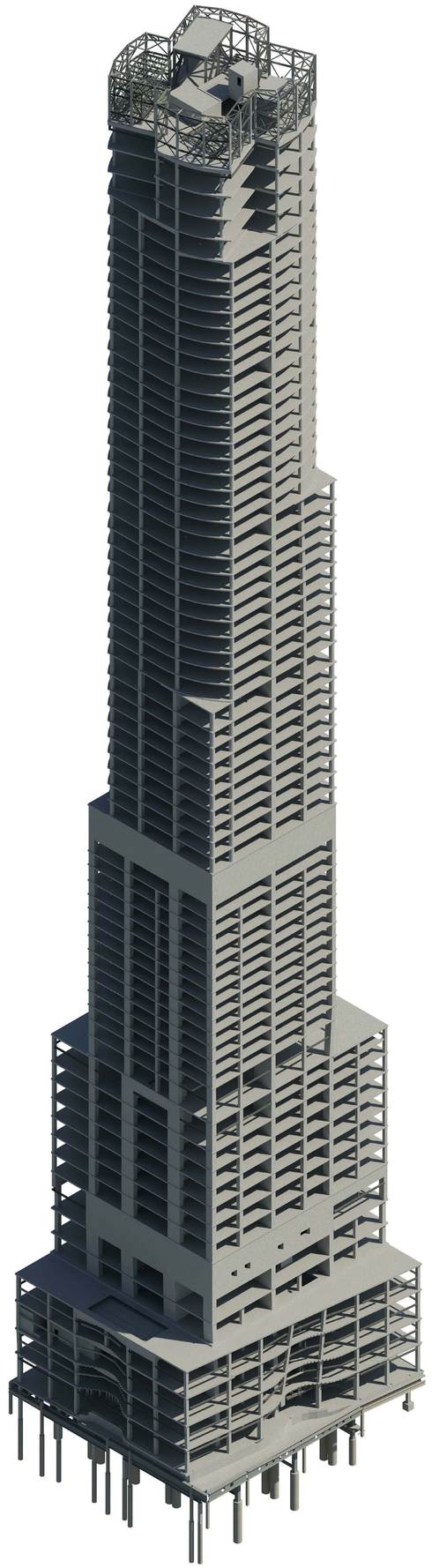
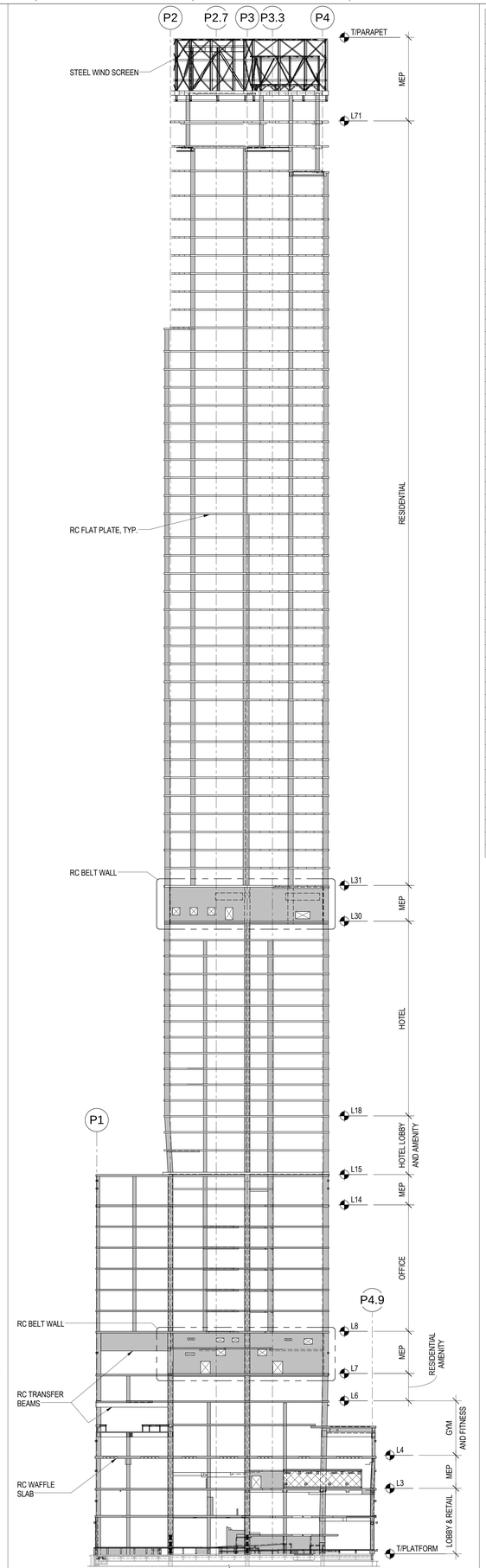


1 3D VIEW OF TOWER
NOT TO SCALE



2 SECTION
NOT TO SCALE

35 Hudson Yards		
DWG NO.	SCALE	DRAWING NAME
S-001	NTS	STRUCTURAL DIAGRAMS, NOTES & DRAWING LIST
S-002	NTS	TYPICAL STRUCTURAL SYMBOLS AND ABBREVIATIONS
S-003	NTS	GRID LAYOUT AND WORK POINT DEFINITIONS
S-004	NTS	STRUCTURAL CONCRETE NOTES
S-004A	NTS	STRUCTURAL CONCRETE NOTES
S-005	NTS	STRUCTURAL STEEL NOTES
S-010	NTS	LOADING DIAGRAMS
S-011	NTS	LOADING DIAGRAMS
S-012	NTS	LOADING DIAGRAMS
S-013	NTS	LOADING DIAGRAMS
S-020	NTS	CONSTRUCTION JOINT LOCATIONS
S-050	1/8"=1'-0"	EXISTING PLATFORM FRAMING PLAN
S-051	1/8"=1'-0"	EXISTING REBAR COUPLER PLAN
S-052	NTS	EXISTING REBAR COUPLER DETAILS
S-099	1/8"=1'-0"	COMBINED EXISTING & NEW PLATFORM
S-100	1/8"=1'-0"	PLATFORM LEVEL FRAMING PLAN
S-101	1/8"=1'-0"	LEVEL 1 FRAMING PLAN
S-102	1/8"=1'-0"	LEVEL 2 FRAMING PLAN
S-103	1/8"=1'-0"	LEVEL 3 FRAMING PLAN
S-103M	1/8"=1'-0"	LEVEL 3M FRAMING PLAN
S-104	1/8"=1'-0"	LEVEL 4 FRAMING PLAN
S-105	1/8"=1'-0"	LEVEL 5 FRAMING PLAN
S-106	1/8"=1'-0"	LEVEL 6 FRAMING PLAN
S-107	1/8"=1'-0"	LEVEL 7 BELT WALL FRAMING PLAN
S-107M	1/8"=1'-0"	LEVEL 7M BELT WALL FRAMING PLAN
S-108	1/8"=1'-0"	LEVEL 8 FRAMING PLAN
S-109	1/8"=1'-0"	LEVEL 9-13 FRAMING PLAN
S-114	1/8"=1'-0"	LEVEL 14 FRAMING PLAN
S-114M	1/8"=1'-0"	LEVEL 14M FRAMING PLAN
S-115	1/8"=1'-0"	LEVEL 15 FRAMING PLAN
S-116	1/8"=1'-0"	LEVEL 16 FRAMING PLAN
S-117	1/8"=1'-0"	LEVEL 17 FRAMING PLAN
S-118	1/8"=1'-0"	LEVEL 18 FRAMING PLAN
S-119	1/8"=1'-0"	LEVEL 19 FRAMING PLAN
S-120	1/8"=1'-0"	LEVEL 20-21 FRAMING PLAN
S-122	1/8"=1'-0"	LEVEL 22-27 FRAMING PLAN
S-128	1/8"=1'-0"	LEVEL 28 FRAMING PLAN
S-129	1/8"=1'-0"	LEVEL 29 FRAMING PLAN
S-130	1/8"=1'-0"	LEVEL 30 BELT WALL FRAMING PLAN
S-130M	1/8"=1'-0"	LEVEL 30M BELT WALL FRAMING PLAN
S-131	1/8"=1'-0"	LEVEL 31 FRAMING PLAN
S-132	1/8"=1'-0"	LEVEL 32-40 FRAMING PLAN
S-141	1/8"=1'-0"	LEVEL 41 FRAMING PLAN
S-142	1/8"=1'-0"	LEVEL 42-50 FRAMING PLAN
S-151	1/8"=1'-0"	LEVEL 51 FRAMING PLAN
S-152	1/8"=1'-0"	LEVEL 52 FRAMING PLAN
S-153	1/8"=1'-0"	LEVEL 53-60 FRAMING PLAN
S-161	1/8"=1'-0"	LEVEL 61 FRAMING PLAN
S-162	1/8"=1'-0"	LEVEL 62-66 FRAMING PLAN
S-168	1/8"=1'-0"	LEVEL 68 FRAMING PLAN
S-169	1/8"=1'-0"	LEVEL 69 FRAMING PLAN
S-170	1/8"=1'-0"	LEVEL 70 FRAMING PLAN
S-171	1/8"=1'-0"	LEVEL 71 MEP FRAMING PLAN
S-172	1/8"=1'-0"	LEVEL 72 MEP FRAMING PLAN
S-173	1/8"=1'-0"	ROOF PLAN
S-202	1/8"=1'-0"	LEVEL 2 ARRANGEMENT PLAN
S-203	1/8"=1'-0"	LEVEL 3 ARRANGEMENT PLAN
S-203M	1/8"=1'-0"	LEVEL 3M ARRANGEMENT PLAN
S-204	1/8"=1'-0"	LEVEL 4 ARRANGEMENT PLAN
S-205	1/8"=1'-0"	LEVEL 5 ARRANGEMENT PLAN
S-206	1/8"=1'-0"	LEVEL 6 ARRANGEMENT PLAN
S-207	1/8"=1'-0"	LEVEL 7 BELT WALL ARRANGEMENT PLAN
S-207M	1/8"=1'-0"	LEVEL 7M BELT WALL ARRANGEMENT PLAN
S-208	1/8"=1'-0"	LEVEL 8 ARRANGEMENT PLAN
S-209	1/8"=1'-0"	LEVEL 9-13 ARRANGEMENT PLAN
S-214	1/8"=1'-0"	LEVEL 14 ARRANGEMENT PLAN
S-214M	1/8"=1'-0"	LEVEL 14M ARRANGEMENT PLAN
S-215	1/8"=1'-0"	LEVEL 15 FRAMING PLAN
S-216	1/8"=1'-0"	LEVEL 16 FRAMING PLAN
S-217	1/8"=1'-0"	LEVEL 17 FRAMING PLAN
S-218	1/8"=1'-0"	LEVEL 18 FRAMING PLAN
S-218A	1/4"=1'-0"	LEVEL 18-27 SLEEVE LOCATIONS
S-219	1/8"=1'-0"	LEVEL 19 FRAMING PLAN
S-220	1/8"=1'-0"	LEVEL 20-21 FRAMING PLAN
S-222	1/8"=1'-0"	LEVEL 22-27 FRAMING PLAN
S-228	1/8"=1'-0"	LEVEL 28 FRAMING PLAN
S-229	1/8"=1'-0"	LEVEL 29 FRAMING PLAN
S-230	1/8"=1'-0"	LEVEL 30 BELT WALL FRAMING PLAN
S-230M	1/8"=1'-0"	LEVEL 30M BELT WALL FRAMING PLAN
S-231	1/8"=1'-0"	LEVEL 31 FRAMING PLAN
S-232	1/8"=1'-0"	LEVEL 32-40 FRAMING PLAN
S-241	1/8"=1'-0"	LEVEL 41 FRAMING PLAN
S-242	1/8"=1'-0"	LEVEL 42-50 FRAMING PLAN
S-251	1/8"=1'-0"	LEVEL 51 FRAMING PLAN
S-252	1/8"=1'-0"	LEVEL 52 FRAMING PLAN
S-253	1/8"=1'-0"	LEVEL 53-60 FRAMING PLAN
S-261	1/8"=1'-0"	LEVEL 61 FRAMING PLAN
S-262	1/8"=1'-0"	LEVEL 62-66 FRAMING PLAN
S-268	1/8"=1'-0"	LEVEL 68 FRAMING PLAN
S-269	1/8"=1'-0"	LEVEL 69 FRAMING PLAN
S-270	1/8"=1'-0"	LEVEL 70 FRAMING PLAN
S-271	1/8"=1'-0"	LEVEL 71 MEP FRAMING PLAN
S-272	1/8"=1'-0"	LEVEL 72 MEP FRAMING PLAN
S-301	1/4"=1'-0"	CORE WALL REINF. PLAN PLATFORM & LEVEL 1
S-302	1/4"=1'-0"	CORE WALL REINF. PLAN LEVEL 2
S-303	1/4"=1'-0"	CORE WALL REINF. PLAN LEVEL 3 & 3M
S-304	1/4"=1'-0"	CORE WALL REINF. PLAN LEVEL LEVEL 4
S-305	1/4"=1'-0"	CORE WALL REINF. PLAN LEVEL 5
S-306	1/4"=1'-0"	CORE WALL REINF. PLAN LEVEL 6
S-307	1/4"=1'-0"	CORE WALL REINF. PLAN LEVEL 7
S-307M	1/4"=1'-0"	CORE WALL REINF. PLAN LEVEL 7M
S-308	1/4"=1'-0"	SHEAR WALL REINF. PLAN L8 - L13
S-309	1/4"=1'-0"	CORE WALL REINF. PLAN L14
S-310	1/4"=1'-0"	CORE WALL REINF. PLAN L14M
S-311	1/4"=1'-0"	CORE WALL REINF. PLAN L15-L17
S-312	1/4"=1'-0"	CORE WALL REINF. PLAN L18
S-313	1/4"=1'-0"	CORE WALL REINF. PLAN L19 - L27
S-314	1/4"=1'-0"	CORE WALL REINF. PLAN L28 & L29
S-315	1/4"=1'-0"	CORE WALL REINF. PLAN L30
S-316	1/4"=1'-0"	CORE WALL REINF. PLAN L30M
S-317	1/4"=1'-0"	CORE WALL REINF. PLAN L31 - L40
S-317A	1/4"=1'-0"	CORE WALL REINF. PLAN L32 - L40
S-318	1/4"=1'-0"	CORE WALL REINF. PLAN - L41 - L50
S-319	1/4"=1'-0"	CORE WALL REINF. PLAN - L51 - L60
S-320	1/4"=1'-0"	CORE WALL REINF. PLAN - L61 & L62
S-321	1/4"=1'-0"	CORE WALL REINF. PLAN - L63 - L71
S-322	1/4"=1'-0"	CORE WALL REINF. PLAN - L72 & L72A
S-351	1/8"=1'-0"	CORE WALL 1 ELEVATIONS
S-352	1/8"=1'-0"	CORE WALL 1 ELEVATIONS
S-353	1/8"=1'-0"	CORE WALL 2 ELEVATIONS
S-354	1/8"=1'-0"	CORE WALL 2 ELEVATIONS
S-355	1/8"=1'-0"	CORE WALL 3 ELEVATIONS
S-356	1/8"=1'-0"	CORE WALL 3 ELEVATIONS
S-357	1/8"=1'-0"	CORE WALL 4 ELEVATIONS
S-358	1/8"=1'-0"	CORE WALL 5 ELEVATIONS
S-359	1/8"=1'-0"	CORE WALL 6 ELEVATIONS
S-360	1/8"=1'-0"	CORE WALL 7 ELEVATIONS
S-361	1/8"=1'-0"	CORE WALL 8 & 9 ELEVATIONS
S-371	1/8"=1'-0"	BELT WALL ELEVATIONS
S-372	1/8"=1'-0"	BELT WALL ELEVATIONS
S-391	1/8"=1'-0"	TRANSFER WALL ELEVATIONS
S-395	AS NOTED	SLOPING COLUMN ELEVATIONS
S-401	AS NOTED	RC WALL DETAILS
S-402	AS NOTED	RC WALL DETAILS
S-403	AS NOTED	RC WALL DETAILS
S-405	AS NOTED	RC WALL DETAILS
S-411	AS NOTED	RC SHEAR WALL LINK BEAM SCHEDULE
S-412	AS NOTED	RC SHEAR WALL LINK BEAM DETAILS
S-413	AS NOTED	RC SHEAR WALL LINK BEAM DETAILS
S-421	AS NOTED	HAMMERHEAD COLUMN SCHEDULE AND DETAILS
S-431	AS NOTED	RC GRAVITY COLUMN SCHEDULES
S-432	AS NOTED	RC GRAVITY COLUMN SCHEDULES
S-433	AS NOTED	RC GRAVITY COLUMN REINFORCEMENT ARRANGEMENT
S-434	AS NOTED	RC GRAVITY COLUMN DETAILS
S-435	AS NOTED	RC GRAVITY COLUMN DETAILS
S-441	AS NOTED	RC GRAVITY BEAM SCHEDULES AND DETAILS
S-442	AS NOTED	RC GRAVITY BEAM DETAILS
S-450	AS NOTED	RC SLAB DETAILS
S-451	AS NOTED	RC SLAB SCHEDULES AND DETAILS
S-452	AS NOTED	RC TWO WAY SLAB DETAILS
S-453	AS NOTED	RC TWO WAY SLAB DETAILS
S-454	AS NOTED	RC SLAB DETAILS
S-455	AS NOTED	WAFFLE SLAB SCHEDULE AND DETAILS
S-456	AS NOTED	CONCRETE STAIR TYPICAL DETAILS
S-457	AS NOTED	STAIR A SECTIONS
S-458	AS NOTED	STAIR A SECTIONS CONT.
S-459	AS NOTED	STAIR B SECTIONS
S-460	AS NOTED	STAIR B SECTIONS CONT.
S-461	AS NOTED	GROUND FLOOR SECTIONS AND DETAILS
S-462	AS NOTED	GROUND FLOOR SECTIONS AND DETAILS
S-462A	AS NOTED	GROUND FLOOR SECTIONS AND DETAILS
S-463	AS NOTED	GROUND FLOOR SECTIONS
S-464	AS NOTED	MISCELLANEOUS CONCRETE SECTIONS
S-471	AS NOTED	MISCELLANEOUS CONCRETE SECTIONS
S-472	AS NOTED	MISCELLANEOUS CONCRETE SECTIONS
S-481	AS NOTED	LEVEL 07-08 BELTWALL SECTIONS
S-482	AS NOTED	LEVEL 07-08 BELTWALL SECTIONS
S-483	AS NOTED	LEVEL 30-31 BELTWALL SECTIONS
S-484	AS NOTED	LEVEL 30-31 BELTWALL SECTIONS
S-485	AS NOTED	LEVEL 30-31 OUTRIGGER WALL SECTIONS
S-491	AS NOTED	BELTWALL AND OUTRIGGER WALL DETAILS
S-492	AS NOTED	BELTWALL AND OUTRIGGER WALL DETAILS
S-493	AS NOTED	BELTWALL AND OUTRIGGER WALL DETAILS
S-501	AS NOTED	TYPICAL STEEL CORE SCHEDULE AND DETAILS
S-502	AS NOTED	TYPICAL STEEL CORE SCHEDULE AND DETAILS
S-511	AS NOTED	TYPICAL STEEL SECTIONS AND DETAILS
S-513	AS NOTED	STUCTURAL STEEL CANOPY SECTIONS AND DETAILS
S-514	AS NOTED	STUCTURAL STEEL CANOPY SECTIONS AND DETAILS
S-515	AS NOTED	INTERMEDIATE EXTERIOR WALL SUPPORT DETAILS
S-516	AS NOTED	INTERMEDIATE EXTERIOR WALL SUPPORT DETAILS
S-516A	AS NOTED	INTERMEDIATE EXTERIOR WALL SUPPORT DETAILS
S-516B	AS NOTED	INTERMEDIATE EXTERIOR WALL SUPPORT DETAILS
S-516C	AS NOTED	INTERMEDIATE EXTERIOR WALL SUPPORT DETAILS
S-517	AS NOTED	STRUCTURAL STEEL PARAPET STRUCTURE DETAILS
S-519	AS NOTED	DAMPER AND ELECTRIC SHED STEEL DETAILS
S-521	AS NOTED	MISC. ELEVATOR STEEL PARTIAL PLANS, DETAILS AND SECTIONS
S-522	AS NOTED	EXTERIOR WALL SUPPORT STEEL PARTIAL PLANS AND SECTIONS
S-525	AS NOTED	STRUCTURAL STEEL PARAPET PARTIAL PLANS AND ELEVATIONS
S-526	AS NOTED	DAMPER AND ELECTRIC SHED ELEVATIONS
S-527	AS NOTED	ROOFTOP DUNNAGE PLANS AND ELEVATIONS
S-531	AS NOTED	TYPICAL METAL DECK SECTIONS AND DETAILS
S-532	AS NOTED	TYPICAL METAL DECK SECTIONS AND DETAILS
S-581	AS NOTED	LEVEL 15 FEATURE STAIR - PLANS AND DETAILS
S-582	AS NOTED	LEVEL 15 FEATURE STAIR - DETAILS
S-592	AS NOTED	ROOFTOP DUNNAGE DETAILS
S-601	AS NOTED	TYPICAL MASONRY DETAILS

GENERAL NOTES

A. STRUCTURAL SYSTEMS DESCRIPTION

1. GENERAL

35 HUDSON YARDS PROJECT IS A 72 STORY MULTI-USE TOWER BUILT ENTIRELY OVER THE RAILROAD YARD BELOW LOCATED AT THE SOUTHEAST CORNER OF 33RD STREET AND 11TH AVENUE. THE BUILDING HEIGHT IS AROUND 1000 FEET ABOVE THE LOBBY LEVEL AND AN ADDITIONAL 30 FEET TO 35 FEET ABOVE THE RAILROAD TRACKS. BUILDING PROGRAM WILL CONSIST OF RETAIL AT THE BASE, FOLLOWED BY OFFICE, HOTEL AND RESIDENTIAL FLOORS. THE RETAIL AND OFFICE PODIUM DROPS OFF AT LEVEL 14, LEAVING A RELATIVELY SQUARE FLOOR PLATE AT HOTEL FLOORS UP TO LEVEL 30. STARTING AT LEVEL 32 THE SW CORNER OF THE TOWER IS CHAMFERED CREATING A TERRACE. EVERY TEN FLOORS EACH CORNER IS CHAMFERED IN SUCCESSION IN A COUNTERCLOCKWISE MANNER CREATING A SERIES OF TERRACES.

2. GRAVITY SYSTEM

THE STRUCTURAL SYSTEM OF THE TOWER USES MAINLY REINFORCED CONCRETE ELEMENTS WITH EMBEDDED STEEL MEMBERS AT THE BASE. THE STEEL MEMBERS ARE UTILIZED TO CREATE A FLUID LOAD TRANSFER FROM THE TOWER'S CONCRETE SUPERSTRUCTURE TO THE PLATFORM'S STEEL SUBSTRUCTURE. RESIDENTIAL, HOTEL, AND OFFICE FLOORS CONSIST OF REINFORCED CONCRETE TWO-WAY FLAT PLATE SLAB CONSTRUCTION. THE SLAB WILL BE SUPPORTED BY REINFORCED CONCRETE COLUMNS AND A REINFORCED CONCRETE CORE WALL SYSTEM INCLUDING BUTTRESS WALLS.
HEALTH CLUB (RETAIL) FLOORS WILL LIKELY CONSIST OF MAINLY REINFORCED CONCRETE TWO-WAY FLAT PLATE SLAB AND PARTIAL REINFORCED CONCRETE WAFFLE SLAB WHICH CAN PROVIDE A STIFFENED SLAB SYSTEM MEETING A MINIMUM 9 HZ STRUCTURAL VIBRATION FREQUENCY. THE FLOOR SLAB SYSTEM FOR THE SWIMMING POOL WILL CONSIST OF ONE-WAY REINFORCED CONCRETE SLAB SUPPORTED BY REINFORCED CONCRETE BEAMS AND GIRDERS. THESE FLOOR FRAMING SYSTEMS WILL BE SUPPORTED BY REINFORCED CONCRETE COLUMNS, COMPOSITE TOWER COLUMNS AND A REINFORCED CONCRETE CORE WALL SYSTEM INCLUDING BUTTRESS WALLS. THE RETAIL FLOORS WILL LIKELY CONSIST OF REINFORCED CONCRETE TWO-WAY FLAT PLATE SLAB WHICH WOULD BE SUPPORTED BY THE COLUMNS AND CORE WALL SYSTEM. THE GROUND FLOOR SLAB WILL LIKELY CONSIST OF 3-INCH METAL DECK WITH 6 INCH NORMAL-WEIGHT CONCRETE TOPPING WHICH WOULD BE MAINLY SUPPORTED BY STEEL BEAMS AND POSTS AND CMU KNEE WALLS WHICH BEAR ON TOP OF PLATFORM.

3. LATERAL SYSTEM

THE LATERAL-LOAD RESISTING SYSTEM FOR THE TOWER WILL CONSIST OF A REINFORCED CONCRETE CORE WALL SYSTEM SUPPLEMENTED BY BUTTRESS WALLS FROM THE CORE OUT TO THE PERIMETER. FOUR (4) REINFORCED CONCRETE BUTTRESS WALLS IN THE NORTH-SOUTH DIRECTION AND TWO (2) REINFORCED CONCRETE BUTTRESS WALLS IN THE EAST-WEST DIRECTION EXTEND FROM THE CORE WALL SYSTEM OUT TO THE PERIMETER OF THE BUILDING. AT THE END OF BUTTRESS WALLS, HAMMERHEAD COLUMNS ENGAGE THE REINFORCED CONCRETE BUTTRESS WALL TO RESIST OVERTURNING FORCES ON THE TOWER DUE TO LATERAL LOADS. IN ADDITION, A 28 FT DEEP BELT WALL AT LEVEL 7 AND AROUND 24 FT DEEP BELT WALL AT LEVEL 30 ARE UTILIZED TO RESIST LATERAL LOADS. THE BELT WALL AT LEVEL 7 IS USED TO TRANSFER SOME PERIMETER TOWER COLUMNS SO THAT THE GRAVITY COLUMN LOADS ARE TRANSFERRED TO MIDDLE/CORNER COLUMNS WHICH ARE SUPPORTED BY PLATFORM PIERS AT GROUND FLOOR.

4. PLATFORM STRUCTURE

JUST ABOVE THE RAILROAD TRACKS AT ROUGHLY THE ELEVATION OF THE SURROUNDING STREETS, A STEEL FRAMED PLATFORM STRUCTURE WILL BE INSTALLED TO COVER THE TRACKS AND TO RECEIVE THE TOWER ABOVE. THIS STRUCTURE AND ITS FOUNDATIONS ARE DESIGNED BY THORNTON TOMASETTI. THE PLATFORM SUPPORTING COLUMNS AND WALLS HAVE BEEN LOCATED BETWEEN THE RAILROAD TRACKS USING SPECIFIED CLEARANCES FROM THE RAIL CARS BASED ON AMTRAK AND MTA GUIDELINES. TYPICAL SPACING OF SUPPORTS IN THE NORTH-SOUTH DIRECTION IS APPROXIMATELY 50'. IN THE EAST-WEST DIRECTION THE COLUMNS ARE PLACED IN A TIGHTER SPACING PARTICULARLY UNDER THE TOWER CORE. SOME PERIMETER COLUMNS IN THE RETAIL ZONE WILL BE SUPPORTED BY STRUCTURAL STEEL PLATE GIRDERS AT THE PLATFORM LEVEL. THE LATERAL SYSTEM FOR THE PLATFORM CONSISTS OF MOMENT FRAMES IN THE NORTH-SOUTH DIRECTION AND STEEL BRACING UNDER THE TOWER CORE WALLS IN THE EAST-WEST DIRECTION. FOUNDATIONS FOR THE PLATFORM AND TOWER ABOVE WILL CONSIST OF CAISSONS, CONTINUOUS WALL FOOTINGS AND EMBEDDED PIERS.

B. CODE ANALYSIS AND DESIGN CRITERIA

1. BUILDING CODES, STANDARDS AND REGULATIONS
   a. NEW YORK CITY BUILDING CODE (NYCBC) 2014
   b. INTERNATIONAL BUILDING CODE (IBC) 2009
   c. AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) 7-05, 7-10
   d. AMERICAN CONCRETE INSTITUTE (ACI) 318-08
   e. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 13TH EDITION
   f. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) DESIGN GUIDES

2. STRUCTURAL DESIGN CRITERIA

a. WIND LOADS

i. THE WIND LOADS PRESENTED HERE ARE BASED ON THE NEW YORK CITY BUILDING CODE (2014)

a)	BASIC WIND SPEED	98 MPH (3-SEC GUST)
b)	IMPORTANCE FACTOR	Iw = 1.0
c)	EXPOSURE CATEGORY	B

b. SEISMIC LOADS

i. SEISMIC LOADS WERE DETERMINED IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE (2014)

a)	STRUCTURAL OCCUPANCY/RISK CATEGORY	II
b)	SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS(Ss)	0.281 g (SECTION 1613.5.1, NYCBC 2014)
c)	SPECTRAL RESPONSE ACCELERATION AT 1-SECOND PERIOD(S1)	0.073 g (SECTION 1613.5.1, NYCBC 2014)
d)	SITE CLASS	A (GEOTECHNICAL REPORT, APR 26, 2013,
e)	DESIGN SPECTRAL RESPONSE ACCELERATIONS	Sds = 0.15 g Sd1 = 0.04 g (SECTION 1613.5.4, NYCBC 2014)
f)	SEISMIC DESIGN CATEGORY	B (SECTION 1613.5.6, NYCBC 2014)
g)	SEISMIC FORCE-RESISTING SYSTEM	ORDINARY REINFORCED CONCRETE SHEAR WALL OF BEARING WALL SYSTEMS
h)	DESIGN COEFFICIENTS AND FACTORS	R = 4, Overstrength Factor = 2.5, Cd = 4 (TABLE 1613.8, NYCBC 2014)

c. STRUCTURAL LOADING COMBINATIONS USING STRENGTH DESIGN

i. LOAD COMBINATIONS IN ACCORDANCE WITH SECTION 1605, NYCBC 2014

a) 1.4(D + F)
b) 1.2(D + F + T) + 1.6(L + H) + 0.5(Lr OR S OR R)
c) 1.2D + 1.6(Lr OR S OR R) + (F1L OR 0.8W)
d) 1.2D + 1.6W + F1L + 0.5(Lr OR S OR R)
e) 1.2D + 1.0E + F1L + 0.2S
f) 0.9D + 1.6W + 1.6H
g) 0.9D + 1.0E + 1.6H

WHERE: F1 = 1.0 (LIVE LOADS > F1 = 0.5 (OTHER LIVE LOADS)

d. STRUCTURAL LOADING

a.	RETAIL	
i.	DEAD LOAD	AS REQ'D
ii.	SUPERIMPOSED DEAD LOAD	50 PSF
iii.	LIVE LOADS	100 PSF
b.	OFFICE	
i.	DEAD LOAD	AS REQ'D
ii.	SUPERIMPOSED DEAD LOAD	45 PSF
iii.	LIVE LOADS	50 PSF
c.	HOTEL	
i.	DEAD LOAD	AS REQ'D
ii.	SUPERIMPOSED DEAD LOAD	30 PSF
iii.	LIVE LOADS	40 PSF
d.	RESIDENTIAL	
i.	DEAD LOAD	AS REQ'D
ii.	SUPERIMPOSED DEAD LOAD	35 PSF
iii.	LIVE LOADS	40 PSF
e.	LOBBY/CORRIDOR/VESTIBULE	
i.	DEAD LOAD	AS REQ'D
ii.	SUPERIMPOSED DEAD LOAD	50 PSF
iii.	LIVE LOADS	100 PSF
f.	MECHANICAL ROOM (HEAVY)	
i.	DEAD LOAD	AS REQ'D
ii.	SUPERIMPOSED DEAD LOAD	60 PSF
iii.	LIVE LOADS	250 PSF
g.	MECHANICAL ROOM (LIGHT)	
i.	DEAD LOAD	AS REQ'D
ii.	SUPERIMPOSED DEAD LOAD	60 PSF
iii.	LIVE LOADS	125 PSF

Damian Titus
Buildings
APPROVED
Under Directive 1 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

35 HUDSON YARDS

NEW YORK, NY

OWNER

RELATED

Related Companies
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New York, NY 10023

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80 Pine Street
New York, NY 10005

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Philip Habib & Associates
102 Madison Avenue, 11th Floor
New York, NY 10016

FACADE MAINTENANCE

Entek Engineering, LLC
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Hackensack, NJ 07601

VERTICAL TRANSPORTATION

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New York, NY 10020

ACOUSTICAL ENGINEERING

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New York, NY 10018

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New York, NY 10001

RESIDENTIAL DESIGN ARCHITECT

Ismael Leyva Architects
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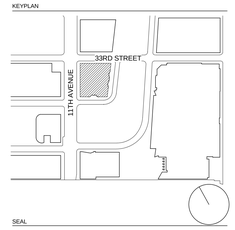
New York, NY 10018

KEYPLAN



SEAL

NO.	DATE	DESCRIPTION
8	20 JAN 2017	ISSUED TO DOB
7	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

STRUCTURAL DIAGRAMS, NOTES & DRAWING LIST

B-SCAN - DRAWING NUMBER

S-001.01

DRAWING NUMBER

S-001

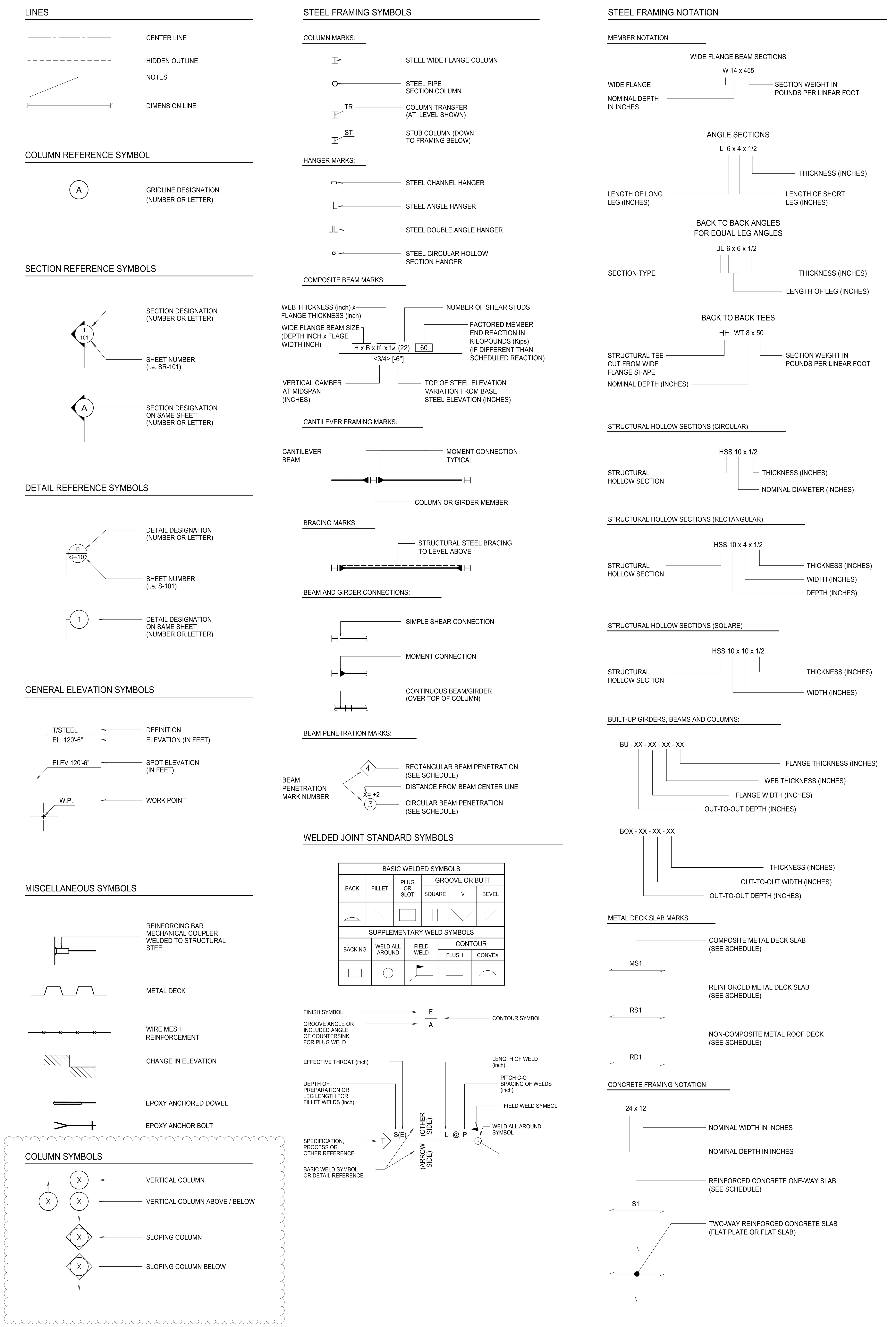
PAGE NUMBER

1 OF 112

35 HUDSON YARDS

NEW YORK, NY

SYMBOL SCHEDULE



ABBREVIATION SCHEDULE

ABS	ABSOLUTE
ABV	ABOVE
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT
ADJST	ADJUSTABLE
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
&	AND
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASSN	ASSOCIATION
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
AUX	AUXILIARY
AVG	AVERAGE
B	BOX
B/	BOTTOM OF
B.E.	BOTH ENDS
BLDG	BUILDING
BLW	BELOW
BM	BEAM
B/S	BOTTOM OF STEEL
B.S.	BOTH SIDES
B.W.	BOTH WAYS
C	CHANNEL
øC	DEGREE CELSIUS
C-C	CENTRE TO CENTRE
C-F	CENTRE TO FACE
CALC	CALCULATIONS
CEM	CEMENT
CHAN	CHANNEL
CHRD	CHORD
CIR	CIRCULAR
CL, ℄	CENTRELINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPOSITE
CONC	CONCRETE
CONST	CONSTRUCTION
C.J.	CONSTRUCTION JOINT
C.J.P.	COMPLETE JOINT PENETRATION
CONFIG	CONFIGURATION
CONT	CONTINUOUS
CORP	CORPORATION
C.R.	COLD ROLLED
CS	COLUMN STRIP
CU	CUBIC
CYL	CYLINDER
D	DEPTH
DBL	DOUBLE
DEG	DEGREE
DIA, Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIST	DISTANCE
DL	DEAD LOAD
DN	DOWN
DWG	DRAWING
DWL	DOWEL, STARTER BAR
(E)	EXISTING
EA	EACH
E.F.	EACH FACE
ELEC	ELECTRICAL
ELEV.	ELEVATOR
EL	ELEVATION
EQ	EQUAL
EQMT	EQUIPMENT
EOS	EDGE OF SLAB
ESCA.	ESCALATOR
E-W	EAST-WEST
E.W.	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
F-F	FACE TO FACE
FAB	FABRICATION
F.F.	FAR FACE
FIG	FIGURE
FIN	FINISH
FIN DIM	FINISH DIMENSION
FIN FLR	FINISH FLOOR
FIN GR	FINISH GRADE
FP	FULL PENETRATION
FLR	FLOOR
FLNG	FLANGE
FND	FOUNDATION
FTG	FOOTING
>	GREATER THAN
GA	GAUGE
GALV	GALVANIZED
GEN	GENERAL
GR	GRADE
GRND	GROUND
HGR	HANGER
HT	HEIGHT
HORIZ	HORIZONTAL
HP	HIGH POINT
HSFG	HIGH STRENGTH FRICTION GRIP BOLT
HSS	HOLLOW STRUCTURAL SECTION
ID	INSIDE DIAMETER
IN	INCH, INCHES
INC	INCORPORATED
INSUL	INSULATION
INT	INTERIOR
ISO	ISOMETRIC
JT	JOINT
KIPS	KIPS
KLF	KIPS PER LINEAR FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
<	LESS THAN
LB	POUND
LENG	LENGTH
LH	LEFT HAND
LL	LIVE LOAD
LLBB	LONG LEG BACK TO BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LP	LOW POINT
LRFD	LOAD RESISTANCE FACTOR DESIGN
LWT	LIGHTWEIGHT
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MS	COMPOSITE METAL DECK SLAB, MIDDLE STRIP
N/A	NOT APPLICABLE
NET WT	NET WEIGHT
N.F.	NEAR FACE
NIC	NOT IN CONTRACT
NWT	NORMAL WEIGHT
NO.	NUMBER
NOM	NOMINAL
N-S	NORTH-SOUTH
NTS	NOT TO SCALE
OC	ON CENTRE
OD	OUTSIDE DIAMETER
OPNG	OPENING
OPP	OPPOSITE
OPPH	OPPOSITE HAND
P	PIPE
PIP	PIPE
PART	PARTITION
PCT, %	PERCENT
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PERP	PERPENDICULAR
PL, ℙ	PLATE
PLBG	PLUMBING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
R, RAD	RADIUS
R/C	REINFORCED CONCRETE
RD	NON-COMPOSITE METAL ROOF DECK
REF	REFERENCE
REG	REGULAR
REQD	REQUIRED
REV	REVISED, REVISION
RH	RIGHT HAND
RS	REINFORCED METAL DECK SLAB
RSA	ROLLED STEEL ANGLE
RSC	ROLLED STEEL CHANNEL
S.C.	SLIP CRITICAL
SCHD	SCHEDULE
SDI	STEEL DECK INSTITUTE
SECT	SECTION
SHT	SHEET
SDL	SUPERIMPOSED DEAD LOAD
SPECS	SPECIFICATIONS
S.S.	STAINLESS STEEL
ST	STUB COLUMN
STD	STANDARD
STL	STEEL
STL PL	STEEL PLATE
STRUC	STRUCTURE, STRUCTURAL
SIM	SIMILAR
SYS	SYSTEM
T/	TOP OF
T/S	TOP OF STEEL
TECH	TECHNICAL
TEMP	TEMPERATURE
THK	THICK
THRD	THREAD, THREADED
TR	COLUMN TRANSFER
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
W.P.	WORK POINT
WF	WIDE FLANGE
WGT	WEIGHT
WL	WIND LOAD
WT	STRUCTURAL TEE CUT FROM WIDE FLANGE SHAPE
WWF	WELDED WIRE FABRIC
WPM	WATERPROOFING MEMBRANE

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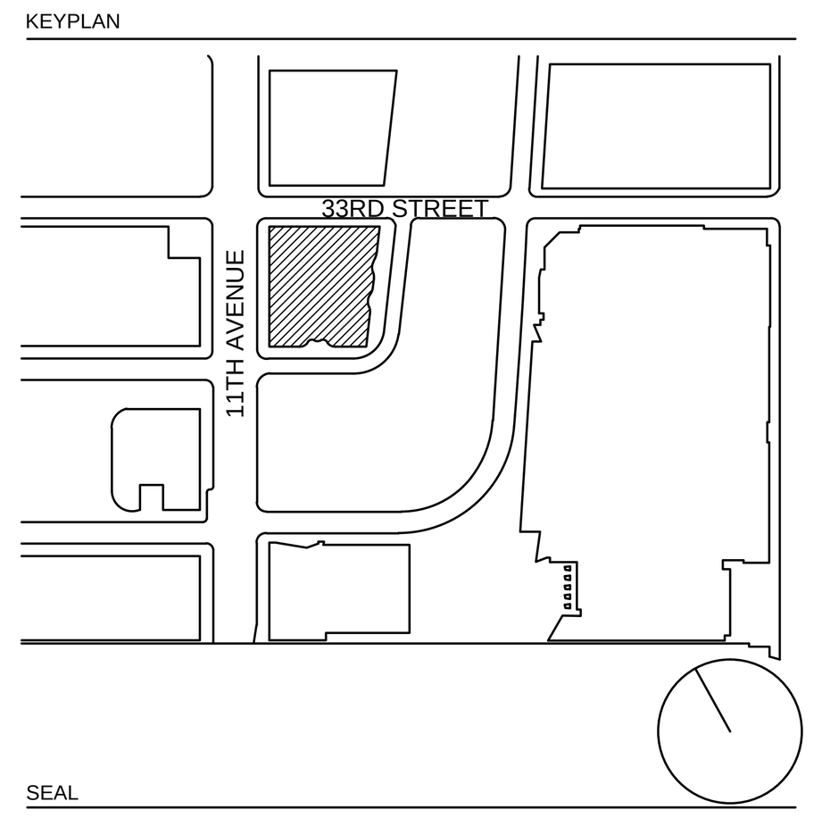
31 W 27th Street, 5th Floor
New York, NY 10001

RESIDENTIAL DESIGN ARCHITECT

Ismael Leyva Architects
48 West 37th Street
New York, NY 10018

KEYPLAN



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DRAWING TITLE

TYPICAL STRUCTURAL SYMBOLS AND ABBREVIATIONS

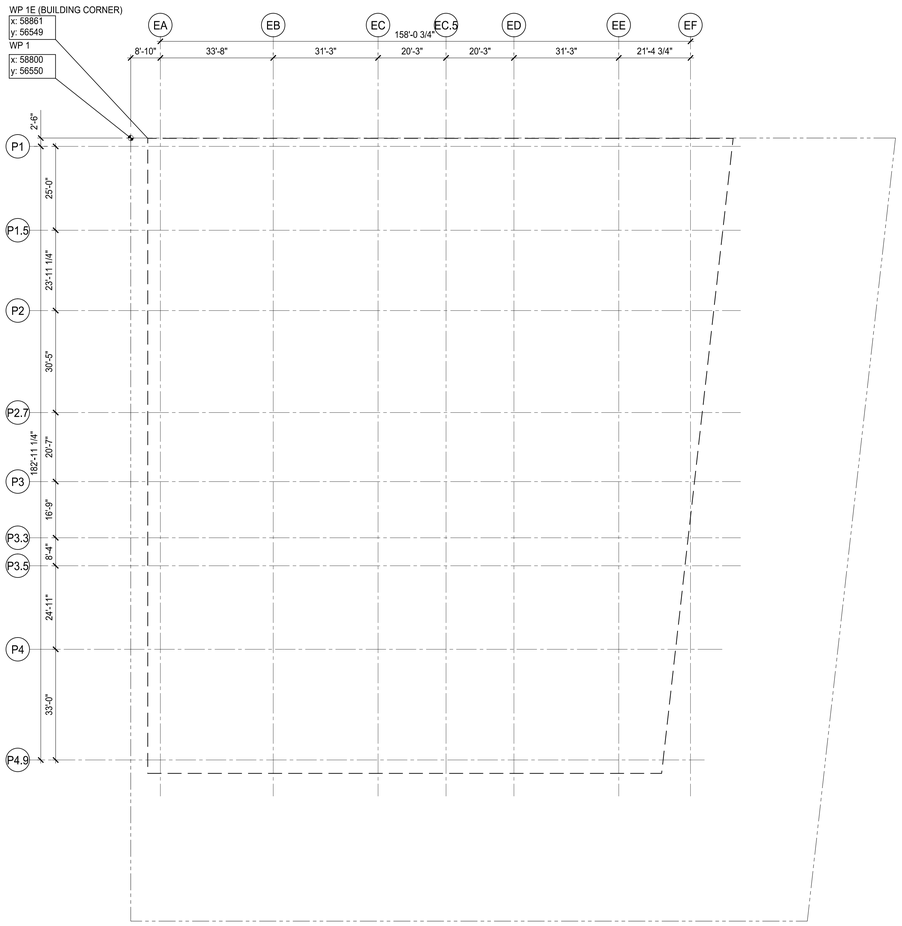
B-SCAN - DRAWING NUMBER

S-002.01

DRAWING NUMBER

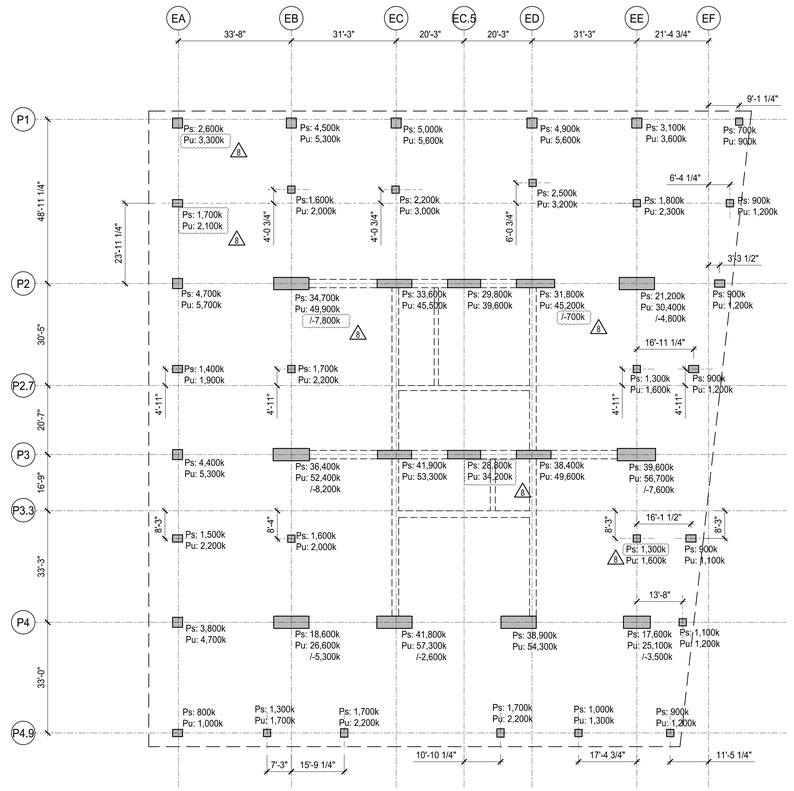
S-002

PAGE NUMBER



1 OVERALL GRID LAYOUT

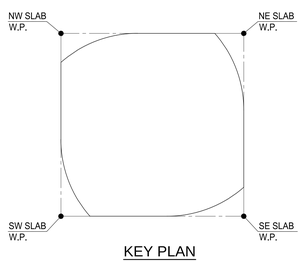
SCALE: NOT TO SCALE



NOTES:
1. LOADS INDICATE TOWER E BASE REACTIONS ON PLATFORM STRUCTURE DESIGNED BY THORNTON TOMASETTI.
2. NOTATION:
   - Ps INDICATES SERVICE AXIAL FORCE IN KIPS
   - Pu INDICATES ULTIMATE AXIAL FORCE IN KIPS (COMPRESSION/-TENSION).
3. TOTAL TOWER E SERVICE BUILDING WEIGHT = 350,700 KIPS
4. LATERAL LOADS IMPOSED BY TOWER E ON PLATFORM:
   - E-W DIRECTION: V = 5,930 k M = 3,620,000 kip-ft
   - N-S DIRECTION: V = 5,560 k M = 3,390,000 kip-ft

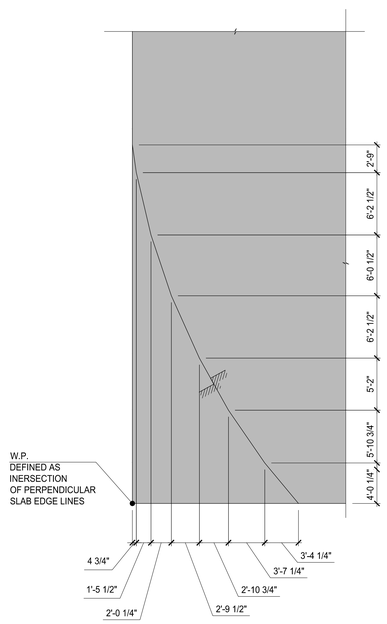
3 DESIGN REACTIONS ON PLATFORM STRUCTURE

SCALE: NOT TO SCALE

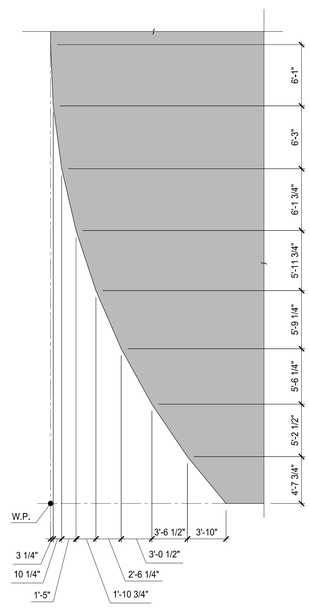


KEY PLAN

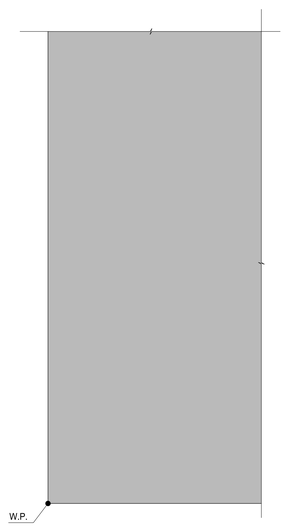
	SLAB CORNER DETAIL			
	SW	SE	NE	NW
LEVEL				
31	A	C	C	C
32-40	B	C	C	C
41	B	A	C	C
42-50	B	B	C	C
51	B	B	A	C
52-60	B	B	B	C
61	B	B	B	A
62-TOP	B	B	B	B
WORKPONT COORDINATES				
X	39'-6"	148'-6"	148'-6"	39'-6"
Y	-156'-5 1/4"	-156'-5 1/4"	-47'-5 1/4"	-47'-5 1/4"



A TERRACE CHAMFER GEOMETRY



B TYPICAL CHAMFER GEOMETRY



C NO CHAMFER GEOMETRY

2 LEVEL 31 AND ABOVE FACETED SLAB EDGE GEOMETRY DEFINITION

SCALE: NOT TO SCALE

△5

35 HUDSON YARDS

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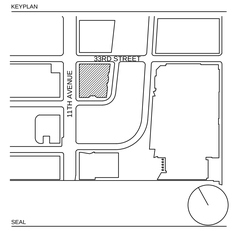

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DRAWING TITLE

GRID LAYOUT AND WORK POINT DEFINITIONS

B-SCAN - DRAWING NUMBER

S-003.01

DRAWING NUMBER

S-003

PAGE NUMBER

3 OF 112

Damian Titus
Buildrops
APPROVED
Under Directive 2 of 1975
EXTENSION OF VALIDATION
Date: 02/27/2017
NYC Development Hub

REINFORCED CONCRETE NOTES

GENERAL NOTES
1. All existing conditions shown in the drawings shall be verified by the contractor including framing layouts, member sizes, and slab or wall openings. The Architect/Structural Engineer shall be notified of any deviations prior to the commencement of construction work.

2. Contractor shall verify the results of the geometric surveys and structure conditions surveys performed.

3. Contractor shall be responsible for establishing, structural design, installation, sequencing, and removal of all temporary works.

4. Prior to fabrication and erection of all new construction, field verify all existing construction for dimensions and elevations.

5. Locate, scan and mark all existing concrete reinforcement prior to the installation of new anchors; avoid all existing reinforcement.

6. The existing concrete material properties should be noted.

Concrete
1. All cast-in-place concrete shall be of the types and minimum compressive strengths as shown in the Concrete Materials Schedule on this drawing.

2. All concrete shall contain an approved water reducing plasticizing admixture. Approved high-range water reducing admixtures may be utilized. All concrete permanently exposed to weather shall also contain an approved air-entraining admixture.

3. No calcium chloride shall be used in any concrete.

Reinforcing
1. Reinforcing bars shall be new billet steel conforming to the standards of ASTM A615, ASTM A706(WELDABLE REBAR)
Grade 60: #3 THRU #11
Grade 80: #14, #18, #20 (7)
1a. Dywidag Threadbars shall be conforming to the standards of ASTM A722
Grade 150: 3" Diameter Dywidag Threadbars, See S-422 and 501

2. All welded wire fabric (WWF) shall conform to the standards of ASTM A185.

3. All concrete reinforcement shall be detailed, fabricated, labeled, supported, spaced in forms, and secured in place in accordance with the procedures and requirements outlined in the latest editions of the "Building Code Requirements for Reinforced Concrete," ACI 318-08 as modified by Chapter 19 of 2014 New York City Building Code, the "Manual of Standard Practice for Detailing Reinforced Concrete Structures," ACI 315, IBC 2009, and 2014 New York City Building Code.

4. All reinforcing splices shall conform to the requirements of ACI 318, but in no case shall be less than 36 bar diameters, unless noted otherwise. All tension lap splices shall be Class B, unless noted otherwise.

5. All welded wire fabric splices shall be lapped two (2) full mesh panels and tied securely.

6. Where required, dowels shall match the size and number of main reinforcing, unless noted otherwise.

7. All walls and structural slabs shall be reinforced with at least #4 bars at 12 inches on center each way, unless noted otherwise. All slabs on grade shall be reinforced with at least one (1) layer of 6x6 - W2.9xW2.9 WWF, unless noted otherwise. Provide one (1) layer of 6x6 - W1.4xW1.4 WWF continuous in all concrete fills above structural slabs. All mechanical, plumbing and electrical equipment pads shall be reinforced with at least one (1) layer of 6x6 - W4.0xW4.0 WWF (See HVAC, Plumbing and Electrical drawings for additional reinforcing requirement for pads.).

8. Provide a minimum of one (1) layer of 4x4 - W2.9xW2.9 galvanized or epoxy coated WWF for all sidewalks, unless otherwise noted.

9. Provide a minimum of one (1) layer of 4x4 - W6.0xW6.0 galvanized or epoxy coated WWF for all automobile driveway areas, unless noted otherwise.

10. Provide a minimum of one (1) layer of 4x4 - W7.0xW7.0 galvanized or epoxy coated WWF for all truck traffic areas, unless noted otherwise.

11. Additional bars shall be provided around all floor and wall openings.

12. All bar supports shall be galvanized or epoxy coated. Bar supports in contact with exposed surfaces shall also be plastic tipped.

13. The following minimum concrete covers shall be provided for reinforcement, unless larger cover is noted elsewhere.

a. Concrete cast against and permanently exposed to earth: 3"
b. Concrete exposed to earth or weather:
#5 bars and smaller: 1-1/2" #6 through #18 bars: 2"
c. Concrete not exposed to weather or in contact with ground.
Slab, walls, joists:
#14 and #18 bars: 1-1/2" #11 and smaller: 3/4"
Beams, columns:
Primary reinforcement, ties, stirrups: 1-1/2"

14. The Contractor shall submit shop drawings showing reinforcing details including bar sizes, spacing, placement and support details to the Architect for review prior to fabrication.

Construction Joints
1. Construction joints in all walls, slabs and beams shall be provided. See Specification Section 033000 "Cast-In-Place Concrete" for specific spacing requirement. Vertical construction joints in walls shall be located at least 5'-0" from any pilasters(Hammerhead columns), corners, or wall openings.

2. All construction joints shall be wire brushed, cleaned and moistened immediately prior to placing new concrete.

3. Place all slabs-on-grade in strip pours of a maximum width of 30 feet with a minimum of 24 hours between adjacent pours. Strip poured slabs shall have sawcut control joints at 15'-0" centers. Sawcutting shall occur within (12) hours of completing the pour.

4. Allow a minimum of three (3) hours between placement of concrete for columns, walls or piers and placement of concrete on the adjacent floor.

Curing and Sealing
1. Provide approved curing compound and sealer for the top surface of all slab work, unless noted otherwise.
2. Provide approved curing compound, sealer, and hardener for all slabs in M.E.P. and storage areas, unless noted otherwise.

Electrical Conduit
1. Conduit shall be steel or rigid plastic only.
2. Maximum conduit diameter is 1/6 the slab depth. (7)
3. Conduit shall be located in the center 1/3 of the slab and as shown in the reinforced concrete slab details.
4. Clear distance between conduits shall be 3 times the conduit diameter.
5. Conduit shall be securely tied to reinforcing to prevent displacement during concrete placement.
6. Conduit shall be placed only in accordance with shop drawings approved by the EOR.

General
1. The Contractor shall submit shop drawings showing the locations of all construction joints, control joints, curbs, slab depressions, sleeves, openings, etc.
2. Concrete beams and slabs shall not be sleeved or boxed-out or have the reinforcing interrupted, except as shown on the Structural Drawings.
3. See Architectural drawings for type and location of all floor finishes, floor depressions and curbs.
4. See Architectural drawings for all waterproofing/dampproofing details.
5. See Architectural, HVAC, Electrical and Plumbing drawings for additional wall/slab openings. No openings, except those shown on the structural drawings, will be allowed in the Tower core walls, link beams, or outrigger/transfer walls.
6. The Contractor shall perform and submit daily instrument surveys of all finished reinforced concrete and metal deck concrete slab surfaces both before and after removal of formwork and/or shoring systems.
7. Conduit and pipe shall not be placed in structural slabs without the approval of the structural engineer. The Contractor shall submit conduit placement drawings indicating locations of cast-in-conduits and pipes. All conduits shall be placed in the middle third of the slab thickness and shall be spaced no closer than 3 diameters or widths on center. No conduit greater than 2 inches may be placed in the structural slabs.
8. The Contractor shall submit for review complete slab sleeve, pipe and conduit placement drawings for each level a minimum of 30 days prior to pouring slab for coordination of embedded items and slab reinforcing.
9. See Specification Section 033000, "Cast-in-Place Concrete" for additional requirements.

REINFORCED CONCRETE SPECIAL REQUIREMENTS

Special Concrete Material Notes
1. See Specifications Section 03300, "Cast-In-Place Concrete," for specific definitions and additional requirements.

2. All concrete shall be specifically designed for the horizontal and vertical pumping distances as required by the construction sequencing.

3. All concrete mixes shall contain approved water reducing plasticizing admixtures in the appropriate ranges for placement.

Special Tower Concrete Formwork Notes
1. See Specification Section 033000, "Cast-In-Place Concrete," for specific definitions and additional requirements.

2. Special consideration shall be given to formwork removal times and concrete moisture retention to insure proper hydration of high strength concrete. If extended primary formwork removal times are not feasible due to the construction sequence, then structural elements of high-performance concrete shall be immediately re-wrapped with moisture maintaining material systems, or other surface applied curing materials for a period of time acceptable to the Engineer-of-Record.

Special Tower Concrete Placement Notes
1. See Specifications Section 03300, "Cast-In-Place Concrete," for specific definitions and additional requirements.

2. The Contractor's program for concrete pumping for Tower structural elements shall be carefully coordinated with horizontal and vertical lift dimensions and alternative systems for staged pumping. Special considerations shall be given to the control and utilization of concrete volume remaining in vertical riser upon completion of specific pumping opertations. Vertical risers shall have capacities for intermediate access points for pumping concrete to elements below the maximum riser height and for proper cleaning of primary risers. Continuous monitoring of concrete quality at the top of the vertical riser including flowability (slump), strength, and aggregate segregation shall occur.

Pumping Test
1. Contractor shall confirm pumpability of mix design(at least of one of 10,000 psi, 12,000 psi, 14,000 psi high-strength concretes) by performing a pump test in accordance with ACI 304.2R, Chapter 4, Paragraph 4.8, unless results from a previous use of the proposed mix in a similar pumping operation are acceptable to the Structural Engineer. See Specification Section 033000, "Cast-In-Place Concrete" for additional requirements.

Special Creep/Shrinkage/Elastic Modulus Testing Program
1. The Contractor shall prepare and submit a " Pre-Construction Creep/Shrinkage and Modular Test Programs" for establishing the long term values for creep and shrinkage coefficients and elastic modulus values for each different concrete mix design noted. This program shall begin prior to Tower superstructure construction. Indicated intervals of testing and reporting of resulting values shall be continued for the full term of the Tower superstructure program.

Special Floor Slab Leveling - Tower
1. After the required power troweling of all floor slab surfaces, and in order to achieve the appropriate floor levelness, the Contractor shall install an acceptable latex based, cementitious flowable fill material system in all interior floor slab areas which will receive applied, non-cementitious, architectural floor finish interior systems (carpet, wood, thin set stone) as the final finish system. The locations, extent, and thickness of the flowable fill will be established from the review of the Contractor's unshored hardened concrete floor slab surveys. These thin flowable concrete fill materials shall be protected from deterioration prior to the placement of the final architectural floor finish systems.

2. The Contractor shall allow for providing 1/2 inch average depth of an acceptable latex based, cementitious flowable fill.

Hot/Cold Weather Concreting
1. Before hot weather(Jot-site conditions that accelerate the rate of moisture loss or rate of cement hydration of freshly mixed concrete, including an ambient temperature of 80° F or higher, and an evaporation rate that exceeds 0.2 lb/ft²/h) concreting and the preplacement conference, Contractor shall submit to Architect/Engineer for review and comment detailed procedures, including production, placement, finishing, curing and protection of concrete during hot weather concreting. Comply with ACI 305R " Hot Weather Concreting". See Specification Section 033000, "Cast-In-Place Concrete" for additional requirements.

2. Before cold weather(A period when for more than three successive days the average daily outdoor temperature drops below 40° F. The average daily temperature is the average of the highest and lowest temperature during the period from midnight to midnight. When temperatures above 50° F occur during more than half of any 24 hr duration, the period shall no longer be regarded as cold weather.) concreting and the preplacement conference, Contractor shall submit to Architect/Engineer for review and comment detailed procedures, including production, placement, finishing, curing and protection of concrete during cold weather concreting. Comply with ACI 306.1R " Standard Specification for Cold Weather Concreting". See Specification Section 033000, "Cast-In-Place Concrete" for additional requirements.

Mass Concrete
1. For area of high-strength mass concrete, including but not limited to, 8,000 psi or greater and the least dimension being equal to or greater than 36 inches, as indicated on the construction documents, a thermal control plan complying with ACI 301, Section 8.1 and acceptable to the registered design professional of record shall be submitted by the contractor.
a. The maxiumn temperature in concrete at point of deposit shall not exceed 70 deg. F; and
b. The maximum temperature in concrete after placement shall not exceed 158 deg. F; and
c. The maximum temperature difference between center and surface of placement shall not exceed 35 deg. F.

Self Consolidatiing Concrete(SCC)
1. All belt walls, outrigger walls, shear walls and hammerhead columns at Level 7 and 30 shall be pumpable Self Consolidating Concrete(SCC) with a minimum 56-day compressive strength of 14,000 PSI at Level 7 and 12,000 PSI at Level 30. Proportion SCC mix with reduced coarse aggregate size, increased paste content, and the addition of superplasticizer and SCC admixture. Provide SCC with properties that will allow flow into all spaces of the formwork, flow through tight openings under its own weight and is resistant to segregation during transport and placing.
a. Cement: Portland Cement Type II (low heat of hydration)
b. Microsilica (Silica Fume): ASTM C1240; Provide 5 - 10% of cement weight; Provide enhanced mixing program to insure complete wetting and dispersion of silica fume
c. Optional Supplementary Cementitious Materials (SCM) (not to be used in combination)
1. Fly Ash (FA): ASTM C618, Class F; maximum 25% (if used)
2. Ground Granulated Blast Furnace Slag (GGBFS): ASTM C989; maximum 45% (if used)
3. See Specification Section 033000, "Cast-In-Place Concrete" for additional requirement
d. Aggregates:
1. Coarse Aggregate: ASTM C33; acceptable washed, clean crushed rock;
2. Fine Aggregate: ASTM C33; acceptable washed, clean crushed rock; beach sand is not acceptable
e. Mixing Water: Clear, drinkable, tasteless, odorless; wash water shall not be used; substitute crushed ice of the same quality water as required to maintain the required concrete temperature; no additional water is to be added at point of concrete deposit
f. High Range Water Reducing Admixture (Superplasticizer): ASTM C494, Type F; acceptable admixture as required to achieve Self Consolidating Concrete
g. Water Reducing Retarding Admixture: ASTM C494, Type D; acceptable admixture to provide minimum retardation of 3 hours
h. SCC Plasticity Testing:
1. Slump-Flow Test: Self Consolidating Concrete mix with a flowable spread diameter of 24" - 30"
2. V-Funnel(Test measuring how quickly SCC passes through a constricted area) flow times shall be between 4 and 10 seconds
3. L-Box and U-Box(Test measuring the passing ability of concrete in congested reinforcement) values and time shall be established for correlation and field quality control.
i. Concrete Temperature: Minimum of 50 deg. F and maximum of 70 deg. F at point of deposit with a maximum heat gain of 88 deg F, resulting in a maximum Concrete Temperature of 158 deg. F at any one time. The maximum temperature difference between center and surface of concrete placement shall not exceed 35 deg. F. The addition of ice as replacement for a portion of the mix water, the refrigeration of mix water, and the cooling of aggregates and cement may be necessary to reduce concrete mix temperature and heat gain; low heat of hydration cement shall be used to control heat gain.

CONCRETE MATERIALS SCHEDULE

ELEMENT	MINIMUM COMPRESSIVE STRENGTH (PSI) (SEE NOTE 1)	DENSITY (PCF)	MINIMUM MODULUS OF ELASTICITY (KSI)	MAX. SIZE AGGREGATE	MAX. W/C RATIO	AIR CONTENT	REMARK
CONCRETE WALL BELOW GROUND LEVEL	5,000	145		3/4"	0.40	4.5% TO 6%	
REINFORCED CONCRETE SLABS LEVEL 2 THRU LEVEL 14 & L72 (7)	10,000 @ 56 DAY	150	6,600 @ 28 DAY	3/4"	0.30	3% MAX.	SEE NOTE 2.
REINFORCED CONCRETE SLABS LEVEL 15 THRU LEVEL 40	8,600	150	5,600 @ 28 DAY	3/4"	0.45	3% MAX.	SEE NOTE 2.
REINFORCED CONCRETE SLABS LEVEL 41 THRU ROOF LEVEL (EXCLUDING L72) (7)	7,200	150	5,100 @ 28 DAY	3/4"	0.45	3% MAX.	SEE NOTE 2.
METAL DECK SLABS	5,000	145		3/4"	0.50	3% MAX.	
TOWER SHEAR WALLS/COLUMNS/ HAMMERHEAD COLUMNS LEVEL 1 THRU LEVEL 14	14,000 @ 56 DAY	150	7,400 @ 28 DAY	3/4"	0.27	3% TO 5% MAX.	SEE NOTE 2 & NOTE 3
TOWER SHEAR WALLS/COLUMNS/ HAMMERHEAD COLUMNS LEVEL 15 THRU LEVEL 40	12,000 @ 56 DAY	150	7,000 @ 28 DAY	3/4"	0.27	3% TO 5% MAX.	SEE NOTE 2.
TOWER SHEAR WALLS/COLUMNS/ HAMMERHEAD COLUMNS LEVEL 41 THRU LEVEL 72	10,000 @ 56 DAY	150	6,600 @ 28 DAY	3/4"	0.30	3% TO 5% MAX.	SEE NOTE 2.
BELT WALLS, SHEAR WALLS AND HAMMERHEAD COLUMNS AT LEVEL 7	14,000 @ 56 DAY	150	7,400 @ 28 DAY	5/8"	0.27	3% TO 5% MAX.	SEE NOTE 2, NOTE 4
BELT WALLS, OUTRIGGER WALLS, SHEAR WALLS AND HAMMERHEAD COLUMNS AT LEVEL 30	12,000 @ 56 DAY	150	7,000 @ 28 DAY	5/8"	0.27	3% TO 5% MAX.	SEE NOTE 2, NOTE 4
MEP PADS/CURBS	5,000	145		3/4"	0.40	3% INTERIOR 3% TO 7% EXTERIOR	
MISC. ARCHITECTURAL CONCRETE FILLS	4,500	115		3/4"	0.40	3% INTERIOR 3% TO 7% EXTERIOR	LIGHTWEIGHT CONCRETE
TOPPING - LATEX BASED, CEMENTITIOUS FLOWABLE FILL	5,500	125					
CONCRETE WALL/SLAB AT CON ED VAULT	5,000	145		3/4"	0.50		SEE NOTE 3.

NOTES:
1. ALL COMPRESSIVE STRENGTHS ARE 28-DAY STRENGTHS UNLESS NOTED OTHERWISE.
2. FLY ASH AND/ OR SLAG TO BE USED AS SUPPLEMENTARY MATERIALS. SILICA FUME REQUIRED FOR F'c ≥ 10,000 PSI. SEE SPECIFICATION SECTION 033000 "CAST IN PLACE CONCRETE" FOR MAXIMUM PERCENTAGE OF CEMENTITIOUS MATERIALS BY WEIGHT. (8) SSK-011-3
3.NO FLY ASH OR SLAG SHALL BE USED AS SUPPLEMENTARY MATERIALS IN CON ED VAULT WALLS AND ROOF . L3 SLAB & BEAMS SUPPORTING VAULTS AND L3 COLUMNS WITHIN VAULT FOOTPRINT SHALL BE 10KSI CONCRETE NO FLY ASH/SLAG MIXES. EPOXY COATED REBAR SHALL BE USED IN VAULT WALLS, ROOF, LEVEL 3 SLAB BENEATH VAULTS, AND COLUMNS WITHIN VAULT FOOTPRINT.
4. CONCRETE SHALL BE PUMPABLE SELF CONSOLIDATING CONCRETE(SCC).

Belt Wall/Outrigger Wall
1. All belt walls, outrigger walls, shear walls and hammerhead columns at Level 7 and 30 shall be pumpable Self Consolidating Concrete(SCC) with minimum compressive strengths and minimum modulus of elasticity as shown on Material Schedule on this sheet.
2. Acceptable locations of Belt wall/Outrigger Wall System vertical wall construction joints shall be established for Structural Engineer to review. The Contractor shall provide layout drawings indicating proposed construction joints required to construct the structure. Location of construction joints is subject to approval of the Structural Engineer.
3. Belt wall/Outrigger wall System concrete shall be placed continuously. Horizontal or vertical cold joints within the separate pour areas are unacceptable. Concrete shall be placed uniformly over the area of the pour and advanced vertically in a uniform fashion. Place concrete simultaneously from a minimum of 3 locations for each pour in order to achieve uniform pouring of concrete.
4. High-strength concrete "puddling" at floor slabs (Level 7, 8, 30 and 31) in the area of belt wall/outrigger wall shall be performed closely followed by surrounding floor concrete. Floor concrete surrounding puddles area shall be completed prior to belt wall/outrigger wall puddles achieving initial set.
5. The Owner's Concrete Testing Laboratory shall continuously inspect and test all Belt Wall/Outrigger Wall System concrete and reinforcing work.
6. The Contractor shall submit to the Structural Engineer for information a complete Methods Statement for the construction of the Belt Wall/Outrigger Wall System and transfer girders. The Methods Statement shall include detailed information outlining the formwork, reinforcement placement, and concreting operations to be utilized in the Work. All elements of the Contractor's Quality Control Program with respect to these areas shall be specifically referenced.
7. Preliminary diagrams of suggested temporary shoring for Belt wall/Outrigger wall system and transfer girders at Level 7, 14, 30 are indicated on belt wall, outrigger wall and transfer girder elevation sheets. See S-371, S-373, S-391. Temporary shoring developed by Contractor with Concrete Trade Contractor including any proposed variations from the suggested temporary shoring shall be submitted to the Architect/Structural Engineer for review prior to construction.
8. See Specification Section 033000 "Cast-In-Place Concrete" for additional requirements.

Additional Concrete Test
The following is the list of additional concrete tests. The Contractor shall prepare and submit the addtional concrete testing programs.
1. Pre-construction moduli tests
2. Pre-construction creep/shrinkage tests
3. Pre-construction heat of hydration tests for Mass Concrete
4. Pre-construction pumping tests
5. Modified slump testing for high slump concrete (not SCC concrete)
6. Concrete coring tests
7. Field dynamic concrete modulus tests conforming to the standards of ASTM C469

Erection
1. The Contractor shall be responsible for the control of all erection procedures and sequences, especially with relation to temperature differentials, erection tolerances of concrete structure.

2. Each concrete slab shall be poured to level to the slab elevations noted in Top of Slab Elevation Schedule(S-003) and not by floor-to-floor dimensions.

3. Survey the tops of all columns, walls and slabs. Record X, Y & Z coordinates measured consistently from an established benchmark. Provide a copy of the survey data to the Architect and Structural Engineer within two days of the completion of each survey.

4. All erection procedures, designs and calculations shall be performed by the Contractor's qualified professional engineer licensed in the State of New York. Any review of such calculations and/or drawings by the Architect/Engineer will be solely limited to any effects on the integrity of the permanent primary structure.

5. All additional temporary shoring required by the Contractor for erection purposes and site access of stockpiled materials shall be provided at no cost to the owner.

Steel Stud Rail for Shear Reinforcement of Concrete Slab
1. Steel Stud Rail for shear reinforcement in slab shall conform to the standards of ASTM A1044.

2. The design of shear reinforcement in slab shall be in accordance with the procedures and requirements outlined in the "Guide to Shear Reinforcement for Slabs," ACI 421-08 and "Building Code Requirements for Reinforced Concrete," ACI 318-08.

3. Tolerances for dimensions, So(spacing between first peripheral line of shear reinforcement and column face) and S(spacing between peripheral lines of shear reinforcement) shall not exceed +/- 1/2". Tolerance for the distance between column face and outermost peripheral line of studs shall not exceed +/- 1 1/2" in accordance with ACI 421. See ACI 421 for additional tolerance requirement.

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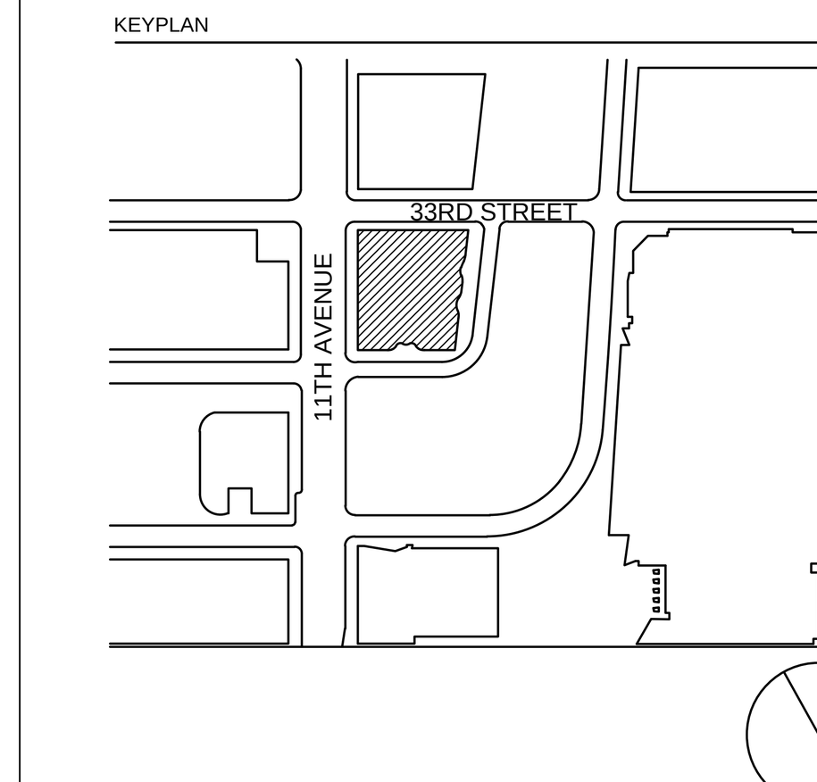

SEAL
STATE OF NEW YORK
CHARLES MICHAEL BESJAK
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LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION
9	20 JAN 2017	ISSUED TO DOB
8	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
7	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
6	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
5	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE
STRUCTURAL CONCRETE NOTES

B-SCAN - DRAWING NUMBER
S-004.01

DRAWING NUMBER
S-004

PAGE NUMBER

STRUCTURAL STEEL NOTES

GENERAL NOTES

1. All existing conditions shown in the drawings shall be verified by the contractor including platform steel stubs, framing layouts, member sizes, and slab openings. The Architect/Structural Engineer shall be notified of any deviations prior to the commencement of shop drawings and fabrication.

2. Where interface with existing Platform construction occurs, the existing construction shall be surveyed and such survey submitted, for Structural Engineer's information, before related shop drawings are prepared.

3. In the regions where existing steel is to receive new welding, all fireproofing, rust, loose mill scale, paint, concrete encasement, and foreign materials shall be removed.

4. Locate and mark all existing concrete reinforcement prior to the installation of new anchors; Avoid all existing reinforcement.

5. Grout shall be non-metallic meeting the requirements of ASTM C1107; Compressive strength shall be a minimum of 5500 psi at 7 days, and 6500 psi at 28 days.

6. The existing steel material properties should be noted.

7. Contractor shall verify the results of the geometric surveys and structural conditions surveys performed.

8. Contractor shall be responsible for the structural design, installation, sequencing, and removal of all temporary works.

General Steel Notes

1. The structural steel fabricator shall be AISC certified.

2. All detailing, fabrication and erection shall conform to AISC (LRFD) specifications and codes, 2005 as modified by Chapter 22 Section 2205 and 2212 of 2014 New York City Building Code.

3. All welding work shall conform to the AWS D1.1 "Structural Welding Code - Steel," latest edition, and shall be performed by AWS certified welders.

4. All steel beam sizes followed by a number in parentheses, (XX), are composite beams with shear studs. See "Structural Metal Deck Notes" for additional information.

5. Composite beams are not required to be shored, unless noted otherwise.

6. There shall be no field cutting of structural steel members for the work of other trades without prior review by the Architect.

7. All structural steel shall be fireproofed to attain the applicable fire rating required by the New York City Building Code with UL approved sprayed-on cementious fireproofing materials. See the Architectural drawings for specific fireproofing requirements. All permanently exposed fireproofing to receive tamping and sealer.

8. After fabrication and just prior to site application of spray-on fireproofing, all steel shall be cleaned of all rust, loose mill scale and other foreign materials. Priming and painting of the structural steel will not be required except for steel which is permanently exposed.

9. See Specification Section 051200, "Structural Steel Framing," for additional requirements not noted herein.

Materials

1. Structural steel grades shall be as follows:

W-Shapes:	ASTM A992 Grade 50
Angles & Channels:	ASTM A36
Plates:	ASTM A572 Grade 50, ASTM A1066 Grade 65
HSS:	ASTM A500 Grade B
Pipe:	ASTM A53, Type E, Grade B

2. Connection material requirement shall be as follows:

Bolts:	ASTM A325 or ASTM A490
Nuts:	ASTM A563
Washers:	ASTM F436
Anchor Rods:	ASTM F1554 Grade 55
Shear Stud Connectors	ASTM A108, Type B, Fu = 65

3. All welding electrodes shall be E70XX for 50 ksi steel and E80XX for 65 ksi steel.

Connections

1. All connections shall be designed and detailed by the fabricator. Detailing shall be performed using rational engineering design and standard practice in accordance with the requirements of the Contract Documents. The general details shown on the drawings are conceptual only and do not indicate the required number of bolts or weld sizes, unless specifically noted. The contractor shall submit engineering calculations and connection details drawings for each connection type, member size, and reaction indicated on the drawings for review by the Architect prior to the submittal of the structural steel shop drawings. After review by the Architect, these details drawings shall be utilized as the standard for fabrication and shop drawing detailing. The design calculation shall be prepared and sealed by a qualified Structural Engineer licensed in the State of New York.

2. All connections, unless noted otherwise shall be simple shear connection utilizing short-slotted holes and high-strength bolts in bearing-type connections with threads excluded from the shear plane. The connections shall develop the beam end reactions listed in note 5 below or as listed in plan.

3. Beam-to-column and beam to girder connections shall be moment connected where shown on the drawings. All bolted moment connections shall utilize "Slip-Critical" bolts. The web shear connection for these members shall utilize single shear plate slip-critical type connections with high-strength bolts. These connections shall develop the beam end reactions listed in note 5 below or as listed in plan.

4. All bolts shall be fully torqued for both friction and bearing type connections.

5. Typical minimum beam factored end reactions: (UNO)

W44	255 kips	W18	60 kips	HSS 16	55 kips	BU 11	30 kips
W40	230 kips	W16	40 kips	HSS 14	45 kips		
W36	210 kips	W14	40 kips	HSS 12	30 kips		
W33	185 kips	W12	30 kips	HSS 10	20 kips		
W30	160 kips	W10	20 kips	HSS 8	15 kips		
W27	135 kips	W8	15 kips	HSS 6	15 kips		
W24	110 kips	W6	10 kips				
W21	80 kips	W5	10 kips				

Any end reaction exceeding the values listed above is noted on the structural framing plans in a schedule or in a box at the member end.

6. The minimum number of bolts per connection shall be two (2) - 3/4 inch diameter, A325 bolts.

7. Minimum fillet weld sizes shall comply with the AISC specification requirements, but shall not be less than 1/4 inch, unless noted otherwise.

Detailing and Fabrication

1. The Contractor shall submit detailed, engineered, coordinated and checked shop drawings for all structural steel to the Architect/Engineer for review prior to the start of fabrication.

2. All beams and trusses shall be fabricated with the natural camber up. Provide additional camber as indicted in brackets <XX> on the structural drawings.

3. All simple shear connections shall be capable of and rotation according to the requirements of AISC Specification, Chapter J1.2. "Simple Connections." and Section BC 2212 of 2014 New York City Building Code

4. All beams framing into new and/or existing concrete or masonry walls shall be detailed to suit the horizontal field tolerances.

Detailing and Fabrication of Built-Up Plate Steel Column Embedded Into Concrete Column/Wall

1. The Steel Fabricator/Erector shall provide specific welding sequences for the shop/field welding of the built-up plate steel column.

2. AWS/AISC pre-heating of heavy plate prior to, during, and after welding at each weld shall be carefully monitored.

3. Sequence of placing of shear stud and rebar couplers on the external face of the built-up plate steel column shall be carefully coordinated with plate welding sequence.

Erection

1. The Contractor shall be responsible for the control of all erection procedures and sequences, especially with regard to temperature differentials, erection tolerances, and with respect to structural steel framing into reinforced concrete walls, beams or columns.

2. All erection procedures, designs and calculations shall be performed by the Contractor's qualified Structural Engineer registered in the State of New York. Any review of such calculations and/or drawings by the Architect and the Engineer will be solely limited to any effects on the integrity of the permanent primary structure.

3. All additional steel required by the Contractor for erection purposes and site access of stockpiled materials shall be provided at no cost to the Owner. All such additional steel shall be removed by the Contractor unless approved by the Owner in writing.

4. The contractor shall submit a Method Statement for all structural steel/metal deck erection programs.

5. Non-Self-Supporting Steel Frames
The steel structure of steel cores embedded into columns, floor beams, columns is a non-self-supporting frame and is required to provide stability and strength to resisting the loads for which the frame is designed. The contractor shall provide and install temporary supports as necessary until the complete structure is erected.

Testing and Inspection

Testing and inspection of both shop and field structural steel fabrication and erection work, including welded and bolted connections, shall meet the following requirements:

1. All structural steel fabrication and erection shall be visually inspected.

2. All welders shall be AWS certified.

3. All welds shall be AWS/AISC prequalified.

4. All welds shall be visually inspected per AWS D1.1. Weld measurements shall be performed for 15% of all welds on a random basis.

5. Magnetic particle testing in accordance with ASTM E709 shall be performed for a minimum of:
   a. 10% of all fillet and partial penetration welds chosen at random, final phase only.

   b. 100% of tension member connection welds (i.e., hanger connection plates, etc.) for root and final passes.

6. Ultrasonic testing in accordance with AWS D1.1 shall be performed for a minimum of:
   a. 100% of all full penetration welds.

   b. 20% of all column splice welds, chosen at random.

7. Ultrasonic testing and visual inspection in accordance with ASTM A435, Straight Beam Ultrasonic Examination of Steel Plates, or ASTM A898, Straight Beam Ultrasonic Examination of Rolled Steel Structural Shapes, as applicable shall be performed to test base materials for laminations, inclusions, or other discontinuities as follows:

   a. All steel plates used in embedded steel column core greater than 1 1/2" thick

   b. Base metal thicker than 1 1/2", subjected to through thickness weld shrinkage, will be ultrasonically tested directly behind such welds 48 hours or more after completion of welding.

8. All bolted connections shall be visually inspected and tested with a calibrated torque wrench to verify a minimum of 25% of bolts in each connection (2 bolts per connection minimum).

9. The required contact surface conditions of all shear connections shall be visually inspected immediately prior to beam erection. The Contractor shall be responsible for all remedial work required to contact surfaces.

10. The Owner's Structural Steel Testing shall perform all field inspection and testing work outlined above and monitor the Contractor's inspection and testing program outlined above for all shop work.

11. The Structural Steel Fabricator and Erector shall schedule all work to allow the above inspection and testing requirements to be completed.

Structural Steel Painting

1. All structural steel shall be cleaned and painted as required by the technical specifications.

2. All structural steel to receive sprayed-on fireproofing and/or to be encased in concrete does not require painting unless noted otherwise. See S-512.

3. All exterior structural steel exposed to weather to receive sprayed-on fireproofing shall require cleaning and painting systems. See Specification 09 91 00 Painting for requirement.

4. All structural steel at Plenum located below ground floor shall receive intumescent paint for fireproofing.

5. The following structural steel elements require cleaning and painting systems as required by the technical specifications:

   a. Elevator divider beams
   b. Not-fireproofed, interior structural steel
   c .Intermediate horizontal box member supporting cladding

6. The following structural steel elements require hot-dip galvanizing per ASTM A123 as required by the technical specifications; All bolts, nuts, washers for connection of hot-dip galvanized steel shall be galvanized per ASTM A153; High-Strength bolts for connection of hot-dip galvanized steel shall be galvanized A325 bolts; All galvanized A325 bolts shall require lubrication prior to installing nuts; All washers, nuts, base plates, gusset plates, stiffener plates, anchor bolts for connection of hot-dip galvanized steel shall be galvanized:

   a. South, East Canopy
   b. Parapet steel structure at roof
   c. Cooling tower dunnage structural steel
   d. Water tank dunnage structural steel
   e. Perimeter cladding support steel at plenums

Composite Metal Deck

1. All composite metal deck shall be fabricated from steel type ASTM A653/A653M having a minimum yield strength of 33,000 psi. See Metal Deck Schedules for required yield strength. All roof decking shall be hot-dipped galvanized as indicated in the specification.

2. All composite metal deck and metal deck accessories shall be designed for the span and loading conditions shown on the structural drawings.

3. Composite metal deck section properties shall be computed in accordance with the AISI "specification for the design of cold formed steel structural members," latest edition.

4. The minimum gage of all composite metal decks shall be 18 gage when the concrete topping slab thickness (Tc, see schedule S-531) is less than or equal to 4 1/2" and 16 gage when concrete topping slab thickness is greater than 4 1/2".

5. The metal deck contractor shall submit, to the Architect/Structural Engineer for review, structural engineering calculations, prepared and sealed by a qualified, Professional Engineer registered in the State of New York.

6. The contractor shall provide detailed and checked shop drawings indicating location, gage, and size of each piece of decking and related decking accessory. The drawings shall clearly show welding and screwed details to structural framing elements, side lap connection details, deck opening/edge closures, and supplementary deck and/or closure reinforcing.

7. All composite decking shall be welded to structural steel by qualified welders using pre-qualified procedures. The technical specifications establish a procedure for pre-qualifications of the plug welding of the steel decking to the structural steel for the particular gages used. Prior to the start of erection of the steel deck, each welder shall be qualified using this procedure as witnessed by the owner's structural steel testing laboratory.

8. All composite metal deck shall be welded at 12 inches maximum on center to the supporting steel with a 3/4 inch diameter plug weld. Sidelaps shall be welded 24 inches maximum on center.

9. The deck shall be designed for an assumed suitable construction live load taking into consideration span and load conditions indicated by the supporting framework, openings, and actual deck piece sizes utilized. The assumed construction live load shall not be less than 20 psf. Additionally, follow all applicable city, local, and AISI requirements for temporary construction loadings, if more stringent.

10. Provide continuous deck closures at all deck ends and edges.

11. Provide, as required, column closures, cant strips, sump plates at piping penetrations, and recessed sump pans at drains. Provide supplemental framing, including reinforcing plates and steel angles at openings as required to support the metal deck. All openings shall be coordinated with the architectural and mechanical drawings. Steel and/or metal deck shop drawings shall include all supplemental deck support angles, plates and other accessories necessary to support and close the composite deck at edges, column locations etc.

12. No loads exceeding 50 lbs. shall be permitted to be hung from the deck. All hangers for ductwork, piping, etc. shall be hung directly from structural steel framing or supplementary members. All hanging load details shall be submitted for review.

13. Composite metal deck design criteria: (cellular and non-cellular decks)

A. Metal Deck: (construction loads only)

A.A. Maximum deck deflection for concrete wet weight shall be less than or equal to L/240, but not to exceed ½", computed either on a single span basis, or on loading only one (1) span for multiple span conditions.

A.B. Maximum stress in deck for concrete wet weight and construction loads shall be less than or equal to 0.6 fy (fy = yield stress) computed on a single span basis, or on loading two adjacent spans for multiple span conditions.

A.C. Allow for an average of 5 psf wet concrete weight for concrete leveling (as per specifications) in addition to the specified slab thickness, for stress and deflection calculations.

A.D. Provide deck shoring, if required, to meet the conditions of items No. A.A., A.B., and A.C. above.

A.E. All form decks, for reinforced concrete slabs, shall be designed for the same criteria stated in items No. A.A., A.B., A.C., and A.D. above.

B. Composite Metal Deck Slab: (Final Design Load)

A.A. The deck shall develop full composite action for imposed loads as shown in the deck schedule.

A.B. Maximum deflection under superimposed load shall be less than or equal to L/360.

A.C. Maximum stress in deck for total load using appropriate non-composite and composite properties shall be less than or equal to 0.75 fy.

A.D. Maximum allowable stress in concrete shall be as per ACI 318-08.

A.E. The composite deck shall be designed on the basis of obtaining a minimum factor of safety of 2 for the total superimposed load on a single span basis. Test results shall be furnished to substantiate the factor of safety.

14. Provide continuous sheet metal closures at all slab openings and slab edges and continuous deck closures at all deck ends.

15. Provide supplemental structural steel framing, including beams, angles and/or reinforcing plates, as required for support of the metal deck. All slab openings shall be coordinated with architectural and mechanical drawings.

Shear Studs

All shear stud placement diagrams shown on the structural drawings represent idealized conditions and actual framing configurations may require additional modifications and interpretations.

1. The contractor shall submit shop drawings indicating the shear stud layout including type, size, spacing, and grouping of studs for each beam.

2. The number of studs shown on the drawings includes reductions based on rib width, number of studs per cell, deck rib orientation, and slab thickness as per AISC specifications for composite construction Chapter I of LRFD (2008 edition), and as noted below. The assumed horizontal shear stud design value for a nominal 3/4" diameter x 6" long stud is 12.0 kips per stud for normal weight concrete. The metal deck contractor shall submit load test data verifying the horizontal shear capacity of the shear studs for different deck types and cell configurations, as detailed on the shop drawings. Only if any of the above assumptions are violated, the metal deck contractor shall submit structural design calculations, prepared by a qualified structural engineer, based on the detailed shop drawings. Provide all extra studs as may be required to achieve the total horizontal shear capacity.

3. Maximum spacing of studs shall be 12" on center.

4. Shear studs shall be either welded directly to structural steel elements at locations without deck or welded through the metal deck slab by prequalified methods. If through deck welding is unfeasible, the studs shall be installed in pre-punched holes in the metal deck. The contractor shall establish specific welding requirements for each thickness of framing element and/or gauge metal deck slab.

5. Installation: The contractor shall submit a complete method statement for the installation of all metal deck and related work in all locations, including the movement of metal deck/shear studs to the required locations, sequences of installation, completion and testing/inspection of all connections, cleaning of the metal deck, coordination with existing concrete element conditions, final metal deck galvanizing repair, and control of all thermal and environmental conditions including shading devices which may affect the metal deck installation.

6. The owner's testing agency shall inspect and test all metal deck and shear stud fabrication and installation work.

7. The owner's testing agency will monitor all tests and reports of the contractor's testing agency and the contractor's work.

8. All elevations are referenced to a local site datum.

9. The contractor shall meet all additional requirements of the respective local codes and regulations for all work.

10. See technical specification section "Steel Decking," for additional requirements.

11. Refer to MEP and architectural drawings for exact size and location of sleeves and openings. Shop drawings shall be submitted for approval.

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Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
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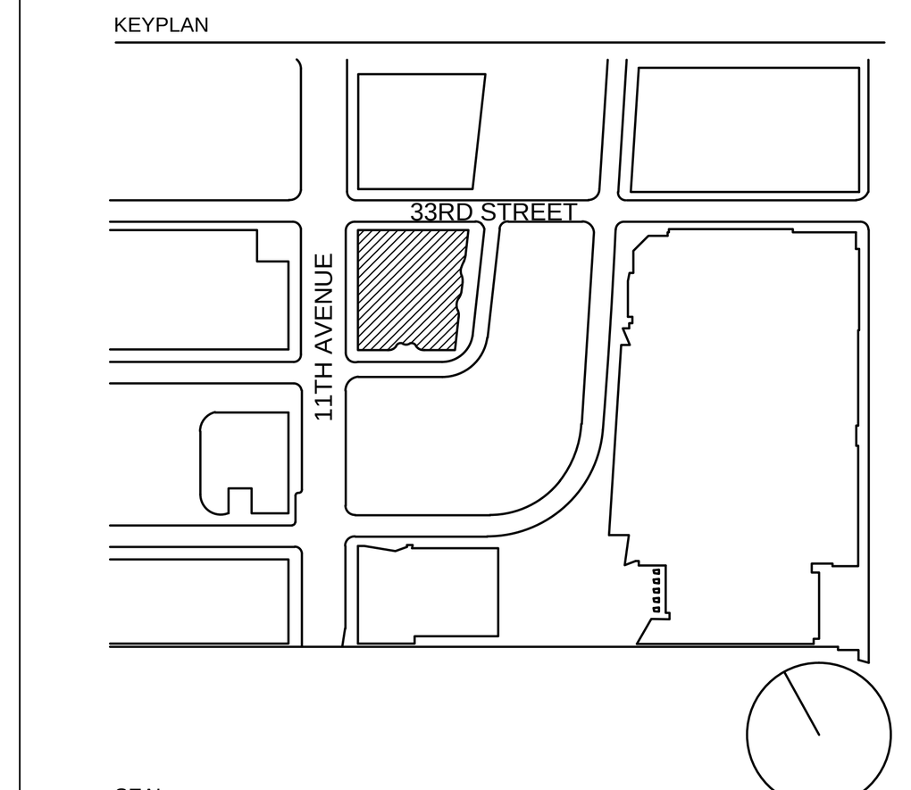
KEYPLAN



SEAL

NO.	DATE	DESCRIPTION
9	20 JAN 2017	ISSUED TO DOB
8	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
7	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
6	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
5	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
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3	15 JAN 2015	ISSUED TO DOB
2	19 DEC 2014	ISSUED FOR STEEL BID
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

STRUCTURAL STEEL NOTES

B-SCAN - DRAWING NUMBER

S-005.01

DRAWING NUMBER

S-005

TENSION DEVELOPMENT LENGTH

BAR SIZE	f'c = 4000 psi				f'c = 5000 psi				f'c = 7000 psi				f'c = 8000 psi				f'c = 10000 psi, 12,000 psi and 14,000 psi			
	TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	19	28	15	22	17	25	13	19	14	21	12	16	13	20	12	15	12	18	12	14
#4	25	37	19	29	22	33	17	26	19	28	15	22	18	26	14	20	16	24	12	18
#5	31	47	24	36	28	42	22	32	24	35	18	27	22	33	17	25	20	30	15	23
#6	37	56	29	43	33	50	26	38	28	42	22	33	26	40	20	30	24	35	18	27
#7	54	81	42	63	49	73	37	56	41	61	32	47	38	58	30	44	34	51	27	40
#8	62	93	48	71	55	83	43	64	47	70	36	54	44	66	34	51	39	59	30	45
#9	70	105	54	81	63	94	48	72	53	79	41	61	49	74	38	57	44	66	34	51
#10	79	118	61	91	70	105	54	81	59	89	46	69	56	83	43	64	50	75	38	57
#11	87	131	67	101	78	117	60	90	66	99	51	76	62	93	48	71	55	83	43	64
#14	105	157	81	121	94	140	72	108	79	119	61	91	74	111	57	85	66	99	51	76
#18	139	209	107	161	125	187	96	144	106	158	81	122	99	148	76	114	88	132	68	102

NOTES : 1. TABULATED TENSION DEVELOPMENT LENGTHS ARE GIVEN IN INCHES, AND ARE CALCULATED FOR REINFORCEMENT CONFORMING TO ASTM A615 GRADE 60 AS PER THE REQUIREMENTS OF ACI 318-08.
2. CASES 1 AND 2 DEPEND UPON CONCRETE COVER AND THE CENTER-TO-CENTER SPACING OF THE BARS, DEFINED AS FOLLOWS:

CASE 1: CLEAR SPACING AT LEAST ONE (1) BAR DIAMETER
CLEAR COVER AT LEAST ONE (1) BAR DIAMETER
STIRRUPS OR TIES THROUGHOUT THE DEVELOPMENT LENGTH NOT LESS THAN THE CODE MINIMUM
OR
CLEAR SPACING AT LEAST TWO (2) BAR DIAMETERS
CLEAR COVER AT LEAST ONE (1) BAR DIAMETER

CASE 2: ALL OTHER CASES

3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
4. TABULATED TENSION DEVELOPMENT LENGTHS HAVE BEEN CALCULATED WITH RESPECT TO NORMALWEIGHT CONCRETE. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
5. FOR EPOXY COATED BARS, MULTIPLY THE TABULATED VALUES BY ONE OF THE FOLLOWING FACTORS:
1.5 FOR EPOXY COATED BARS WITH COVER LESS THAN 3 BAR DIAMETERS, OR CLEAR SPACING LESS THAN 6 BAR DIAMETERS
1.2 FOR ALL OTHER EPOXY COATED BARS
6. FOR GRADE 75 REINFORCING BARS, LENGTHS MUST BE MULTIPLIED BY 1.25
7. FOR GRADE 80 REINFORCING BARS, LENGTHS MUST BE MULTIPLIED BY 1.34

TENSION LAP SPLICE LENGTH

BAR SIZE	LAP CLASS	f'c = 4000 psi				f'c = 5000 psi				f'c = 7000 psi				f'c = 8000 psi				f'c = 10000 psi, 12,000 psi and 14,000 psi			
		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	A	19	28	15	22	17	25	13	19	14	21	12	16	13	20	12	15	12	18	12	14
	B	24	36	19	28	22	33	17	25	18	28	14	21	17	26	13	20	16	23	12	18
#4	A	25	37	19	29	22	33	17	26	19	28	15	22	18	26	14	20	16	24	12	18
	B	32	48	25	37	29	43	22	33	25	37	19	28	23	34	18	26	21	31	16	24
#5	A	31	47	24	36	28	42	22	32	24	35	18	27	22	33	17	25	20	30	15	23
	B	40	60	31	47	36	54	28	42	31	46	24	35	29	43	22	33	26	38	20	30
#6	A	37	56	29	43	33	50	26	38	28	42	22	33	26	40	20	30	24	35	18	27
	B	48	72	37	56	43	65	33	50	37	55	28	42	34	51	26	40	31	46	24	35
#7	A	54	81	42	63	49	73	37	56	41	61	32	47	38	58	30	44	34	51	27	40
	B	70	106	54	81	63	94	49	73	53	80	41	61	50	75	38	58	45	67	34	51
#8	A	62	93	48	71	55	83	43	64	47	70	36	54	44	66	34	51	39	59	30	45
	B	80	121	62	93	72	108	55	83	61	91	47	70	57	85	44	66	51	76	39	59
#9	A	70	105	54	81	63	94	48	72	53	79	41	61	49	74	38	57	44	66	34	51
	B	91	136	70	105	81	122	63	94	69	103	53	79	64	96	49	74	57	86	44	66
#10	A	79	118	61	91	70	105	54	81	59	89	46	69	56	83	43	64	50	75	38	57
	B	102	153	79	118	91	137	70	105	77	116	59	89	72	108	56	83	65	97	50	75
#11	A	87	131	67	101	78	117	60	90	66	99	51	76	62	93	48	71	55	83	43	64
	B	113	170	87	131	101	152	78	117	86	128	66	99	80	120	62	93	72	108	55	83

NOTES : 1. TABULATED TENSION LAP SPLICE LENGTHS ARE GIVEN IN INCHES, AND ARE CALCULATED FOR REINFORCEMENT CONFORMING TO ASTM A615 GRADE 60 AS PER THE REQUIREMENTS OF ACI 318-08.
2. CASES 1 AND 2 DEPEND UPON CONCRETE COVER AND THE CENTER-T0-CENTER SPACING OF THE BARS, DEFINED AS FOLLOWS:

CASE 1: CLEAR SPACING AT LEAST ONE (1) BAR DIAMETER
CLEAR COVER AT LEAST ONE (1) BAR DIAMETER
STIRRUPS OR TIES THROUGHOUT THE DEVELOPMENT LENGTH NOT LESS THAN THE CODE MINIMUM
OR
CLEAR SPACING AT LEAST TWO (2) BAR DIAMETERS
CLEAR COVER AT LEAST ONE (1) BAR DIAMETER

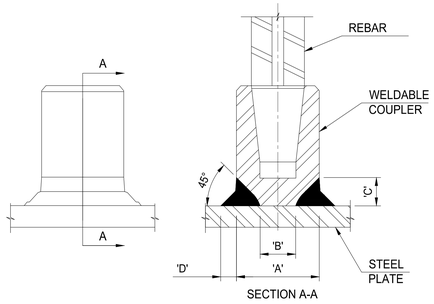
CASE 2: ALL OTHER CASES

3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
4. TABULATED TENSION DEVELOPMENT LENGTHS HAVE BEEN CALCULATED WITH RESPECT TO NORMALWEIGHT CONCRETE. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
5. FOR EPOXY COATED BARS, MULTIPLY THE TABULATED VALUES BY ONE OF THE FOLLOWING FACTORS:
1.5 FOR EPOXY COATED BARS WITH COVER LESS THAN 3 BAR DIAMETERS, OR CLEAR SPACING LESS THAN 6 BAR DIAMETERS
1.2 FOR ALL OTHER EPOXY COATED BARS
6. PROVIDE CLASS"B" SPLICE UNLESS NOTED OTHERWISE.
7. FOR GRADE 75 REINFORCING BARS, LENGTHS MUST BE MULTIPLIED BY 1.25
8. FOR GRADE 80 REINFORCING BARS, LENGTHS MUST BE MULTIPLIED BY 1.34
9. ACI 318 DOES NOT ALLOW TENSION LAP SPLICES OF #14, #18 OR #20 BARS.

As PROVIDED / As REQUIRED	MAXIMUM PERCENT OF As SPLICED WITHIN REQUIRED LAP LENGTH	
	50	100
EQUAL TO OR GREATER THAN 2	CLASS A	CLASS B
LESS THAN 2	CLASS B	CLASS B

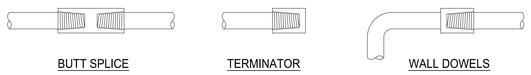
WELD SIZE FOR COUPLER TO BE ARC-WELDED TO STRUCTURAL PLATES AND SHAPES								
REBAR SIZE	REBAR GRADE	ACI 318 TYPE 2 FORCE SPECIFIED TENSILE STRENGTH (LB)	COUPLER (SEE NOTE 2)	DIMENSIONS (INCH) (SEE NOTE 3)				REMARK
				A	B	C	D	
#4	60	18,000	EL12C2 OR EQUIVALENT	0.750	0.438	0.311	0.152	
#5	60	27,900	EL16C2 OR EQUIVALENT	1.000	0.563	0.374	0.165	
#6	60	39,600	EL20C3J OR EQUIVALENT	1.250	0.875	0.343	0.189	
#7	60	54,000	EL22C3J OR EQUIVALENT	1.250	0.750	0.405	0.296	
#8	60	71,100	EL25C3J OR EQUIVALENT	1.563	1.000	0.436	0.280	
#9	60	90,000	EL28C3J OR EQUIVALENT	1.563	0.938	0.468	0.415	
#10	60	114,300	EL32C3J OR EQUIVALENT	2.000	0.938	0.686	0.336	
#11	60	140,400	EL36C3J OR EQUIVALENT	2.000	1.125	0.593	0.471	
#14	80	236,250						SEE NOTE 4
#18	80	420,000						SEE NOTE 4
#20	80	515,550						SEE NOTE 4

NOTE: 1. USE E80XX ELECTRODES WITH STEEL THAT HAS A YIELD STRESS OF 65 KSI AND E70XX ELECTODES WITH STEEL THAT HAS A YIELD STRESS OF 50 KSI
2. PROVIDE LENTON WELDABLE COUPLER C3J TO BE ARC-WELDED TO STRUCTURAL PLATES AND SHAPES OR COUPLERS THAT MEET OR EXCEED STRENGTH OF EQUIVALENT LENTON WELDABLE COUPLER.
3. WHEN DIMENSIONS A, B, C OF COUPLERS TO BE INSTALLED ARE DIFFERENT FROM THOSE OF COUPLERS IN THE ABOVE TABLE, THE CONNECTION WITH WELD SIZE OF THE COUPLERS SHALL DEVELOP THE ACI 318 TYPE 2 FORCES INDICATED ON THE ABOVE TABLE.
4. WELD SIZE OF WELDABLE COUPLERS FOR #14, #18 OF WHICH THE GRADE IS SPECIFIED 80 KSI SHALL DEVELOP THE ACI 318 TYPE 2 FORCES INDICATED ON THE ABOVE TABLE.

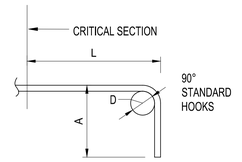


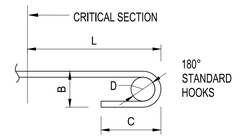
SECTION A-A

LENTON MECHANICAL SPLICES



5 NOTE: USE LENTON MECHANICAL SPLICES OR MECHANICAL SPLICES THAT MEET OR EXCEED STRENGTH OF EQUIVALENT LENTON SPLICE.





STANDARD HOOK DETAILING GEOMETRY AND TENSION DEVELOPMENT LENGTH

BAR SIZE	D	90° HOOKS	180° HOOKS		TENSION DEVELOPMENT LENGTH				
		A	B	C	f'c = 4000 psi	f'c = 5000 psi	f'c = 7000 psi	f'c = 8000 psi	f'c = 10000 psi, 12000 psi, 14000 psi
#3	2-1/4	6	3	5	7	7	6	6	6
#4	3	8	4	6	10	9	7	7	6
#5	3-3/4	10	5	7	12	11	9	9	8
#6	4-1/2	12	6	8	15	13	11	10	9
#7	5-1/4	14	7	10	17	15	13	12	11
#8	6	16	8	11	19	17	15	14	12
#9	9-1/2	19	11-3/4	15	22	19	16	15	14
#10	10-3/4	22	13-1/4	17	24	22	19	17	16
#11	12	24	14-3/4	19	27	24	21	19	17
#14	18 1/4"	31	21-3/4	27	32	29	25	23	21
#18	24	41	28-1/2	36	43	39	33	31	27

NOTE : 1. TABULATED TENSION DEVELOPMENT LENGTHS AND STANDARD HOOK DETAILING GEOMETRY DIMENSIONS ARE GIVEN IN INCH, AND ARE CALCULATED FOR ASTM A615 GRADE 60 AS PER THE REQUIREMENTS OF ACI 318 (2005).
2. 'D' REPRESENTS THE STANDARD HOOK FINISHED INSIDE BEND DIAMETER.
'A', 'B', AND 'C' REPRESENT DETAILING DIMENSIONS AS DEFINED IN THE KEY DETAILS
TABULATED TENSION DEVELOPMENT LENGTHS HAVE BEEN CALCULATED WITH RESPECT TO NORMAL WEIGHT CONCRETE.
FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3
FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED VALUES BY 1.2

COMPRESSION DEVELOPMENT LENGTH AND COMPRESSION LAP SPLICE LENGTH

BAR SIZE	COMPRESSION DEVELOPMENT LENGTH	COMPRESSION LAP SPLICE		
		fy = 60 ksi	fy = 75 ksi	fy = 80 ksi
#3	9	12	17	18
#4	11	15	21	24
#5	14	19	28	30
#6	17	23	33	36
#7	19	27	39	42
#8	22	30	44	48
#9	25	34	50	55
#10	28	38	56	61
#11	31	43	62	68
#14	38	-	-	-
#18	50	-	-	-

NOTE:
1. TABULATED COMPRESSION DEVELOPMENT LENGTHS AND COMPRESSION LAP SPLICES ARE GIVEN IN INCHES
2. TABULATED COMPRESSION DEVELOPMENT LENGTHS ARE CALCULATED FOR fy = 60 ksi.
FOR GRADE 75 REINFORCING BARS, COMPRESSION DEVELOPMENT LENGTHS = 1.25 X TABLE VALUE.
FOR GRADE 80 REINFORCING BARS, COMPRESSION DEVELOPMENT LENGTHS = 1.34 X TABLE VALUE.
ALL CONCRETE WITH f'c GREATER THAN OR EQUAL TO 3,000 PSI

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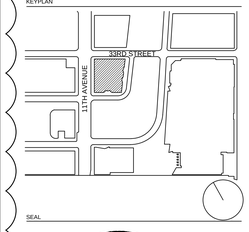
KEYPLAN



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DRAWING TITLE

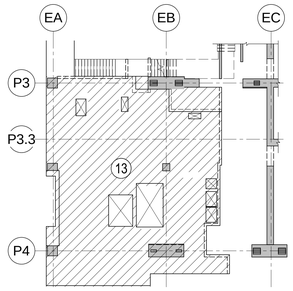
STRUCTURAL CONCRETE NOTES

B-SCAN - DRAWING NUMBER
S-006.00 1

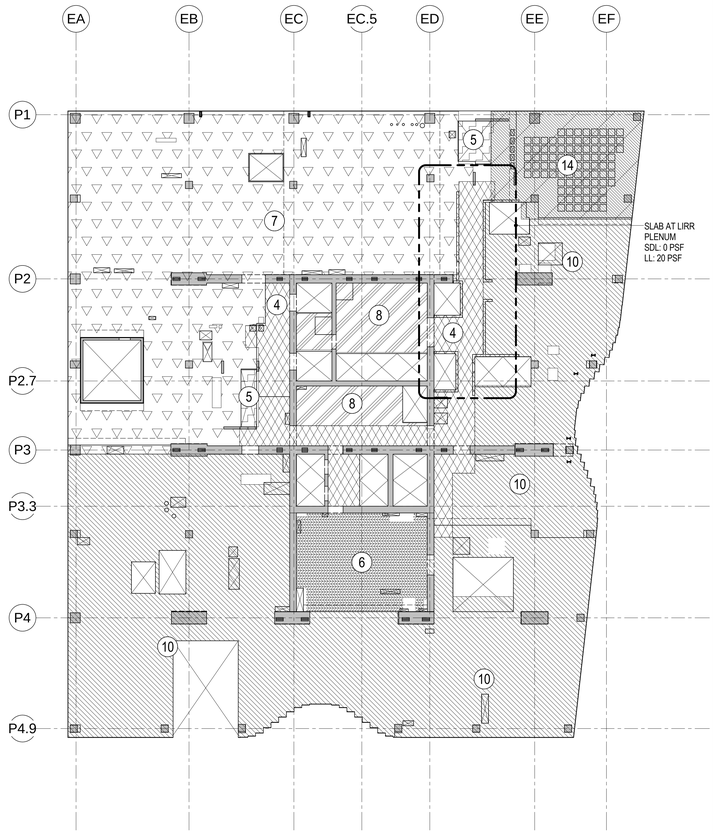
DRAWING NUMBER
S-004A

PAGE NUMBER
6 OF 112

1 LEVEL 1 LOADING DIAGRAM
1/16" = 1'-0"



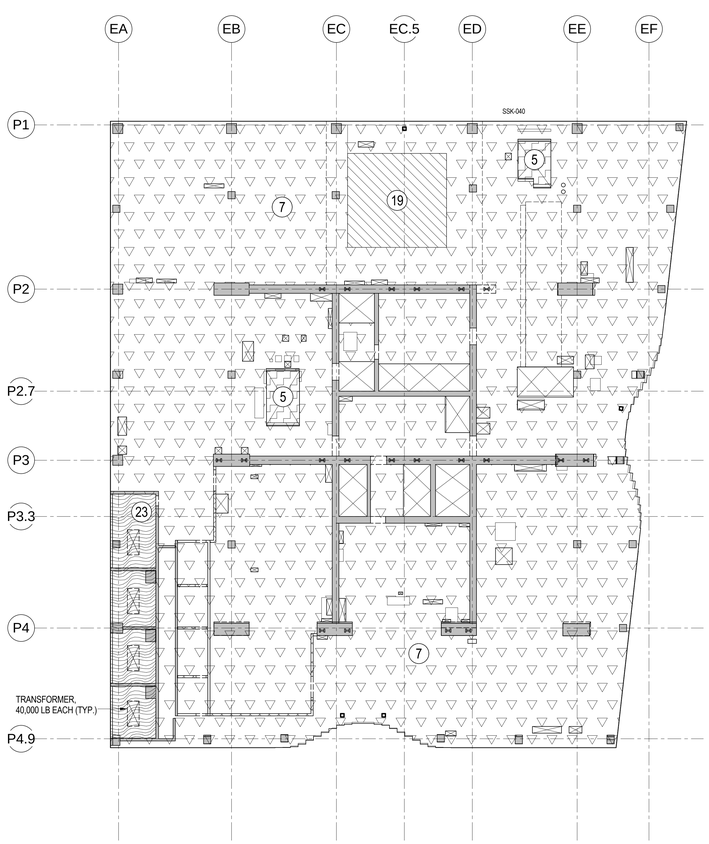
1A LEVEL 1 MEZZANINE LOADING DIAGRAM
1/16" = 1'-0"



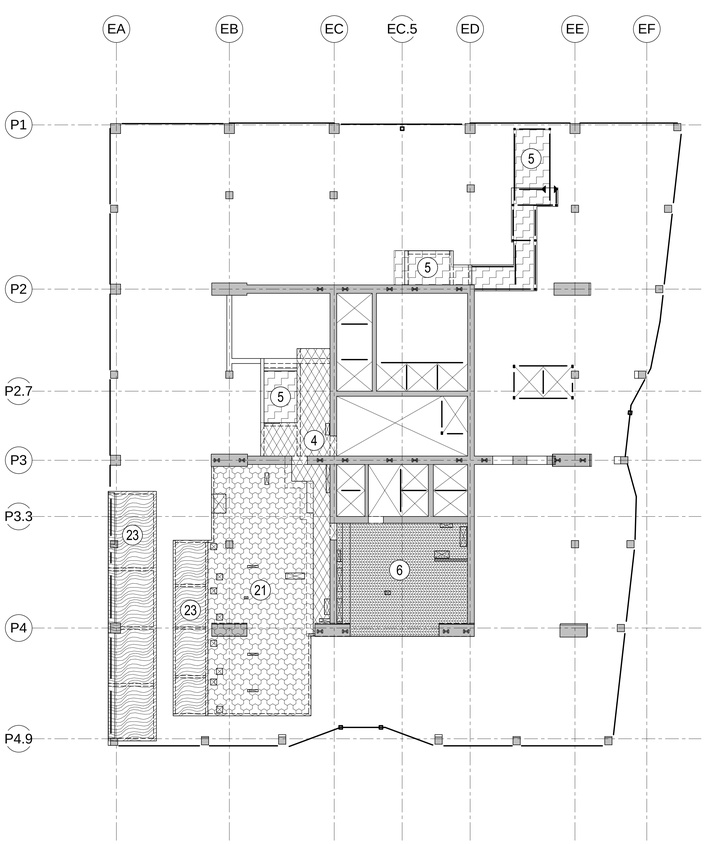
2 LEVEL 2 LOADING DIAGRAM
1/16" = 1'-0"

LOADING SCHEDULE			
KEY	FUNCTION	SDL PSF	LL PSF
1	RESIDENTIAL	35	40
2	HOTEL	35	40
3	OFFICE	35	50
4	LOBBY/CORRIDOR/VESTIBULE	50	100
5	STAIR	30	100
6	LIGHT MEP	60[5]	125
7	HEAVY MEP	60	250
8	STORAGE	30	100
9	BOH	30	40
10	RETAIL/RESTAURANT	70	100
11	AMENITY	30	100
12	BATHROOM	50	65
13	KITCHEN	50	150
14	HEALTH CLUB/GYM	80	100
15	POOL	100	315
16	TERRACE	150	100
17	ELEVATOR MACHINE ROOM	0	250
18	WATER TANK - 16 FEET	100	1000
19	WATER TANK - 10 FEET	100	625
20	WATER TANK - 18 FEET	100	1125
21	ROOF	50[4]	20
22	LOADING DOCK	20	250
23	TRANSFORMER VAULTS	60[3]	30[1, 2]
24	GROUND LEVEL LOBBY	70	100
25	RESIDENTIAL TERRACE	50	150

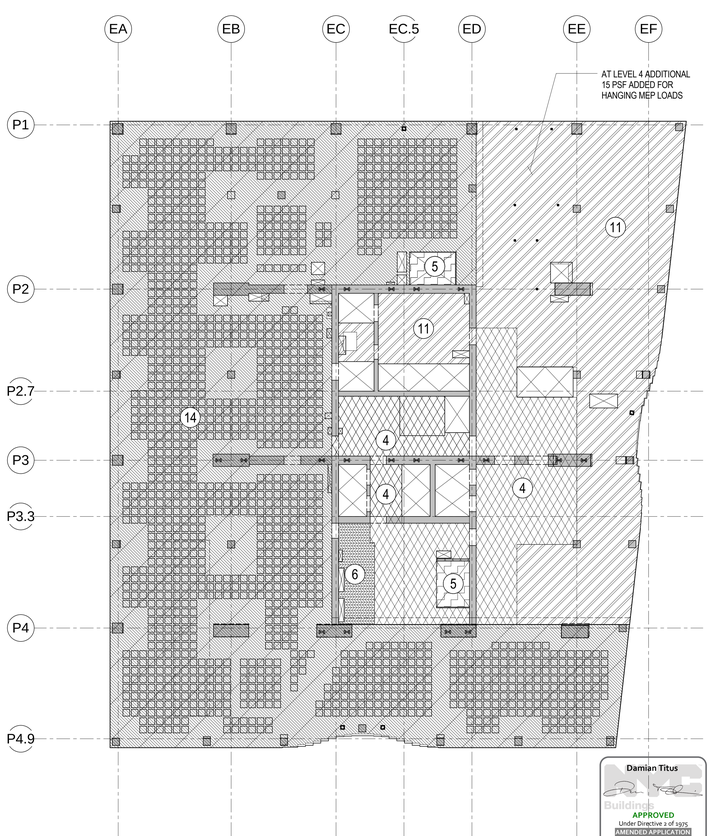
NOTES:
1. SEE L3 LOADING DIAGRAM (3/S-010) FOR EQUIPMENT WEIGHT.
2. 600 PSF BLAST INCLUDED IN THE DESIGN OF VAULT SLAB, WALLS AND CEILING.
3. AT ROOF OF VAULTS AND NETWORK COMPARTMENTS : SDL=30 PSF
4. AT LEVEL 3M ROOF : SDL=0 PSF
5. AT LEVEL 72 SDL IS 10 PSF FOR ROOF BUILD-UP PLUS 30 PSF FOR HANGING MEP, 60 PSF INSIDE ELECTRICAL SHED.



3 LEVEL 3 LOADING DIAGRAM
1/16" = 1'-0"



3A LEVEL 3M LOADING DIAGRAM
1/16" = 1'-0"



4 LEVEL 4 LOADING DIAGRAM
1/16" = 1'-0"

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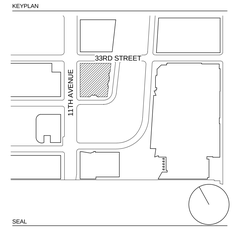
RESIDENTIAL DESIGN ARCHITECT

Ismael Leyva Architects
48 West 37th Street
New York, NY 10018

KEYPLAN



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9	20 JAN 2017	ISSUED TO DOB
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3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

LOADING DIAGRAMS

B-SCAN - DRAWING NUMBER

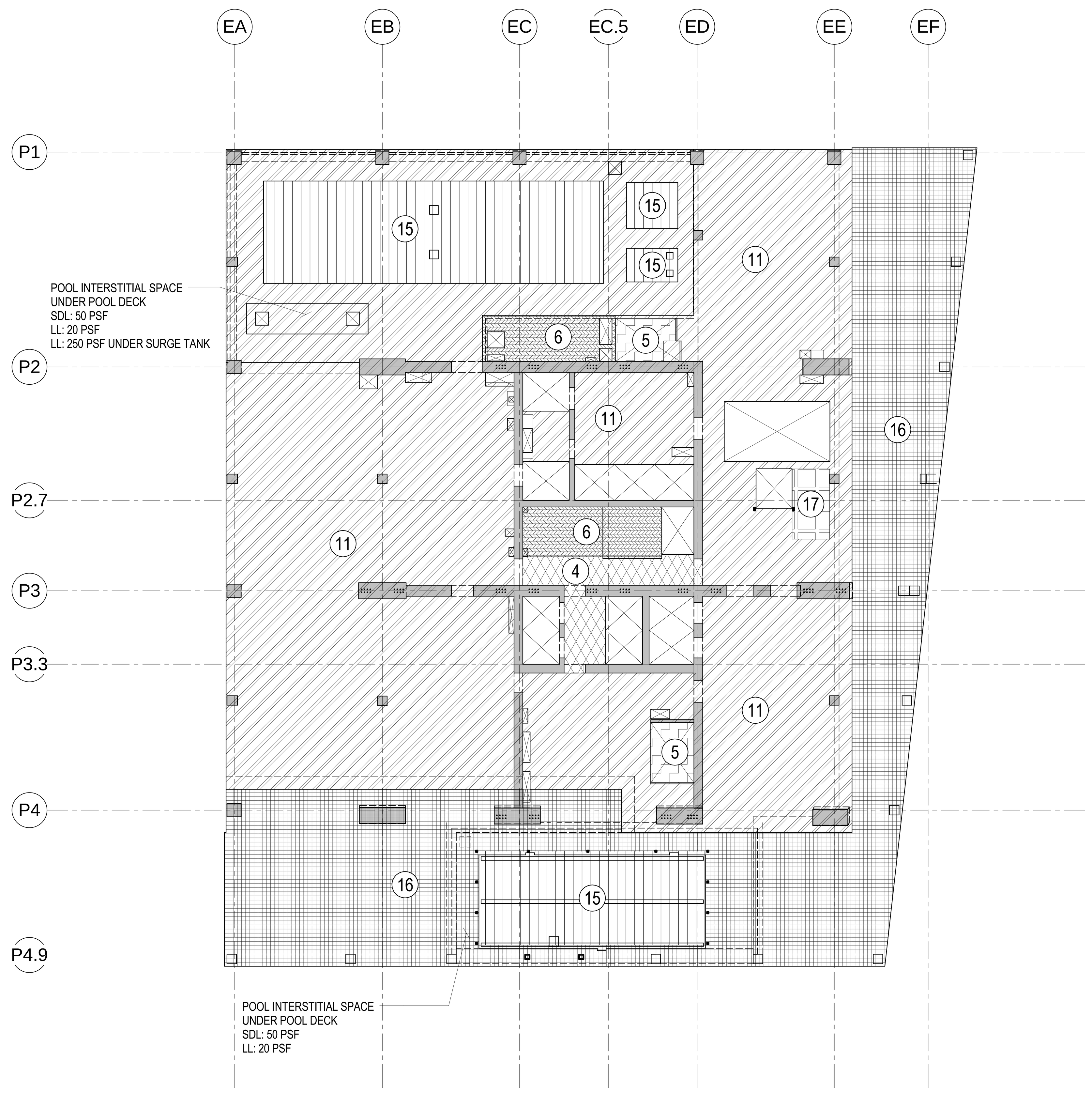
S-010.01

DRAWING NUMBER

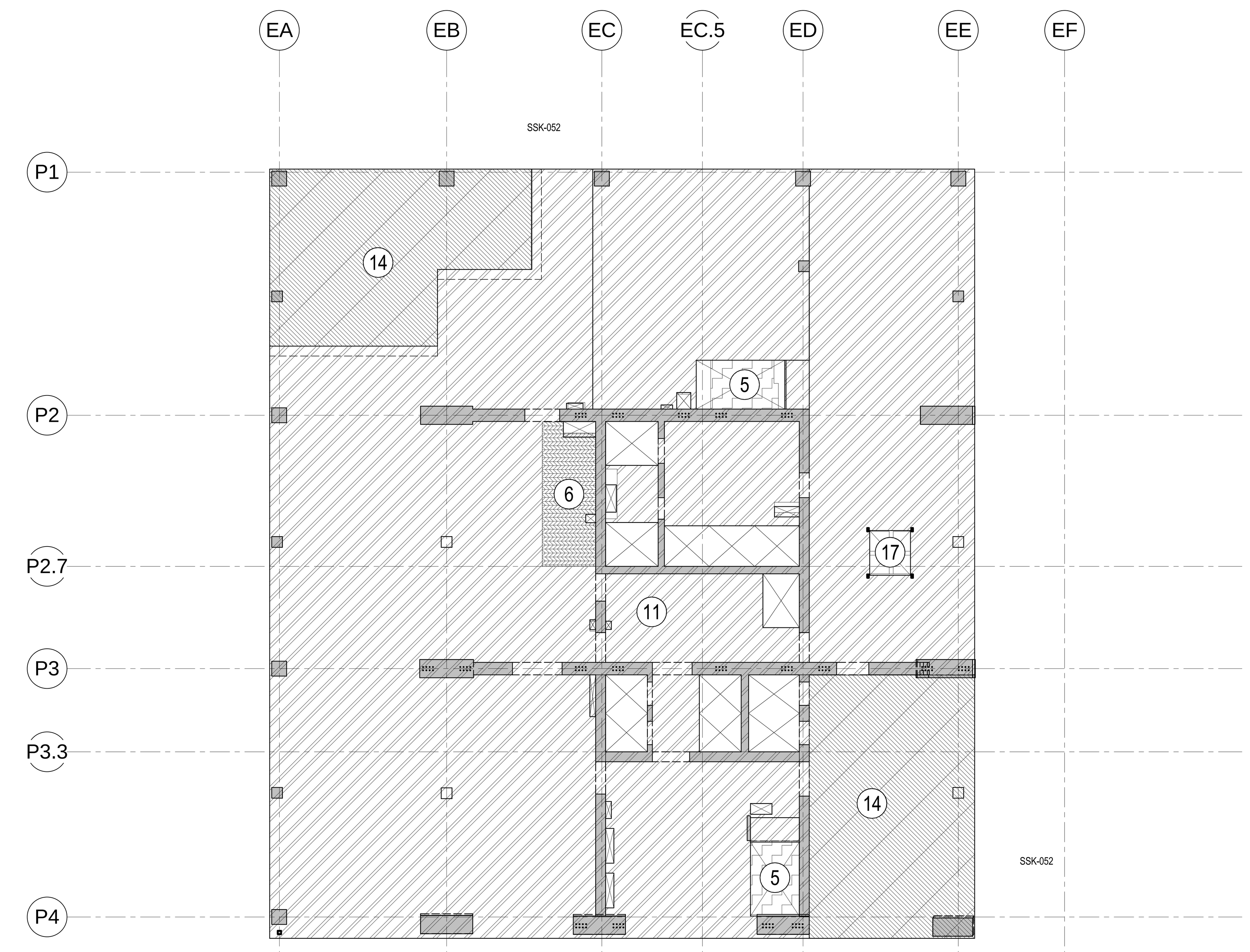
S-010

PAGE NUMBER

7 OF 112



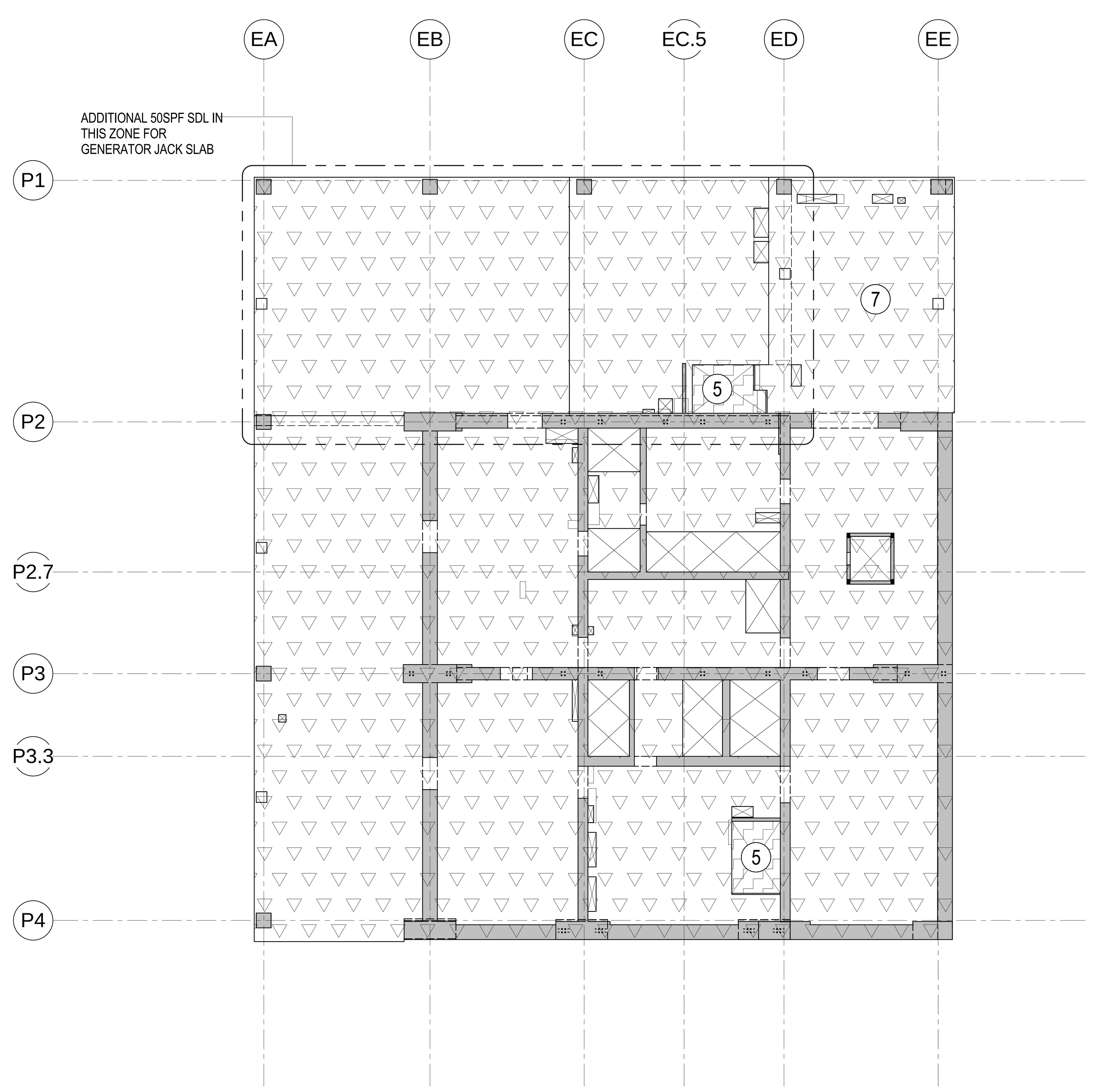
1 LEVEL 5 LOADING DIAGRAM
1/16" = 1'-0"



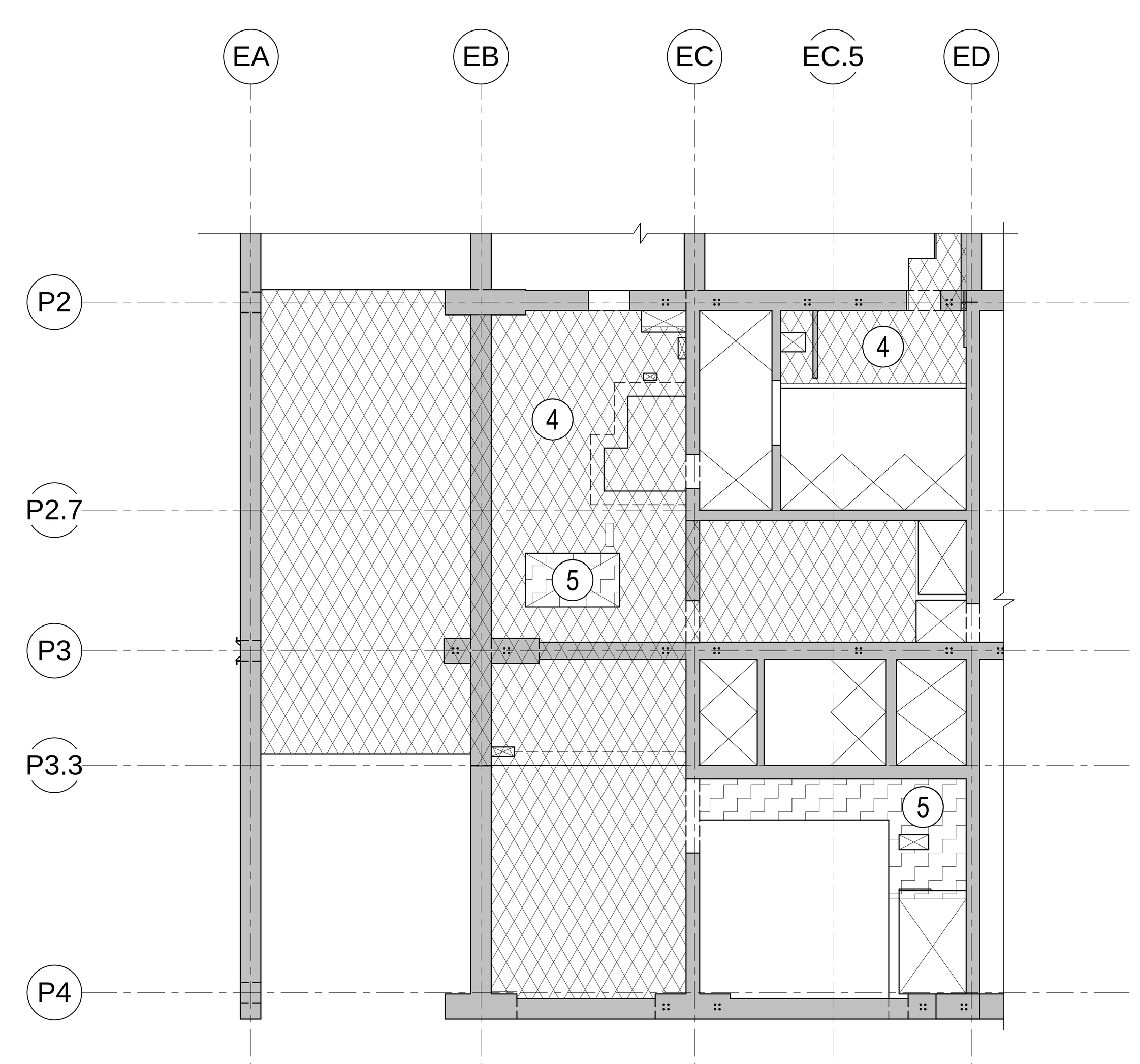
2 LEVEL 6 LOADING DIAGRAM
1/16" = 1'-0"

LOADING SCHEDULE			
KEY	FUNCTION	SDL PSF	LL PSF
1	RESIDENTIAL	35	40
2	HOTEL	35	40
3	OFFICE	35	50
4	LOBBY/CORRIDOR/VESTIBULE	50	100
5	STAIR	30	100
6	LIGHT MEP	60[5]	125
7	HEAVY MEP	60	250
8	STORAGE	30	100
9	BOH	30	40
10	RETAIL/RESTAURANT	70	100
11	AMENITY	30	100
12	BATHROOM	50	65
13	KITCHEN	50	150
14	HEALTH CLUB/GYM	80	100
15	POOL	100	315
16	TERRACE	150	100
17	ELEVATOR MACHINE ROOM	0	250
18	WATER TANK - 16 FEET	100	1000
19	WATER TANK - 10 FEET	100	625
20	WATER TANK - 18 FEET	100	1125
21	ROOF	50[4]	20
22	LOADING DOCK	20	250
23	TRANSFORMER VAULTS	60[3]	30[1, 2]
24	GROUND LEVEL LOBBY	70	100
25	RESIDENTIAL TERRACE	50	150

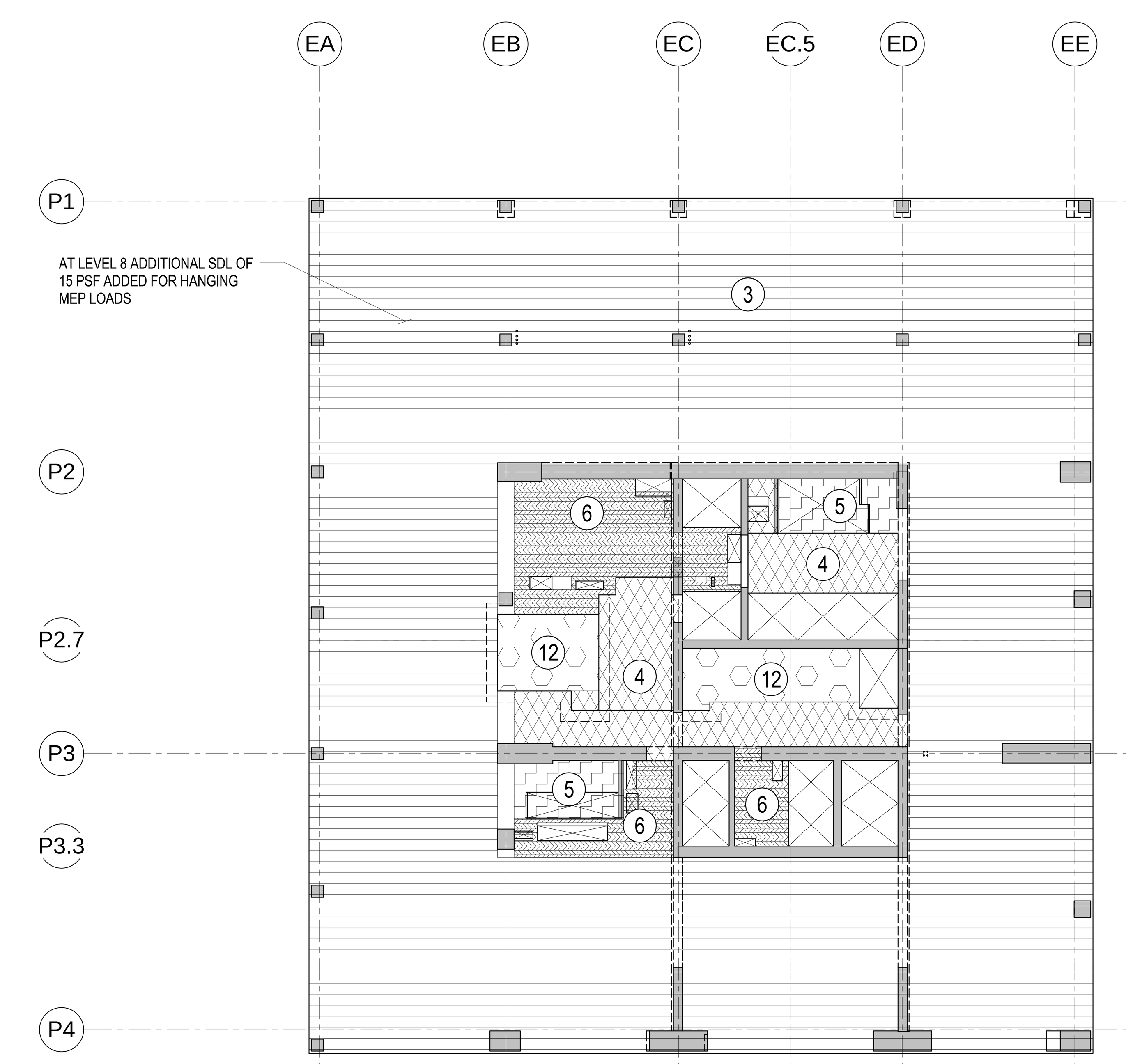
NOTES:
1. SEE L3 LOADING DIAGRAM (3/S-010) FOR EQUIPMENT WEIGHT.
2. 600 PSF BLAST INCLUDED IN THE DESIGN OF VAULT SLAB, WALLS AND CEILING.
3. AT ROOF OF VAULTS AND NETWORK COMPARTMENTS : SDL=30 PSF
4. AT LEVEL 3M ROOF : SDL=0 PSF
5. AT LEVEL 72 SDL IS 10 PSF FOR ROOF BUILD-UP PLUS 30 PSF FOR HANGING MEP, 60 PSF INSIDE ELECTRICAL SHED.



3 LEVEL 7 MECH LOADING DIAGRAM
1/16" = 1'-0"



3A LEVEL 7 MEZZ LOADING DIAGRAM
1/16" = 1'-0"



4 LEVEL 8-13 LOADING DIAGRAM
1/16" = 1'-0"

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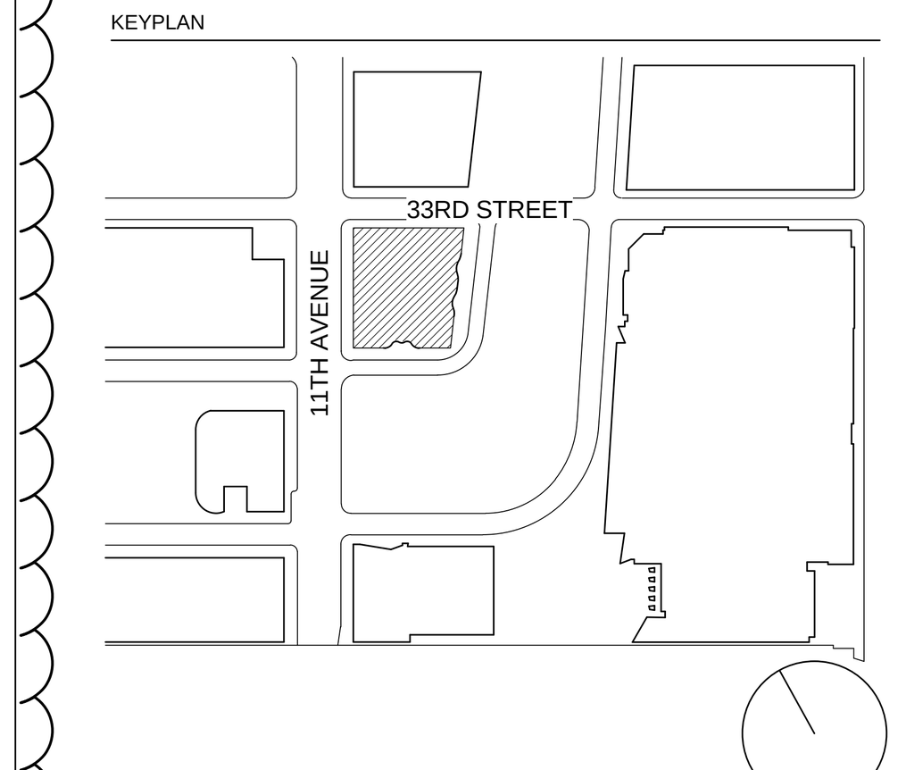

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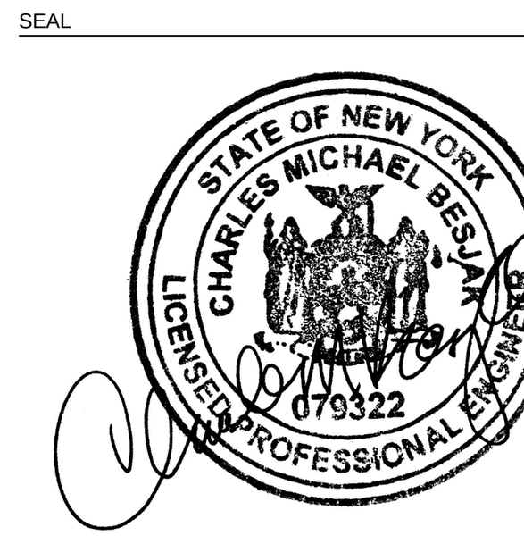

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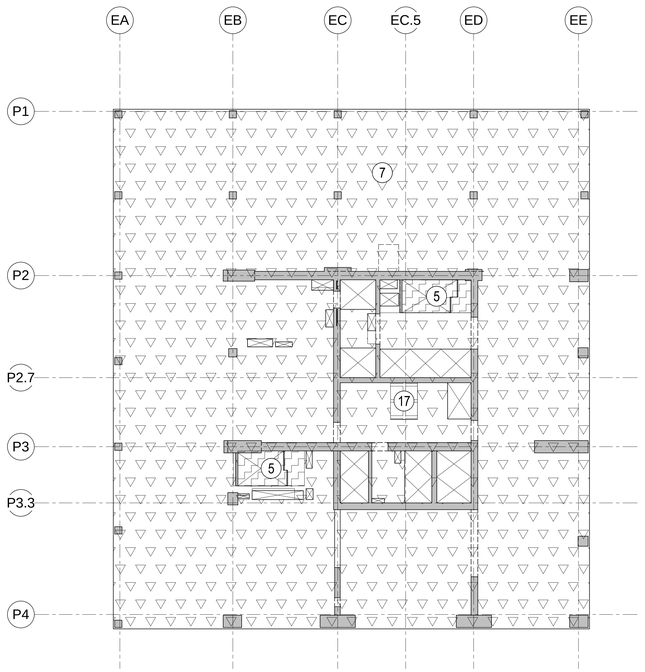
LOADING DIAGRAMS

B-SCAN - DRAWING NUMBER

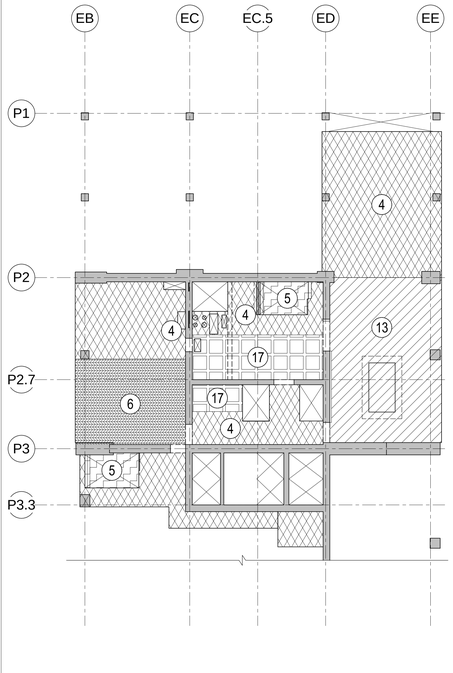
S-011.01

DRAWING NUMBER

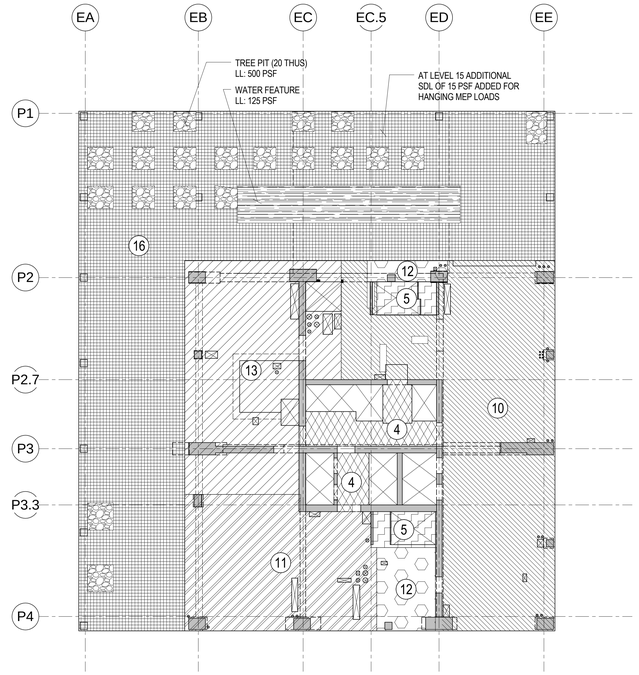
S-011



1 LEVEL 14 MECH LOADING DIAGRAM
1/16" = 1'-0"



1A LEVEL 14 MEZZ LOADING DIAGRAM
1/16" = 1'-0"



2 LEVEL 15 LOADING DIAGRAM
1/16" = 1'-0"

LOADING SCHEDULE			
KEY	FUNCTION	SDL PSF	LL PSF
1	RESIDENTIAL	35	40
2	HOTEL	35	40
3	OFFICE	35	50
4	LOBBY/CORRIDOR/VESTIBULE	50	100
5	STAIR	30	100
6	LIGHT MEP	60[5]	125
7	HEAVY MEP	60	250
8	STORAGE	30	100
9	BOH	30	40
10	RETAIL/RESTAURANT	70	100
11	AMENITY	30	100
12	BATHROOM	50	65
13	KITCHEN	50	150
14	HEALTH CLUB/GYM	80	100
15	POOL	100	315
16	TERRACE	150	100
17	ELEVATOR MACHINE ROOM	0	250
18	WATER TANK - 16 FEET	100	1000
19	WATER TANK - 10 FEET	100	625
20	WATER TANK - 18 FEET	100	1125
21	ROOF	50[4]	20
22	LOADING DOCK	20	250
23	TRANSFORMER VAULTS	60[3]	30[1,2]
24	GROUND LEVEL LOBBY	70	100
25	RESIDENTIAL TERRACE	50	150

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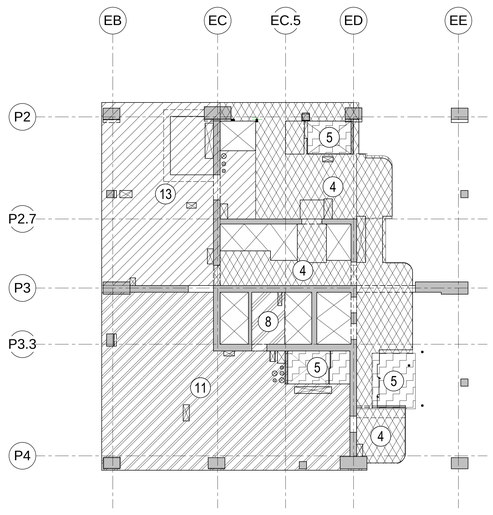
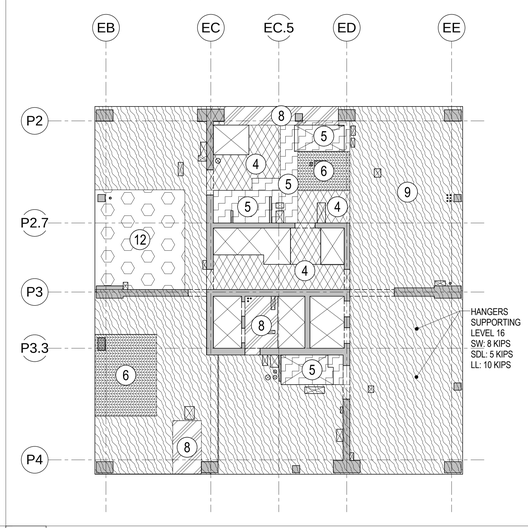
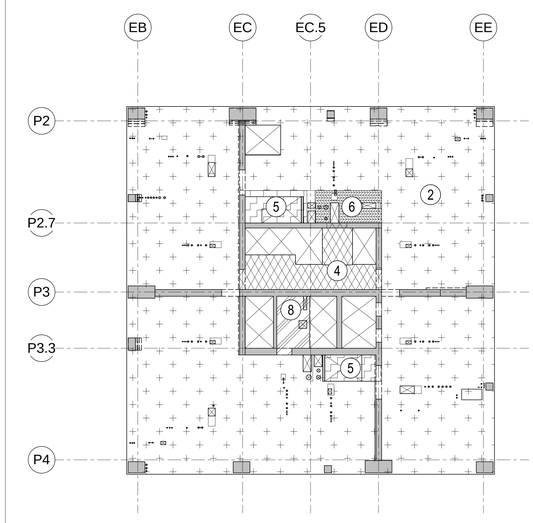
4. AT LEVEL 3M ROOF : SDL=0 PSF
5. AT LEVEL 72 SDL IS 10 PSF FOR ROOF BUILD-UP PLUS 30 PSF FOR HANGING MEP, 60 PSF INSIDE ELECTRICAL SHED.



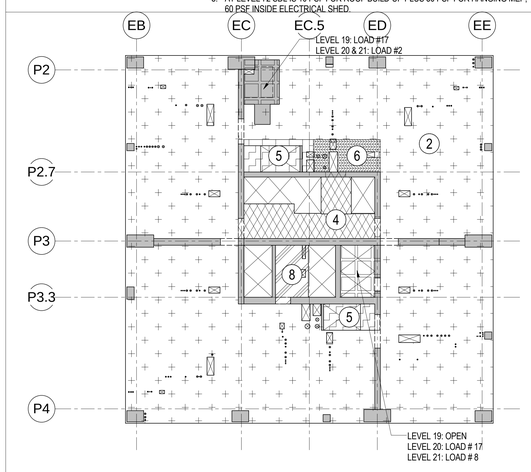
3 LEVEL 16 LOADING DIAGRAM
1/16" = 1'-0"



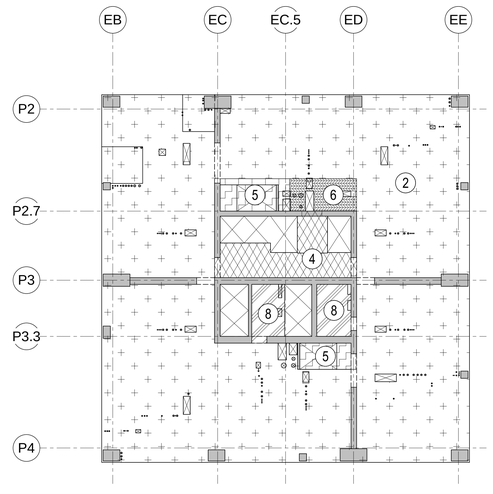
4 LEVEL 17 LOADING DIAGRAM
1/16" = 1'-0"



5 LEVEL 18 LOADING DIAGRAM
1/16" = 1'-0"

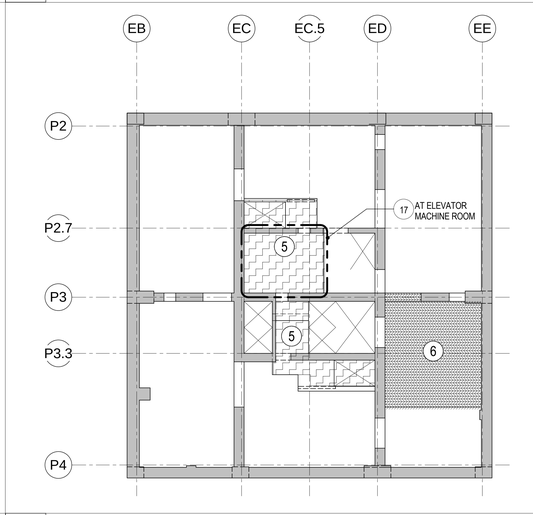


6 LEVEL 19 -21 LOADING DIAGRAM
1/16" = 1'-0"

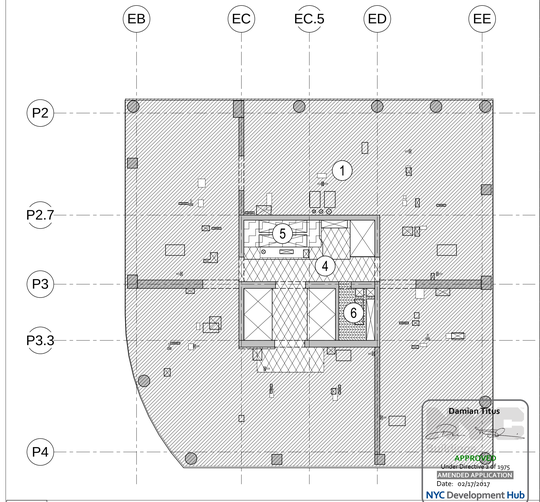


7 LEVEL 22 - 29 LOADING DIAGRAM
1/16" = 1'-0"

8 LEVEL 30 MECH LOADING DIAGRAM
1/16" = 1'-0"



8A LEVEL 30 MEZZ LOADING DIAGRAM
1/16" = 1'-0"



9 LEVELS 32-40, 42-50, 53-60, 62-67 LOADING DIAGRAM
1/16" = 1'-0"

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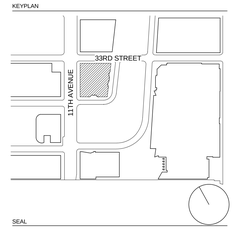
KEYPLAN


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S-012

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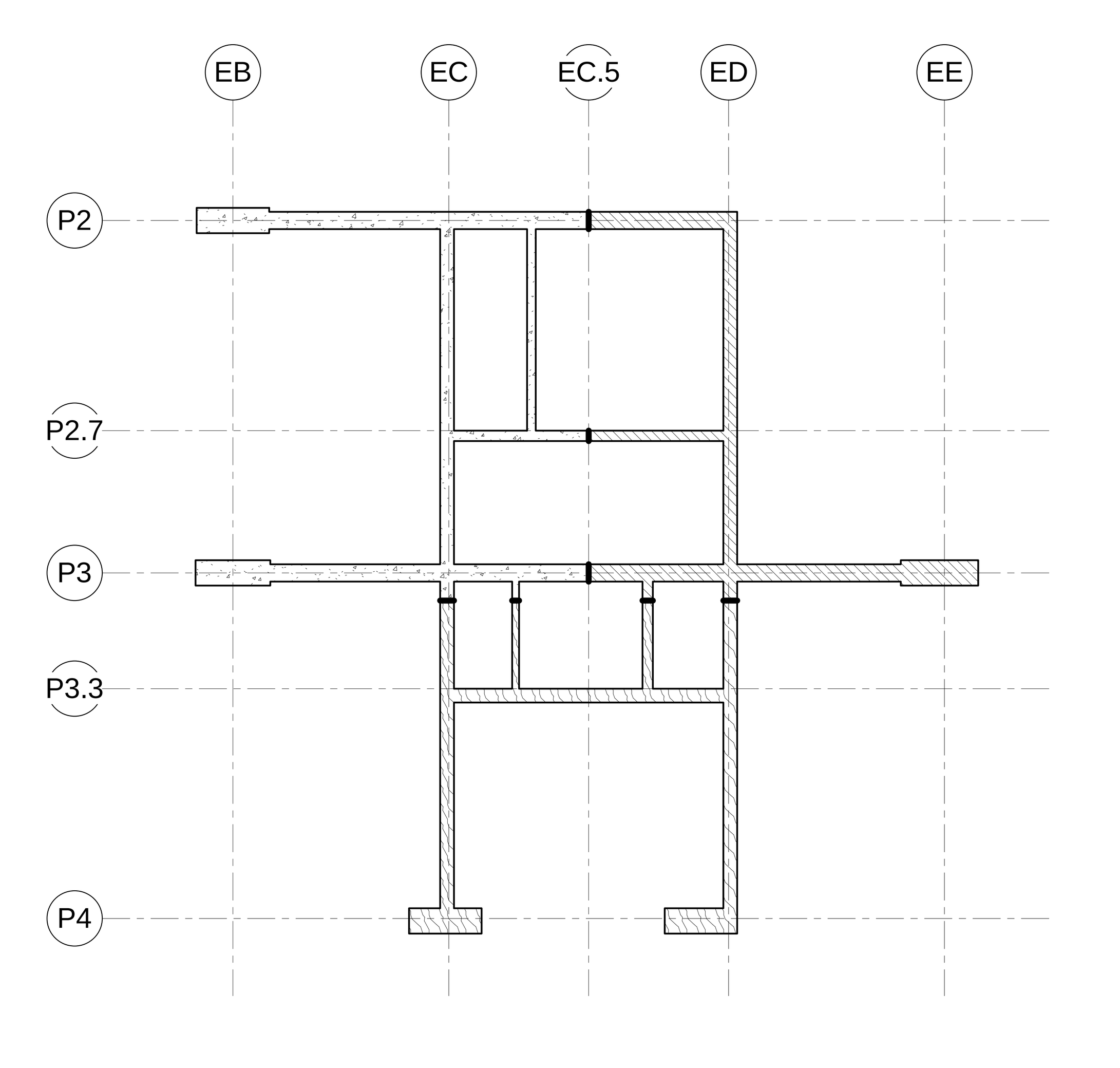
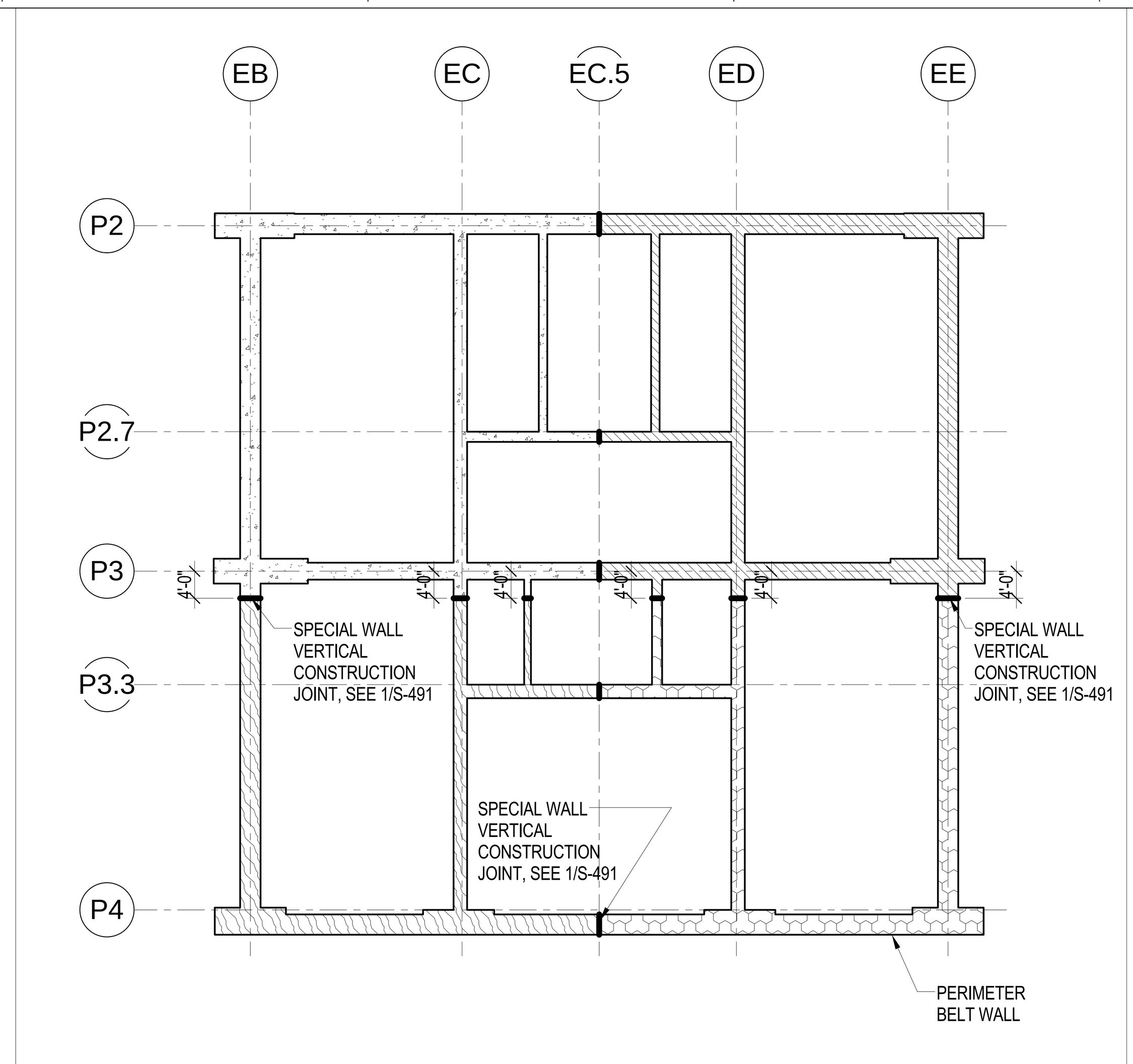


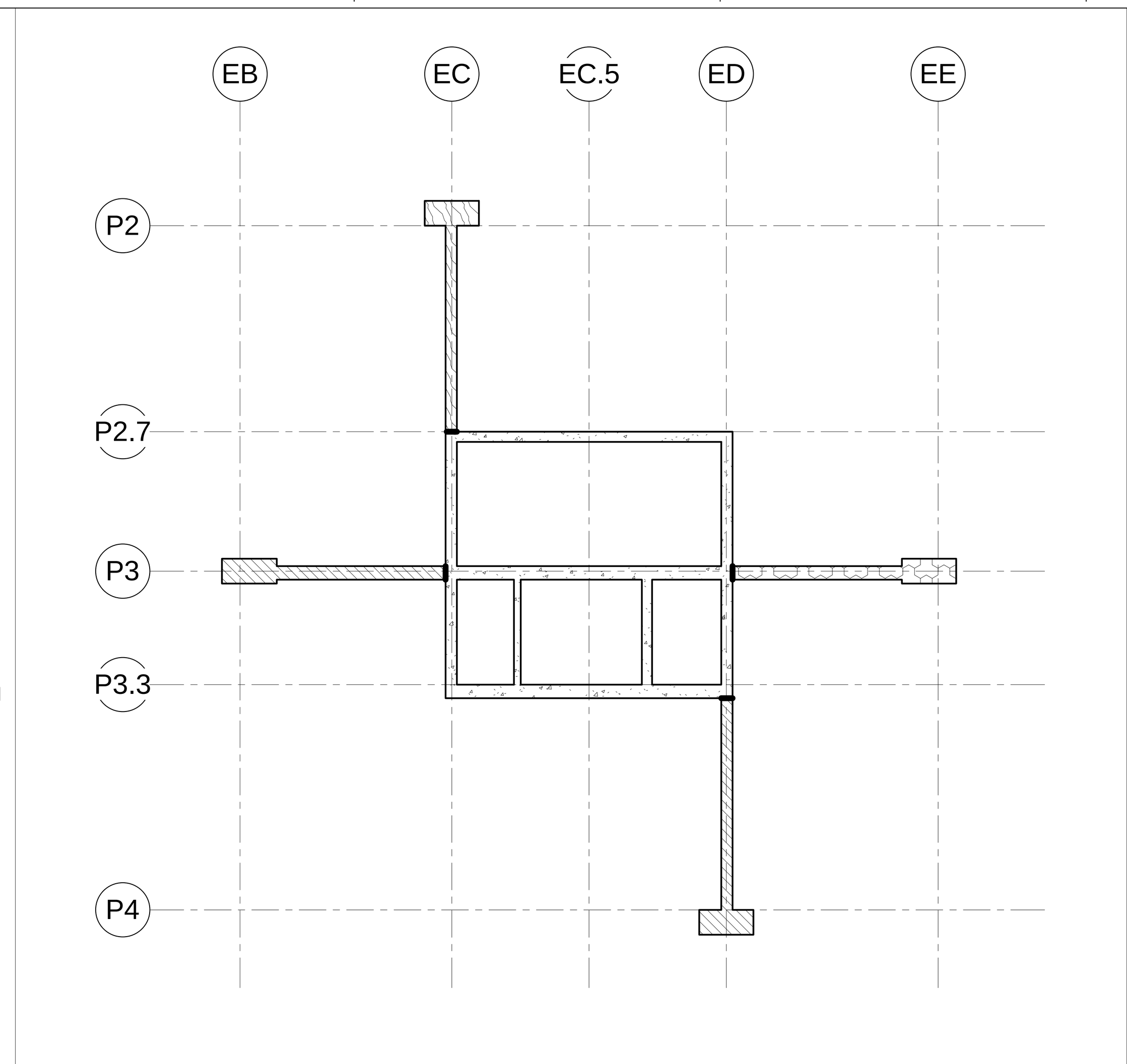
1A LEVEL 1 - 6 SUGGESTED WALL POUR SEQUENCE

1/16" = 1'-0"



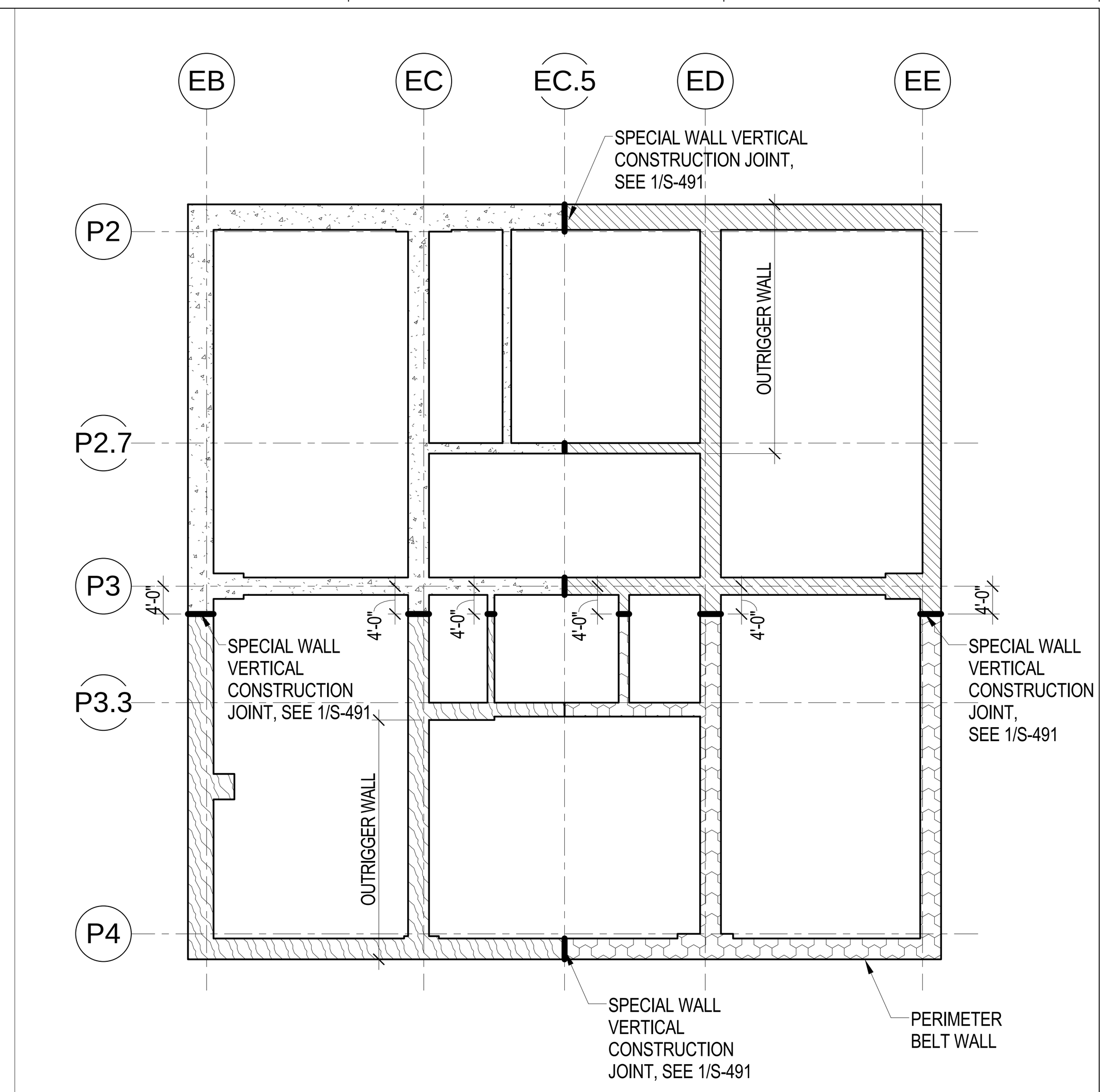
1B LEVEL 7 MEZZ SUGGESTED WALL POUR SEQUENCE

1/16" = 1'-0"



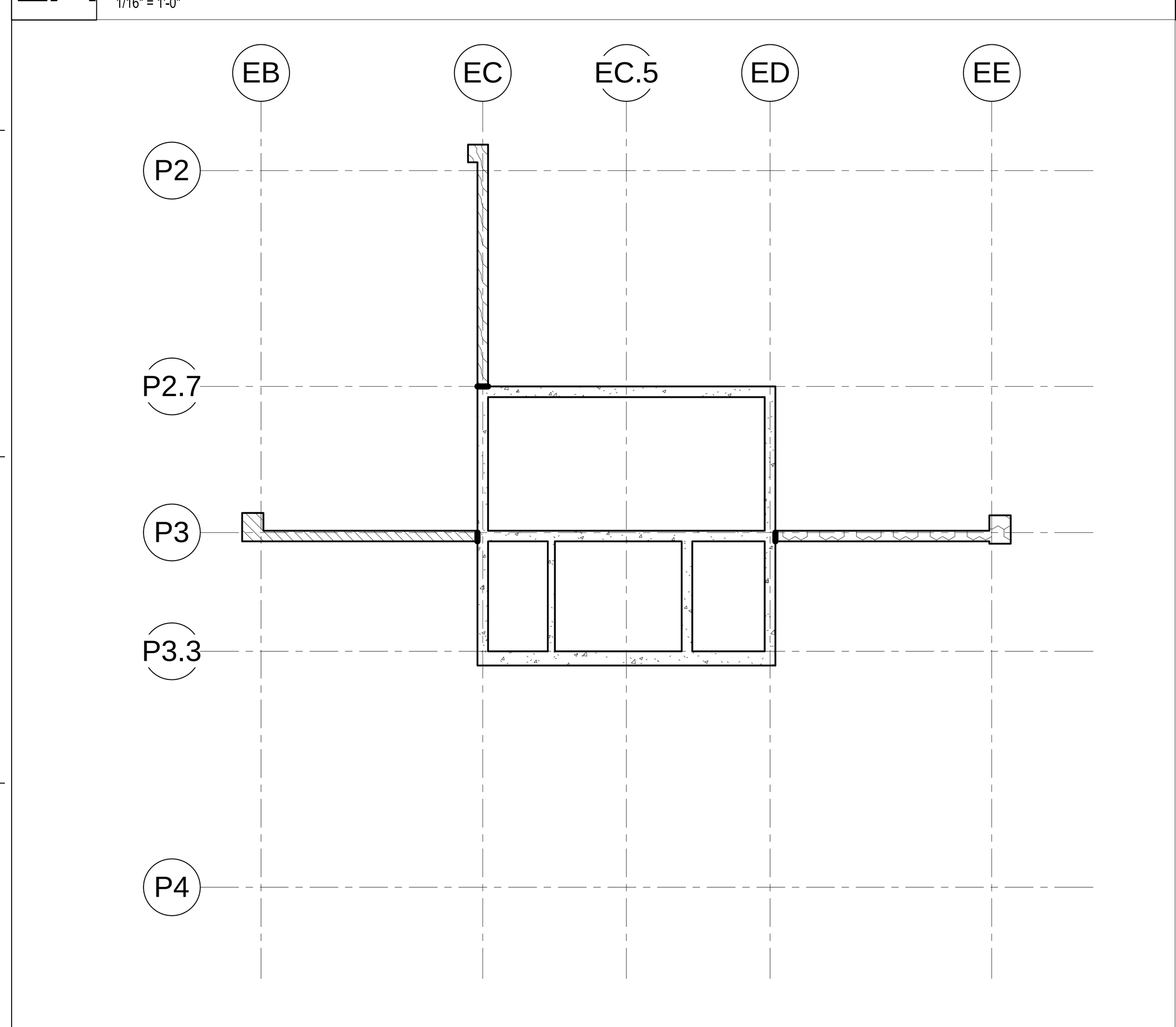
1C LEVEL 16 -29 SUGGESTED WALL POUR SEQUENCE

1/16" = 1'-0"



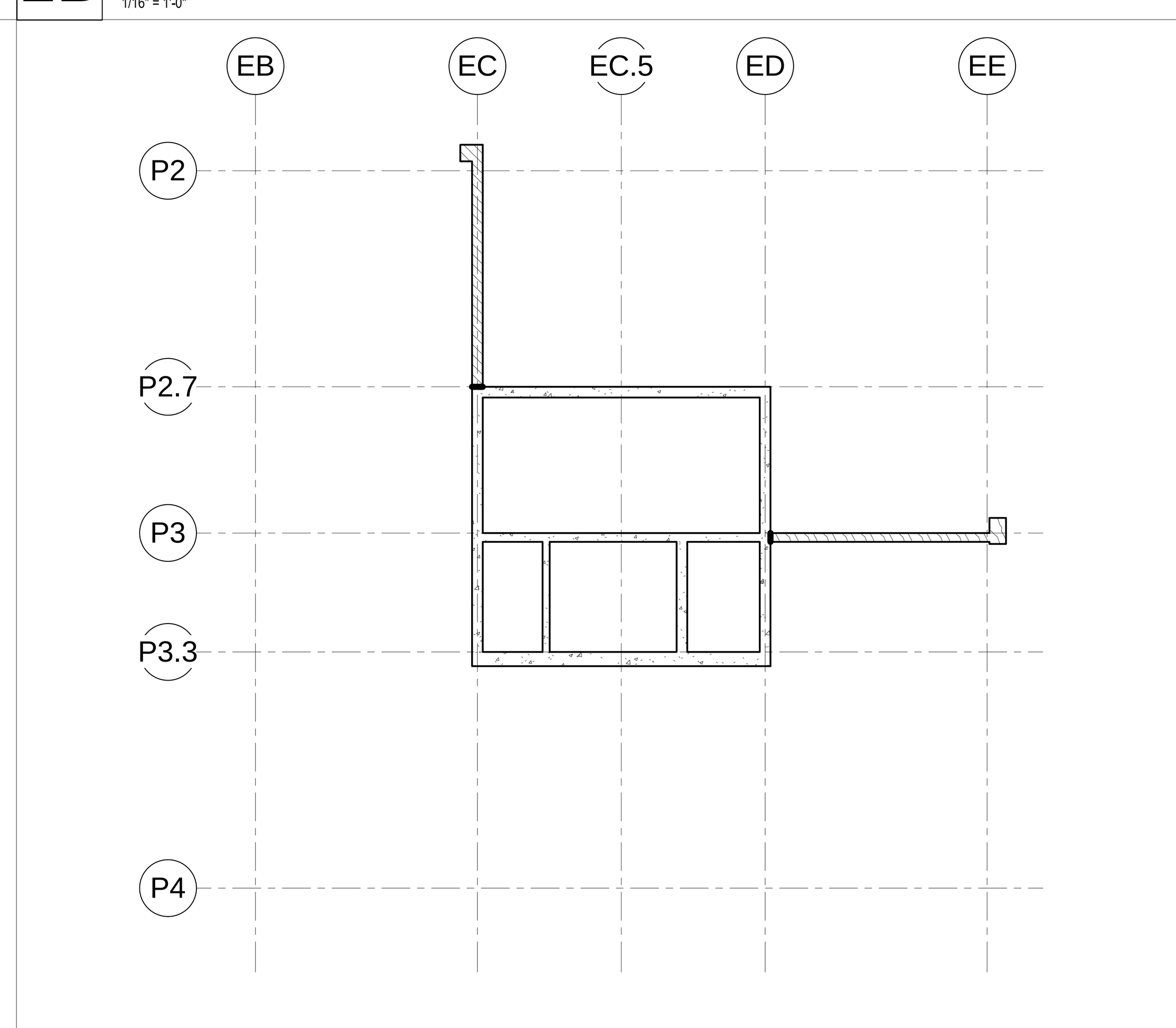
1D LEVEL 30 MECH SUGGESTED WALL POUR SEQUENCE

1/16" = 1'-0"



1E LEVEL 41 - 50 SUGGESTED WALL POUR SEQUENCE

1/16" = 1'-0"



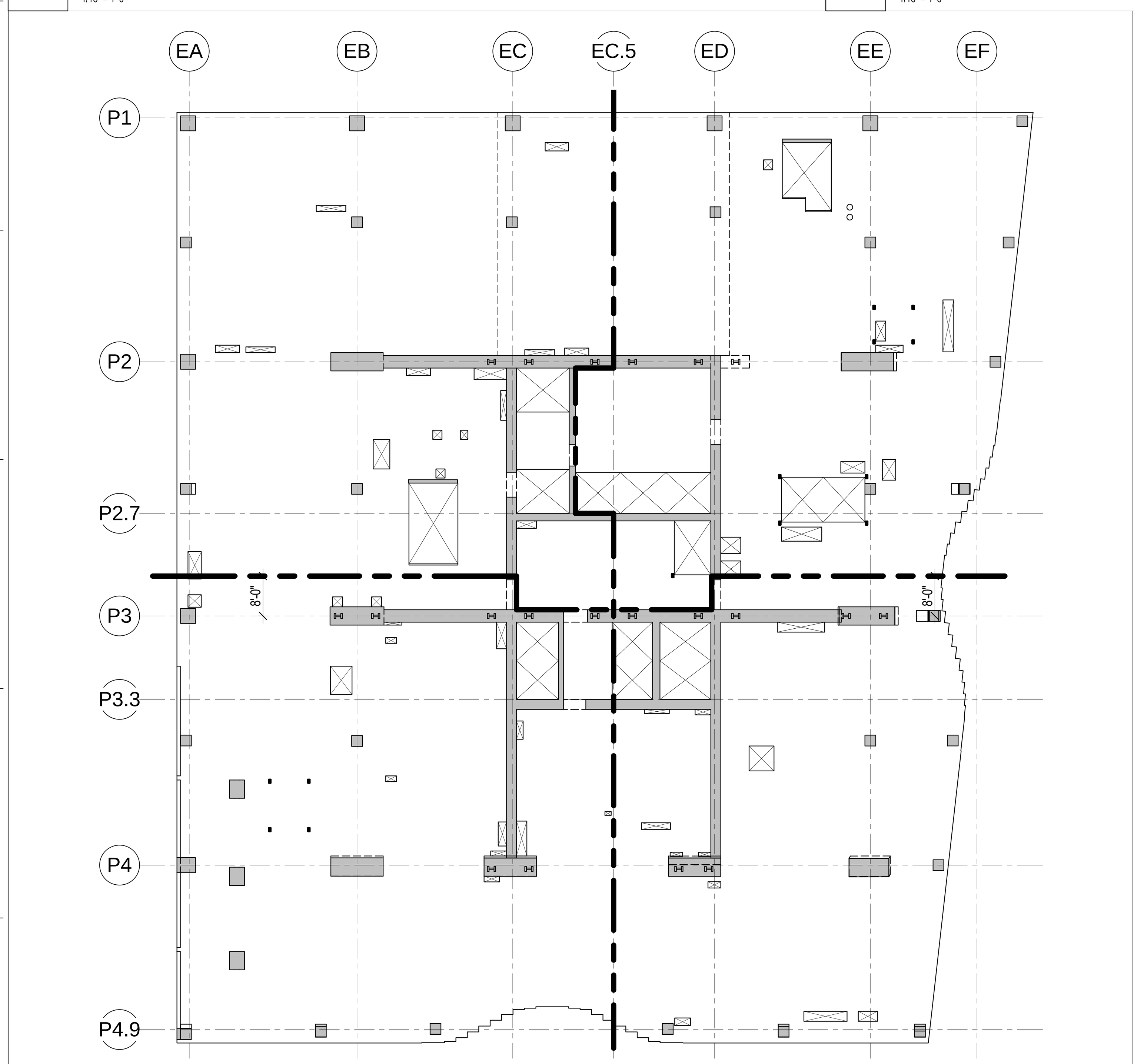
1F LEVEL 51 - 60 SUGGESTED WALL POUR SEQUENCE

1/16" = 1'-0"

POUR SEQUENCE LEGEND

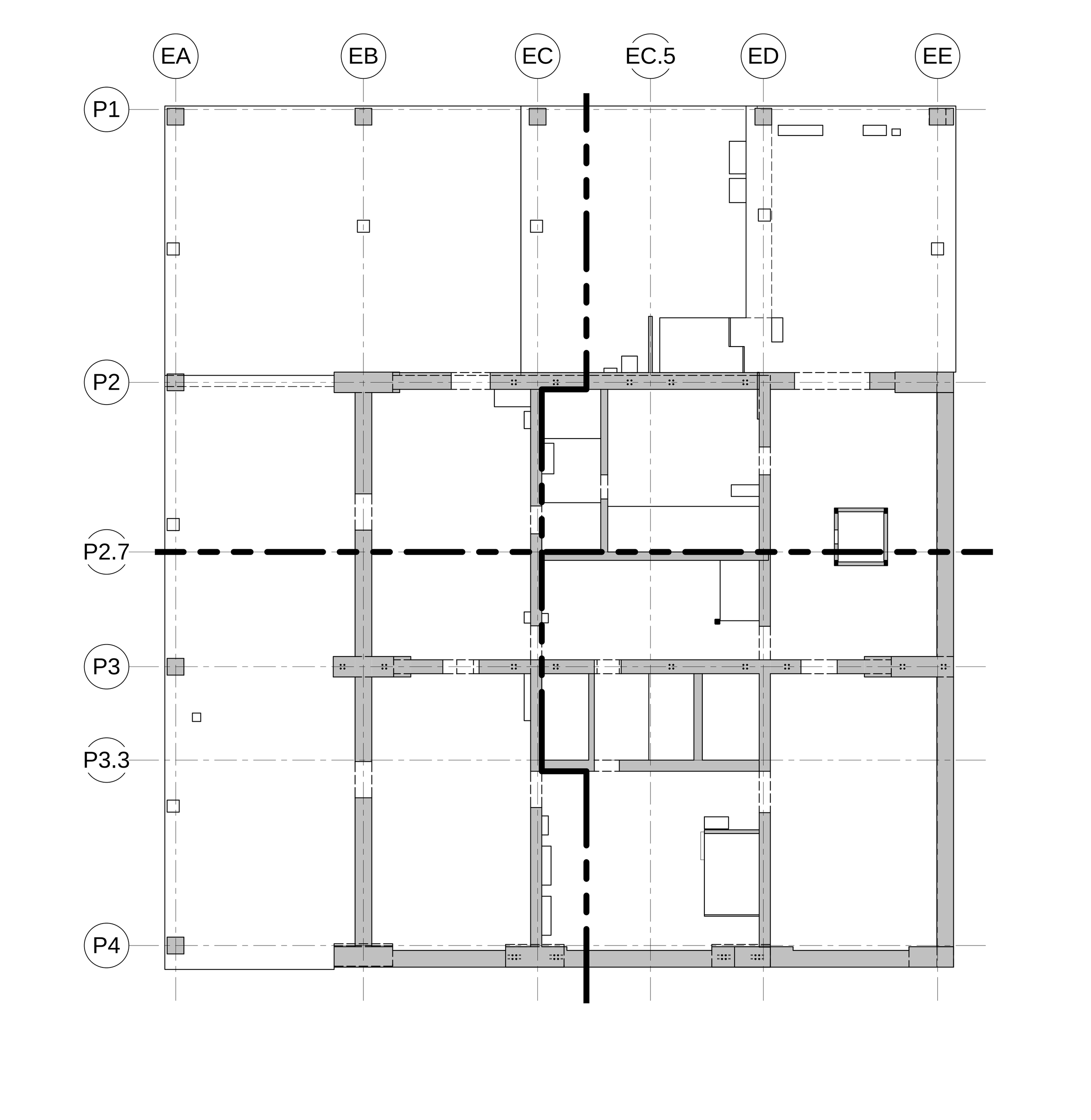
KEY	FUNCTION
	POUR #1
	POUR #2
	POUR #3
	POUR #4

NOTE:
EACH OF THE HATCHED AREA MUST BE CAST IN A SINGLE CONTINUOUS POUR.
THE LENGTH OF A SINGLE POUR NOT TO EXCEED 60'-0"



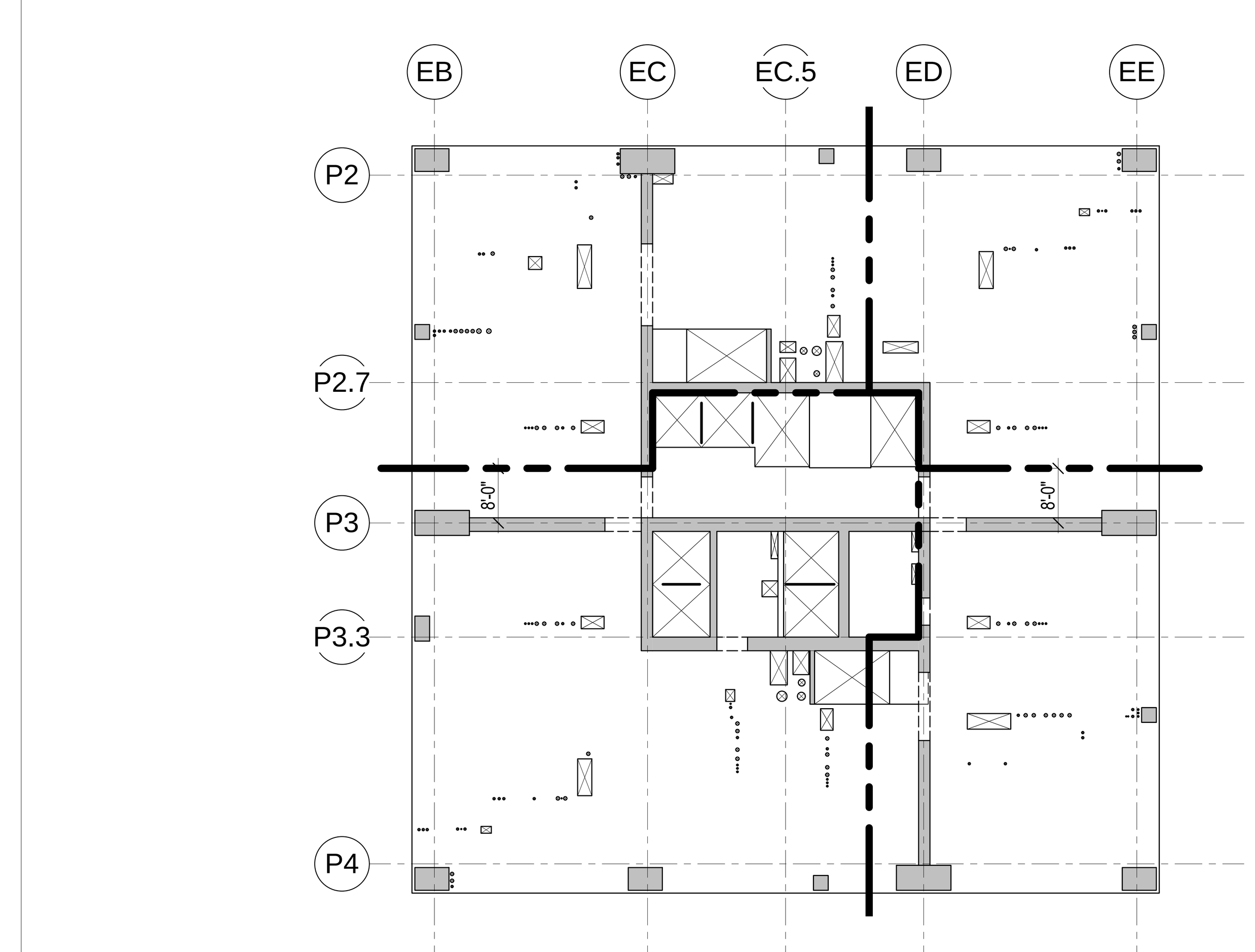
2A LEVEL 1 - 6 SLAB CONSTRUCTION JOINT LOCATIONS

1/16" = 1'-0"



2B LEVEL 7 MECH SLAB CONSTRUCTION JOINT LOCATIONS

1/16" = 1'-0"



2C LEVEL 16 - 29, 31 - 40 SLAB CONSTRUCTION JOINT LOCATIONS

1/16" = 1'-0"

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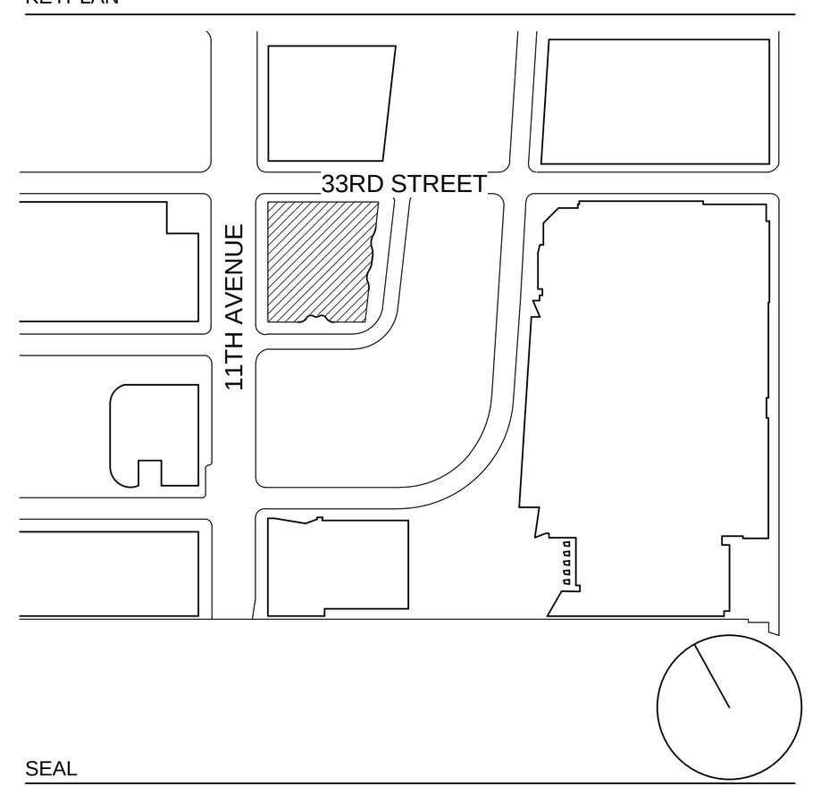
KEYPLAN



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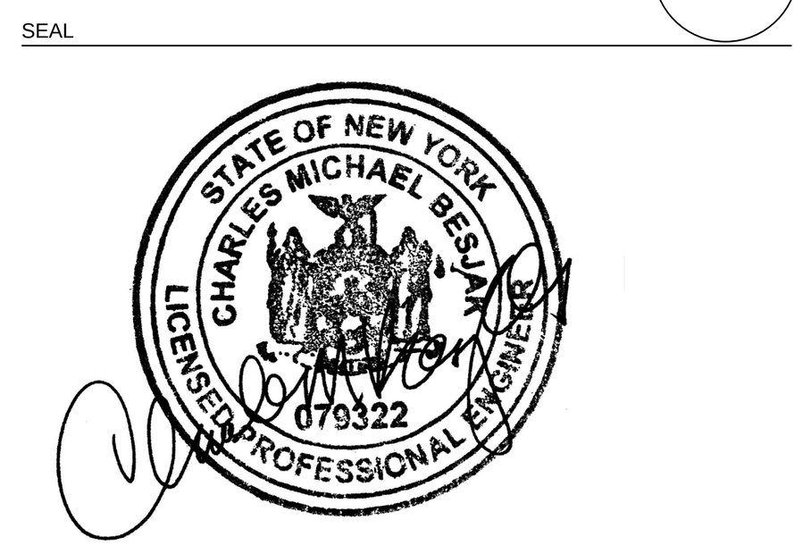

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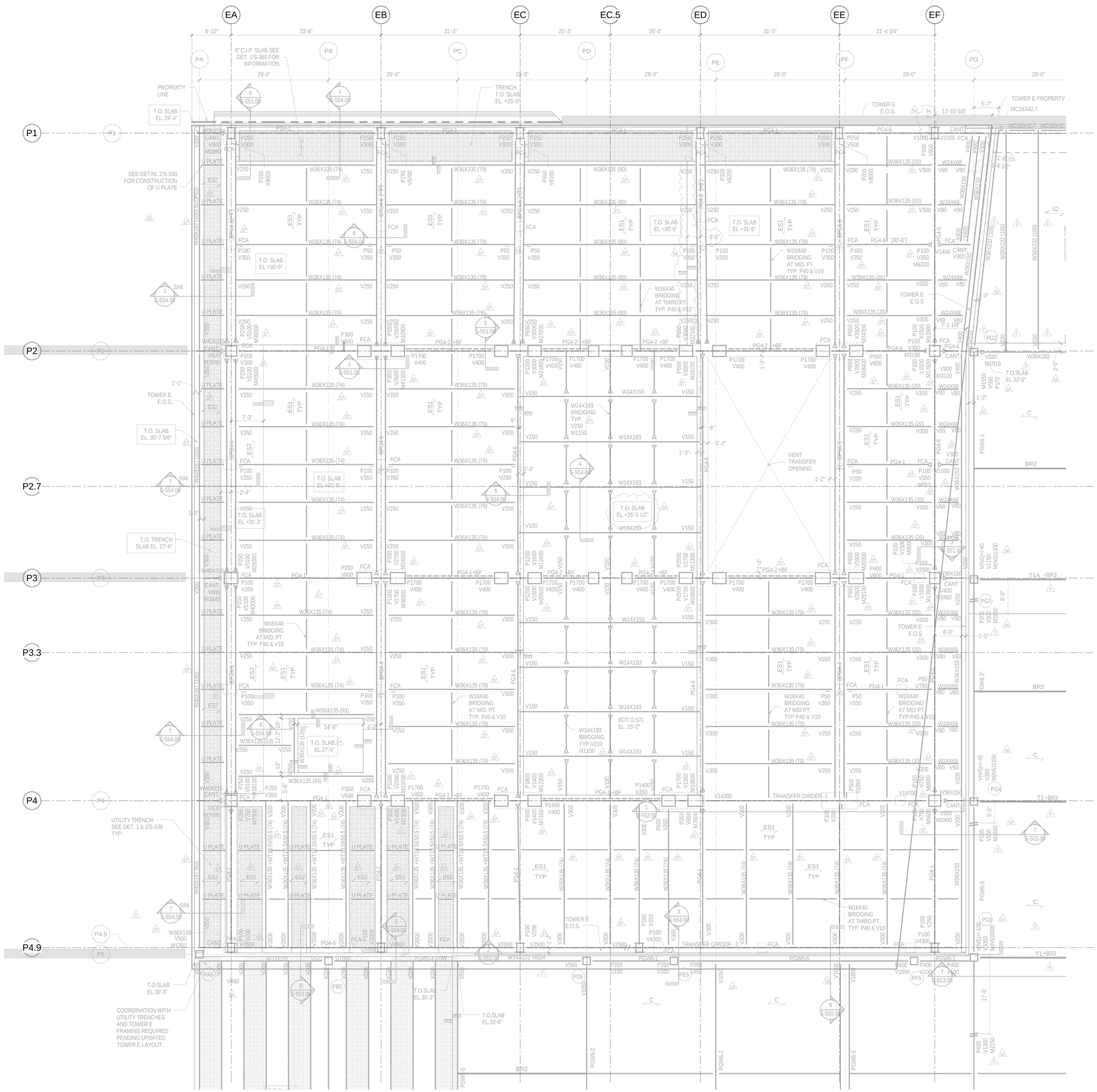
DRAWING NUMBER

S-020

PAGE NUMBER



DEPT OF BLDGS 121192618 Job Number

ES864073708 Scan Code

1 EXISTING PLATFORM FRAMING PLAN

1/8" = 1'-0"

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KEYPLAN

SEAL

CHARLES MICHAEL BESJAK
079322

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DRAWING TITLE

EXISTING PLATFORM FRAMING PLAN

B-SCAN - DRAWING NUMBER

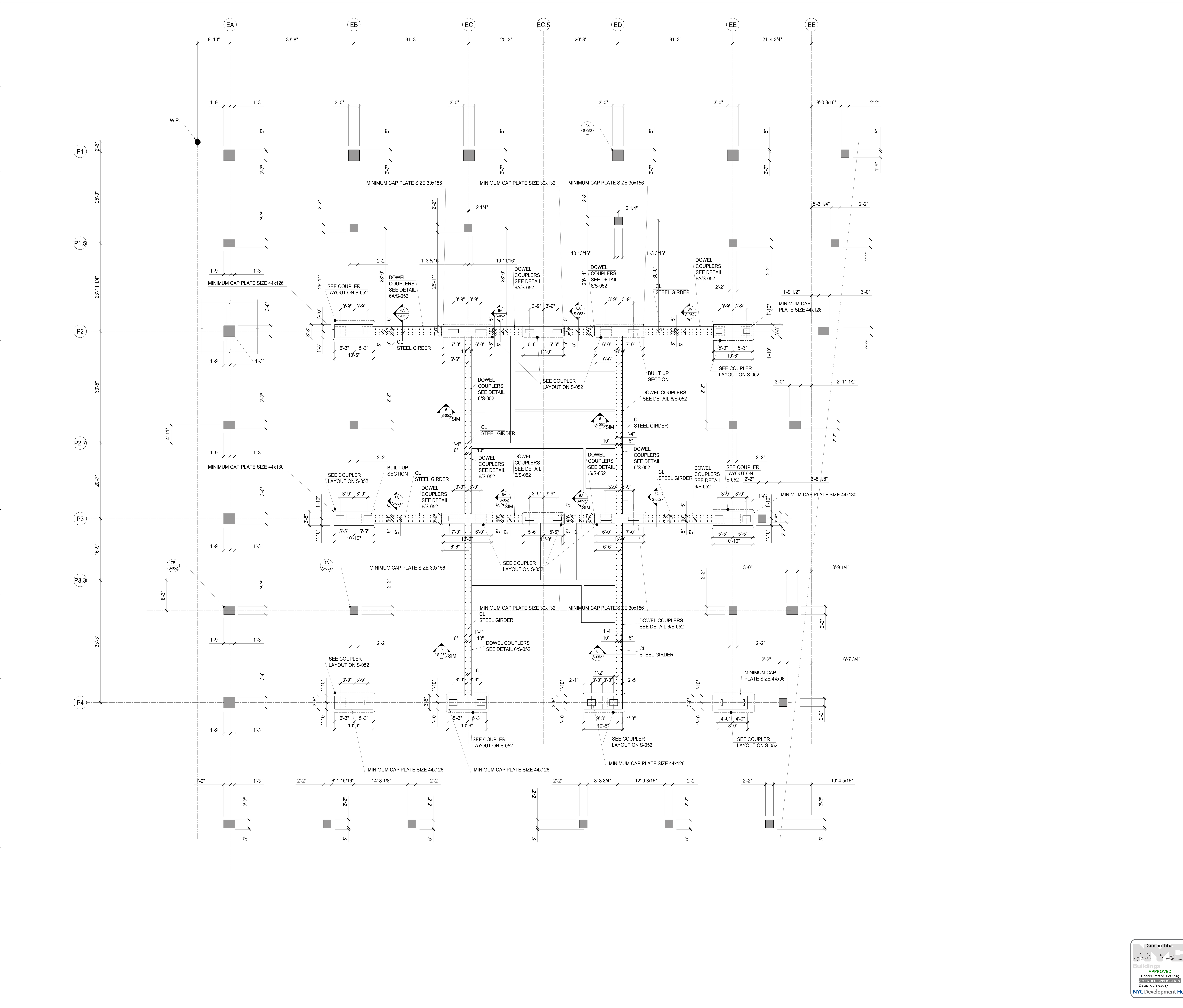
S-050.00 4

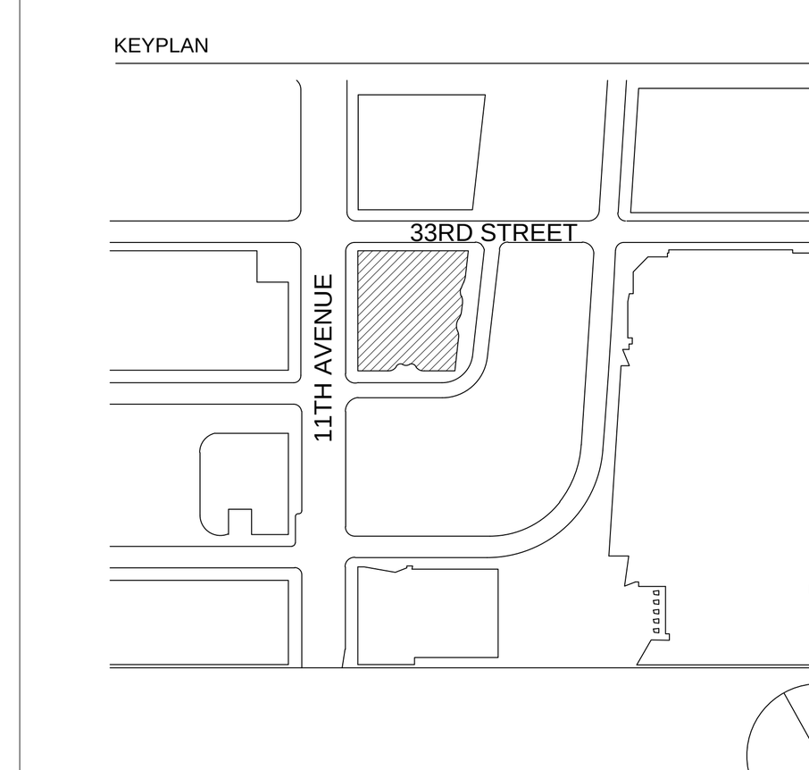
DRAWING NUMBER

S-050

PAGE NUMBER

11 OF 112





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KEYPLAN

SEAL

NO.	DATE	DESCRIPTION
5	20 JAN 2017	ISSUED TO DOB
4	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
3	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
2	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
1	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.

