

CONCRETE BLOCK

- 1. ALL CONCRETE BLOCK WORK SHALL CONFORM TO THE "NATIONAL CONCRETE MASONRY ASSOCIATION TEK MANUAL FOR THE DESIGN AND CONSTRUCTION OF CONCRETE MASONRY", LATEST EDITION AND "ACI 530-BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES".
- 2. CONCRETE BLOCK SHALL BE OF LIGHTWEIGHT AGGREGATE AND CONFORM TO THE FOLLOWING STANDARDS: SOLID/HOLLOW BLOCK: ASTM C90.

NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNIT (PSI)	NET AREA COMPRESSIVE STRENGTH OF MASONRY ASSEMBLY, F'm (PSI) USING TYPE S MORTAR
1900	1500
2800	2000
3750	1500
4800	1500

UNLESS OTHERWISE NOTED ON PLANS AND/OR ELEVATIONS, CONCRETE BLOCK UNIT STRENGTH SHALL BE 1900 PSI MIN. NOTE: CONCRETE BLOCK WITH UNIT STRENGTH HIGHER THAN 1900 PSI REQUIRE LONGER DELIVERY LEAD TIMES.

- 3. ALL MORTAR SHALL BE ASTM C270, TYPE S. 4. ALL GROUT FOR FILLING CELLS SHALL BE ASTM C 476 WITH MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI BUT NOT LESS THAN THE COMPRESSIVE STRENGTH OF THE MASONRY ASSEMBLY, F'm. WHERE GROUT CELLS DO NOT EXCEED 4" IN DIAMETER FINE GROUT SHALL BE USED. ALL BLOCK 5. DIMENSIONS INDICATED ON STRUCTURAL PLANS ARE NOMINAL DIMENSIONS.
- 6. ALL CONCRETE BLOCK BELOW GRADE SHALL BE FILLED SOLID WITH GROUT . CONCRETE BLOCK BELOW BEAM OR TRUSS BEARING POINTS SHALL BE FILLED SOLID FOR A MINIMUM OF
- TWO COURSES IN DEPTH AND A MINIMUM OF 32" IN WIDTH, UNLESS NOTED OTHERWISE. INSTALL STANDARD WEIGHT LADDER JOINT REINFORCEMENT AT 16" ON CENTER (SPACED VERTICALLY). 9. UNLESS NOTED OTHERWISE ALL MASONRY WALLS SHALL BE REINFORCED WITH #4@48" ON CENTER VERTICAL. GROUT ALL REINFORCED CELLS SOLID. PROVIDE DOWELS TO MATCH VERTICAL REINFORCING
- AT FOUNDATION. 10. WHERE CMU IS SUPPORTED ON STRUCTURAL STEEL MEMBERS, PROVIDE WELDED REBAR DOWELS BETWEEN STEEL AND CMU, DOWELS TO MATCH SIZE AND SPACING OF CMU REINFORCEMENT AND MUST PROVIDE FULL TENSION LAP SPLICE WITH CMU REINFORCEMENT. DOWELS MUST BE WELD ABLE AND CONFORM TO ASTM A706, GRADE 60.

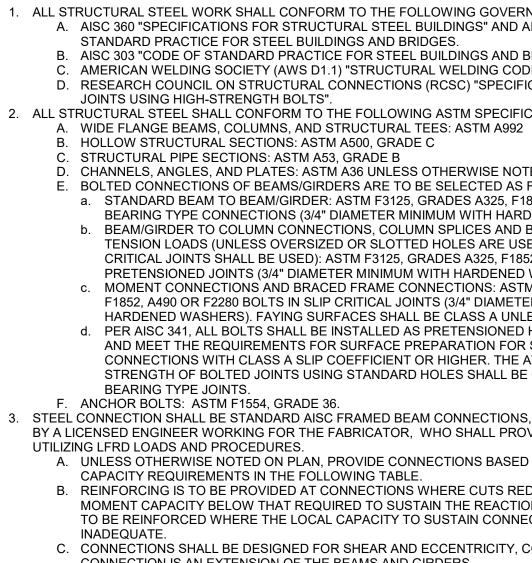
#### <u>STEEL DECK</u>

- 1. STEEL DECKING WORK SHALL CONFORM TO THE AISI NORTH AMERICAN "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS."
- 2. STEEL DECKING UNITS AND ACCESSORY ITEMS SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO ASTM A611 OR A653 WITH A MINIMUM YIELD STRENGTH OF 33,000 PSI. BEFORE FORMING, THE STEEL SHEET SHALL RECEIVE A HOT DIP GALVANIZED COATING CONFORMING TO ASTM A653, GRADE 90.
- 3. STEEL DECKING SHALL BE SHORED AS REQUIRED BY PLANS OR BY SPAN AND LOAD CONDITIONS TO SUPPORT WET WEIGHT OF CONCRETE AND ALL CONSTRUCTION LOADS. 4. THE SIDE LAPS OF ADJACENT UNITS SHALL BE FASTENED BY APPROVED METHOD (TO BE SHOWN ON
- SHOP DRAWINGS) BETWEEN SUPPORTS, AT INTERVALS TO PROVIDE SUFFICIENT DIAPHRAGM STRENGTH TO MAINTAIN BUILDING ALIGNMENT AND TO SUSTAIN LOCAL CONSTRUCTION LOADS WITHOUT DISTORTION OR SEPARATION, MAXIMUM SPACING SHALL BE 3'-0" BETWEEN SUPPORT BEAMS. END LAPS OF SHEETS SHALL BE A MINIMUM OF 2 INCHES.
- EXCEPT AS OTHERWISE NOTED, DECK SHALL BE ATTACHED TO STRUCTURAL STEEL BY 3/4"Ø FUSION WELDS @12" ON CENTER. AT END AND INTERIOR SUPPORTS PERPENDICULAR TO THE DECK SPAN AND AT EDGE AND INTERIOR SUPPORTS PARALLEL TO THE DECK SPAN. WELDS MAY BE OMITTED IN RIBS IN WHICH SHEAR CONNECTORS ARE TO BE APPLIED, EXCEPT THAT EACH DECK SECTION SHALL HAVE SUFFICIENT WELDS TO ADEQUATELY SECURE THE DECK, BRING THE DECK INTO DIRECT CONTACT WITH
- THE SUPPORTING STEEL AND TO PROVIDE SUFFICIENT DIAPHRAGM STRENGTH TO MAINTAIN BUILDING AI IGNMENT PRIOR TO FABRICATION, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE STEEL DECKING SHOWING DECK GAUGE, SIZE, AND LAYOUT AS WELL AS CLOSURE CONDITIONS, WELDS TO SUPPORTS
- AND SIDE LAP DETAILS. 7. ALL REINFORCED OPENINGS IN STEEL DECK SHALL BE INSTALLED BY STEEL DECK SUBCONTRACTOR. STEEL DECK SUBCONTRACTOR TO PROVIDE REINFORCING AS PER TYPICAL DETAILS. 8. AT STEEL DECK WITHOUT CONCRETE FILL THE FOLLOWING MAY BE ATTACHED WITHOUT SPECIFIC
- APPROVAL OF THE STRUCTURAL ENGINEER: ACOUSTICAL TILE AND GYPSUM BOARD CEILING ONLY; NO PIPING, DUCTING OR CONDUIT. MAXIMUM CEILING WEIGHT = 3.5 PSF. MAXIMUM WIRE HANGER LOAD = 60
- 9. WHERE SUSPENSION OF HANGER WIRES ARE REQUIRED BY OTHERS, VERIFY AND COORDINATE LOCATIONS, PATTERNS, SPACING, ETC. WITH THE APPROPRIATE TRADE. DRILL OR PUNCH HOLES AT BOTTOM OF DECK FLUTES OF SUFFICIENT SIZE TO PASS SUPPORT WIRES. WIRE SUPPORTS HALL BE LOOPED AND SECURED WITH A MINIMUM OF THREE (3) TIGHT TURNS AROUND A MINIMUM 1-1/2" x 12" LONG FURRING CHANNEL OR NO. 3x12" LONG REINFORCING BAR CENTERED ABOVE THE HOLE AND LAID IN THE DECK FLUTES.

#### POST INSTALLED ADHESIVE AND MECHANICAL ANCHORS

- 1. POST INSTALLED ANCHORAGE SHALL BE INSTALLED PER MANUFACTURER TECHNICAL DATA TO INTACT BASE MATERIAL. FOR INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS, THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON-SITE INSTALLATION TRAINING FOR THE ANCHORING PRODUCTS SPECIFIED. PROVIDE STRUCTURAL ENGINEER OF RECORD WITH DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS PER ACI 318 APPENDIX D SECTION 9. NOTIFY ENGINEER OF RECORD PRIOR TO INSTALLATION IF BASE MATERIAL CONDITION DEVIATES FROM STRUCTURAL DRAWINGS OR MANUFACTURER TECHNICAL DATA. ALL HOLES SHALL BE DRY CONCRETE AND HAMMER DRILLED UNLESS OTHERWISE NOTED. MANUFACTURER DATA FOR ALTERNATE ANCHORAGE PROPOSED BY CONTRACTOR SHALL BE SUBMITTED TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR SUCH OTHER METHOD AS
- APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC-ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES. LOAD RESISTANCE. INSTALLATION CATEGORY AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE AND MUST PROVIDE INFORMATION ON THESE ITEMS.
- 3. UNLESS OTHERWISE INDICATED, POST INSTALLED ANCHORAGE SHALL BE ADHESIVE TYPE HILTI HIT HY 200 INTO CONCRETE, GROUT FILLED CMU OR STONE BASE MATERIAL OR HILTI HIT - HY 70 INTO BRICK MASONRY OR UNGROUTED CMU BASE MATERIAL. 4. EXISTING REINFORCING BARS IN THE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS.
- UNLESS NOTED ON THE DRAWINGS THAT THE EXISTING REBAR'S CAN BE CUT. THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS BY A MEANS APPROVED BY THE ENGINEER OF RECORD.

#### STRUCTURAL STEEL



MINIMUM SHEAR/MOMENT CAPACITY REQUIREMENTS				
BEAM DEPTH (NOMINAL)	MIN. SHEAR CAPCACITY ASD (KIPS)	MIN. SHEAR CAPACITY LRFD (KIPS)	MIN. MOMENT CAPACITY LRFD (KIP-FT)	
8", 10"	16	24	140	
12", 14"	28	42	160	
16"	40	62	180	
18"	52	78	250	
21"	58	88	300	
24", 27"	72	108	N/A	
30"	84	126	N/A	
33"	94	142	N/A	
36"	102	155	N/A	
40"+	110	165	N/A	

- 4. MINIMUM WELD SIZE IS 1/4" FILLET UNLESS NOTED OTHERWISE.
- CANTILEVER END. TO THE THERMAL CUTTING REQUIREMENTS OF AISC AND AWS)
- STEEL TO CARBON STEEL SHALL CONFORM TO ELECTRODE CLASS E309/ER309. SPRAY FIREPROOFED, AND ALL STEEL MEMBERS AT THE EXTERIOR WALL WITH TNEMEC #10-99 "OR APPROVED EQUAL EXCEPT FOR MEMBERS TO BE HOT DIPPED GALVANIZED.
- SHALL BE HOT DIPPED GALVANIZED. 10. LINTELS SHALL BE INSTALLED OVER ALL OPENINGS IN MASONRY WALLS AS FOLLOWS:

	MASONRY LINTELS	
	4'-0" OR LESS	
	4'-1" to 7'-0"	
	<ul> <li>A. 3-1/2" LEGS ARE HORIZONTAL.</li> <li>B. PROVIDE ONE ANGLE FOR EACH 4" of the content of the content</li></ul>	T
11.	. SHOP AND ERECTION DRAWINGS SHALI	
	AND APPROVAL. NO FABRICATION OF S PROVIDE MECHANICALLY GALVANIZED ALL STEEL CONNECTIONS MUST MEET	В
14	CODE. . ALL EXPOSED WELDS TO BE GROUND S	31
<u>cc</u>	OLD FORMED METAL FRAMING	
		~
1.	ALL COLD FORMED METAL FRAMING WO "SPECIFICATION FOR THE DESIGN OF C	
	A42.4 "SPECIFICATIONS FOR INTERIOR I	L
2.	ALL PLYWOOD APPLIED TO METAL JOIS SHALL BE AN APA APPROVED ELASTOM	
3.	INSTALL METAL FRAMING IN ACCORDAN	
	RECOMMENDATIONS, UNLESS OTHERW	VI
4.	ALL LOAD BEARING STUDS, JOISTS, ANI	
5.	GAUGE, AND SPACING SHOWN ON DRA SUBMIT SIGNED AND SEALED SHOP DR.	
0.	FORMED METAL FRAMING (JOISTS, STU	
	INDICATE PLACING OF ALL FRAMING ME	
	SPACING. THEY SHALL ALSO INDICATE	
	ACCESSORIES AND DETAILS REQUIRED DIAGRAMS AND SCHEDULE FOR STRUC	
6.	SHOP DRAWINGS SHALL SHOW SIZE AN	
•••	TYPE, SIZE AND NUMBER OF SCREWS F	
	DATA GIVING STRENGTH VALUES FOR A	
-	BRUSHED AND COATED WITH A ZINC RI	
7.	ALL GALVANIZED STUDS AND/ OR JOIST CORRESPONDS TO THE REQUIREMENT	
8.	ALL GALVANIZED 18 AND 20 GAGE STUE	
0.	ACCESSORIES SHALL BE FORMED FRO	
	A446, GRADE A, WITH A MINIMUM YIELD	
9.	ALL STUDS, JOIST AND ACCESSORIES S	
	PERFORMANCE REQUIREMENTS OF TT	-6
10	GALVANIZED COATING. FRAMING COMPONENTS MAY BE PRE-A	S
10	PANELS SHALL BE SQUARE WITH COMP	
11		
	STUDS ARE POSITIONED AGAINST THE	

- UPPER AND LOWER TRACKS.
- CENTER
- 15. SPLICES IN AXIALLY LOADED STUDS ARE NOT PERMITTED. PROVIDED AT THE TOP TRACK.

#### 1. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE FOLLOWING GOVERNING STANDARDS: A. AISC 360 "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" AND AISC 303 "CODE OF B. AISC 303 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

AMERICAN WELDING SOCIETY (AWS D1.1) "STRUCTURAL WELDING CODE - STEEL" D. RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) "SPECIFICATION FOR STRUCTURAL 2. ALL STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

## D. CHANNELS, ANGLES, AND PLATES: ASTM A36 UNLESS OTHERWISE NOTED.

E. BOLTED CONNECTIONS OF BEAMS/GIRDERS ARE TO BE SELECTED AS FOLLOWS: a. STANDARD BEAM TO BEAM/GIRDER: ASTM F3125. GRADES A325. F1852. A490 OR F2280 BOLTS IN BEARING TYPE CONNECTIONS (3/4" DIAMETER MINIMUM WITH HARDENED WASHERS). b. BEAM/GIRDER TO COLUMN CONNECTIONS. COLUMN SPLICES AND BOLTS EXPERIENCING TENSION LOADS (UNLESS OVERSIZED OR SLOTTED HOLES ARE USED, IN WHICH CASE SLIP-CRITICAL JOINTS SHALL BE USED): ASTM F3125, GRADES A325, F1852, A490 OR F2280 BOLTS IN PRETENSIONED JOINTS (3/4" DIAMETER MINIMUM WITH HARDENED WASHERS). c. MOMENT CONNECTIONS AND BRACED FRAME CONNECTIONS: ASTM F3125, GRADES A325,

F1852, A490 OR F2280 BOLTS IN SLIP CRITICAL JOINTS (3/4" DIAMETER MINIMUM WITH HARDENED WASHERS). FAYING SURFACES SHALL BE CLASS A UNLESS OTHERWISE NOTED. d. PER AISC 341, ALL BOLTS SHALL BE INSTALLED AS PRETENSIONED HIGH STRENGTH BOLTS AND MEET THE REQUIREMENTS FOR SURFACE PREPARATION FOR SLIP CRITICAL CONNECTIONS WITH CLASS A SLIP COEFFICIENT OR HIGHER. THE AVAILABLE SHEAR STRENGTH OF BOLTED JOINTS USING STANDARD HOLES SHALL BE CALCULATED AS THAT FOR

3. STEEL CONNECTION SHALL BE STANDARD AISC FRAMED BEAM CONNECTIONS. AND SHALL BE DESIGNED BY A LICENSED ENGINEER WORKING FOR THE FABRICATOR, WHO SHALL PROVIDE CALCULATIONS, A. UNLESS OTHERWISE NOTED ON PLAN, PROVIDE CONNECTIONS BASED ON MINIMUM SHEAR

B. REINFORCING IS TO BE PROVIDED AT CONNECTIONS WHERE CUTS REDUCE THE SHEAR OR MOMENT CAPACITY BELOW THAT REQUIRED TO SUSTAIN THE REACTION. FLANGES AND WEB ARE TO BE REINFORCED WHERE THE LOCAL CAPACITY TO SUSTAIN CONNECTION LOAD IS C. CONNECTIONS SHALL BE DESIGNED FOR SHEAR AND ECCENTRICITY, CONSIDERING THAT THE CONNECTION IS AN EXTENSION OF THE BEAMS AND GIRDERS.

#### MINIMUM SHEAD/MOMENT CADACITY DEOLUDEMENTS

5. ALL BEAMS EXCEPT CANTILEVER BEAMS SHALL BE FABRICATED AND INSTALLED WITH NATURAL CAMBER UP. CANTILEVER BEAMS SHALL BE FABRICATED AND INSTALLED SO THAT NATURAL CAMBER RAISES 6. FIELD CUTTING OR BURNING OF STEEL IS PROHIBITED EXCEPT WITH THE EXPRESS WRITTEN APPROVAL

OF THE STRUCTURAL ENGINEER OF RECORD. (IN WHICH CASE ALL BURNING OF STEEL MUST CONFORM 7. WELDING SHALL BE PERFORMED BY CERTIFIED LICENSED, AWS-QUALIFIED WELDERS. WELDING ELECTRODES FOR CARBON STEEL SHALL BE AWS 5.1, CLASS E70XX. FOR ASTM A572 GRADE 50 KSI PLATE

USE ELECTRODE E7018 OR APPROVED EQUAL (OR ELECTRODES THAT MEET THE REQUIREMENT OF ). WELDING ELECTRODES FOR ASTM A276 STAINLESS STEEL, TYPE 304, SHALL CONFORM TO AWS A5.4 FOR SHIELDED METAL ARC WELDING, ELECTRODE CLASS E308; OR AWS A5.9 FOR GAS METAL ARC WELDING, ELECTRODE CLASS ER308. WELDING ELECTRODES FOR ASTM A276 TYPE 316L STAINLESS STEEL SHALL CONFORM TO AWS A5.4 FOR SHIELDED METAL ARC WELDING, ELECTRODE CLASS E316; OR AWS A5.9 FOR GAS METAL ARC WELDING, ELECTRODE CLASS ER316. WELDING ELECTRODES FOR JOINING STAINLESS 8. SHOP PAINT EXTERIOR EXPOSED STEEL MEMBERS, STEEL MEMBERS NOT ENCASED IN CONCRETE OR

9. HOT DIP GALVANIZING SHALL CONFORM TO ASTM A123, REPAIR SCRATCHES OR ABRADED GALVANIZED SURFACE WITH ZINC RICH PAINT. ALL EXTERIOR EXPOSED STEEL AND STEEL SUPPORTING EXTERIOR

LINTEL	
L4x3-1/2x5/16 LLV	
L6x3-1/2x5/16 LLV	

OF WALL THICKNESS. THICK WALLS AND PARTITIONS WITH OPENINGS UP TO 6'-0". ACH END.

ROOFED. BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW TEEL SHALL COMMENCE WITHOUT APPROVED SHOP DRAWINGS. BOLTS FOR EXTERIOR APPLICATIONS. THE REQUIREMENTS OF SECTION 2213 OF THE NYC BUILDING SMOOTH.

ORK SHALL COMPLY WITH THE AISI NORTH AMERICAN COLD FORMED STEEL STRUCTURAL MEMBERS", AS WELL AS ANSI ATHING AND FURRING." STS SHALL BE SCREWED AND GLUED TO THE JOISTS. THE ADHESIVE IERIC ADHESIVE

ICE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND VISE INDICATED. ALL MATERIALS SHALL BE GALVANIZED. D ACCESSORIES SHALL BE MADE OF THE MINIMUM TYPE, SIZE, WINGS AND PROVEN IN THE CALCULATIONS. AWINGS AND CALCULATIONS FOR ALL LOAD BEARING COLD DS, ETC.) PRIOR TO FABRICATION SHOP DRAWINGS SHALL EMBERS SHOWING TYPE, SIZE, GAGE, NUMBER, LOCATION AND SUPPLEMENTAL STRAPPING, BRACING, SPLICES, BRIDGING, FOR PROPER INSTALLATION. SEE SPECIFICATIONS, LOADING TURAL PERFORMANCE CRITERIA. ND LENGTH OF WELDS FOR ALL WELDED CONNECTIONS AND FOR ALL SCREWED CONNECTIONS. SUBMIT MANUFACTURER

ALL FASTENERS USED. WELDED CONNECTIONS SHALL BE WIRE CH PAINT S, 10, 12, 14 AND 16 GAGE, SHALL BE FORMED FROM STEEL THAT S OF ASTM A446, GRADE D, WITH A MINIMUM YIELD OF 50,000 PSI. DS AND/OR JOISTS, AND ALL GALVANIZED TRACK, BRIDGING AND M STEEL THAT CORRESPONDS TO THE REQUIREMENTS OF ASTM OF 33,000 PSI. SHALL BE PRIMED WITH RUST - INHIBITIVE PAINT MEETING THE

-P-636C, OR SHALL BE FORMED FROM STEEL HAVING A G-60 SSEMBLED INTO PANELS PRIOR TO ERECTING. PREFABRICATED PONENTS ATTACHED IN A MANNER AS TO PREVENT RACKING. TALLED IN A MANNER WHICH WILL ASSURE THE ENDS OF THE STUDS ARE POSITIONED AGAINST THE INSIDE TRACK WEB, PRIOR TO STUD AND TRACK ATTACHMENT. 12. STUDS SHALL BE PLUMBED, ALIGNED AND SECURELY ATTACHED TO THE FLANGES OR WEBS OF BOTH

13. WALL STUD BRIDGING SHALL BE ATTACHED IN A MANNER TO PREVENT STUD ROTATION. BRIDGING ROWS SHALL BE SPACED ACCORDING TO THE FOLLOWING SCHEDULE. WALLS UP TO 10'-0" HEIGHT: ONE ROW AT MID-HEIGHT. WALLS EXCEEDING 10'-0" HEIGHT; BRIDGING ROWS SPACED NOT TO EXCEED 5'-0" ON-14. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEMPORARY BRACING AND SHORING AS REQUIRED UNTIL ERECTION IS COMPLETED AND ALL ATTACHED ADJACENT FRAMING IS COMPLETE. 16. JOISTS SHALL BE LOCATED DIRECTLY OVER BEARING STUDS OR LOAD DISTRIBUTION MEMBER TO BE

#### SPECIAL INSPECTIONS (IBC)

INSPECTIONS REQUIRED BY THE LOCAL JURISDICTION SHALL BE PERFORMED BY A TESTING AGENCY PROVIDED BY THE OWNER FOR THE FOLLOWING ITEMS: A. INSPECTION OF FABRICATORS (IBC 1704.2.5)

