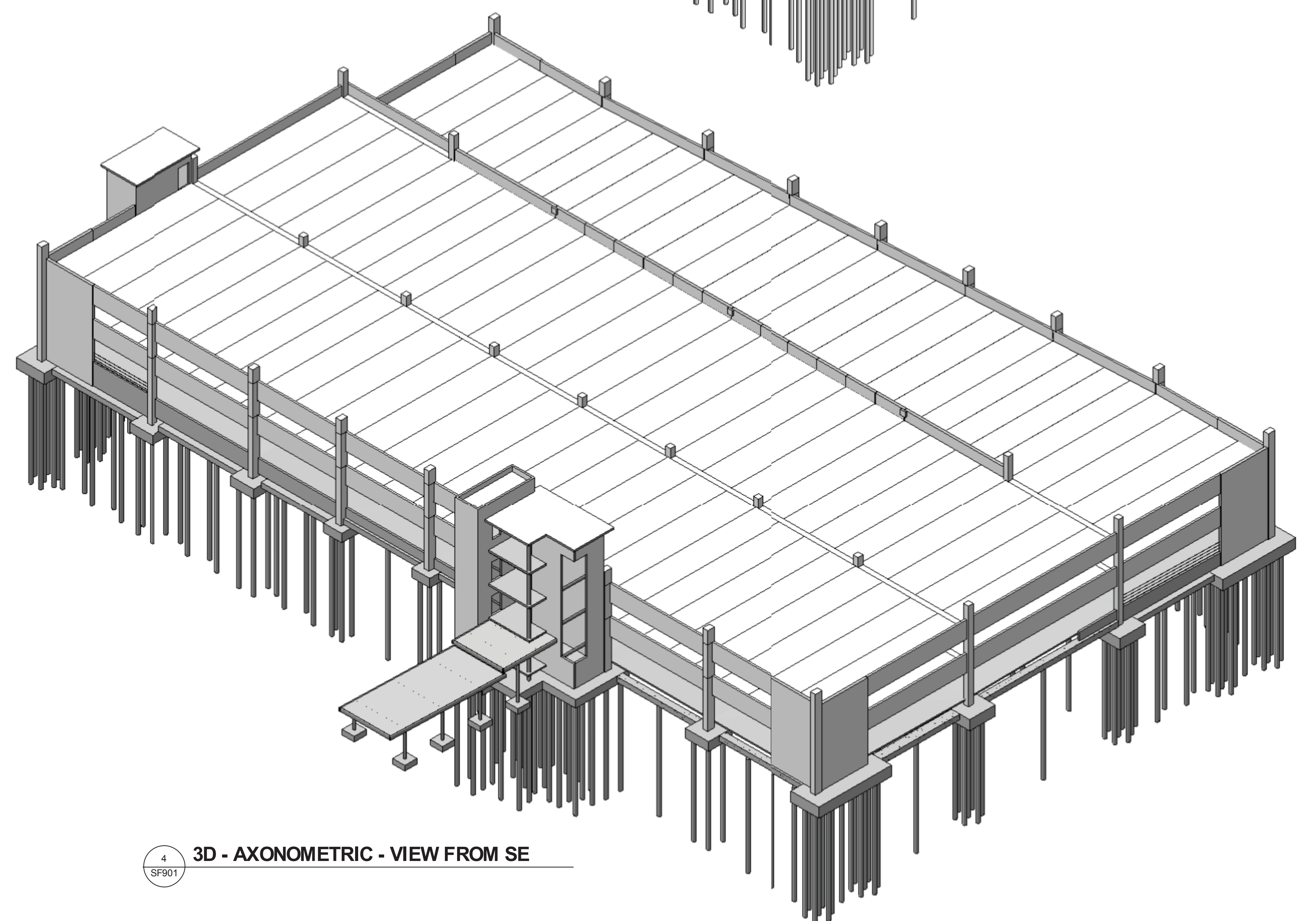
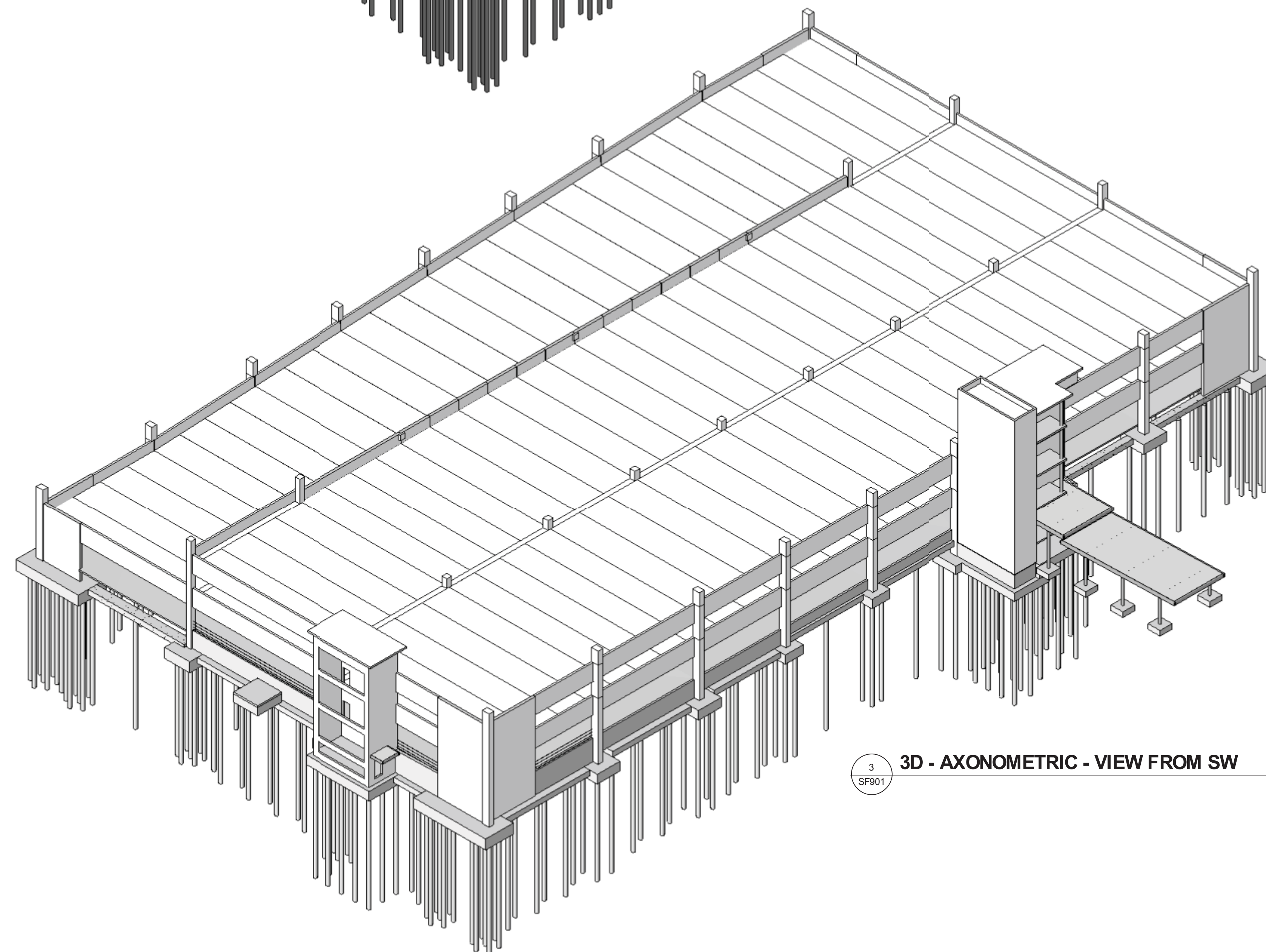
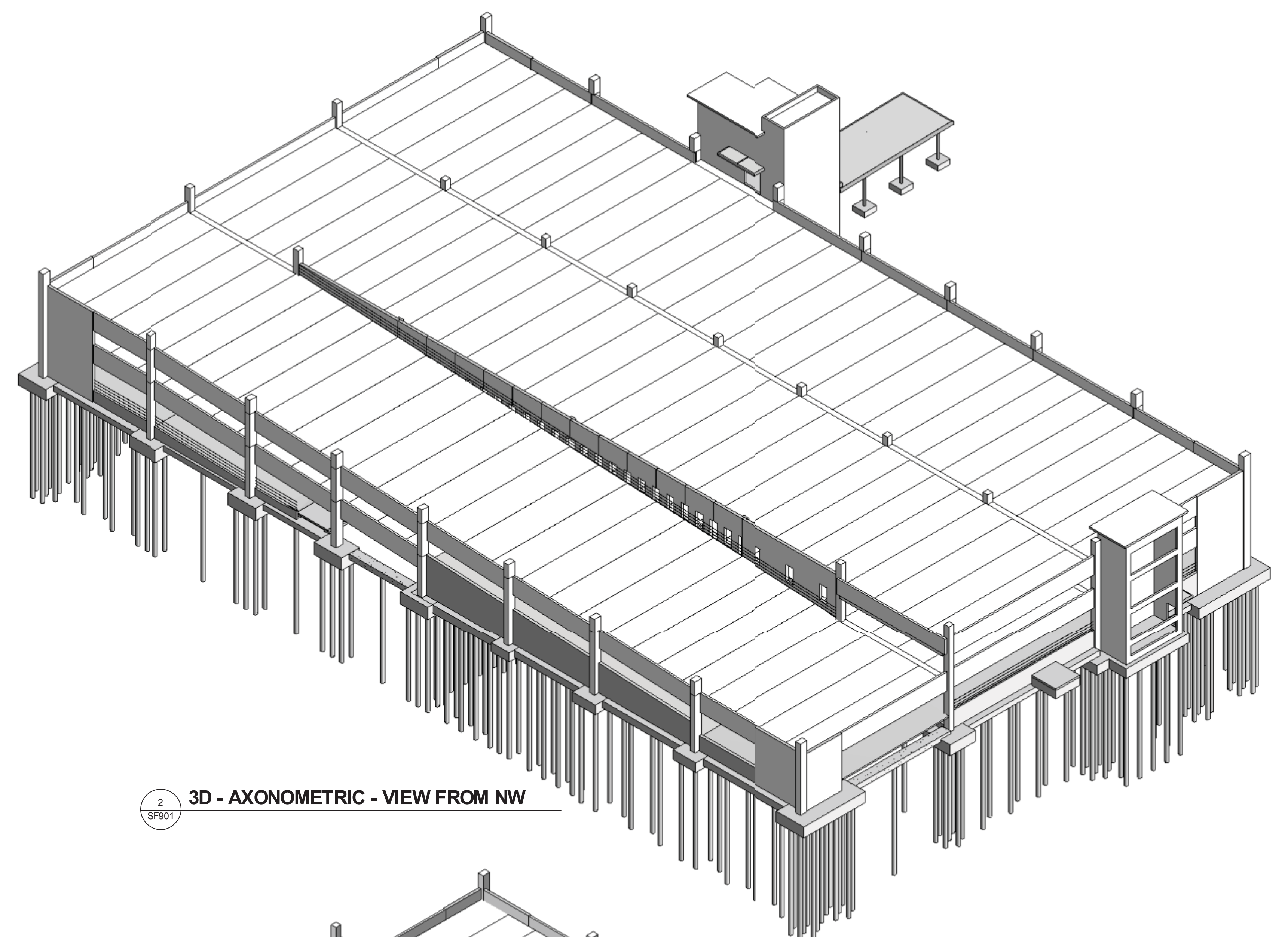
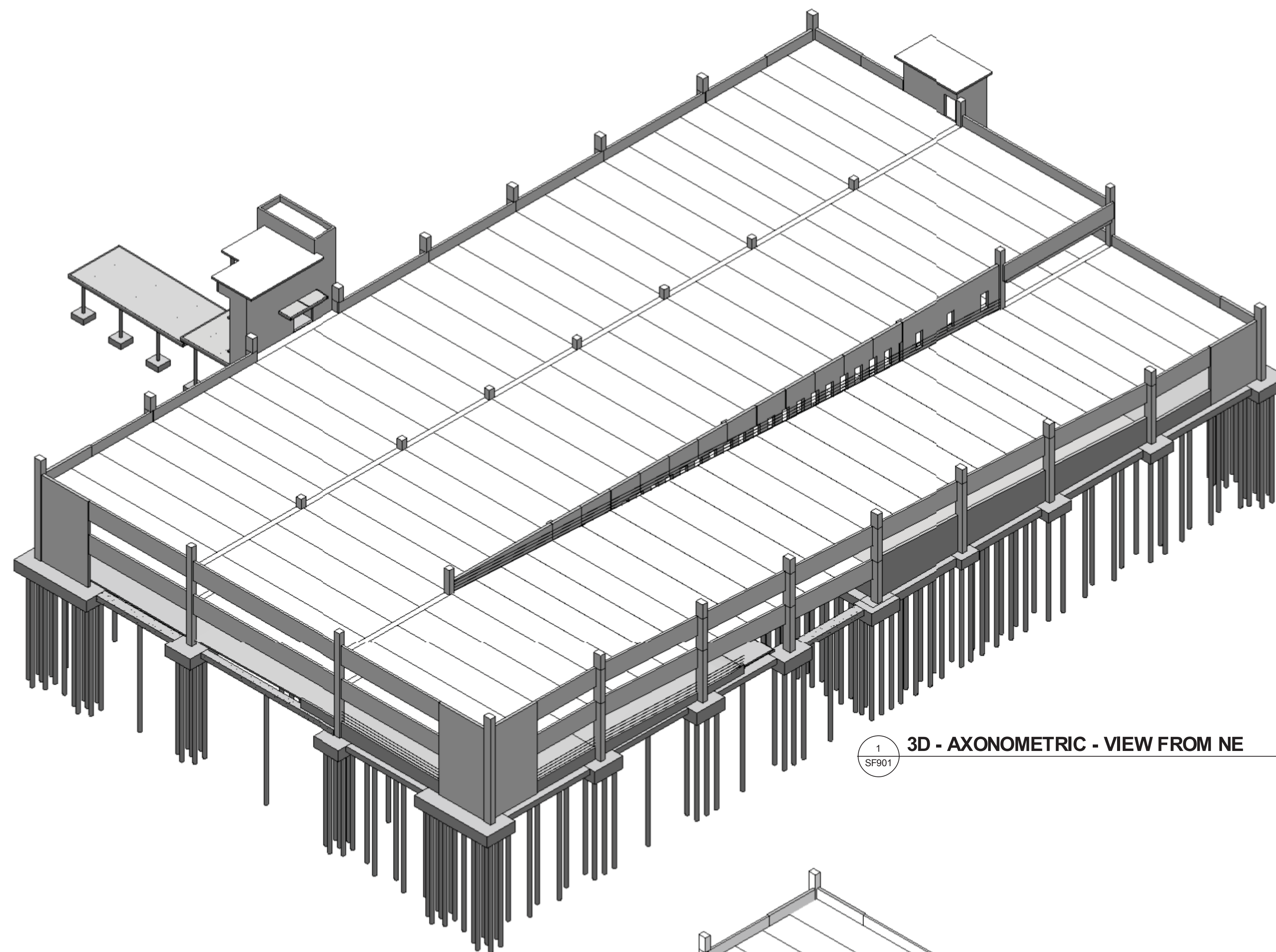
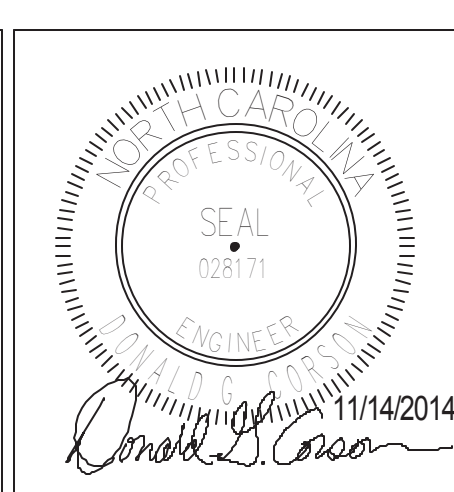
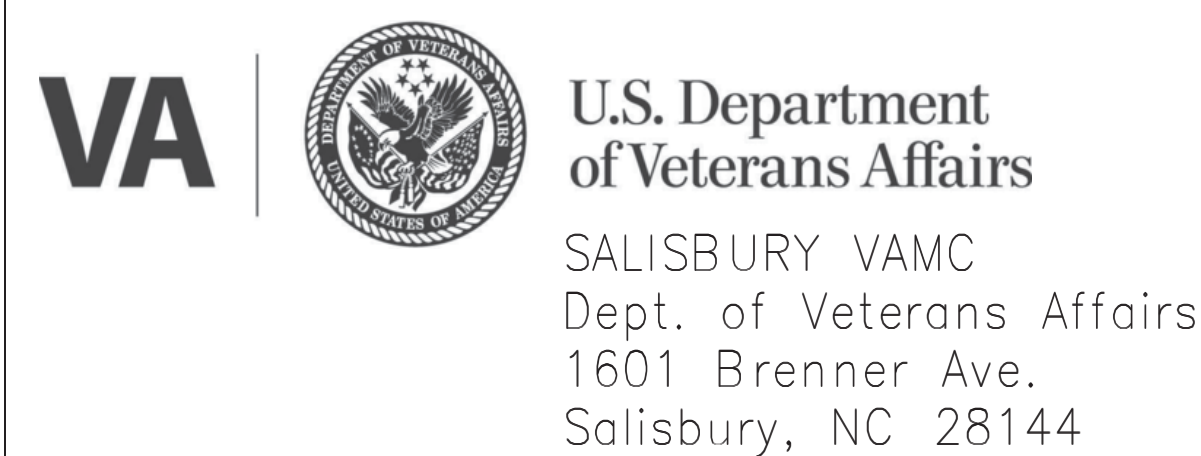
Structural	MEP Engineer	Civil Engineer	Functional Design
AMERICAN STRUCTUREPOINT 7260 Shadeland Station Indianapolis, IN 46256 Tele: 317-547-5580	APOGEE CONSULTING GROUP 7330 