DRAWING TITLE

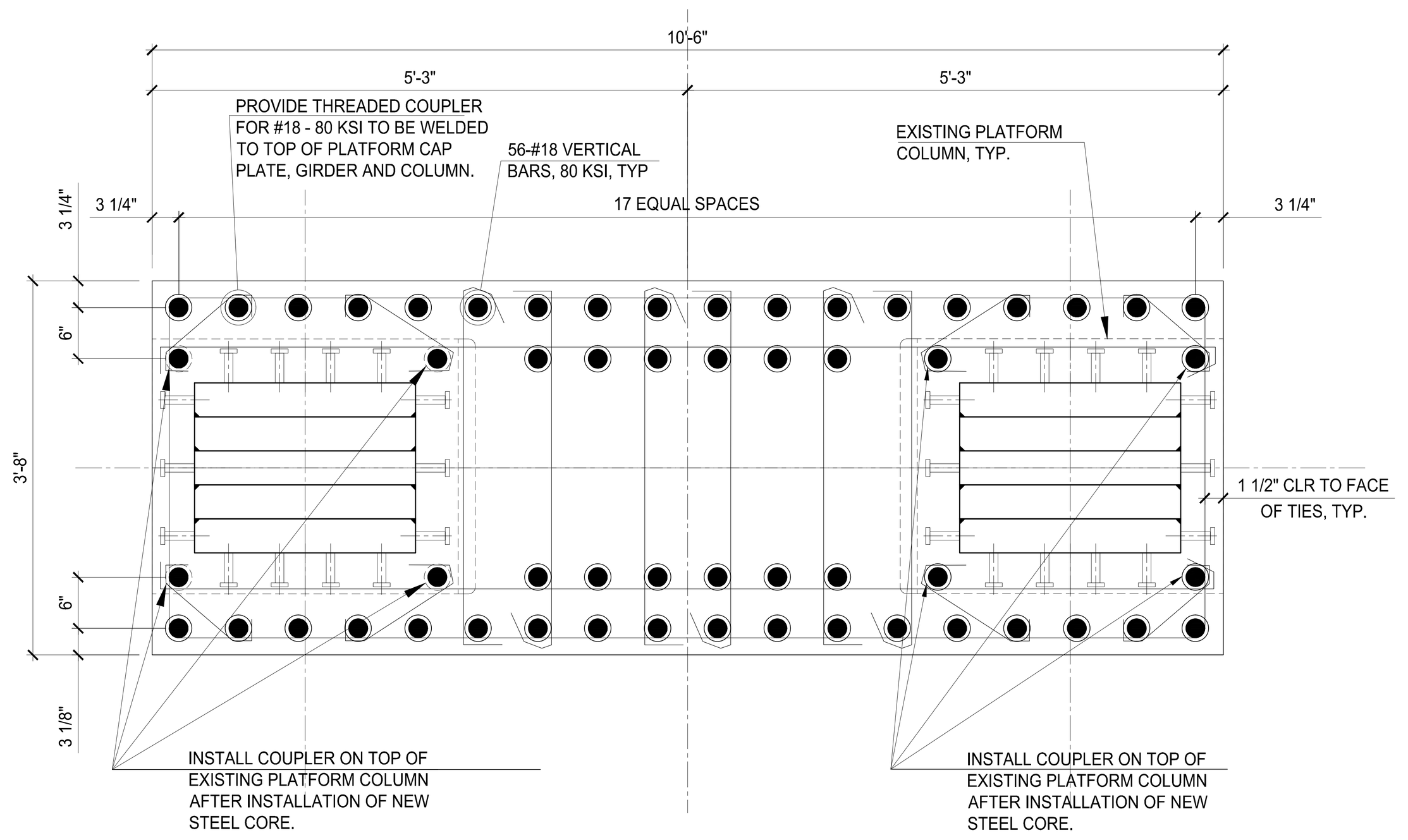
EXISTING REBAR COUPLER PLAN

S-051.00

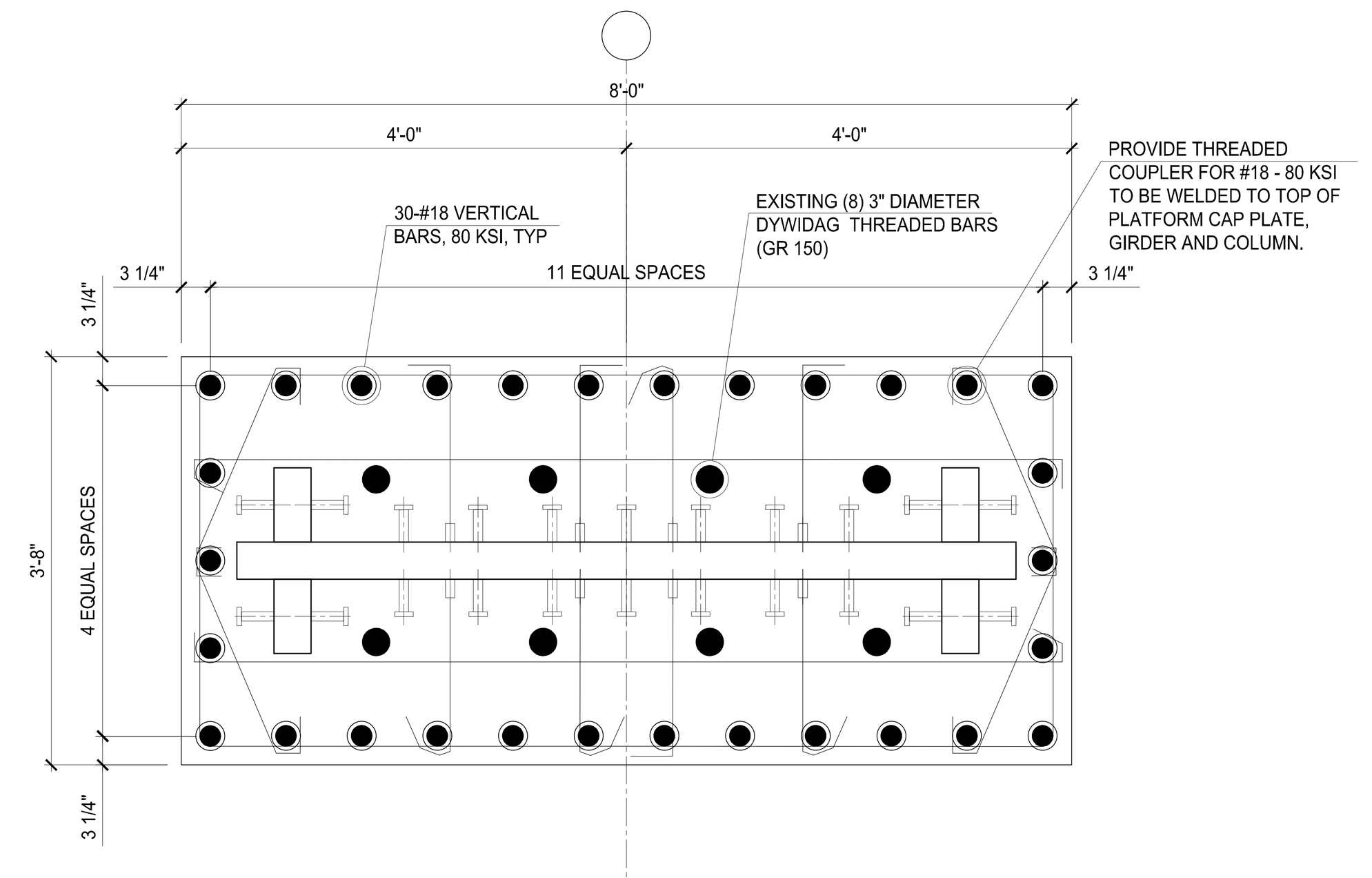
DRAWING NUMBER

S-051

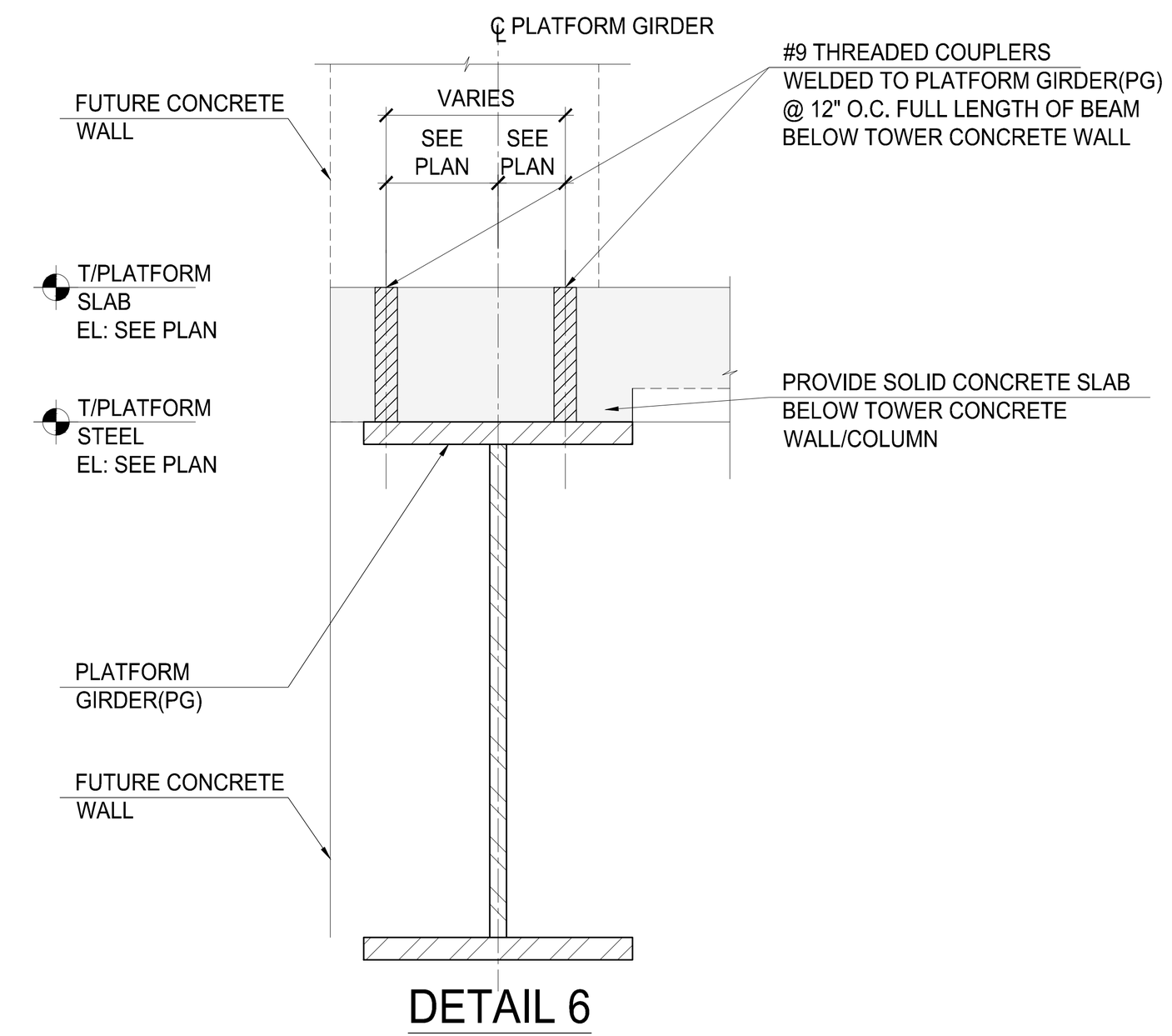
PAGE NUMBER



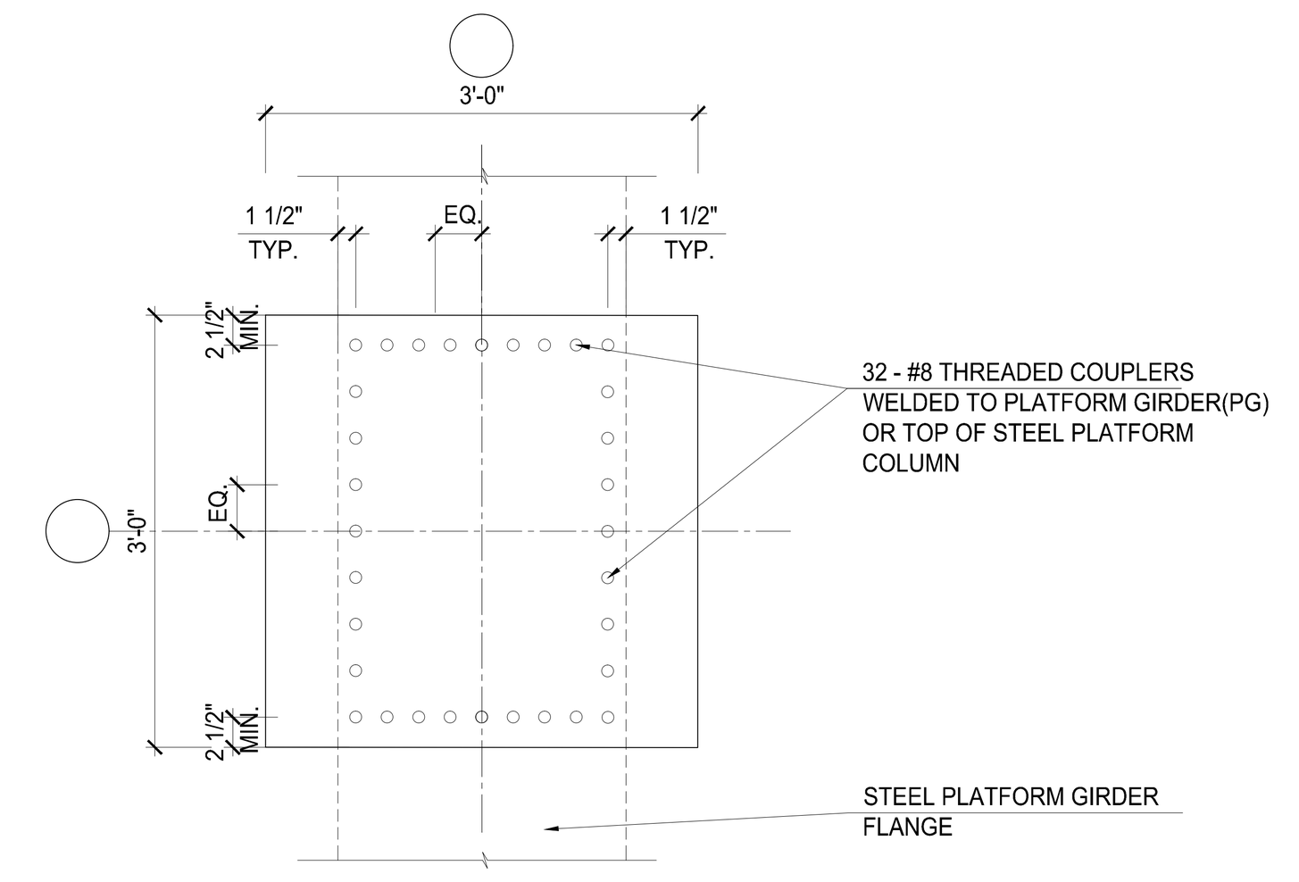
1 HAMMERHEAD COUPLER LAYOUT AT P2/EB, P4/EC



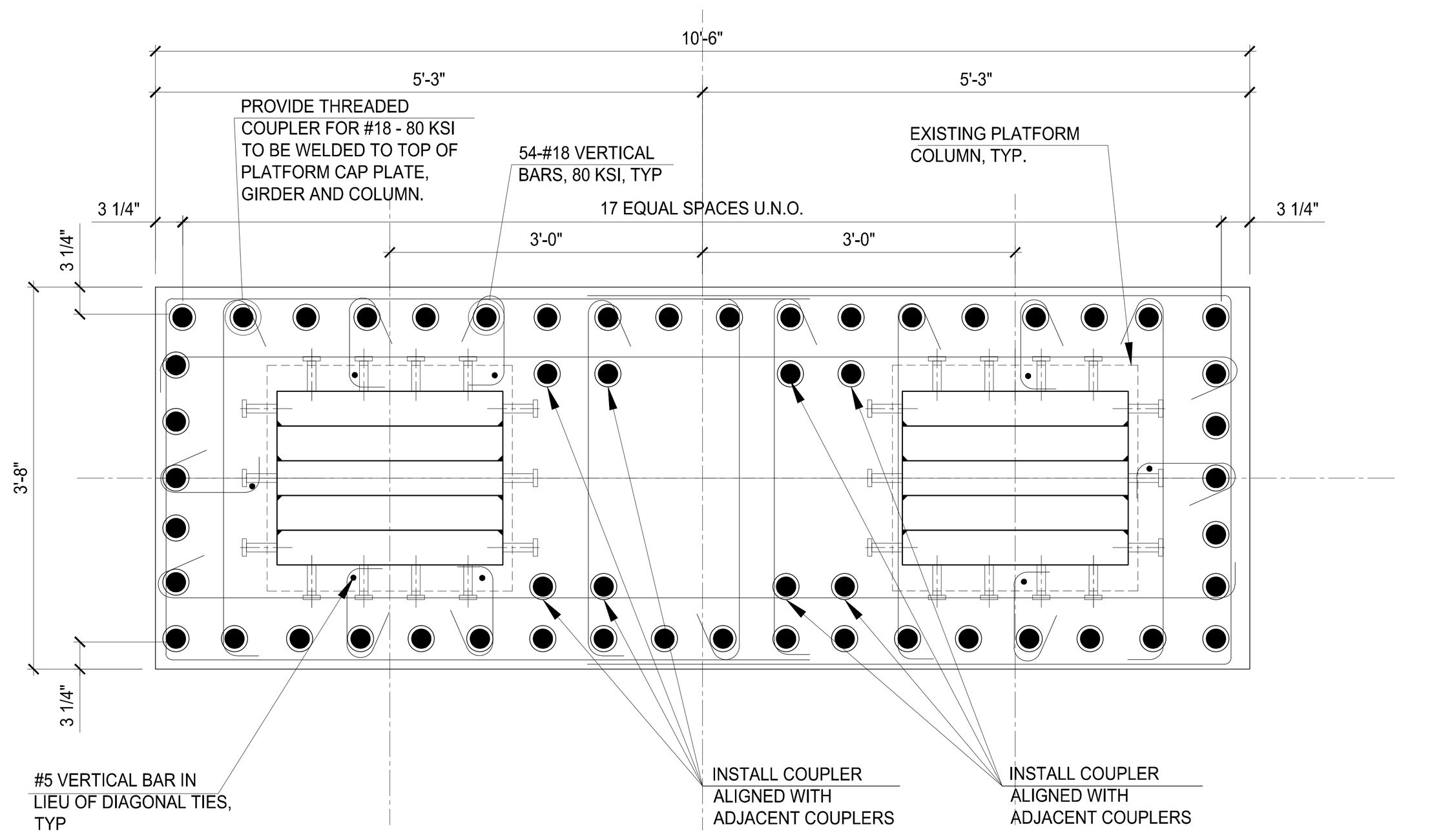
4 TOWER COLUMN COUPLER LAYOUT AT P4/EE



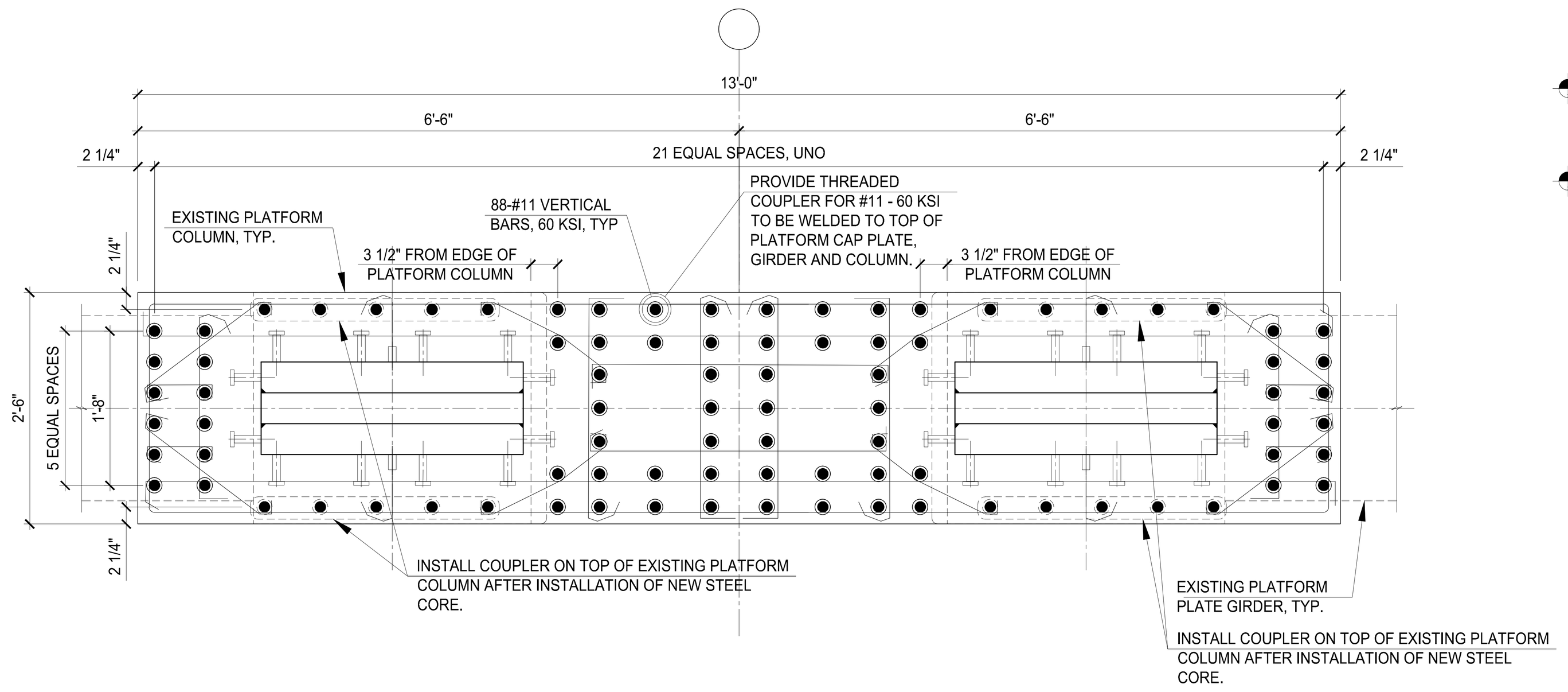
DETAIL 6



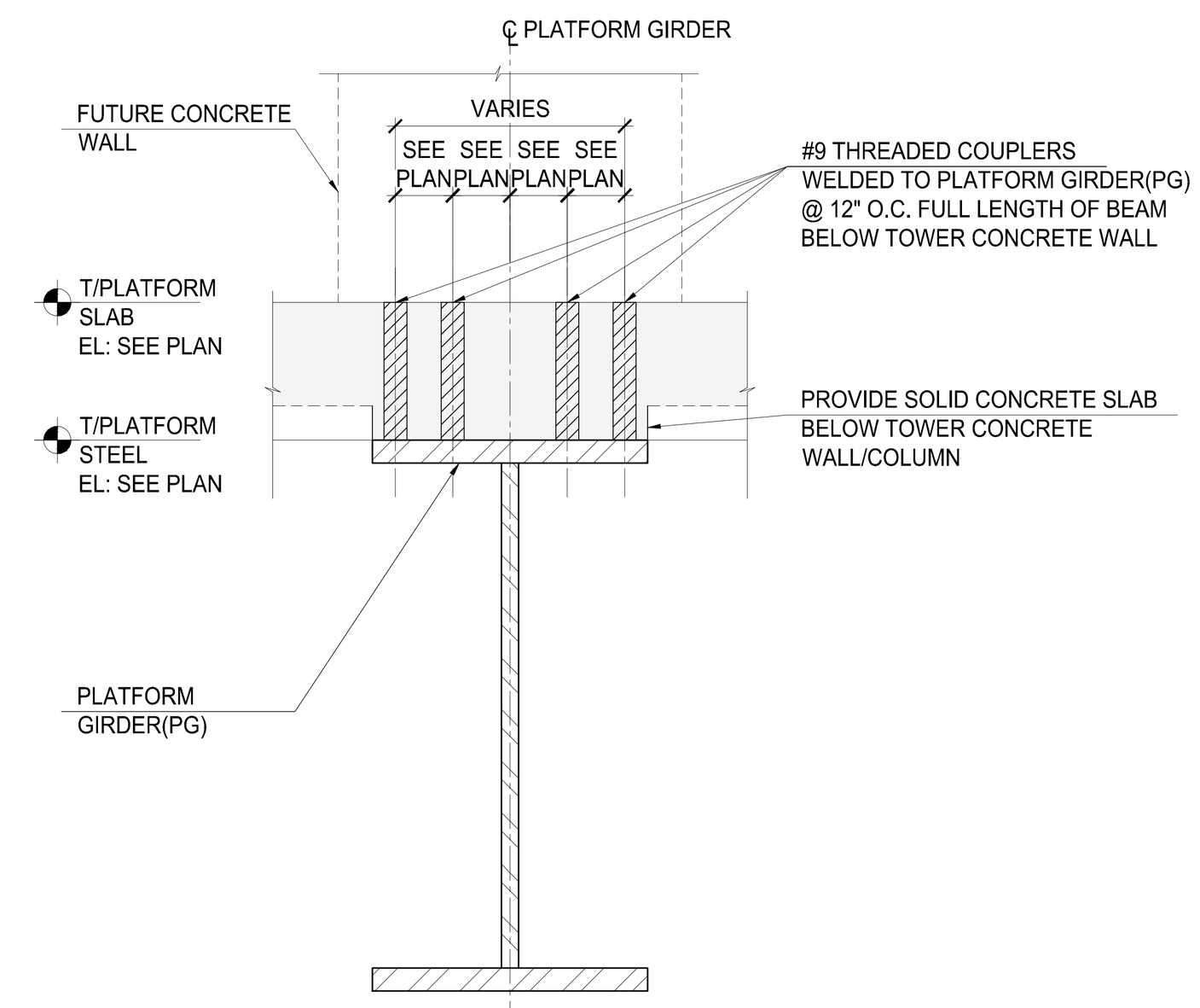
DETAIL 7: TYPICAL 36X36 COLUMN



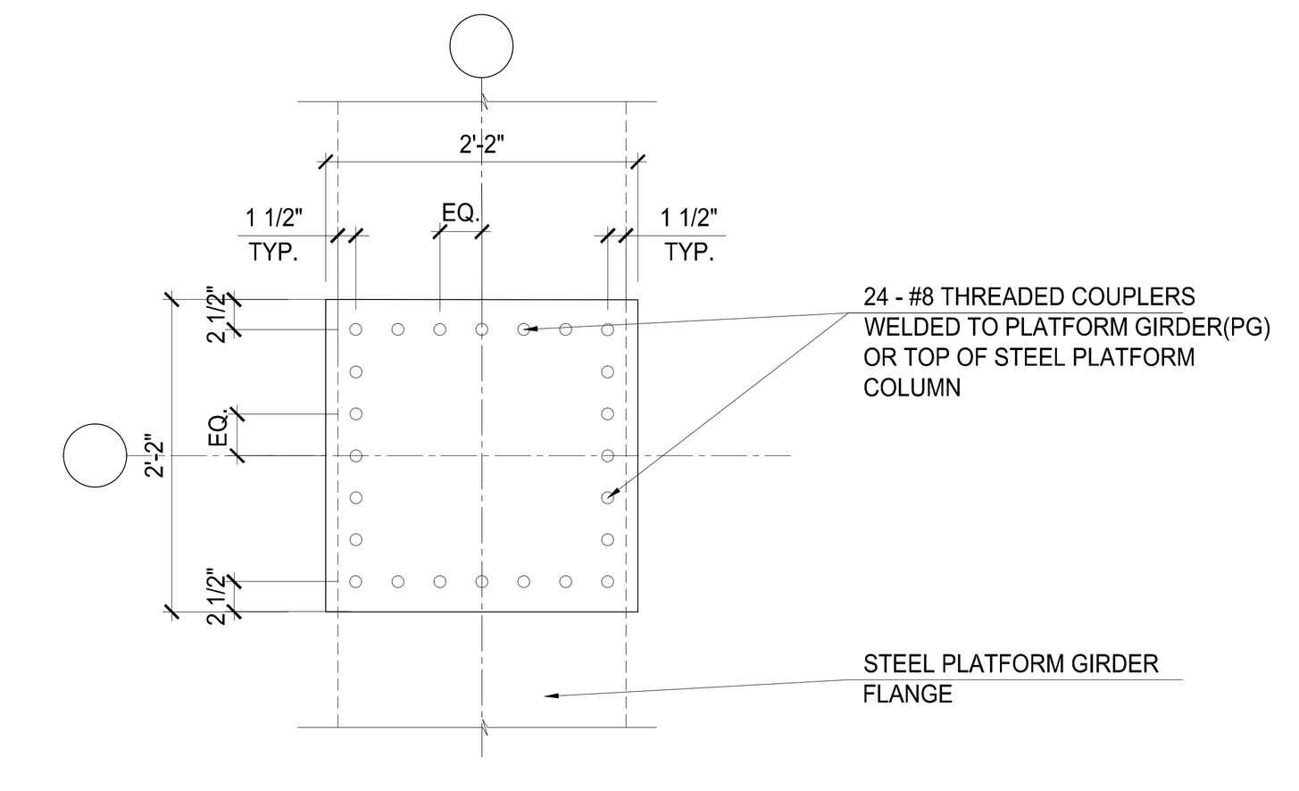
1A HAMMERHEAD COUPLER LAYOUT P4/ED



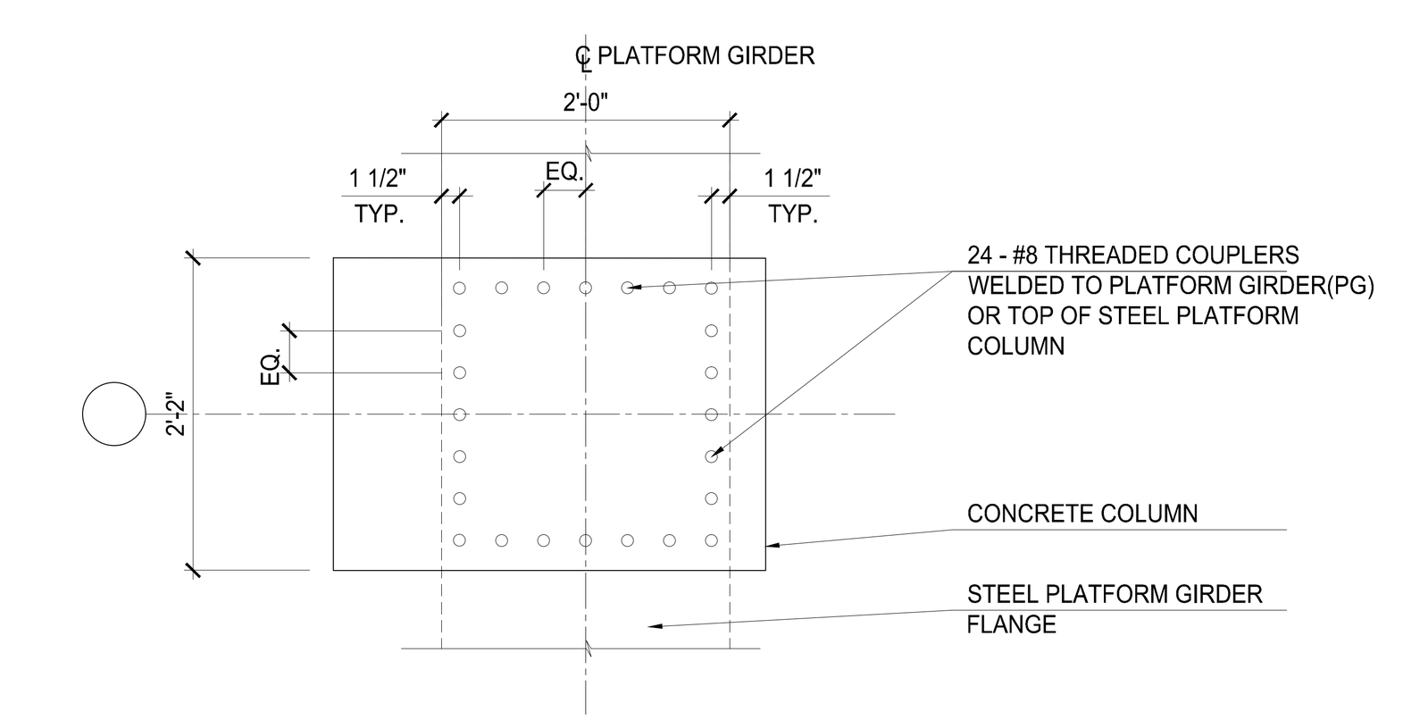
5 WALL BOUNDARY ZONE COUPLER LAYOUT AT P2/EC, P2/ED, P3/ED



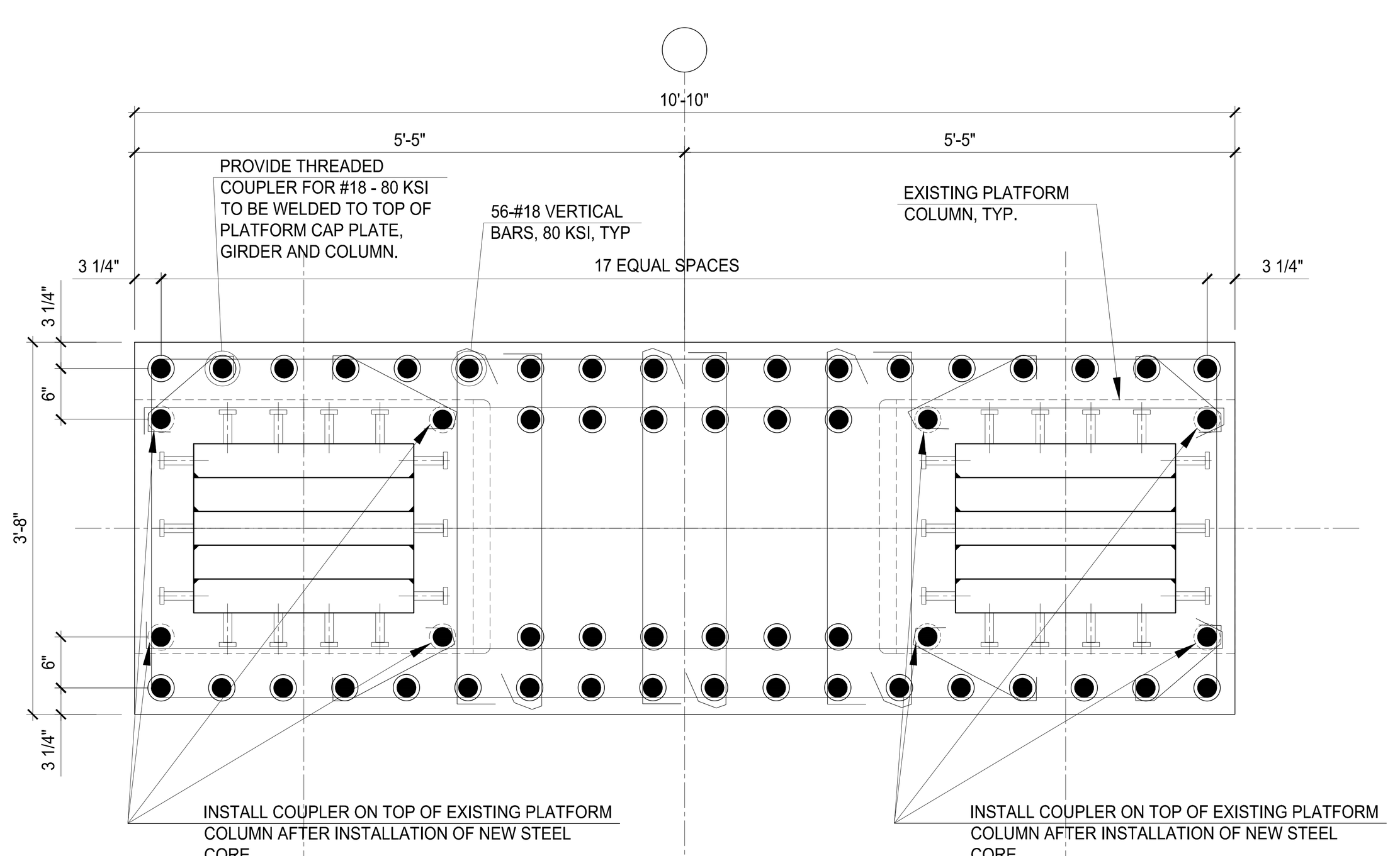
DETAIL 6A



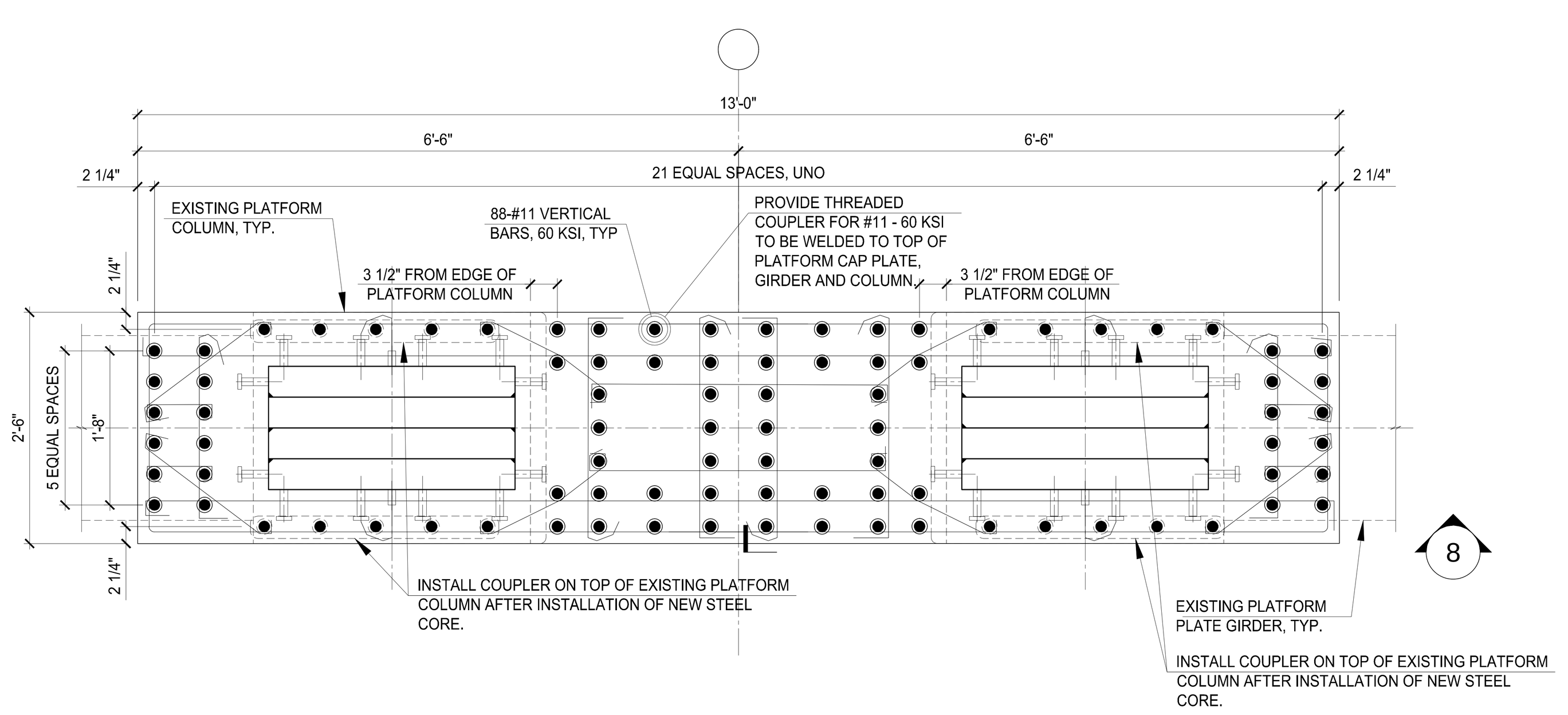
DETAIL 7A: TYPICAL 26X26 COLUMN



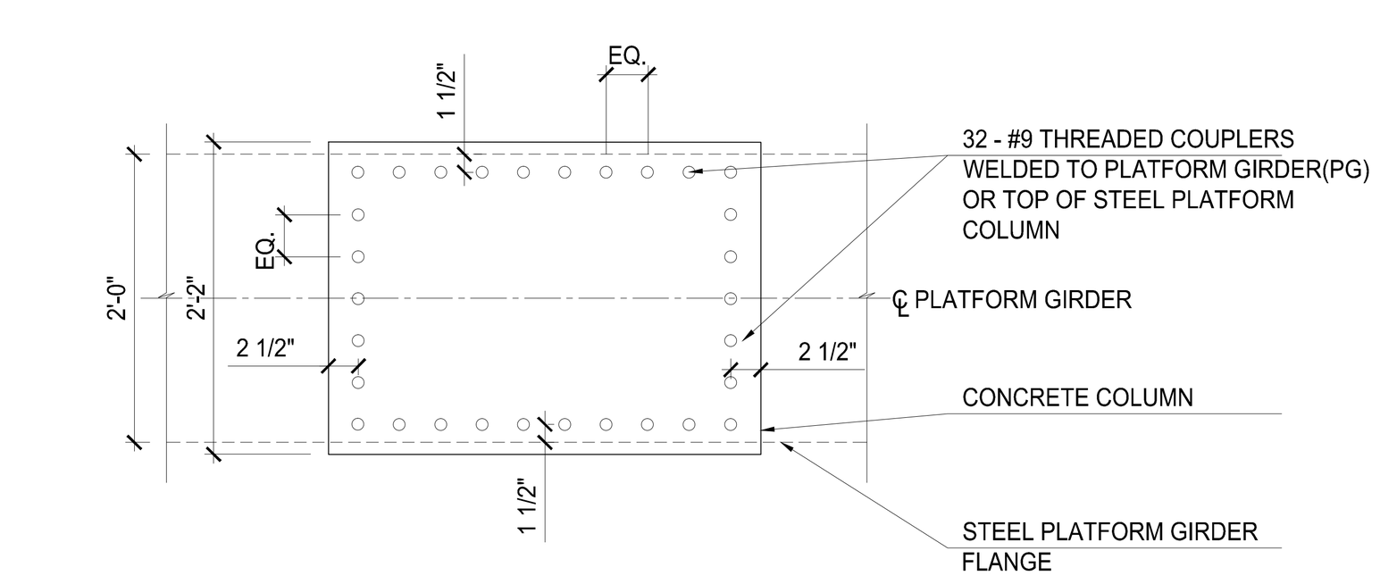
DETAIL 7B: TYPICAL 36X26 COLUMN



2 HAMMERHEAD COUPLER LAYOUT AT P3/EB, P3/EE

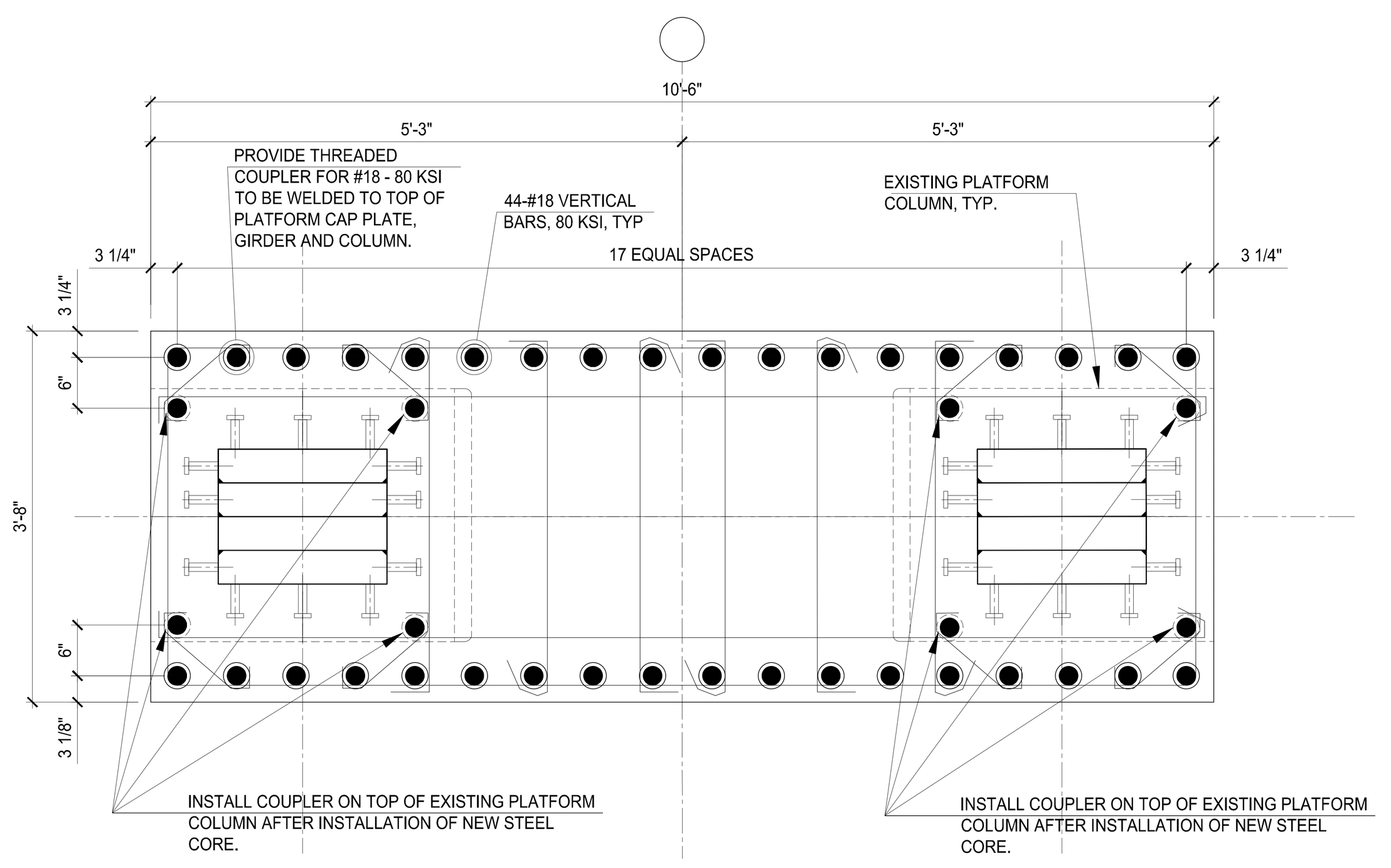


6 WALL BOUNDARY ZONE COUPLER LAYOUT AT P3/EC

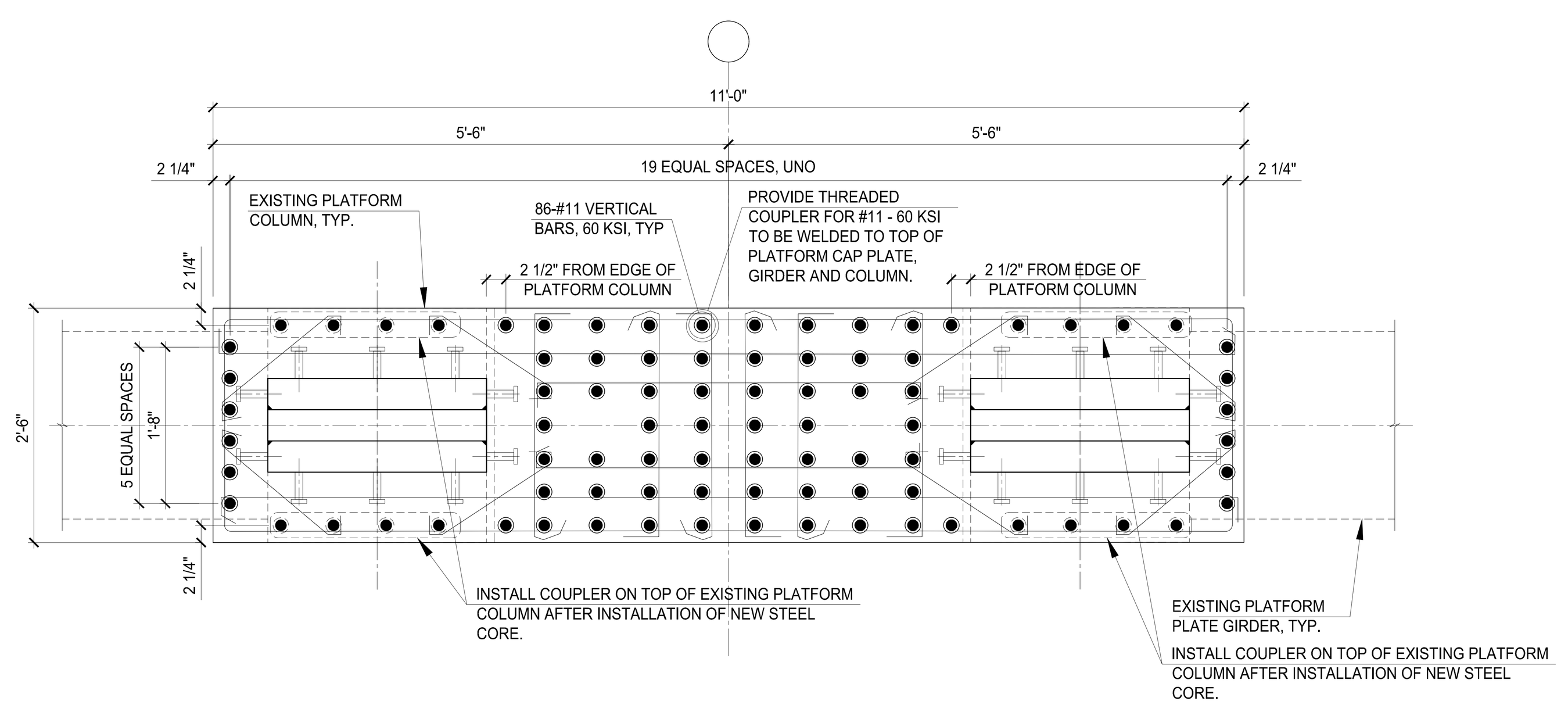


DETAIL 7C: 36X26 COLUMN COUPLER LAYOUT

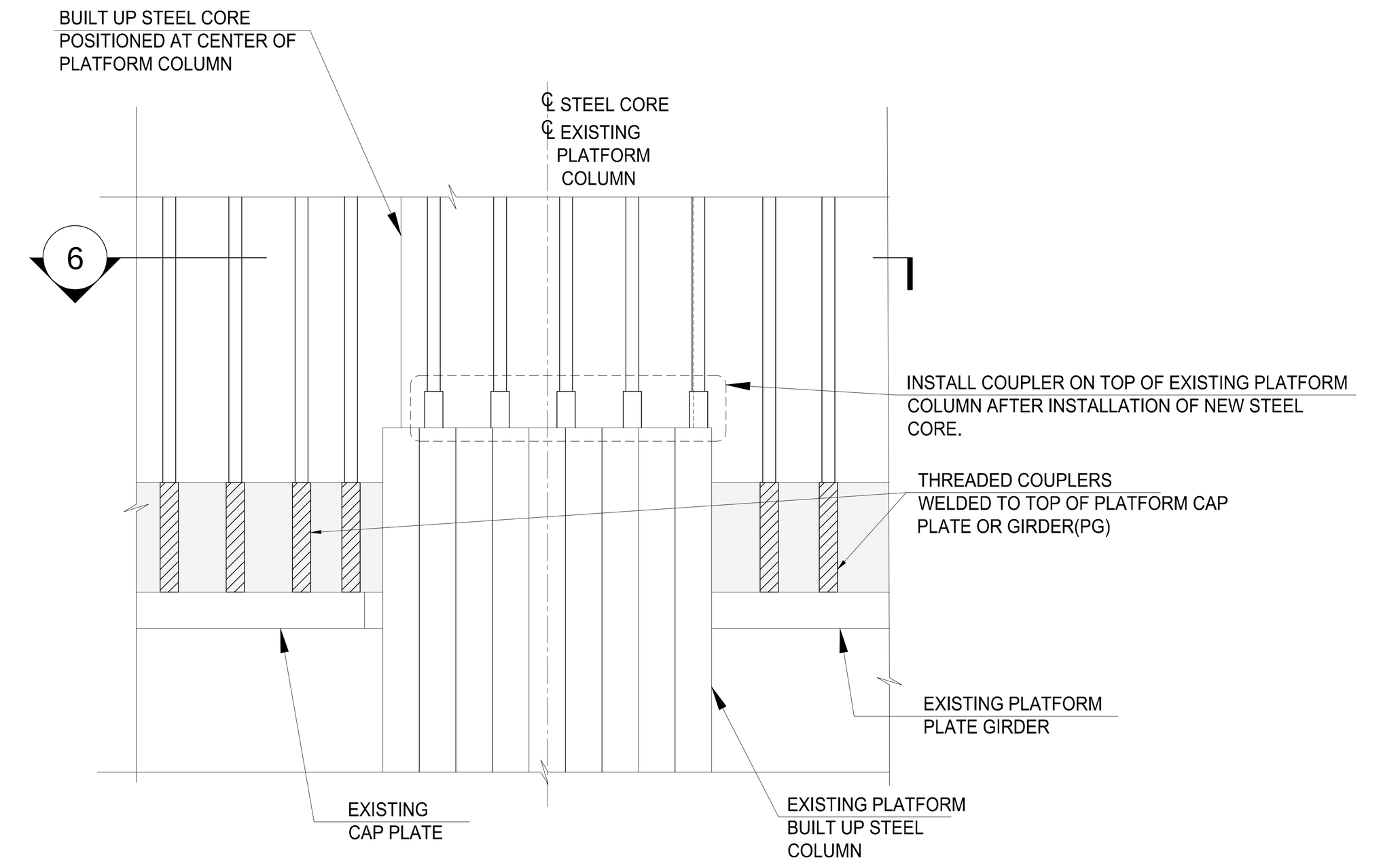
NOTE:
THE SIZE OF CONCRETE COLUMN BEARING ON THE CAP PLATE IS EQUAL TO "MINIMUM CAP PLATE SIZE" INDICATED ON THIS SHEET.



3 TOWER COLUMN COUPLER LAYOUT AT P2/EE, P4/EB



7 WALL BOUNDARY ZONE COUPLER LAYOUT AT P2/EC.5, P3/EC.5



8 WALL BOUNDARY ZONE ELEVATION

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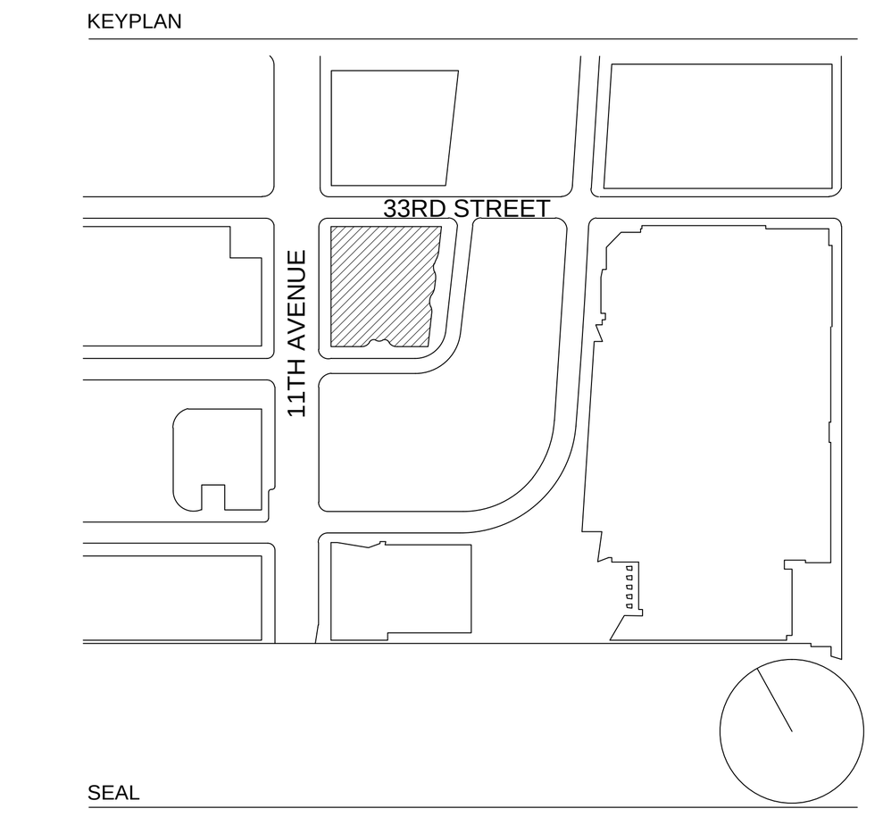
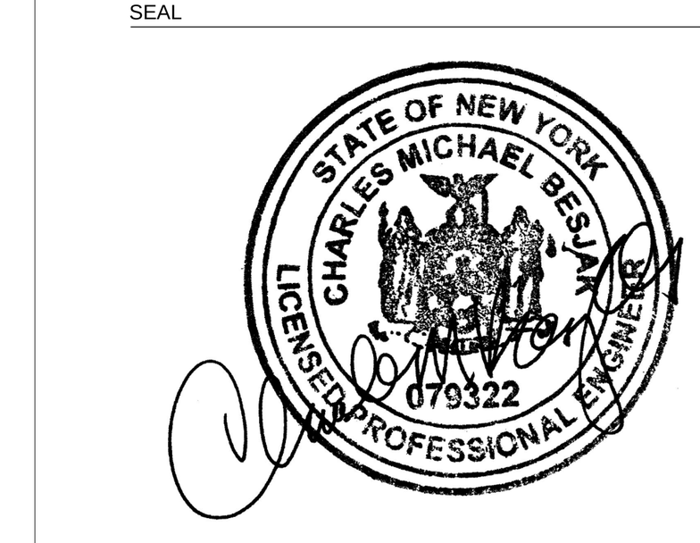
KEYPLAN



SEAL



NO.	DATE	DESCRIPTION
7	20 JAN 2017	ISSUED TO DOB
6	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
5	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
4	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
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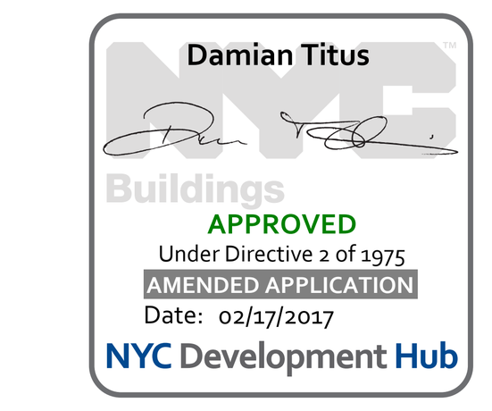
1	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.



DRAWING TITLE

EXISTING REBAR COUPLER DETAILS

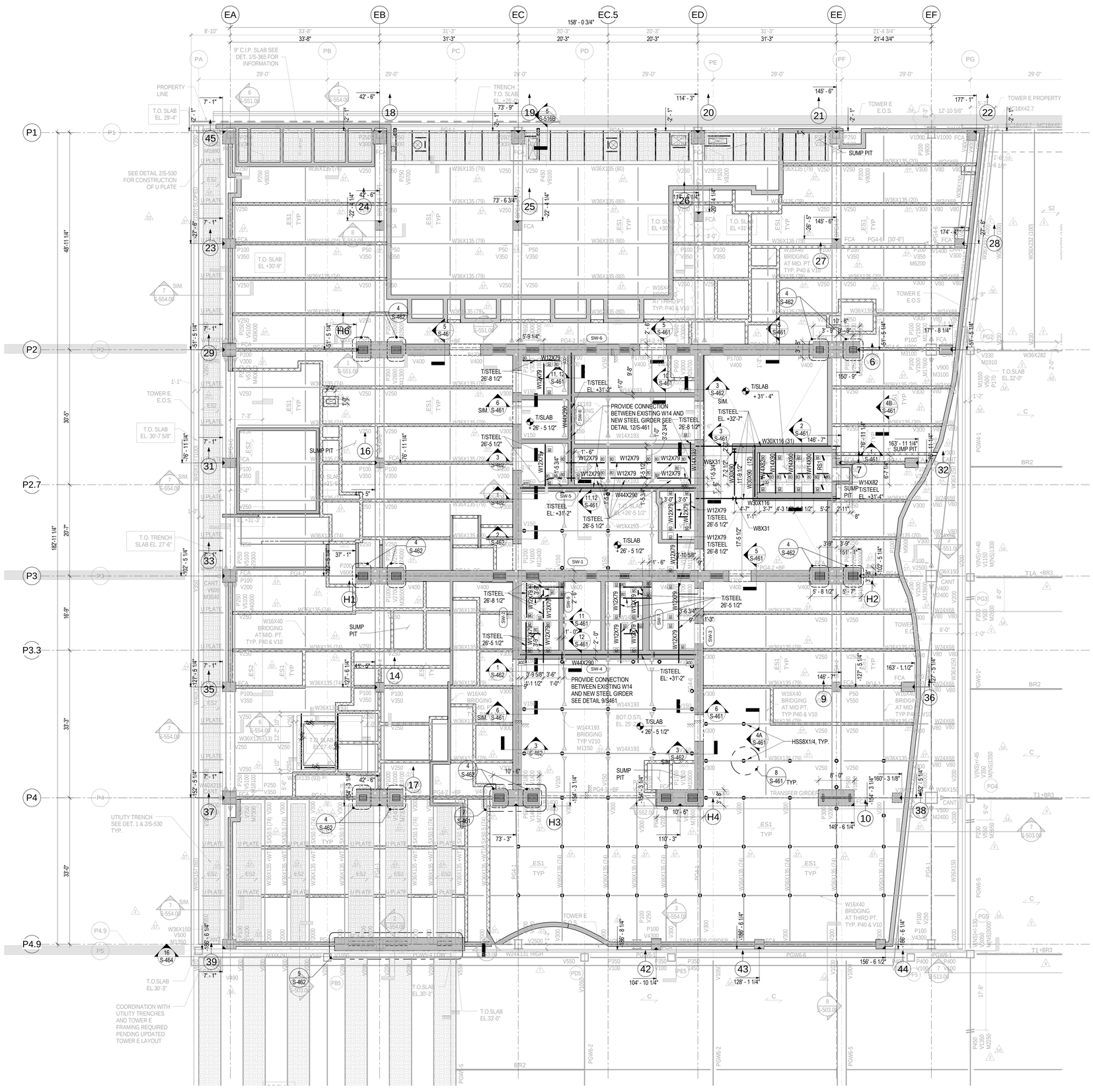
B-SCAN - DRAWING NUMBER

S-052.00

DRAWING NUMBER

S-052

PAGE NUMBER



1 PLATFORM FRAMING PLAN

1/8" = 1'-0"

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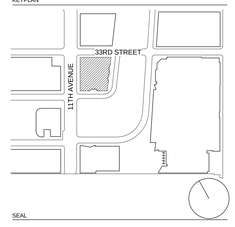
KEYPLAN



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NO.	DATE	DESCRIPTION
3	20 JAN 2017	ISSUED TO DOB
2	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

DRAWING TITLE

COMBINED EXISTING & NEW PLATFORM

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/27/2017
NYC Development Hub

B-SCAN - DRAWING NUMBER

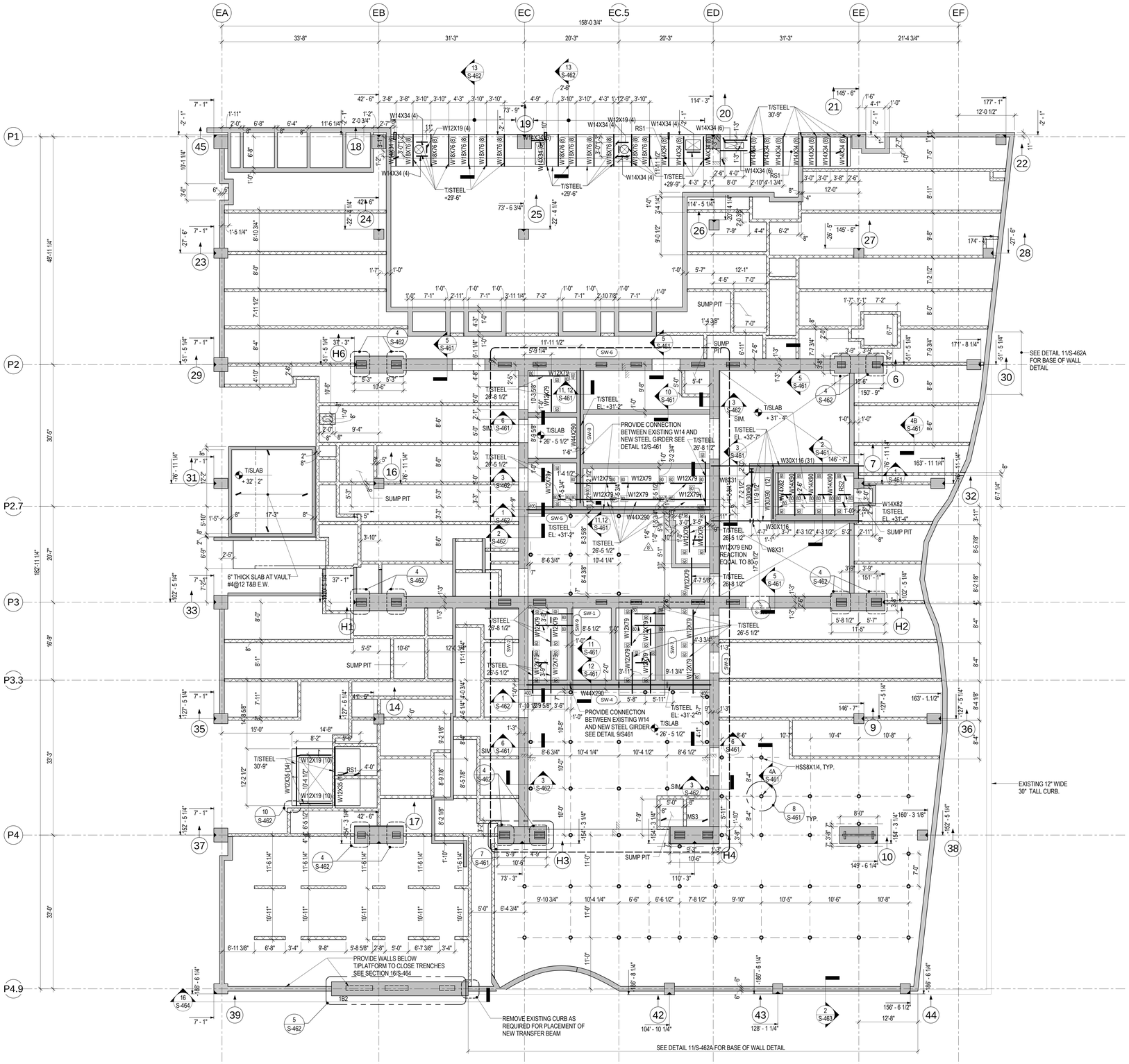
S-099.00

DRAWING NUMBER

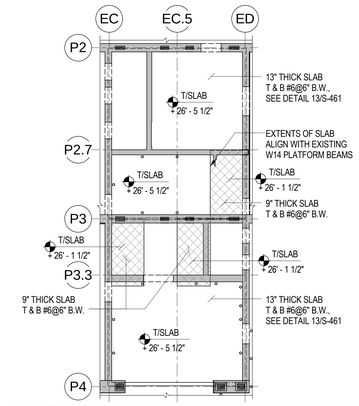
S-099

PAGE NUMBER

14 OF 112



1 PLATFORM FRAMING PLAN
1/8" = 1'-0"



2 PLATFORM FILL SLAB KEY PLAN
NOT TO SCALE

NOTES:
1. EXISTING STRUCTURE INDICATED WITH HALFTONE IN THIS SHEET IS BASED ON STRUCTURAL DRAWINGS PREPARED BY THORNTON TOMASETTI. CONTRACTOR SHALL VERIFY-IN-FIELD ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION WORK AND FABRICATION.
2. THE ARCHITECT/STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY DEVIATIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. T/STEEL OF NEW FRAMING EL. +32'-10" U.N.O.

Damian Titus
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/27/2017
NYC Development Hub

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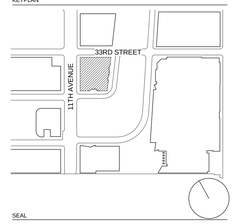
KEYPLAN



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NO.	DATE	DESCRIPTION
8	20 JAN 2017	ISSUED TO DOB
7	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

PLATFORM FRAMING PLAN

B-SCAN - DRAWING NUMBER

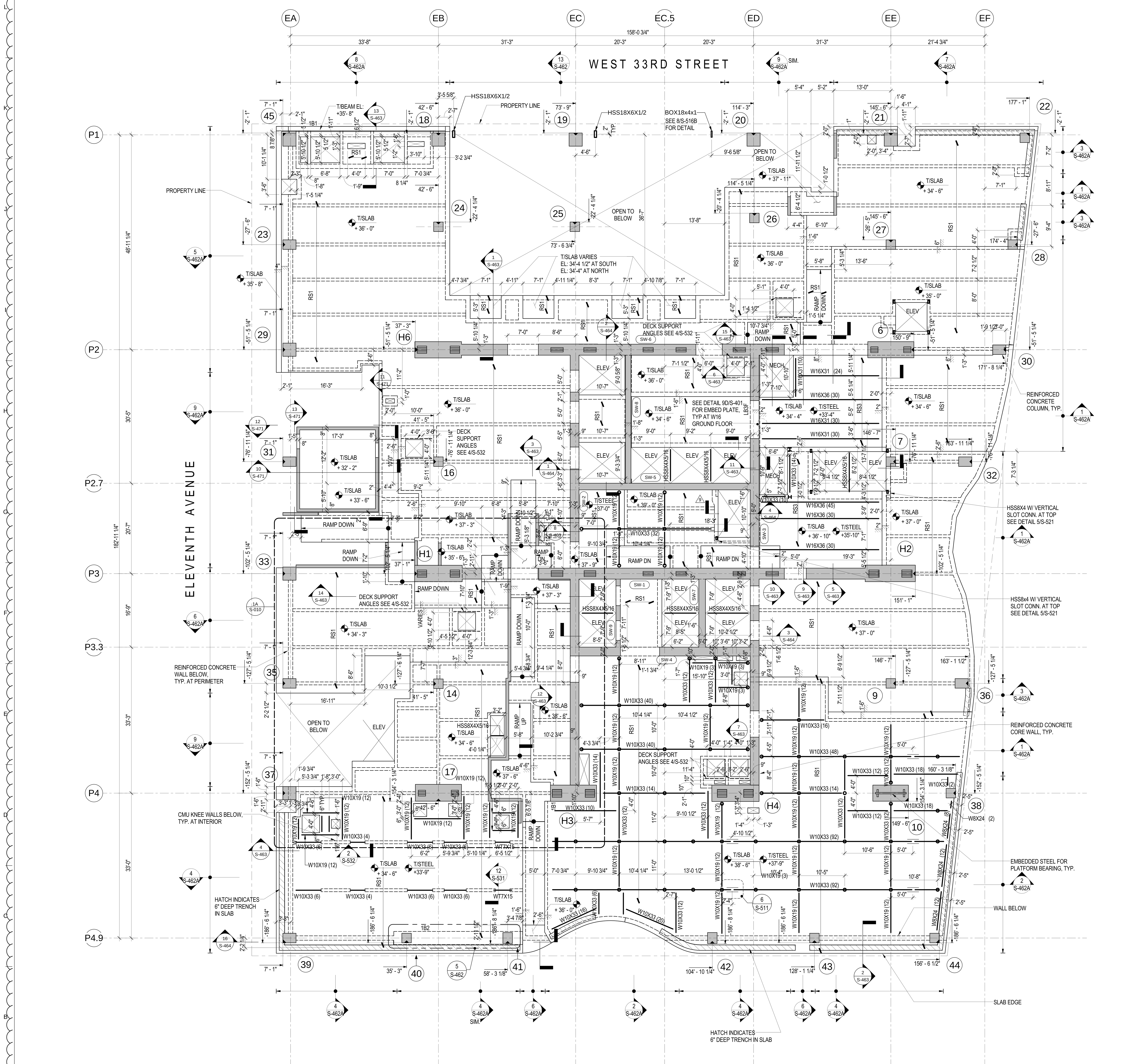
S-100.01

DRAWING NUMBER

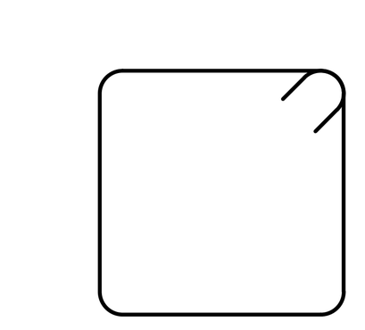
S-100

PAGE NUMBER

15 OF 112



1 LEVEL 1 FRAMING PLAN
1/8" = 1'-0"



TYPE 1

STIRRUP TYPES
N.T.S.

LEVEL 1 BEAM SCHEDULE									
MARK	SIZE		REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
1B1	28	18	6-#11	4-#9	4-#9	4-#9	#4	1	8
1B2	36	36	SEE DETAIL 5/S-462 FOR BEAM REINFORCEMENT						
1MB1	36	14	8-#6	8-#6	8-#6	-	#4	1	4

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
RS1 SEE S-531	VARIES

TYPICAL SLAB

RS1
SEE S-531

SLAB CONCRETE STRENGTH

RS1 = 5 ksi

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

Damian Titus
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Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

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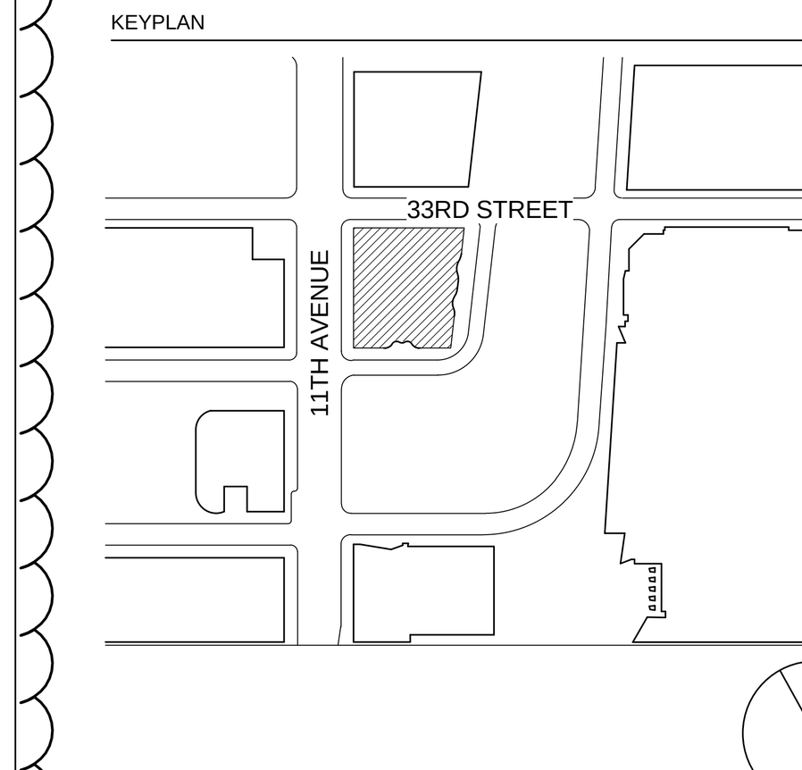

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NO.	DATE	DESCRIPTION
9	20 JAN 2017	ISSUED TO DOB
8	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
7	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

LEVEL 1 FRAMING PLAN (MKTG 01)

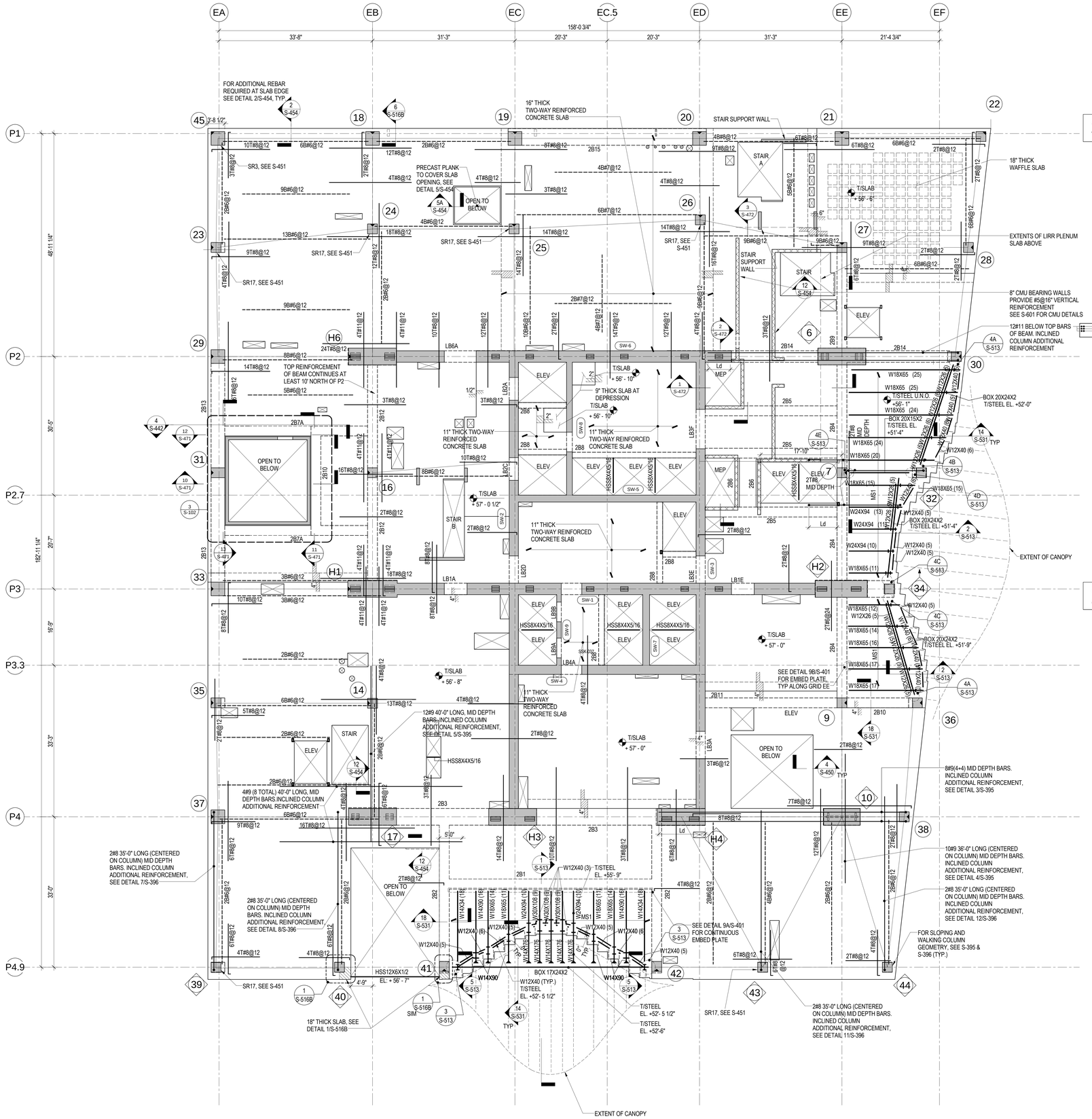
B-SCAN - DRAWING NUMBER

S-101.01

DRAWING NUMBER

S-101

PAGE NUMBER



Job Number
ES563847916 Scan Code

1 LEVEL 2 FRAMING PLAN

1/8" = 1'-0"

3 FUEL OIL VAULT ROOF - PARTIAL PLAN

1/8" = 1'-0"

2 LEVEL 2 LIRR PLENUM FRAMING AND ARRANGEMENT PLAN

1/8" = 1'-0"

STIRRUP TYPES
N.T.S.

LEVEL 2 BEAM SCHEDULE									
MARK	SIZE		REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
2B1	26	42	4-#11	4-#11	4-#11	4-#5	#4	1	8
2B2	26	42	6-#11	6-#11	6-#11	4-#5	#4	1	6
2B3	44	42	5-#11	5-#11	5-#11	4-#5	#4	1	6
2B4	26	32	5-#11	5-#11	5-#11	3-#5	#4	2	6
2B5	26	18	7-#11	7-#11	7-#11	-	#4	2	6
2B6	12	14	2-#8	2-#8	2-#8	-	#4	1	4
2B7	26	18	6-#11	6-#11	6-#11	-	#4	2	6
2B7A	26	NOTE 2	6-#11	6-#11	NOTE 2	-	#4	2	6
2B8	15	11	2-#8	2-#8	2-#8	-	#3	1	4
2B9	26	20	5-#11	5-#11	5-#11	-	#5	2	6
2B10	26	18	4-#9	4-#9	4-#9	-	#4	1	6
2B11	26	28	5-#10	5-#10	5-#10	-	#4	1	8
2B12	26	20	5-#11	5-#11	5-#11	-	#5	2	4
2B13	36	32	5-#11	5-#11	5-#11	3-#11	#5	2	5
2B14	30	18	7-#11	7-#11	7-#11	-	#5	2	4
2B15	44	18	2x6-#11	2x6-#11	6-#11	-	#4	2	4
PB1	12	16	2-#9	2-#9	2-#9	-	#3	1	6

NOTE: 1. MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.
2. DEPTH VARIES. SEE DETAIL 4/S-442 FOR DIMENSIONS AND BOTTOM REINFORCEMENT.

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	57' - 0"

TYPICAL SLAB BOTTOM:
#6@12
CONT. BW
TOP:
#6@12
CONT. BW

18" WAFFLE SLAB BOTTOM:
PROVIDE #6@ 12" WHERE NO BOTT. BARS SPECIFIED
TOP:
#6@12
CONT. BW

16" SLAB BOTT:
#7@12
CONT. BW
TOP:
#7@12
CONT. BW

SLAB CONCRETE STRENGTH
f'c = 10 ksi
MS1 = 5 ksi

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

Damian Titus
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Date: 02/17/2017
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31 W 27th Street, 5th Floor
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RESIDENTIAL DESIGN ARCHITECT

Ismael Leyva Architects
48 West 37th Street
New York, NY 10018

KEYPLAN

SEAL

CHARLES MICHAEL BESJAK
079322

NO.	DATE	DESCRIPTION
9	20 JAN 2017	ISSUED TO DOB
8	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
7	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
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1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

LEVEL 2 FRAMING PLAN (MKTG 02)

B-SCAN - DRAWING NUMBER

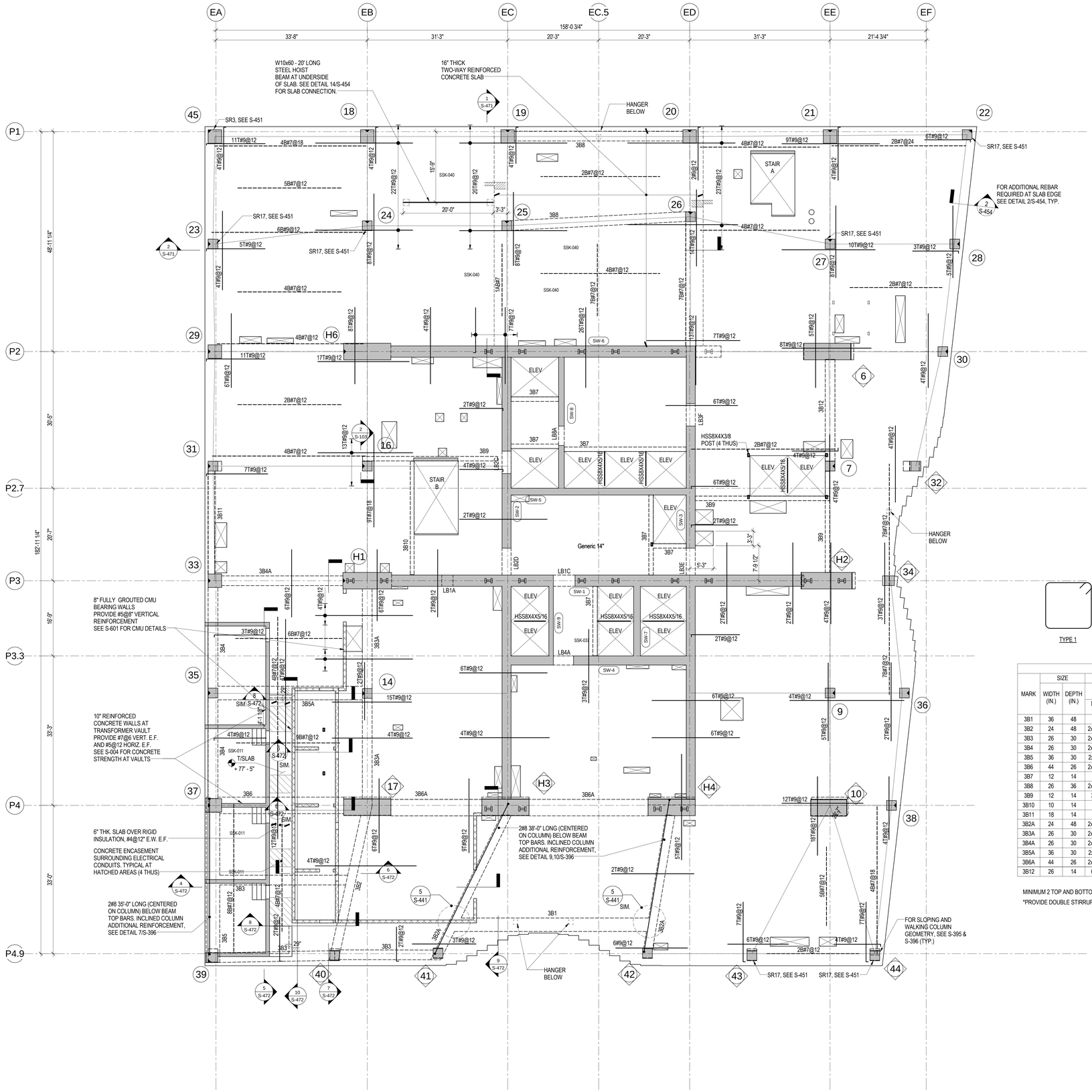
S-102.01

DRAWING NUMBER

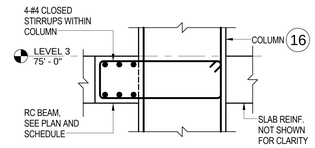
S-102

PAGE NUMBER

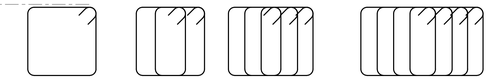
17 OF 112



1 LEVEL 3 FRAMING PLAN
1/8" = 1'-0"



2 COLUMN TO BEAM CONNECTION
3/4" = 1'-0"



STIRRUP TYPES
N.T.S.

LEVEL 3 BEAM SCHEDULE

MARK	SIZE		REINFORCEMENT				STIRRUPS			
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS		BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)	REMARKS
			MARK SIDE	OPP. SIDE						
3B1	36	48	6-#7	6-#7	6-#11	4-#5	#4	1	8	
3B2	24	48	2x 5-#10	2x 5-#10	2X5-#10	4-#10	#5	1-DBL*	4	
3B3	26	30	2x 6-#10	2x 6-#10	2X6-#11	2-#10	#5	2	4	
3B4	26	30	2x 5-#11	2x 5-#11	2X5-#9	2-#10	#5	2	4	
3B5	36	30	2x 8-#11	2x 8-#11	2X8-#10	2-#11	#5	3	4	
3B6	44	26	2x 8-#11	2x 8-#11	2X8-#9	-	#5	3	4	
3B7	12	14	3-#7	3-#7	3-#7	-	#3	1	4	
3B8	26	36	2x 4-#11	2x 4-#11	2X4-#11	3-#5	#5	2	4	
3B9	12	14	3-#10	3-#10	3-#10	-	#4	1	4	
3B10	10	14	2-#8	2-#8	2-#7	-	#3	1	4	
3B11	18	14	5-#9	5-#9	5-#9	-	#4	2	4	
3B2A	24	48	2x 5-#10	2x 5-#10	2X5-#10	4-#10	#5	-	-	36 - 1-DBL*@4" FROM MARK SIDE, B-TYPE 1@4"
3B3A	26	30	2x 6-#10	2x 6-#10	2X6-#11	2-#10	#4	-	-	36 - TYPE 2@4", B-TYPE 2@8"
3B4A	26	30	2x 5-#11	2x 5-#11	2X5-#9	2-#10	#4	-	-	48 - TYPE 2@4", B-TYPE 2@12"
3B5A	36	30	2x 8-#11	2x 8-#11	2X8-#10	2-#11	#4	-	-	48 - TYPE 4@4", B-TYPE 2@8" SSK-044
3B6A	44	26	2x 8-#11	2x 8-#11	2X8-#9	-	#4	-	-	48 - TYPE 3@4", B-TYPE 2@8"
3B12	26	14	6-#10	6-#10	6-#10	-	#4	2	4	

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.
*PROVIDE DOUBLE STIRRUPS WHERE "DBL" IS NOTED

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	75' - 0"
TYPICAL SLAB	DRAWING NOTES:
BOTTOM: #7@12 CONT. BW	1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
TOP: #7@12 CONT. BW	2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
16" SLAB	3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
BOTTOM: #7@12 CONT. BW	4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
TOP: #7@12 CONT. BW	5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
	6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
	7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
	8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
	9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
	10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
	11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
SLAB CONCRETE STRENGTH	12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
f'c = 10 ksi	13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW SLAB U.N.O.
	14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

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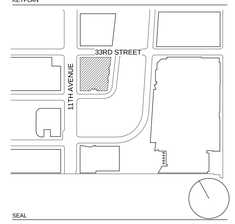
KEYPLAN


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DRAWING TITLE
LEVEL 3 FRAMING PLAN (MKTG 03)

B-SCAN - DRAWING NUMBER
S-103.01

DRAWING NUMBER
S-103

PAGE NUMBER
18 OF 112

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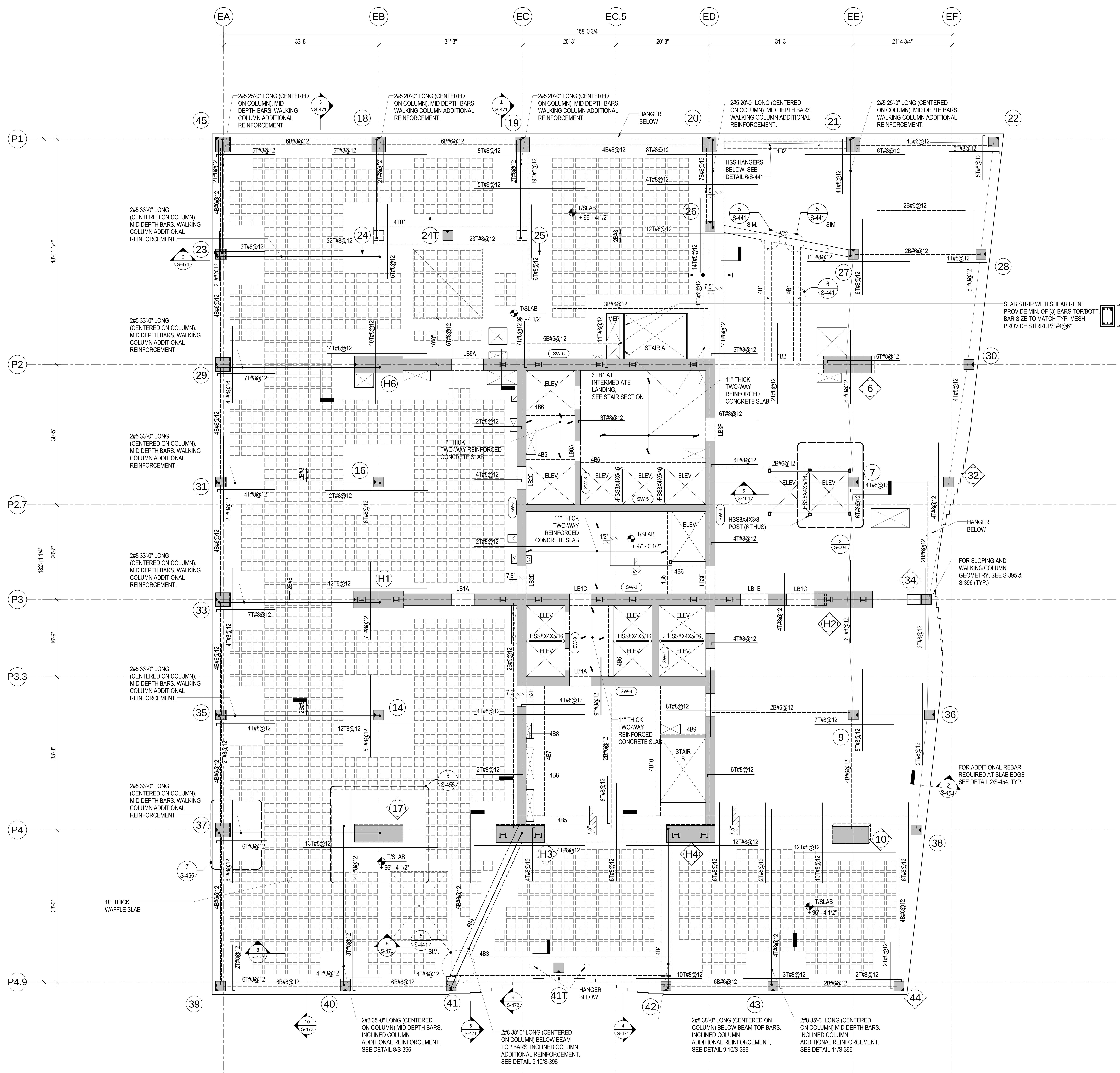
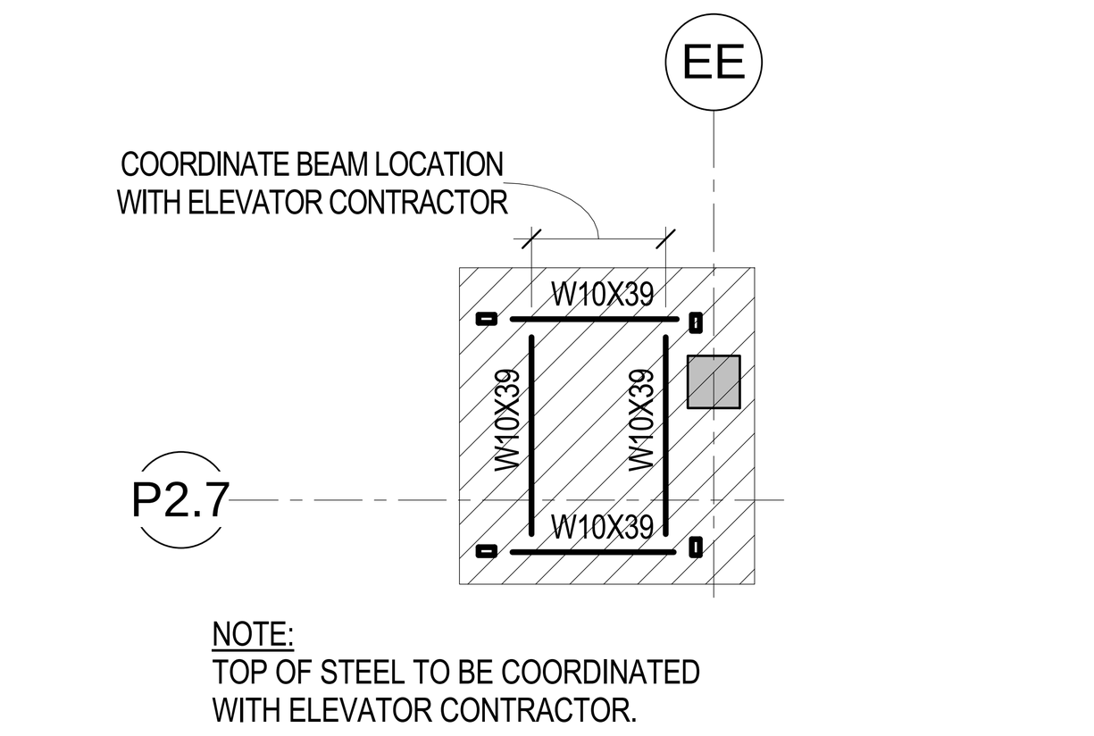


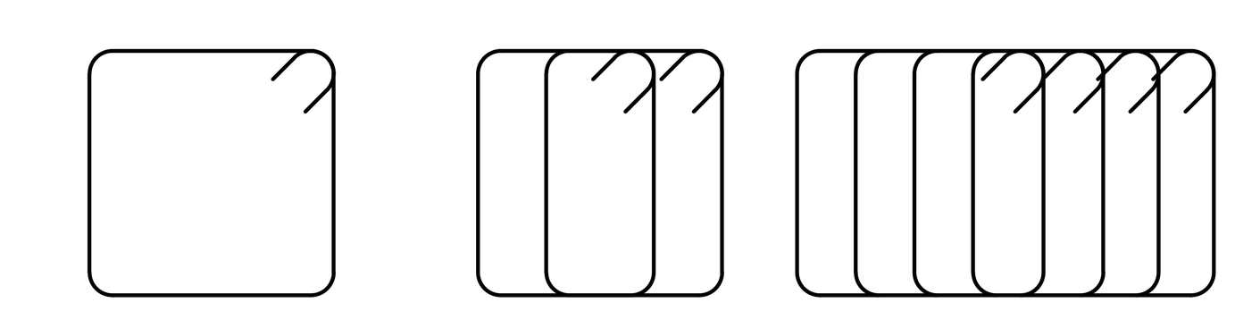
1 LEVEL 4 FRAMING PLAN

1/8" = 1'-0"



2 ELEVATOR MACHINE FRAMING PLAN

1/8" = 1'-0"



TYPE 1 | TYPE 2 | TYPE TB (8 LEGS)

STIRRUP TYPES
N.T.S.

LEVEL 4 BEAM SCHEDULE									
MARK	SIZE		REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
4B1	18	20	4-#8	4-#8	4-#8	-	#4	1	8
4B2	18	20	5-#11	5-#11	5-#11	-	#4	2	4
4B3	48	66	3 x 9-#11	3 x 9-#11	3 x 9-#11	7-#8	#4	2	6
4B4	26	48	6-#11	6-#11	6-#11	5-#11	#4	2	4
4B5	44	36	8-#11	8-#11	8-#11	-	#4	2	6
4B6	12	11	3-#5	3-#5	3-#5	-	#3	1	4
4B7	28	14	6-#10	6-#10	6-#8	-	#4	2	4
4B8	24	14	4-#8	4-#8	4-#8	-	#3	1	4
4B9	10	14	3-#8	3-#8	3-#8	-	#3	1	4
4B10	12	14	3-#8	3-#8	3-#8	-	#3	1	4
4TB1	54	66	9-#7	9-#7	2 x 9-#11	7-#5	#4	TB	6

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	97' - 0"

TYPICAL SLAB & 11"SLAB
BOTTOM: #5@12 CONT. BW
TOP: #5@12 CONT. BW

18" WAFFLE SLAB
BOTTOM: SEE DET. 3/S-455 PROVIDE #6@12" WHERE NO BOTTOM BAR SPECIFIED
TOP: #6@12 CONT. BW

SLAB CONCRETE STRENGTH
f'c = 10 ksi

DRAWING NOTES:
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Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
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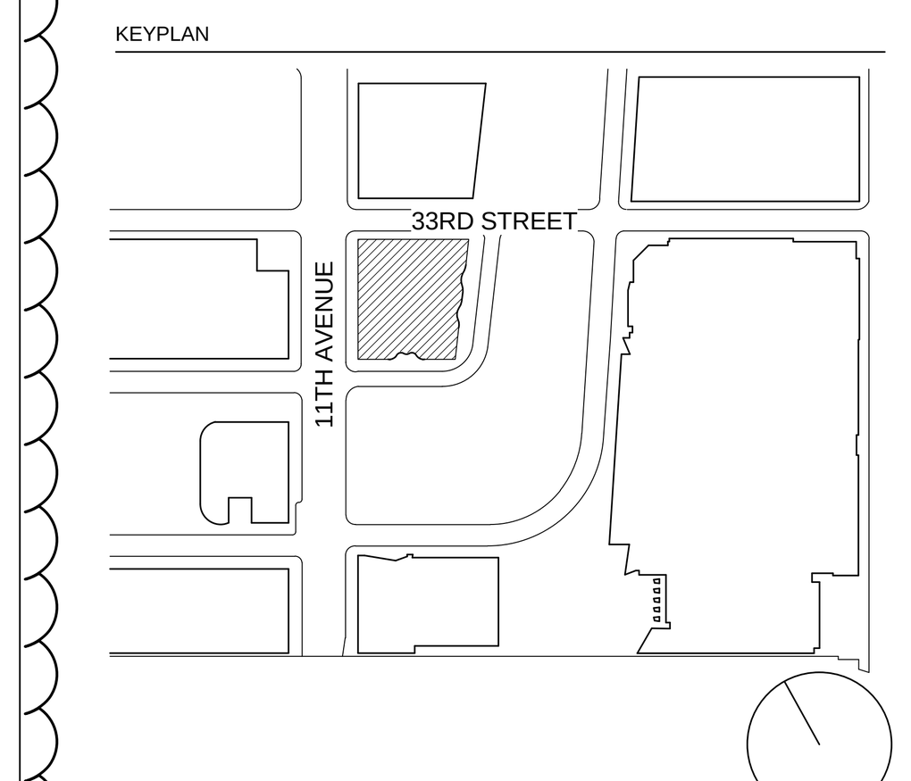
KEYPLAN



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NO.	DATE	DESCRIPTION
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DRAWING TITLE

LEVEL 4 FRAMING PLAN (MKTG 04)

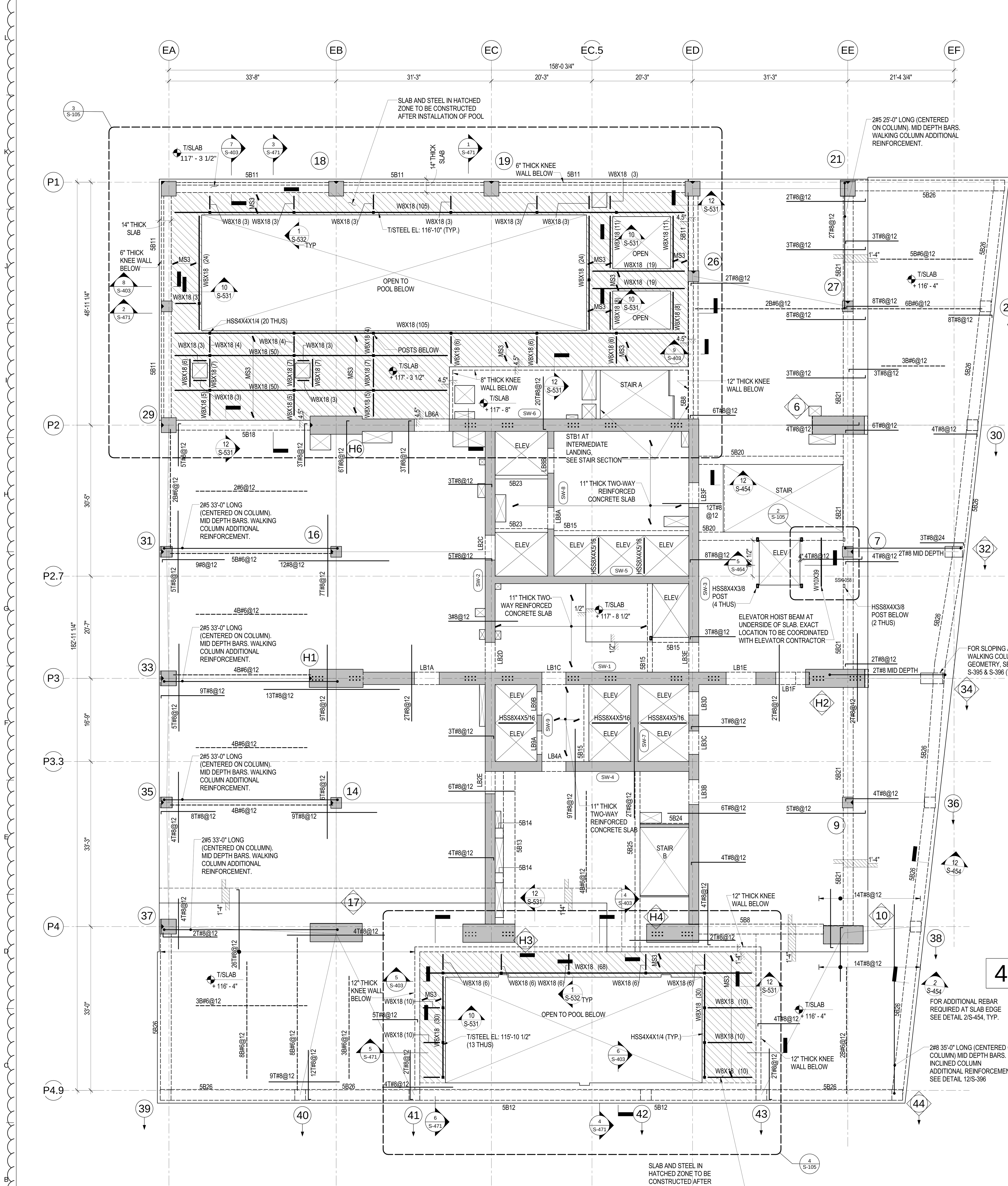
B-SCAN - DRAWING NUMBER

S-104.01

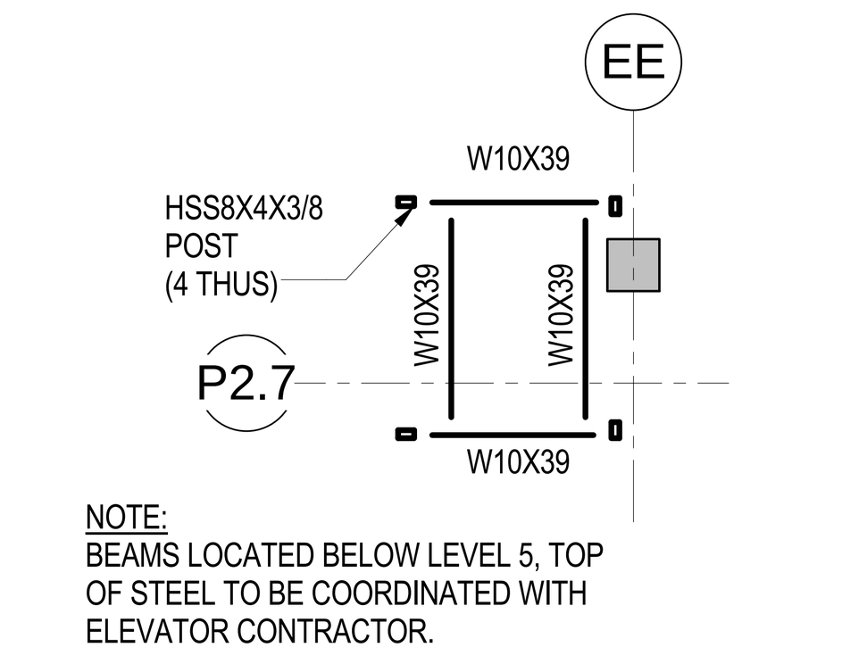
DRAWING NUMBER

S-104

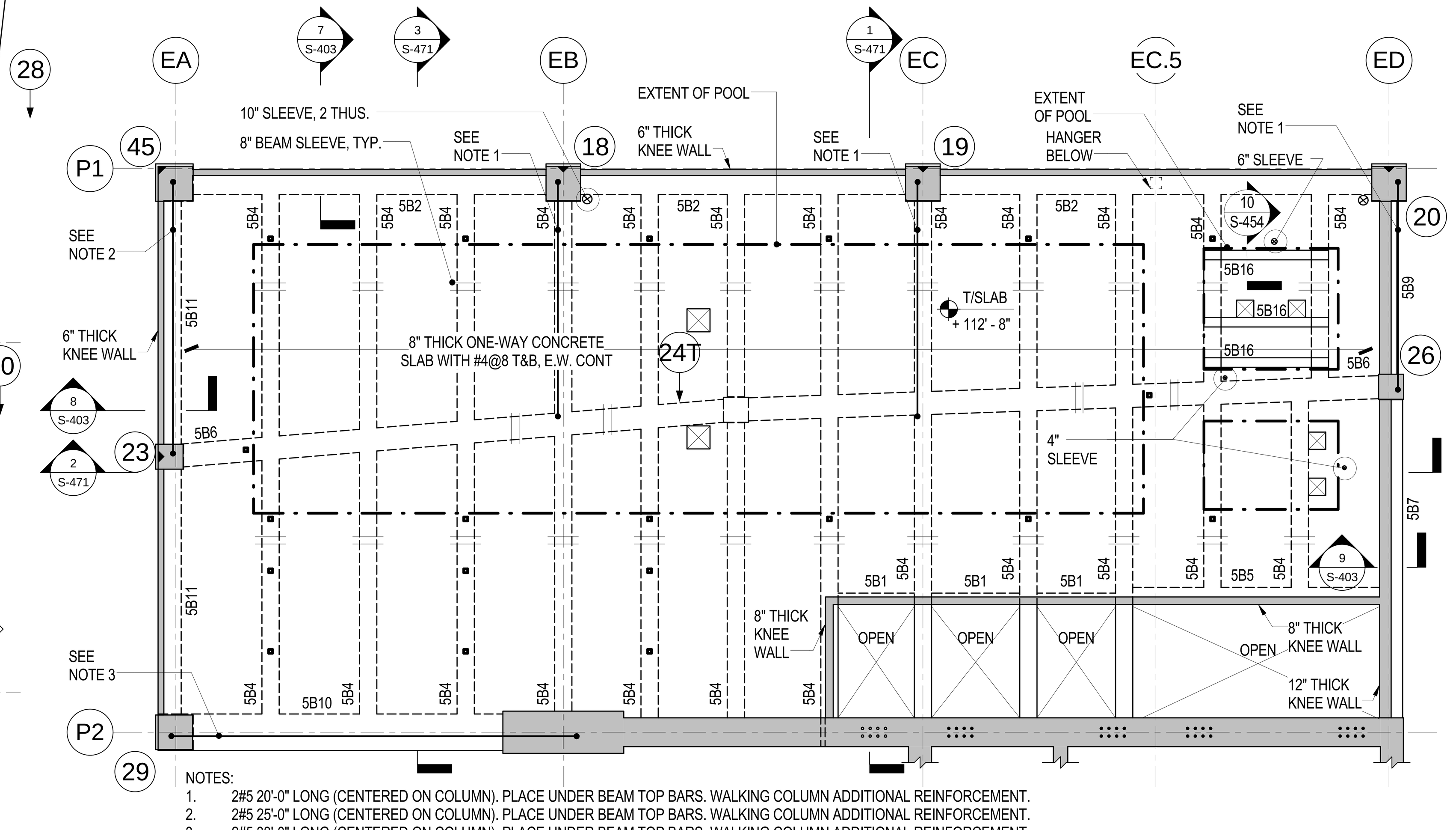
PAGE NUMBER



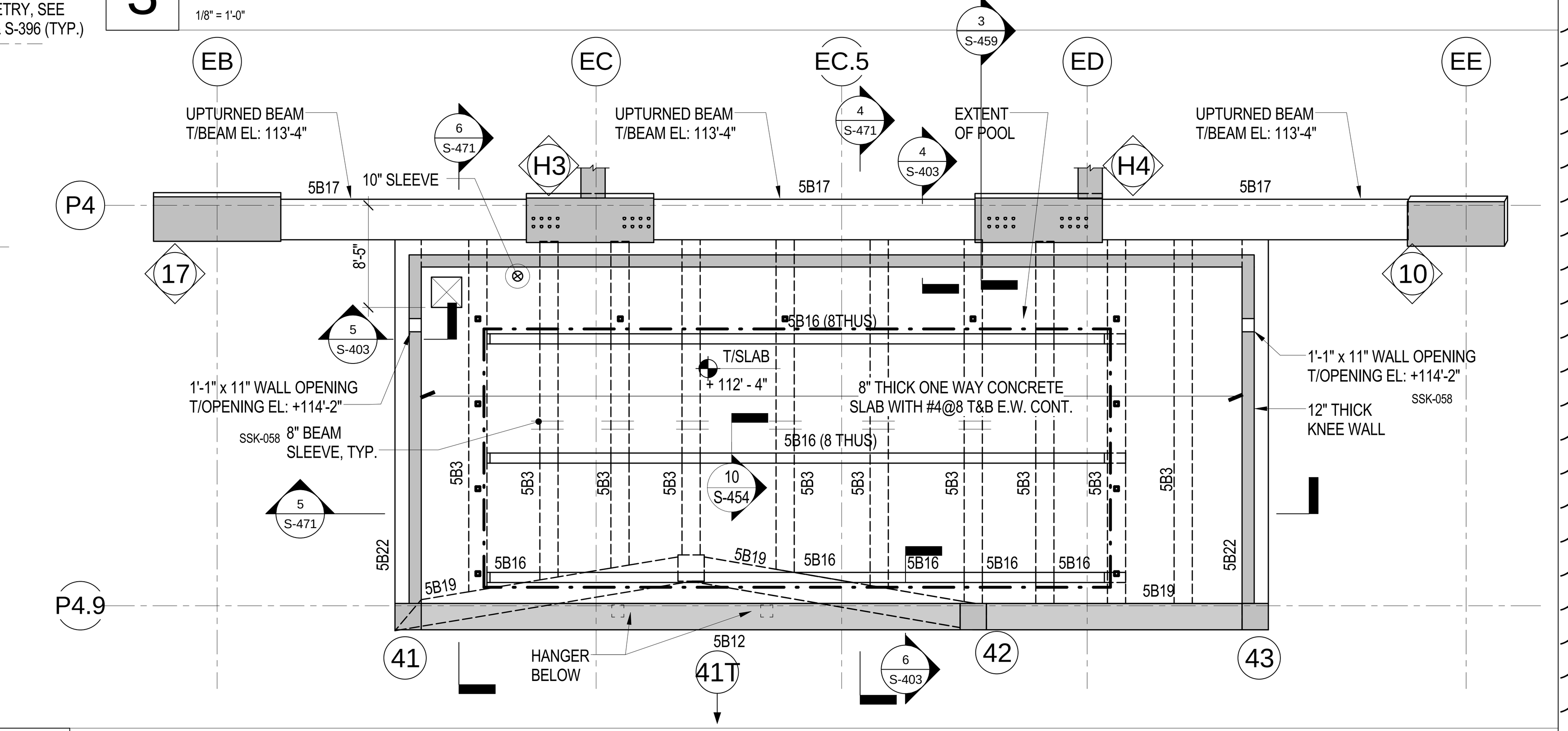
1 LEVEL 5 FRAMING PLAN
1/8" = 1'-0"



2 ELEVATOR MACHINE FRAMING PLAN
1/8" = 1'-0"



3 LEVEL 5 PARTIAL PLAN AT NORTH POOL
1/8" = 1'-0"

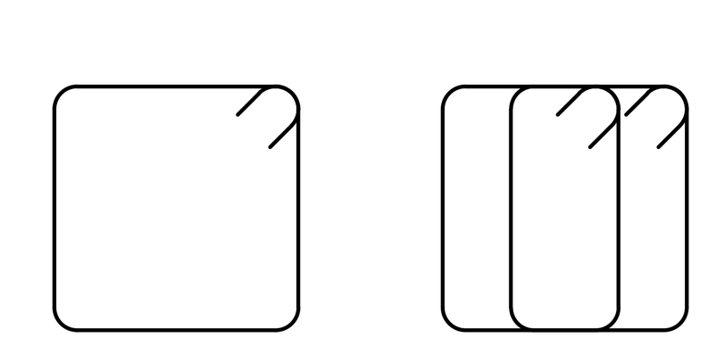


4 LEVEL 5 PARTIAL PLAN AT SOUTH POOL
1/8" = 1'-0"

LEVEL 5 BEAM SCHEDULE

MARK	SIZE: WIDTH (IN.)	SIZE: DEPTH (IN.)	REINFORCEMENT: TOP BARS: MARK SIDE	REINFORCEMENT: TOP BARS: OPP. SIDE	REINFORCEMENT: BOTTOM BARS	REINFORCEMENT: SIDE BARS EA. FACE	STIRRUPS: SIZE	STIRRUPS: TYPE	STIRRUPS: SPACING (IN.)
5B1	12	16	2-#9	2-#9	2-#9	1-#5	#4	1	4
5B2	26	42	5+5-#10	5+5-#10	5+2-#9	5-#5	#5	2	4
5B3	18	36	4+2-#9	4+2-#9	4-#9	3-#5	#4	1	6
5B4	18	42	4+2-#10	4+2-#10	4-#10	4-#6	#5	1	6
5B5	18	42	4-#9	4-#9	4-#9	4-#5	#5	1	6
5B6	24	42	6+6-#10	6+6-#10	6+6-#10	4-#5	#5	2	6
5B7	24	42	4-#9	4-#9	4-#9	4-#5	#5	1	6
5B8	24	30	4-#10	4-#10	4-#10	1-#5	#4	1	8
5B9	18	24	2-#9	2-#9	2-#9	2-#5	#4	1	6
5B10	38	42	6-#10	6-#10	6-#10	5-#6	#5	2	4
5B11	24	24	3-#9	3-#9	3-#9	3-#5	#4	1	8
5B12	26	48	5-#10	5-#10	5-#10	5-#10	#4	1	4
5B13	28	14	6-#8	6-#8	6-#8	-	#4	2	4
5B14	24	14	4-#8	4-#8	4-#8	-	#3	1	4
5B15	12	11	3-#6	3-#6	3-#6	-	#3	1	4
5B16	10	18	2-#9	2-#9	2-#9	1-#5	#4	1	4
5B17	40	48	6+2-#9	6+2-#9	6+2-#9	5-#8	#5	2	4
5B18	24	24	5-#11	5-#11	5-#11	-	#4	1	8
5B19	26	48	5+2-#9	5+2-#9	5-#9	5-#5	#4	1	6
5B20	20	24	4-#6	4-#6	4-#6	-	#4	1	8
5B21	24	30	2x5-#9	2x5-#9	5-#9	-	#4	2	8
5B22	26	36	4-#9	4-#9	4-#9	3-#5	#4	1	8
5B23	9	12	2-#6	2-#6	2-#6	-	#3	1	4
5B24	10	14	3-#8	3-#8	3-#8	-	#3	1	4
5B25	12	14	2-#8	2-#8	2-#8	-	#3	1	4
5B26	26	36	6-#11	6-#11	6-#11	3-#11	#4	2	4

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.



TYPE 1   STIRRUP TYPES N.T.S.   TYPE 2

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	117' - 8"

TYPICAL SLAB
BOTTOM: #5@12 CONT. BW
TOP: #5@12 CONT. BW

SLAB CONCRETE STRENGTH
f'c = 10 ksi
MS3 = 5 ksi

DRAWING NOTES:
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Ismael Leyva Architects
48 West 37th Street
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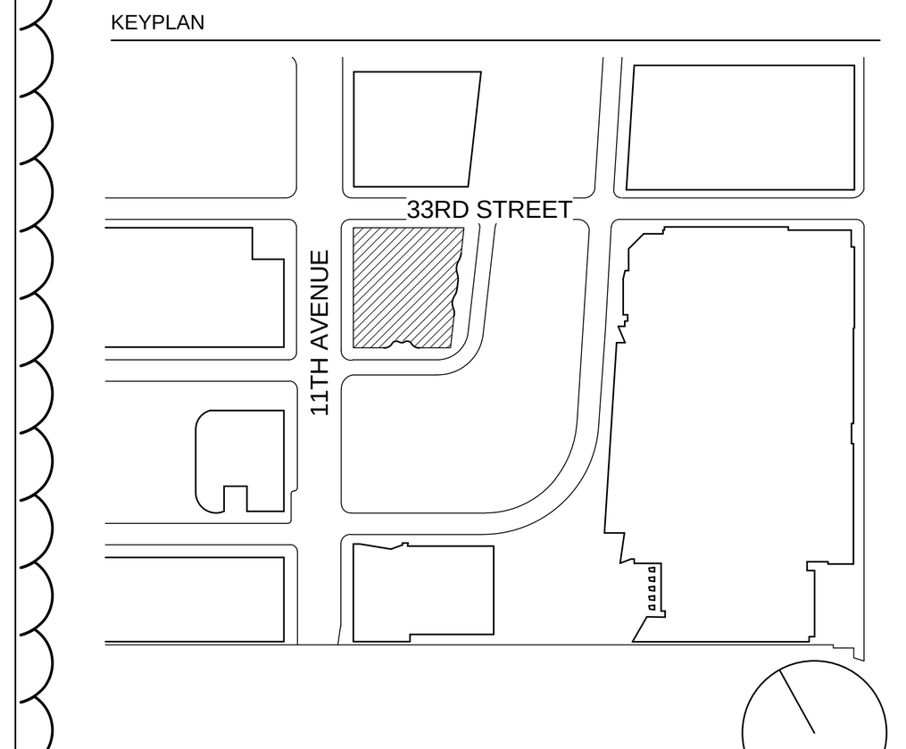
KEYPLAN



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NO.	DATE	DESCRIPTION
9	20 JAN 2017	ISSUED TO DOB
8	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
7	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE
LEVEL 5 FRAMING PLAN (MKTG 05)

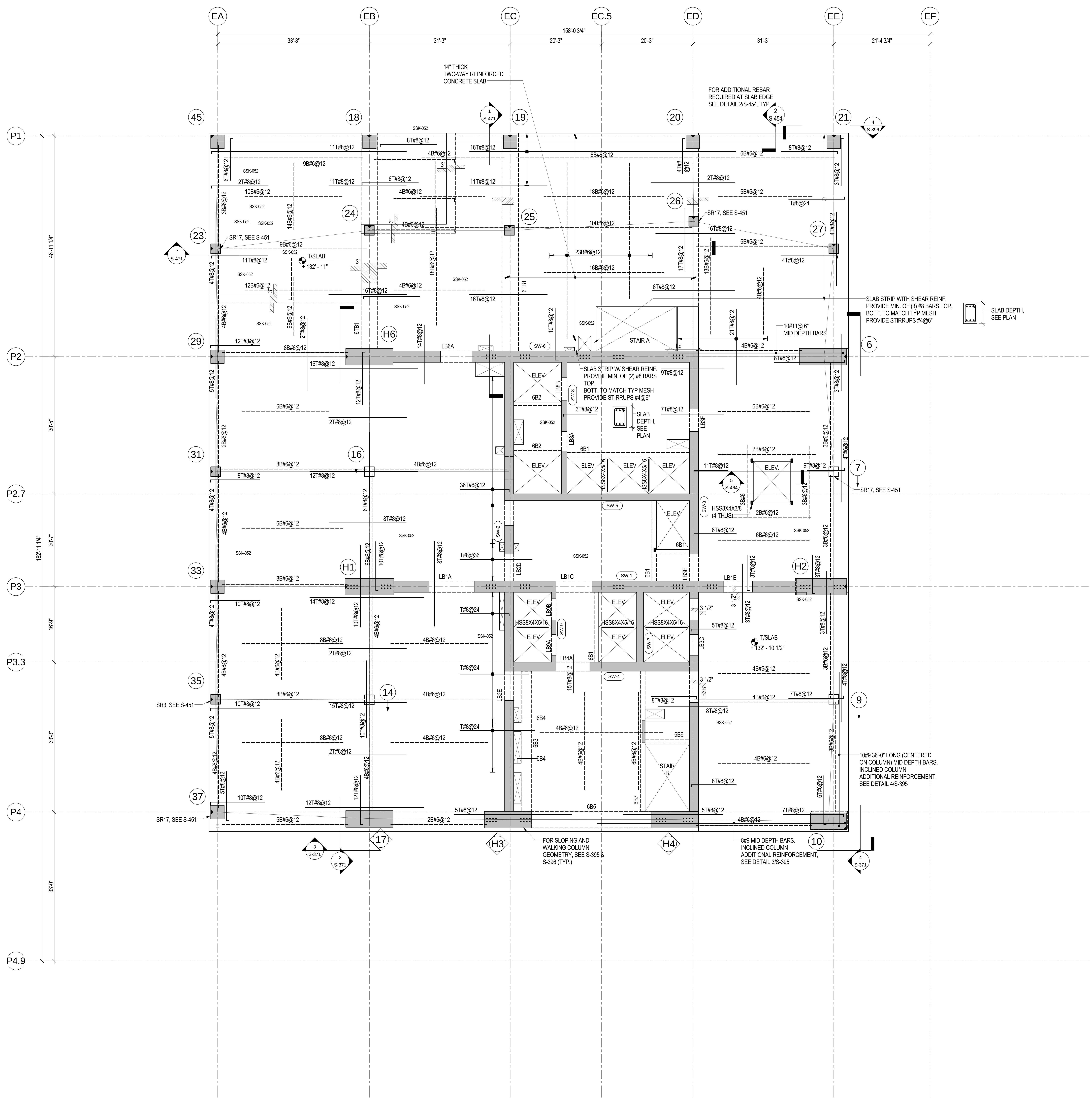
B-SCAN - DRAWING NUMBER
S-105.01

DRAWING NUMBER
S-105

PAGE NUMBER

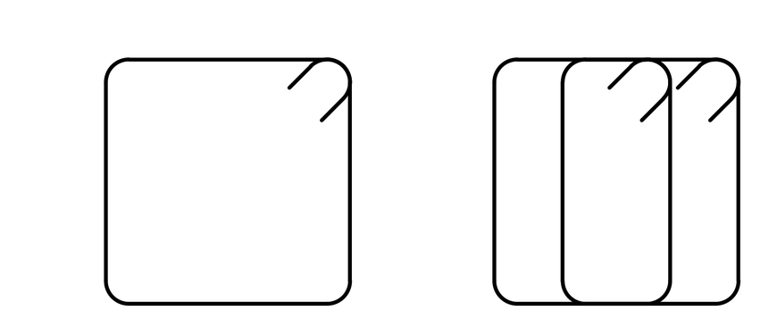
35 HUDSON YARDS

NEW YORK, NY



1 LEVEL 6 FRAMING PLAN

1/8" = 1'-0"



TYPE 1 TYPE 2

STIRRUP TYPES
N.T.S.

LEVEL 6 BEAM SCHEDULE									
MARK	SIZE		REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
6B1	12	12	3-#6	3-#6	3-#6	-	#3	1	4
6B2	9	12	2-#6	2-#6	2-#6	-	#3	1	4
6B3	28	12	6-#10	6-#10	6-#8	-	#4	2	4
6B4	24	12	4-#8	4-#8	4-#8	-	#3	1	4
6B5	44	24	8-#10	8-#10	8-#10	-	#4	1	6
6B6	10	12	3-#8	3-#8	3-#8	-	#3	1	4
6B7	12	12	2-#8	2-#8	2-#8	-	#3	1	4
6TB1	44	48	2x14-#11	2x14-#11	2 x 12-#11	4-#7	#5	2	4

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.: 12"

TOP OF SLAB ELEVATION U.N.O.: 133' - 2"

TYPICAL SLAB
BOTTOM: #5@12 CONT. BW
TOP: #5@12 CONT. BW

14" SLAB
BOTTOM: #5@12 CONT. BW
TOP: #5@12 CONT. BW

SLAB CONCRETE STRENGTH
f'c = 10 ksi

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

Damian Titus
NYC Buildings
APPROVED
Under Directive 2 of 1975
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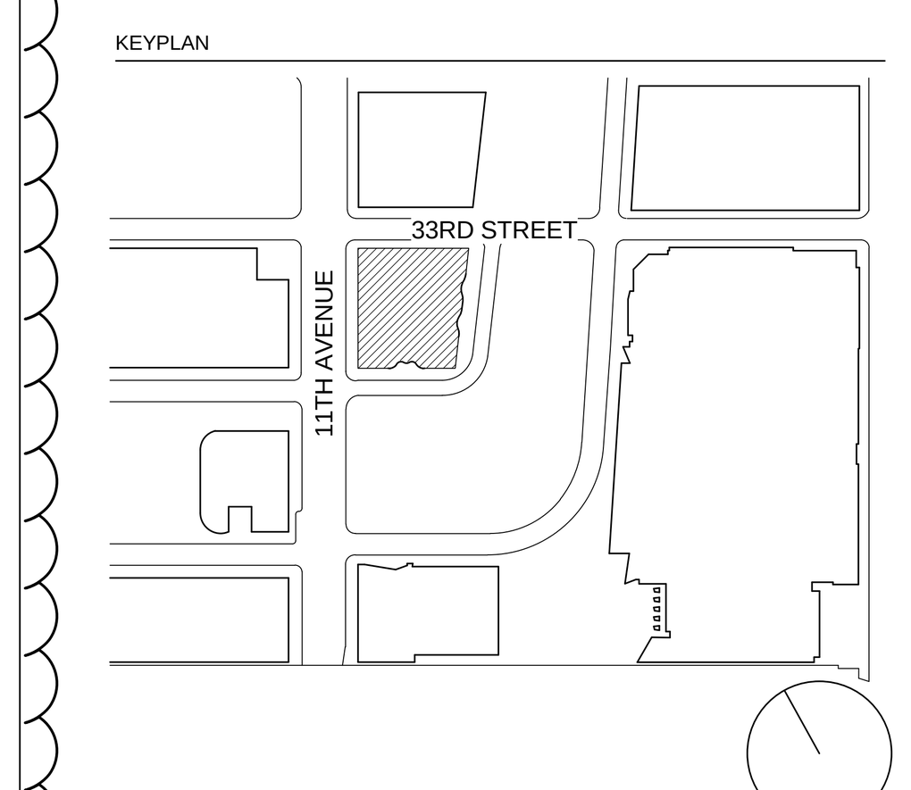
KEYPLAN



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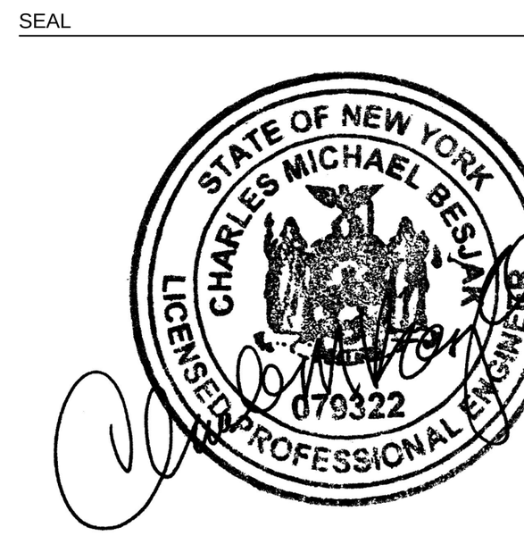

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DRAWING TITLE

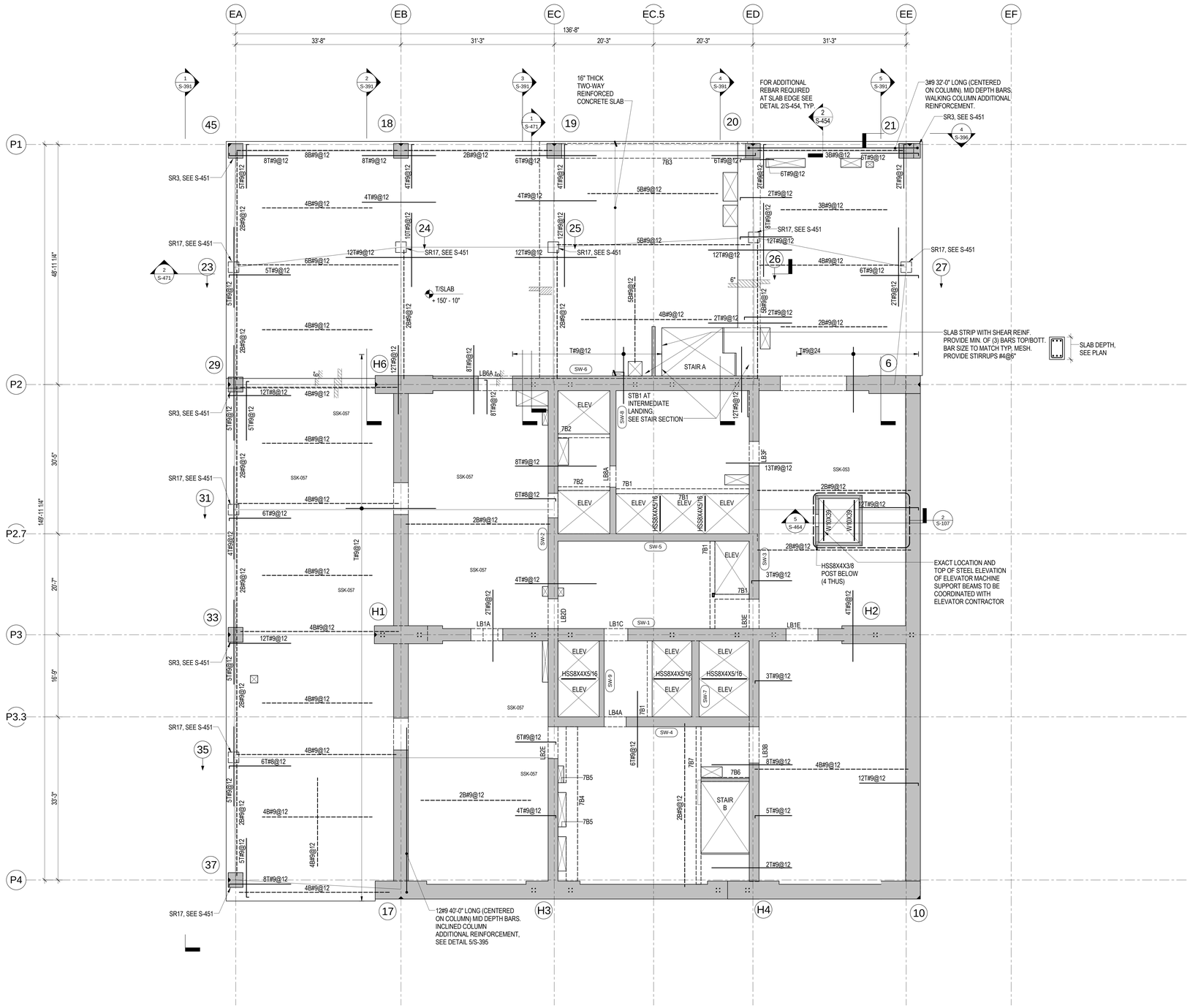
LEVEL 6 FRAMING PLAN (MKTG 06)

B-SCAN - DRAWING NUMBER

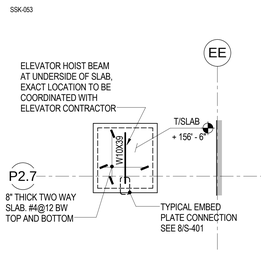
S-106.01

DRAWING NUMBER

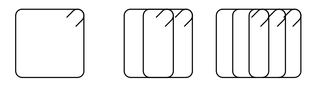
S-106



1 LEVEL 7 MECH FRAMING PLAN
1/8" = 1'-0"



2 LEVEL 7 - PARTIAL PLAN
1/8" = 1'-0"



STIRRUP TYPES
N.T.S.

LEVEL 7 BEAM SCHEDULE

MARK	SIZE		REINFORCEMENT			STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS		BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
			MARK SIDE	OPP. SIDE					
7B1	12	14	3-#7	3-#7	3-#7	-	#3	1	4
7B2	9	14	2-#7	2-#7	2-#7	-	#3	1	4
7B3	36	22	2X6-#11	2X6-#11	6-#11	-	#4	3	6
7B4	28	14	6-#10	6-#10	6-#8	-	#4	2	4
7B5	24	14	5-#8	5-#8	5-#8	-	#3	1	4
7B6	10	14	3-#8	3-#8	3-#8	-	#3	1	4
7B7	12	14	2-#8	2-#8	2-#8	-	#3	1	4

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	151' - 4"
TYPICAL SLAB	
BOTTOM: #7@12 CONT. BW	
TOP: #7@12 CONT. BW	
16" SLAB	
BOTTOM: #7@12 CONT. BW	
TOP: #7@12 CONT. BW	
SLAB CONCRETE STRENGTH	
f'c = 10 ksi	

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW T/SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

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Buildings
APPROVED
Under Directive 14 of 1975
Date: 02/17/2017
NYC Development Hub

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1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

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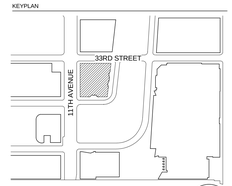
KEYPLAN



SEAL

DRAWING TITLE

LEVEL 7 BELT WALL FRAMING PLAN (MKTG 07)

B-SCAN - DRAWING NUMBER

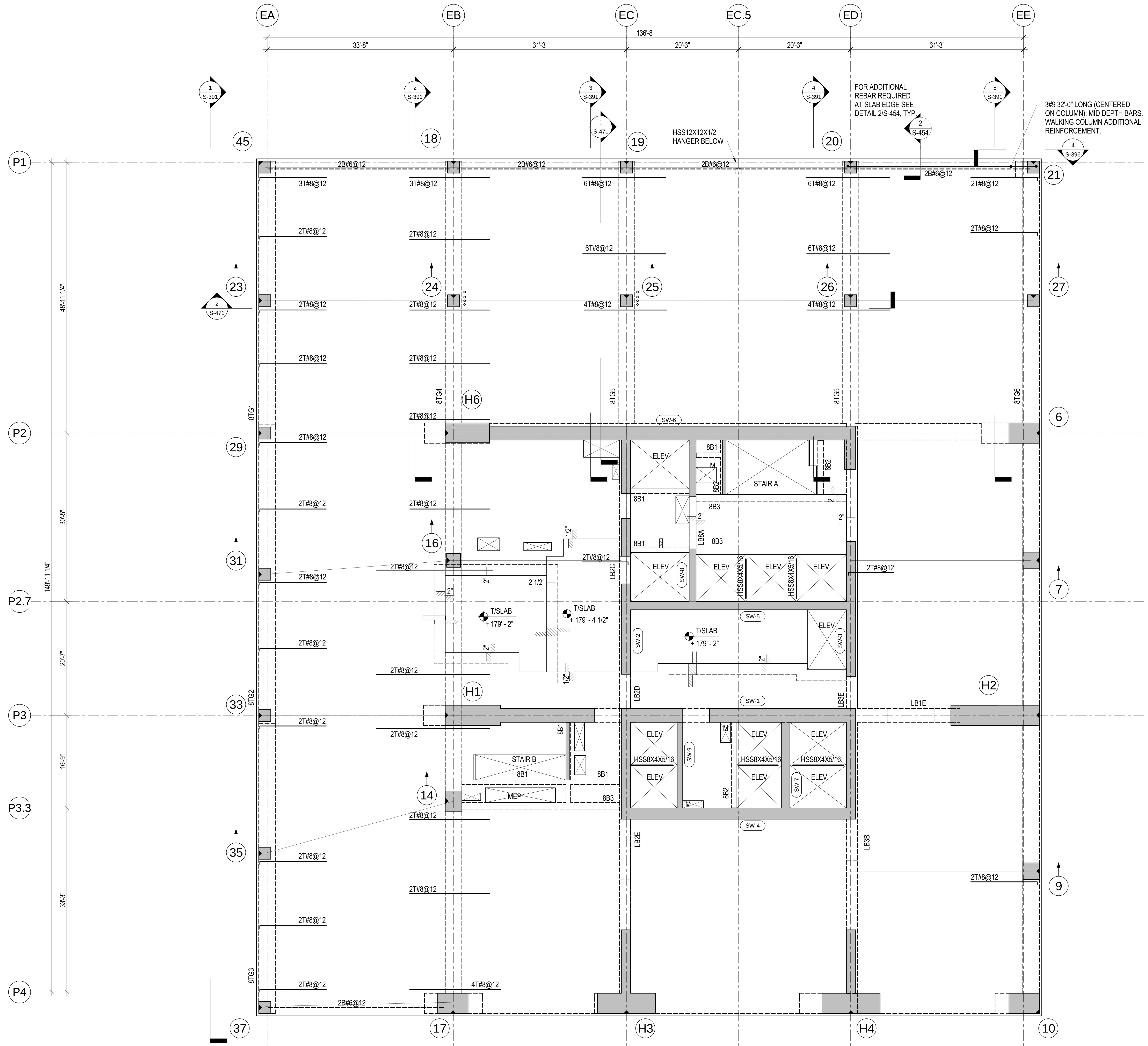
S-107.01

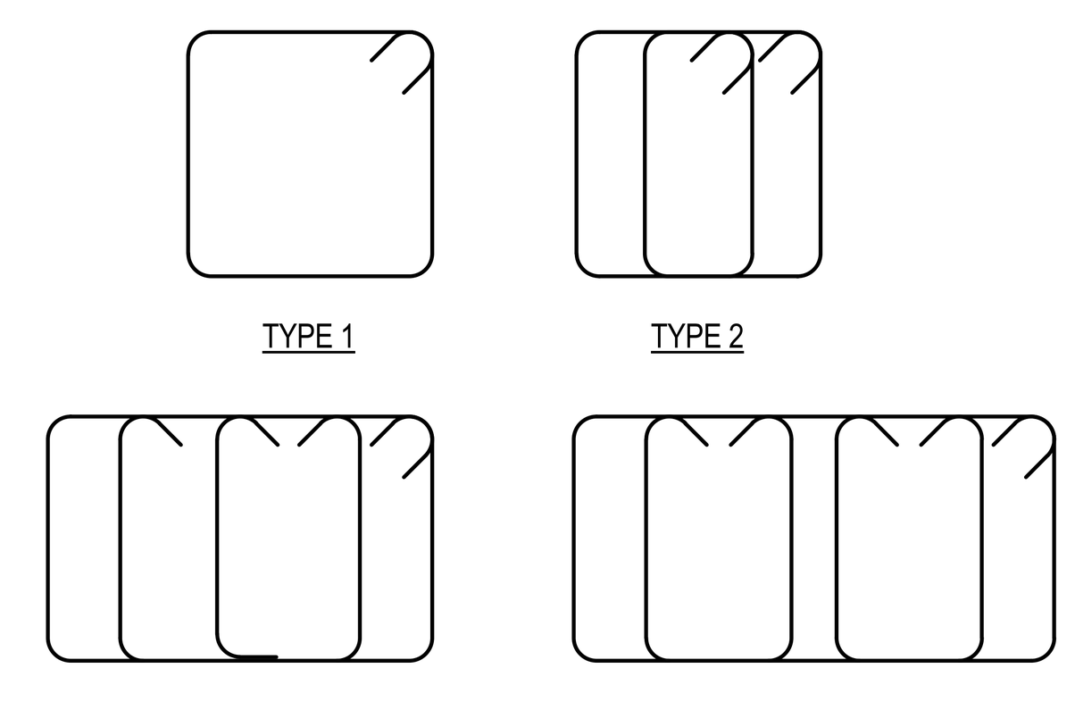
DRAWING NUMBER

S-107

PAGE NUMBER

22 OF 112





STIRRUP TYPES
N.T.S.

LEVEL 8 BEAM SCHEDULE									
MARK	SIZE		REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
8B1	10	14	2-#7	2-#7	3-#7	-	#3	1	4
8B2	12	14	4-#7	4-#7	4-#7	-	#3	1	4
8B3	16	14	2+2-#9	2+2-#9	2-#9	-	#3	1	4
8TG1	36	120	2x5-#9	2x5-#9	2x5-#9	12-#6	#5	2	6
8TG2	36	168	2x5-#11	2x5-#11	2x5-#11	17-#6	#5	2	4
8TG3	36	144	2x5-#9	2x5-#9	2x5-#9	14-#6	#5	2	6
8TG4	36	156	4x5-#14	4x5-#14	4x5-#14	21-#6	#6	5	4
8TG5	36	156	3x5-#14	3x5-#14	3x5-#14	21-#6	#5	5	4
8TG6	36	120	3x5-#14	3x5-#14	3x5-#14	11-#6	#5	5	4

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.: 14"

TOP OF SLAB ELEVATION U.N.O.: 179' - 4"

TYPICAL SLAB

BOTTOM: #6@12 CONT. BW

TOP: #6@12 CONT. BW

SLAB CONCRETE STRENGTH: f'c = 10 ksi

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

Damian Titus
NYC Buildings APPROVED Under Directive 2 of 1975 AMENDED APPLICATION Date: 02/17/2017 NYC Development Hub

1 LEVEL 8 FRAMING PLAN
1/8" = 1'-0"

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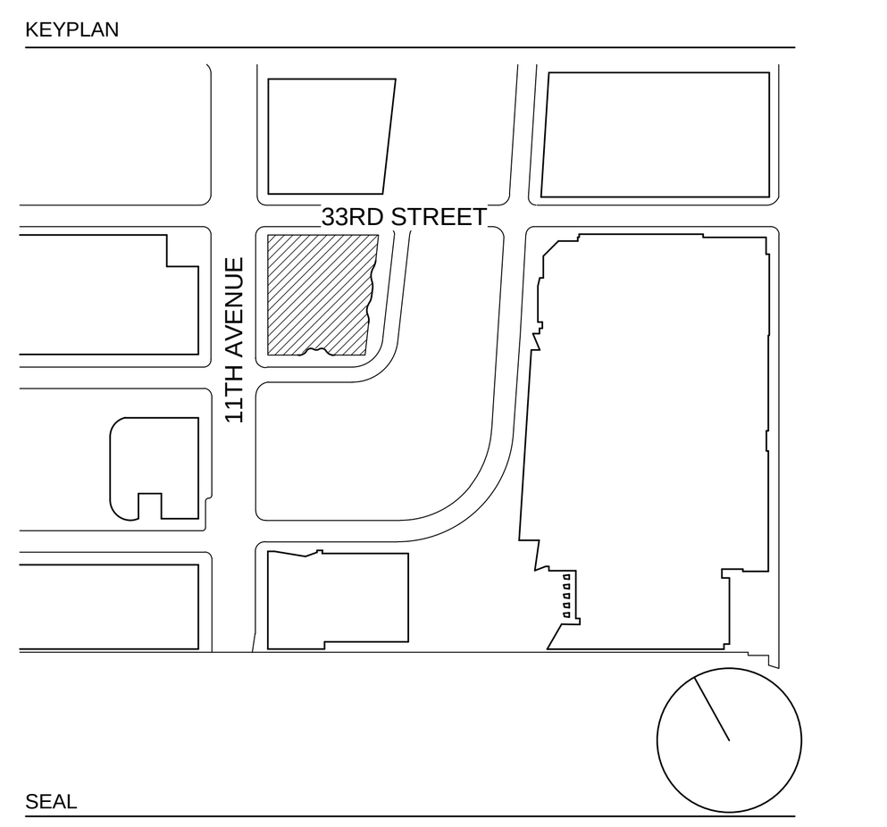

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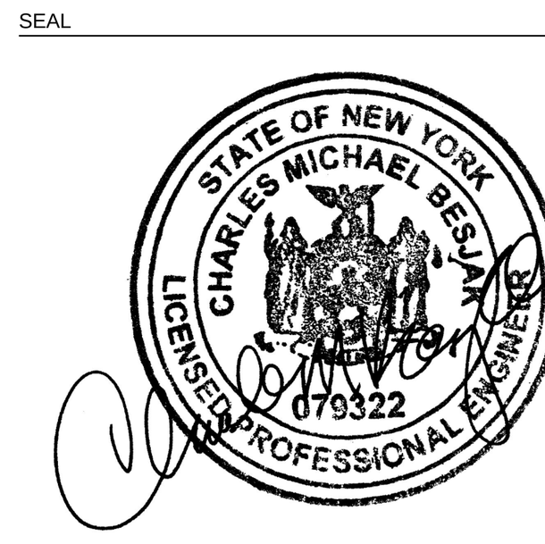

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DRAWING TITLE

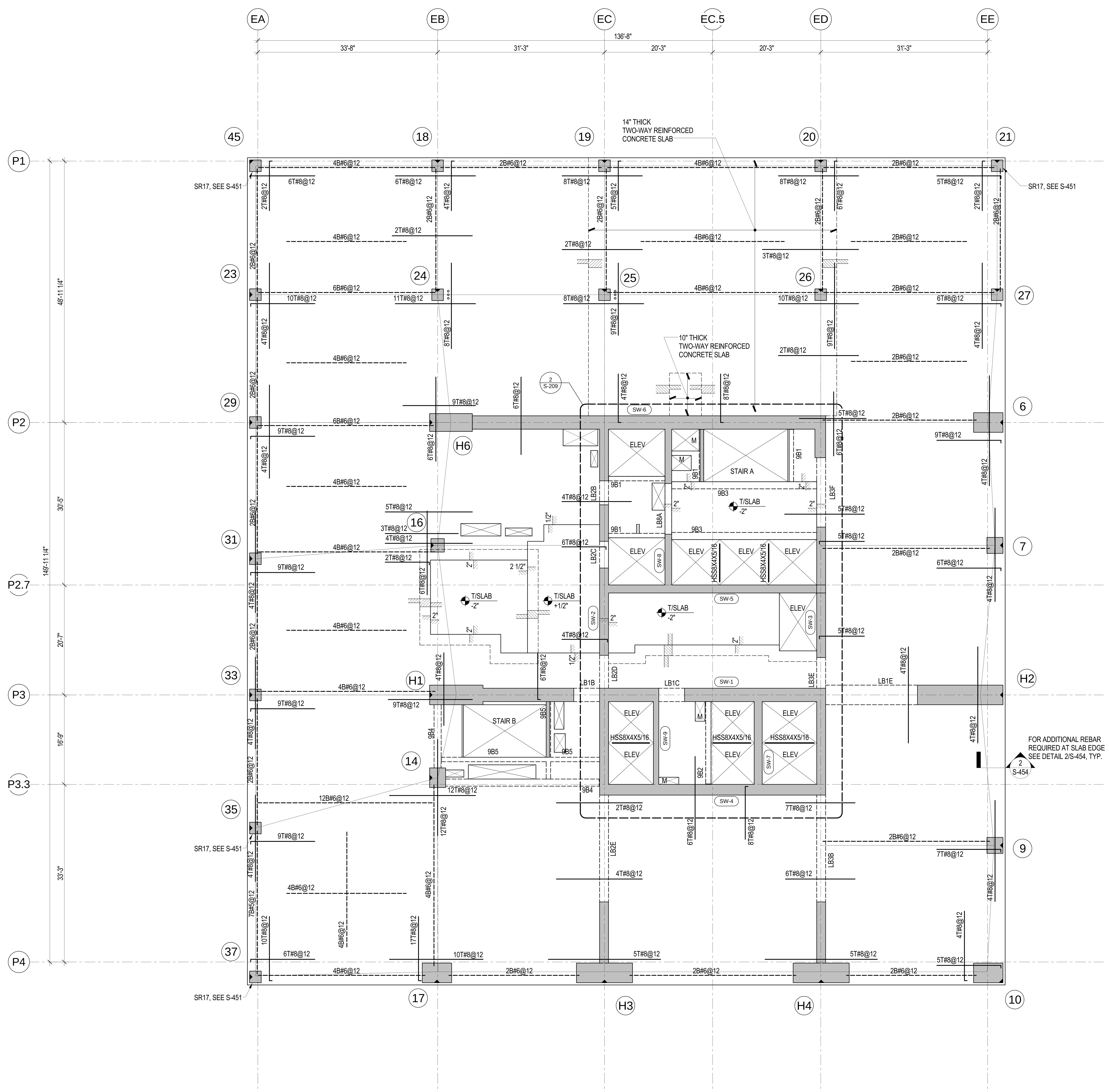
LEVEL 8 FRAMING PLAN (MKTG 10)

B-SCAN - DRAWING NUMBER

S-108.01

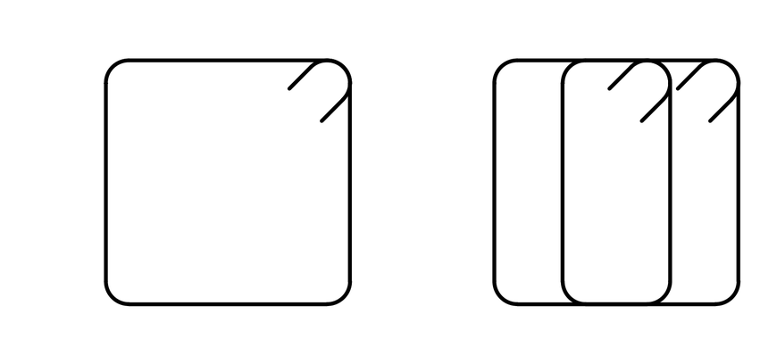
DRAWING NUMBER

S-108



1 LEVEL 9 - 13 FRAMING PLAN

1/8" = 1'-0"



STIRRUP TYPES
N.T.S.

LEVEL 9-13 BEAM SCHEDULE										
MARK	SIZE		REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
9B1	10	11	2-#10	2-#10	2-#10	-	#3	1	4
9B2	12	11	4-#7	4-#7	4-#7	-	#3	1	4
9B3	16	11	5-#7	5-#7	5-#7	-	#3	1	4
9B4	16	18	4-#10	4-#10	4-#10	-	#5	2	4
9B5	10	14	3-#7	3-#7	3-#7	-	#3	1	4

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.
11"

TOP OF SLAB ELEVATION U.N.O.
LEVEL 9: 193' - 4"
LEVEL 10: 207' - 4"
LEVEL 11: 221' - 4"
LEVEL 12: 235' - 4"
LEVEL 13: 249' - 4"

TYPICAL SLAB

BOTTOM:
#5@12
CONT. BW

TOP:
#5@12
CONT. BW

14" SLAB

BOTTOM:
#5@12
CONT. BW

TOP:
#5@12
CONT. BW

SLAB CONCRETE STRENGTH
f'c = 10 ksi

DRAWING NOTES:
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Damian Titus
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Date: 02/17/2017
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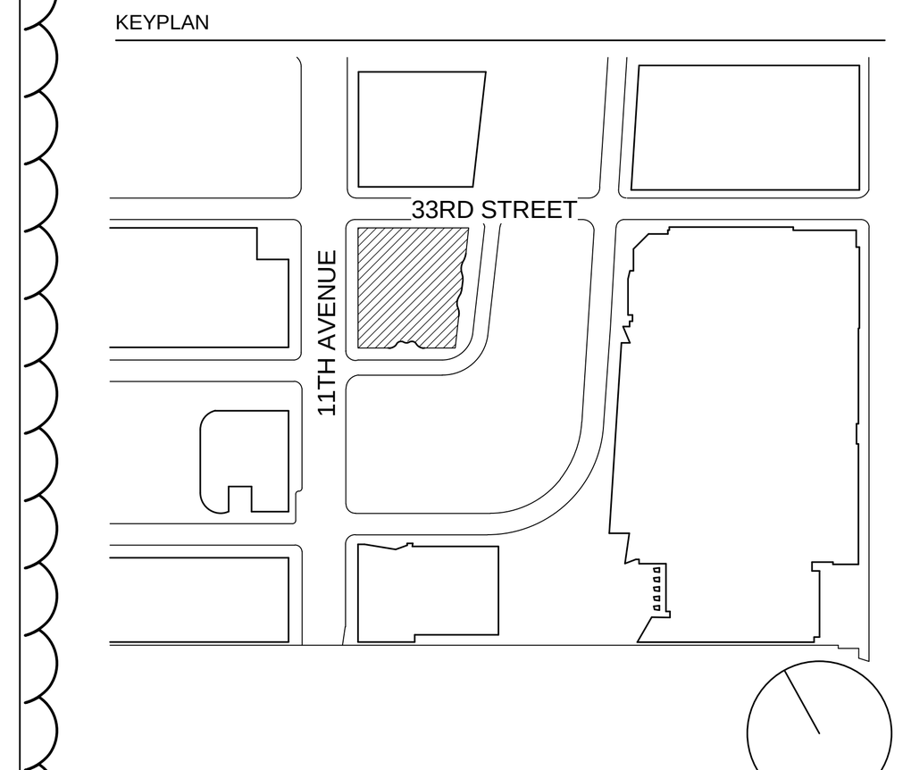

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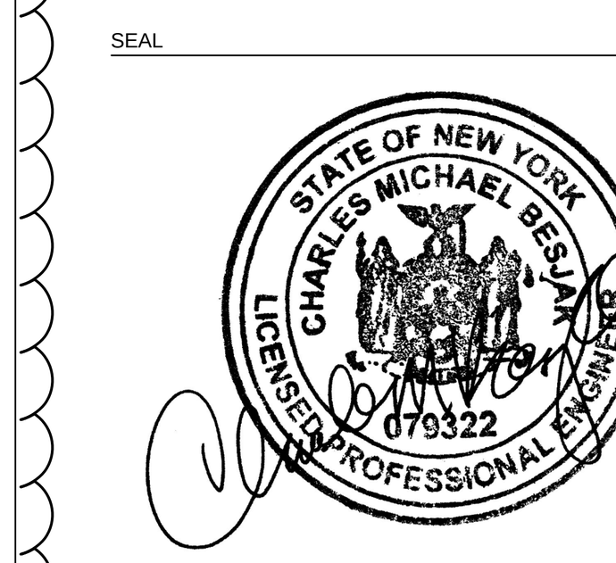

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5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

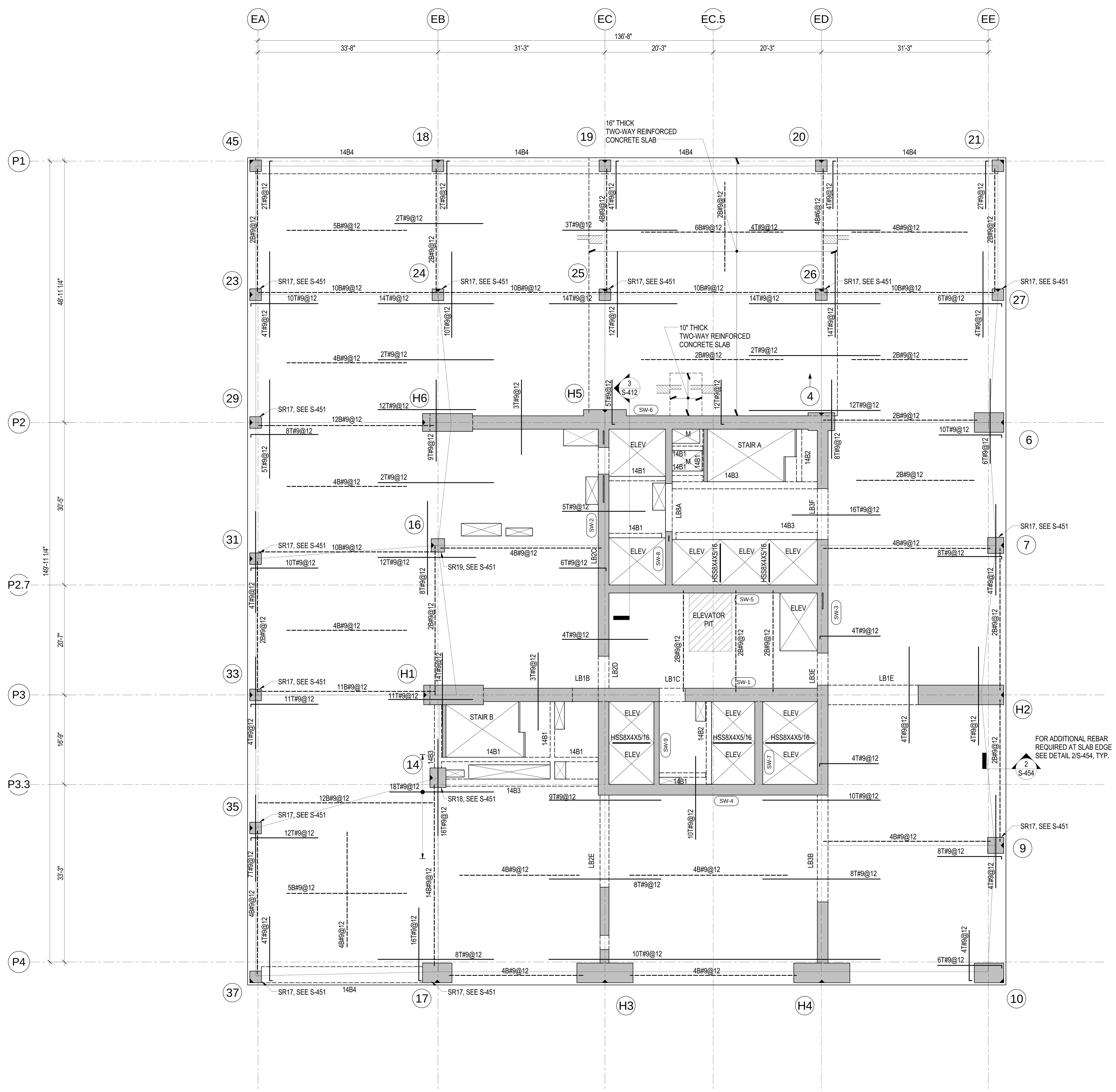
LEVEL 9 - 13 FRAMING PLAN (MKTG 11-16)

B-SCAN - DRAWING NUMBER

S-109.01

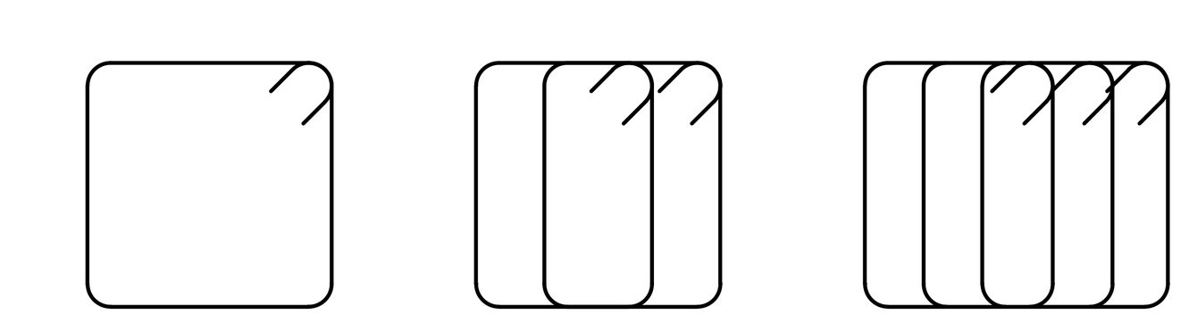
DRAWING NUMBER

S-109



1 LEVEL 14 FRAMING PLAN

1/8" = 1'-0"



STIRRUP TYPES
N.T.S.

LEVEL 14 BEAM SCHEDULE									
MARK	SIZE		REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
14B1	10	14	2-#7	2-#7	2-#7	-	#3	1	4
14B2	12	14	4-#7	4-#7	4-#7	-	#3	1	4
14B3	16	14	4-#10	4-#10	4-#10	-	#4	2	4
14B4	36	18	2x7-#11	2x7-#11	7-#11	-	#4	3	4

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	263' - 4"

TYPICAL SLAB

BOTTOM:
#6@12
CONT. BW

TOP:
#6@12
CONT. BW

16" SLAB

BOTTOM:
#6@12
CONT. BW

TOP:
#6@12
CONT. BW

SLAB CONCRETE STRENGTH

f'c = 10 ksi

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

Damian Titus
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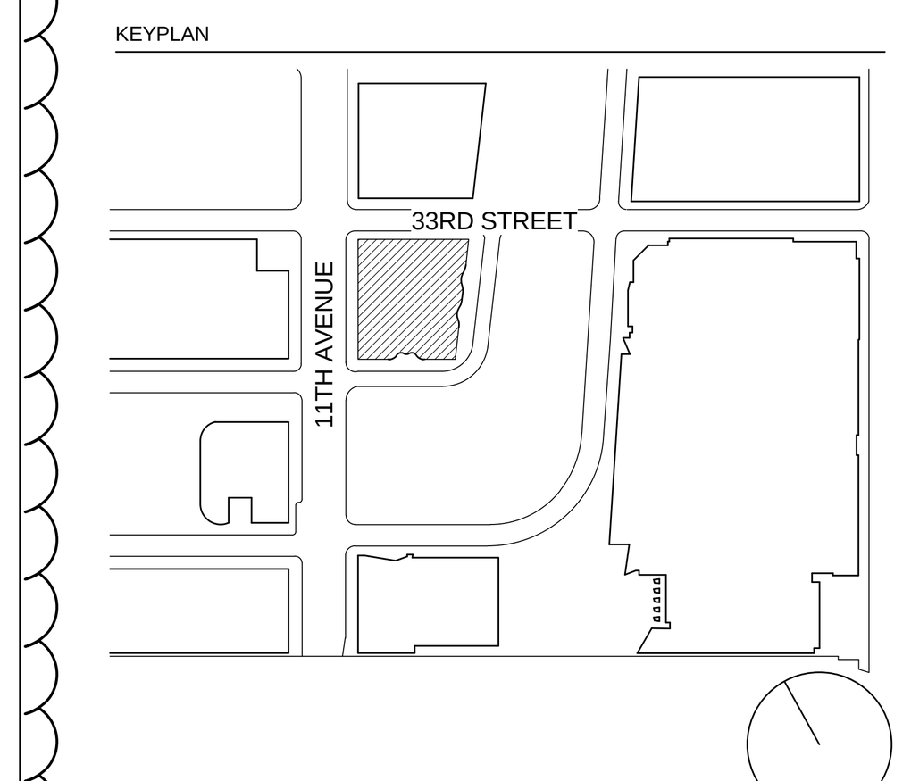
New York, NY 10018

KEYPLAN



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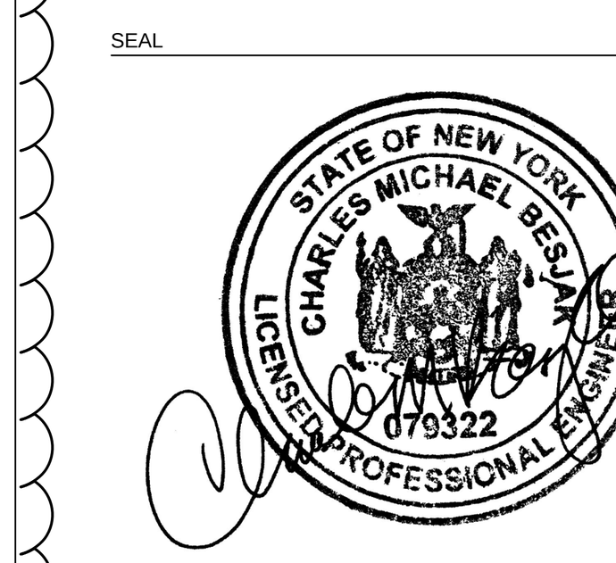

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2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

LEVEL 14 FRAMING PLAN (MKTG 17)

B-SCAN - DRAWING NUMBER

S-114.01

DRAWING NUMBER

S-114

PAGE NUMBER

35 HUDSON YARDS

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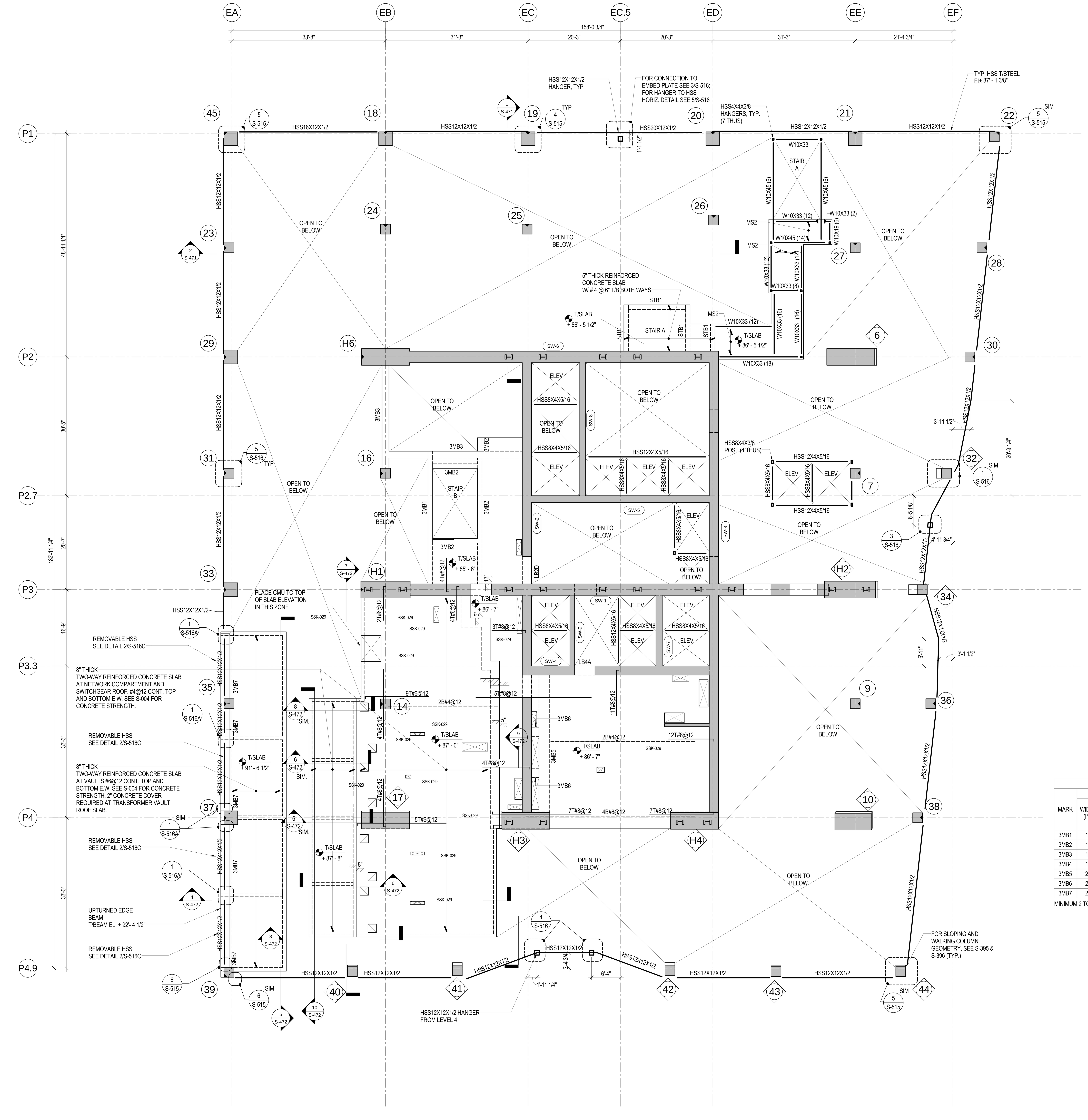

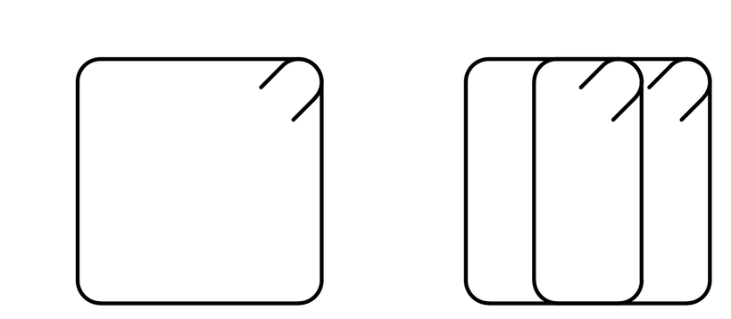

STIRRUP TYPES
N.T.S.