- B. STEEL CONSTRUCTION (IBC 1705.2) a. STRUCTURAL STEEL (IBC 1705.2.1) STRUCTURAL STEEL WELDING (AISC 360, AWS D1.1)
- 2. HIGH STRENGTH BOLTS (AISC 360) b. STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL: (IBC 1705.2.2, TABLE 1705.2.2) c. COLD-FORMED STEEL DECK (IBC 1705.2.2) d. OPEN-WEB STEEL JOISTS AND JOIST GIRDERS (IBC 1705.2.3, TABLE 1705.2.3)
- e. COLD-FORMED STEEL TRUSSES SPANNING 60 FEET OR GREATER (IBC 1705.2.4) C. CONCRETE CONSTRUCTION (IBC 1705.3, TABLE 1705.3)
- a. WELDING OF REINFORCING BARS (IBC 1705.3.1, TABLE 1705.3) b. MATERIALS TESTS (IBC 1705.3.2, TABLE 1705.3)
- POST-INSTALLED ANCHORS (IBC TABLE 1705.3, ACI 318 CHAPTER 17) D. MASONRY CONSTRUCTION (IBC 1705.4, ACI 530 AND ACI 530.1 LEVEL B QUALITY ASSURANCE) E. WOOD CONSTRUCTION (IBC 1705.5) a. HIGH-LOAD DIAPHRAGMS (IBC 1705.5.1)
- b. METAL-PLATE-CONNECTED WOOD TRUSSES SPANNING 60 FEET OR GREATER (IBC 1705.5.2) F. SOILS (IBC 1705.6, TABLE 1705.6) G. DRIVEN DEEP FOUNDATIONS (IBC 1705.7, TABLE 1705.7)
- H. CAST-IN-PLACE DEEP FOUNDATIONS (IBC 1705.8, TABLE 1705.8) I. HELICAL PILE FOUNDATIONS (IBC 1705.9)
- FABRICATED ITEMS (IBC 1705.10) K. SPECIAL INSPECTIONS FOR WIND RESISTANCE (IBC 1705.11)
- a. STRUCTURAL WOOD (IBC 1705.11.1) b. COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION (IBC 1705.11.2) c. WIND-RESISTING COMPONENTS (IBC 1705.11.3) L. SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE (IBC 1705.12)
- a. STRUCTURAL STEEL (IBC 1705.12.1) b. STRUCTURAL WOOD (BC 1705.12.2)
- c. COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION (IBC 1705.12.3) d. COLD-FORMED STEEL SPECIAL BOLTED MOMENT FRAMES (IBC 1705.12.9) M. TESTING AND QUALIFICATION FOR SEISMIC RESISTANCE (IBC 1705.13)
- a. STRUCTURAL STEEL (IBC 1705.13.1) STRUCTURAL OBSERVATIONS REQUIRED BY THE LOCAL JURISDICTION AND IBC 1704.5 SHALL BE
- PERFORMED BY A REGISTERED DESIGN PROFESSIONAL PROVIDED BY THE OWNER. STRUCTURAL OBSERVATIONS SHALL BE THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. TESTING AGENCY FOR THE INSPECTIONS SHALL FILE ALL APPROPRIATE FORMS WITH THE BUILDING DEPARTMENT

#### STANDARD ABBREVIATIONS

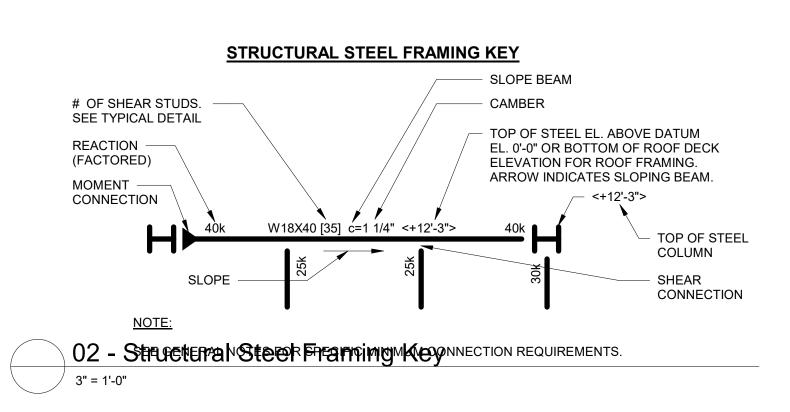
ADD'L ADJ. A/E ALT. ANCH. APPROX. ARCH. BLDG. B.F. BM. BOT. BRG. BSMT. CANT. CFS C.I.P. CJ. CLG. CLR. CLG. CLR. COMP. CONC. CONST. CONST. CONT. CONT. CONT. CONT. CONT. CONT. CONT.	ADDITIONAL ADJACENT DESIGN TEAM OF RECORD ALTERNATE ANCHOR APPROXIMATE/APPROXIMATELY ARCHITECT/ARCHITECTURAL BUILDING BRACE FRAME BEAM BOTTOM OF BOTTOM BEARING BASEMENT CANTILEVER COLD FORMED STEEL CAST IN PLACE CONTRACTION JOINT CEILING CLEAR CONCRETE MASONRY UNIT COLUMN COMPOSITE CONCRETE CONCRETE CONSTRUCTION CONTINUOUS COORDINATE/COORDINATION CONTRACTOR CONTRACTOR	ENGR. E.O.R. EQ. E.S. E.W. EXP. EXT. FDN. FLR. FRMG F.S. FT. FTG. GA. GALV. G.B. HDR. HORIZ H.P. HT. HVAC I.D. I.F. I.J. INFO INT.
CTR. DBL. DEMO DIA. DIAG. DIM. D.L. DN. DTL. DWG(S) DWL. EA. E.F. E.J. EL. ELEC. ELEC. ELEV. EMBED. E.O.	TECHNICAL REPRESENTATIVE CENTER DOUBLE DEMOLITION/DEMOLISH DIAMETER DIAGONAL DIMENSION DEAD LOAD DOWN DETAIL DRAWING(S) DOWEL EACH EACH EACH FACE EXPANSION JOINT ELEVATION ELECTRICAL ELEVATOR EMBEDMENT EDGE OF	JT. K LB. L.L.B.E LLH LLV L.P. L.W. MAS. MAX. MECH MFR. MIN. MISC. N.F. N.I.C.

ENGINEER ENGINEER OF RECORD EQUAL EACH SIDE EACH WAY EXPANSION EXTERIOR FOUNDATION FINISH FLOOR FRAMING
FAR SIDE
FEET
FOOTING GAGE
GALVANIZED
GRADE BEAM HEADER
HANGER
HORIZONTAL HIGH POINT
HEIGHT
HEATING, VENTILATION, & AIR CONDITIONING
INSIDE DIAMETER
INSIDE FACE ISOLATION JOINT
INFORMATION
INTERIOR JOINT
KIP
POUND LIVE LOAD
LONG LEGS BACK-TO-BACK
LONG LEG HORIZONTAL LONG LEG VERTICAL
LOW POINT
LIGHTWEIGHT LONG WAY
MASONRY
MAXIMUM MECHANICAL
MECH., ELECT., PLUMBING, & FIRE PROTECTION
MANUFACTURER

MINIMUM MISCELLANEOUS MASONRY OPENING NEAR FACE NOT IN CONTRACT

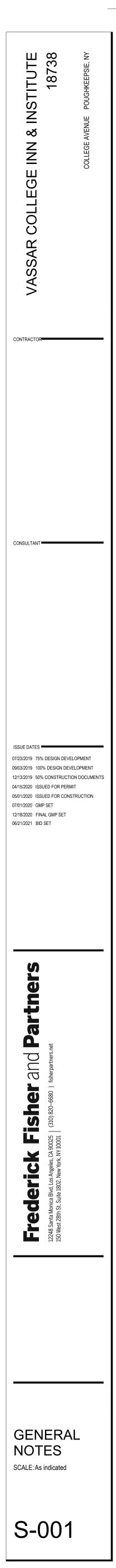
DESIGN PARAMETER TABLE			
GOVERNING CODE:		2015 INTERNATIONAL BUILDING CODE AS ADOPTED BY NEW YORK STATE	
BUILDING CATEGORY:		И	
SNOW LOAD:			
35 PSI	Pg	GROUND SNOW LOAD	
1.0	Ce	SNOW EXPOSURE FACTOR	
1.0	ls	SNOW LOAD IMPORTANCE FACTOR	
1.0	Ct	THERMAL FACTOR	
WIND LOAD:			
120 MPH		BASIC WIND SPEED	
1.0	Ι	WIND IMPORTANCE FACTOR	
C		WIND EXPOSURE CATEGORY	
0.18 +/-	GCPi	INTERNAL PRESSURE COEFFICIENT	
34 PSF		C&C VELOCITY PRESSURE AT MEAN ROOF HEIGHT	
99 KIP	V	DESIGN BASE SHEAR	
SEISMIC DESIGN:			
1.0	I	SEISMIC IMPORTANCE FACTOR	
0.195	Ss	SHORT PERIOD SPECTRAL RESPONSE ACCELERATION	
0.065	S1	1-SECOND PERIOD SPECTRAL RESPONSE ACCELERATION	
D		SITE CLASS	
0.300	S(ds)	5-% DAMPED SPECTRAL RESPONSE COEFFICIENT AT SHORT PERIODS	
0.156	S(d1)	5-% DAMPED SPECTRAL RESPONSE COEFFICIENT AT 1-SECOND PERIODS	
В		SEISMIC DESIGN CATEGORY	
STEEL MOMENT FRAMES		BASIC SEISMIC FORCE RESISTING SYSTEM	
95 KIP	V	DESIGN BASE SHEAR	
0.067	Cs	SEISMIC RESPONSE COEFFICIENT	
3	R	RESPONSE MODIFICATION FACTOR	
EQUIVALENT STATIC FORCE		ANALYSIS PROCEDURE	

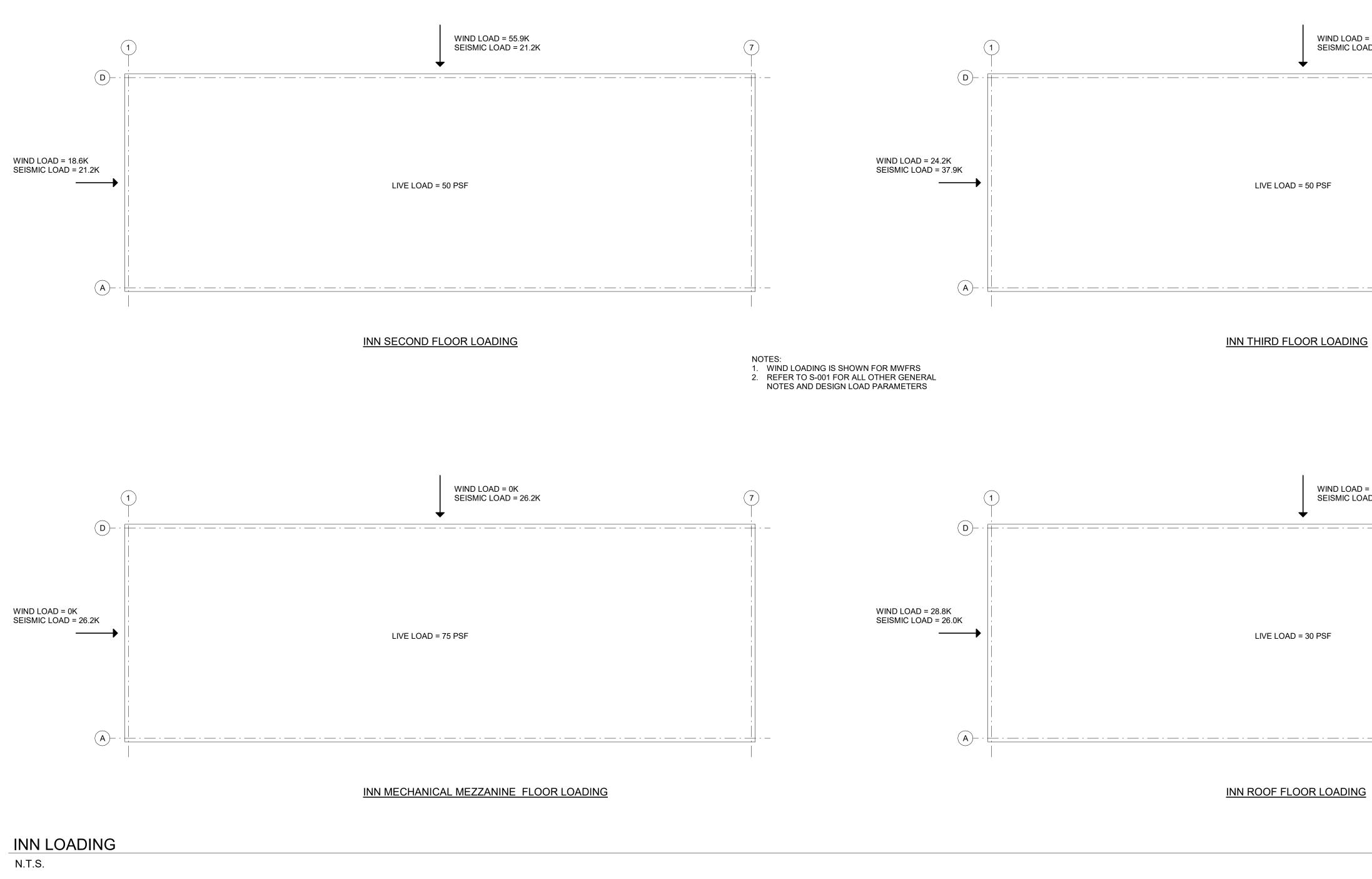
			LEGEND	
				CONCRETE FOOTING, GRADE BEAM
				OR PILE CAP WALL OR CONCRETE BEAM
				BELOW
				CONCRETE WALL COLD FORMED METAL FRAMING WALL
				CFW6 U.O.N. ON PLAN
				COLD FORMED METAL SHEAR WALL WITH FLAT PLATE CROSS BRACING; CFW6 U.O.N. ON PLAN
			I	STEEL COLUMN
			L	L4x4x3/8 PARTITION HANGER SUPPORT
			W_X	STEEL BEAM
			L	STEEL LINTEL (SEE SCHEDULE)
			BF	STEEL BRACING (L4x4x5/16 UNO)
			WP#	MECHANICAL WEB PENETRATION
			∢	LEDGER ANGLE (SEE DETAIL)
			>	SLOPE STEEL BEAM DIRECTION
				BENT STEEL FRAMING
				SHEAR CONNECTION
			<b></b>	MOMENT CONNECTION
			Ţ	COLUMN BASE PLATE
	NO. N.S. N.T.S. N.W.	NUMBER NEAR SIDE NOT TO SCALE NORMAL WEIGHT		COLUMN TRANSFER
	O.C. O.D. O.F. OPNG. OPP.	ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OPENING OPPOSITE	S-#	CONCRETE ON METAL DECK (SEE SCHEDULE), OPEN ARROW INDICATES SPAN DIRECTION
	PC. P/C PED. PERP. PL. PLF	PIECE PRECAST PEDESTAL PERPENDICULAR PLATE POUNDS PER LINEAR FOOT	R-#	METAL DECK (SEE SCHEDULE), OPEN ARROW INDICATES SPAN DIRECTION
	PREFAB. PSF PSI P-T REINF. REQ'D REV.	PREFABRICATED POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POST-TENSIONED REINFORCE(D)/REINFORCEMENT REQUIRED	G-#	METAL GRATING FLOOR (SEE SCHEDULE), OPEN ARROW INDICATES SPAN DIRECTION
	SCHED. SECT. S.I.F. S.L.B.B.	SECTION STEP IN FOOTING SHORT LEGS-BACK-TO-BACK	<u>S.O.</u> G.	SLAB ON GRADE (SEE SCHEDULE)
	SIM. S.O.G. SPEC.	SIMILAR SLAB ON GRADE SPECIFICATION	• •	SLOPE RAMP
	SQ. S.S. STD.	SQUARE STAINLESS STEEL STANDARD	$\Diamond \Diamond$	COLUMN ABOVE / BELOW
	STIFF. STL. S.W.	STIFFENER STEEL SHORT WAY		HANGER COLUMN ABOVE / BELOW
	SYM. T & B TEMP.	SYMMETRIC TOP & BOTTOM TEMPORARY/TEMPERATURE	+#'-#"	TOP OF SLAB ELEVATION
	THK. T.O. TR.	THICK(NESS) TOP OF TRANSFER	T.O. STEEL=#'-#"	SPOT ELEVATION
N	TYP. U.N.O. VERT. W/	TYPICAL UNLESS NOTED OTHERWISE VERTICAL WITH		INDICATES STEP DOWN
	W.P. W.W.R. # Ø	WORK POINT WELDED WIRE REINFORCEMENT NUMBER/SIZE DIAMETER	TITINI MITTI	INDICATES SLOPE DOWN OR UP
			[##'-##"]	BOTTOM OF FOOTING ELEVATION RELATIVE TO DATUM
			<##'-##">	TOP OF FRAMING ELEVATION RELATIVE TO DATUM
			{ <b>###</b> '- <b>###</b> "}	TOP OF PIER ELEVATION RELATIVE TO DATUM
			(##'-##")	BOTTOM OF BASE PLATE ELEVATION RELATIVE TO DATUM
			<b>(#</b> )	