Chappel Hill Road, Suite 202 Raleigh, NC 27607 Tele: 919-858-7420	GUIDON DESIGN INC. 905 N. Capitol Ave, Suite 100 Indianapolis, IN 46204 Tele: 317-800-6388	CARL WALKER INC. 14045 Ballantyne Corp. Place, Suite 380 Charlotte, NC 28277 Tele: 704-716-8000

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SUSTAINABLE ARCHITECTURE + ENGINEERING

BID SET				
Drawing Title MISCELLANEOUS DETAILS	Project Title CONSTRUCT NEW PARKING GARAGE	Project Number 13.1044 Building Number Bldg 9	OFFICE OF FACILITIES MANAGEMENT	
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC	Drawing Number SF510	VA Project Number 659-342	U.S. Department of Veterans Affairs
11/14/2014	Checked By: JAP	Drawn By: BGC		

[illegible]



Structural	MEP Engineer	Civil Engineer	Functional Design
AMERICAN STRUCTUREPOINT	APOGEE CONSULTING GROUP	GUIDON DESIGN INC.	CARL WALKER INC.
7260 Shadeland Station Indianapolis, IN 46256	7330 Chappel Hill Road, Suite 202 Raleigh, NC 27607	905 N. Capitol Ave. Suite 100 Indianapolis, IN 46204	14045 Ballantyne Corp Place, Suite 380 Charlotte, NC 28277
Tele: 317-547-5580	Tele: 919-858-7420	Tele: 317-800-6388	Tele: 704-716-8000

PROJECT LEADER/ARCHITECT:

GUIDON 
DESIGN

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SUSTAINABLE ARCHITECTURE + ENGINEERING

BID SET				
Drawing Title AXONOMETRICS	Project Title CONSTRUCT NEW PARKING GARAGE		Project Number 13.1044	OFFICE OF FACILITIES MANAGEMENT
			Building Number Bldg 9	
Approved for Design Concept: JOHN MONTGOMERY PROJECT ENGINEER 704-638-9000	Location W.G. (BILL) HEFNER VAMC		Drawing Number SF901	VA Project Number 659-342
	Date 11/14/2014	Checked By: JAP	Drawn By: BGC	  U.S. Department of Veterans Affairs