LEVEL 3 MEZZ BEAM SCHEDULE										
MARK	SIZE		LONGITUDINAL REINFORCEMENT				STIRRUPS			REMARKS
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)	
3MB1	12	36	3-#8	3-#8	3-#6	-	#3	1	12	LONGITUDINAL BARS CONT.
3MB2	12	18	3-#6	3-#6	3-#6	-	#3	1	6	
3MB3	18	24	4-#9	4-#9	4-#9	-	#3	1	6	
3MB4	12	11	2-#6	2-#6	2-#6	-	#3	1	4	
3MB5	28	11	6-#9	6-#9	6-#9	-	#4	2	4	
3MB6	24	11	4-#8	4-#8	4-#8	-	#3	1	4	
3MB7	24	18	4-#9	4-#9	4-#9	-	#3	1	6	2" COVER REQ'D AT TRANSFORMER VAULT

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
11"	87' - 0"

TYPICAL SLAB

BOTTOM:
#5@12
CONT. BW

TOP:
#5@12
CONT. BW

SLAB CONCRETE STRENGTH
f'c =10 ksi,U.N.O.
MS2 = 5 ksi

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
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10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
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13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

Damian Titus
NYC Buildings
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AMENDED APPLICATION
Date: 02/17/2017
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1 LEVEL 3 MEZZ FRAMING PLAN
1/8" = 1'-0"

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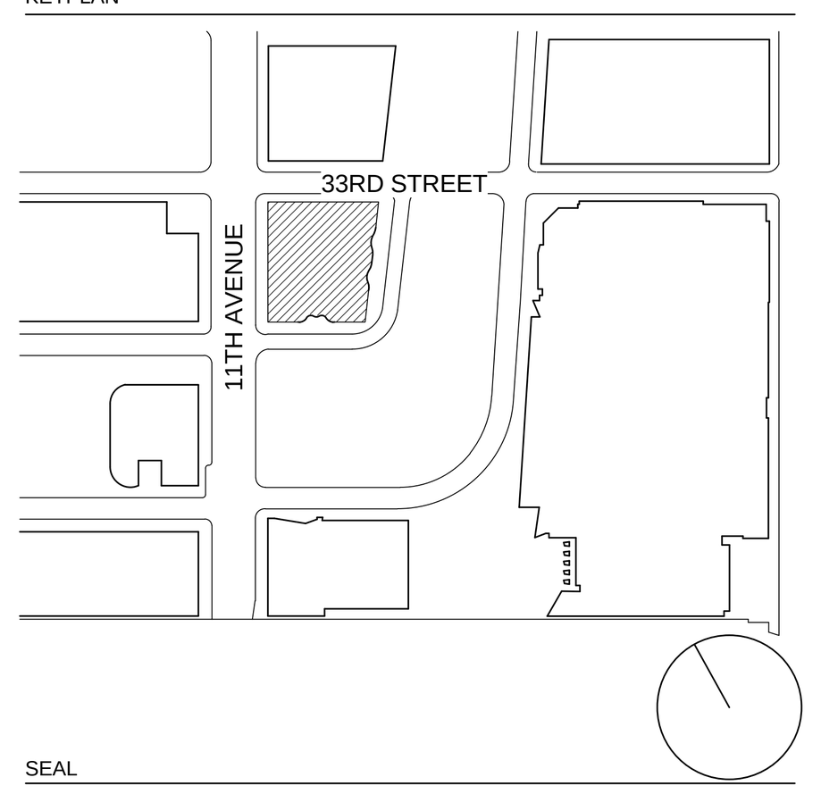
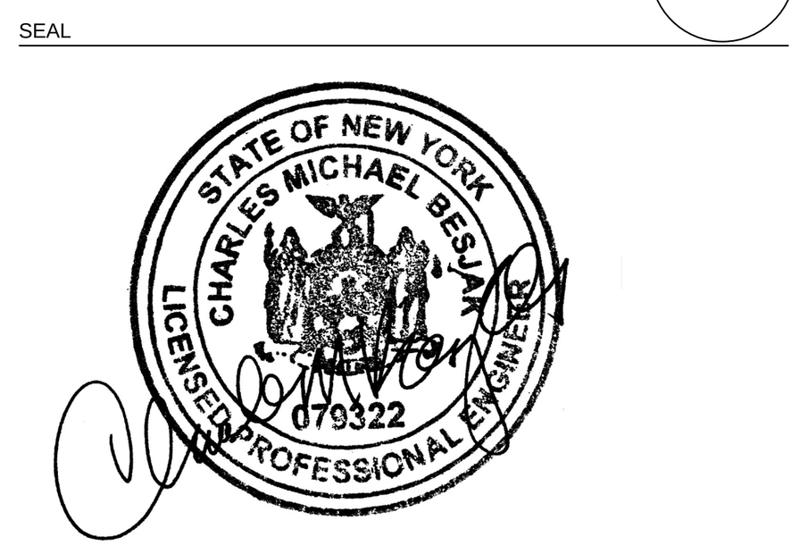
48 West 37th Street
New York, NY 10018

KEYPLAN



SEAL



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2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

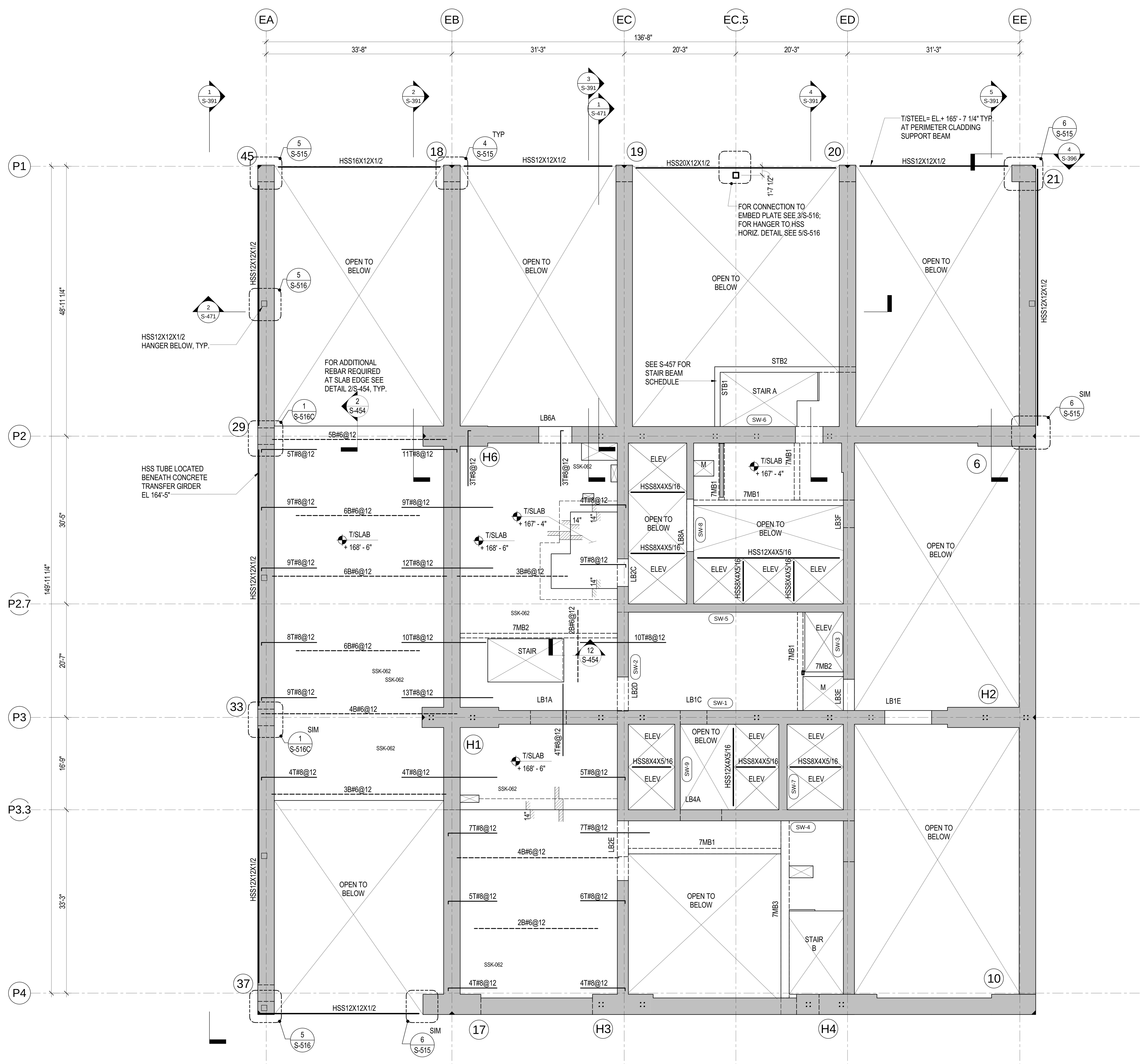
LEVEL 3M FRAMING PLAN (MKTG 03M)

B-SCAN - DRAWING NUMBER

S-191.01

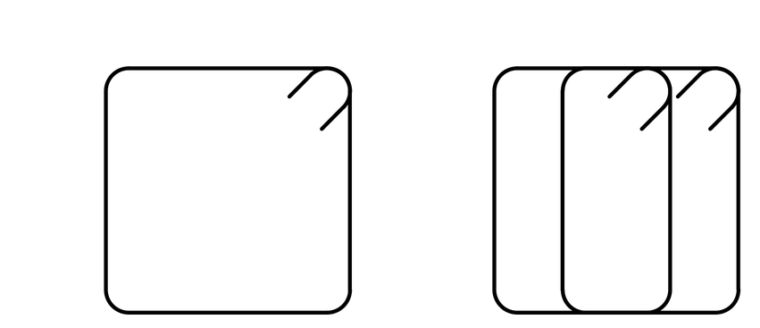
DRAWING NUMBER

S-103M



1 LEVEL 7 MEZZ FRAMING PLAN

1/8" = 1'-0"



TYPE 1

TYPE 2

STIRRUP TYPES
N.T.S.

LEVEL 7 MEZZ BEAM SCHEDULE									
MARK	SIZE		LONGITUDINAL REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
7MB1	12	11	3-#8	3-#8	3-#8	-	#4	1	4
7MB2	10	11	3-#7	3-#7	3-#7	-	#3	1	4
7MB3	18	24	4-#10	4-#10	4-#10	-	#4	1	6

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.: 11"

TOP OF SLAB ELEVATION U.N.O.: 167' - 4"

TYPICAL SLAB

BOTTOM:
#5@12
CONT. BW

TOP:
#5@12
CONT. BW

SLAB CONCRETE STRENGTH

f'c = 10 ksi

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
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7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
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11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

Damian Titus
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AMENDED APPLICATION
Date: 02/17/2017
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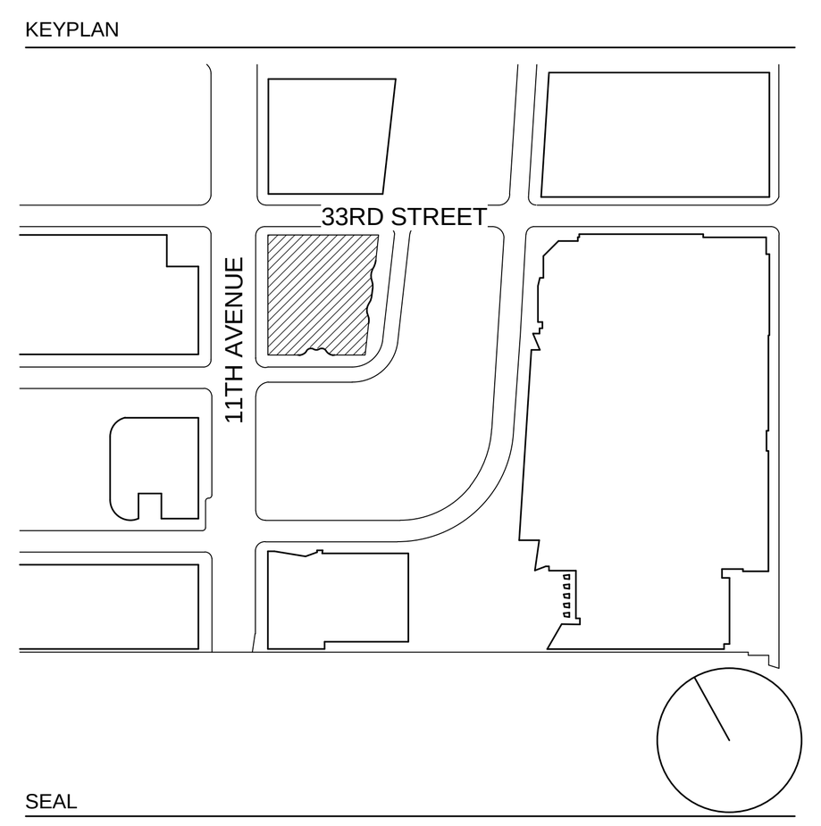
48 West 37th Street
New York, NY 10018

KEYPLAN



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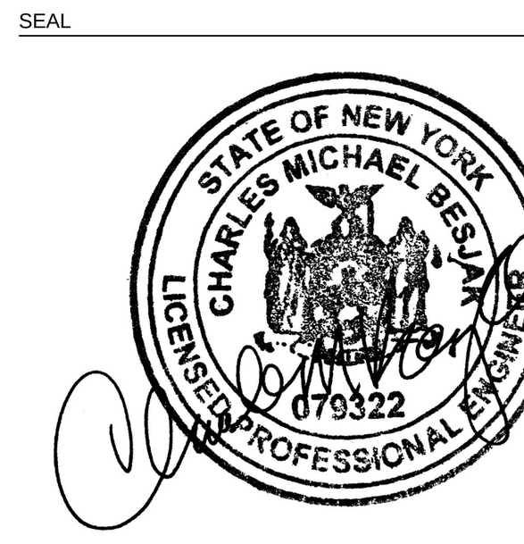

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2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

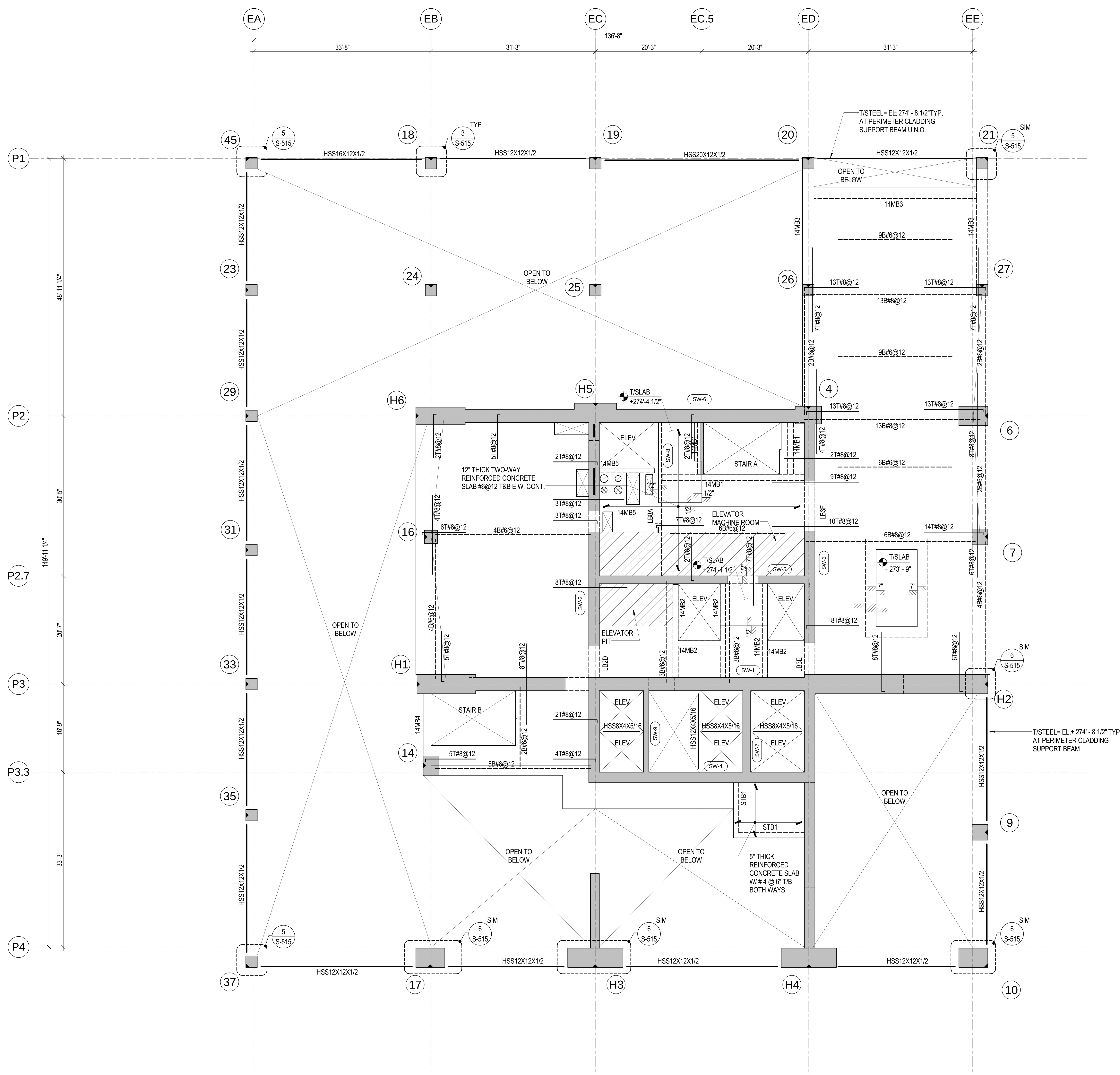
LEVEL 7M BELT WALL FRAMING PLAN (MKTG 07M)

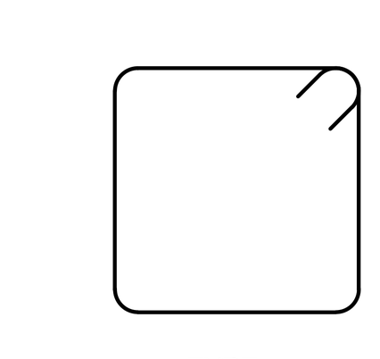
B-SCAN - DRAWING NUMBER

S-192.01

DRAWING NUMBER

S-107M





STIRRUP TYPES
N.T.S.

LEVEL 14 MEZZ BEAM SCHEDULE									
MARK	SIZE		LONGITUDINAL REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
14MB1	14	12	3-#9	3-#9	3-#7	-	#4	1	4
14MB2	12	12	2-#7	2-#7	2-#7	-	#3	1	4
14MB3	26	30	4-#9	4-#9	6-#9	-	#3	1	6
14MB4	18	24	3-#9	3-#9	3-#6	-	#3	1	6
14MB5	9	12	2-#6	2-#6	2-#6	-	#3	1	4

MINIMUM 2 TOP AND BOTTOM BARS SHALL BE CONTINUOUS U.N.O.

SLAB THICKNESS U.N.O.: 11"

TOP OF SLAB ELEVATION U.N.O.: 274' - 4"

TYPICAL SLAB

BOTTOM:
#5@12
CONT. BW

TOP:
#5@12
CONT. BW

SLAB CONCRETE STRENGTH: f'c = 10 ksi

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
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Damian Titus
NYC Buildings
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Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

1 LEVEL 14 MEZZ FRAMING PLAN
1/8" = 1'-0"

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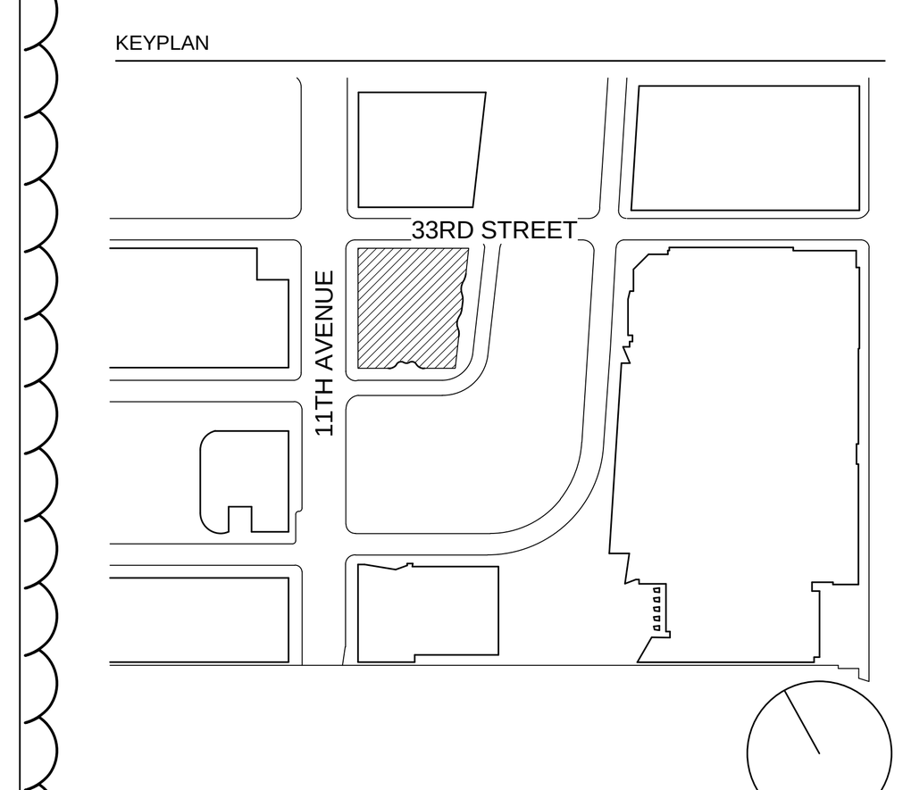
KEYPLAN



SEAL

STATE OF NEW YORK
CHARLES MICHAEL BESJAK
079322
LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION
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8	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
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DRAWING TITLE

LEVEL 14M FRAMING PLAN (MKTG 17M)

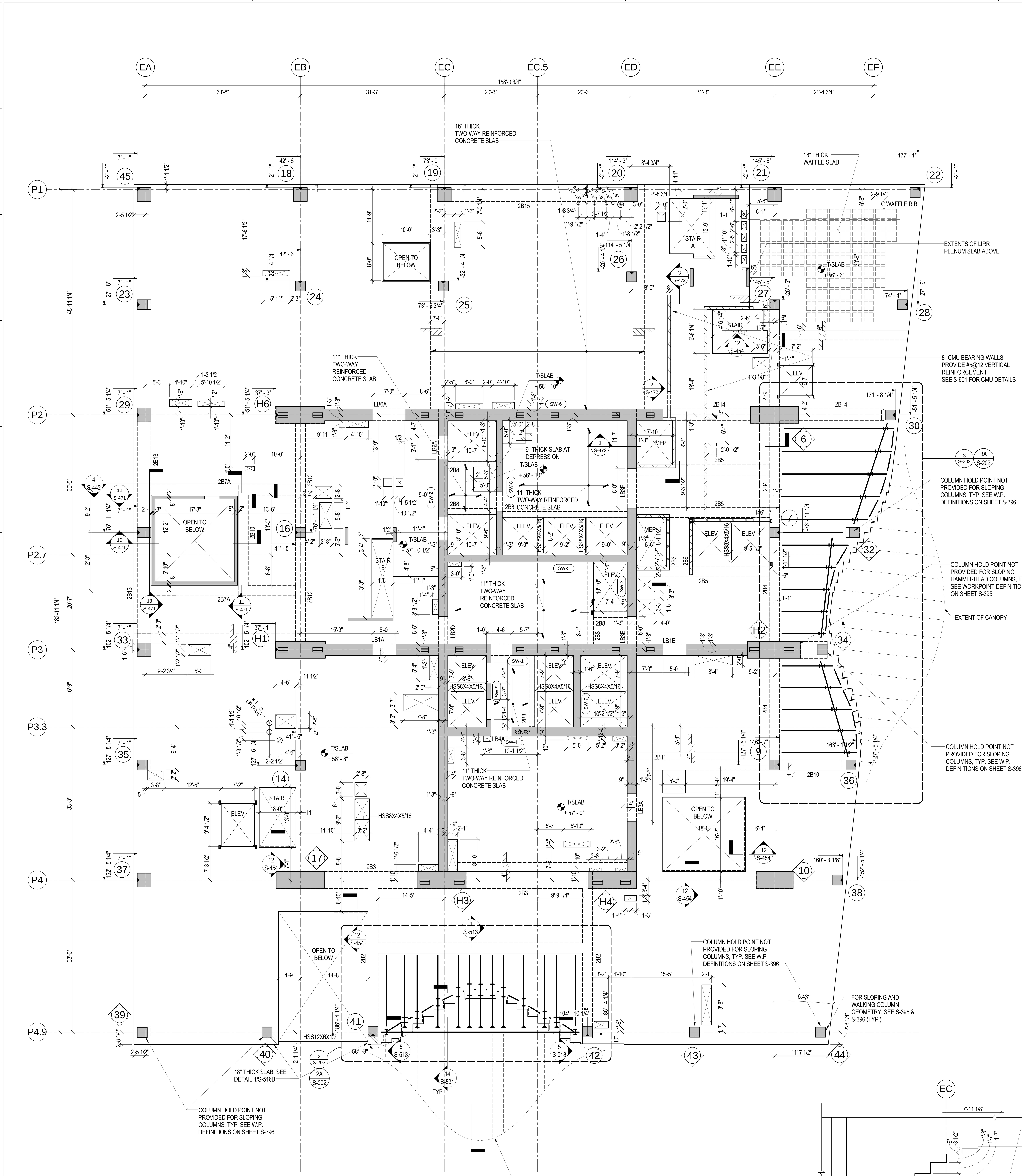
B-SCAN - DRAWING NUMBER

S-193.01

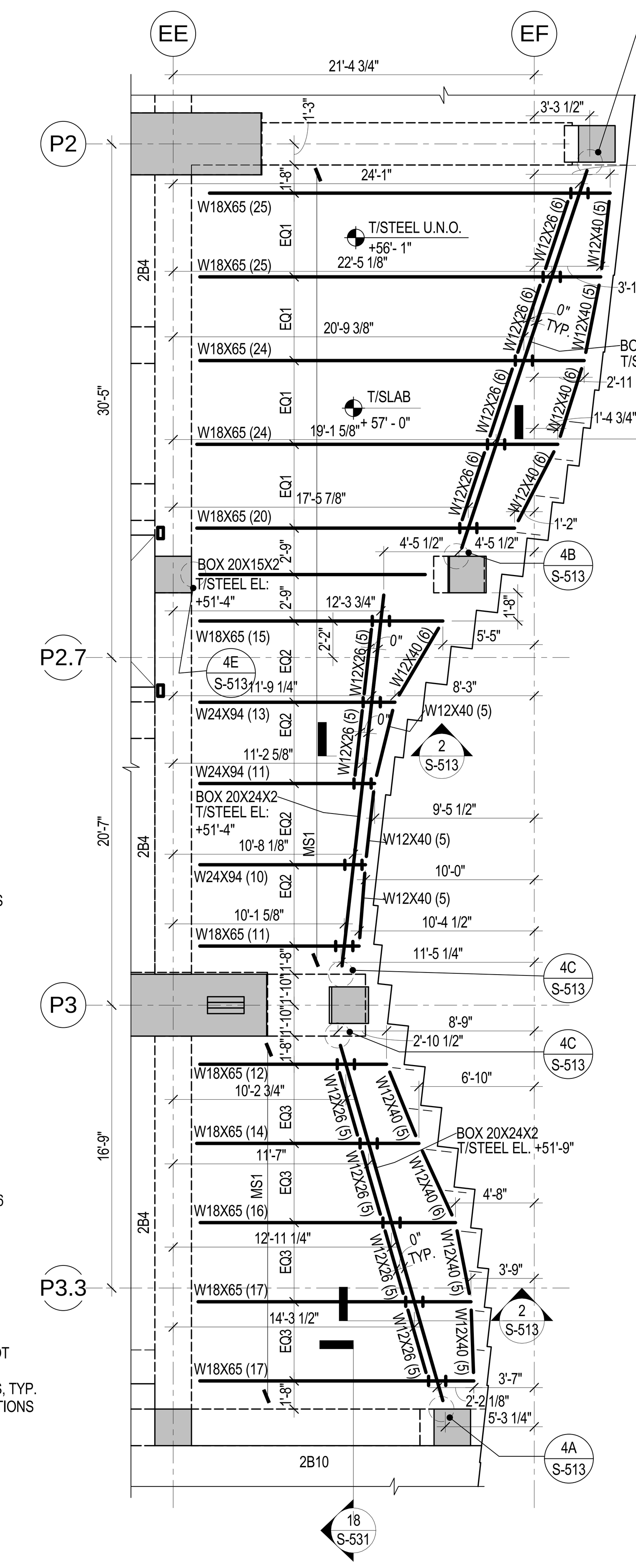
DRAWING NUMBER

S-114M

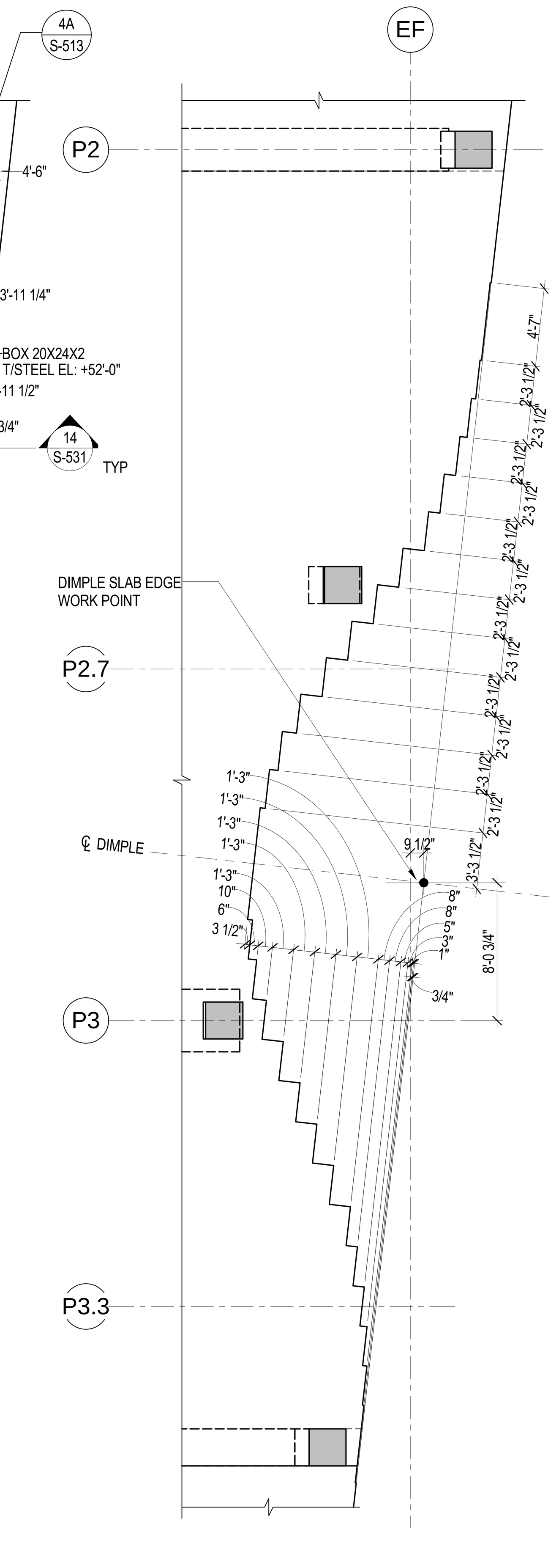
PAGE NUMBER



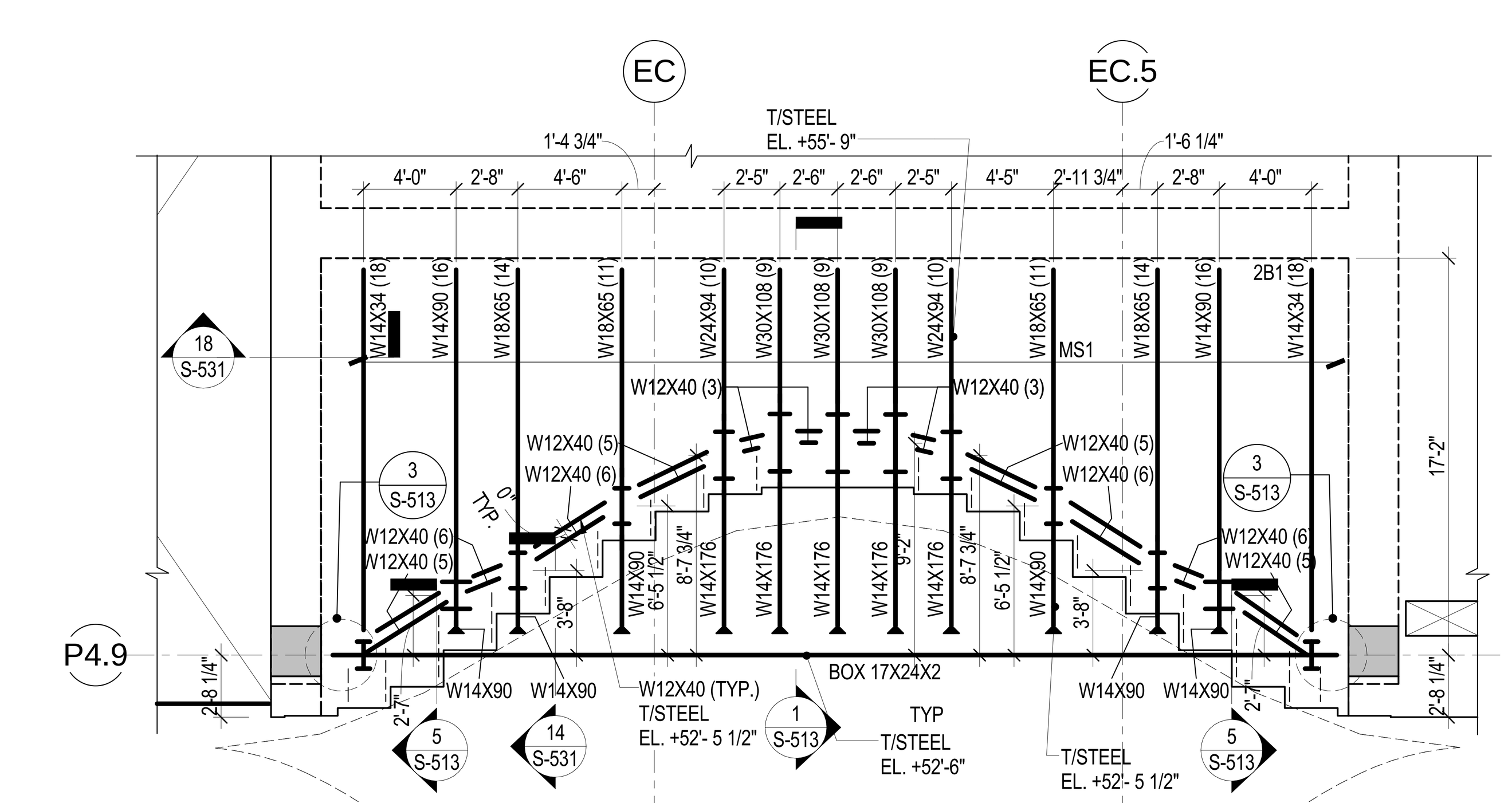
1 LEVEL 2 ARRANGEMENT PLAN
1/8" = 1'-0"



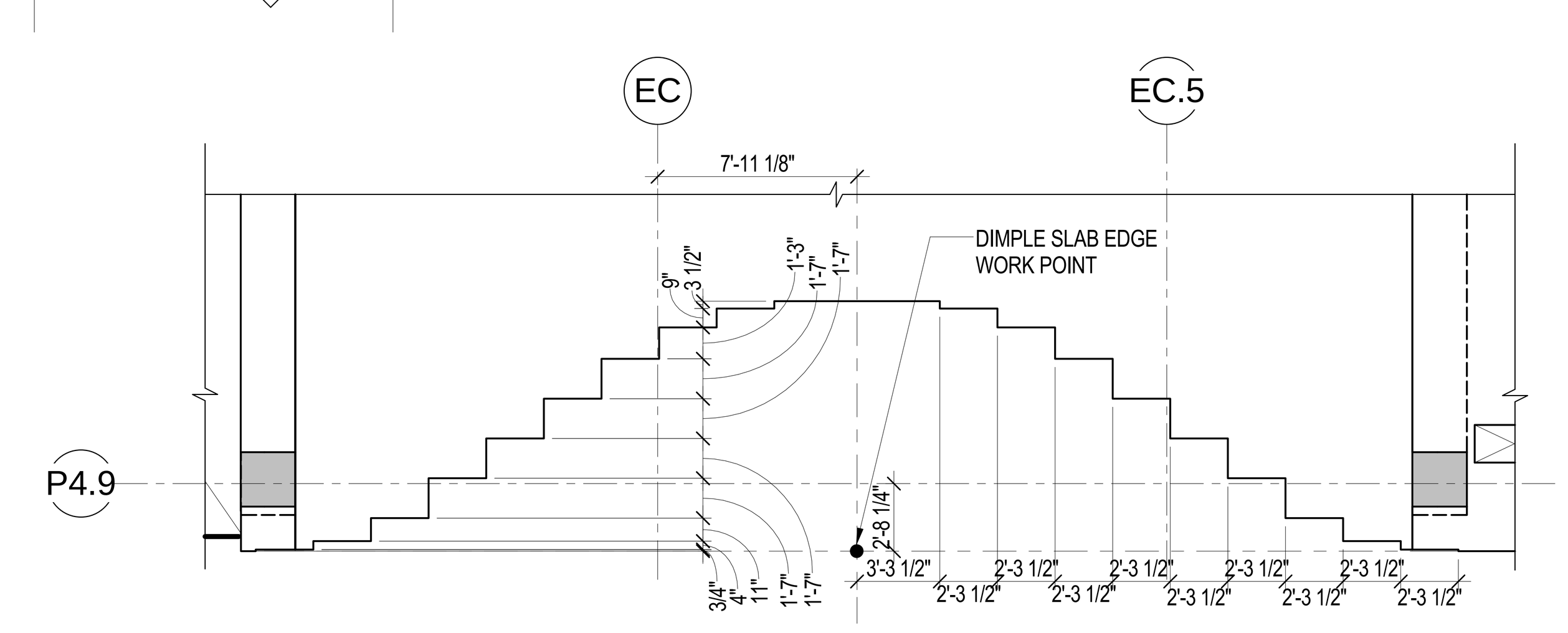
3 LEVEL 2 STEEL FRAMING AT EAST CANOPY
3/16" = 1'-0"



3A LEVEL 2 SLAB EDGE PARTIAL PLAN
3/16" = 1'-0"



2 LEVEL 2 STEEL FRAMING AT SOUTH CANOPY
3/16" = 1'-0"



2A LEVEL 2 ARRANGEMENT PLAN
3/16" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	57' - 0"

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

SLAB CONCRETE STRENGTH
f'c = 10 ksi

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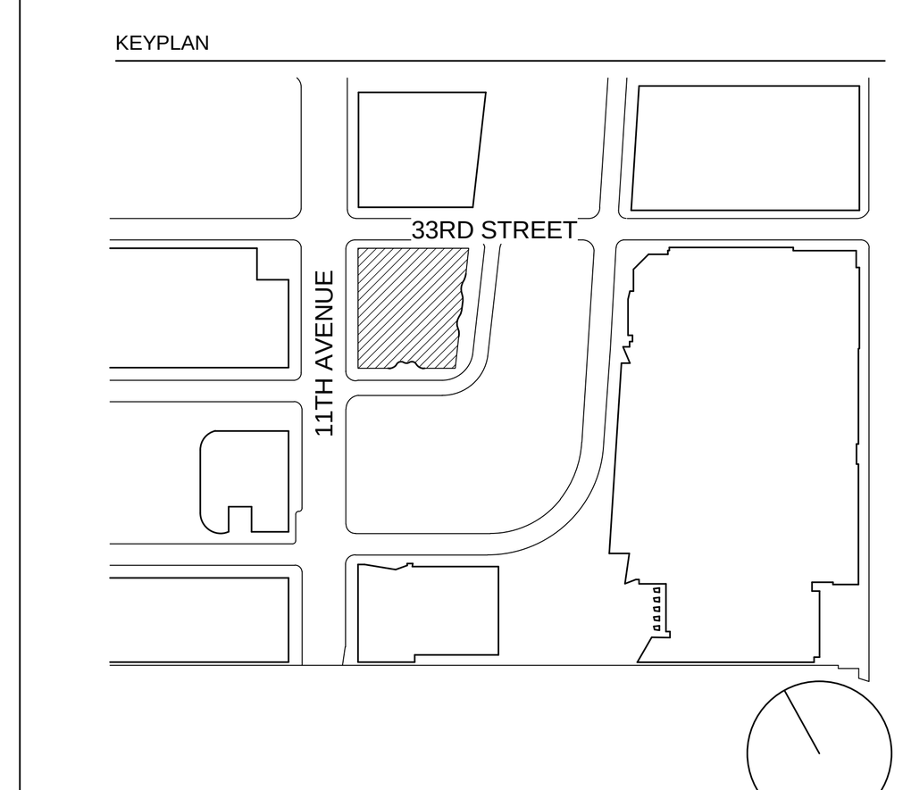
KEYPLAN



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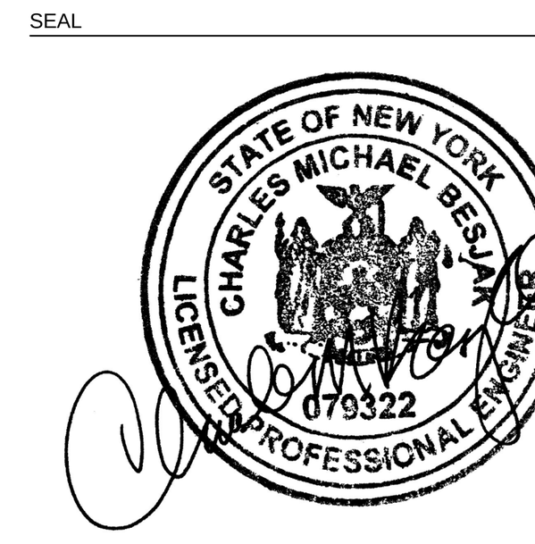

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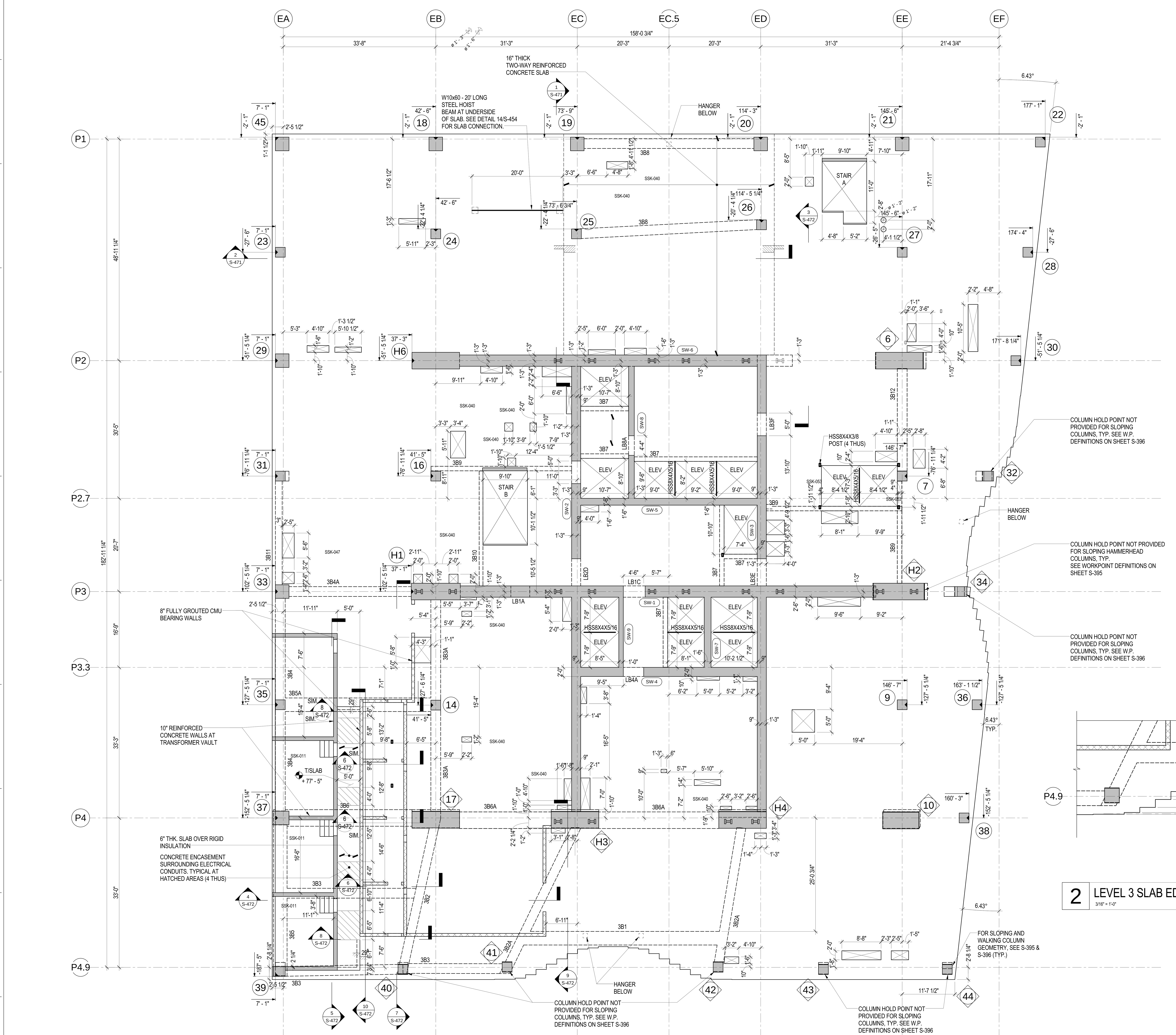
DRAWING TITLE
LEVEL 2 ARRANGEMENT PLAN (MKTG 02)

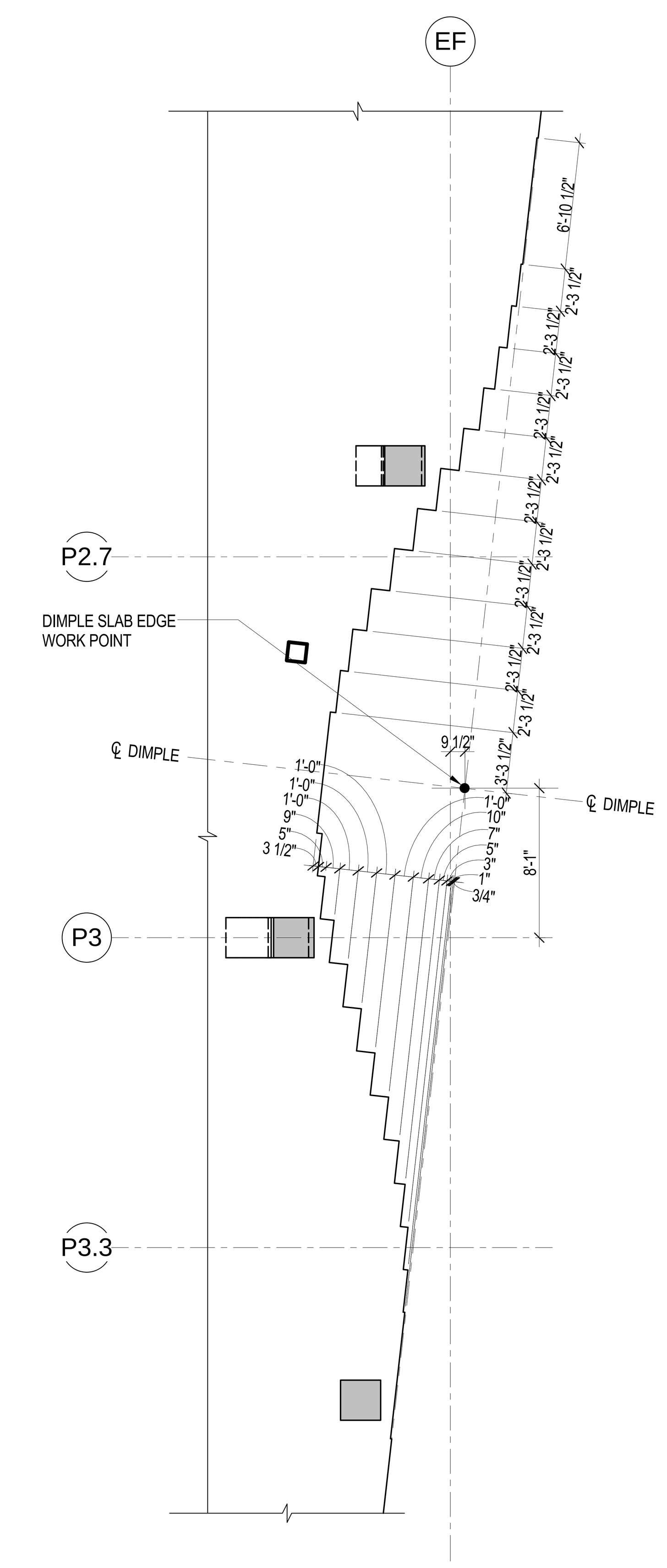
B-SCAN - DRAWING NUMBER
S-202.00 5

DRAWING NUMBER
S-202

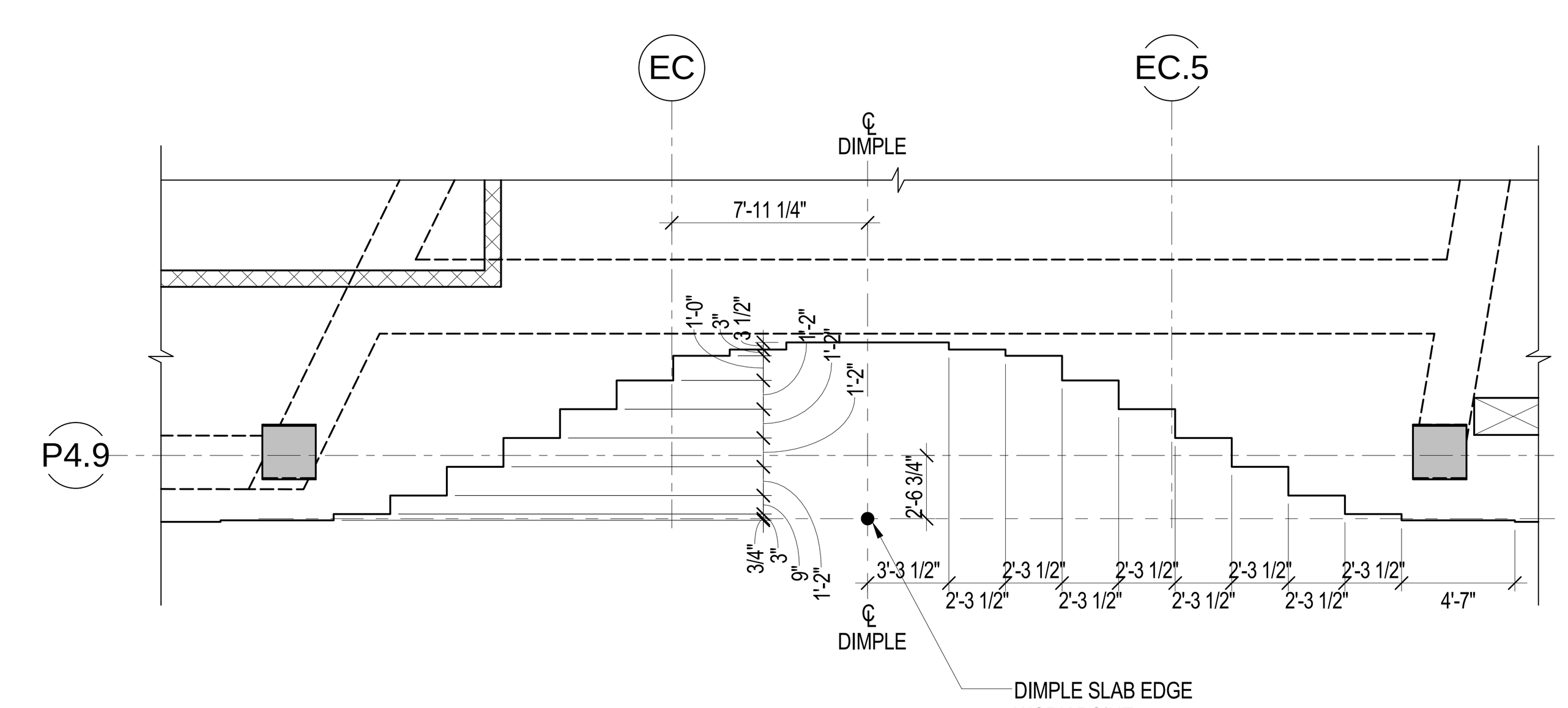
PAGE NUMBER



1 LEVEL 3 ARRANGEMENT PLAN
1/8" = 1'-0"



3 LEVEL 3 SLAB EDGE PARTIAL PLAN
3/16" = 1'-0"



2 LEVEL 3 SLAB EDGE PARTIAL PLAN
3/16" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	75' - 0"

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
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SLAB CONCRETE STRENGTH: f'c = 10 ksi

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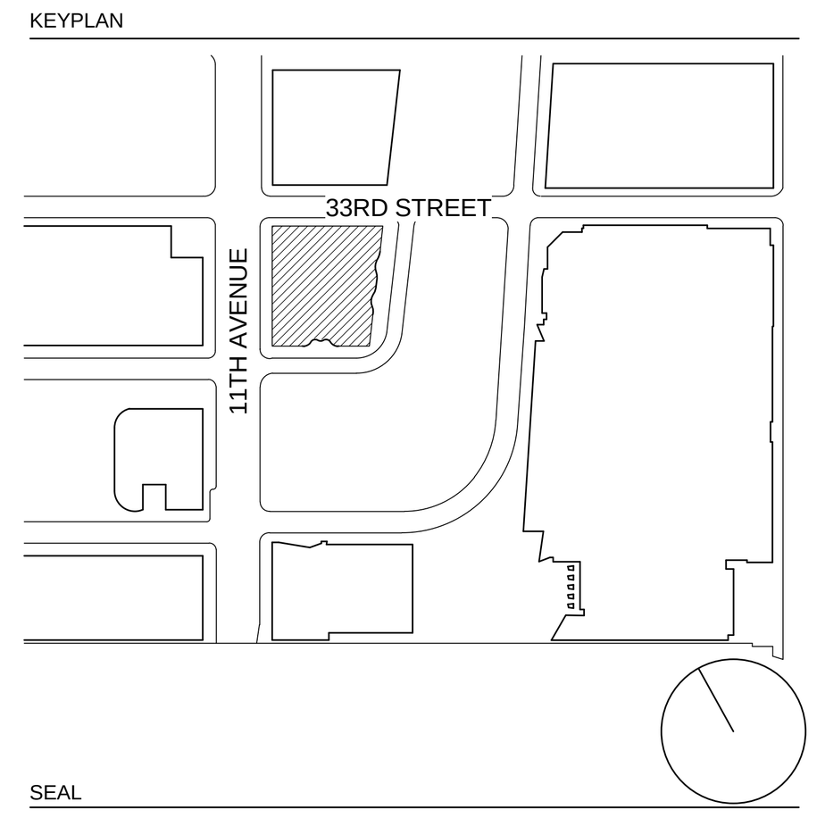
KEYPLAN


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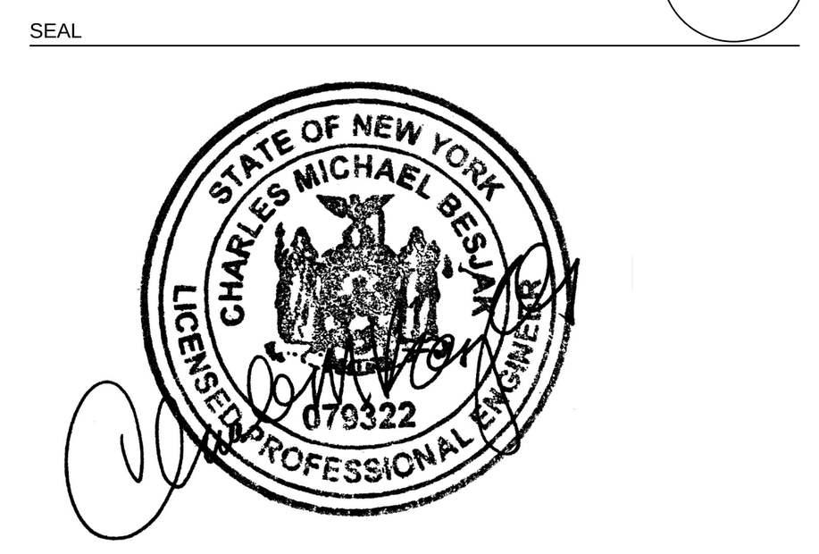

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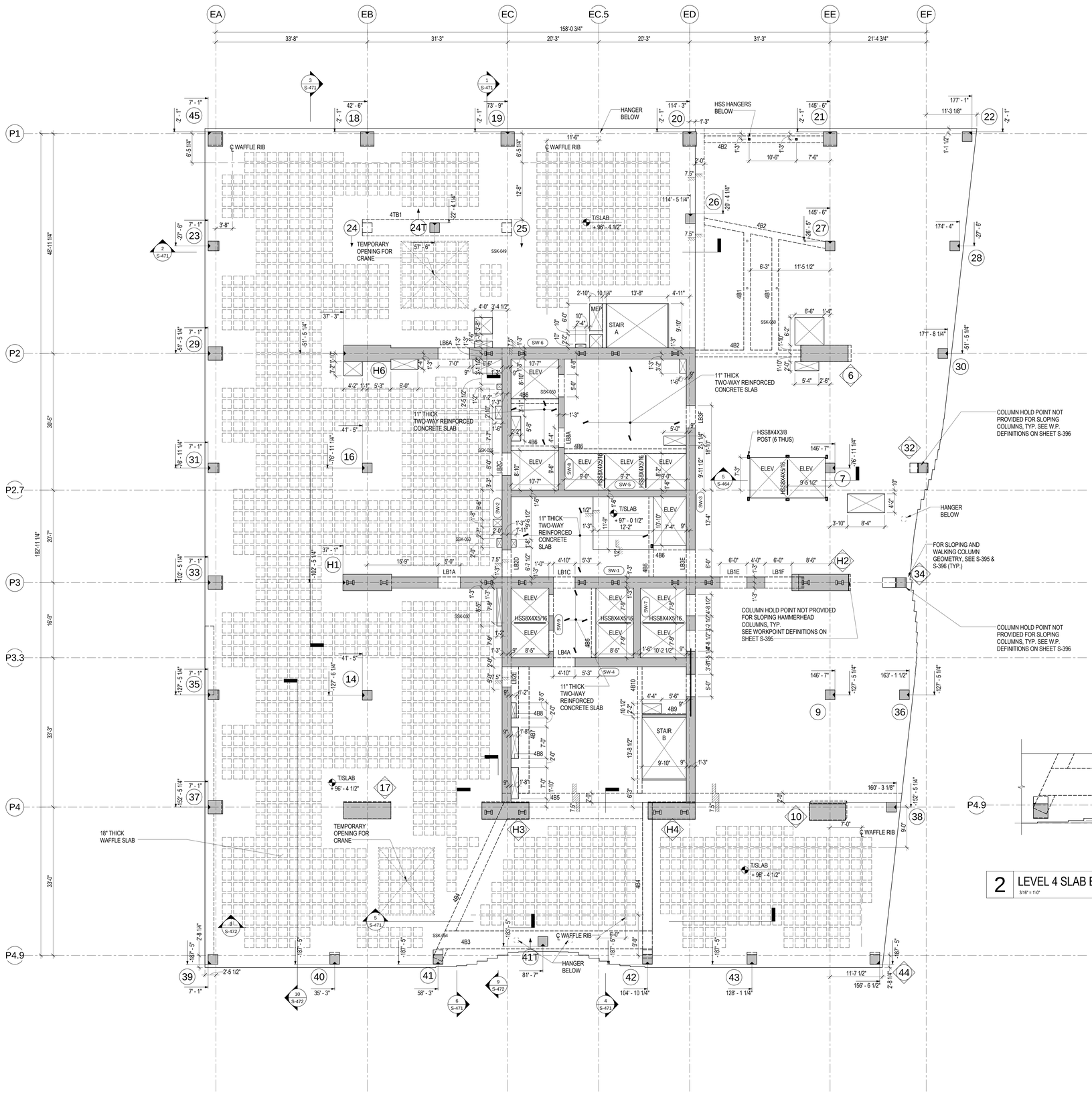
1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

DRAWING TITLE
LEVEL 3 ARRANGEMENT PLAN (MKTG 03)

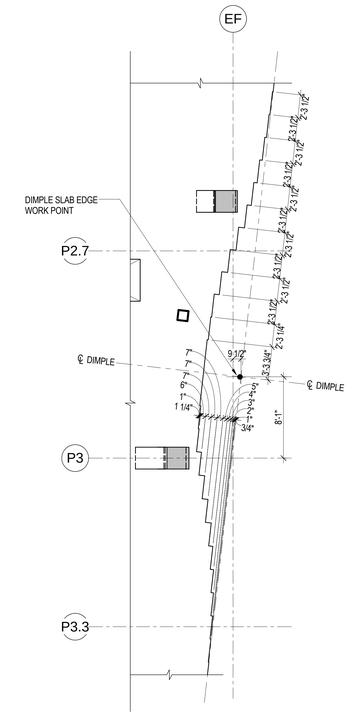
B-SCAN - DRAWING NUMBER
S-203.00

DRAWING NUMBER
S-203

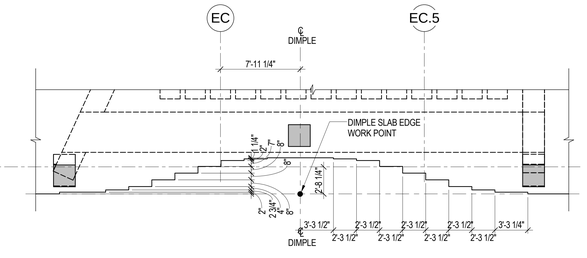
PAGE NUMBER



1 LEVEL 4 ARRANGEMENT PLAN
1/8" = 1'-0"



3 LEVEL 4 SLAB EDGE PARTIAL PLAN
3/16" = 1'-0"



2 LEVEL 4 SLAB EDGE PARTIAL PLAN
3/16" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	97' - 0"

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
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14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

SLAB CONCRETE STRENGTH
f'c = 10 ksi

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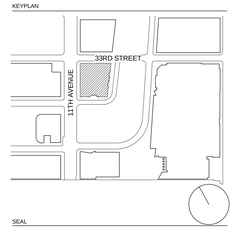
KEYPLAN



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1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

DRAWING TITLE

LEVEL 4 ARRANGEMENT PLAN (MKTG 04)

B-SCAN - DRAWING NUMBER

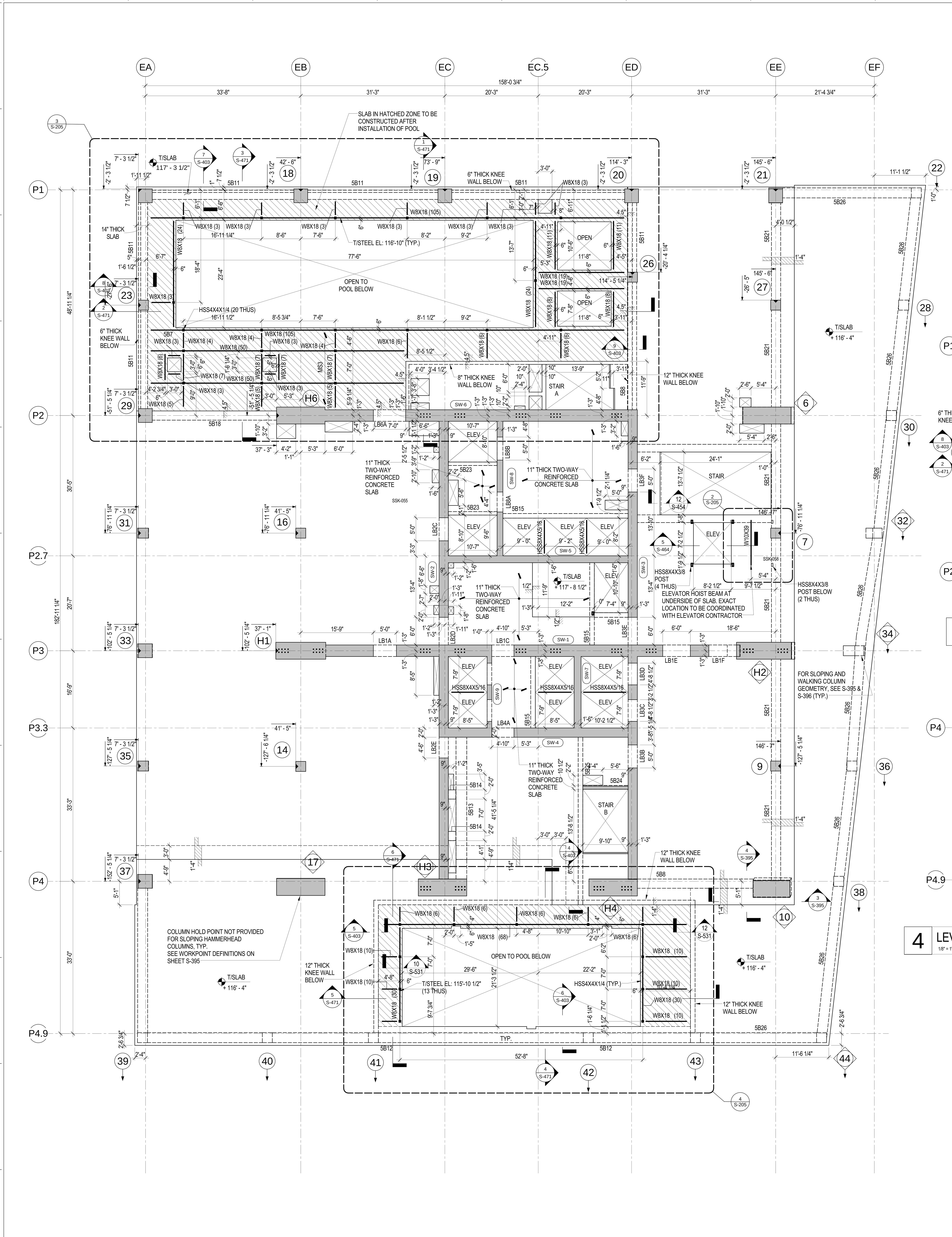
S-204.00 5

DRAWING NUMBER

S-204

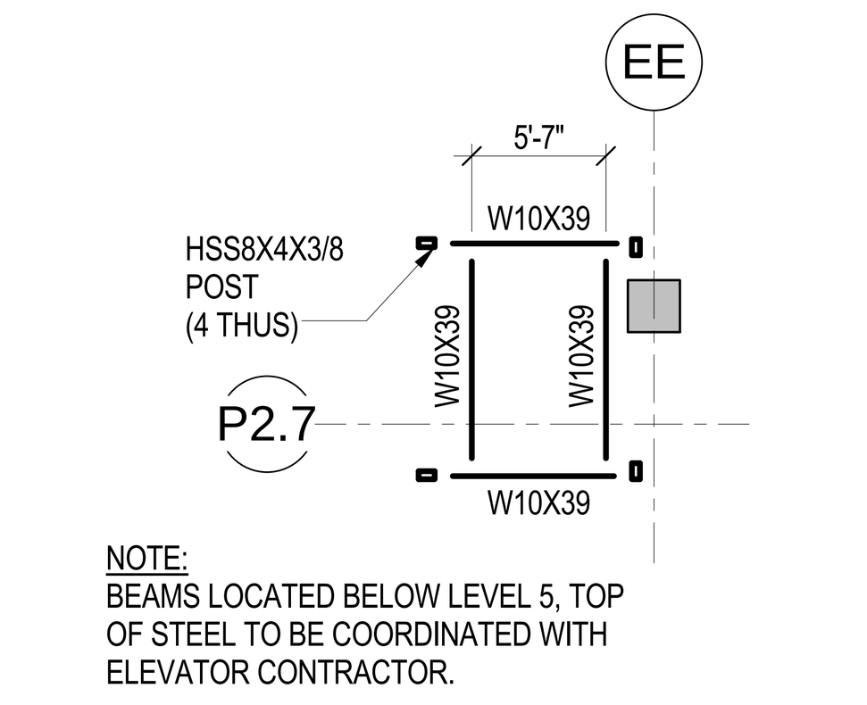
PAGE NUMBER

31 OF 112



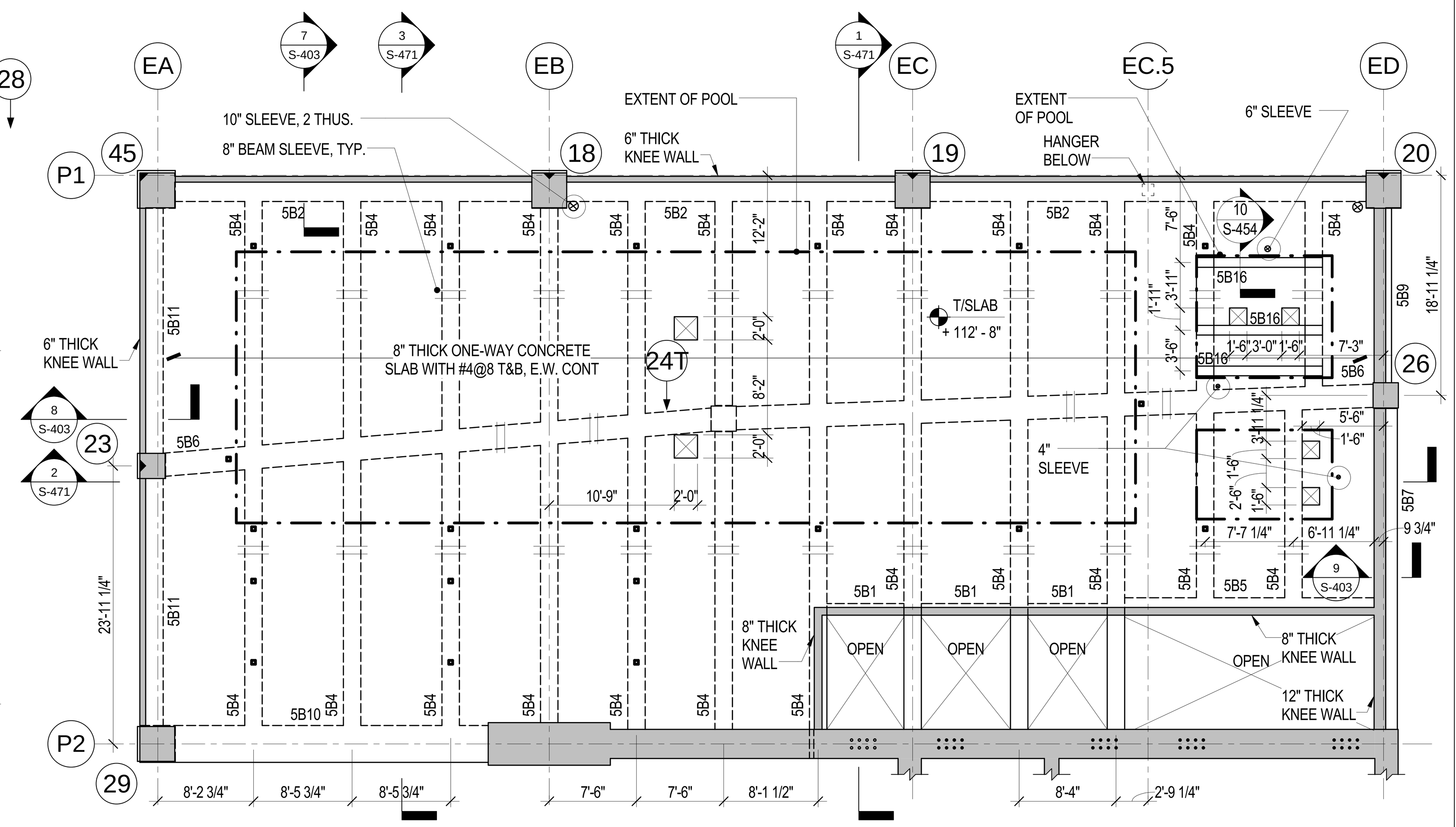
1 LEVEL 5 ARRANGEMENT PLAN

1/8" = 1'-0"



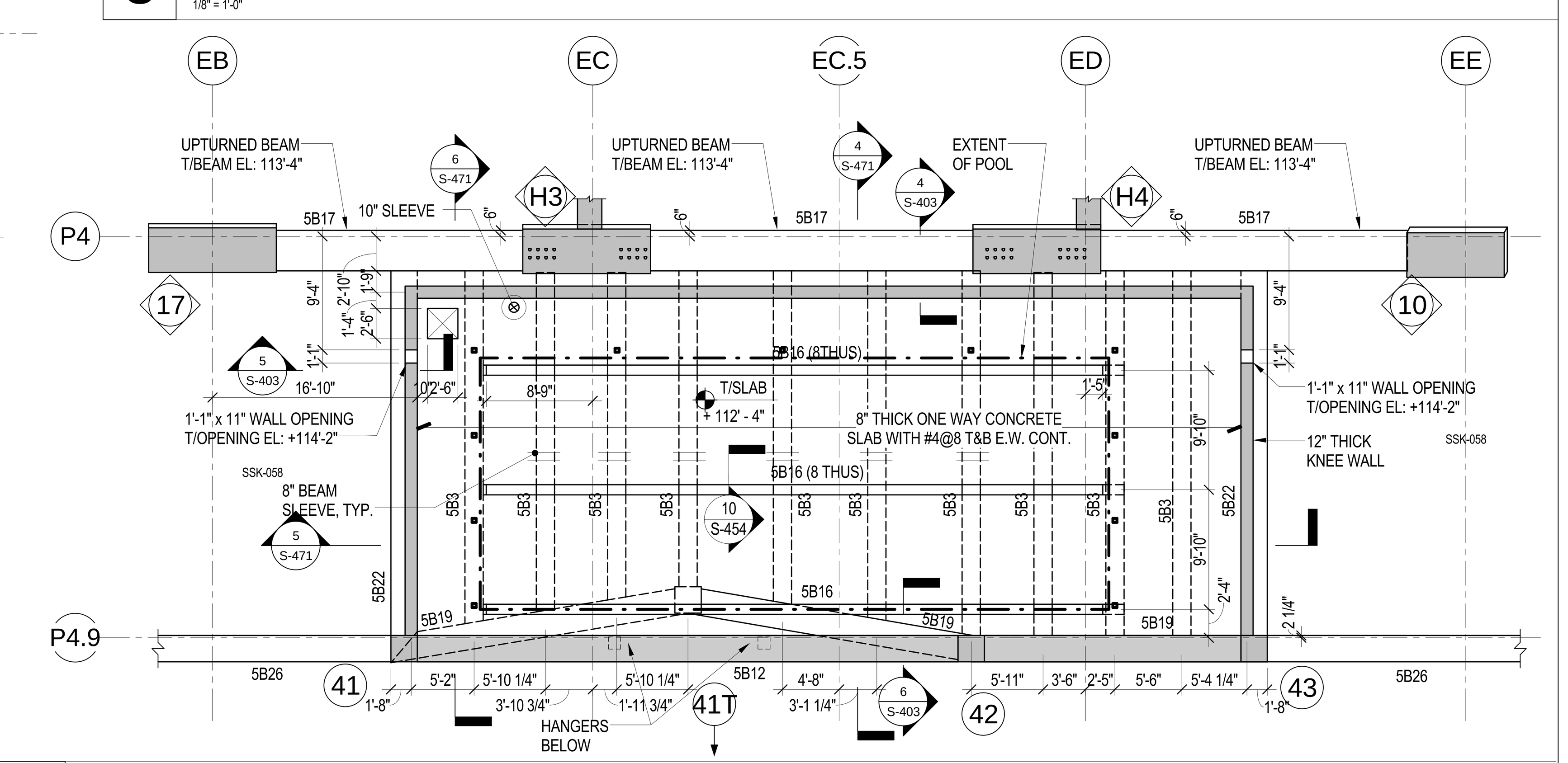
2 ELEVATOR MACHINE FRAMING PLAN

1/8" = 1'-0"



3 LEVEL 5 PARTIAL PLAN AT NORTH POOL

1/8" = 1'-0"



4 LEVEL 5 PARTIAL PLAN AT SOUTH POOL

1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	117' - 8"

SLAB CONCRETE STRENGTH

f'c = 10 ksi

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
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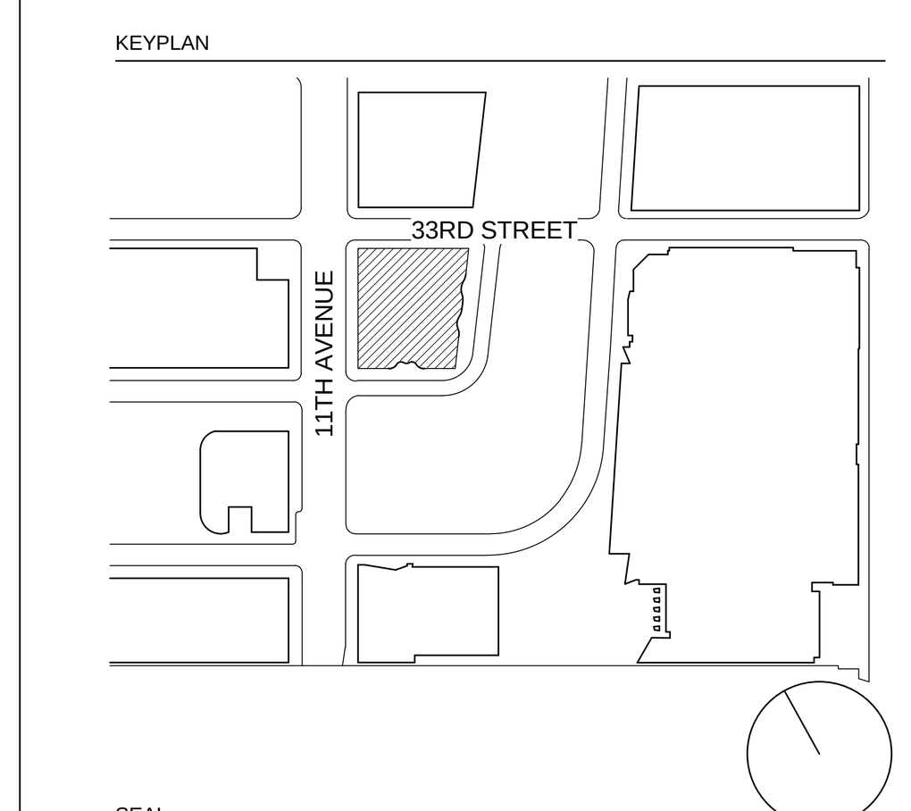
KEYPLAN



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DRAWING TITLE

LEVEL 5 ARRANGEMENT PLAN (MKTG 05)

B-SCAN - DRAWING NUMBER

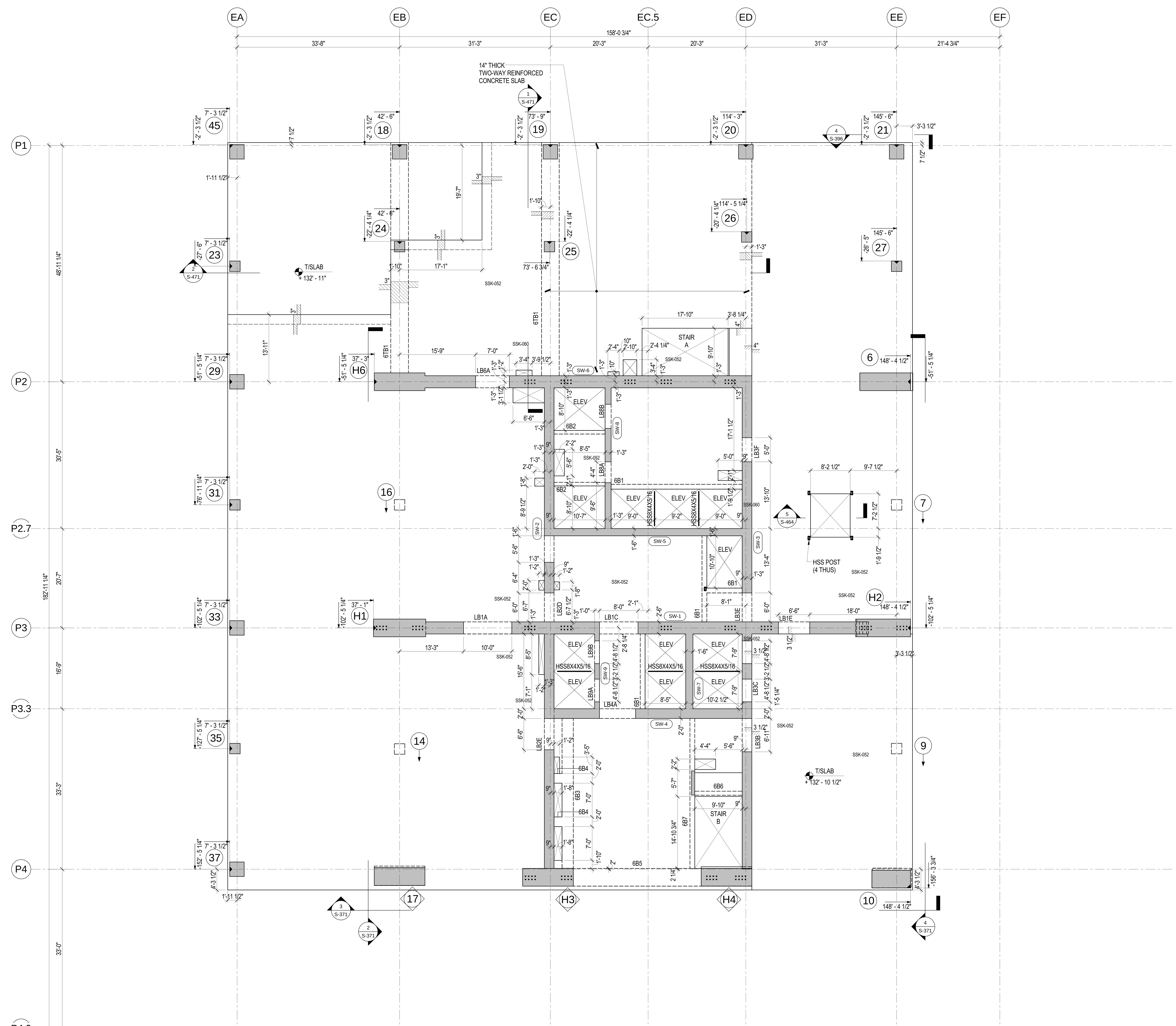
S-205.00 (5)

DRAWING NUMBER

S-205

PAGE NUMBER

32 OF 112



1 LEVEL 6 ARRANGEMENT PLAN

1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
12"	133' - 2"

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
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SLAB CONCRETE STRENGTH: f'c = 10 ksi

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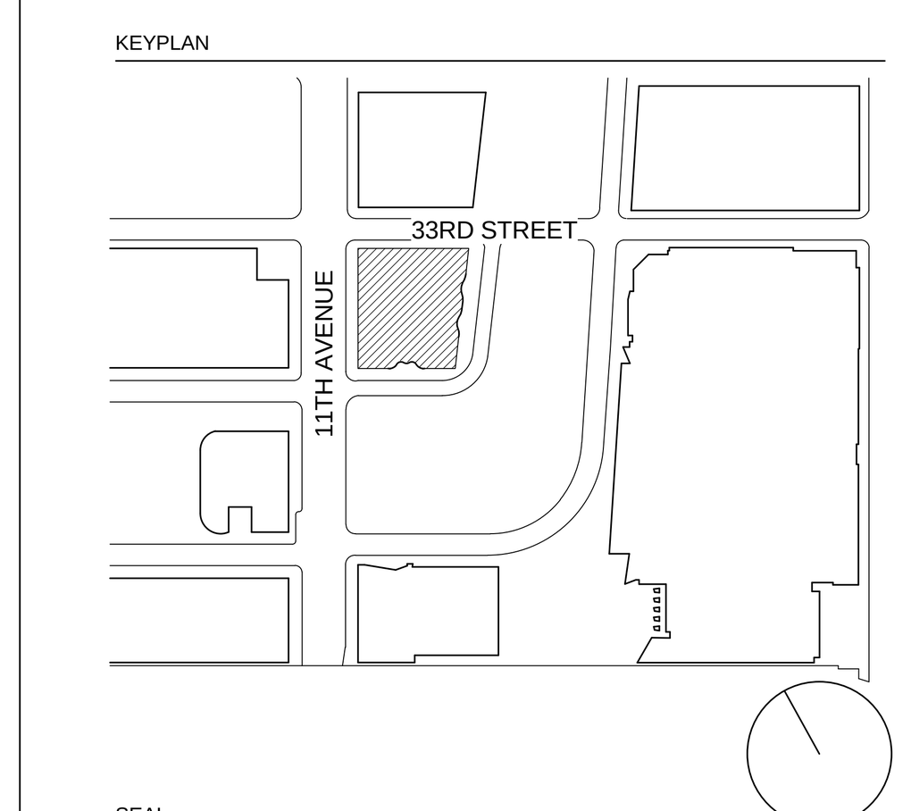
KEYPLAN



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DRAWING TITLE

LEVEL 6 ARRANGEMENT PLAN (MKTG 06)

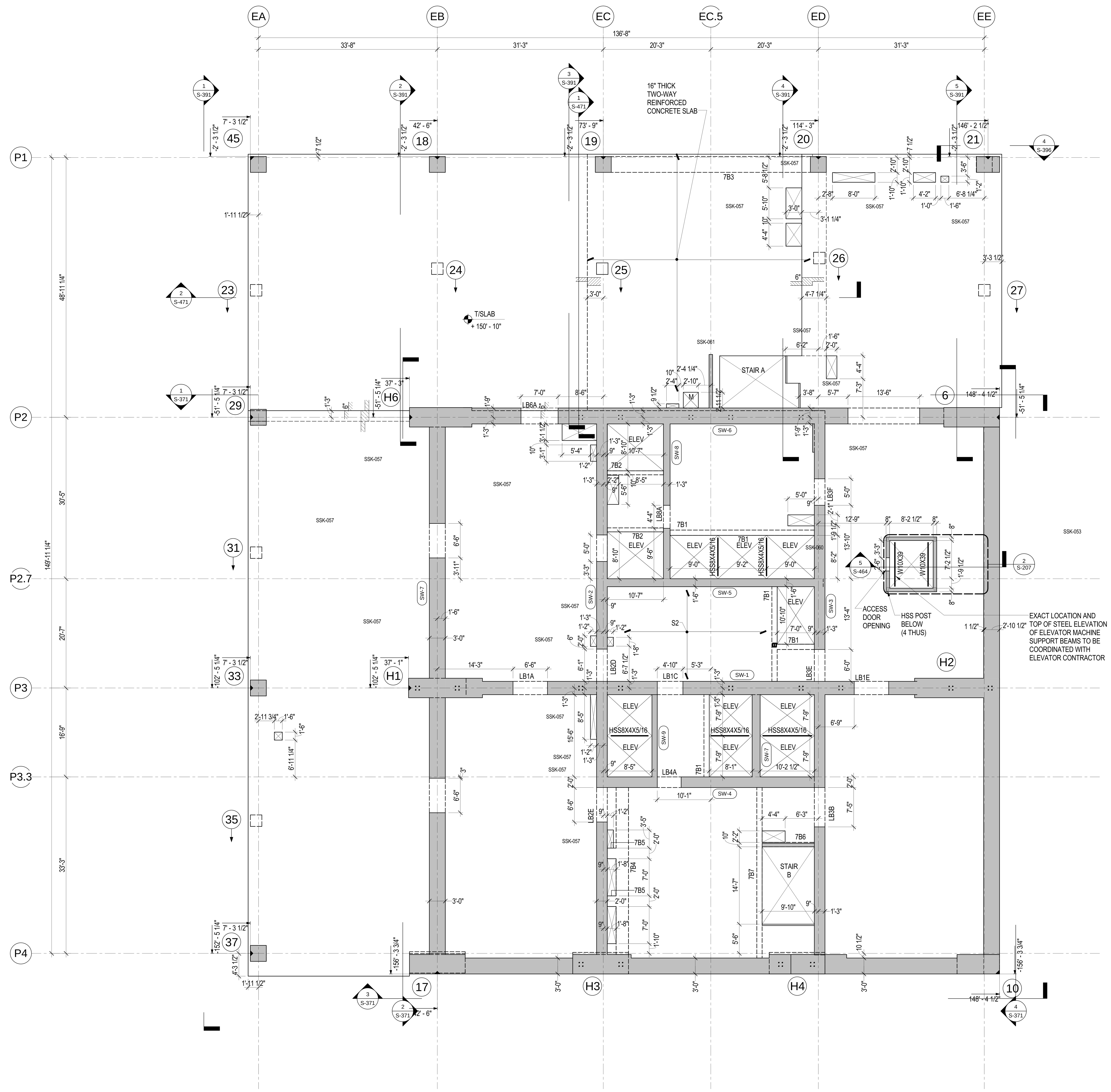
B-SCAN - DRAWING NUMBER

S-206.00 5

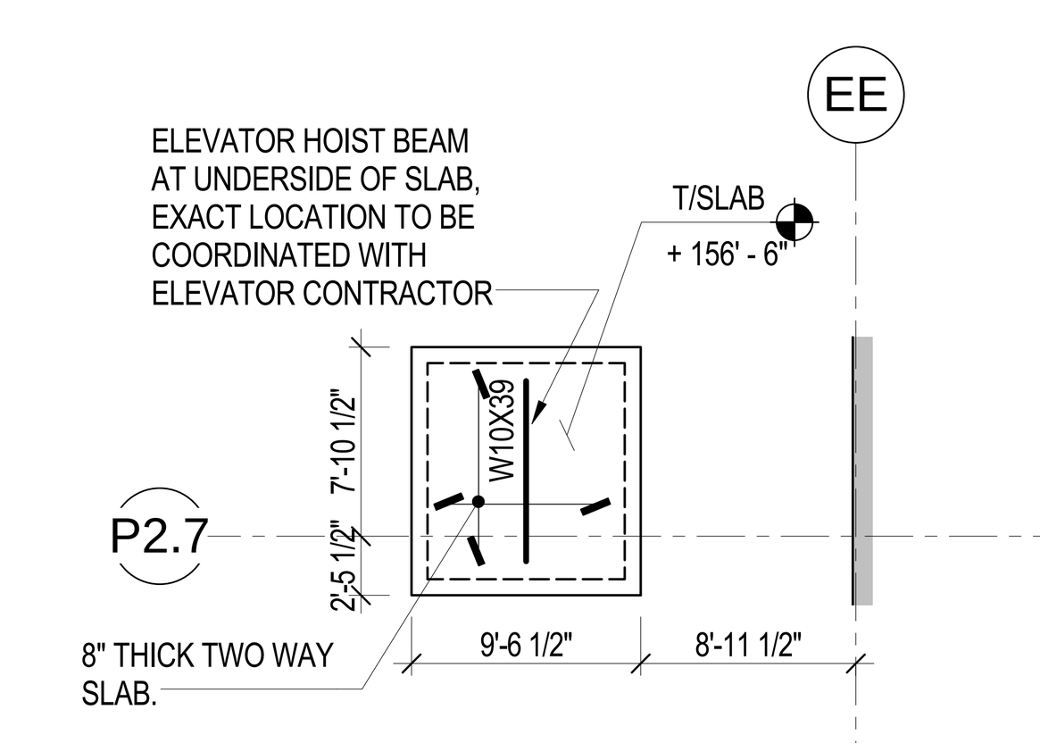
DRAWING NUMBER

S-206

PAGE NUMBER



1 LEVEL 7 ARRANGEMENT PLAN
1/8" = 1'-0"



2 LEVEL 7 - PARTIAL PLAN
1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	151' - 4"

DRAWING NOTES:
1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
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RESIDENTIAL DESIGN ARCHITECT
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48 West 37th Street
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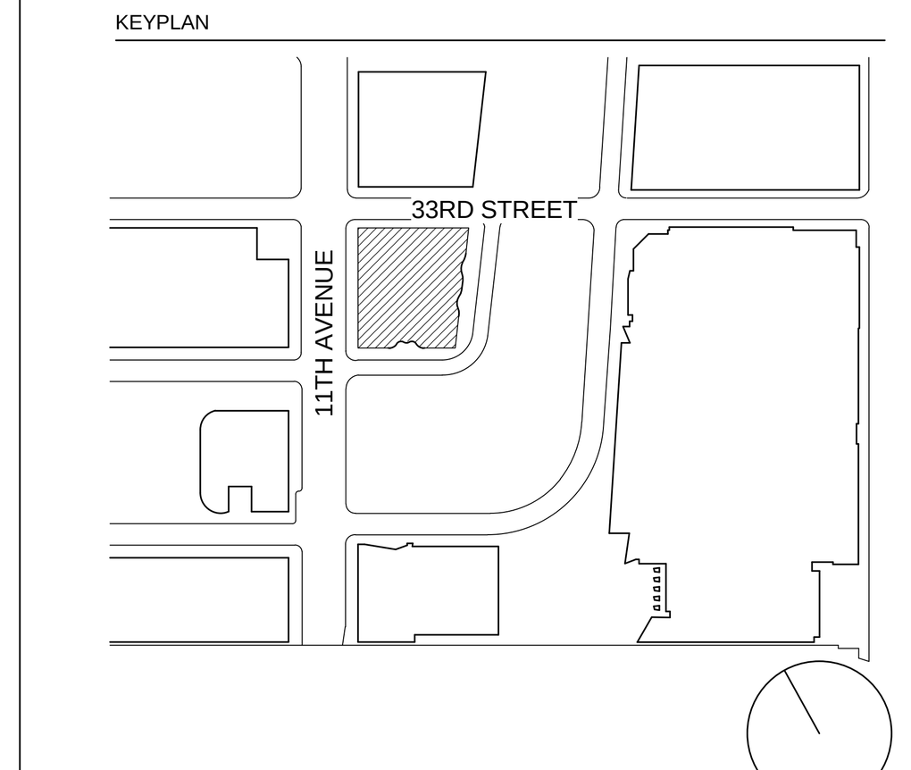
KEYPLAN



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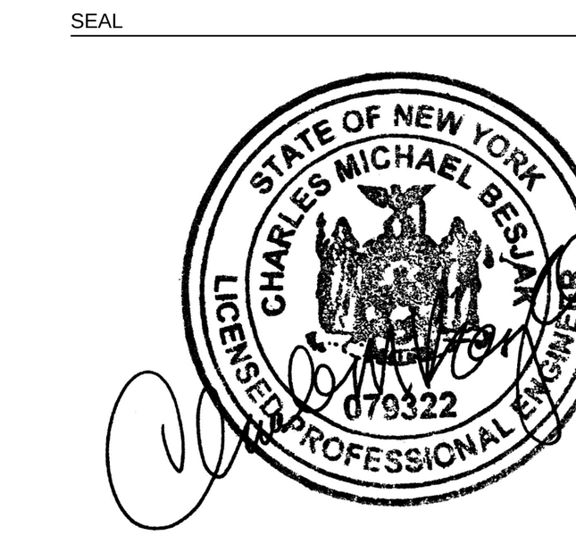

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5	20 JAN 2017	ISSUED TO DOB
4	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
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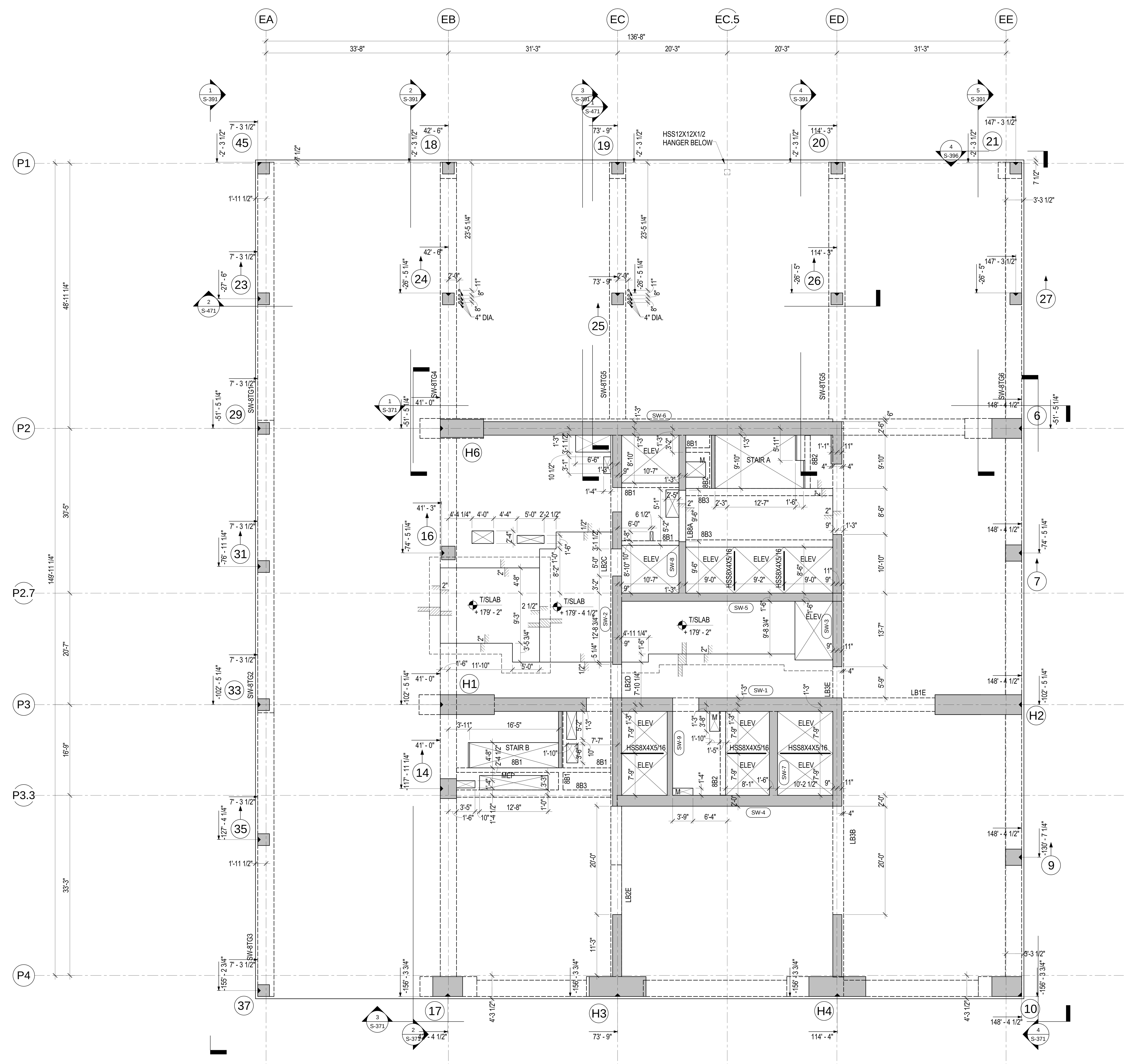
2	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

DRAWING TITLE

LEVEL 7 ARRANGEMENT PLAN (MKTG 07)

B-SCAN - DRAWING NUMBER
S-207.00 (5)

DRAWING NUMBER
S-207



1 LEVEL 8 ARRANGEMENT PLAN
1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	179' - 4"

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
11. REFER TO SHEET S-531 & S-532 FOR TYPICAL METAL DECK SECTIONS AND DETAILS.
12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

SLAB CONCRETE STRENGTH
f'c = 10 ksi

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Date: 02/17/2017
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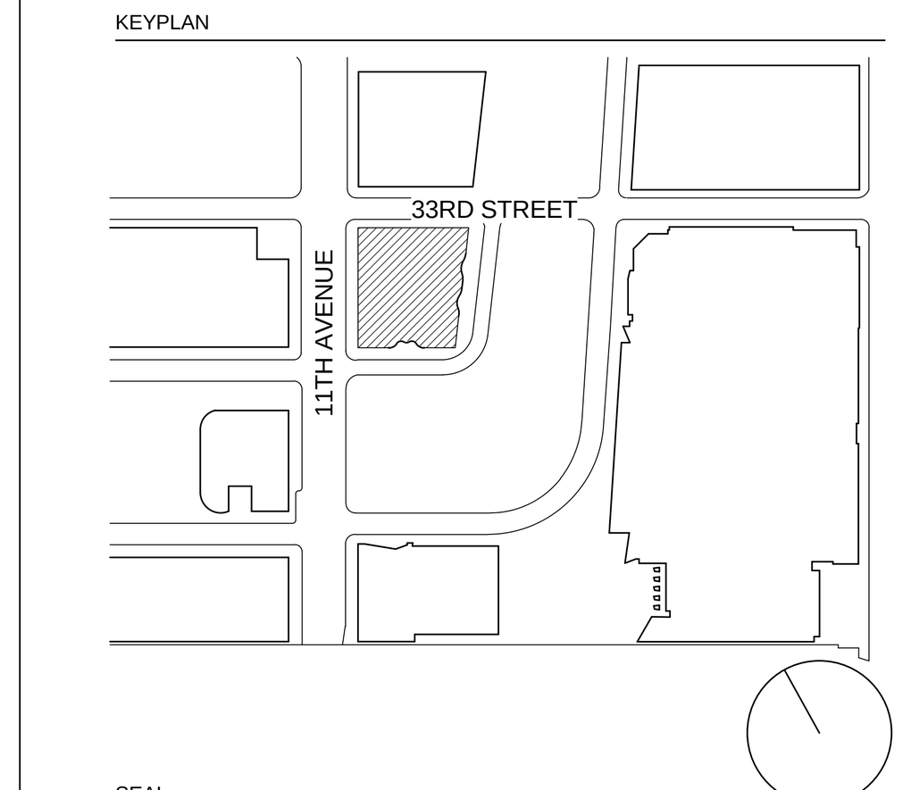
KEYPLAN



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DRAWING TITLE

LEVEL 8 ARRANGEMENT PLAN (MKTG 10)

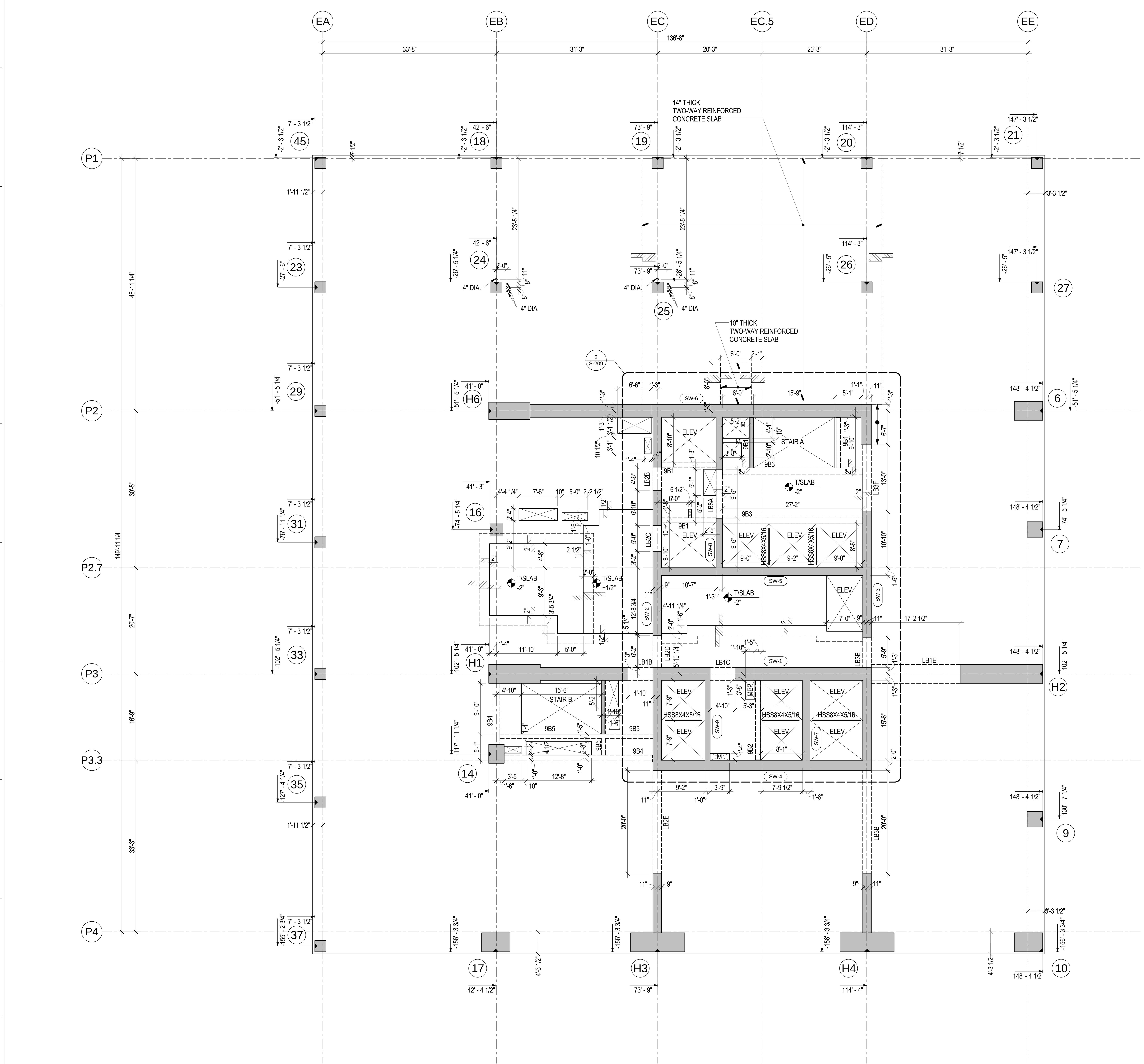
B-SCAN - DRAWING NUMBER

S-208.00 4

DRAWING NUMBER

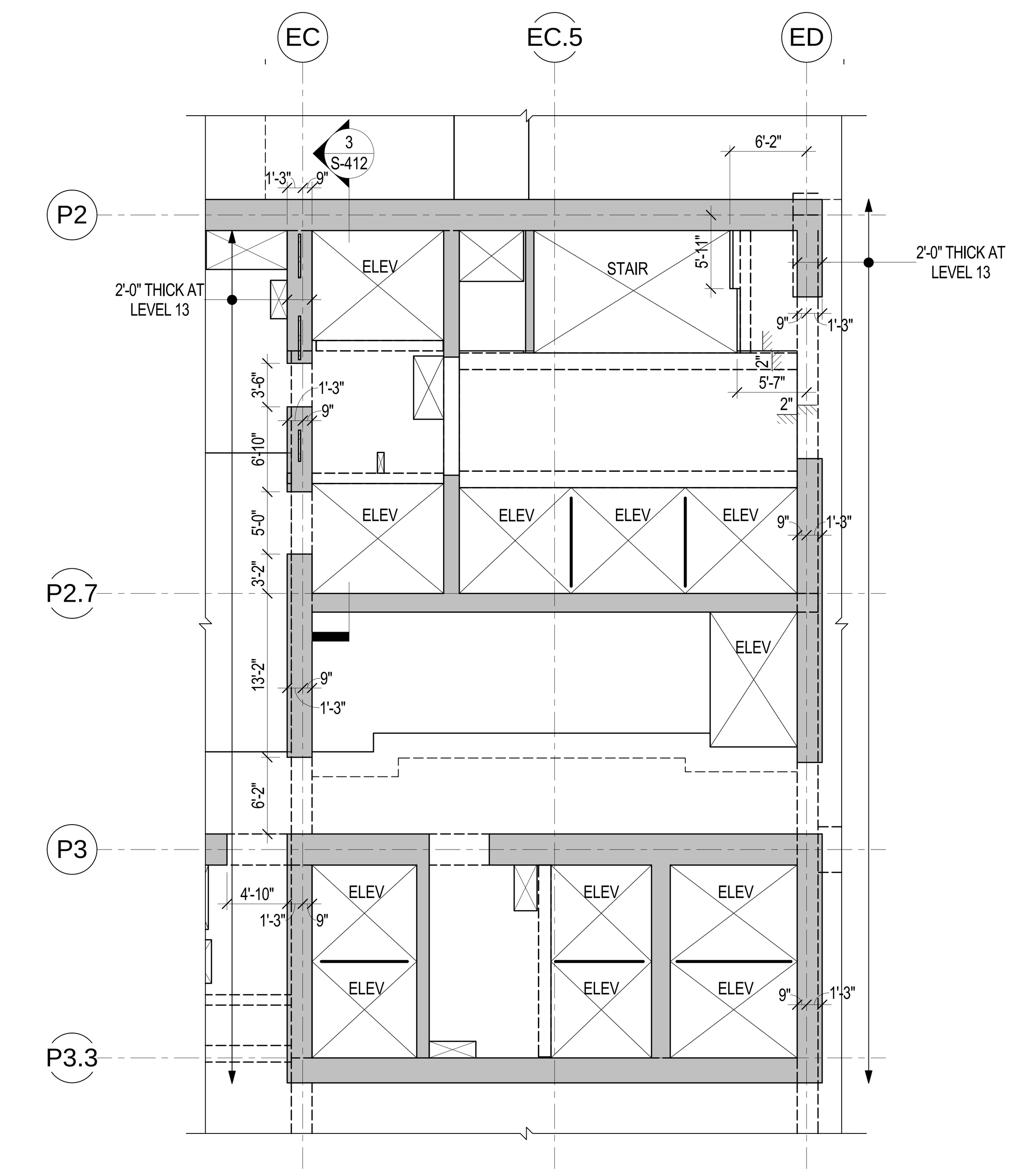
S-208

PAGE NUMBER



1 LEVEL 9 - 13 ARRANGEMENT PLAN

1/8" = 1'-0"



NOTE: INFORMATION SHOWN ON PARTIAL PLAN IS ONLY THAT DIFFERS FROM TYPICAL . SEE OVERALL PLAN FOR INFORMATION NOT SHOWN.

2 LEVEL 13 PARTIAL PLAN

1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.		
11"	LEVEL 9: 193' - 4"	LEVEL 10: 207' - 4"	LEVEL 13: 249' - 4"
		LEVEL 11: 221' - 4"	
		LEVEL 12: 235' - 4"	

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
4. REFER TO SHEETS S-301 TO S-322 FOR SHEAR WALL REINFORCEMENT.
5. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
6. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
7. REFER TO SHEET S-411 TO S-413 FOR RC SHEAR WALL LINK BEAM SCHEDULE AND DETAILS.
8. REFER TO SHEET S-421 TO S-435 FOR COLUMN SCHEDULES AND DETAILS.
9. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
10. REFER TO SHEETS S-501 TO S-522 FOR STEEL SCHEDULES AND DETAILS.
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SLAB CONCRETE STRENGTH

f'c = 10 ksi

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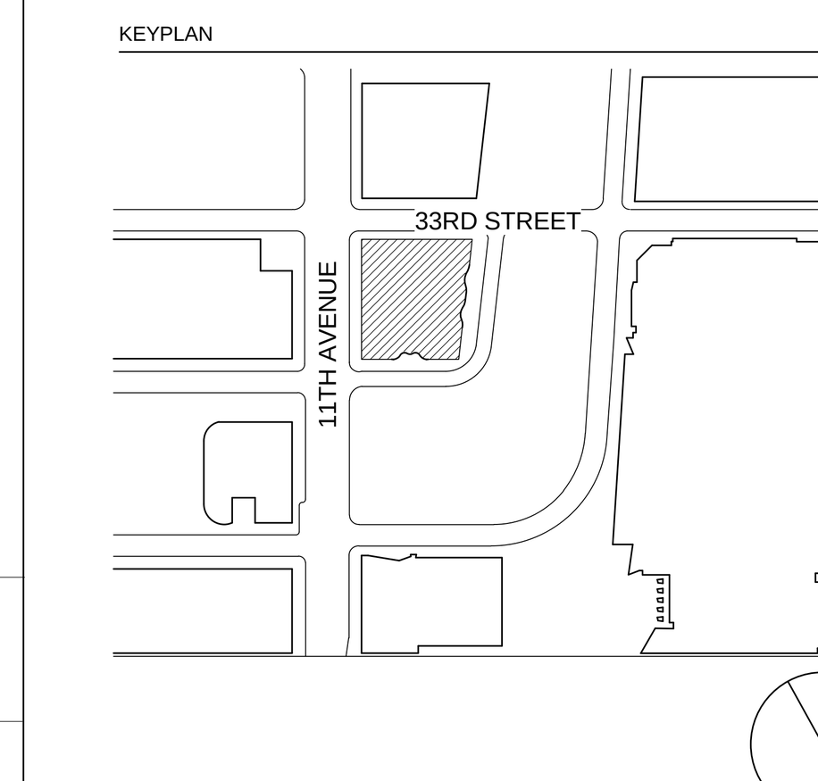

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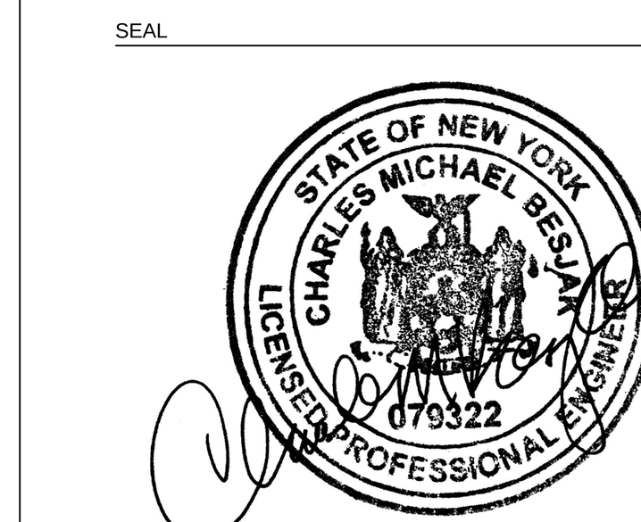

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DRAWING TITLE

LEVEL 9 - 13 ARRANGEMENT PLAN (MKTG 11-16)

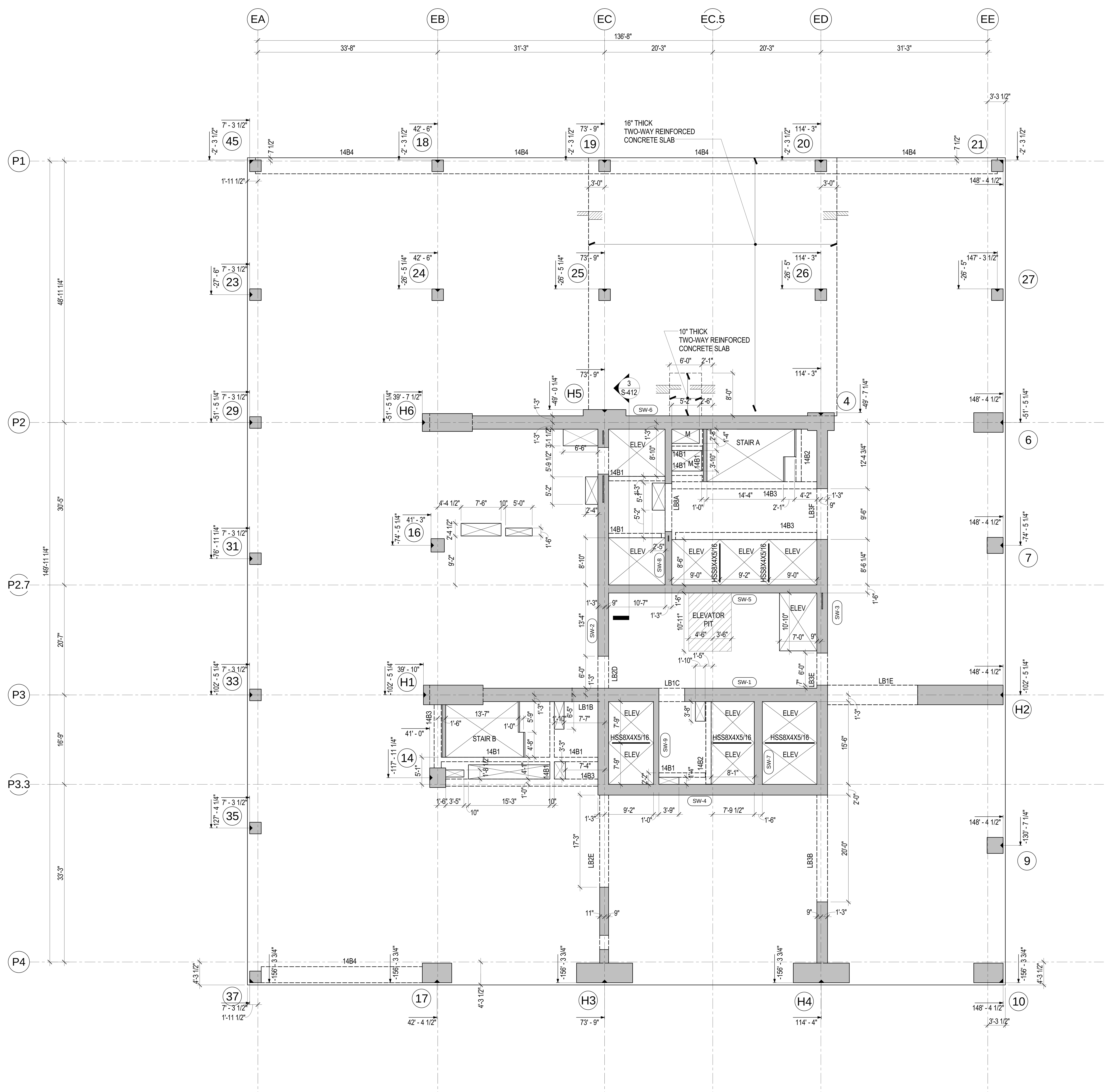
B-SCAN - DRAWING NUMBER

S-209.00 4

DRAWING NUMBER

S-209

PAGE NUMBER



1 LEVEL 14 ARRANGEMENT PLAN

1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
14"	263' - 4"

SLAB CONCRETE STRENGTH
f'c = 10 ksi

DRAWING NOTES:

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2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
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12. OUTERMOST REINFORCEMENT RUNS NORTH-SOUTH.
13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BEL[illegible]N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

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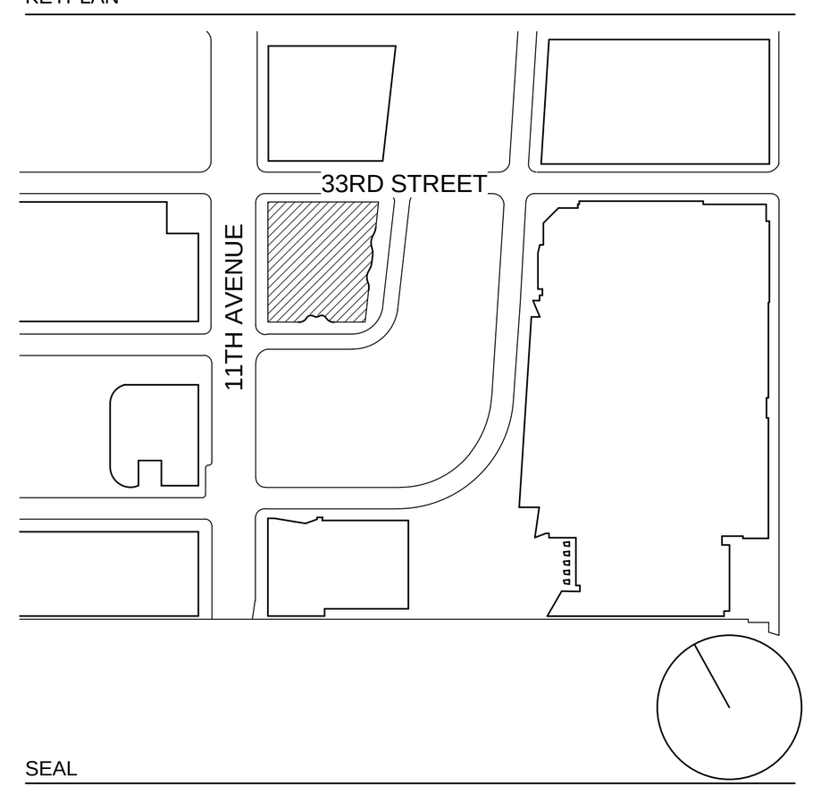
KEYPLAN



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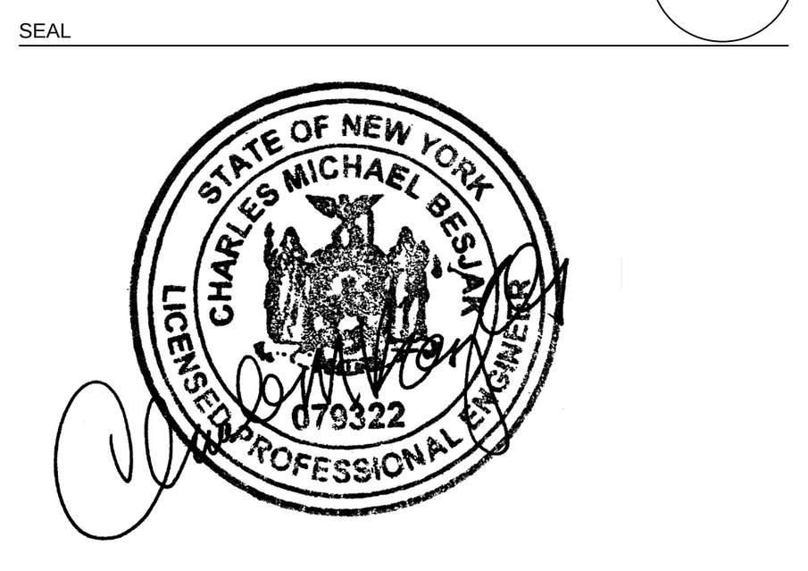

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DRAWING TITLE

LEVEL 14 ARRANGEMENT PLAN (MKTG 17)

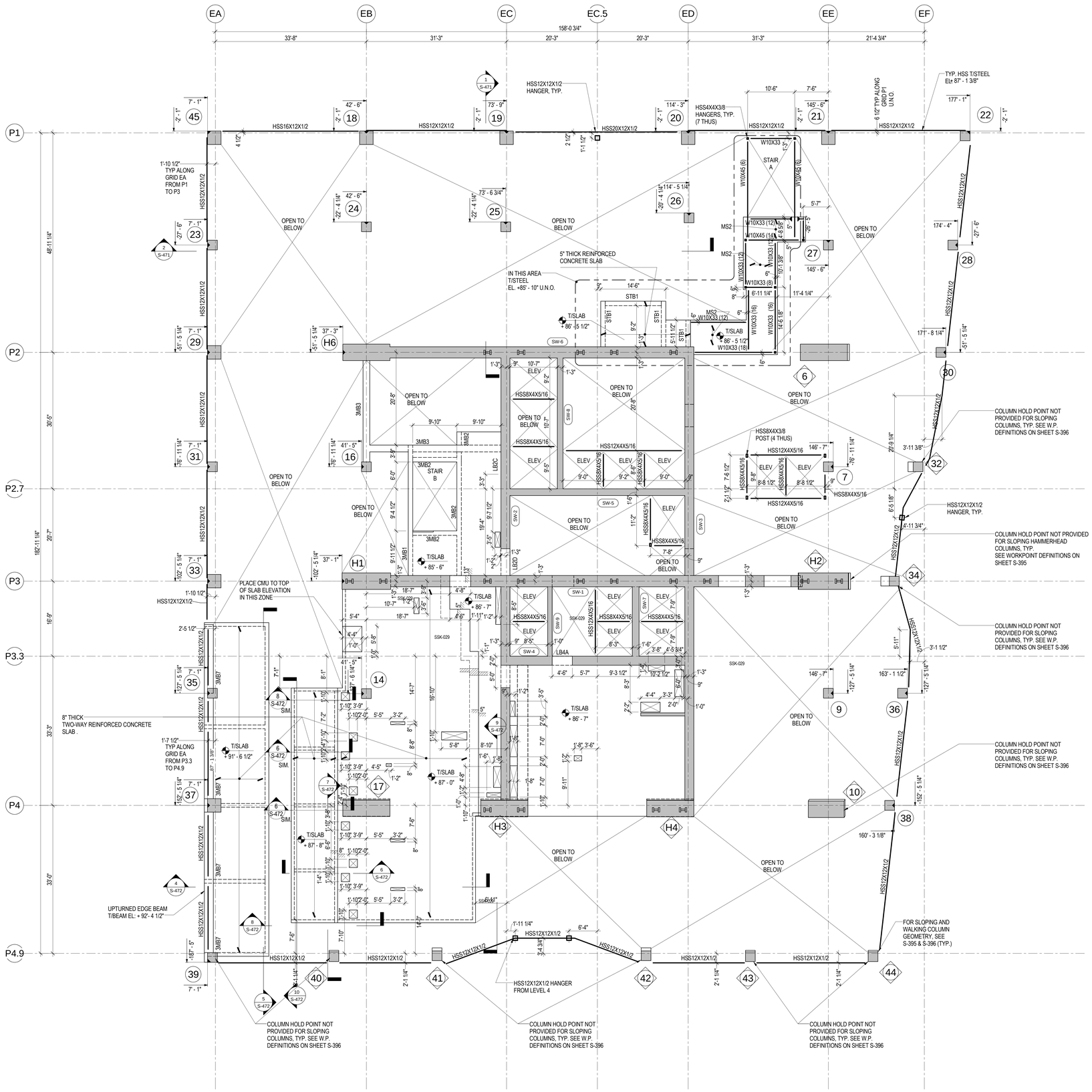
B-SCAN - DRAWING NUMBER

S-214.00 4

DRAWING NUMBER

S-214

PAGE NUMBER



DEPT OF BLDGS 121192618 Job Number

ES843472156 Scan Code

1 LEVEL 3 MEZZ ARRANGEMENT PLAN

1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
11"	87' - 0"

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
3. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
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13. TOP OF ELEVATOR DIVIDER BEAM ELEVATION SHALL BE 1 1/2" BELOW TOP OF SLAB U.N.O.
14. REFER TO SHEETS S-457 TO S-460 FOR STAIR A AND B SECTIONS.

SLAB CONCRETE STRENGTH

f'c = 10 ksi

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070322

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DRAWING TITLE

LEVEL 3M ARRANGEMENT PLAN (MKTG 03M)

B-SCAN - DRAWING NUMBER

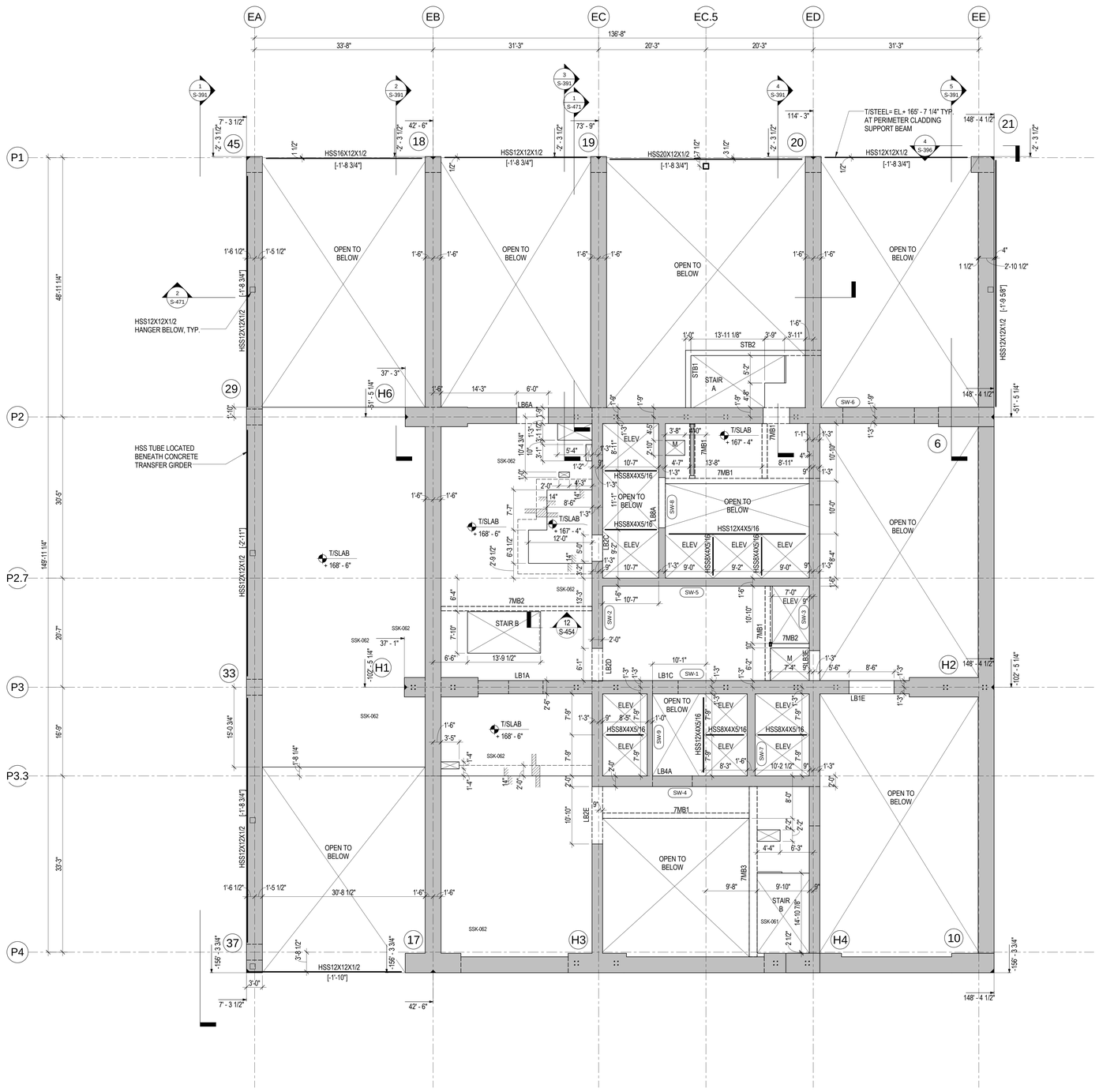
S-291.00 5

DRAWING NUMBER

S-203M

PAGE NUMBER

38 OF 112



1 LEVEL 7 MEZZ ARRANGEMENT PLAN

1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
11"	167' - 4"

DRAWING NOTES:

1. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
2. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
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SLAB CONCRETE STRENGTH
f'c = 10 ksi

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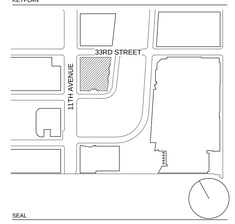

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DRAWING TITLE

LEVEL 7M ARRANGEMENT PLAN (MKTG 07M)

B-SCAN - DRAWING NUMBER

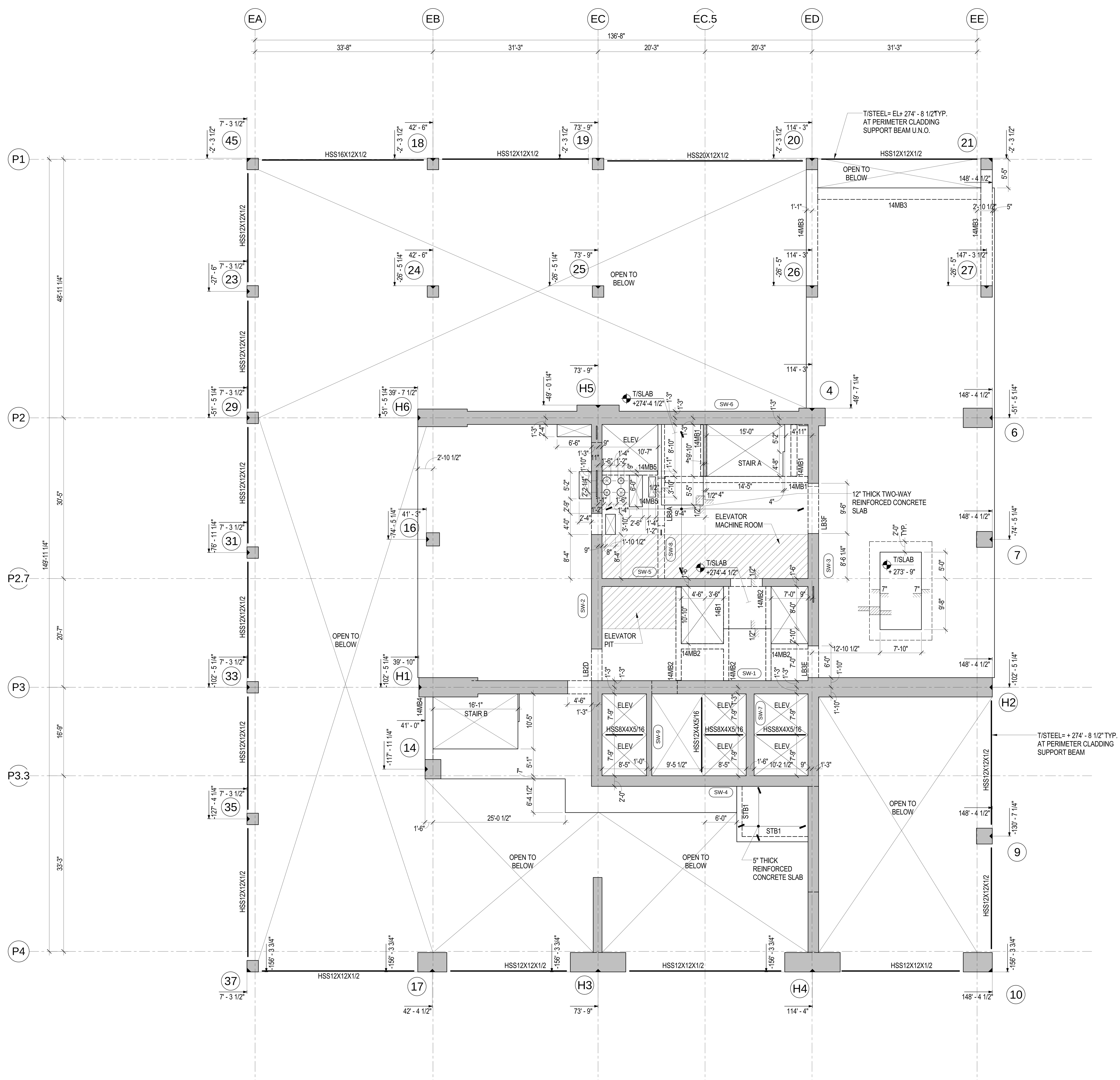
S-292.00 1

DRAWING NUMBER

S-207M

PAGE NUMBER

39 OF 112



1 LEVEL 14 MEZZ ARRANGEMENT PLAN

1/8" = 1'-0"

SLAB THICKNESS U.N.O.	TOP OF SLAB ELEVATION U.N.O.
11"	274' - 4"

SLAB CONCRETE STRENGTH
f'c = 10 ksi

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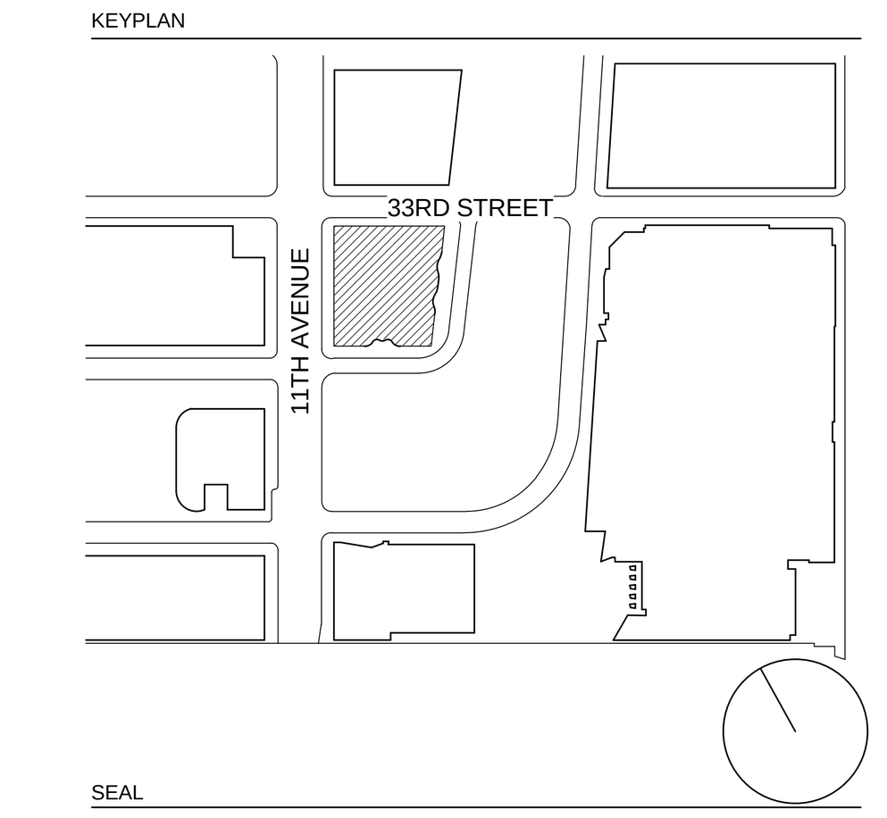

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CHARLES MICHAEL BESJAK
079322
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1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

DRAWING TITLE

LEVEL 14M ARRANGEMENT PLAN (MKTG 17M)

B-SCAN - DRAWING NUMBER

S-293.00 5

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S-214M

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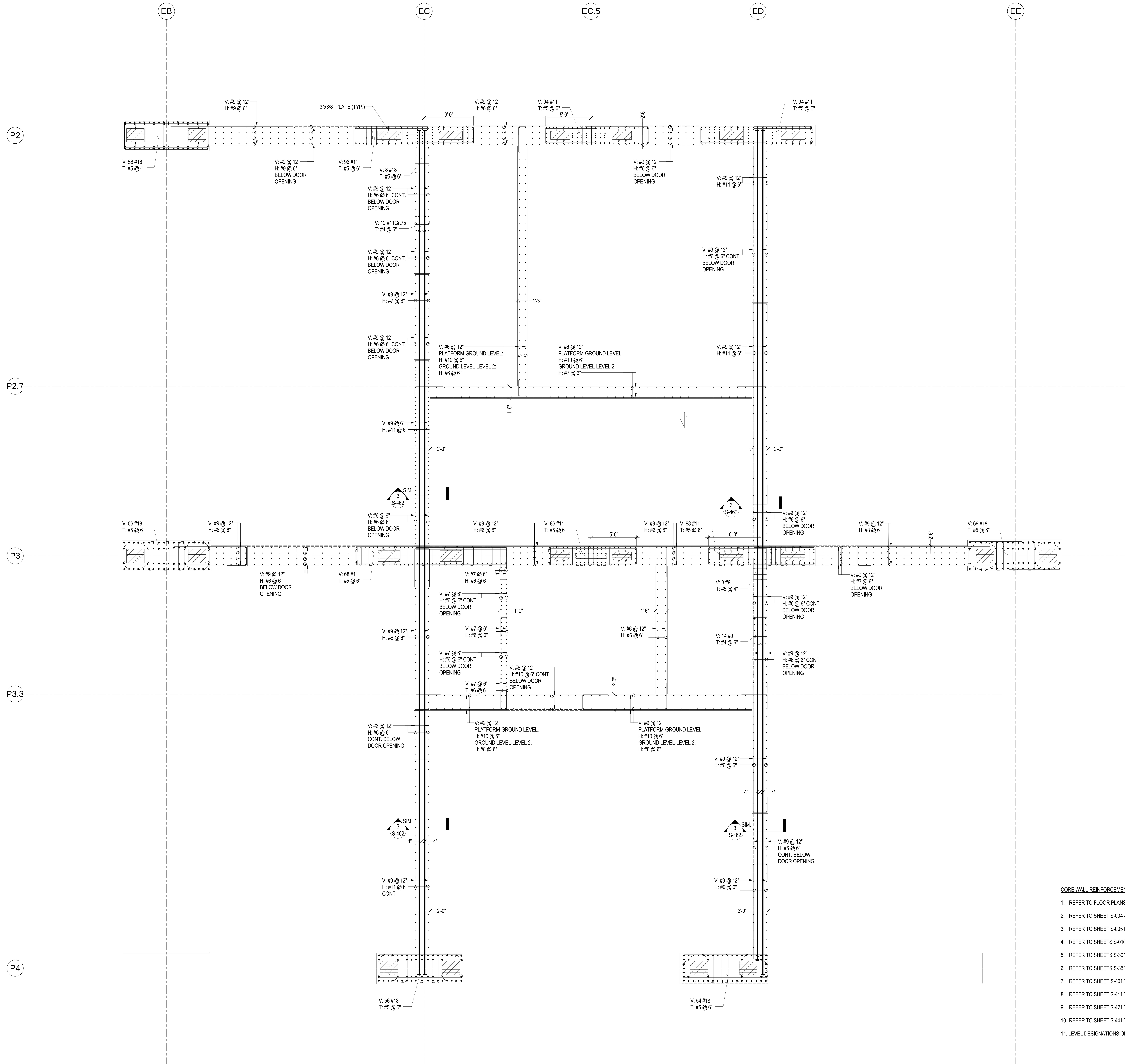

1 PLATFORM & LEVEL 1 CORE WALL REINF. PLAN

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CORE WALL REINFORCEMENT PLAN NOTES:

1. REFER TO FLOOR PLANS FOR T/SLAB ELEVATIONS.
2. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
3. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
4. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
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6. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
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9. REFER TO SHEET S-421 TO S-434 FOR COLUMN SCHEDULES AND DETAILS.
10. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
11. LEVEL DESIGNATIONS OF CORE WALL REINFORCEMENT FROM T/SLAB TO T/SLAB.

WALL CONCRETE STRENGTH

f'c = 14 ksi

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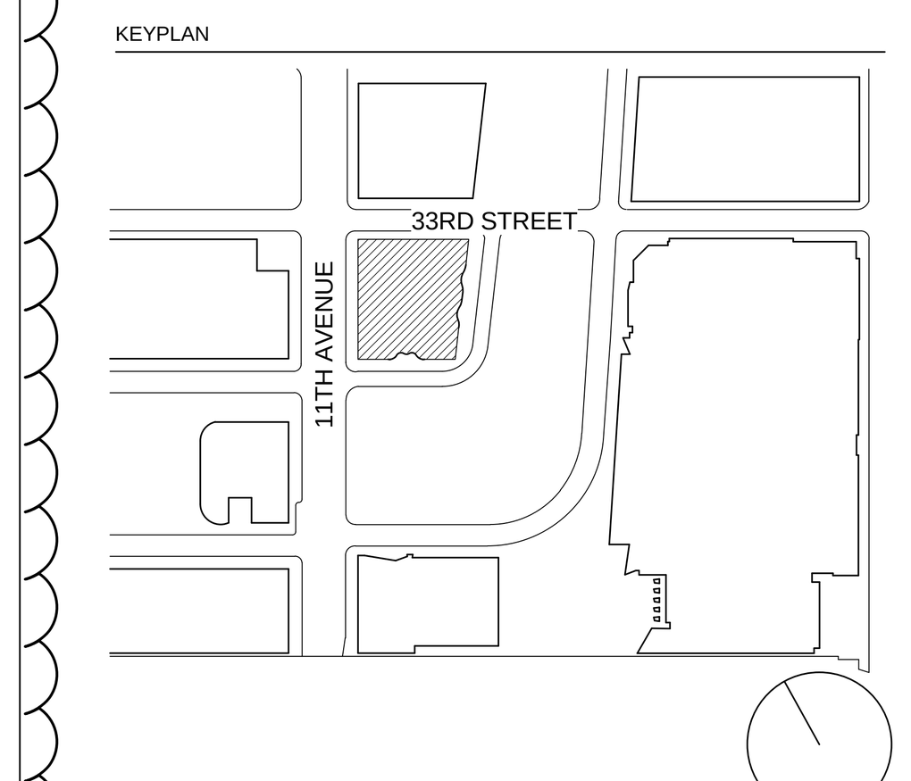

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CORE WALL REINF. PLAN PLATFORM & LEVEL 1

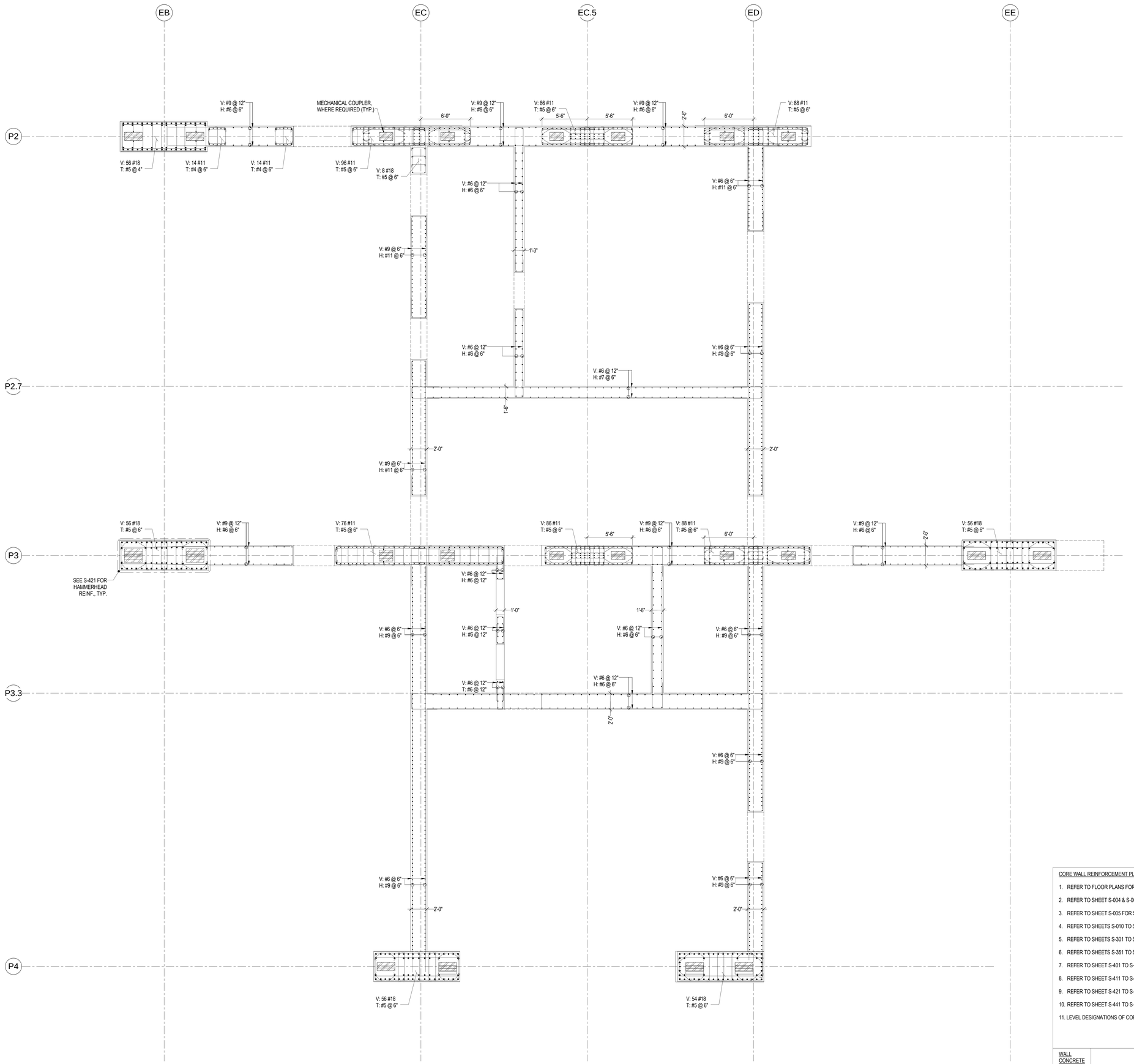
B-SCAN - DRAWING NUMBER

S-301.01

DRAWING NUMBER

S-301

PAGE NUMBER



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WALL CONCRETE STRENGTH
f'c = 14 ksi

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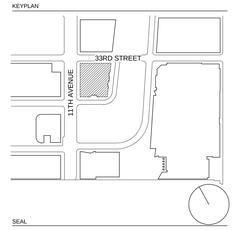

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CORE WALL REINF. PLAN LEVEL 2

B-SCAN - DRAWING NUMBER

S-302.01

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S-302

PAGE NUMBER

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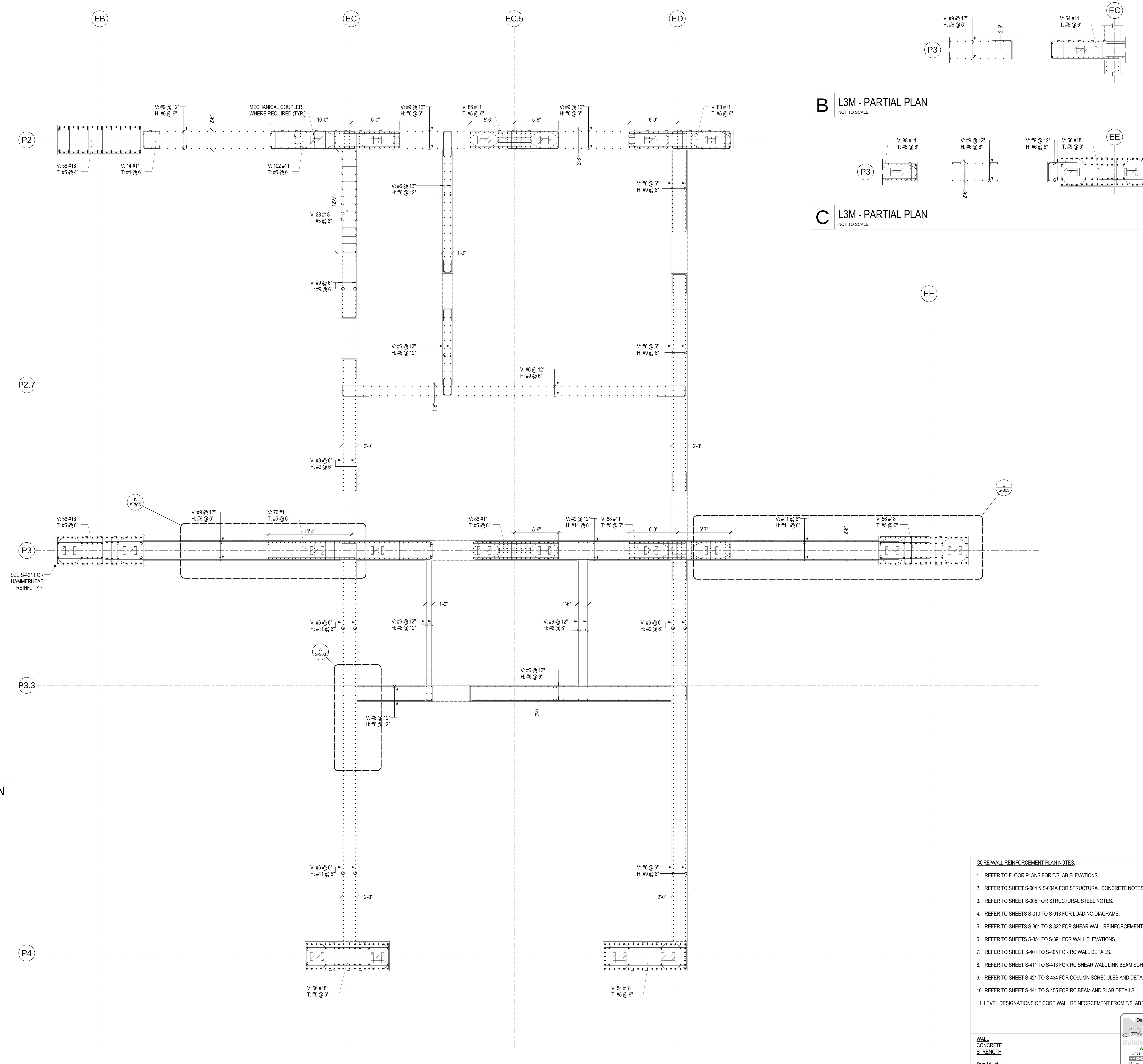

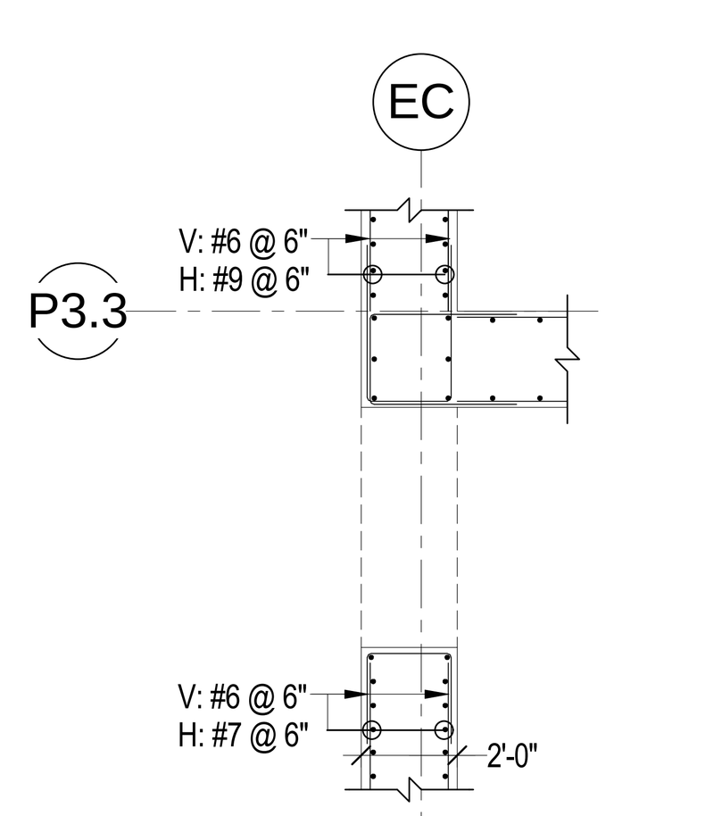

A L3M - PARTIAL PLAN
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B L3M - PARTIAL PLAN
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C L3M - PARTIAL PLAN
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WALL CONCRETE STRENGTH

f'c = 14 ksi

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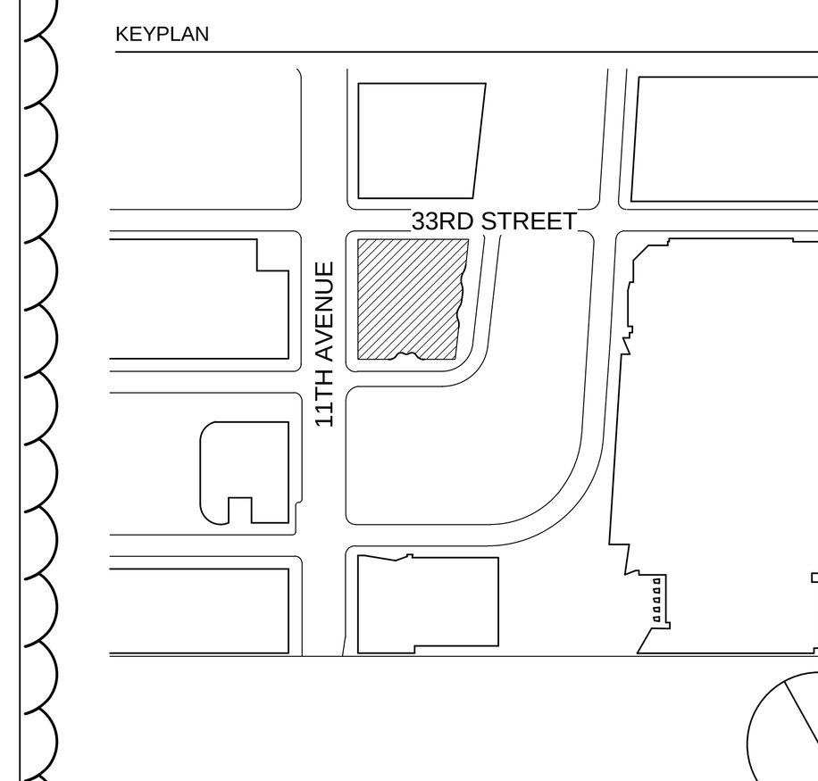

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CORE WALL REINF. PLAN LEVEL 3 & 3M

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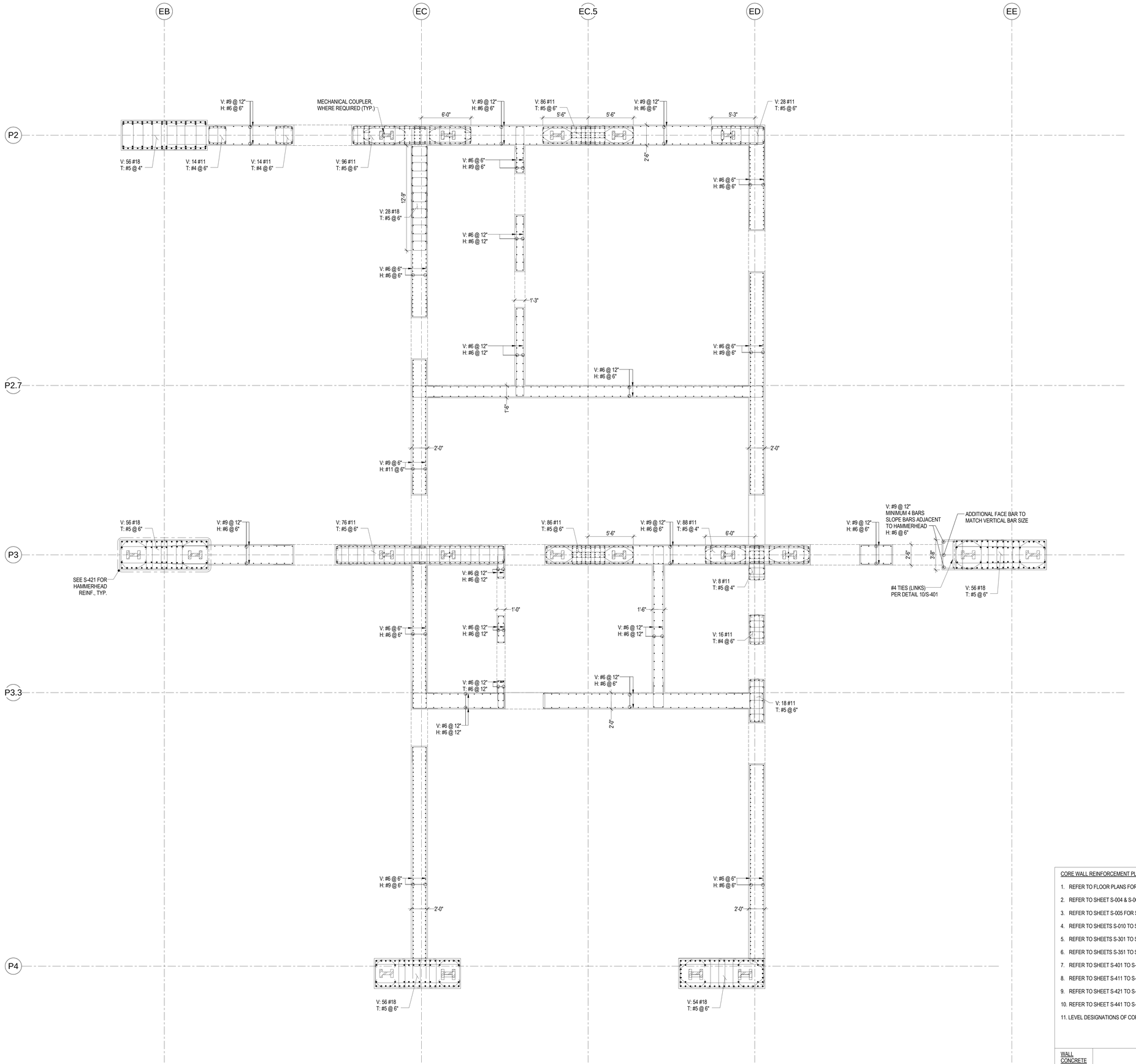
S-303

PAGE NUMBER



1 LEVEL 4 CORE WALL REINF. PLAN

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WALL CONCRETE STRENGTH
f'c = 14 ksi

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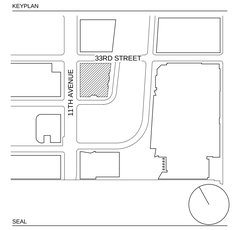

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CORE WALL REINF. PLAN LEVEL 4

B-SCAN - DRAWING NUMBER

S-304.01

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S-304

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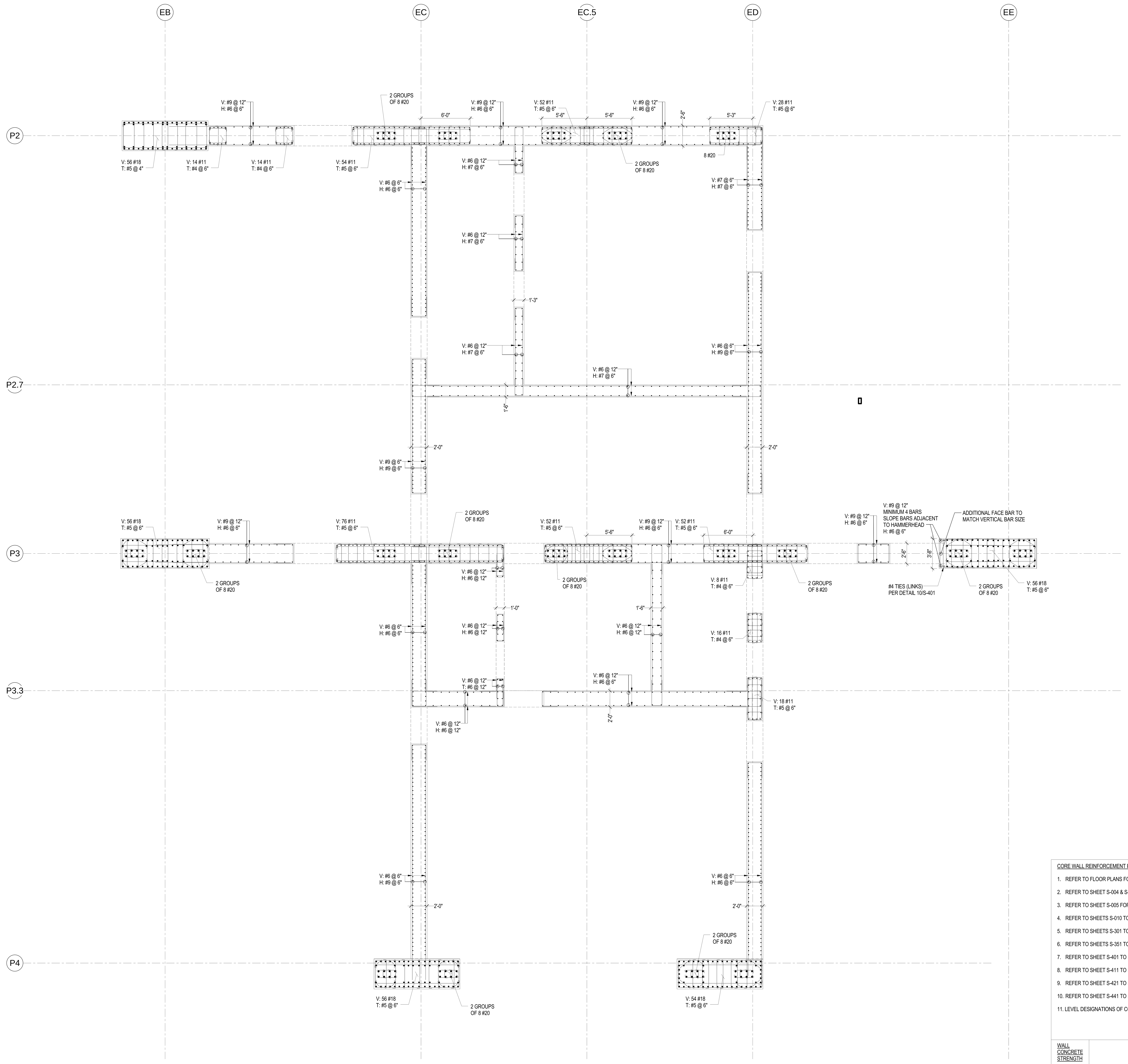

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WALL CONCRETE STRENGTH

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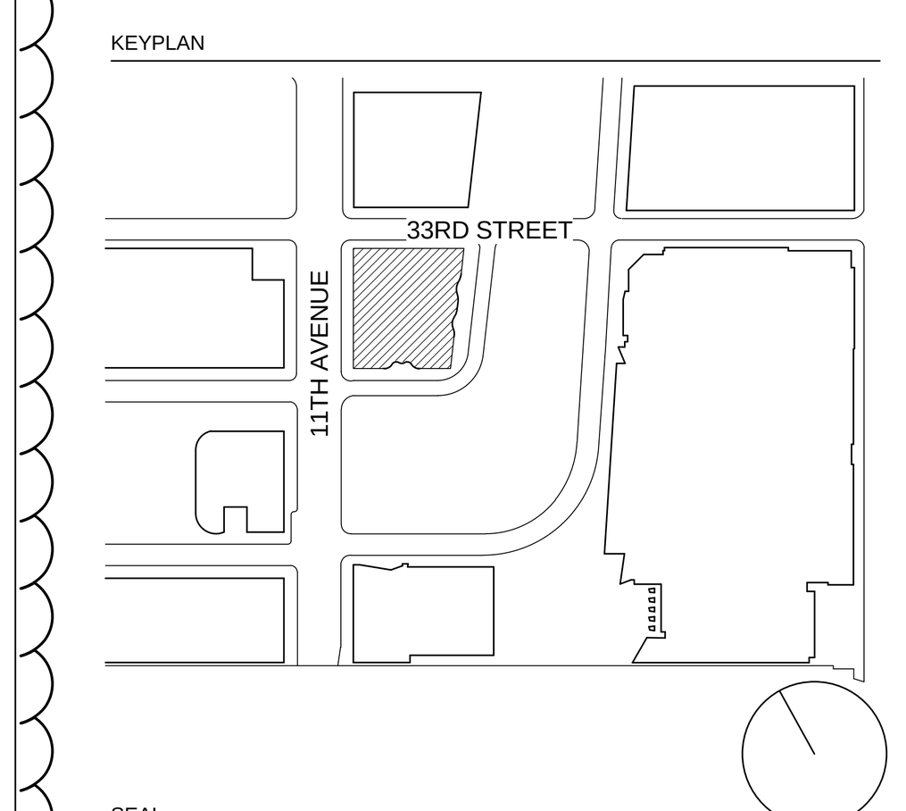

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CORE WALL REINF. PLAN LEVEL 5

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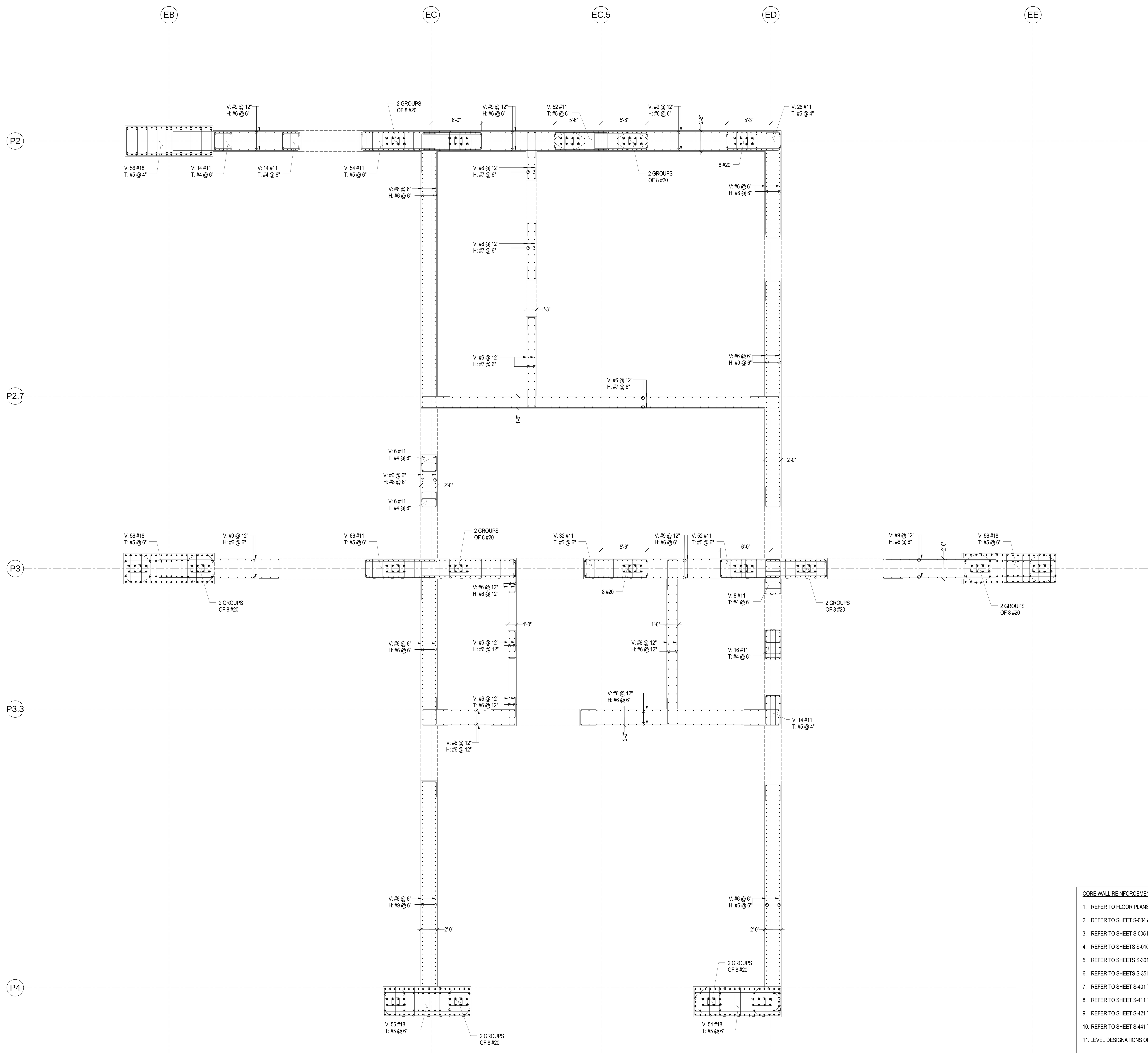

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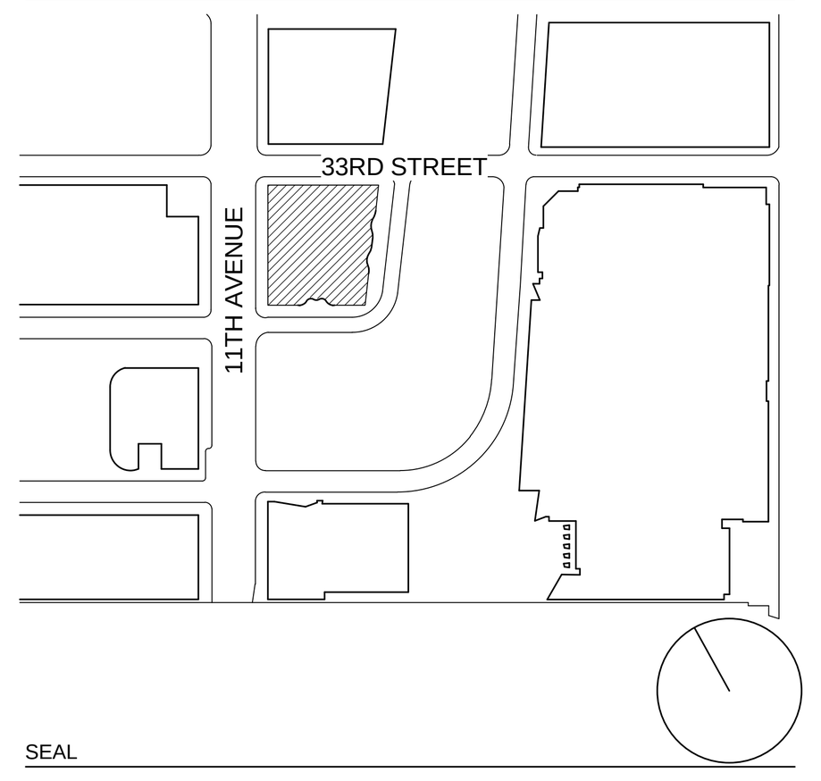

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CORE WALL REINF. PLAN LEVEL 6

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S-306

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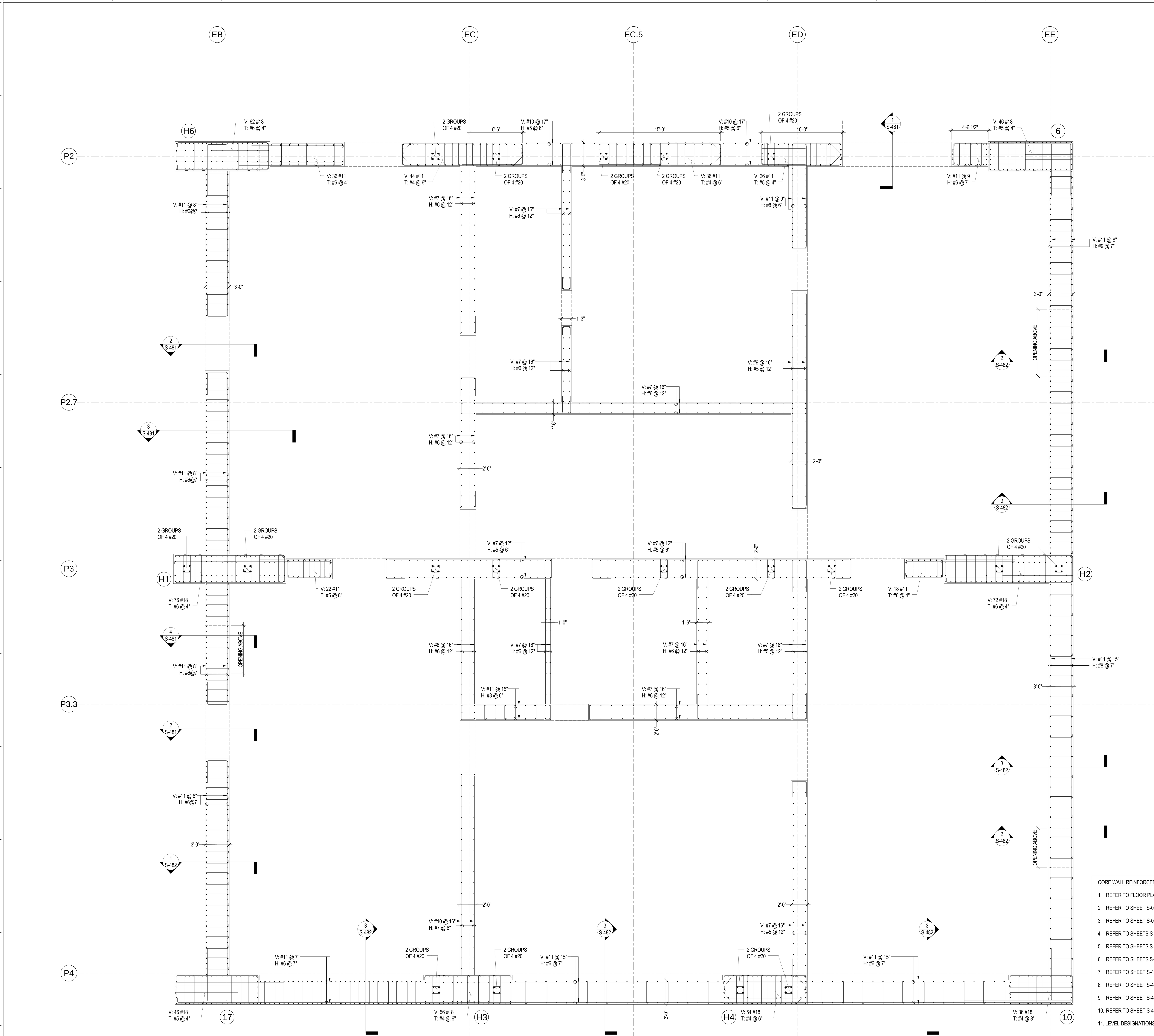

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1	15 JAN 2015	ISSUED TO DOB

DRAWING TITLE

CORE WALL REINF. PLAN LEVEL 7

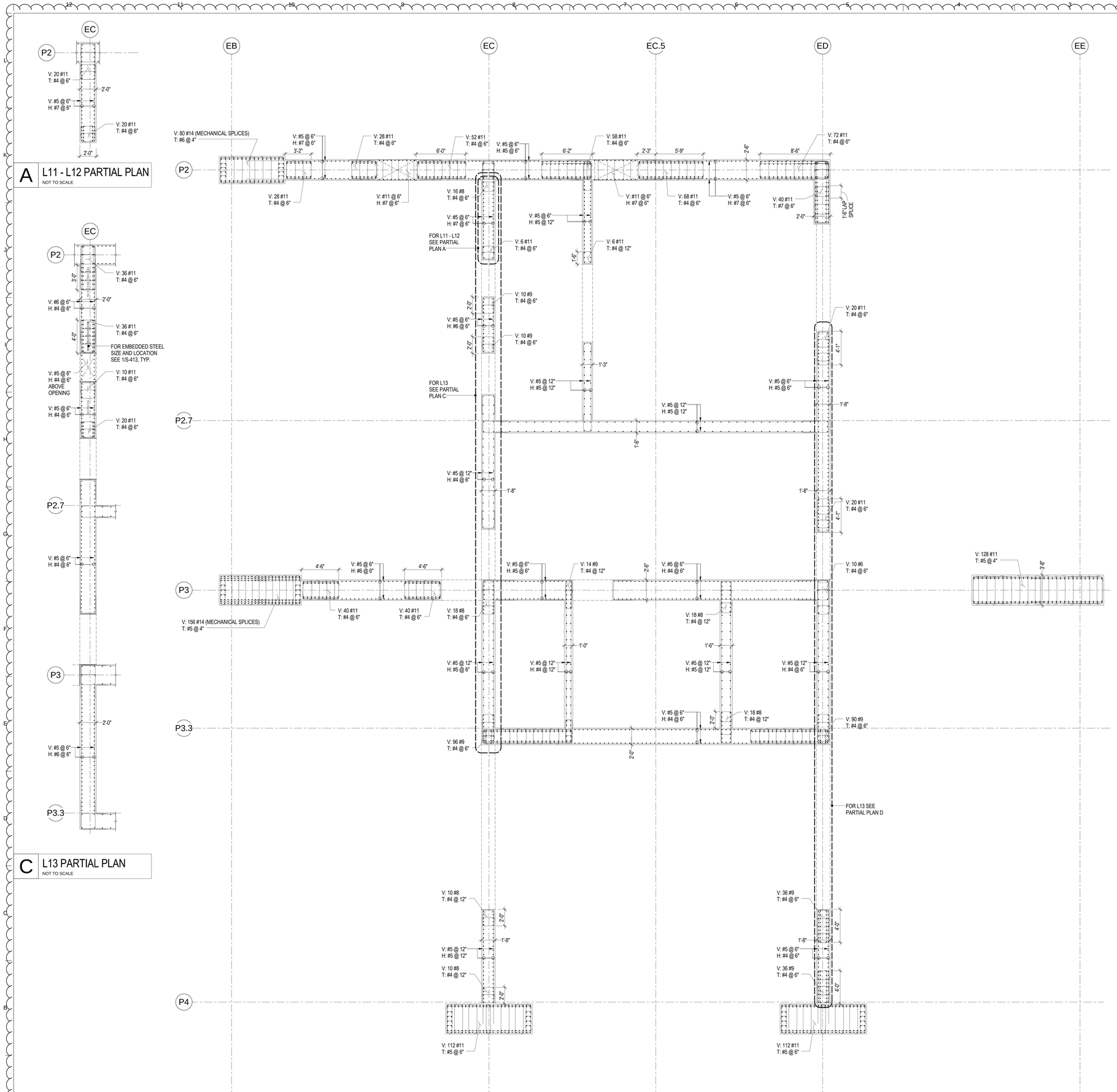
B-SCAN - DRAWING NUMBER

S-307.00

DRAWING NUMBER

S-307

PAGE NUMBER



A L11 - L12 PARTIAL PLAN
NOT TO SCALE

C L13 PARTIAL PLAN
NOT TO SCALE

D L13 PARTIAL PLAN
NOT TO SCALE

1 CORE LEVEL 8 - LEVEL 13 CORE WALL REINF. PLAN
NOT TO SCALE

CORE WALL REINFORCEMENT PLAN NOTES:

1. REFER TO FLOOR PLANS FOR T/SLAB ELEVATIONS.
2. REFER TO SHEET S-004 & S-004A FOR STRUCTURAL CONCRETE NOTES.
3. REFER TO SHEET S-005 FOR STRUCTURAL STEEL NOTES.
4. REFER TO SHEETS S-010 TO S-013 FOR LOADING DIAGRAMS.
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6. REFER TO SHEETS S-351 TO S-391 FOR WALL ELEVATIONS.
7. REFER TO SHEET S-401 TO S-405 FOR RC WALL DETAILS.
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10. REFER TO SHEET S-441 TO S-455 FOR RC BEAM AND SLAB DETAILS.
11. LEVEL DESIGNATIONS OF CORE WALL REINFORCEMENT FROM T/SLAB TO T/SLAB.