COLUMN LINE

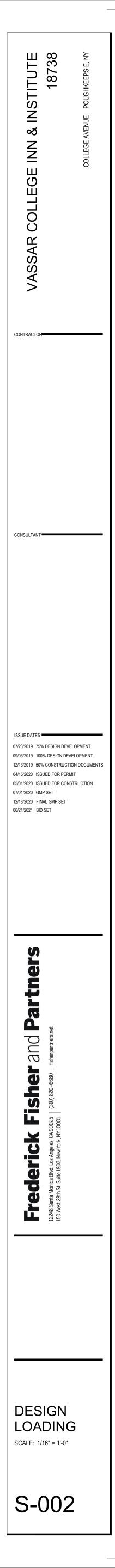
REVISION

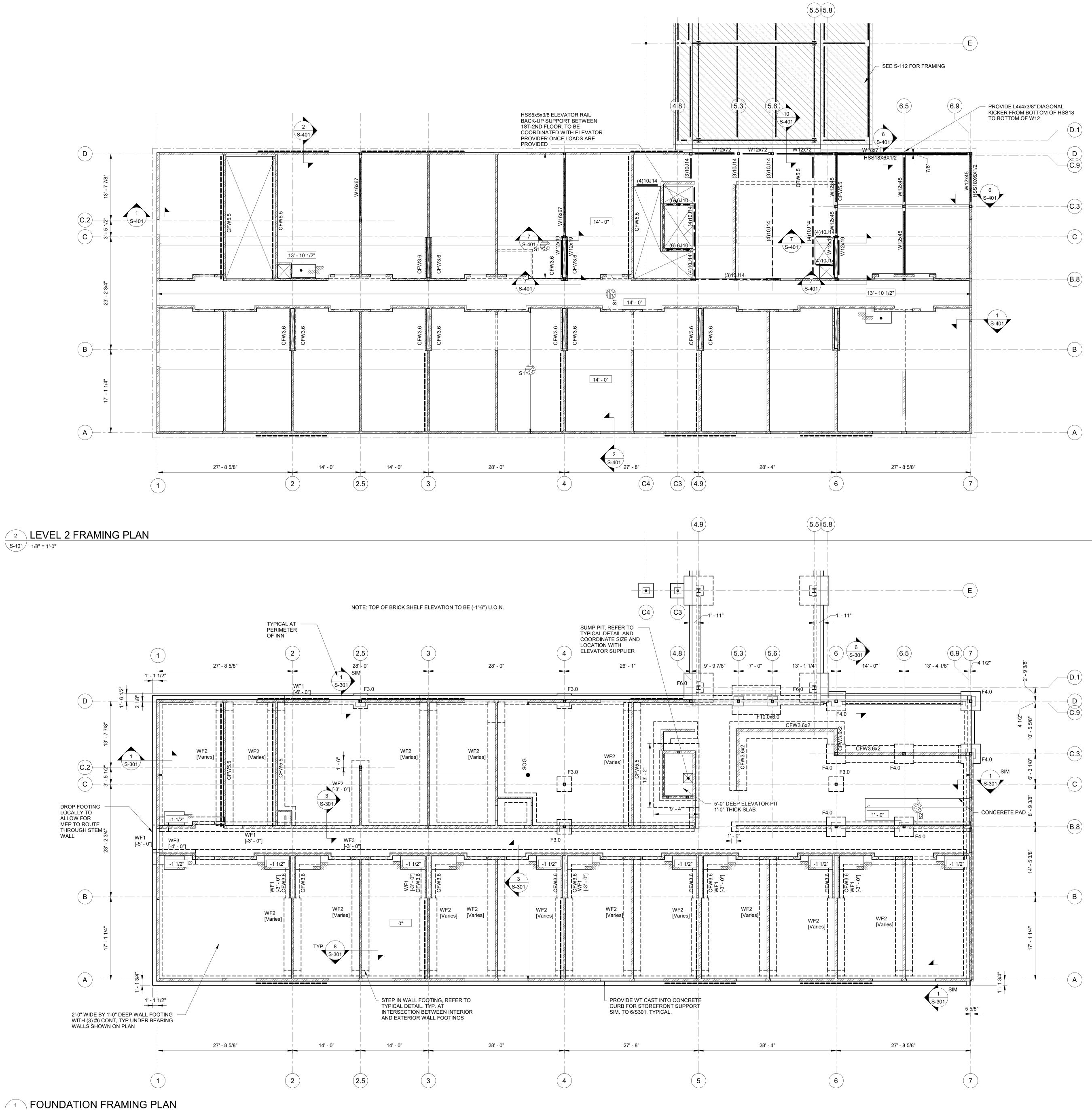




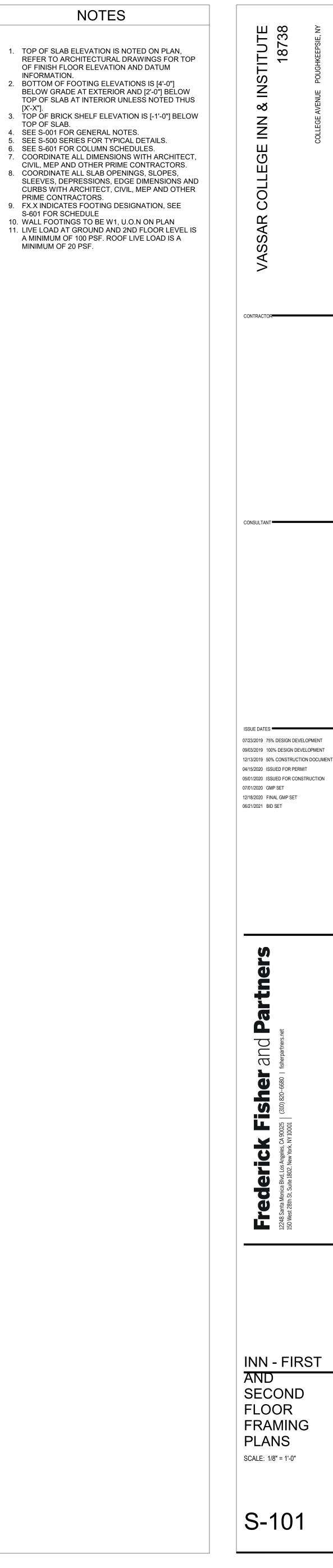
D = 72.5K OAD = 37.9K	7

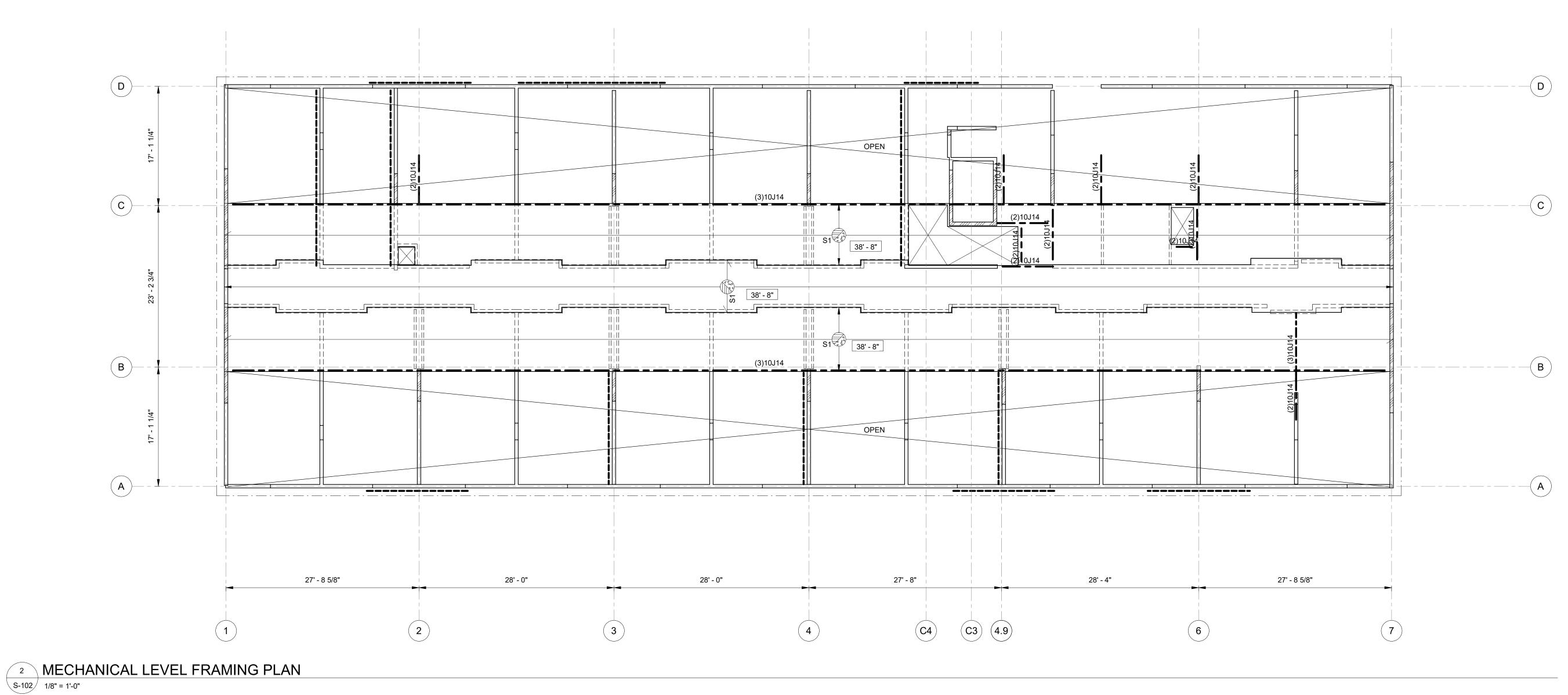
i	

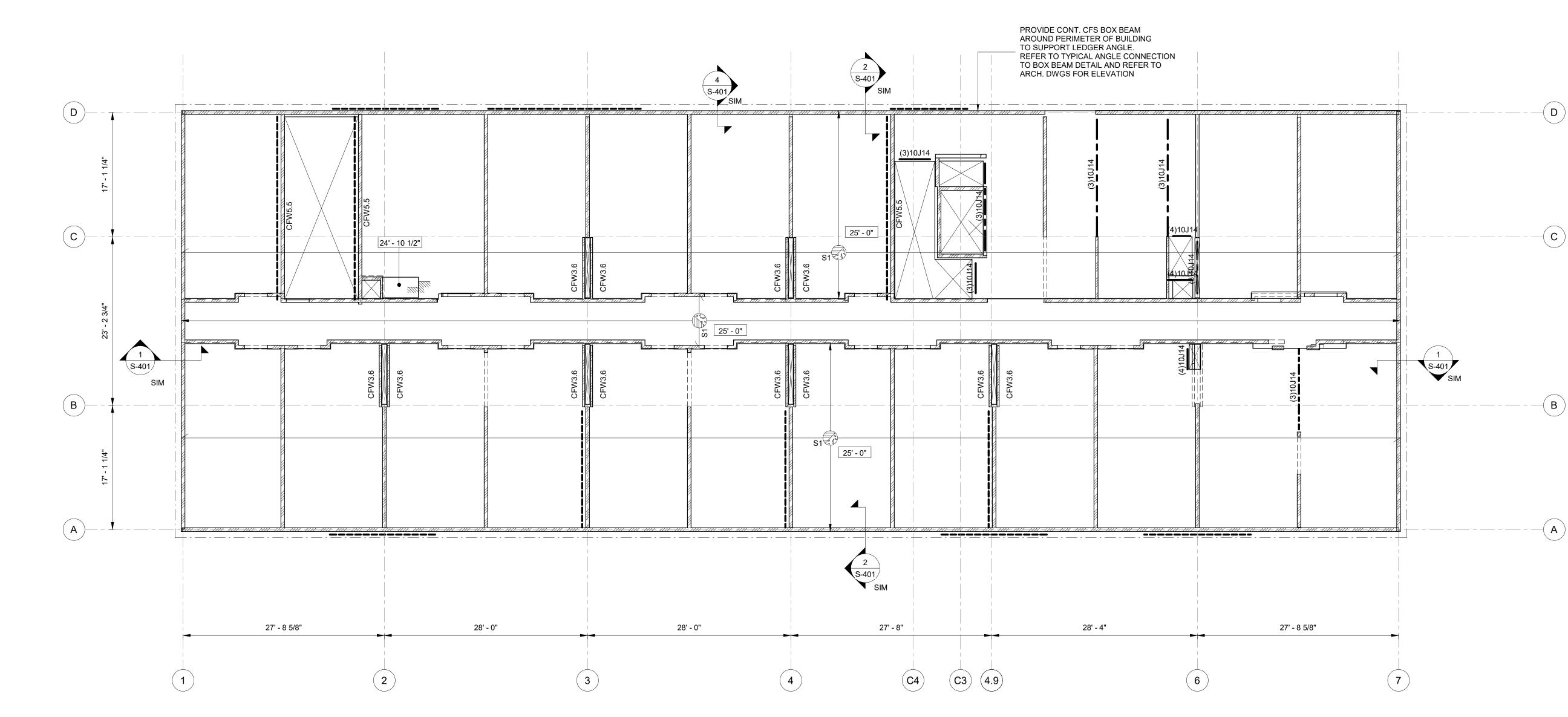








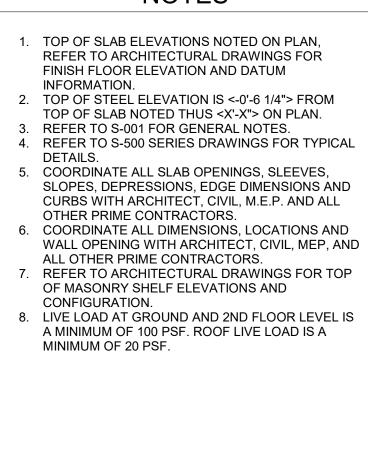


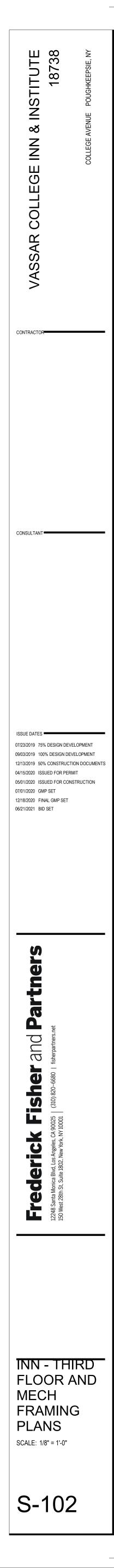


- 1. TOP OF SLAB ELEVATIONS NOTED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR FINISH FLOOR ELEVATION AND DATUM INFORMATION. 2. TOP OF STEEL ELEVATION IS <-0'-6 1/4"> FROM TOP OF SLAB NOTED THUS <X'-X"> ON PLAN. 3. REFER TO S-001 FOR GENERAL NOTES.
- 4. REFER TO S-500 SERIES DRAWINGS FOR TYPICAL DETAILS. 5. COORDINATE ALL SLAB OPENINGS, SLEEVES,
- OTHER PRIME CONTRACTORS. 6. COORDINATE ALL DIMENSIONS, LOCATIONS AND WALL OPENING WITH ARCHITECT, CIVIL, MEP, AND ALL OTHER PRIME CONTRACTORS.
- 7. REFER TO ARCHITECTURAL DRAWINGS FOR TOP OF MASONRY SHELF ELEVATIONS AND CONFIGURATION.
- MINIMUM OF 20 PSF.

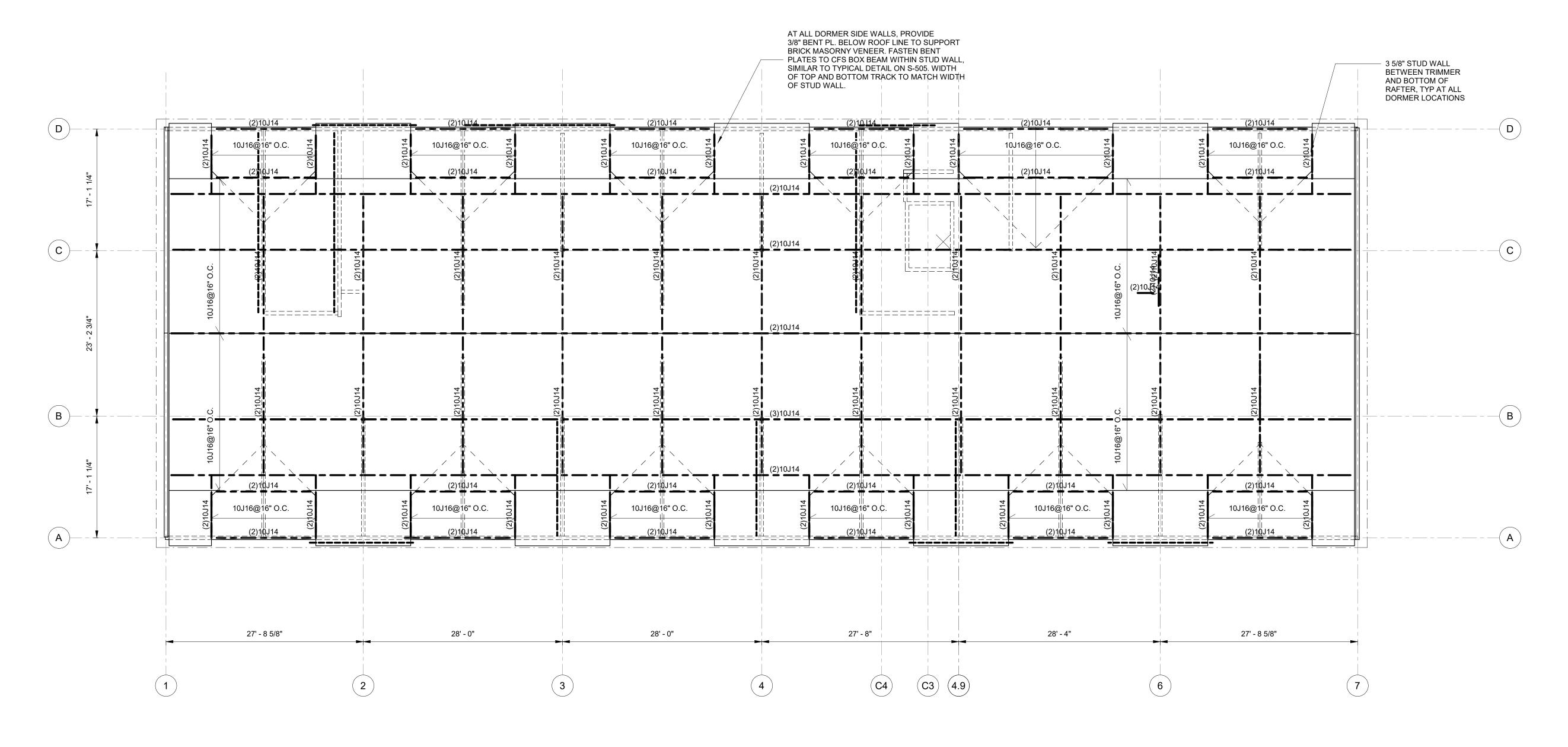
)			
)			

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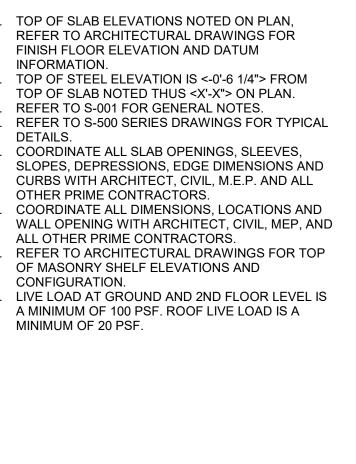




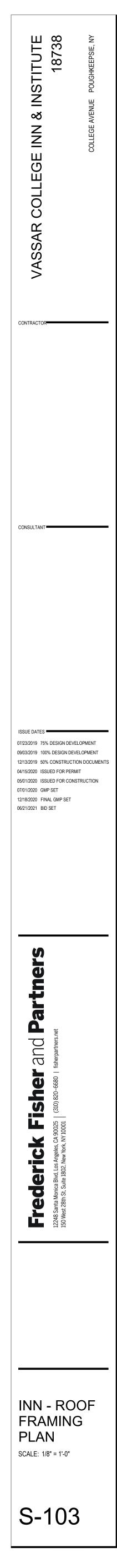


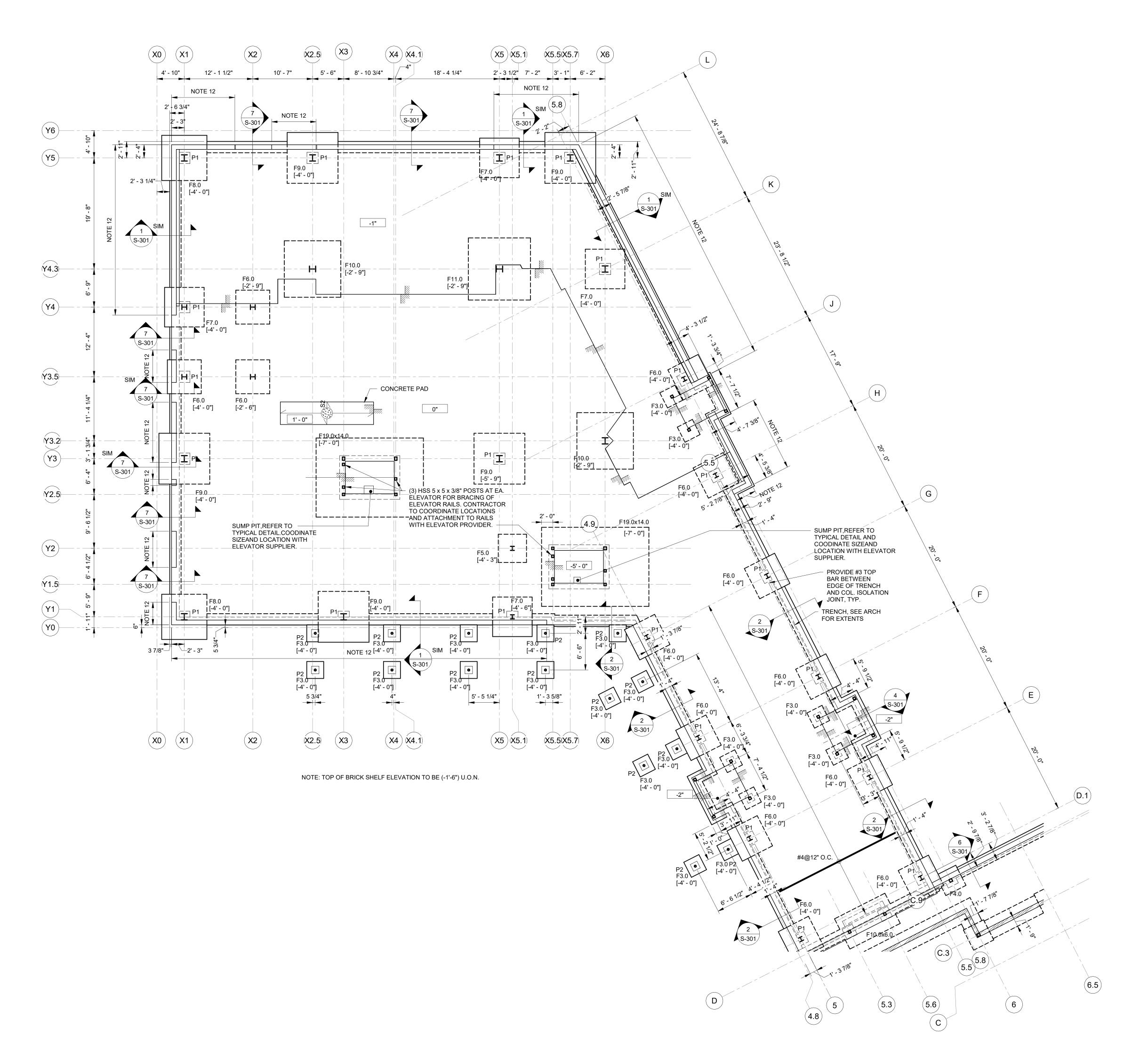


- 1. TOP OF SLAB ELEVATIONS NOTED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR FINISH FLOOR ELEVATION AND DATUM
- INFORMATION. 2. TOP OF STEEL ELEVATION IS <-0'-6 1/4"> FROM TOP OF SLAB NOTED THUS <X'-X"> ON PLAN.
- 3. REFER TO S-001 FOR GENERAL NOTES. 4. REFER TO S-500 SERIES DRAWINGS FOR TYPICAL
- DETAILS. 5. COORDINATE ALL SLAB OPENINGS, SLEEVES,
- CURBS WITH ARCHITECT, CIVIL, M.E.P. AND ALL OTHER PRIME CONTRACTORS. 6. COORDINATE ALL DIMENSIONS, LOCATIONS AND
- WALL OPENING WITH ARCHITECT, CIVIL, MEP, AND ALL OTHER PRIME CONTRACTORS. 7. REFER TO ARCHITECTURAL DRAWINGS FOR TOP
- OF MASONRY SHELF ELEVATIONS AND CONFIGURATION. 8. LIVE LOAD AT GROUND AND 2ND FLOOR LEVEL IS
- A MINIMUM OF 100 PSF. ROOF LIVE LOAD IS A MINIMUM OF 20 PSF.



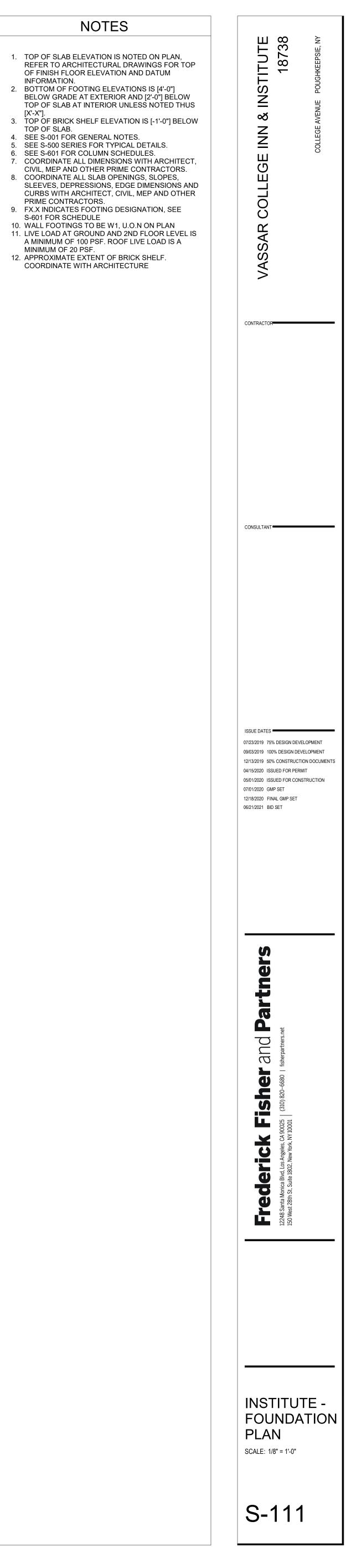
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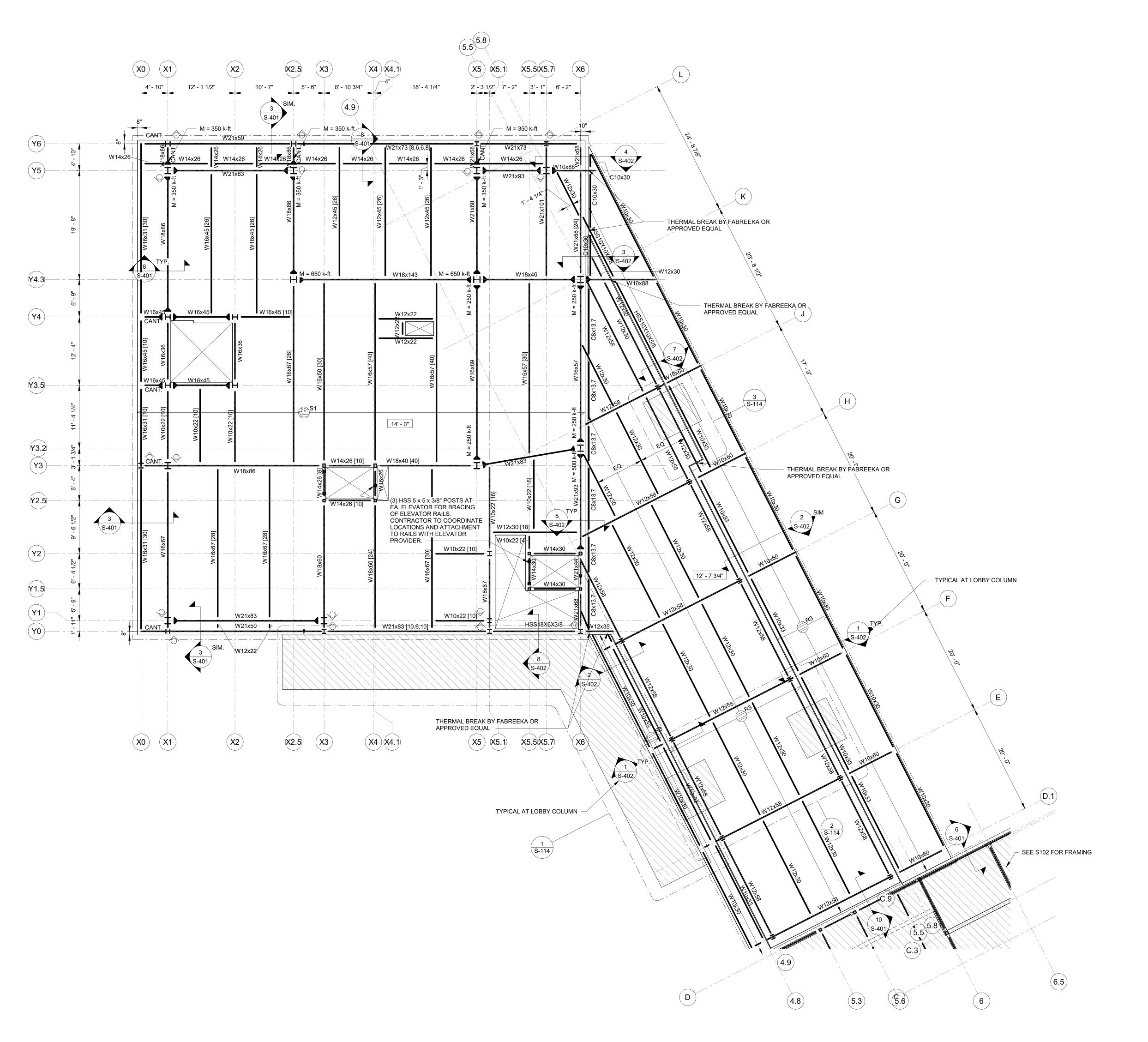




1.	TOP OF SLAB ELEVATION IS NOTED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR TOP OF FINISH FLOOR ELEVATION AND DATUM
	INFORMATION.
2.	
	BELOW GRADE AT EXTERIOR AND [2'-0"] BELOW
	TOP OF SLAB AT INTERIOR UNLESS NOTED THUS
	[X'-X"].
3.	TOP OF BRICK SHELF ELEVATION IS [-1'-0"] BELOW
	TOP OF SLAB.
4.	
	SEE S-500 SERIES FOR TYPICAL DETAILS.
6.	SEE S-601 FOR COLUMN SCHEDULES.
7.	
	CIVIL, MEP AND OTHER PRIME CONTRACTORS.
8.	
	SLEEVES, DEPRESSIONS, EDGE DIMENSIONS AND
	CURBS WITH ARCHITECT, CIVIL, MEP AND OTHER
	PRIME CONTRACTORS.
9.	FX.X INDICATES FOOTING DESIGNATION, SEE
	S-601 FOR SCHEDULE
	WALL FOOTINGS TO BE W1, U.O.N ON PLAN
11.	LIVE LOAD AT GROUND AND 2ND FLOOR LEVEL IS
	A MINIMUM OF 100 PSF. ROOF LIVE LOAD IS A
	MINIMUM OF 20 PSF.
10	

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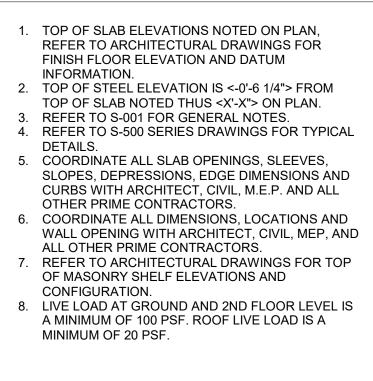


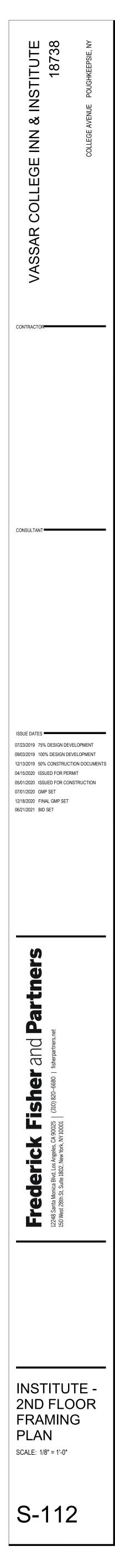


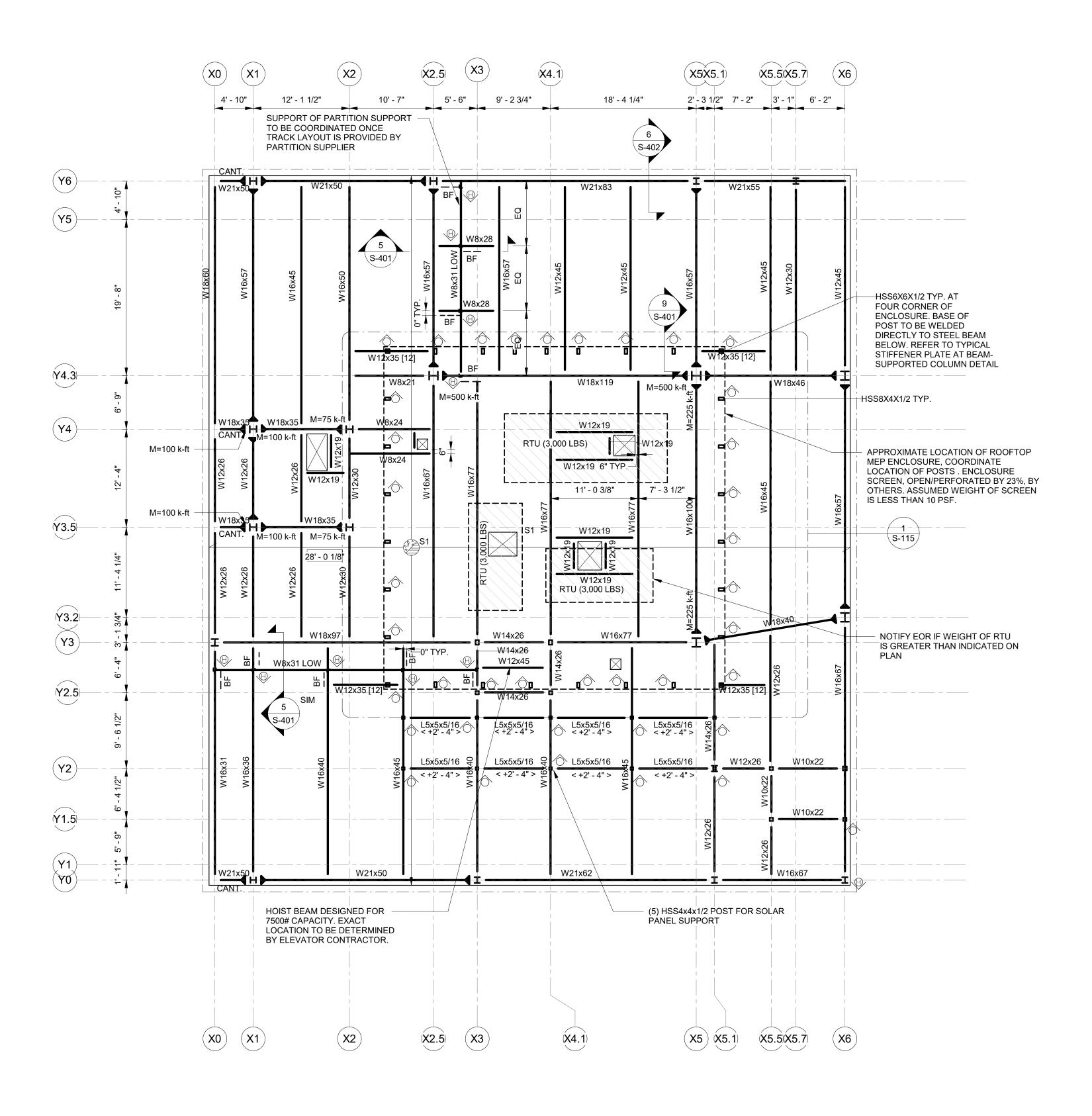
- 1. TOP OF SLAB ELEVATIONS NOTED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR FINISH FLOOR ELEVATION AND DATUM
- INFORMATION.
- TOP OF STEEL ELEVATION IS <-0'-6 1/4"> FROM TOP OF SLAB NOTED THUS <X'-X"> ON PLAN.
   REFER TO S-001 FOR GENERAL NOTES.
- DETAILS.
- OTHER PRIME CONTRACTORS.

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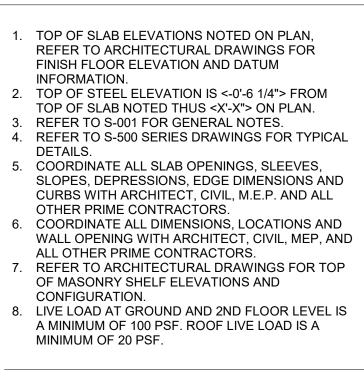
- 6. COORDINATE ALL DIMENSIONS, LOCATIONS AND WALL OPENING WITH ARCHITECT, CIVIL, MEP, AND
- ALL OTHER PRIME CONTRACTORS. 7. REFER TO ARCHITECTURAL DRAWINGS FOR TOP OF MASONRY SHELF ELEVATIONS AND
- CONFIGURATION.
  8. LIVE LOAD AT GROUND AND 2ND FLOOR LEVEL IS A MINIMUM OF 100 PSF. ROOF LIVE LOAD IS A MINIMUM OF 20 PSF.

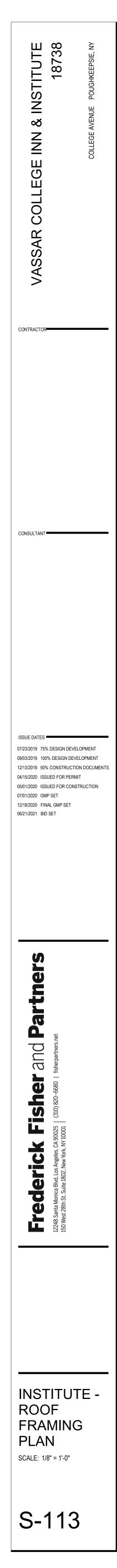


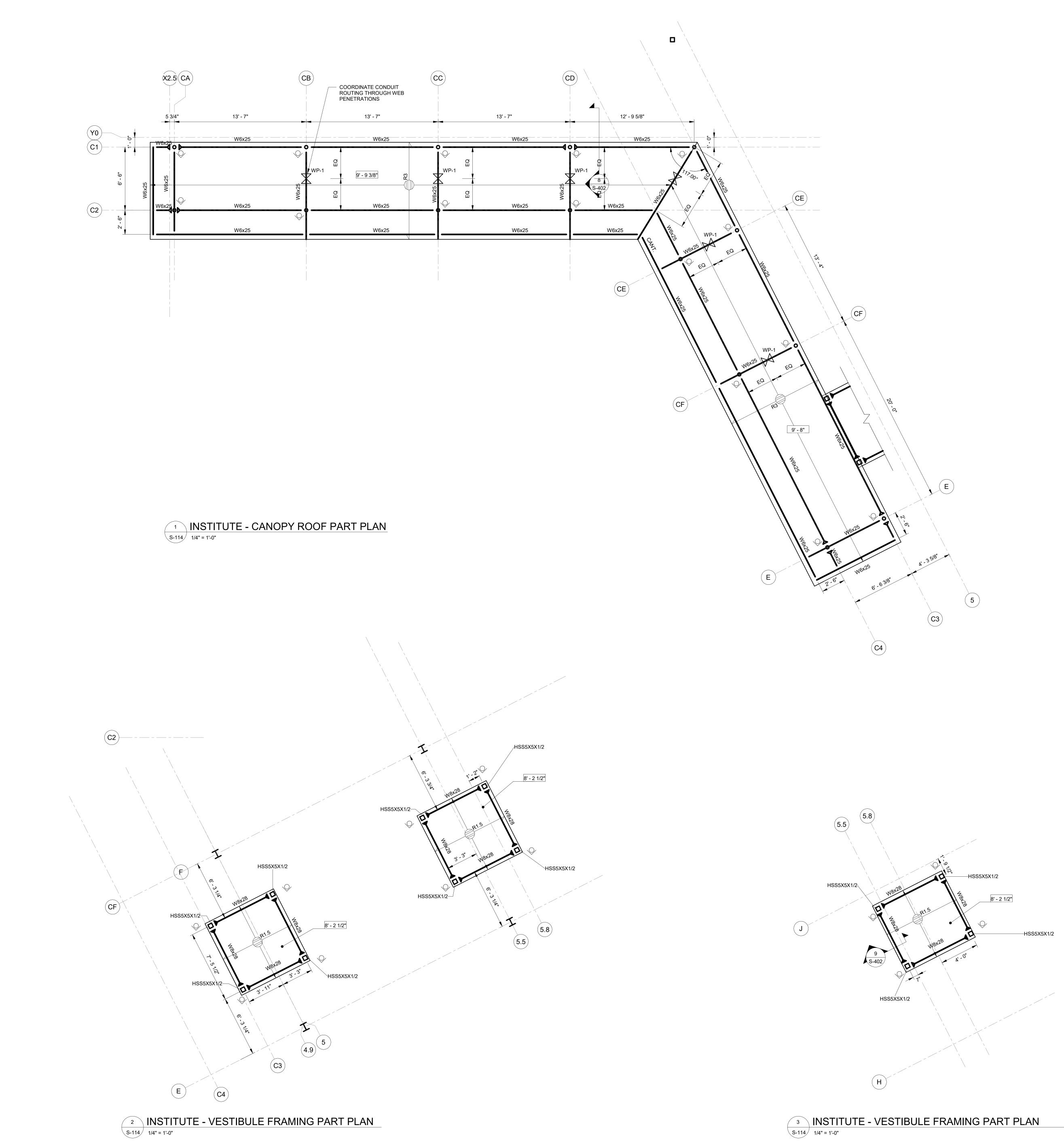




- REFER TO ARCHITECTURAL DRAWINGS FOR FINISH FLOOR ELEVATION AND DATUM INFORMATION. 2. TOP OF STEEL ELEVATION IS <-0'-6 1/4"> FROM TOP OF SLAB NOTED THUS <X'-X"> ON PLAN. 3. REFER TO S-001 FOR GENERAL NOTES.
- 4. REFER TO S-500 SERIES DRAWINGS FOR TYPICAL DETAILS. 5. COORDINATE ALL SLAB OPENINGS, SLEEVES, SLOPES, DEPRESSIONS, EDGE DIMENSIONS AND
- CURBS WITH ARCHITECT, CIVIL, M.E.P. AND ALL OTHER PRIME CONTRACTORS. 6. COORDINATE ALL DIMENSIONS, LOCATIONS AND WALL OPENING WITH ARCHITECT, CIVIL, MEP, AND
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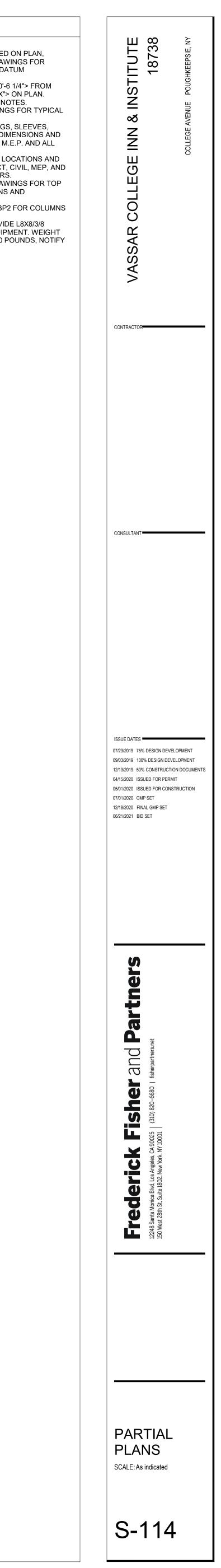


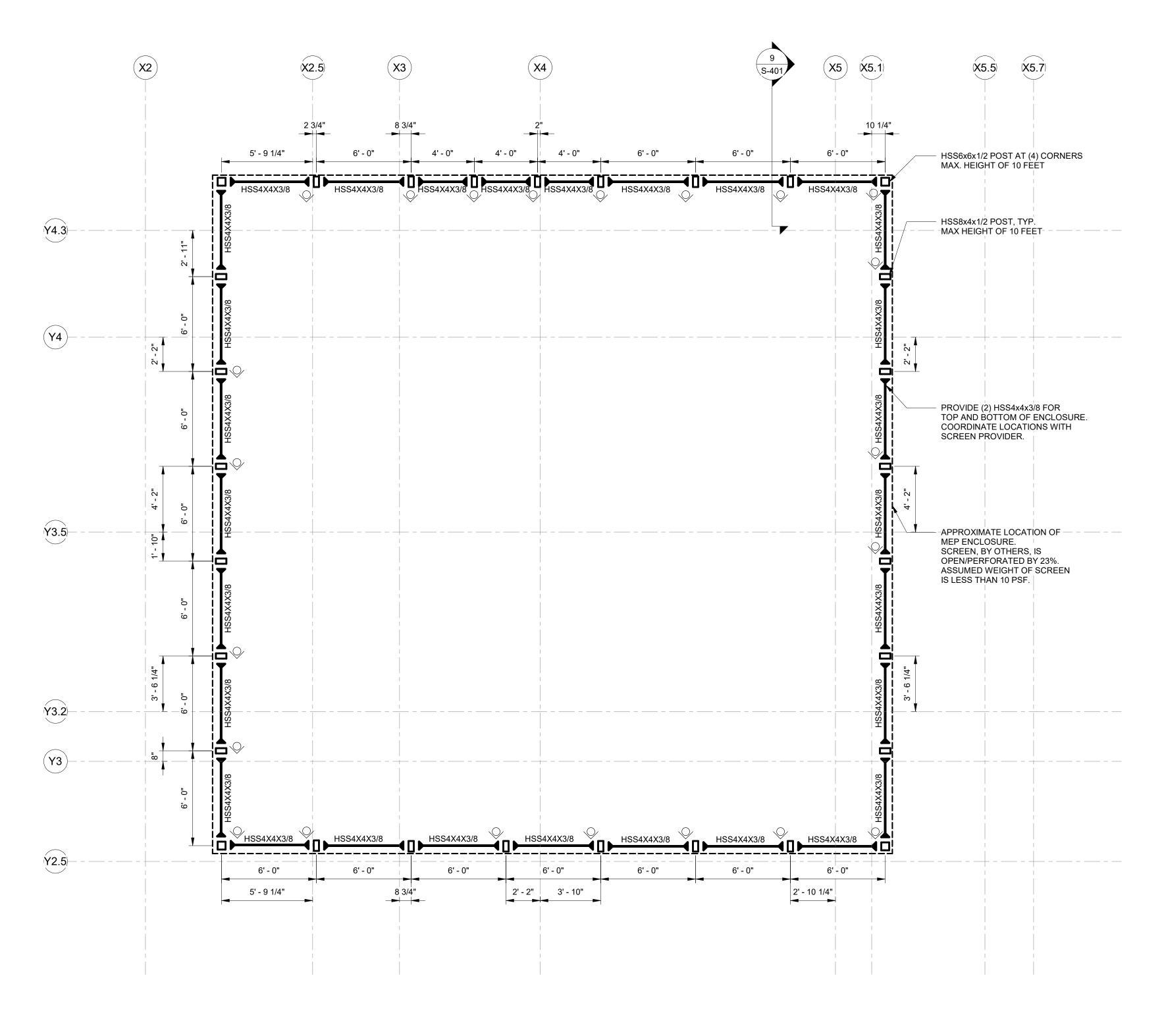




## 1. TOP OF SLAB ELEVATIONS NOTED ON PLAN, REFER TO ARCHITECTURAL DRAWINGS FOR FINISH FLOOR ELEVATION AND DATUM

- INFORMATION. 2. TOP OF STEEL ELEVATION IS <-0'-6 1/4"> FROM TOP OF SLAB NOTED THUS <X'-X"> ON PLAN.
- 3. REFER TO S-001 FOR GENERAL NOTES. 4. REFER TO S-500 SERIES DRAWINGS FOR TYPICAL
- DETAILS. COORDINATE ALL SLAB OPENINGS, SLEEVES, SLOPES, DEPRESSIONS, EDGE DIMENSIONS AND
- CURBS WITH ARCHITECT, CIVIL, M.E.P. AND ALL OTHER PRIME CONTRACTORS.
- 6. COORDINATE ALL DIMENSIONS, LOCATIONS AND WALL OPENING WITH ARCHITECT, CIVIL, MEP, AND
- ALL OTHER PRIME CONTRACTORS. 7. REFER TO ARCHITECTURAL DRAWINGS FOR TOP OF MASONRY SHELF ELEVATIONS AND CONFIGURATION.
- 8. BASE PLATES PROVIDE TYPE BP2 FOR COLUMNS AT CANOPY AND VESTIBULES. 9. AT VESTIBULES CEILINGS, PROVIDE L8X8/3/8
- ANGLES TO SUPPORT MEP EQUIPMENT. WEIGHT ASSUMED TO BE LESS THAN 150 POUNDS, NOTIFY EOR IF GREATER.





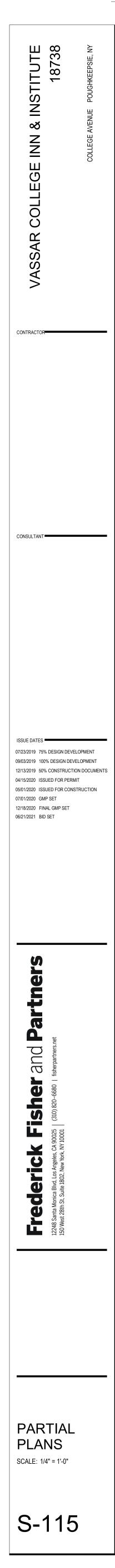
1 INSTITUTE - MECHANICAL ENCLOSURE SCREEN FRAMING PLAN S-115 1/4" = 1'-0"

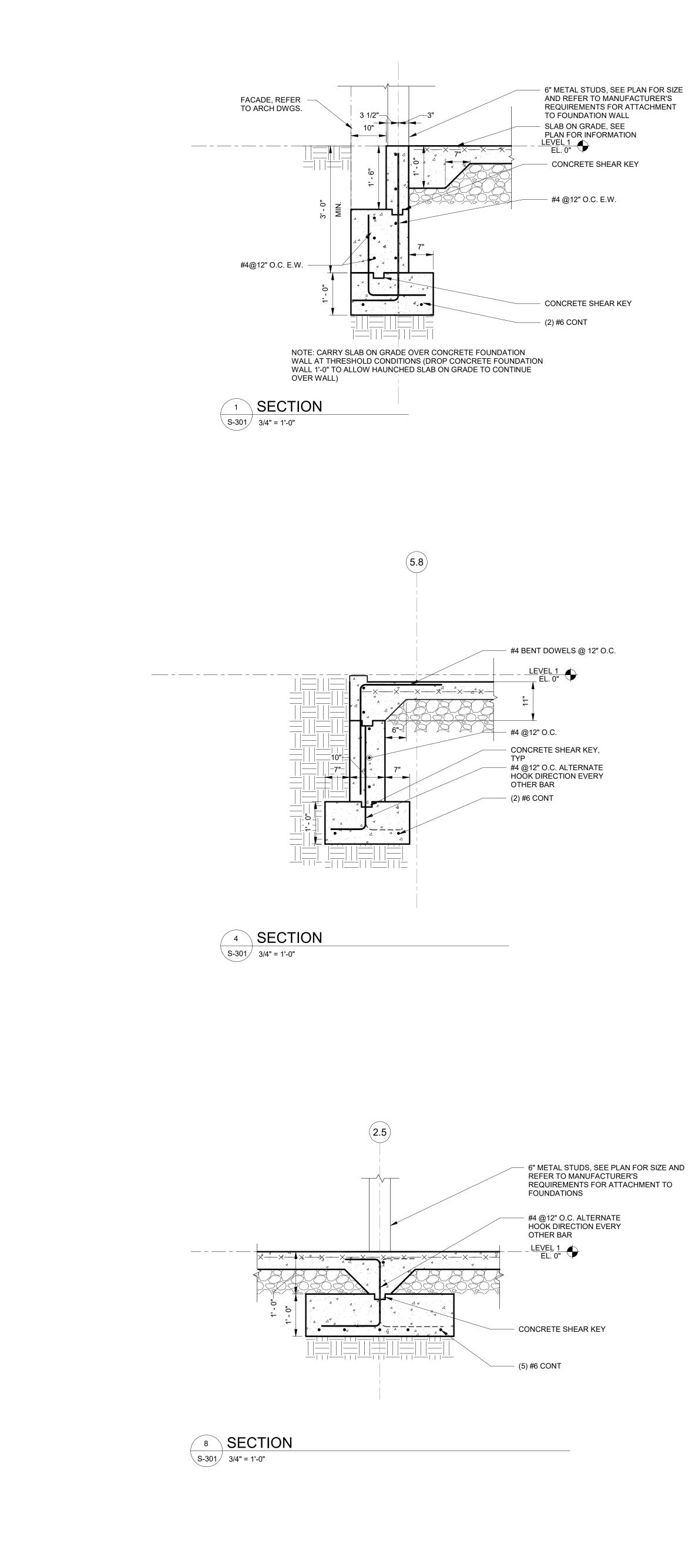
#### NOTES

 REFER TO ARCH FOR TOP OF STEEL ELEVATIONS.
 REFER TO S-001 FOR GENERAL NOTES.
 REFER TO S-500 SERIES DRAWINGS FOR TYPICAL DETAILS DETAILS.

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DETAILS.
 COORDINATE ALL SLAB OPENINGS, SLEEVES, SLOPES, DEPRESSIONS, EDGE DIMENSIONS AND CURBS WITH ARCHITECT, CIVIL, M.E.P. AND ALL OTHER PRIME CONTRACTORS.
 COORDINATE ALL DIMENSIONS, LOCATIONS AND WALL OPENING WITH ARCHITECT, CIVIL, MEP, AND ALL OTHER PRIME CONTRACTORS.