WALL CONCRETE STRENGTH
f'c = 14 ksi

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Date: 02/17/2017
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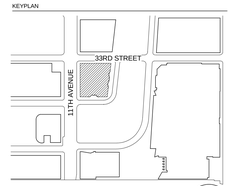

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DRAWING TITLE
CORE WALL REINF. PLAN LEVEL 8 - LEVEL 13

B-SCAN - DRAWING NUMBER
S-308.01

DRAWING NUMBER
S-308

PAGE NUMBER
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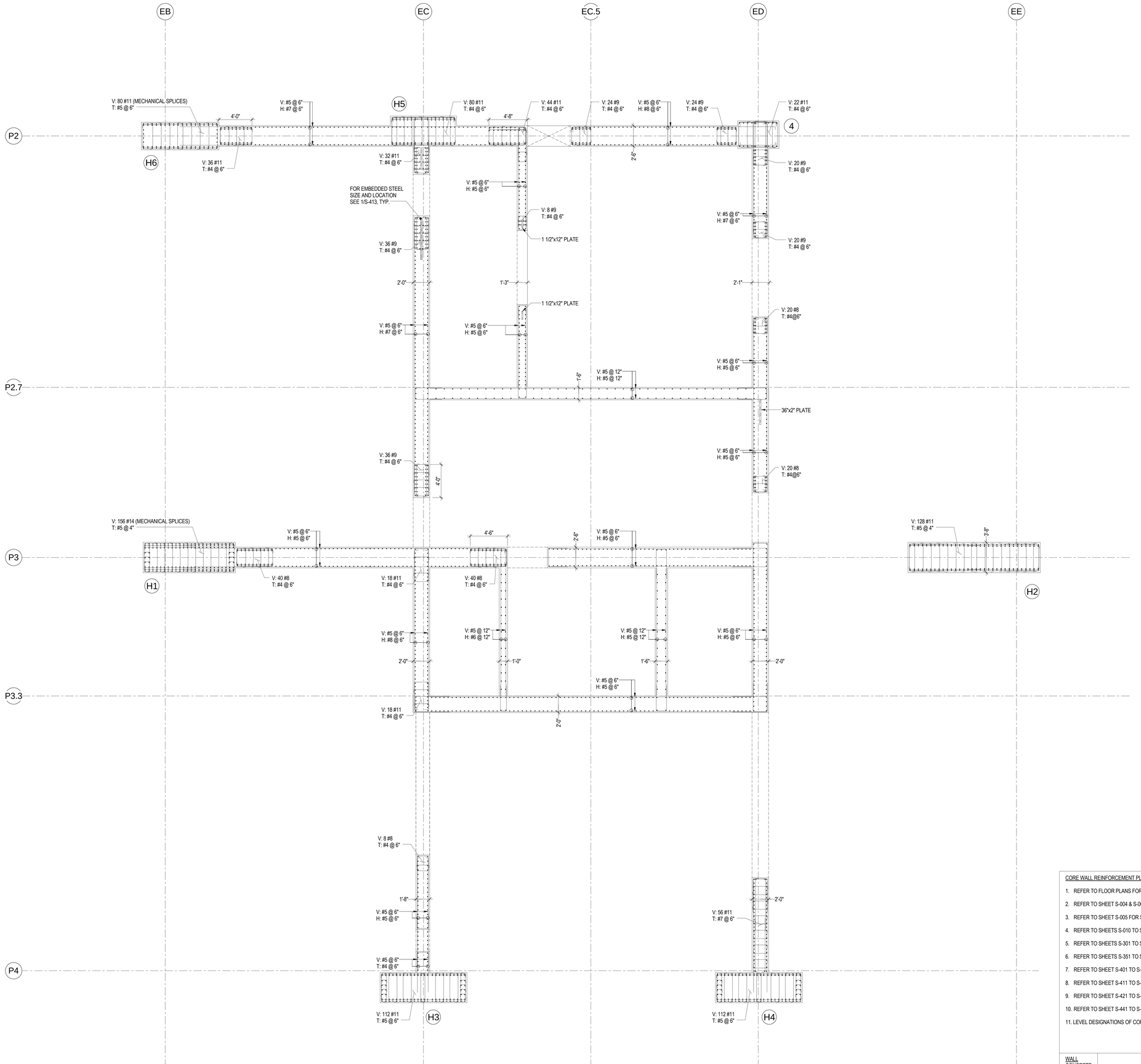

1 CORE LEVEL 14 MECH CORE WALL REINF. PLAN

NOT TO SCALE

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WALL CONCRETE STRENGTH

f'c = 14 ksi

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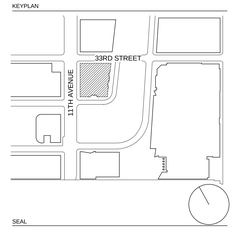

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CORE WALL REINF. PLAN LEVEL 14

B-SCAN - DRAWING NUMBER

S-309.01

DRAWING NUMBER

S-309

PAGE NUMBER

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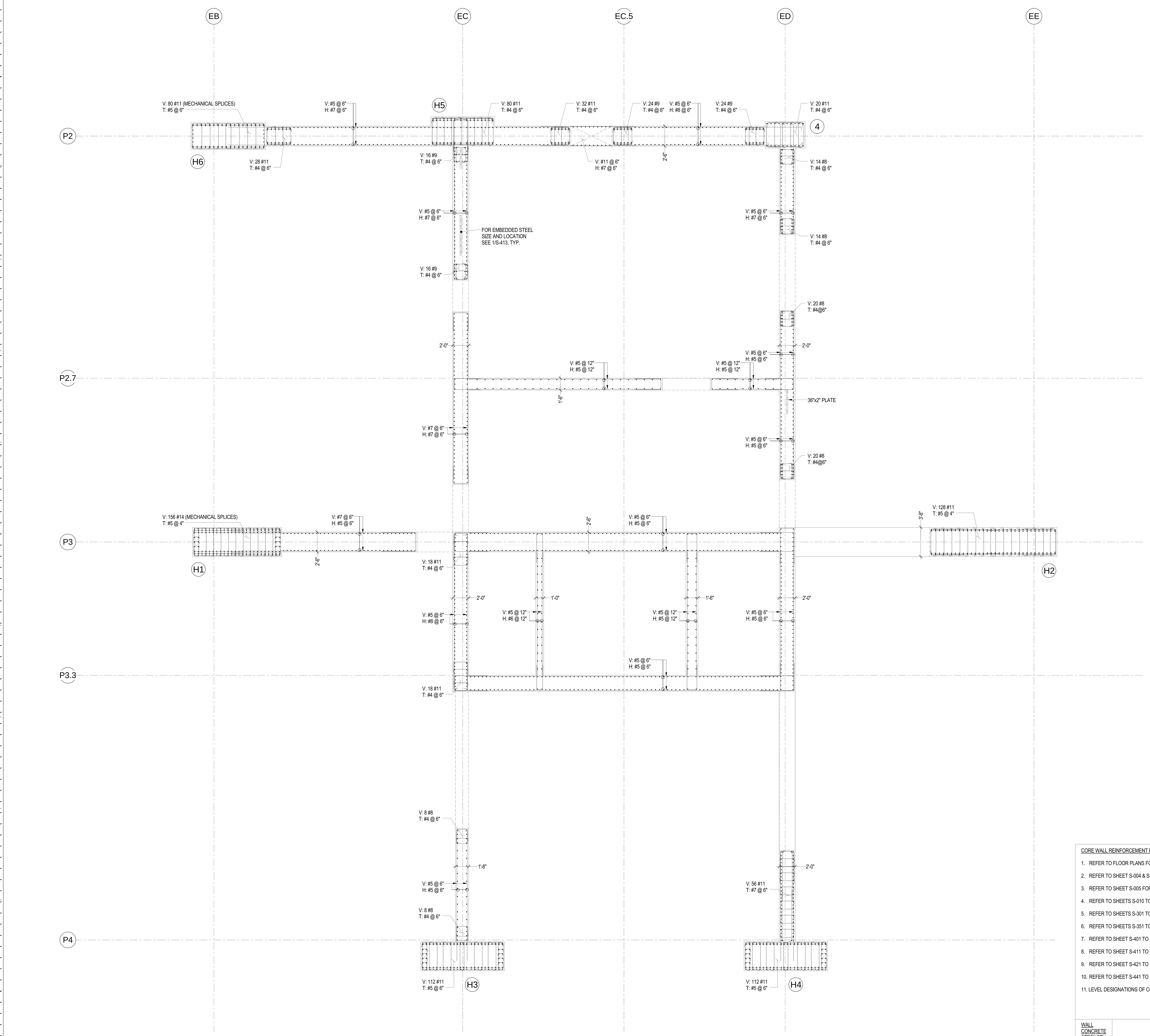

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WALL CONCRETE STRENGTH

f'c = 14 ksi

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1 CORE LEVEL 14 MEZZ CORE WALL REINF. PLAN
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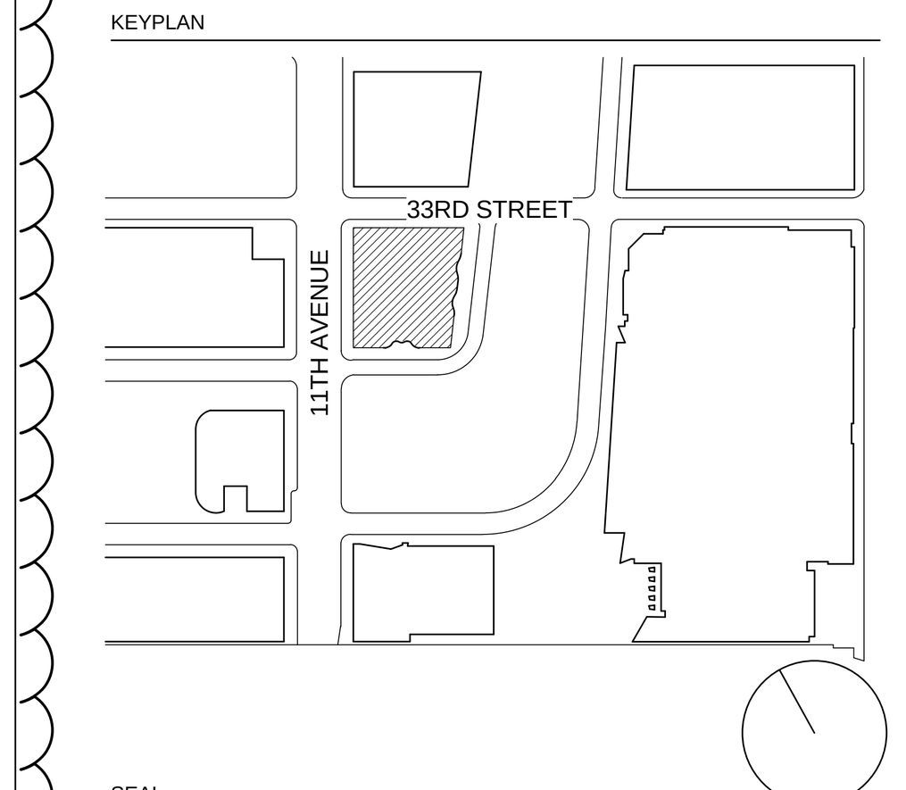

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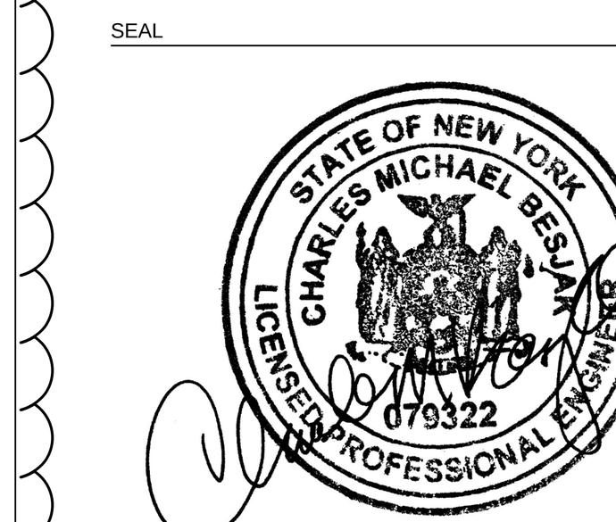

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DRAWING TITLE
CORE WALL REINF. PLAN LEVEL 14M

B-SCAN - DRAWING NUMBER
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DRAWING NUMBER
S-310

PAGE NUMBER
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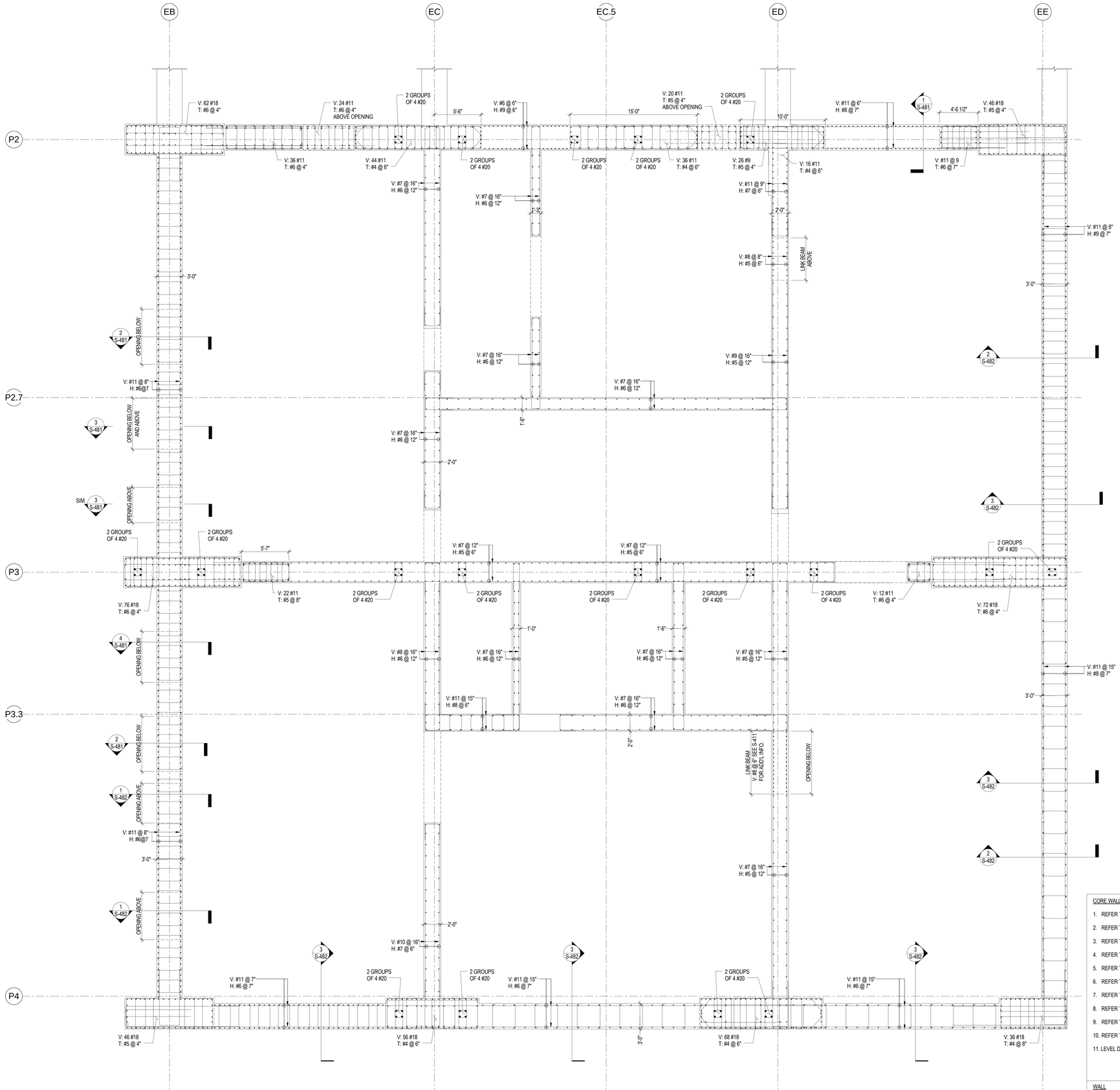

1 LEVEL 7 MEZZ CORE WALL REINF. PLAN
NOT TO SCALE

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WALL CONCRETE STRENGTH
f'c = 14 ksi

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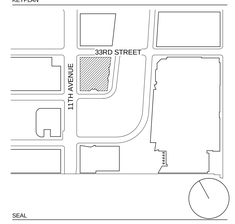

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DRAWING TITLE

CORE WALL REINF. PLAN LEVEL 7M

B-SCAN - DRAWING NUMBER

S-323.01

DRAWING NUMBER

S-307M

PAGE NUMBER

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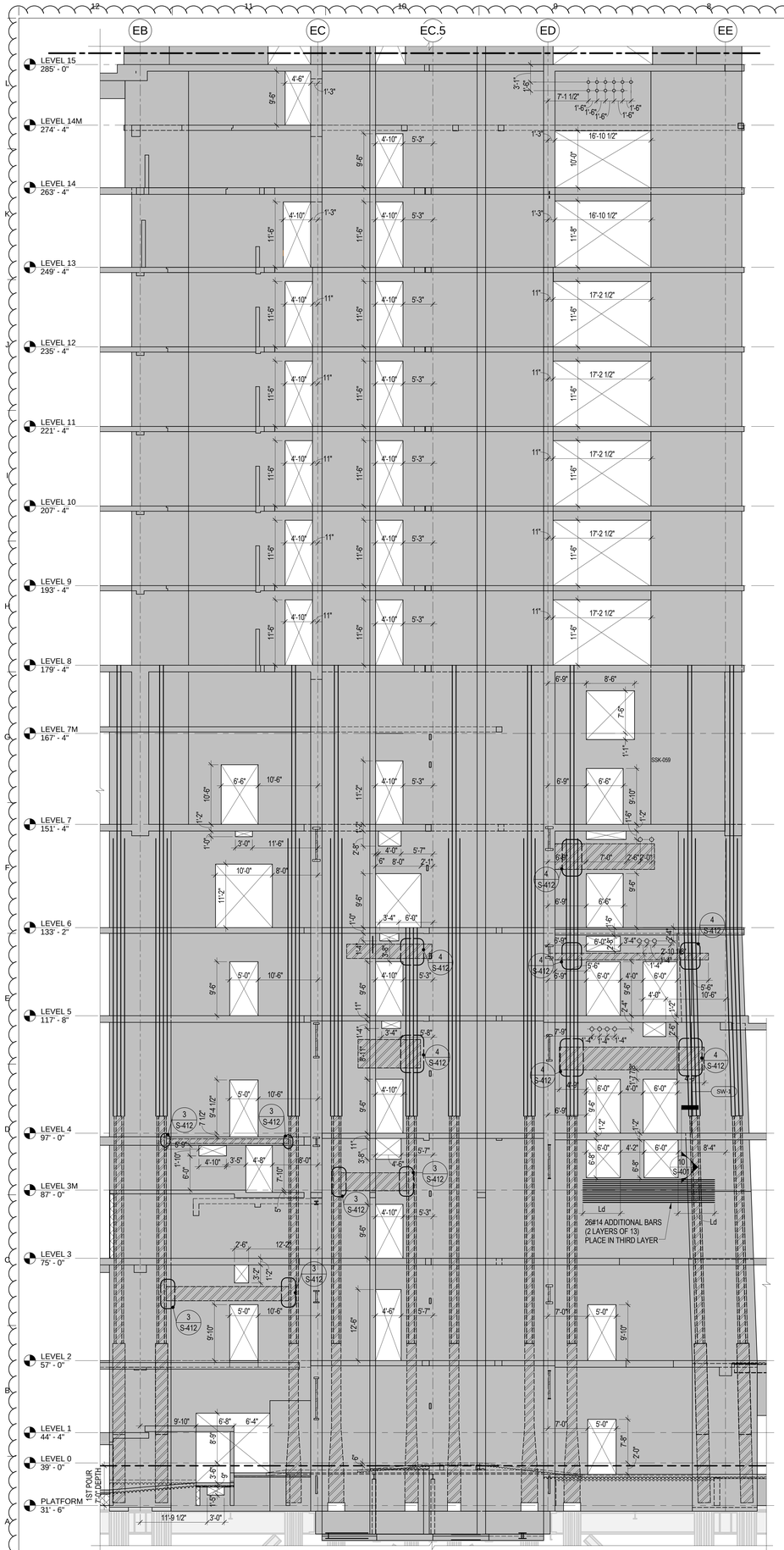
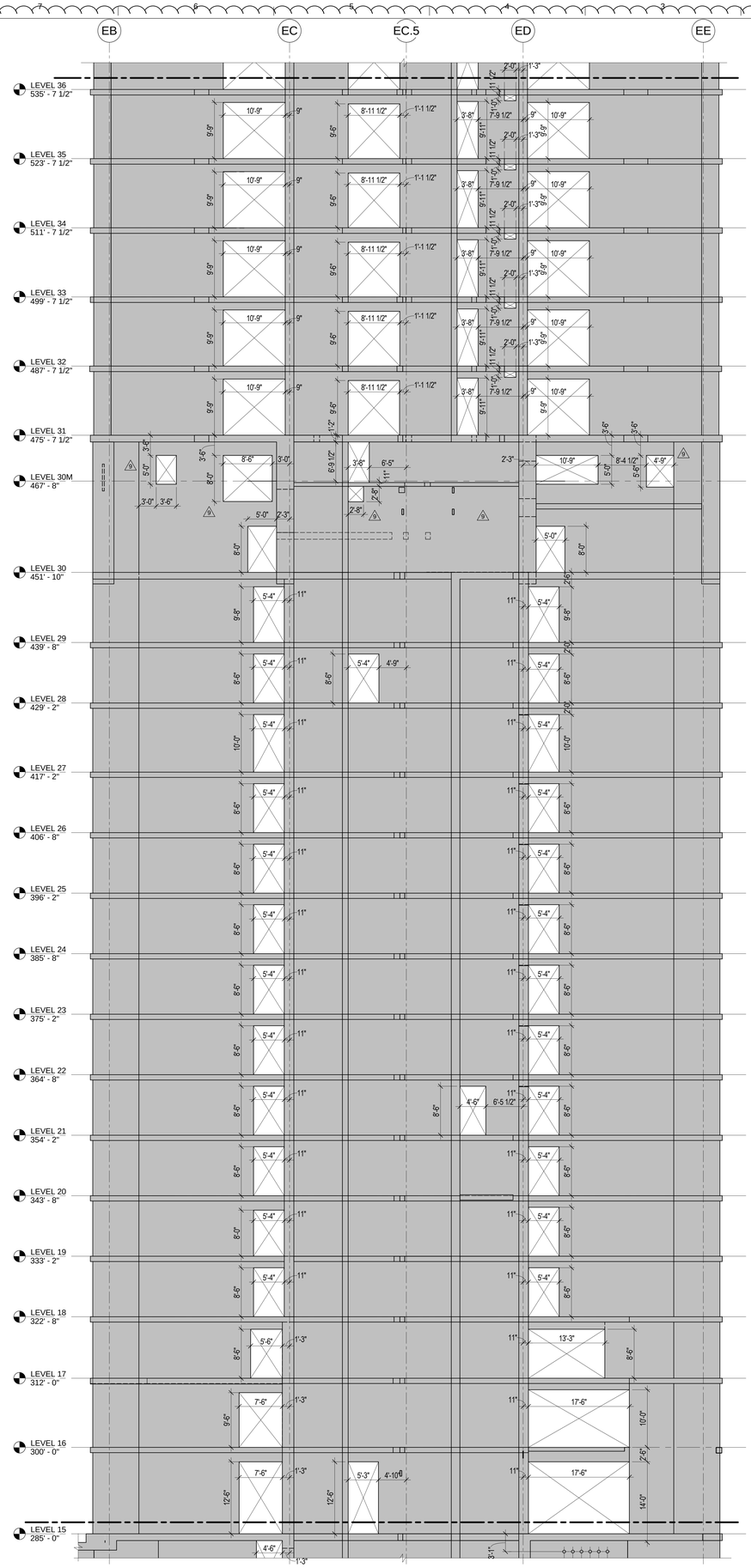


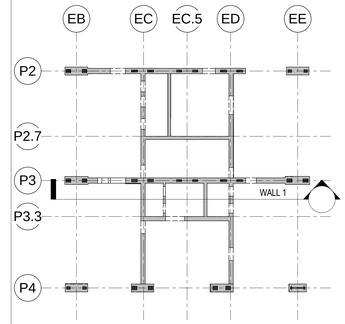
1 WALL 1 ELEVATION

1/8" = 1'-0"



2 WALL 1 ELEVATION CONT.

1/8" = 1'-0"



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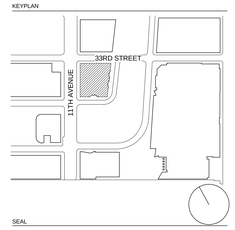

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2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

CORE WALL 1 ELEVATIONS

B-SCAN - DRAWING NUMBER

S-351.01

DRAWING NUMBER

S-351

PAGE NUMBER

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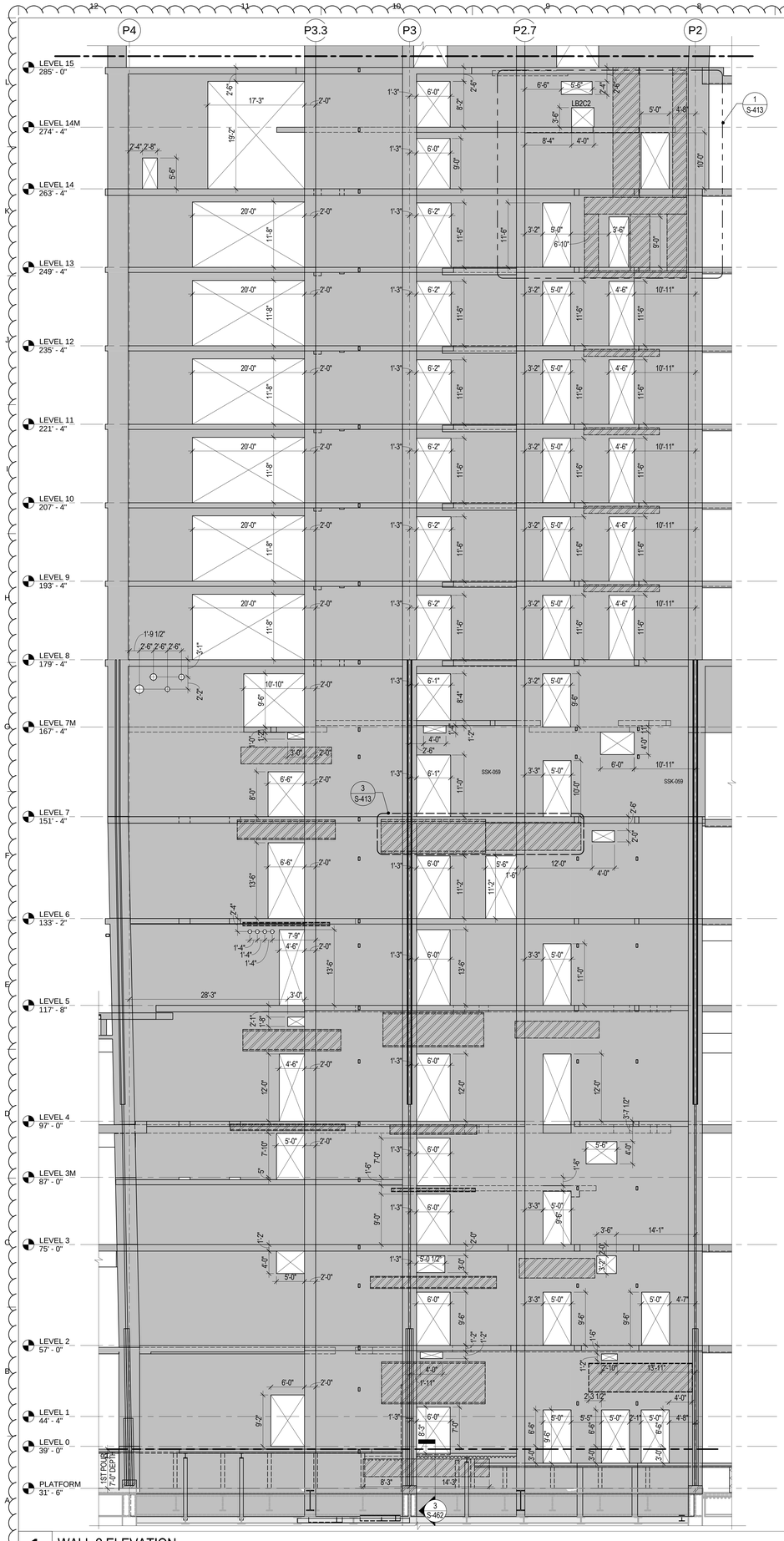
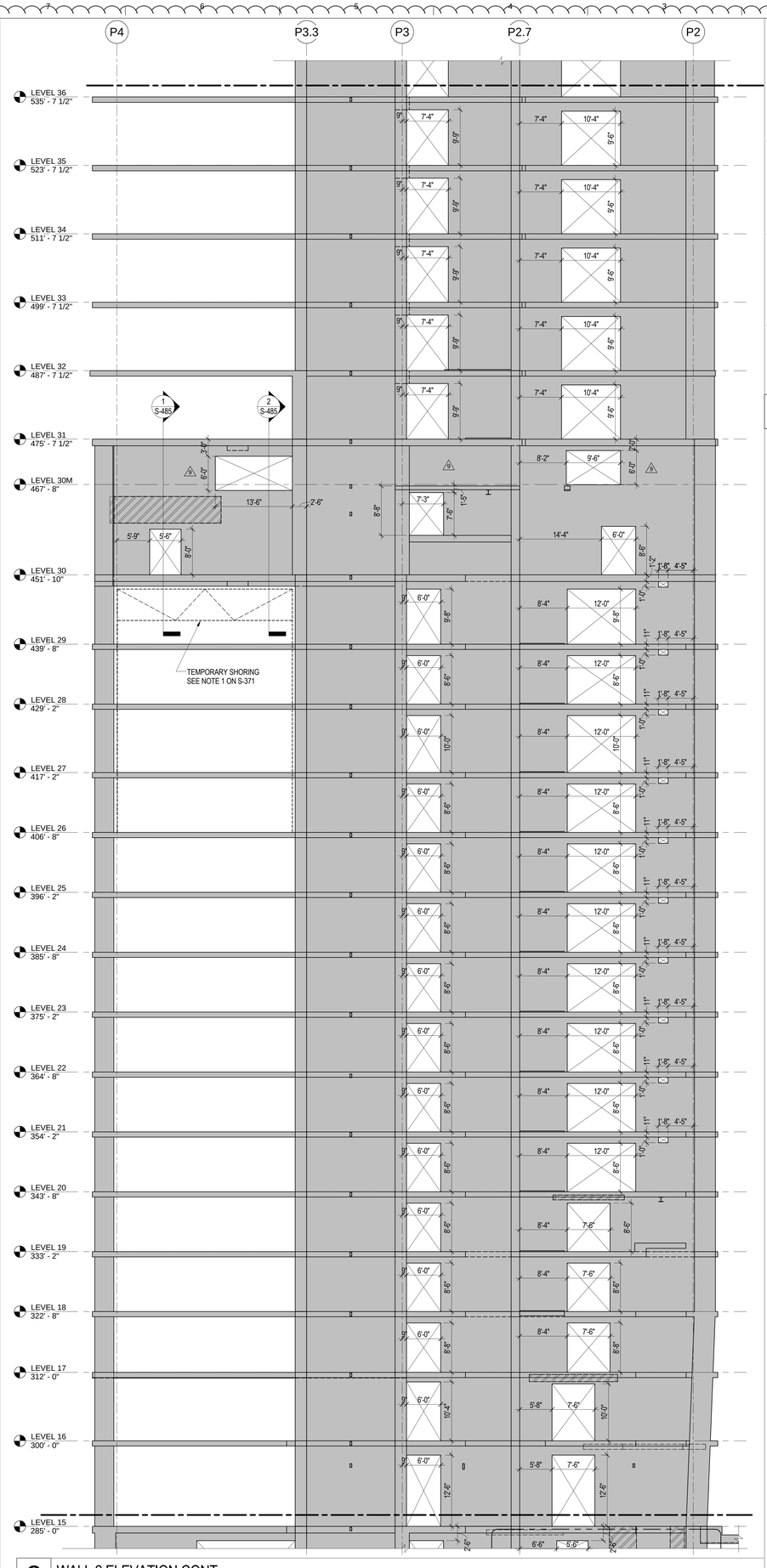
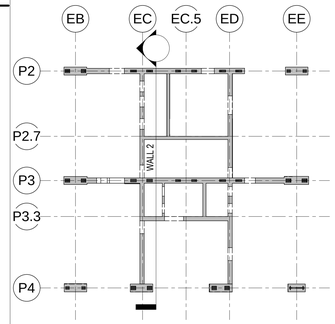


1 WALL 2 ELEVATION
1/8" = 1'-0"



2 WALL 2 ELEVATION CONT.
1/8" = 1'-0"



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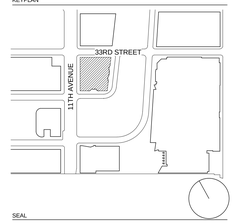

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DRAWING TITLE

CORE WALL 2 ELEVATIONS

B-SCAN - DRAWING NUMBER

S-353.01

DRAWING NUMBER

S-353

PAGE NUMBER

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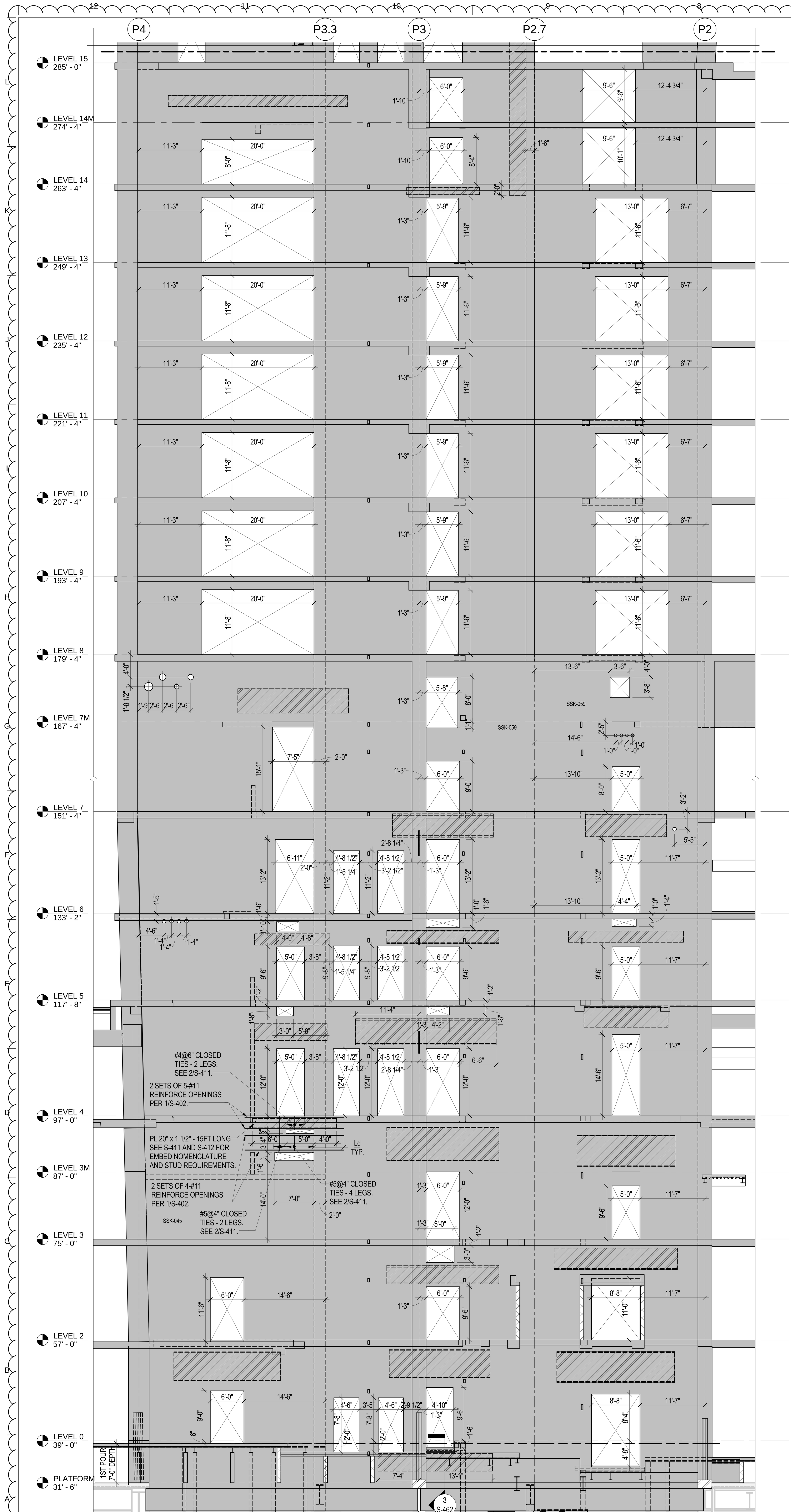
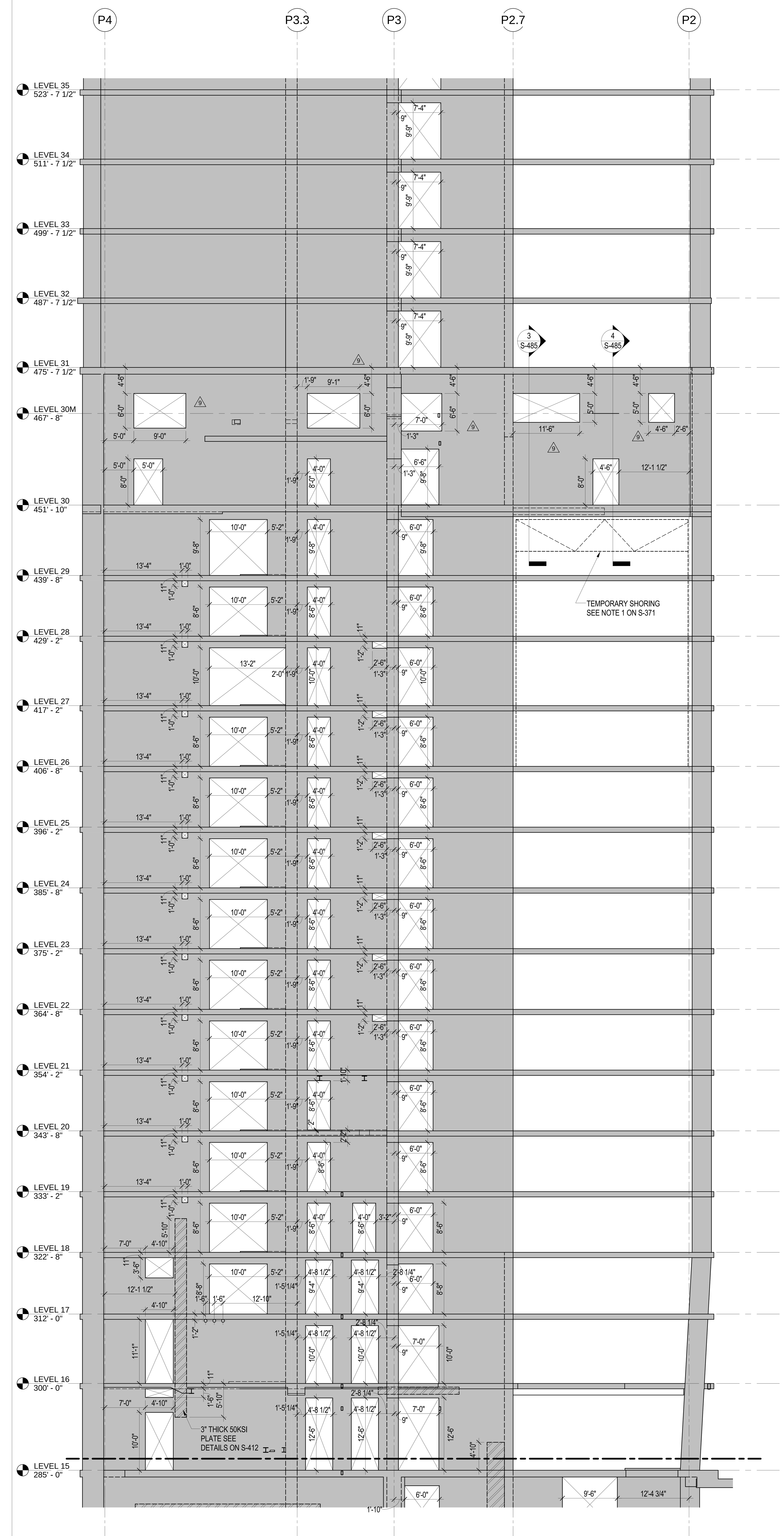
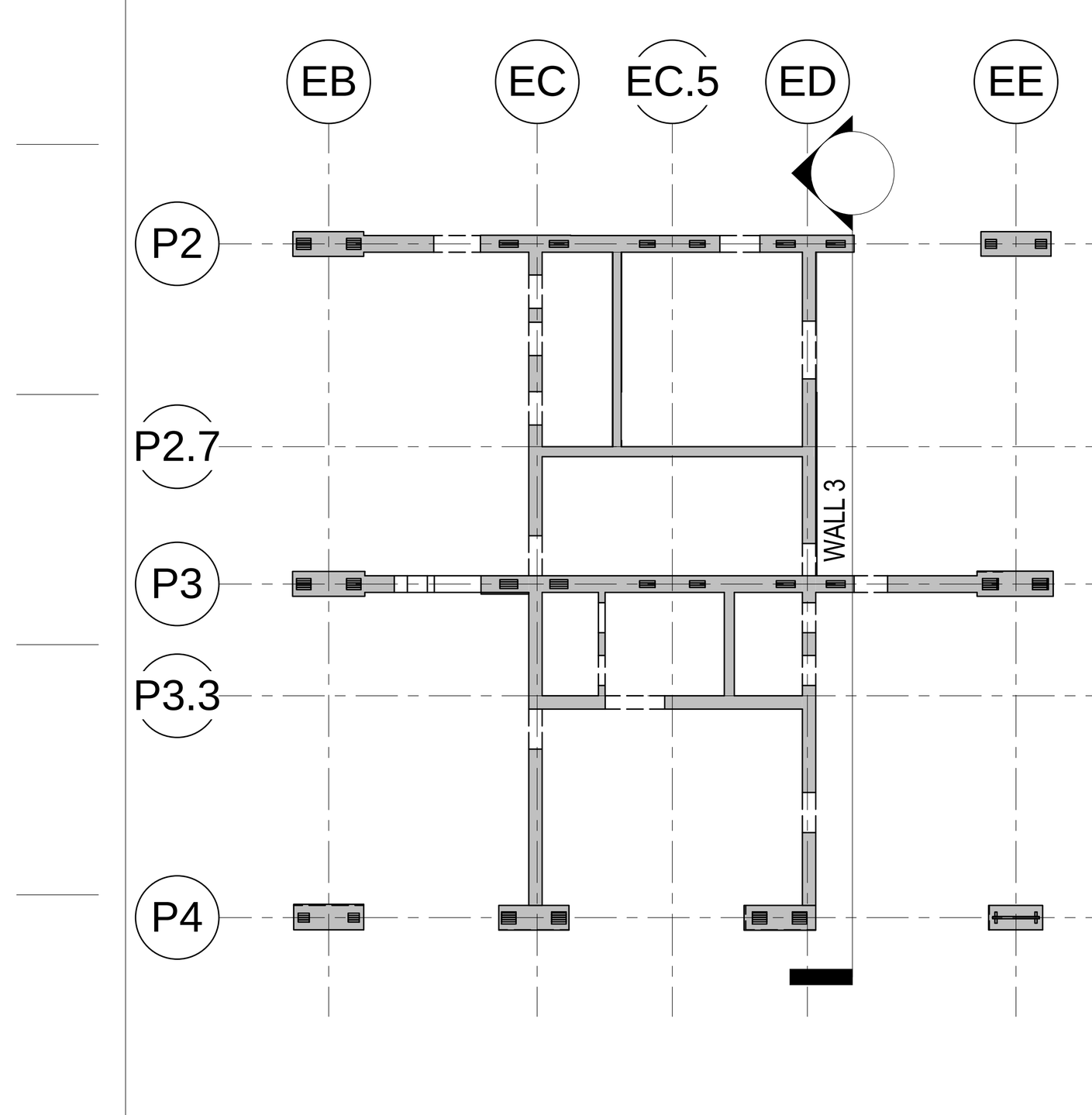


1 WALL 3 ELEVATION
1/8" = 1'-0"



2 WALL 3 ELEVATION CONT.
1/8" = 1'-0"



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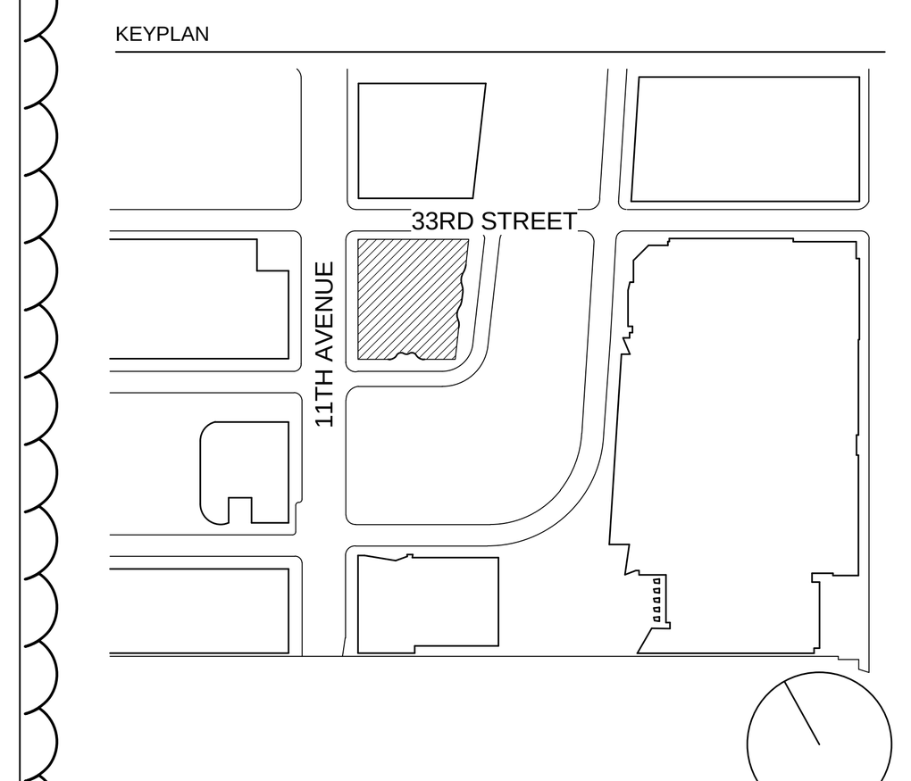

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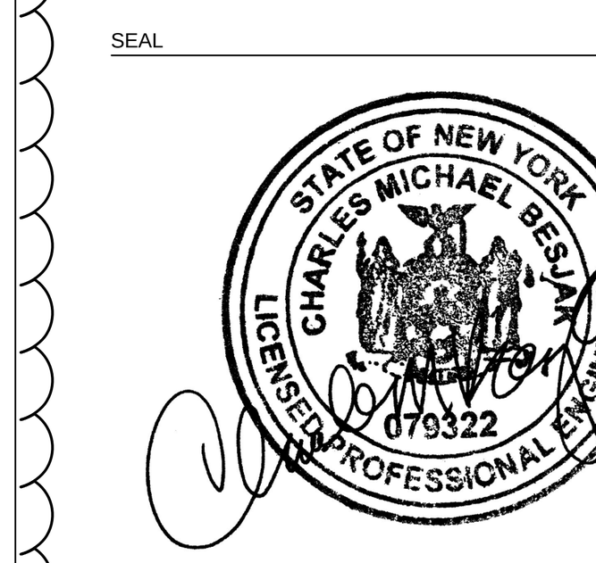

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DRAWING TITLE

CORE WALL 3 ELEVATIONS

Damian Titus
Buildings
APPROVED
Under Directive 3 of 1975
Date: 02/17/2017
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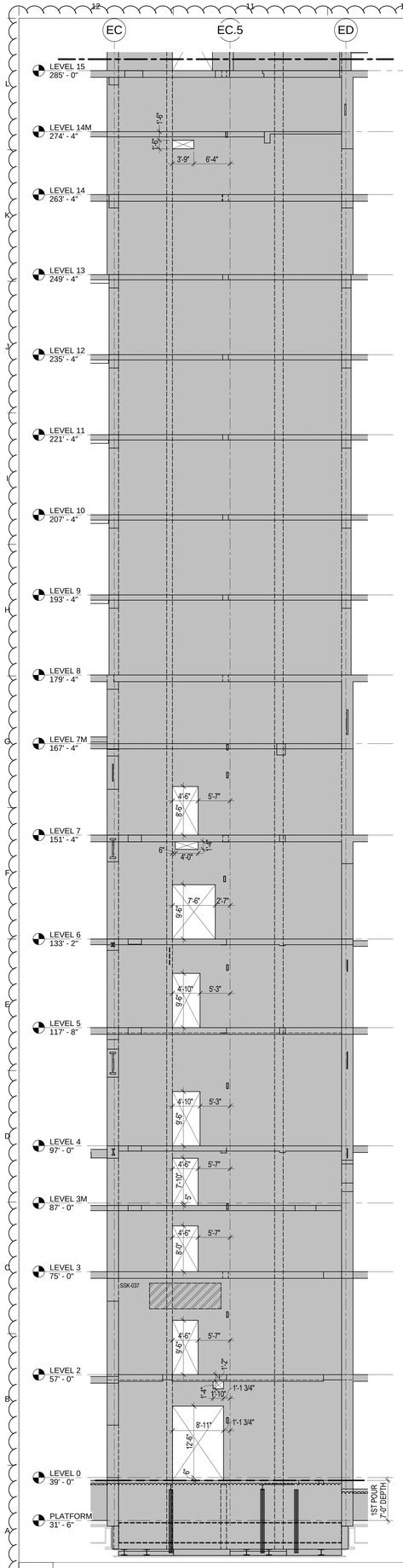
B-SCAN - DRAWING NUMBER

S-355.01

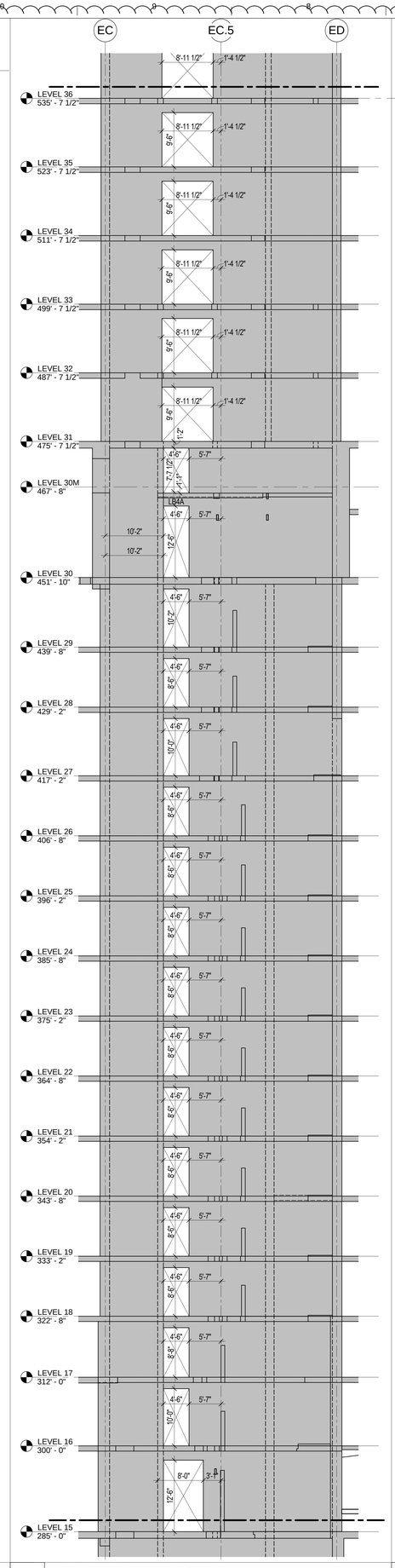
DRAWING NUMBER

S-355

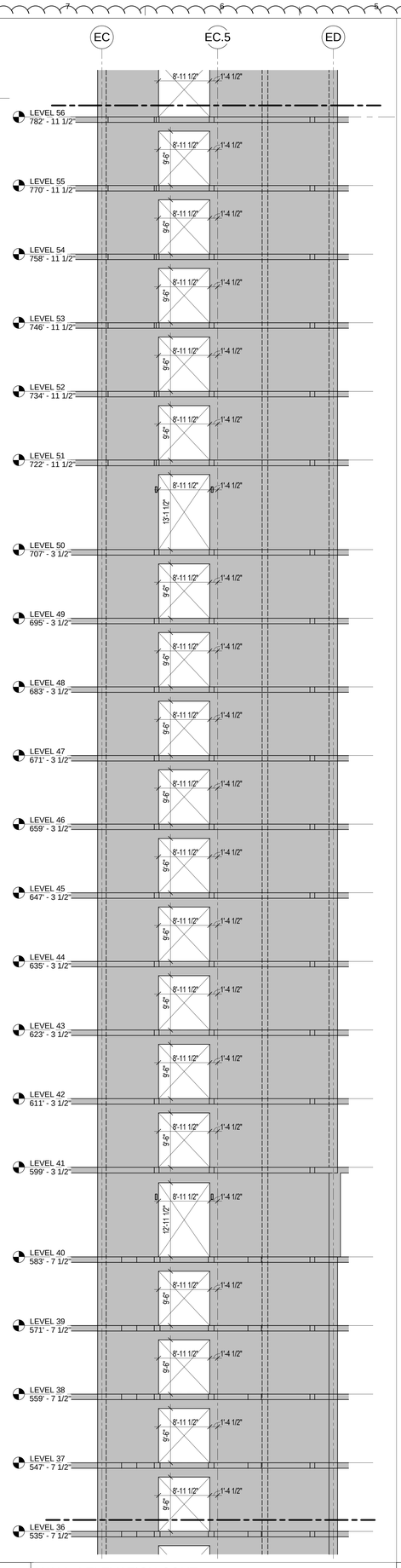
PAGE NUMBER



1 WALL 4 ELEVATION
1/8" = 1'-0"



2 WALL 4 ELEVATION CONT.
1/8" = 1'-0"



3 WALL 4 ELEVATION CONT.
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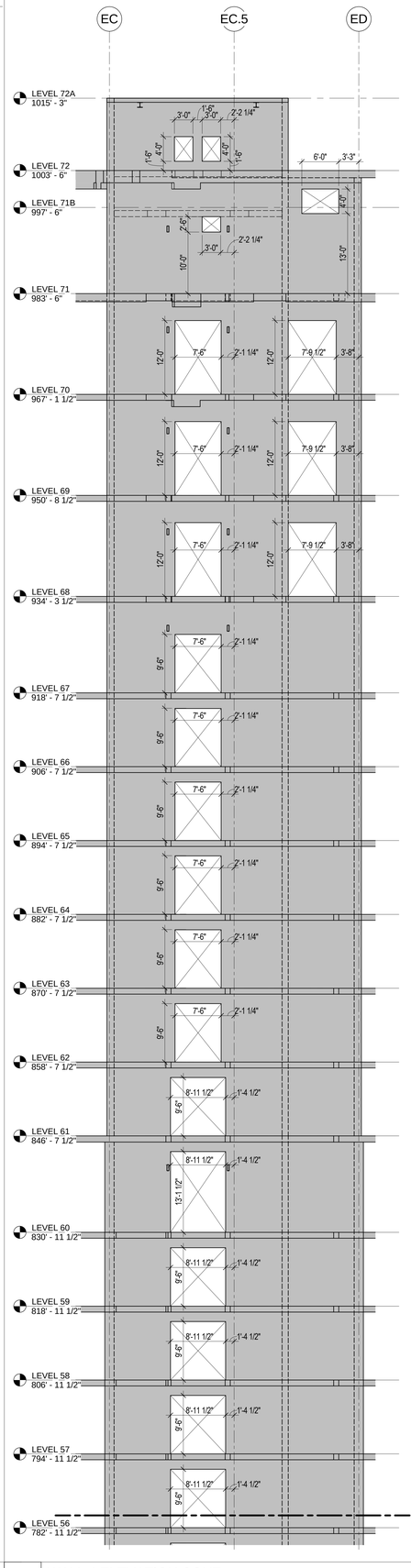
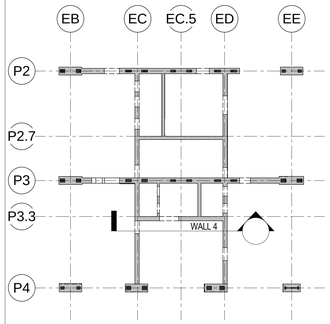


4 WALL 4 ELEVATION CONT.
1/8" = 1'-0"



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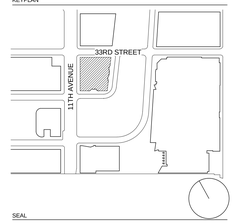
New York, NY 10018

KEYPLAN



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DRAWING TITLE

CORE WALL 4 ELEVATIONS

B-SCAN - DRAWING NUMBER

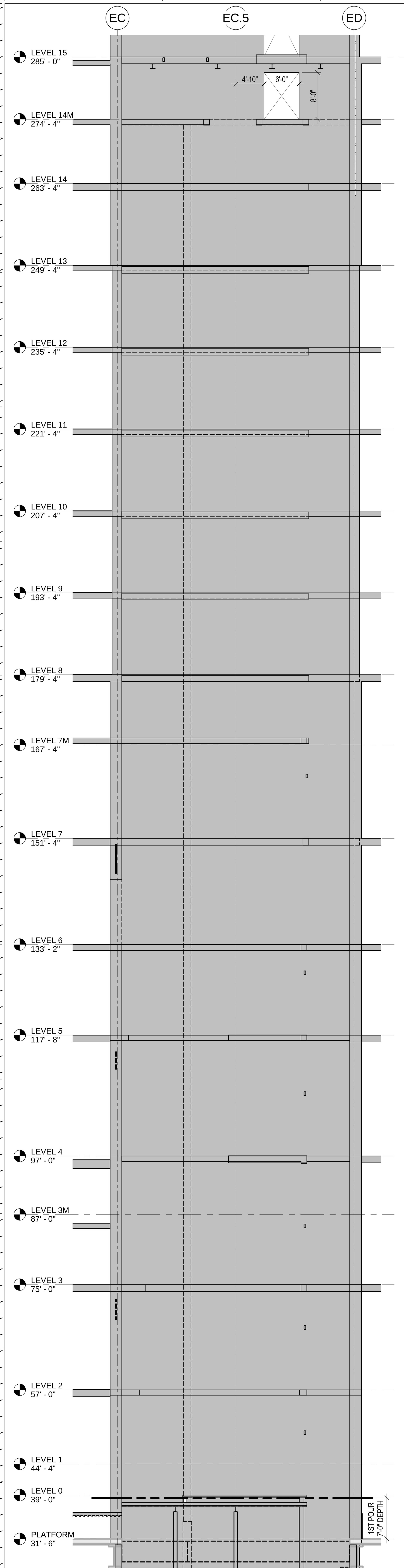
S-357.01

DRAWING NUMBER

S-357

PAGE NUMBER

55 OF 112



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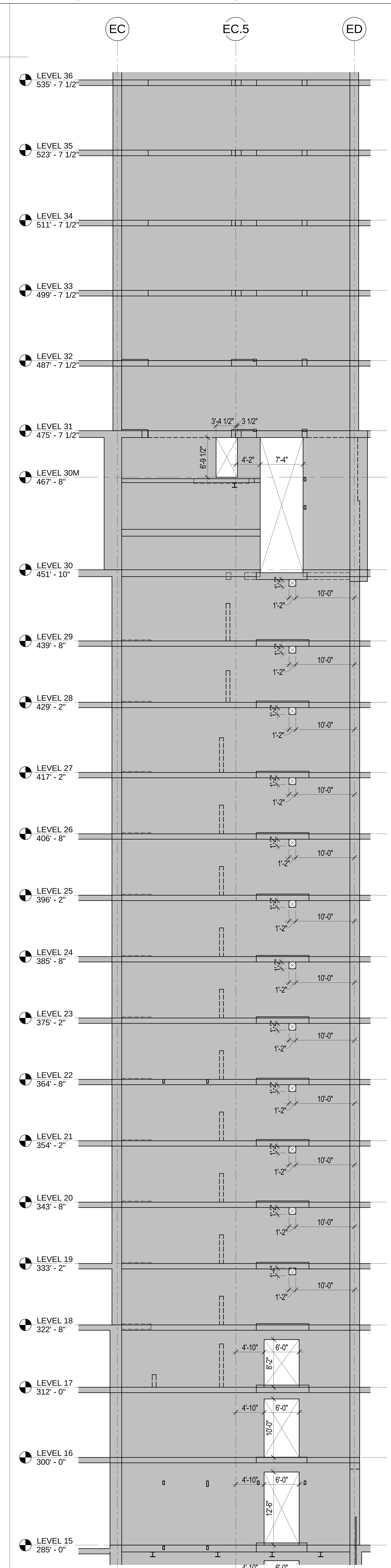
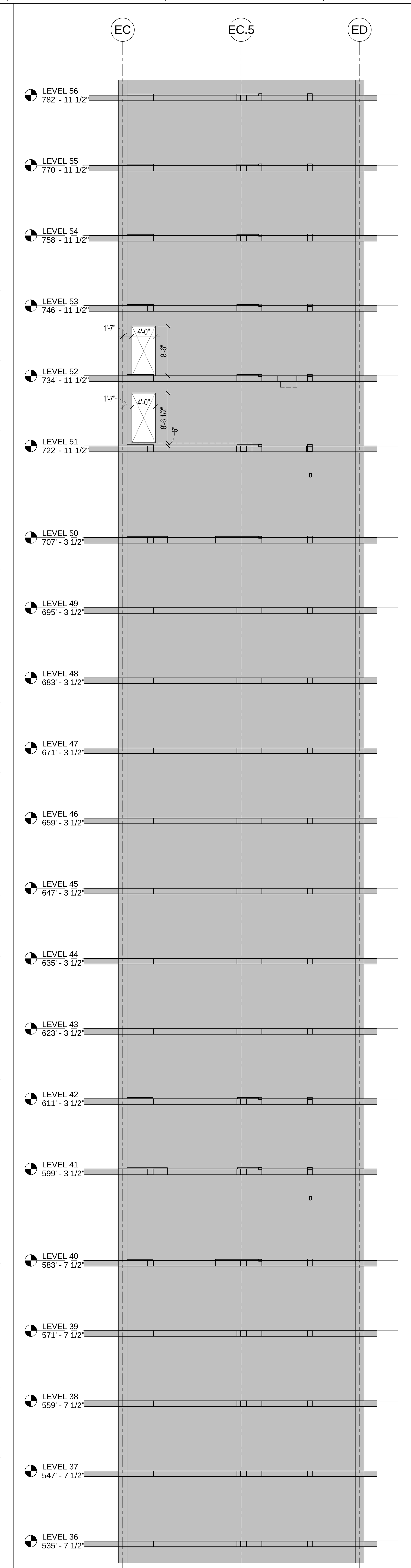
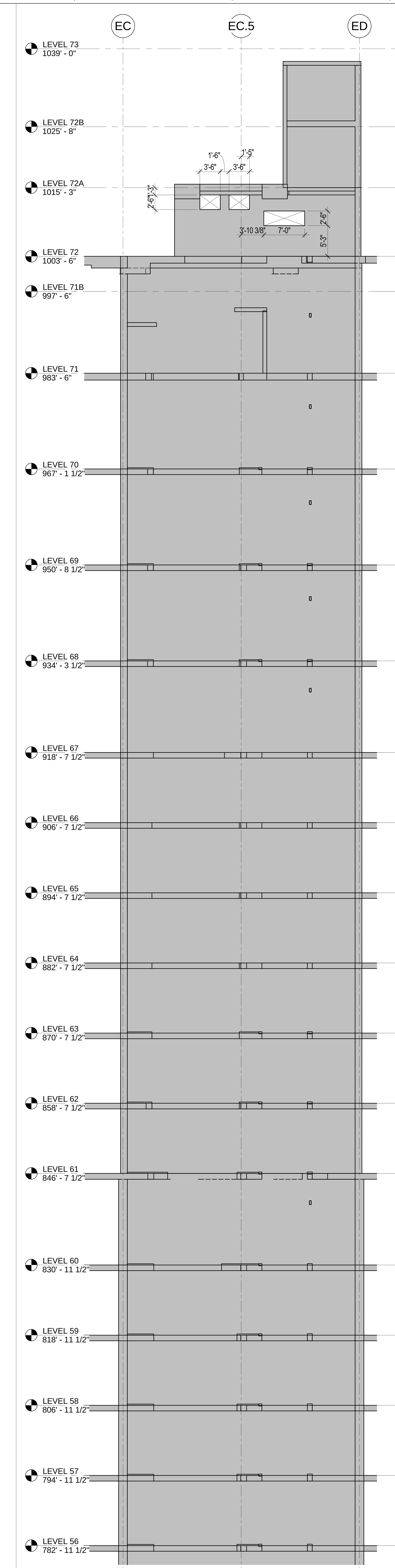
1/8" = 1'-0"



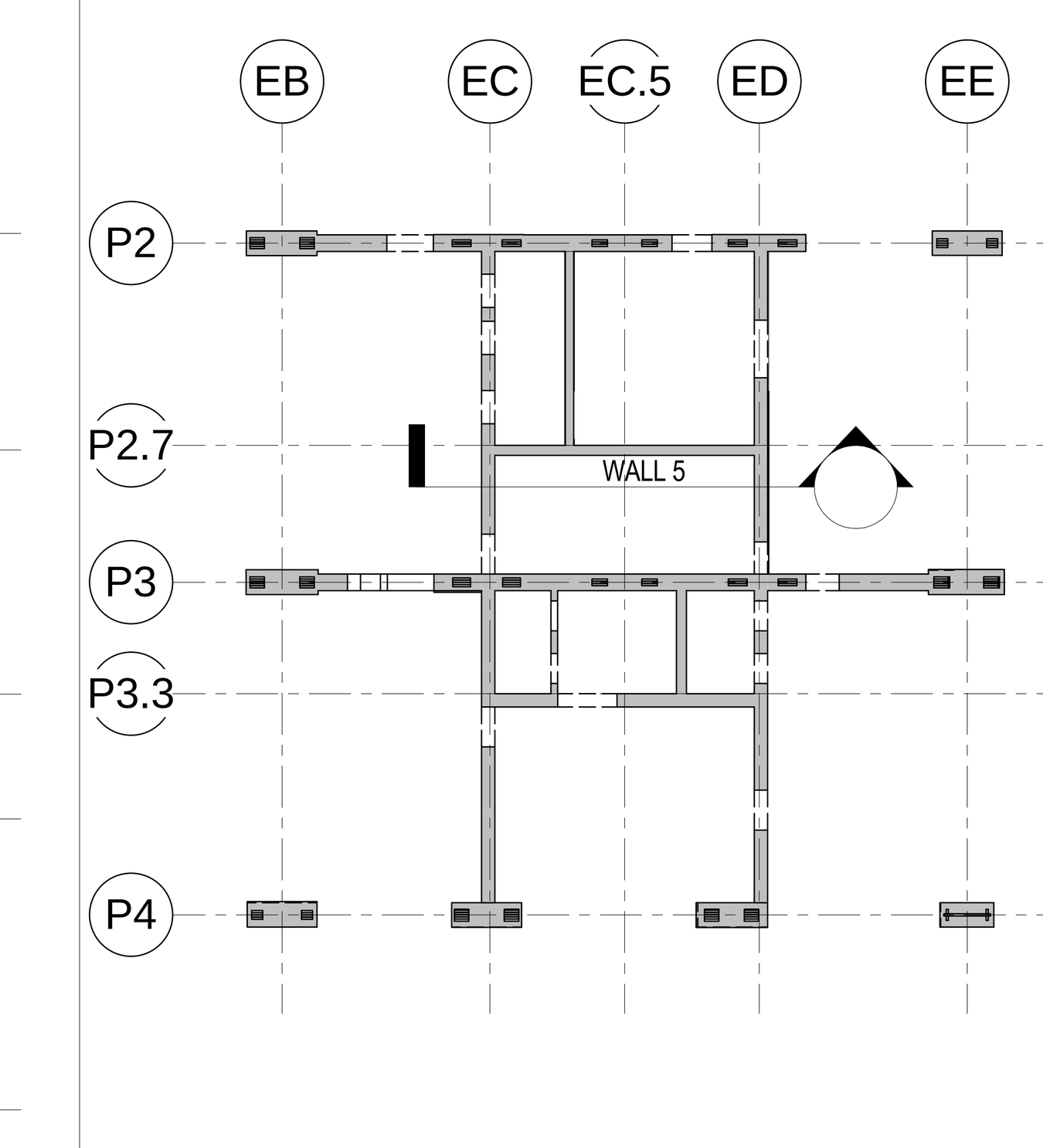
2 WALL 5 ELEVATION CONT.
1/8" = 1'-0"



3 WALL 5 ELEVATION CONT.
1/8" = 1'-0"



4 WALL 5 ELEVATION CONT.
1/8" = 1'-0"



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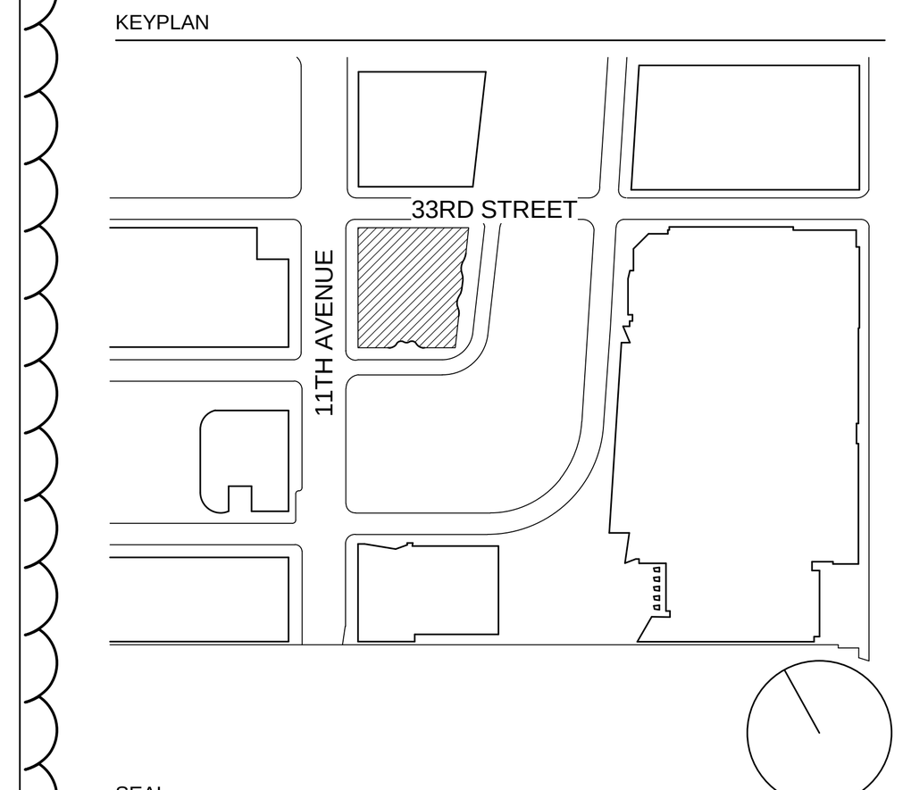

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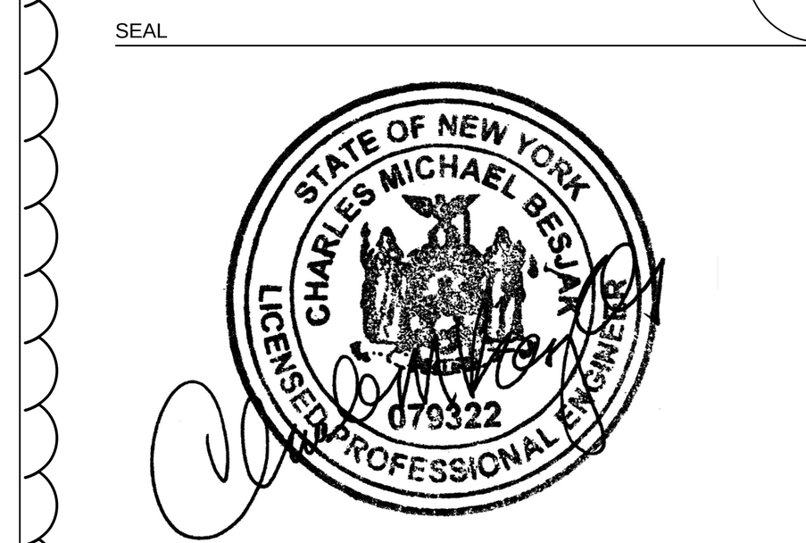

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DRAWING TITLE

CORE WALL 5 ELEVATIONS

B-SCAN - DRAWING NUMBER

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S-358

PAGE NUMBER

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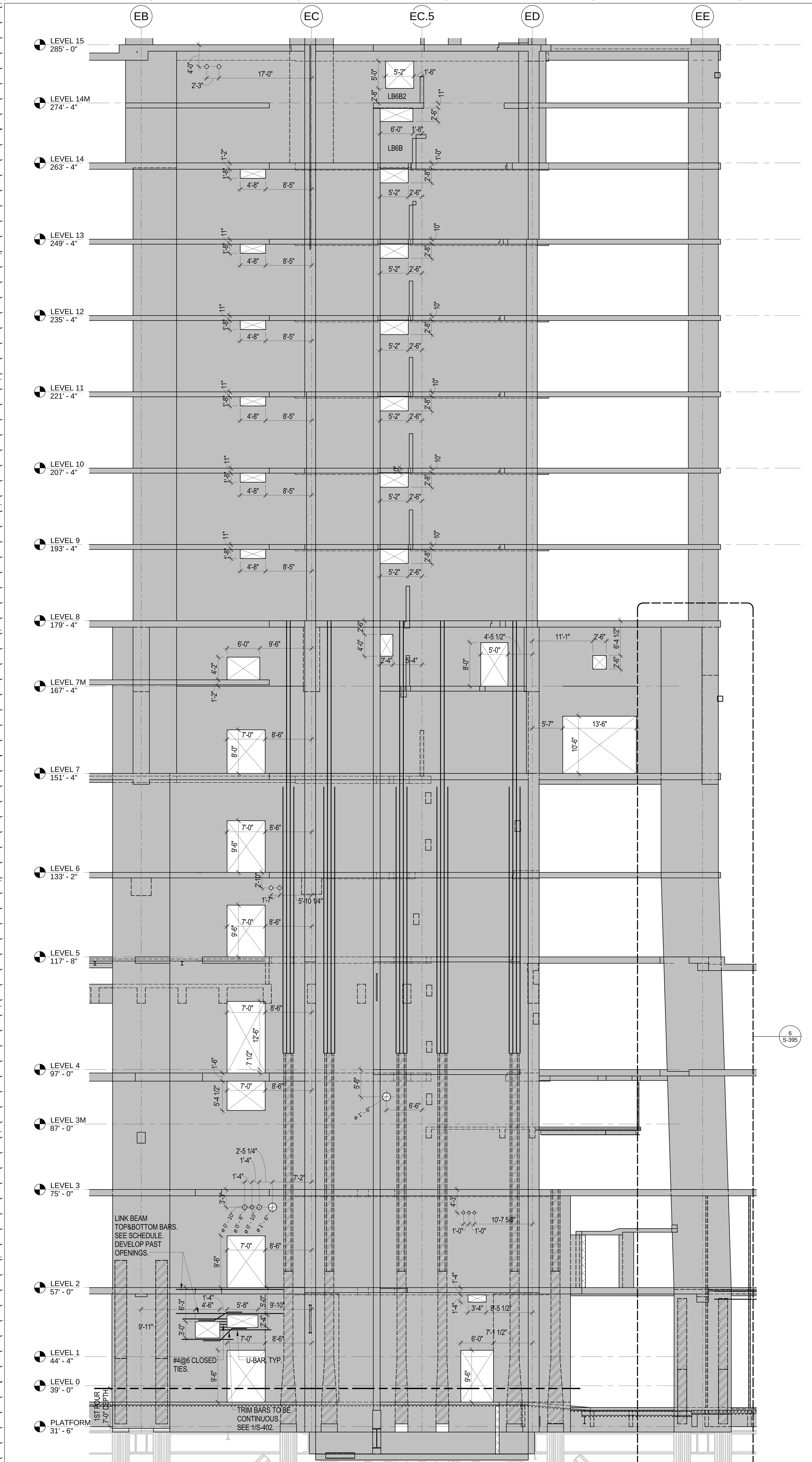
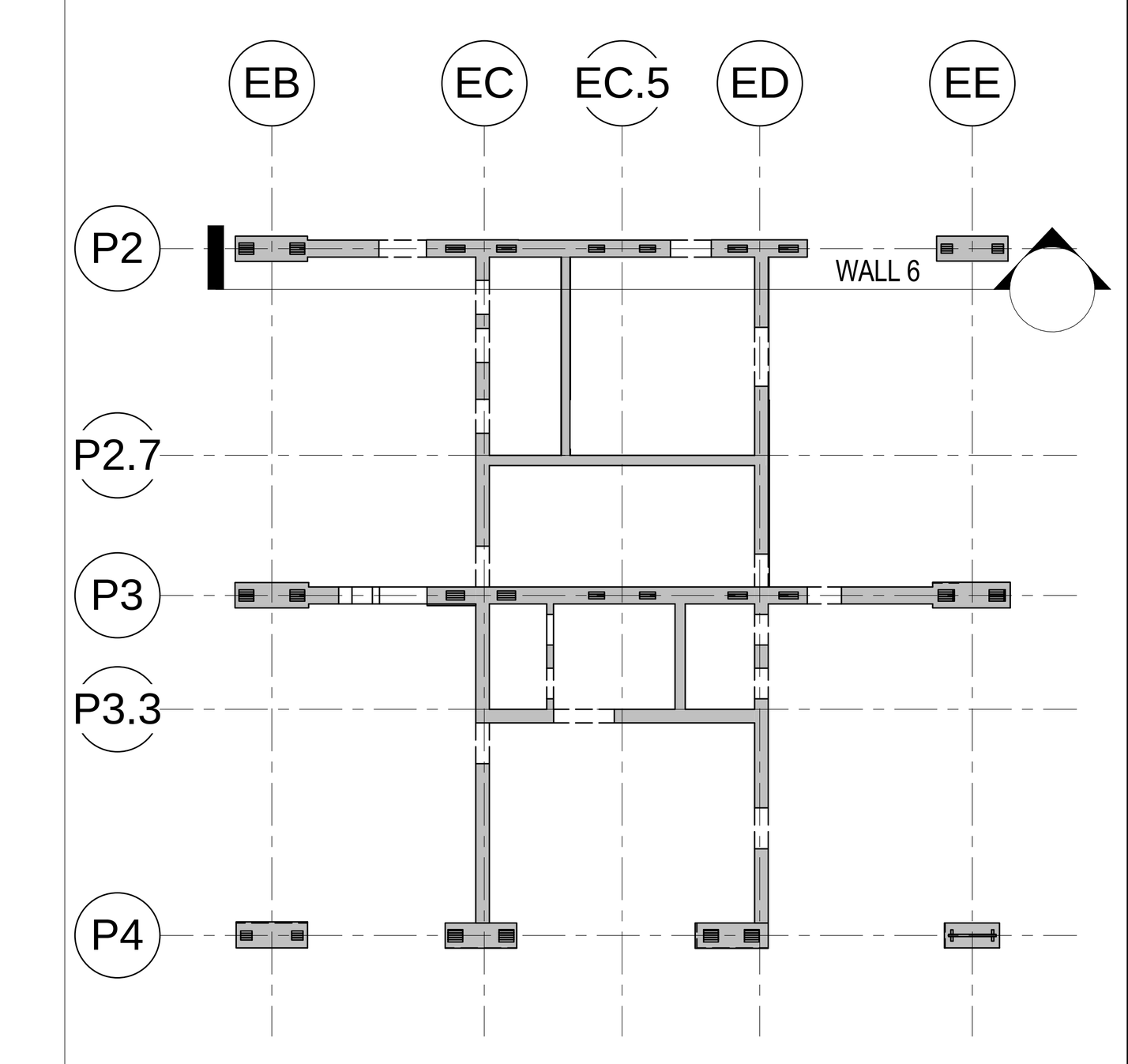


1 WALL 6 ELEVATION

1/8" = 1'-0"



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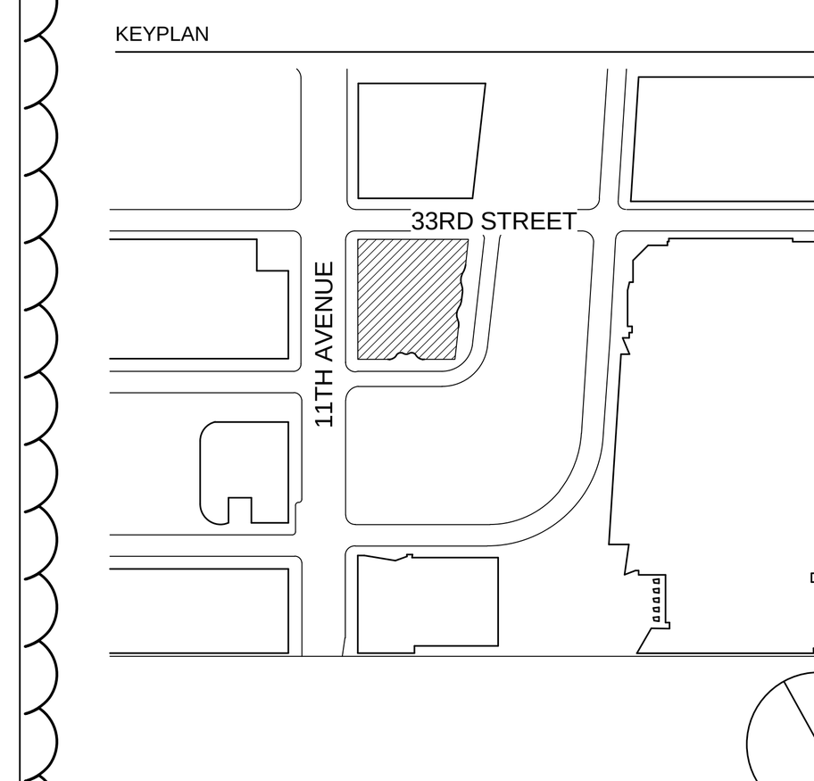

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CORE WALL 6 ELEVATIONS

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S-359

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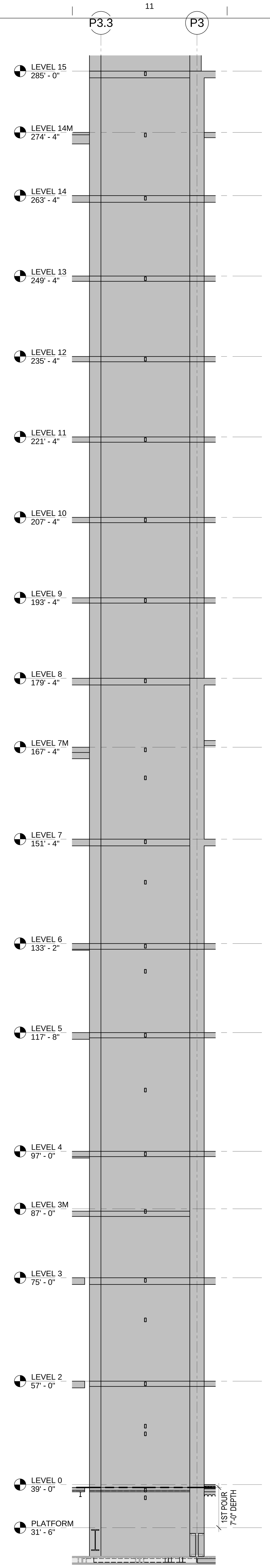
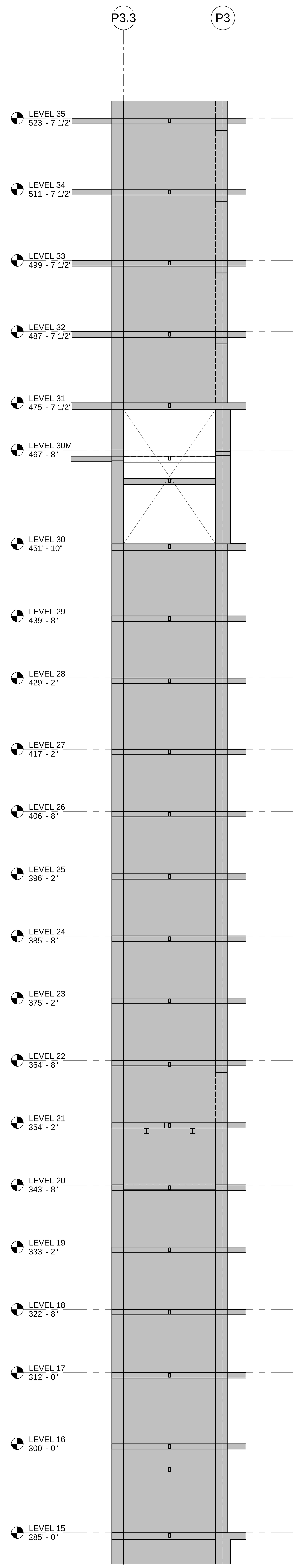
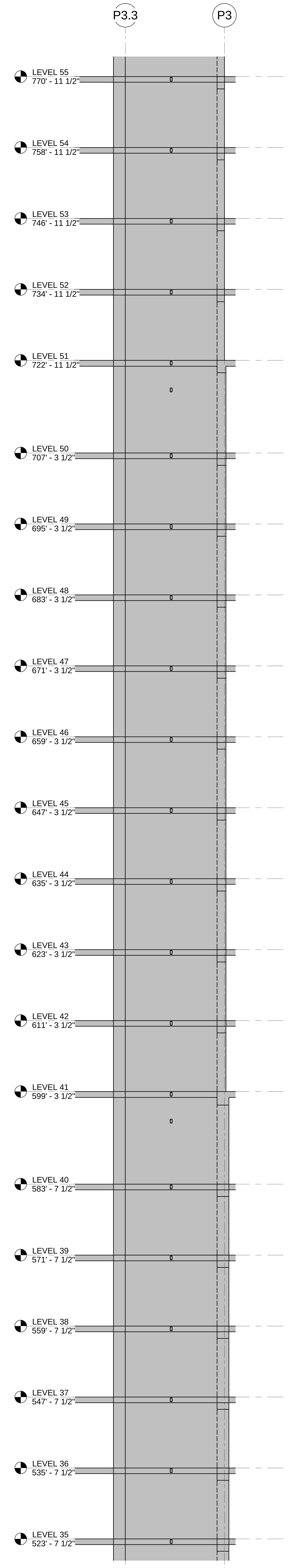


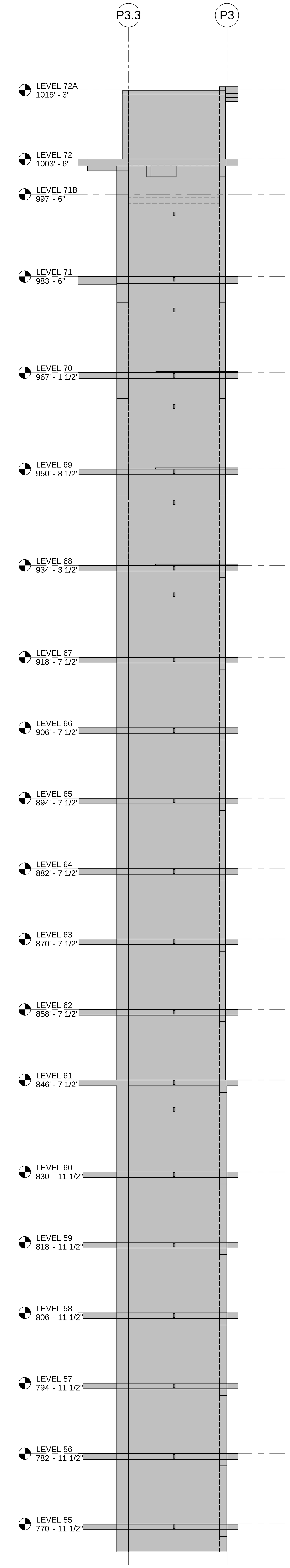
1 WALL 7 ELEVATION
1/8" = 1'-0"



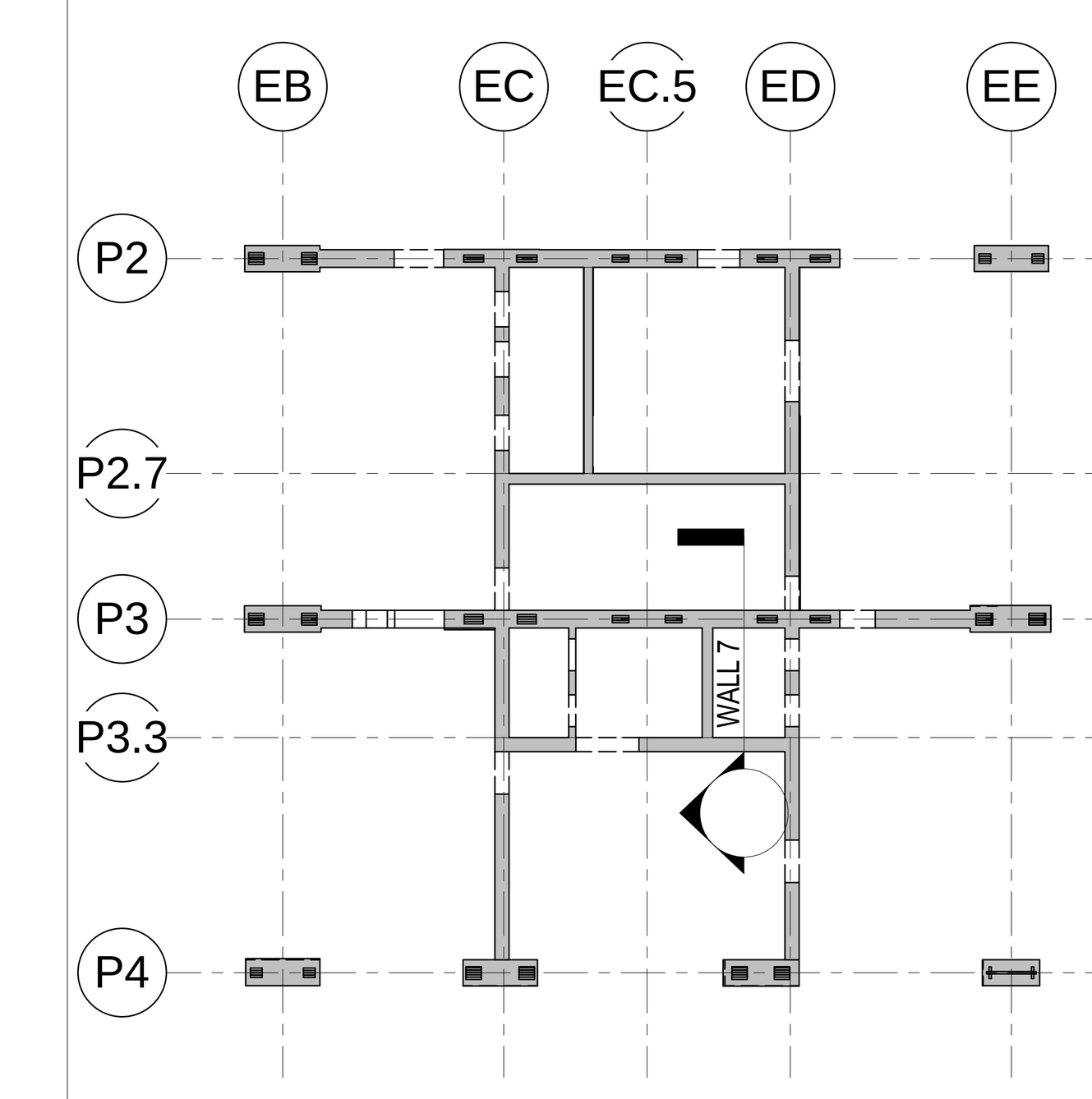
2 WALL 7 ELEVATION CONT.
1/8" = 1'-0"



3 WALL 7 ELEVATION CONT.
1/8" = 1'-0"



4 WALL 7 ELEVATION CONT.
1/8" = 1'-0"



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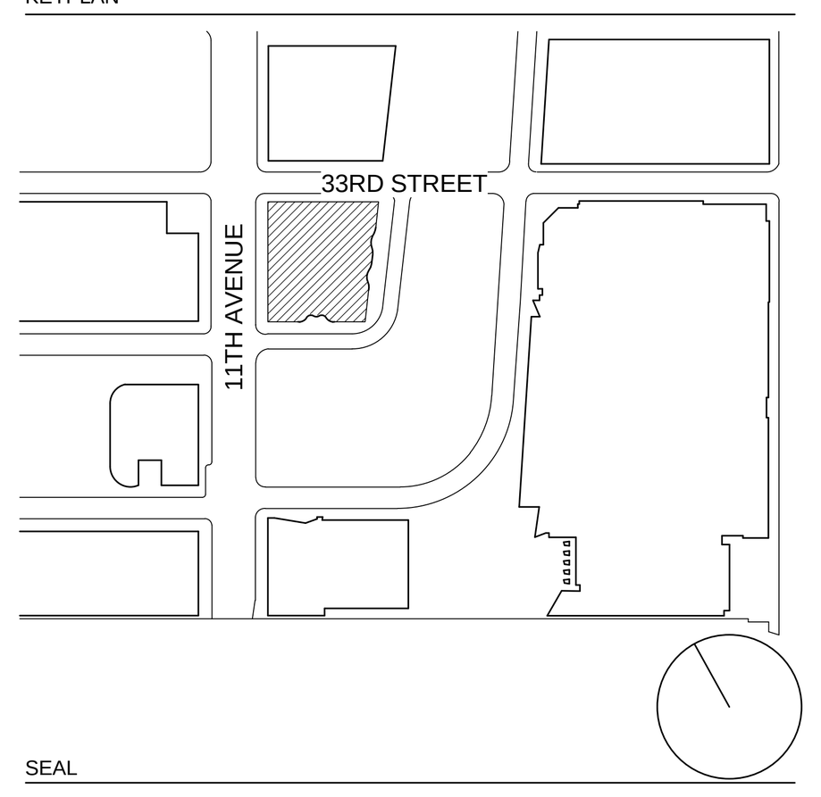

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CORE WALL 7 ELEVATIONS

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DRAWING NUMBER

S-360

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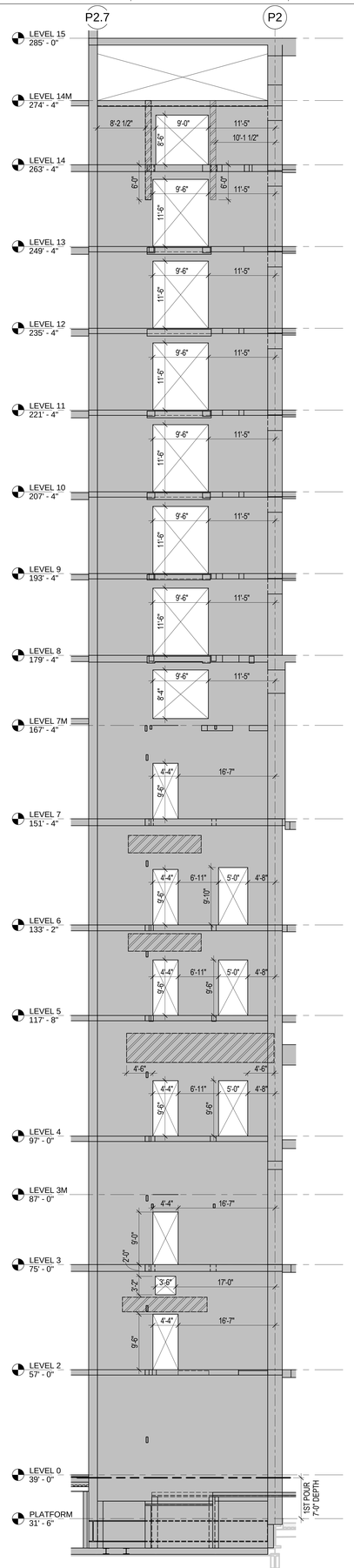
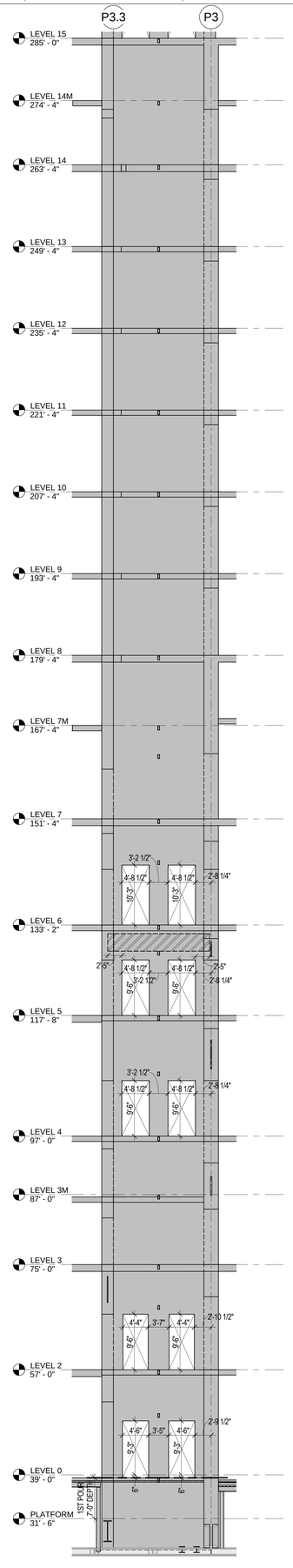
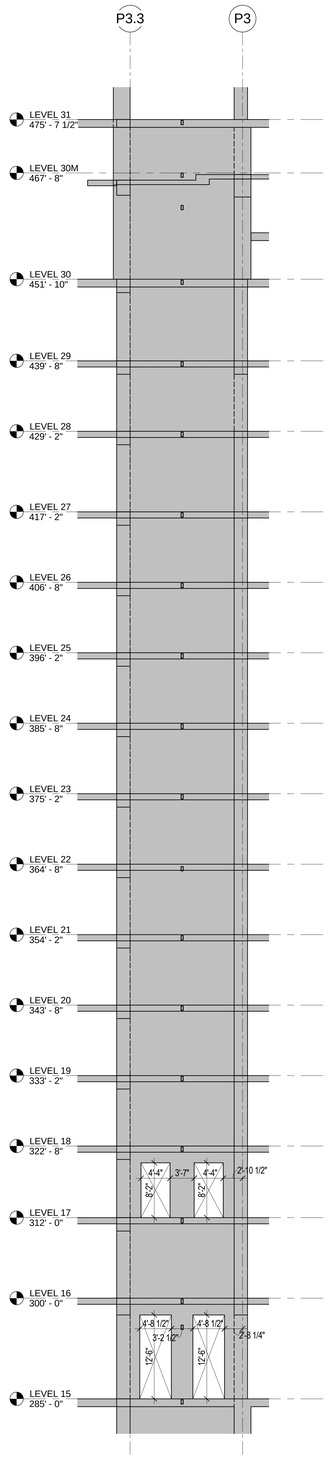


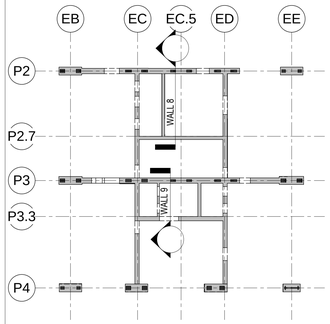
3 WALL 8 ELEVATION
1/8" = 1'-0"



1 WALL 9 ELEVATION
1/8" = 1'-0"



2 WALL 9 ELEVATION CONT.
1/8" = 1'-0"



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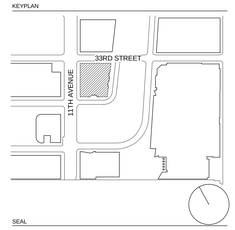
KEYPLAN



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1	15 JAN 2015	ISSUED TO DOB

DRAWING TITLE

CORE WALL 8 & 9 ELEVATIONS

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B-SCAN - DRAWING NUMBER

S-361.01

DRAWING NUMBER

S-361

PAGE NUMBER

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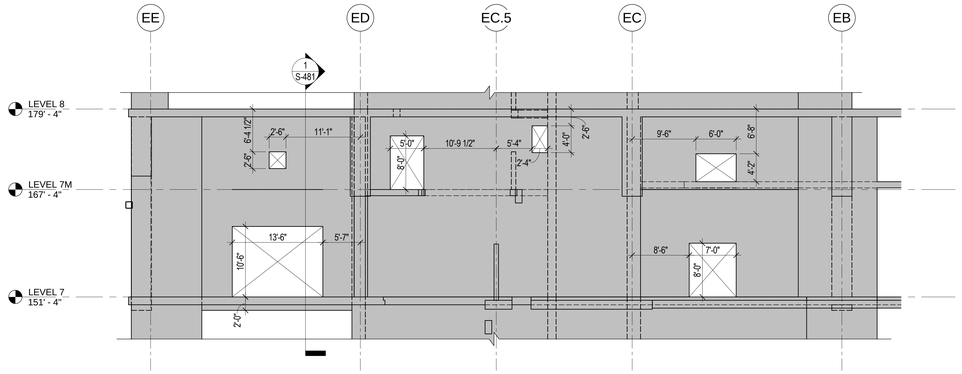
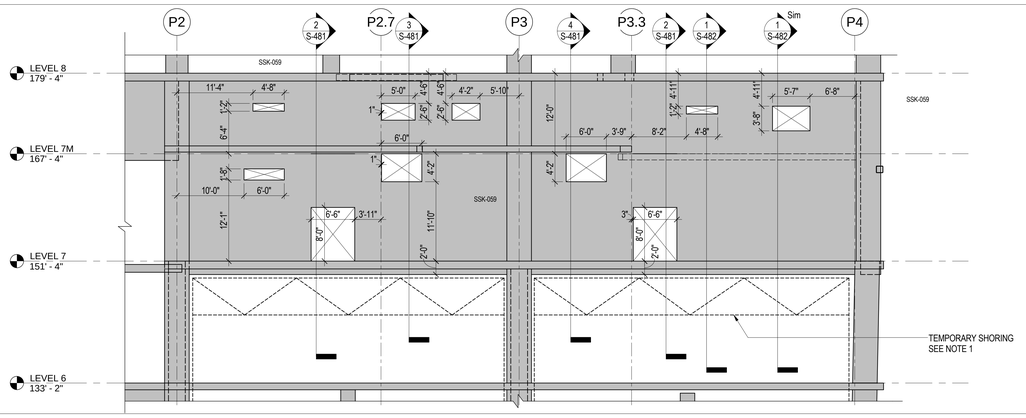


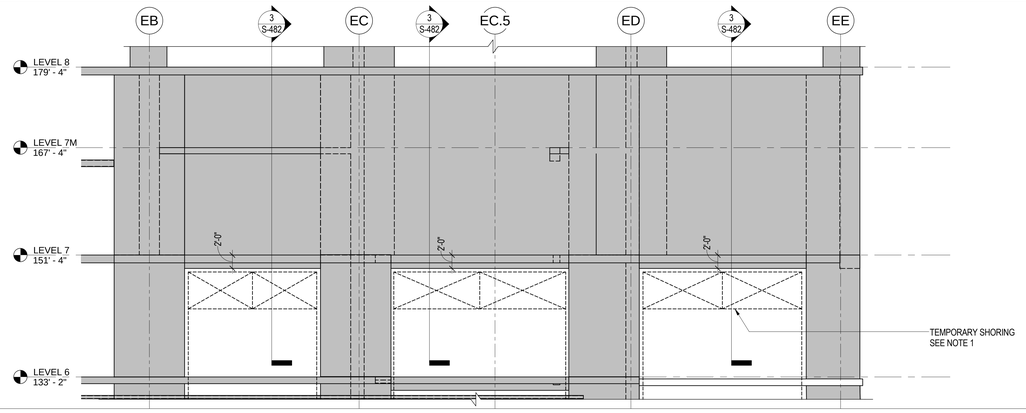
1 BELT WALL LEVEL 7 - NORTH

1/8" = 1'-0"



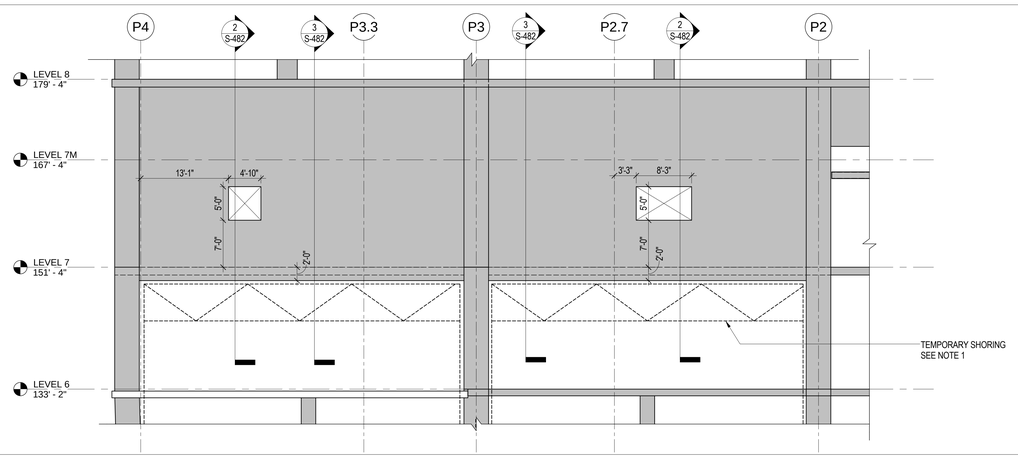
2 BELT WALL LEVEL 7 - WEST

1/8" = 1'-0"



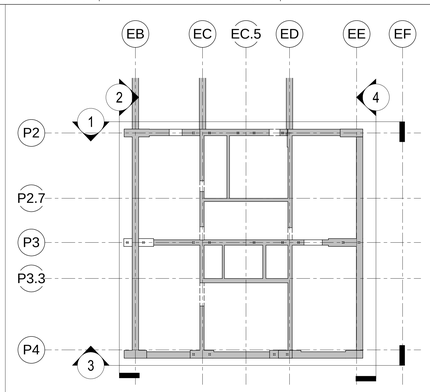
3 BELT WALL LEVEL 7 -SOUTH

1/8" = 1'-0"



4 BELT WALL LEVEL 7 - EAST

1/8" = 1'-0"



A BELT WALL KEY PLAN - LEVEL 7 MEZZ

1 : 300

NOTES
1. PROVIDE TEMPORARY TRUSS AS REQUIRED TO INSTALL BELT WALL ABOVE. TEMPORARY TRUSS MAY BE REMOVED AFTER ACHIEVING MINIMUM 80% OF CONCRETE STRENGTH, BUT NOT LESS THAN 28 DAYS AGE OF CONCRETE. VERTICAL SHORING CLOSE TO COLUMN CAN BE UTILIZED TO TRANSFER CONSTRUCTION LOADS TO COLUMNS. VERTICAL SHORING SHOULD BE PLACED AT LEAST (4) FOUR FLOORS BELOW UNTIL TEMPORARY TRUSS IS REMOVED.

Damian Titus
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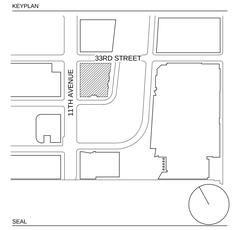

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DRAWING TITLE

BELT WALL ELEVATIONS

B-SCAN - DRAWING NUMBER

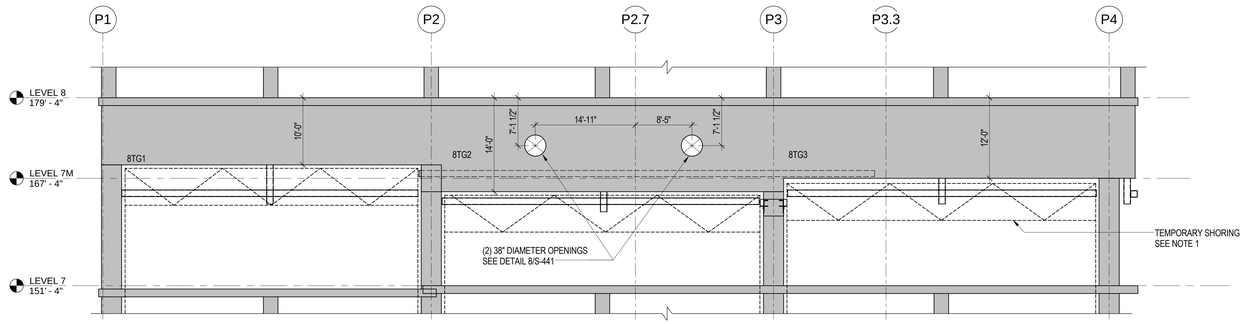
S-371.01

DRAWING NUMBER

S-371

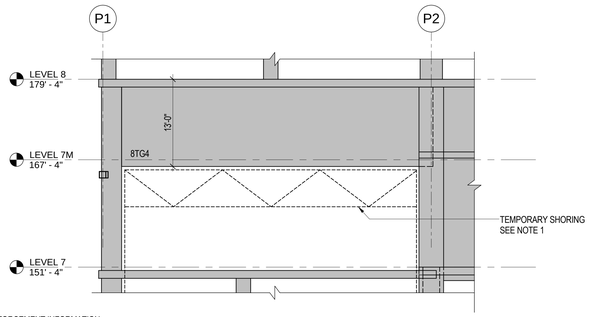
PAGE NUMBER

60 OF 112



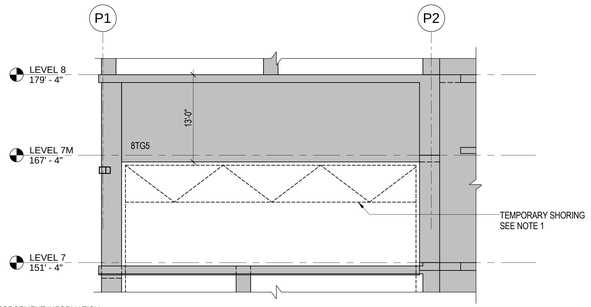
NOTE: SEE PLAN FOR REINFORCEMENT INFORMATION.

1 TRANSFER WALL ALONG GRID EA
1/8" = 1'-0"



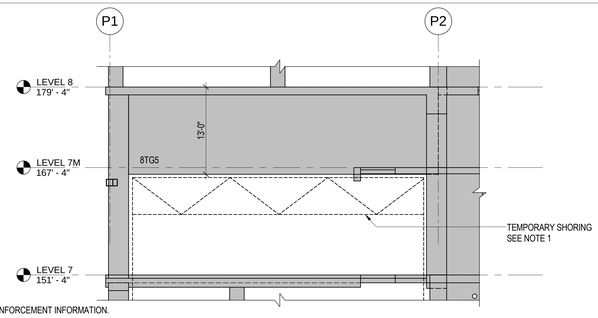
NOTE: SEE PLAN FOR REINFORCEMENT INFORMATION.

2 TRANSFER WALL ALONG GRID EB
1/8" = 1'-0"



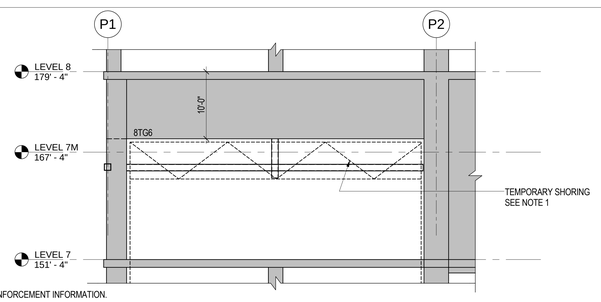
NOTE: SEE PLAN FOR REINFORCEMENT INFORMATION.

3 TRANSFER WALL ALONG GRID EC
1/8" = 1'-0"



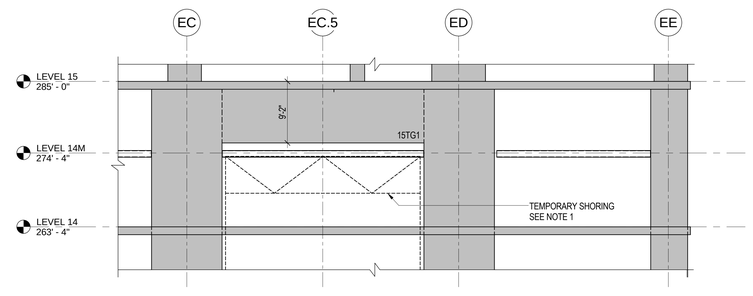
NOTE: SEE PLAN FOR REINFORCEMENT INFORMATION.

4 TRANSFER WALL ALONG GRID ED
1/8" = 1'-0"



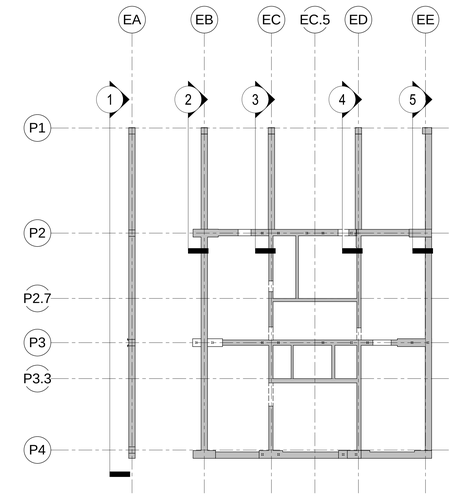
NOTE: SEE PLAN FOR REINFORCEMENT INFORMATION.

5 TRANSFER WALL ALONG GRID EE
1/8" = 1'-0"

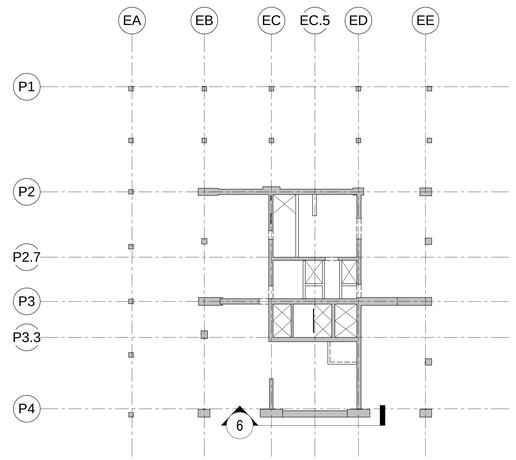


NOTE: SEE PLAN FOR REINFORCEMENT INFORMATION.

6 TRANSFER WALL ALONG GRID P4
1/8" = 1'-0"



A TRANSFER WALL KEY PLAN - LEVEL 7 MEZZ
1 : 300



B TRANSFER WALL LEVEL 14 MEZZ
1 : 300

NOTES
1. PROVIDE TEMPORARY TRUSS AS REQUIRED TO INSTALL BELT WALL ABOVE. TEMPORARY TRUSS MAY BE REMOVED AFTER ACHIEVING MINIMUM 80% OF CONCRETE STRENGTH, BUT NOT LESS THAN 28 DAYS AGE OF CONCRETE. VERTICAL SHORING CLOSE TO COLUMN CAN BE UTILIZED TO TRANSFER CONSTRUCTION LOADS TO COLUMNS. VERTICAL SHORING SHOULD BE PLACED AT LEAST (4) FOUR FLOORS BELOW UNTIL TEMPORARY TRUSS IS REMOVED.

Damian Titus
APPROVED
Under Directive 2 of 1975
EXTENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

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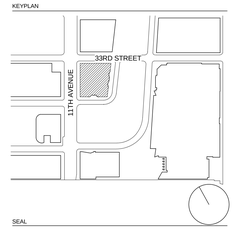
KEYPLAN


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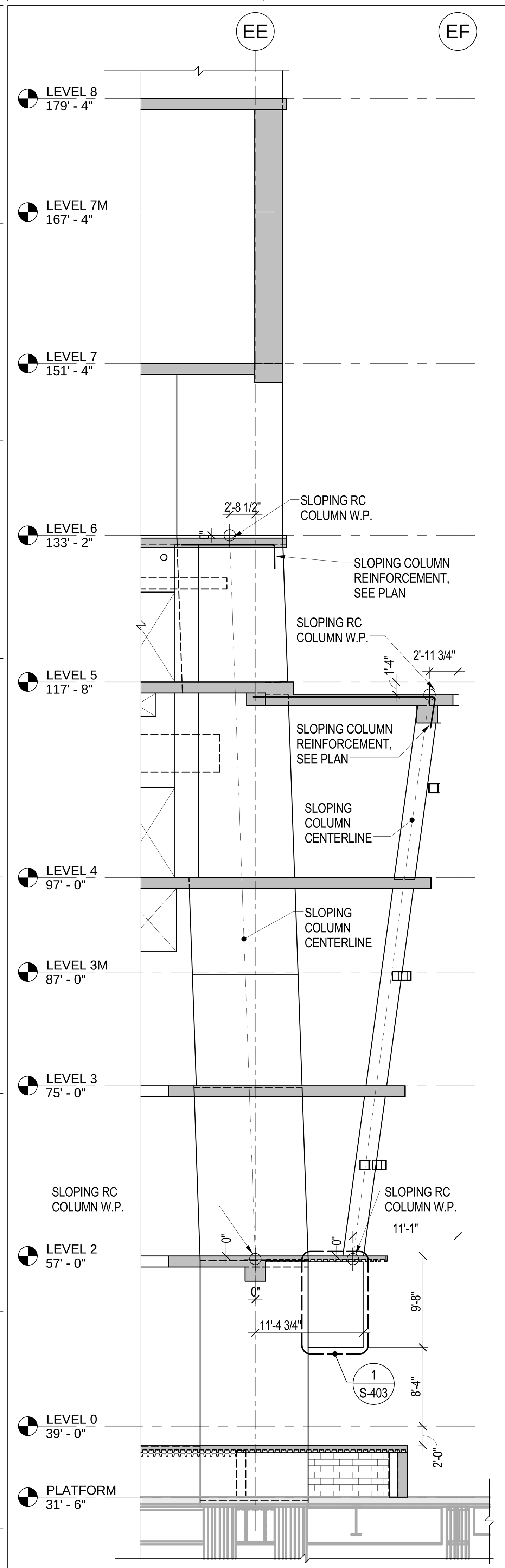
NO.	DATE	DESCRIPTION
8	20 JAN 2017	ISSUED TO DOB
7	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 3
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE
TRANSFER WALL ELEVATIONS

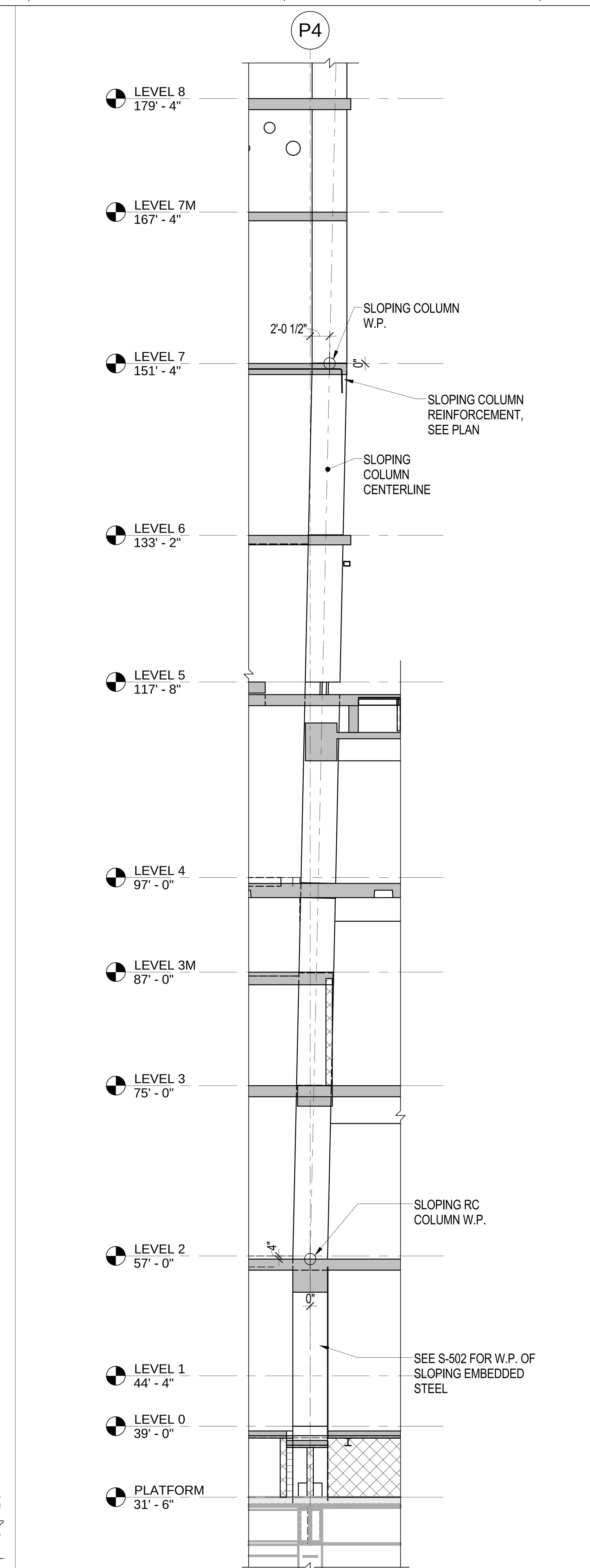
B-SCAN - DRAWING NUMBER
S-391.01

DRAWING NUMBER
S-391

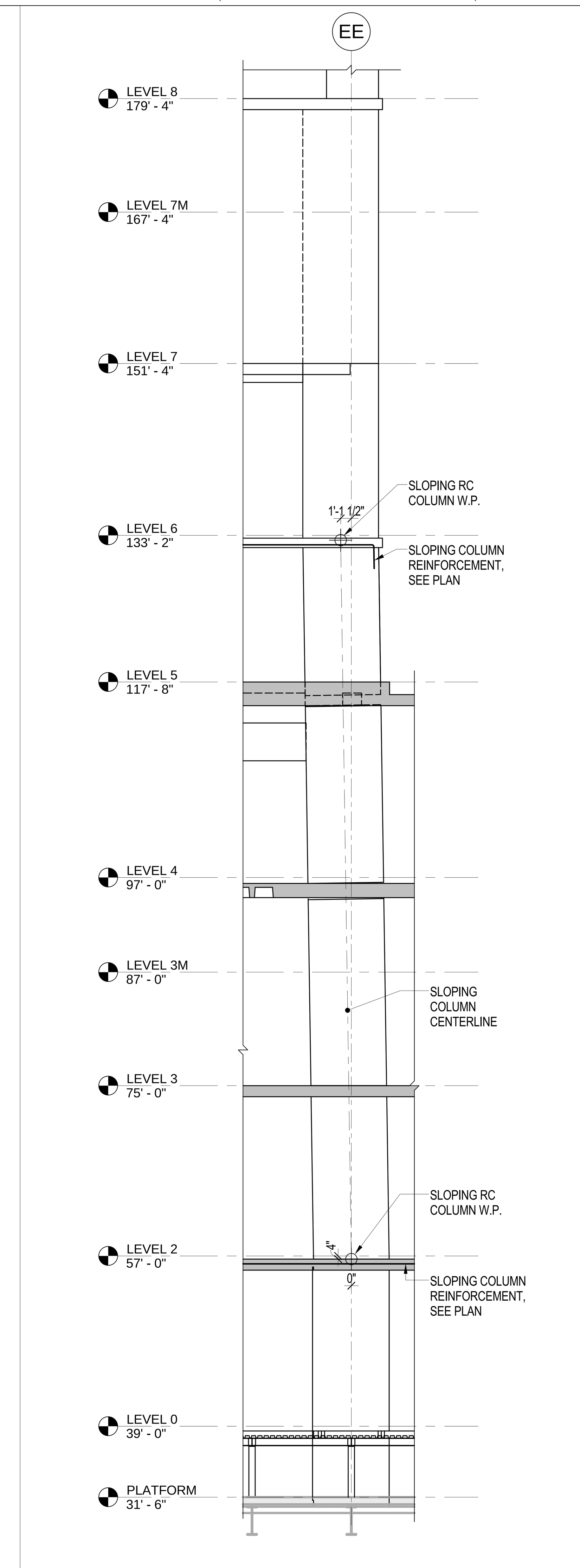
PAGE NUMBER
61 OF 112



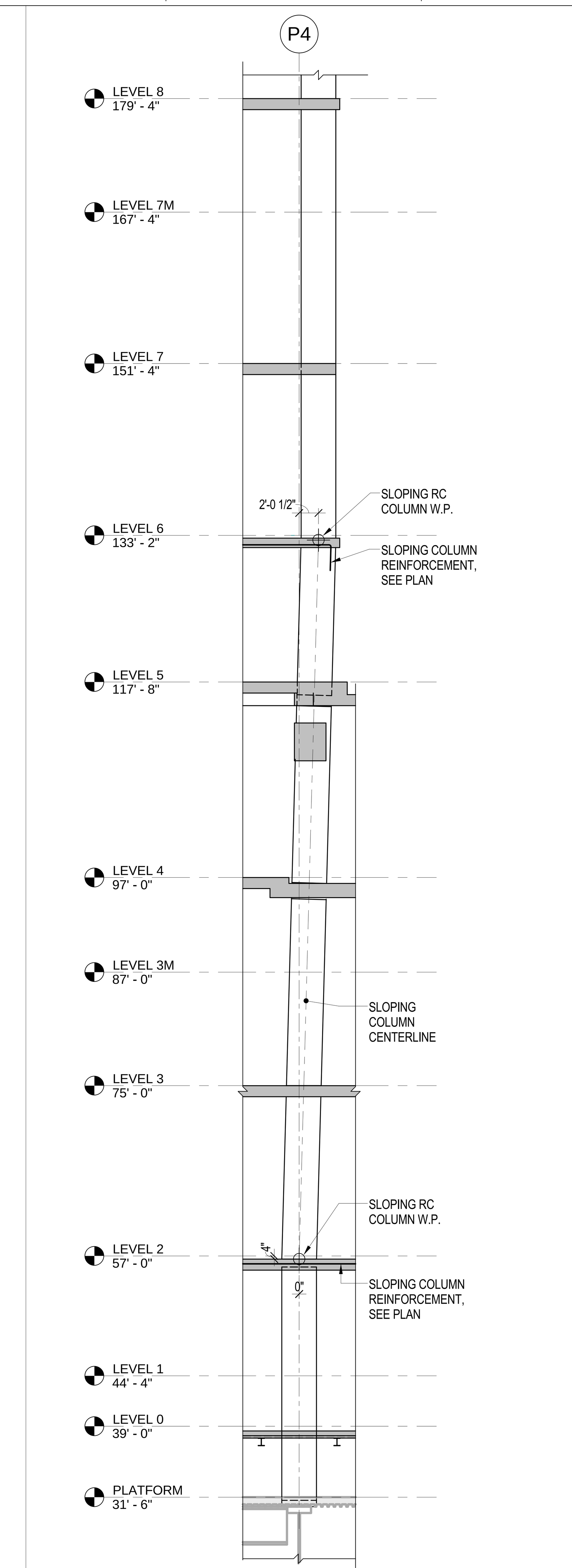
1 HAMMERHEAD H2 SLOPING GEOMETRY
1/8" = 1'-0"



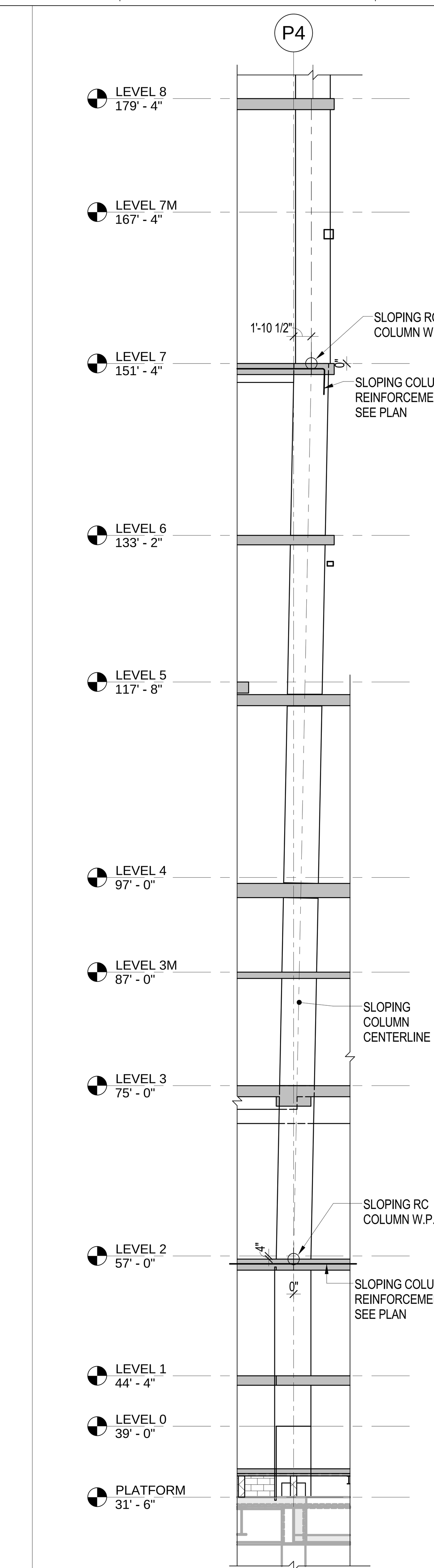
2 HAMMERHEAD H3 (H4 SIM.) SLOPING GEOMETRY
1/8" = 1'-0"



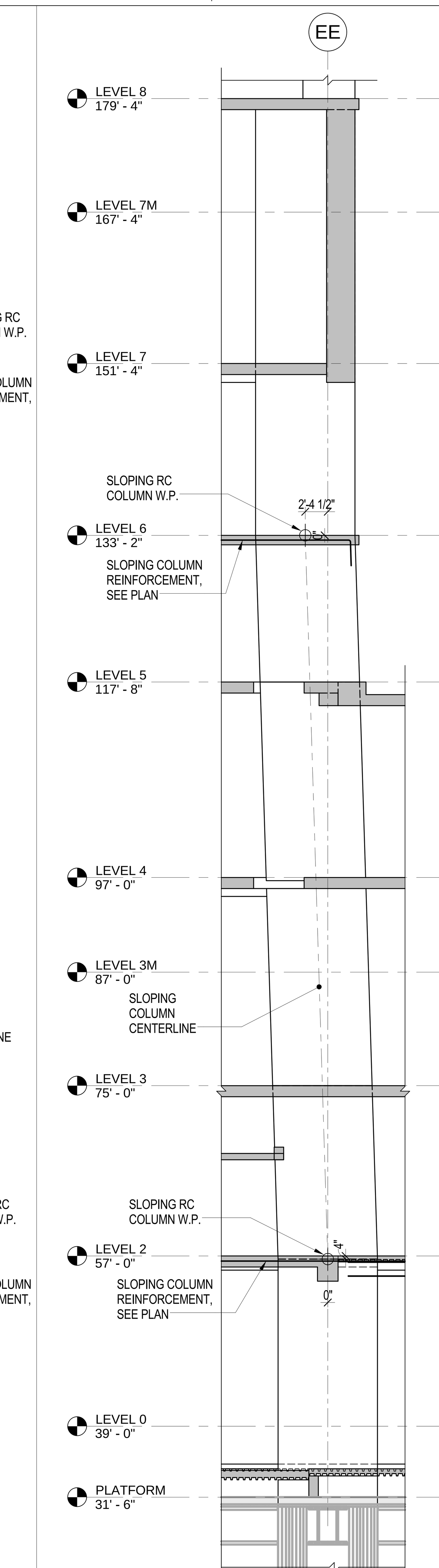
3 COLUMN 10 SLOPING GEOMETRY E-W SECTION
1/8" = 1'-0"



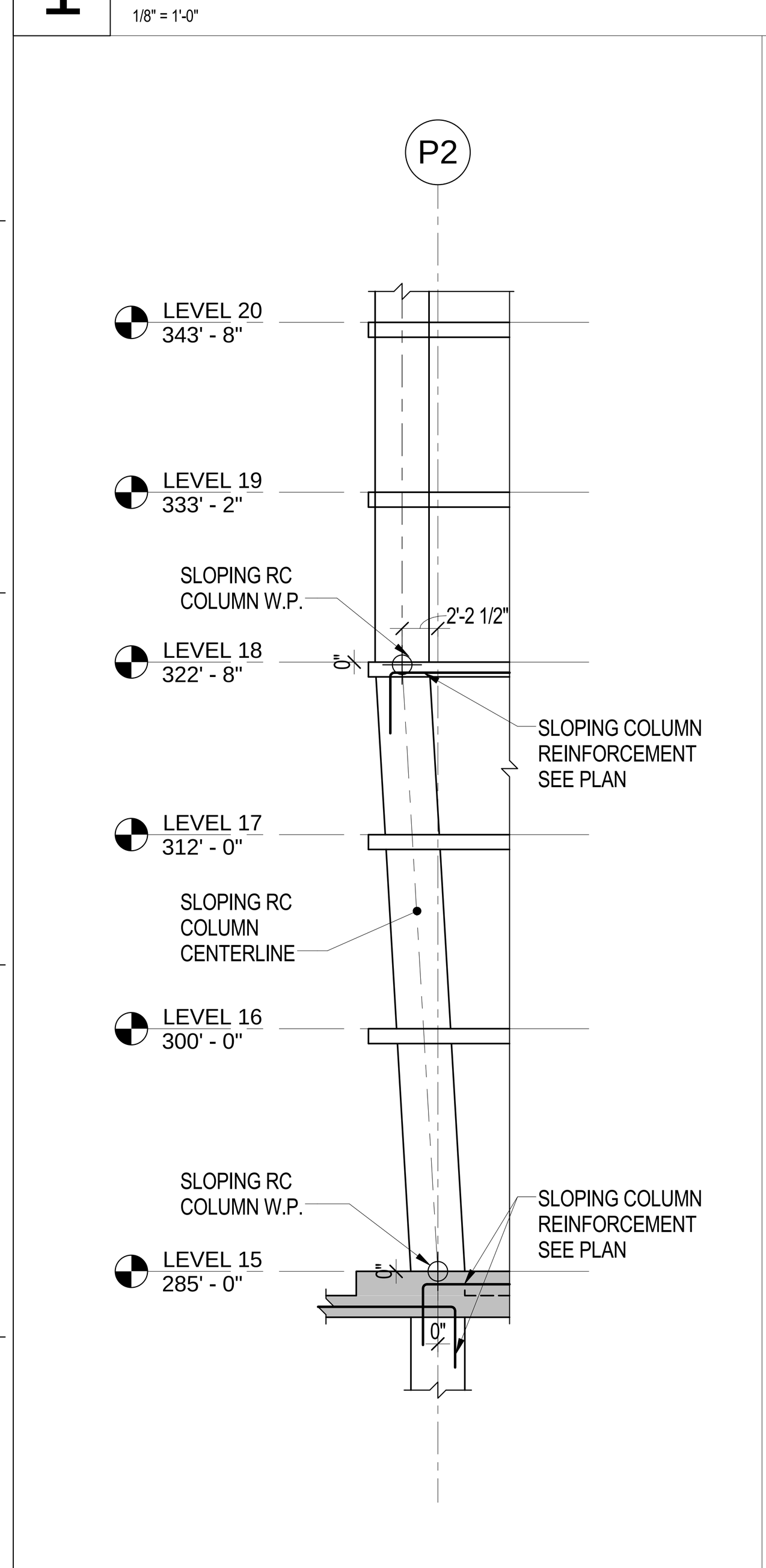
4 COLUMN 10 SLOPING GEOMETRY N-S SECTION
1/8" = 1'-0"



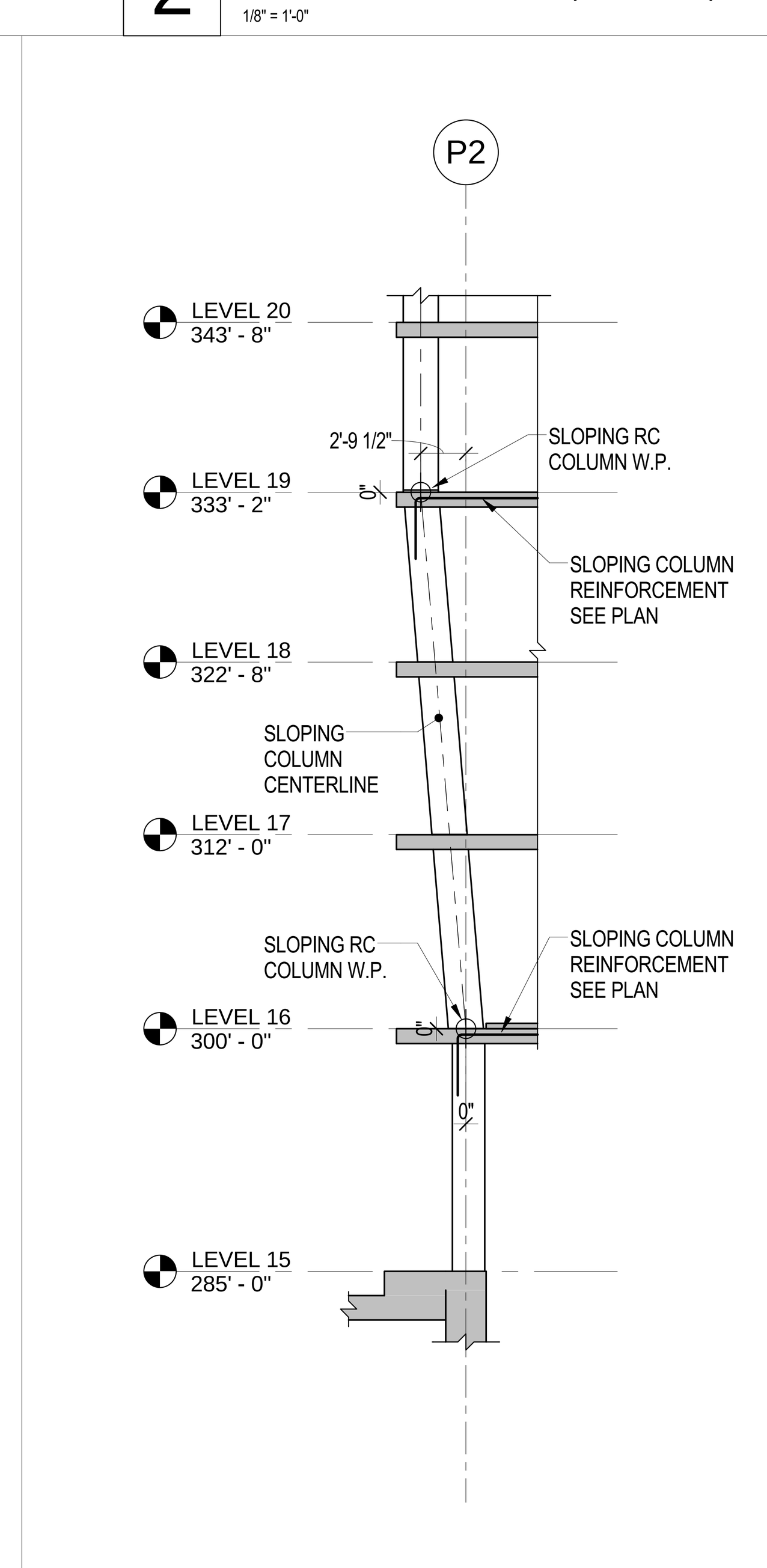
5 COLUMN 17 SLOPING GEOMETRY
1/8" = 1'-0"



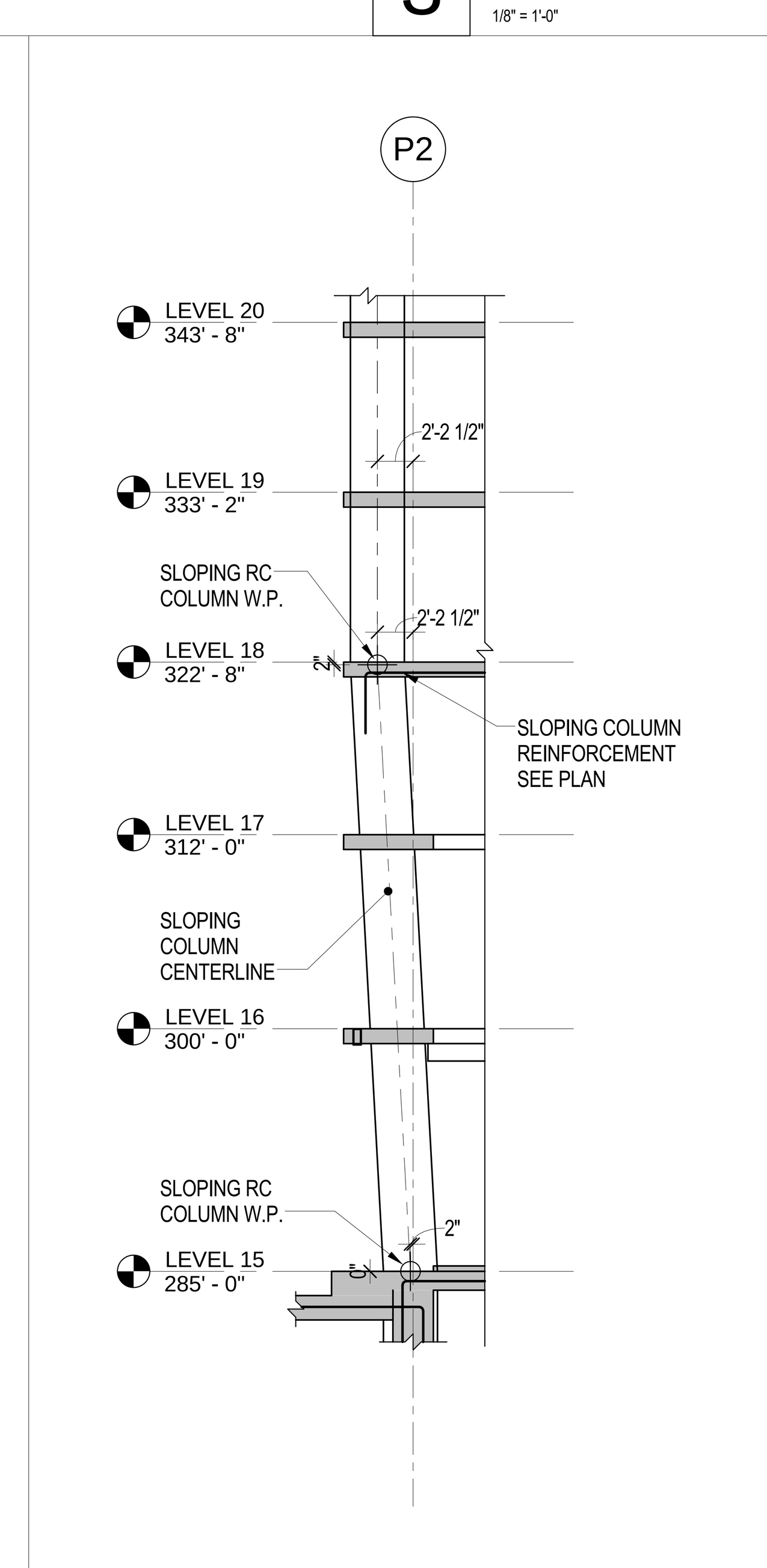
6 COLUMN 6 SLOPING GEOMETRY
1/8" = 1'-0"



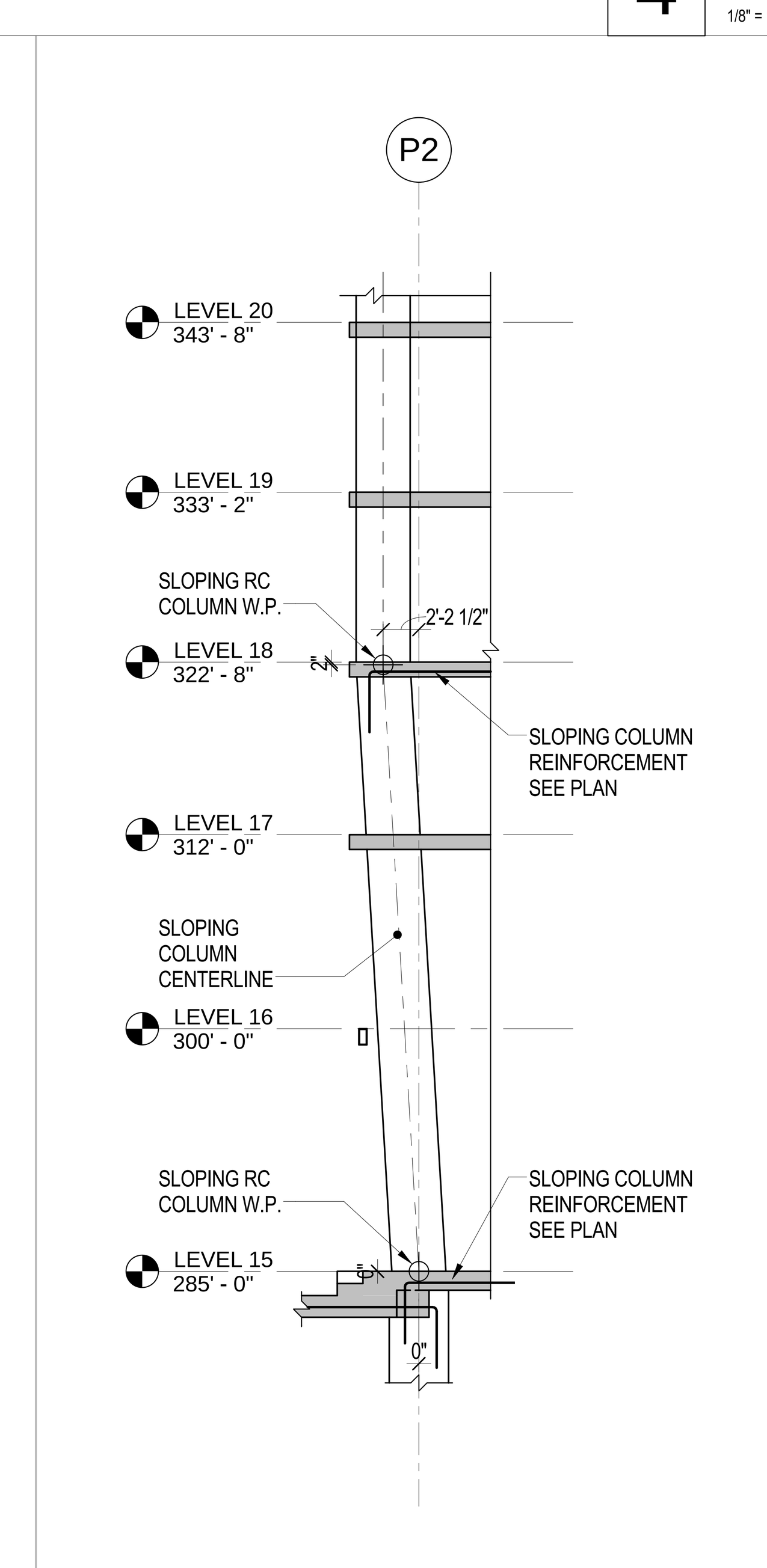
7 COLUMN 1 SLOPING GEOMETRY
1/8" = 1'-0"



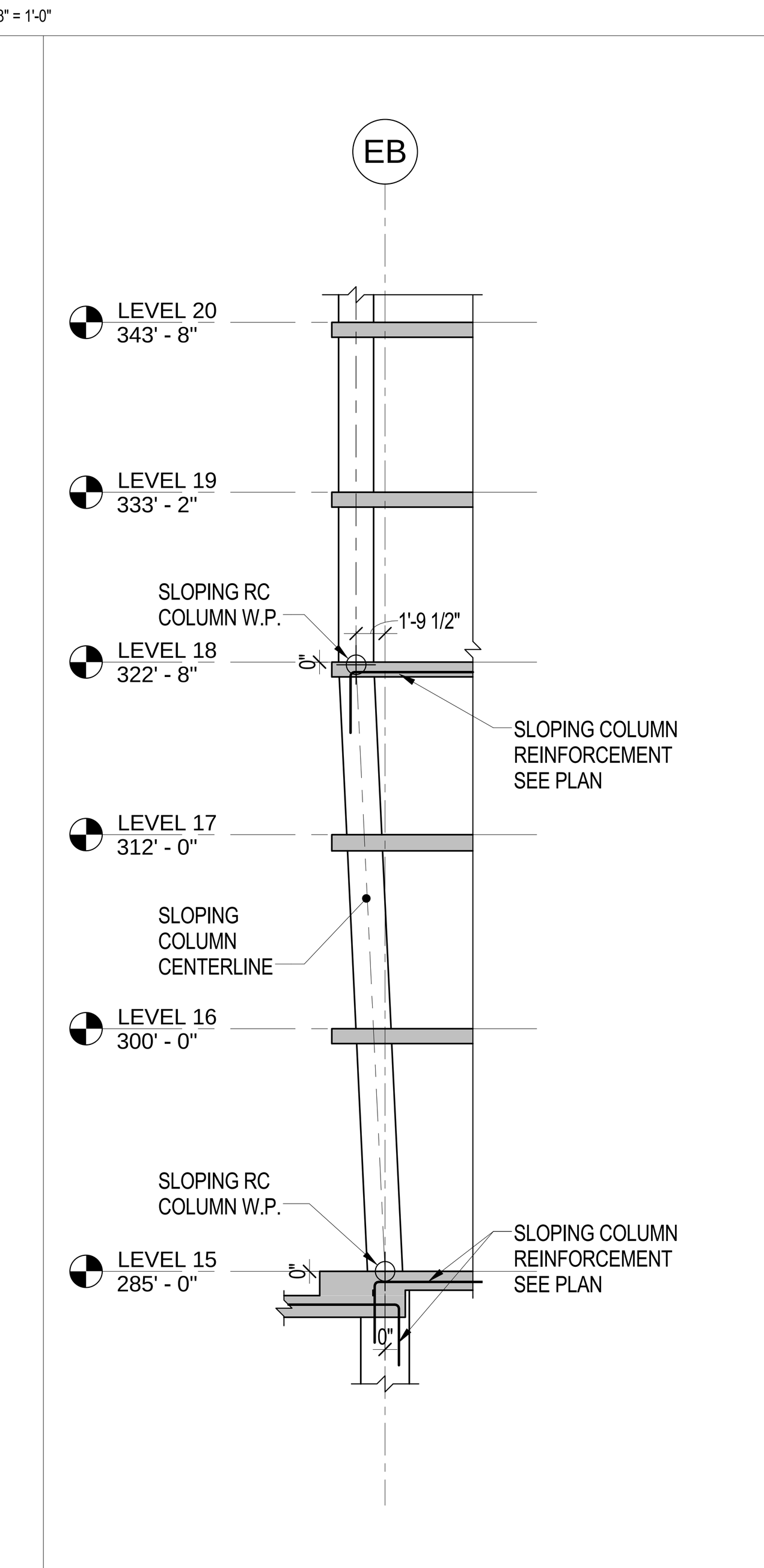
8 COLUMN 3 SLOPING GEOMETRY
1/8" = 1'-0"



9 COLUMN 4 SLOPING GEOMETRY
1/8" = 1'-0"



10 COLUMN 6 SLOPING GEOMETRY
1/8" = 1'-0"



11 COLUMN 14 SLOPING GEOMETRY
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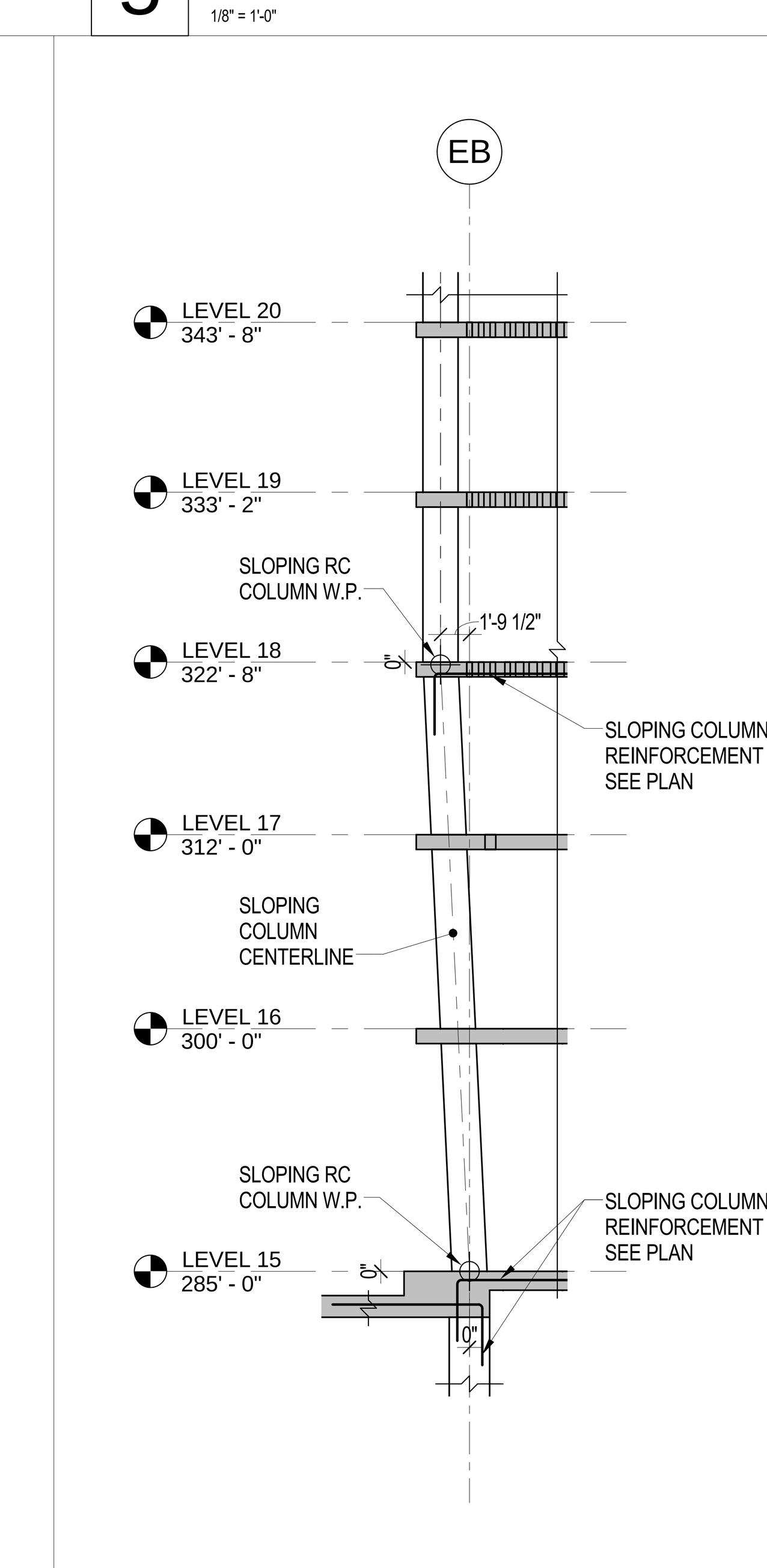

12 COLUMN 16 SLOPING GEOMETRY
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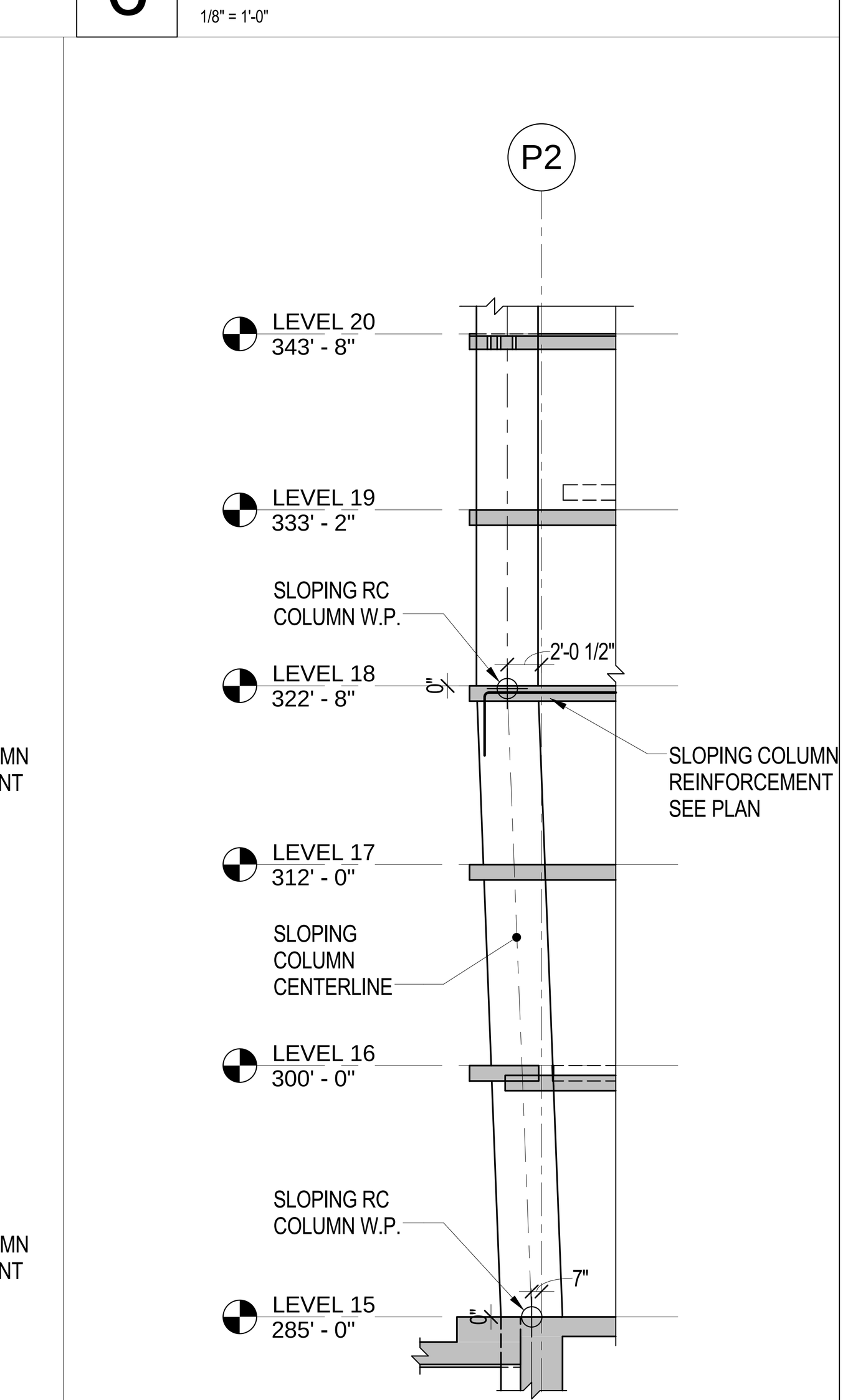

13 HAMMERHEAD H5 GEOMETRY
1/8" = 1'-0"

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11TH AVENUE

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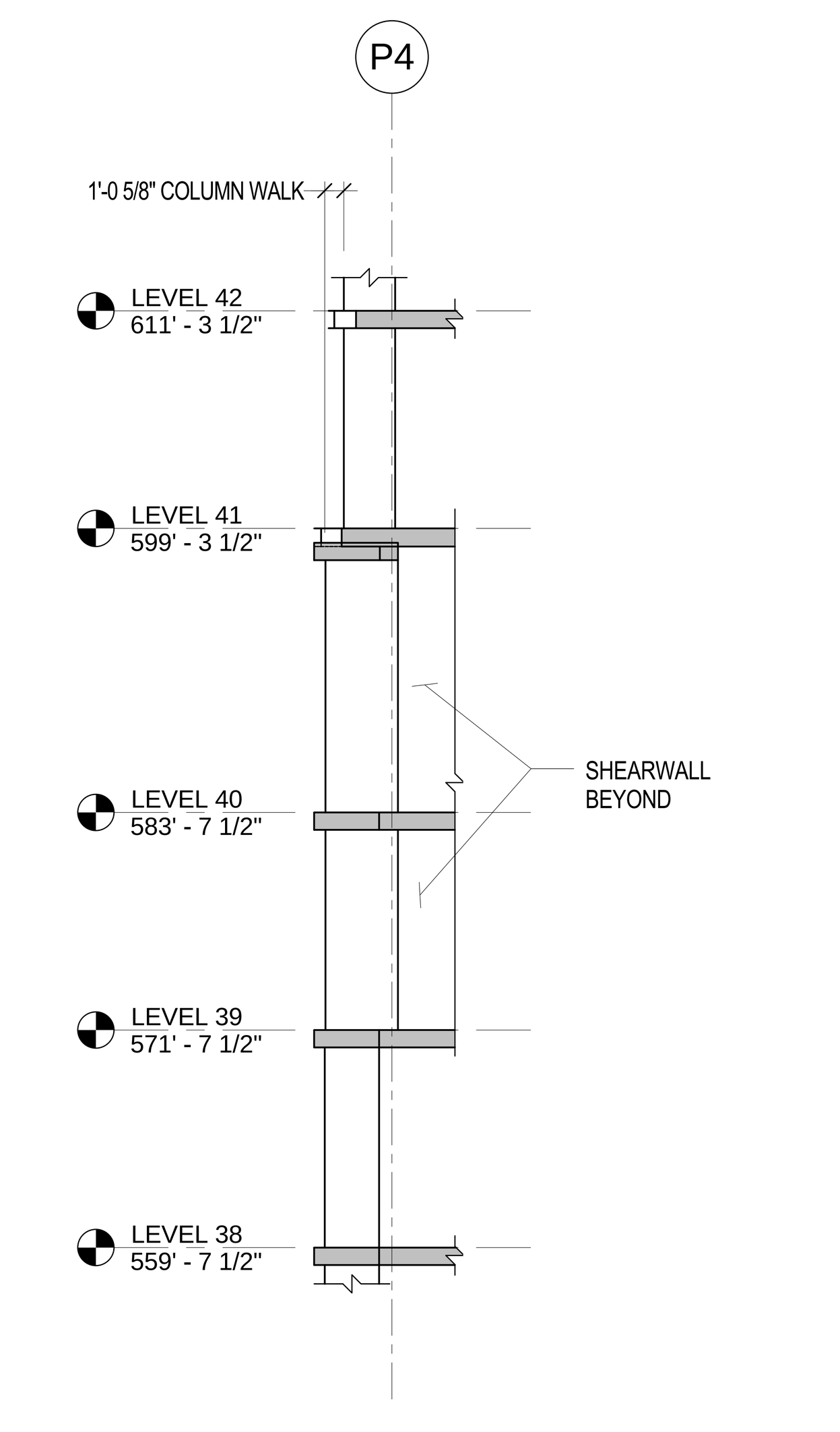
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

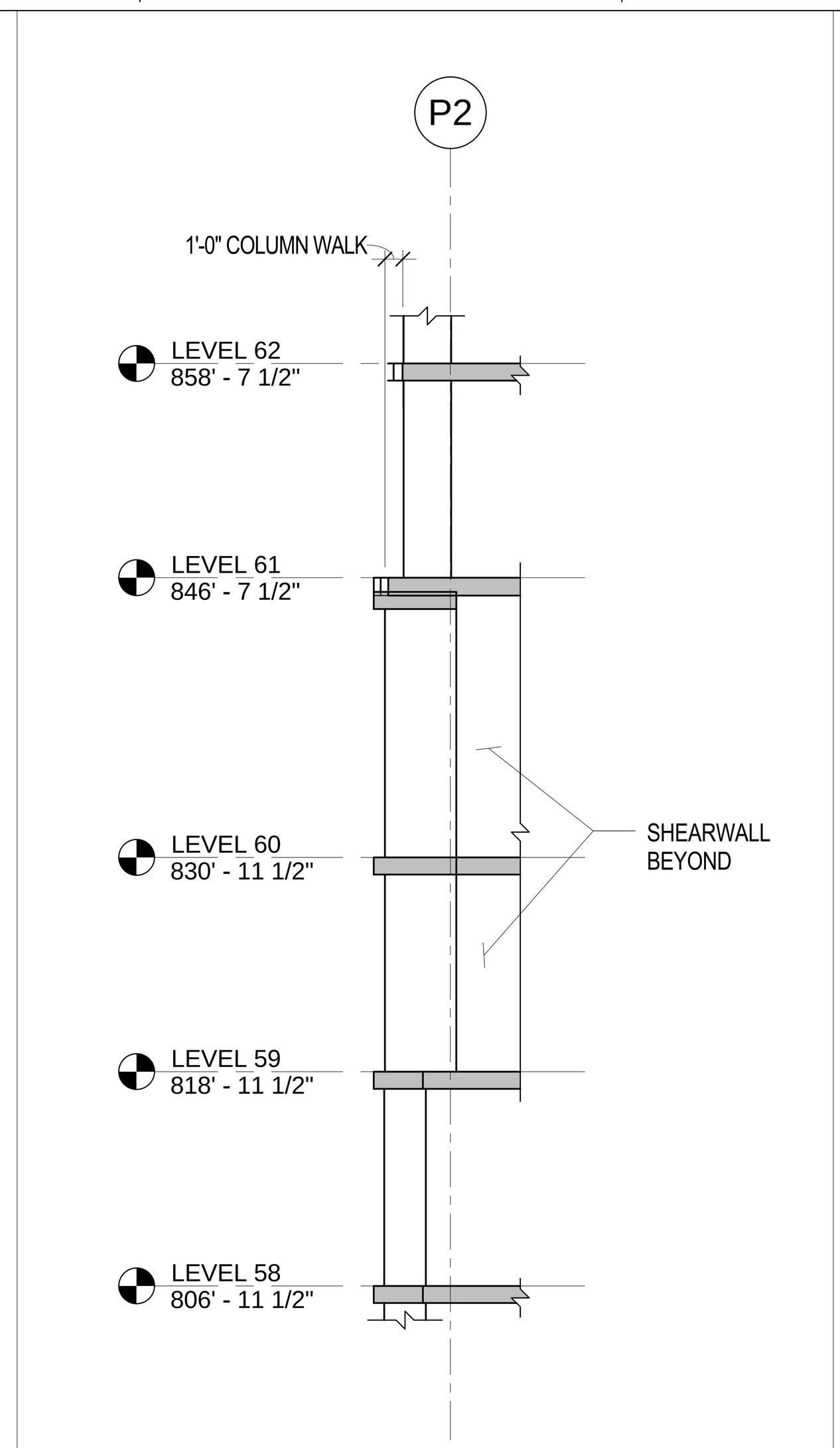
DRAWING TITLE
SLOPING COLUMN ELEVATIONS

B-SCAN - DRAWING NUMBER
S-395.00 (7)

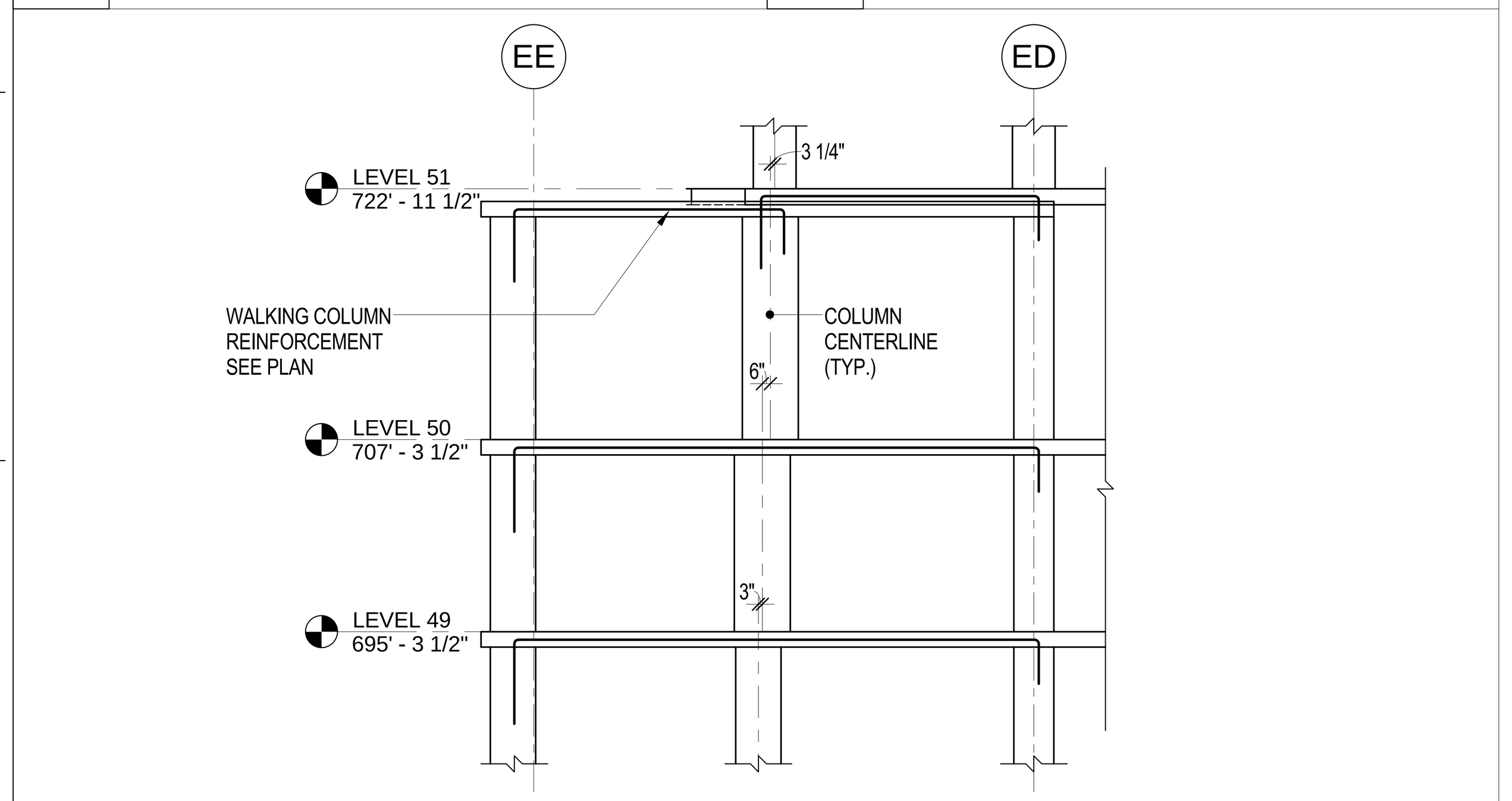
DRAWING NUMBER
S-395



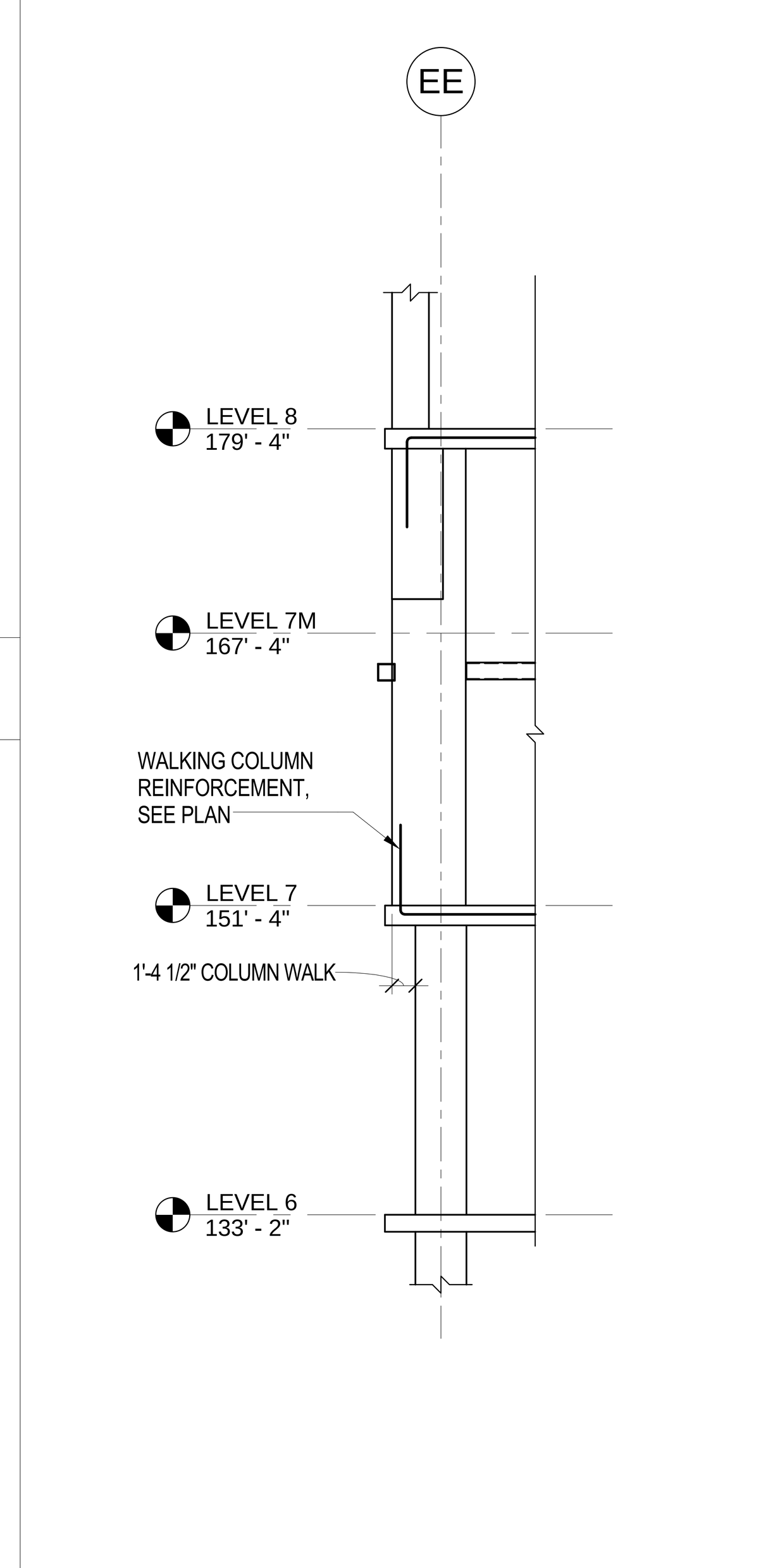
1 COLUMN H4 WALKING SECTION
1/8" = 1'-0"



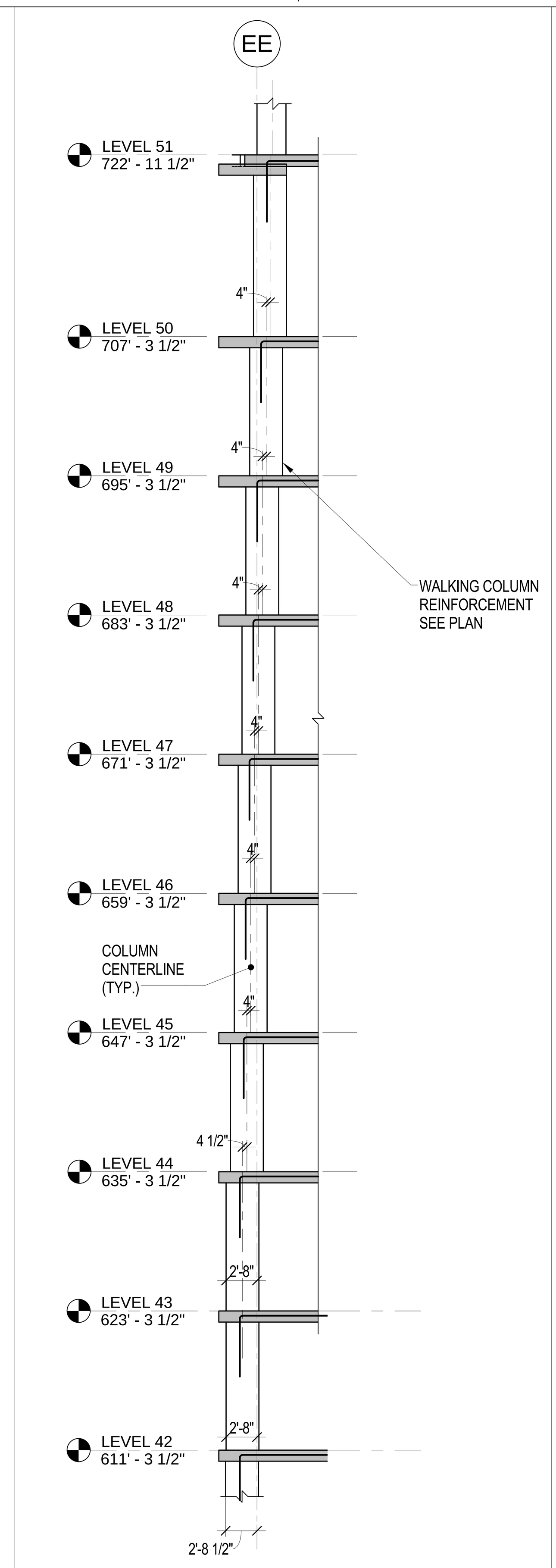
2 COLUMN H5 WALKING SECTION
1/8" = 1'-0"



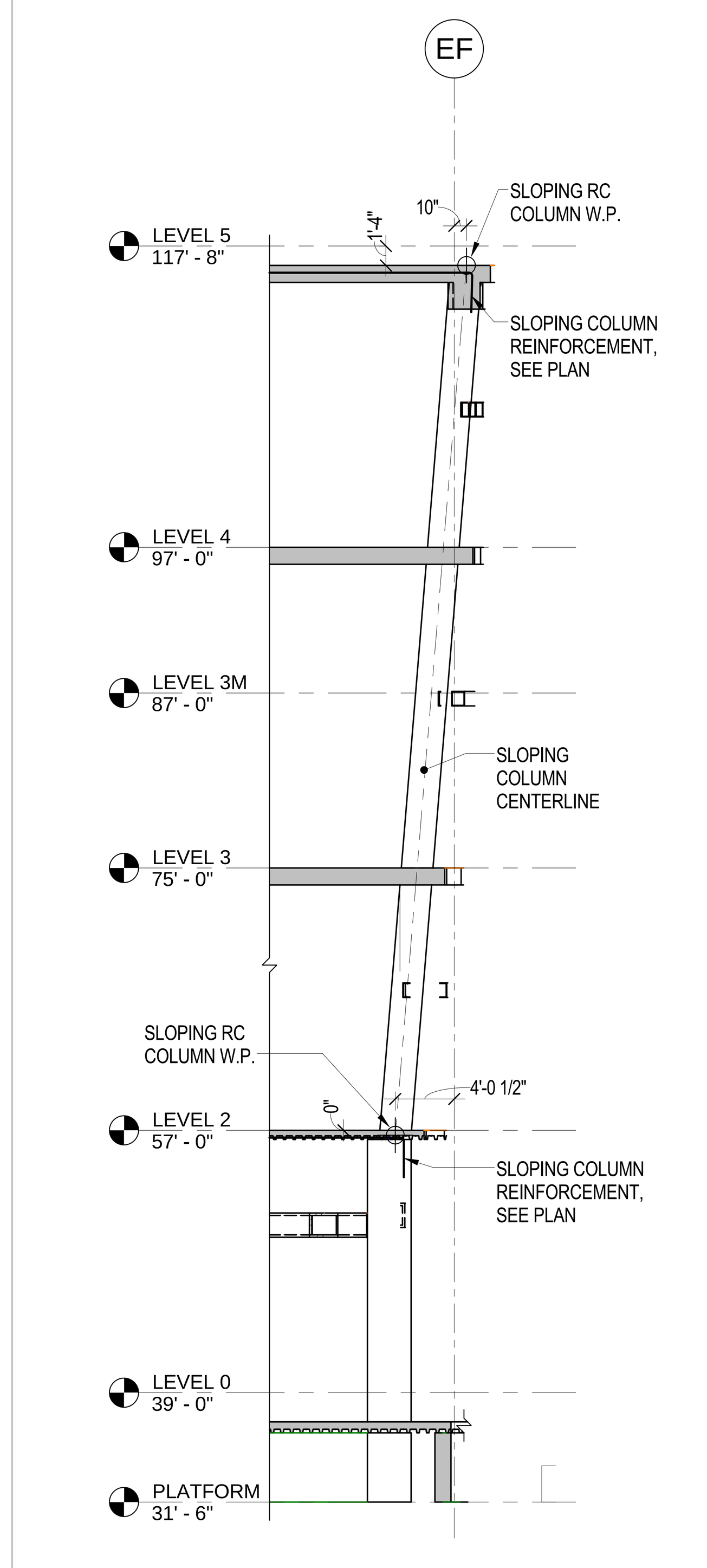
3 COLUMN 5 WALKING SECTION
1/8" = 1'-0"



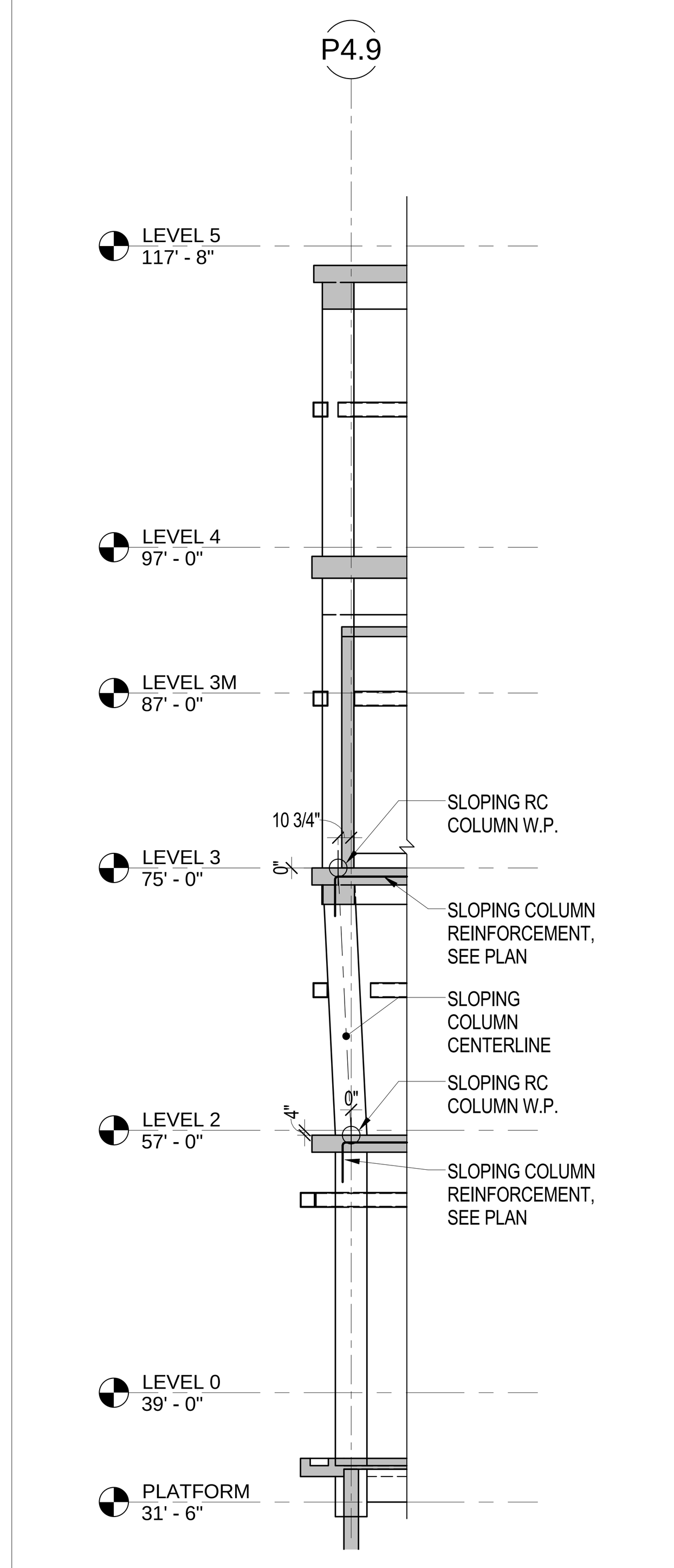
4 COLUMN 21 WALKING SECTION
1/8" = 1'-0"



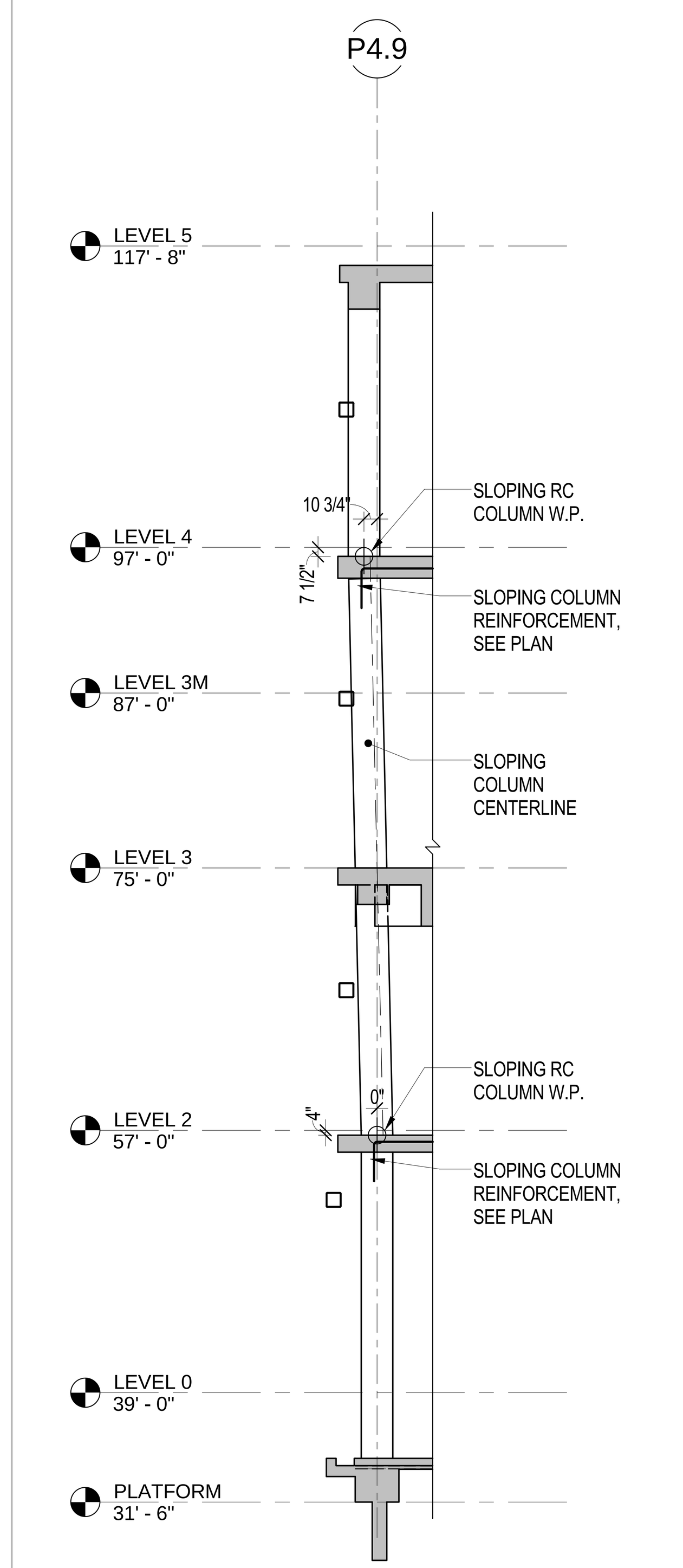
5 COLUMN 7 WALKING SECTION
1/8" = 1'-0"



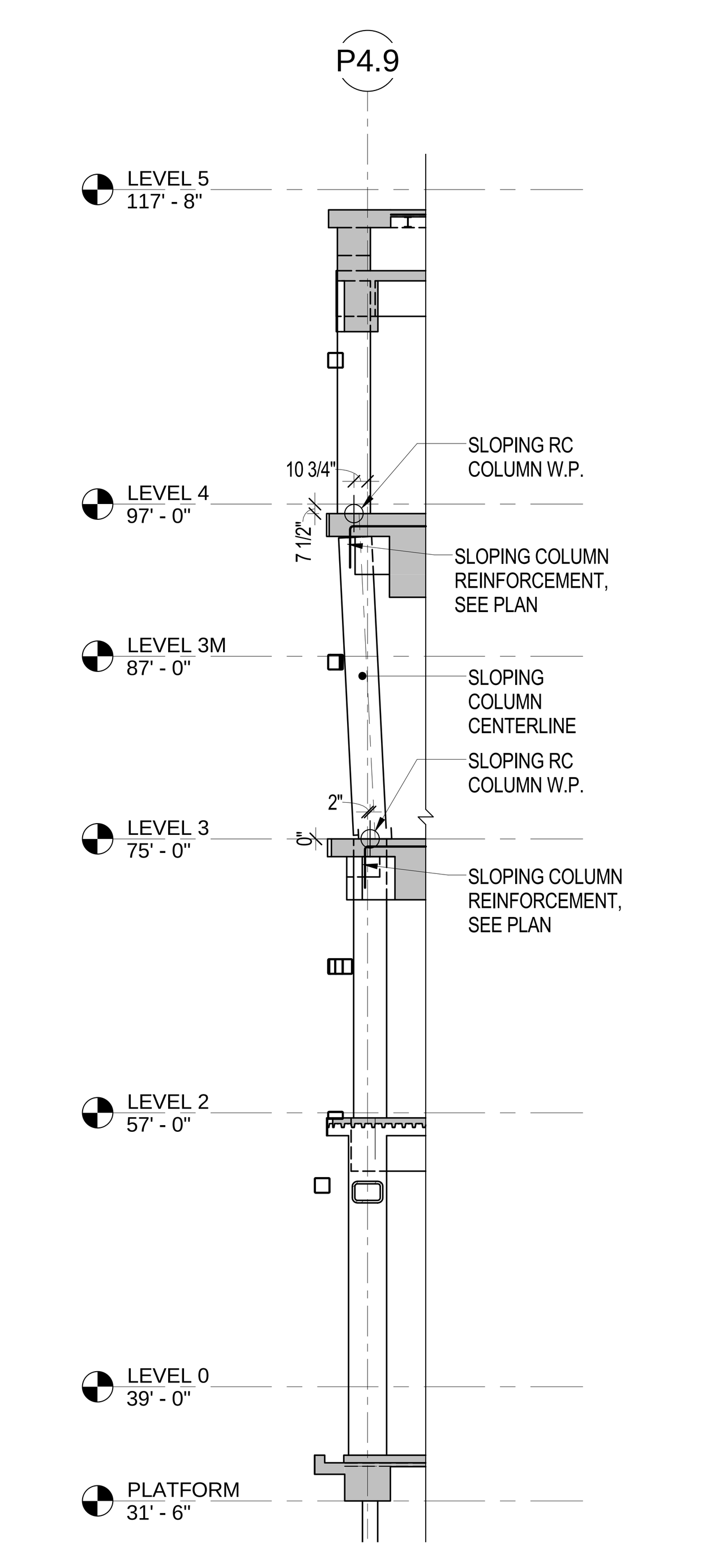
6 COLUMN 32 SLOPING GEOMETRY
1/8" = 1'-0"



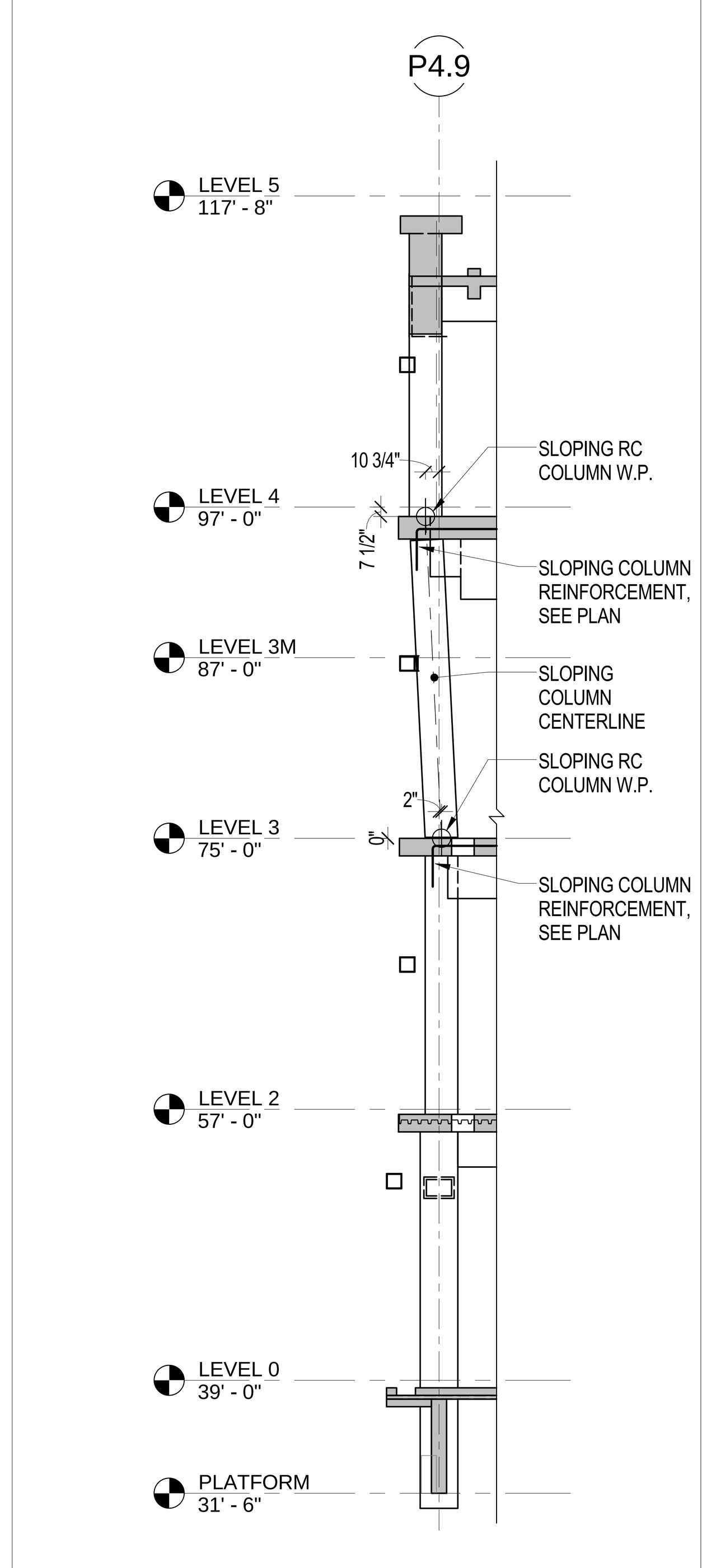
7 COLUMN 39 SLOPING GEOMETRY
1/8" = 1'-0"



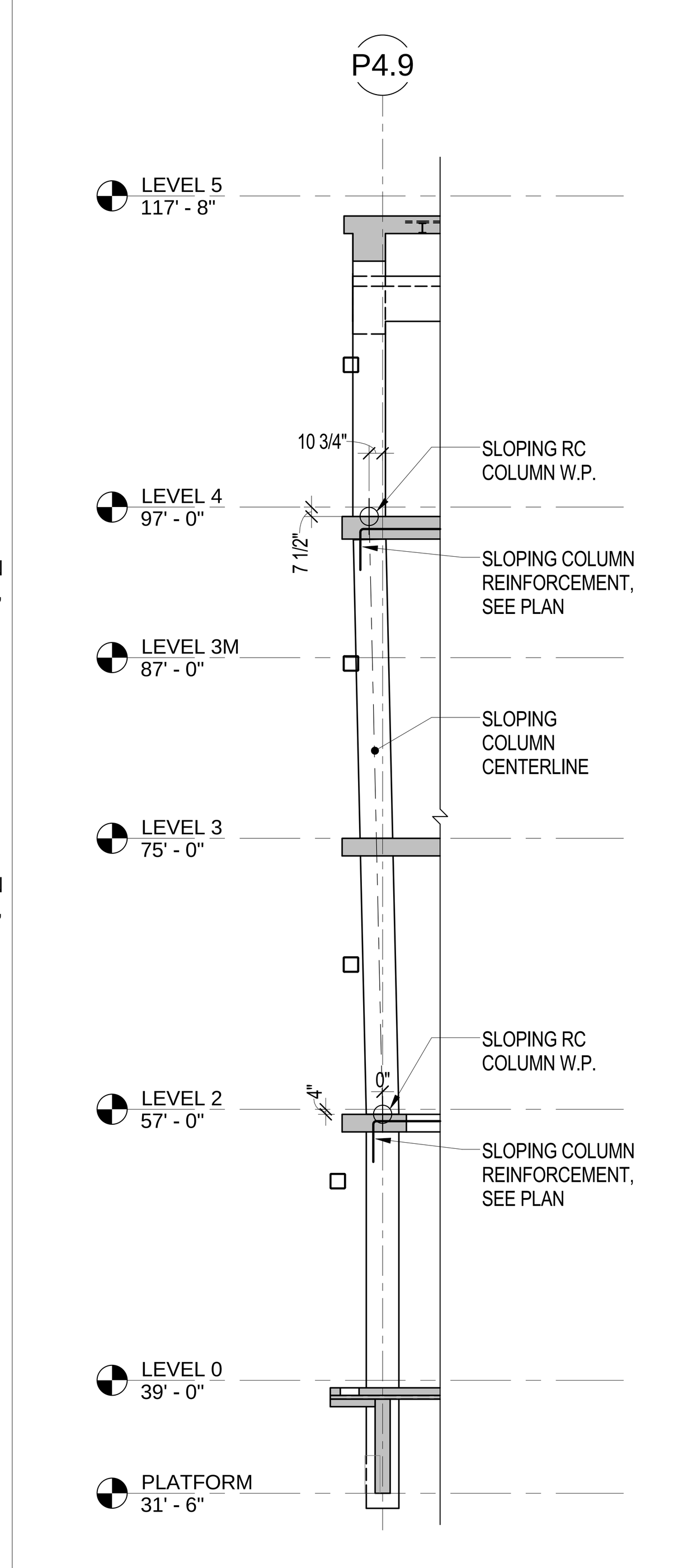
8 COLUMN 40 SLOPING GEOMETRY
1/8" = 1'-0"



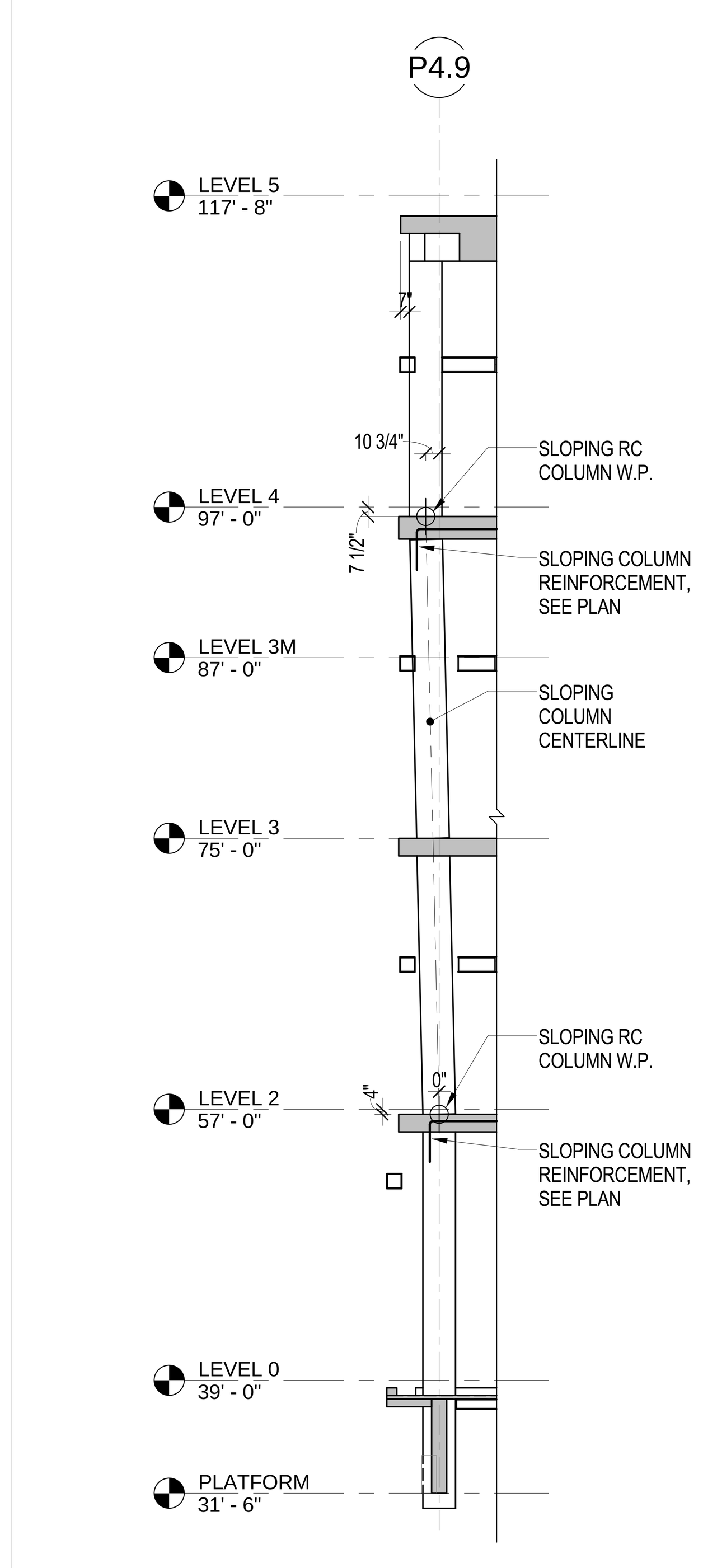
9 COLUMN 41 SLOPING GEOMETRY
1/8" = 1'-0"