HEADED STUD SPACED 12" O.C. TIPS OF THE FLANGES MAY BE CUT TO ACCOMODATE WIDTH REQUIRED BY THE STOREFRONT PROVIDER. FOR CONSTRUCTIBILITY, 1' - 0" MAX, 8" 5" CONTRACTOR MAY CAST IN AN ANGLE. AFTER CONCRETE POUR, 7-1/2" MIN. A SECOND ANGLE MAY BE -----INSTALLED TO FORM WT SHAPE. ┝╇┼═╞┨┥

<sup>2</sup> SECTION

S-301 3/4" = 1'-0"

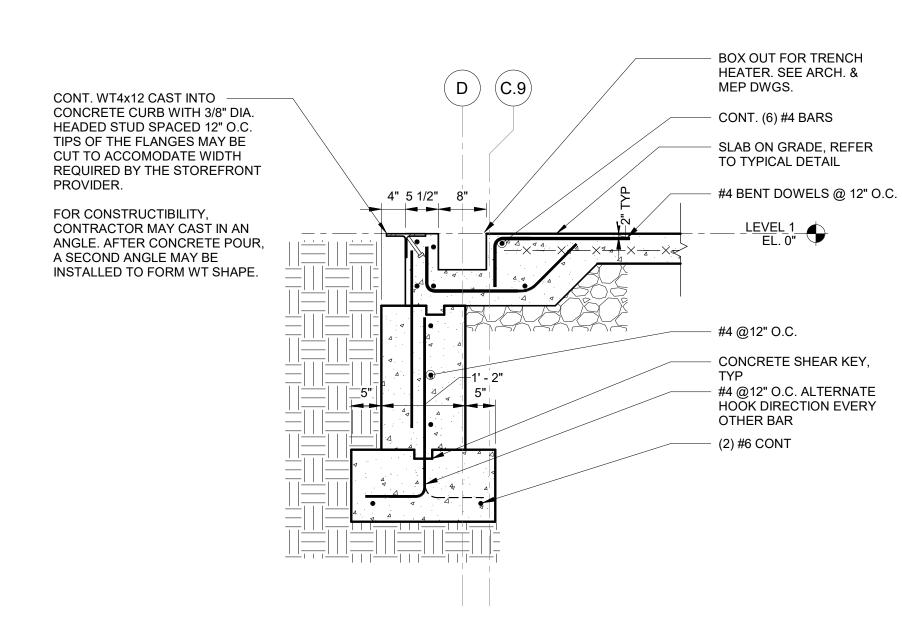
CONT. WT4x15.5 CAST INTO CONCRETE CURB WITH 3/8" DIA.

 — 1'-0" AT LOBBY
 7-1/2" AT INSTITUTE BOX OUT FOR TRENCH HEATER.
 SEE ARCH. & MEP DWGS.

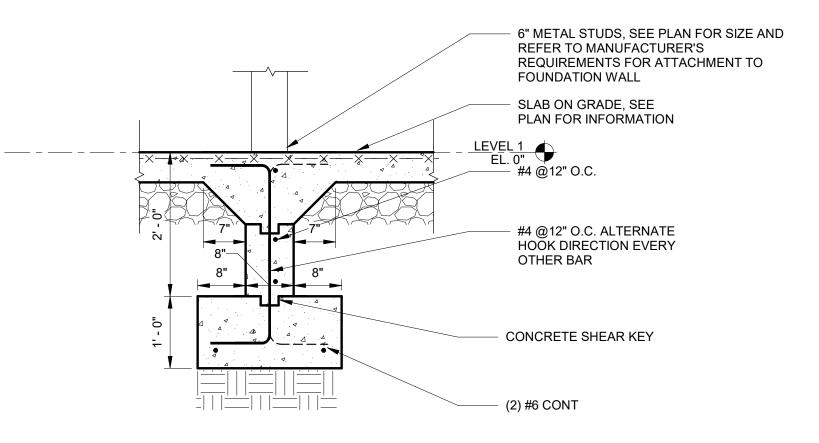
- #4 BENT DOWELS @ 12" O.C. LEVEL 1 EL. 0" -X----X---X--

> - CONT. (6) #4 BARS \_\_\_\_\_#4 @12" O.C.

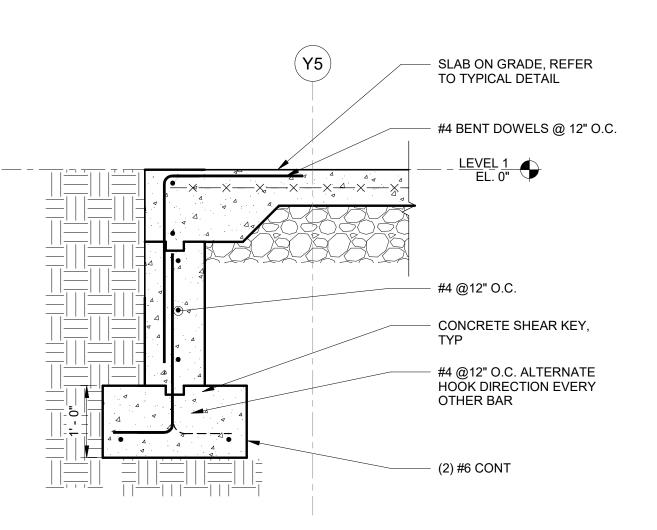
 CONCRETE SHEAR KEY, TYP #4 @12" O.C. ALTERNATE HOOK DIRECTION EVERY OTHER BAR - (2) #6 CONT



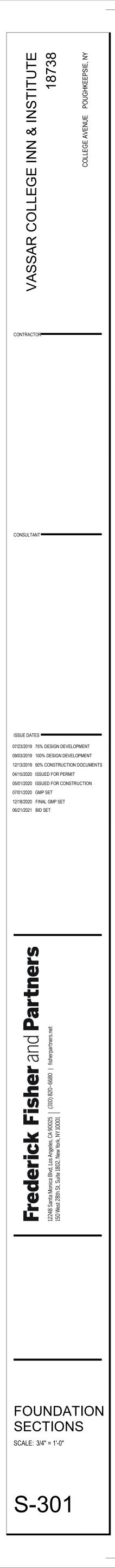
6 SECTION S-301 3/4" = 1'-0"

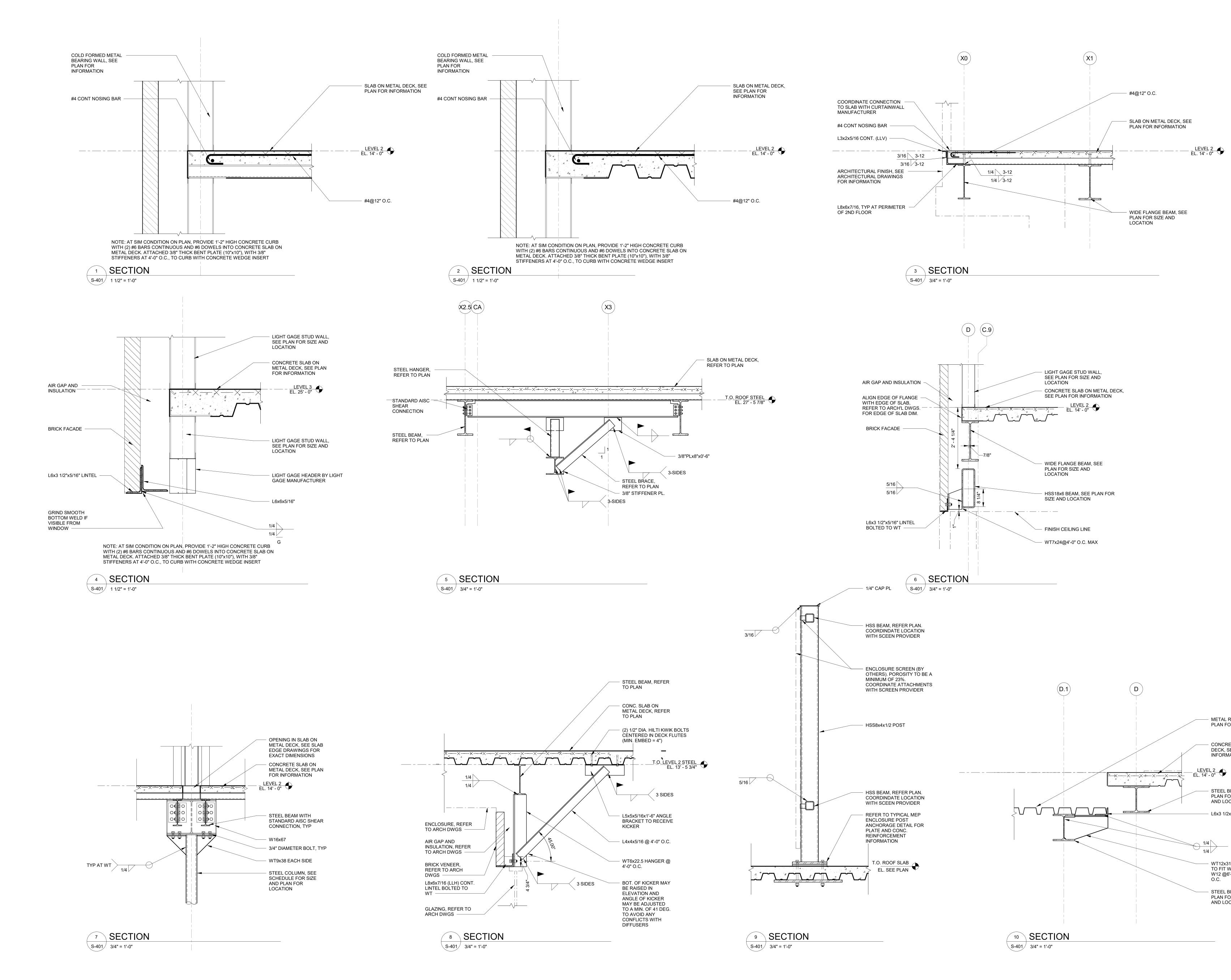


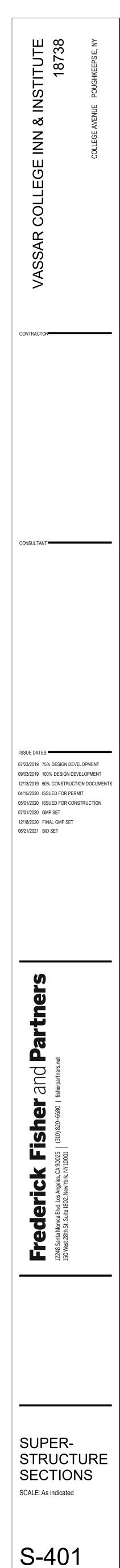




7 SECTION S-301 3/4" = 1'-0"





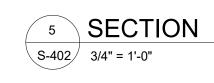


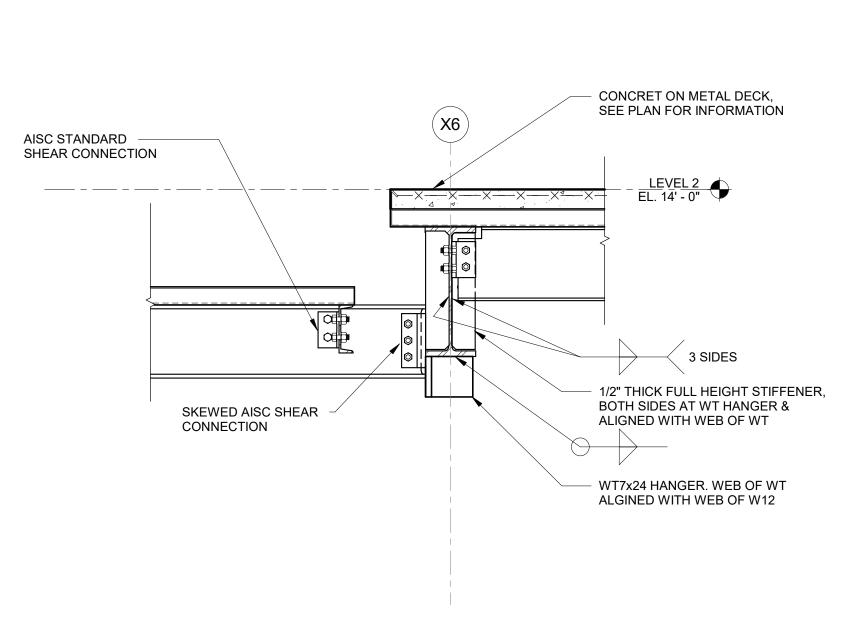
METAL ROOF DECK, SEE
 PLAN FOR INFORMATION

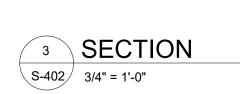
- CONCRETE ON METAL DECK, SEE PLAN FOR INFORMATION

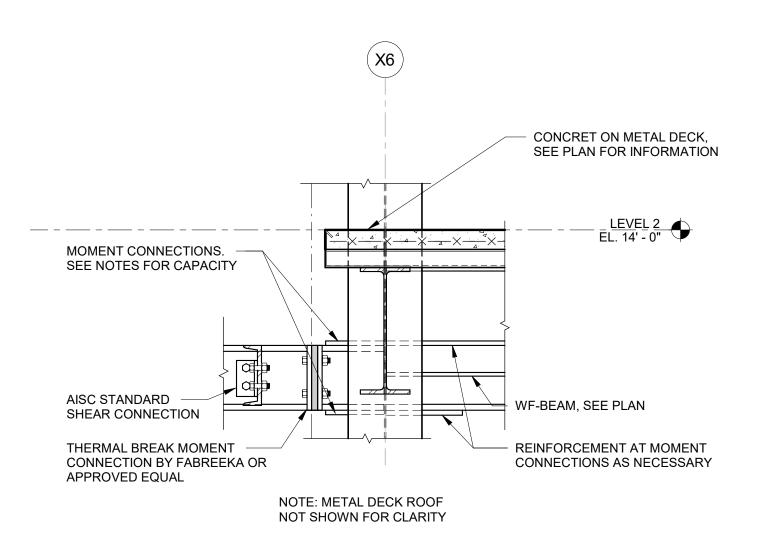
STEEL BEAM, SEE PLAN FOR SIZE AND LOCATION - L6x3 1/2x1/2 CONT.

 WT12x31 CUT
 TO FIT WITHIN
 W12 @6'-0"
 O.C. STEEL BEAM, SEE
 PLAN FOR SIZE
 AND LOCATION

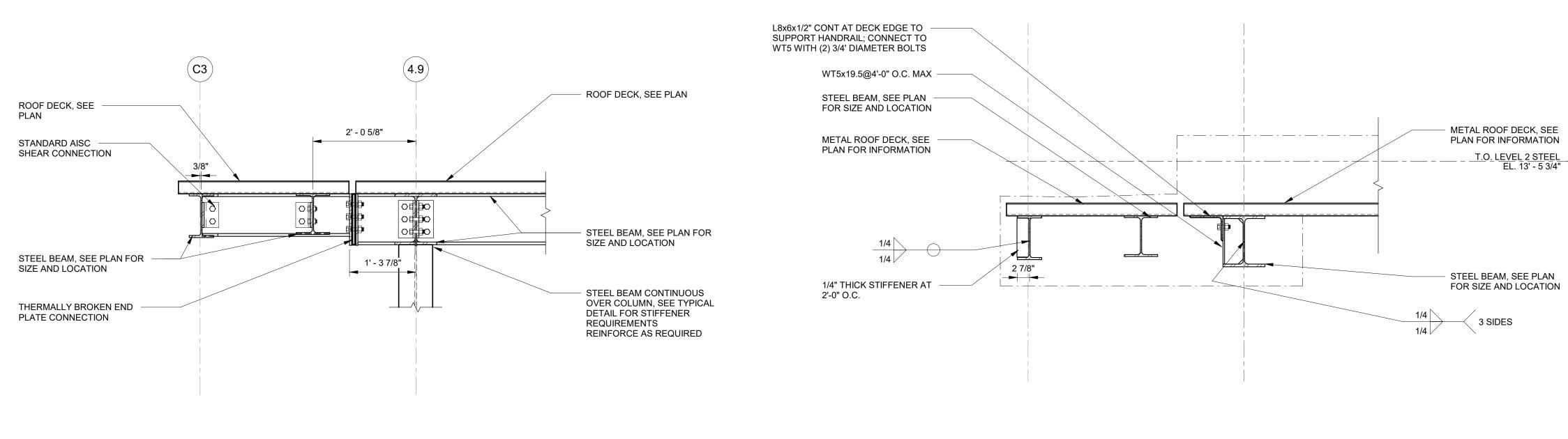




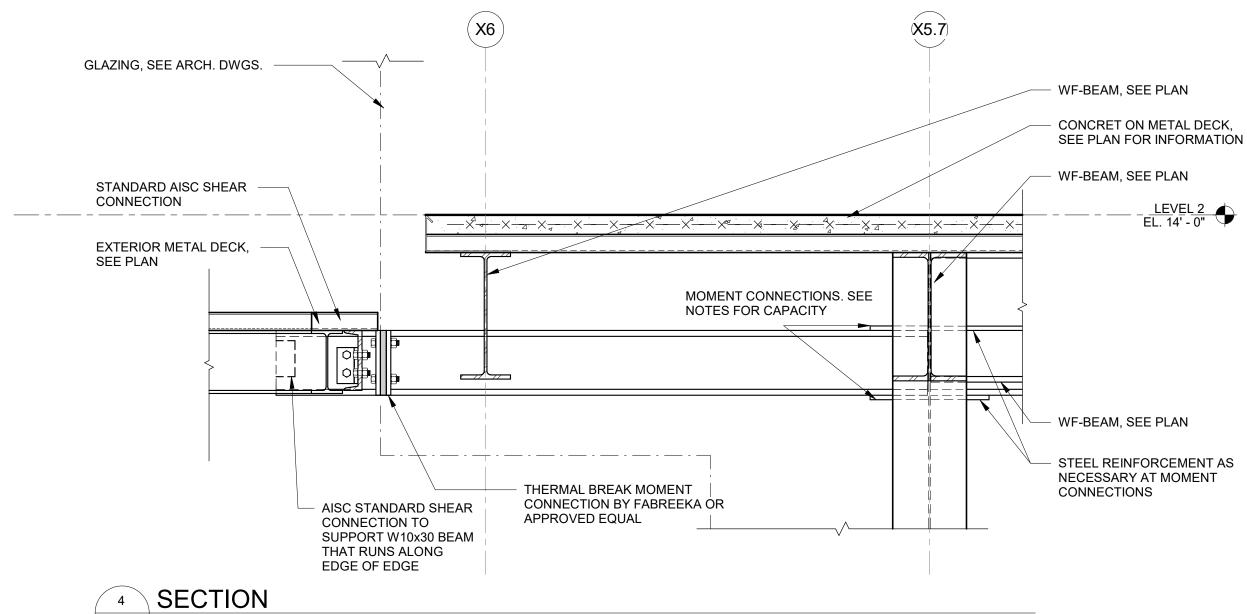




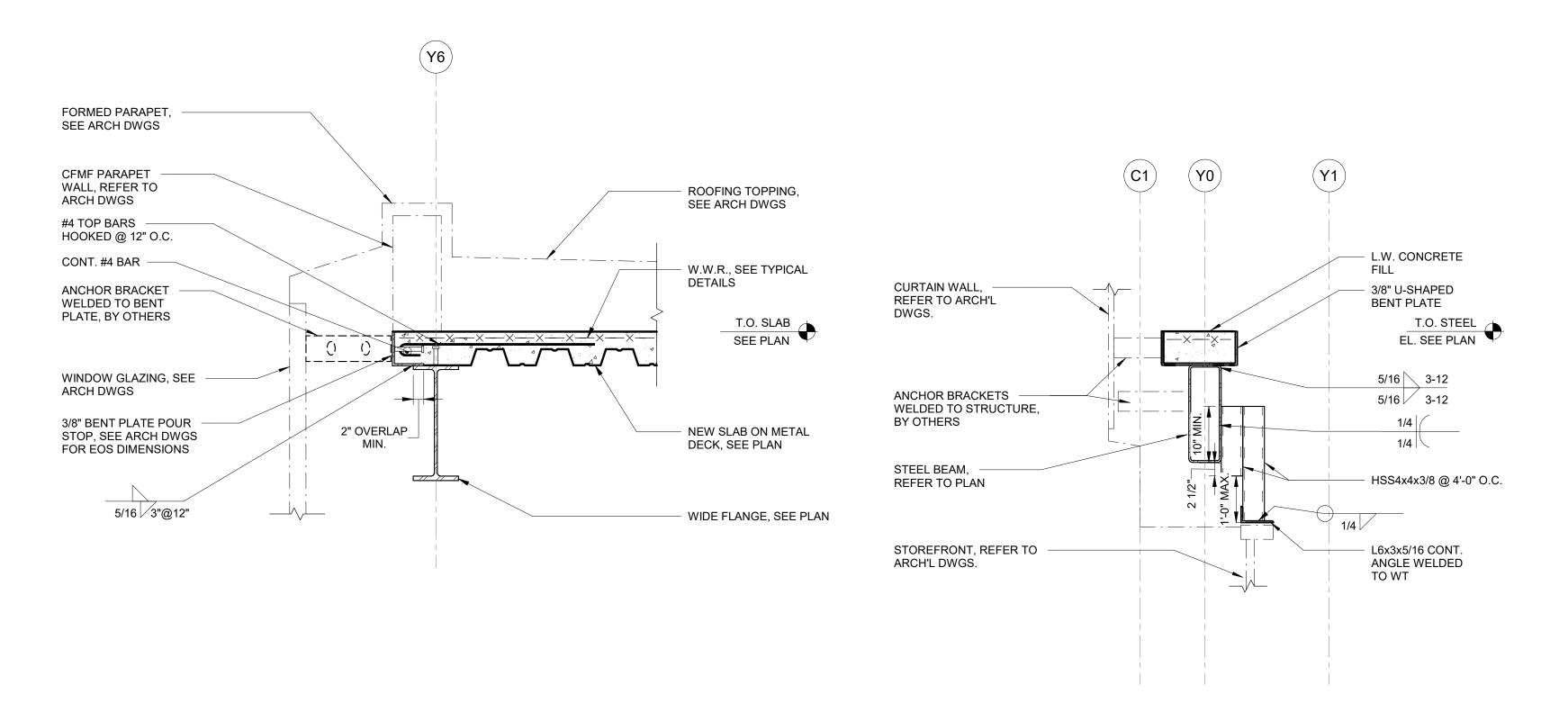
S-402 3/4" = 1'-0"





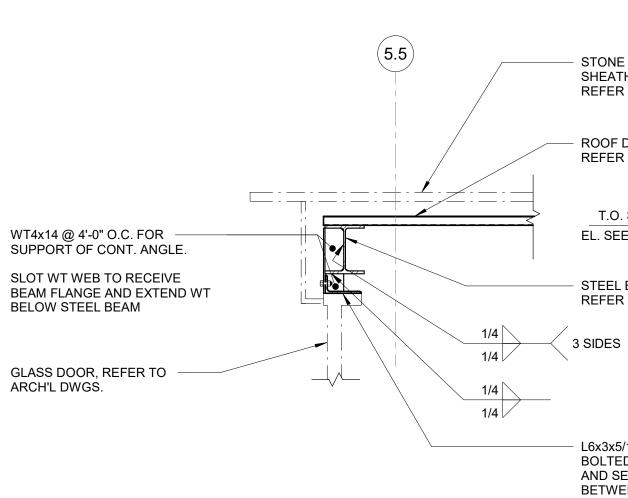


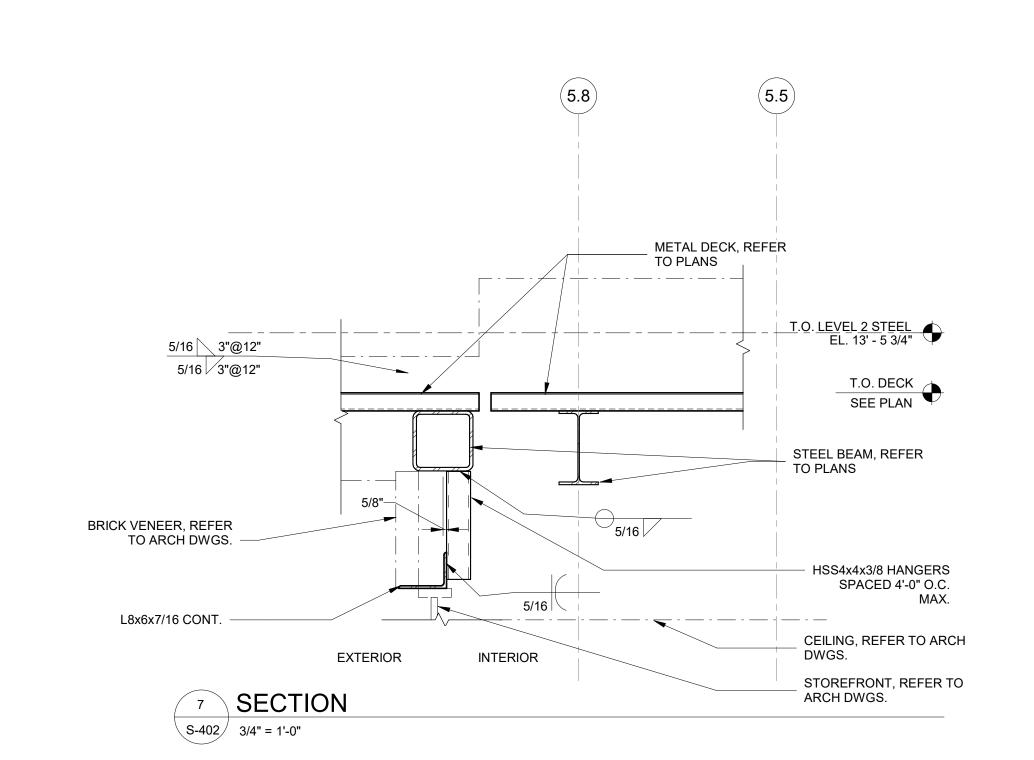
S-402 3/4" = 1'-0"



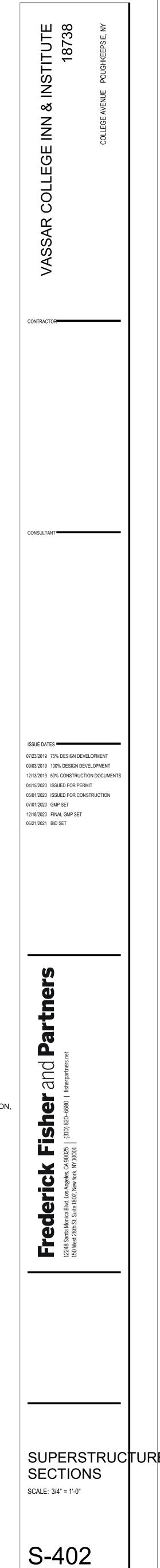
## 9 **SECTION** S-402 3/4" = 1'-0"







<u>T.O. LEVEL 2 STEEL</u> EL. 13' - 5 3/4"



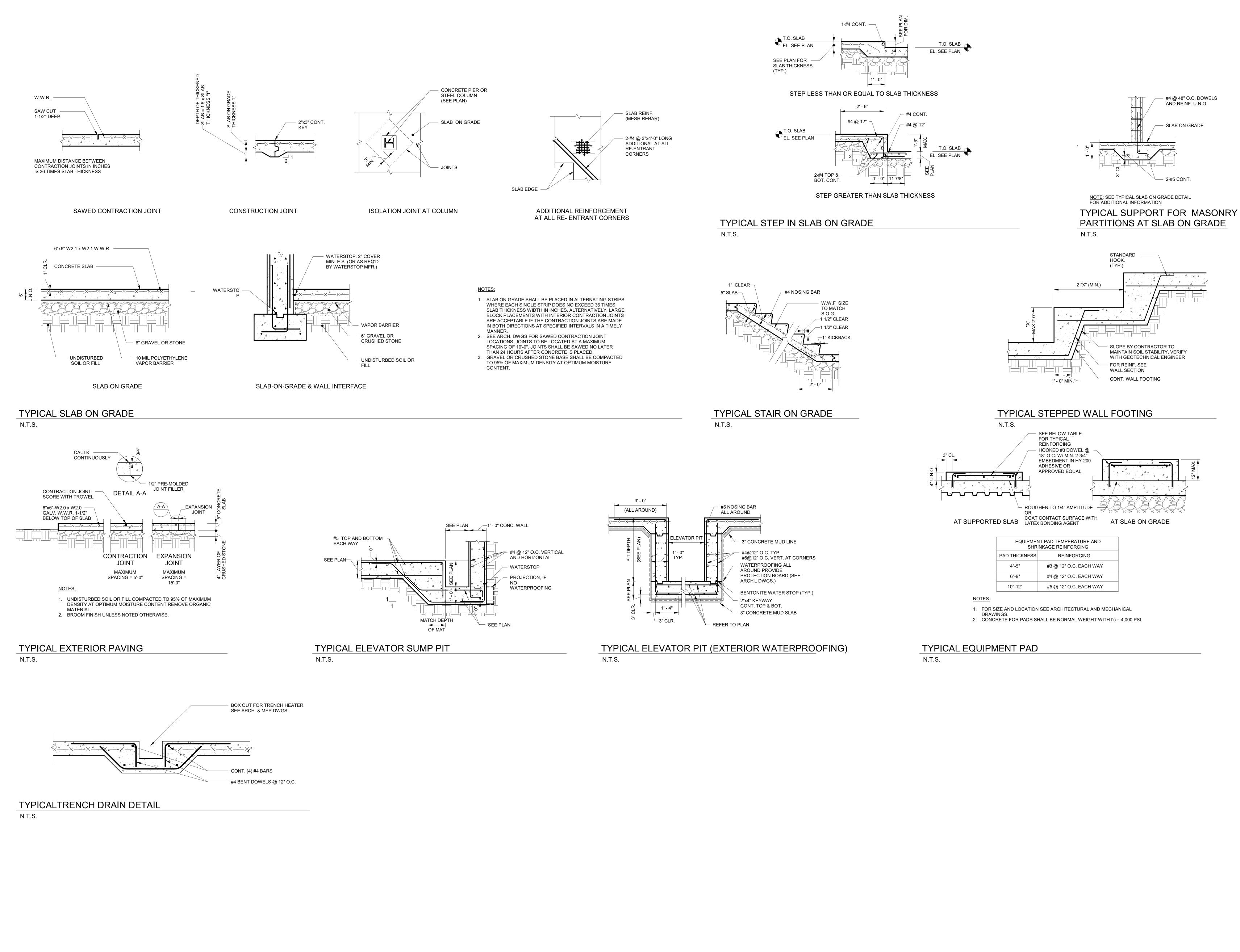
- STONE SLAB OVER SHEATHING AND INSULATION, REFER TO ARCH'L DWGS.

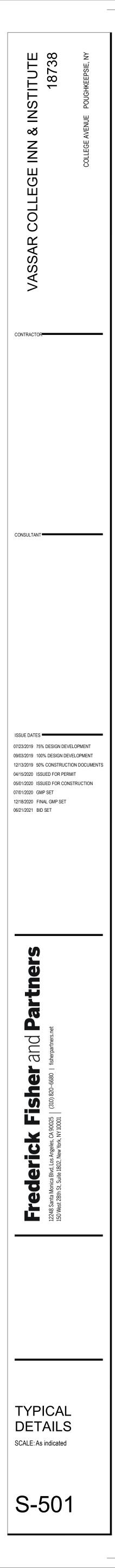
- ROOF DECK, REFER TO PLAN

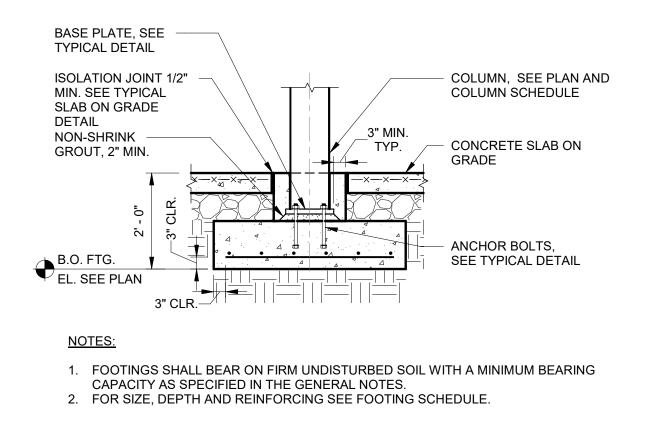
T.O. STEEL EL. SEE PLAN

STEEL BEAM,
 REFER TO PLAN

 L6x3x5/16 CONT. ANGLE
 BOLTED TO WT FLANGE AND SEGMENTED BETWEEN WT WEB

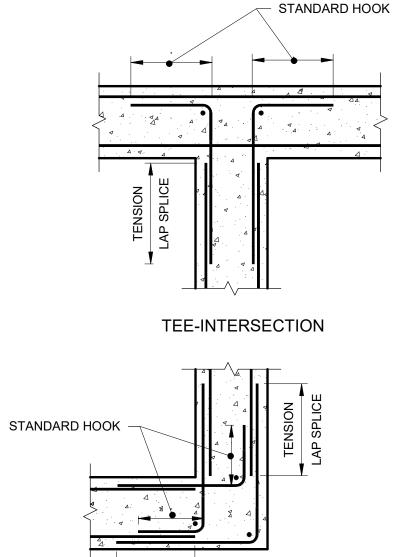


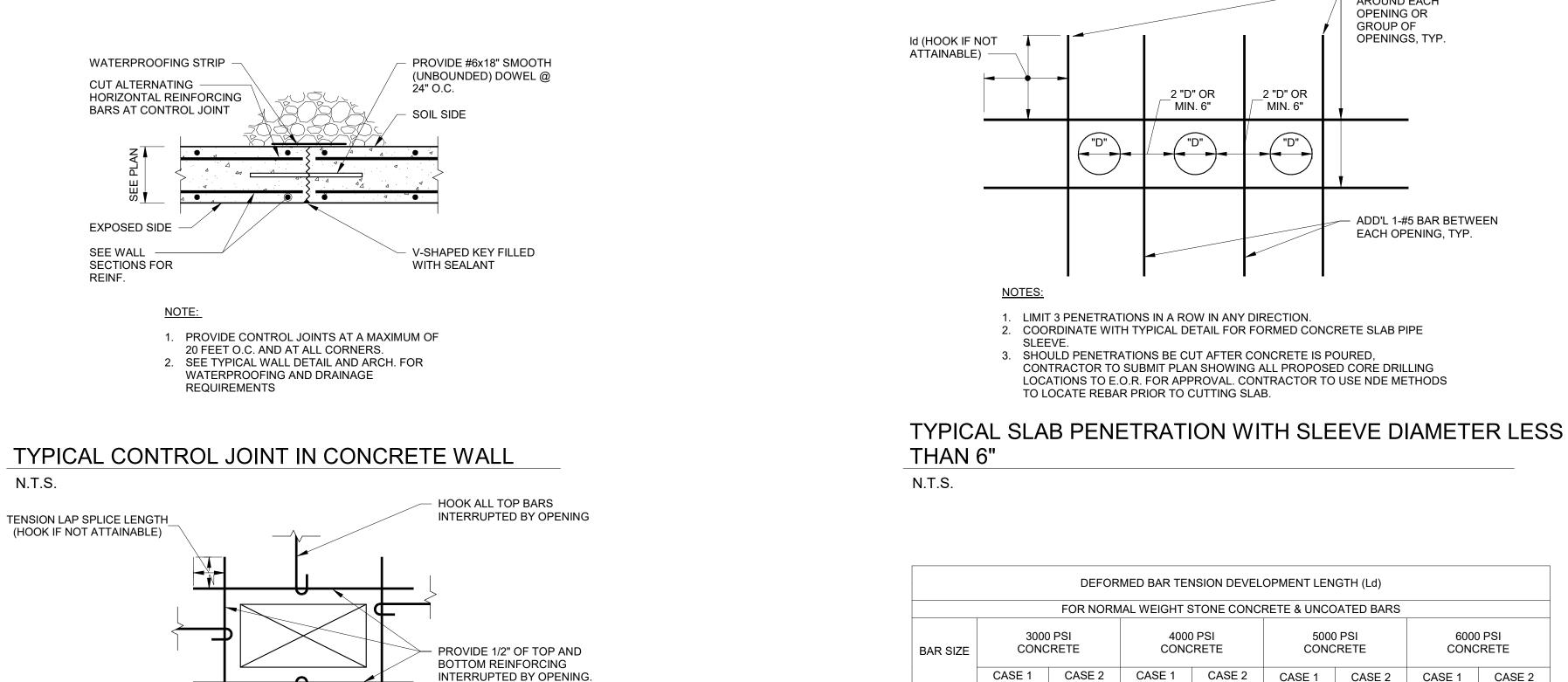












AT EACH SIDE OF OPENING

MINIMUM 1 - #5 TOP AND

BOTTOM EACH SIDE

NOTE: FOR TENSION LAP SPLICE LENGTH AND DEVELOPMENT LENGTH SEE TABLE.

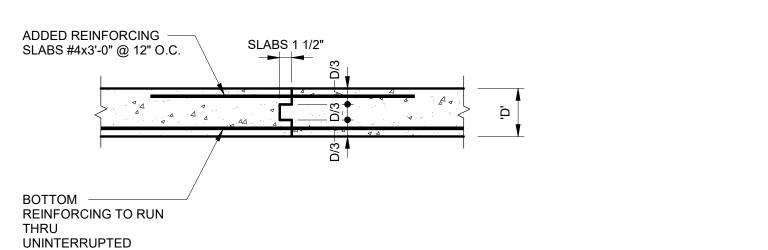
CORNER

TENSION

**-**

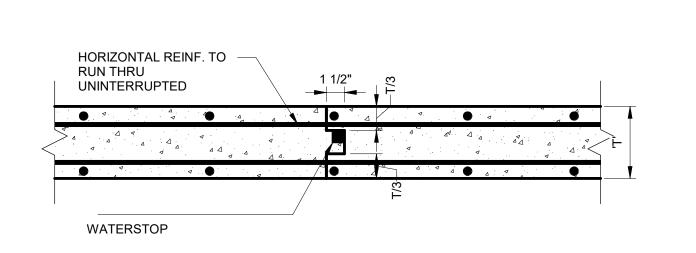
LAP SPLICE

#### **TYPICAL HORIZONTAL REINFORCEMENT AT CORNERS &** JUNCTIONS OF WALLS AND BEAMS N.T.S.



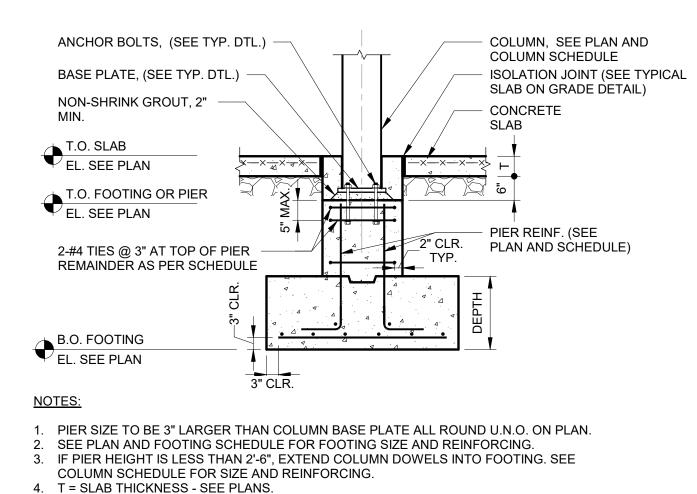
NOTE: PROVIDE PROPOSED JOINT LOCATION TO ENGINEER FOR REVIEW PRIOR TO CONCRETE POUR.

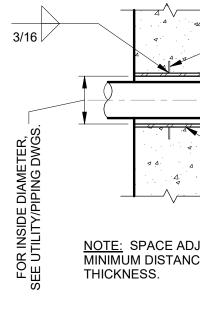
#### TYPICAL CONSTRUCTION JOINT IN FRAMED SLAB OR BEAM N.T.S.



NOTE: MAXIMUM POUR LENGTHS: FOUNDATION WALL = 80'-0"

#### TYPICAL CONSTRUCTION JOINT IN CONCRETE WALL N.T.S.

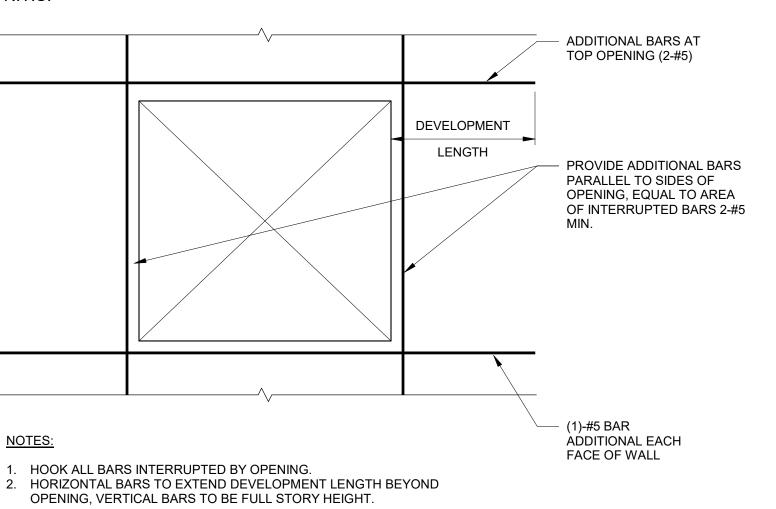




N.T.S.

## TYPICAL STEEL COLUMN/PIER AND FOOTING

#### TYPICAL ADDITIONAL REINFORCEMENT AT OPENING IN FRAMED SLAB N.T.S.



#### TYPICAL OPENING IN CONCRETE WALL N.T.S.

#### CONCRETE CASE 1 CASE 2 #3 17 25 #4 22 33 #5 28 42 #6 33 50 #7 48 #8 55 83 #9 93 62 #10 105 70 #11 116 78 DEFORMED TENSION BAR NOTES: 2. FOR EPOXY-COATED BARS: GIVEN. GREATER THAN 6X BAR DIAMETER, TENSION DEVELOPMENT LENGTH/ TENSION LAP SPLICE LENGTH SHALL BE 1.2X THE VALUES GIVEN.

CASE 1: CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN DB, CLEAR COVER NOT LESS THAN DB, AND STIRRUPS OR TIES THROUGHOUT LD NOT LESS THAN THE CODE MINIMUM OR CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED NOT LESS THAN 2DB AND CLEAR COVER NOT LESS THAN DB. CASE 2: OTHER CASES

	DE	
	FOR NOR	
3000 PSI CONCRETE		
CASE 1	CASE 2	
22	33	
29	43	
36	54	
43	65	
63	94	
72	107	
81	121	
91	136	
101	151	
	CONC CASE 1 22 29 36 43 63 72 81 91	

#### DEFORMED BAR COMPRESSION DEVE LENGTH (Ldc)

FOR NORMAL WEIGHT
UNCOATE

BAR SIZE	3000 PSI CONCRETE	4000 PSI CONCRETE	5000 F CONCR
#3	9	8	8
#4	11	10	9
#5	14	12	12
#6	17	15	14
#7	20	17	16
#8	22	19	18
#9	25	22	21
#10	28	25	23
#11	31	27	26

121	70	105	63	94	57	86		
136	79	118	71	106	64	96		
151	87	131	78	117	71	107		
							-	
PRESSIC GTH (Ldo	ON DEVELOPI :)	MENT			DEFORMED	BAR COMPR SPLICE	ESSION LAP	
HT STOM	NE CONCRET	Ε&		FOR NO	RMAL WEIGH	T STONE CON BARS	ICRETE & UN	COATED
00 PSI CRETE	5000 PSI CONCRETE	6000 PSI CONCRETE		BAR SIZE	3000 PSI CONCRETE	4000 PSI CONCRETE	5000 PSI CONCRETE	6000 PSI CONCRETE
8	8	8		#3	12	12	12	12
10	9	9		#4	15	15	15	15
12	12	12		#5	19	19	19	19
15	14	14		#6	23	23	23	23
17	16	16		#7	27	27	27	27
19	18	18		#8	30	30	30	30
22	21	21		#9	34	34	34	34
25	23	23		#10	39	39	39	39
27	26	26		#11	43	43	43	43

DEFORMED BAR TENSION LAP SPLICE - CLASS B R NORMAL WEIGHT STONE CONCRETE & UNCOATED BARS 6000 PSI 4000 PSI 5000 PSI CONCRETE CONCRETE CONCRETE ASE 2 CASE 1 CASE 2 CASE 1 CASE 2 CASE 1 CASE 2 17 19 28 25 16 23 25 37 23 34 47 28 42 26 31 34 50 37 56 31 46 73 45 54 81 49 67 83 62 93 56 51 76 136

DIAMETER, TENSION DEVELOPMENT LENGTH/ TENSION LAP SPLICE LENGTH SHALL BE 1.5X THE VALUES

B. WHERE CONCRETE COVER IS EQUAL TO OR GREATER THAN 3X BAR DIAMETER AND CLEAR SPACING IS

A. WHERE CONCRETE COVER IS LESS THAN 3X BAR DIAMETER, OR CLEAR SPACING IS LESS THAN 6X BAR

DEVELOPMENT LENGTH/ TENSION LAP SPLICE LENGTH SHALL BE 1.3X THE VALUES GIVEN.

1. FOR HORIZONTAL REINFORCEMENT WITH 12 INCH OR MORE FRESH CONCRETE CAST BELOW IT, TENSION

22 24 36 32 20 30 29 43 26 39 24 35 42 38 56 34 63 64 48 72 43 39 54 48 44 81 72 66 61 91 54 81 67 101 60 90

13

17

20

26

12

16

18

24

FOR NORMAL WEIGHT STONE CONCRETE & UNCOATED BARS 4000 PSI 5000 PSI 6000 PSI CONCRETE CONCRETE CONCRETE CASE 1 CASE 2 CASE 1 CASE 2 CASE 1 CASE 2

22

29

15

19

					OPENING OR GROUP OF OPENINGS, TYP.
		2 "D" OR /MIN. 6"	2 "D" OR /MIN. 6"		1
	"D"				1
					— ADD'L 1-#5 BAR BETWEEN EACH OPENING, TYP.
NOTES:	•			-	
1. LIMIT 3 F	PENETRATION	S IN A ROW IN ANY	DIRECTION.		

- ADD'L 1-#5 BAR AROUND EACH

## TYPICAL PIPE SLEEVE IN CONCRETE WALL

#### TYPICAL PIPE SLEEVE IN CONCRETE SLAB N.T.S.

GREATER.)

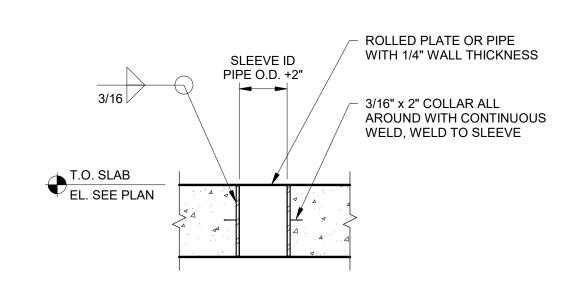
## <u>NOTE:</u> SPACE ADJACENT TO PIPE SLEEVES A MINIMUM DISTANCE APART. EQUAL TO WALL

₽IPE ROLLED PLATE OR PIPE WITH 1/4" MIN. WALL THK.