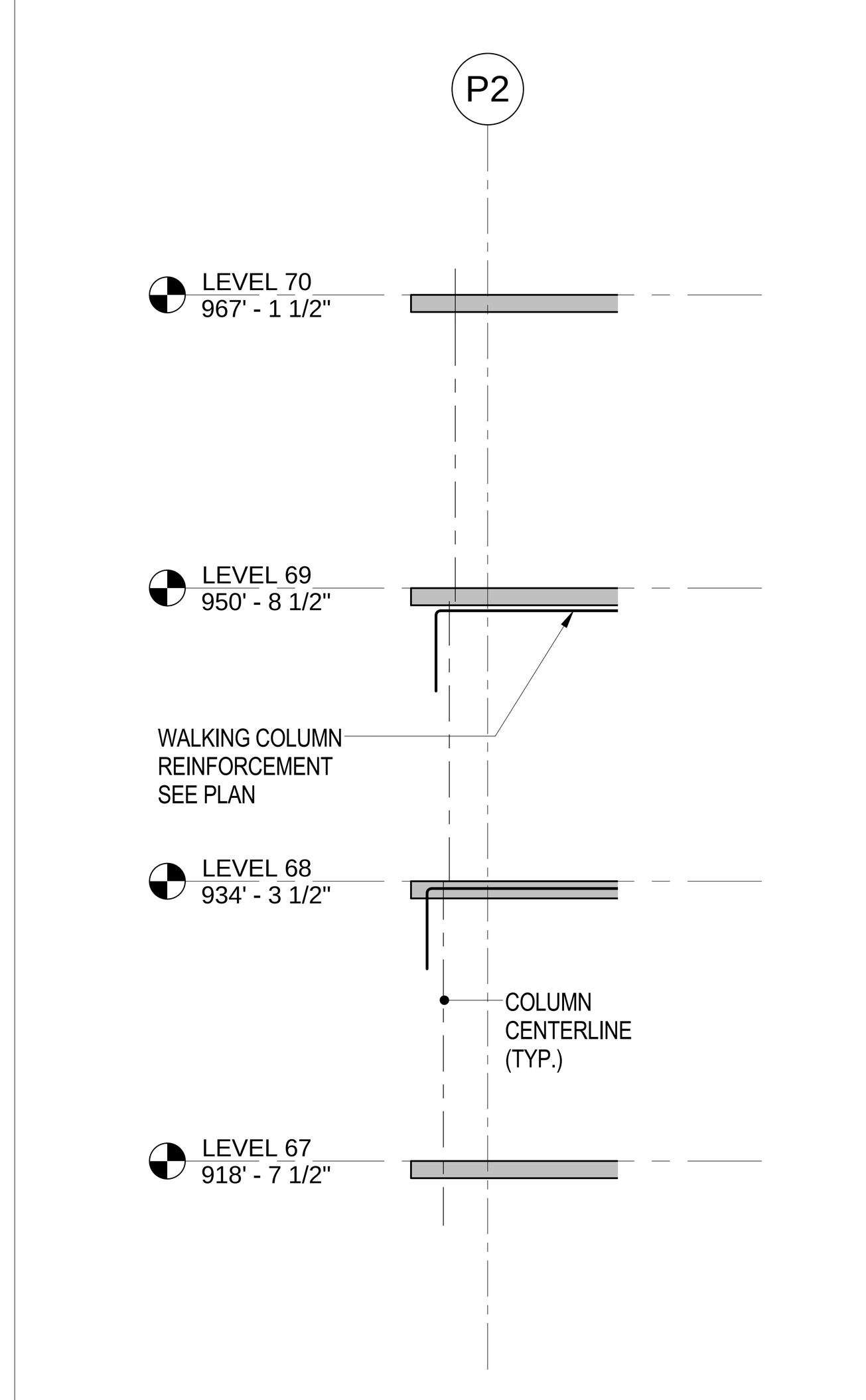
10 COLUMN 42 SLOPING GEOMETRY
1/8" = 1'-0"



11 COLUMN 43 SLOPING GEOMETRY
1/8" = 1'-0"



12 COLUMN 44 SLOPING GEOMETRY
1/8" = 1'-0"



13 COLUMN 5 WALKING SECTION 2
1/8" = 1'-0"

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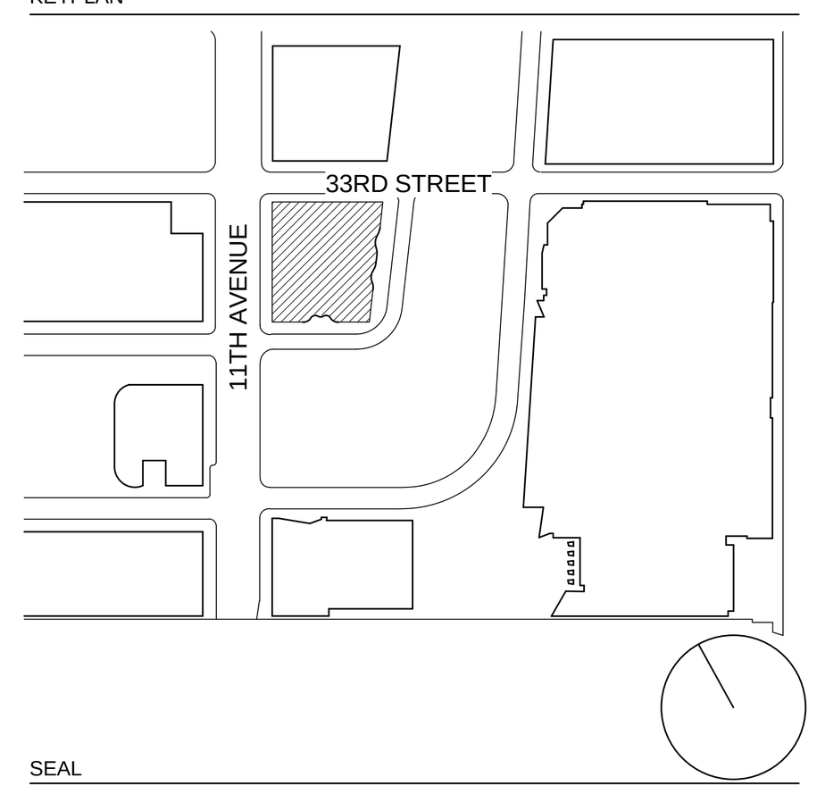
KEYPLAN



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CHARLES MICHAEL BESJAK
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NYC Development Hub

DRAWING TITLE

SLOPING AND WALKING COLUMN ELEVATIONS

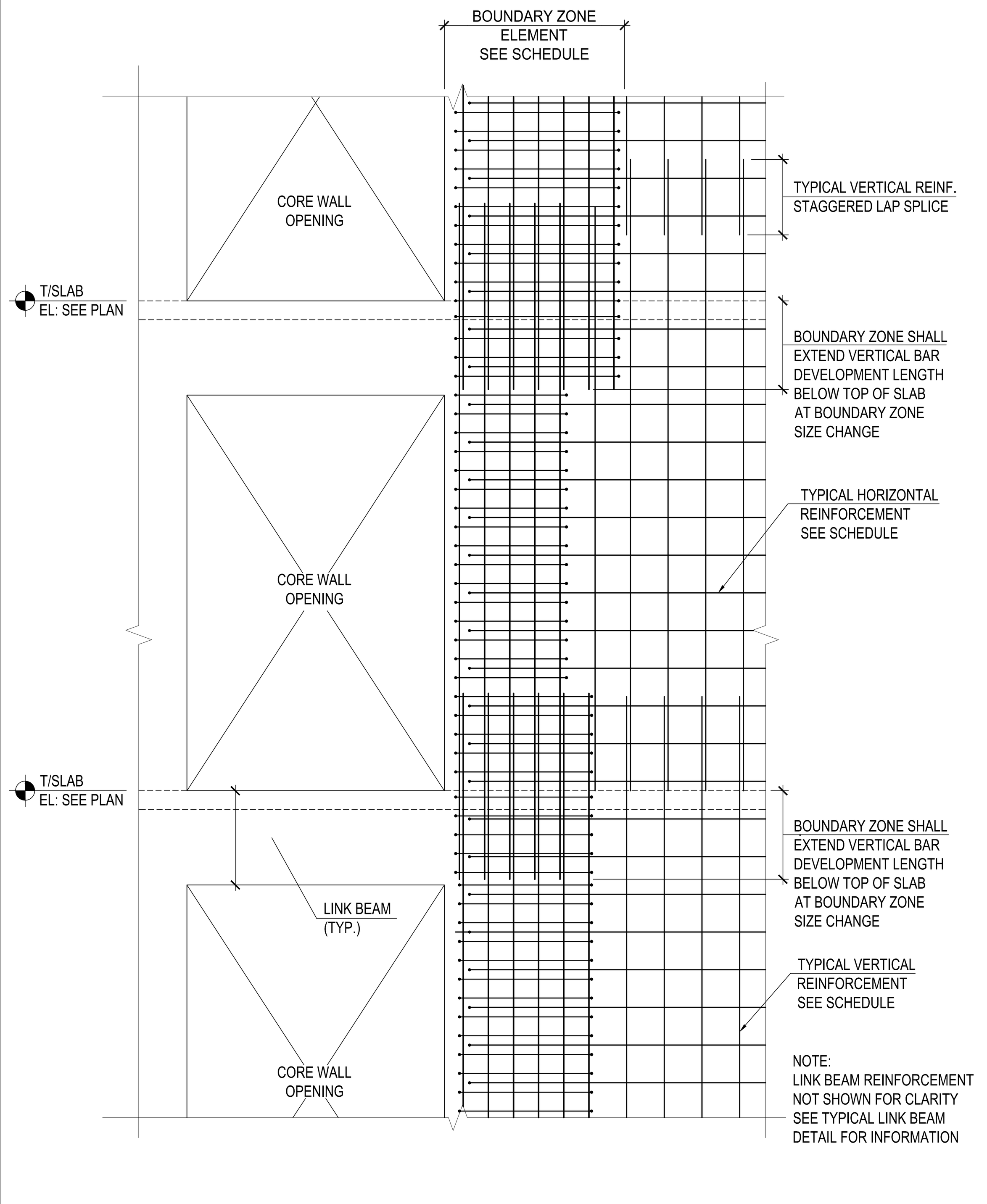
B-SCAN - DRAWING NUMBER

S-396.00

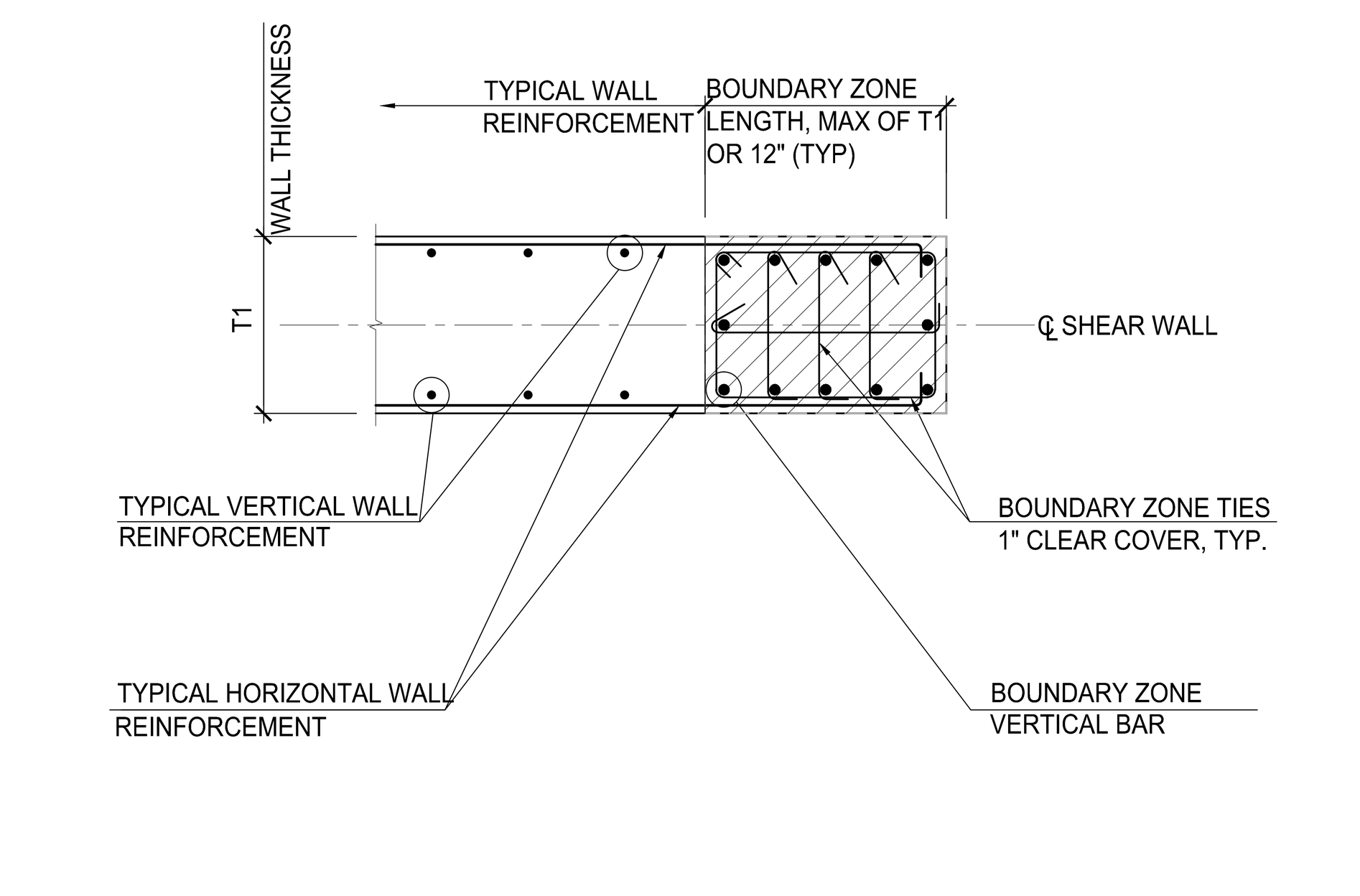
DRAWING NUMBER

S-396

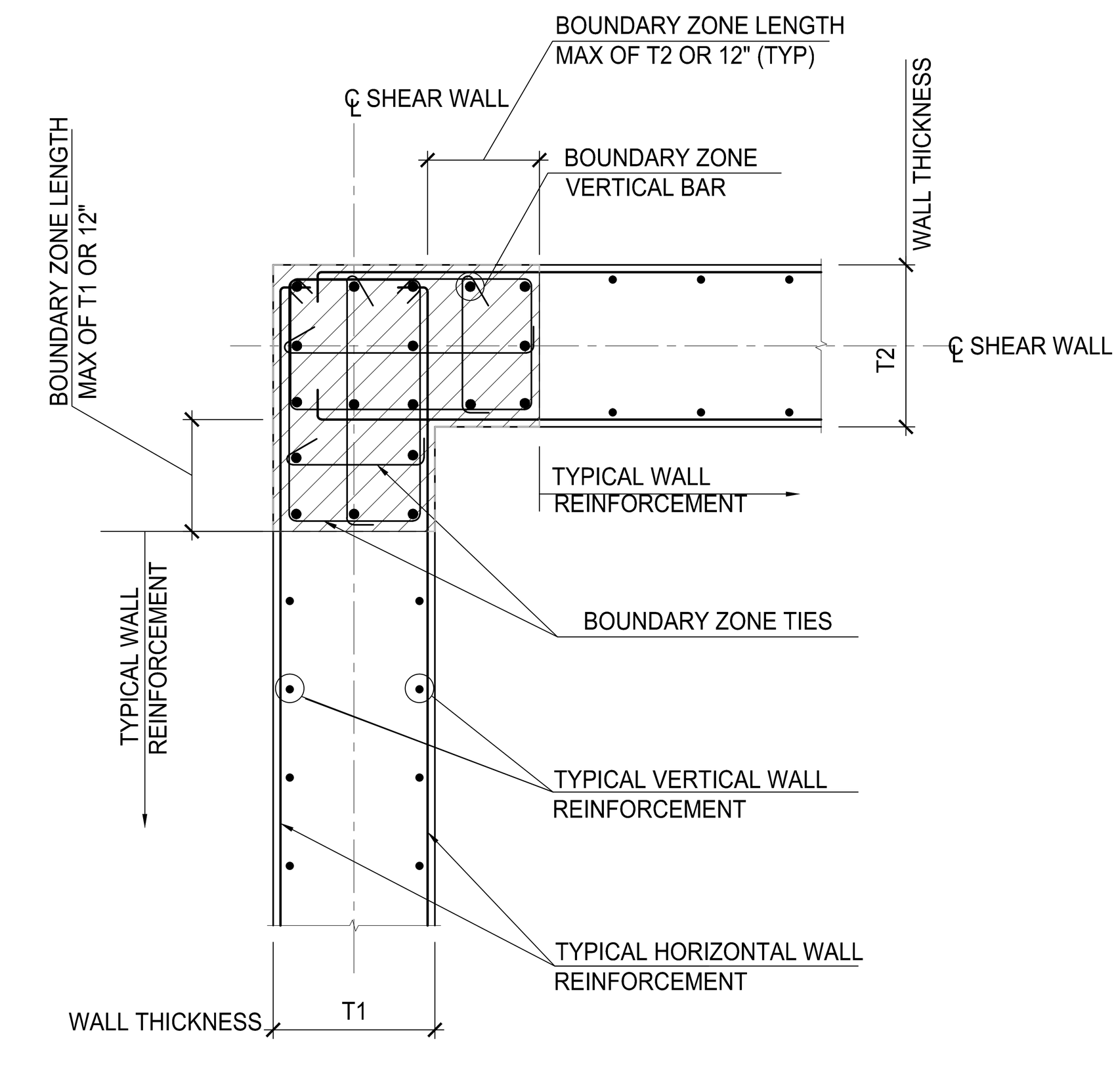
PAGE NUMBER



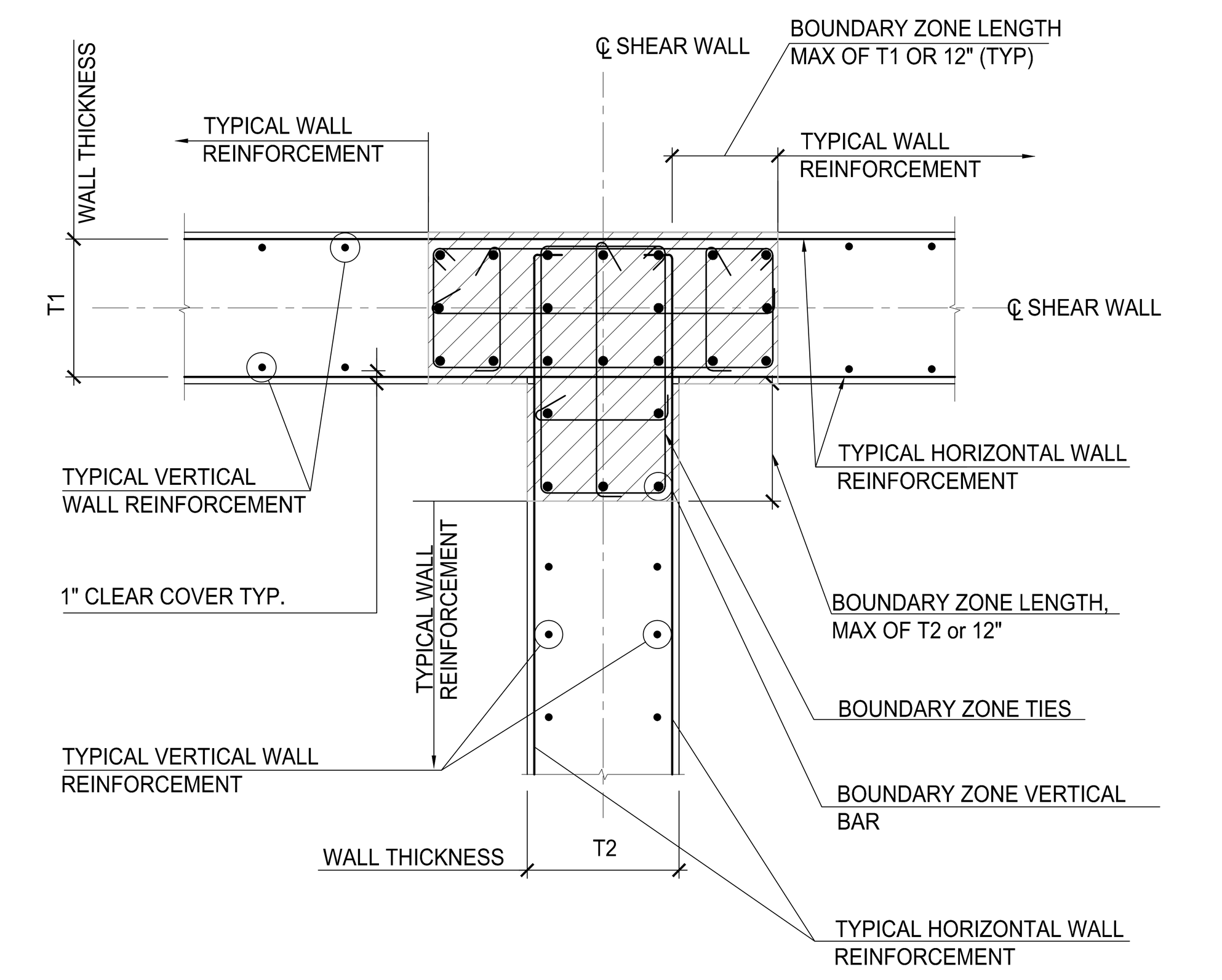
1 TYPICAL SHEAR WALL TIE REINFORCEMENT
SCALE: NOT TO SCALE



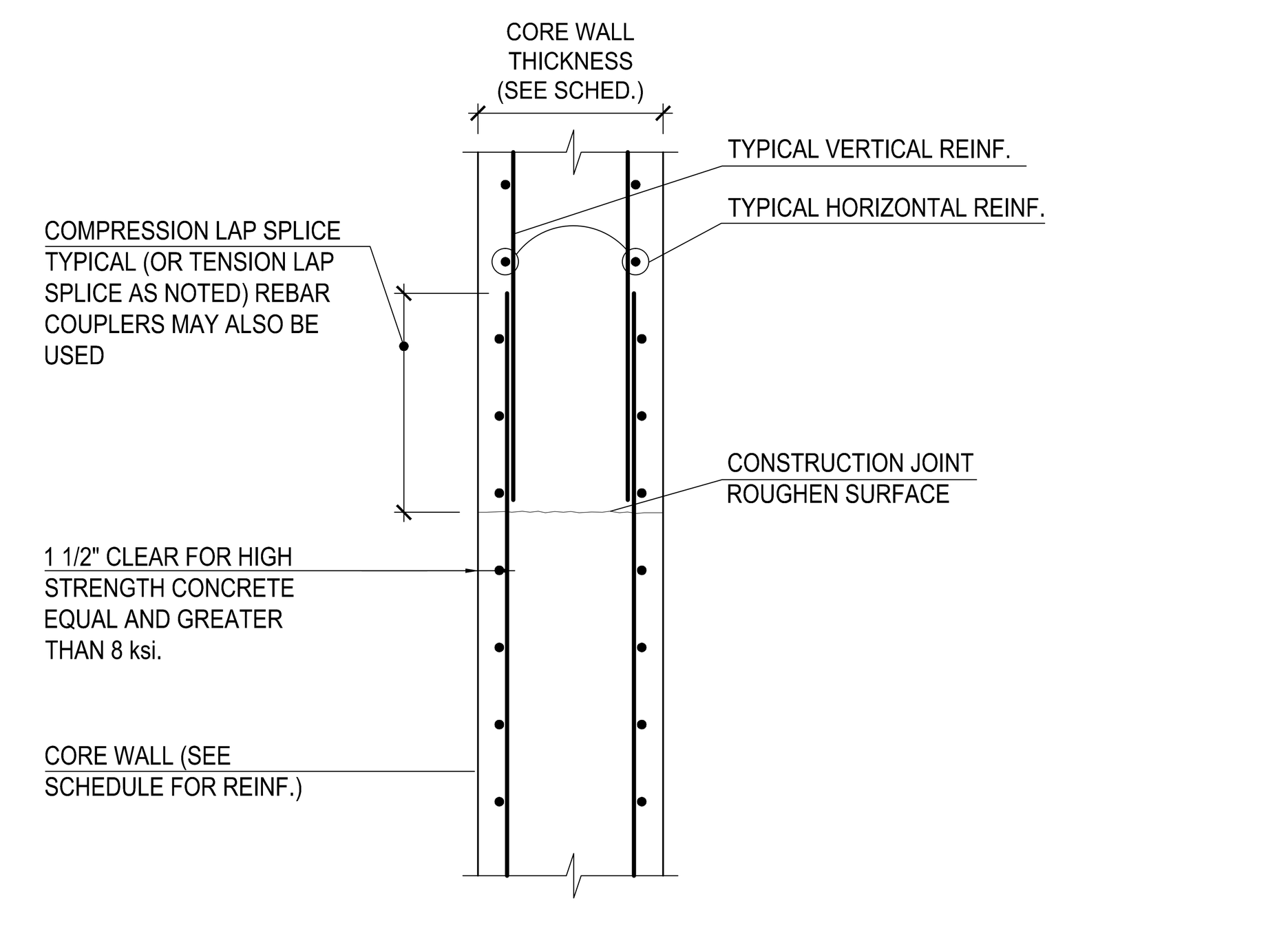
2 TYPICAL SHEAR WALL CONFINED BOUNDARY ELEMENT END DETAIL
SCALE: NOT TO SCALE



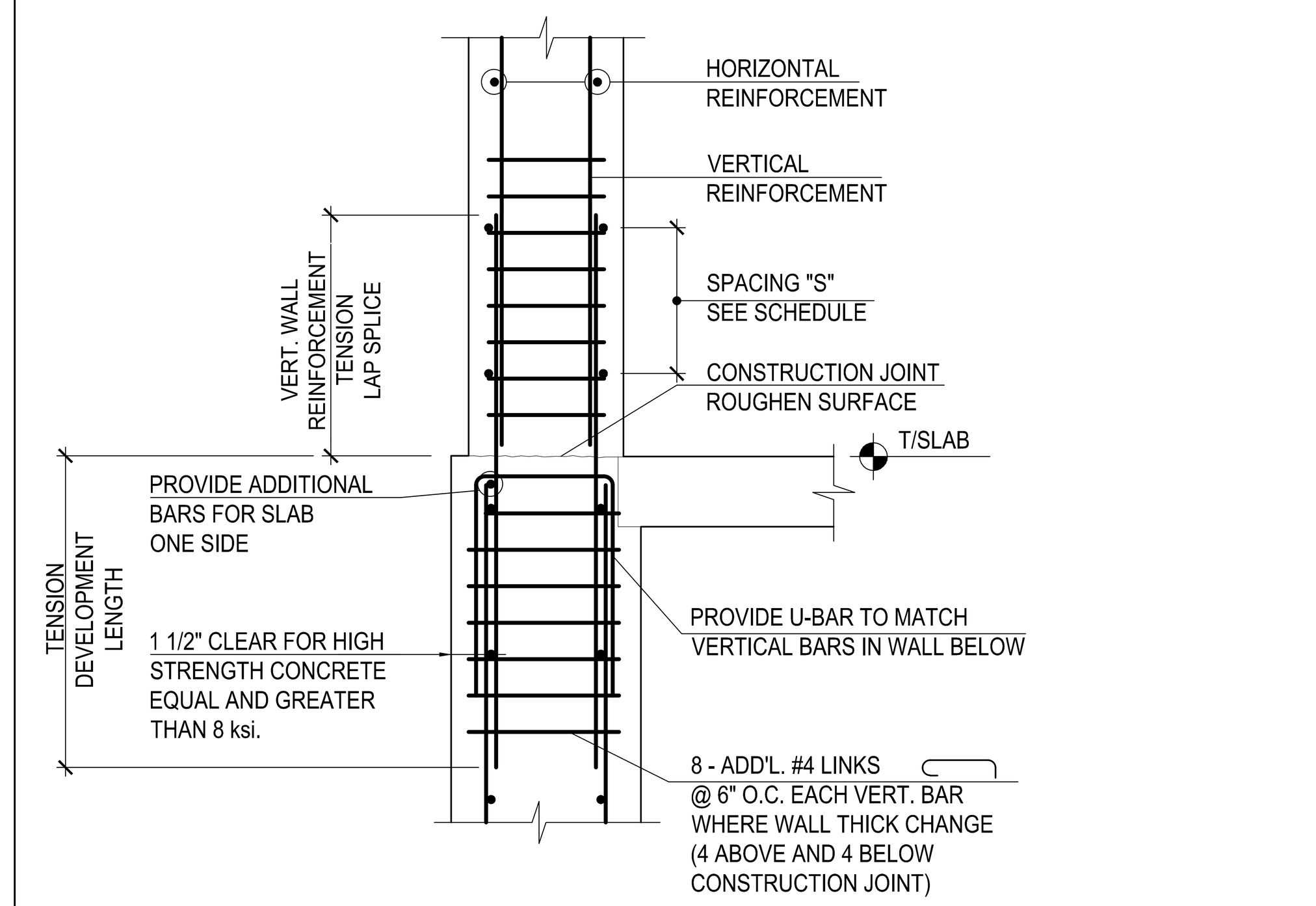
3 TYPICAL SHEAR WALL CONFINED BOUNDARY ELEMENT CORNER DETAIL
SCALE: NOT TO SCALE



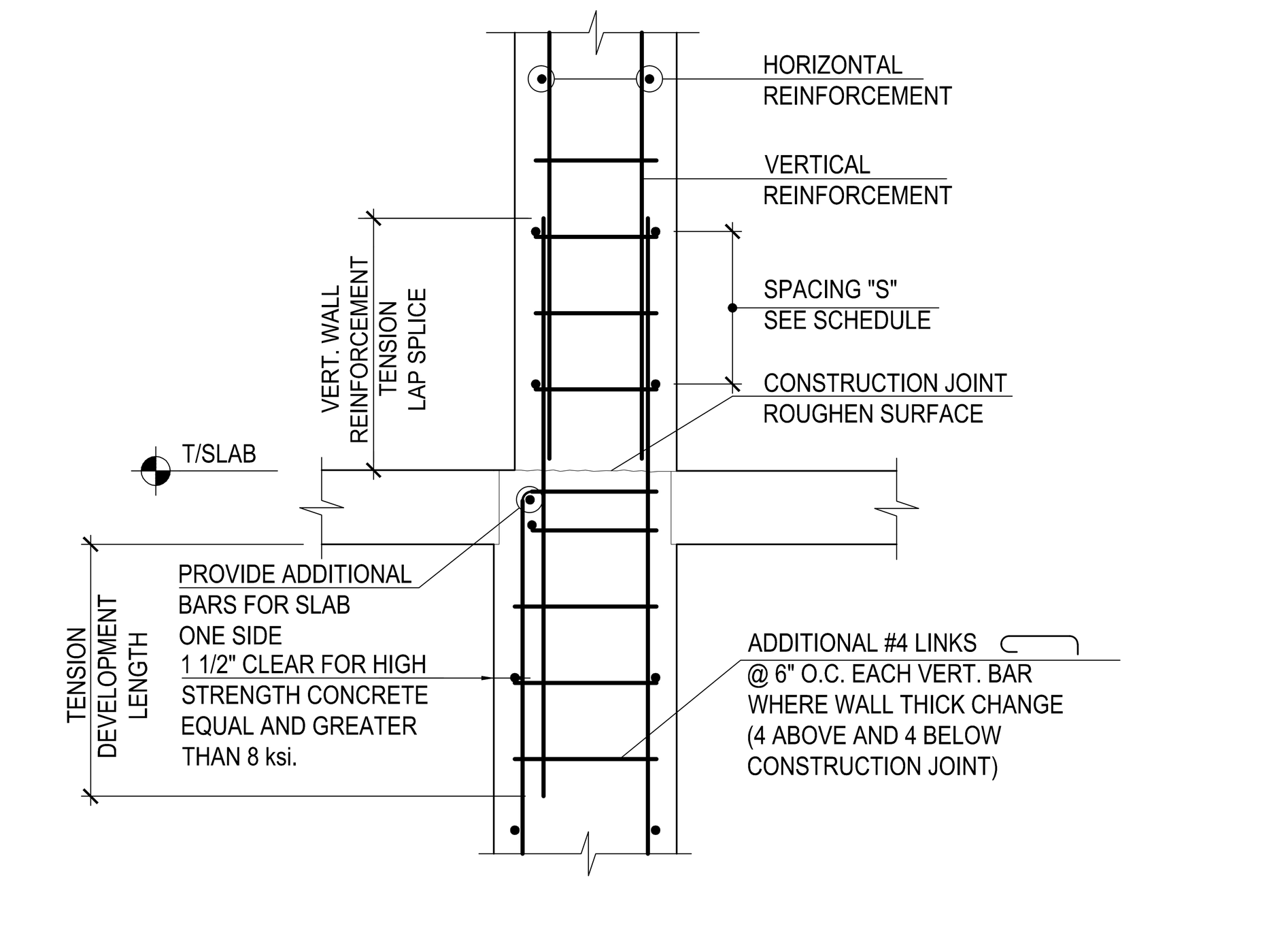
4 TYPICAL SHEAR WALL CONFINED BOUNDARY ELEMENT INTERSECTION DETAIL
SCALE: NOT TO SCALE



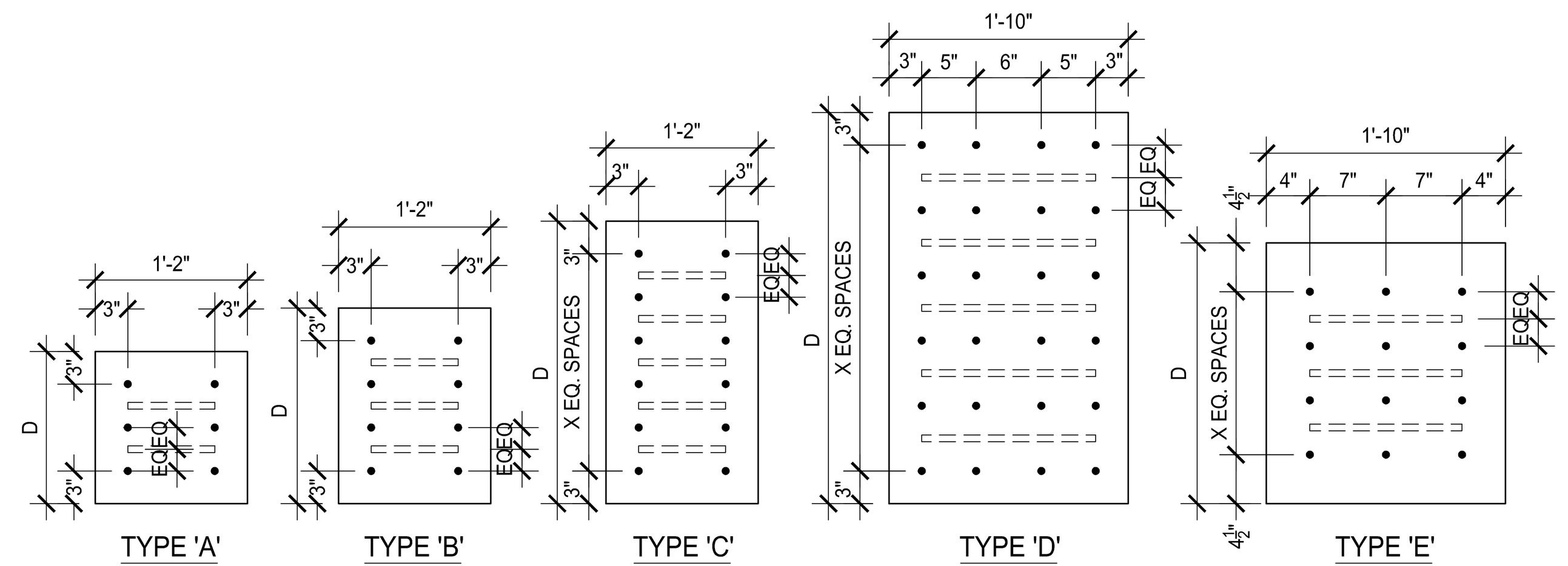
5 TYPICAL CORE WALL SPLICE
SCALE: NOT TO SCALE



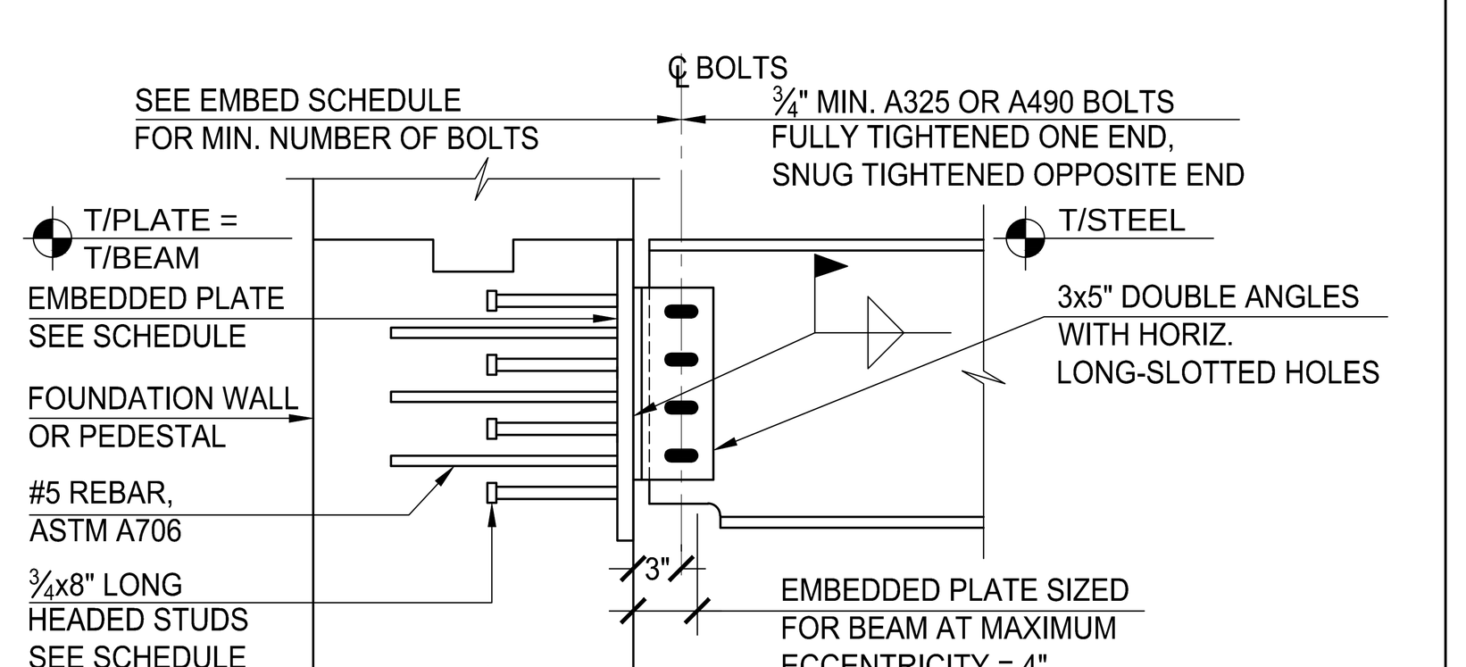
6 TYPICAL CORE WALL SPLICE WITH WALL THICKNESS CHANGE
SCALE: NOT TO SCALE



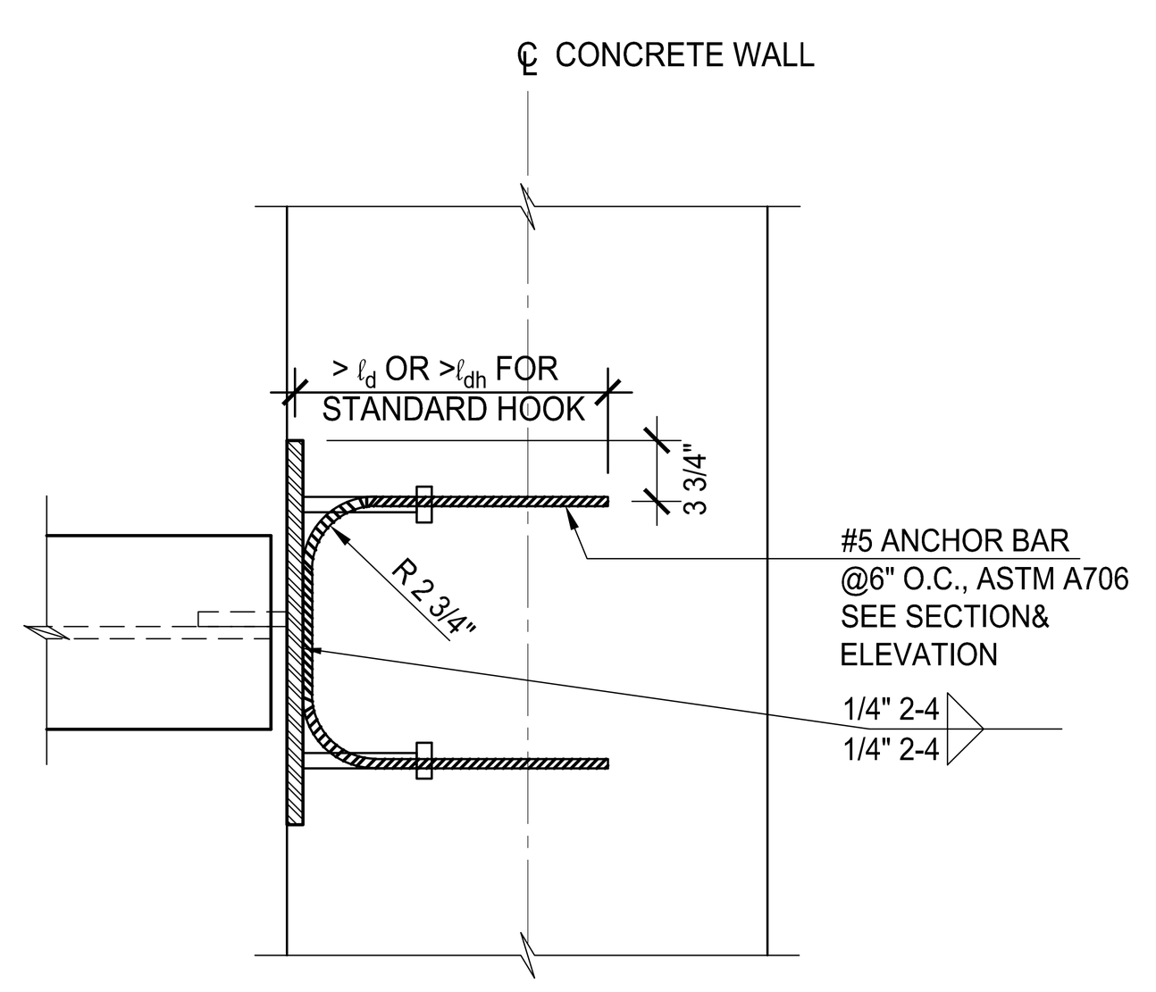
7 TYPICAL CORE WALL SPLICE WITH WALL THICKNESS CHANGE ALIGNED TO ONE SIDE
SCALE: NOT TO SCALE



EMBEDDED PLATE SCHEDULE (Fy, PLATE = 50 ksi; Fu, STUDS = 60 ksi)				
BEAM SIZE	TYPE	DEPTH D	THICKNESS T	NUMBER STUDS
W8-W12	A	14"	3/4"	6
W14-W18	B	18"	1"	8
W21, W24	C	26"	1"	12
W27, W30	C	34"	1"	14
W40	D	42"	1 1/2"	28

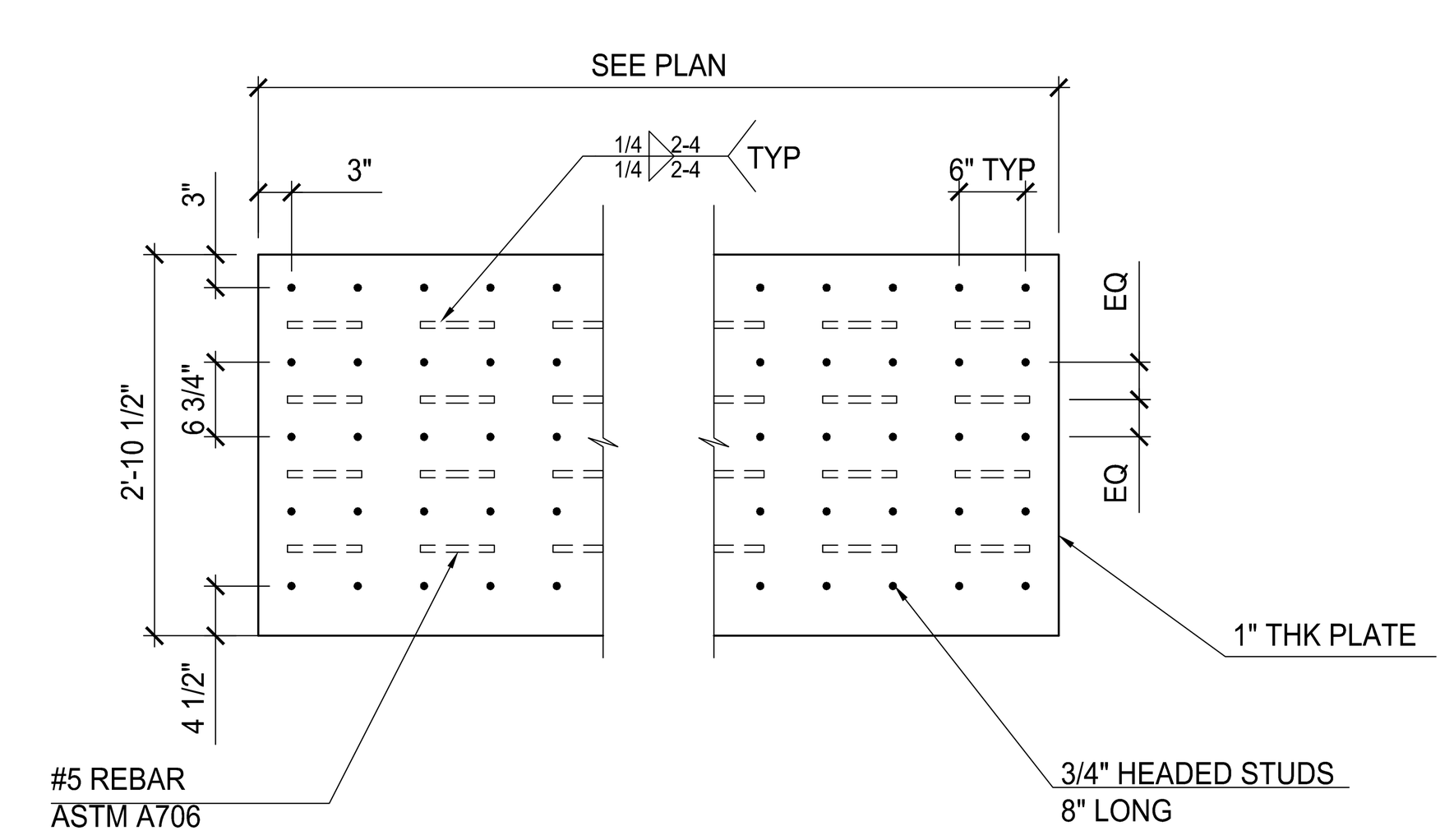


NOTES:
1. BOLTS, WELDS AND ANGLES TO DEVELOP REACTIONS LISTED ON THE PLANS
2. ALL SHEAR STUD CONNECTORS, ANGLES & WELDS SHALL MEET THE REQUIREMENTS OF THE AISC SPECIFICATION
3. ALL SHEAR STUDS SHALL BE TYPE B ASTM A108
4. ALL SHEAR STUD WELDS SHALL DEVELOP THE ULTIMATE STRENGTH OF THE STUD
5. SEE SHEET S-521 FOR ELEVATOR DIVIDER BEAM EMBED PLATES
6. SEE DETAIL 8/S-511 FOR HSS TO EMBED PLATE CONNECTION DETAIL.



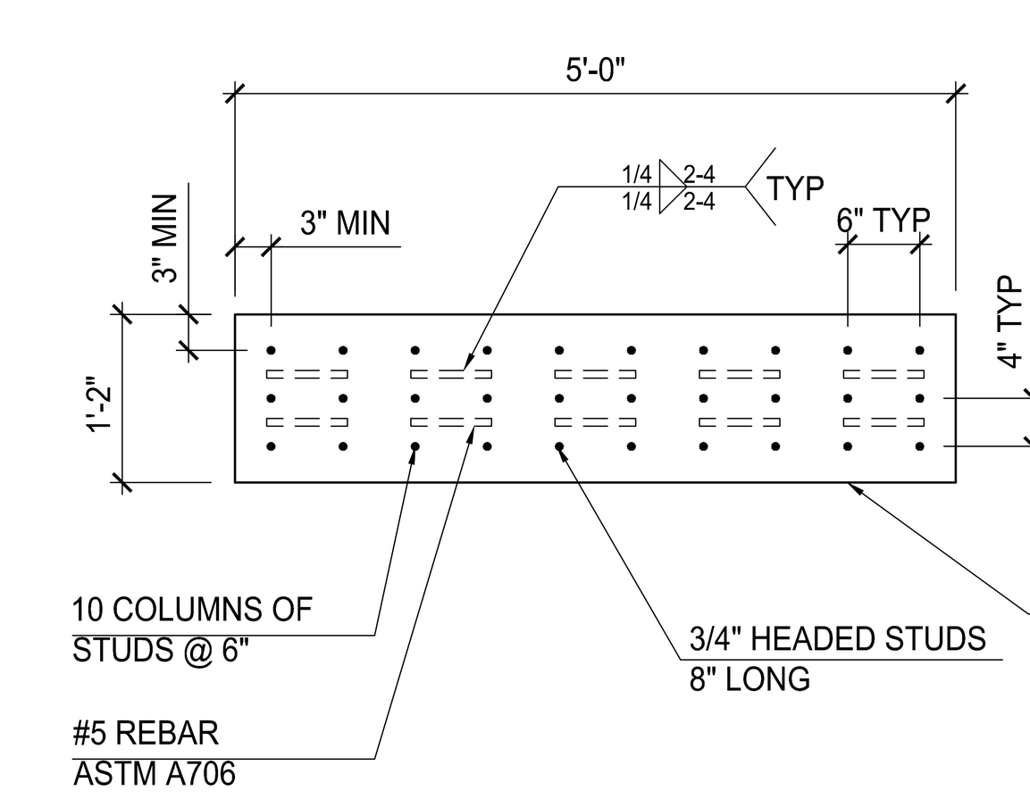
SECTION

8 EMBED PLATE DETAIL
SCALE: NOT TO SCALE



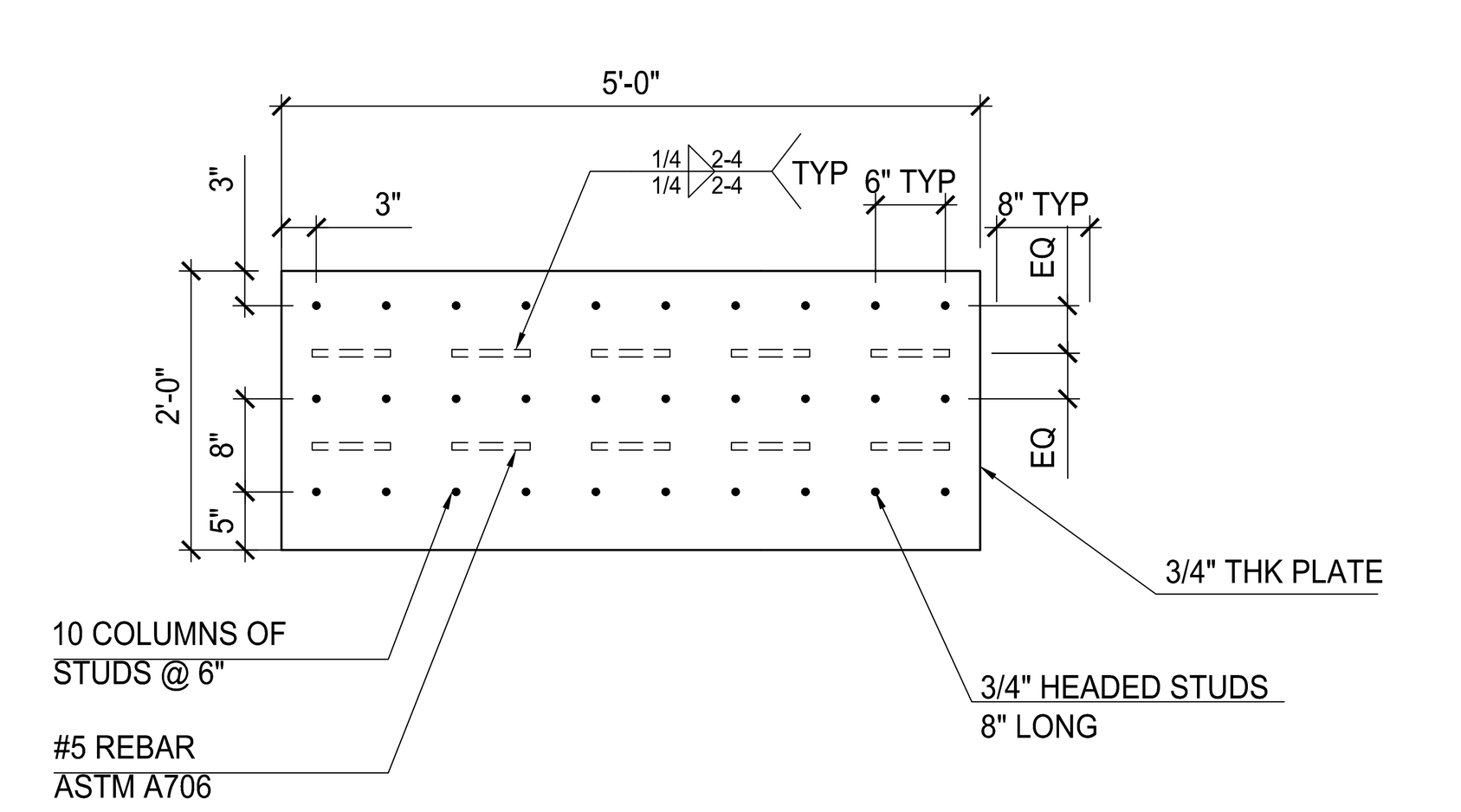
NOTES:
REFER TO SECTION IN 8/S-401 FOR ADDITIONAL PLATE DETAILS

9A CONTINUOUS PLATE SOUTH CANOPY
SCALE: 3/4" = 1'-0"



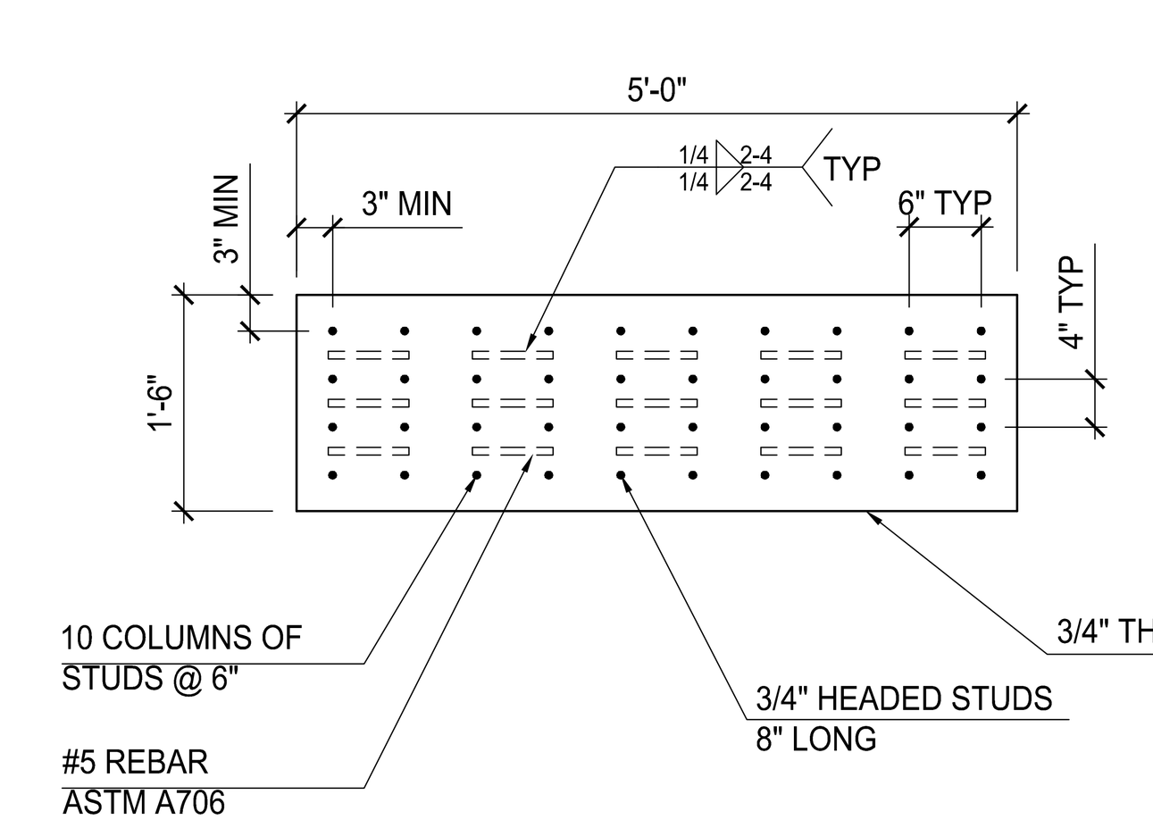
NOTES:
REFER TO SECTION IN 8/S-401 FOR ADDITIONAL PLATE DETAILS

9C EMBED PLATE FOR W10 GROUND FLOOR
SCALE: 3/4" = 1'-0"



NOTES:
REFER TO SECTION IN 8/S-401 FOR ADDITIONAL PLATE DETAILS

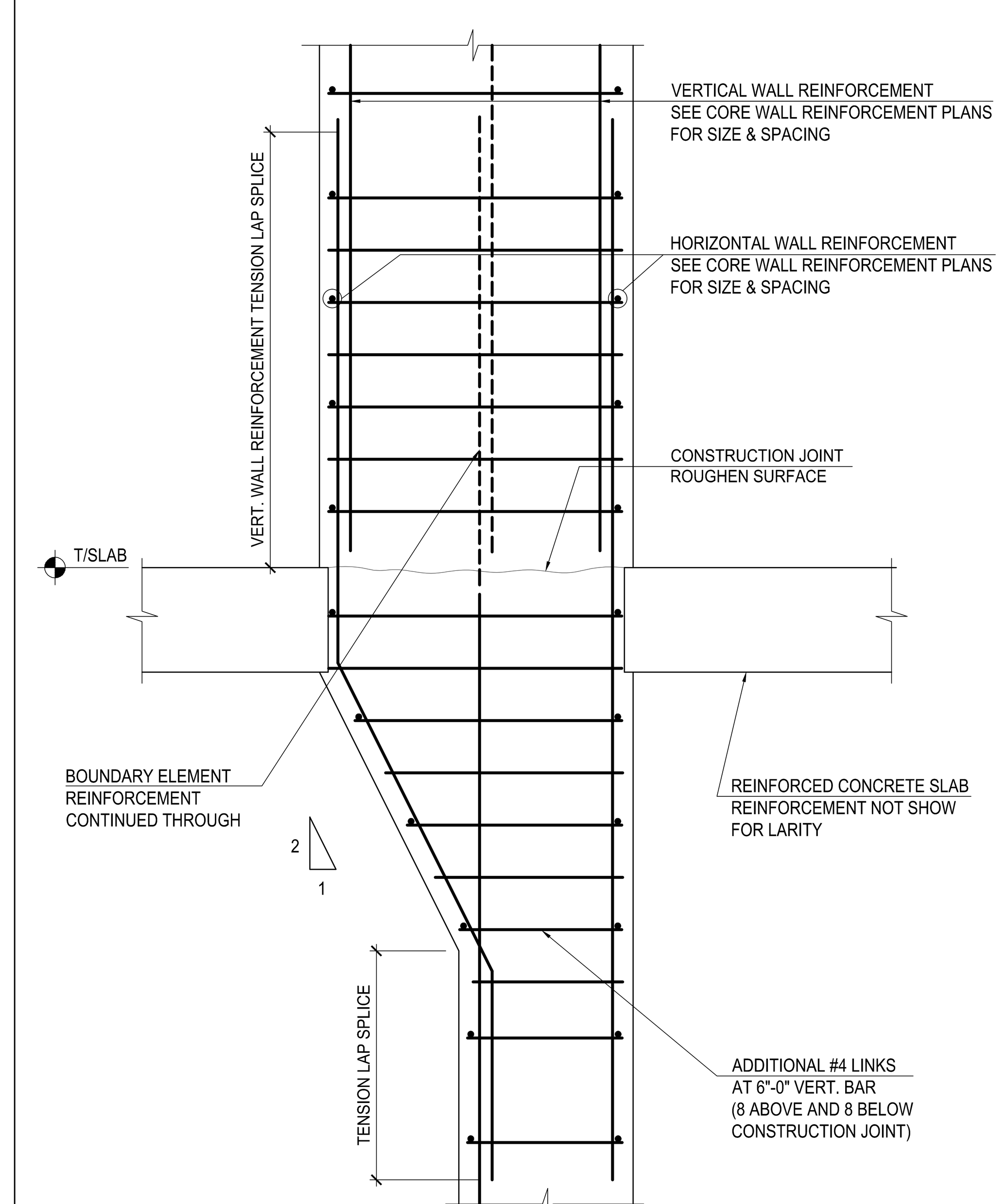
9B EMBED PLATE EAST CANOPY
SCALE: 3/4" = 1'-0"



NOTES:
REFER TO SECTION IN 8/S-401 FOR ADDITIONAL PLATE DETAILS

9D EMBED PLATE FOR W16 GROUND FLOOR
SCALE: 3/4" = 1'-0"

9 CONTINUOUS EMBED PLATE DETAIL
SCALE: NOT TO SCALE



10 CORE WALL SPLICE WITH THICKER WALL ABOVE
SCALE: NOT TO SCALE

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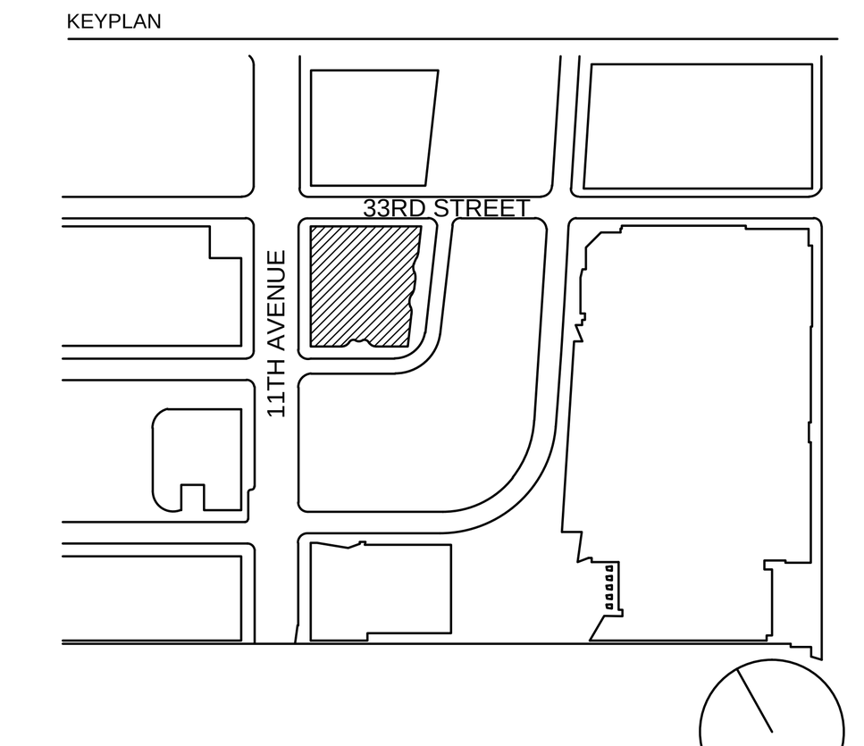

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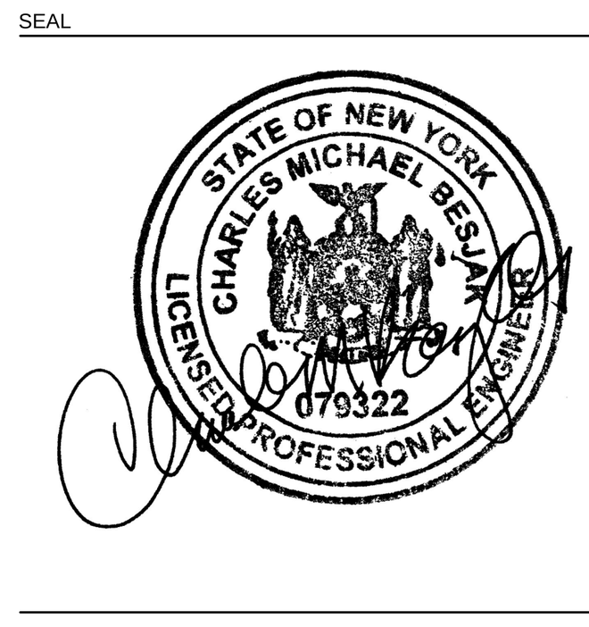

NO.	DATE	DESCRIPTION
7	20 JAN 2017	ISSUED TO DOB
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
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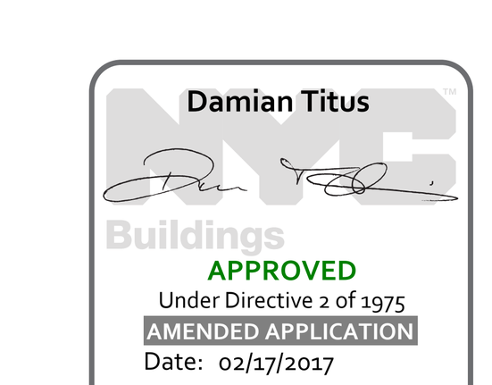
DRAWING TITLE
RC WALL DETAILS



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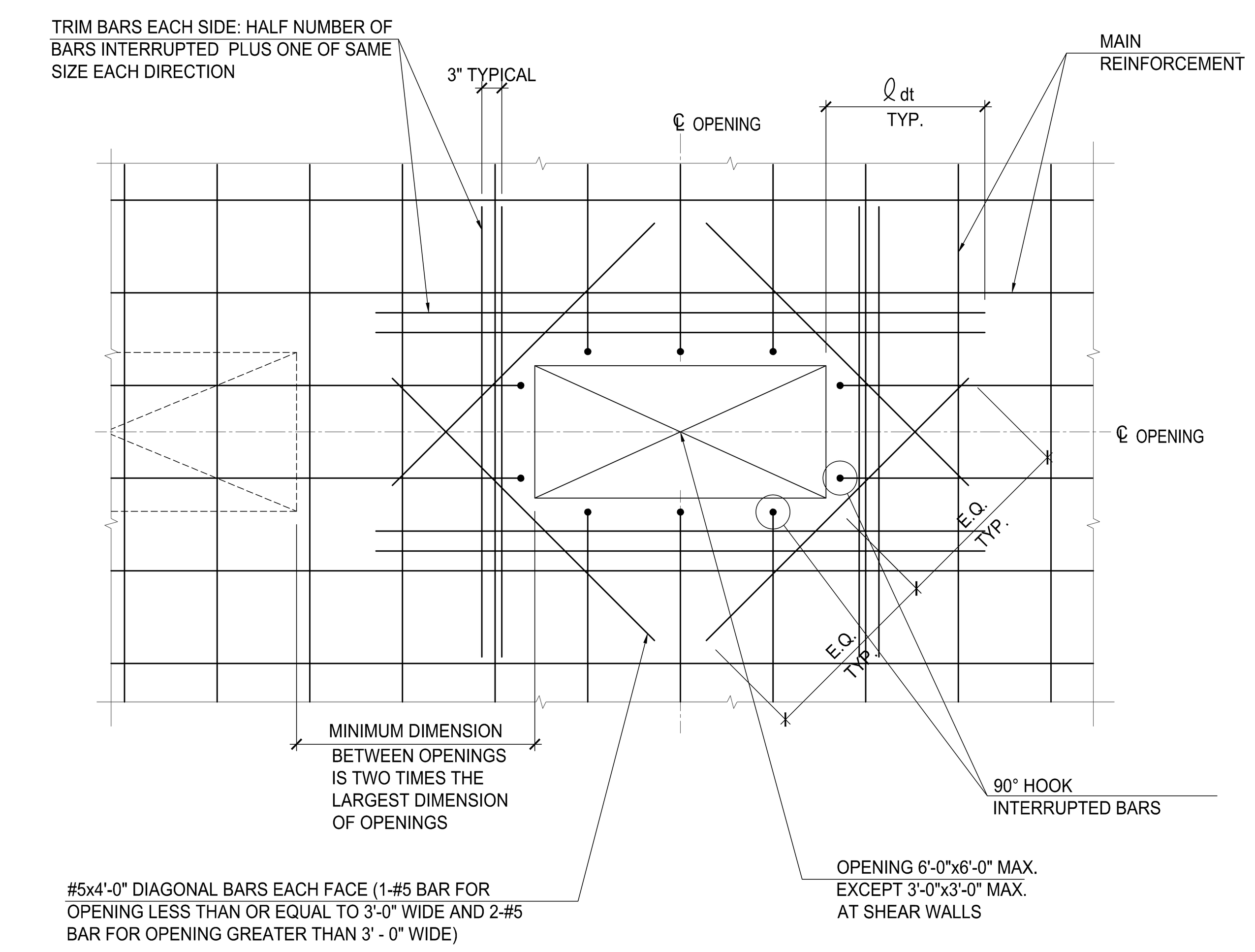
S-401.01

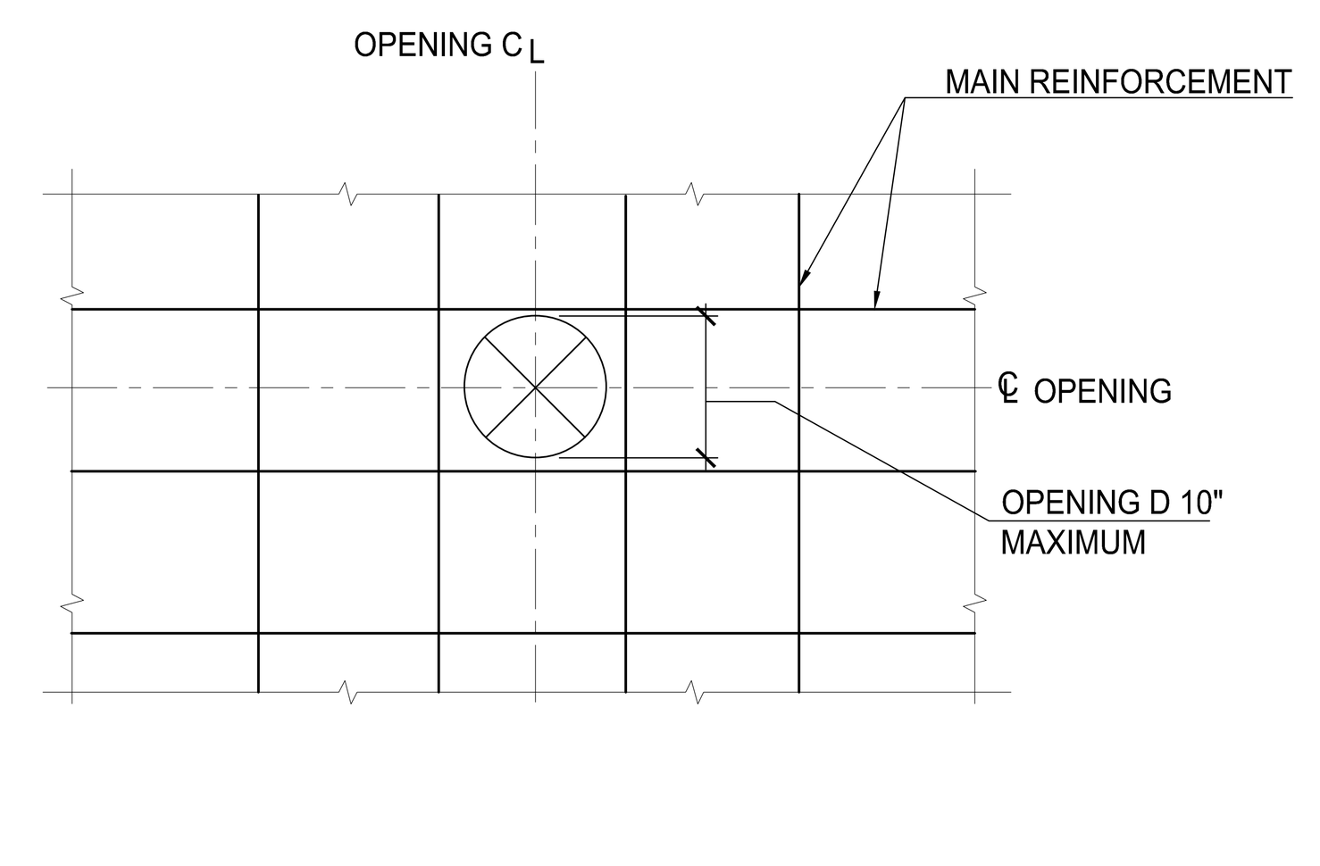
DRAWING NUMBER
S-401



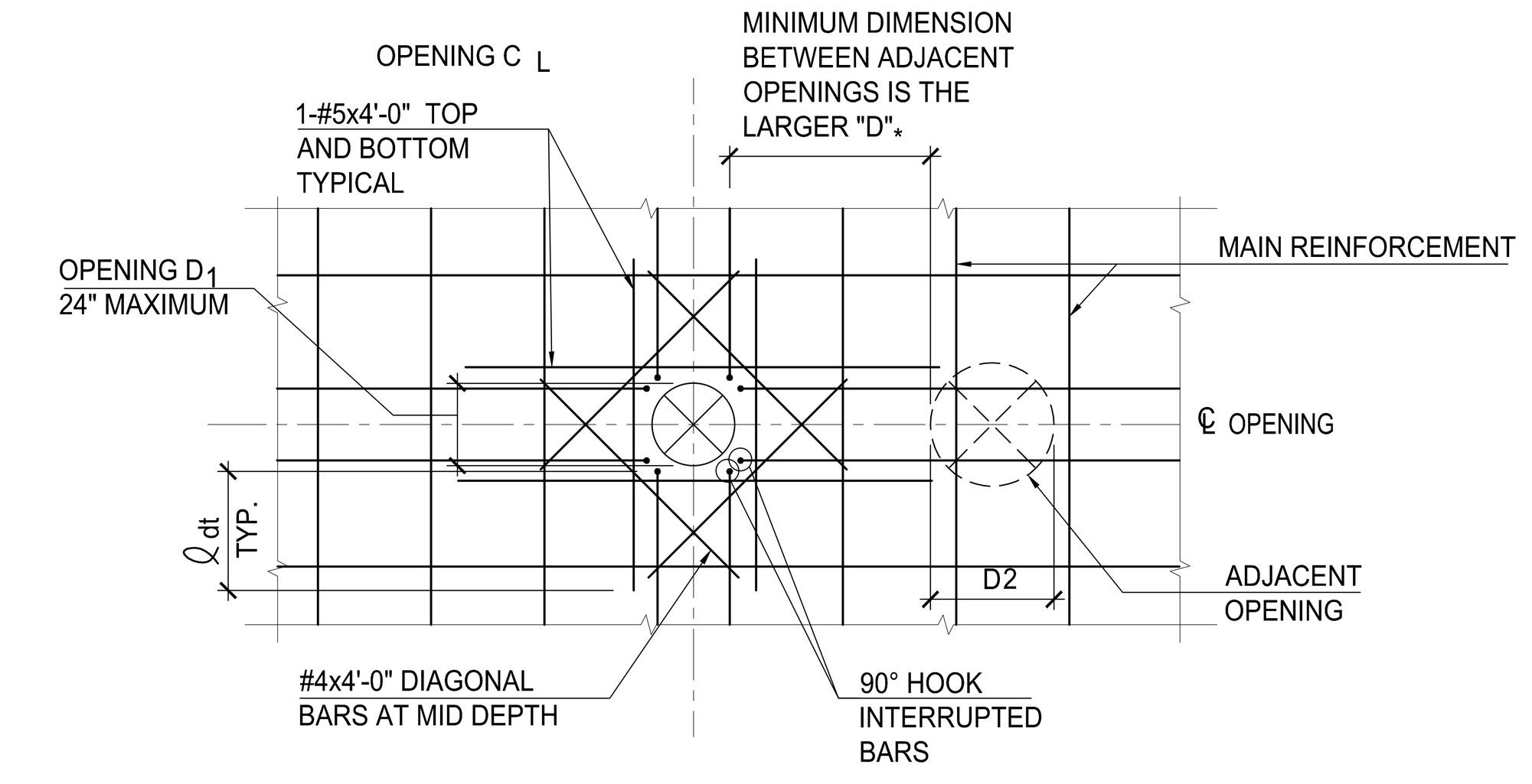
NOTES:
1. OPENING OR RECESS SHALL NOT BE PERMITTER THROUGH SHEAR WALL BOUNDARY ZONES.
2. OPENING OR RECESS SHALL BE 6 INCHES CLEAR MINIMUM FROM BOUNDARY ZONES.

1 TYPICAL WALL OPENING DETAIL - RECTANGULAR

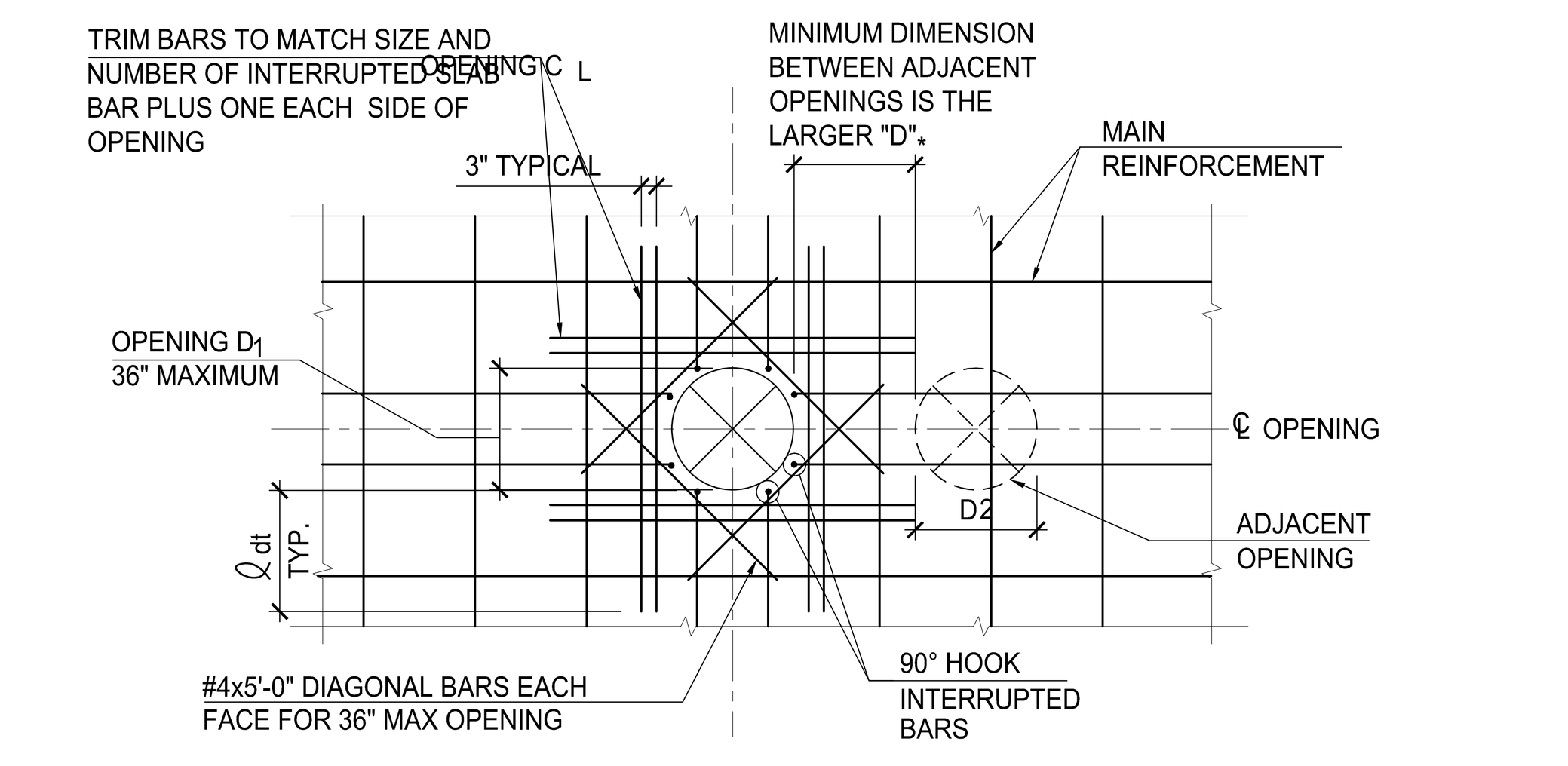
SCALE: N.T.S.



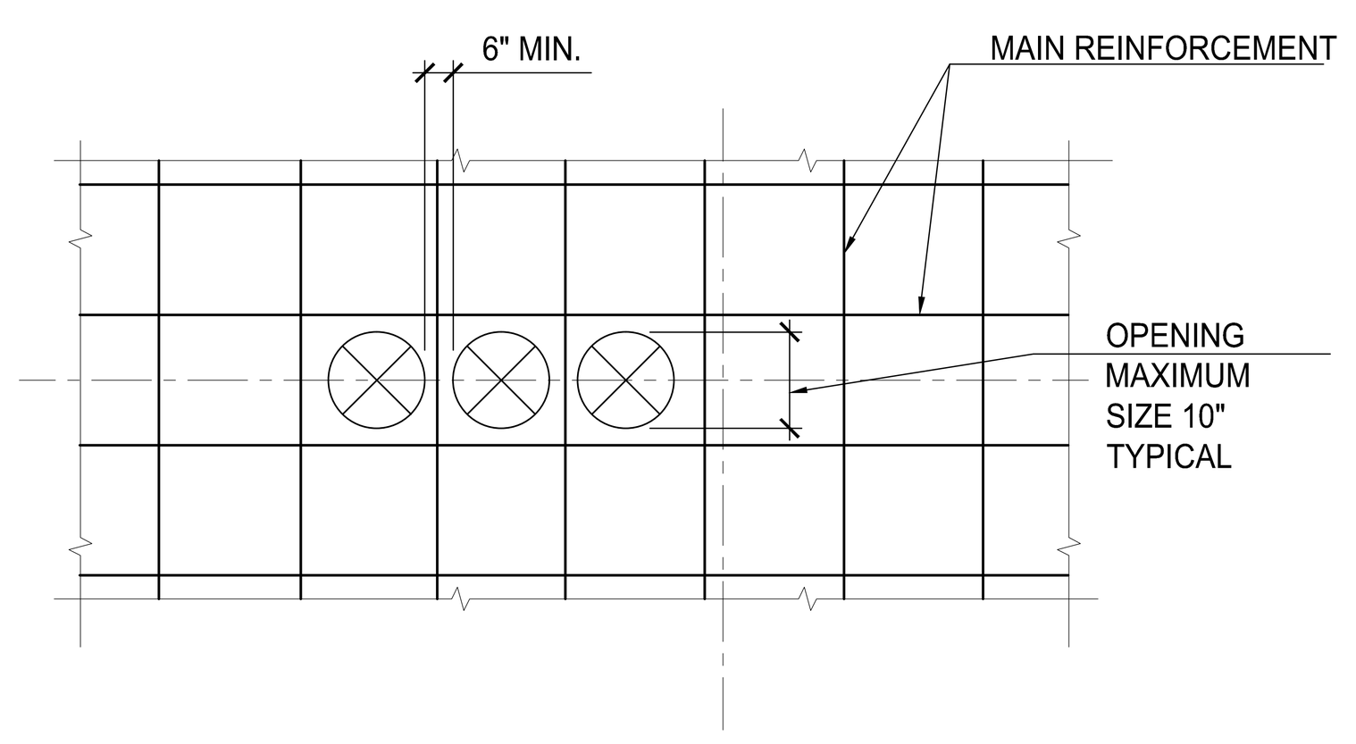
A CIRCULAR OPENING (UP TO 10")



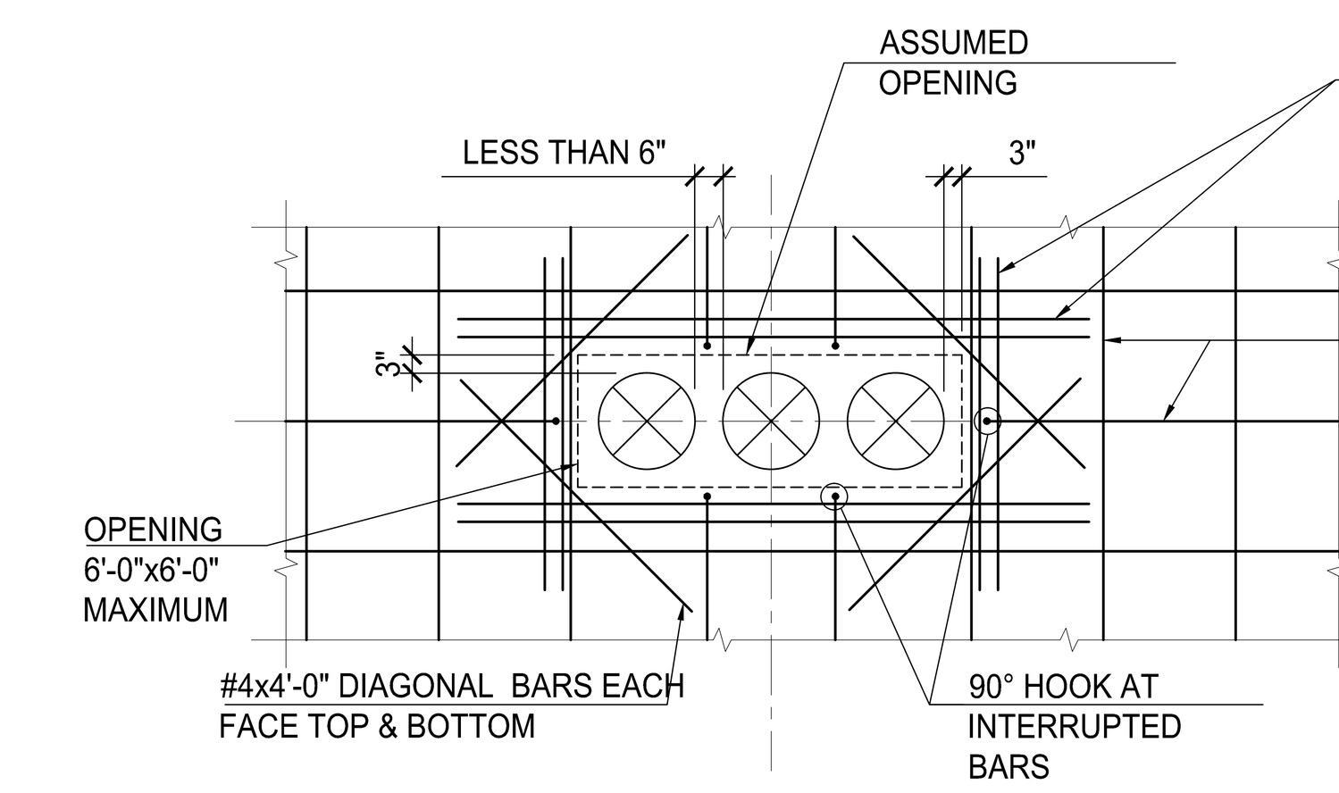
B CIRCULAR OPENING (BETWEEN 10" AND 2')



C CIRCULAR OPENING (BETWEEN 2' AND 6')



D CLUSTERED CIRCULAR OPENINGS

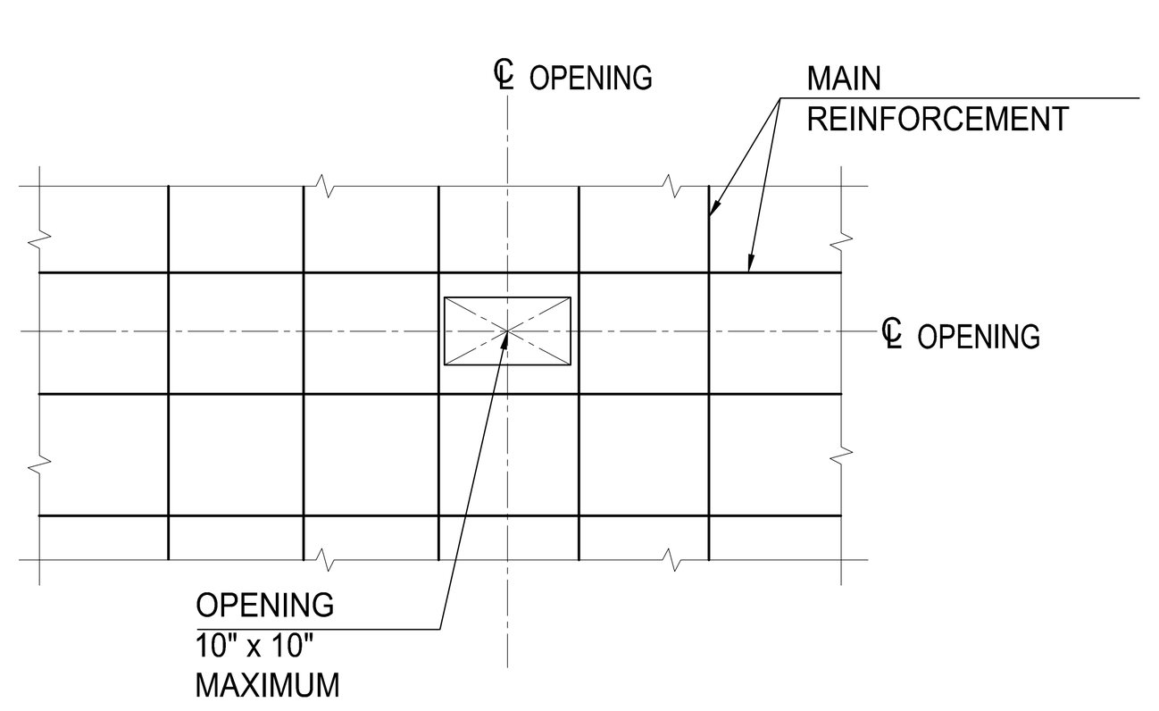


E CLUSTERED CIRCULAR OPENINGS

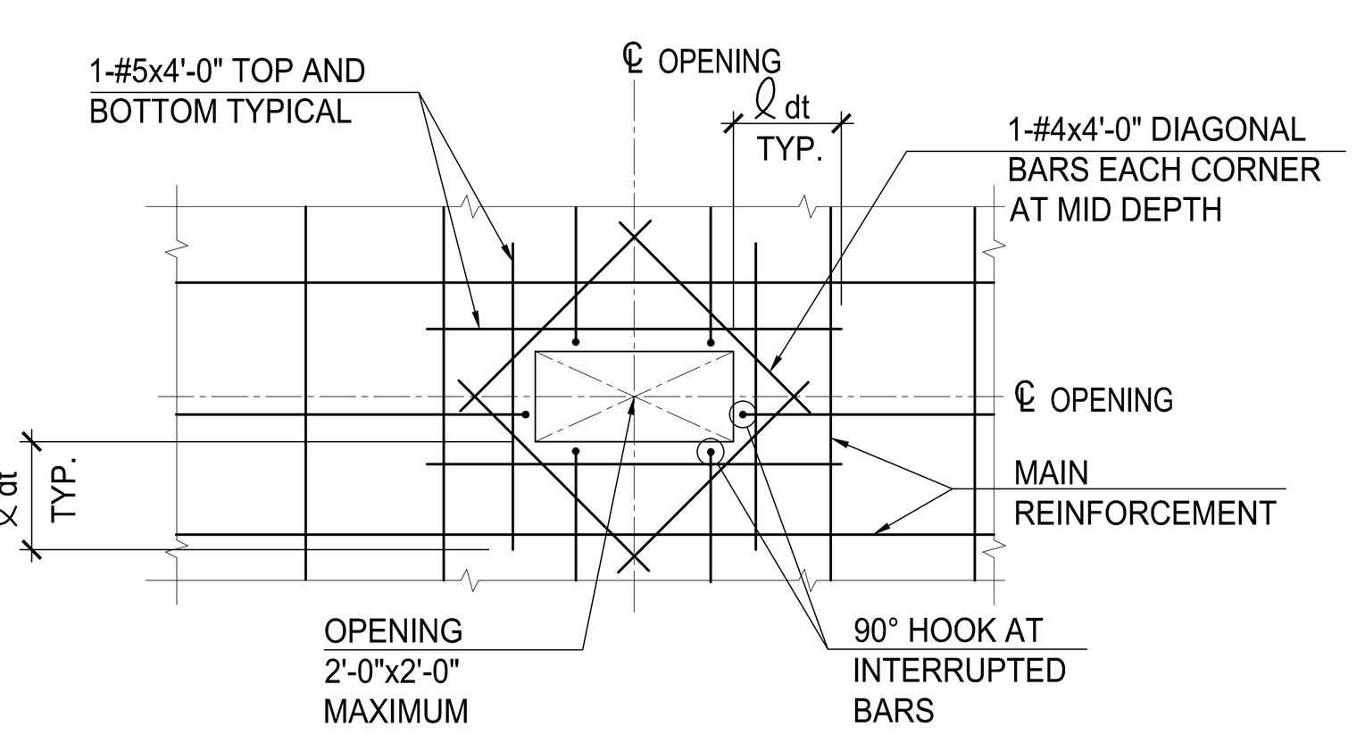
NOTES:
1. NO ADDITIONAL REINFORCEMENT IS REQUIRED FOR OPENINGS LESS THAN 10" IN SIZE.
2. MAIN REINFORCEMENT NOT TO BE INTERRUPTED FOR OPENINGS SMALLER THAN 10"
3. SEE PLANS FOR ADDITIONAL REINFORCEMENT AT SLAB OPENINGS LARGER THAN 6'-0"
4. MINIMUM CLEARANCE BETWEEN REBAR AND OPENING SHALL BE 1"

2 TYPICAL CIRCULAR SLAB AND WALL OPENING

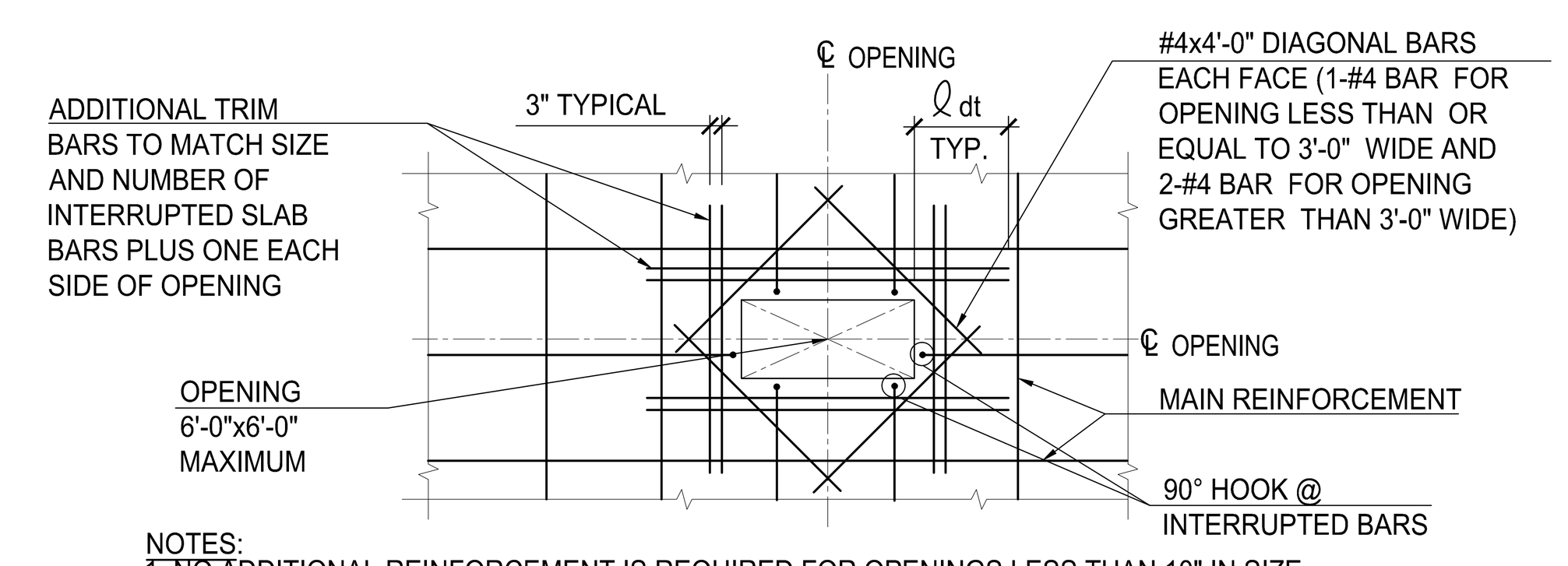
SCALE: N.T.S.



A RECTANGULAR OPENING (UP TO 10")
0' - 10" x 0' - 10" MAX



B RECTANGULAR OPENING (BETWEEN 10" AND 2')
2' - 0" x 2' - 0" MAX

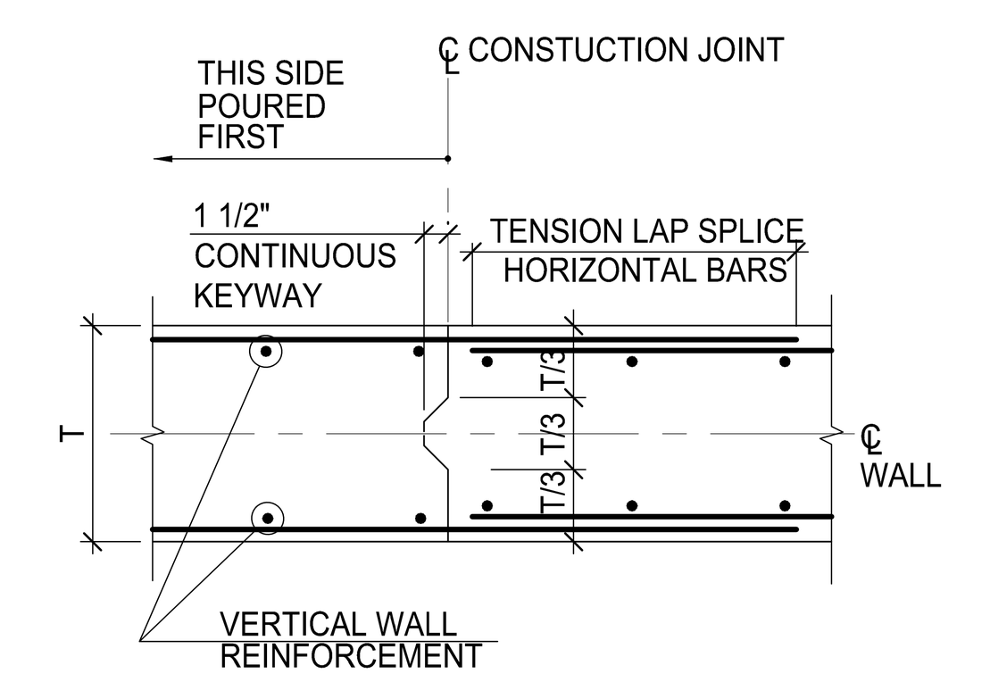


NOTES:
1. NO ADDITIONAL REINFORCEMENT IS REQUIRED FOR OPENINGS LESS THAN 10" IN SIZE.
2. MAIN REINFORCEMENT NOT TO BE INTERRUPTED FOR OPENINGS SMALLER THAN 10".
3. SEE PLANS FOR ADDITIONAL REINFORCEMENT AT SLAB OPENINGS LARGER THAN 6'-0". REINFORCEMENT SHOWN IN PLAN SUPERCEDES THAT SHOWN IN THIS DETAIL.
4. MINIMUM CLEARANCE BETWEEN REBAR AND OPENING SHALL BE 1".

C RECTANGULAR OPENING (BETWEEN 2' AND 6')
6' - 0" x 6' - 0" MAX

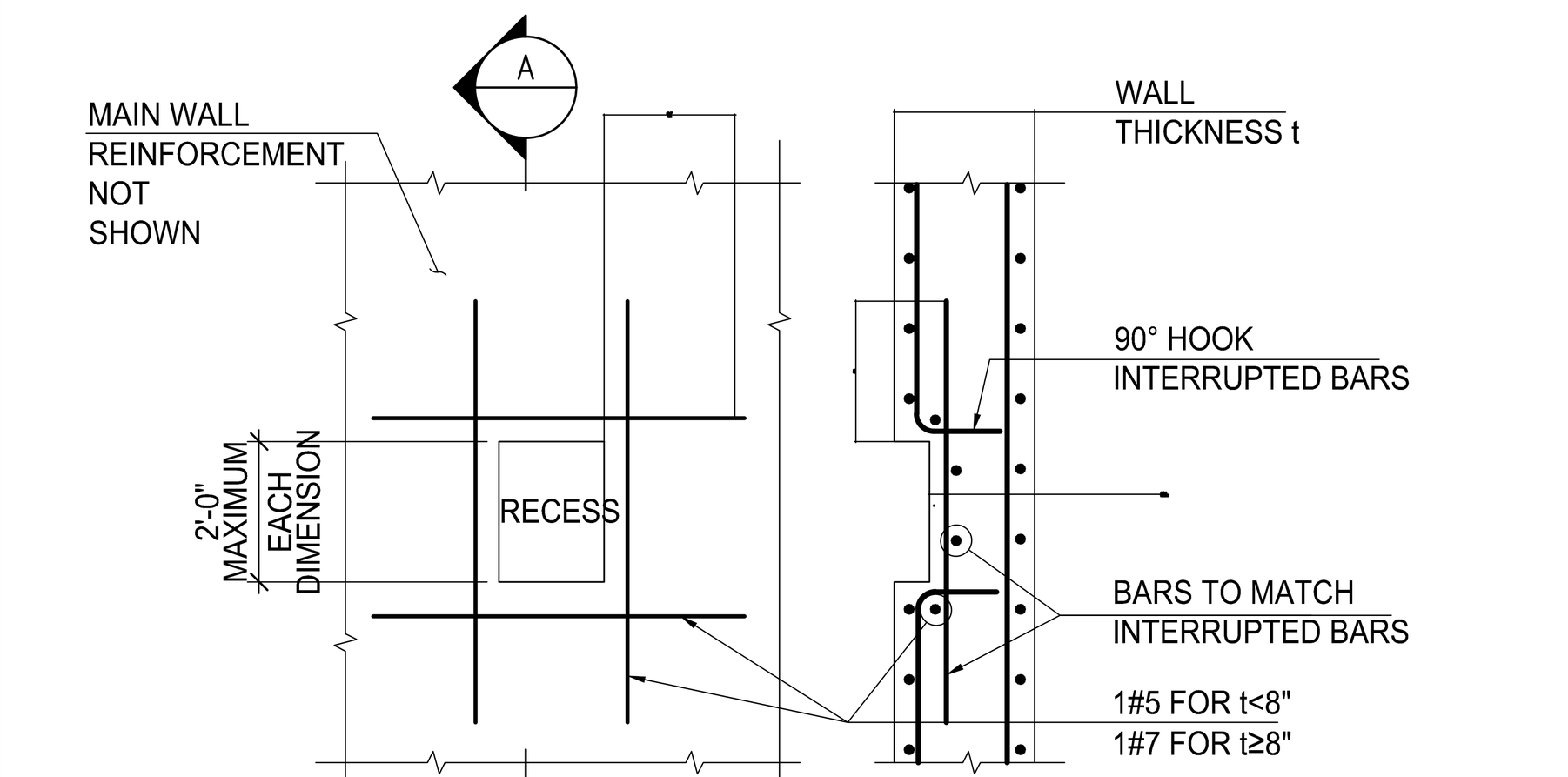
3 TYPICAL RECTANGULAR SLAB OPENINGS

SCALE: N.T.S.



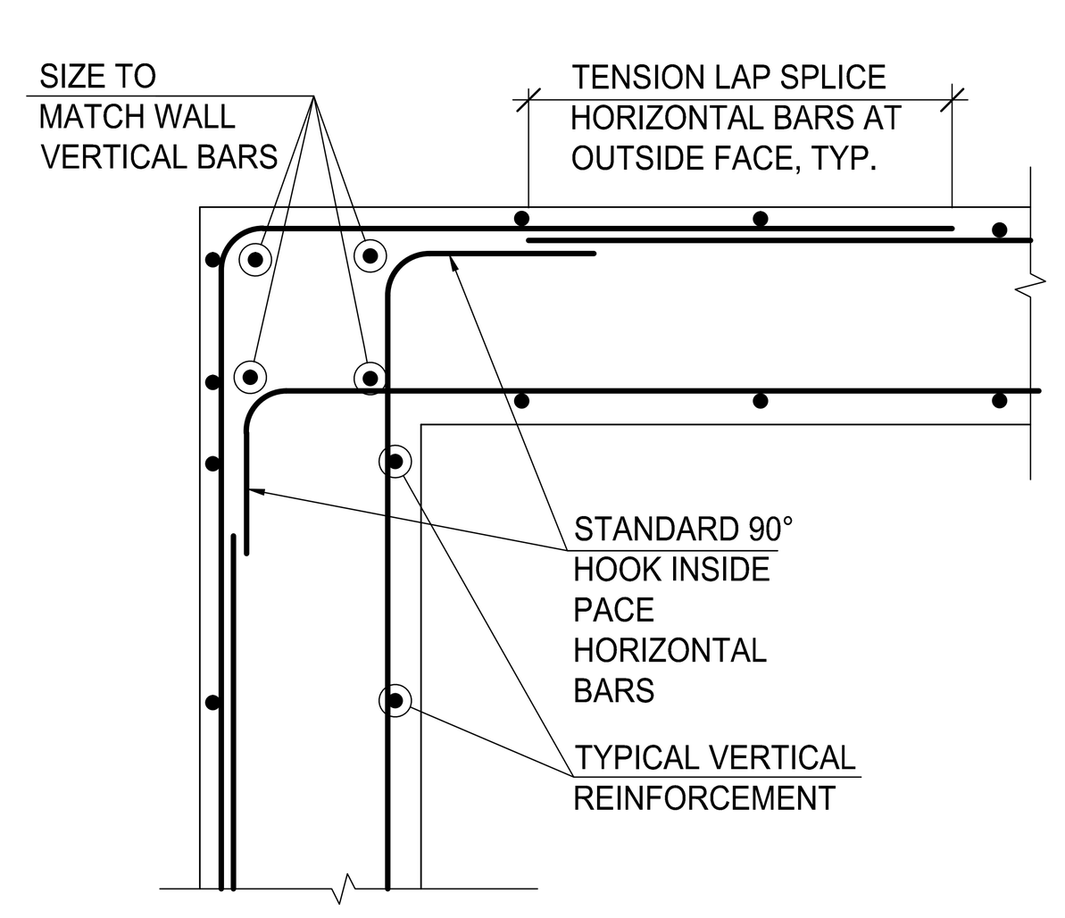
4 TYPICAL CONCRETE WALL CONSTRUCTION JOINT

SCALE: N.T.S.



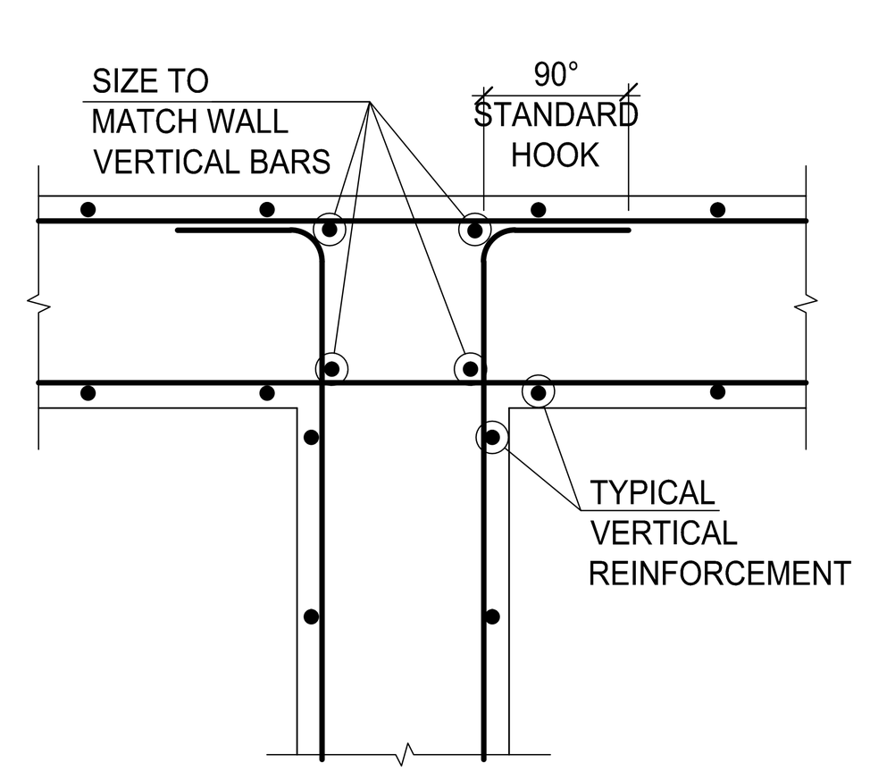
5 TYPICAL CONCRETE WALL RECESS REINFORCEMENT

SCALE: N.T.S.



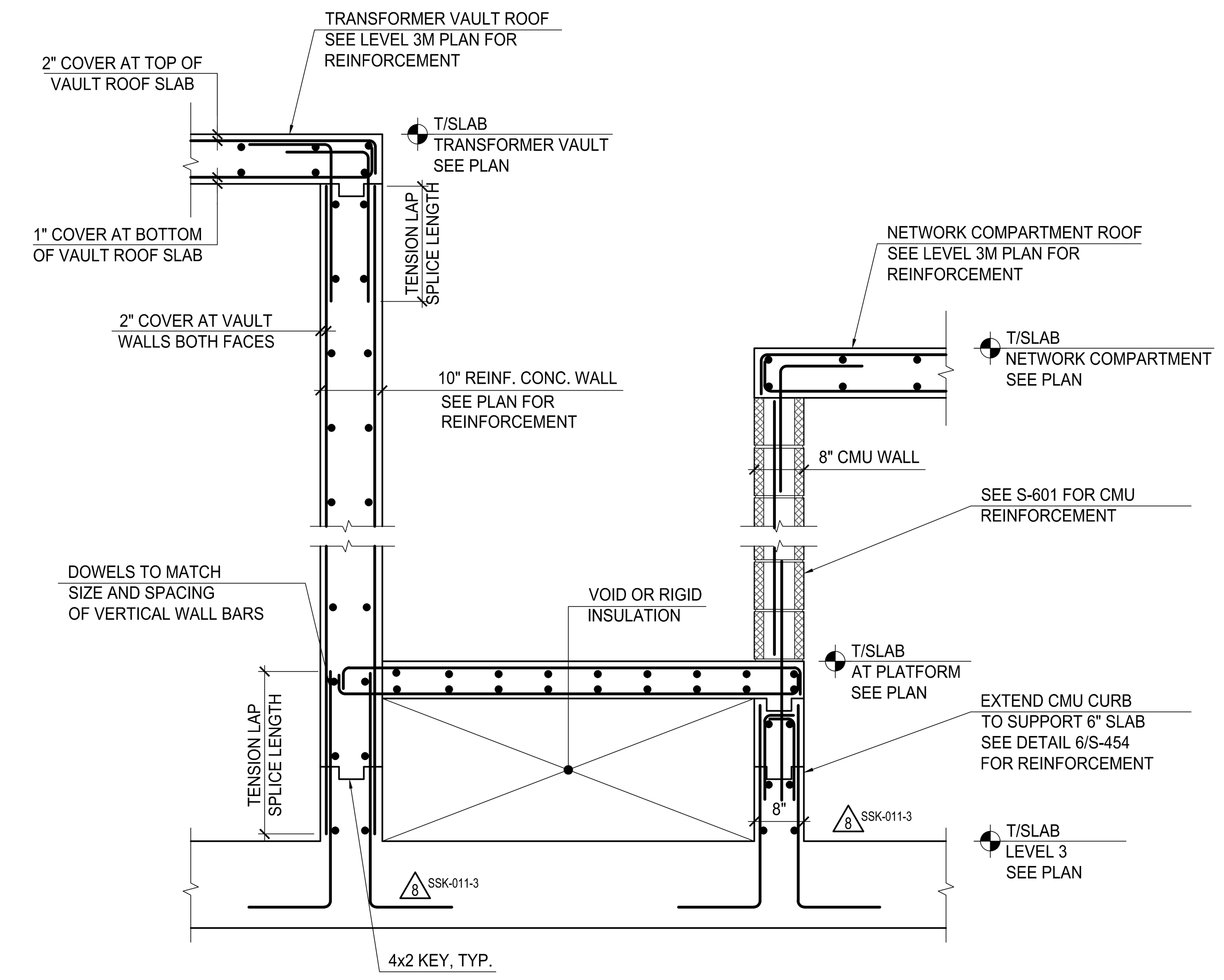
6 TYPICAL CONCRETE WALL/CURB CORNER (NON-SHEARWALL)

SCALE: N.T.S.



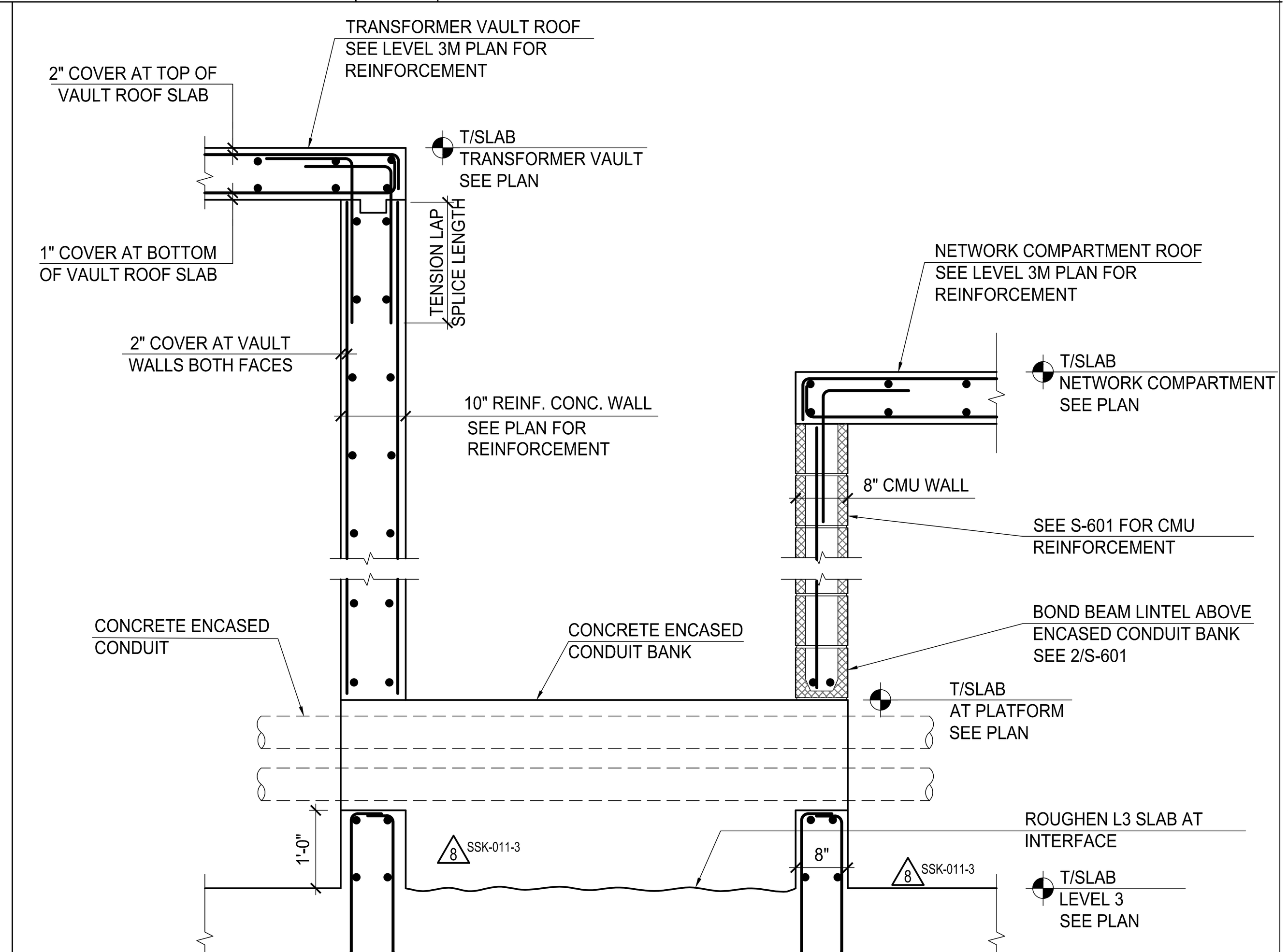
7 TYPICAL REINFORCED CONCRETE WALL/CURB INTERSECTION (NON-SHEARWALL)

SCALE: N.T.S.



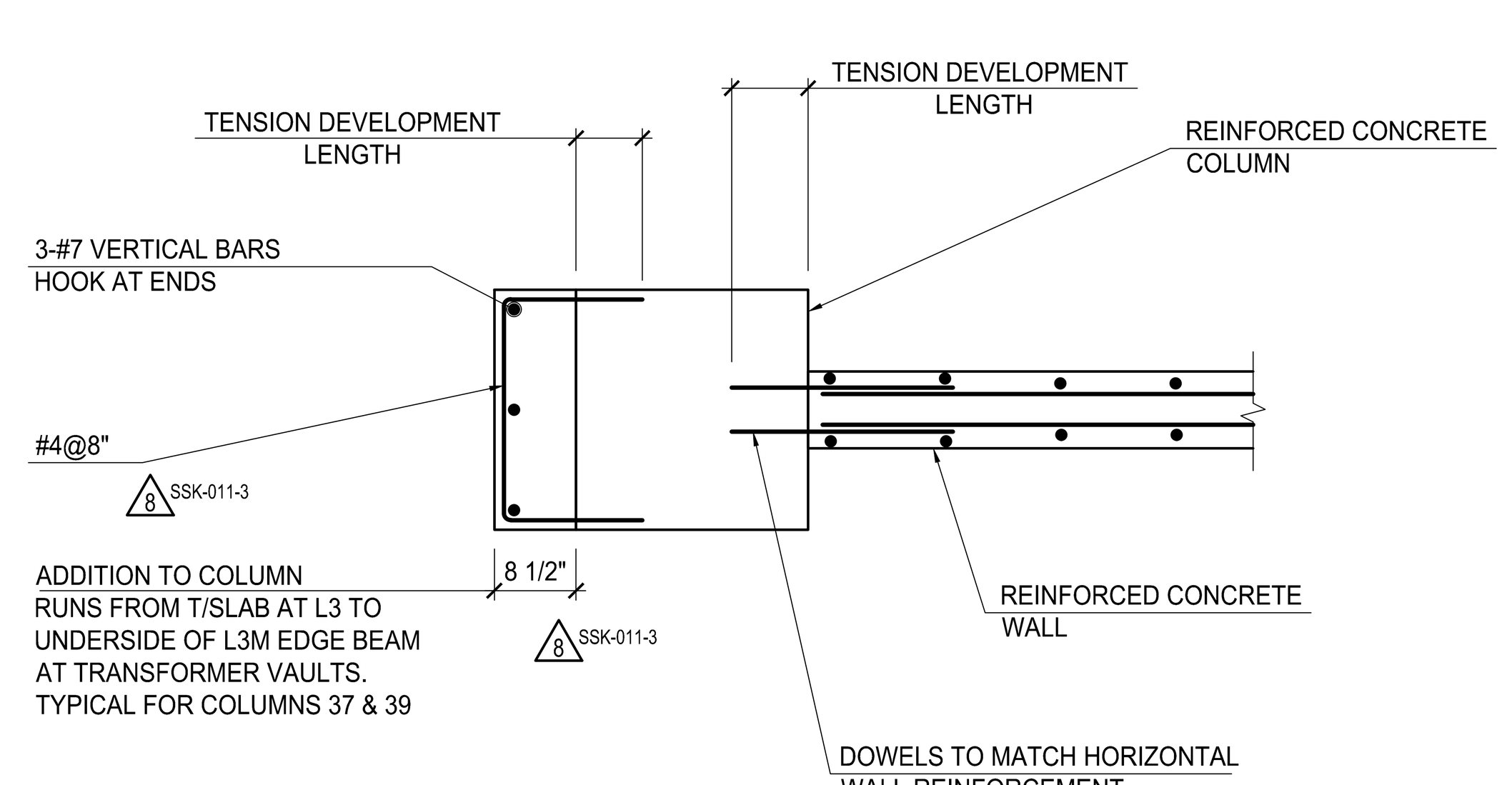
8 WALL DETAIL AT TRANSFORMER VAULT AND NETWORK COMPARTMENT - AT ELEVATED SLAB

SCALE: N.T.S.



9 WALL DETAIL AT TRANSFORMER VAULT AND NETWORK COMPARTMENT - AT ENCASED CONDUIT BANK

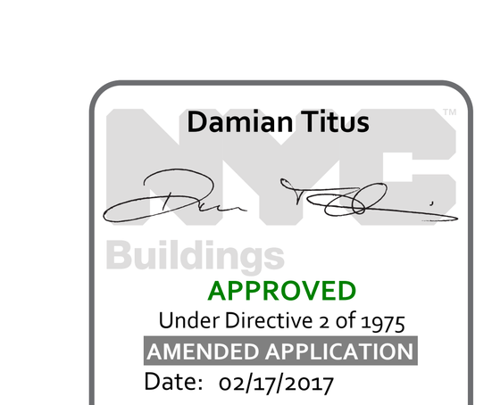
SCALE: N.T.S.



NOTE: COLUMN REBAR NOT SHOWN FOR CLARITY.

10 WALL AND COLUMN DETAIL AT TRANSFORMER VAULT

SCALE: N.T.S.



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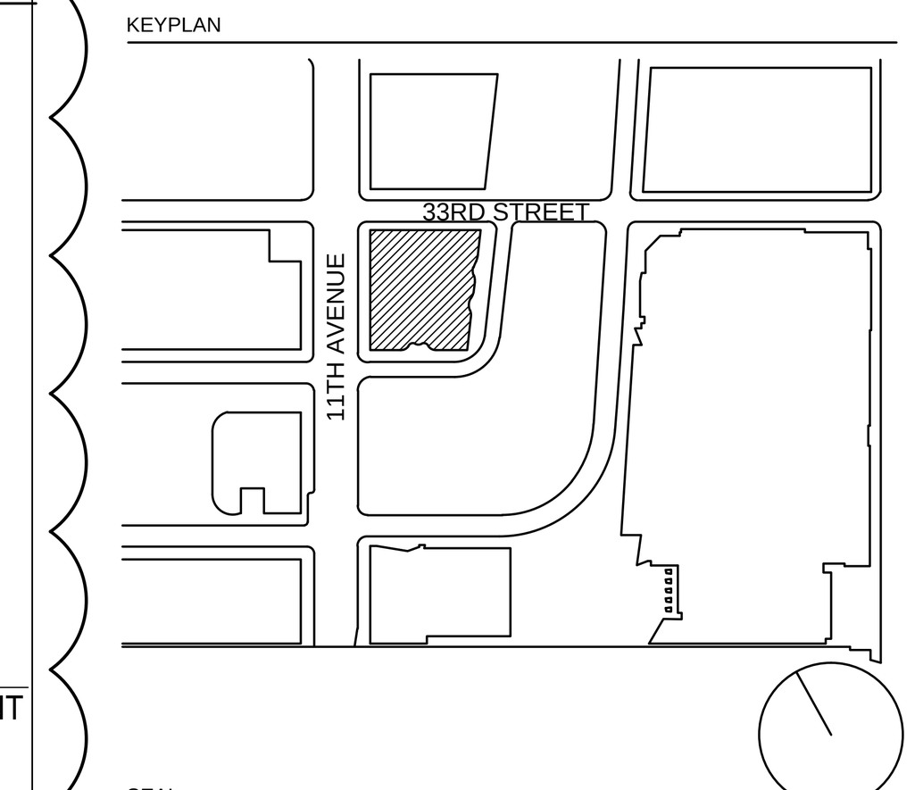

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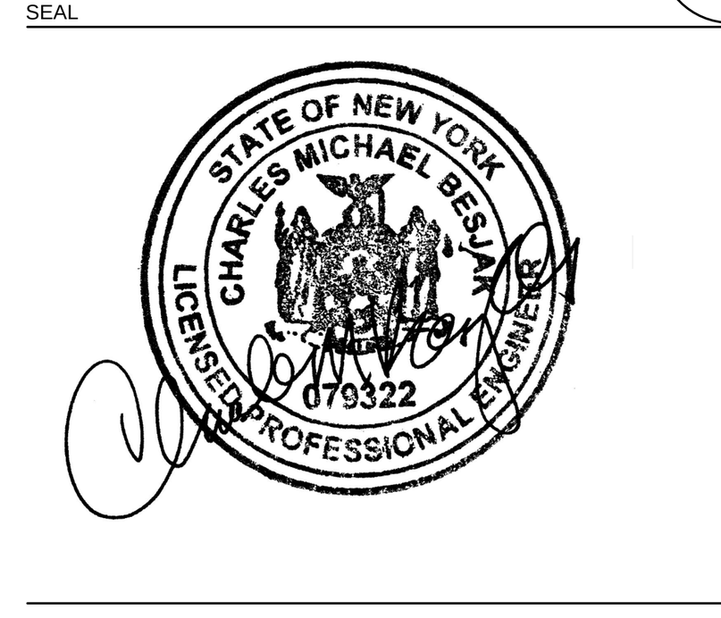

NO.	DATE	DESCRIPTION
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5	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
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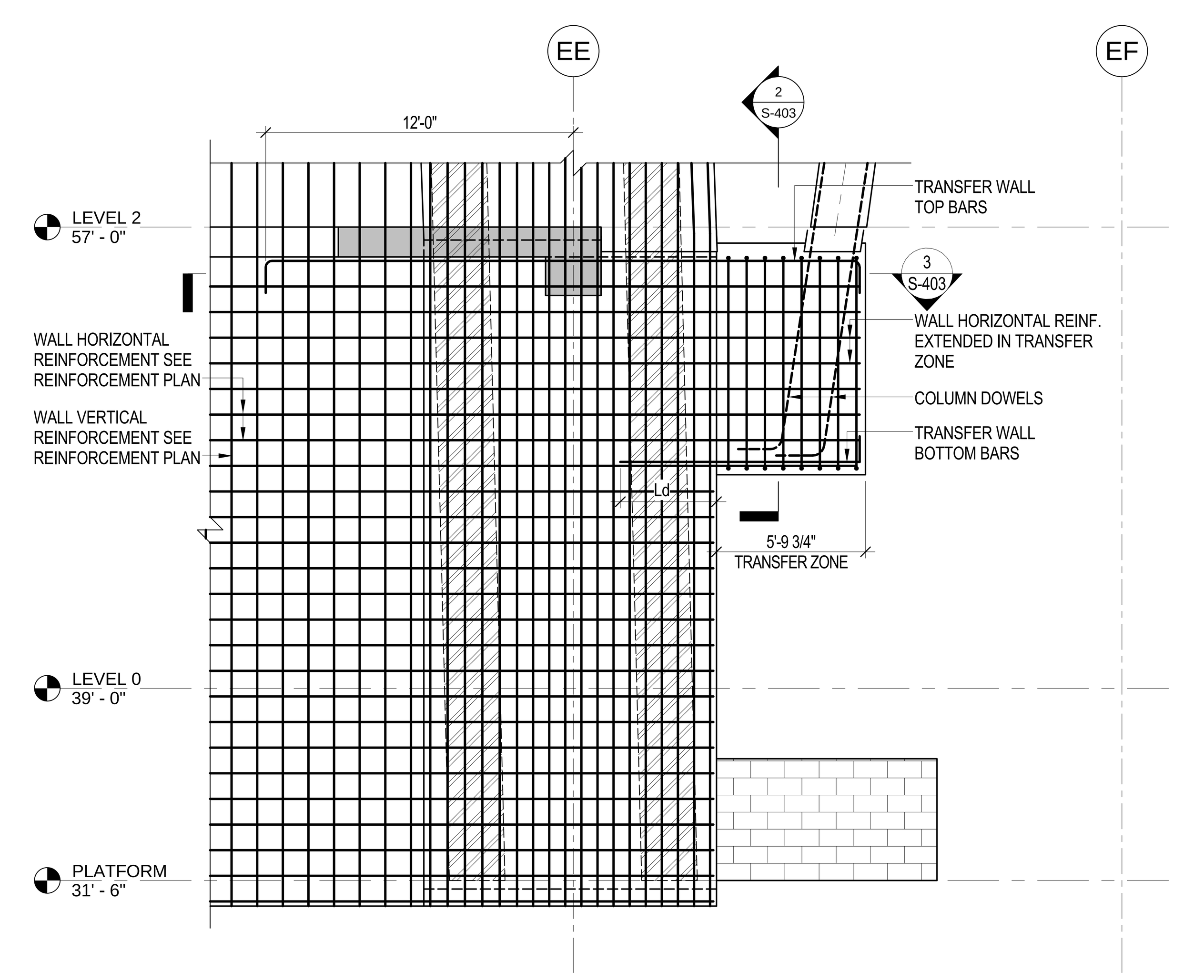
DRAWING TITLE
RC WALL DETAILS

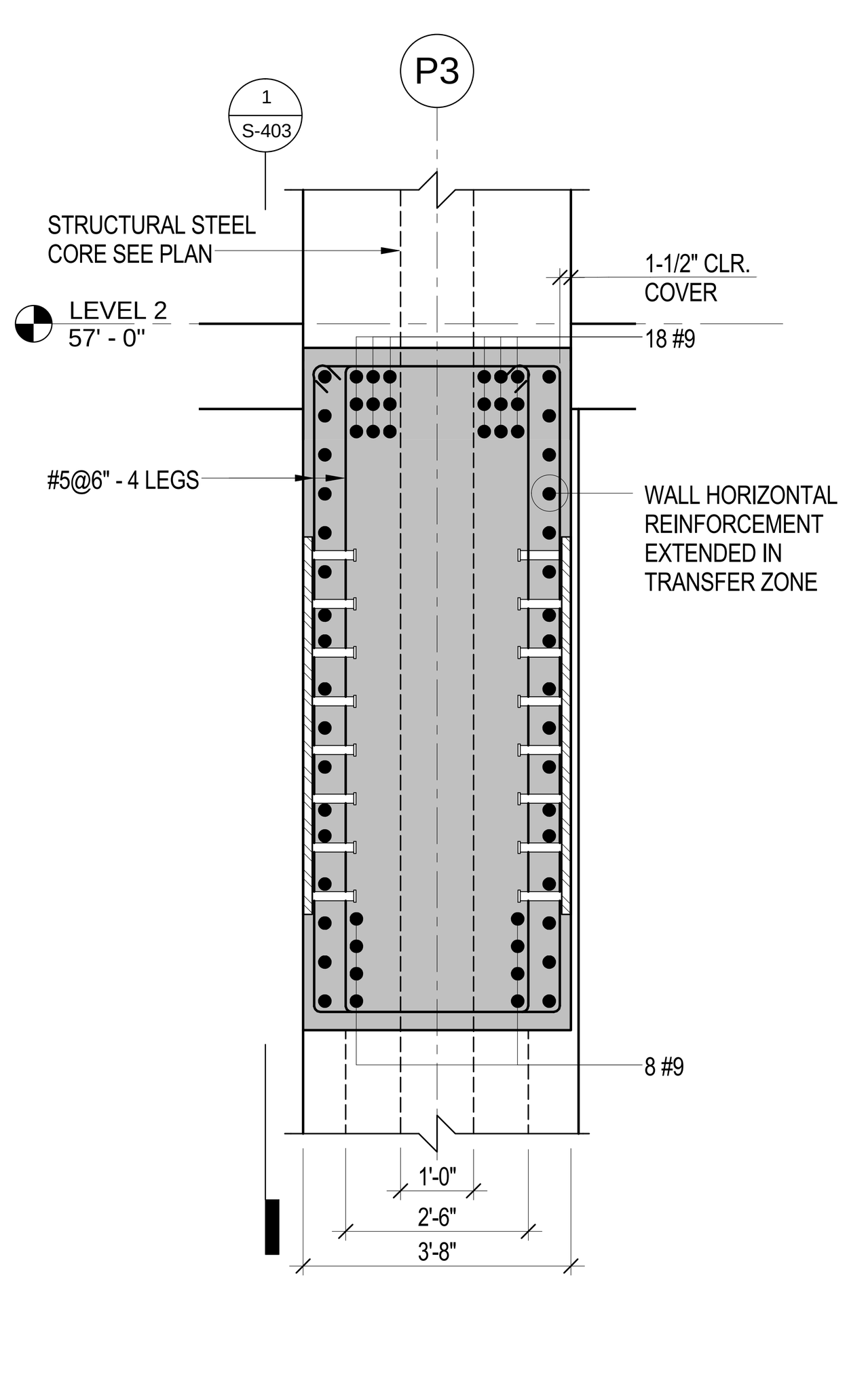
B-SCAN - DRAWING NUMBER
S-402.01

DRAWING NUMBER
S-402

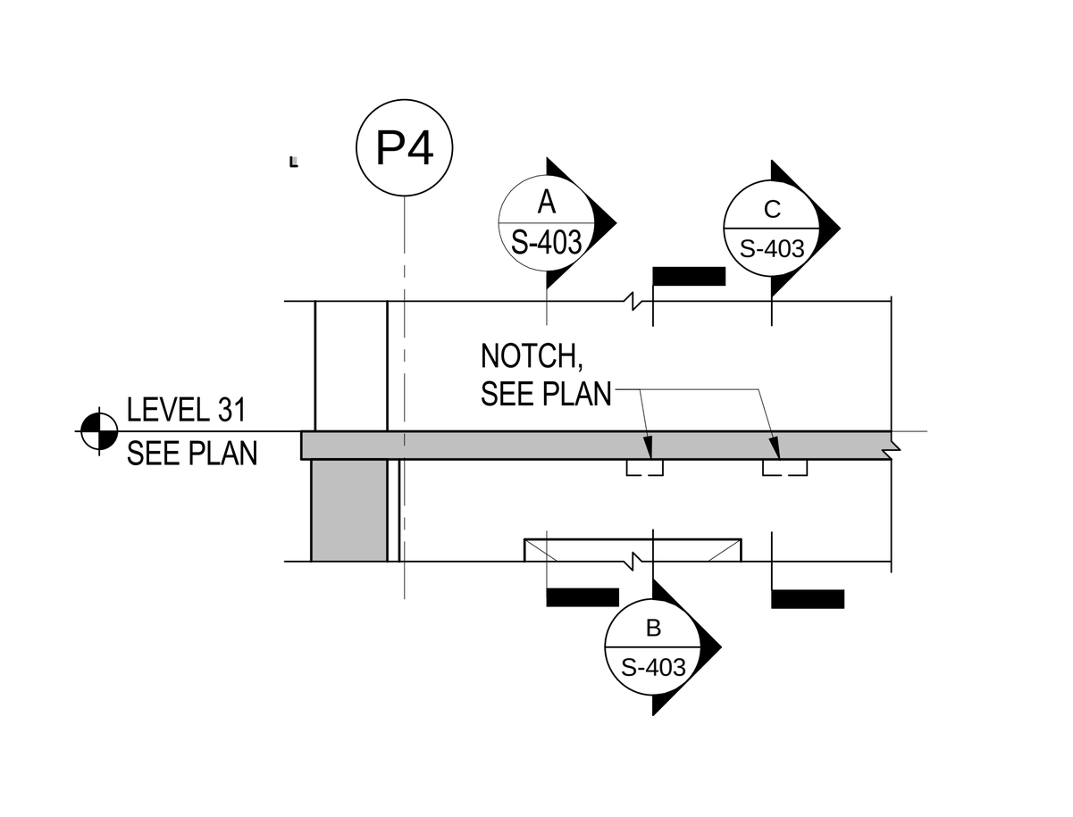
PAGE NUMBER



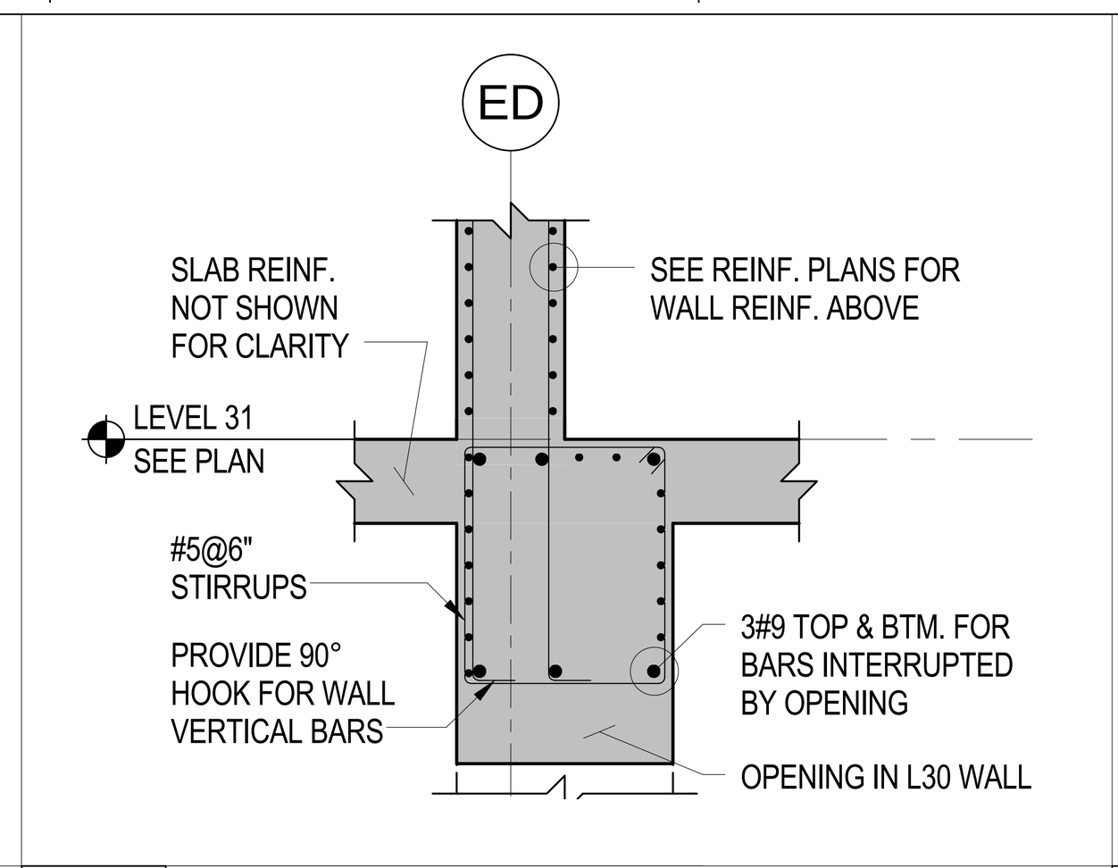
1 HAMMERHEAD H2 TRANSFER WALL DETAIL
1/4" = 1'-0"



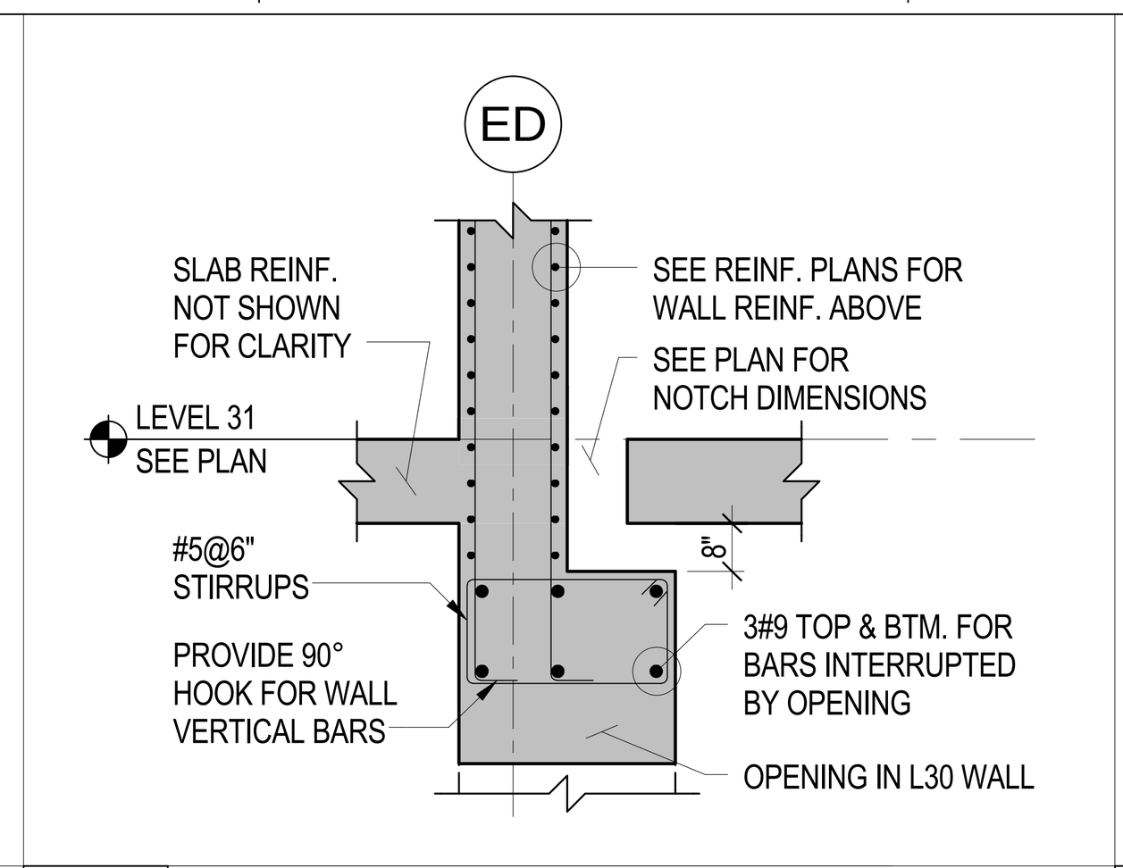
2 TRANSFER WALL DETAIL
1/2" = 1'-0"



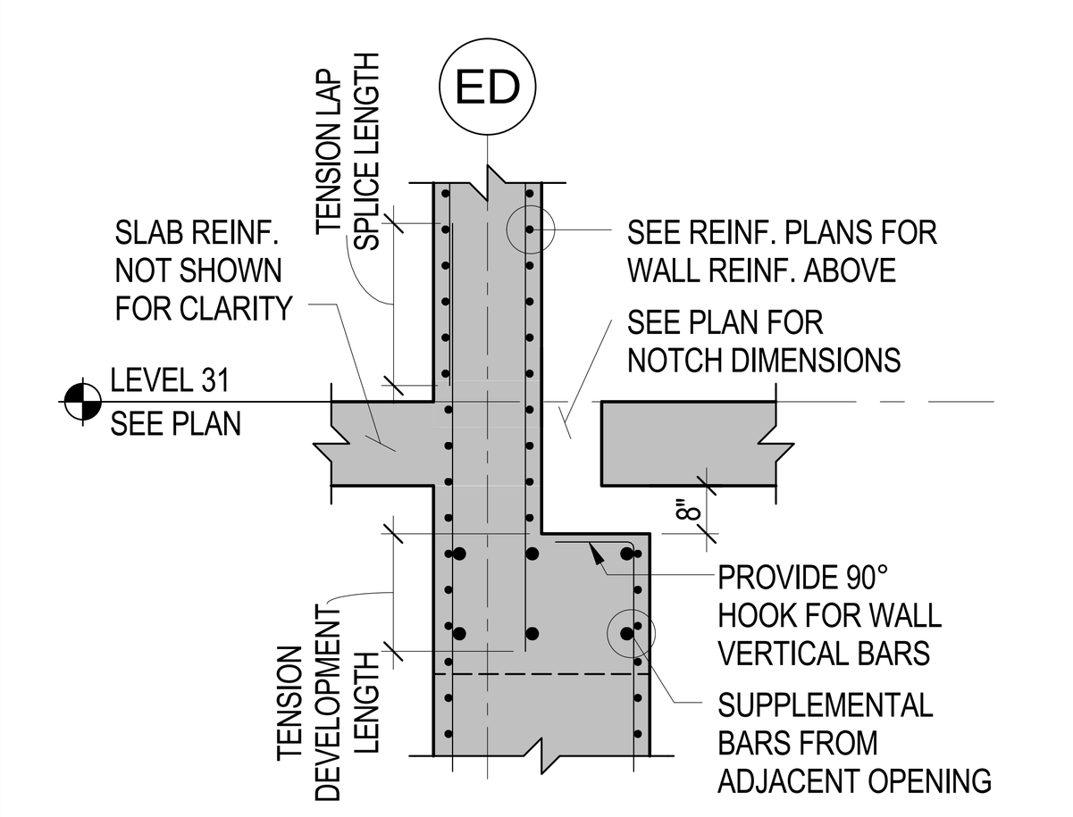
10 WALL NOTCH AT LEVEL 31
NOT TO SCALE



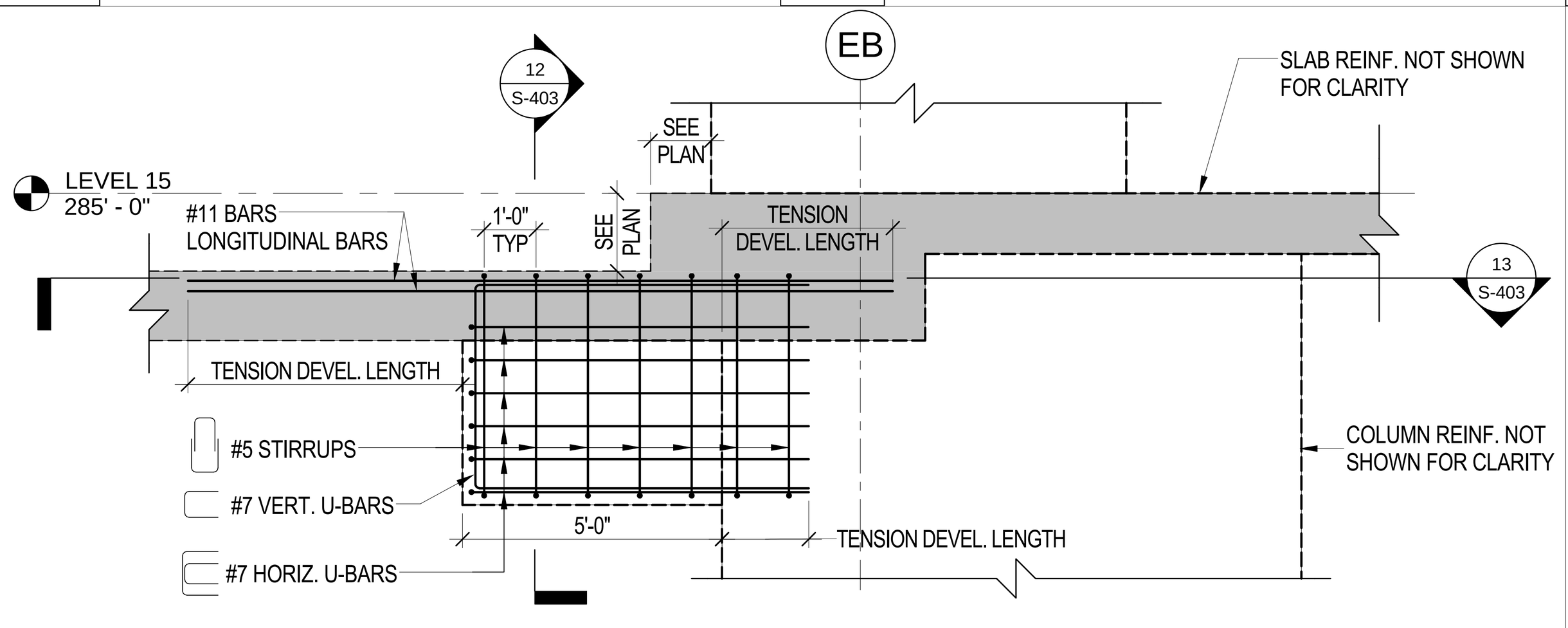
A AT OPENING, NEAR NOTCH
NOT TO SCALE



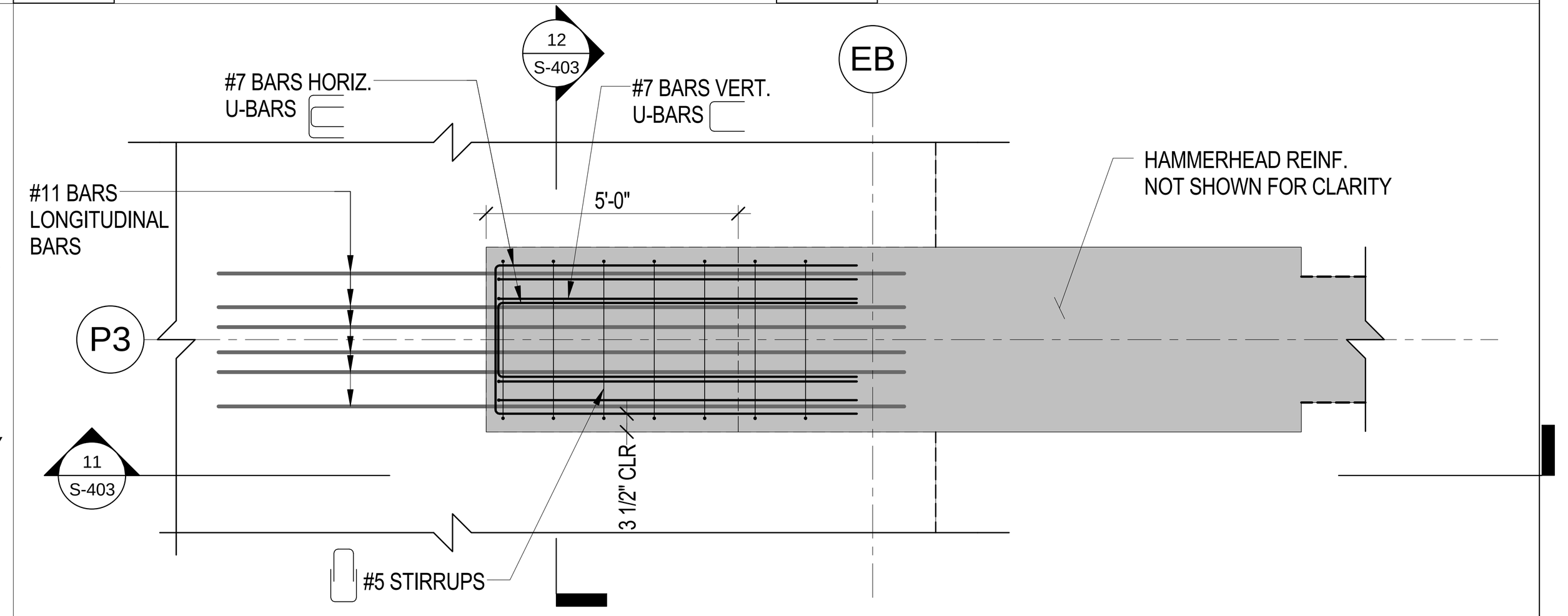
B AT NOTCH AND OPENING
NOT TO SCALE



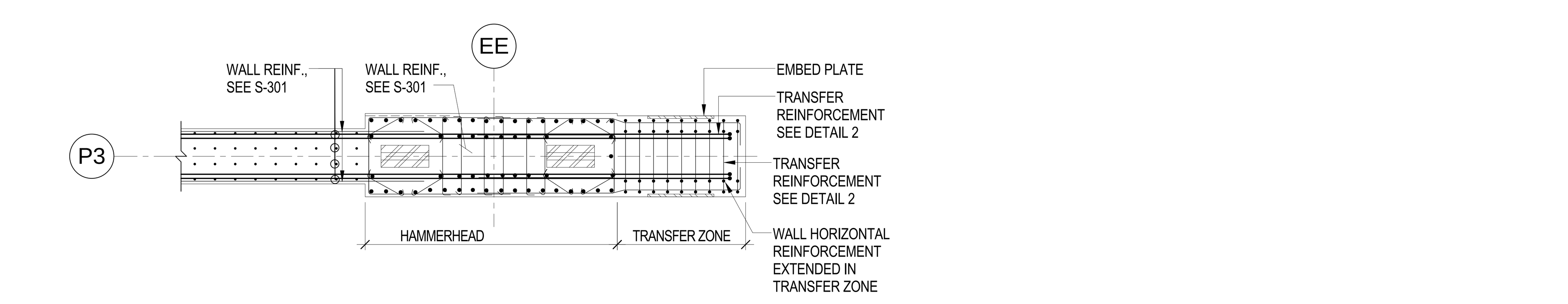
C AT NOTCH NEAR OPENING
NOT TO SCALE



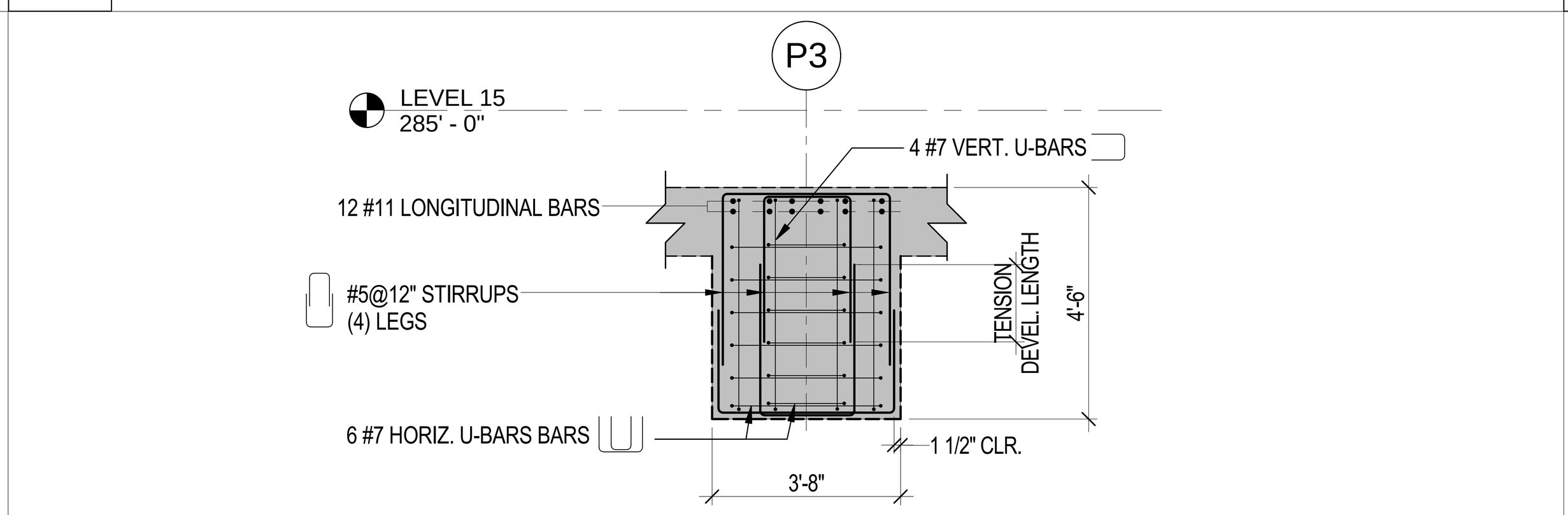
11 LEVEL 15 CORBEL DETAIL 1
NOT TO SCALE



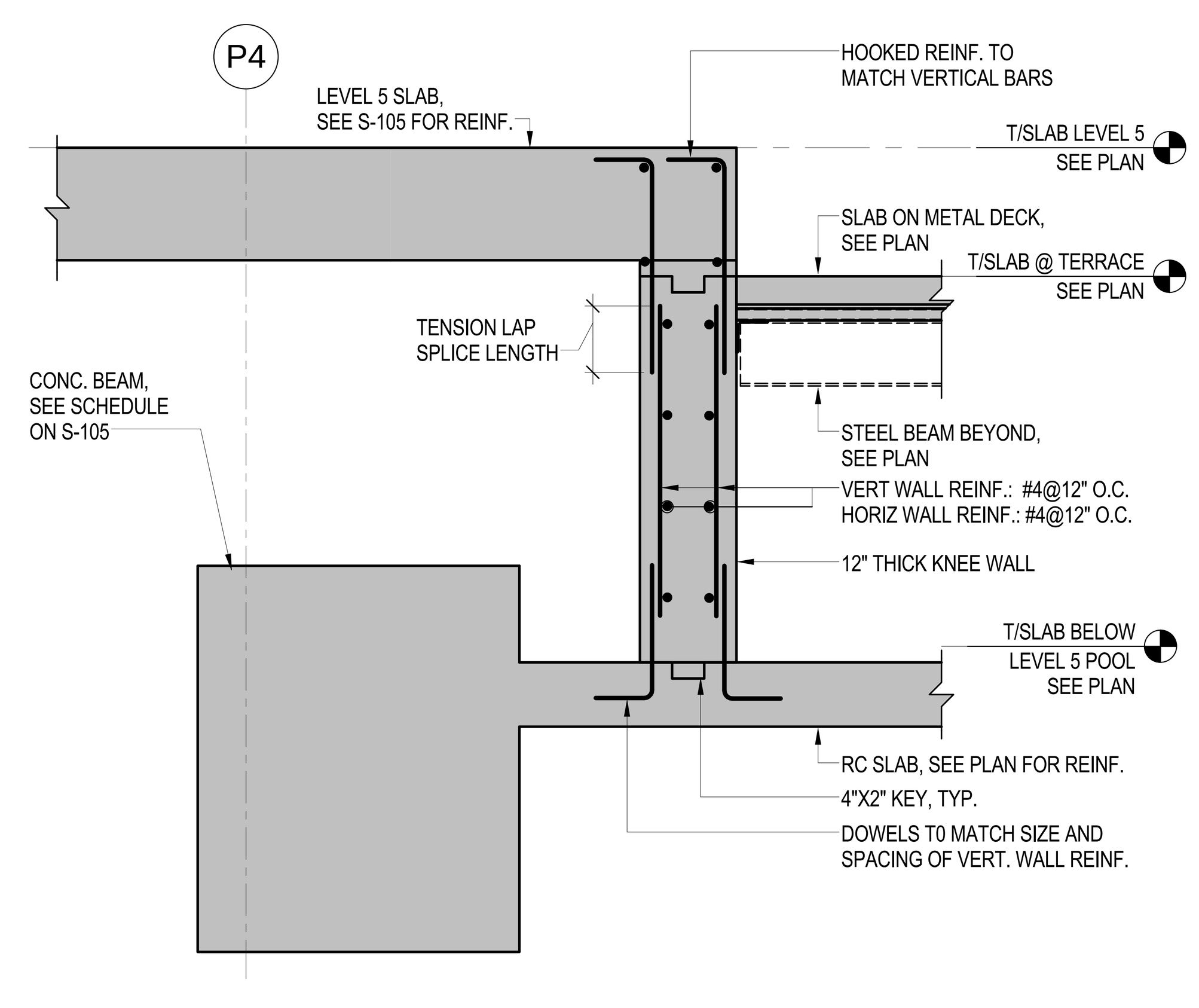
13 LEVEL 15 CORBEL DETAIL 2
3/8" = 1'-0"



3 LEVEL 1 TRANSFER WALL CORE WALL REINF. PARTIAL PLAN
1/4" = 1'-0"

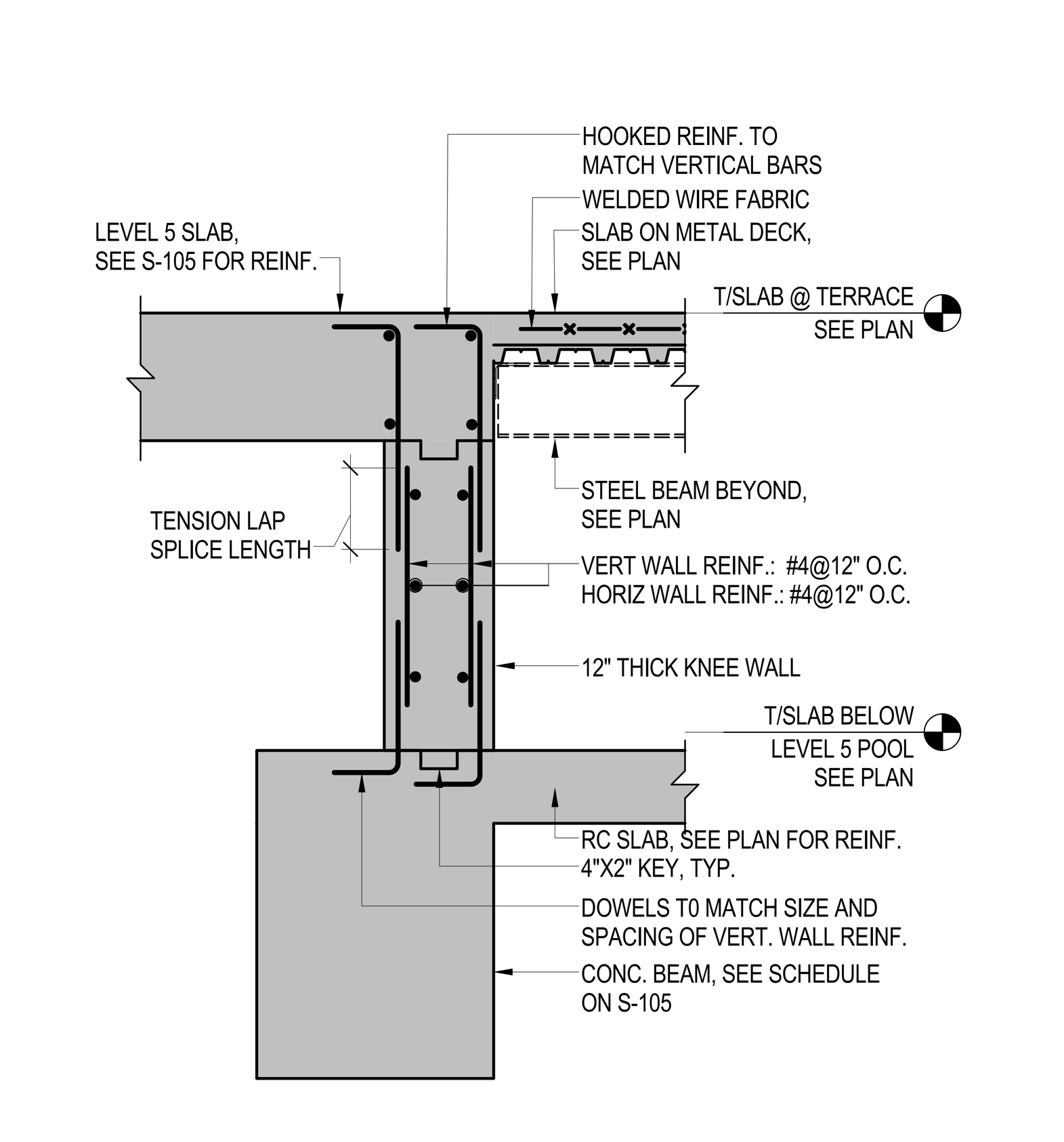


12 LEVEL 15 CORBEL DETAIL 3
3/8" = 1'-0"



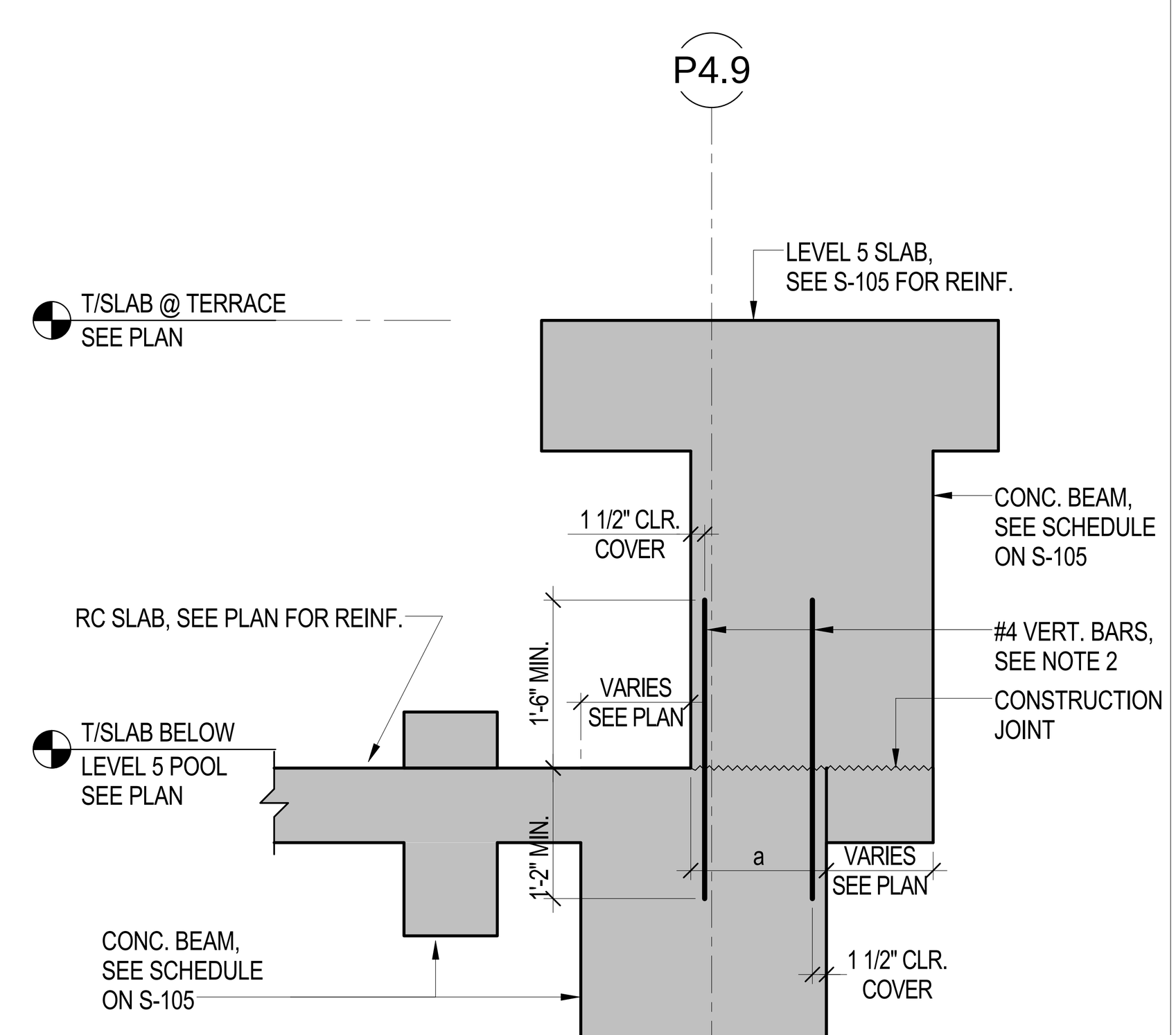
NOTE:
1. REINFORCEMENT NOT SHOWN IN BEAMS OR SLABS FOR CLARITY, SEE SCHEDULE ON S-105

4 N-S SECTION OF KNEE WALL AT SOUTH POOL
3/4" = 1'-0"



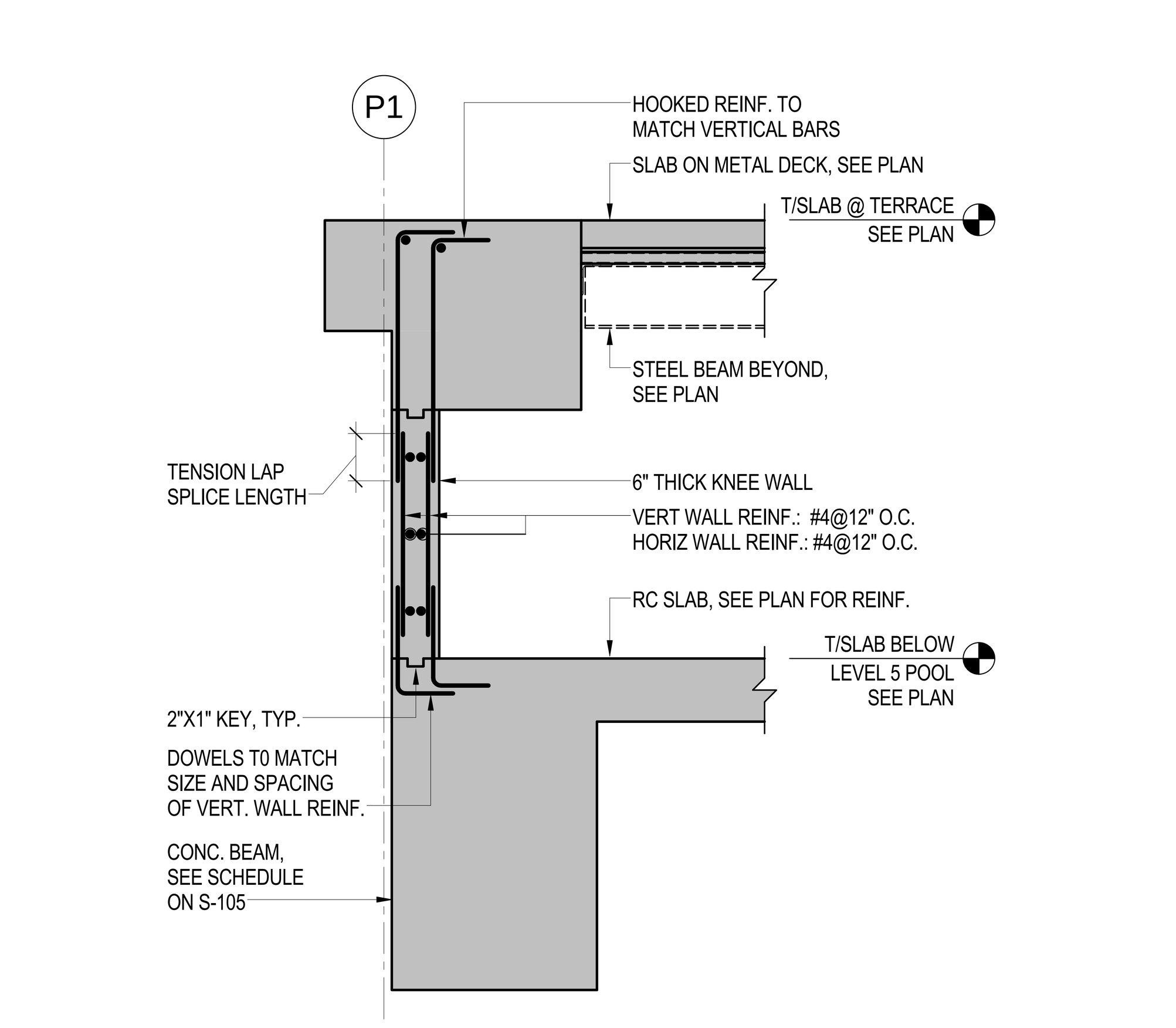
NOTE:
1. REINFORCEMENT NOT SHOWN IN BEAMS OR SLABS FOR CLARITY, SEE SCHEDULE ON S-105

5 E-W SECTION OF KNEE WALL AT SOUTH POOL
3/4" = 1'-0"



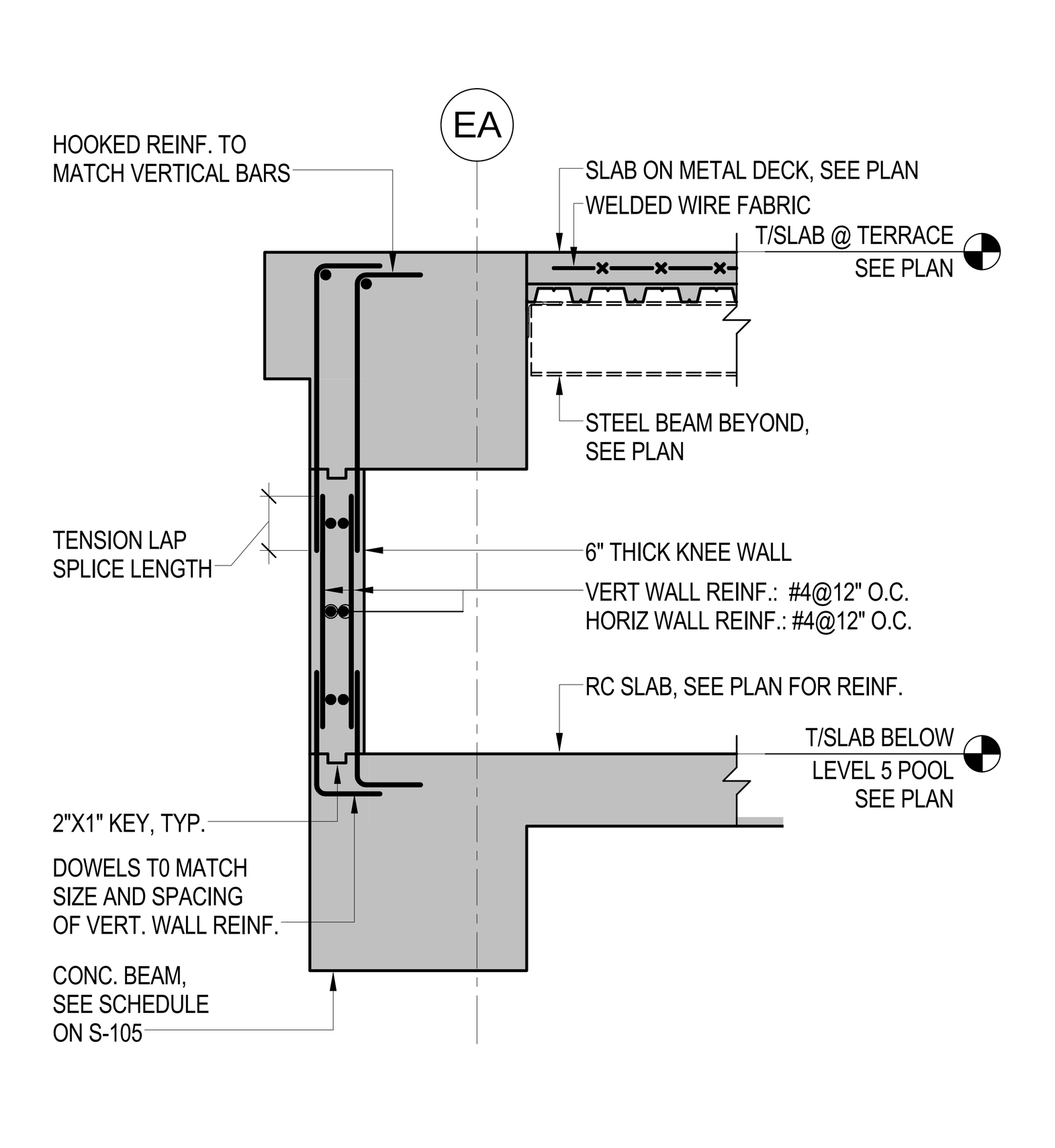
NOTE:
1. REINFORCEMENT NOT SHOWN IN BEAMS OR SLABS FOR CLARITY, SEE SCHEDULE ON S-105
2. FOR DIMENSION a > 5", PROVIDE 2-#4 VERT. BARS @ 12". FOR DIMENSION 2" < a < 5", PROVIDE 1-#4 VERT. BAR @ 12"

6 SOUTH POOL SKEWED BEAM DETAIL
3/4" = 1'-0"



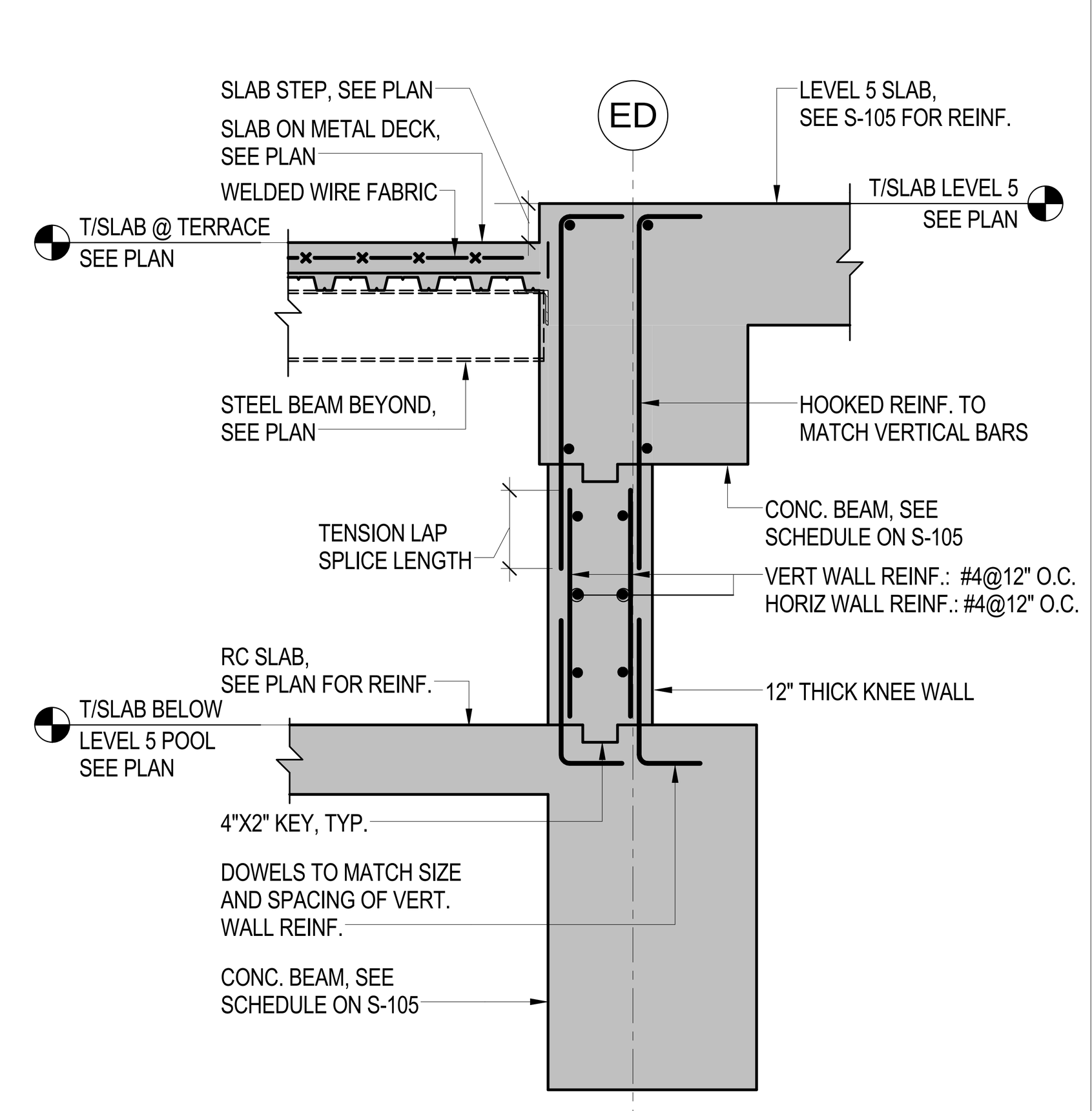
NOTE:
1. REINFORCEMENT NOT SHOWN IN BEAMS OR SLABS FOR CLARITY, SEE SCHEDULE ON S-105

7 N-S SECTION OF KNEE WALL AT NORTH POOL
3/4" = 1'-0"



NOTE:
1. REINFORCEMENT NOT SHOWN IN BEAMS OR SLABS FOR CLARITY, SEE SCHEDULE ON S-105

8 E-W SECTION OF KNEE WALL AT NORTH POOL
3/4" = 1'-0"



NOTE:
1. REINFORCEMENT NOT SHOWN IN BEAMS OR SLABS FOR CLARITY, SEE SCHEDULE ON S-105

9 KNEE WALL DETAIL AT NORTH POOL
3/4" = 1'-0"

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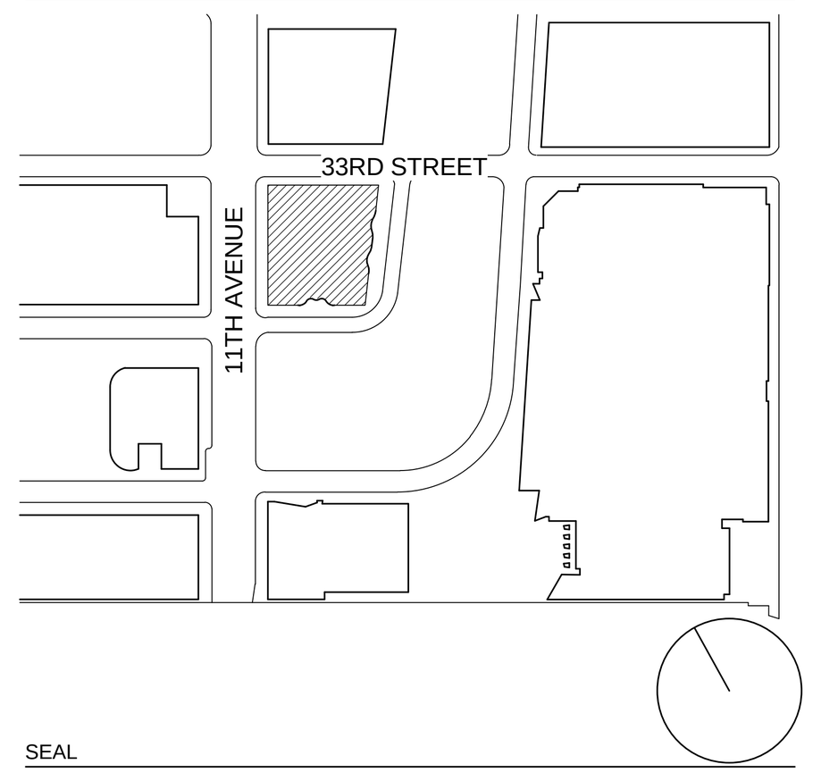
KEYPLAN



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3	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
2	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

DRAWING TITLE

RC WALL DETAILS

Damian Titus
APPROVED
NYC Development Hub

B-SCAN - DRAWING NUMBER

S-403.00

DRAWING NUMBER

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KEYPLAN

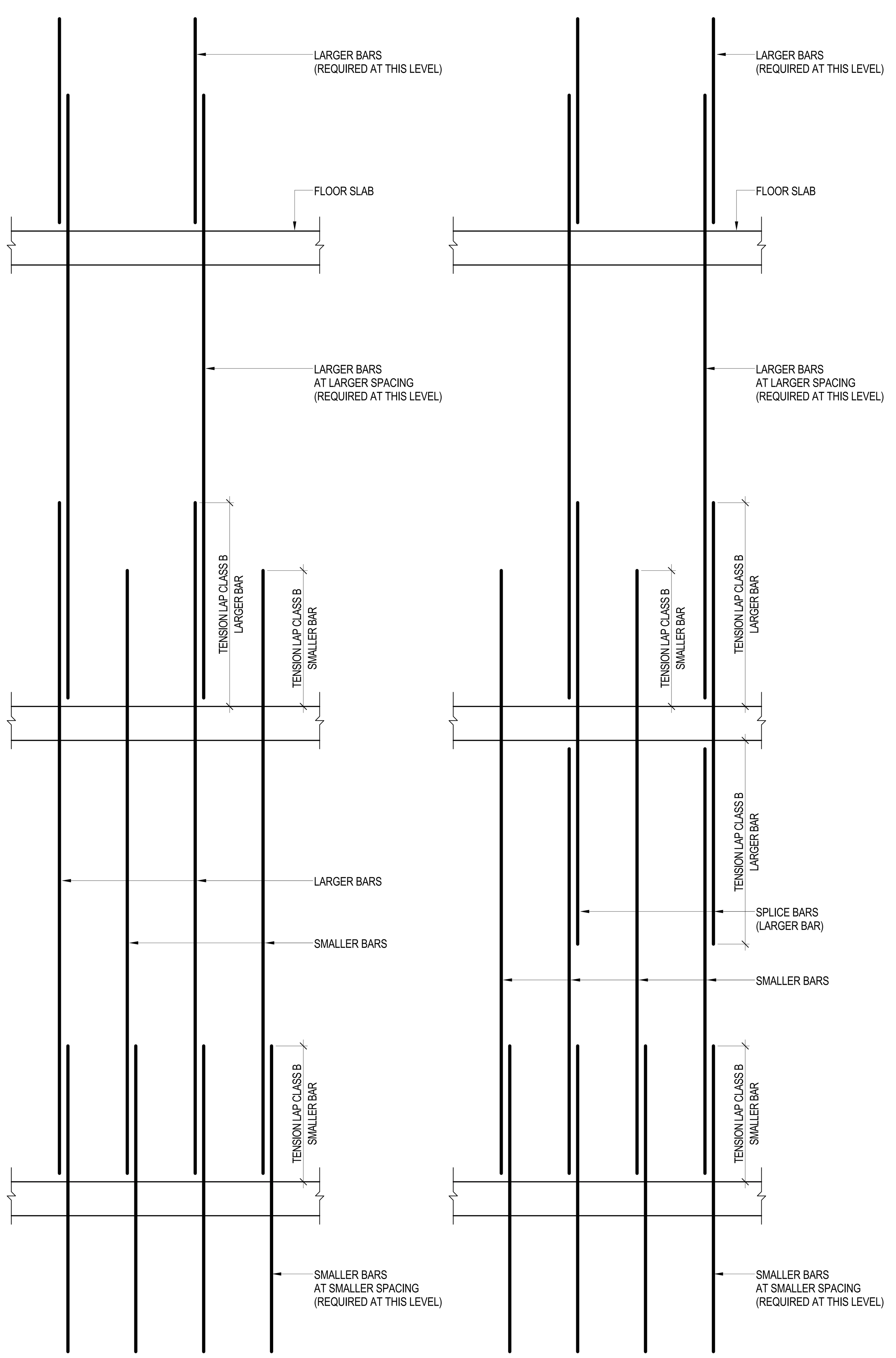
33RD STREET
11TH AVENUE

SEAL

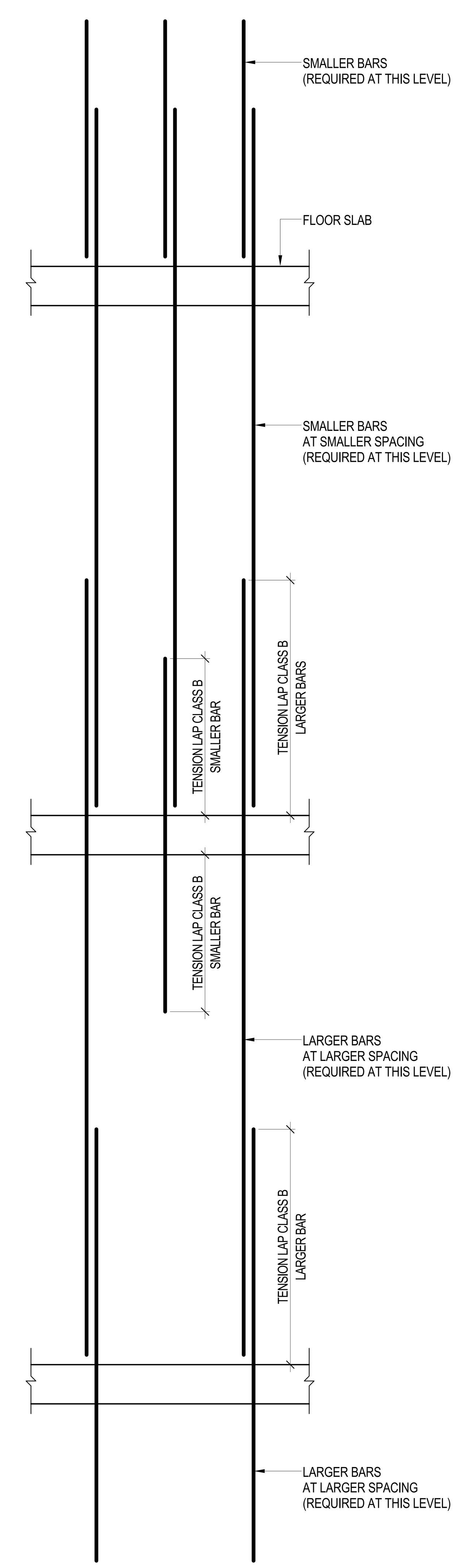
NO.	DATE	DESCRIPTION
3	20 JAN 2017	ISSUED TO DOB
2	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

DRAWING TITLE

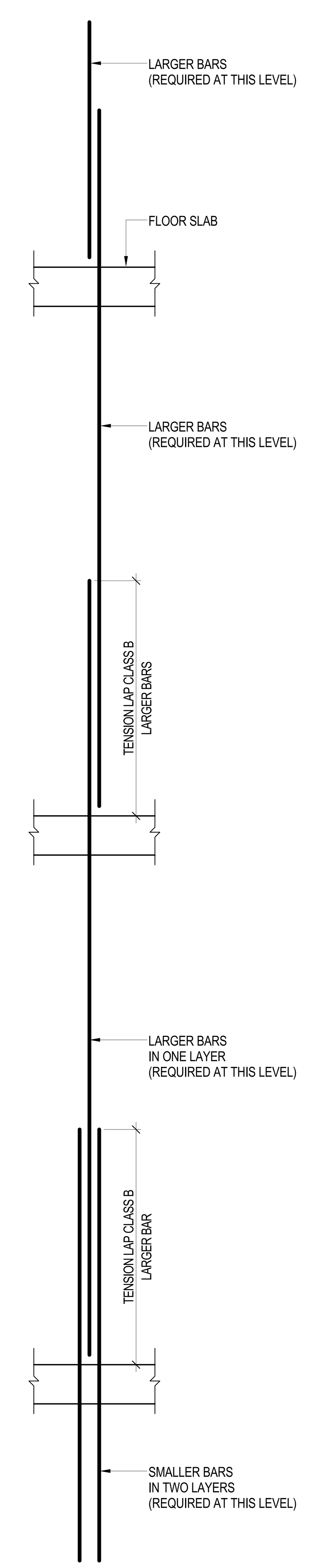
RC WALL DETAILS



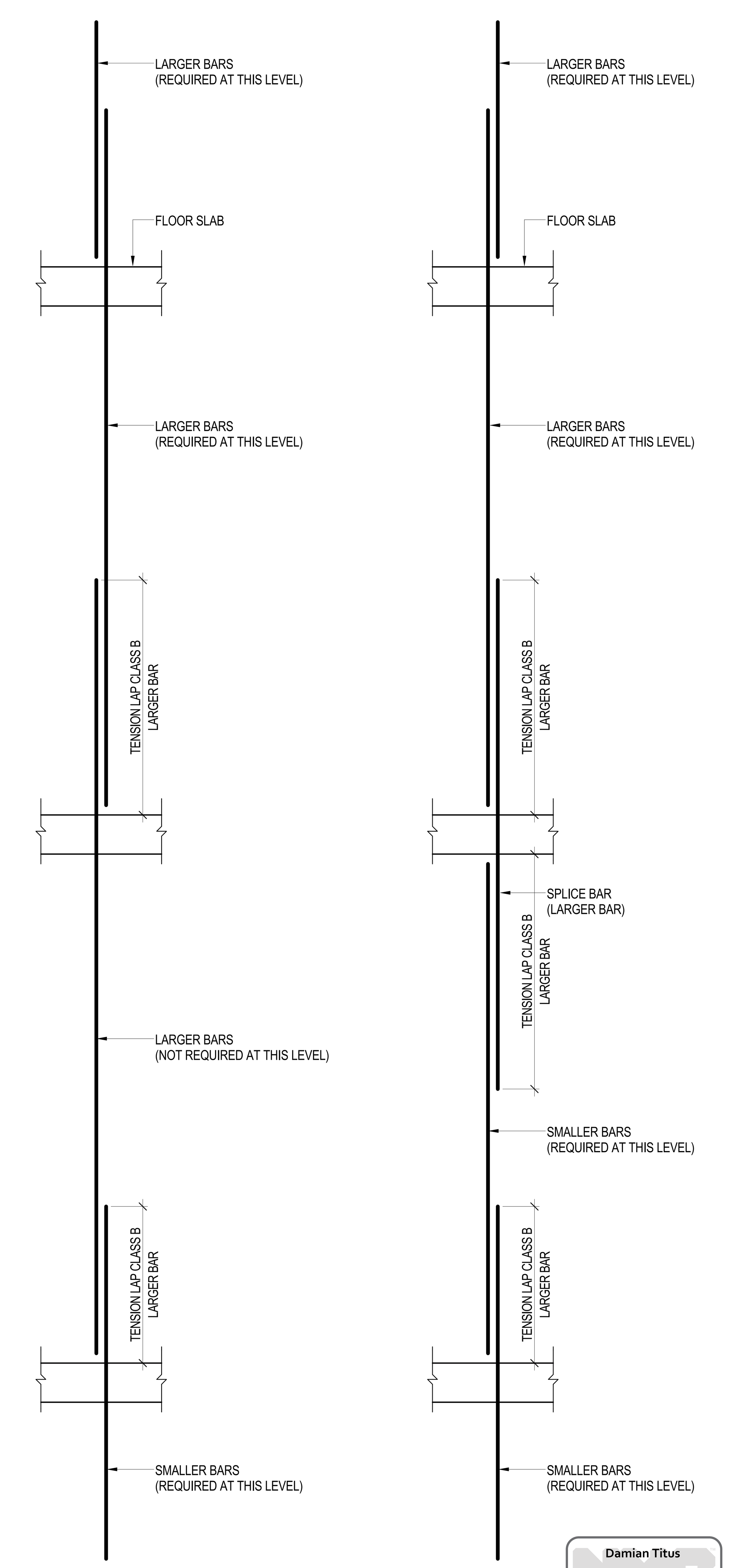
1 SMALLER BAR/SPACING TO LARGER BAR/SPACING TRANSITION
1/2" = 1'-0"



2 LARGER BAR/SPACING TO SMALLER BAR/SPACING TRANSITION
1/2" = 1'-0"



3 SMALLER BAR IN TWO LAYERS TO LARGER BAR IN ONE LAYER TRANSITION
1/2" = 1'-0"



4 SMALLER BAR TO LARGER BAR TRANSITION
1/2" = 1'-0"

Damian Titus
NYC Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

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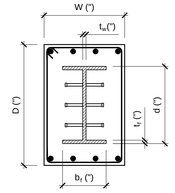

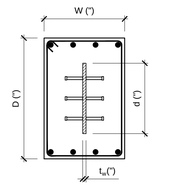

DEPT OF BLDGS 121192618 Job Number

ES539051240 Scan Code

REINFORCED CONCRETE CORE WALL LINK BEAM SCHEDULE

fy REBAR = 60 ksi
fy STEEL SHAPE = 50 ksi

LEVEL	f'c (PSI)	LOCATION (SEE PLANS)	DIMENSIONS DEPTH "D" (IN)	DIMENSIONS WIDTH "W" (IN)	CONTINUOUS TOP AND BOTTOM REINF. BARS PER LAYER	CONTINUOUS TOP AND BOTTOM REINF. LAYERS	SIDE REINF. (EA. FACE)	STIRRUPS SIZE/ SPACING	STIRRUPS LEGS	EMBEDDED STEEL SHAPE TYPE	EMBEDDED STEEL SHAPE SIZE	EMBEDDED STEEL SHAPE Le
LEVEL 72A	10,000	LB1C	21	12	2#6	1	-	#3@8	2			
LEVEL 72		LB1C	96	12	2#6	1	9#6	#3@12	2			
		LB1D	36	12	3#8	1	3#6	#4@8	2			
		LB2D-1	48	14	3#8	1	4#6	#5@4	2			
		LB2D-2	12	14	3#8	1	-	#4@4	3			
		LB3E	36	14	3#6	1	3#6	#4@12	2			
		LB4B	12	14	3#6	1	1#6	#4@8	2			
LEVEL 71		LB1C, LB1D	52.5	12	2#6	1	5#6	#4@4	2			
		LB2D	26	14	3#6	1	-	#4@8	2			
		LB3E	26	14	3#8	1	-	#4@8	2			
		LB4A,LB4B	52.5	24	2#6	1	5#6	#4@12	2			
LEVEL 69 - 70		LB1C,LB1D	53	12	2#6	1	5#6	#4@12	2			
		LB2D,LB3E	53	14	4#8	1	5#6	#4@4	2			
		LB4A	53	24	6#9	1	5#6	#4@6	4			
		LB4B	53	24	2#6	1	5#6	#4@6	2			
LEVEL 68		LB1C	30	12	2#6	1	2#6	#4@12	2			
		LB1D	25	12	2#6	1	2#6	#4@8	2			
		LB2D	60	14	3#9	2	5#6	#5@4	2			
		LB3E	74	14	3#9	2	7#6	#5@6	3			
		LB4A	74	24	5#11	1	8#6	#5@4	4			
LEVEL 62 - 67		LB1C	30	12	3#8	1	2#6	#4@8	2			
		LB1D	25	12	2#7	1	-	#4@8	2			
		LB2D, LB3E	30	14	4#8	2	2#6	#4@6	4			
		LB4A	30	24	4#11	1	2#6	#4@6	4			
LEVEL 60 - 61		LB1C	30	15	4#9	1	-	#4@8	2			
		LB1D	25	15	2#8	1	-	#4@8	2			
		LB1E	30	15	3#11	1	-	#4@6	2			
		LB2D	30	18	4#9	2	3#6	#4@4	4			
		LB3E	30	18	4#8	2	2#6	#4@6	4			
		LB4A	30	24	5#10	1	3#6	#4@4	3			
LEVEL 52 - 59		LB1C	30	15	4#8	1	2#6	#4@6	2			
		LB1D	25	15	2#8	1	-	#4@8	2			
		LB1E	30	15	4#11	1	-	#4@4	4			
		LB2D	30	18	4#14	1	-	#5@6	4			
		LB3E	30	18	5#9	2	-	#5@6	4			
		LB4A	30	24	5#11	1	-	#4@4	3			
		LB5A LEVEL 53	42	18	2#8	1	4#6	#4@8	2			
		LB5A LEVEL 52	35.5	18	2#8	1	3#6	#4@6	2			
LEVEL 51		LB1B	30	18	5#9	1	3#6	#4@8	2			
		LB1C	30	18	4#9	1	3#6	#4@4	2			
		LB1D	25	18	3#8	1	-	#4@8	2			
		LB1E	30	18	4#11	1	-	#4@12	2	1B	PL 15"X3/4"	2'-6"
		LB2D	30	18	4#11	2	-	#4@12	2	1B	PL 10"X1 1/4"	2'-9"
		LB3E	30	18	3#11	2	-	#5@4	3			
		LB4A	30	24	5#11	1	3#6	#4@4	3			
LEVEL 42 - 50		LB1B LEVEL 50	30	18	3#11	1	-	#4@12	2			
		LB1B LEVEL 48-49	30	18	5#10	2	-	#4@6	2	1B	PL 10"X1 1/4"	2'-9"
		LB1B	30	18	4#10	2	-	#4@4	4			
		LB1C	30	18	4#11	1	-	#5@6	2			
		LB1D	25	18	3#8	1	-	#4@6	2			
		LB1E	30	18	4#11	1	-	#4@4	4			
		LB1E LEVEL 43	30	18	5#9	2	-	#4@12	2	1B	PL 10"X1 1/4"	2'-9"
		LB1E LEVEL 42	27	18	3#11	2	-	#4@8	2	1B	PL 10"X1 1/2"	3'-0"
		LB2D	27	18	6#11 (4+2)	2	-	#5@4	4			
		LB3E	27	18	5#9	2	-	#4@4	3			
		LB4A	30	24	4#11	2	-	#5@4	4			
LEVEL 41	12,000	LB1B	27	24	5#11	1	-	#5@4	2			
		LB1C	32.5	24	5#11	1	2#6	#4@4	4			
		LB1D	27	24	4#8	1	-	#4@6	2			
		LB1E	27	24	6#9	1	2#6	#4@8	2			
		LB2C	32.5	18	2#6	1	-	#4@12	2			
		LB2D	32.5	18	4#11	2	3#6	#4@6	2	1B	PL 15"X1"	3'-0"
		LB3E	30	18	4#9	1	3#6	#4@4	2			
		LB4A	32.5	24	5#11	2	-	#5@4	4			
LEVEL 32 - 40		LB1B	27	24	6#9	1	2#6	#4@8	2			
		LB1C	30	24	5#11	1	-	#4@4	3			
		LB1D	25	24	3#8	1	-	#4@8	2			
		LB1E	27	24	4#11	1	-	#4@8	2			
		LB2C	30	18	3#8	1	2#6	#4@6	2			
		LB2D, LB3E	27	18	5#9	2	2#6	#4@4	4			
		LB4A	30	24	4#11	2	3#6	#5@4	4			
LEVEL 31		LB1B, LB1E	30	30	5#11	1	3#5	#5@6	2			
		LB1C	14	30	4#8	1	-	#4@4	2			
		LB2C, LB2D	30	36	5#9	1	2#5	#4@8	2			
		LB3E	16	36	5#11	1	-	#4@6	2			
		LB4A	14	24	5#9	1	-	#4@4	2			
		LB5A, LB5B	14	18	3#8	1	-	#4@4	2			
LEVEL 30 MEZZ		LB1B	78.5	30	5#11	2	10#8	#5@4	4			
		LB1E	49.5	30	5#11	2	5#5	#5@6	4			
		LB2C	93.5	36	5#11	1	13#5	#5@4	5			
		LB2D	58.5	36	5#11	1	8#6	#5@6	2			
		LB3A	61.5	36	5#11	2	7#5	#5@6	4			
		LB3C	127.5	36	5#9	1	21#5	#5@6	2			
		LB3E	79.5	36	5#11	2	9#5	#5@6	5			
		LB4A	27	24	5#9	2	-	#5@4	4			
LEVEL 30 MECH		LB1B, LB1E	30	24	3#9	1	2#6	#4@6	2			
		LB2C, LB2D, LB3B, LB3C, LB3E	30	20	4#11	1	4#6	#5@4	4			
		LB4A	24	24	4#9	1	-	#4@4	2			
LEVEL 29		LB1B, LB1E	24	24	4#9	1	-	#4@6	2			
		LB2C, LB2D	24	20	3#11	1	-	#5@6	2			
		LB3B, LB3C, LB3E	24	20	3#11	1	-	#4@6	2			
		LB4A	24	24	4#9	1	-	#4@4	2			
LEVEL 26 - 28		LB1B	24	24	6#8	1	-	#4@6	2			
		LB1E	24	24	4#9	1	2#6	#4@4	2			
		LB2C	24	20	4#9	1	2#6	#4@8	2			
		LB2D, LB3E	24	20	5#11	1	-	#4@4	3			
		LB3B	24	20	4#8	1	3#6	#4@8	2			
		LB3C	24	20	4#9	1	2#6	#4@4	4			
		LB4A	24	24	4#9	1	2#6	#4@6	4			
LEVEL 20 - 25		LB1B	24	24	4#8	1	2#6	#4@6	2			
		LB1E	24	24	4#9	1	3#6	#4@6	4			
		LB2C	24	20	5#9	1	2#6	#4@8	2			
		LB2C LEVEL 20	24	20	4#11	2	-	#4@6	2	1B	PL 10" x 1 1/4"@ LEVEL 20	3'-0"
		LB2D, LB3E	24	20	5#9	2	-	#4@4	4			
		LB3E L21	22	20	5#9	2	1#6	#4@4	4			
		LB3E L20	26	20	5#9	2	-	#5@4	3			
		LB3B	24	20	4#8	1	3#6	#4@8	2			
		LB3B L21	22	20	4#8	1	1#6	#4@8	2			
		LB3B L20	26	20	4#8	1	3#6	#4@8	2			
		LB3C	24	20	5#9	1	-	#4@4	3			
		LB3C L21	22	20	5#9	1	-	#4@4	3			
		LB3C L20	26	20	5#9	1	-	#5@4	3			
		LB4A	24	24	5#9	1	2#6	#4@4	4			
LEVEL 19		LB1B	24	24	4#7	1	2#6	#4@8	2			
		LB1E	24	24	5#9	1	2#6	#4@4	3			
		LB2C	24	20	5#11	2	-	#4@4	5			
		LB2D	24	20	5#11	1	-	#4@4	4			
		LB3B	24	20	3#8	1	2#6	#4@8	2			
		LB3C, LB3D	24	20	5#9	1	-	#4@4	3			
		LB3E	24	20	5#9	2	-	#5@4	3			
		LB4A	24	24	4#9	1	-	#4@4	2			
LEVEL 18		LB1B	26	24	4#8	1	2#6	#4@4	2			
		LB1E	26	24	5#11	1	-	#4@4	3			
		LB2C	24	24	6#11	1	3#6	#5@4	4			
		LB2D	24	24	5#9	2	2#6	#5@4	3			
		LB3B	24	24	4#8	1	-	#4@8	2			
		LB3C, LB3D	16	20	3#8	1	-	#4@6	2			
		LB3E	24	20	5#9	2	-	#5@4	3			
		LB4A	24	24	6#8	1	1#6	#4@6	4			
		LB5A	24	18	2#6	1	-	#4@8	2			
		LB9A, LB9B	30	12	2#6	1	-	#4@12	2			
LEVEL 17		LB1B	30	24	4#8	1	2#6	#4@4	2			
		LB1E	24	24	3#8	1	2#6	#4@8	2			
		LB2C	24	24	6#11	2	-	#4@8	2	1B	PL 15" x 1 3/4"	4'-0".
		LB2D	20	24	5#9	2	-	#4@4	4			
		LB3C, LB3D	24	20	3#8	1	2#6	#4@6	3			
		LB3E	24	20	5#9	2	-	#5@4	2			
		LB4A	24	24	5#9	1	-	#4@6	4			
		LB5A	24	18	3#8	1	2#6	#4@8	2			

CLOUDED LINK BEAM LOCATION INDICATES A CHANGE IN LINK BEAM DEPTH/WIDTH AND/OR REINFORCEMENT.

REINFORCED CONCRETE CORE WALL LINK BEAM SCHEDULE

fy REBAR = 60 ksi
fy STEEL SHAPE = 50 ksi

LEVEL	f'c (PSI)	LOCATION (SEE PLANS)	DIMENSIONS DEPTH "D" (IN)	DIMENSIONS WIDTH "W" (IN)	CONTINUOUS TOP AND BOTTOM REINF. BARS PER LAYER	CONTINUOUS TOP AND BOTTOM REINF. LAYERS	SIDE REINF. (EA. FACE)	STIRRUPS SIZE/ SPACING	STIRRUPS LEGS	EMBEDDED STEEL SHAPE TYPE	EMBEDDED STEEL SHAPE SIZE	EMBEDDED STEEL SHAPE Le
LEVEL 16	14,000	LB1B	30	24	4#8	1	2#6	#4@12	2			
		LB1C	30	24	2#6	1	-	#4@12	2			
		LB1E	30	24	3#8	1	2#6	#4@8	2			
		LB2C, LB2D	30	24	6#9	2	2#6	#5@4	4			
		LB3A	31	24	5#8	1	-	#4@4	2			
		LB3C, LB3D	30	20	5#8	1	1#6	#4@4	3			
		LB3E	30	20	4#11	2	-	#4@12	2	1B	PL 15" x 1 1/4"	3'-6"
		LB4A	30	24	5#8	1	3#6	#4@4	3			
		LB5A	30	18	3#8	1	2#6	#4@6	2			
		LB9A, LB9B	30	12	2#6	1	-	#4@12	2			
LEVEL 15		LB1B	14	30	5#6	1	-	#4@4	2			
		LB1E	140	44	6#11	3	20#6	#6@4	6			
		LB2C1	30	24	7#9	1	3#6	#4@6	2			
		LB2C2	28	24	7#9	1	3#6	#5@4	3			
		LB2D	30	24	4#11	2	2#6	#5@4	4			
		LB2E	30	20	6#9	2	2#6	4@12	2			
		LB3B	164	24	8#8	1	25#6	#6@4	4	1B	PL 24" x 2 1/2"	6'-5"
		LB3E	32	24	4#11	2	2#6	#5@4	4			
		LB3F	14	24	6#8	1	-	#4@4	2			
		LB5A	30	18	3#8	1	-	#4@12	2			
		LB6B1	36	30	8#8	1	3#6	#5@6	2			
		LB6B2	43	30	7#11	1	5#6	#5@4	4			
LEVEL 14 MEZZ		LB2D	24	24	6#11	1	-	#5@4	2			
		LB3E	32	24	6#9	2	3#6	#5@4	4			
		LB3F	11	24	6#11	1	-	#4@4	2			
		LB6B	43	30	7#11	1	5#6	#5@4	4			
		LB8A	30	15	3#9	2	-	#4@6	3			
LEVEL 14 MECH		LB1B	30	30	5#8	1	3#6	#4@6	2			
		LB1C	30	30	5#9	1	-	#4@6	4			
		LB1E	28	44	6#8	1	2#6	#4@6	2			
		LB2B	30	30	5#8	1	3#6	#4@6	2			
		LB2D, LB3E	30	24	4#11	2	-	#5@6	4			
		LB2E	28	20	4#11	1	2#6	#4@6	4			
		LB3B	28	24	4#8	1	2#6	#4@6	2			
		LB3F	30	24	6#11	2	-	#4@6	2	1B	PL 15" x 1 1/4"	3'-6"
		LB6B	107	30	5#8	1	15#6	#5@4	3			
		LB8A	30	15	3#9	2	2#6	#5@6	2			
LEVEL 09 - 13		LB1B	30	30	5#9	2	3#6	#5@4	3			
		LB1C	30	30	5#9	1	3#6	#5@4	3			
		LB1E	30	44	9#9	1	3#7	#4@6	2			
		LB2B	30	20	5#11	2	2#6	#4@6	2	1B	PL 15" x 1 3/4" (FOR L13 SEE ELEVATION)	4'-6"
		LB2C	30	20	6#8	1	2#6	#4@6	4			
		LB2D	30	20	5#9	2	2#6	#5@4	3			
		LB2E, LB3B	28	20	6#9	1	2#6	#4@8	2			
		LB3E	30	20	6#9	2	2#6	#5@4	4			
		LB3F	30	20	6#8	2	3#6	#4@4	4			
		LB8A	30	15	4#8	2	2#6	#4@6	4			
LEVEL 08		LB1E	54	30	4#11	2	4#6	#5@4	2			
		LB2C, LB2D	30	24	4#9	2	2#6	#5@4	2			
		LB2E	30	24	4#11	2	2#6	#4@6	2			
		LB3B	155	24	4#11	4	15#6	SEE NOTE 1	SEE NOTE 1	1B	PL 52" x 3"	6'-2"
		LB3E	48	24	4#11	2	3#6	#4@4	4			
		LB3F	48	24	4#11	2	3#6	#5@4	4			
		LB8A	30	15	2#9	1	3#6	#4@6	2			
LEVEL 07 MEZZ		LB1A	66	30	4#11	2	6#6	#4@4	2			
		LB1C	58	30	4#9	1	5#6	#4@4	2			
		LB1E	61	30	5#11	1	7#6	#5@4	2			
		LB2C	72	24	4#11	1	6#6	#4@4	4			
		LB2D	47	24	4#11	1	4#6	#5@6	4			
		LB2E	70	24	5#11	4	9#6	#4@6	2	1B	PL 36" x 2"	4'-10"
		LB3E	71	24	4#9	1	8#6	#5@4	2			
		LB4A	90	24	4#11	1	8#6	#4@6	2			
		LB6A	96	36	5#11	1	9#6	#4@6	2			
		LB8A	92	15	2#9	1	9#6	#5@4	2			
LEVEL 07		LB1A	58	30	5#10	1	5#6	#5@4	4			
		LB1C	58	30	5#11	2	5#6	#5@4	4			
		LB1E	72	30	5#11	1	6#6	#4@6	2	1B	PL 54" x2.5"	5'-6"
		LB2D	84	24	6#11	1	8#6	#4@6	2	1A	SEE SW2 ELEVATION FOR STEEL SHAPES	SEE ELEVATION
		LB2E	56	24	5#11	1	5#6	#4@6	2	1A	BUH 42" x 12" x 3" x 2 1/2"	5'-6"
		LB3B	60	24	5#10	2	5#6	#5@4	4			
		LB3E	60	24	5#11	1	5#6	#4@6	2	1A	BUH 50" x 16" x 4" x3"	6'-0"
		LB3F	60	24	5#11	1	5#6	#4@6	2	1B	PL 48" x 2"	4'-9"
		LB4A	74	24	5#10	1	7#6	#5@6	4			
		LB6A	104	30	5#11	2	10#6	#5@4	4			
		LB8A	104	15	4#10	1	10#6	#4 @ 6	2		PL 36" x 1"	4'-1"
LEVEL 06		LB1A	72	30	5#11	1	6#6	#5@4	4			
		LB1C	44	30	6#11	1	4#6	#4@6	2	1B	PL 30" x 2"	5'-1"
		LB1E (LB1E-1)	d1=18	30	5#9	1	2#6	#4@6	2			
		LB1E (LB1E-2)	d2=22	30	4#11	1	2#6	#4@6	2	1B	PL 14" x 2"	5'-6" SEE SW1 ELEV.
		LB2D	24	24	5#10	2	2#6	#5@4	3			
		LB2E	24	24	6#11	1	2#6	#4@6	2	1A	BUH 8" x 8" x 1 1/2" x 1 1/2"	4'-6"
		LB3B	32	24	5#11	1	2#6	#4@6	2	1B	PL 24" x 1 1/2"	4'-6"
		LB3C, LB3D	70	24	5#11	2	6#6	#5@4	5			
		LB3E	42	24	5#10	1	3#6	#4@6	2	1A	BUH 28" x 16" x 3" x 3"	7-0"
		LB3F	44	24	4#11	2	4#6	#4@6	2	1B	PL 24" x 3"	7'-6"
		LB4A	72	24	4#10	1	6#6	#4@6	4			
		LB6A	72	30	5#11	1	6#6	#5@6	4			
		LB8A	72	15	4#10	1	6#6	#4@6	2		PL 36" x 1 1/2"	4'-1"
		LB8B	72	15	4#10	2	6#6	#5@6	4			
		LB9A, LB9B	72	12	3#8	1	6#6	#4@6	2	1B	PL 36" x 1"	SEE SW9 ELEVATION
LEVEL 05		LB1A	135.5	30	6#11	1	13#6	#5@4	4			
		LB1C	107	30	5#10	1	10#6	#4@6	2	1B	PL 60" x 2"	3'-1"
		LB1E	134	30	5#10	2	13#6	#4@6	2	1B	PL 48" x 2"	SEE SW1 ELEVATION
		LB1F	90	30	5#10	2	8#6	#4@6	2	1B	PL 48" x 2"	SEE SW1 ELEVATION
		LB2C	104	24	5#10	1	16#9	#4@6	2	1B	PL 36" x 2"	5'-0"
		LB2D	104	24	5#11	3	16#9	#4@6	2	1A	BUH 74" x 12" x 3" x 3"	6'-0"
		LB2E	59	24	5#11	1	9#9	#4@6	2	1A	BUH 46" x 12" x2.5" x 3"	6'-6"
		LB3B	70	24	6#11	1	11#9	#4@6	2	1B	PL 36" x 1.5"	4'-0"
		LB3C	104	24	6#11	1	16#9	#5@4	4			
		LB3D	104	24	6#11	1	16#9	#4@6	2	1A	BUH 56" x 12" x 3" x 2.5"	SEE SW3 ELEVATION
		LB3E	72	24	6#11	1	11#9	#4@6	2	1A	BUH 56" x 12" x 3" x 2.5"	SEE SW3 ELEVATION
		LB3F	74	24	5#10	1	11#9	#4@6	2	1B	PL 42" x2"	5-0"
		LB4A	134	24	5#10	1	13#6	#5@4	4			
		LB6A	98	30	5#10	2	9#6	#5@6	4			
		LB8A, LB8B	134	15	4#10	1	13#6	#4@6	2	1B	PL 60" x 2"	SEE SW8 ELEVATION
		LB9A, LB9B	134	12	3#10	1	13#6	#4@4	2			
LEVEL 04		LB1A	18.5	30	6#11	1	2#6	#4@6	2	1B	PL 10" x 3"	SEE SW1 ELEVATION
		LB1C	95	30	5#11	1	9#6	#4@6	2	1B	PL 38" x 3"	SEE SW1 ELEVATION
		LB1E, LB1F	14	30	5#9	1	1#6	#4@6	2			
		LB2C	142	24	5#11	1	23#9	#5@6	4			
		LB2D	36	24	6#11	1	3#6	#4@6	2	1A	BUH 20" x14" x 4" x 2"	4-'9"
		LB2E	26	24	4#10	1	2#6	#4@6	2	1A	BUH 14"x6"X2"x2"	8'-3"
		LB3E	120	24	5#10	1	19#9	#4@6	2	1A	BUH 72" x 6" x 1" x 3"	7'-0"
		LB3F	150	24	5#10	2	24#9	#4@6	2	1A	BUH 66" x 6" x 1" x 3"	6'-3"
		LB4A	26	24	4#10	1	2#6	#5@6	2			
		LB6A	18	30	4#10	1	1#6	#4@4	4			
		LB8A	156	15	3#10	1	15#6	#5@4	3			
LEVEL 03 MEZZ												
		LB2D	18	24	5#10	2	1#6	#4@6	2	1A	BUH 8" x 8" x 1 1/2" x 1 1/2"	4'-6"
		LB4A	43	24	5#11	2	3#6	#5@4	5			
LEVEL 03		LB1A	46	24	5#10	1	4#6	#4@6	2	1B	PL 30" x 2"	SEE SW1 ELEVATION
		LB1C	66	30	5#11	1	6#6	#5@4	5			
		LB2C	102	24	5#10	2	9#6	#4@6	2	1B	PL 42" x 2"	4'-3"
		LB2D	42	24	5#11	1	3#6	#4@6	2	1A	BUH 26" x 12" x 4" x 3"	8'-3"
		LB3E (LB3E-1)	d1=14	24	4#9	1	1#6	#4@6	4			
		LB3E (LB3E-2)	d2=52	24	6#11	1	4#6	#4@6	2	1A	BUH 40" x 14" x 4" x 3 1/2"	7'-0"
		LB3F	84	24	5#11	2	10#6	#4@6	2	1A	BUH 46" x 6" x 2" x 3"	6'-8"
		LB4A	102	24	5#11	1	15#6	#5@6	2	1B	PL 54" x 1 1/2"	4'-0"
		LB8A	40	15	4#10	1	3#6	#4@6	2	1B	PL 30" x 2"	5'-0"
LEVEL 02		LB1A	111	30	5#11	1	10#6	#5@6	4			
		LB4A	66	24	4#11	1	9#8	#5@4	4			
		LB1E	124	30	5#10	1	12#6	#5@6	2			
		LB2A	138	24	5#11	1	16#11	#5@6	2	1A	BUH 62" x 6" x 1" x 3"	SEE SW2 ELEVATION
		LB2C	138	24	5#10	3	16#11	#5@4	4			
		LB2D	104	24	5#10	2	12#11	#4@6	2	1A	BUH 90" x 10" x 3" x 3"	6'-3"
		LB3A	105	24	5#11	1	12#11	#4@6	2	1A	BUH 62" x 6" x 1" x 3"	5'-6"
		LB3E	102	24	5#11	1	12#11	#4@6	2	1A	BUH 48"x8"x1"x2.5"	5'-6"
		LB3F	116	24	6#10	3	14#11	#4@6	2	1A	BUH 60"x8"x2"x2.5"	5'-6"
		LB6A	60	30	5#11	1	5#6	#5@4	5			
		LB9A, LB9B	105	12	3#10	1	10#6	#5@4	2			

NOTE: 1. SEE S-307M FOR VERTICAL WALL REINFORCEMENT. PROVIDE STANDARD 90 DEGREE HOOKS AT TOP AND BOTTOM OF WALL.

BUH = d (") x b_f (") x t_f (") x t_w(")

NOTE: SEE 2/S-412 FOR DETAIL OF LINK BEAM WITH EMBEDDED STEEL SHAPE.

1A EMBEDDED LINK BEAM STEEL NOMENCLATURE

SCALE: NOT TO SCALE

PL = d (") x t_w(")

NOTE: SEE 2/S-412 FOR DETAIL OF LINK BEAM WITH EMBEDDED STEEL SHAPE.

1B EMBEDDED LINK BEAM STEEL NOMENCLATURE

SCALE: NOT TO SCALE

NOTE: SEE SCHEDULE FOR Le.

1C EMBEDDED LINK BEAM STEEL KEY ELEVATION

SCALE: NOT TO SCALE

2 LINK BEAM STIRRUP KEY PLAN

SCALE: NOT TO SCALE

NOTES: 1. CORE WALL AND LINK BEAM REINFORCEMENT NOT SHOWN FOR CLARITY.
2. UNLESS SPECIFICALLY DESIGNATED IN SCHEDULE AS d1 AND d2, LINK BEAM DEPTH "D" IS THE LARGER OF d1 and d2. PLACE LINK BEAM REINFORCEMENT WITHIN THE SCHEDULED DEEPER ZONE. EXTEND WALL REINFORCEMENT UP, TO AND AROUND THE OPENING IN THE SHALLOW ZONE. SEE DETAIL 1/S-402. WHEN d1 AND d2 ARE SCHEDULED, REINFORCE EACH ZONE WITH THE SCHEDULED REINFORCEMENT.

Damian Titus
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

3 KEY ELEVATION FOR LINK BEAMS WITH LARGE MECHANICAL OPENINGS

SCALE: NOT TO SCALE

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KEYPLAN

SEAL

079322

NO.	DATE	DESCRIPTION
9	20 JAN 2017	ISSUED TO DOB
8	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
7	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	**ISSUED TO DOB**
1	25 NOV 2014	**ISSUED FOR SCHEMATIC DESIGN**

DRAWING TITLE

RC SHEAR WALL LINK BEAM SCHEDULE

B-SCAN - DRAWING NUMBER

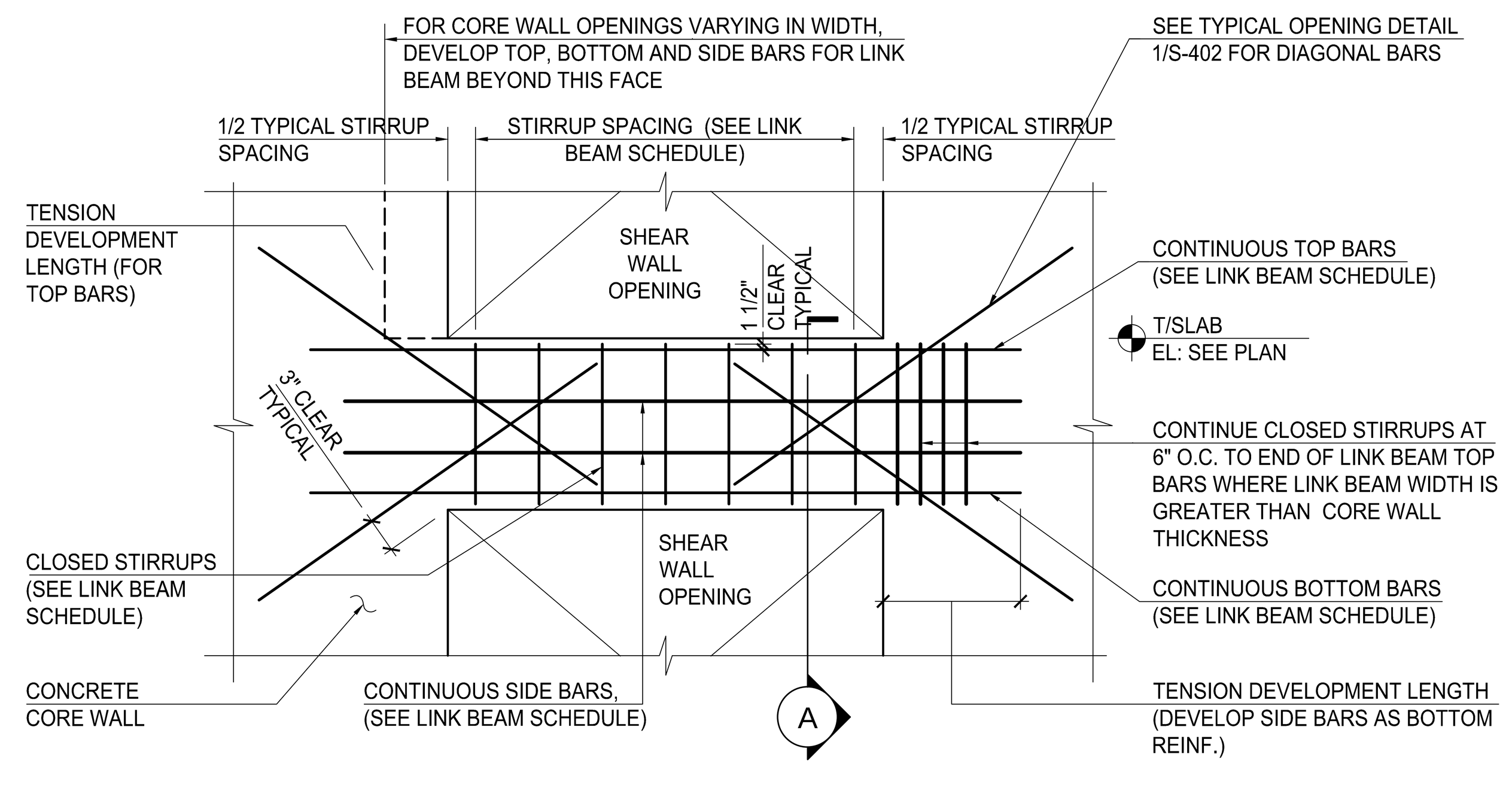
S-411.01

DRAWING NUMBER

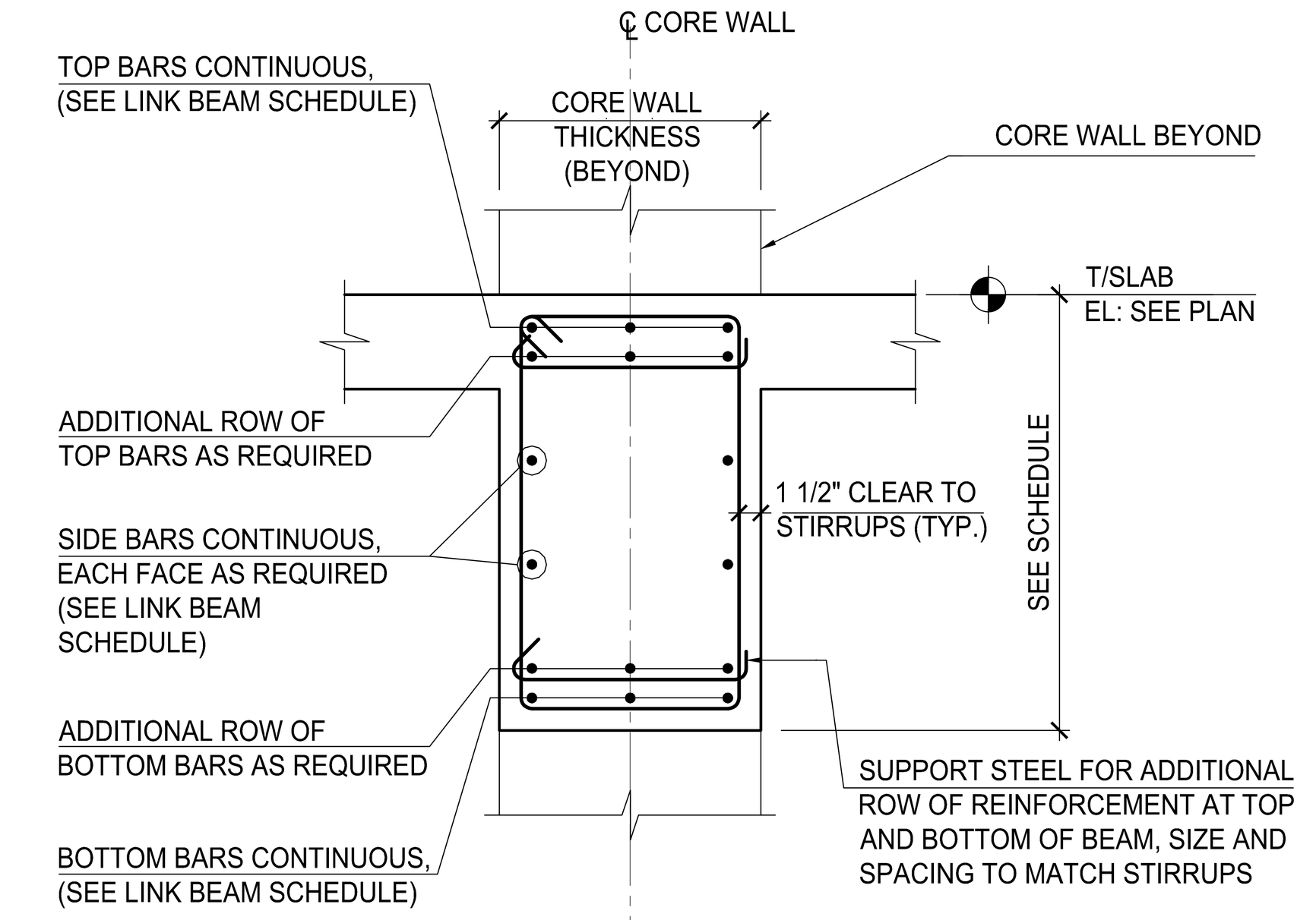
S-411

PAGE NUMBER

68 OF 112



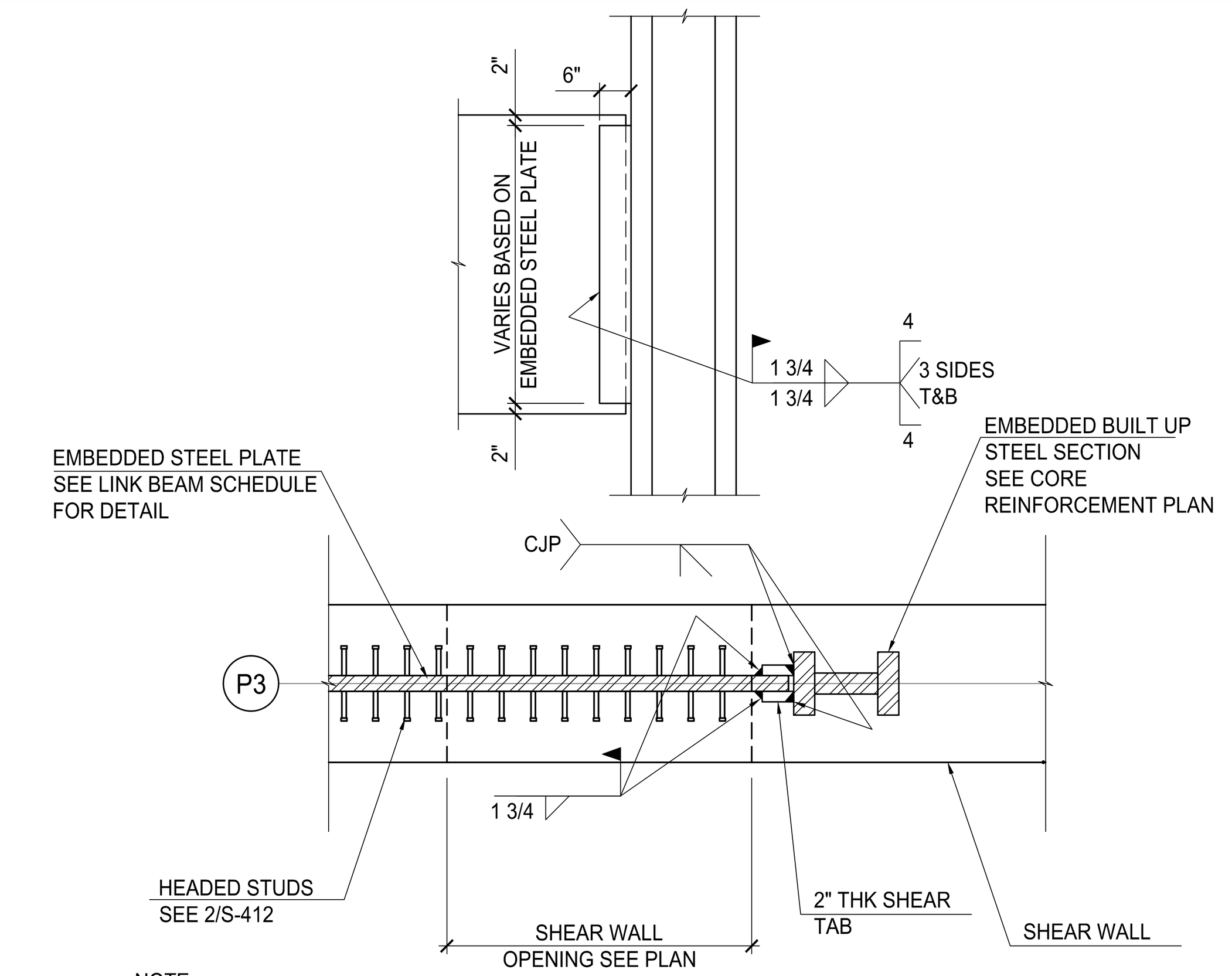
NOTES: 1. CORE WALL REINFORCEMENT NOT SHOWN FOR CLARITY.
2. SEE CORE WALL ELEVATION FOR SIZE OF OPENINGS.



NOTES: 1. SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.

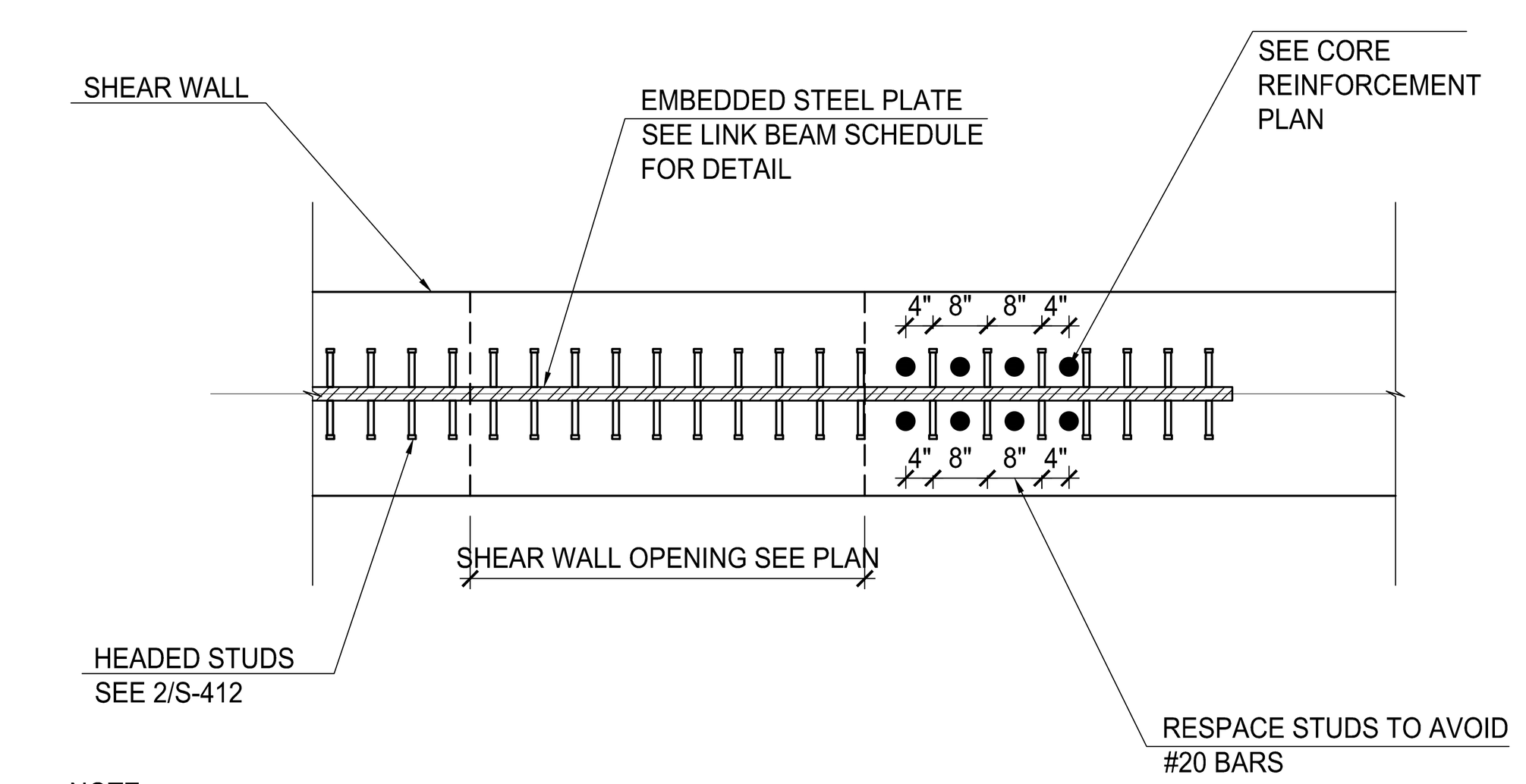
SECTION A

1 TYPICAL LINK BEAM ELEVATION
SCALE: NOT TO SCALE



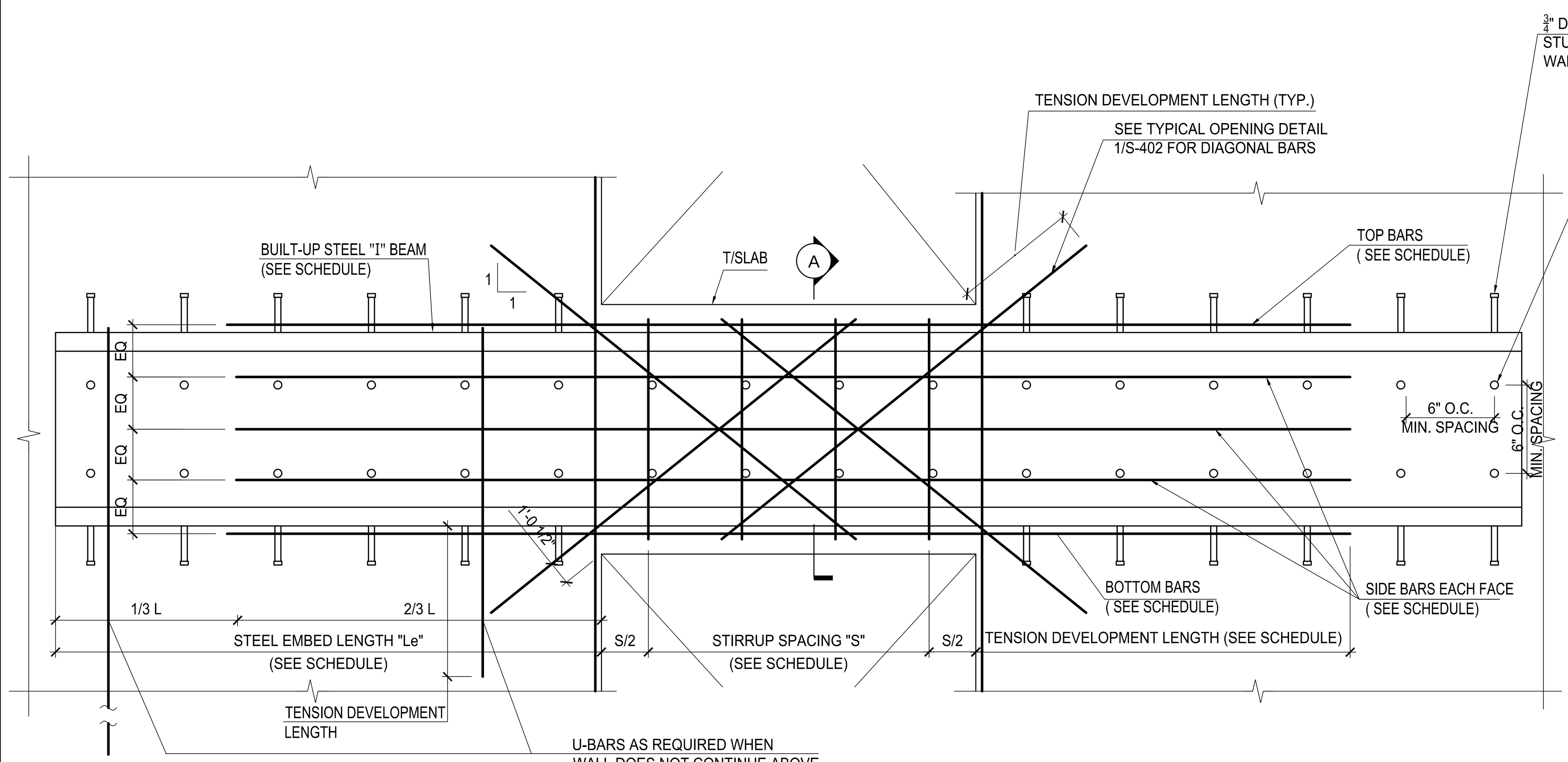
NOTE:
WALL REINFORCEMENT NOT SHOWN FOR CLARITY. REFER TO CORE WALL REINFORCEMENT PLANS.

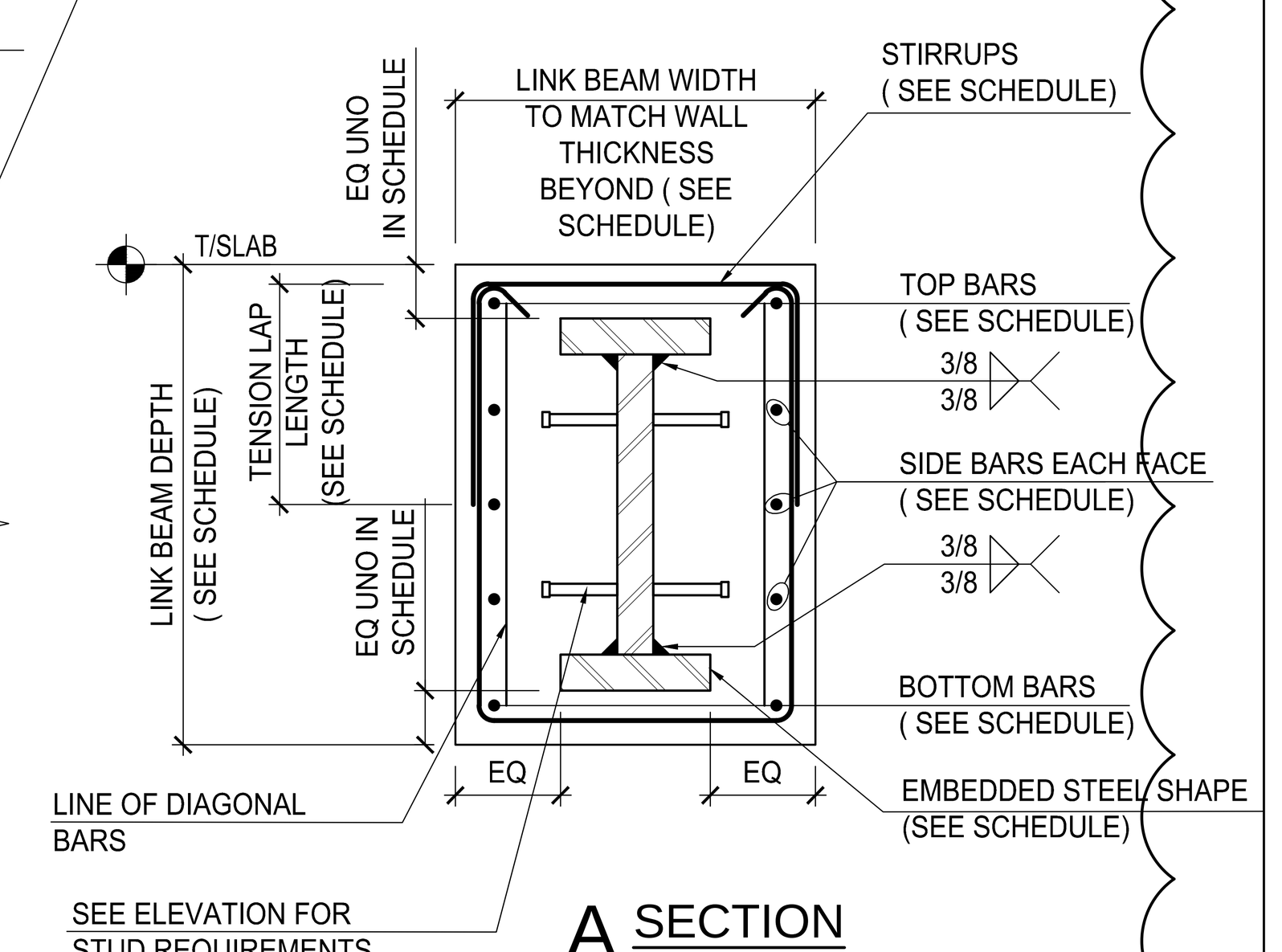
3 LINK BEAM PLATE TO BUH EMBEDDED COLUMN CONNECTION
SCALE: 1/2" = 1'-0"



NOTE:
WALL REINFORCEMENT NOT SHOWN FOR CLARITY. REFER TO CORE WALL REINFORCEMENT PLANS.

4 LINK BEAM PLATE STUD SPACING AT #20 BARS
SCALE: 1/2" = 1'-0"



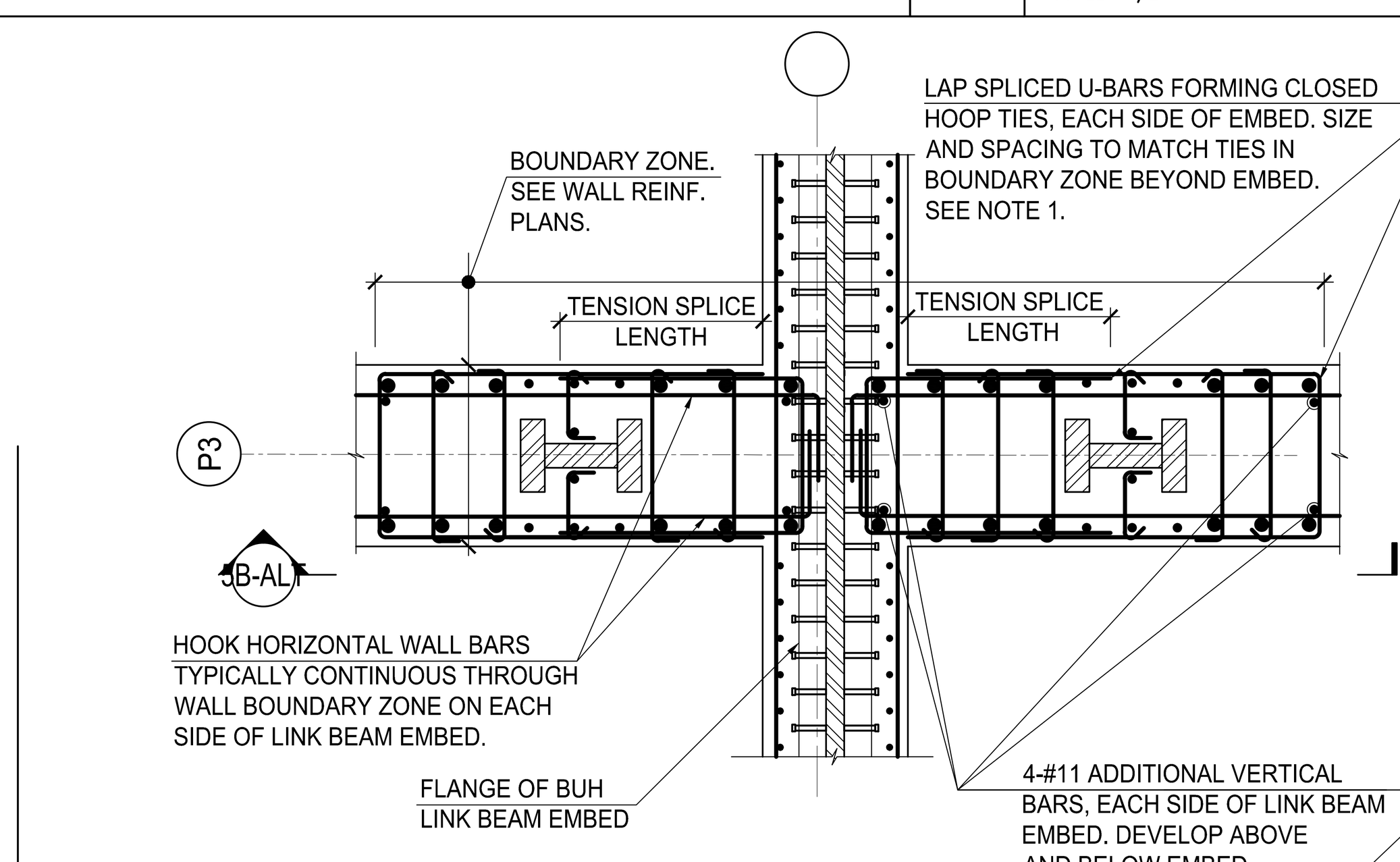


A SECTION

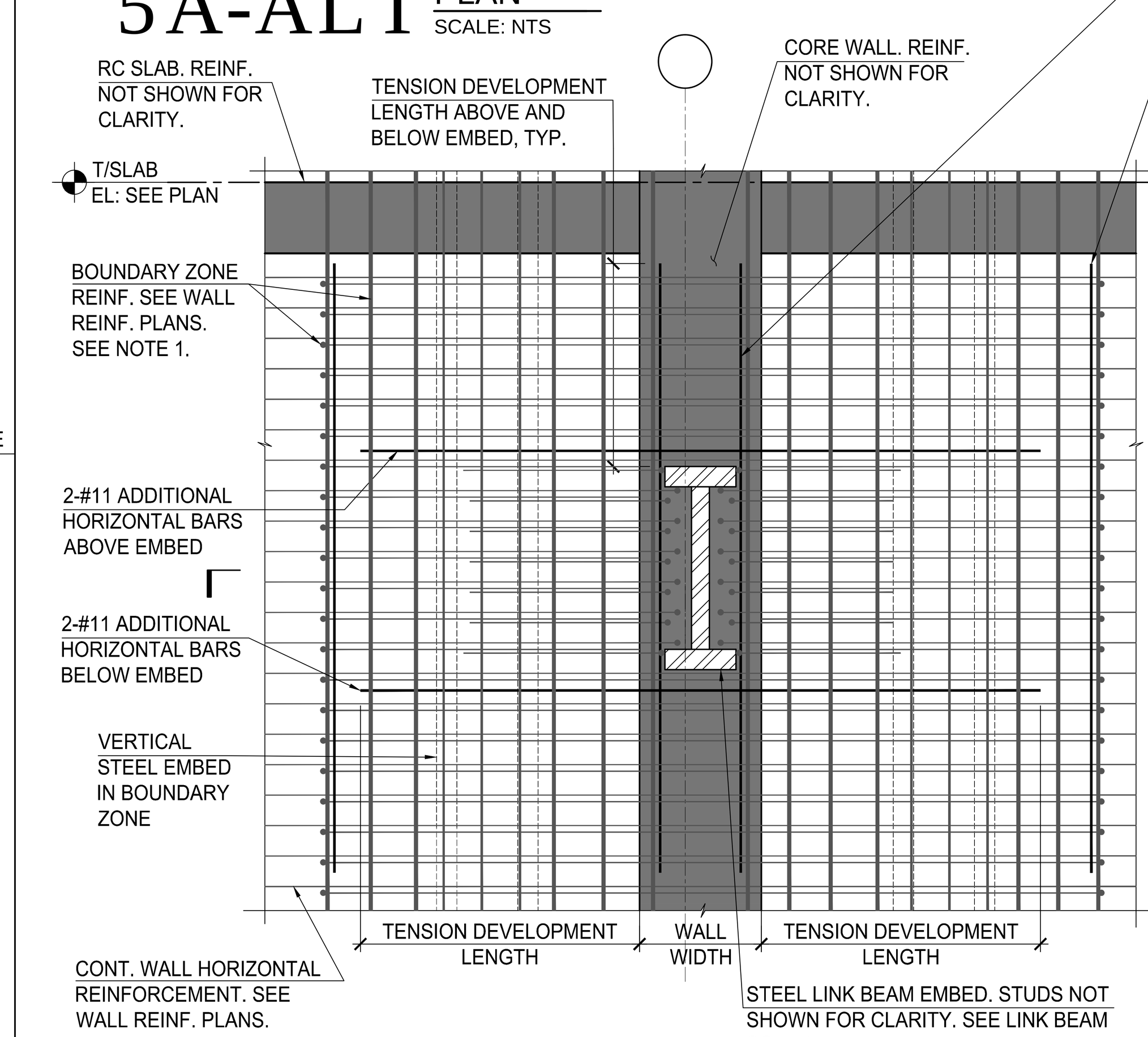
NOTES: 1. PROVIDE HOLES IN VERTICAL STEEL PLATE TO COORDINATE WITH WALL ELEVATIONS.
2. CORE WALL AND SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.
3. REFER TO WALL ELEVATIONS FOR PENETRATION SIZES AND LOCATIONS.
4. SEE S-411 FOR SCHEDULE AND STEEL EMBED NOMENCLATURE.

CONTRACTOR TO PROVIDE METHOD STATEMENT FOR ALL LINK BEAM CONSTRUCTION INCLUDING SPECIAL PLACEMENT METHODS FOR LINK BEAMS WITH EMBEDDED STEEL PIECES

2 TYPICAL LINK BEAM ELEVATION WITH EMBEDDED STEEL SHAPE
SCALE: N.T.S.

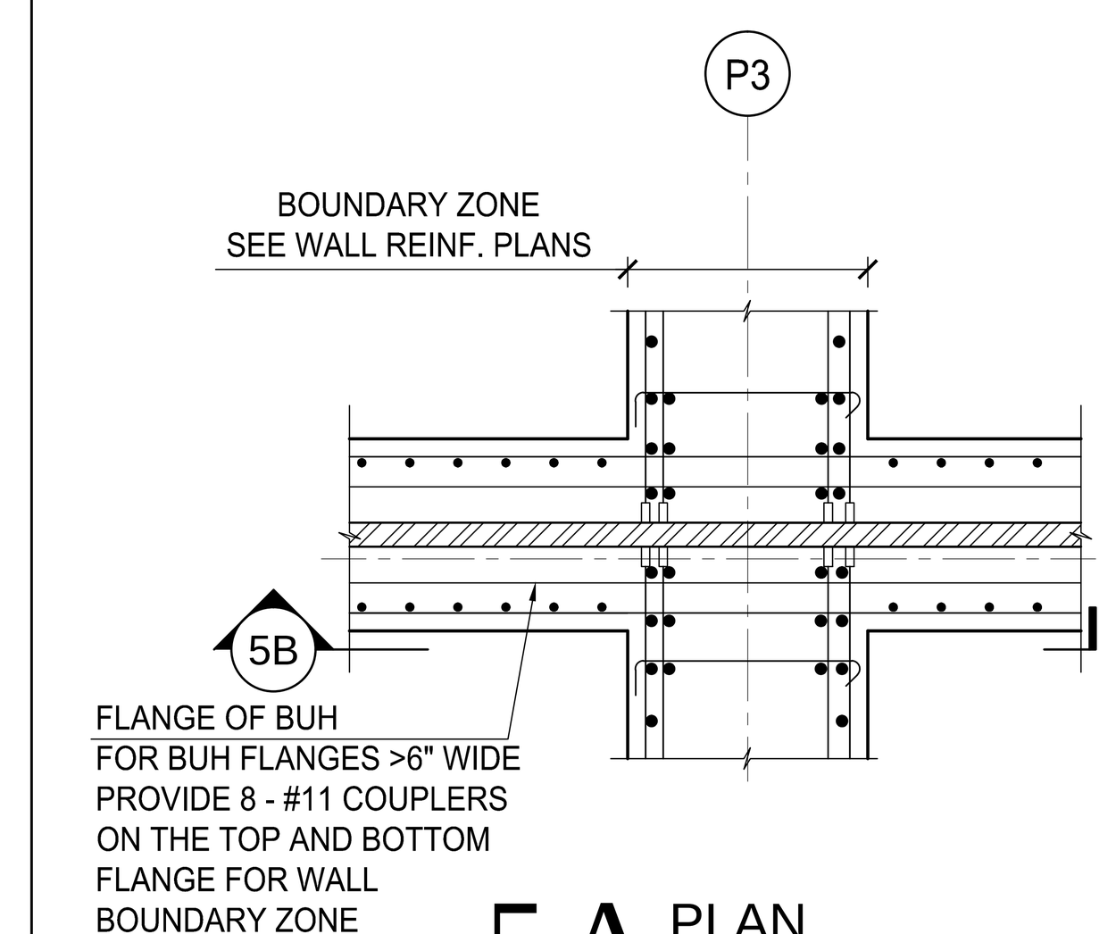


5A-ALT PLAN
SCALE: NTS

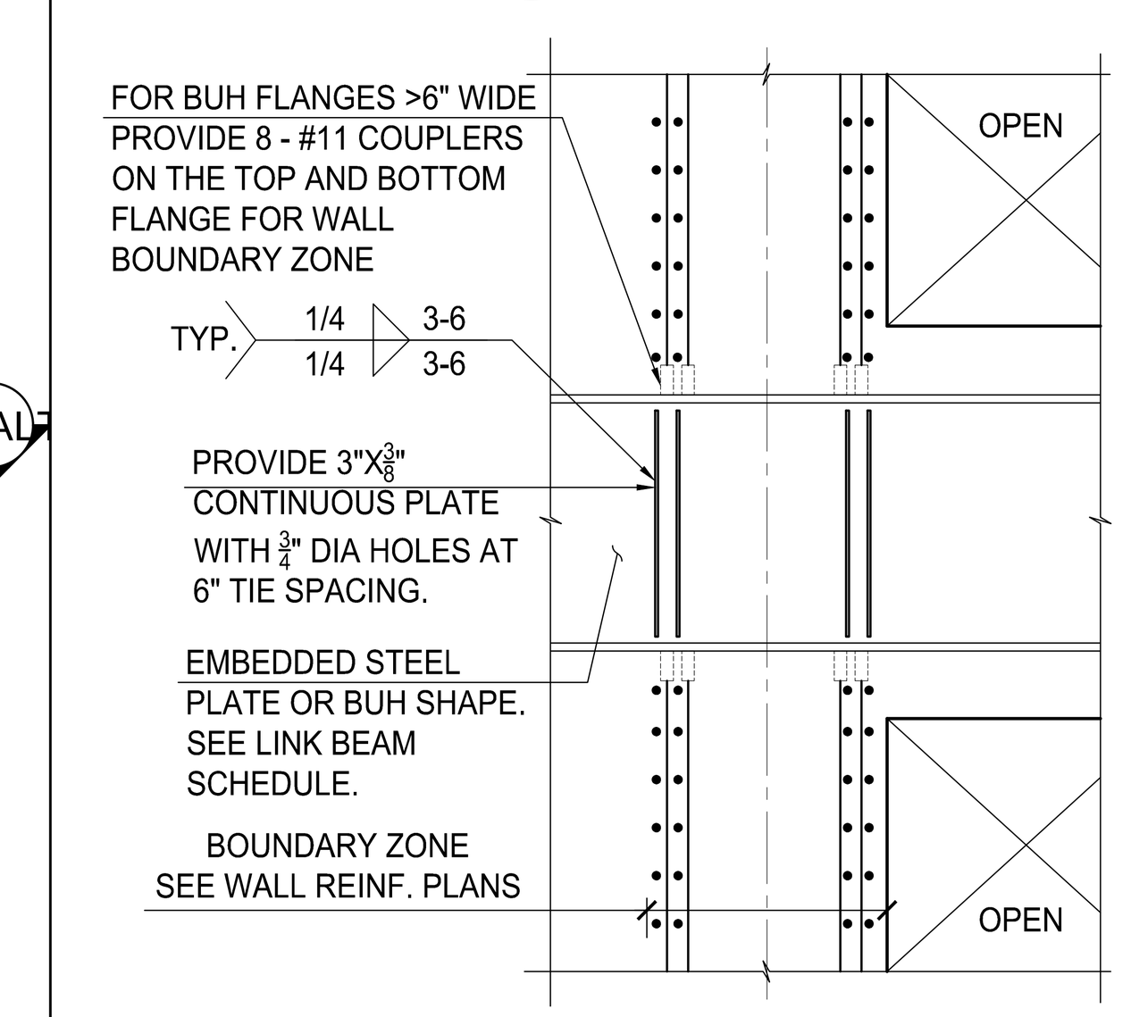


5B-ALT SECTION
SCALE: NTS

NOTES:
1. PROVIDE 4 LEGS OF TIES IN BOUNDARY ZONE, ALONGSIDE WALL BARS WITHIN THE EXTENTS OF LINK BEAM EMBED AND BEYOND AT THE FOLLOWING LOCATIONS:
A. INTERSECTION P3/ED, LEVEL 3 - LEVEL 4
B. INTERSECTION P3/EC, LEVEL 6 - LEVEL 7



5A PLAN
SCALE: NTS

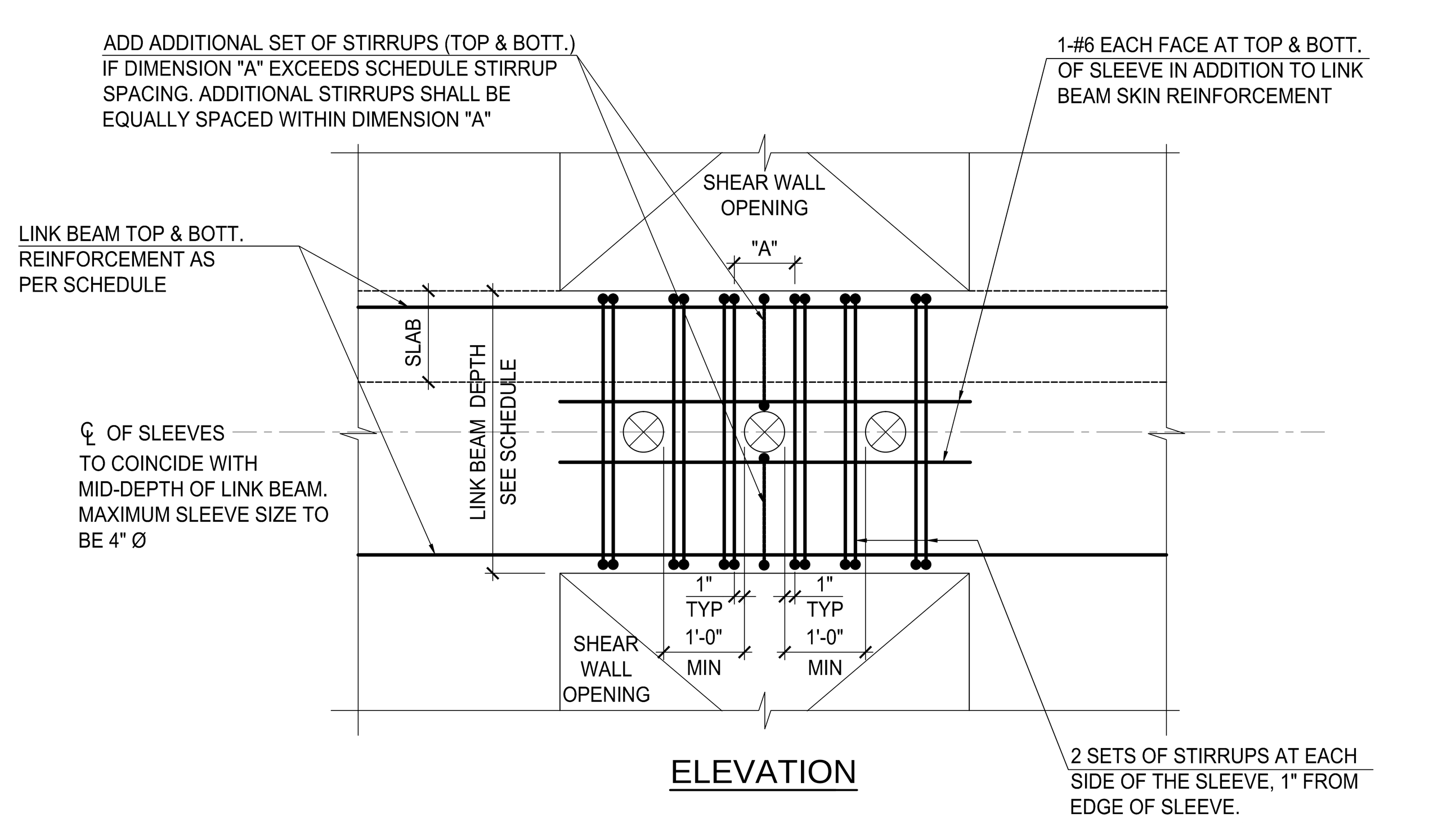


5B ELEVATION
SCALE: NTS

NOTE: TYPICAL WALL REINFORCEMENT AND SHEAR STUDS ON PLATE NOT SHOWN FOR CLARITY

ALTERNATE

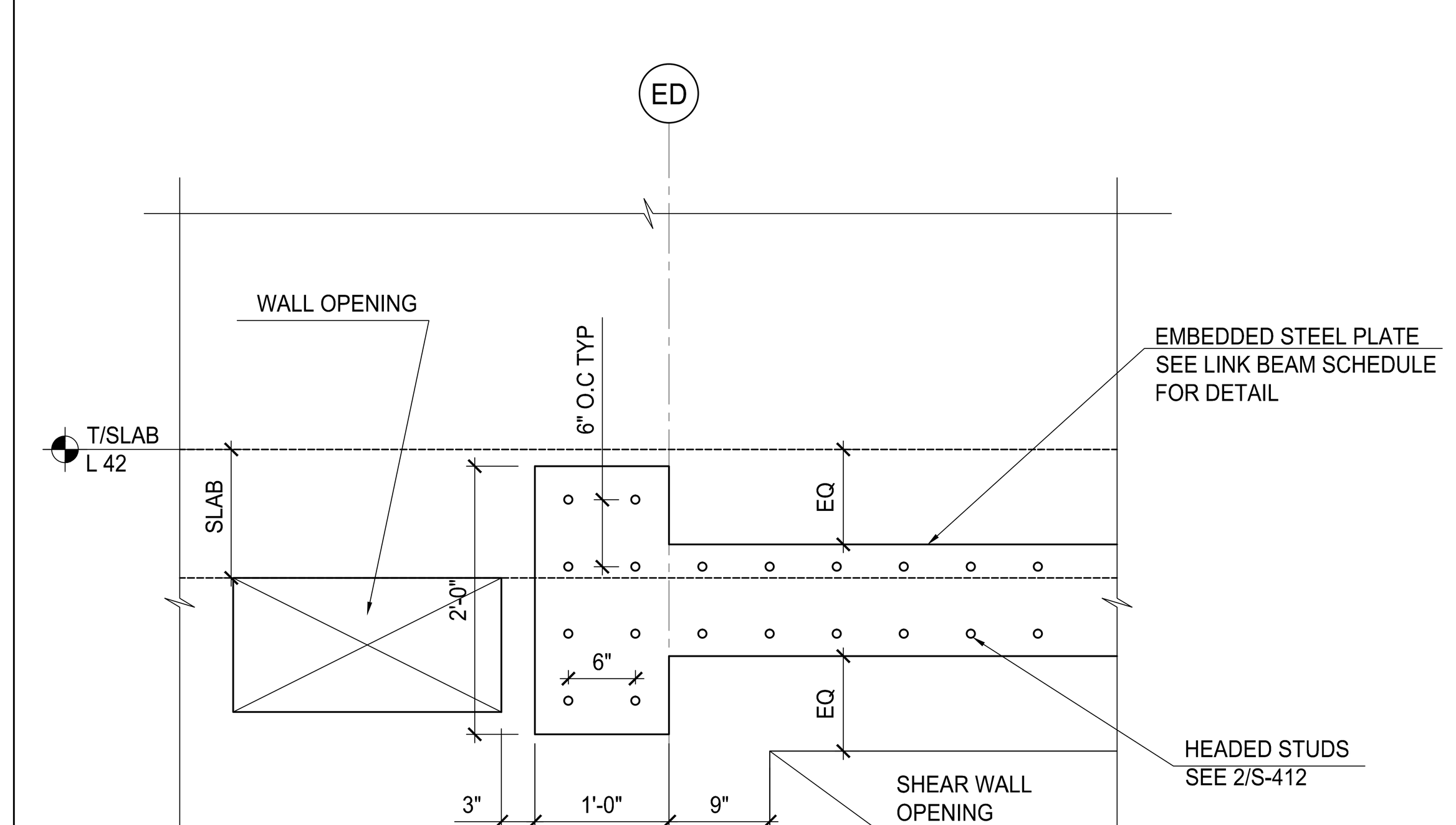
5 BOUNDARY ZONE / LINK BEAM EMBED PLATE THROUGH WALL
SCALE: 1/2" = 1'-0"



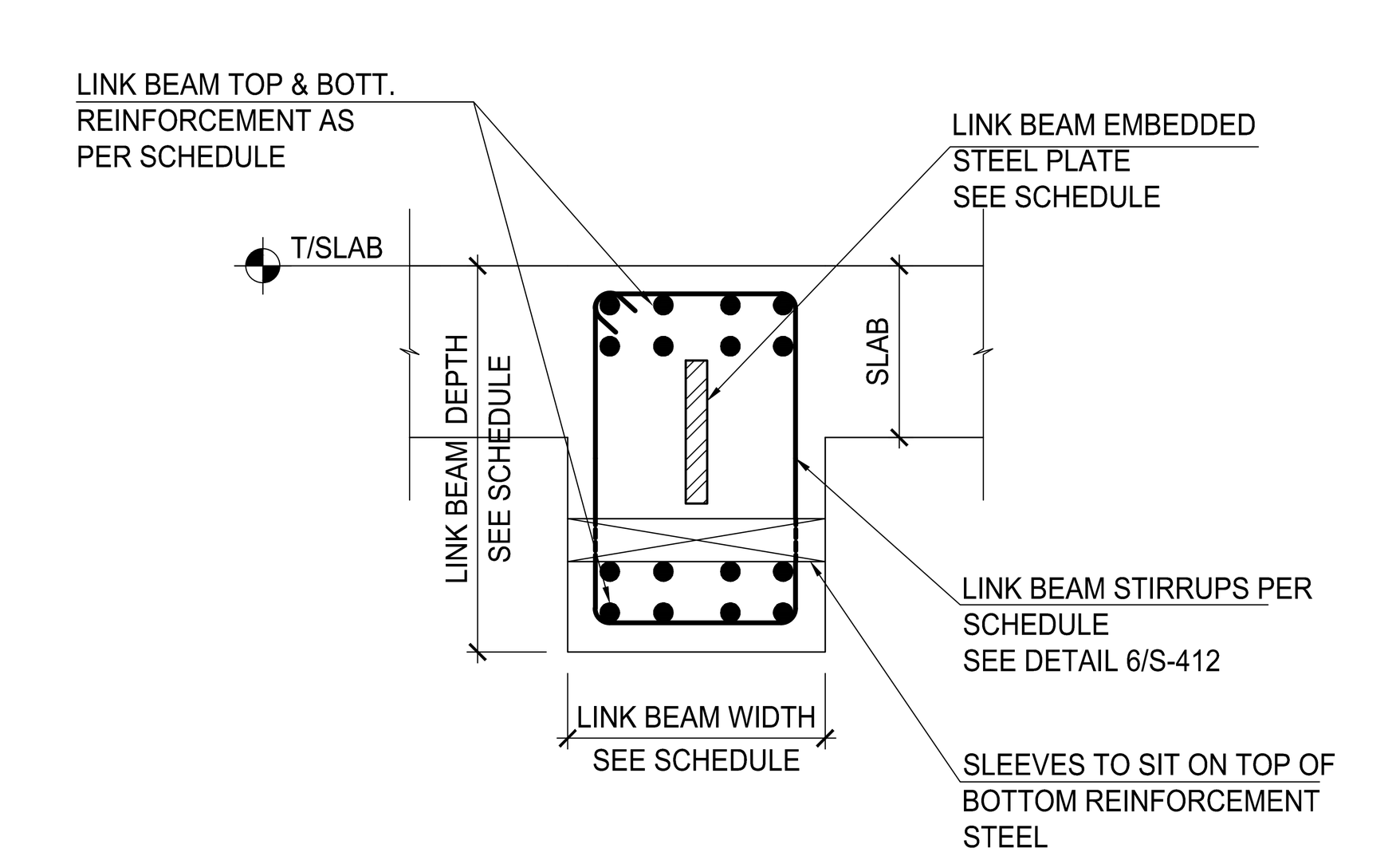
ELEVATION

NOTES:
1. ALL SCHEDULED BEAM REINFORCEMENT (NOT SHOWN) IS TO BE CONTINUOUS.
2. ALL SLEEVES SHALL BE POSITIONED & ALIGNED HORIZONTALLY AS INDICATED ON THE TYPICAL DETAIL.
3. SLEEVE PENERATIONS THAT DO NOT SATISFY THE REQUIREMENTS OF THIS DETAIL ARE NOT PERMITTED UNLESS REVIEWED AND APPROVED BY THE ENGINEER OF RECORD IN ADVANCE OF CONSTRUCTION.

6 TYPICAL SLEEVE PENETRATION DETAIL THROUGH LINK BEAMS
SCALE: N.T.S.



7 HAMMERHEAD EMBEDDED STEEL PLATE
SCALE: 1" = 1'



NOTES:
1. DETAIL APPLIES TO ALL LINK BEAM PENETRATION WHERE EMBEDDED STEEL IS PRESENT.
2. ALL SLEEVES SHALL BE POSITIONED & ALIGNED HORIZONTALLY AS INDICATED ON THE TYPICAL DETAIL.
3. SLEEVE PENERATIONS THAT DO NOT SATISFY THE REQUIREMENTS OF THIS DETAIL ARE NOT PERMITTED UNLESS REVIEWED AND APPROVED BY THE ENGINEER OF RECORD IN ADVANCE OF CONSTRUCTION.

8 TYPICAL SLEEVE PENETRATION THROUGH LINK BEAM WITH EMBED STEEL PLATE
SCALE: 1" = 1'

EMBEDDED BUILT-UP "I" BEAM AND STEEL PLATE NOTES

1. Structural material grades shall be as follows:

Plates: ASTM A572 Grade 50
Shear Stud Connectors: ASTM A108, Type B, Fu = 65

2. All welding electrodes shall be E70XX for 50 ksi steel.

3. All studs shall be 3/4" diameter x 6" long, UNO. For shop testing of studs, refer to technical specification.

4. Allowable field erection tolerance from the design centerline: 1/4" per 10'-0", 1/2" maximum (includes fabrication and material tolerances).

5. Survey field installed plate centerline at 5'-0" intervals prior to concrete wall pour. Provide survey results to the Engineer-of-Record for information at least three days prior to wall encasement pour.

6. The Contractor shall engage a structural engineer registered in the State of New York to design a temporary bracing/shoring to ensure the stability of the built up "I" beam and plate during construction, prior to the concrete pour.

7. The Contractor shall provide a methods statement to the Engineer of Record describing of erection procedures, methods of fixing the steel plate in the forms, and intended survey procedures (including the locations of survey points).

8. See Specification Section 051200, "Structural Steel Framing" for additional requirements.

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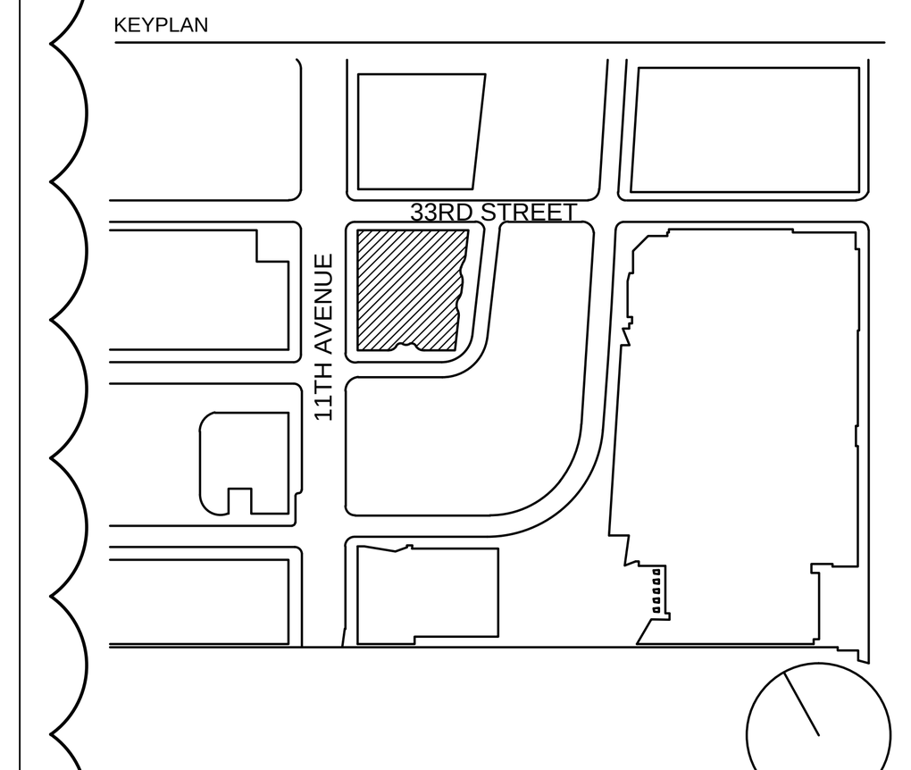

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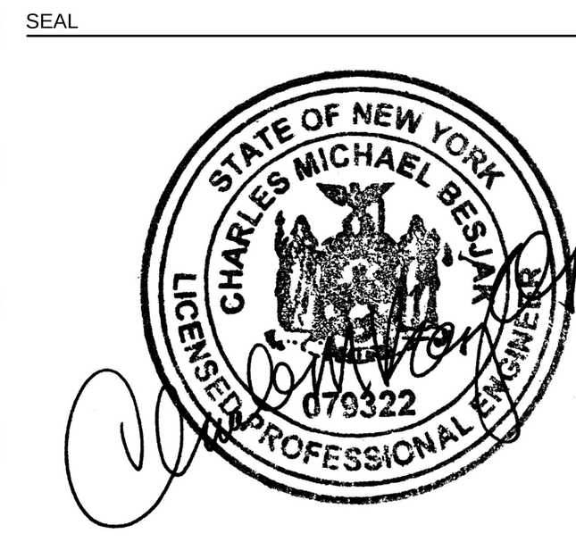


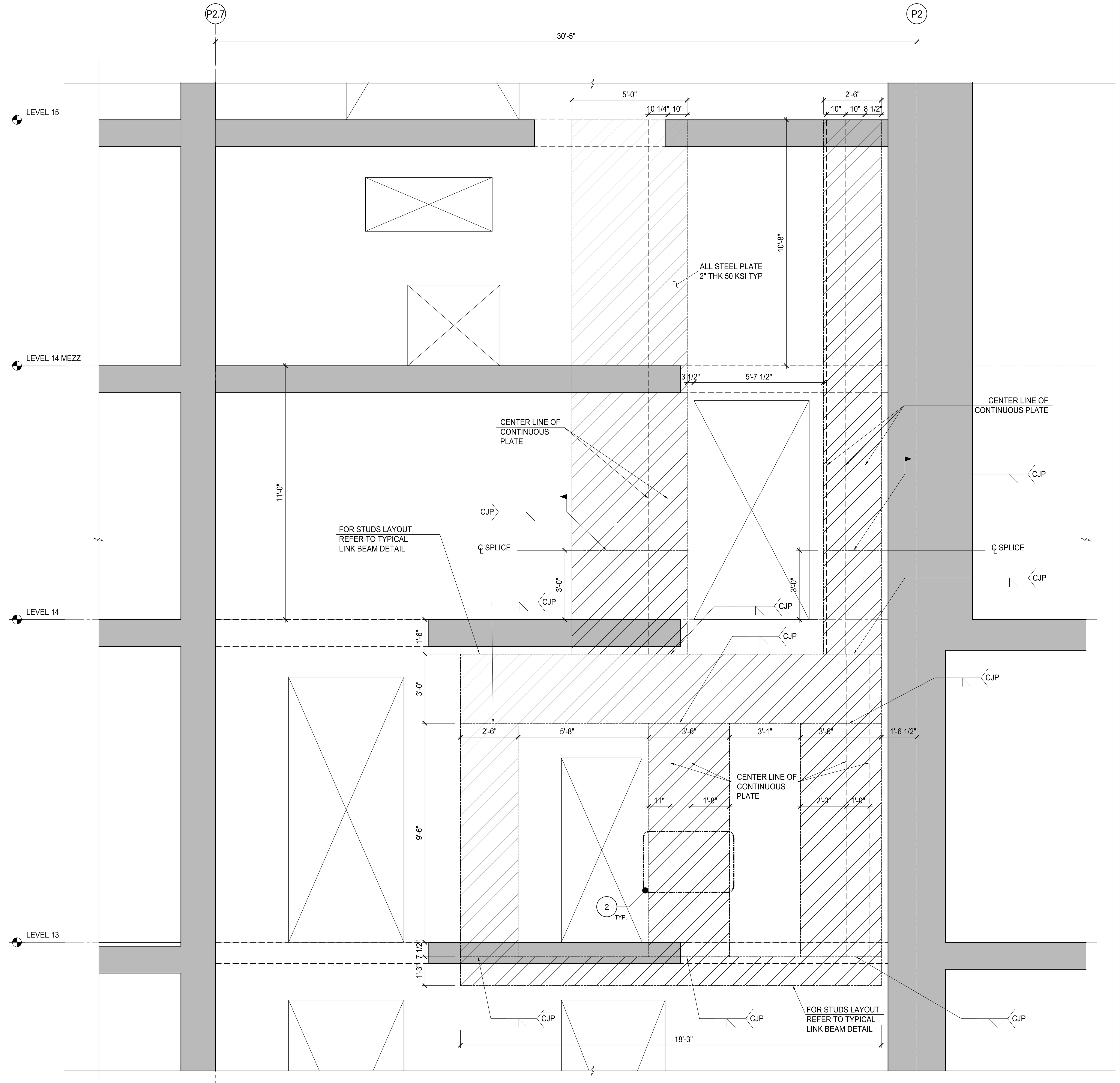
NO.	DATE	DESCRIPTION
7	20 JAN 2017	ISSUED TO DOB
6	19 AUG 2016	ISSUED FOR BULLETIN NO. 3
5	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
4	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
3	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
2	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
1	15 JAN 2015	ISSUED TO DOB

DRAWING TITLE
RC SHEAR WALL LINK BEAM DETAILS

B-SCAN - DRAWING NUMBER
S-412.01

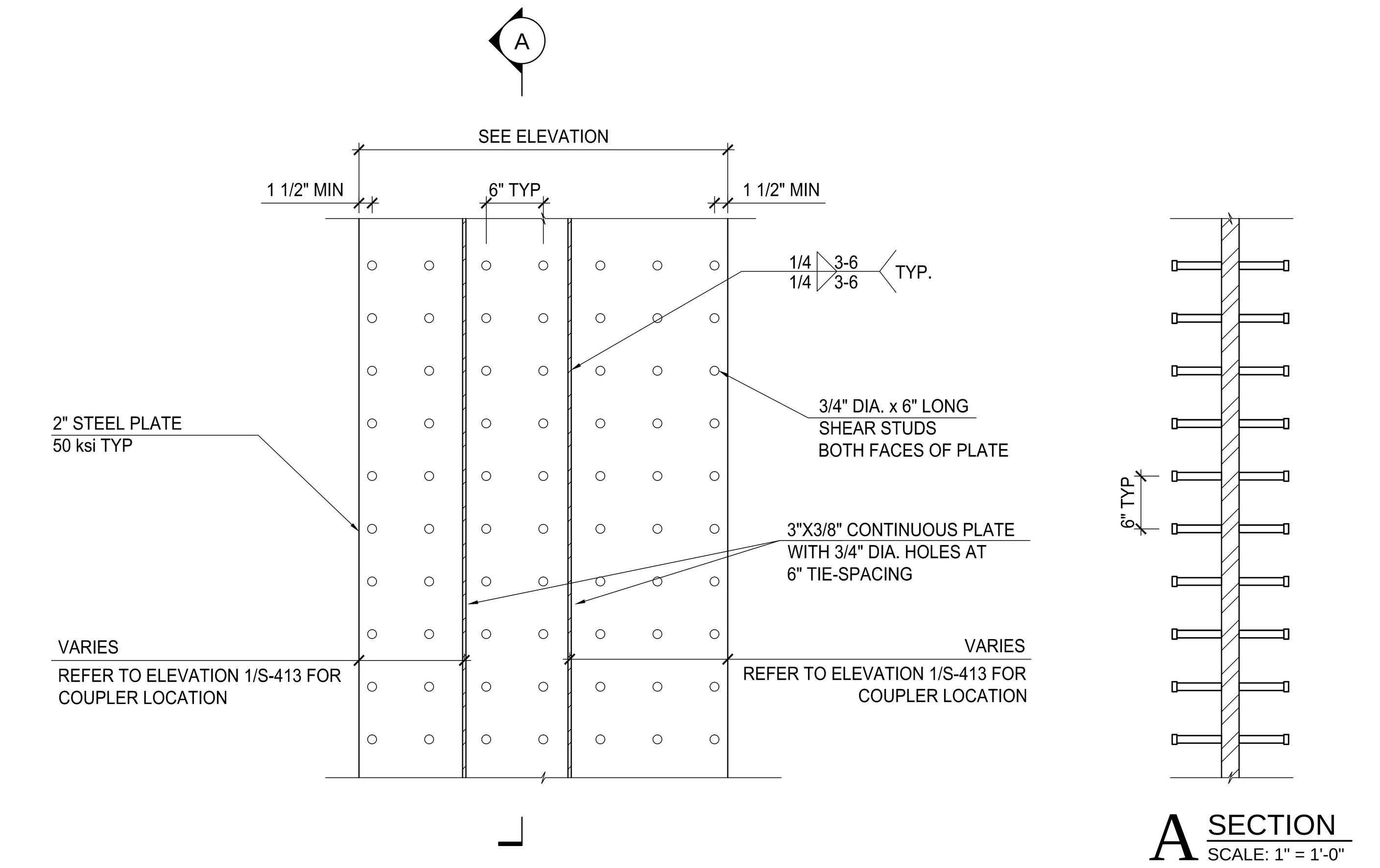
DRAWING NUMBER
S-412

PAGE NUMBER



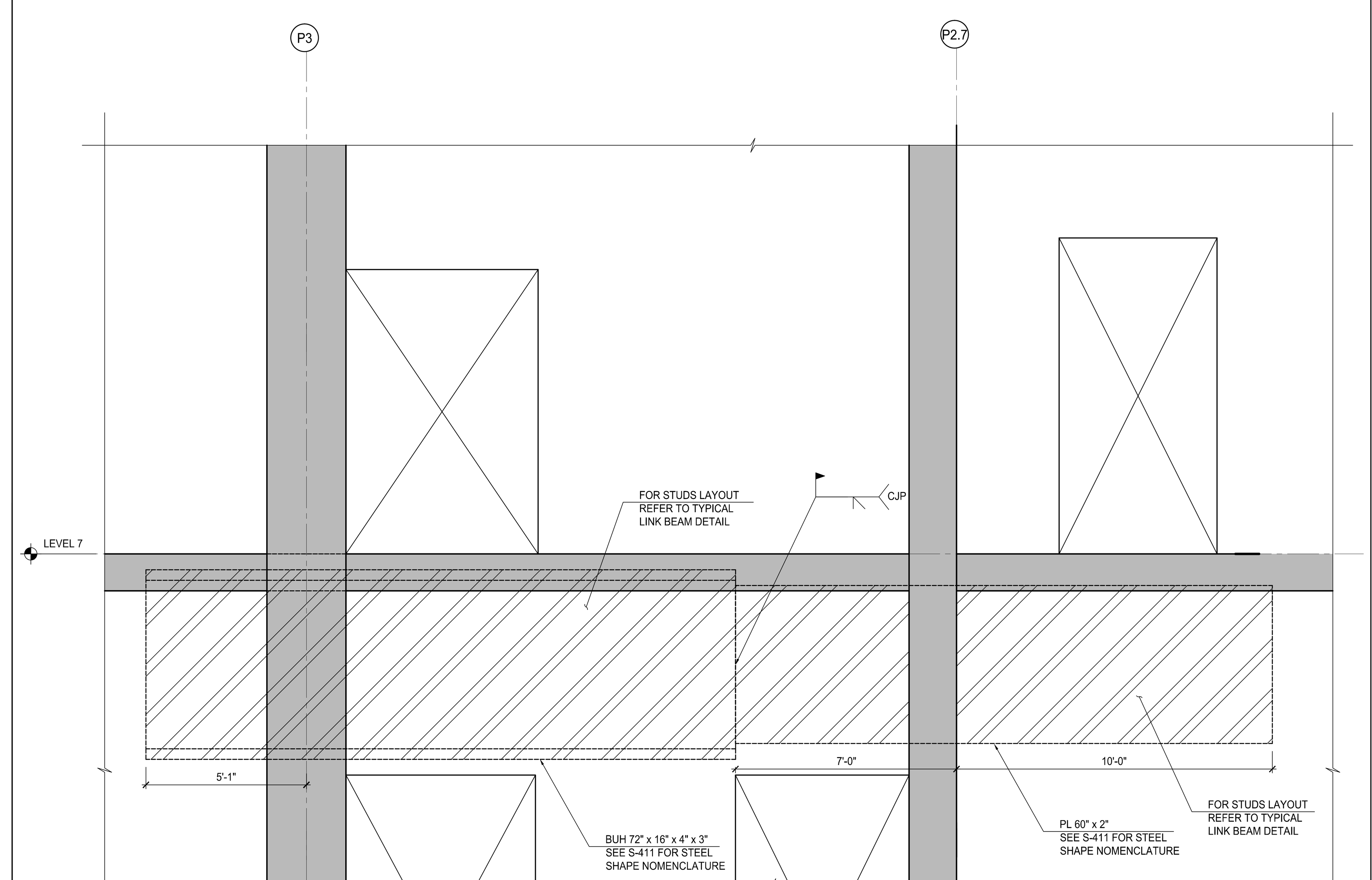
1 SHEAR WALL 2 EMBEDDED STEEL ELEVATION

SCALE: 1/2" = 1'-0"



2 TYPICAL SHEAR STUD LAYOUT

SCALE: 1" = 1'-0"



3 SHEAR WALL 2 EMBED STEEL ELEVATION

SCALE: 3/8" = 1'-0"

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HOTEL DESIGN ARCHITECT

Stonehill & Taylor Architects, PC
31 W 27th Street, 5th Floor
New York, NY 10001

RESIDENTIAL DESIGN ARCHITECT

Ismael Leyva Architects
48 West 37th Street
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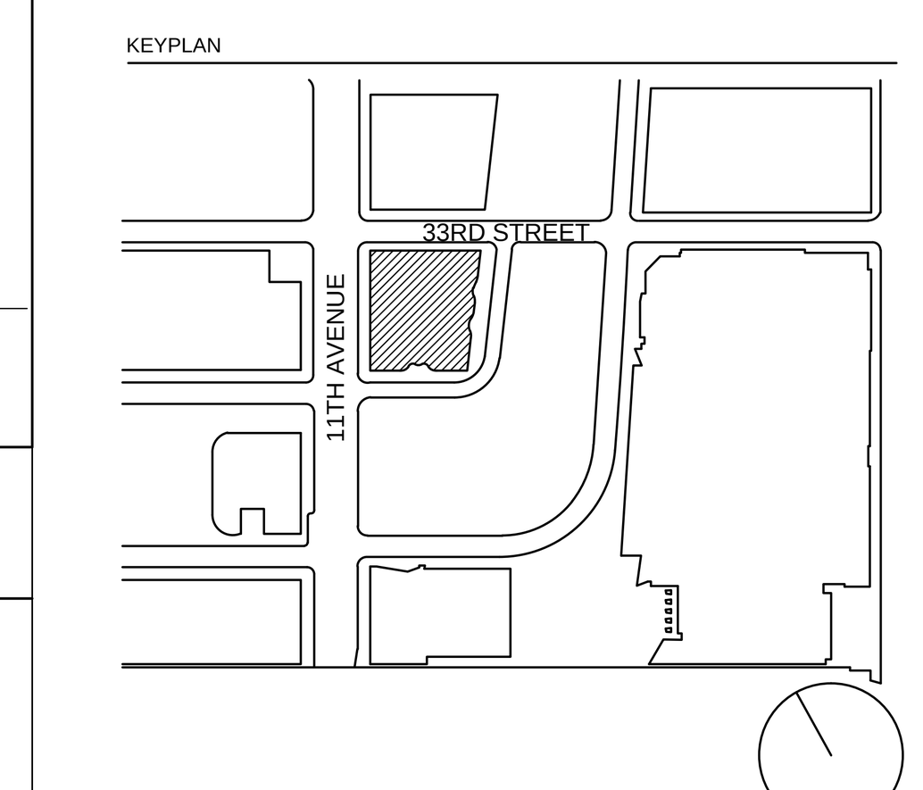
KEYPLAN



SEAL

NO.	DATE	DESCRIPTION
3	20 JAN 2017	ISSUED TO DOB
2	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

Damian Titus
NYC Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

DRAWING TITLE

RC SHEAR WALL LINK BEAM DETAILS

B-SCAN - DRAWING NUMBER

S-413.00

DRAWING NUMBER

S-413

PAGE NUMBER

70 OF 112

HAMMERHEAD COLUMN SCHEDULE

f'c AS NOTED
fy = 60 ksi TYP
fy = 80 ksi FOR #14 BARS

f'c = 10000 psi (LEVEL 71 to LEVEL 42)

LEVEL \ COL. NO.	H-1	H-2	H-3	H-4	H-5	H-6
LEVEL 71 EL: SEE PLAN						
LEVEL 70 EL: SEE PLAN						
LEVEL 69 EL: SEE PLAN						
LEVEL 68 EL: SEE PLAN						
LEVEL 67 EL: SEE PLAN						
LEVEL 66 EL: SEE PLAN	SEE COLUMN 15	SEE COLUMN 8	SEE COLUMN 13	SEE COLUMN 11	SEE COLUMN 2	
LEVEL 65 EL: SEE PLAN						
LEVEL 64 EL: SEE PLAN						
LEVEL 63 EL: SEE PLAN						
LEVEL 62 EL: SEE PLAN						
LEVEL 61 EL: SEE PLAN						
LEVEL 60 EL: SEE PLAN		28 x 44 SEE S-319			38 x 28 * SEE S-319	
LEVEL 59 EL: SEE PLAN		SEE S-319			SEE S-319	
LEVEL 58 EL: SEE PLAN		SEE S-319			38 x 28 * SEE S-319	
LEVEL 57 EL: SEE PLAN		SEE S-319			38 x 28 SEE S-319	
LEVEL 56 EL: SEE PLAN		SEE S-319			SEE S-319	
LEVEL 55 EL: SEE PLAN		SEE S-319			SEE S-319	
LEVEL 54 EL: SEE PLAN		SEE S-319			SEE S-319	
LEVEL 53 EL: SEE PLAN		SEE S-319			SEE S-319	
LEVEL 52 EL: SEE PLAN		SEE S-319			SEE S-319	
LEVEL 51 EL: SEE PLAN		28 x 44 SEE S-319			38 x 28 SEE S-319	
LEVEL 50 EL: SEE PLAN	36 x 48 SEE S-318	36 x 48 SEE S-318			34 x 30 SEE S-318	
LEVEL 49 EL: SEE PLAN	SEE S-318	SEE S-318			SEE S-318	
LEVEL 48 EL: SEE PLAN	SEE S-318	SEE S-318			SEE S-318	
LEVEL 47 EL: SEE PLAN	SEE S-318	SEE S-318			SEE S-318	
LEVEL 46 EL: SEE PLAN	SEE S-318	SEE S-318			SEE S-318	
LEVEL 45 EL: SEE PLAN	SEE S-318	SEE S-318			SEE S-318	
LEVEL 44 EL: SEE PLAN	SEE S-318	SEE S-318			SEE S-318	
LEVEL 43 EL: SEE PLAN	SEE S-318	SEE S-318			SEE S-318	
LEVEL 42 EL: SEE PLAN	SEE S-318	SEE S-318			SEE S-318	

HAMMERHEAD COLUMN SCHEDULE

f'c AS NOTED
fy = 60 ksi TYP
fy = 80 ksi FOR #14 BARS

f'c = 12000 psi (LEVEL 41 to LEVEL 15)

LEVEL \ COL. NO.	H-1	H-2	H-3	H-4	H-5	H-6
LEVEL 41 EL: SEE PLAN	SEE S-318	SEE S-318			34 x 30 SEE S-318	
LEVEL 40 EL: SEE PLAN	SEE S-317 A	SEE S-317 A		38 x 36 SEE S-317 A	38 x 60 SEE S-317 A	
LEVEL 39 EL: SEE PLAN	SEE S-317 A	SEE S-317 A		SEE S-317 A	SEE S-317 A	
LEVEL 38 EL: SEE PLAN	SEE S-317 A	SEE S-317 A		SEE S-317 A	SEE S-317 A	
LEVEL 37 EL: SEE PLAN	SEE S-317 A	SEE S-317 A		SEE S-317 A	SEE S-317 A	
LEVEL 36 EL: SEE PLAN	SEE S-317 A	SEE S-317 A		SEE S-317 A	SEE S-317 A	
LEVEL 35 EL: SEE PLAN	SEE S-317 A	SEE S-317 A		SEE S-317 A	SEE S-317 A	
LEVEL 34 EL: SEE PLAN	SEE S-317 A	SEE S-317 A		SEE S-317 A	SEE S-317 A	
LEVEL 33 EL: SEE PLAN	SEE S-317 A	SEE S-317 A		SEE S-317 A	SEE S-317 A	
LEVEL 32 EL: SEE PLAN	SEE S-317	SEE S-317		SEE S-317	SEE S-317	
LEVEL 31 EL: SEE PLAN	36 x 48 SEE S-317	36 x 48 SEE S-317		38 x 36 SEE S-317	38 x 60 SEE S-317	
LEVEL 30M EL: SEE PLAN	96 x 44 SEE S-316	96 x 44 SEE S-316		96 x 44 SEE S-316	96 x 44 SEE S-316	
LEVEL 30 EL: SEE PLAN	SEE S-315	SEE S-315		SEE S-315	SEE S-315	
LEVEL 29 EL: SEE PLAN	SEE S-314	SEE S-314		SEE S-314	SEE S-314	
LEVEL 28 EL: SEE PLAN	SEE S-314	SEE S-314		SEE S-314	SEE S-314	
LEVEL 27 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	SEE S-313	
LEVEL 26 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	SEE S-313	
LEVEL 25 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	SEE S-313	
LEVEL 24 EL: SEE PLAN	SEE S-313	SEE S-313	SEE COLUMN 13	SEE S-313	SEE S-313	
LEVEL 23 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	SEE S-313	
LEVEL 22 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	SEE S-313	
LEVEL 21 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	SEE S-313	
LEVEL 20 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	SEE S-313	
LEVEL 19 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	96 x 44 SEE S-313	
LEVEL 18 EL: SEE PLAN	SEE S-313	SEE S-313		SEE S-313	96 x 44* SEE S-313	
LEVEL 17 EL: SEE PLAN	SEE S-312	SEE S-312		SEE S-312	SEE S-312	
LEVEL 16 EL: SEE PLAN	SEE S-311	SEE S-311		SEE S-311	SEE S-311	
LEVEL 15 EL: SEE PLAN	96 x 44 SEE S-311	96 x 44 SEE S-311		96 x 44 SEE S-311	96 x 44* SEE S-311	

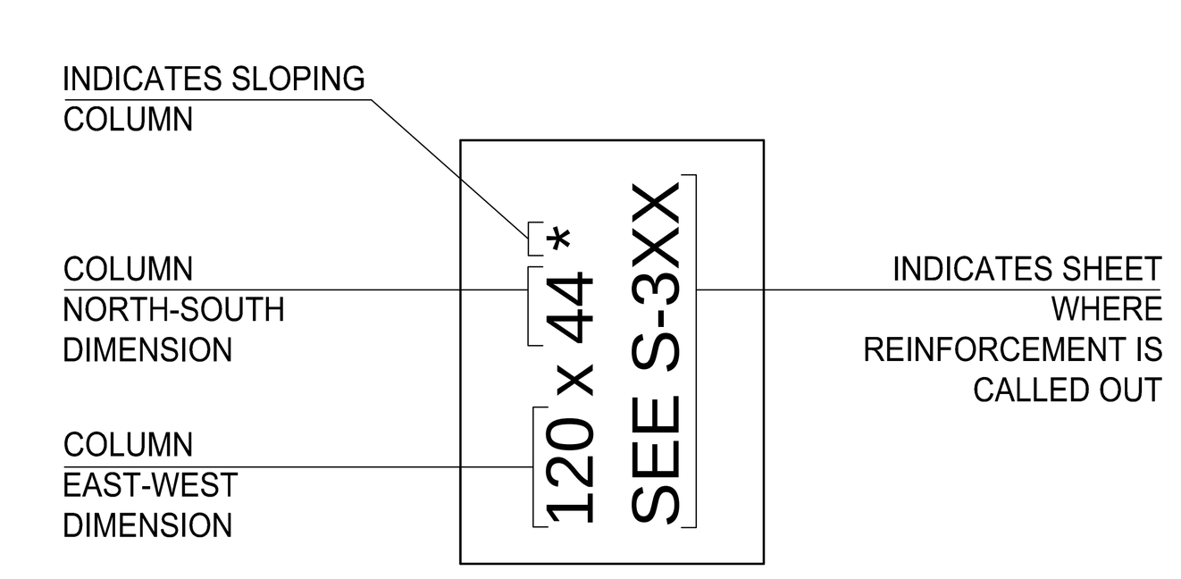
HAMMERHEAD COLUMN SCHEDULE

f'c AS NOTED
fy = 60 ksi TYP
fy = 80 ksi FOR #14 BARS

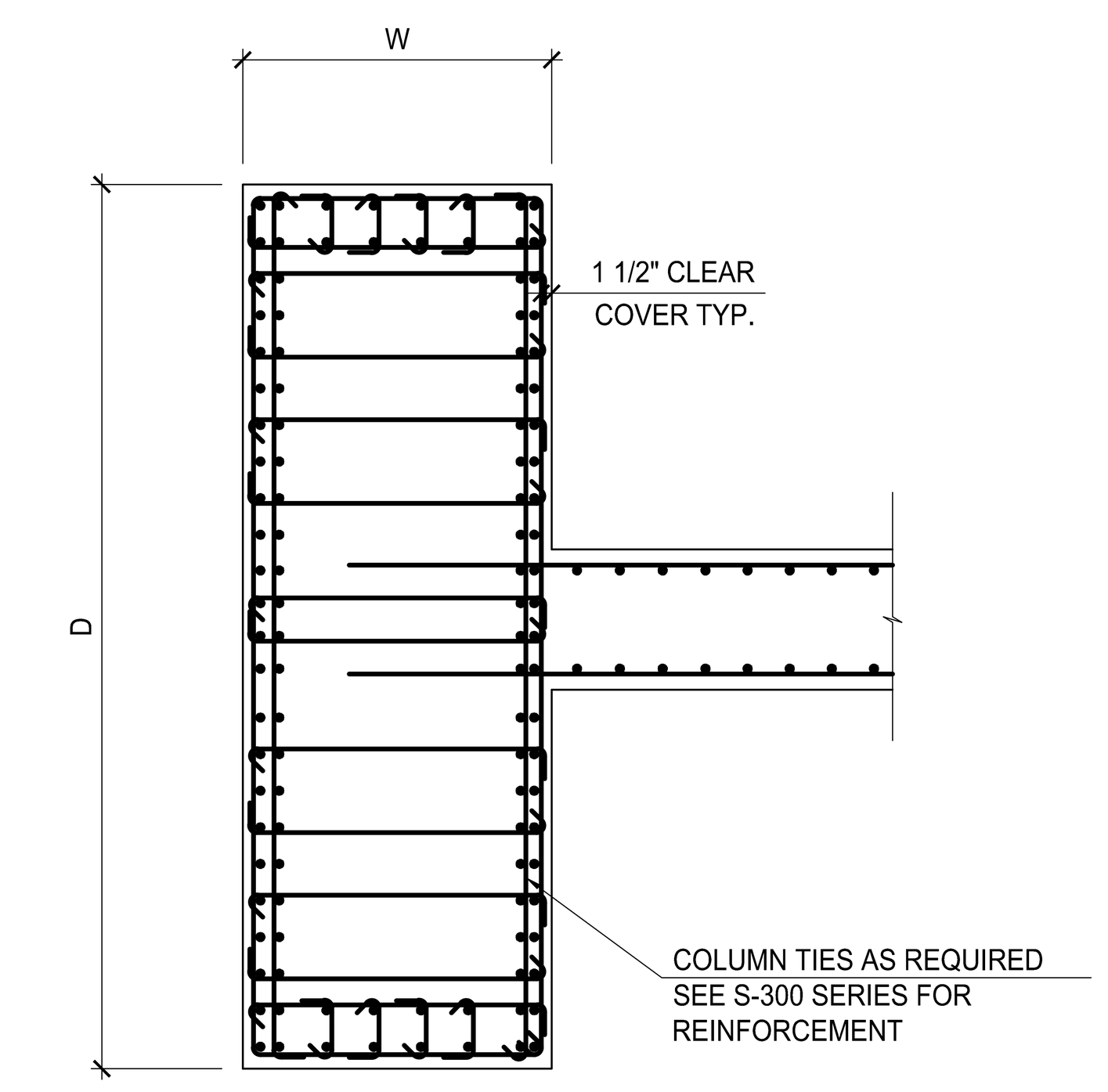
f'c = 14000 psi (LEVEL 14M to LEVEL PLATFORM)

LEVEL \ COL. NO.	H-1	H-2	H-3	H-4	H-5	H-6
LEVEL 14M EL: SEE PLAN	134 x 44 SEE S-310	192x 44 SEE S-310	SSK-048 (9) 126 x 44 SEE S-310	SSK-048 (9) 126 x 44 SEE S-310	96 x 44 SEE S-310	112.5 x 40 SEE S-310
LEVEL 14 EL: SEE PLAN	134 x 44 SEE S-309	SEE S-309	SEE S-309	SEE S-309	96 x 44 SEE S-309	112.5 x 40 SEE S-309
LEVEL 13 EL: SEE PLAN	120x 44 SEE S-308	SEE S-308	SEE S-308	SEE S-308		96 x 40 SEE S-308
LEVEL 12 EL: SEE PLAN	SEE S-308	SEE S-308	SEE S-308	SEE S-308		SEE S-308
LEVEL 11 EL: SEE PLAN	SEE S-308	SEE S-308	SEE S-308	SEE S-308	CORE WALL	SEE S-308
LEVEL 10 EL: SEE PLAN	SEE S-308	SEE S-308	SEE S-308	SEE S-308		SEE S-308
LEVEL 09 EL: SEE PLAN	SEE S-308	SEE S-308	SEE S-308	SEE S-308		SEE S-308
LEVEL 08 EL: SEE PLAN	120 x 44 SEE S-308	SEE S-308	126 x 44 SEE S-308	126 x 44 SEE S-308		96 x 40 SEE S-308
LEVEL 07M EL: SEE PLAN	SSK-048 (9) 167 x 44 SEE S-307M	SEE S-307M	132 x 44 SEE S-307M	175 x 44 SEE S-307M		SSK-048 (9) 141 x 44 SEE S-307M
LEVEL 07 EL: SEE PLAN	SSK-048 (9) 167 x 44 SEE S-307	192 x 44 SEE S-307 (9) SSK-048	132 x 44 SEE S-307 (9) SSK-048	175 x 44 SEE S-307 (9) SSK-048		141 x 44 SEE S-307 (9) SSK-048
LEVEL 06 EL: SEE PLAN	130 x 44 SEE S-306	134 x 44 SEE S-306	126 x 44 * SEE S-306	126 x 44 * SEE S-306		126 x 44 SEE S-306
LEVEL 05 EL: SEE PLAN	SEE S-305	134 x 44 * SEE S-305	SEE S-305	SEE S-305		SEE S-305
LEVEL 04 EL: SEE PLAN	SEE S-304	SEE S-304	SEE S-304	SEE S-304		SEE S-304
LEVEL 03M EL: SEE PLAN	SEE S-304	SEE S-304	SEE S-304	SEE S-304		SEE S-304
LEVEL 03 EL: SEE PLAN	SEE S-303	134 x 44 * SEE S-303	SEE S-303	SEE S-303		SEE S-303
LEVEL 02 EL: SEE PLAN	SEE S-302	(8) 137 x 44 * SEE S-302	126 x 44 * SEE S-302	126 x 44 * SEE S-302		SEE S-302
LEVEL GRND EL: SEE PLAN	SEE S-301	(8) 137 x 44 SEE S-301	126 x 44 SEE S-301	126 x 44 SEE S-301		SEE S-301
LEVEL PLATFORM EL: SEE PLAN	130 x 44 SEE S-301	(8) 137 x 44 SEE S-301	126 x 44 SEE S-301	126 x 44 SEE S-301		126 x 44 SEE S-301

NOTES:
1. FOR SLOPING HAMMERHEADS SEE DETAIL 7/S-434.
2. EMB. INDICATES EMBEDDED STEEL CORE OR #20 CORE BARS. SEE S-501 AND S-502 FOR DETAILS.



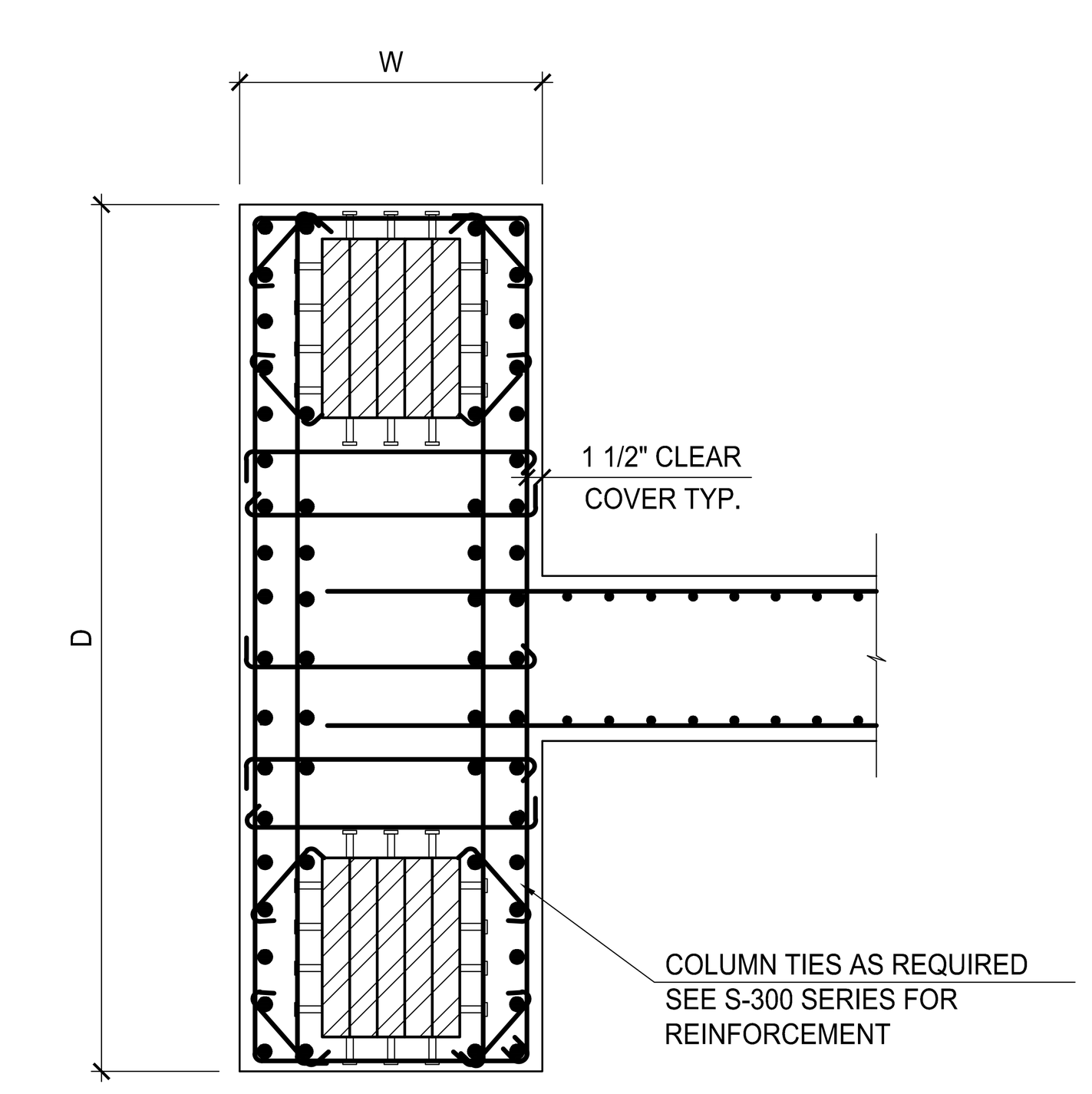
HAMMERHEAD SCHEDULE KEY PLAN



NOTES:
1. 'W' REFERS TO THE COLUMN DIMENSION IN THE EAST-WEST DIRECTION.
2. 'D' REFERS TO THE COLUMN DIMENSION IN THE NORTH-SOUTH DIRECTION.
3. THE SCHEDULED COLUMN SIZE IS DEFINED AS W x D.

1 TYPICAL HAMMERHEAD COLUMN DETAIL

SCALE: N.T.S.



NOTES:
1. 'W' REFERS TO THE COLUMN DIMENSION IN THE EAST-WEST DIRECTION.
2. 'D' REFERS TO THE COLUMN DIMENSION IN THE NORTH-SOUTH DIRECTION.
3. THE SCHEDULED COLUMN SIZE IS DEFINED AS W x D.

1 TYPICAL COMPOSITE HAMMERHEAD COLUMN DETAIL

SCALE: N.T.S.

35 HUDSON YARDS

NEW YORK, NY

OWNER
RELATED
Related Companies
60 Columbus Circle
New York, NY 10023

ARCHITECT / STRUCTURAL ENGINEER
SOM
Skidmore, Owings & Merrill LLP
14 Wall Street, New York, NY 10005

MEP ENGINEER
Jaros, Baum & Bolles
80 Pine Street
New York, NY 10005

CIVIL ENGINEER
Philip Habib & Associates
102 Madison Avenue, 11th Floor
New York, NY 10016

FACADE MAINTENANCE
Entek Engineering, LLC
166 Ames Street
Hackensack, NJ 07601

VERTICAL TRANSPORTATION
Jenkins & Huntington, Inc.
1251 Avenue of the Americas, Suite 920
New York, NY 10020

ACOUSTICAL ENGINEERING
Longman Lindsey
1401 Broadway, Suite 508
New York, NY 10018

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New York, NY 10001

RESIDENTIAL DESIGN ARCHITECT
Ismael Leyva Architects
48 West 37th Street
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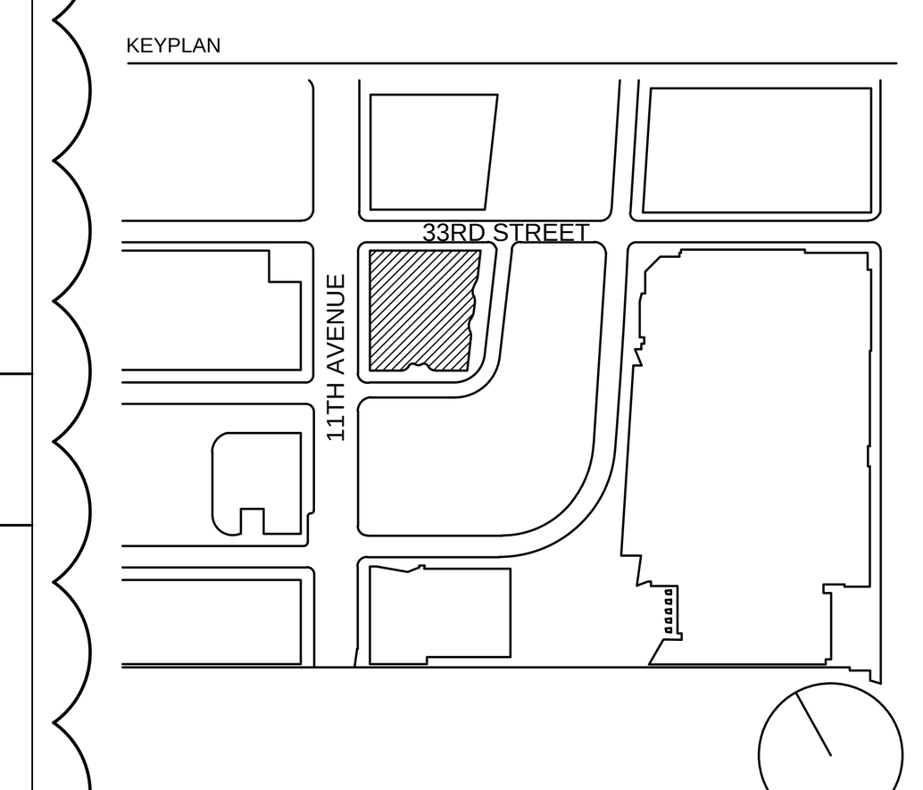
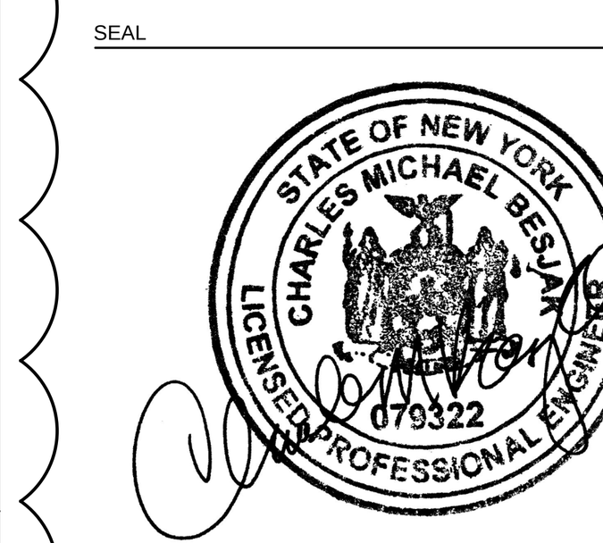
KEYPLAN



SEAL



NO.	DATE	DESCRIPTION
9	20 JAN 2017	ISSUED TO DOB
8	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
7	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

Damian Titus
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
NYC Development Hub

DRAWING TITLE
HAMMERHEAD COLUMN SCHEDULES AND DETAILS

B-SCAN - DRAWING NUMBER
S-421.01

DRAWING NUMBER
S-421

DEPT OF BLDGS 121192618 Job Number

GRAVITY CONCRETE COLUMN SCHEDULE

f'c AS NOTED
fy = 60 ksi TYP, 80 ksi for #14 BARS

LEVEL \ COL. NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PLAN LEVEL 14M f'c = 14000 psi				7970 60 x 40 SEE S-310		14920 66 x 44 84 #14 #5 @ 4" E	2260 36 x 36 16 #9 #5 @ 8" C		2080 36 x 36 16 #9 #5 @ 8" C	10920 66 x 44 84 #14 #5 @ 4" E				2170 36 x 44 16 #9 #4 @ 8" C	
EL: SEE PLAN LEVEL 14	SEE H - 6	SEE H - 5	CORE WALL	7970 60 x 40 SEE S-309		15040	2470	SEE H - 2	2110	10970	SEE H - 4		SEE H - 3	2240	SEE H - 1
EL: SEE PLAN LEVEL 13						15260	2720		2360	11150				2630	
EL: SEE PLAN LEVEL 12				CORE WALL		15410	2870		2500	11280				2850	
EL: SEE PLAN LEVEL 11						15560	3010		2640	11400				3070	
EL: SEE PLAN LEVEL 10						15710	3150		2780	11530				3290	
EL: SEE PLAN LEVEL 09						15870	3290		2920	11660				3510	
EL: SEE PLAN LEVEL 08						16030 66 x 44 84 #14 #5 @ 4" E	3430 36 x 36 16 #9 #5 @ 8" C		3050 36 x 36 16 #9 #5 @ 8" C	11790 66 x 44 84 #14 #5 @ 4" E				3730 36 x 44 16 #9 #4 @ 8" C	
EL: SEE PLAN LEVEL 07M						13130 126 x 44 SEE SHEET S-307M	☒		☒	8290 96 x 44 SEE SHEET S-307M				☒	
EL: SEE PLAN LEVEL 07						18860 126 x 44 SEE SHEET S-307				10070 96 x 44 SEE SHEET S-307					
EL: SEE PLAN LEVEL 06						25470 126 x 44 56 #14 #5 @ 4" H				15040 96 x 44 30 #14 #5 @ 6" G					
EL: SEE PLAN LEVEL 05						25730 126 x 44* 56 #14 #5 @ 4" H	190 26 x 26 16 #11 #5 @ 6" A		140 26 x 26 16 #11 #5 @ 6" A	15200 94 x 44* 30 #14 #5 @ 6" G				220 26 x 26 16 #11 #5 @ 6" A	
EL: SEE PLAN LEVEL 04						26080	460		320	15360				500	
EL: SEE PLAN LEVEL 03M						26420	680		470	15490				760	
EL: SEE PLAN LEVEL 03						26500 126 x 44* 44 #14 #5 @ 4" H	690		480	15550				770	
EL: SEE PLAN LEVEL 02						26880 126 x 44* 44 #18 EMB. #5 @ 6" SEE S-052	1050		790	15750 96 x 44* 30 #14 #5 @ 6" G				1340	
EL: SEE PLAN LEVEL GRND f'c = 14000 psi						27210 126 x 44 44 #18 EMB. #5 @ 6" SEE S-052	1250		930	15920				1610	
EL: SEE PLAN LEVEL PLATFORM						27500 126 x 44 44 #18 EMB. #5 @ 6" SEE S-052	1450 26 x 26 16 #11 #5 @ 6" A		1090 26 x 26 16 #11 #5 @ 6" A	16090 96 x 44 EMB. 30 #18 + (8) 3" DIA. DYWIDAG THREAD BARS #5 @ 6", SEE S-052				1870 26 x 26 16 #11 #5 @ 6" A	
EL: SEE PLAN															

LEVEL \ COL. NO.	16	17	18	19	20	21	22	23	24	24T	25	26	27	28
PLAN LEVEL 14M	2140 30 x 30 16 #8 #4 @ 8" A	13580 66 x 44 84 #14 #5 @ 4" E	280 26 x 26 16 #11 #4 @ 8" A	320 26 x 26 16 #11 #4 @ 8" A	320 26 x 26 16 #11 #4 @ 8" A	160 26 x 26 16 #11 #4 @ 8" A		260 26 x 26 16 #9 #4 @ 8" A	410 26 x 26 16 #11 #4 @ 8" A		440 26 x 26 16 #11 #4 @ 8" A	450 26 x 26 16 #11 #4 @ 8" A	260 26 x 26 16 #11 #4 @ 8" A	
EL: SEE PLAN LEVEL 14	2210	13630	300	340	350	190		280	420		450	460	280	
EL: SEE PLAN LEVEL 13	2670	13890	630	730	730	390		620	930		990	1020	600	
EL: SEE PLAN LEVEL 12	2880	14060	770	890	900	480		750	1120		1200	1240	730	
EL: SEE PLAN LEVEL 11	3090	14230	900	1060	1060	560		880	1310		1420	1460	860	
EL: SEE PLAN LEVEL 10	3300	14400	1040	1220	1230	650		1020	1500		1630	1680	990	
EL: SEE PLAN LEVEL 09	3520	14580	1180	1380	1390	740		1150	1690		1850	1900	1120	
EL: SEE PLAN LEVEL 08	3730 30 x 30 16 #8 #4 @ 8" A	14760 66 x 44 84 #14 #5 @ 4" E	1310 26 x 26 16 #11 #4 @ 8" A	1550 26 x 26 16 #11 #4 @ 8" A	1560 26 x 26 16 #11 #4 @ 8" A	830 26 x 26 16 #11 #4 @ 8" A		1290 26 x 26 16 #9 #4 @ 8" A	1890 26 x 26 16 #11 #4 @ 8" A		2070 26 x 26 16 #11 #4 @ 8" A	2120 26 x 26 16 #11 #4 @ 8" A	1240 26 x 26 16 #11 #4 @ 8" A	
EL: SEE PLAN LEVEL 07M	☒	11540 126 x 44 SEE SHEET S-307M	1590 36 x 36 20 #11 #5 @ 8" A	1670 36 x 36 20 #11 #5 @ 8" A	1590 36 x 36 20 #11 #4 @ 6" A	2280 52 x 36 16 #11 #5 @ 6" C		☒	☒		☒	☒	☒	
EL: SEE PLAN LEVEL 07		16510 126 x 44 SEE SHEET S-307	3130	3370	3570	2340 52 x 36 16 #11 #5 @ 6" C								
EL: SEE PLAN LEVEL 06		24550 126 x 44* 56 #14 #5 @ 4" H	3400 36 x 36 20 #11 #5 @ 8" A	3670 36 x 36 20 #11 #5 @ 8" A	3850 36 x 36 20 #11 #4 @ 6" A	2500 36 x 36 16 #9 #4 @ 8" C		330 26 x 26 20 #9 #4 @ 8" A	520 26 x 26 16 #9 #4 @ 8" A		540 26 x 26 16 #9 #4 @ 8" A	490 26 x 26 20 #9 #4 @ 8" A	290 26 x 26 20 #9 #4 @ 8" A	
EL: SEE PLAN LEVEL 05	250 26 x 26 16 #11 #5 @ 6" A	24800 126 x 44* 44 #18 EMB. #5 @ 6" SEE S-052	3930 36 x 36 16 #9 #4 @ 8" C	4260 36 x 36 16 #9 #4 @ 8" C	4040 36 x 36 16 #9 #4 @ 8" C	2630 36 x 36 16 #9 #4 @ 8" C	△7	460 26 x 26 16 #8 #4 @ 8" A				760 26 x 26 16 #11 #5 @ 6" A	470 26 x 26 16 #11 #5 @ 6" A	
EL: SEE PLAN LEVEL 04	510	25240	4390 36 x 39 16 #9 #4 @ 8" C	4730 36 x 39 16 #9 #4 @ 8" C	4270 36 x 39 16 #9 #4 @ 8" C	2860 36 x 39 16 #9 #4 @ 8" C	170 26 x 26 16 #11 #5 @ 6" A	810 29 x 26 16 #8 #4 @ 8" A		280 26 x 26 16 #8 #4 @ 8" A		1050	750	190 26 x 26 16 #11 #5 @ 6" A
EL: SEE PLAN LEVEL 03M	770	25510	4540 36 x 36 16 #9 #4 @ 8" C	4860 36 x 36 16 #9 #4 @ 8" C	4440 36 x 36 16 #9 #4 @ 8" C	3120 36 x 36 16 #9 #4 @ 8" C	290	980 26 x 26 16 #8 #4 @ 8" A	420 26 x 26 16 #11 #5 @ 6" A		450 26 x 26 16 #8 #4 @ 8" A	1310	1000	310
EL: SEE PLAN LEVEL 03	780	25590	4550	4900	4470	3150	320	990	430		460	1320	1010	320
EL: SEE PLAN LEVEL 02	1240	26160 126 x 44* 44 #18 EMB. #5 @ 6" SEE S-052	4780	5150	4760	3410	510	1280 26 x 26 16 #8 #4 @ 8" A	900		970	1760	1430	550
EL: SEE PLAN LEVEL GRND	1700	26480 126 x 44 44 #18 EMB. #5 @ 6" SEE S-052	5010	5420	5030	3620	640	1570 36 x 26 16 #8 #4 @ 8" A	1360		1480	2100	1660	680
EL: SEE PLAN LEVEL PLATFORM	1920 26 x 26 16 #11 #5 @ 6" A	26780 126 x 44 44 #18 EMB. #5 @ 6" SEE S-052	5110 36 x 36 16 #9 #4 @ 8" C	5430 36 x 36 16 #9 #4 @ 8" C	5130 36 x 36 16 #9 #4 @ 8" C	3820 36 x 36 16 #9 #4 @ 8" C	750 26 x 26 16 #11 #5 @ 6" A	1850 36 x 26 16 #8 #4 @ 8" A	1590 26 x 26 16 #11 #5 @ 6" A		1490 26 x 26 16 #8 #4 @ 8" A	2240 26 x 26 16 #11 #5 @ 6" A	1950 26 x 26 16 #11 #5 @ 6" A	820 26 x 26 16 #11 #5 @ 6" A
EL: SEE PLAN														

LEVEL \ COL. NO.	29	30	31	32	33	34	35	36	37	38	39	40	41	41T	42	43	44	45
PLAN LEVEL 14M	260 26 x 26 16 #11 #4 @ 8" A		280 26 x 26 16 #11 #4 @ 8" A		290 26 x 26 16 #11 #4 @ 8" A		280 26 x 26 16 #11 #4 @ 8" A		220 26 x 26 16 #11 #4 @ 8" A									180 26 x 26 16 #11 #4 @ 8" A
EL: SEE PLAN LEVEL 14	280		300		310		300		240									200
EL: SEE PLAN LEVEL 13	620		650		640		650		500									420
EL: SEE PLAN LEVEL 12	750		790		780		790		610									520
EL: SEE PLAN LEVEL 11	890		930		920		940		720									610
EL: SEE PLAN LEVEL 10	1020		1070		1050		1080		830									710
EL: SEE PLAN LEVEL 09	1160		1220		1190		1220		940									800
EL: SEE PLAN LEVEL 08	1290 26 x 26 16 #11 #4 @ 8" A		1360 26 x 26 16 #11 #4 @ 8" A		1330 26 x 26 16 #11 #4 @ 8" A		1360 26 x 26 16 #11 #4 @ 8" A		1050 26 x 26 16 #11 #4 @ 8" A									890 26 x 26 16 #11 #4 @ 8" A
EL: SEE PLAN LEVEL 07M	☒		☒		☒		☒		☒									☒
EL: SEE PLAN LEVEL 07	3300 36 x 36 20 #11 #5 @ 8" A				3520 36 x 36 20 #11 #5 @ 8" A				2120 36 x 36 20 #11 #5 @ 8" A									1880 36 x 36 20 #11 #5 @ 8" A
EL: SEE PLAN LEVEL 06	3650 36 x 36 20 #11 #5 @ 8" A		350 26 x 26 20 #9 #4 @ 8" A		3870 36 x 36 20 #11 #5 @ 8" A		340 26 x 26 20 #9 #4 @ 8" A		2400 36 x 36 20 #11 #5 @ 8" A									2140 36 x 36 20 #11 #5 @ 8" A
EL: SEE PLAN LEVEL 05	3840 36 x 36 16 #9 #4 @ 8" C		540 26 x 26 16 #8 #4 @ 8" A		4050 36 x 36 16 #9 #4 @ 8" C		490 26 x 26 16 #8 #4 @ 8" A		2540 36 x 36 16 #9 #4 @ 8" C									2270 36 x 36 16 #9 #4 @ 8" C
EL: SEE PLAN LEVEL 04	4150 39 x 36 16 #9 #4 @ 8" C	270 26 x 26 16 #11 #5 @ 6" A	750 29 x 26 16 #8 #4 @ 8" A	220 26 x 26* 16 #8 #5 @ 8" A	4260 39 x 36 16 #9 #4 @ 8" C	180 26 x 26* 16 #8 #5 @ 8" A	700 29 x 26 16 #8 #4 @ 8" A	230 26 x 26 16 #8 #5 @ 8" A	2880 39 x 36 16 #9 #4 @ 8" C	340 26 x 26 16 #11 #5 @ 6" A	180 26 x 26 16 #8 #4 @ 8" A	300 26 x 26 16 #8 #4 @ 8" A	350 26 x 26 16 #8 #4 @ 8" A	350 26 x 26 16 #8 #4 @ 8" A	400 26 x 26 16 #8 #4 @ 8" A	270 26 x 26 16 #8 #4 @ 8" A	240 26 x 26 * 16 #8 #4 @ 8" A	2550 36 x 36 16 #9 #4 @ 8" C
EL: SEE PLAN LEVEL 03M	4330 36 x 36 16 #9 #4 @ 8" C	480	920 26 x 26 16 #8 #4 @ 8" A	390	4430 36 x 36 16 #9 #4 @ 8" C	360	880 26 x 26 16 #8 #4 @ 8" A	420	3110 36 x 36 16 #9 #4 @ 8" C	560	300 26 x 26 16 #8 #4 @ 8" A	480 26 x 26 * 16 #8 #4 @ 8" A	750 26 x 26 * 16 #8 #4 @ 8" A		840 26 x 26 * 16 #8 #4 @ 8" A	420 26 x 26 * 16 #8 #4 @ 8" A	390 △7	2670 39 x 39 16 #9 #4 @ 8" C
EL: SEE PLAN LEVEL 03	4370	510	940 26 x 26 16 #8 #4 @ 8" A	410	4470	370	900	440 △7	3140 43 x 36 16 #9 + 3 #7 #4 @ 8" C, SEE 10/S-402	580 △7	320 33 x 26 16 #8 + 3 #7 #4 @ 8" A, SEE 10/S-402	500	780 26 x 26 * 16 #8 #4 @ 8" A		870 26 x 26 * 16 #8 #4 @ 8" A	440	410	2710
EL: SEE PLAN LEVEL 02	4730	820 26 x 26 16 #11 #5 @ 6" A	1280 36 x 26 16 #8 #4 @ 8" A	670 26 x 26* 16 #8 #5 @ 8" A	4860 36 x 36 16 #9 #4 @ 8" C	650 26 x 26* 16 #8 #5 @ 8" A	1300 26 x 26 16 #8 #4 @ 8" A	650 26 x 26 16 #8 #5 @ 8" A	3680 36 x 36 16 #9 #4 @ 8" C	880	580 26 x 26* 16 #8 #4 @ 8" A	930 26 x 26 * 16 #8 #4 @ 8" A	1310 26 x 26 16 #8 #4 @ 8" A		1350 26 x 26 16 #8 #4 @ 8" A	700 26 x 26 * 16 #8 #4 @ 8" A	710 26 x 26 * 16 #8 #4 @ 8" A	2950
EL: SEE PLAN LEVEL GRND	5100 △7	1020 36 x 26 16 #11 #5 @ 6" A	1610 36 x 26 16 #8 #4 @ 8" A	830 36 x 26 16 #8 #5@ 8" A	5160 36 x 36 18 #9 #4 @ 8" SEE 12/S-42A		1500 36 x 26 16 #8 #4 @ 8" A	860 36 x 26 16 #8 #5 @ 8" A	3920	1140	700 36 x 26 16 #8 #4 @ 8" A	1130 26 x 26 16 #8 #4 @ 8" A	1620 26 x 30 16 #8 #4 @ 8" A		1680 26 x 30 16 #8 #4 @ 8" A	860 26 x 26 16 #8 #4 @ 8" A	910 26 x 26 16 #8 #4 @ 8" A	3200
EL: SEE PLAN LEVEL PLATFORM	5250 36 x 36 16 #9 #4 @ 8" C	1210 36 x 26 16 #11 #5 @ 6" A	1620 36 x 26 16 #8 #4 @ 8" A	990 26 x 26 16 #8 #5 @ 8" A	5280 36 x 36 18 #9 #4 @ 8" SEE 12/S-42A		1510 36 x 26 16 #8 #4 @ 8" A	970 36 x 26 16 #8 #5 @ 8" A	4040 36 x 36 16 #9 #4 @ 8" C	1290 26 x 26 16 #11 #5 @ 6" A	810 36 x 26 16 #8 #4 @ 8" A	1310 26 x 26 16 #8 #4 @ 8" A	1890 26 x 30 16 #8 #4 @ 8" A		1940 26 x 30 16 #8 #4 @ 8" A	990 26 x 26 16 #8 #4 @ 8" A	1070 26 x 26 16 #8 #4 @ 8" A	3400 36 x 36 16 #9 #4 @ 8" C
EL: SEE PLAN						△7	△7											

NOTES:

1. ☒ INDICATES COLUMN SUPPORTED BY BELT WALL OR TRANSFER GIRDER.
2. EMB. INDICATES EMBEDDED STEEL CORE, SEE S-501 AND S-502 FOR DETAILS
3. FOR TYPICAL COLUMN DETAILS AND WALKING OR SLOPING COLUMN DETAILS, SEE S-434 AND S-435.

COLUMN SCHEDULE KEY PLAN

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KEYPLAN

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CHARLES MICHAEL BESJAK
079322

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AMENDED APPLICATION
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NYC Development Hub

DRAWING TITLE

RC GRAVITY COLUMN SCHEDULES

B-SCAN - DRAWING NUMBER

S-432.01

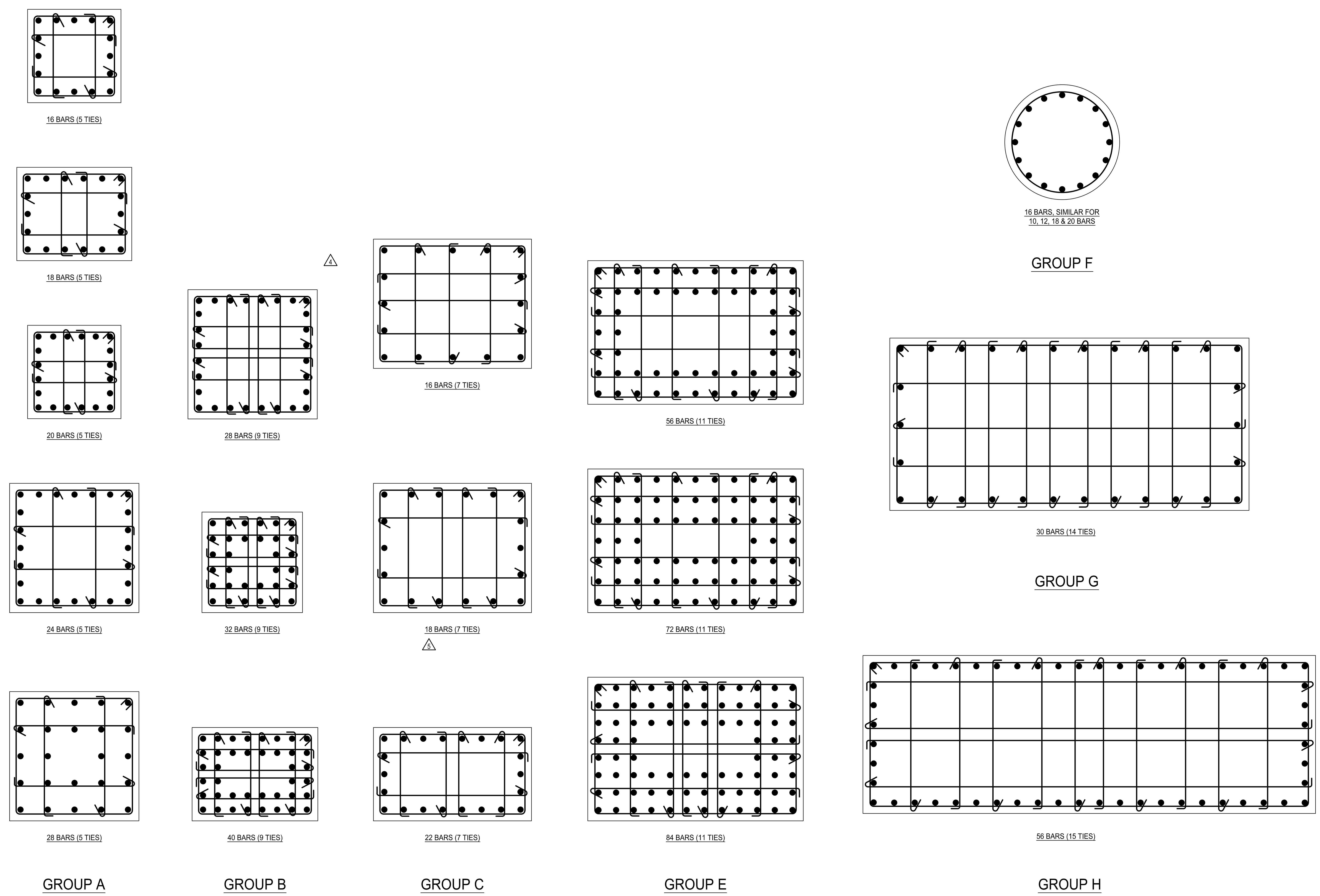
DRAWING NUMBER

S-432

PAGE NUMBER

72 OF 112

△8



1 COLUMN TIE ARRANGEMENT
SCALE: NOT TO SCALE

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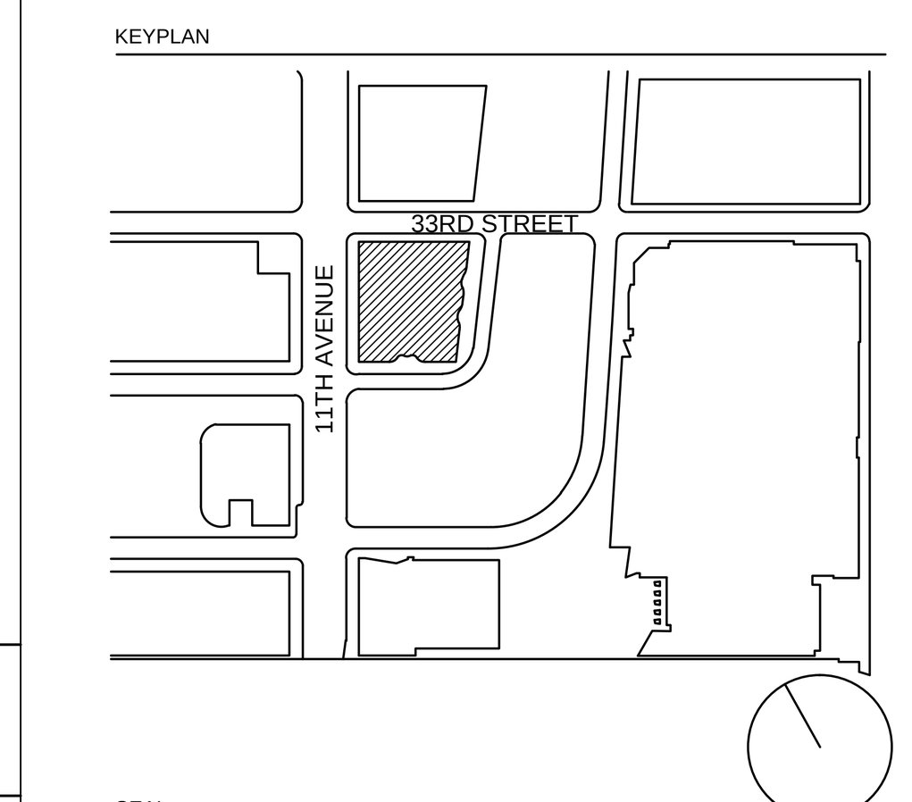

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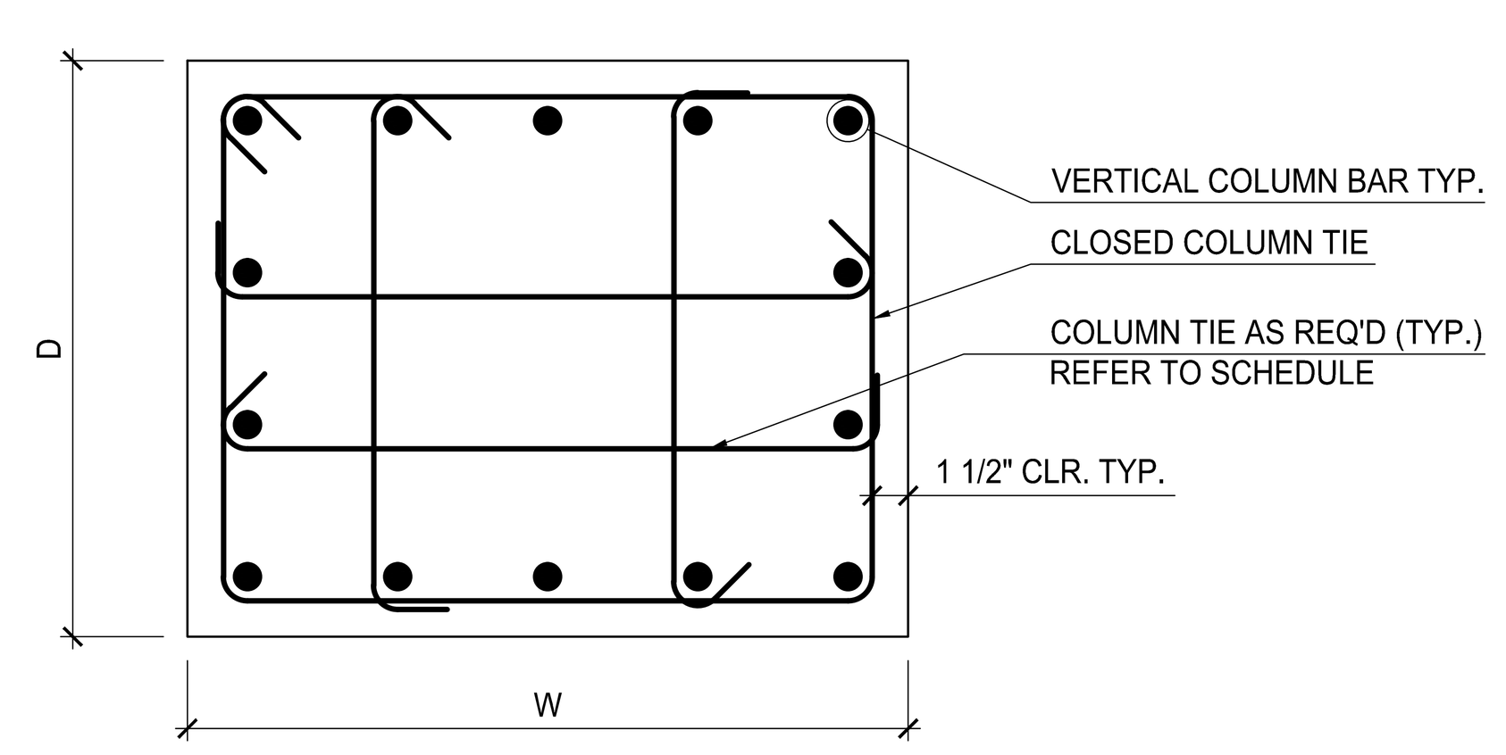
RC GRAVITY COLUMN REINF. ARRANGEMENT

B-SCAN - DRAWING NUMBER

S-433.00

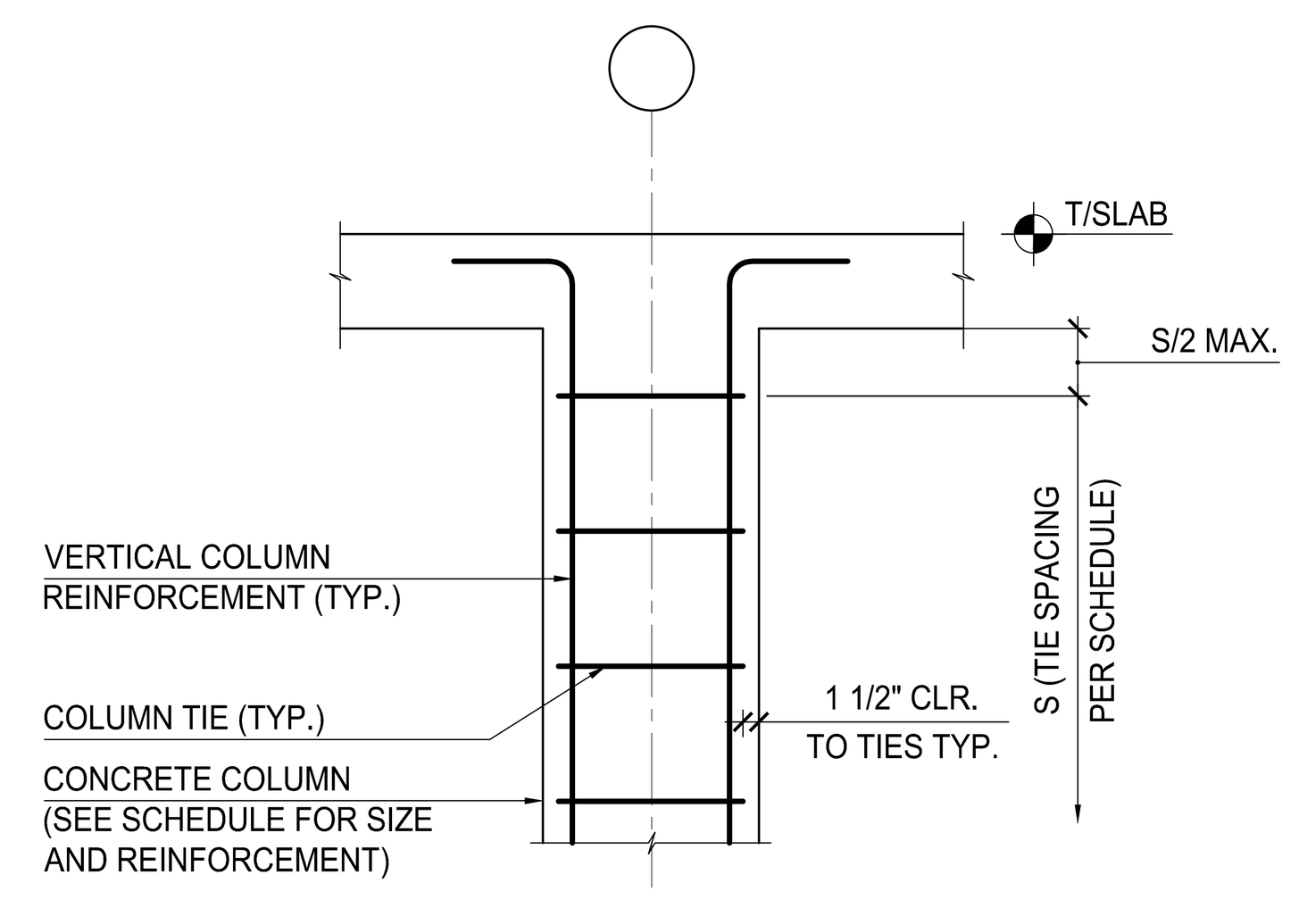
DRAWING NUMBER

S-433



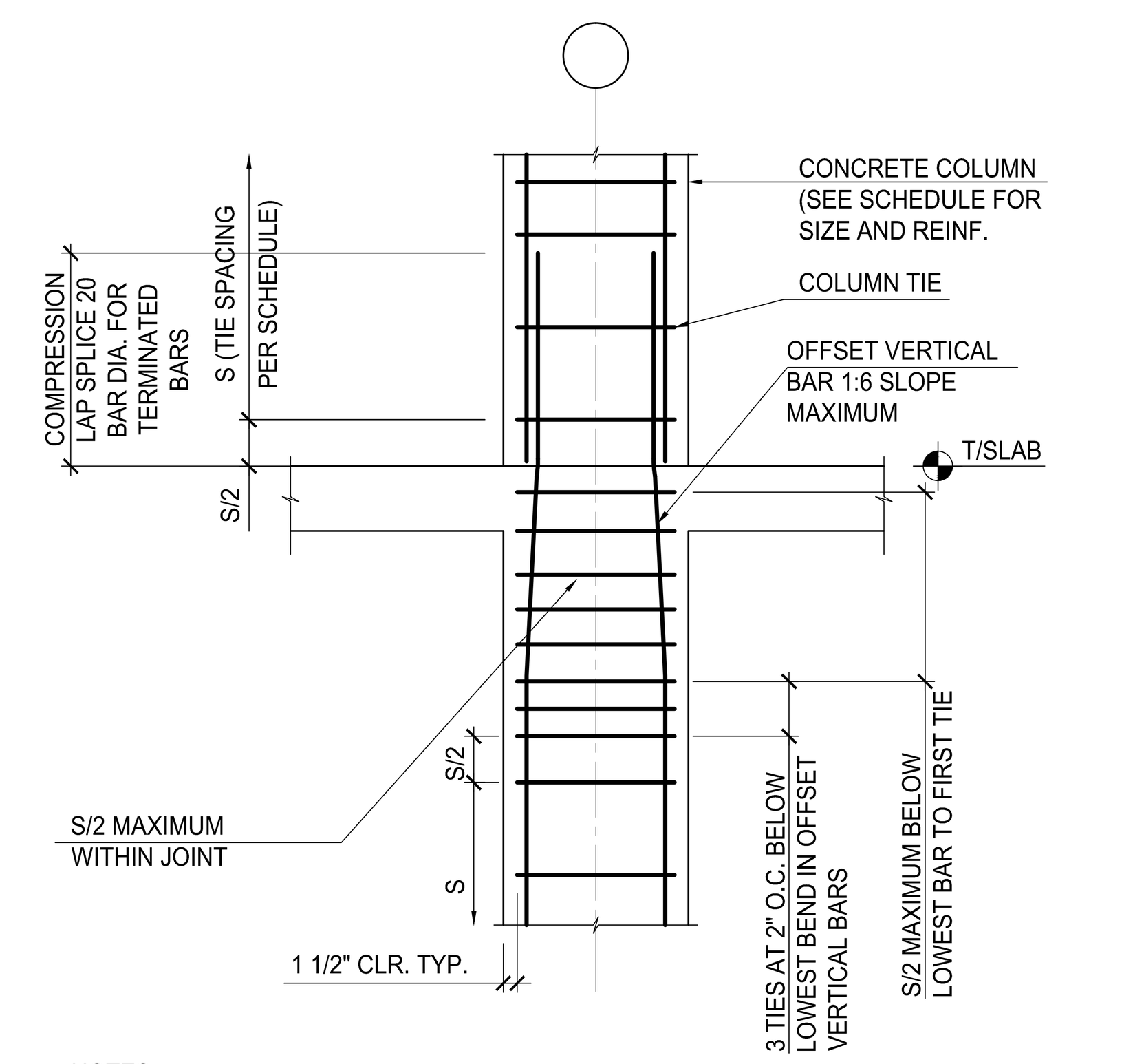
NOTES:
1. 'W' REFERS TO THE COLUMN DIMENSION IN THE EAST-WEST DIRECTION.
2. 'D' REFERS TO THE COLUMN DIMENSION IN THE NORTH-SOUTH DIRECTION.
3. THE SCHEDULED COLUMN SIZE IS DEFIEND AS W x D.

1 TYPICAL REINFORCED CONCRETE COLUMN SECTION
SCALE: NOT TO SCALE



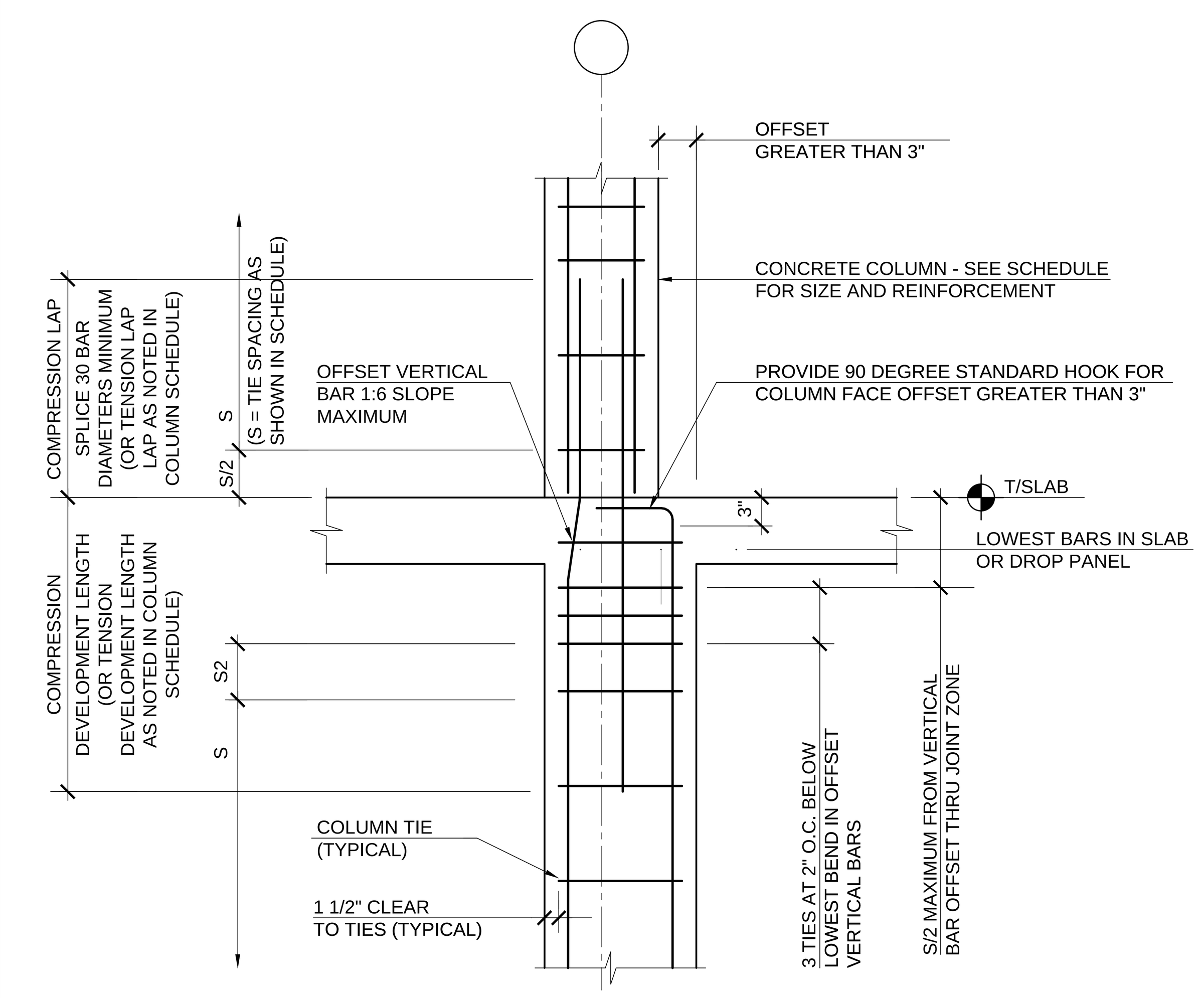
NOTES:
1. SLAB AND BEAM REINFORCEMENT NOT SHOWN FOR CLARITY.

2 TYPICAL TOP OF CONCRETE DETAIL
SCALE: NOT TO SCALE



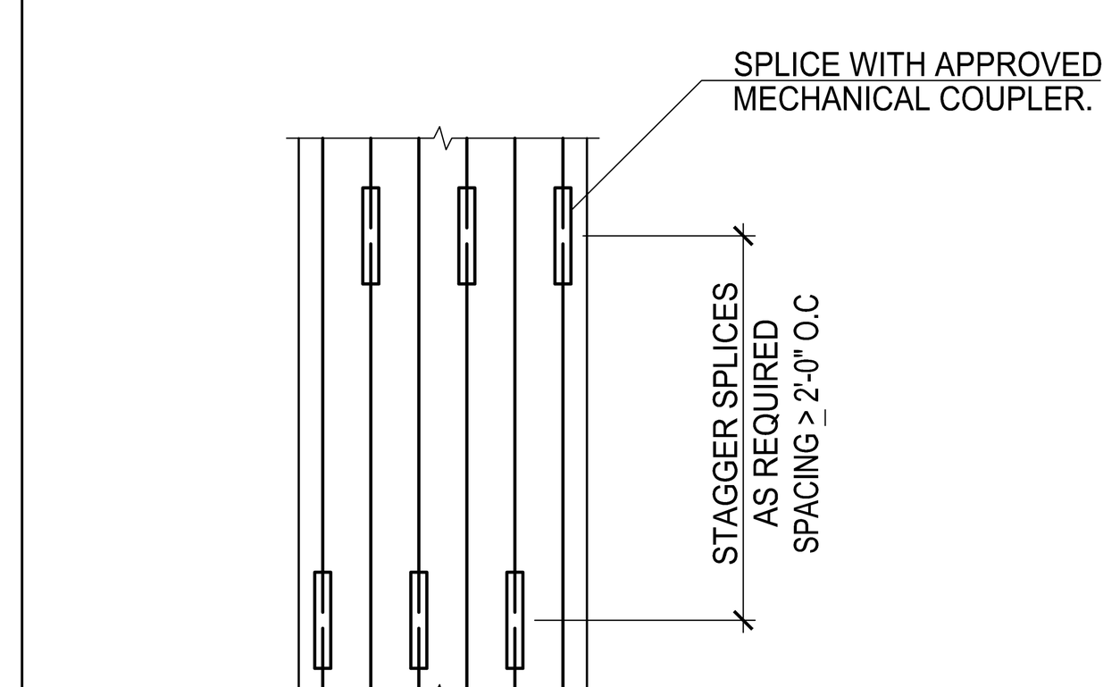
NOTES:
1. SLAB AND BEAM REINFORCEMENT NOT SHOWN FOR CLARITY.

3 TYPICAL CONCRETE COLUMN SPLICE DETAIL
SCALE: NOT TO SCALE



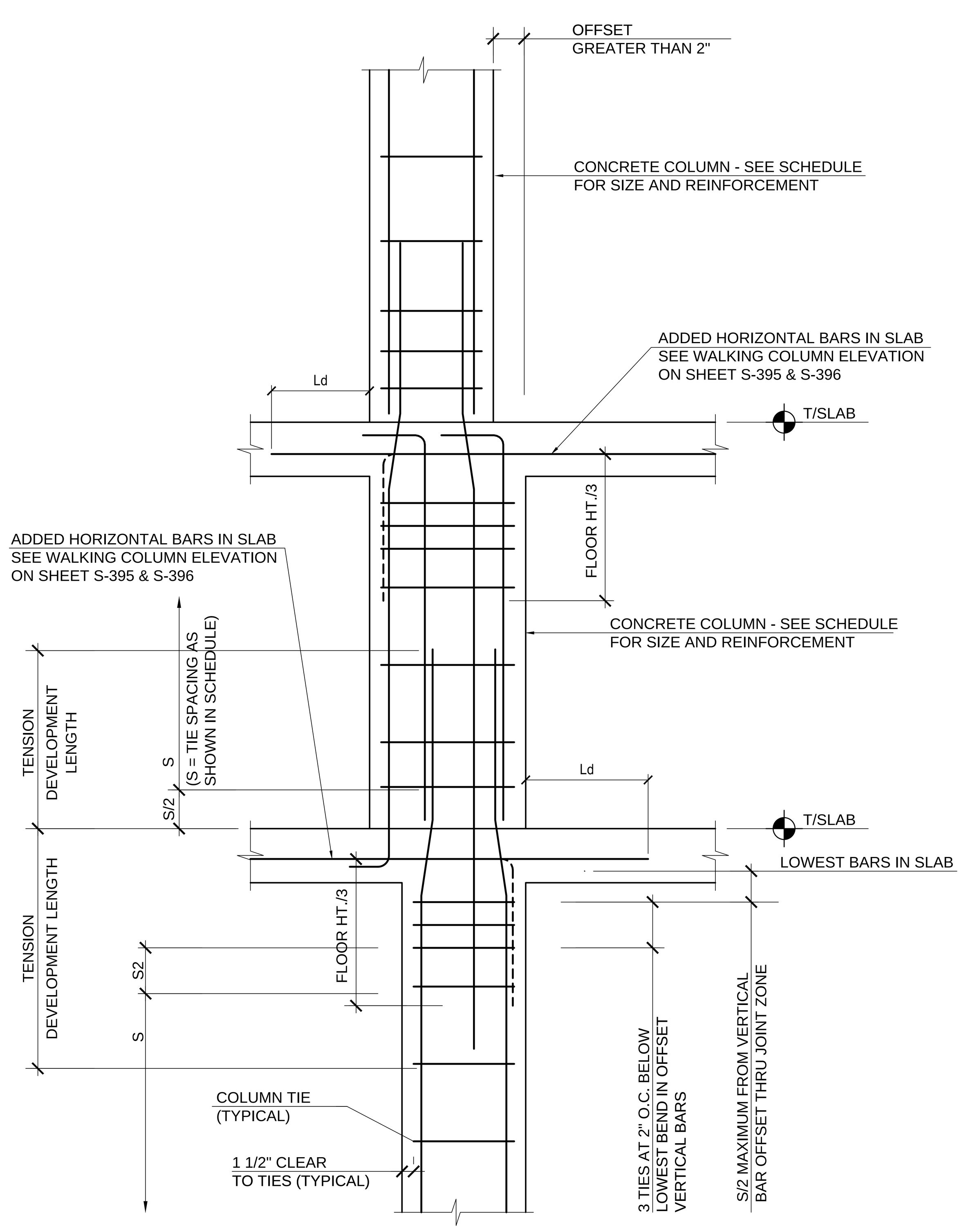
NOTES:
1. ALTERNATE TIE HOOKS BETWEEN COLUMN CORNERS TYPICALLY.

4 TYPICAL CONCRETE COLUMN SPLICE DETAIL FOR COLUMN OFFSET OR SIZE CHANGE
SCALE: NOT TO SCALE



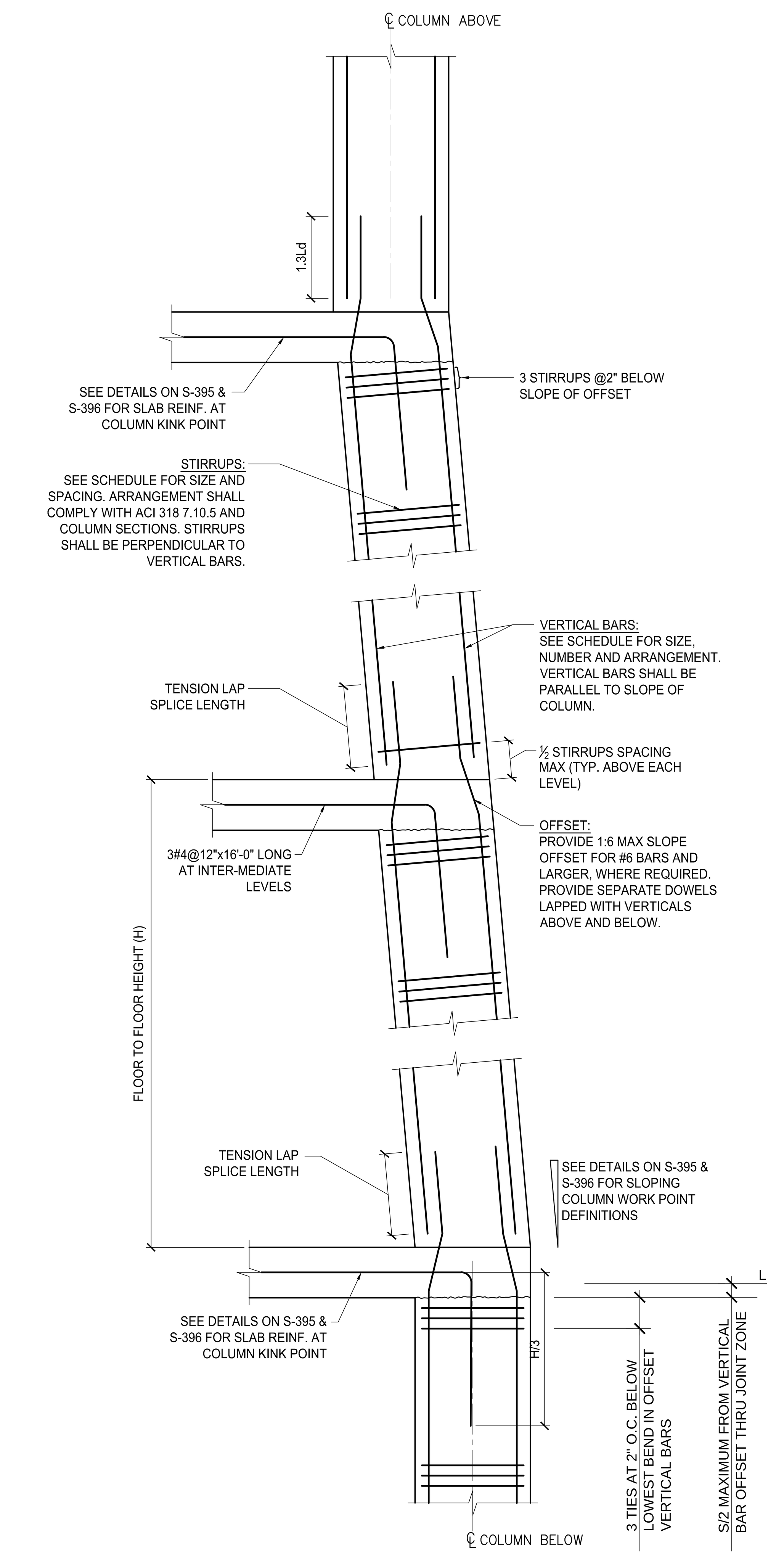
NOTE: TIE REINFORCEMENT NOT SHOWN FOR CLARITY

5 ALTERNATE REBAR SPLICE DETAIL
SCALE: NOT TO SCALE

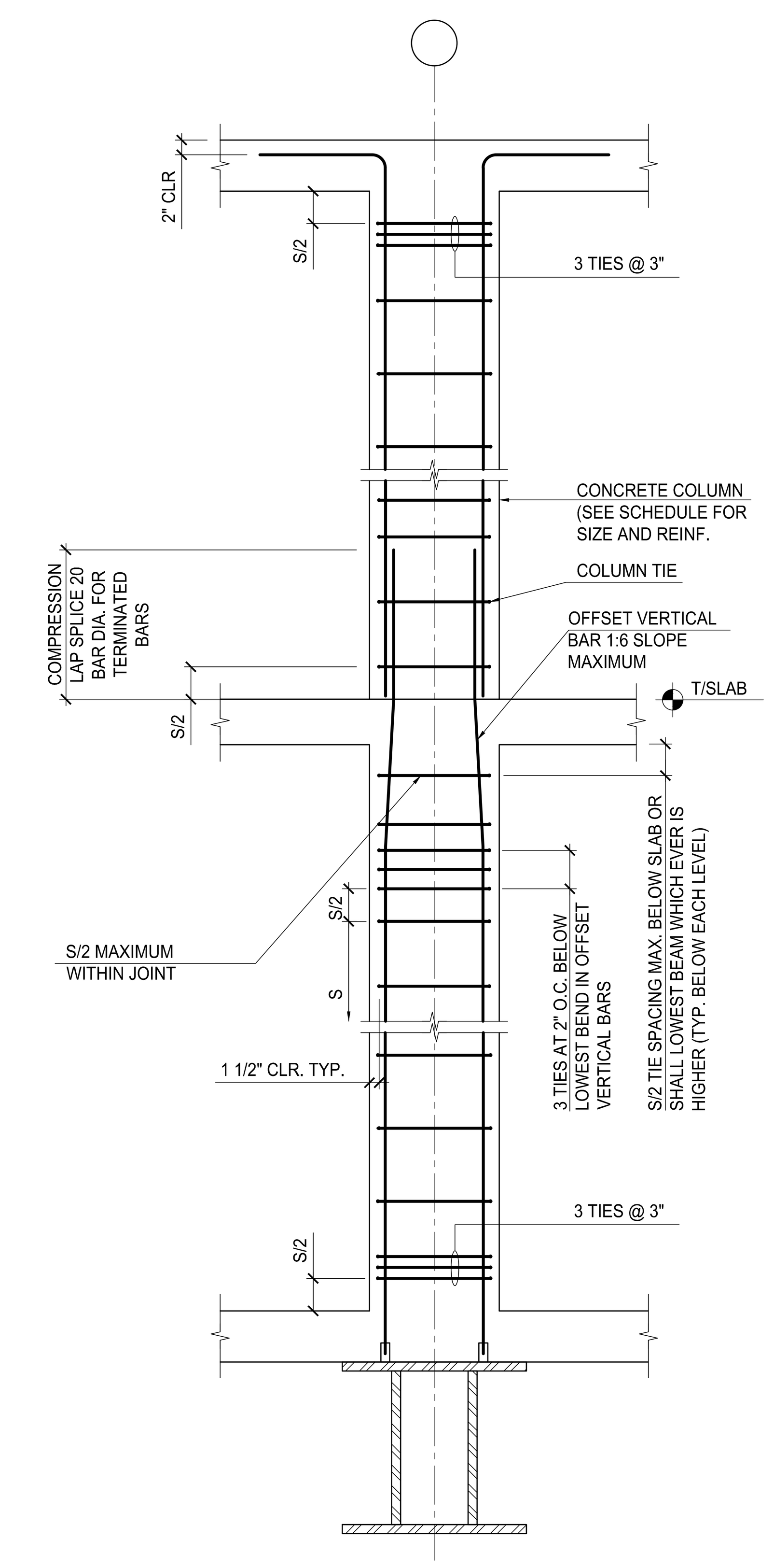


NOTES:
1. ALTERNATE TIE HOOKS BETWEEN COLUMN CORNERS TYPICALLY.

6 TYPICAL COLUMN WALK DETAIL - OFFSET ≤ 6"
SCALE: NOT TO SCALE

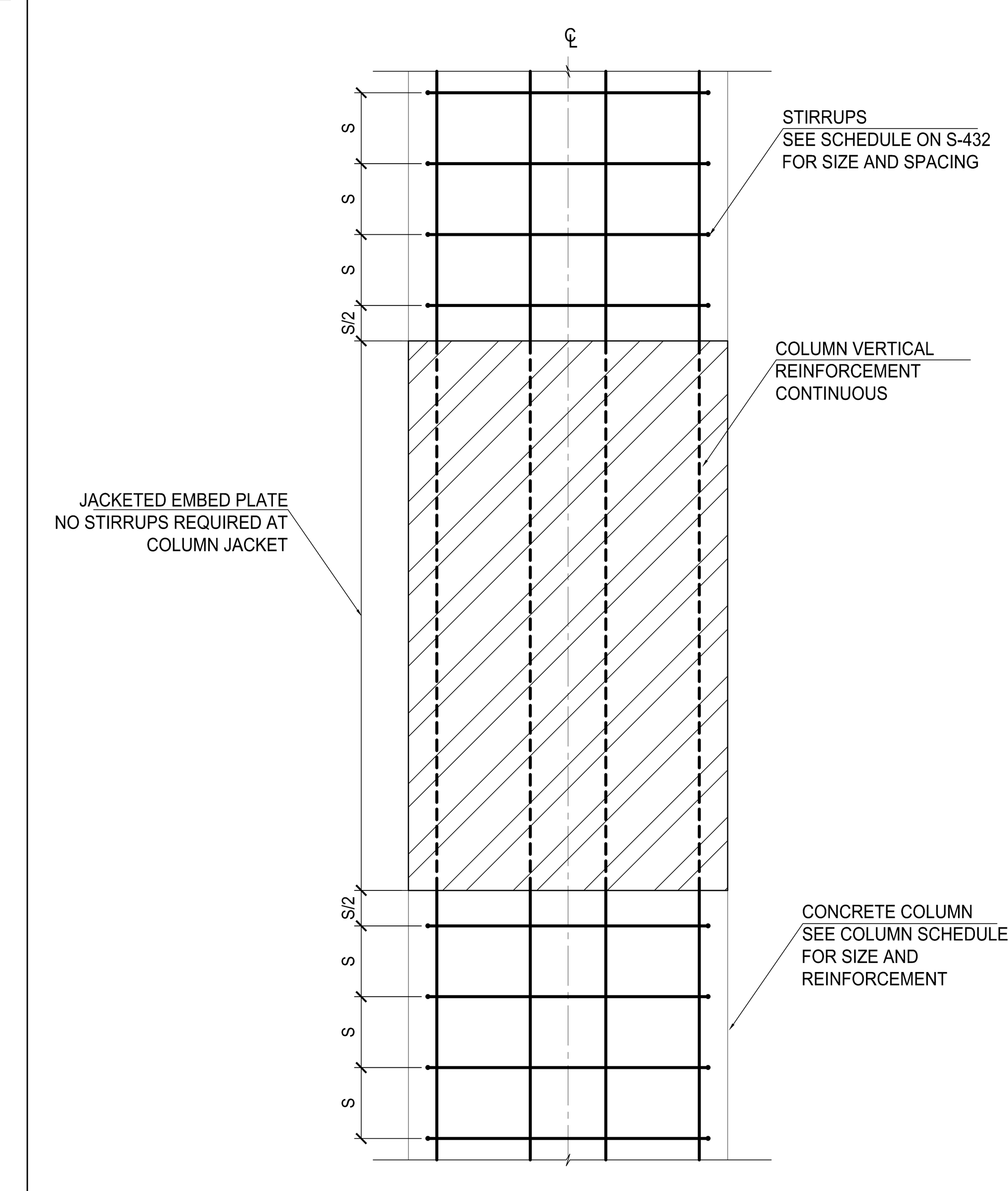


7 TYPICAL SLOPING COLUMN DETAIL
SCALE: NOT TO SCALE



NOTES:
1. SLAB AND BEAM REINFORCEMENT NOT SHOWN FOR CLARITY.

8 TYPICALCOLUMN DETAIL AT PLATFORM
SCALE: NOT TO SCALE



9 JACKETED EMBED PLATE REINFORCEMENT DETAIL
SCALE: NOT TO SCALE

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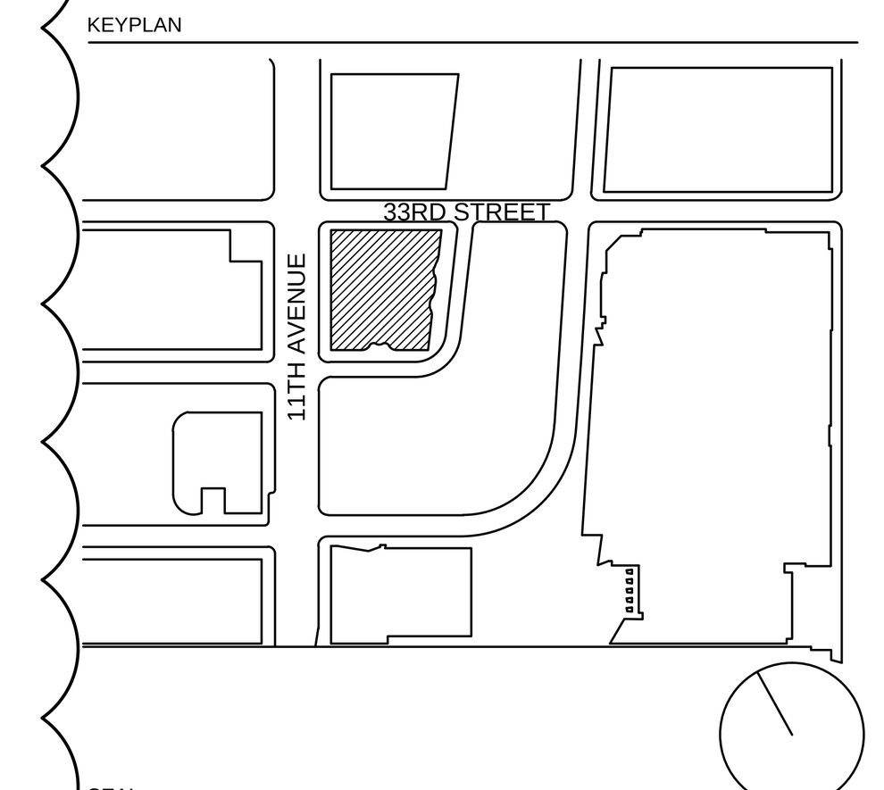

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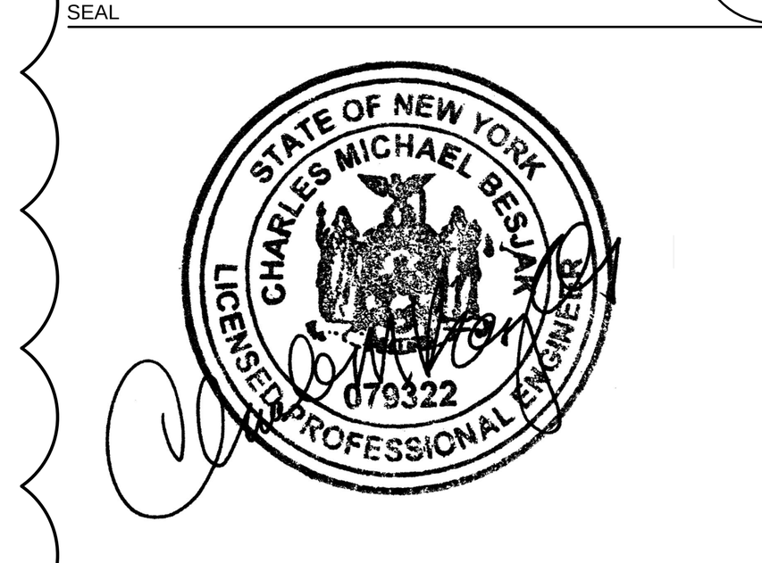

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RC GRAVITY COLUMN DETAILS

B-SCAN - DRAWING NUMBER
S-434.01

DRAWING NUMBER
S-434

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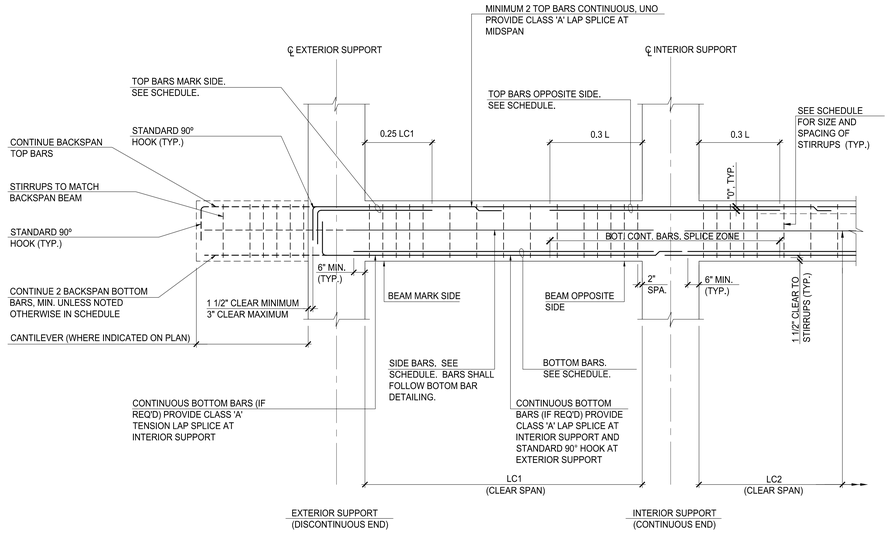
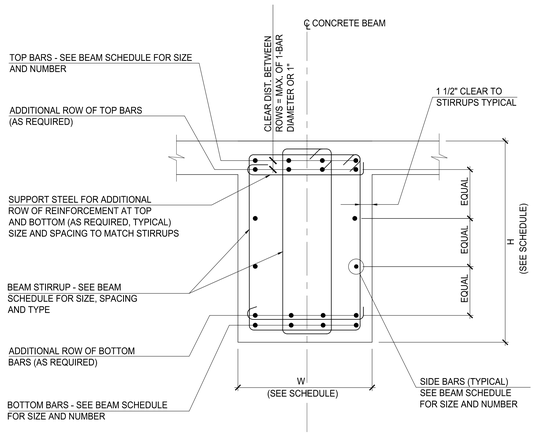


NOTES:
1. LC1, LC2 = LENGTH OF CLEAR SPANS 1, 2 (FACE OF SUPPORT TO FACE OF SUPPORT).
2. L = THE GREATER LENGTH OF CLEAR SPAN LC1 OR LC2.
3. AT INTERIOR SUPPORT (CONTINUOUS END) PROVIDE LARGER SIZE AND NUMBER OF TOP BARS FROM ADJACENT SPANS.
4. EXTERIOR AND INTERIOR SUPPORT REINFORCEMENT NOT SHOWN FOR CLARITY.