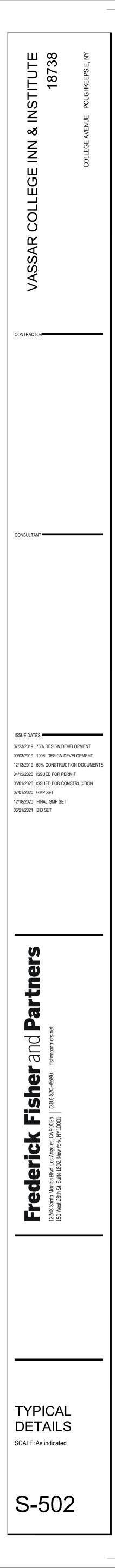
- CONC. WALL

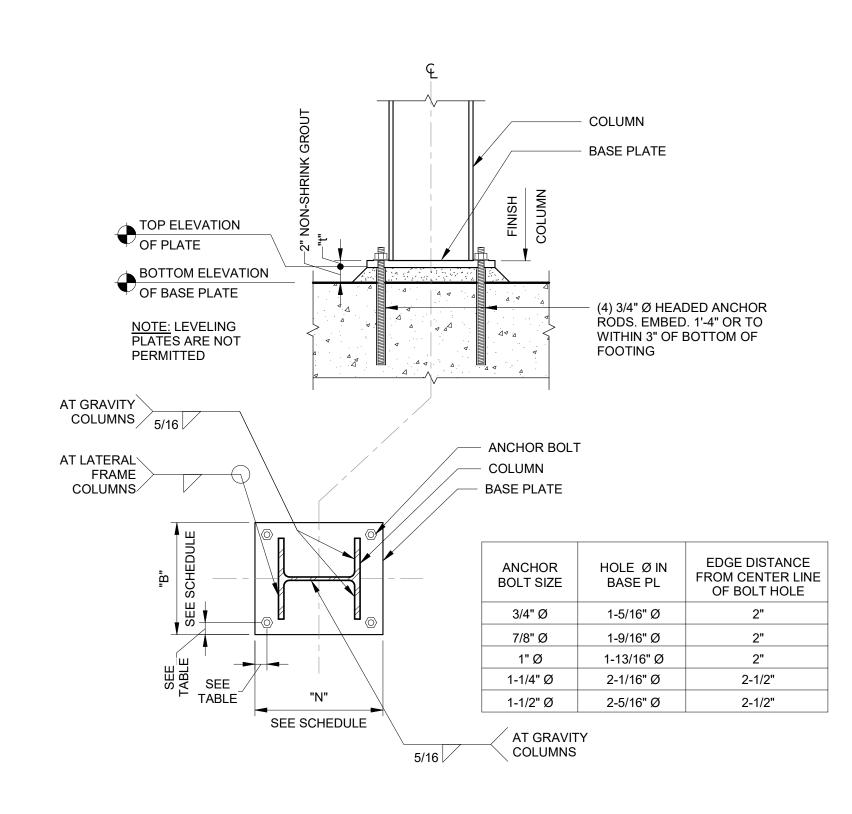
ALL AROUND

3/16" x 2" COLLAR

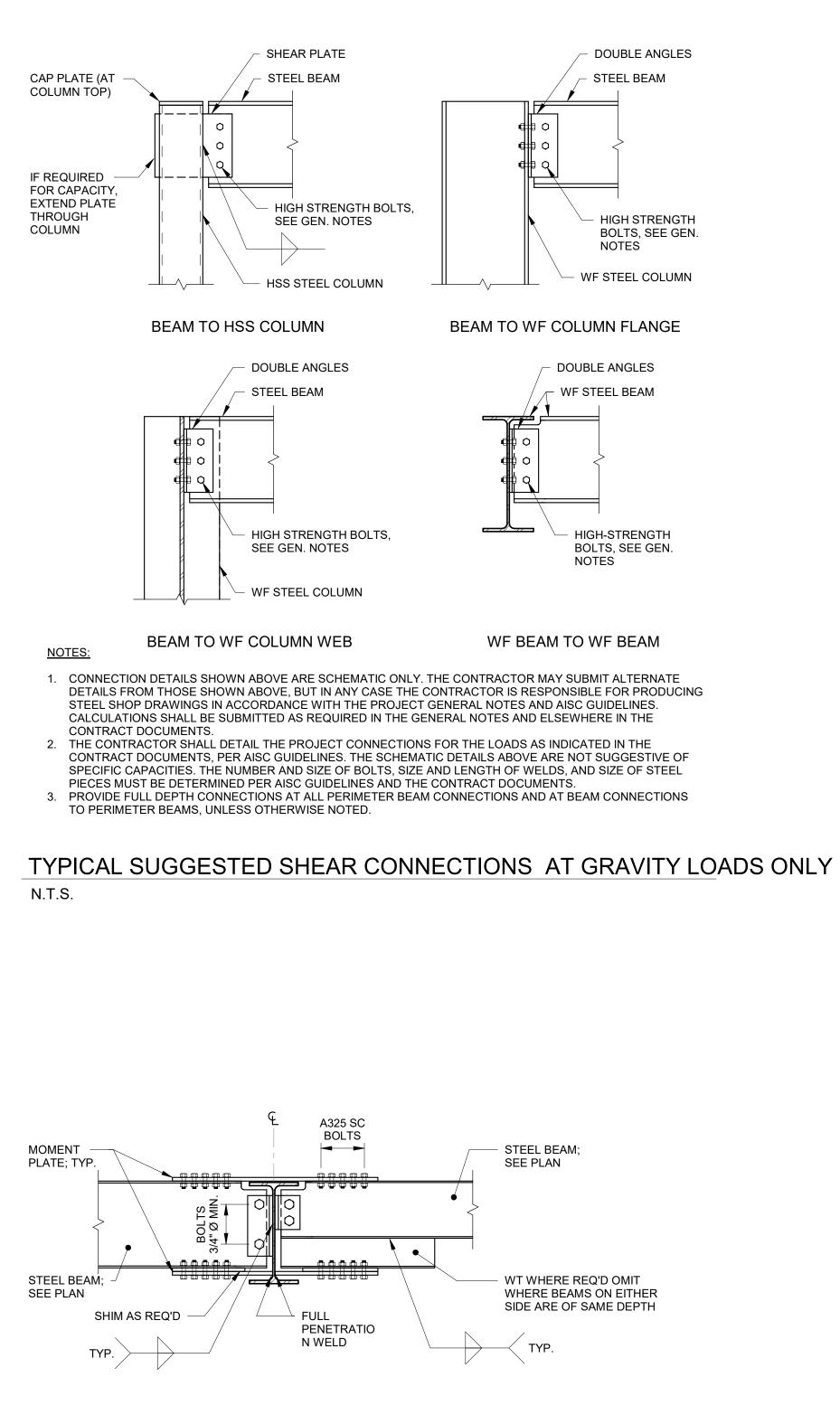


<u>NOTE:</u> PROVIDE SPACE BETWEEN PIPE AND/ OR OPENINGS A MINIMUM 6" OR PIPE SLEEVE DIAMETER APART (WHICHEVER IS

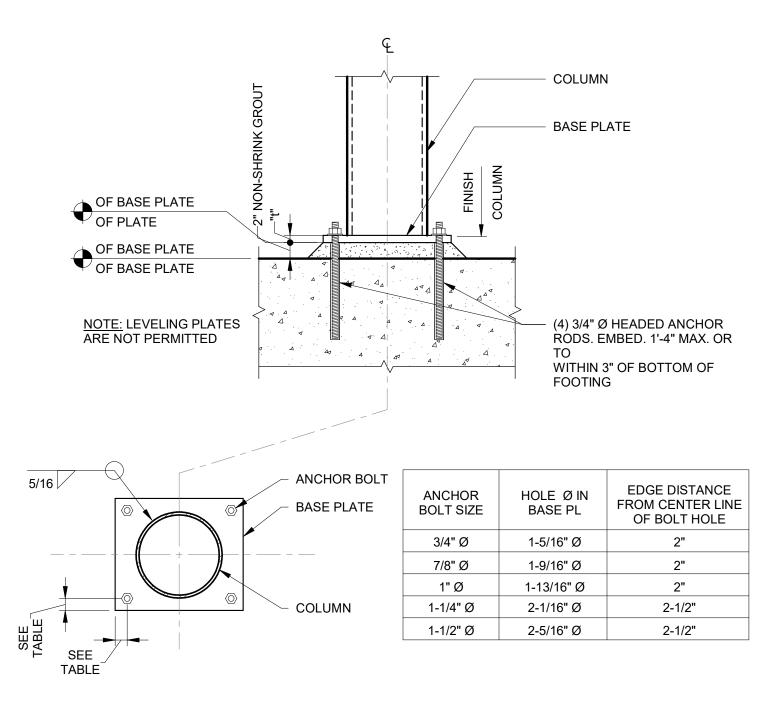




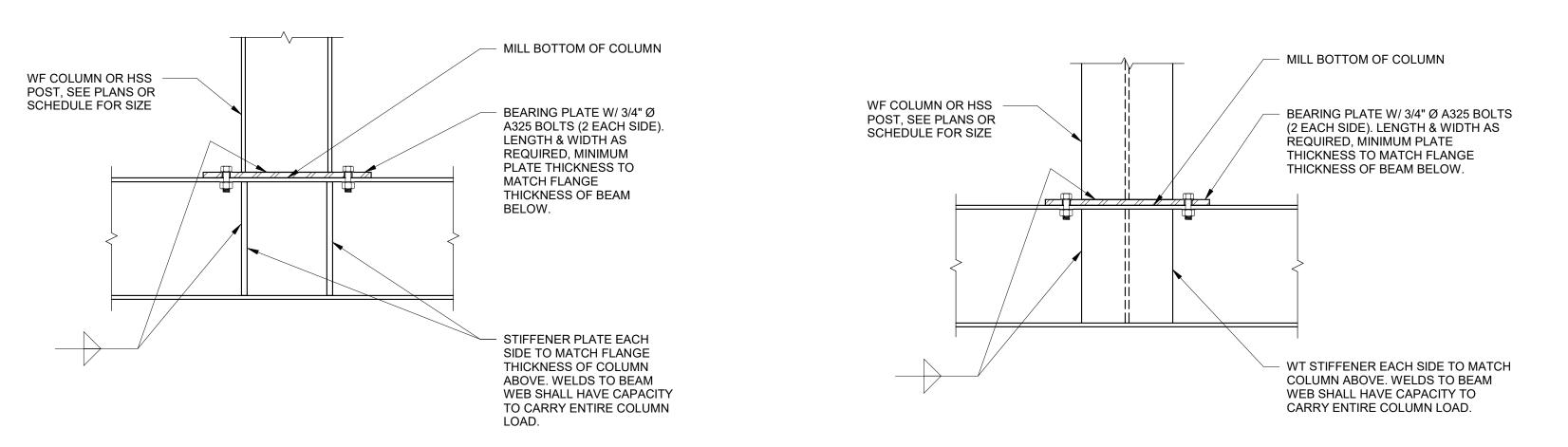




N.T.S.







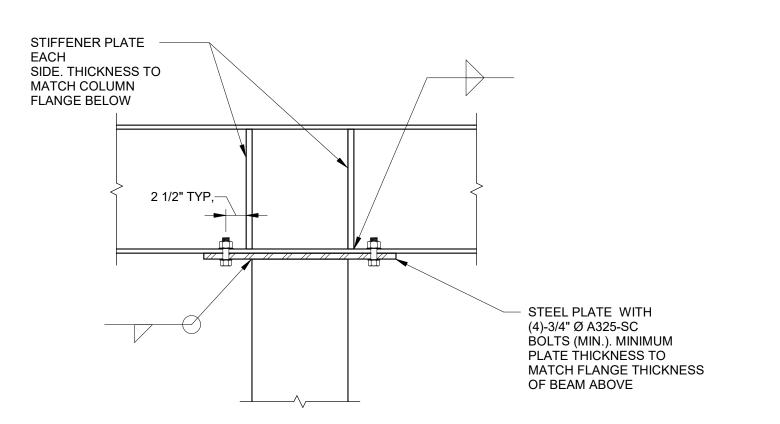
N.T.S.

WT SAME SIZE AS -COLUMN SECTION

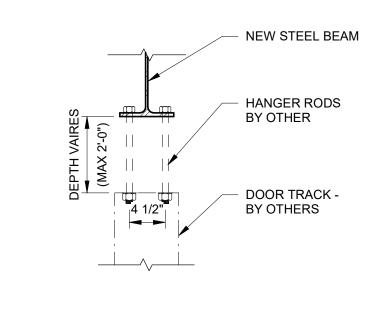
EACH SIDE

#### TYPICAL STIFFENER PLATE AT BEAM-SUPPORTED COLUMN (PARALLEL WEBS)

N.T.S.



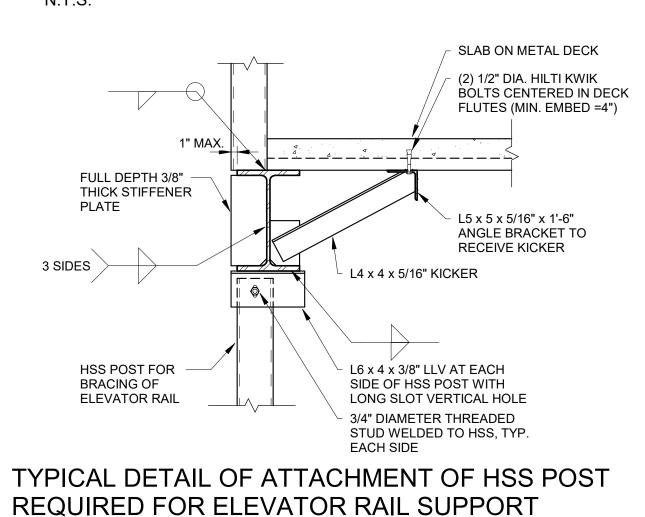
#### TYPICAL BEAM CONTINUOUS OVER COLUMN (PARALLEL WEBS) N.T.S.



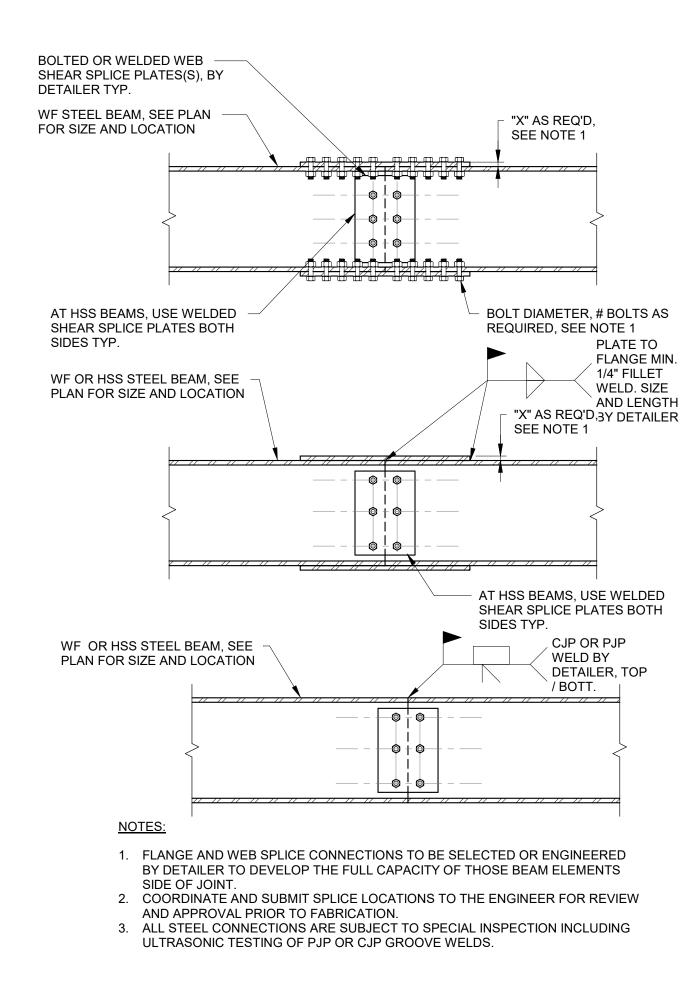
STEEL BEAM DESIGN ASSUMES 4 1/2" GAGE BETWEEN RODS SUPPORTING FOLDED PARTITION TRACK. WIDER ROD SPACING MIGHT REQUIRE BEAMS WITH WILDER FLANGES TO MEET BOLT EDGE DISTANCE REQUIREMENTS. CONTRACTOR TO COORDINATE.

# 

## (PERPENDICULAR WEBS) N.T.S.



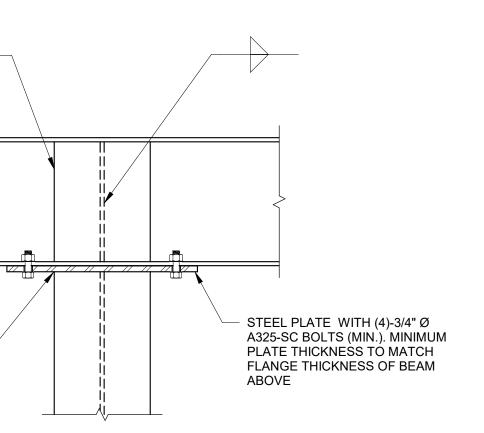
# N.T.S.



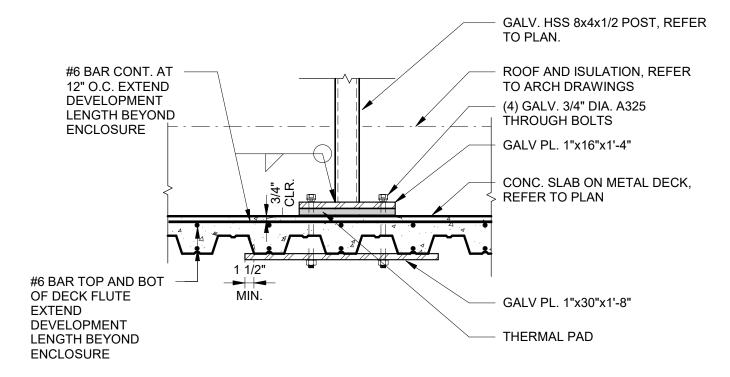


N.T.S.

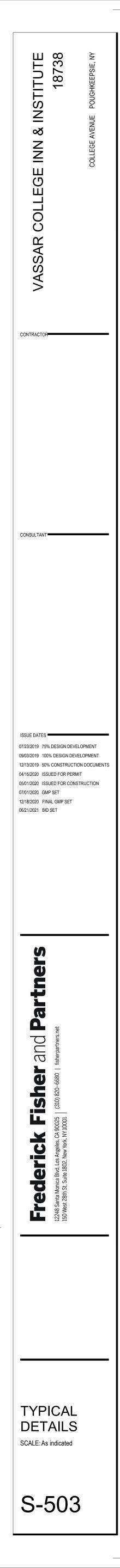


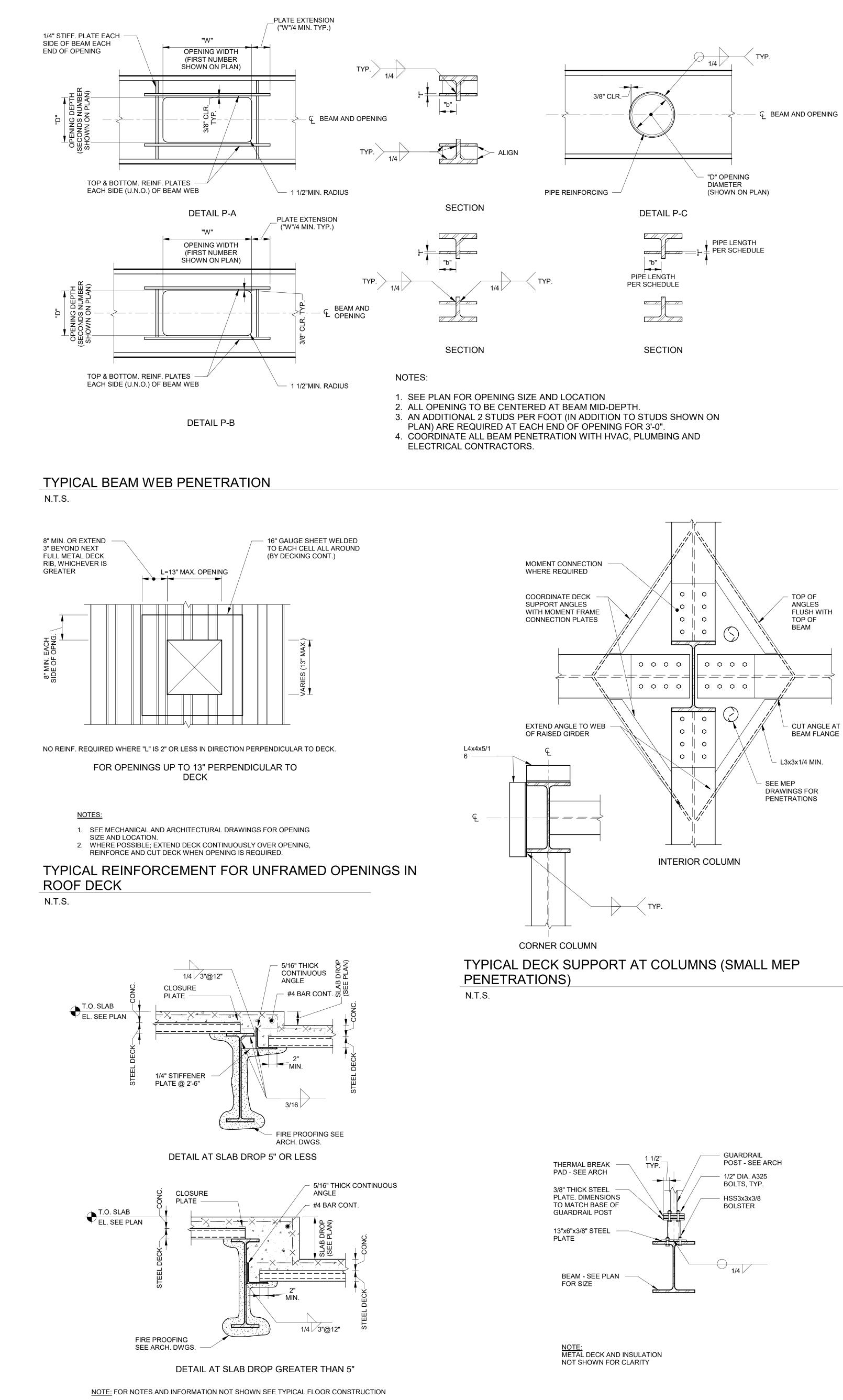


TYPICAL BEAM CONTINUOUS OVER COLUMN

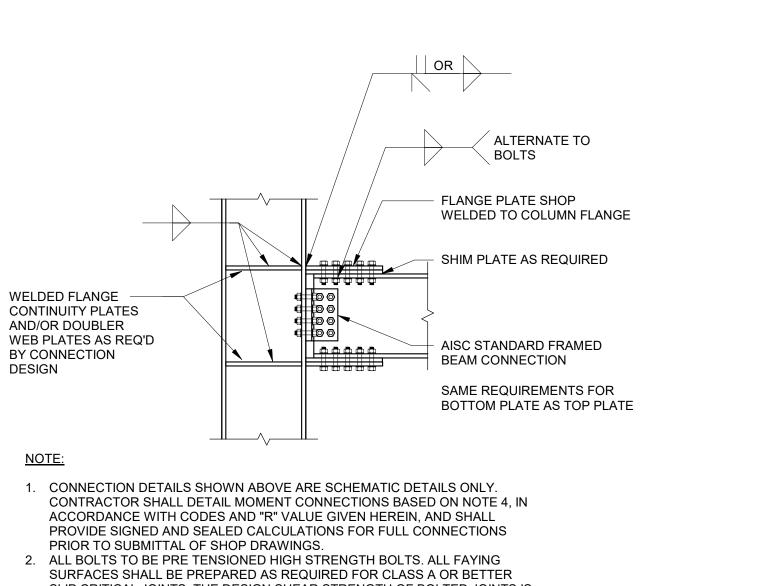


TYPICAL MEP ENCLOSURE POST ANCHORAGE N.T.S.





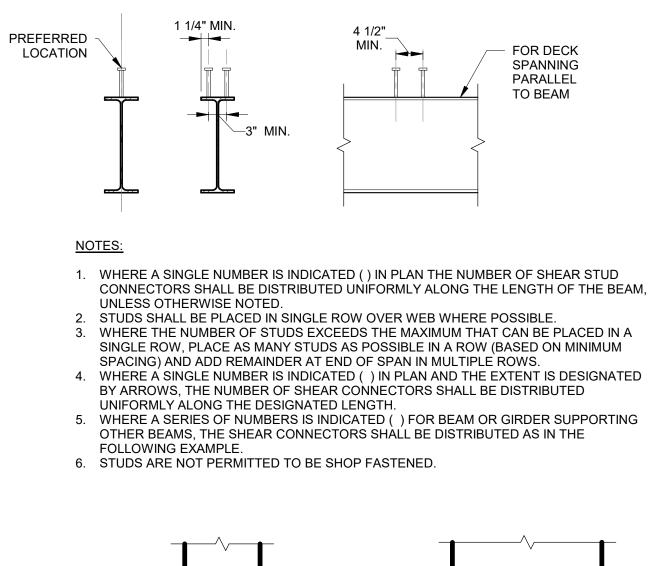


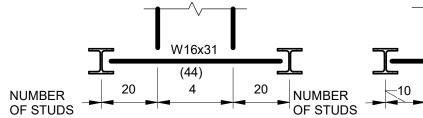


- SLIP CRITICAL JOINTS. THE DESIGN SHEAR STRENGTH OF BOLTED JOINTS IS PERMITTED TO BE CALCULATED AS THAT FOR BEARING TYPE JOINTS. 3. PROVIDE BOLTED CONNECTION IN WEB FOR BEAM REACTION PER GENERAL
- NOTES OR FRAME ELEVATIONS OR PLAN. 4. 4A - SEE TYPICAL LATERAL FRAME ELEVATION LEGEND FOR INFORMATION ON CONNECTION DESIGN FORCES. PROVIDE CONTINUITY AND/OR DOUBLER
- PLATES IF NECESSARY. 5. 4B - DESIGN CONNECTION FOR FULL PLASTIC CAPACITY OF BEAM AND VERIFY PANEL ZONE STRENGTH OF COLUMN IS NOT EXCEEDED. PROVIDE

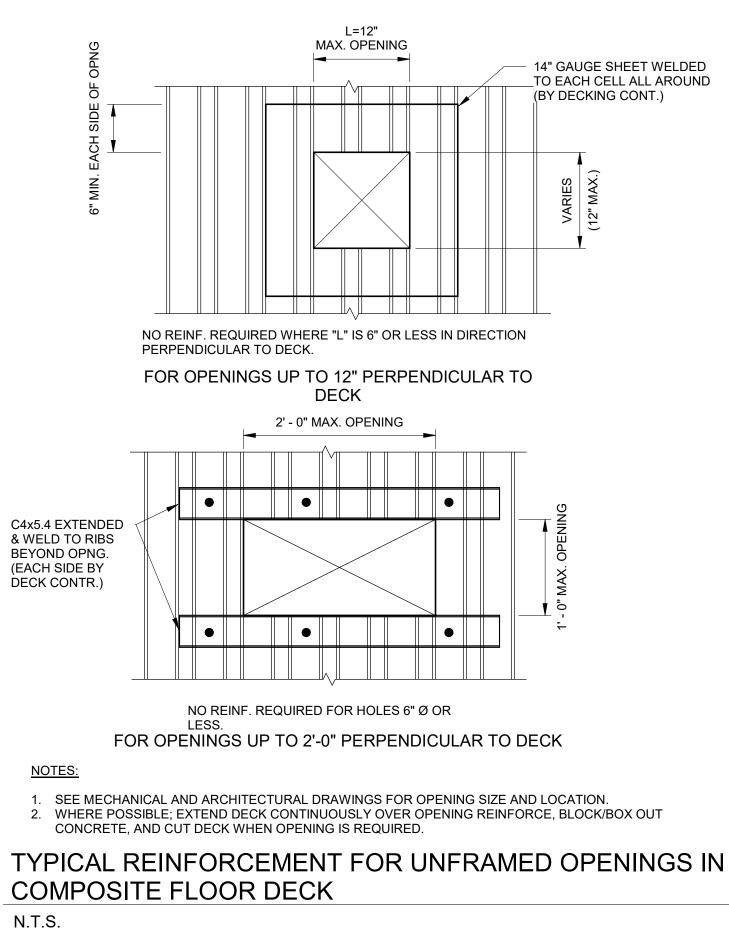
CONTINUITY AND/OR DOUBLER PLATES IF NECESSARY.

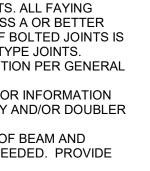
#### TYPICAL COLUMN FLANGE MOMENT CONNECTION (R=3) N.T.S.

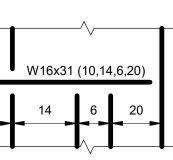


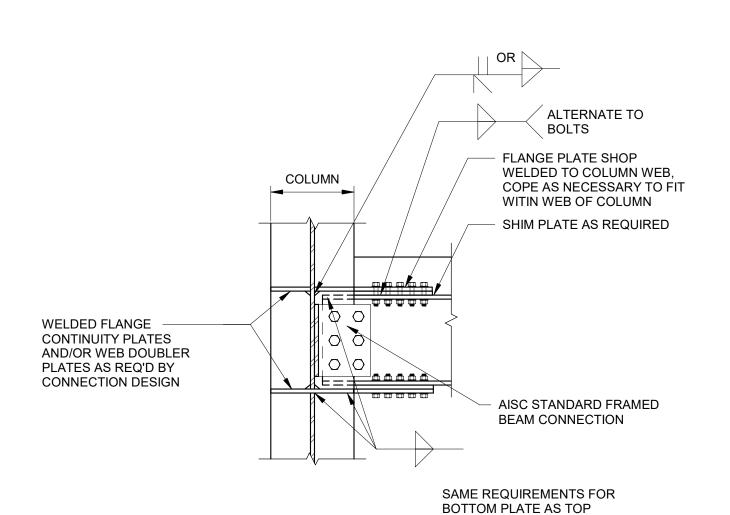


#### TYPICAL SHEAR STUD CONNECTORS AT COMPOSITE BEAMS N.T.S.









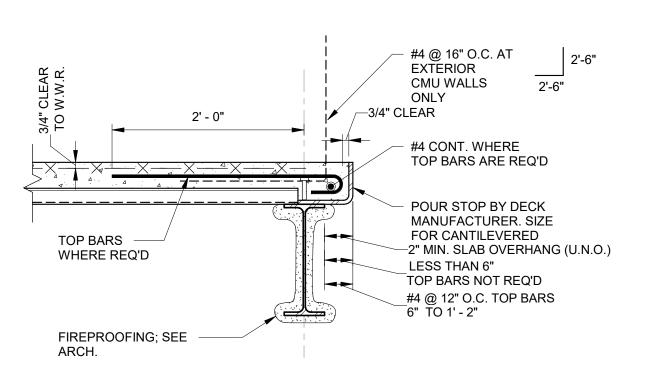
NOTE:

1. CONNECTION DETAILS SHOWN ABOVE ARE SCHEMATIC DETAILS ONLY. CONTRACTOR SHALL DETAIL MOMENT CONNECTIONS BASED ON NOTE 4, IN ACCORDANCE WITH CODES AND "R" VALUE GIVEN HEREIN, AND SHALL PROVIDE SIGNED AND SEALED CALCULATIONS FOR FULL CONNECTIONS PRIOR TO SUBMITTAL OF SHOP DRAWINGS

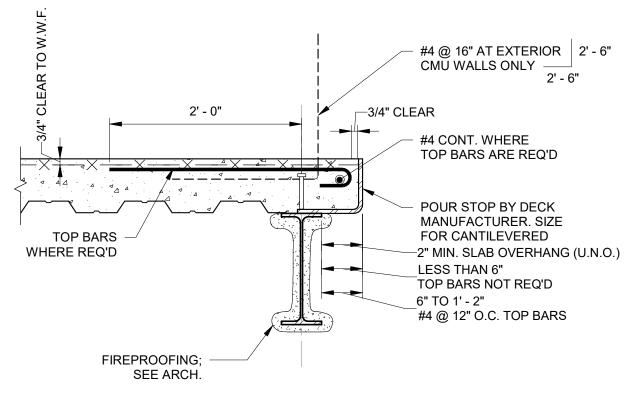
PLATE

- 2. ALL BOLTS TO BE PRE TENSIONED HIGH STRENGTH BOLTS. ALL FAYING SURFACES SHALL BE PREPARED AS REQUIRED FOR CLASS A OR BETTER SLIP CRITICAL JOINTS. THE DESIGN SHEAR STRENGTH OF BOLTED
- JOINTS IS PERMITTED TO BE CALCULATED AS THAT FOR BEARING TYPE JOINTS. 3. PROVIDE BOLTED CONNECTION IN WEB FOR BEAM REACTION PER GENERAL NOTES OR FRAME ELEVATIONS OF PLAN.
- 4. 4A SEE TYPICAL LATERAL FRAME ELEVATION LEGEND FOR INFORMATION ON CONNECTION DESIGN FORCES. PROVIDE CONTINUITY AND/OR DOUBLER PLATES IF NECESSARY. 5. 4B - DESIGN CONNECTION FOR FULL PLASTIC CAPACITY OF BEAM AND VERIFY PANEL ZONE STRENGTH OF COLUMN IS NOT EXCEEDED. PROVIDE CONTINUITY AND/OR DOUBLER PLATES IF NECESSARY.

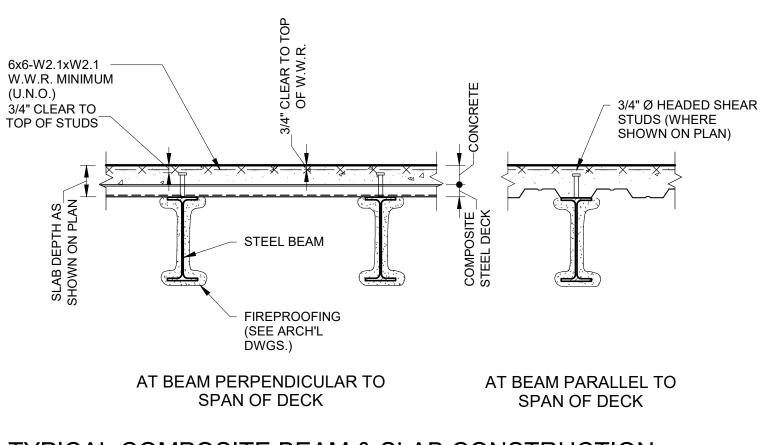
#### TYPICAL COLUMN WEB MOMENT CONNECTION (R=3) N.T.S.



#### TYPICAL COMPOSITE FLOOR DECK PERPENDICULAR EDGE CONDITION N.T.S.

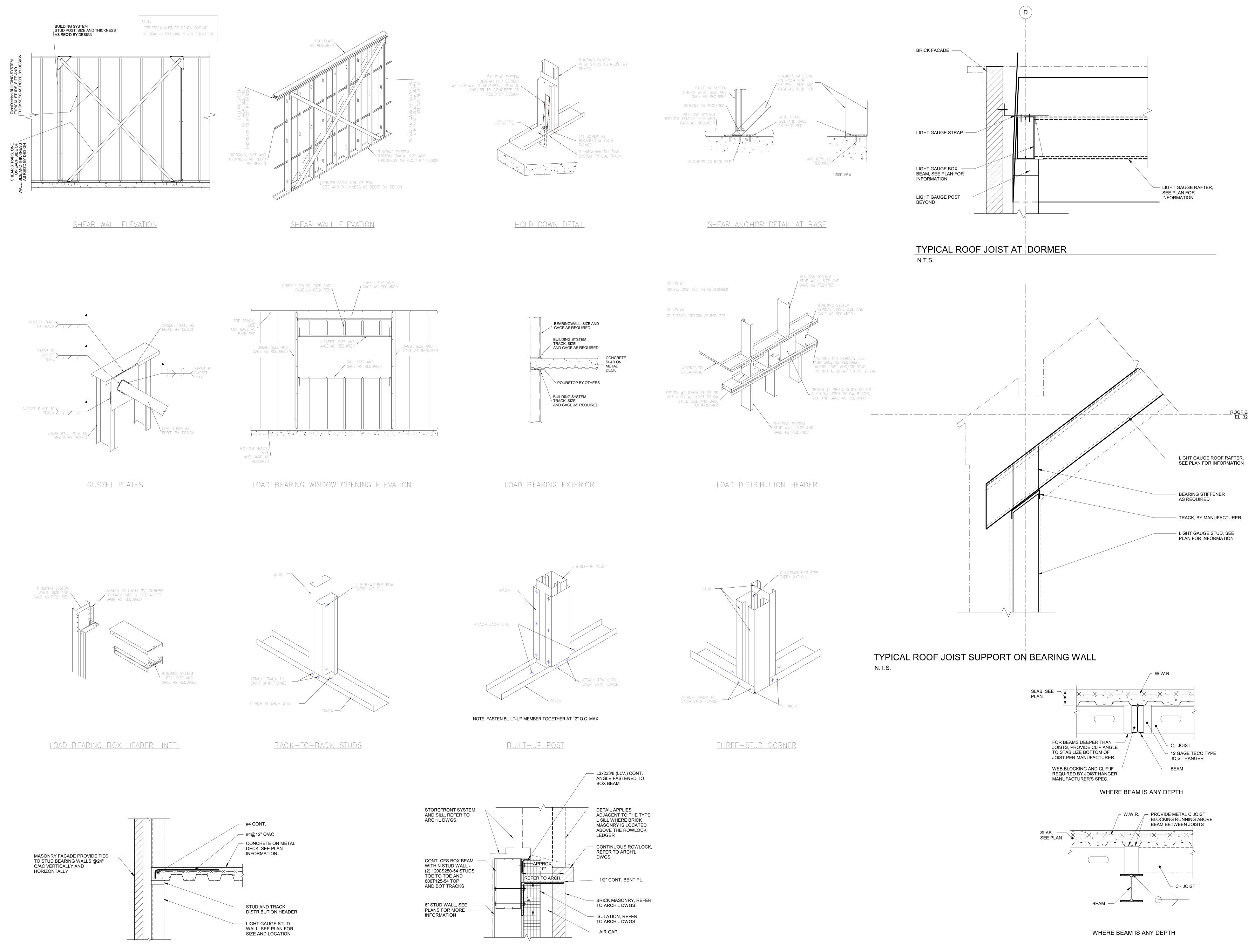


### TYPICAL COMPOSITE FLOOR DECK PARALLEL EDGE CONDITION N.T.S.



**TYPICAL COMPOSITE BEAM & SLAB CONSTRUCTION** N.T.S.

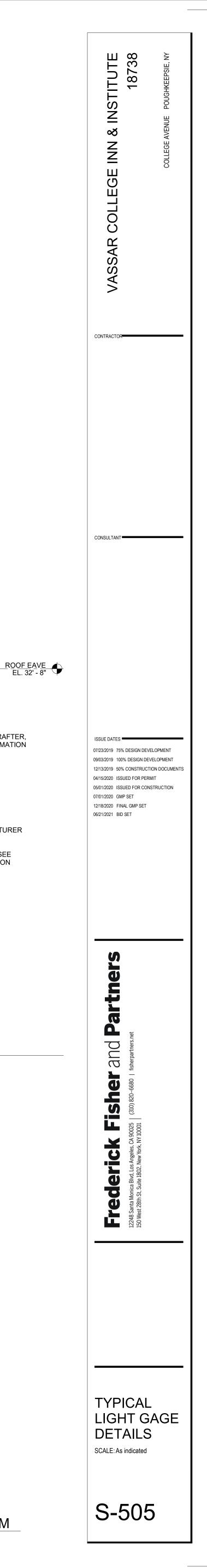




TYPICAL DETAIL EXTERIOR BEARING WALL AT INN

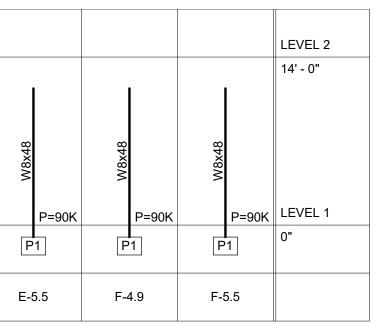
N.T.S.

TYPICAL BENT PL. CONNECTION TO BOX BEAM (TYPE L) N.T.S.



$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.       No.     No.     No.     No.     No.     No.     No.     No.     No.
LEVEL 2       I       I       I       LEVEL 2         14'-0'       I       I       I       I       I         14'-0'       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I         I       I       I       I       I       I       I         I       I       I       I       I       I       I         I       I       I       I       I       I       I         I       I       I       I       I       I       I         I <td></td>	
RCOP INSTITUTE         Image: second sec	80       80       1       1       1       28' - 0 1/8"         80       1       1       1       1       1       28' - 0 1/8"         80       1       1       1       1       1       1       28' - 0 1/8"         80       1       1       1       1       1       1       1       1         80       1       1       1       1       1       1       1       1       1         80       1
NOCE INSTITUTE       I	
LEVEL 2       Image: second seco	BEAM WEB PENETRATION SCHEDULE           SIZE         PENETRATION           MARK         WIDTH         DEPTH         DIAMETER         REINFORCING         THICKNESS "I"         PENETRATION           WP-1         1"         1"         +1-1/2"         +11-1/2"         +11-1/2"
FOOTING SCHEDULE         PIER SCHEDULE         NARK STORT WATCH RENFORCEMENT         ANARK STORT WATCH RENFORCEMENT         PIER SCHEDULE         NARK STORT WATCH RENFORCEMENT         ANARK STORT WATCH RENFORCEMENT         PIER SCHEDULE         NARK STORT WATCH RENFORCEMENT         NARK STORT WATCH RENFORCEMENT         NARK STORT WATCH RENFORCEMENT         PIER SCHEDULE         NARK STORT WATCH RENFORCEMENT         NA	COLD FORMED WALL SCHEDULE           MARK         WIDTH         STUD         SPACING         REMARKS           CFW3.6         3 5/8"         3 5/8 J 16         16" O.C.         14 GAUGE AT FIRST FLOOR           CFW3.6x2         8 1/4"         (2) 3 5/8 J 16         16" O.C.         14 GAUGE AT FIRST FLOOR           CFW5.5         5 1/2"         5 1/2 J 16         16" O.C.         14 GAUGE AT FIRST FLOOR           CFW6         6"         6 J 16         16" O.C.         14 GAUGE AT FIRST FLOOR           CFW6         6"         6 J 16         16" O.C.         14 GAUGE AT FIRST FLOOR           CFW6         6"         6 J 16         16" O.C.         14 GAUGE AT FIRST FLOOR           SLAB/DECK SCHEDULE           MARK         TOTAL DEPTH         COMPOSITION/REINFORCEMENT           R1.5         1 1/2"         COMPOSITION/REINFORCEMENT           R3         3" 3" DEEP 16 GAGE ROOF DECK         S1           S1         6 1/4"         3 14" LW CONCRETE ON 3" DEEP 18 GAGE COMPOSITE DECK. REINFORCE WITH 6x6 - W1.4xW1.4           S2         1'-0"         SEE TYPICAL DETAILS FOR REINFORCEMENT           S0G         5"         SEE TYPICAL DETAILS FOR REINFORCEMENT

		COLE	FORMED W	ALL SCHED
	MARK	WIDTH	STUD	SPACING
	CFW3.6	3 5/8"	3 5/8 J 16	16" O.C.
	CFW3.6x2	8 1/4"	(2) 3 5/8 J 16	16" O.C.
	CFW5.5	5 1/2"	5 1/2 J 16	16" O.C.
	CFW6	6"	6 J 16	16" O.C.
1				
		:	SLAB/DECK	SCHEDULE
	MARK	TOTAL DEPTH	C	OMPOSITION/RE
	R1.5	1 1/2"		
	R3	3"	3" DEEP 16 GAC	SE ROOF DECK
	S1	6 1/4"		RETE ON 3" DEI RCE WITH 6x6 - V
	S2	1' - 0"	SEE TYPICAL D	ETAILS FOR RE
	SOG	5"	SEE TYPICAL D	ETAILS FOR RE



LOCATION MARK B.8-4	COLUMN SECTION HSS5X5X1/2	BP TYPE BP2	LEVEL LEVEL 1	GROUT THICKNESS 2"	BOTTOM OF PLATE -10"	REMAR
B.8-6	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
B.8-6.5	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
C1-C3	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C1-CA	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C1-CB	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C1-CC	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C1-CC	HSS4.000x0.313	BP2 BP2	LEVEL 1	2"	-10"	
				2"		
C2-CA	HSS4.000x0.313	BP2	LEVEL 1		-10"	
C2-CB	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C2-CC	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C2-CD	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C3-CE	HSS4.000x0.313	BP3	LEVEL 1	2"	-10"	
C3-CF	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C3-E	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C4-CE	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C4-CF	HSS4.000x0.313	BP2	LEVEL 1	2"	-10"	
C4-E	HSS4.000x0.313	BP2	LEVEL 1	2"	-4"	
C-4	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
C-6	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
C.2-2.5	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
C.3-6	HSS6X6X1/2	BP2	LEVEL 1	2"	-10"	
C.3-6.5	HSS6X6X1/2	BP2	LEVEL 1	2"	-10"	
C.3-7	HSS6X6X1/2	BP2	LEVEL 1	2"	-10"	
D-2.5	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
D-2.0	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
D-4.8	HSS6X6X1/2	BP2 BP2	LEVEL 1	2"	-10"	
D-4.8 D-5.3	HSS5X5X1/2	BP2 BP2	LEVEL 1	2"	-10"	
D-5.6	HSS5X5X1/2	BP2 BP2	LEVEL 1	2"	-10"	
D-6	HSS6X6X1/2	BP2	LEVEL 1	2"	-10"	
D-7	HSS6X6X1/2	BP2	LEVEL 1	2"	-10"	
D.1-4.9	W8x48	BP3	LEVEL 1	2"	-10"	
D.1-5.5	W8x48	BP3	LEVEL 1	2"	-10"	
E-4.9	W8x48	BP3	LEVEL 1	2"	-10"	
E-5.5	W8x48	BP3	LEVEL 1	2"	-10"	
F-4.9	W8x48	BP3	LEVEL 1	2"	-10"	
F-5.5	W8x48	BP3	LEVEL 1	2"	-10"	
G-4.9	W8x48	BP3	LEVEL 1	2"	-10"	
G-5.5	W8x48	BP3	LEVEL 1	2"	-10"	
H-5.5	W8x48	BP3	LEVEL 1	2"	-10"	
J-5.8	W8x48	BP3	LEVEL 1	2"	-10"	
X1-Y1	W12x136	BP1	LEVEL 1	2"	-10"	
X1-Y3	W12x120	BP1	LEVEL 1	2"	-10"	
X1-Y3.5	W10x60	BP3	LEVEL 1	2"	-10"	
X1-Y4	W10x60	BP3	LEVEL 1	2"	-10"	
X1-14 X1-Y5	W10x00	BP1	LEVEL 1	2"	-10"	
X1-13 X2-Y3.5	W12x120	BP3	LEVEL 1	2"	-10"	
				2"		
X2-Y4	W10x60	BP3	LEVEL 1		-1' - 1"	
X2.5-Y4.3	W12x120	BP1	LEVEL 1	2"	-10"	
X2.5-Y5	W12x120	BP1	LEVEL 1	2"	-10"	
X3-Y1	W12x120	BP1	LEVEL 1	2"	-10"	
X3-Y2.5	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
X3-Y2.5(1' - 3	HSS5X5X3/8	BP4	LEVEL 1	2"	2"	
1/2")						
X3-Y3	HSS7X5X1/2	BP4	LEVEL 1	2"	-10"	
X3-Y3(-1' - 0	HSS5X5X3/8	BP4	LEVEL 1	2"	2"	
1/4")						
X4-Y2.5(2' - 9")	HSS5X5X3/8	BP4	LEVEL 1	2"	2"	
X4.1-Y2.5	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
X4.1-Y3	HSS7X5X1/2	BP4	LEVEL 1	2"	-10"	
X5-Y3	W12x120	BP1	LEVEL 1	2"	-10"	
X5-Y4.3	W12x152	BP1	LEVEL 1	2"	-10"	
X5-Y5	W12x120	BP1	LEVEL 1	2"	-10"	
X5.1-Y1	W8x48	BP3	LEVEL 1	2"	-10"	
X5.1-Y2	W8x48	BP3	LEVEL 1	2"	-10"	
X5.5-Y1.5	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
X5.5-Y1.5(11 3/8")	HSS5X5X3/8	BP4	LEVEL 1	2"	2"	
X5.5-Y2	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
X5.5-Y2(-1' - 5")	HSS5X5X3/8	BP4	LEVEL 1	2"	2"	
X5.7-Y5	W12x120	BP1	LEVEL 1	2"	-10"	
X6-4.9(-1' - 3 3/4")	HSS5X5X3/8	BP4	LEVEL 1	2"	2"	
X6-Y1.5	HSS5X5X1/2	BP2	LEVEL 1	2"	-10"	
X6-Y2	HSS6X6X1/2	BP2	LEVEL 1	2"	-10"	
X6-Y3.2	W12x120	BP1	LEVEL 1	2"	-10"	
		-· ·		-		1

BASE PLATE SCHEDULE

1. SEE PLAN FOR COLUMN ORIENTATION.

2. THE FOLLOWING INDICATES TRANSFER GIRDER BELOW COLUMN

3. SEE BASE PLATE SCHEDULE FOR BASE PLATE SIZES.

4. LOADS INDICATED AT FLOOR LEVELS ARE ULTIMATE LOADS FOR THE CONTROLLING LOAD COMBINATIONS IN KIPS.

5. PX INDICATES CONCRETE PIER, SEE TYPICAL DETAIL FOR SIZE AND REINFORCING