1 TYPICAL REINFORCED CONCRETE GRAVITY BEAM ELEVATION

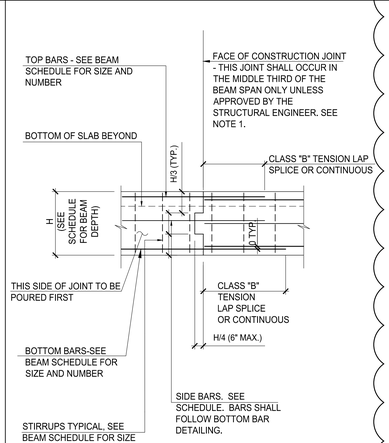
SCALE: NOT TO SCALE



NOTE: SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.

2 TYPICAL REINFORCED CONCRETE BEAM SECTION

SCALE: NOT TO SCALE

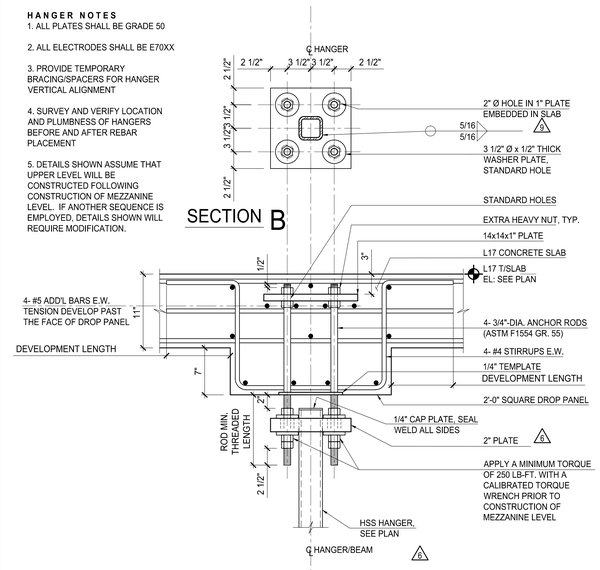


NOTES:
1. ADDITIONAL REINFORCEMENT MAY BE REQUIRED IF JOINT JOINT OCCURS OUTSIDE MIDDLE THIRD OF BEAM SPAN.

3 TYPICAL BEAM CONSTRUCTION JOINT

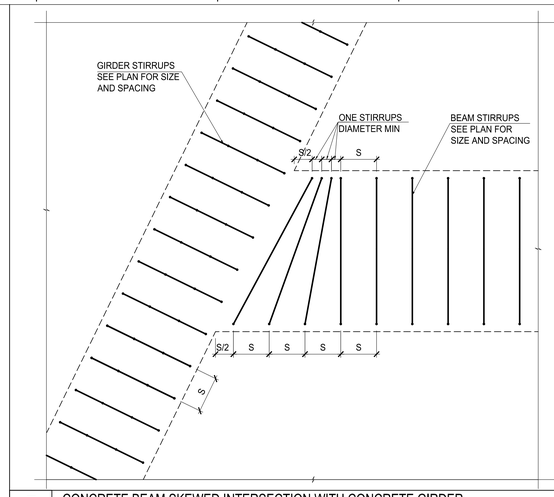
SCALE: NOT TO SCALE

HANGER NOTES
1. ALL PLATES SHALL BE GRADE 50
2. ALL ELECTRODES SHALL BE E70XX
3. PROVIDE TEMPORARY BRACING/SPACERS FOR HANGER VERTICAL ALIGNMENT
4. SURVEY AND VERIFY LOCATION AND PLUMBNESS OF HANGERS BEFORE AND AFTER REBAR PLACEMENT
5. DETAILS SHOWN ASSUME THAT UPPER LEVEL WILL BE CONSTRUCTED FOLLOWING CONSTRUCTION OF MEZZANINE LEVEL. IF ANOTHER SEQUENCE IS EMPLOYED, DETAILS SHOWN WILL REQUIRE MODIFICATION.



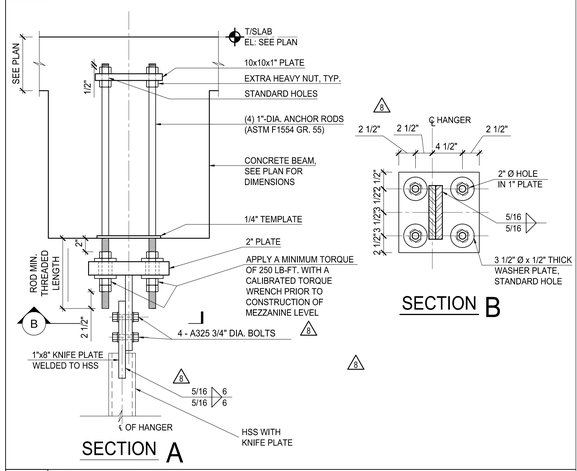
4 HANGER DETAILS

SCALE: NOT TO SCALE



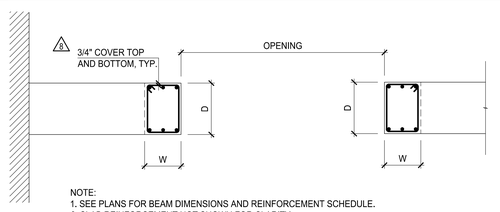
5 CONCRETE BEAM SKEWED INTERSECTION WITH CONCRETE GIRDER

SCALE: NOT TO SCALE



6 HANGER DETAILS

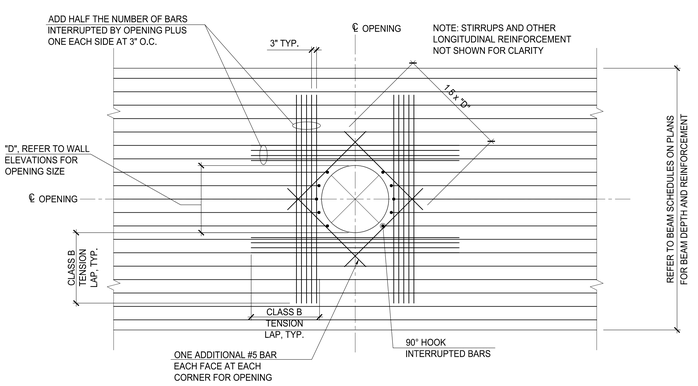
SCALE: NOT TO SCALE



NOTE:
1. SEE PLANS FOR BEAM DIMENSIONS AND REINFORCEMENT SCHEDULE.
2. SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.
3. REFER TO DETAIL 1 FOR ADDITIONAL INFORMATION NOT SHOWN.

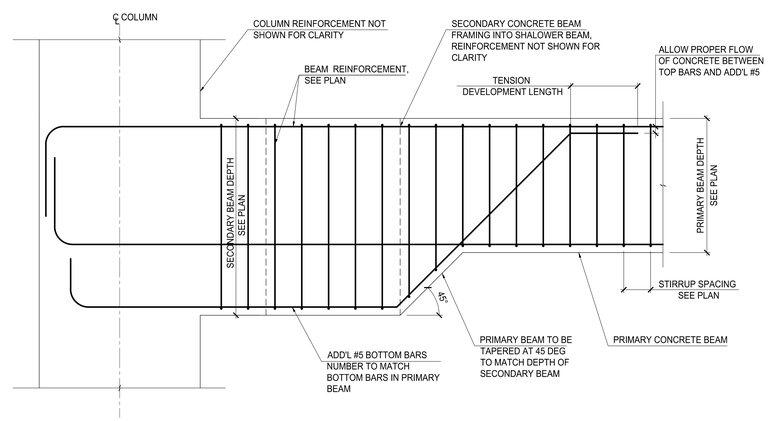
7 TYPICAL CORE BEAM DETAILS (BEAM DEPTH = SLAB THICKNESS)

SCALE: NOT TO SCALE



8 TRANSFER GIRDER CIRCULAR OPENING DETAIL

SCALE: NOT TO SCALE



9 CONCRETE BEAM FRAMING INTO SHALLOWER BEAM DETAIL

SCALE: NOT TO SCALE

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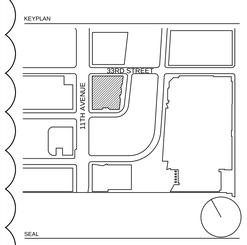

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RC GRAVITY BEAM SCHEDULE AND DETAILS

B-SCAN - DRAWING NUMBER
S-441.01

DRAWING NUMBER
S-441

PAGE NUMBER
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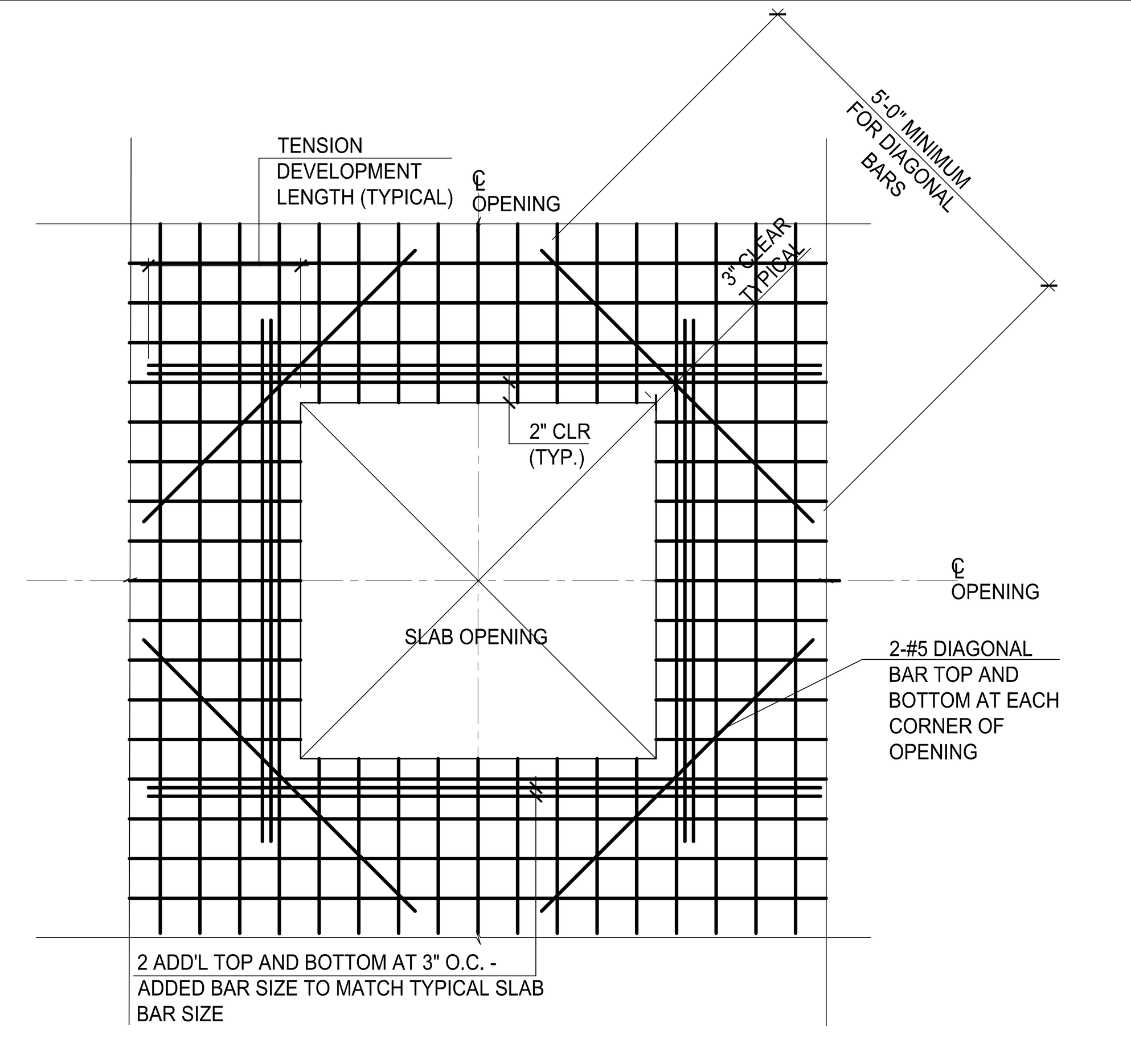
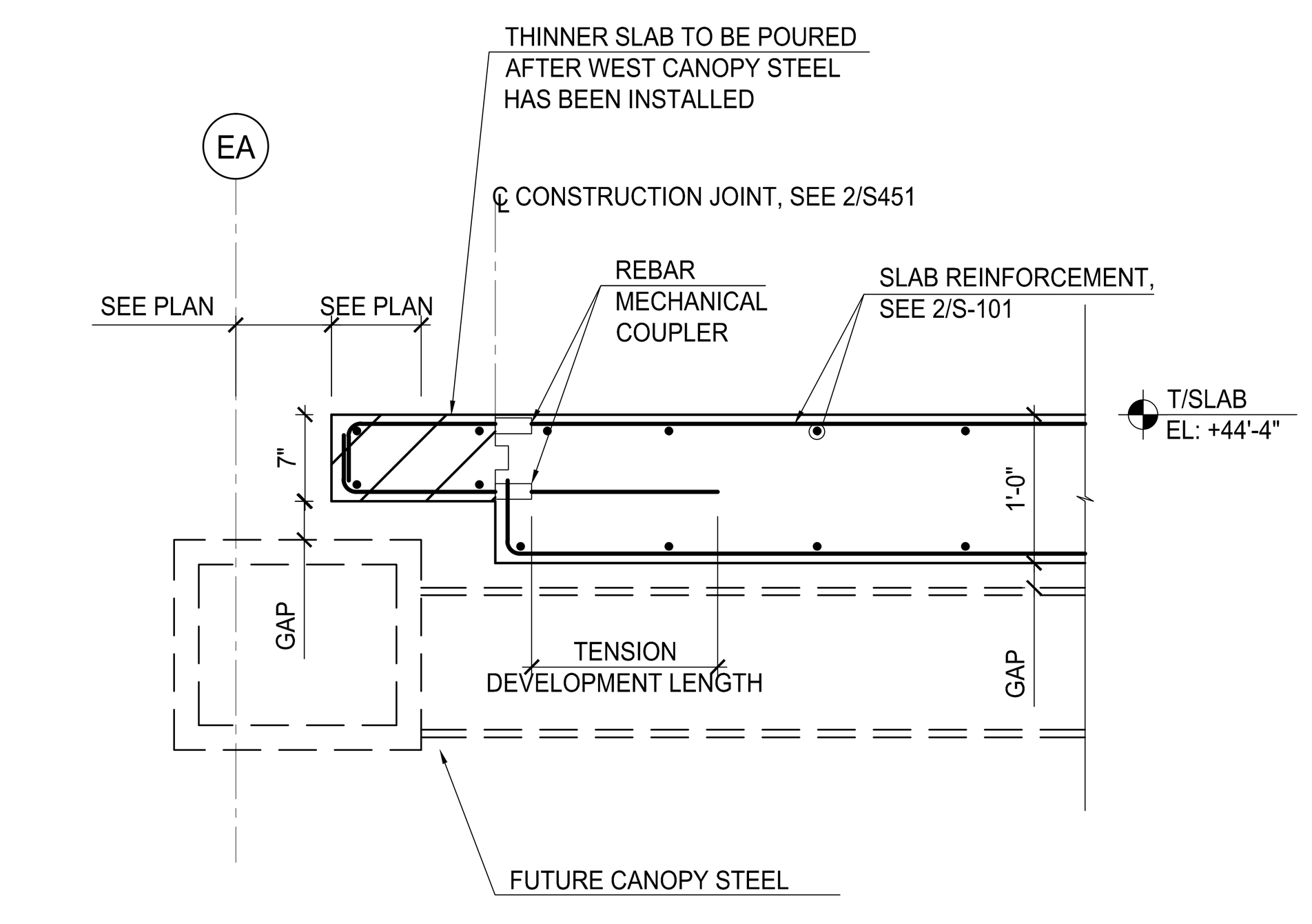
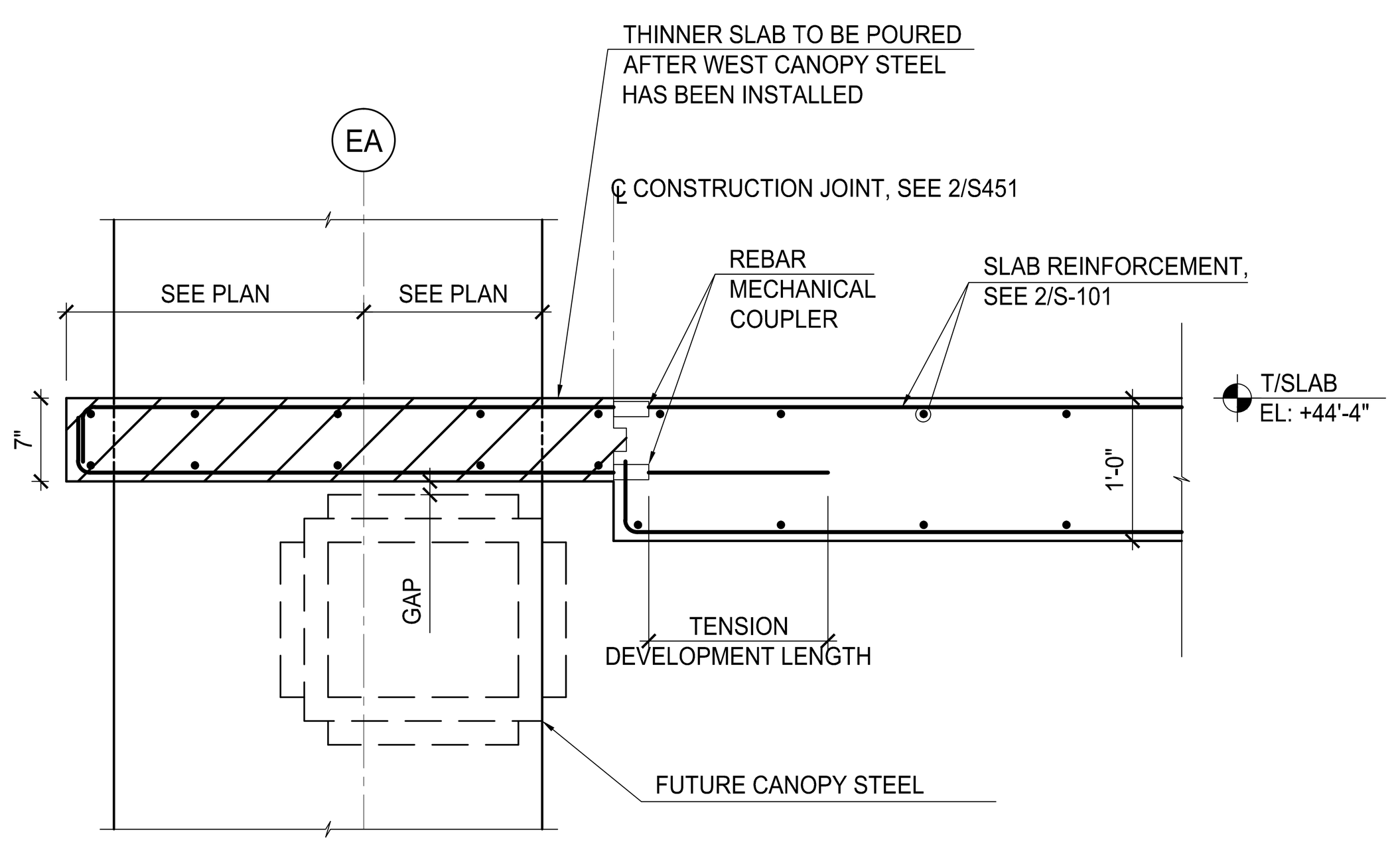


NOTE: THIS DETAIL APPLIES TO ALL ELEVATOR SHAFT OUTSIDE THE CORE, STAIR AND LARGE OPENING. NO ADDITIONAL REINFORCEMENT IS REQUIRED ON THE OPENING SIDE WHERE A BEAM IS PRESENT

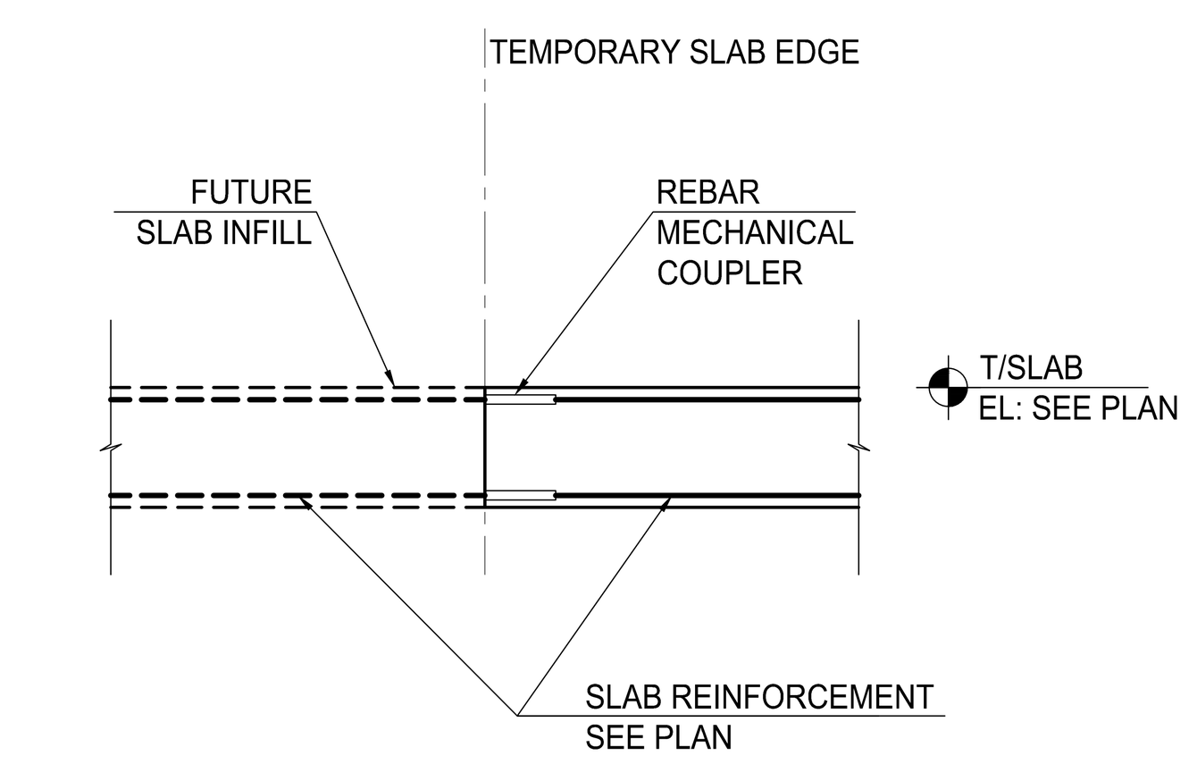
1 TYPICAL LARGE SLAB OPENING DETAIL
SCALE: NOT TO SCALE



2 L1 MEZZ CANOPY PORTAL SLAB EDGE DETAIL
SCALE: NOT TO SCALE



3 L1 MEZZ CANOPY SLAB EDGE DETAIL
SCALE: NOT TO SCALE



4 SLAB EDGE DETAIL AT FUTURE INFILL
SCALE: NOT TO SCALE

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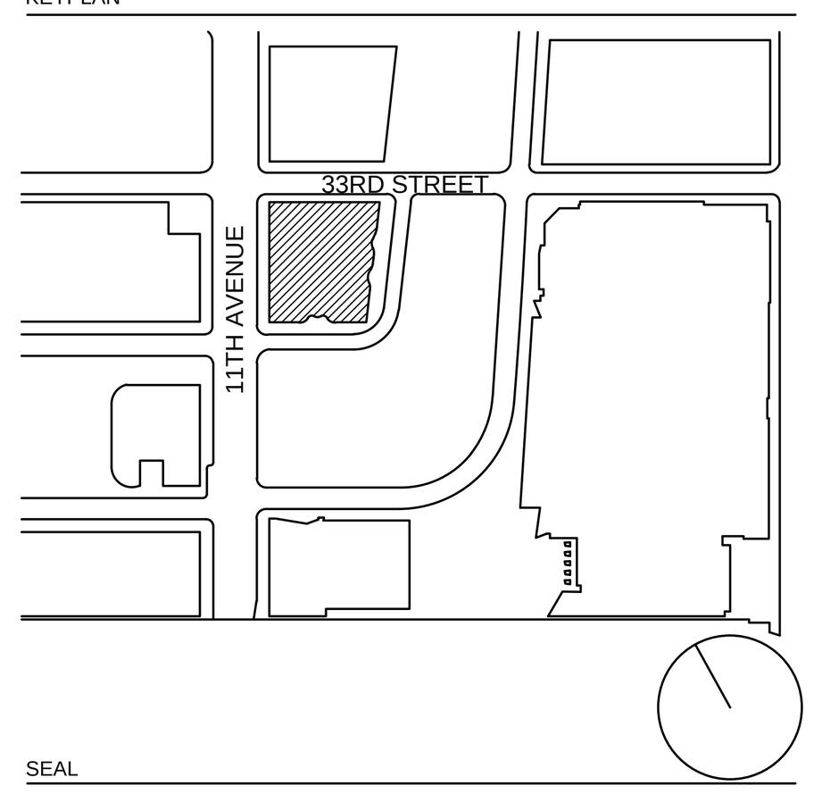
KEYPLAN


SEAL
STATE OF NEW YORK
CHARLES MICHAEL BESJAK
079322
LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION
2	20 JAN 2017	ISSUED TO DOB
1	16 AUG 2016	ISSUED FOR BULLETIN NO. 3

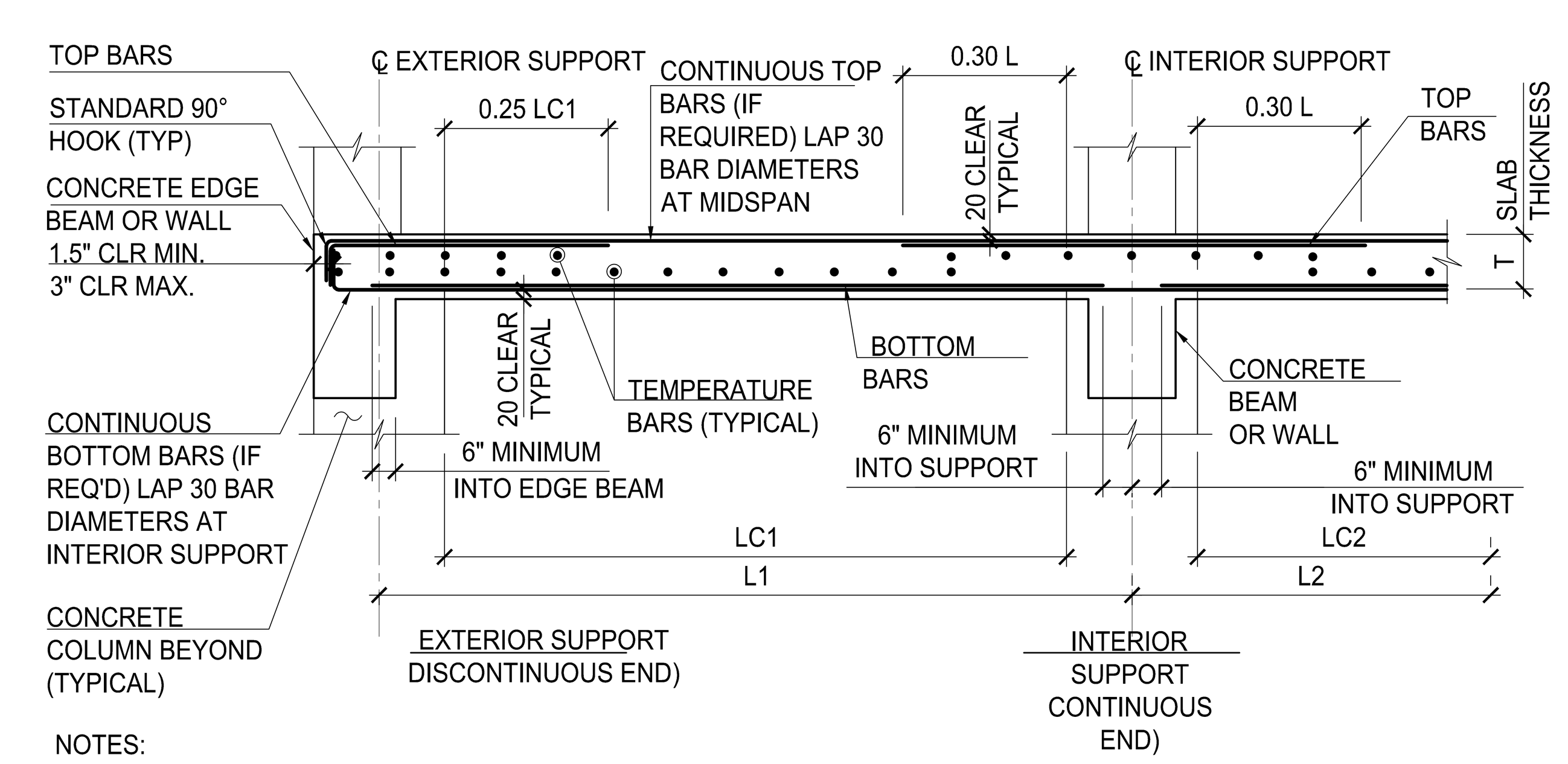
DRAWING TITLE
RC SLAB DETAILS

Damian Titus
NYC Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

DRAWING NUMBER
S-450.00

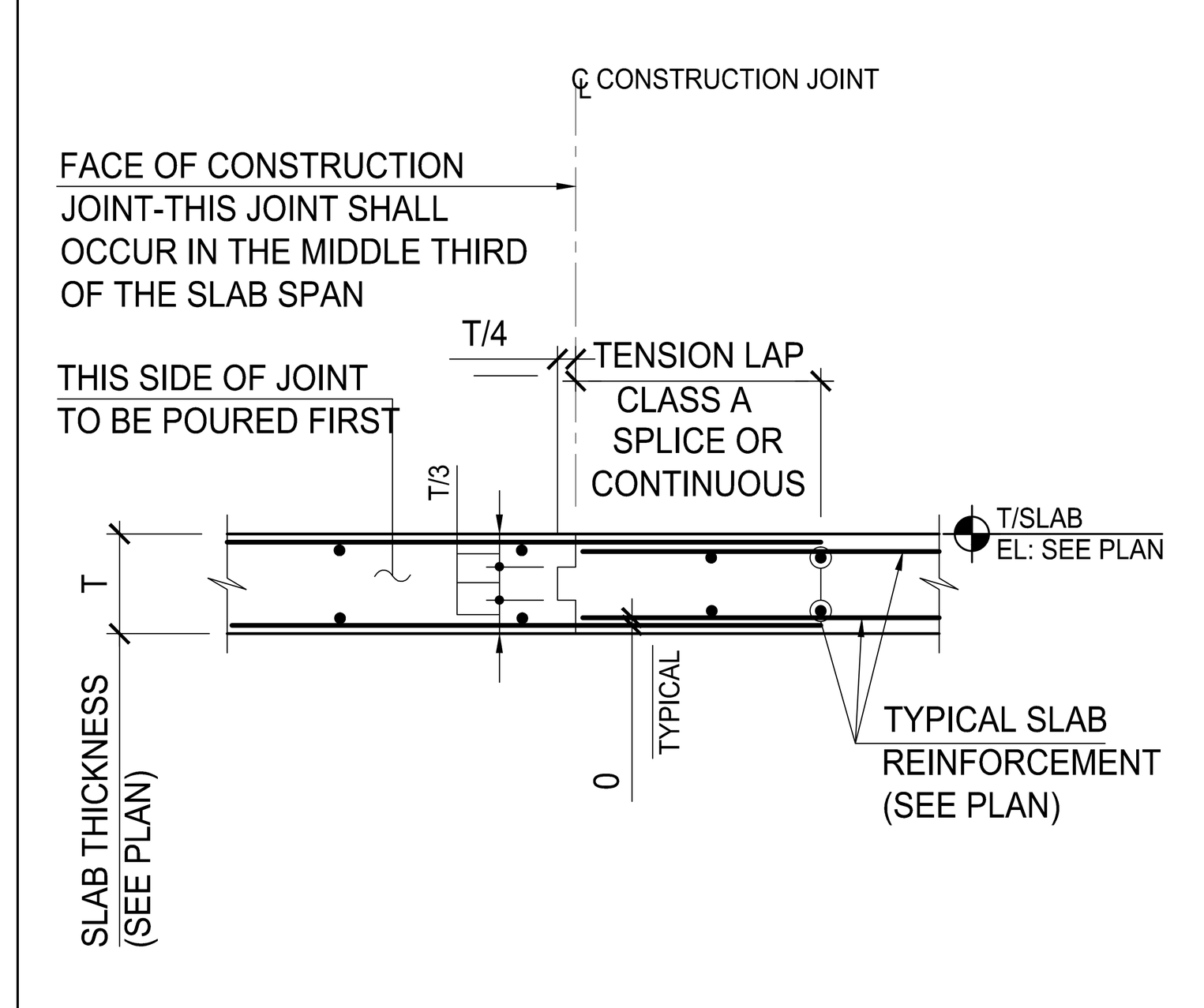
S-450

PAGE NUMBER

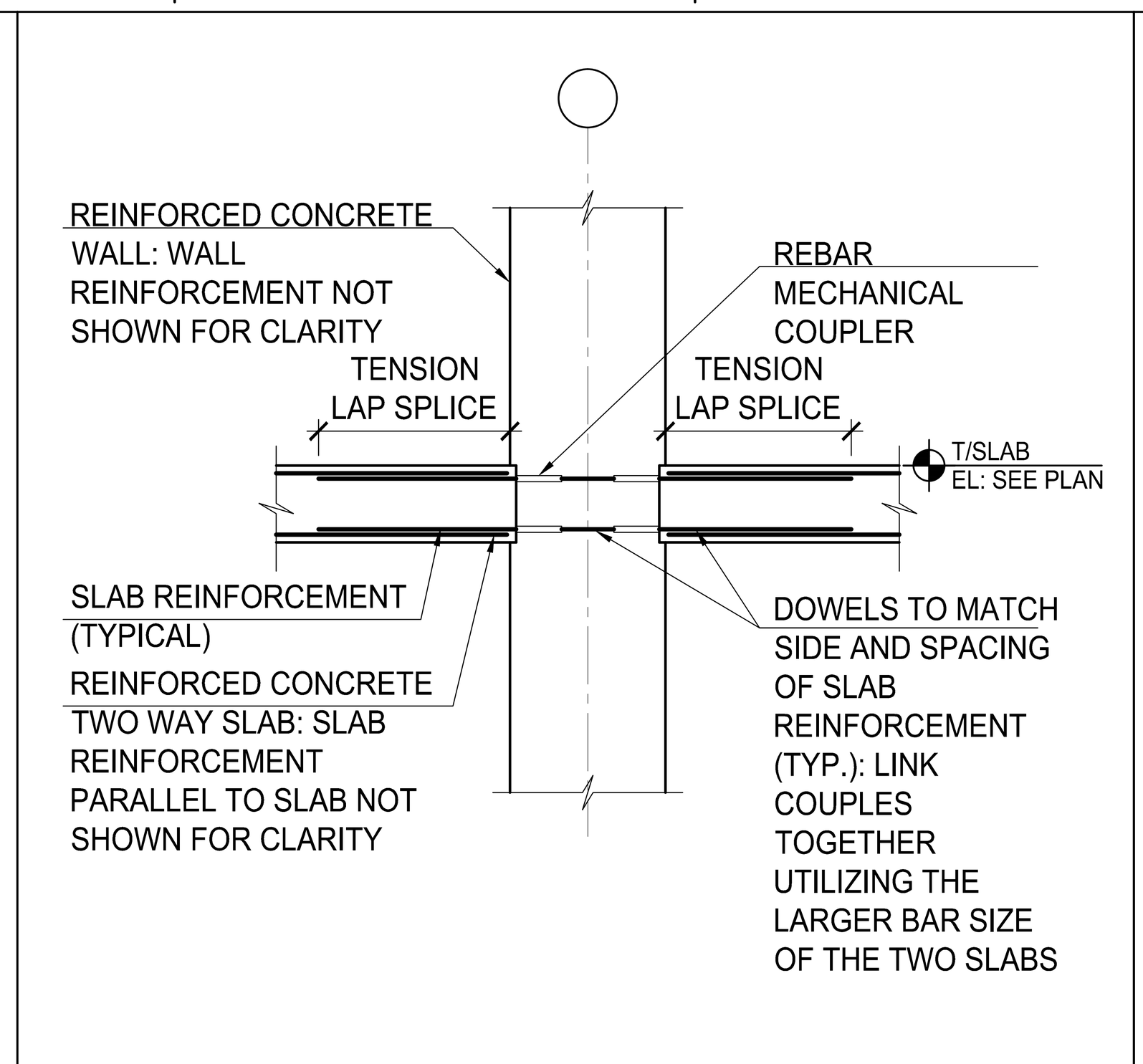


NOTES:
1. LC1, LC2 = LENGTH OF CLEAR SPANS 1, 2 (FACE OF SUPPORT TO FACE OF SUPPORT).
2. L = LC1 LC2 THE GREATER LENGTH OF CLEAR SPAN LC1 OR LC2.
3. L1, L2 = LENGTH OF SPANS 1, 2 FROM CENTERLINE OF SUPPORT TO CENTERLINE OF SUPPORT.
4. AT INTERIOR SUPPORT (CONTINUOUS END) PROVIDE LARGER SIZE AND NUMBER OF TOP BARS FROM ADJACENT SPANS.

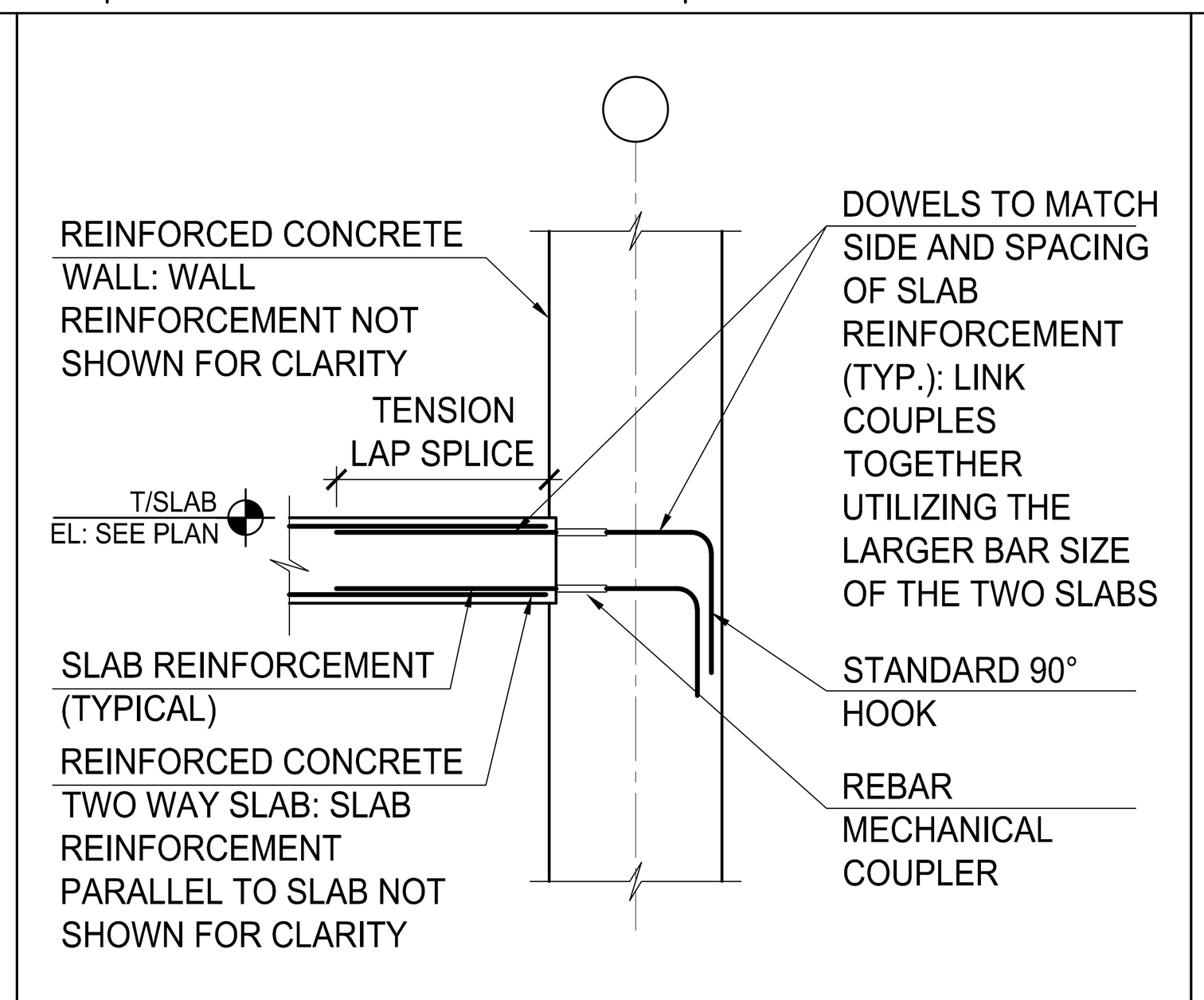
1 TYPICAL ONE-WAY SLAB
SCALE: NOT TO SCALE



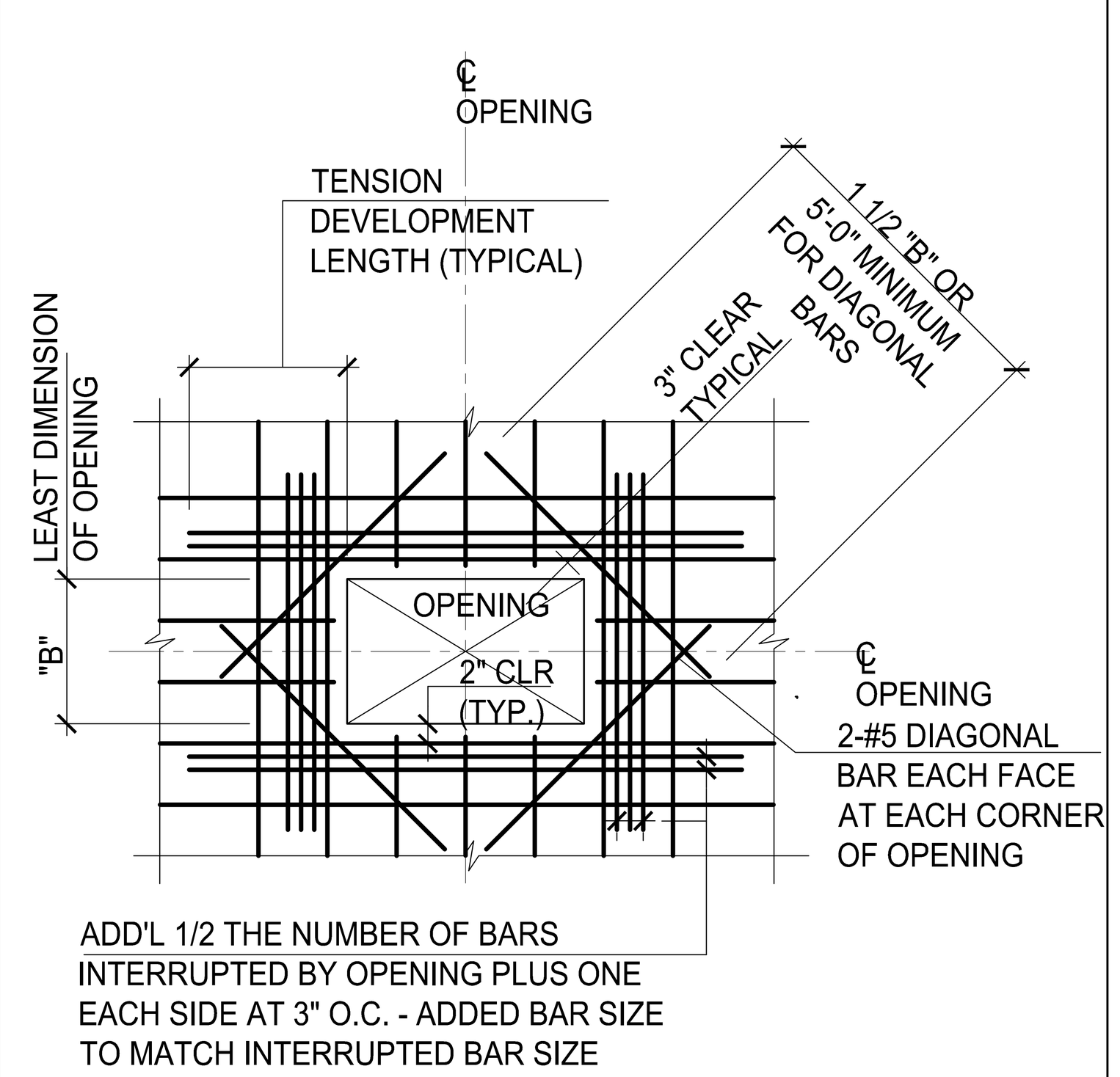
2 TYPICAL CONCRETE SLAB CONSTRUCTION JOINT
SCALE: NOT TO SCALE



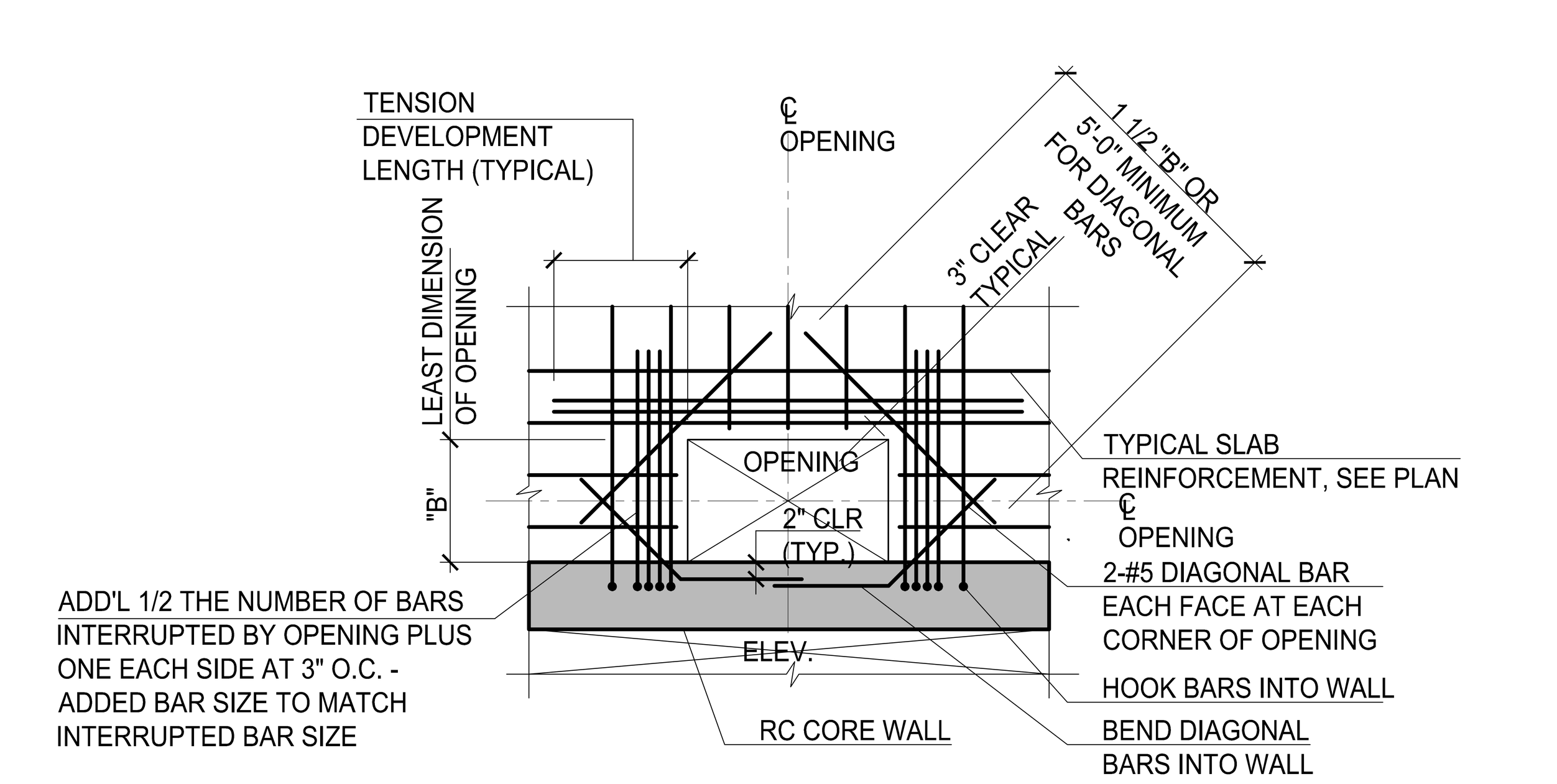
3 TYPICAL SLAB CONNECTION AT JUMP FORMED WALL SLAB CONTINUOUS BOTH FACES OF WALL
SCALE: NOT TO SCALE



4 TYPICAL SLAB CONNECTION AT JUMP FORMED WALL SLAB DISCONTINUOUS AT ONE FACE OF WALL
SCALE: NOT TO SCALE

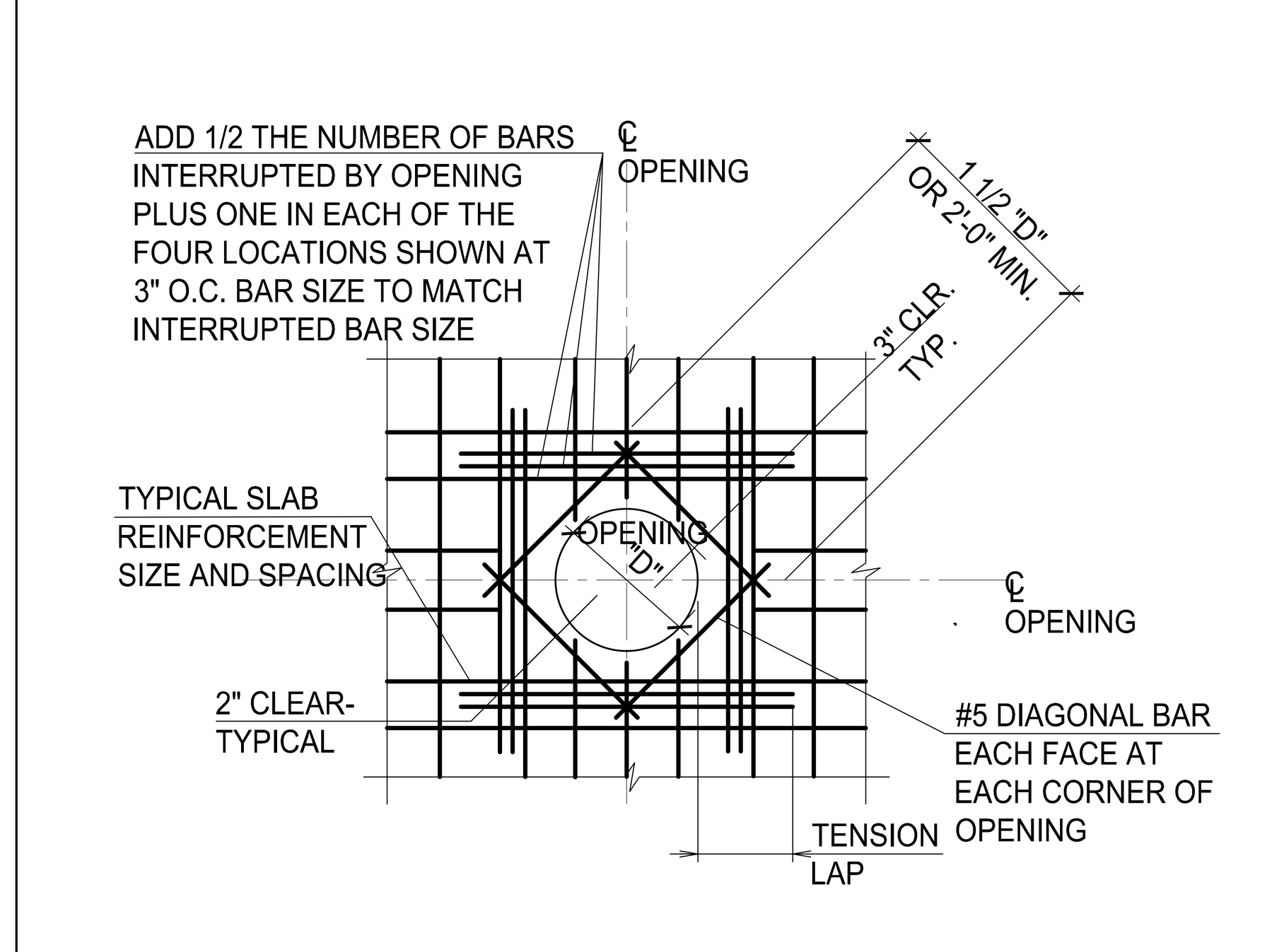


5 TYPICAL MEP RECTANGULAR SLAB OPENING DETAIL
SCALE: NOT TO SCALE

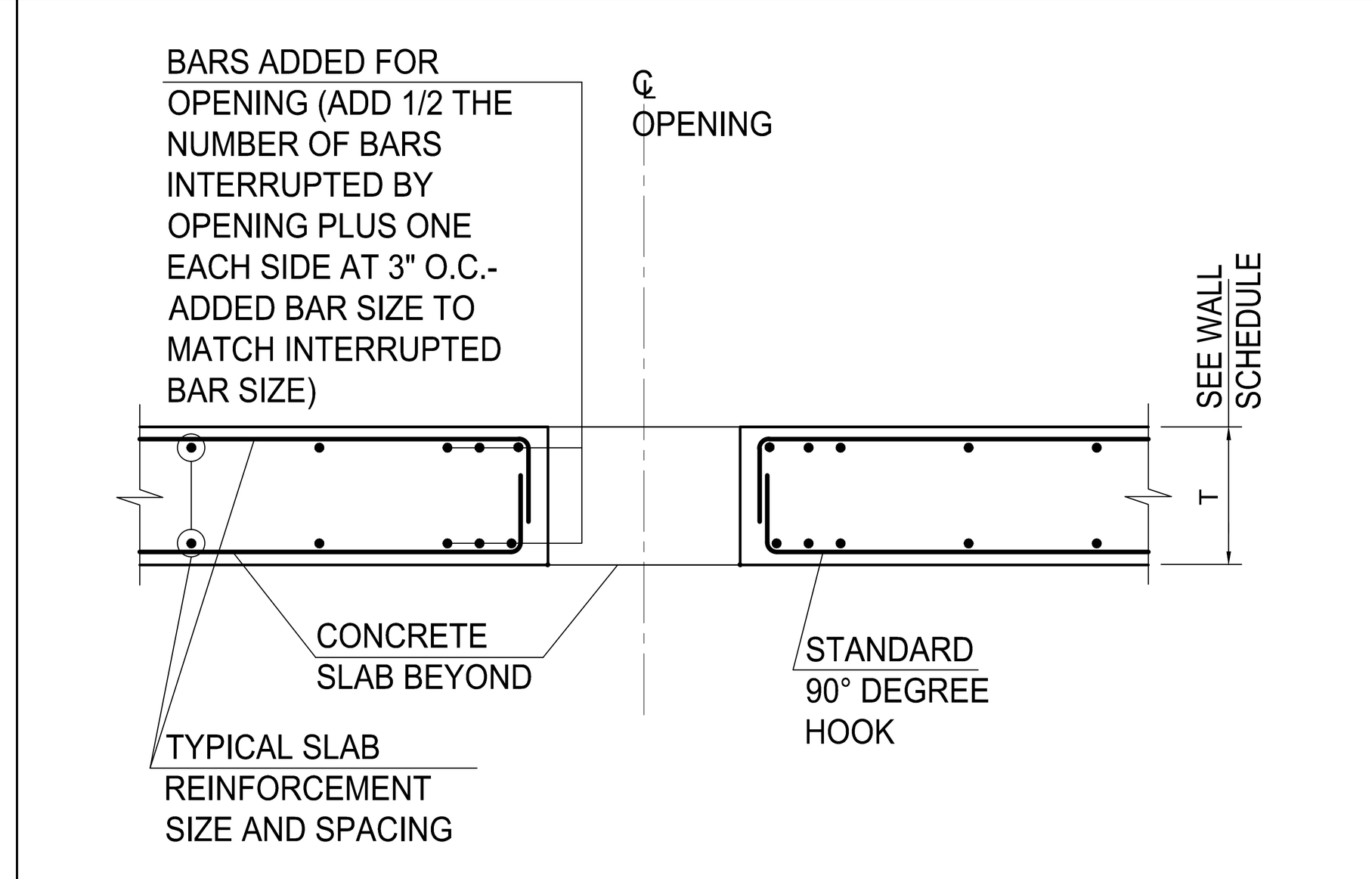


NOTE: WALL REINFORCEMENT NOT SHOWN FOR CLARITY

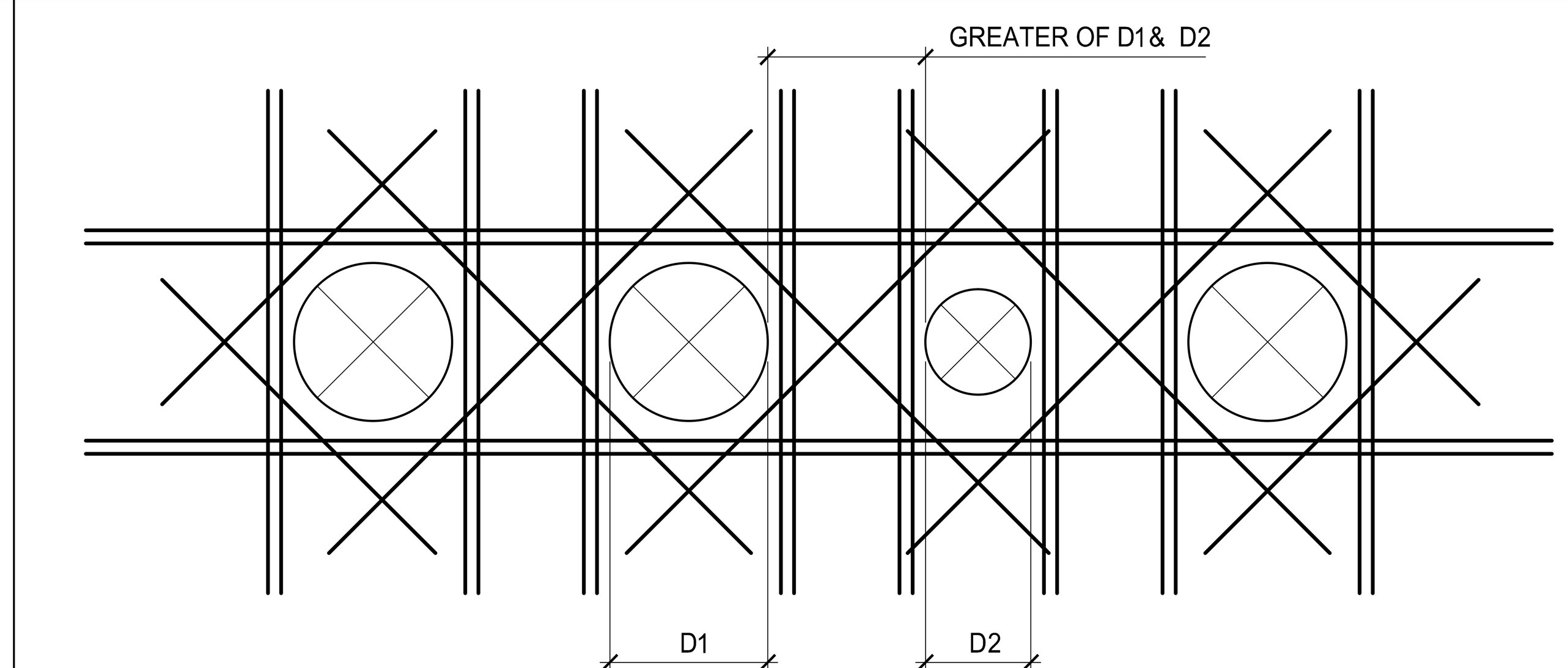
5A MEP RECTANGULAR OPENING ADJACENT TO CORE WALL
SCALE: NOT TO SCALE



6 TYPICAL MEP CIRCULAR SLAB OPENING DETAIL D > 300 MM
SCALE: NOT TO SCALE

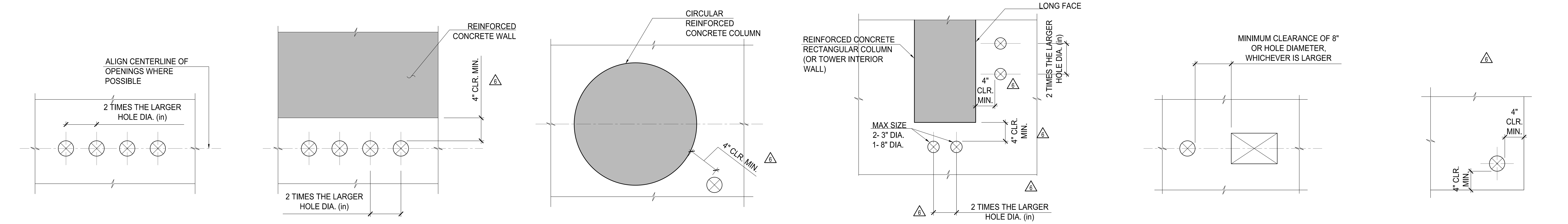


7 TYPICAL SECTION AT MEP SLAB OPENING
SCALE: NOT TO SCALE



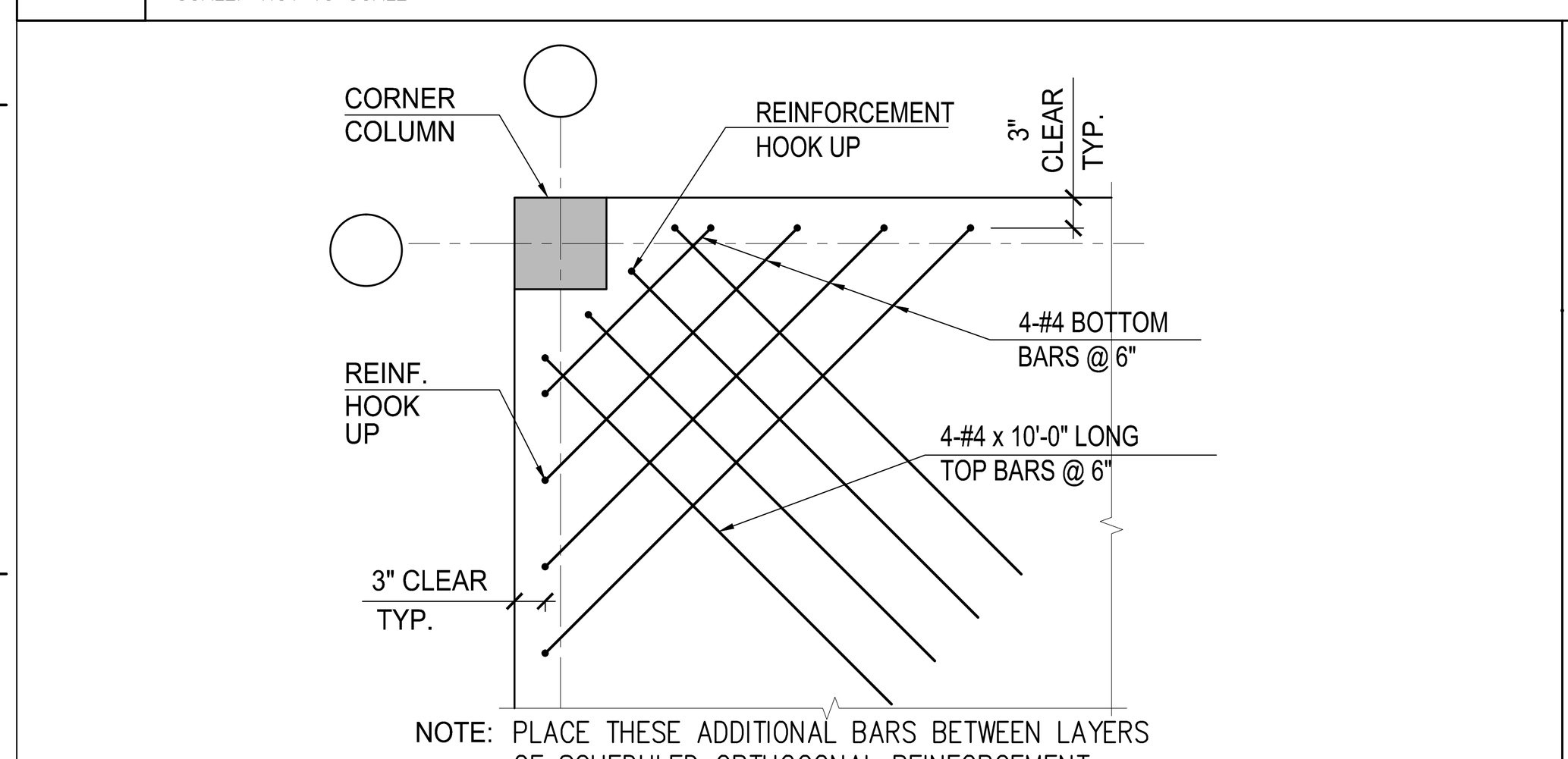
NOTES:
1. SEE DETAIL 6/THIS SHEET FOR ADDITIONAL INFORMATION
2. AT LOCATIONS DIMENSIONED ON STRUCTURAL DRAWINGS FROM LEVELS 18-29 SMALL DIAMETER SLEEVES MAY BE PLACED CLOSER THAN 2D APART. AT THAT CONDITION OMIT DIAGONAL BARS BETWEEN SLEEVES AND PLACE 2 - 5' LONG #5 BARS (1 TOP AND 1 BOT.) BETWEEN EACH SLEEVE.

8 TYPICAL DETAIL AT ALIGNED SLAB OPENINGS
SCALE: NOT TO SCALE



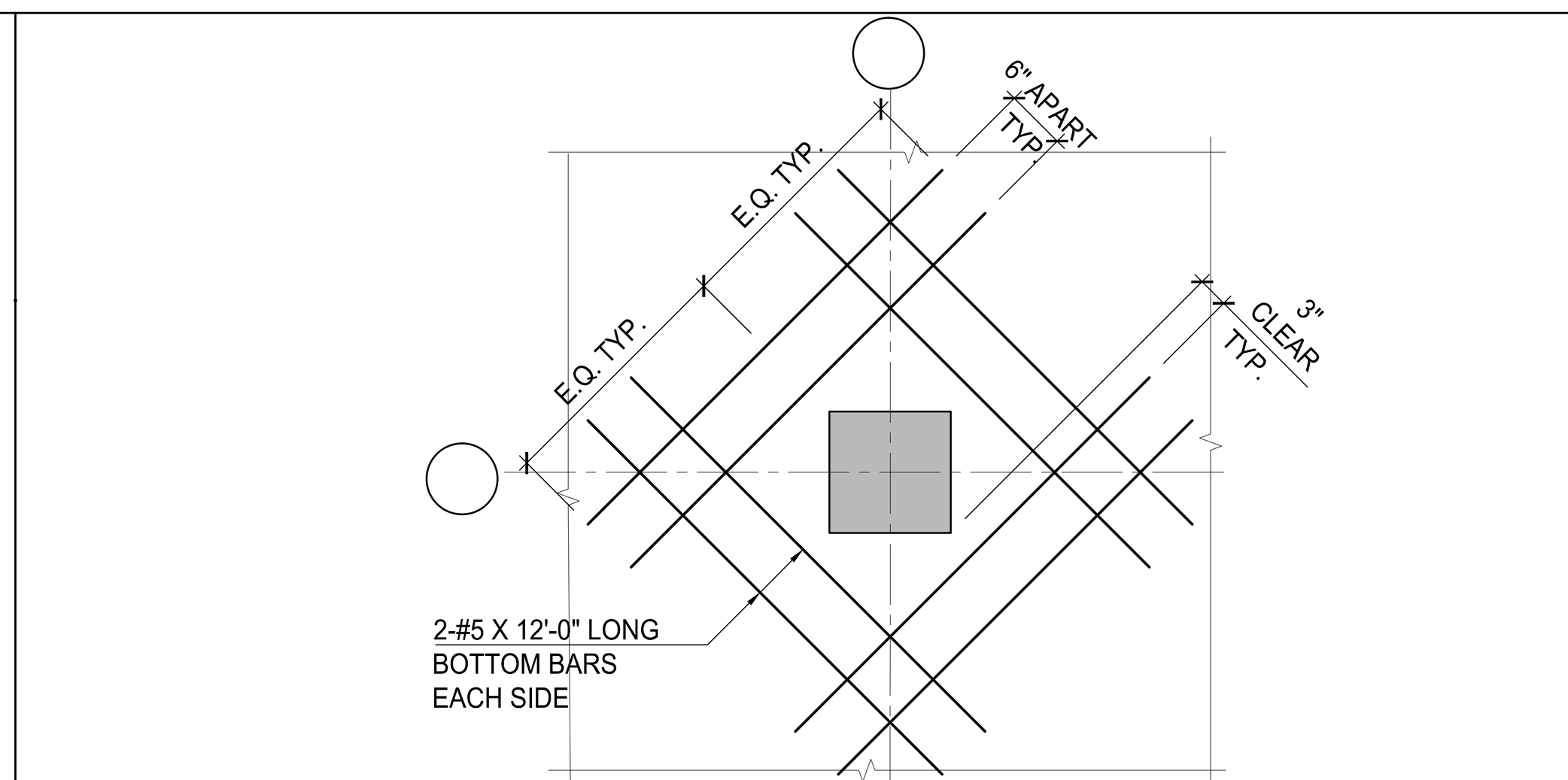
A TYPICAL SECTION AT MEP SLAB OPENING
B OPENINGS NEAR REINFORCED CONCRETE WALLS
C OPENINGS NEAR CIRCULAR COLUMN
D OPENINGS NEAR RECTANGULAR COLUMN
E CIRCULAR OPENINGS ADJACENT TO RECTANGULAR OPENINGS
F OPENINGS NEAR SLAB EDGES

9 SLAB OPENINGS SYSTEM DIAGRAMS
SCALE: NOT TO SCALE

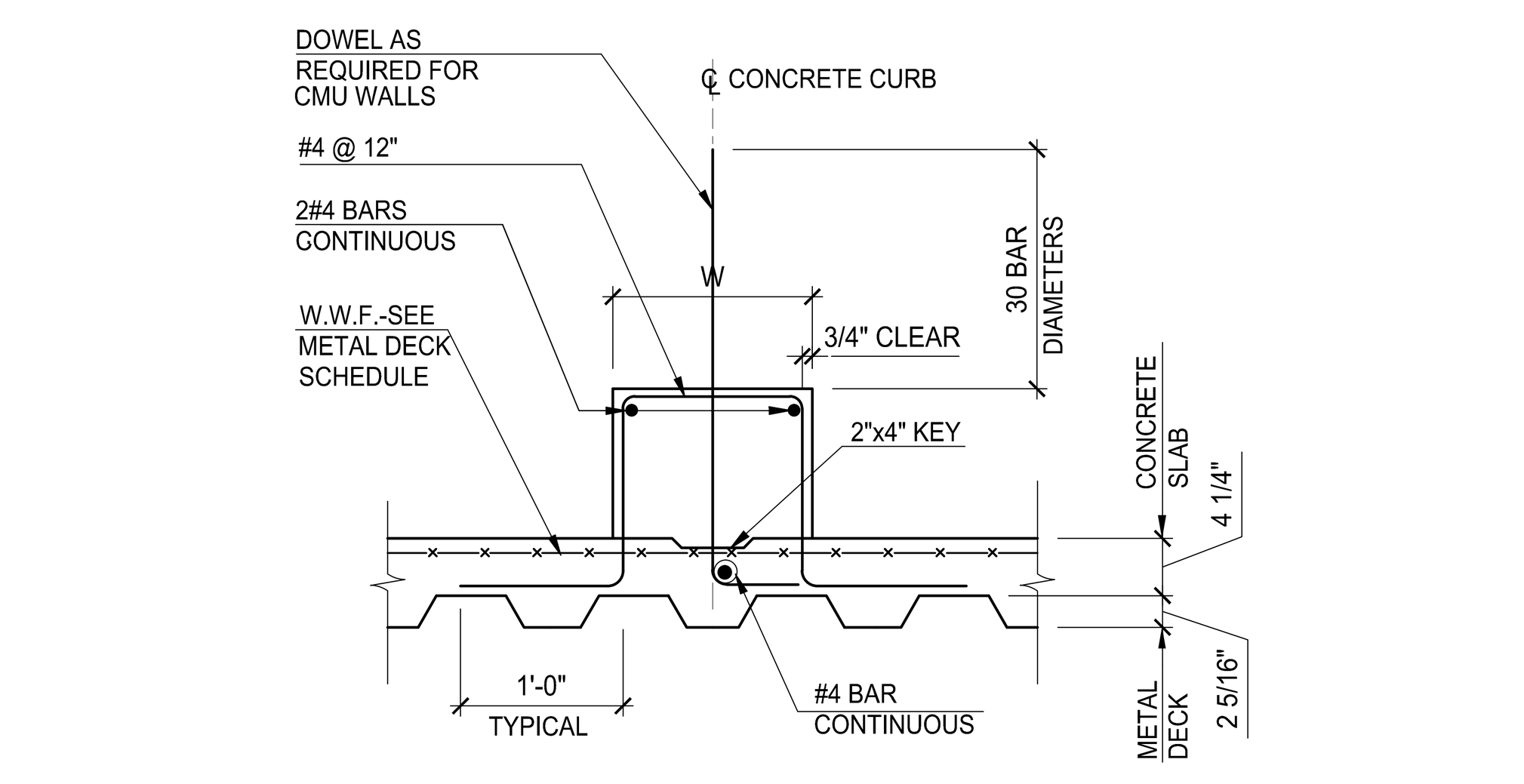


NOTE: PLACE THESE ADDITIONAL BARS BETWEEN LAYERS OF SCHEDULED ORTHOGONAL REINFORCEMENT.

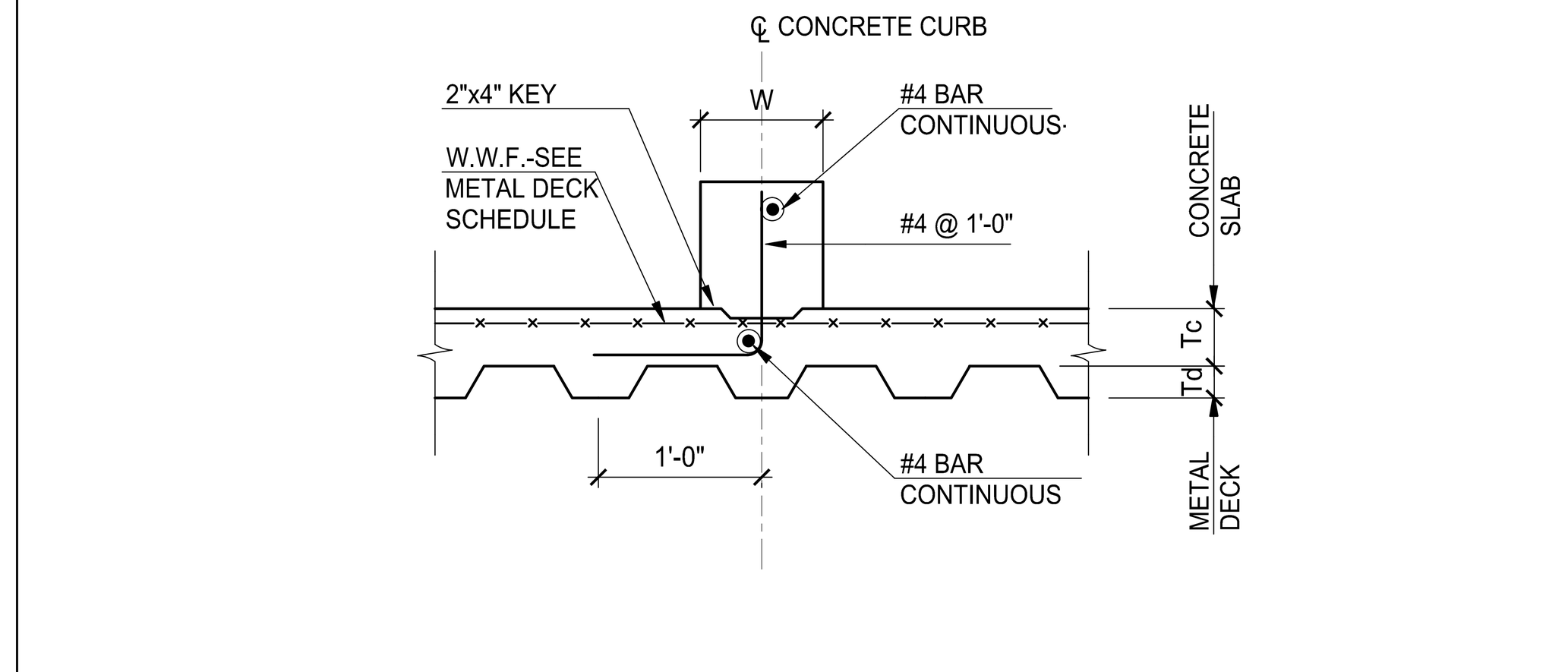
10 ADDITIONAL SLAB REINFORCEMENT AT CORNER COLUMN
SCALE: N.T.S



11 ADDITIONAL SLAB REINFORCEMENT AT INTERIOR COLUMN
SCALE: N.T.S

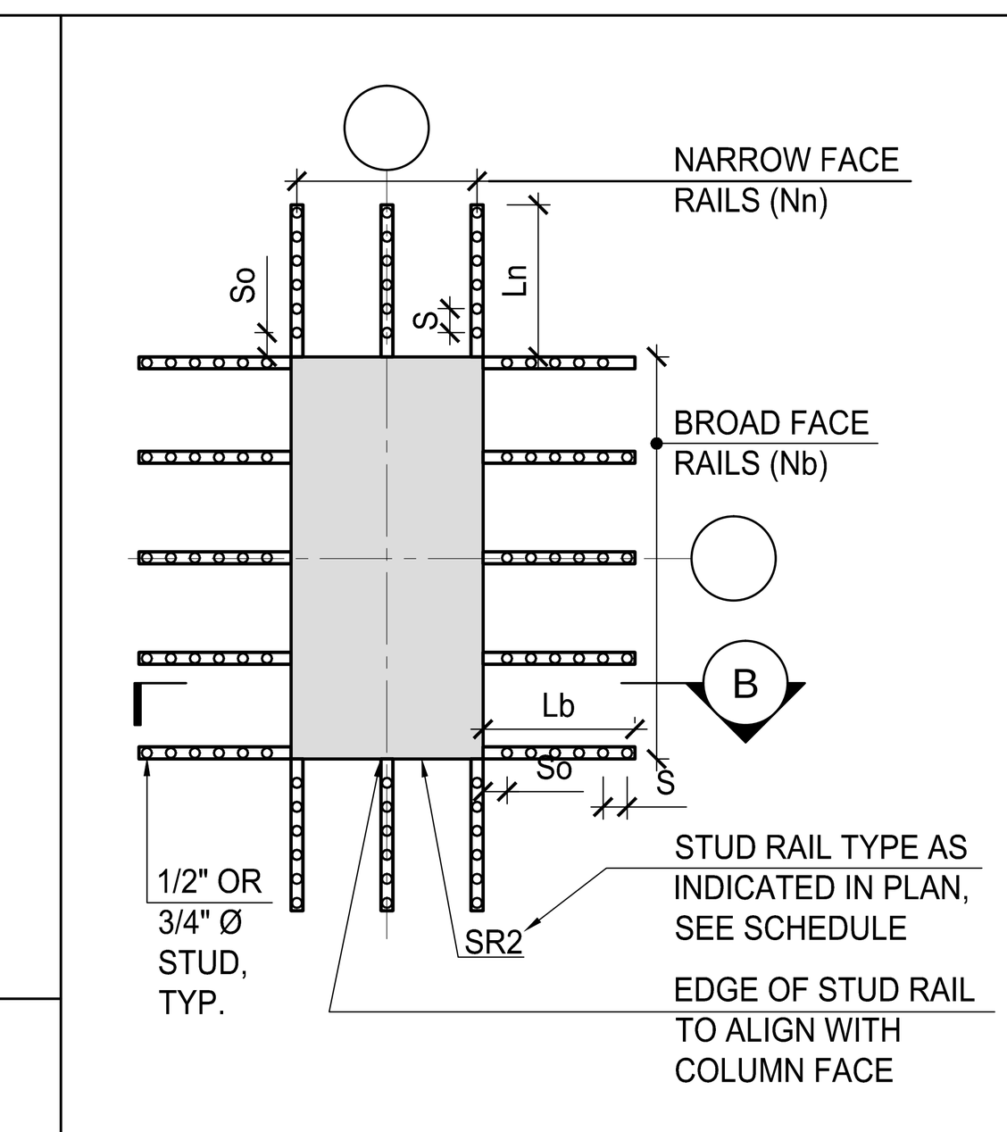


12 TYPICAL DETAILS FOR CONCRETE CURBS ON METAL DECK SLAB WITH CMU ABOVE
SCALE: N.T.S



NOTES: 1. THIS DETAIL APPLIES WHEN W<6".
2. FOR CURB SIZE AND LOCATION, SEE ARCHITECTURAL DRAWINGS.
3. PROVIDE 3/4" CLEAR COVER TO BARS UNLESS NOTED OTHERWISE.

13 TYPICAL DETAILS FOR CONCRETE CURBS ON METAL DECK SLAB
SCALE: N.T.S

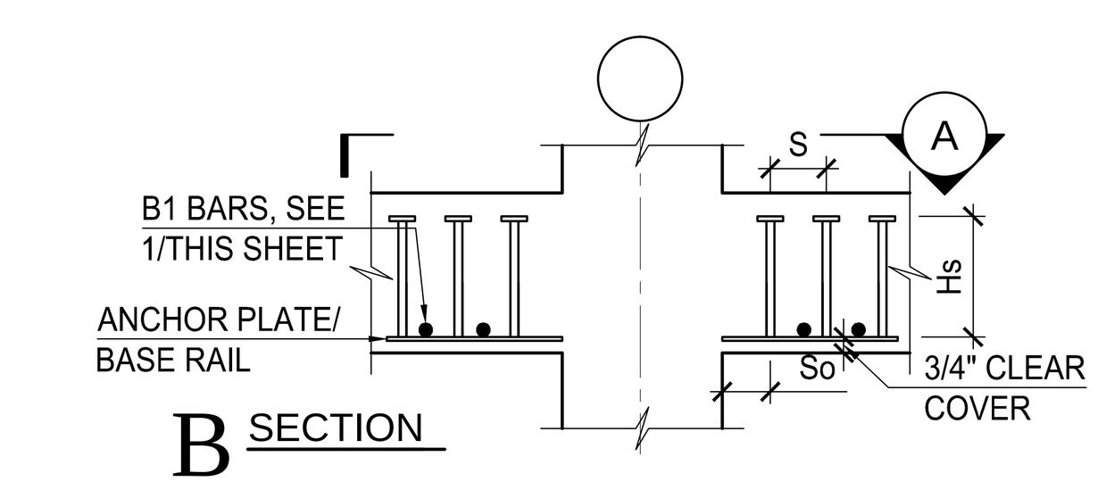


A PLAN RECTANGULAR

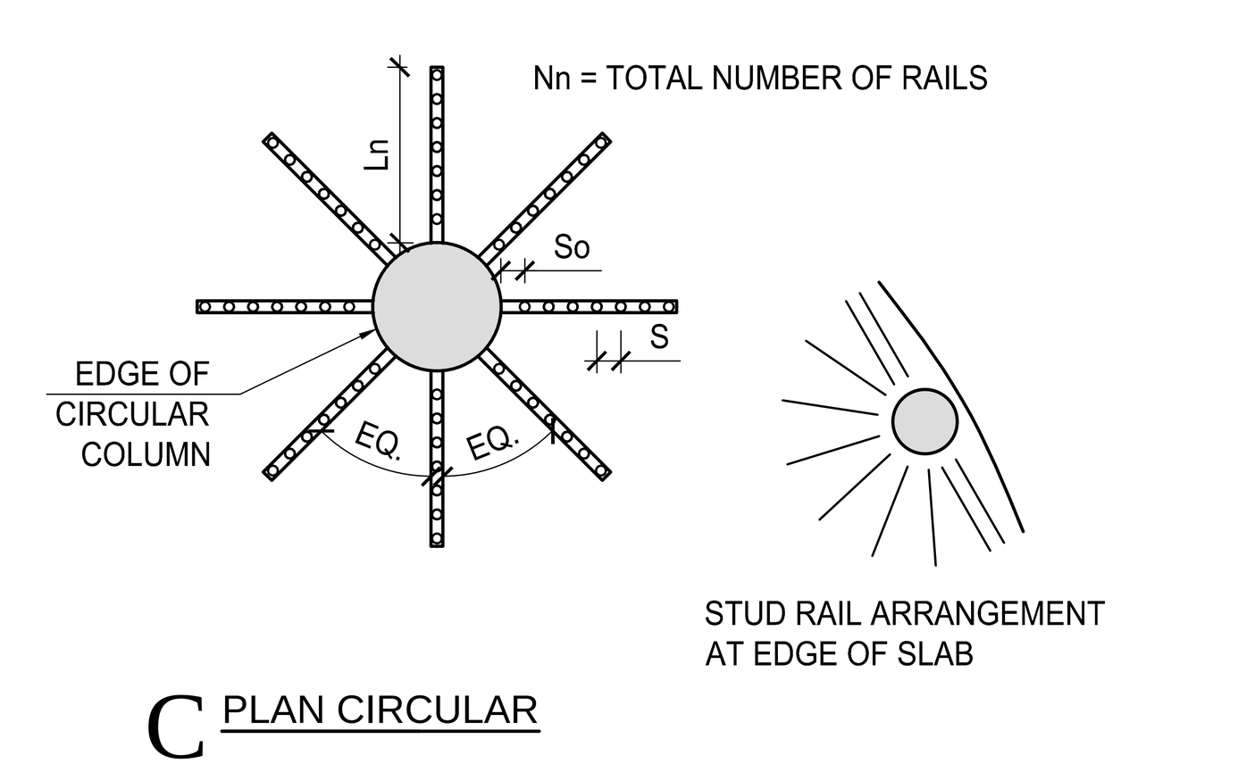
STUD RAIL SCHEDULE fy = 51 KSI (SEE NOTE 1)

MARK	DIA. (IN.)	So (IN.)	S (IN.)	Ln (IN.)	Lb (IN.)	Hs (IN.)	Nn (EACH FACE)	Nb (EACH FACE)	REMARKS
SR1	1/2	4	4	24	24	9	3	3	
SR2	1/2	4	4	32	32	9	3	3	
SR3	1/2	4	4	32	32	9	5	5	
SR4	1/2	4	4	32	32	14	5	5	
SR10	1/2	4	4	36	-	9	20	-	RESIDENTIAL LEVELS - CIRCULAR
SR11	3/4	4	4	36	-	9	12	-	RESIDENTIAL LEVELS - CIRCULAR
SR12	3/4	4	4	24	-	9	12	-	RESI. LEVELS - CIRCULAR, MECH. SLAB Hs=12"
SR13	3/4	4	4	28	28	12	6	6	
SR14	3/4	4	4	16	16	12	6	6	
SR15	1/2	4	4	12	12	12	4	4	
SR16	1/2	4	4	28	28	12	9	9	
SR17	3/4	4	4	24	24	9	3	3	
SR18	3/4	4	4	40	40	9	5	5	
SR19	1/2	4	4	16	16	9	3	3	

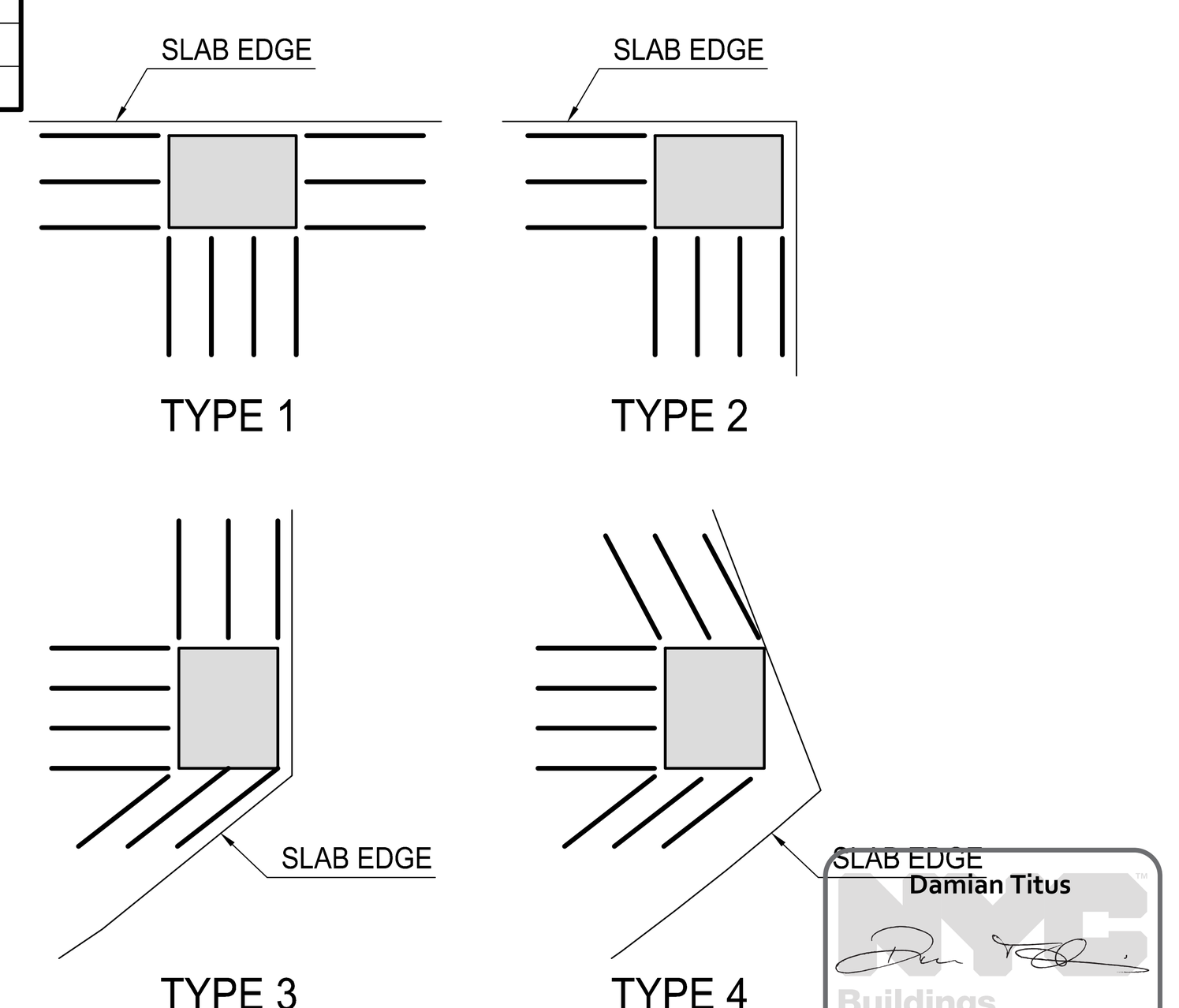
NOTES:
1. ALL STUD RAIL ASSEMBLIES SHALL CONFORM TO ASTM A1044/A1044M STANDARD SPECIFICATION.
2. REFER TO FRAMING PLANS FOR STUD RAIL LOCATIONS.



B SECTION



C PLAN CIRCULAR



D STUD ARRANGEMENT AT EDGE OF SLAB

14 TYPICAL SLAB SHEAR REINFORCEMENT
SCALE: N.T.S.

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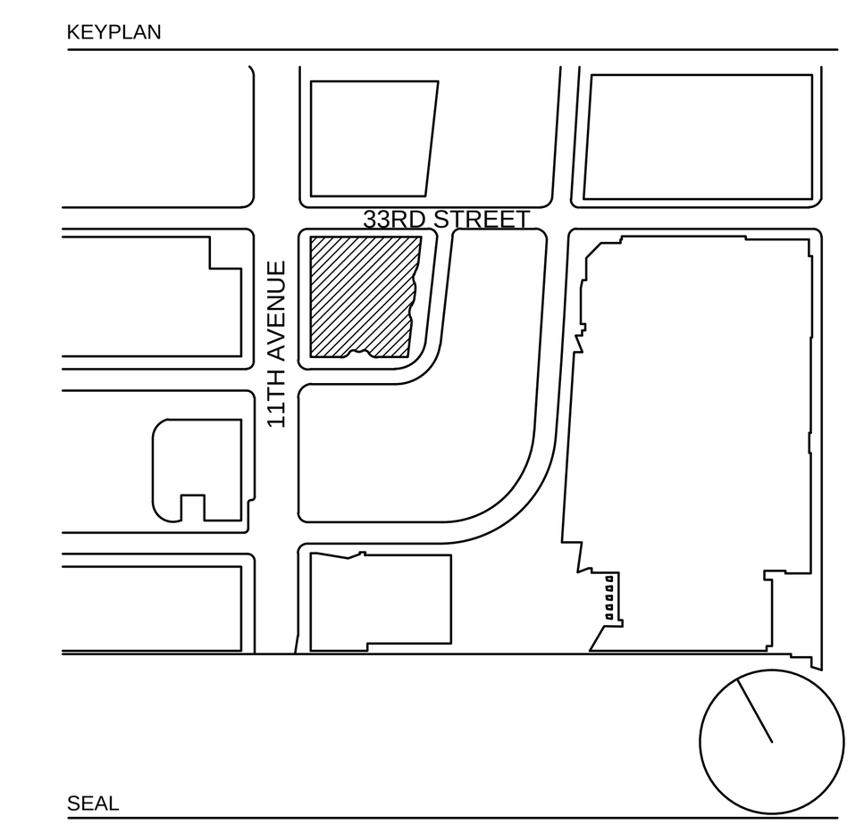

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7	20 JAN 2017	ISSUED TO DOB
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5	04 MAR 2016	ISSUED FOR CONCRETE, ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
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1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

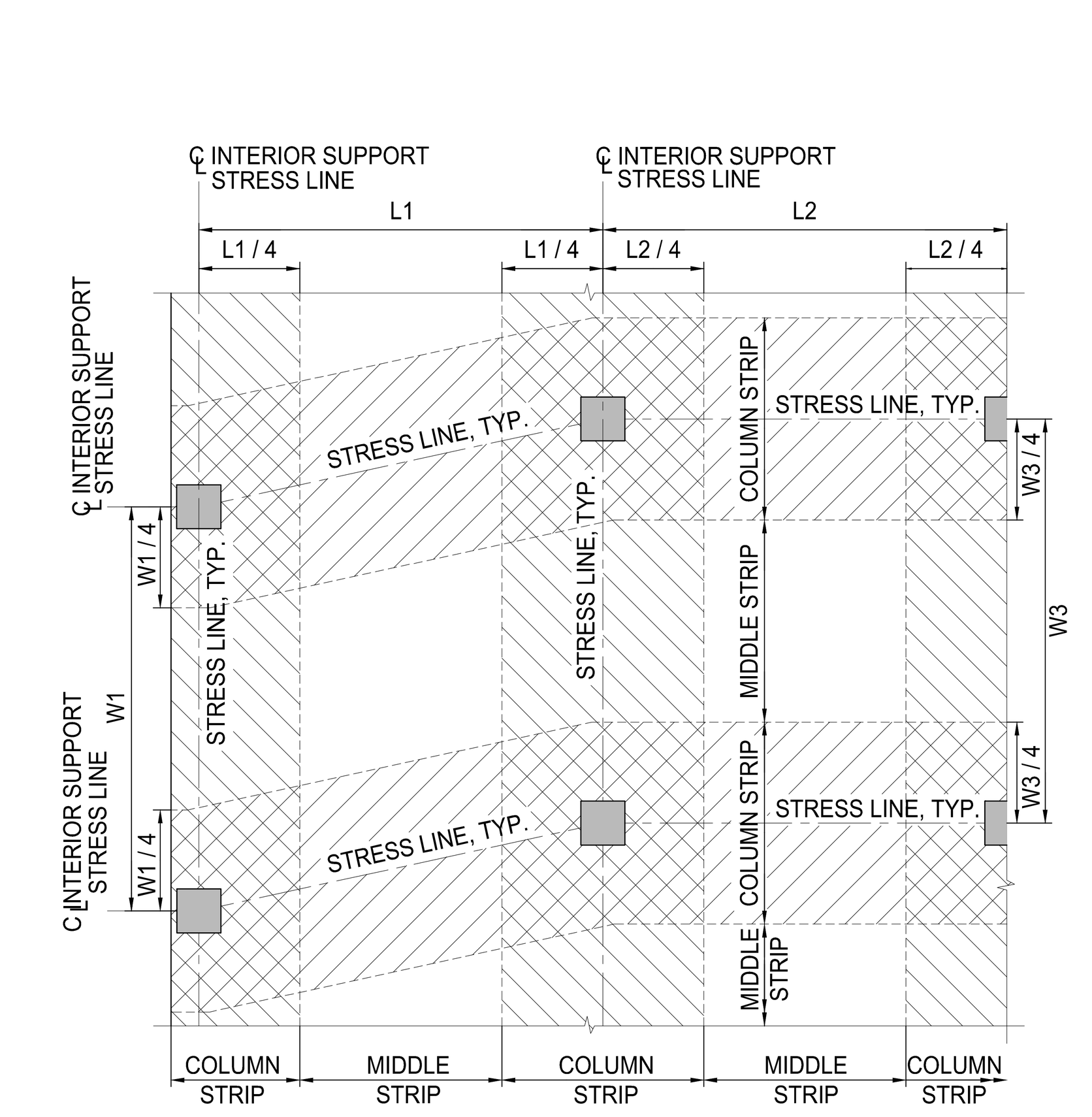
DRAWING TITLE
RC SLAB SCHEDULES AND DETAILS

B-SCAN - DRAWING NUMBER
S-451.01

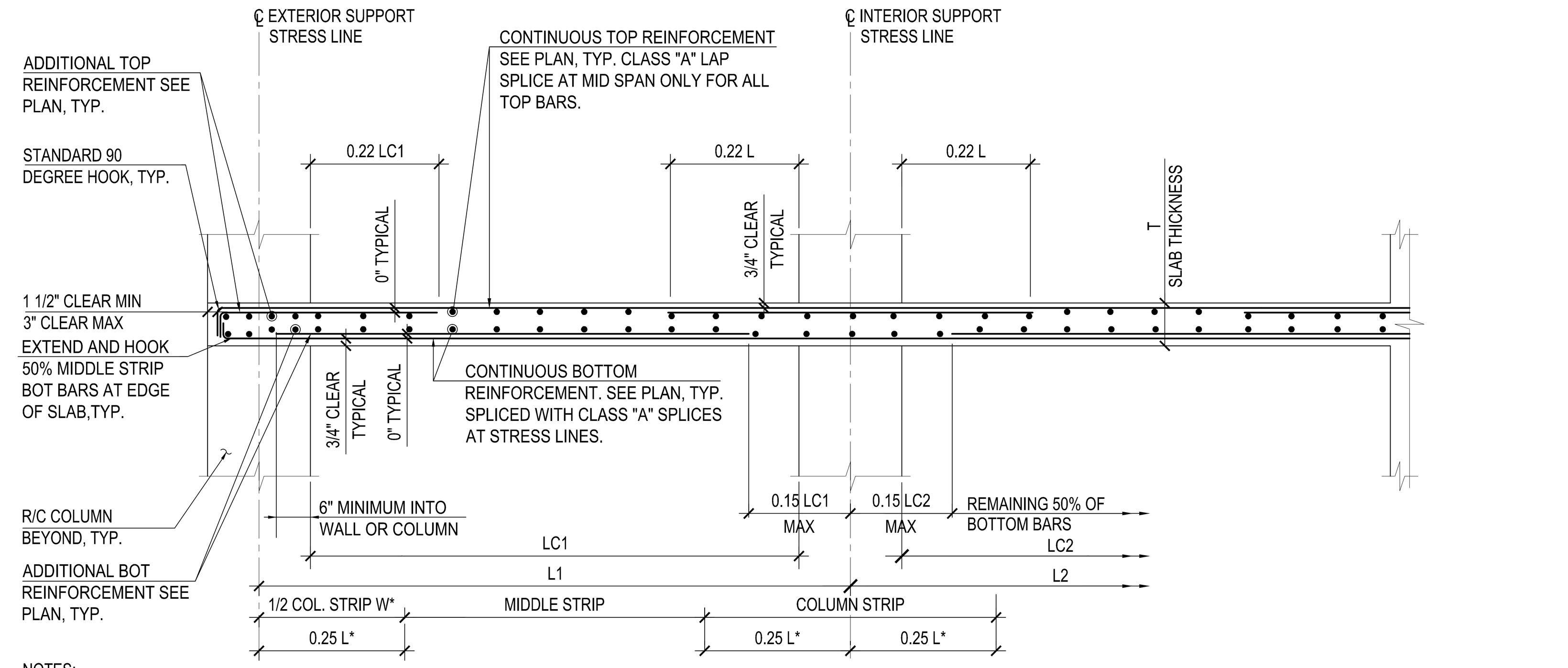
DRAWING NUMBER
S-451

PAGE NUMBER
77 OF 112

SLAB EDGE Damian Titus
APPROVED
Under Directive 2 of 1975
Date: 02/17/2017
NYC Development Hub

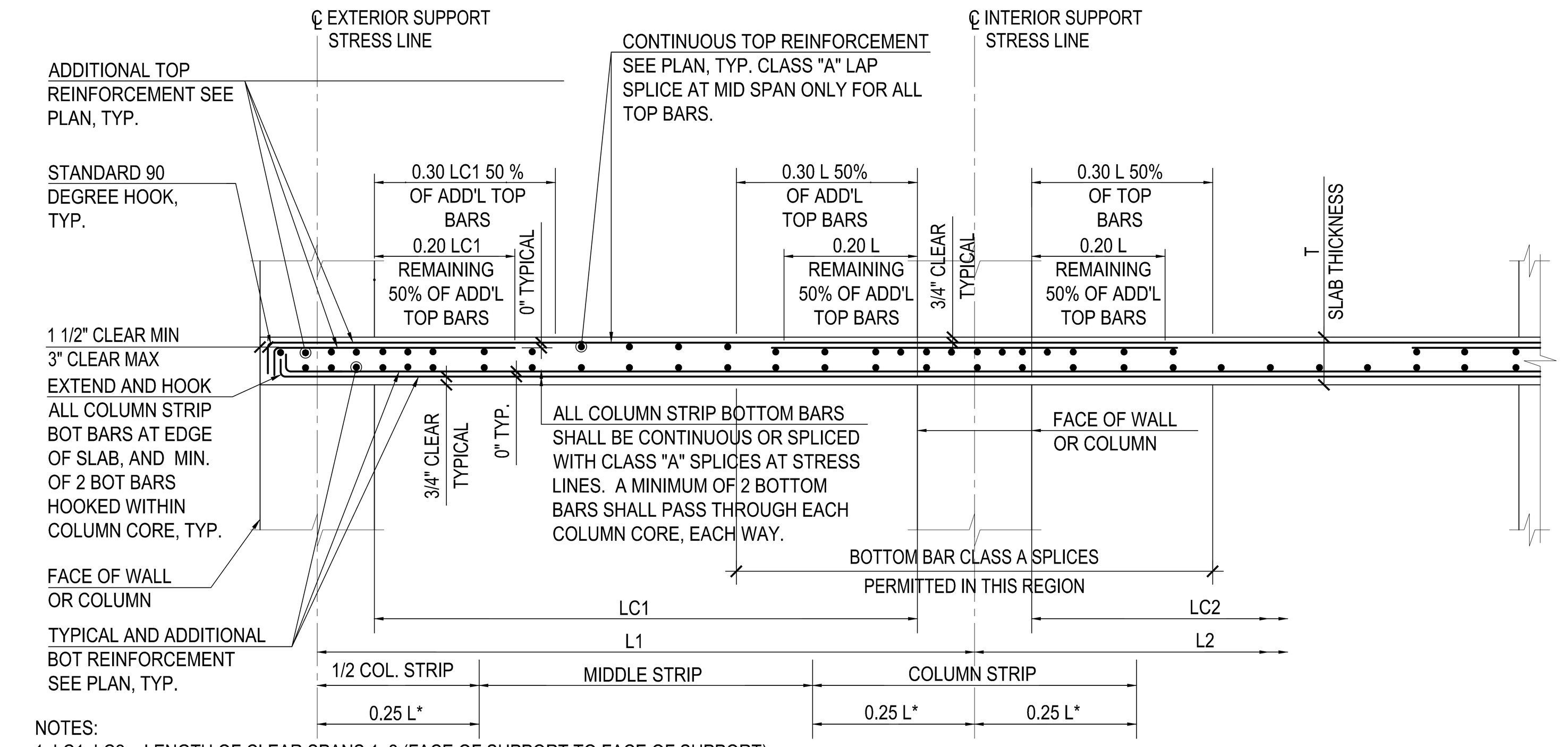


1 COLUMN AND MIDDLE STRIP DEFINITION
SCALE: NTS



NOTES:
1. LC1, LC2 = LENGTH OF CLEAR SPANS 1, 2 (FACE OF SUPPORT TO FACE OF SUPPORT).
2. L = THE GREATER LENGTH OF CLEAR SPAN WC1 OR WC2.
3. L1, WL = LENGTH OF SPANS 1, 2 FROM CENTERLINE OF SUPPORT TO CENTERLINE OF SUPPORT.
4. L* = LEAST DIMENSION OF L1 AND LENGTH OF SPAN TRANSVERSE TO L1 (CENTER TO CENTER OF SUPPORT) OR LEAST DIMENSION OF L2 AND LENGTH OF A TRANSVERSE TO L2 (CENTER TO CENTER OF SUPPORT).
5. ALTERNATE DIFFERENT LENGTH OF BARS.
6. AT INTERIOR SUPPORT (CONTINUOUS END) PROVIDE LARGER SIZE AND NUMBER OF TOP BARS FROM ADJACENT SPANS.

2 TYPICAL REINFORCED CONCRETE FLAT PLATE MIDDLE STRIP
SCALE: NTS



NOTES:
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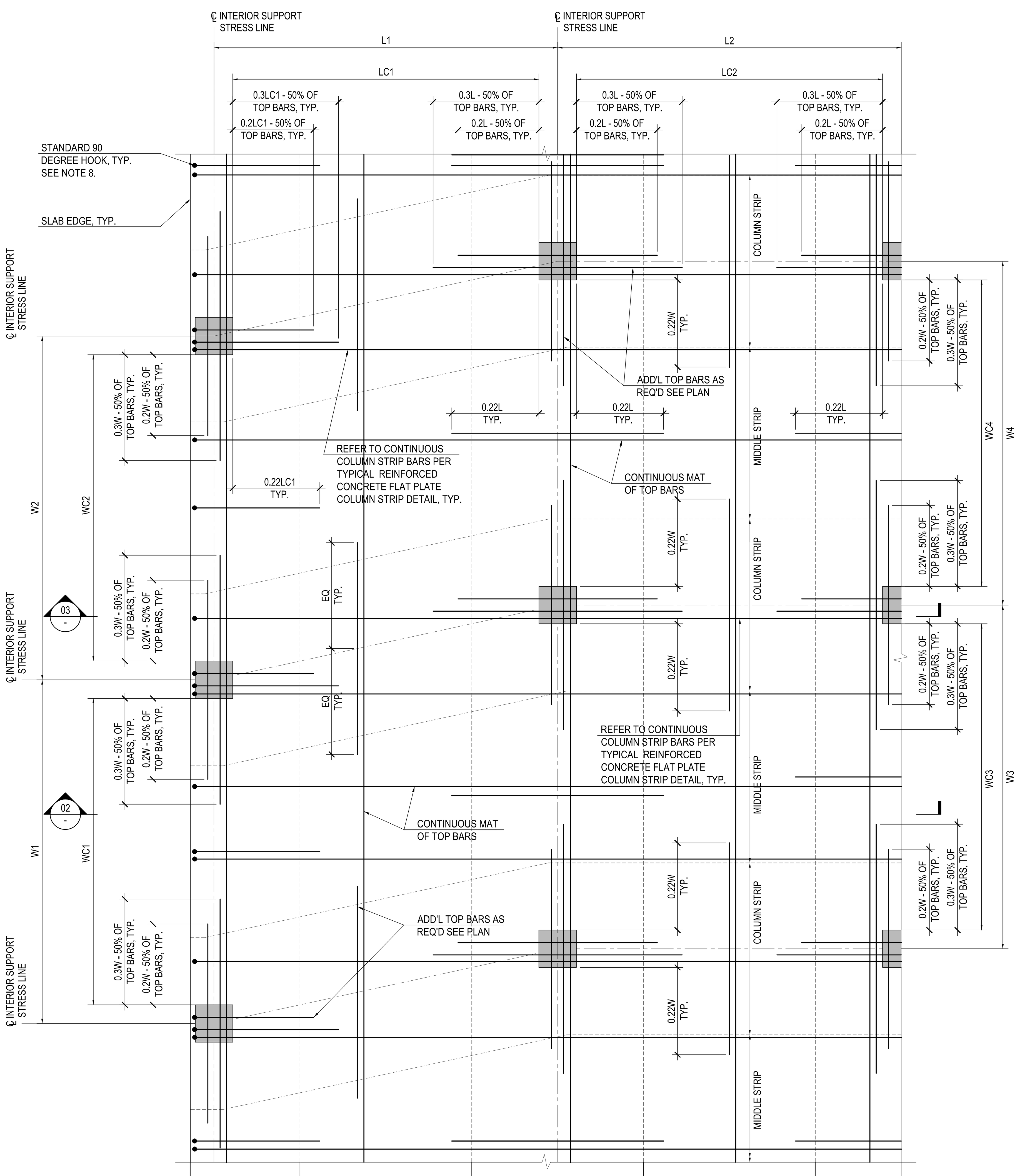
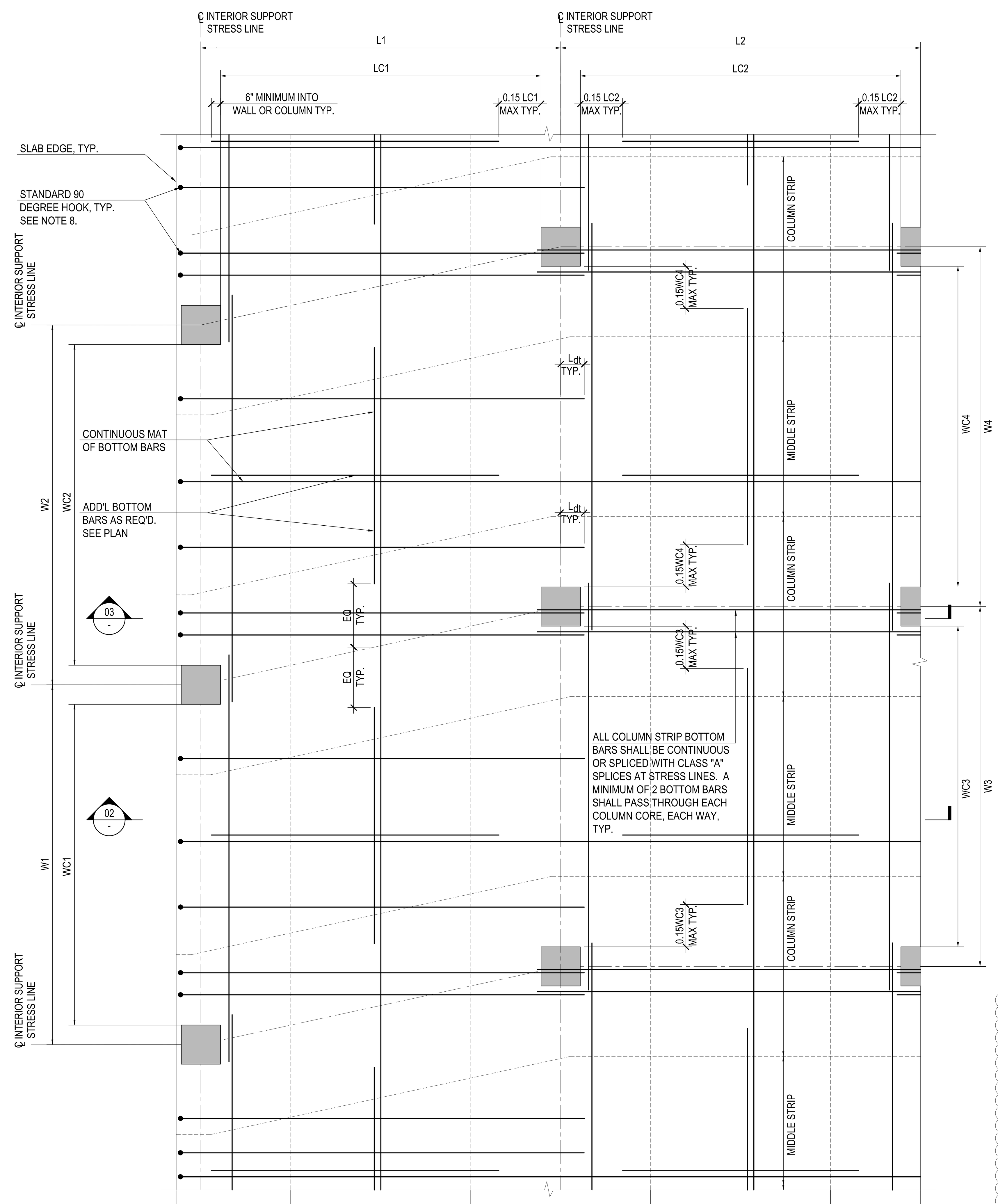
5. ALTERNATE DIFFERENT LENGTH OF BARS.
6. AT INTERIOR SUPPORT (CONTINUOUS END) PROVIDE LARGER SIZE AND NUMBER OF TOP BARS FROM ADJACENT SPANS.
7. PROVIDE MIN. 0.0009 x Ag CONTINUOUS BARS, EACH FACE, WHERE Ag = GROSS CROSS-SECTION AREA OF CONCRETE. MAX. BAR SPACING = 18"

3 TYPICAL REINFORCED CONCRETE FLAT PLATE COLUMN STRIP
SCALE: NTS



NOTES:
1. OUTER MOST BARS SPAN IN THE NORTH-SOUTH DIRECTION.
2. FOR SIZE, SPACING, NUMBER, ETC... OF REINFORCING BARS, SEE PLAN.
3. WHERE COLUMN STRIP BAR LENGTHS ARE SHOWN ON FRAMING PLANS THEY ARE FOR LONGER BARS, WHICH ARE TO BE ALTERNATED WITH SHORTER BARS.
4. COLUMN STRIP BARS ARE TO BE CENTERED OVER COLUMNS UNLESS NOTED OTHERWISE ON PLAN.
5. MIDDLE STRIP BARS ARE TO BE CENTERED OVER STRESS LINES UNLESS NOTED OTHERWISE ON PLAN.
6. MIDDLE STRIP BARS ARE TO BE SPACED AS SHOWN ON PLANS. FIRST BAR IS TO BE LOCATED A DISTANCE FROM LAST COLUMN STRIP BAR NOT TO EXCEED MIDDLE STRIP BAR SPACING.
7. AT EXTERIOR SLAB EDGES, REFERENCE TYPICAL REINFORCEMENT AT SLAB EXTERIOR EDGE DETAIL.
8. PROVIDE 90° HOOKS AT EVERY DISCONTINUOUS TOP BAR AT SLAB EDGES FOR BOTH COLUMN AND MIDDLE STRIPS.
9. LC1, LC2 = LENGTH OF CLEAR SPANS 1, 2 (FACE OF SUPPORT TO FACE OF SUPPORT)
10. L = THE GREATER LENGTH OF ADJACENT CLEAR SPANS (LC1 OR LC2).
11. L1, L2 = LENGTH OF SPANS 1, 2 (CENTERLINE OF SUPPORT TO CENTERLINE OF SUPPORT).
12. WC1, WC2, WC3, WC4 = LENGTH OF CLEAR SPANS 1, 2, 3, 4 (FACE OF SUPPORT TO FACE OF SUPPORT).
13. W = THE GREATER LENGTH OF ADJACENT CLEAR SPANS (WC1 OR WC2) OR (WC3 OR WC4).
14. W1, W2, W3, W4 = LENGTH OF SPANS 1, 2, 3, 4 (CENTERLINE OF SUPPORT TO CENTERLINE OF SUPPORT).

4 TOP BAR REINFORCEMENT LAYOUT
SCALE: NTS



NOTES:
1. OUTER MOST BARS SPAN IN THE NORTH-SOUTH DIRECTION.
2. FOR SIZE, SPACING, NUMBER, ETC... OF REINFORCING BARS, SEE PLAN.
3. COLUMN STRIP BARS ARE TO BE CENTERED OVER COLUMNS UNLESS NOTED OTHERWISE ON PLAN.
4. MIDDLE STRIP BARS ARE TO BE CENTERED OVER STRESS LINES UNLESS NOTED OTHERWISE ON PLAN.
5. MIDDLE STRIP BARS ARE TO BE SPACED AS SHOWN ON PLANS. FIRST BAR IS TO BE LOCATED A DISTANCE FROM LAST COLUMN STRIP BAR NOT TO EXCEED MIDDLE STRIP BAR SPACING.
6. AT EXTERIOR SLAB EDGES, REFERENCE TYPICAL REINFORCEMENT AT SLAB EXTERIOR EDGE DETAIL.
7. ADDITIONAL BARS SHALL BE PLACED BETWEEN MAIN GRID BARS.
   COLUMN STRIPS - GROUP ABOUT STRESS LINES AND MAINTAIN A MINIMUM SPACING OF 3 INCHES O.C.
   MIDDLE STRIPS - DISTRIBUTE UNIFORMLY THROUGHOUT STRIP.
8. EXTEND AND HOOK ALL COLUMN STRIP AND 50% OF MIDDLE STRIP BOTTOM BARS. A MINIMUM OF 2 BOTTOM BARS SHALL BE HOOKED WITHIN COLUMN CORE, TYP.
9. LC1, LC2 = LENGTH OF CLEAR SPANS 1, 2 (FACE OF SUPPORT TO FACE OF SUPPORT)
10. L = THE GREATER LENGTH OF ADJACENT CLEAR SPANS (LC1 OR LC2).
11. L1, L2 = LENGTH OF SPANS 1, 2 (CENTERLINE OF SUPPORT TO CENTERLINE OF SUPPORT).
12. WC1, WC2, WC3, WC4 = LENGTH OF CLEAR SPANS 1, 2, 3, 4 (FACE OF SUPPORT TO FACE OF SUPPORT).
13. W = THE GREATER LENGTH OF ADJACENT CLEAR SPANS (WC1 OR WC2) OR (WC3 OR WC4).
14. W1, W2, W3, W4 = LENGTH OF SPANS 1, 2, 3, 4 (CENTERLINE OF SUPPORT TO CENTERLINE OF SUPPORT).

5 BOTTOM BAR REINFORCEMENT LAYOUT
SCALE: NTS

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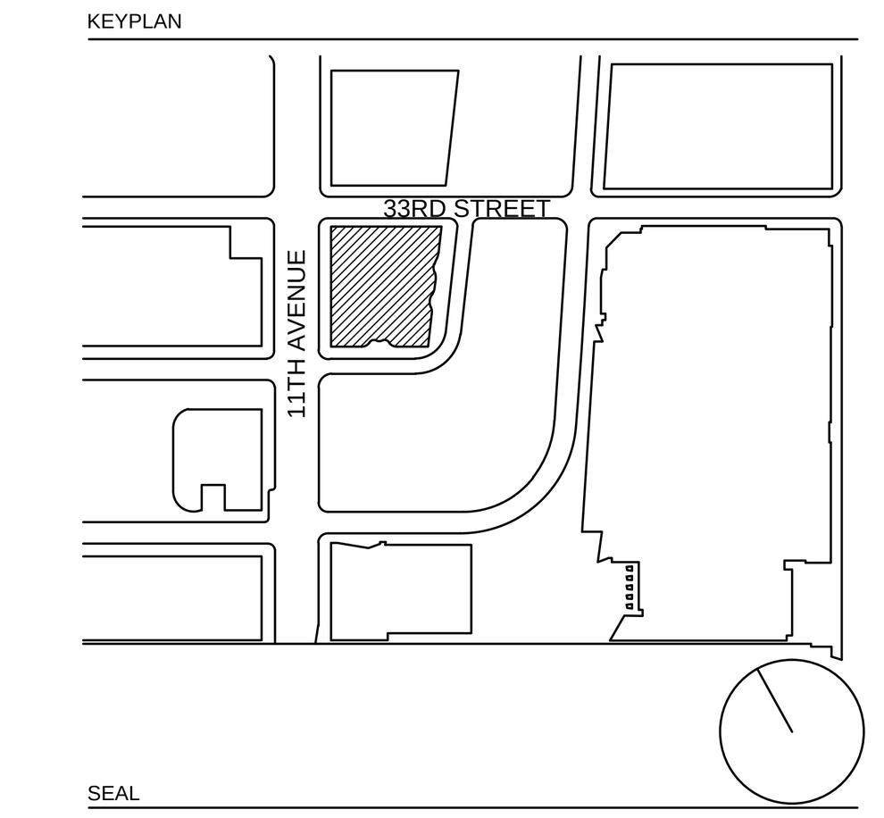

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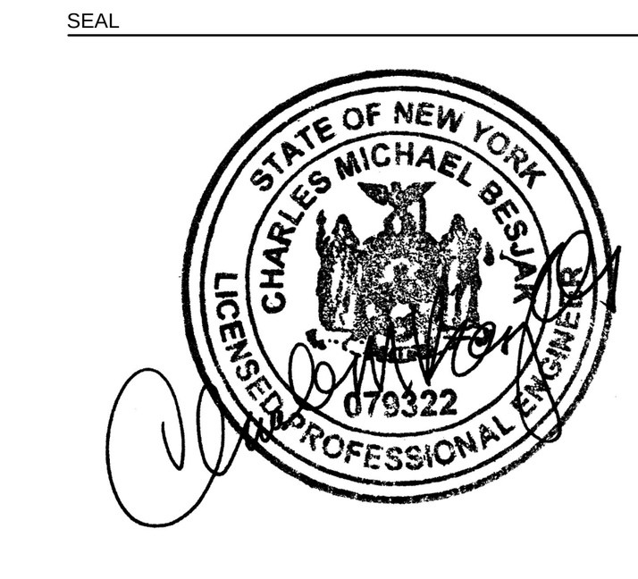

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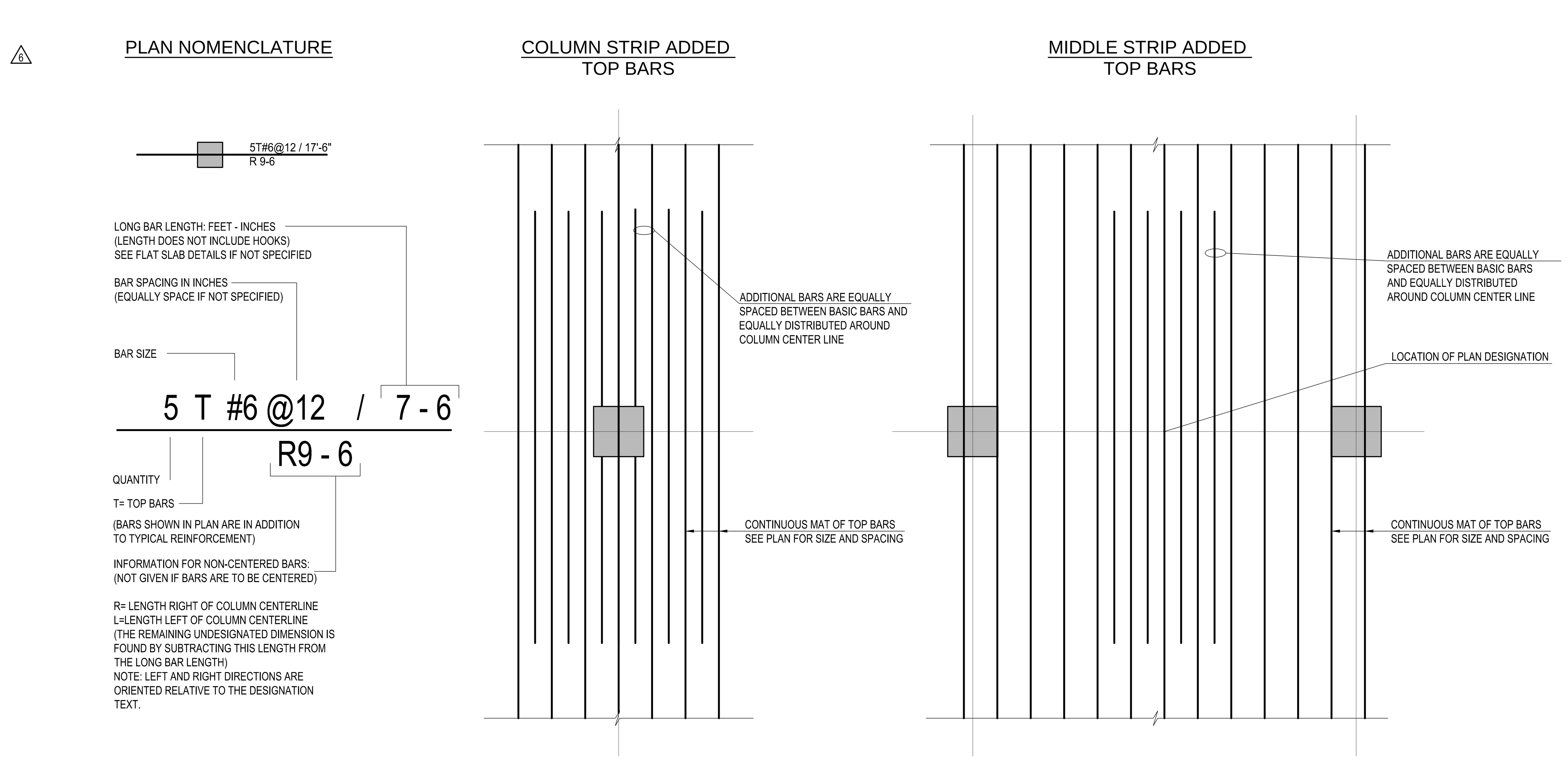
NYC Buildings
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub

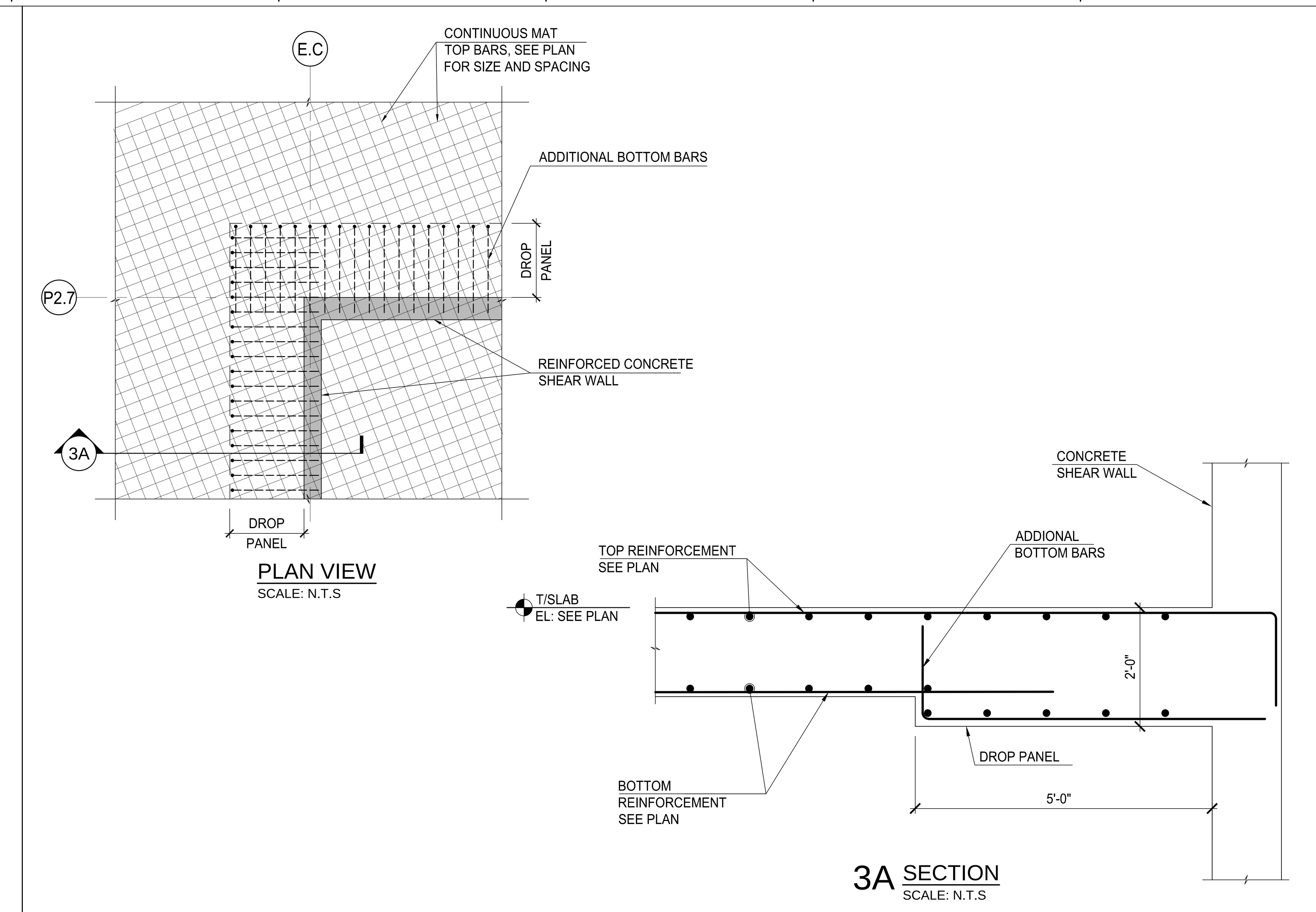
DRAWING TITLE
RC TWO WAY SLAB DETAILS

B-SCAN - DRAWING NUMBER
S-452.01

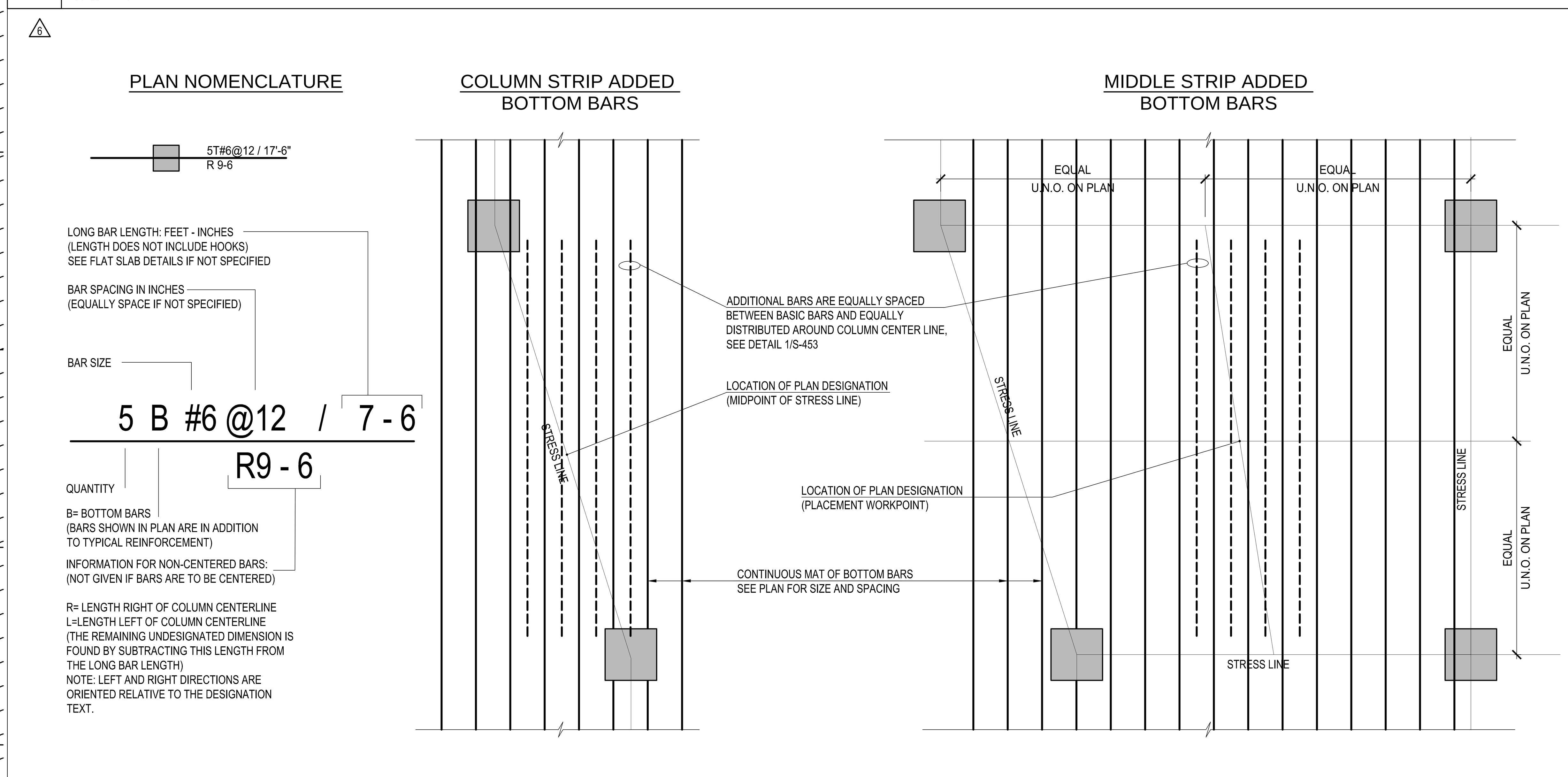
DRAWING NUMBER
S-452



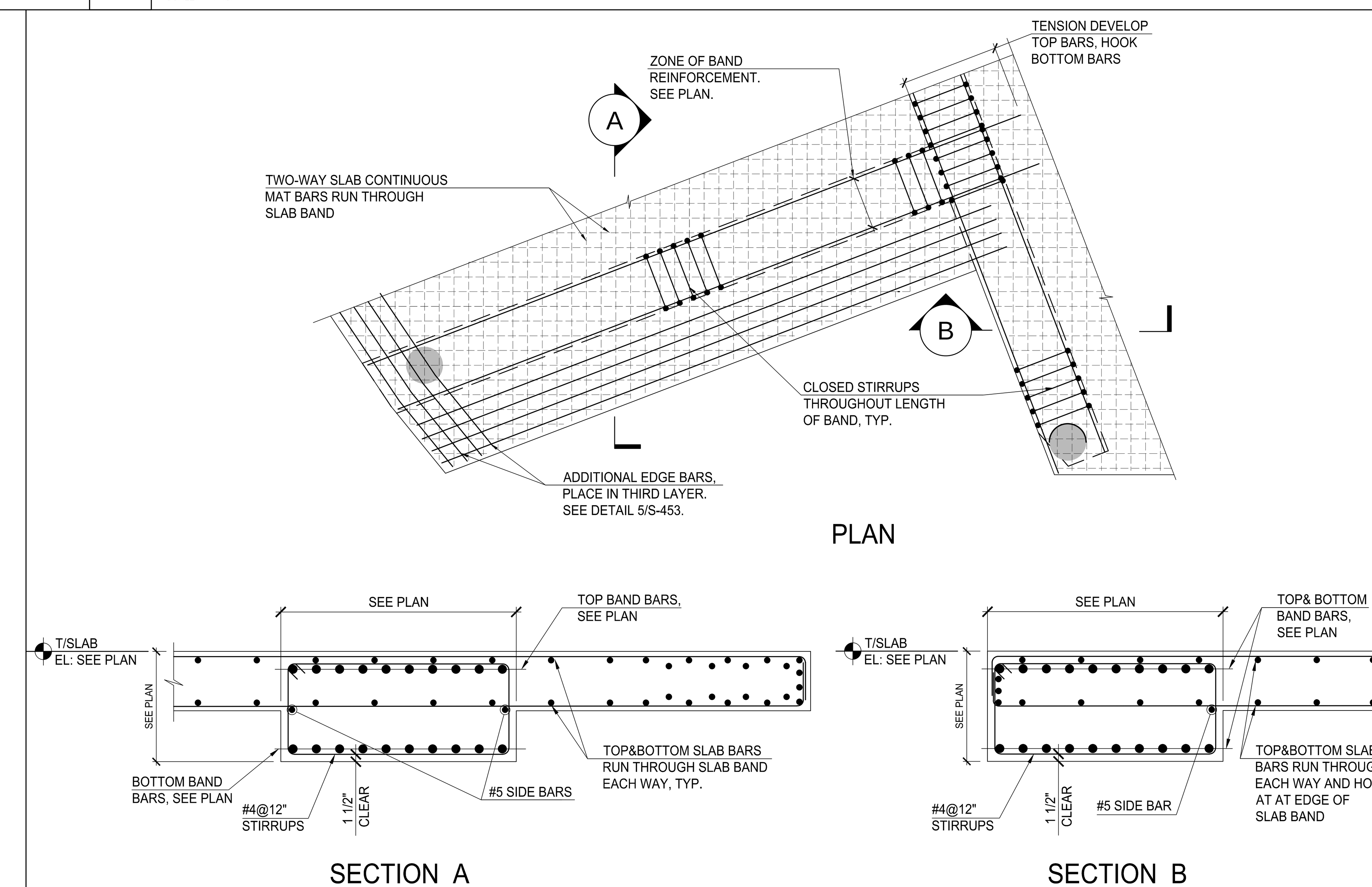
1 BAR PLACEMENT DETAIL: ADDITIONAL TOP BARS
SCALE: N.T.S.



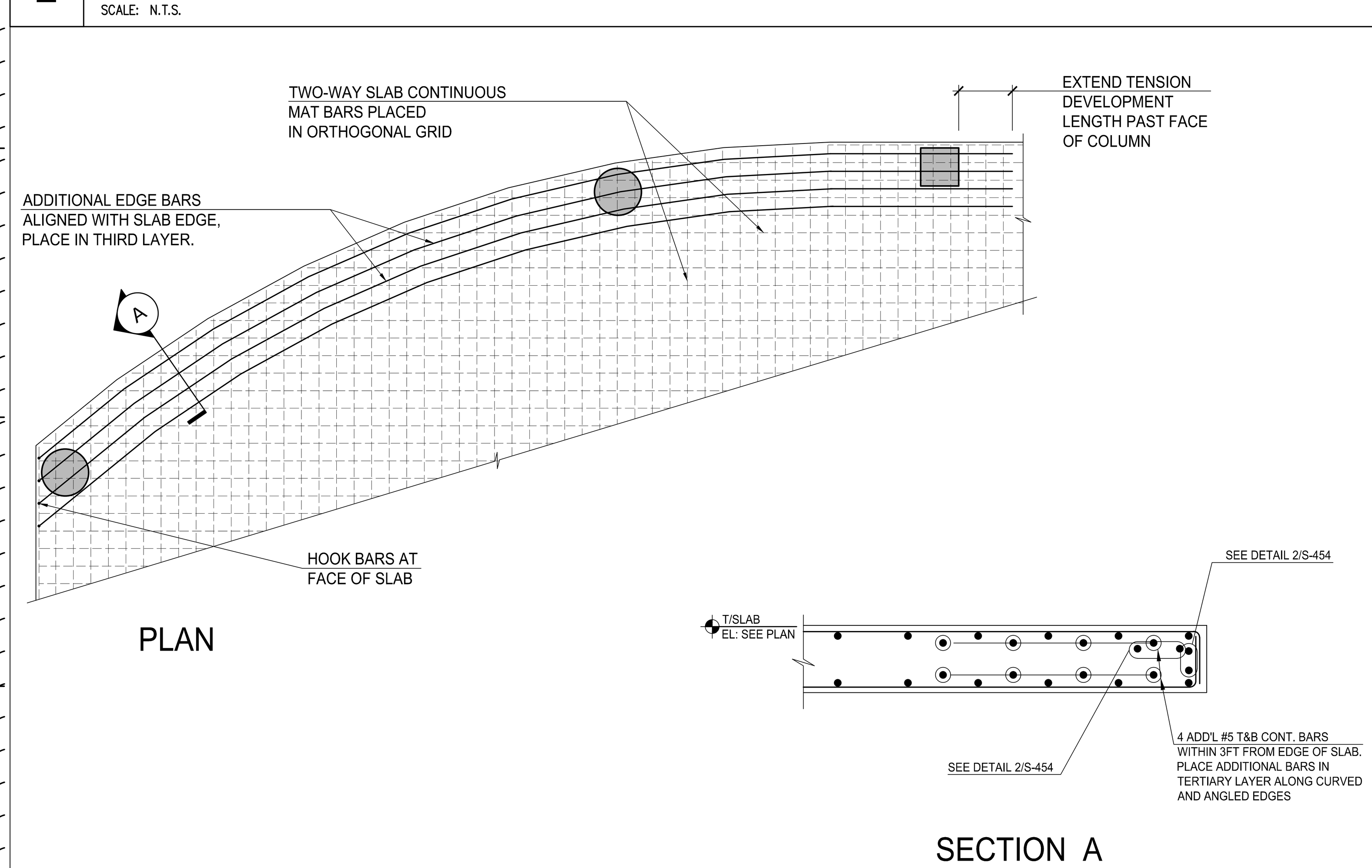
3 DROP PANEL DETAIL
SCALE: N.T.S.



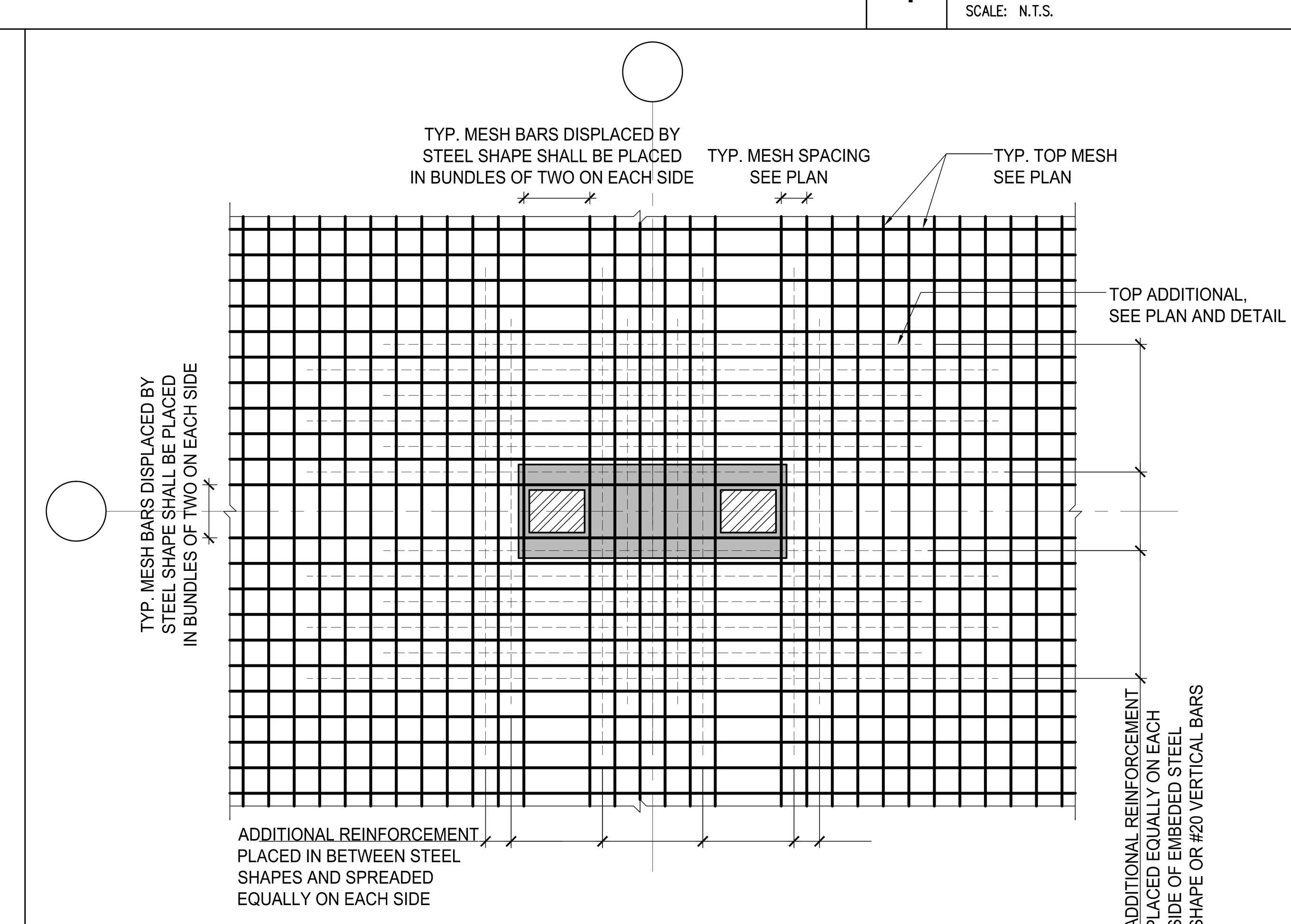
2 BAR PLACEMENT DETAIL: ADDITIONAL BOTTOM BARS
SCALE: N.T.S.



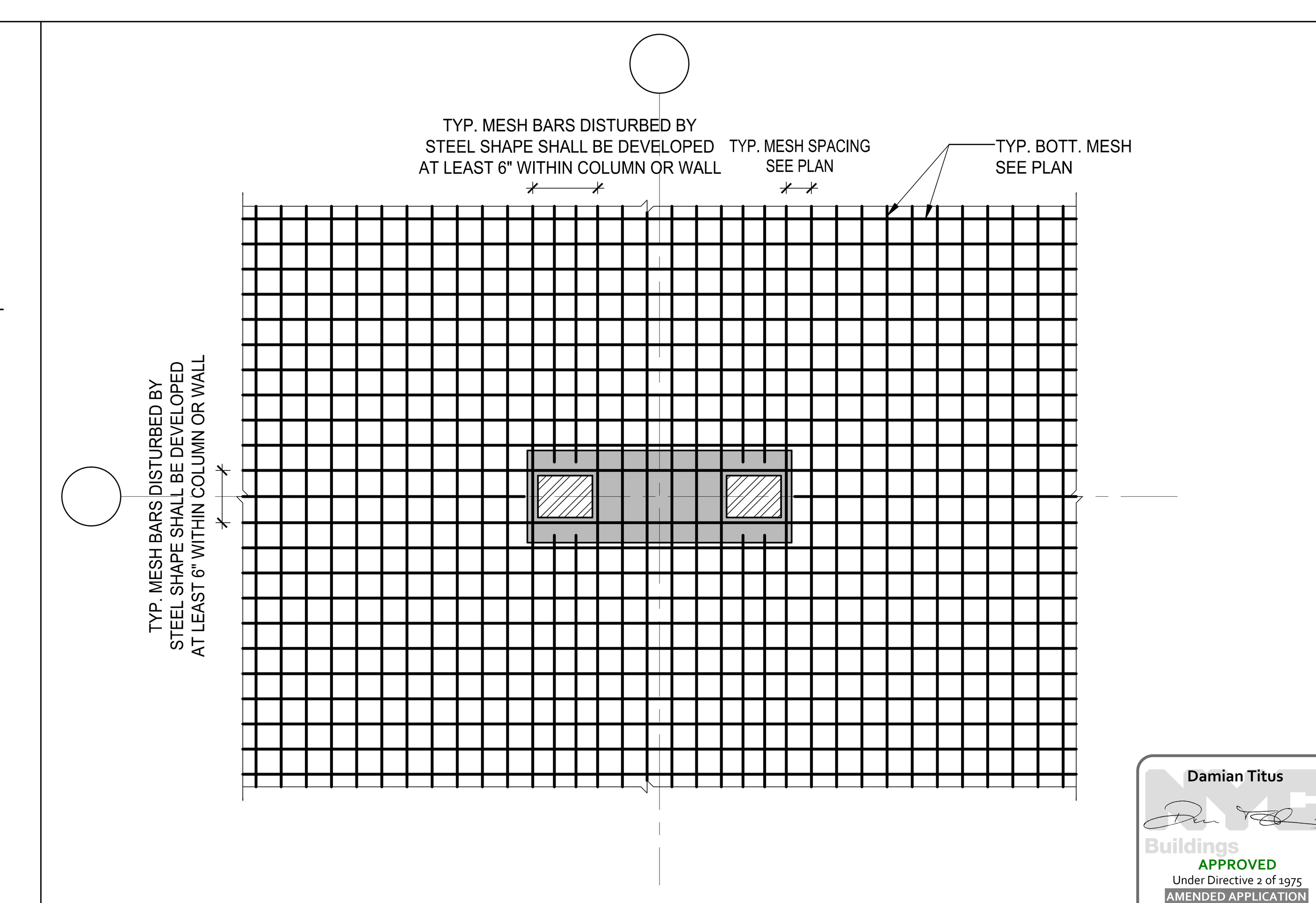
4 BAND BEAM DETAIL
SCALE: N.T.S.



5 SLAB EDGE DETAIL AT NON ORTHOGONAL SLAB EDGES
SCALE: N.T.S.



6 TOP BAR PLACEMENT AT EMBEDED STEEL SHAPE
SCALE: N.T.S.



7 BOTTOM BAR PLACEMENT AT EMBEDED STEEL SHAPE
SCALE: N.T.S.

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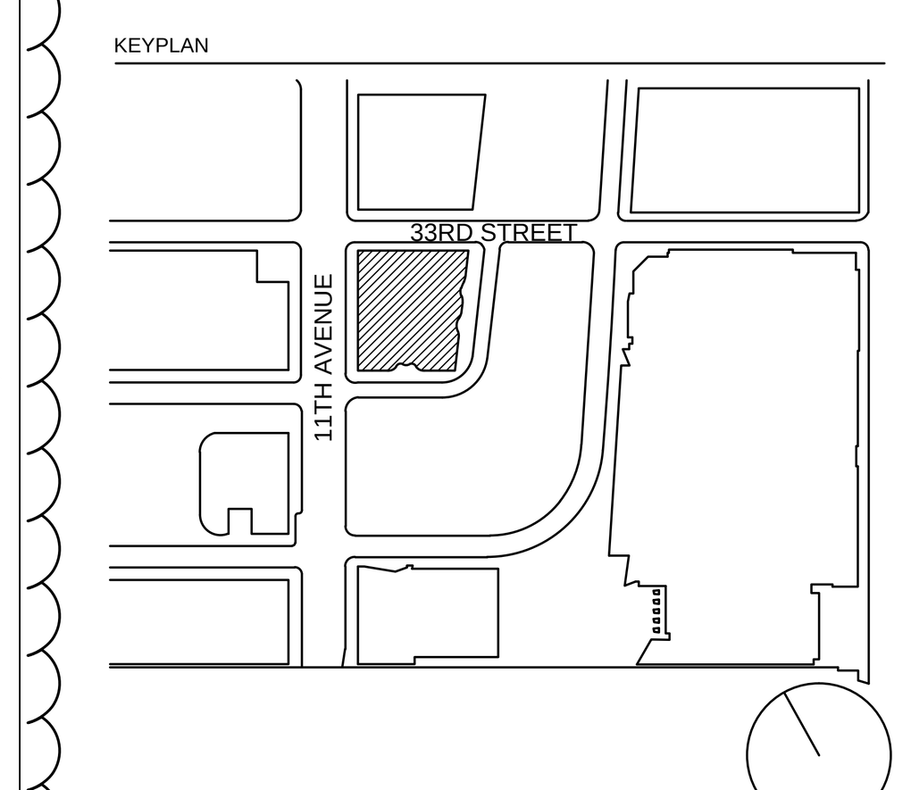


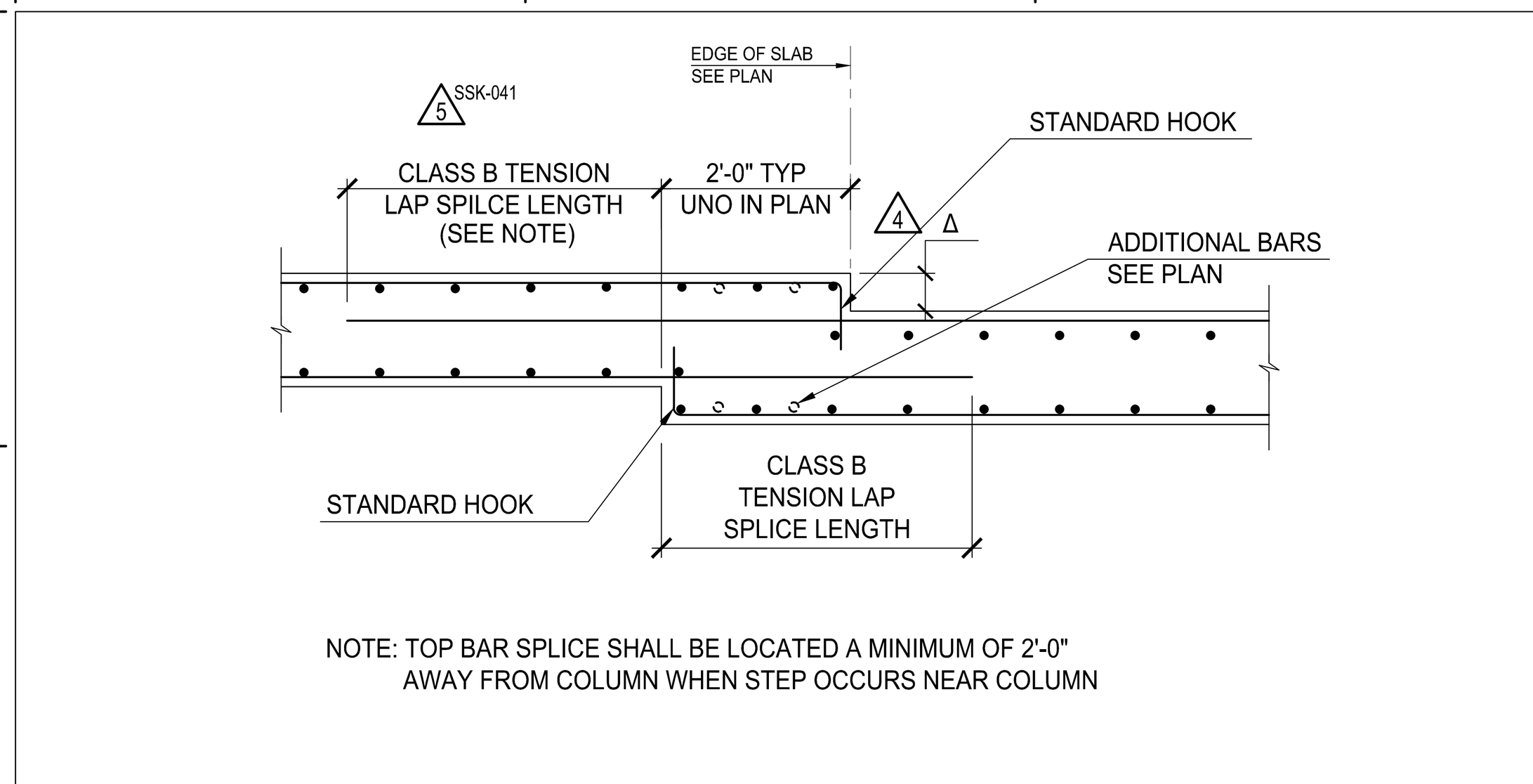
SEAL

NO.	DATE	DESCRIPTION
7	20 JAN 2017	ISSUED TO DOB
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

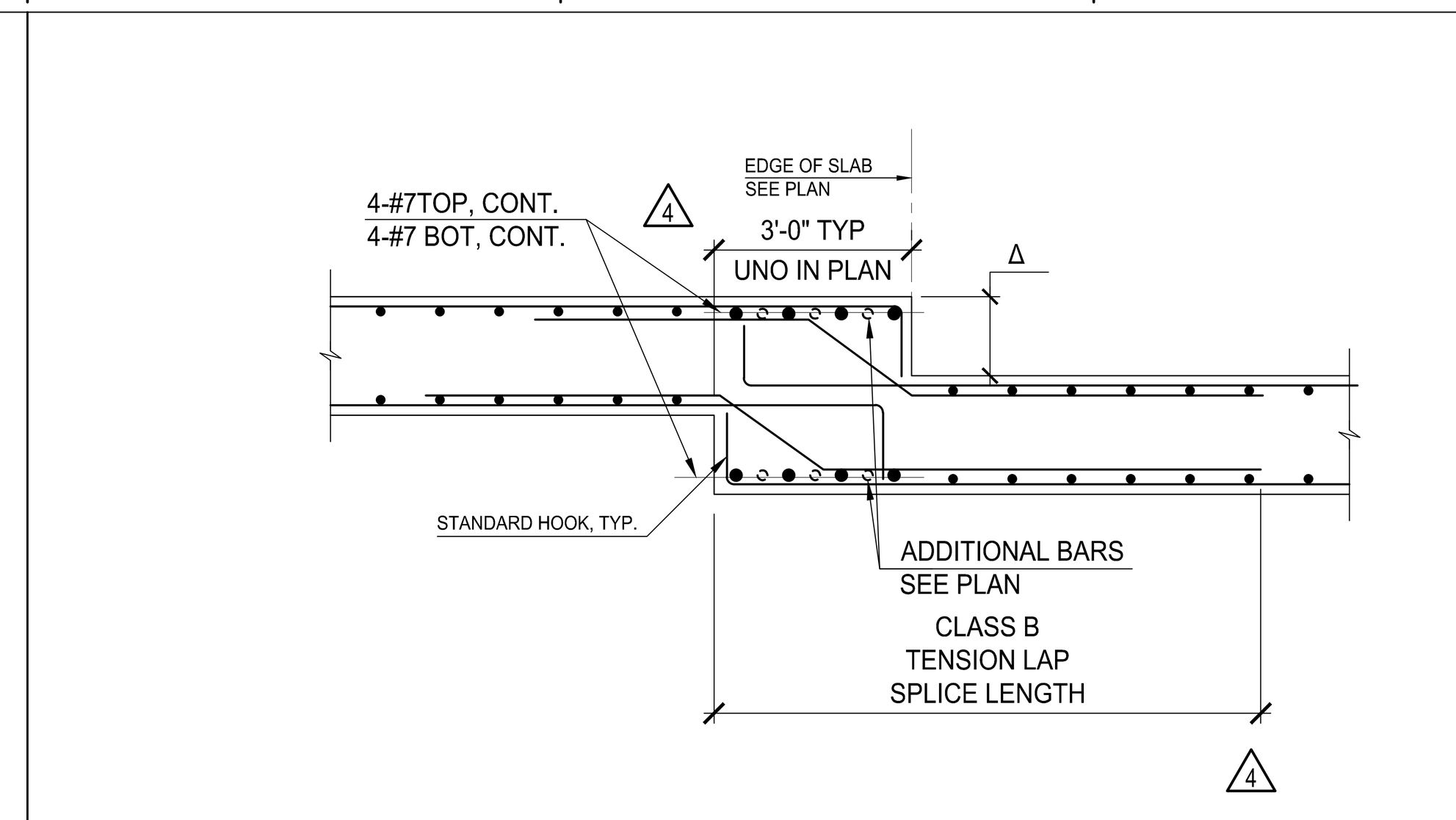
DRAWING TITLE
RC TWO WAY SLAB DETAILS

B-SCAN - DRAWING NUMBER
S-453.01

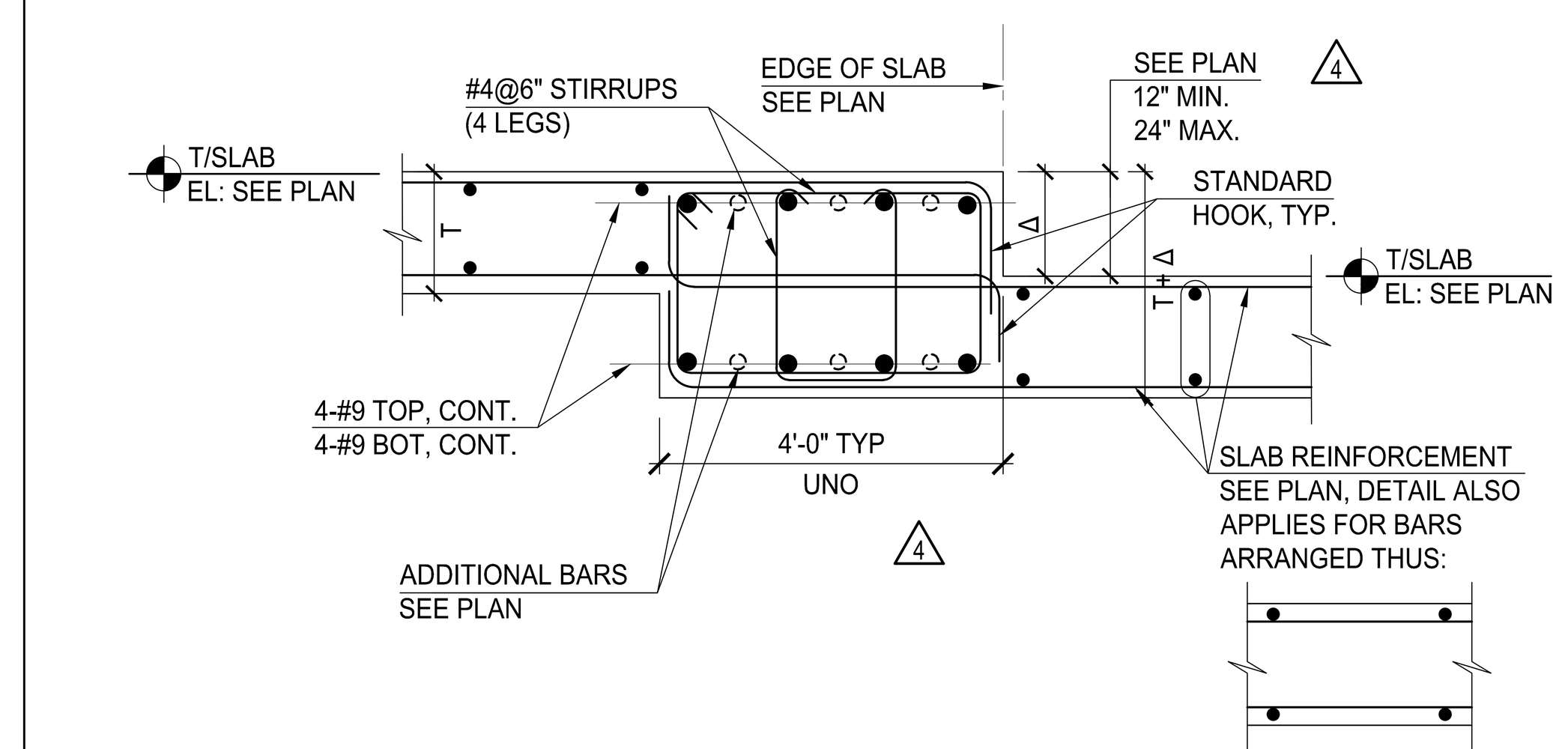
DRAWING NUMBER
S-453



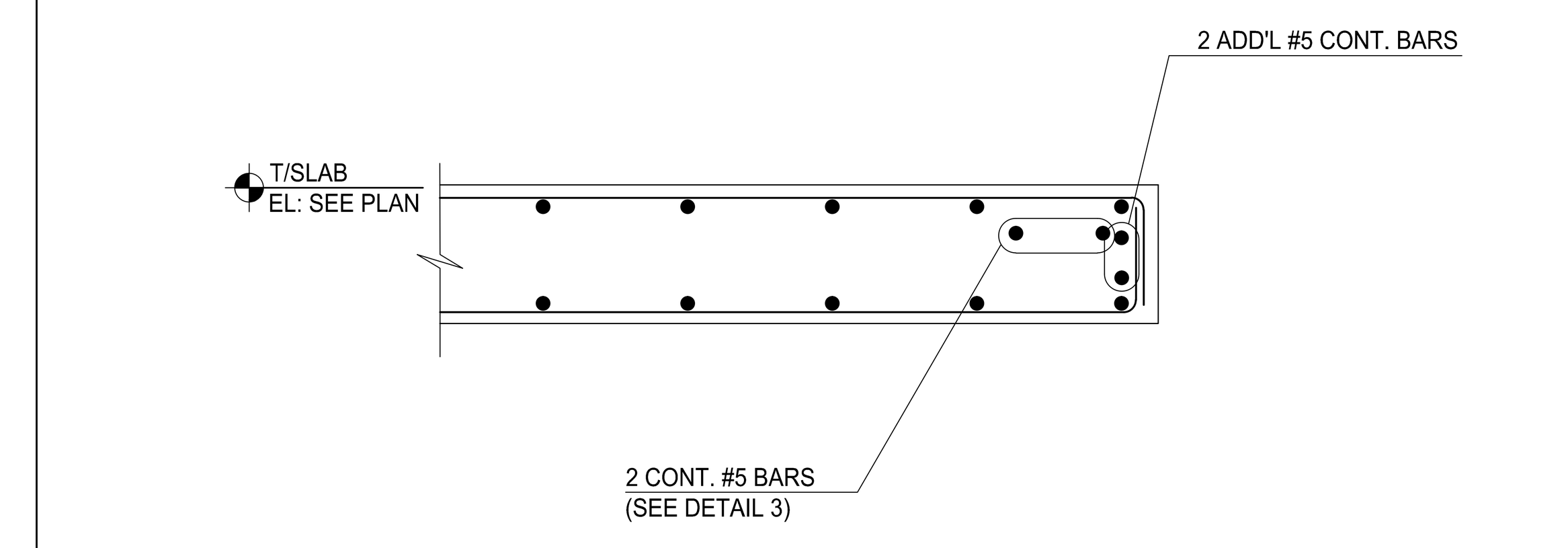
1A SLAB STEP Δ ≤ 6"
SCALE: N.T.S.



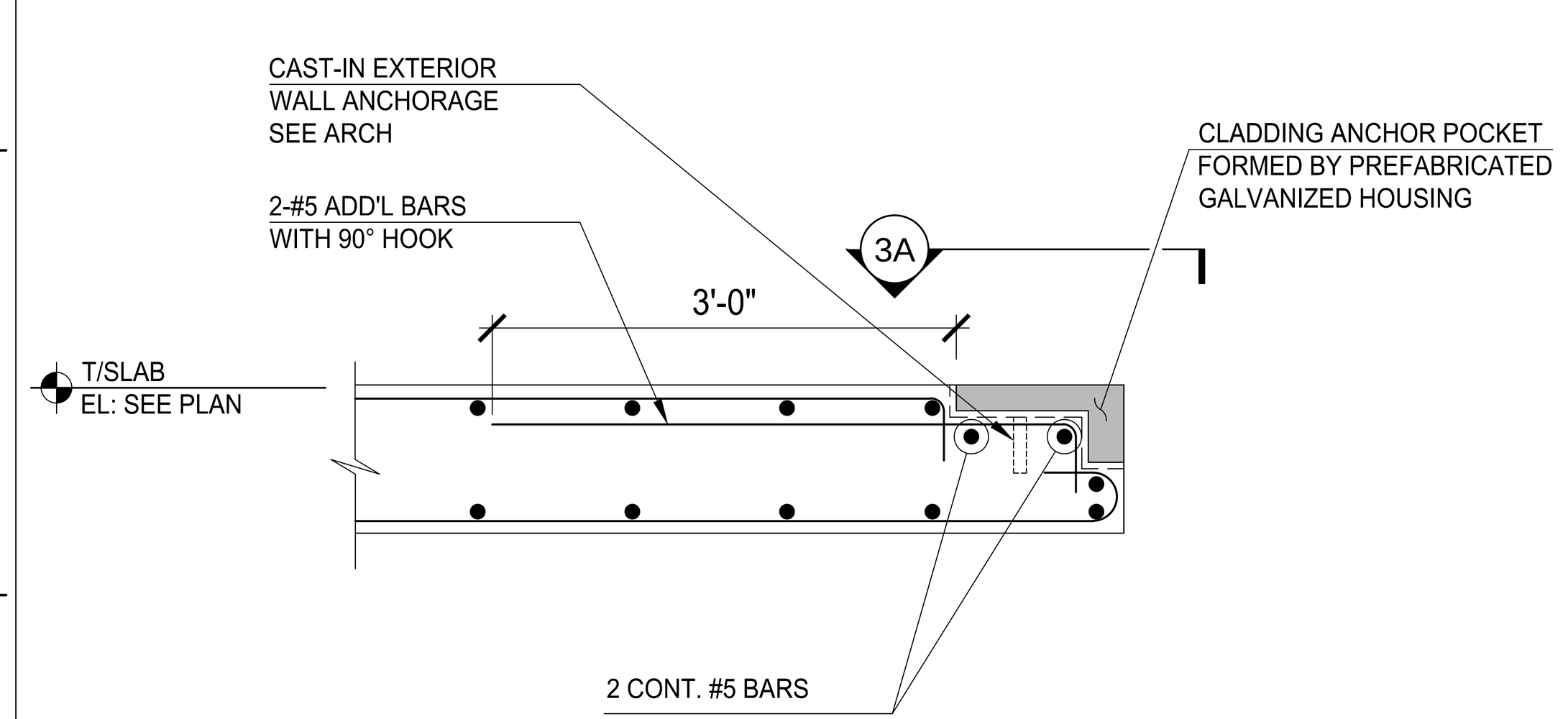
1B SLAB STEP 6" < Δ ≤ 12"
SCALE: N.T.S.



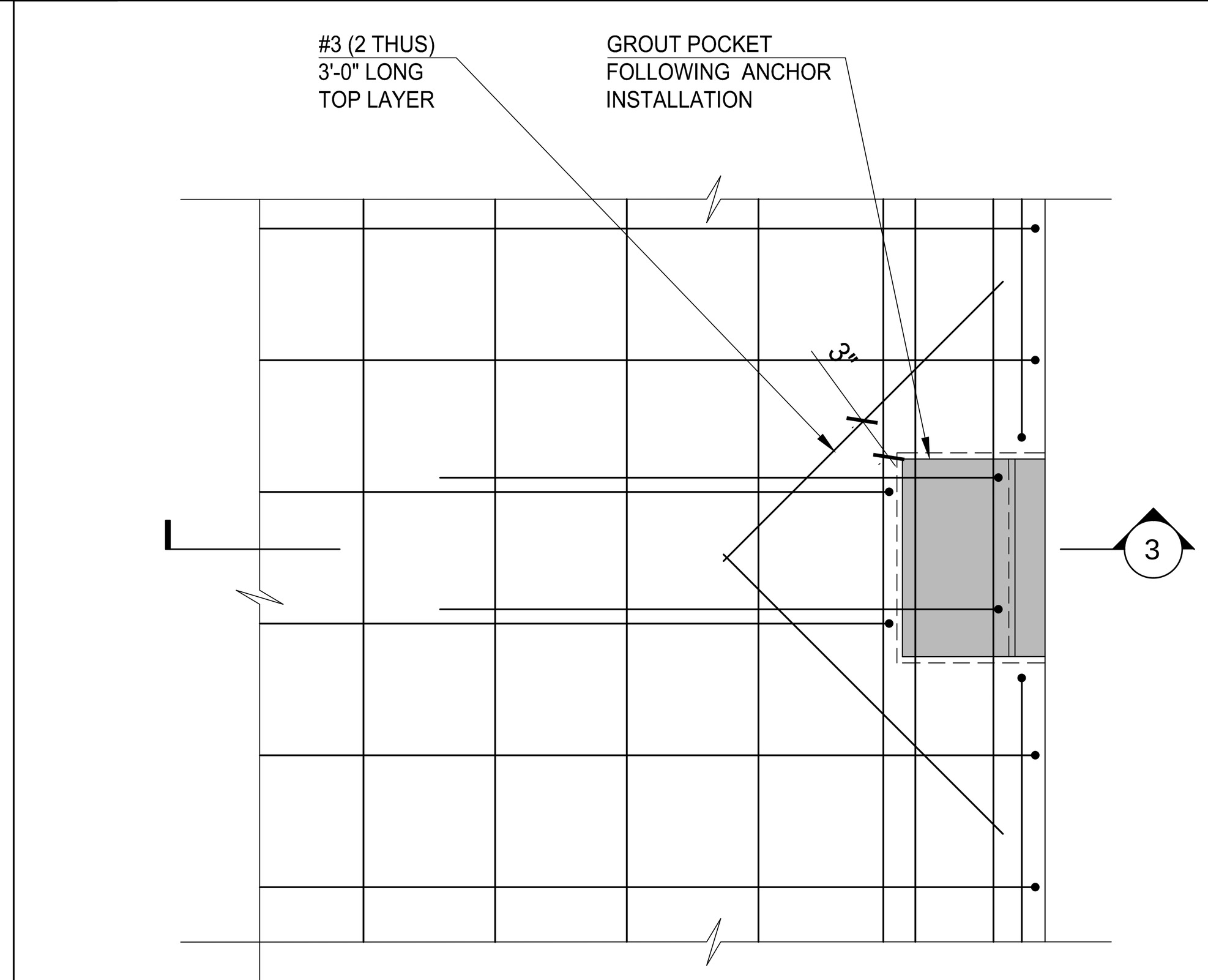
1C SLAB STEP 12" < Δ ≤ 24"
SCALE: N.T.S.



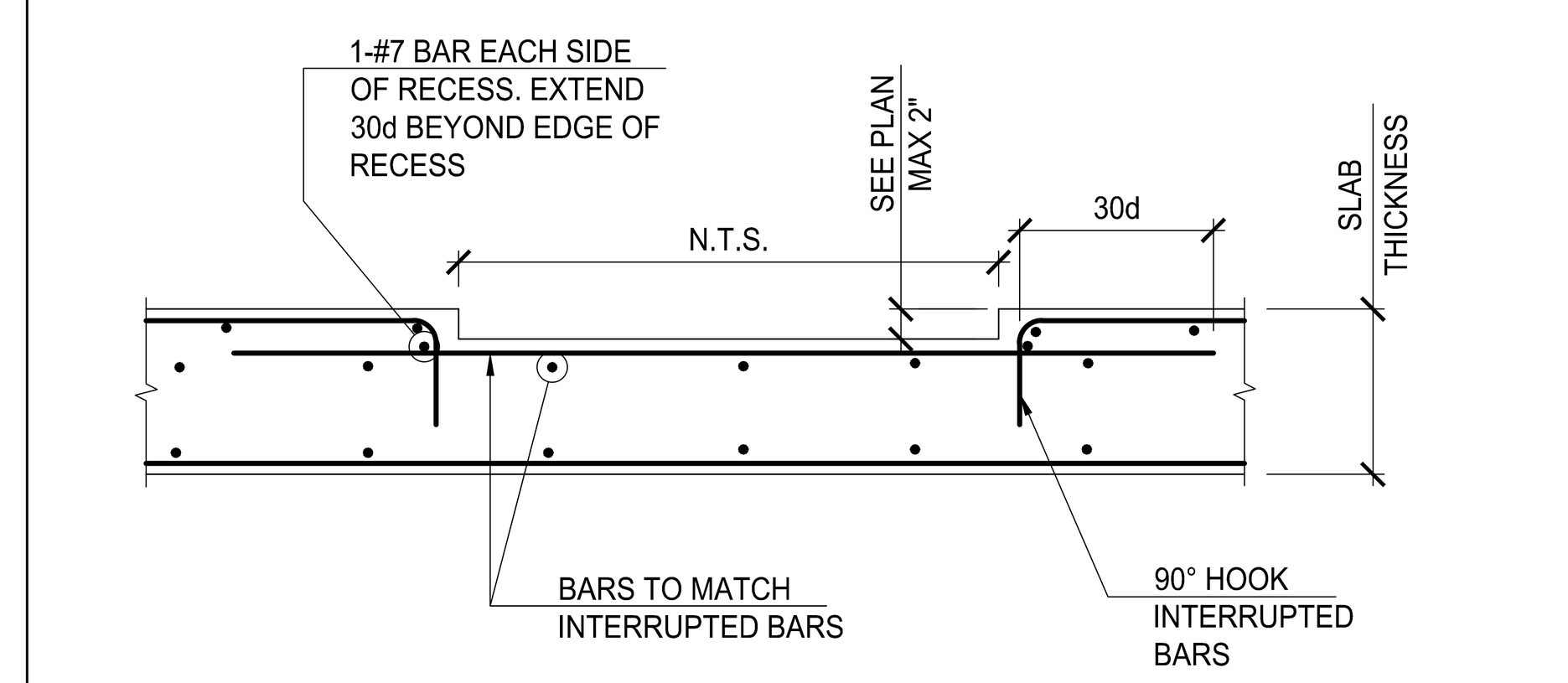
2 TYPICAL SLAB EDGE DETAIL
SCALE: N.T.S.



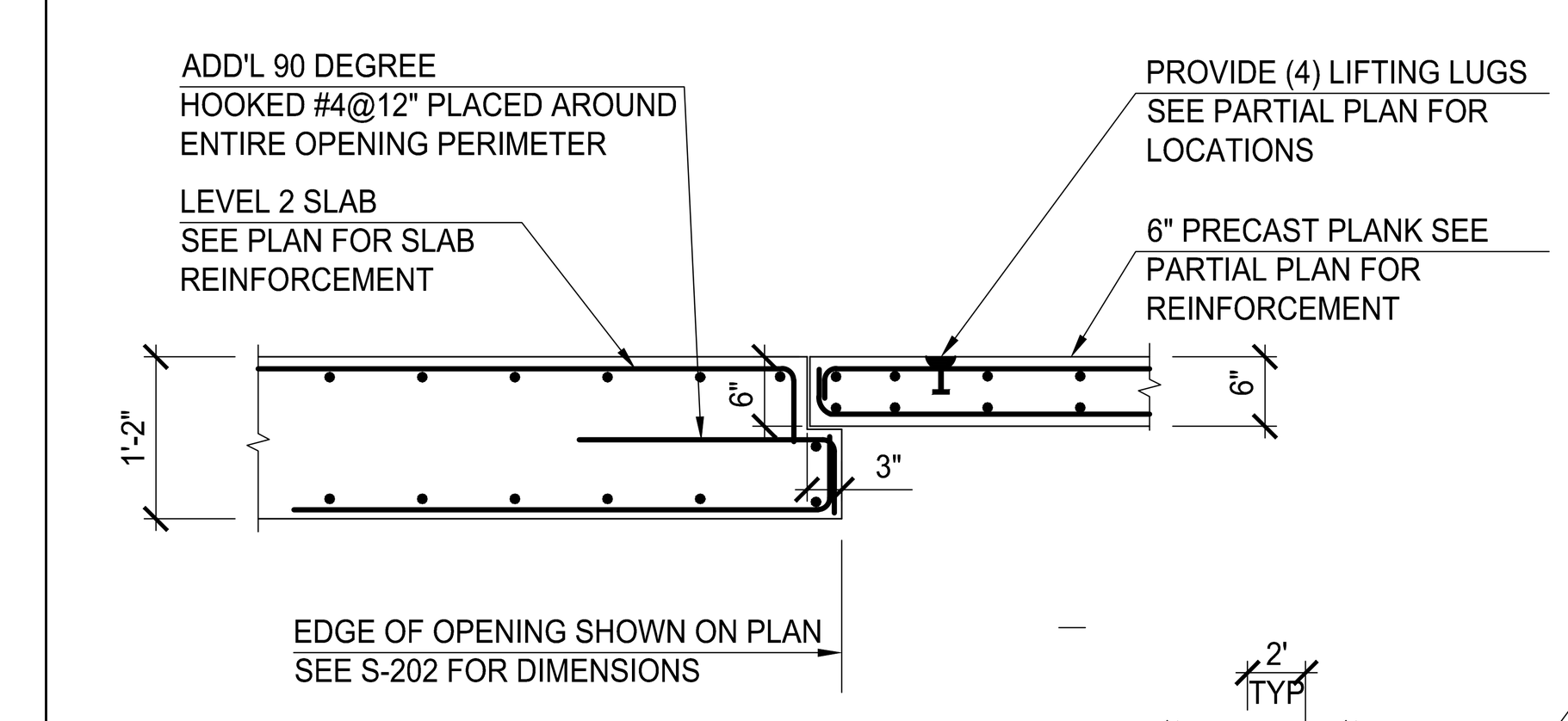
3 TYPICAL SLAB EDGE AT CLADDING ANCHOR POCKET DETAIL
SCALE: N.T.S.



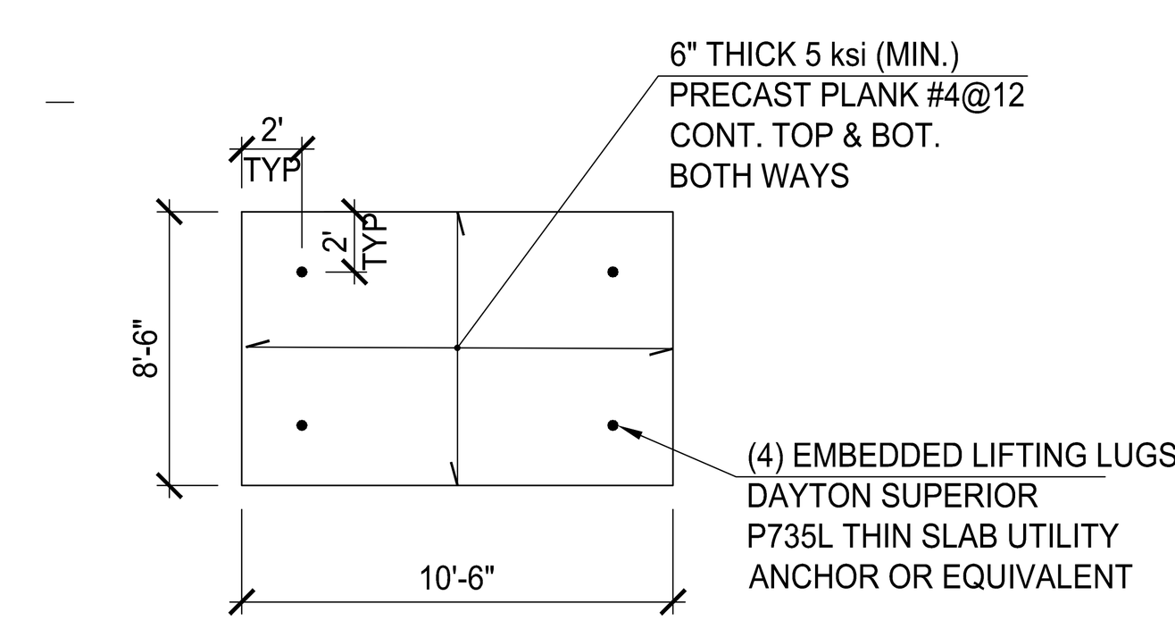
3A POCKET DETAIL TOP REINFORCEMENT PLAN
SCALE: N.T.S.



4 TYPICAL CONCRETE SLAB RECESS REINFORCEMENT
SCALE: N.T.S.

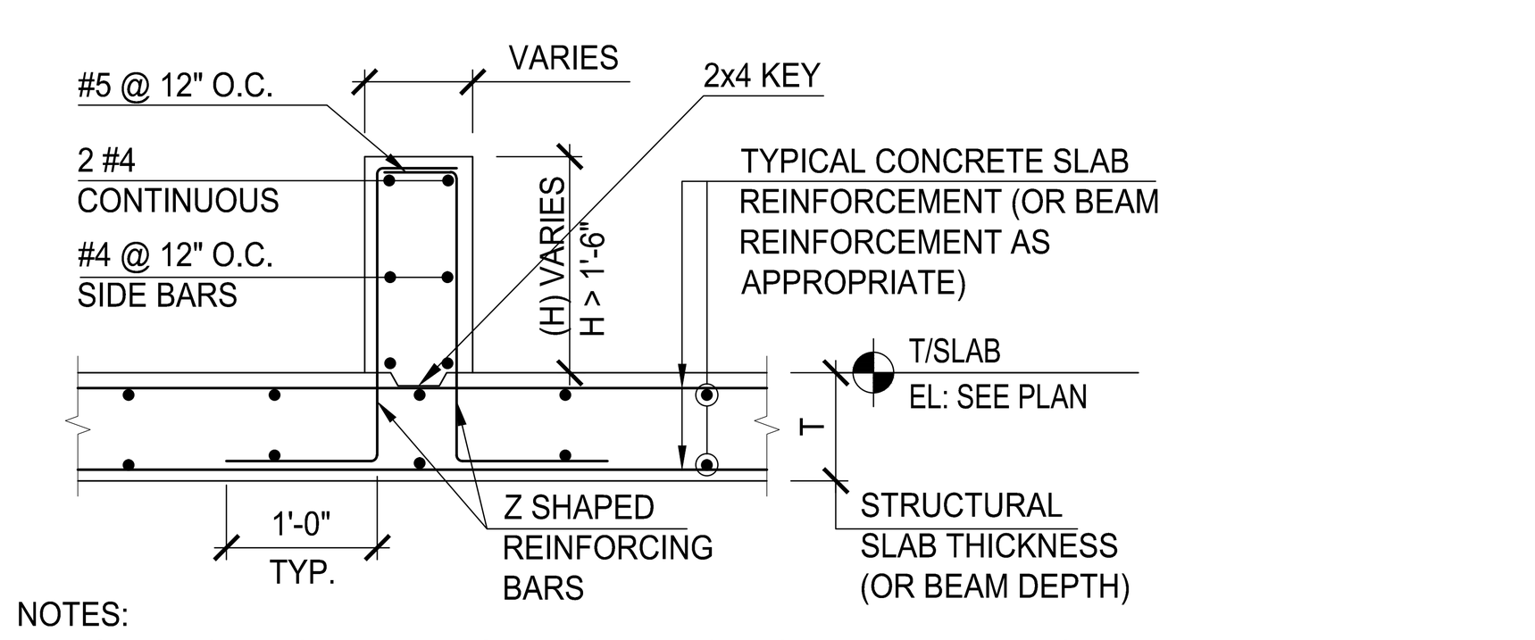


5A SECTION



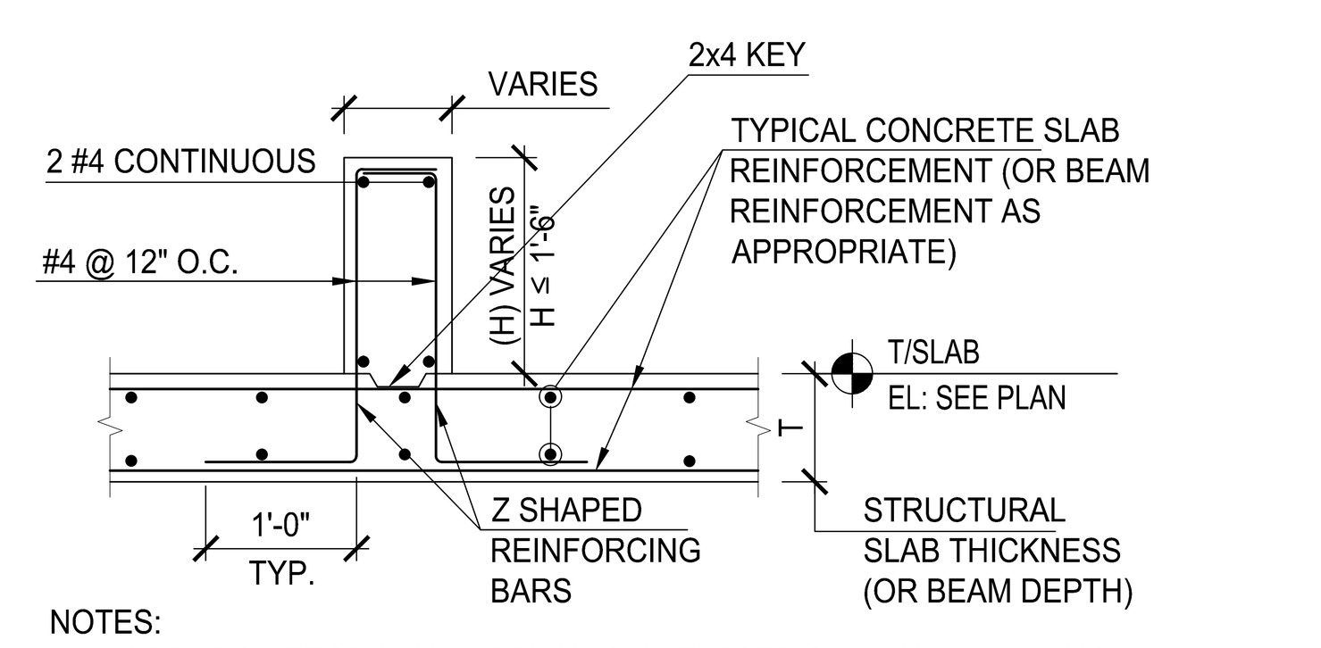
5B KEY PLAN

5 REMOVAL PRECAST PLANK DETAIL AT LEVEL 2
SCALE: N.T.S.



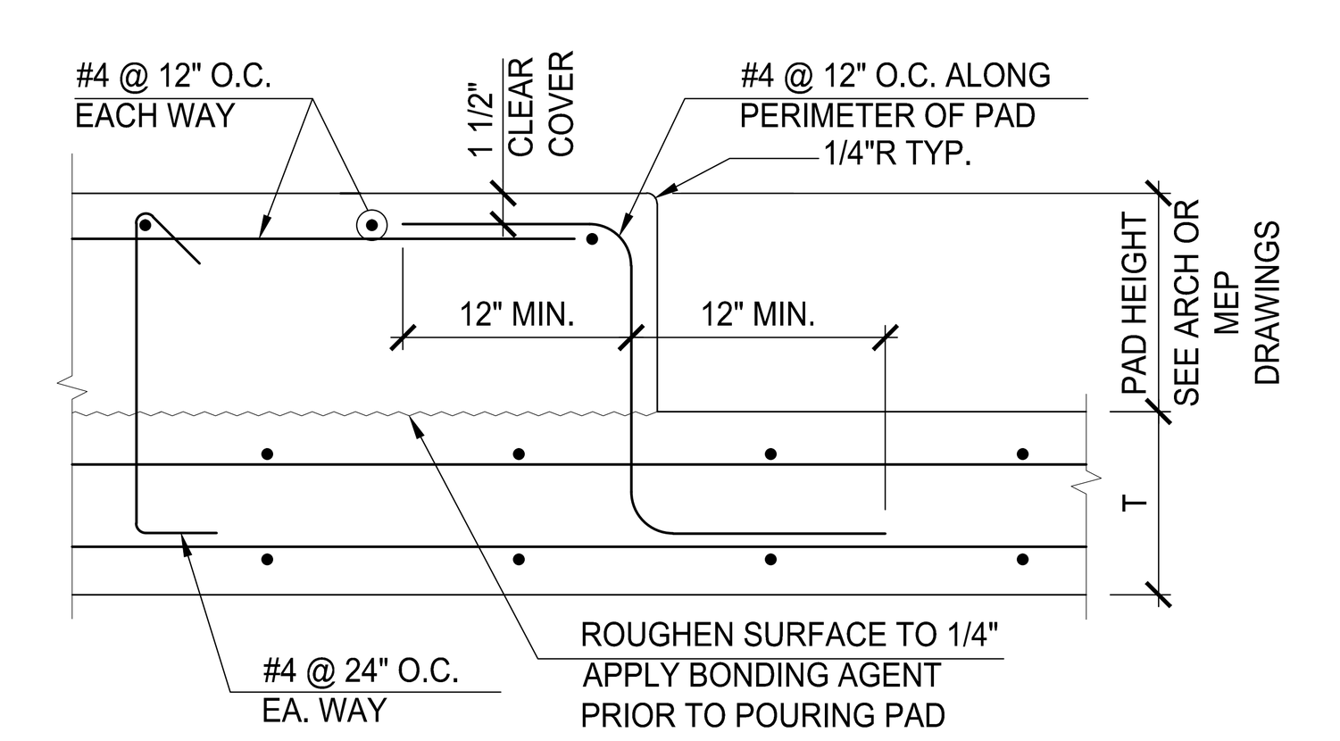
NOTES:
1. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR CONCRETE CURB SIZES AND LOCATIONS.
2. VERIFY LAP REQUIREMENT FOR VERTICAL REINFORCEMENT.

6 TYPICAL CONCRETE CURB DETAIL (H > 1'-6")
SCALE: N.T.S.

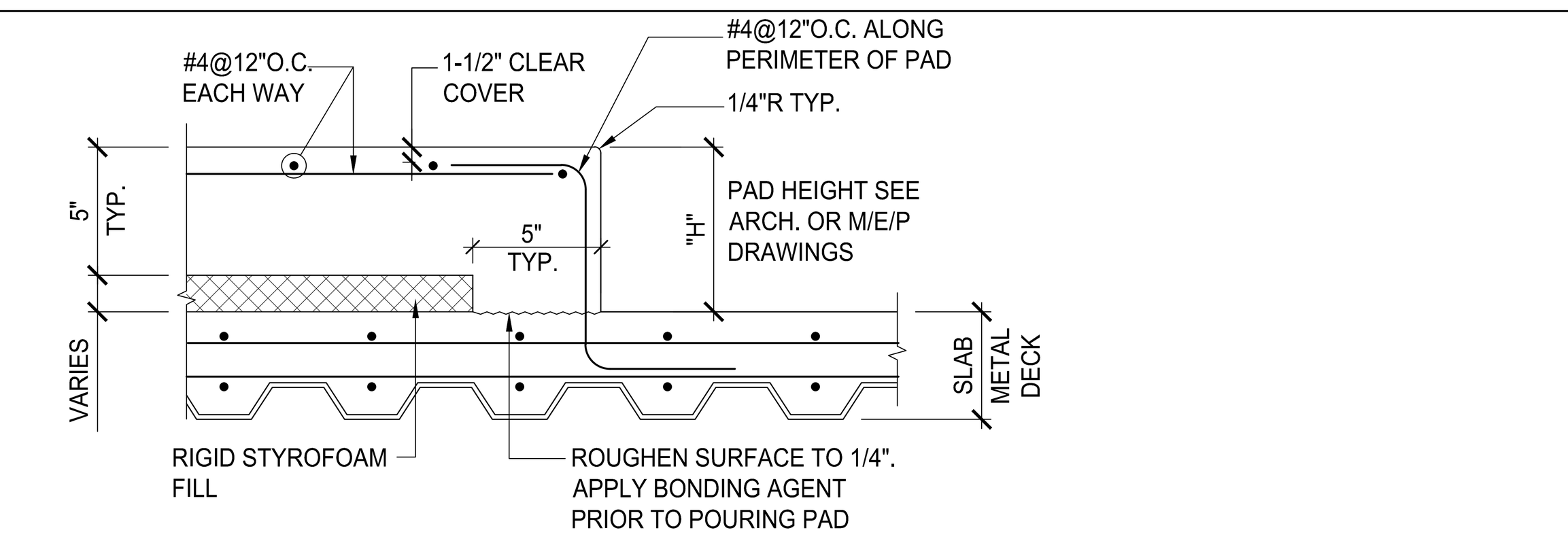


NOTES:
1. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR CONCRETE CURB SIZES AND LOCATIONS.
2. THIS CURB DETAIL ALSO APPLIES TO SLAB-ON-GRADE.

7 TYPICAL CONCRETE CURB DETAIL (H ≤ 1'-6")
SCALE: N.T.S.



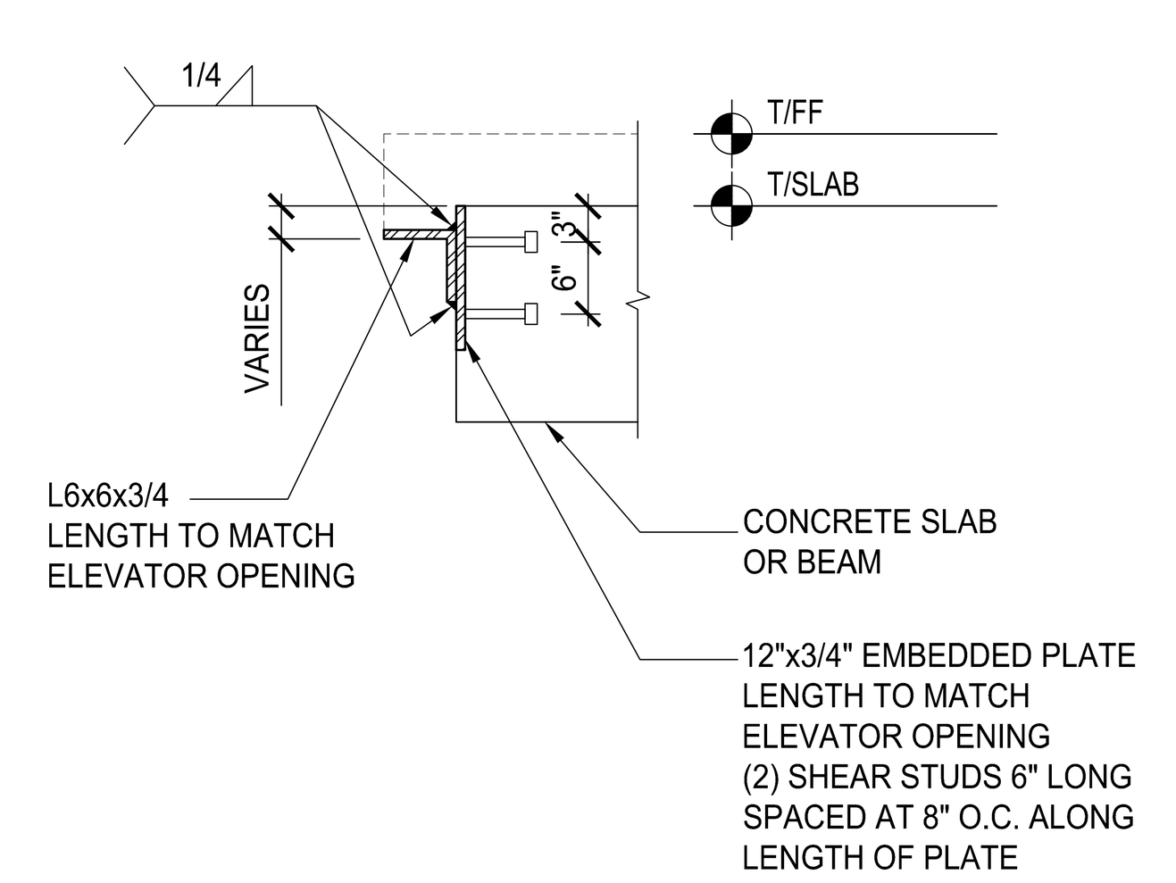
PAD ON SUSPENDED SLAB



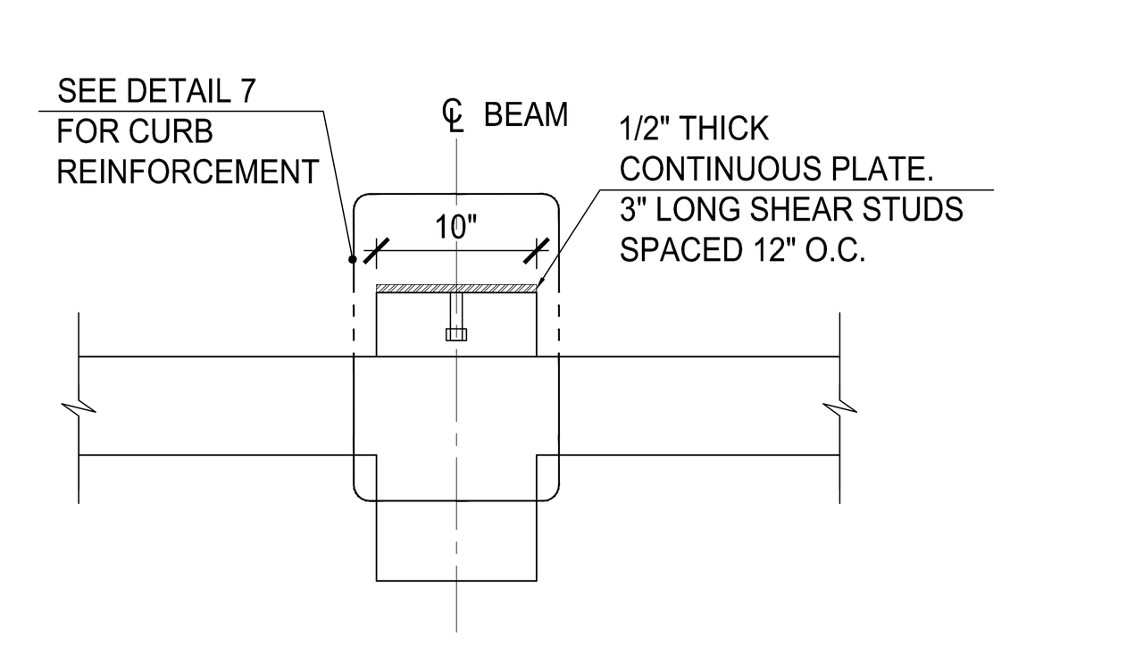
H>6" PAD OR SLAB OVER METAL DECK

NOTE:
1. OPTIONAL DETAIL FOR DOWELS AT PAD: DRILLED AND EPOXY DOWEL TO MATCH THE CAPACITY.
2. USE "HILTI HY150 EPOXY ADHESIVE" OR EQUIVALENT.

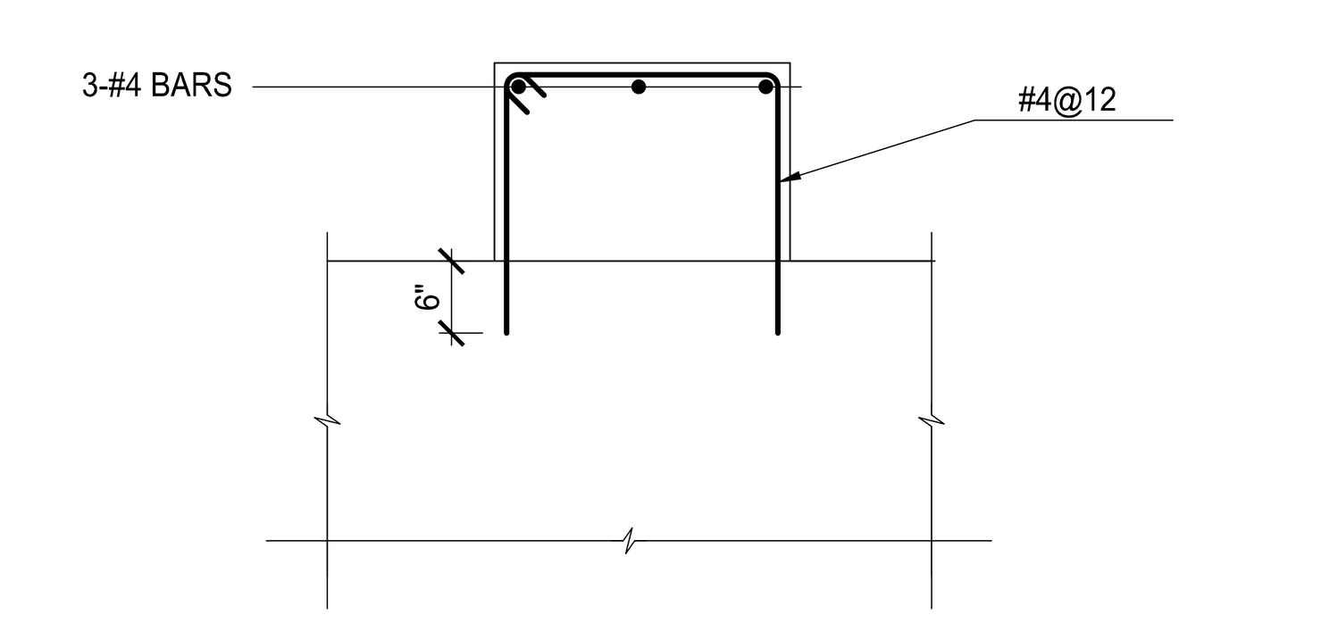
8 TYPICAL REINFORCED CONCRETE ARCHITECTURAL FILL OR MEP PAD DETAIL
SCALE: N.T.S.



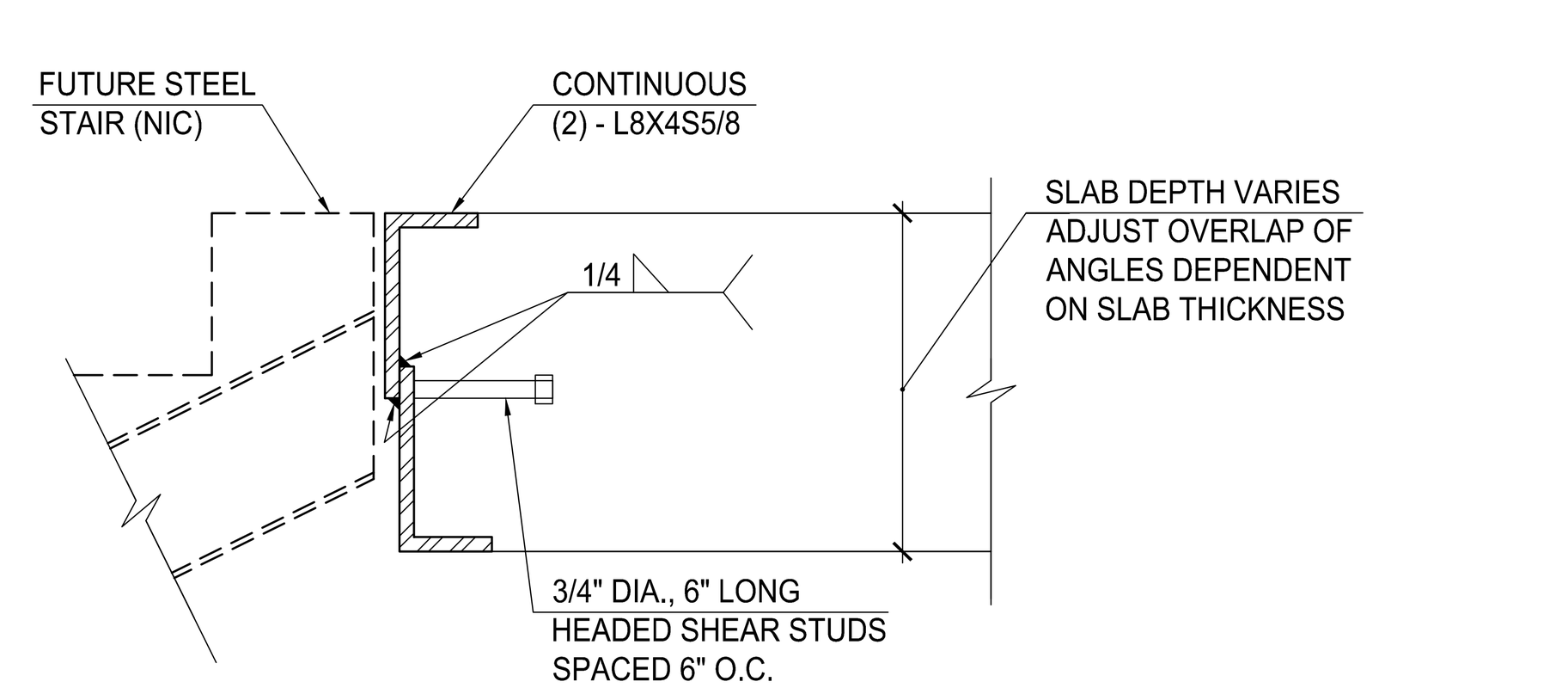
9 ELEVATOR SILL DETAIL
SCALE: N.T.S.



10 EMBED PLATE AT POOL SUPPORT CURB
SCALE: N.T.S.

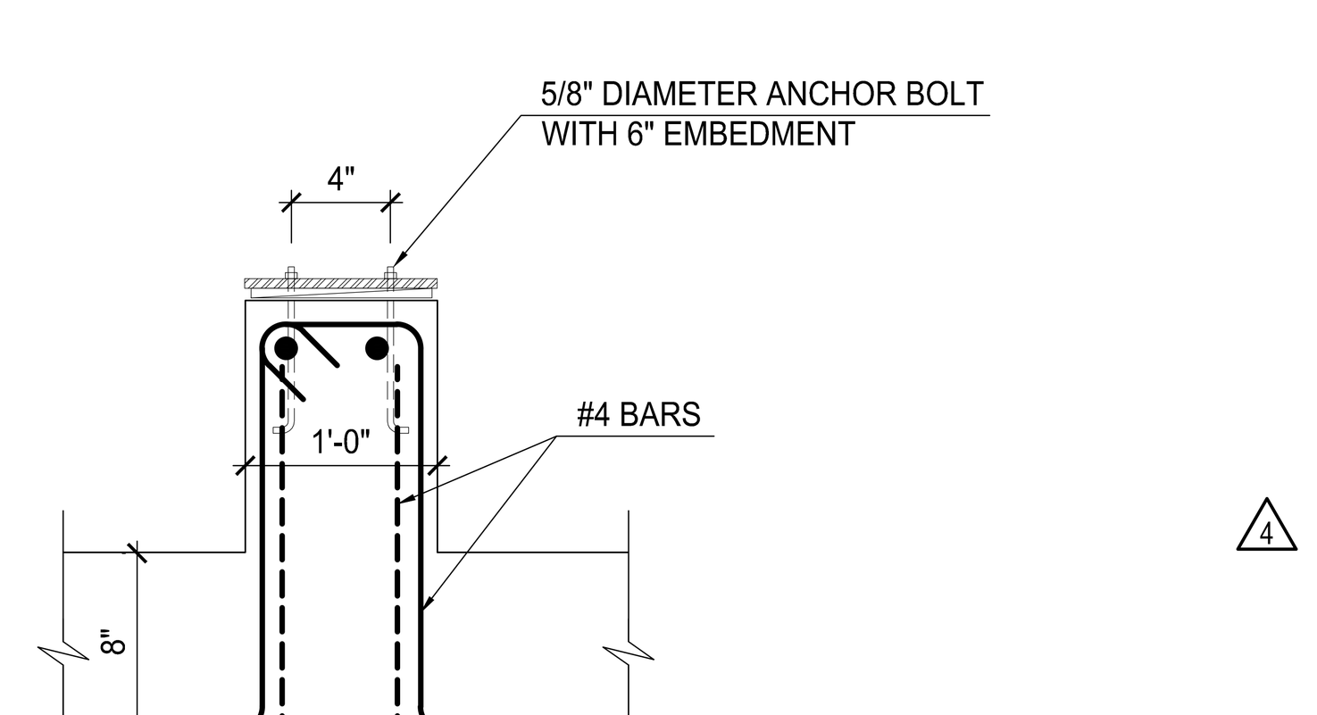


11 CURB DETAIL AT PLENUM LOUVERS
SCALE: N.T.S.

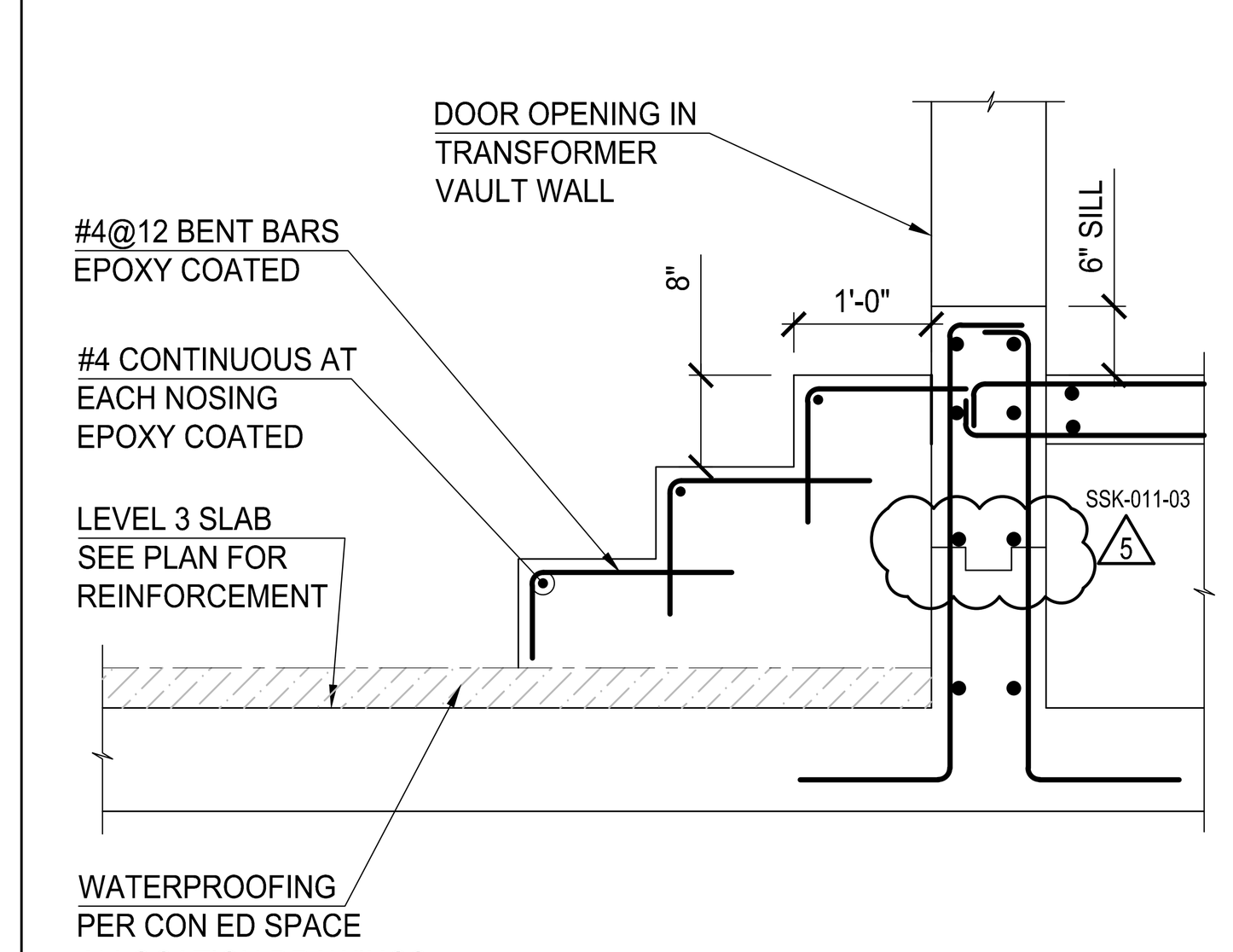


NOTE:
1. REFER TO ARCHITECTURAL DRAWINGS FOR STAIR LOCATIONS.

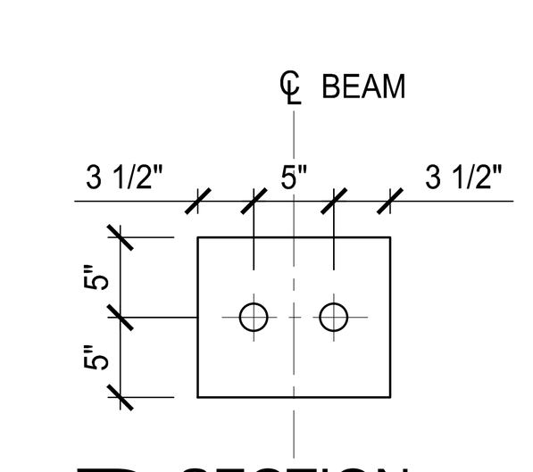
12 SLAB EDGE DETAIL AT FUTURE STEEL STAIR CONNECTION
SCALE: N.T.S.



13 CURB AT WINDOW WASHING TIE BACK ANCHOR
SCALE: N.T.S.

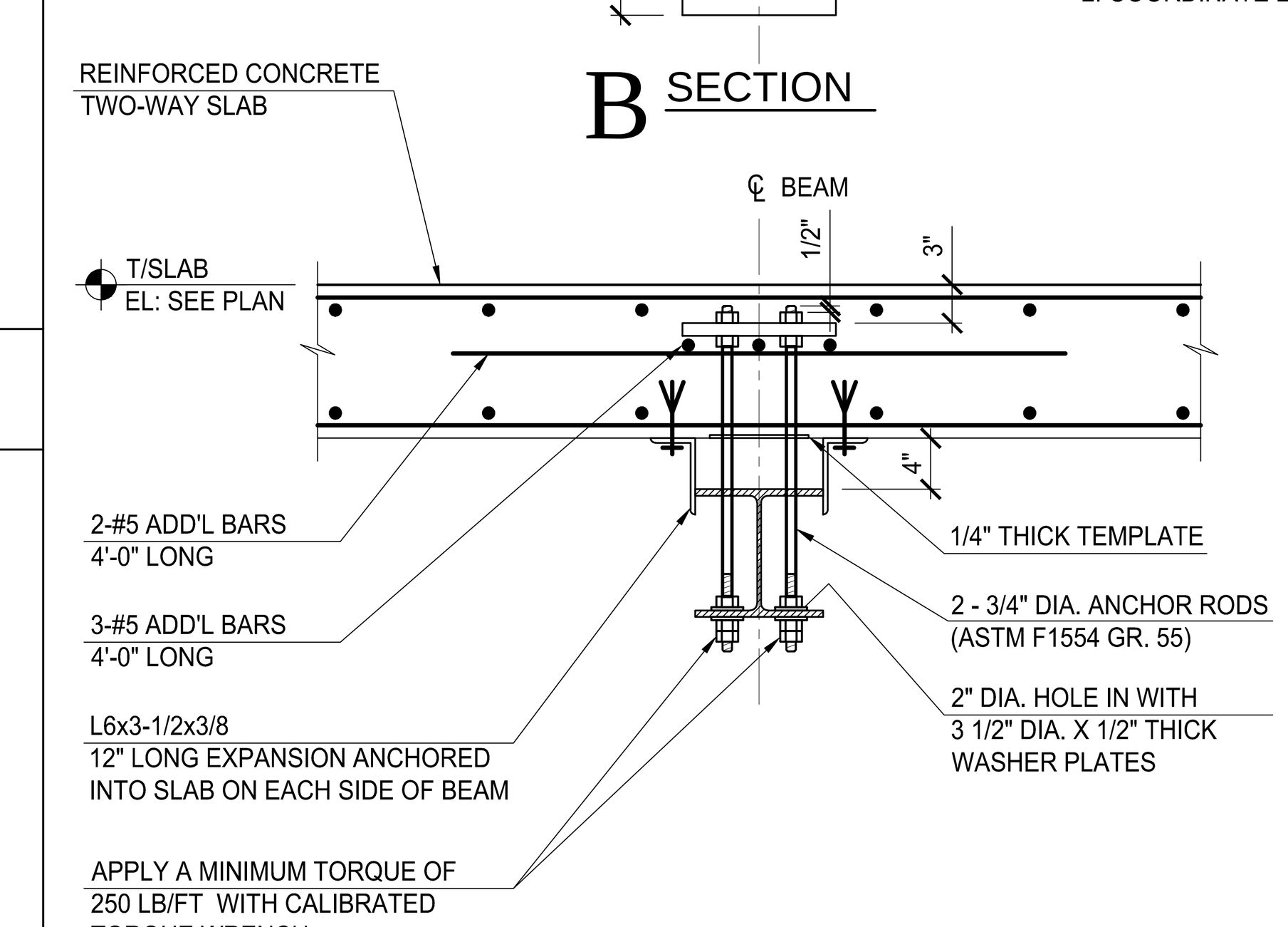


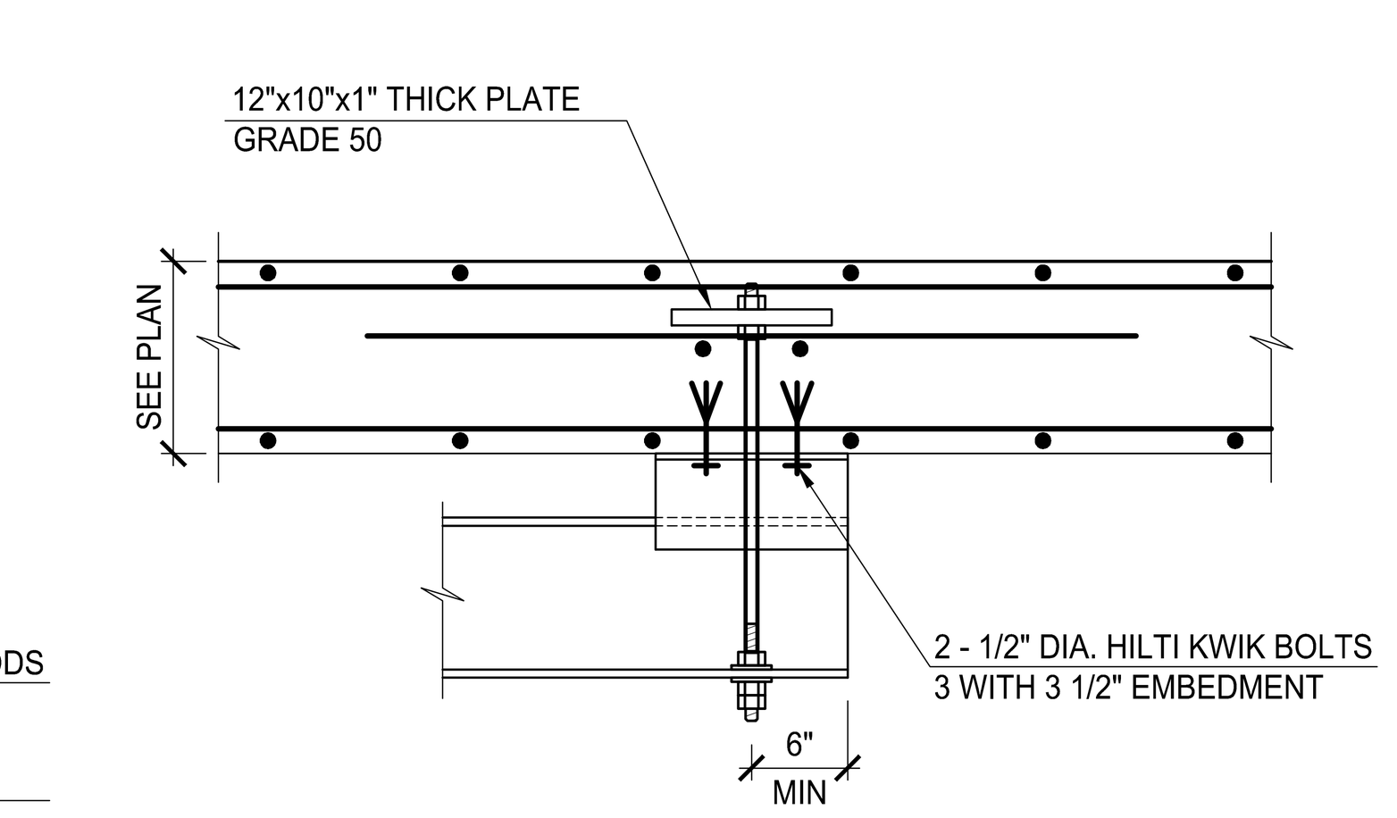
15 STAIR AT TRANSFORMER VAULT
SCALE: N.T.S.



B SECTION

NOTES:
1. ANCHOR RODS, NUTS, PLATES AND WASHERS SHALL BE HOT-DIPPED GALVANIZED.
2. COORDINATE EXACT LOCATION WITH ELEVATOR CONTRACTOR.





A SECTION

14 HOIST BEAM TO RC SLAB CONNECTION DETAL
SCALE: N.T.S.

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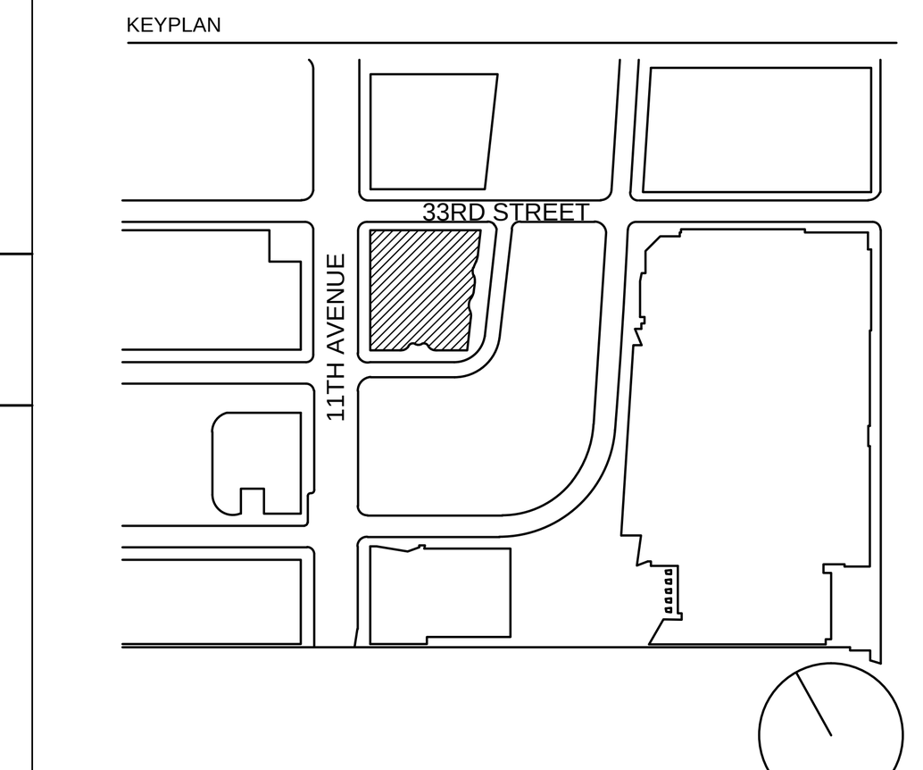

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STATE OF NEW YORK
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6	20 JAN 2017	ISSUED TO DOB
5	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
4	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
3	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
2	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
1	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT

DRAWING TITLE

RC SLAB DETAILS

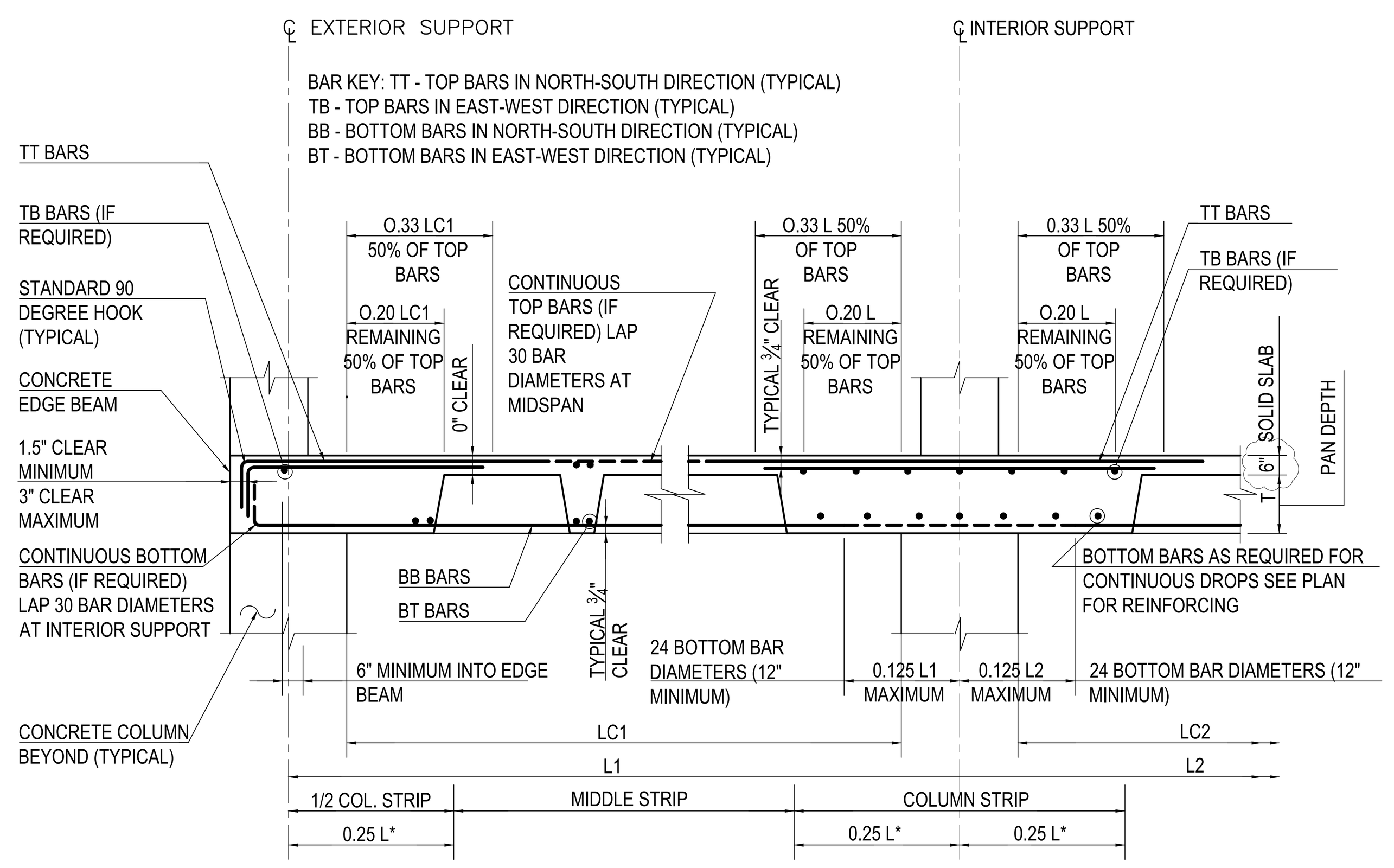
DRAWING NUMBER

S-454.00

DRAWING NUMBER

S-454

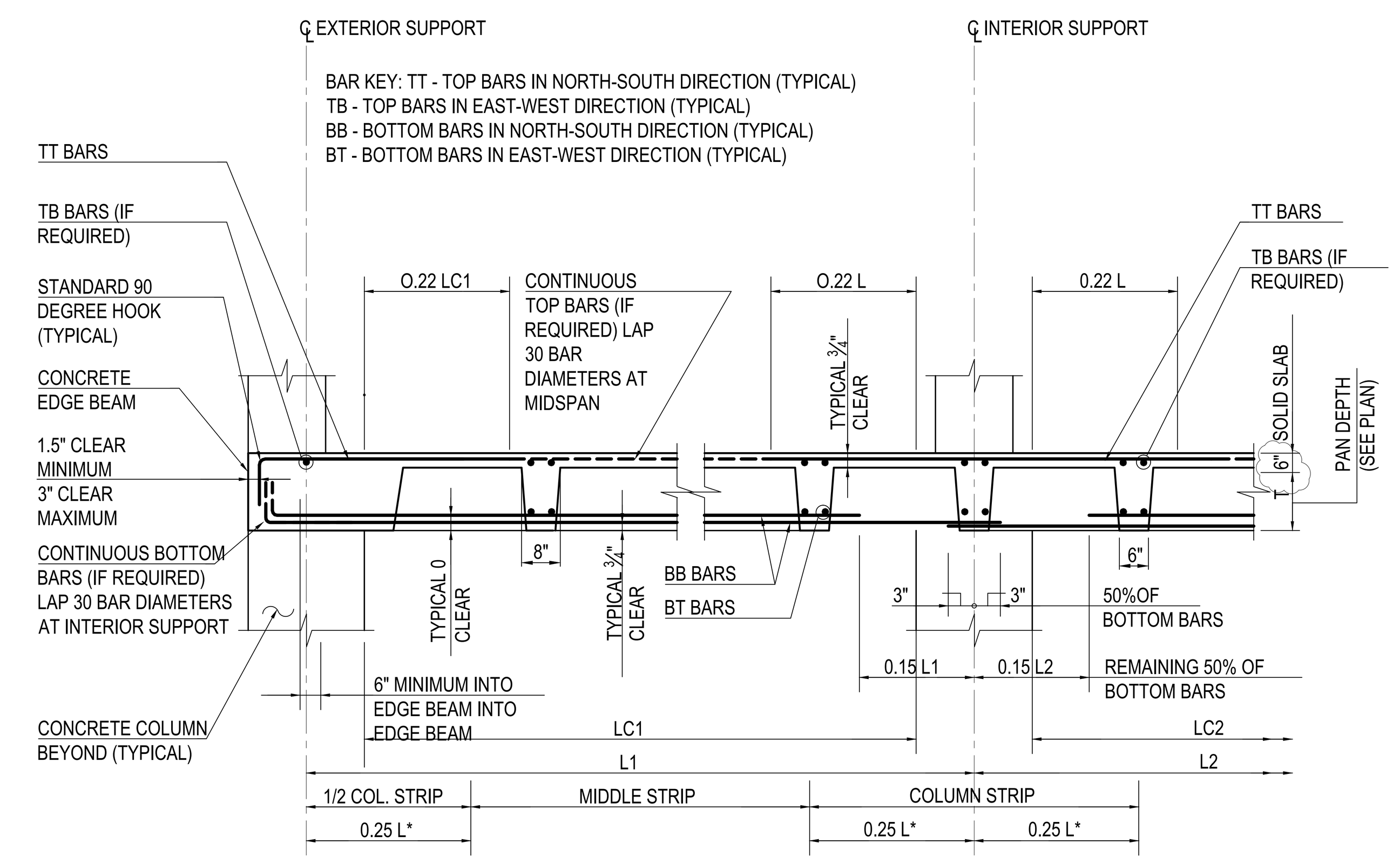
PAGE NUMBER



NOTES:
1. LC1, LC2 = LENGTH OF CLEAR SPANS 1, 2 (FACE OF SUPPORT TO FACE OF SUPPORT).
2. L = THE GREATER LENGTH OF CLEAR SPAN LC1 OR LC2.
3. L1, L2 = LENGTH OF SPANS 1, 2 FROM CENTERLINE OF SUPPORT TO CENTERLINE OF SU.
4. L* = LEAST DIMENSION OF L1 AND LENGTH OF SPAN TRANSVERSE TO L1 (CENTER TO CENTER OF SUPPORT) OR LEAST DIMENSION OF L2 AND LENGTH OF A TRANSVERSE TO L2 (CENTER TO CENTER OF SUPPORT).
5. ALTERNATE DIFFERENT LENGTH OF BARS.
6. AT INTERIOR SUPPORT (CONTINUOUS END) PROVIDE LARGER SIZE AND NUMBER OF TOP BARS FROM ADJACENT SPANS.

1 TYPICAL WAFFLE SLAB - COLUMN STRIP

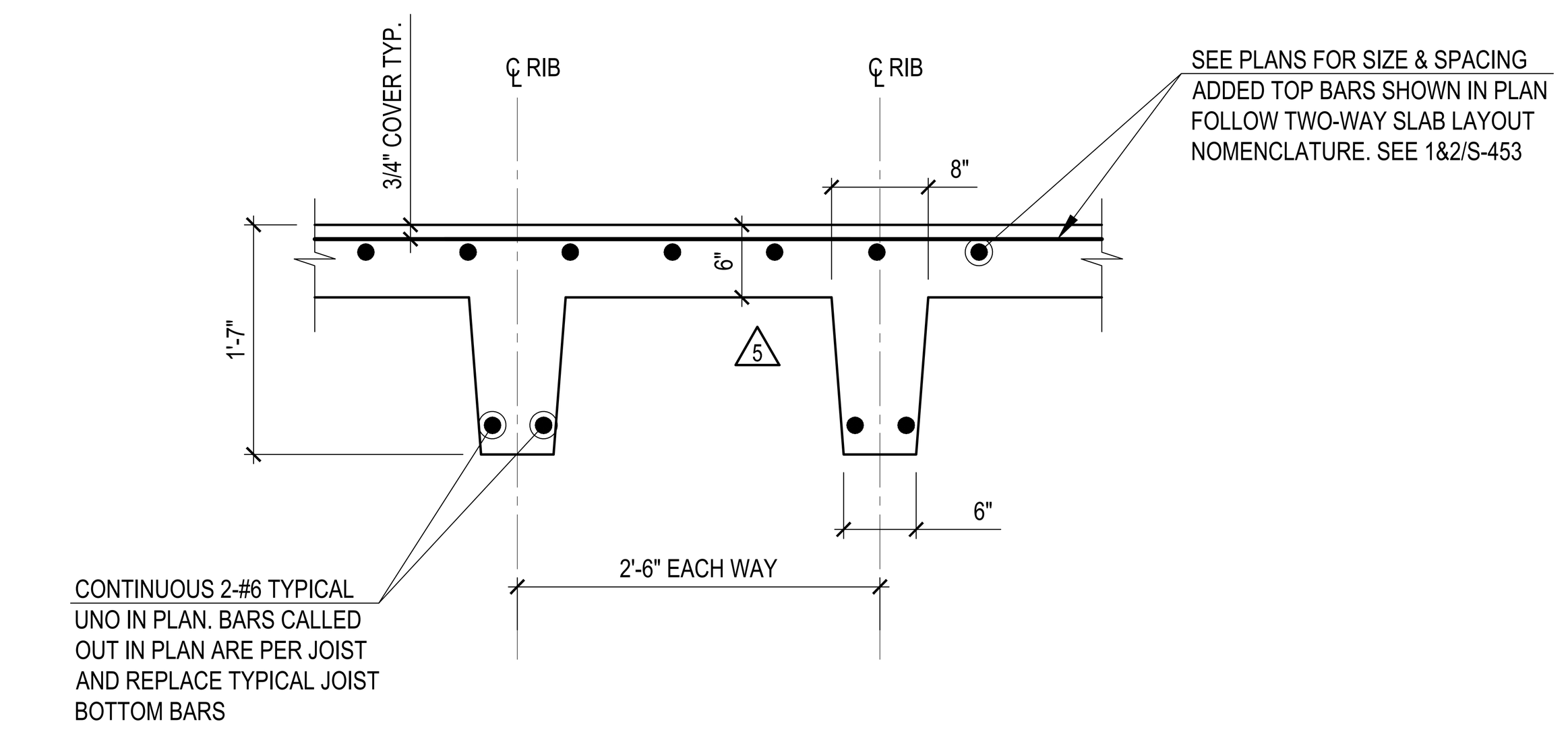
SCALE: N.T.S.



NOTES: 1. LC1, LC2 = LENGTH OF CLEAR SPANS 1, 2 (FACE OF SUPPORT TO FACE OF SUPPORT).
2. L = THE GREATER LENGTH OF CLEAR SPAN LC1 OR LC2.
3. L1, L2 = LENGTH OF SPANS 1, 2 FROM CENTERLINE OF SUPPORT TO CENTERLINE OF SU.
4. L* = LEAST DIMENSION OF L1 AND LENGTH OF SPAN TRANSVERSE TO L1 (CENTER TO CENTER OF SUPPORT) OR LEAST DIMENSION OF L2 AND LENGTH OF A TRANSVERSE TO L2 (CENTER TO CENTER OF SUPPORT).
5. ALTERNATE DIFFERENT LENGTH OF BARS.
6. AT INTERIOR SUPPORT (CONTINUOUS END) PROVIDE LARGER SIZE AND NUMBER OF TOP BARS FROM ADJACENT SPANS.

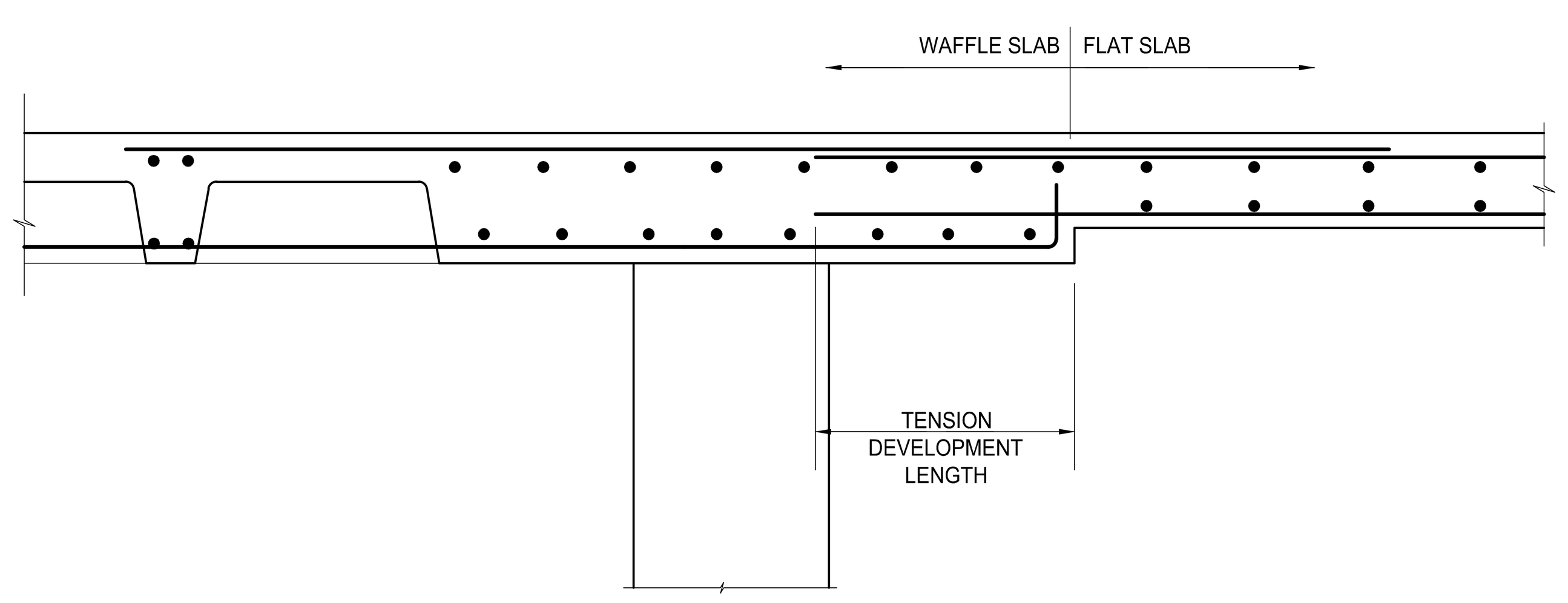
2 TYPICAL WAFFLE SLAB - MIDDLE STRIP

SCALE: N.T.S.



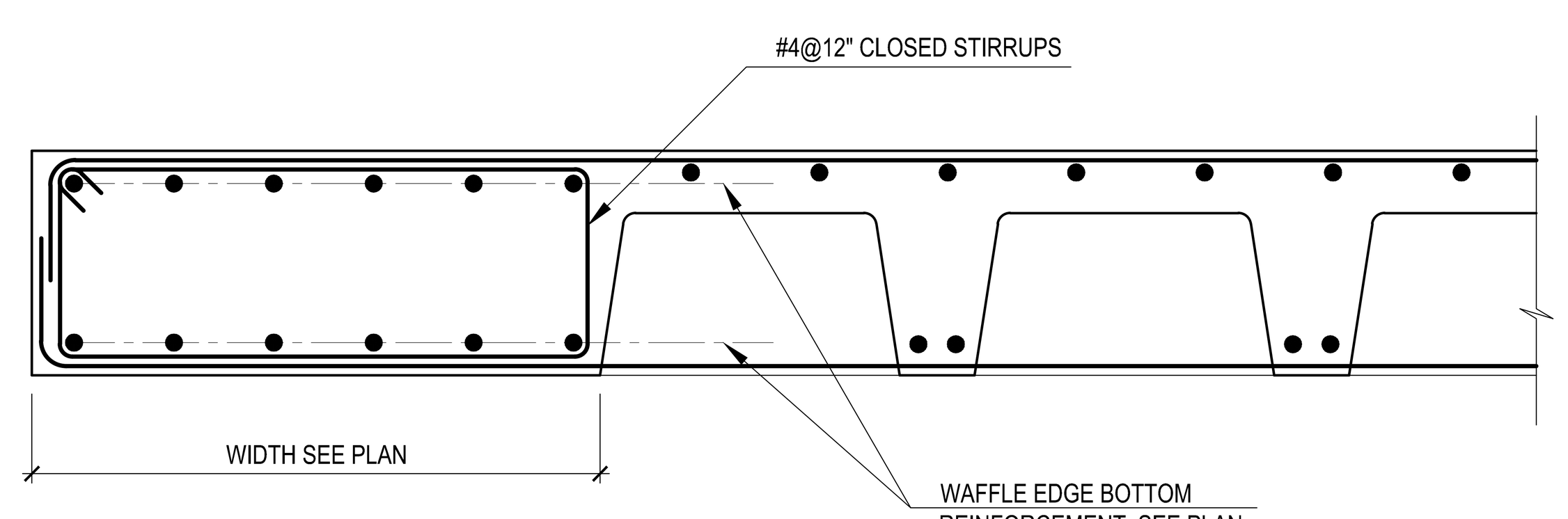
3 WAFFLE JOIST DETAIL

SCALE: N.T.S.



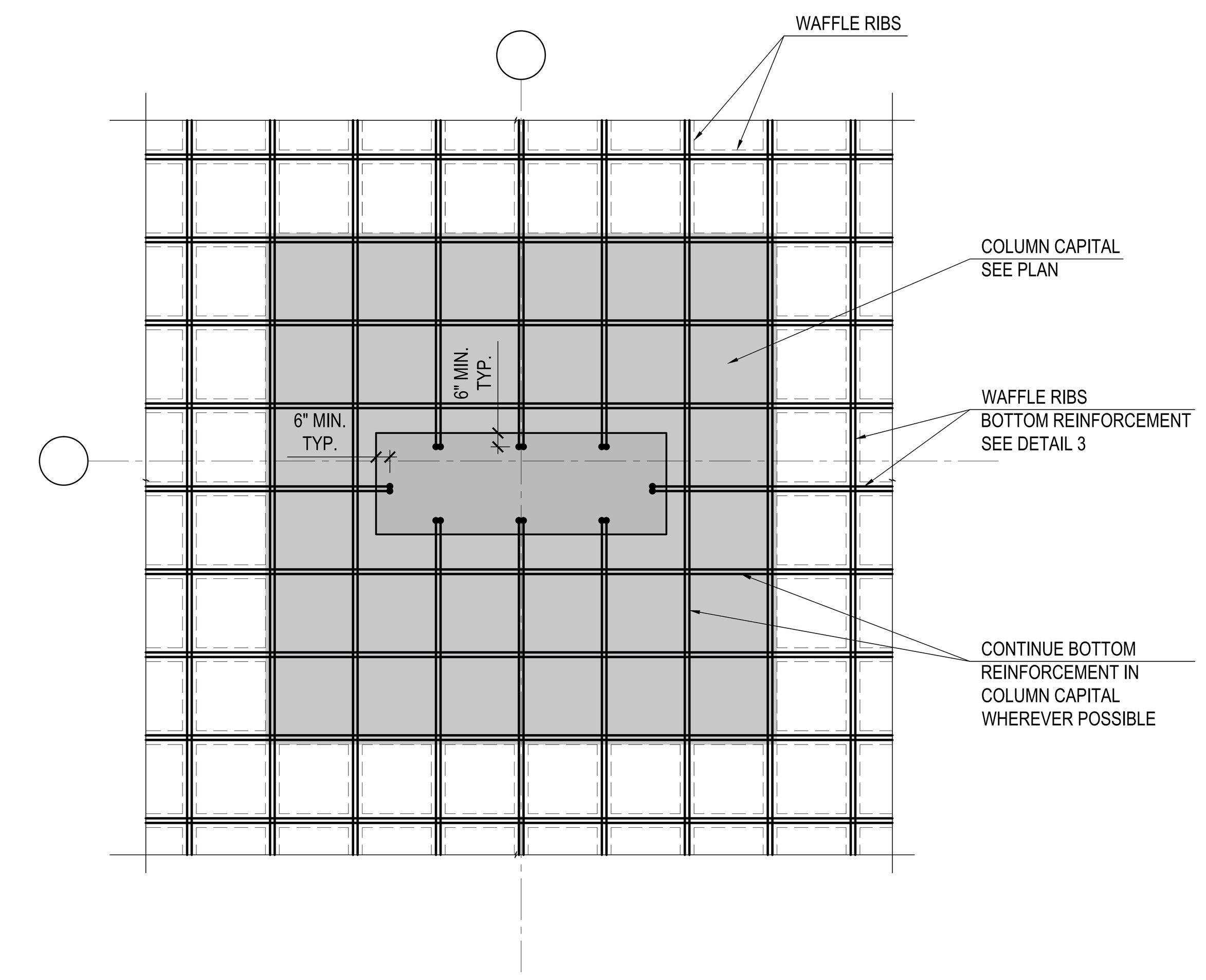
4 WAFFLE SLAB TO FLAT SLAB TRANSITION DETAIL

SCALE: N.T.S.



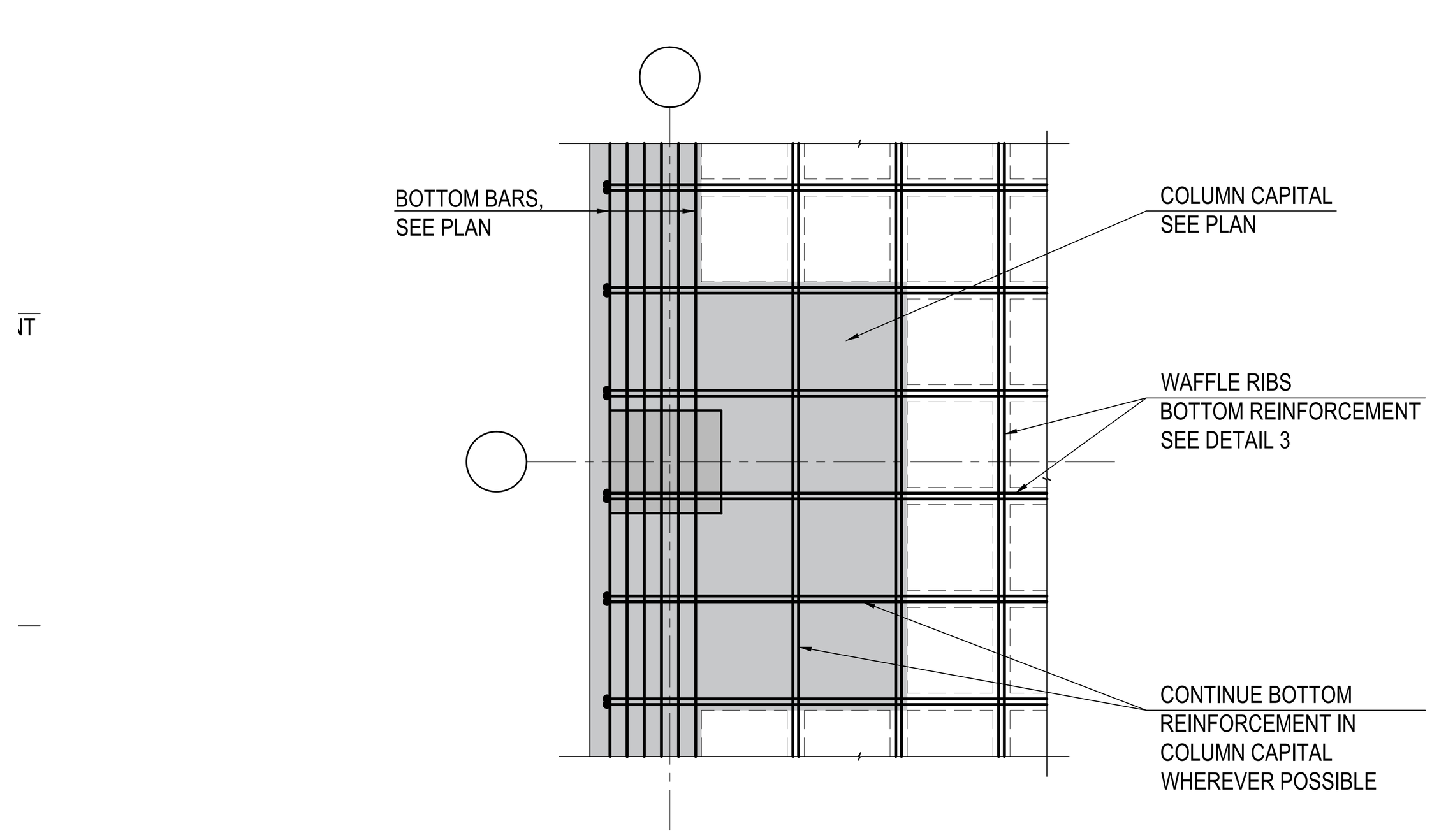
5 TYPICAL WAFFLE SLAB - EDGE DETAIL

SCALE: N.T.S.



6 WAFFLE SLAB BOTTOM BAR DETAIL AT COLUMN CAPITAL

SCALE: N.T.S.



7 WAFFLE SLAB BOTTOM BAR DETAIL AT EDGE COLUMN

SCALE: N.T.S.

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Date: 02/27/2017
NYC Development Hub

DRAWING TITLE

WAFFLE SLAB DETAILS

B-SCAN - DRAWING NUMBER

S-455.01

DRAWING NUMBER

S-455

PAGE NUMBER

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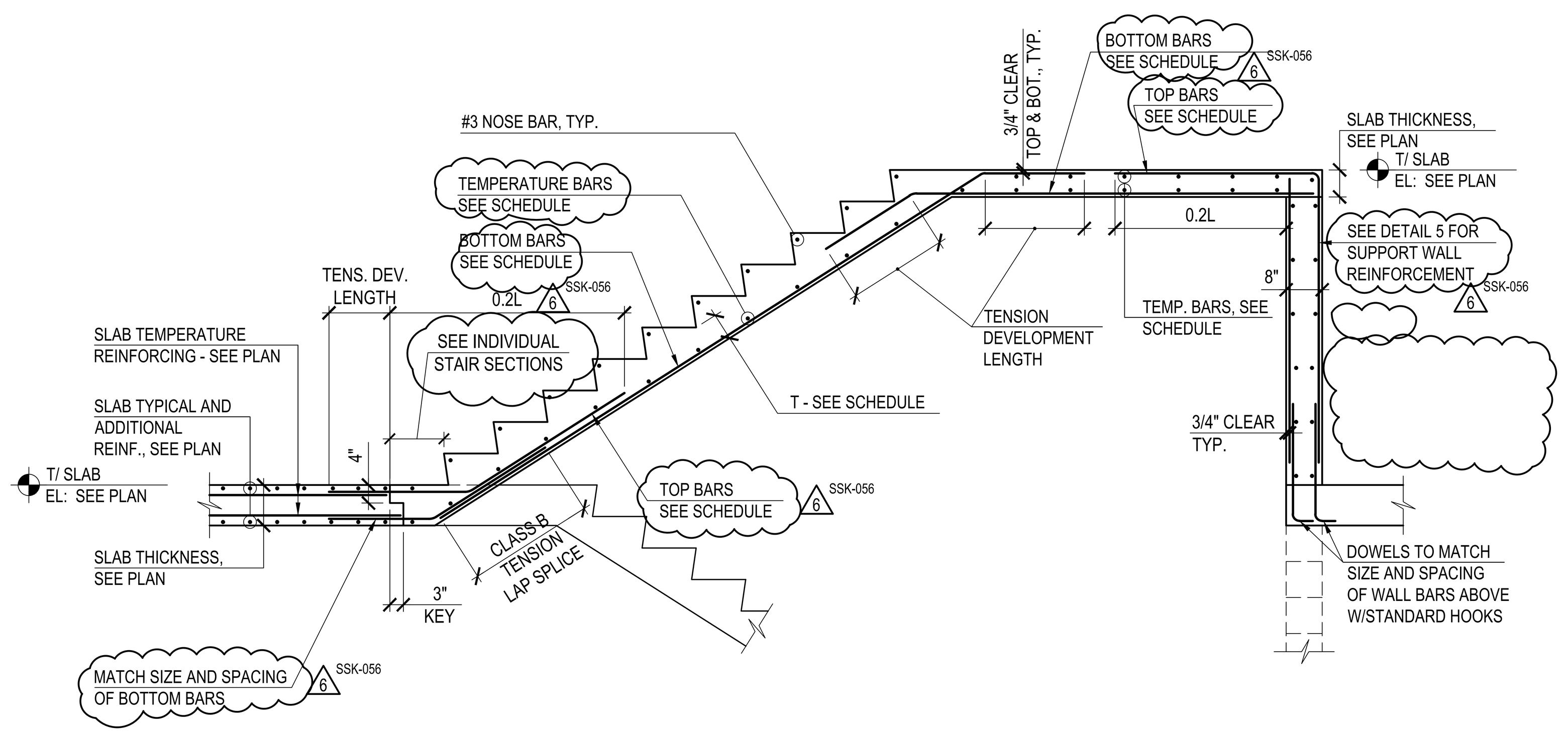
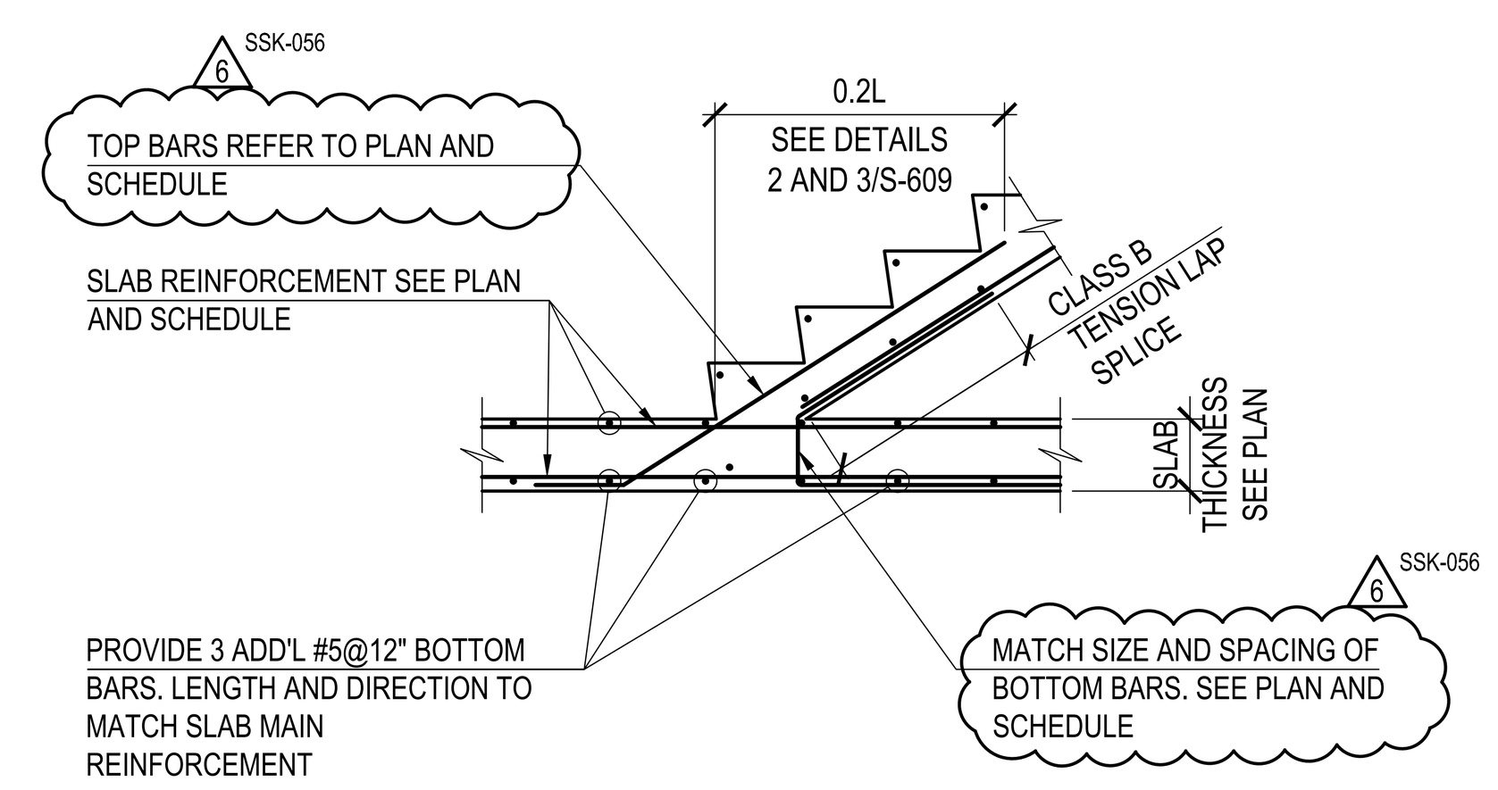
NEW YORK, NY

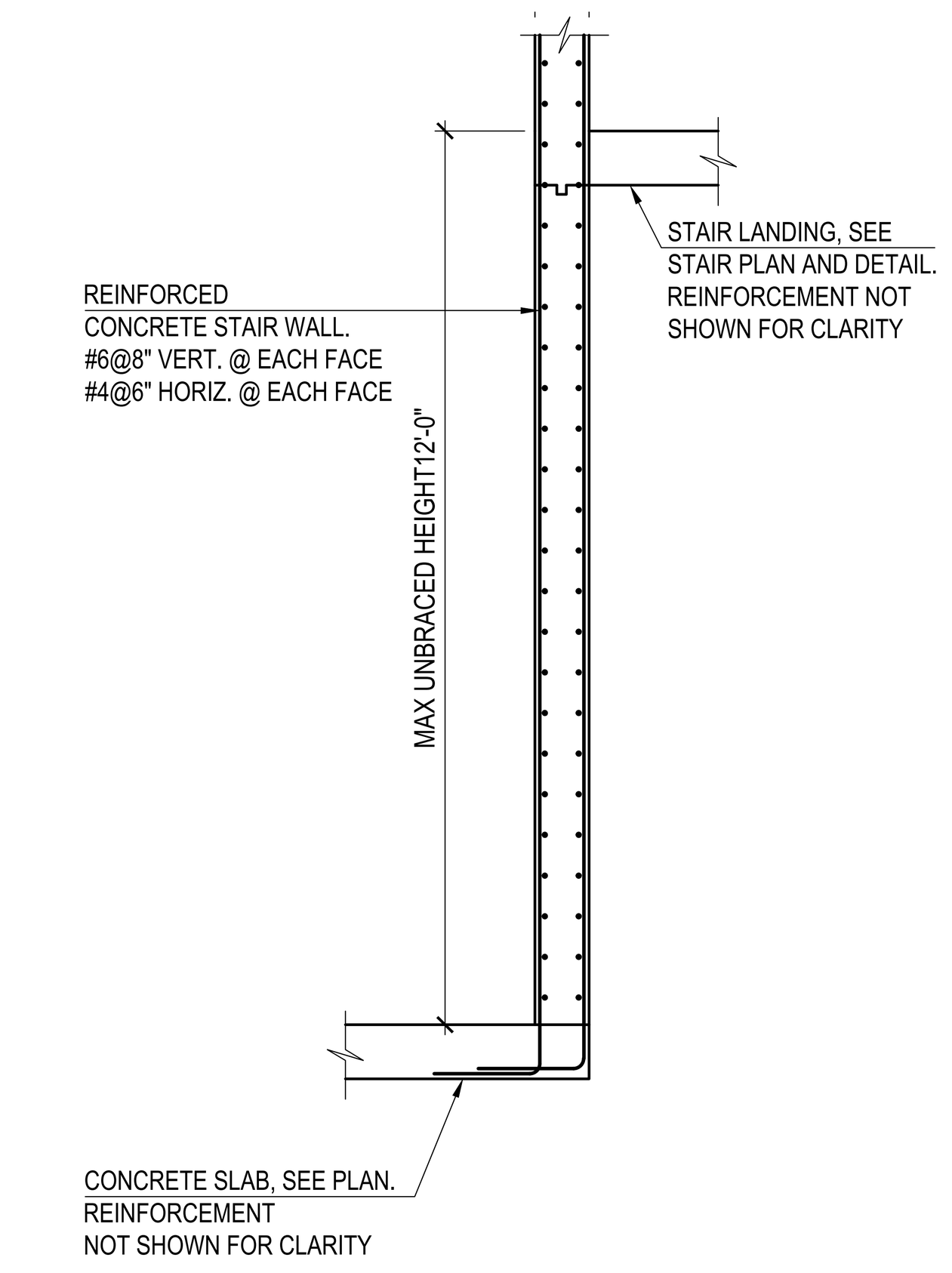
1 ONE RUN CONCRETE STAIR SECTION
SCALE: N.T.S.



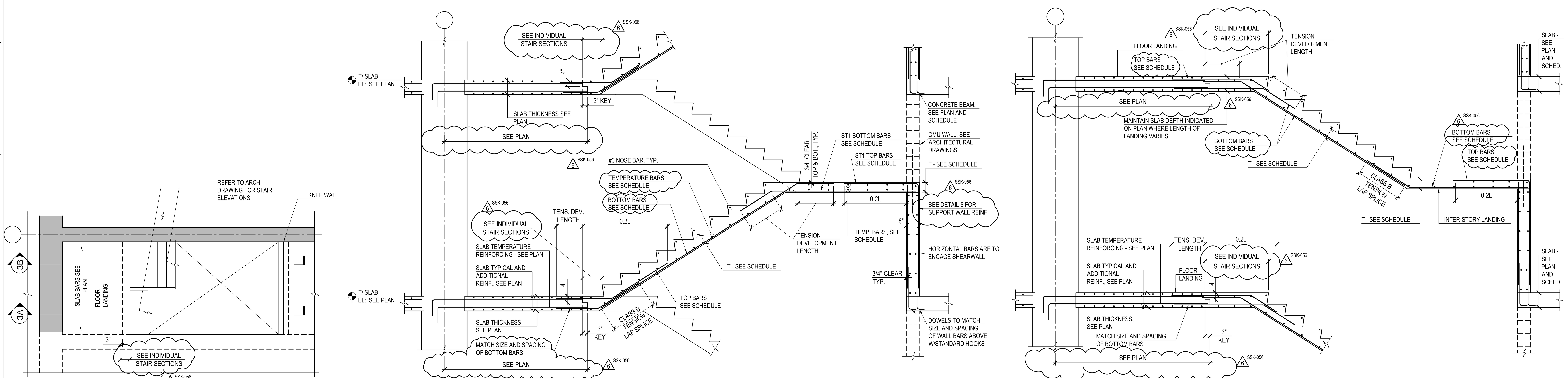
2 STAIR LANDING WITH NO OPENING TO BELOW
SCALE: N.T.S.



5 STAIR SUPPORT WALL DETAIL
SCALE: N.T.S.

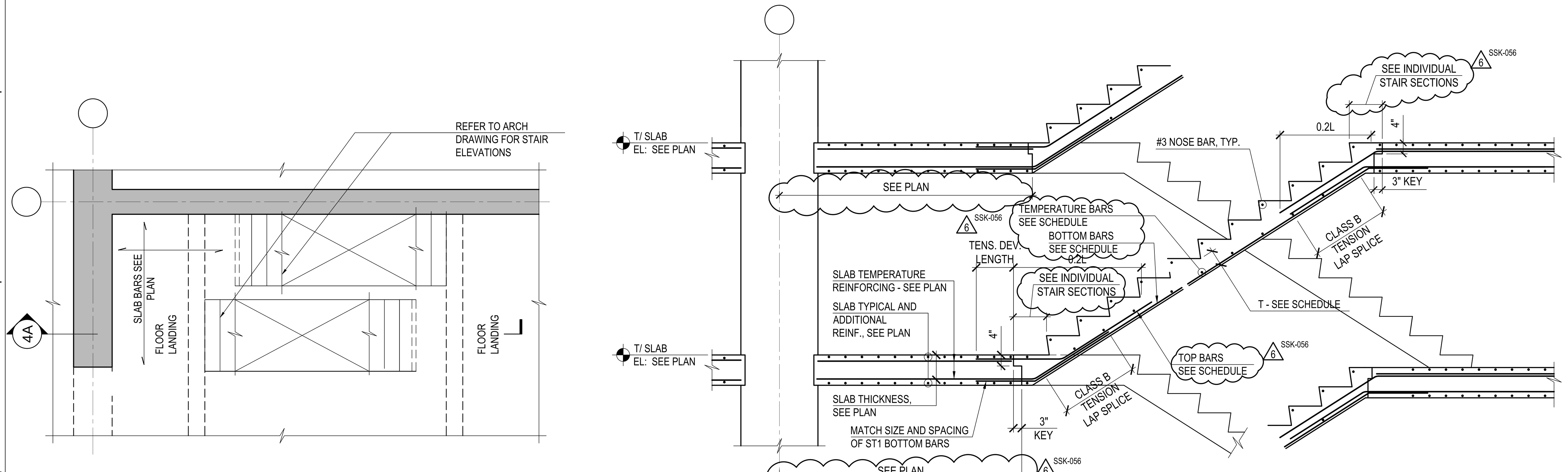


3 TWO RUN TYPICAL CONCRETE STAIR SECTION
SCALE: N.T.S.



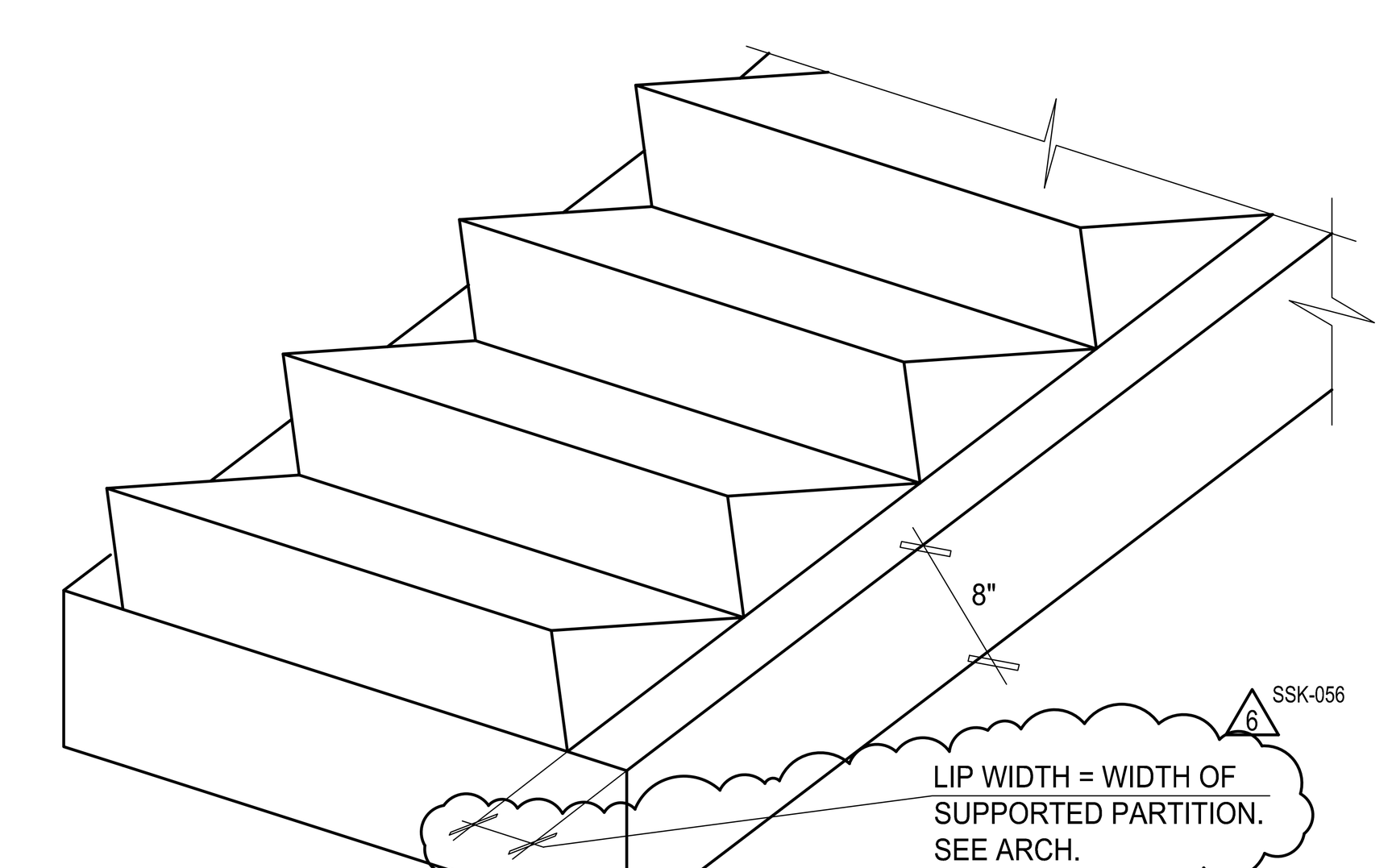
NOTE: THE DETAIL SHOWN IS REPRESENTATIVE OF A TYPICAL CONDITION. DEPENDING ON LOCATION, THE FLOOR LANDING AND THE INTER-STORY LANDINGS MAY ALTERNATE SUPPORT CONDITIONS (SHEAR WALL AND BEAM VS. KNEE WALL AND SHEAR WALL).

4 TYPICAL CONCRETE SCISSOR STAIR SECTION
SCALE: N.T.S.



NOTE: THE DETAIL SHOWN IS REPRESENTATIVE OF A TYPICAL CONDITION. DEPENDING ON LOCATION, THE FLOOR LANDING AND THE INTER-STORY LANDINGS MAY ALTERNATE SUPPORT CONDITIONS (SHEAR WALL AND BEAM VS. KNEE WALL AND SHEAR WALL).

6 ATYPICAL STAIR EDGE
SCALE: N.T.S.



NOTE: FOR APPLICABLE LOCATIONS OF ATYPICAL STAIR EDGE DETAIL, SEE STAIR ELEVATIONS.

CONCRETE STAIR SCHEDULE

MARK	T (in)	MAIN REINFORCING TOP	MAIN REINFORCING BOTTOM	TEMP. REINF.
ST6	6	#5@8"	#5@8"	#4@12"
ST8	8	#5@8"	#5@8"	#4@12"
ST10	10	#6@8"	#6@8"	#4@12"
ST12	12	#6@6"	#6@6"	#4@12"

NOTES:
1. SEE S-457 THRU S-460 FOR LOCATIONS OF EACH STAIR TYPE.
   TEMPERATURE BARS ARE TOP AND BOTTOM FOR
2. INTER-STORY LANDINGS AND BOTTOM ONLY FOR STAIR RUNS.
3. FOR INTERMEDIATE LANDINGS THICKNESS WILL BE GOVERNED BY THE FLIGHT OF LONGER SPAN.
4. AT LOCATIONS WHERE STAIR SUPPORT WALLS ARE PERPENDICULAR TO STAIR LANDING, MAIN STAIR TOP AND BOTTOM REINFORCEMENT SHOULD BE USED IN BOTH DIRECTIONS AT THE LANDING.

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Date: 02/17/2017
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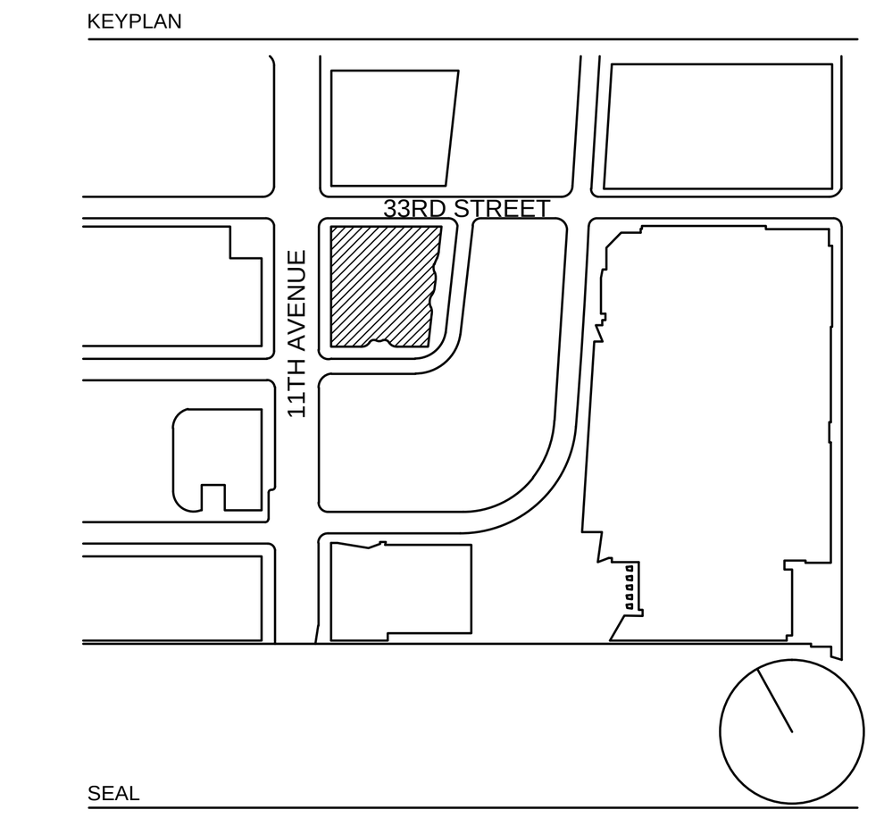

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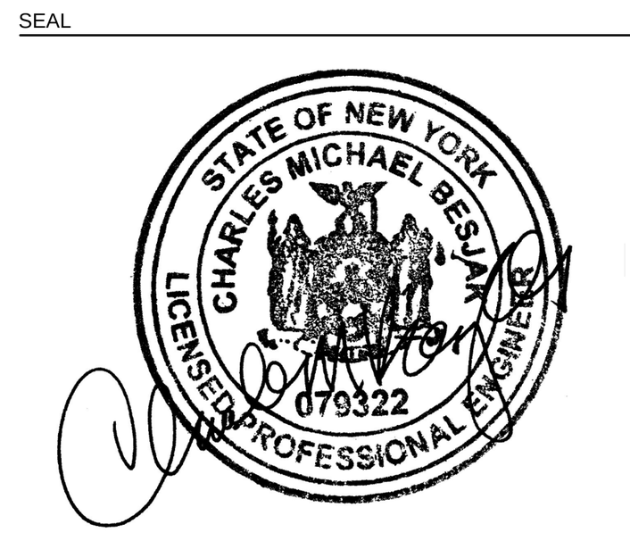

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5	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
4	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
3	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
2	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
1	15 JAN 2015	ISSUED TO DOB

DRAWING TITLE
CONCRETE STAIR TYPICAL DETAILS

B-SCAN - DRAWING NUMBER
S-456.01

DRAWING NUMBER
S-456

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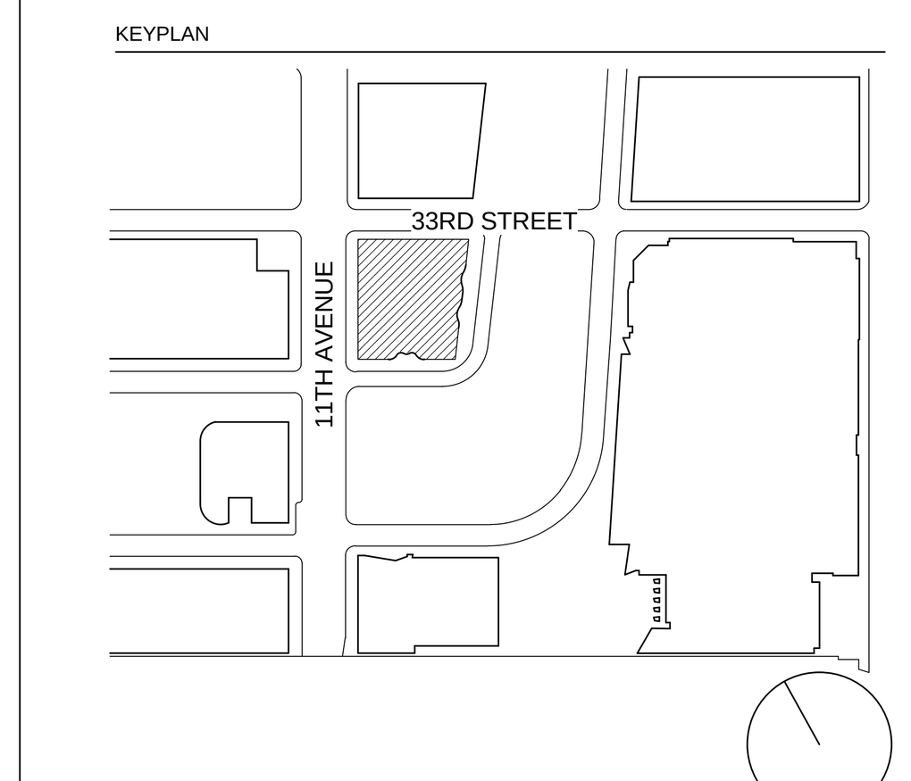

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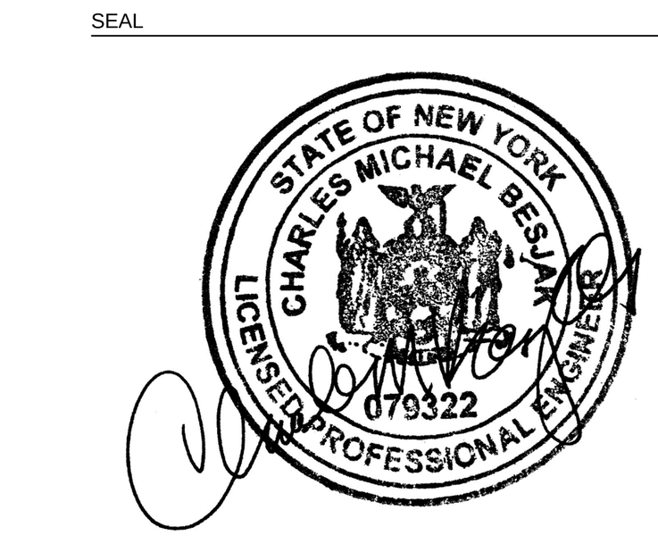
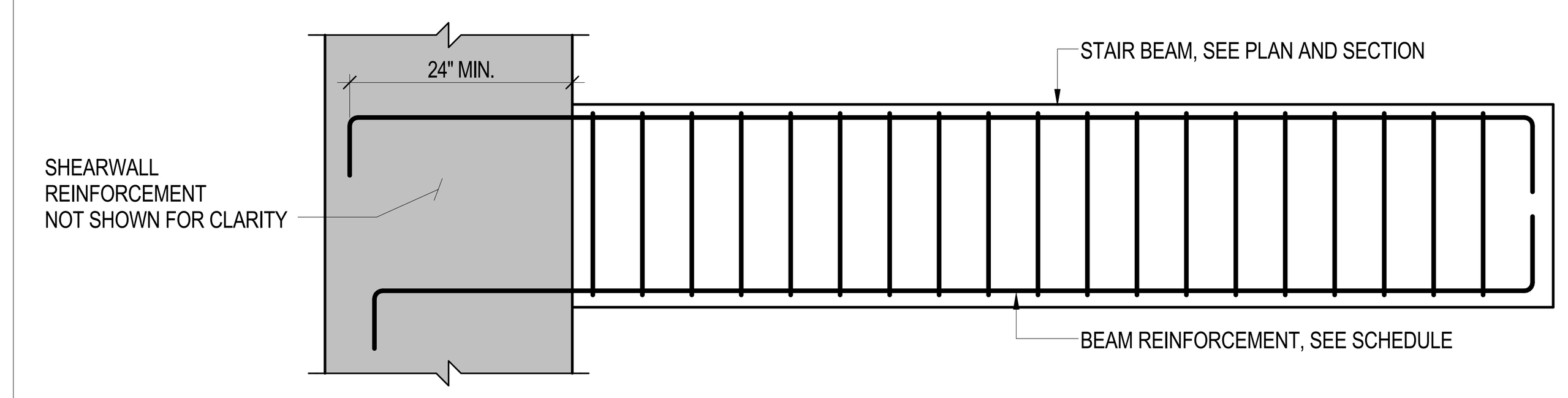


A STAIR A KEY PLAN

1/16" = 1'-0"

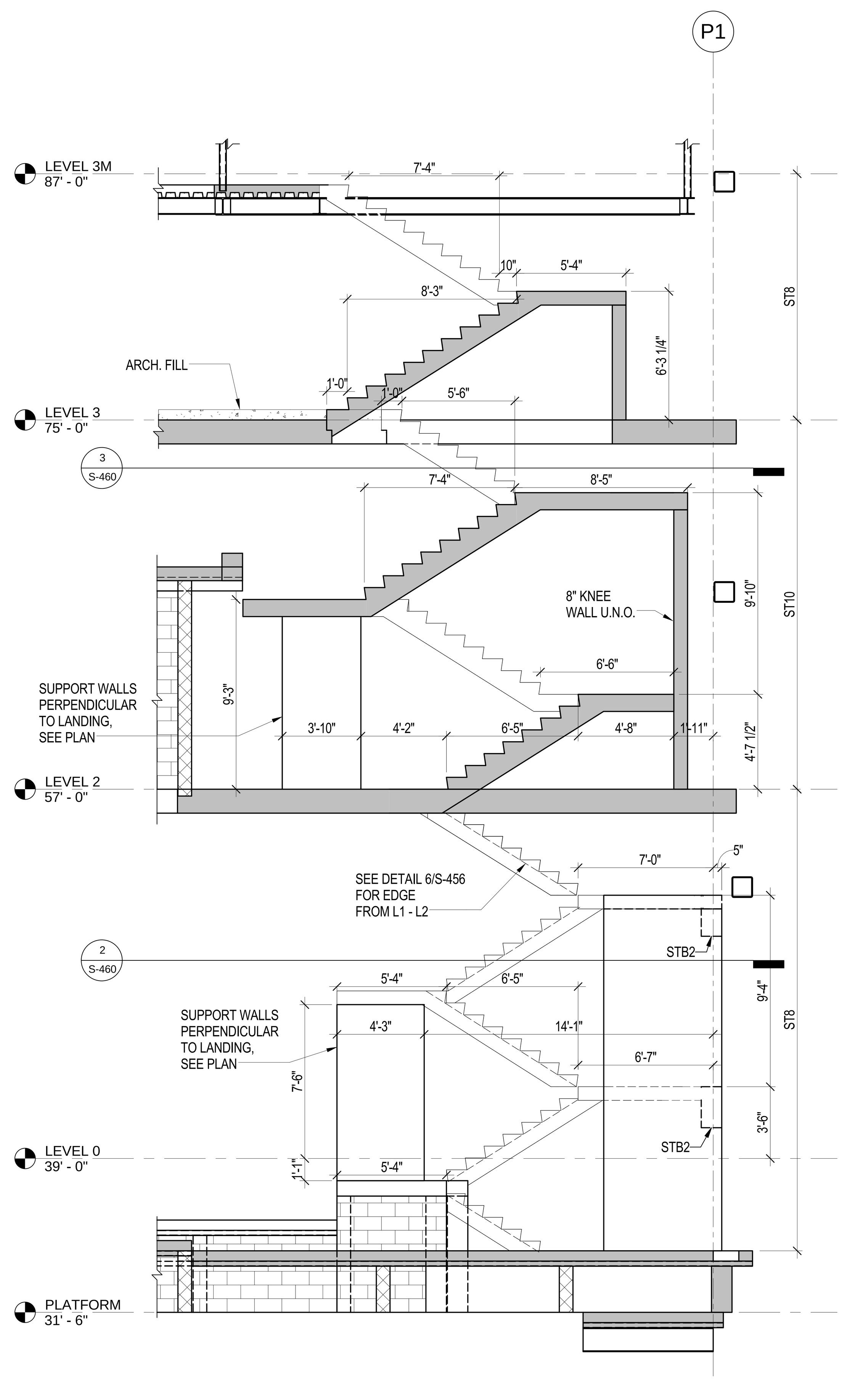
STAIR BEAM SCHEDULE									
MARK	SIZE		REINFORCEMENT				STIRRUPS		
	WIDTH (IN.)	DEPTH (IN.)	TOP BARS MARK SIDE	TOP BARS OPP. SIDE	BOTTOM BARS	SIDE BARS EA. FACE	SIZE	TYPE	SPACING (IN.)
STB1	12	24	3-#9*	3-#9*	2-#9	2-#9	#4	1	6
STB2	12	24	2-#9	2-#9	2-#9	2-#9	#4	1	6
STB3	12	18	2-#6	2-#6	2-#6	1-#6	#4	1	6

* DEVELOP TOP AND BOTTOM BARS WITHIN SHEARWALL WITH STANDARD 90 DEGREE HOOK



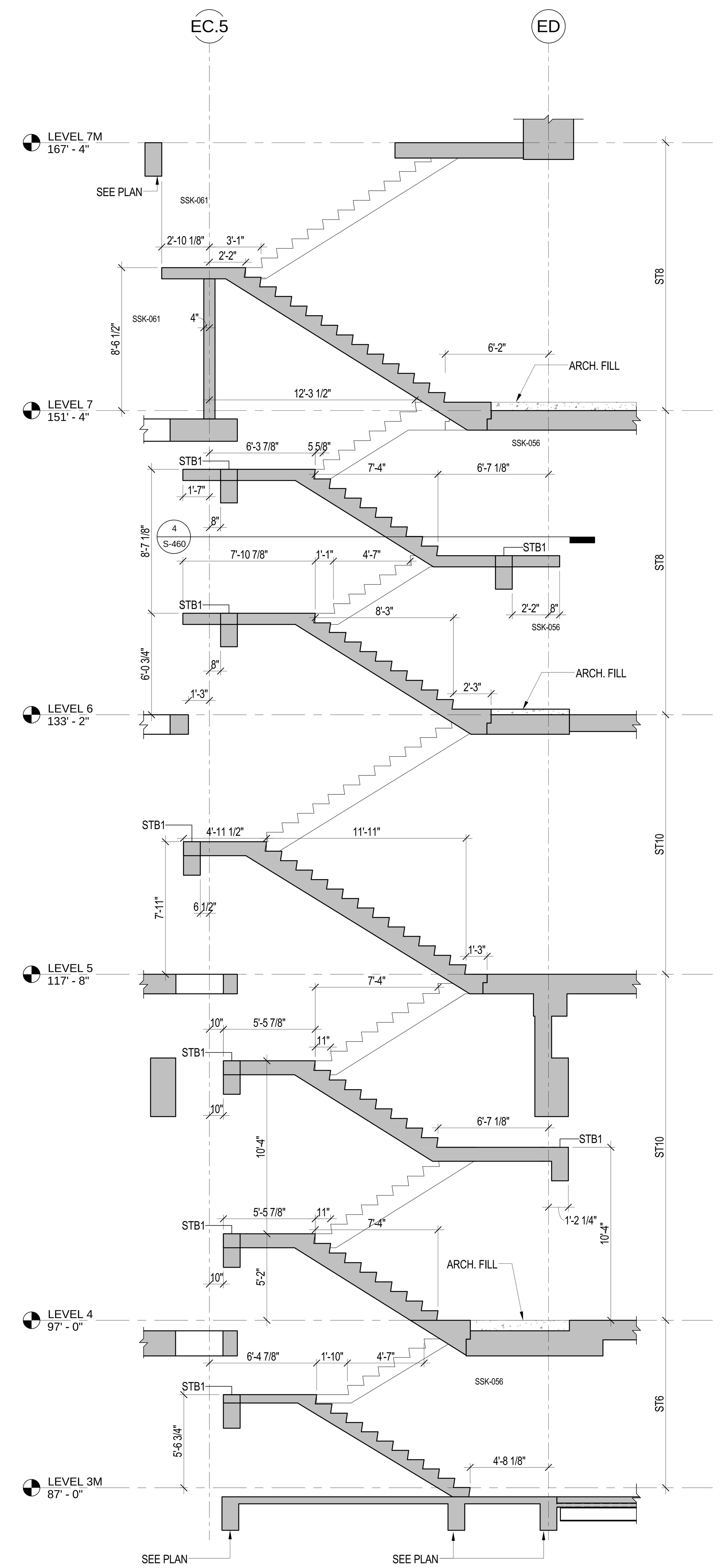
B STAIR BEAM REINFORCEMENT DEVELOPMENT DETAIL

3/4" = 1'-0"



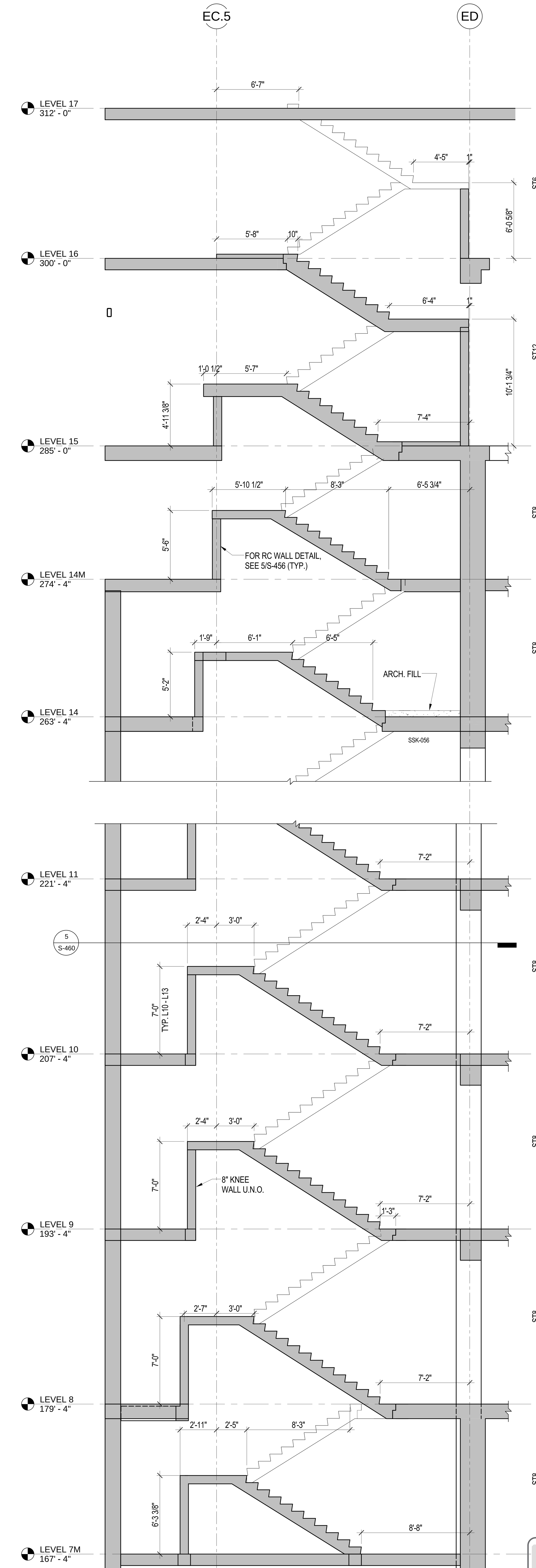
1 STAIR A SECTION - LOOKING WEST

1/4" = 1'-0"



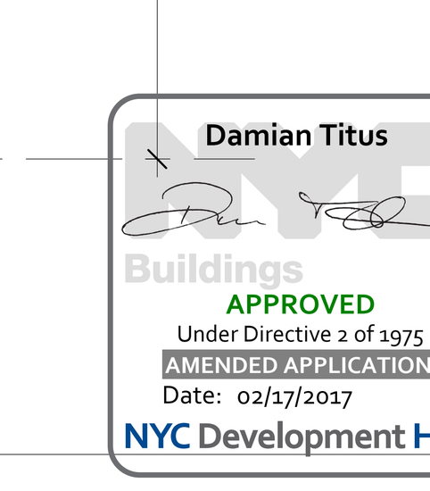
2 STAIR A SECTION - LOOKING NORTH

1/4" = 1'-0"



3 STAIR A SECTION - LOOKING NORTH

1/4" = 1'-0"



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DRAWING TITLE

STAIR A SECTIONS

B-SCAN - DRAWING NUMBER

S-457.00 4

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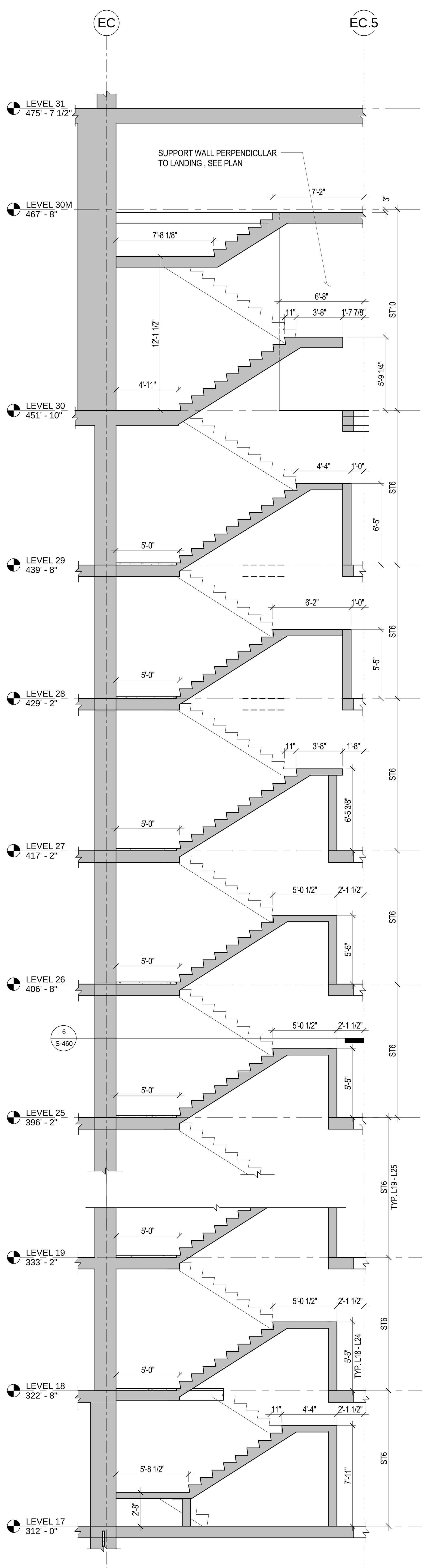
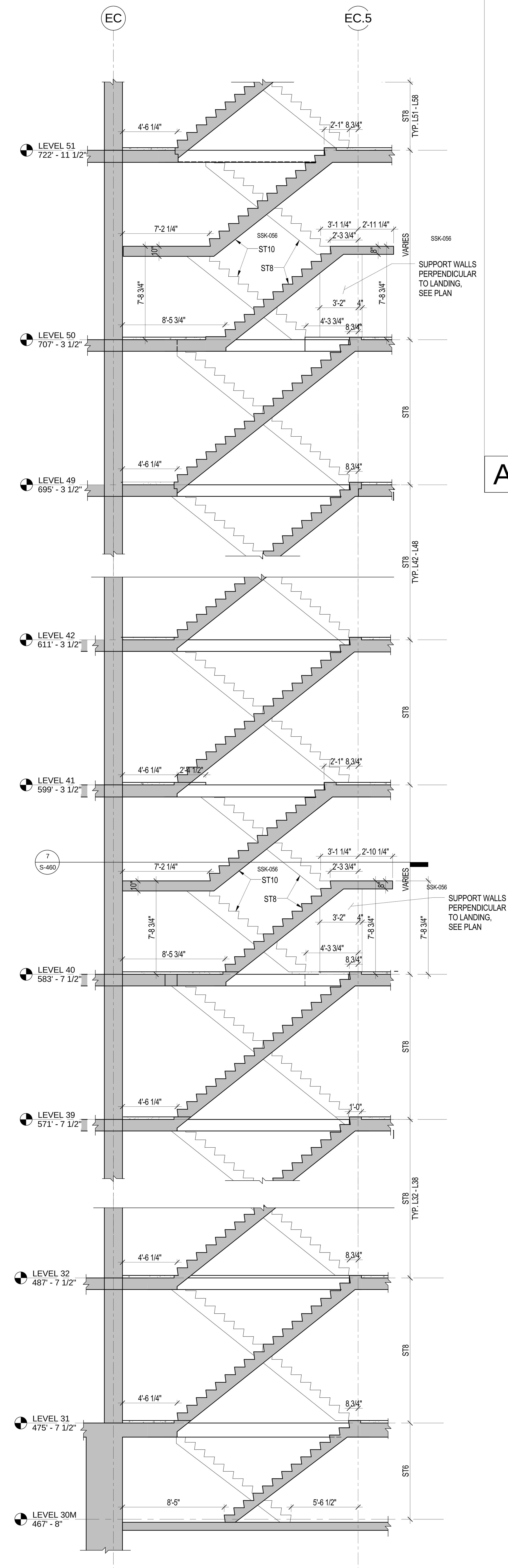
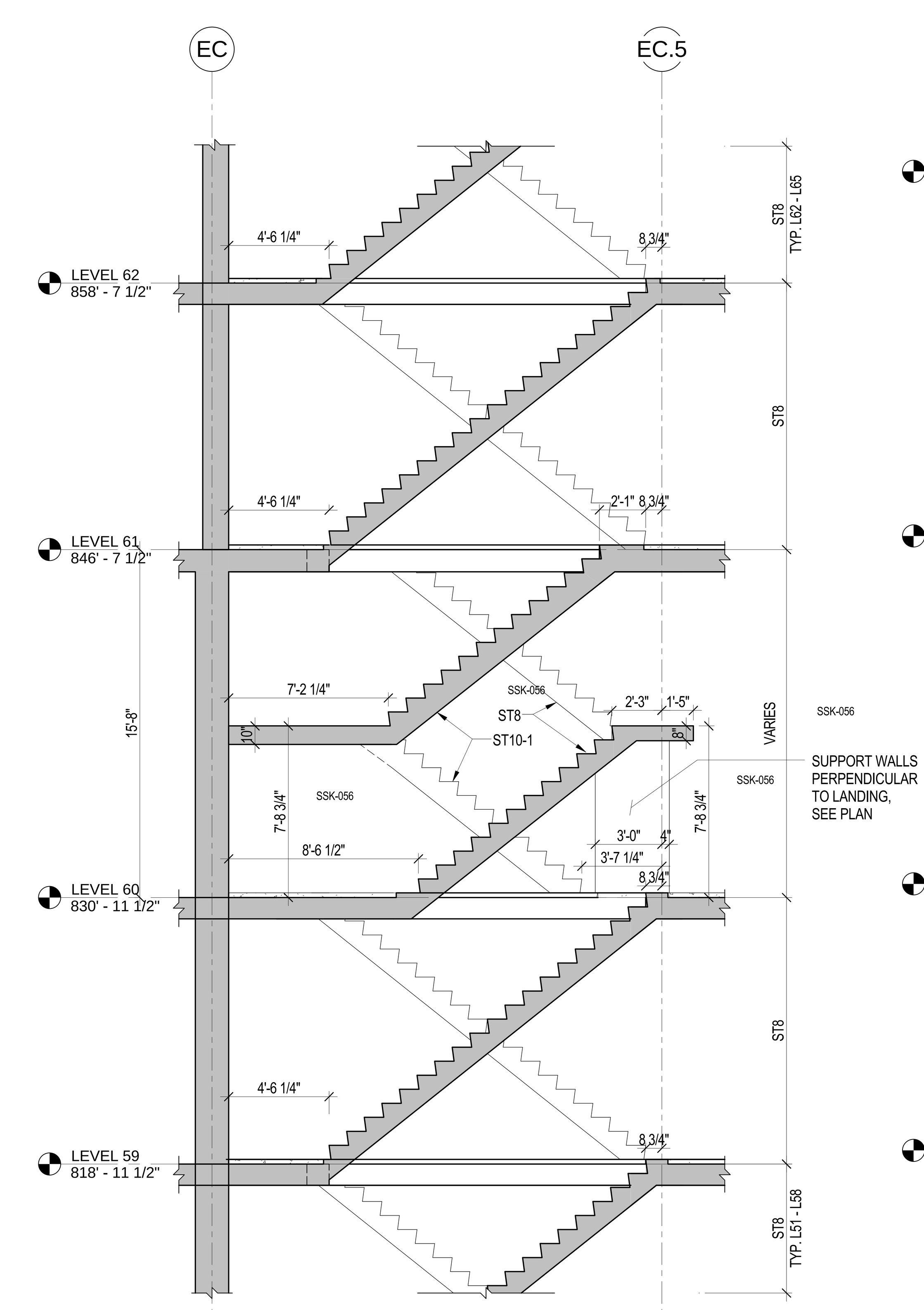
S-457

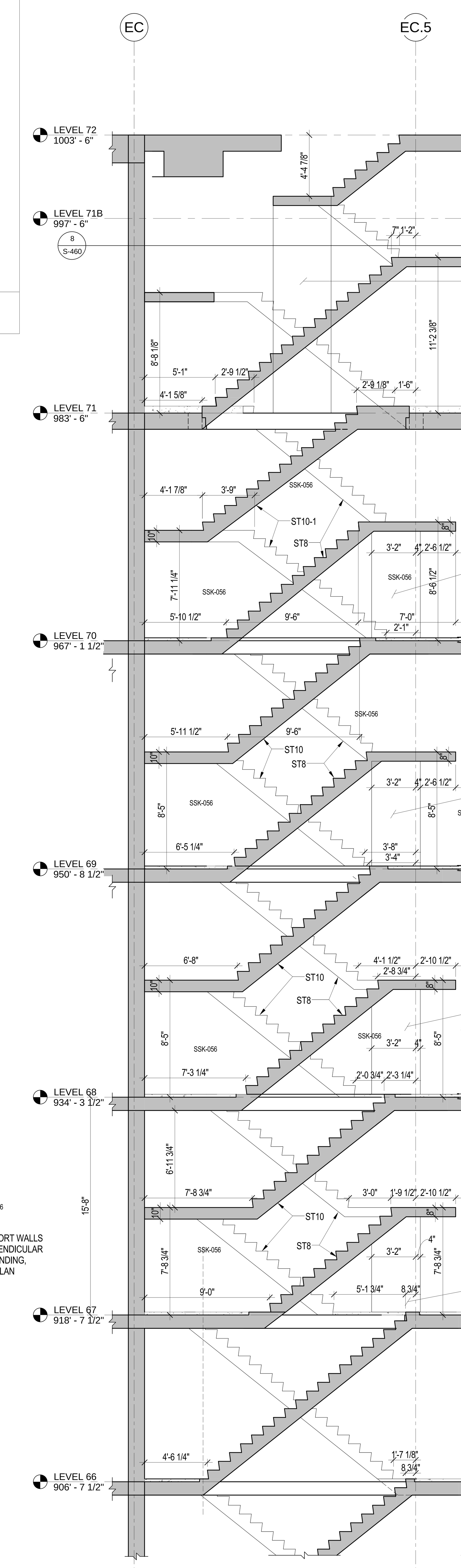


1 STAIR A SECTION (L17-30M) - LOOKING NORTH1

1/4" = 1'-0"

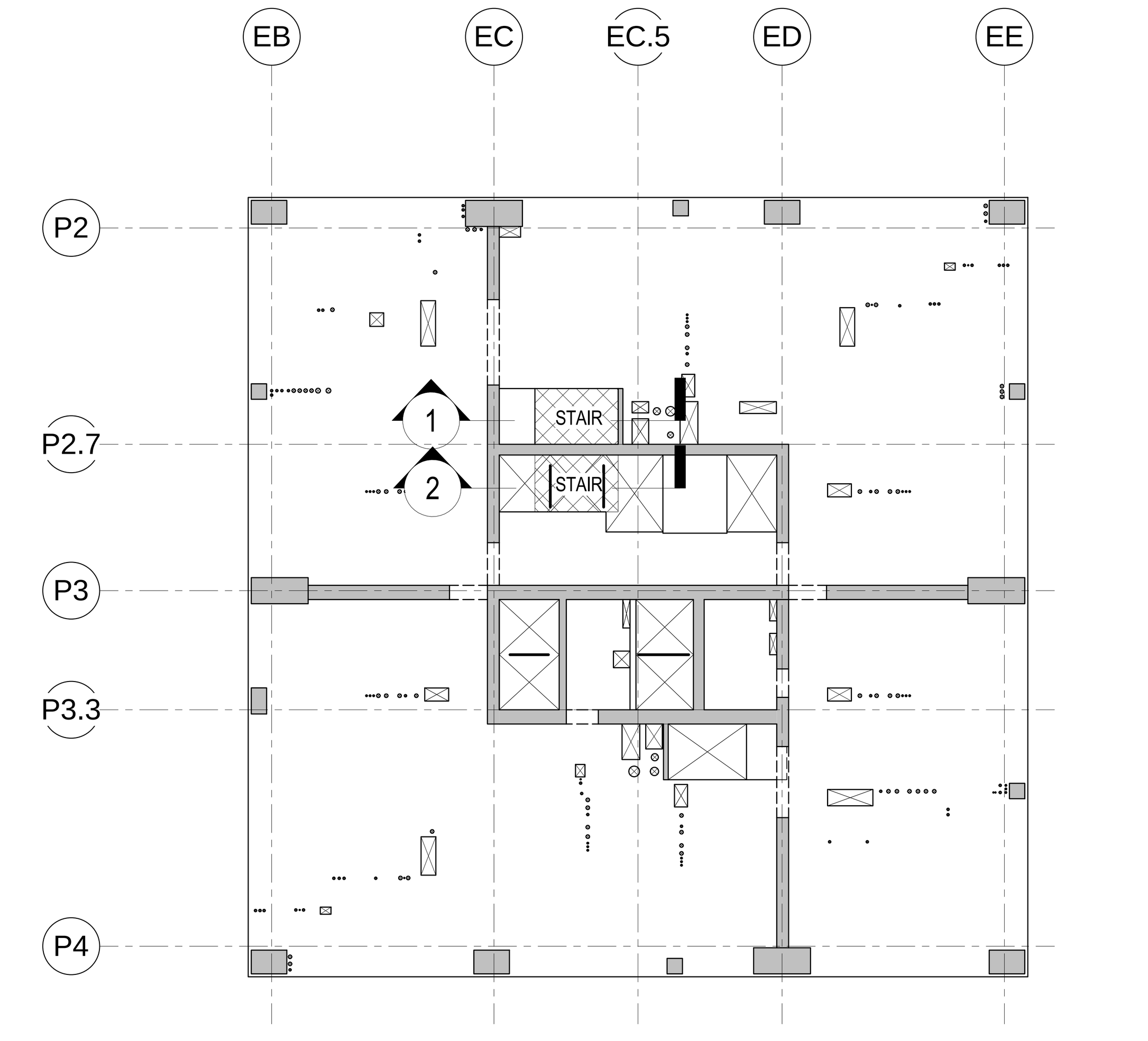






2 STAIR A&B SCISSOR SECTION

1/4" = 1'-0"



A STAIR A KEY PLAN

1/16" = 1'-0"

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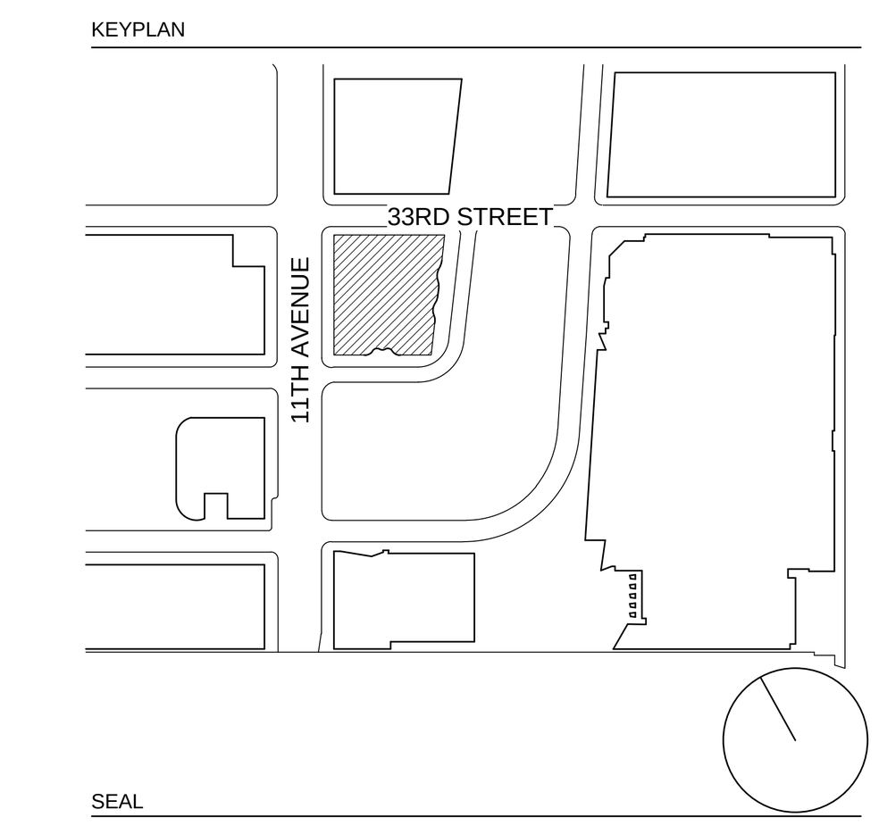

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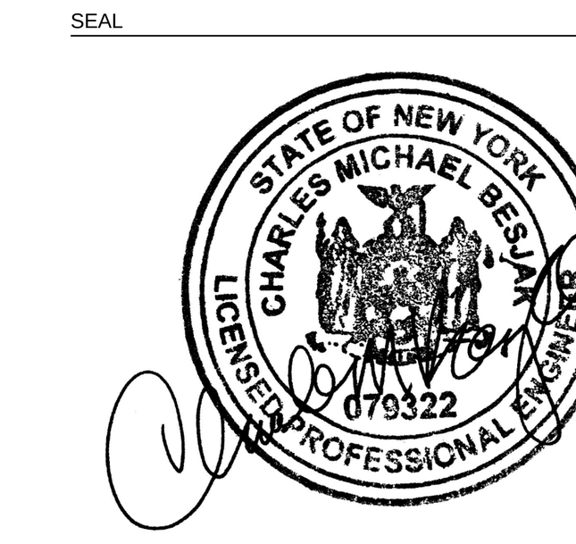

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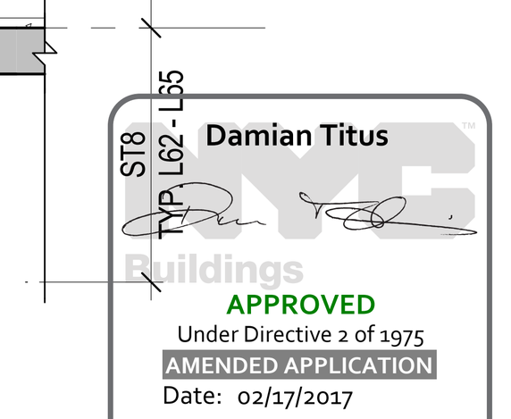

B-SCAN - DRAWING NUMBER

S-458.00

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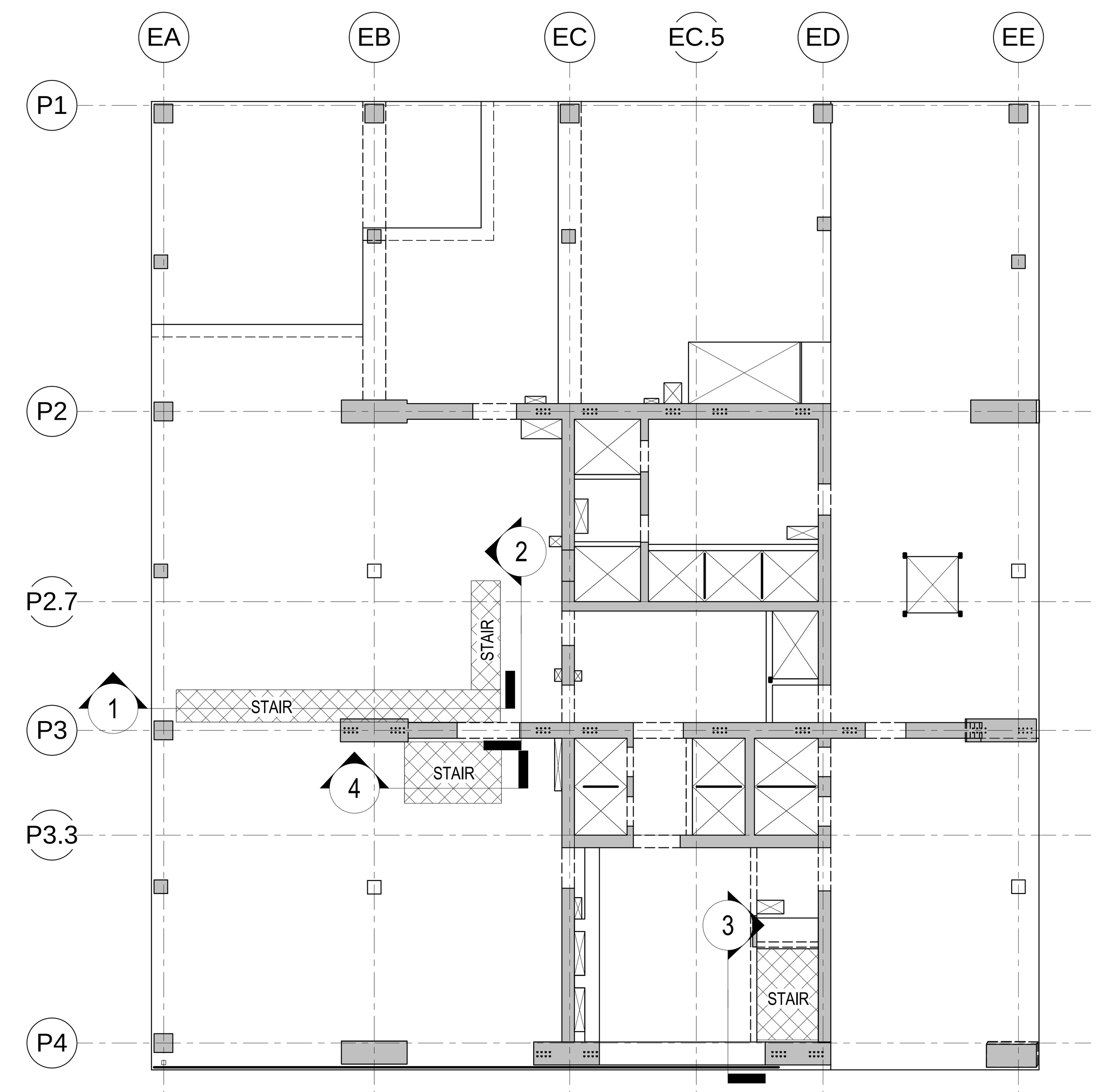
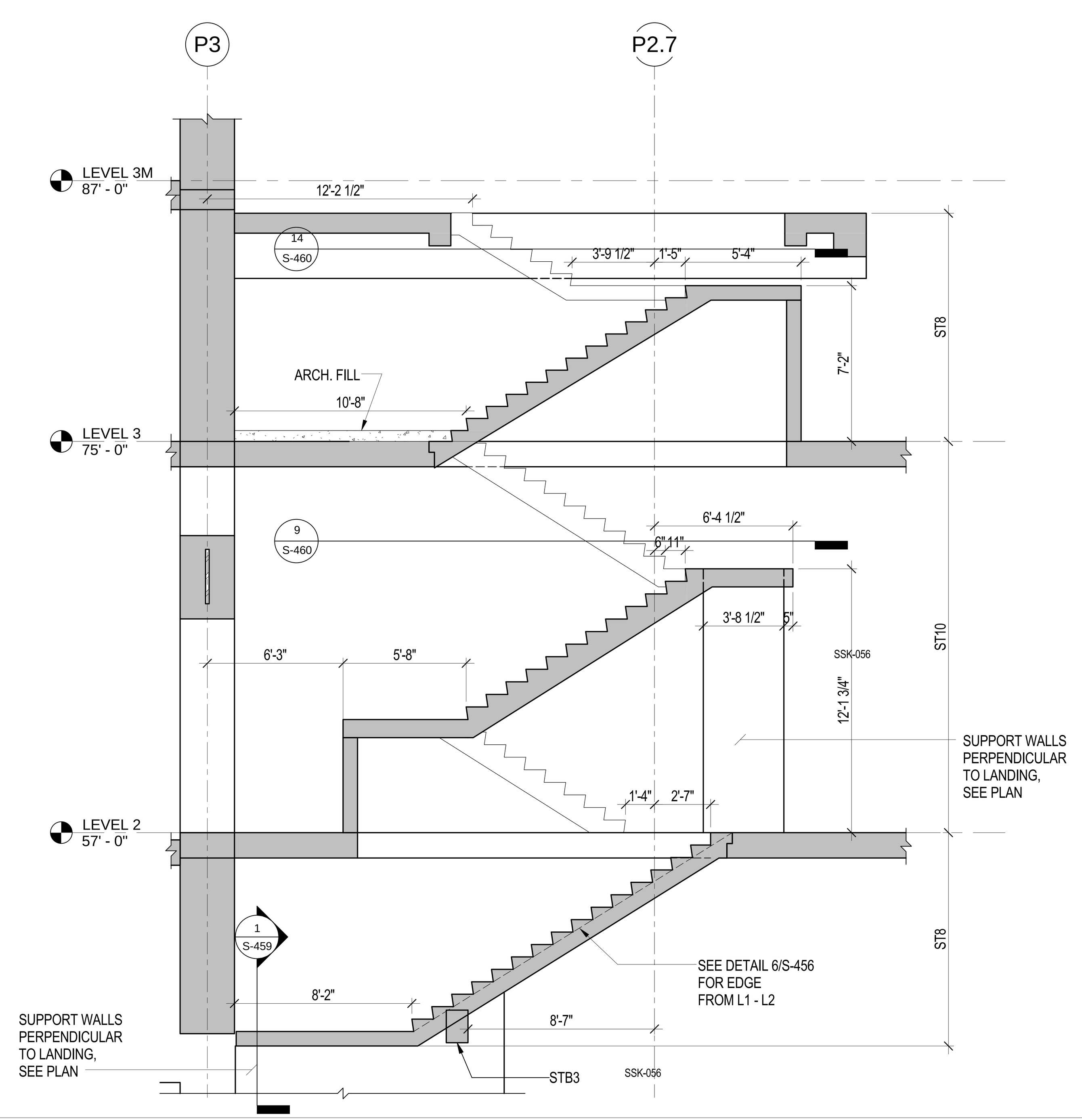
S-458

PAGE NUMBER

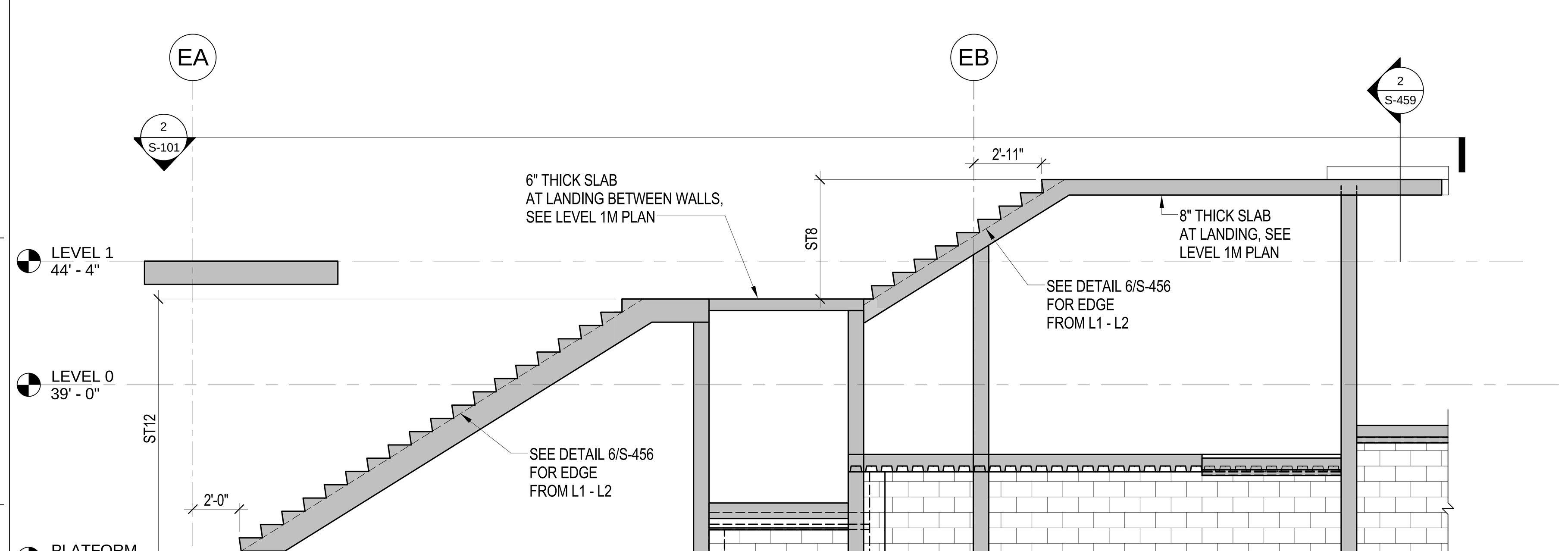
84 OF 112



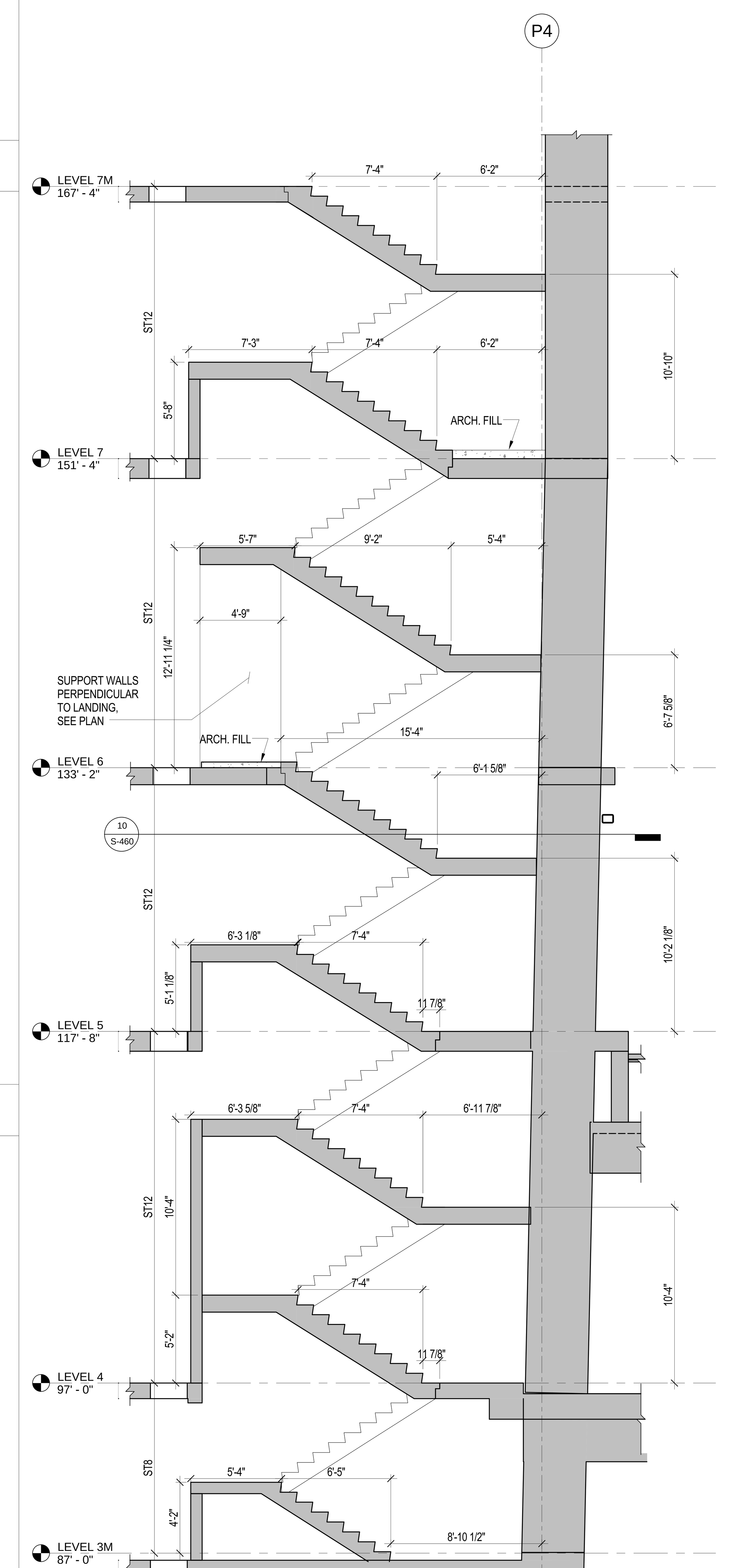
A STAIR B KEY PLAN
1/16" = 1'-0"



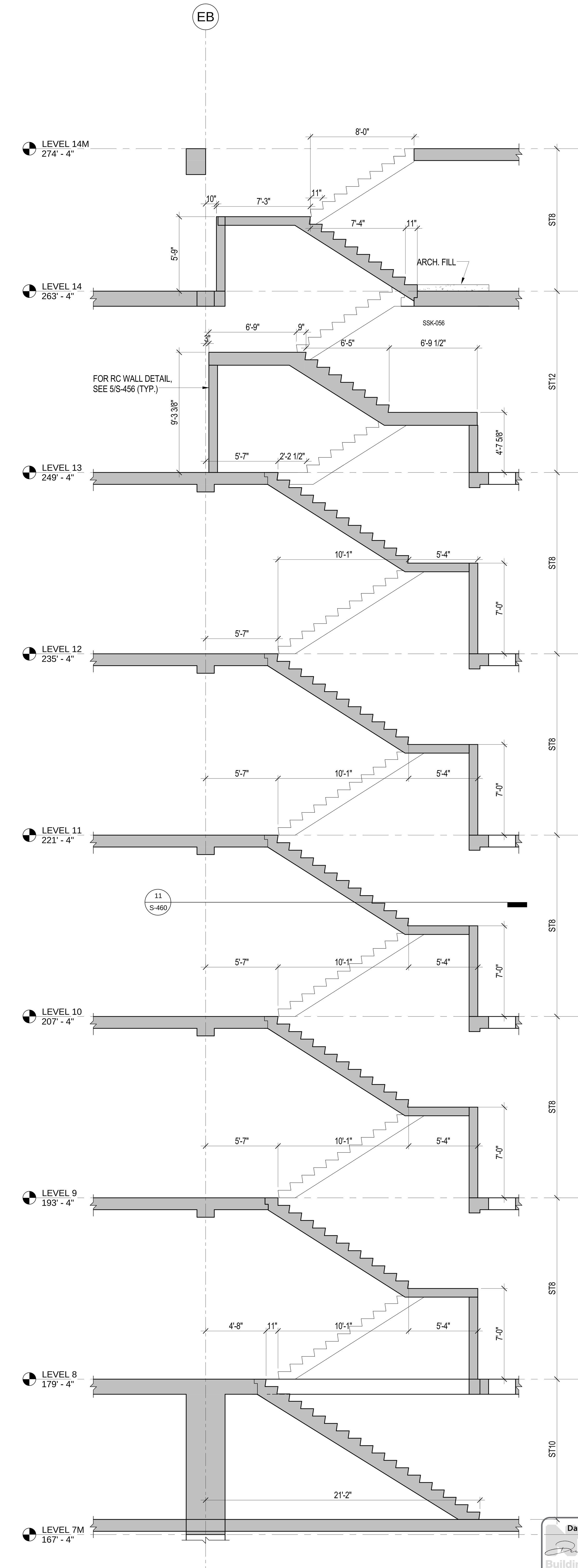
2 STAIR B SECTION - LOOKING WEST
1/4" = 1'-0"



1 STAIR B SECTION - LOOKING NORTH
1/4" = 1'-0"



3 STAIR B SECTION - LOOKING EAST
1/4" = 1'-0"



4 STAIR B SECTION - LOOKING NORTH
1/4" = 1'-0"

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STAIR B SECTIONS

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S-459

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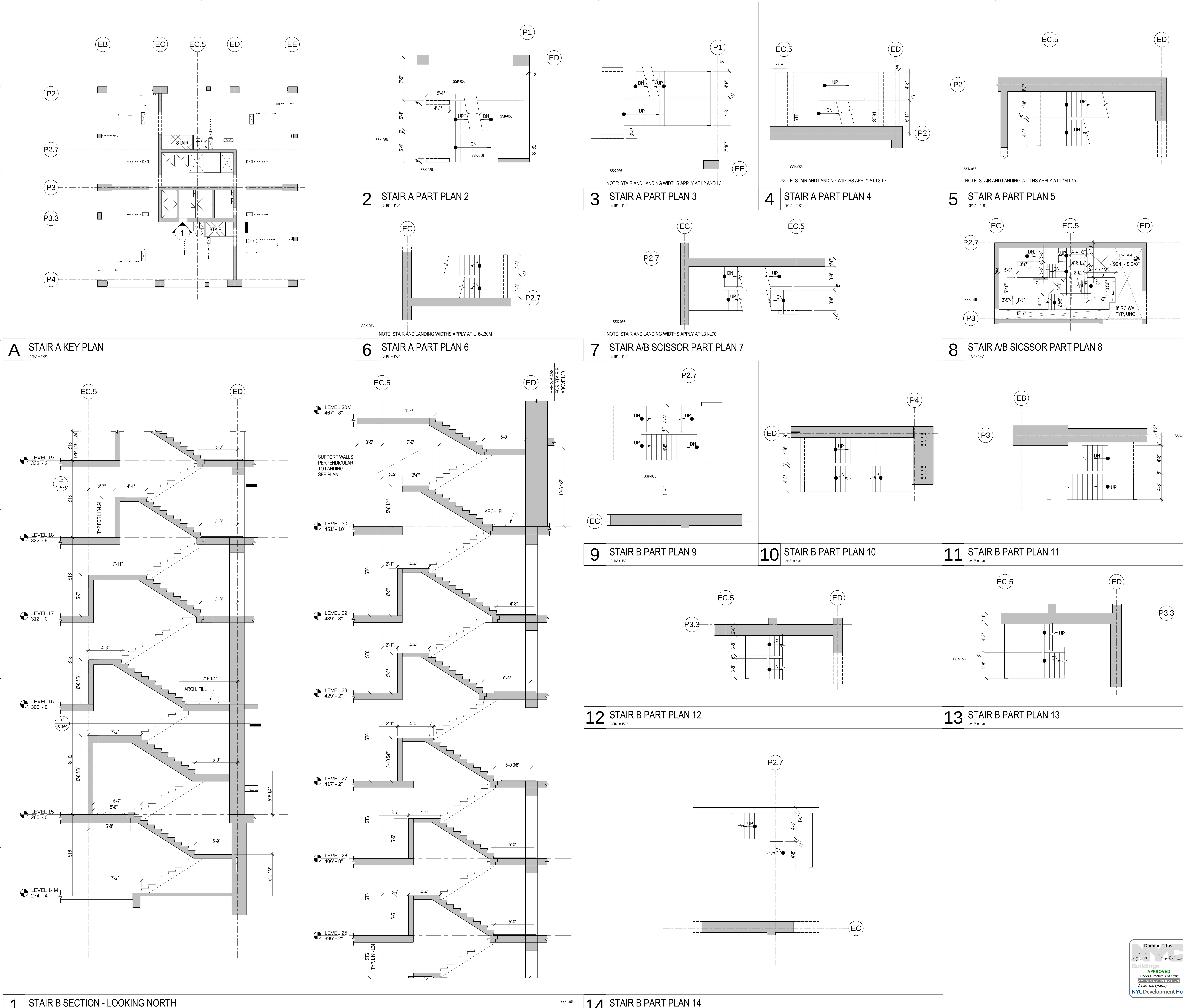

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STAIR B SECTIONS CONT.

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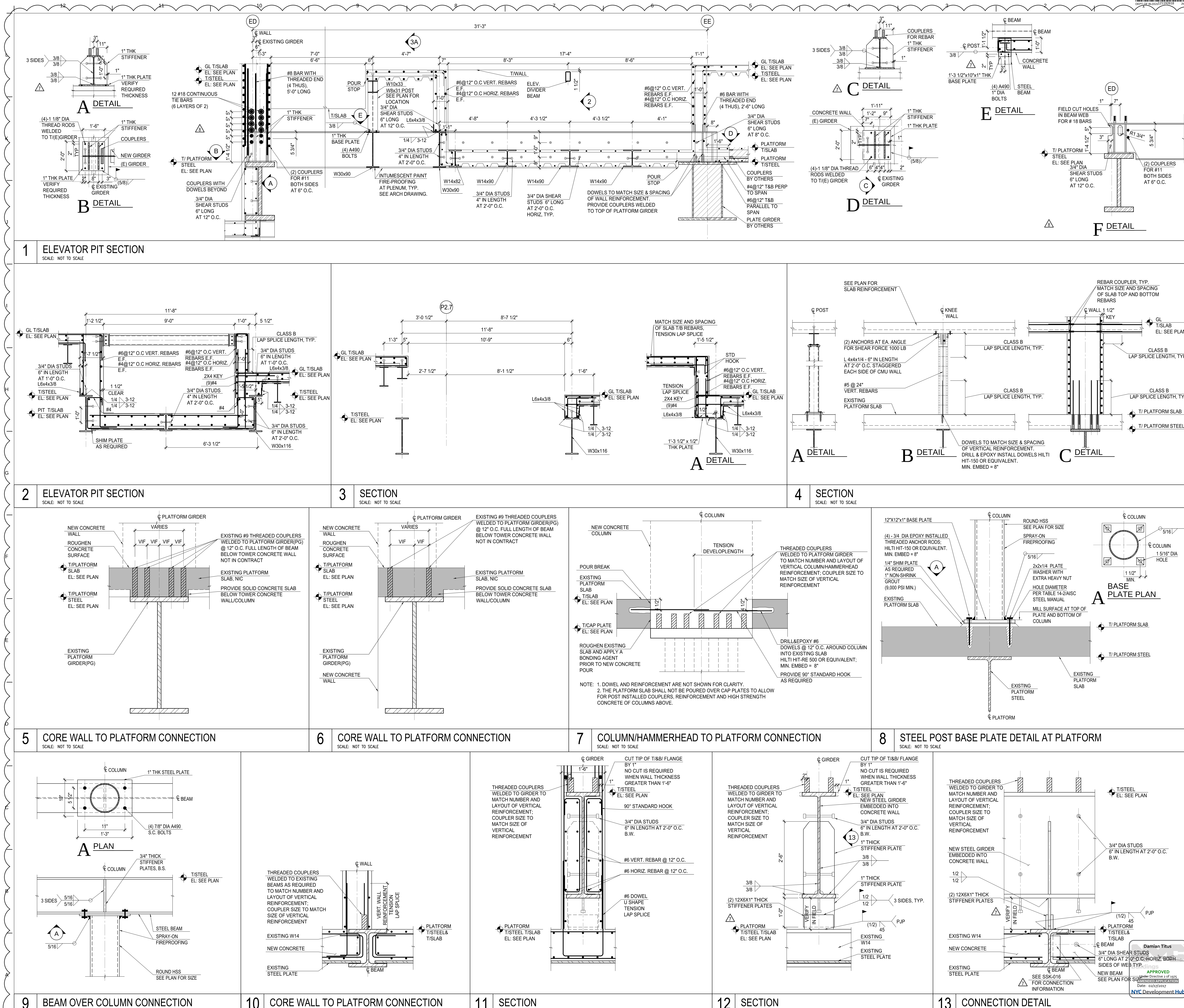

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6	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 8
5	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE

GROUND FLOOR SECTIONS AND DETAILS

B-SCAN - DRAWING NUMBER

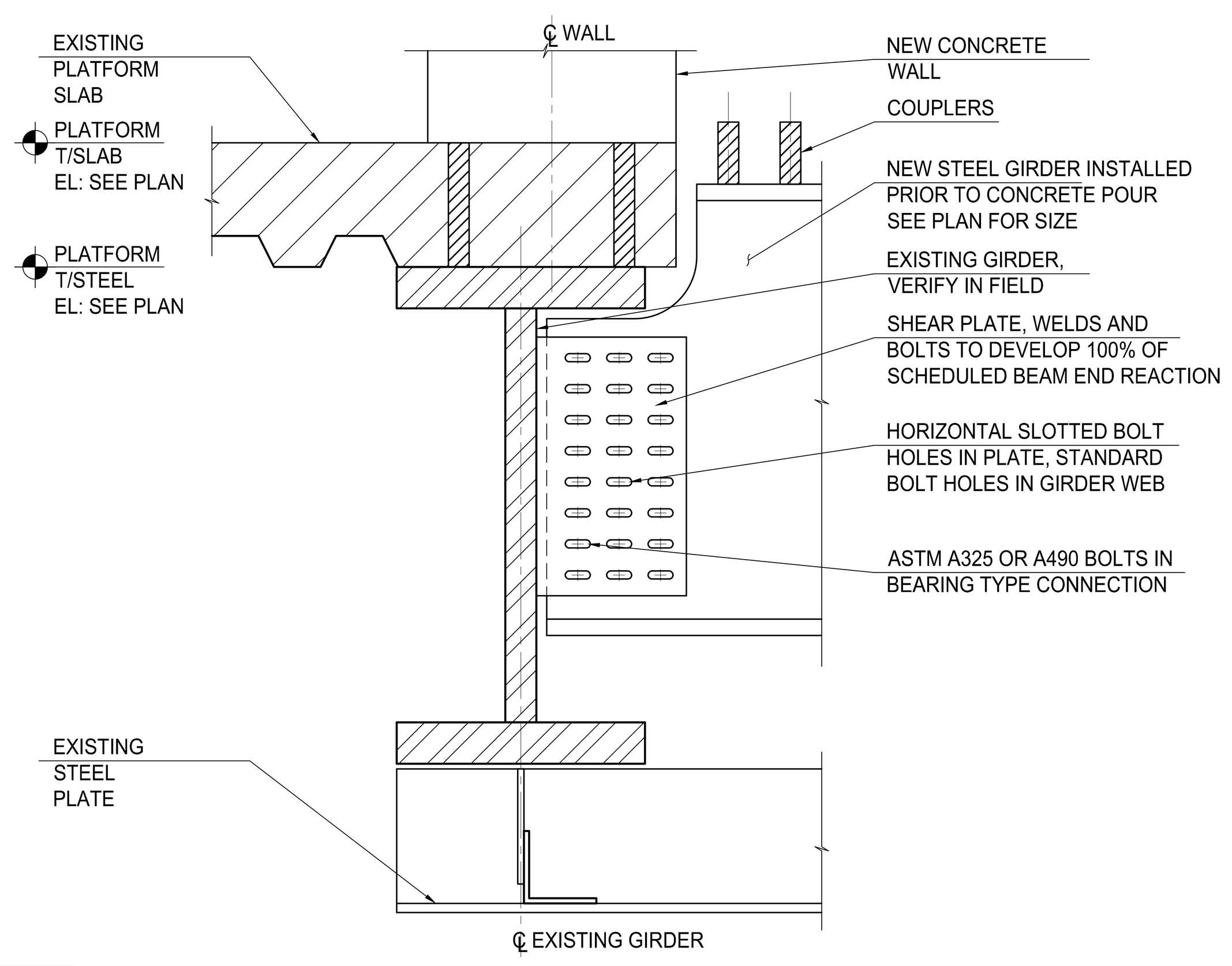
S-461.01

DRAWING NUMBER

S-461

PAGE NUMBER

87 OF 112



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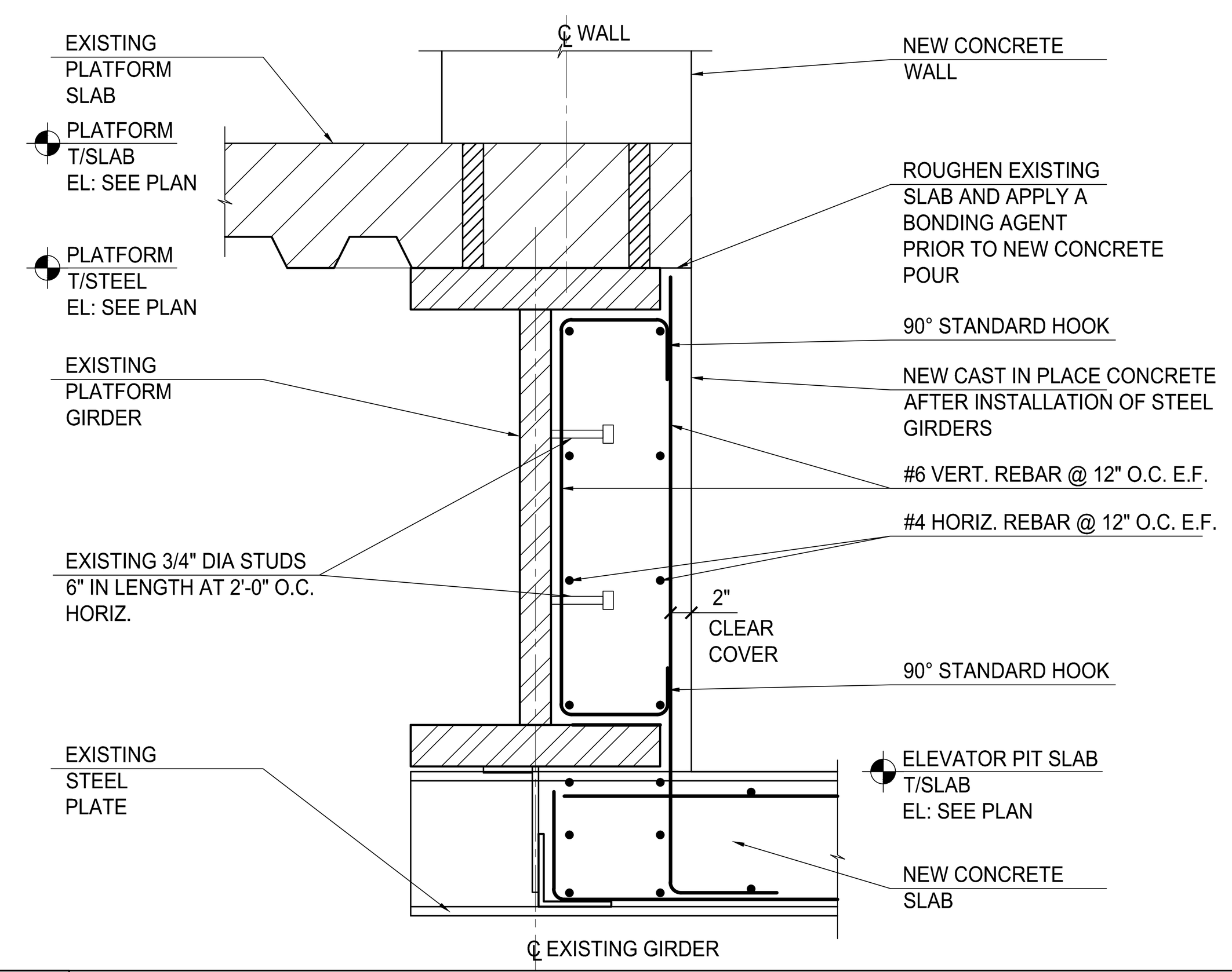

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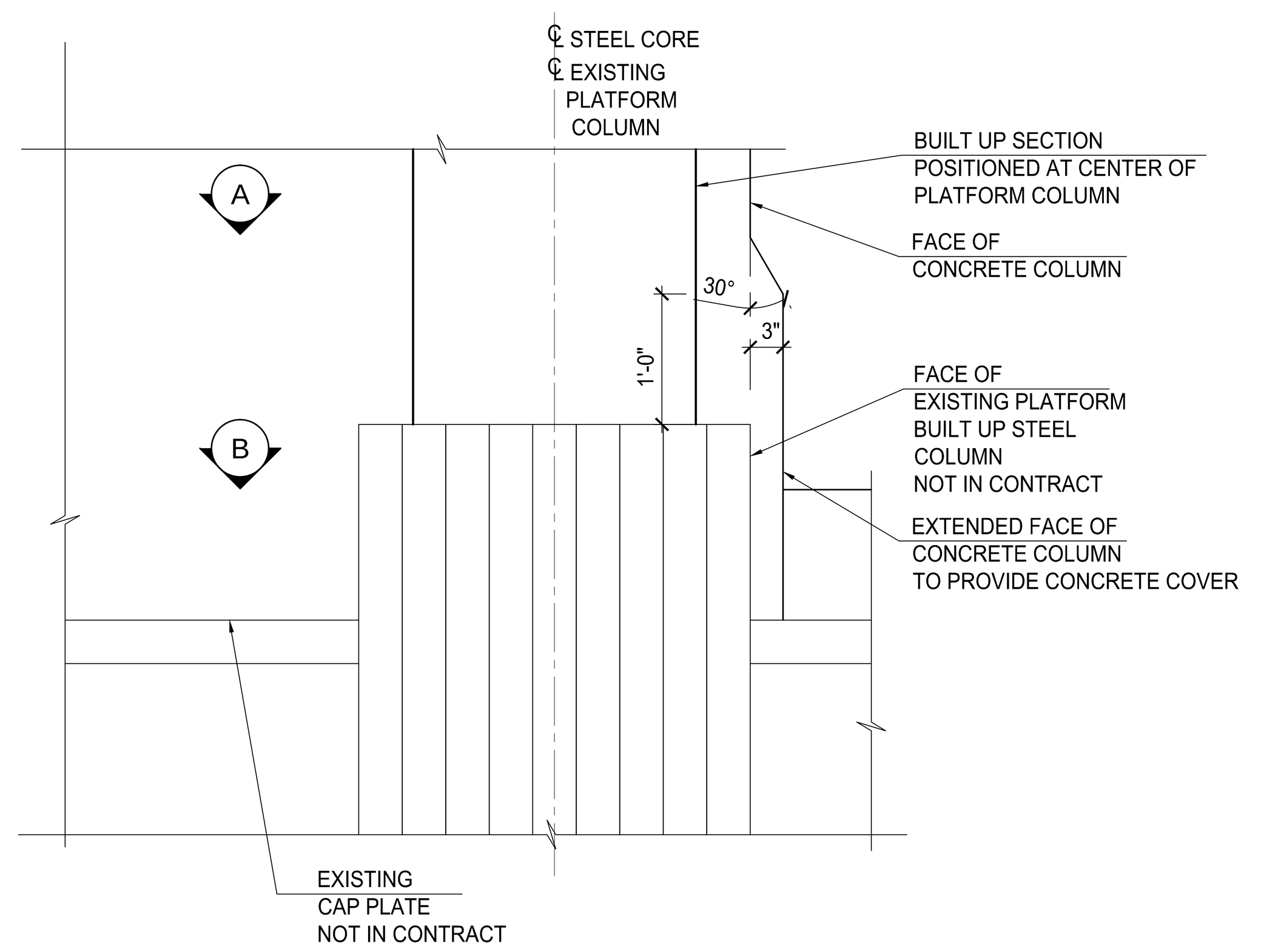

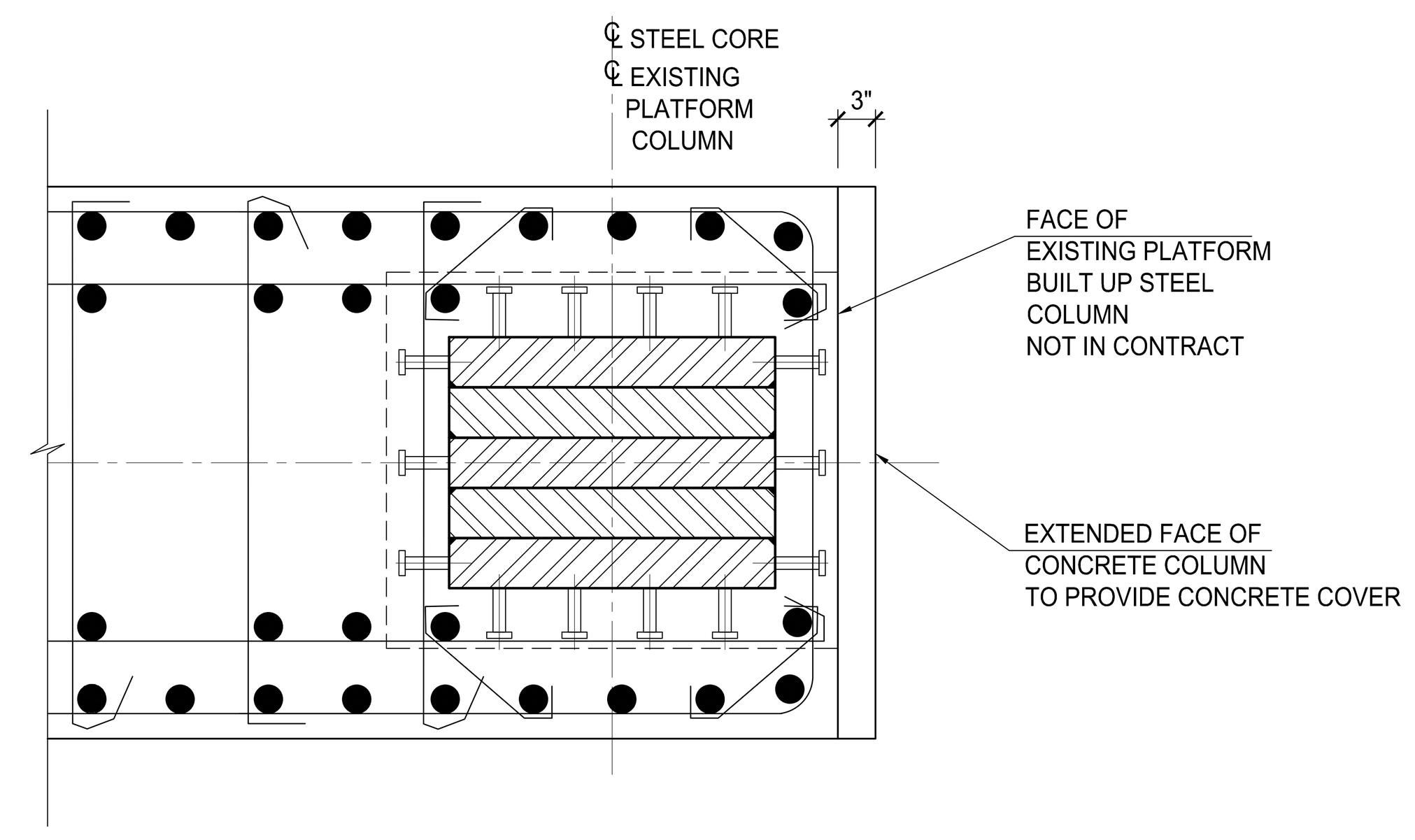

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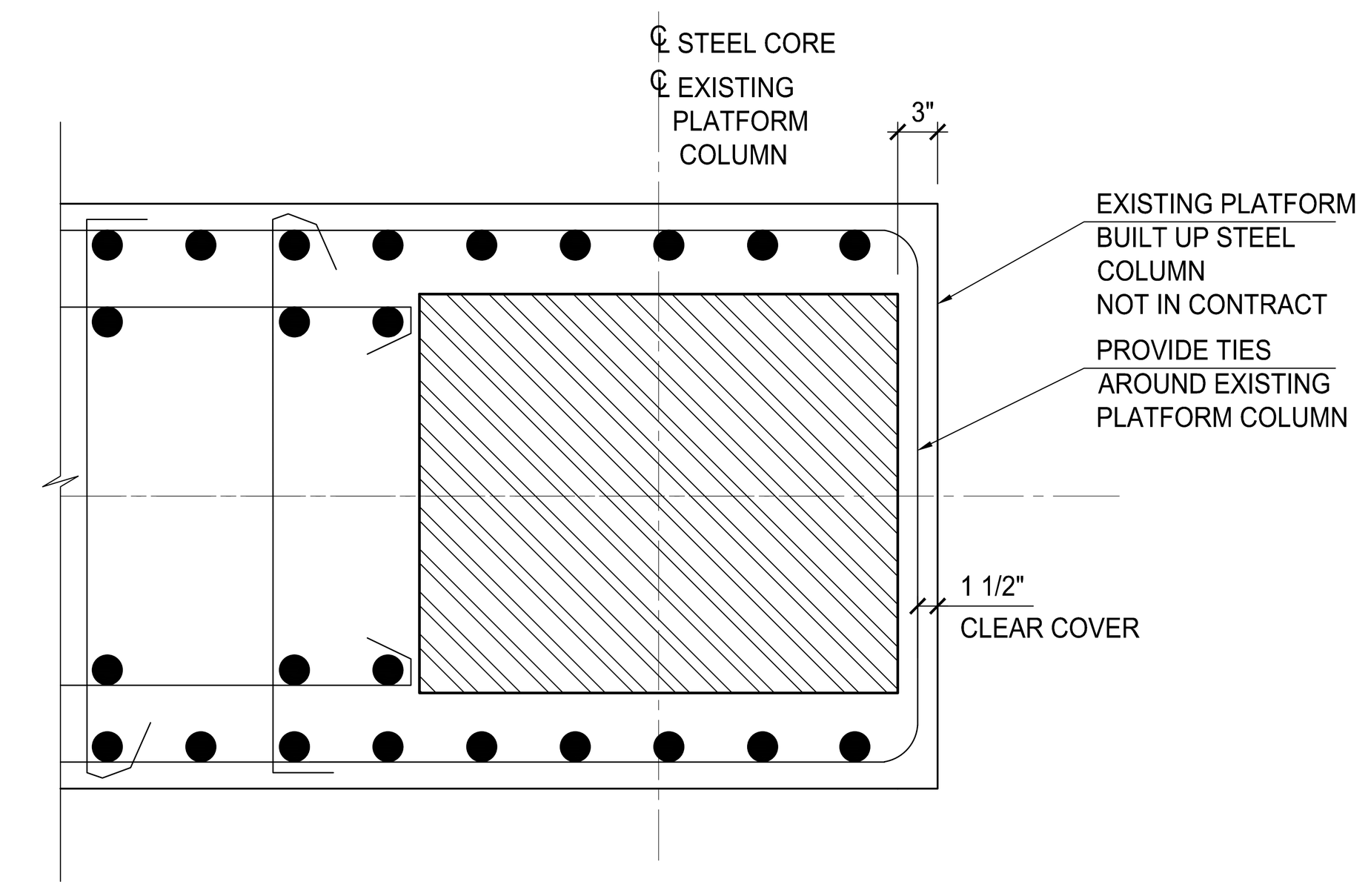

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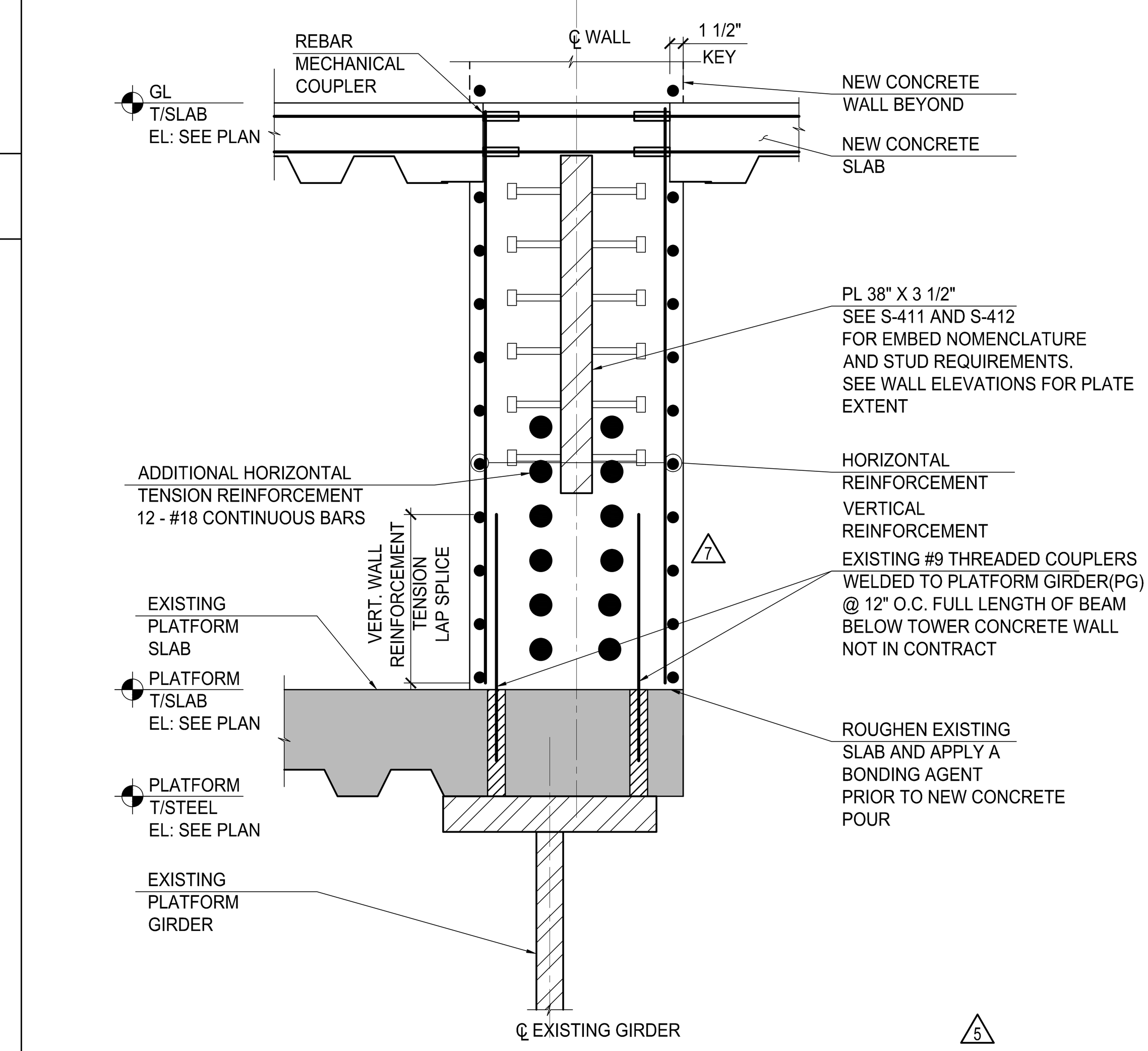
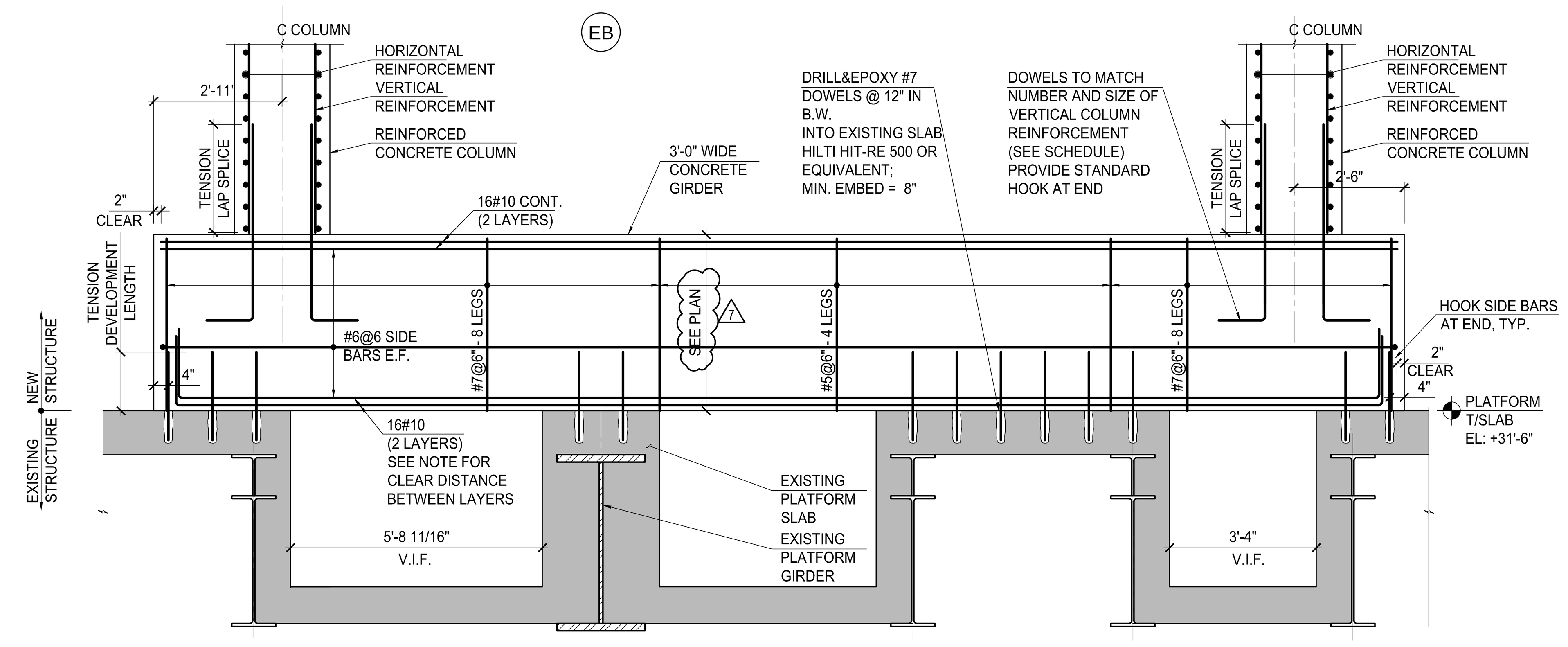
4 DETAIL
SCALE: NOT TO SCALE

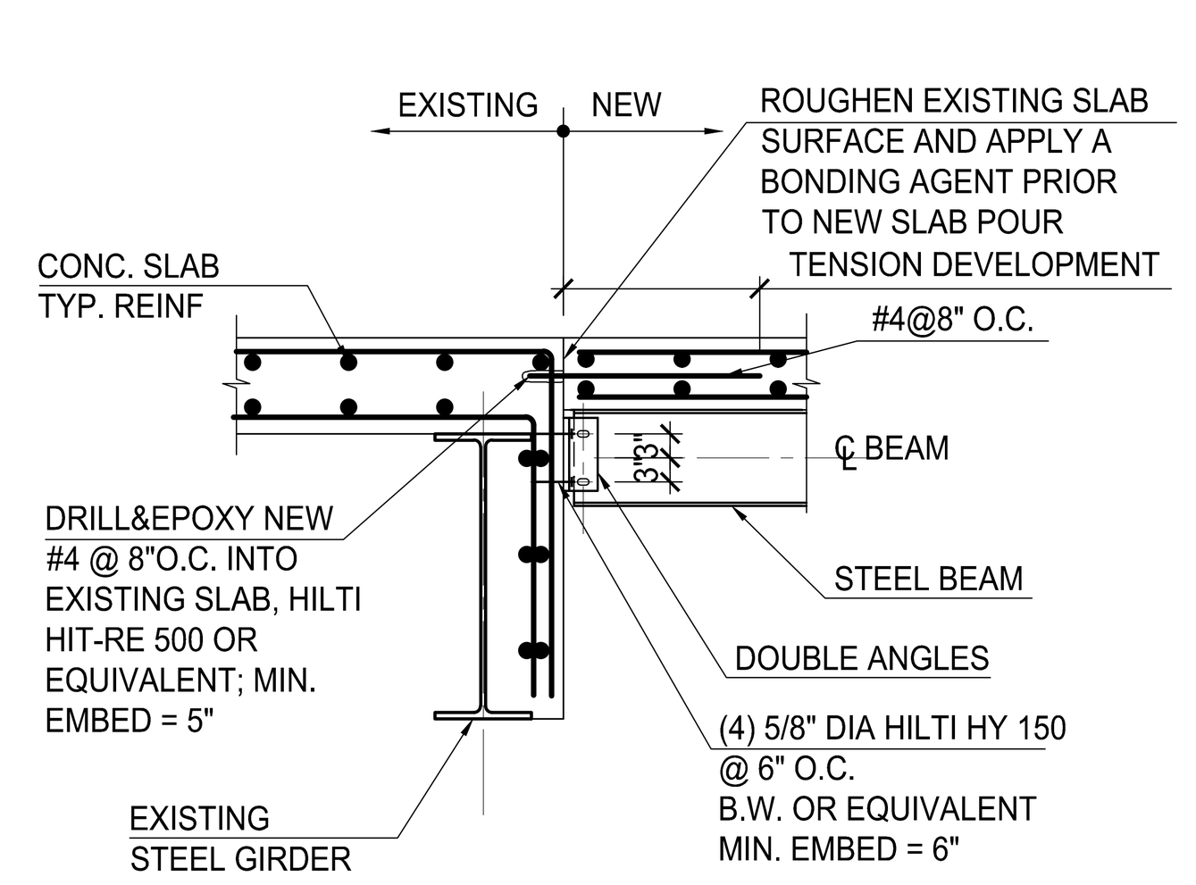


3 WALL 2 AND 3 HORIZONTAL BAR DETAIL
SCALE: NOT TO SCALE



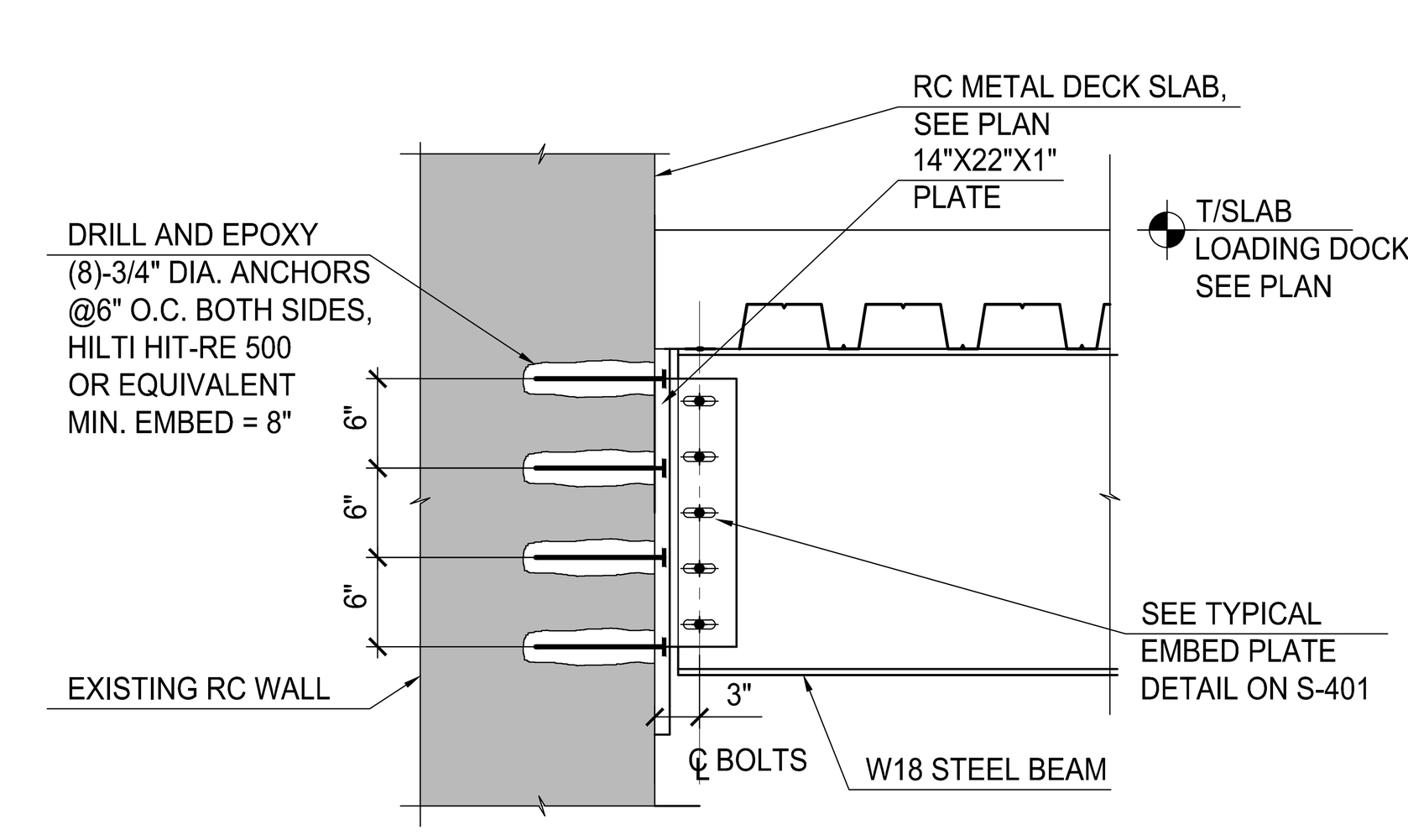
NOTE: 1. WHERE BARS ARE PLACED IN TWO LAYERS THE MINIMUM CLEAR DISTANCE BETWEEN LAYERS SHALL BE THE LARGER OF BAR DIAMETER OR 1 1/3"

5 SECTION
SCALE: NOT TO SCALE

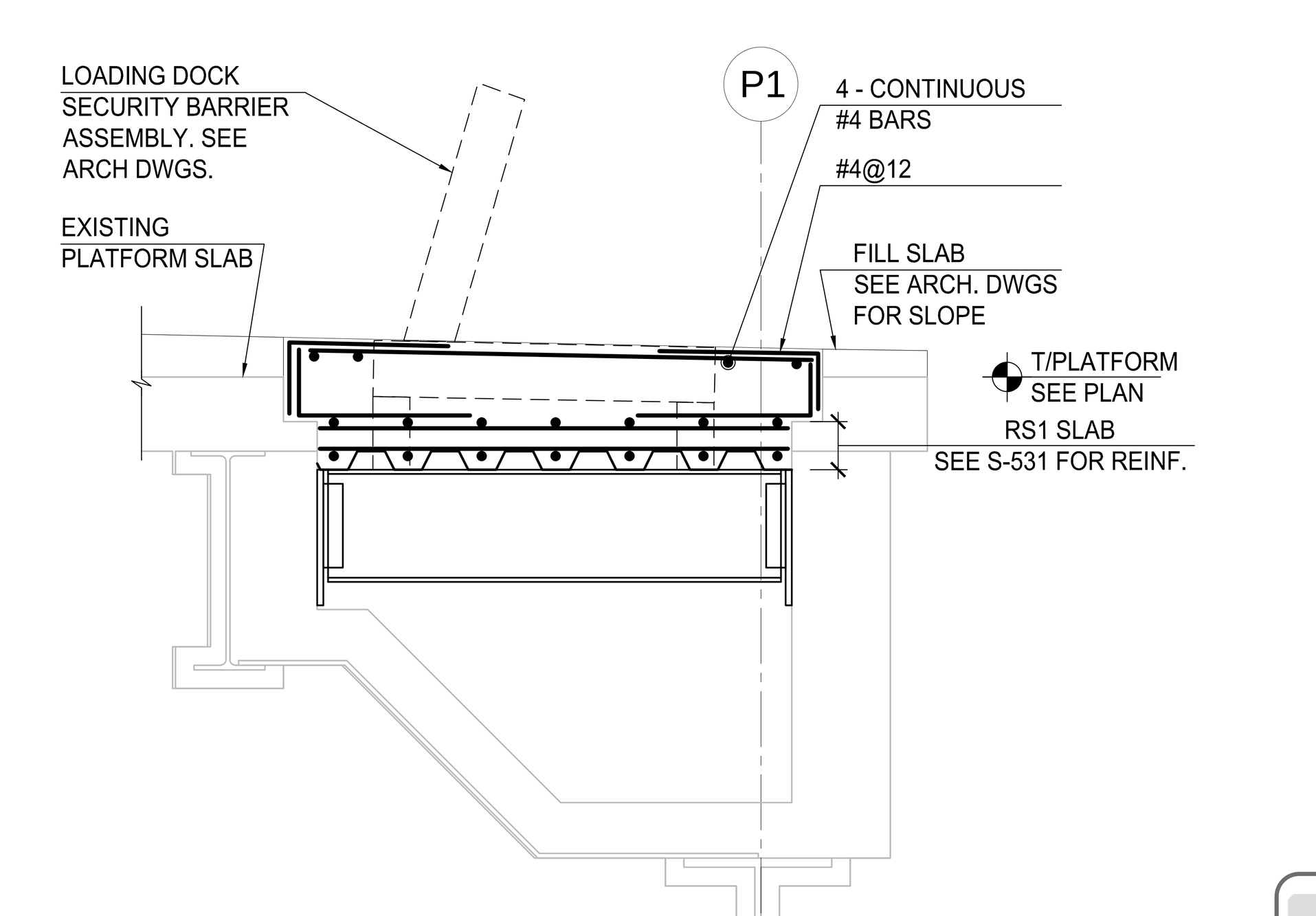


NOTE:
1. CONNECTION TO DEVELOP THE FACTORED BEAM REACTION IN ACCORDANCE WITH THE AISC-LRFD RECOMMENDED PRACTICE FOR A DOUBLE ANGLE CONNECTION.
2. SHEAR PLATES, BOLTS AND WELDS TO DEVELOP 100% OF SCHEDULED BEAM END REACTION.

10 POST-INSTALLED BEAM END CONNECTION DETAIL
SCALE: NOT TO SCALE



12 POST INSTALLED EMBED PLATE DETAIL
SCALE: NOT TO SCALE



NOTE:
1. LOADING DOCK BARRIER ASSEMBLY MUST BE INSTALLED BEFORE PLACEMENT OF CONCRETE SLAB.
2. REBAR MAY BE ADJUSTED AS REQUIRED AROUND EMBEDDED PORTION OF BARRIER ASSEMBLY.

13 LOADING DOCK BARRIER SLAB AT TRENCH
SCALE: NOT TO SCALE

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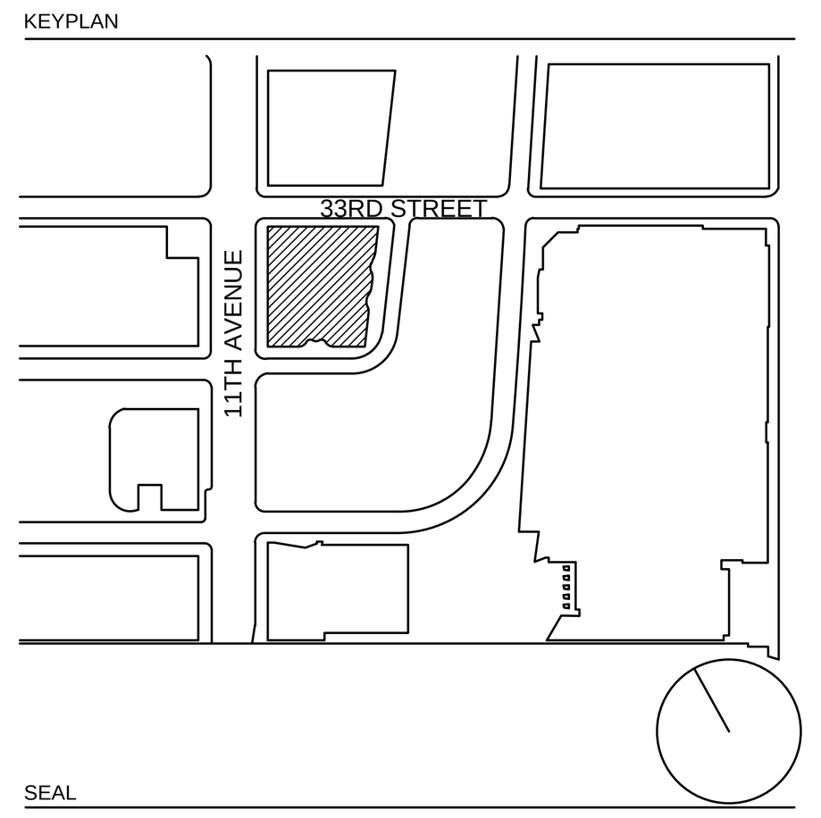

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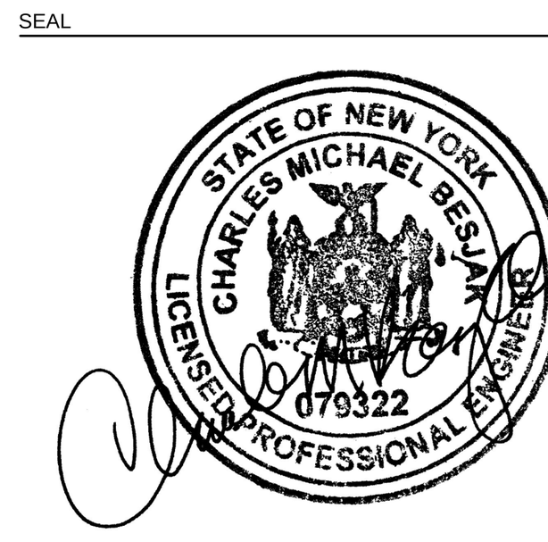

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6	18 AUG 2016	ISSUED FOR BULLETIN NO. 3
5	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
4	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
3	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
2	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
1	22 APR 2015	**ISSUED TO DESIGN DEVELOPMENT**

DRAWING TITLE

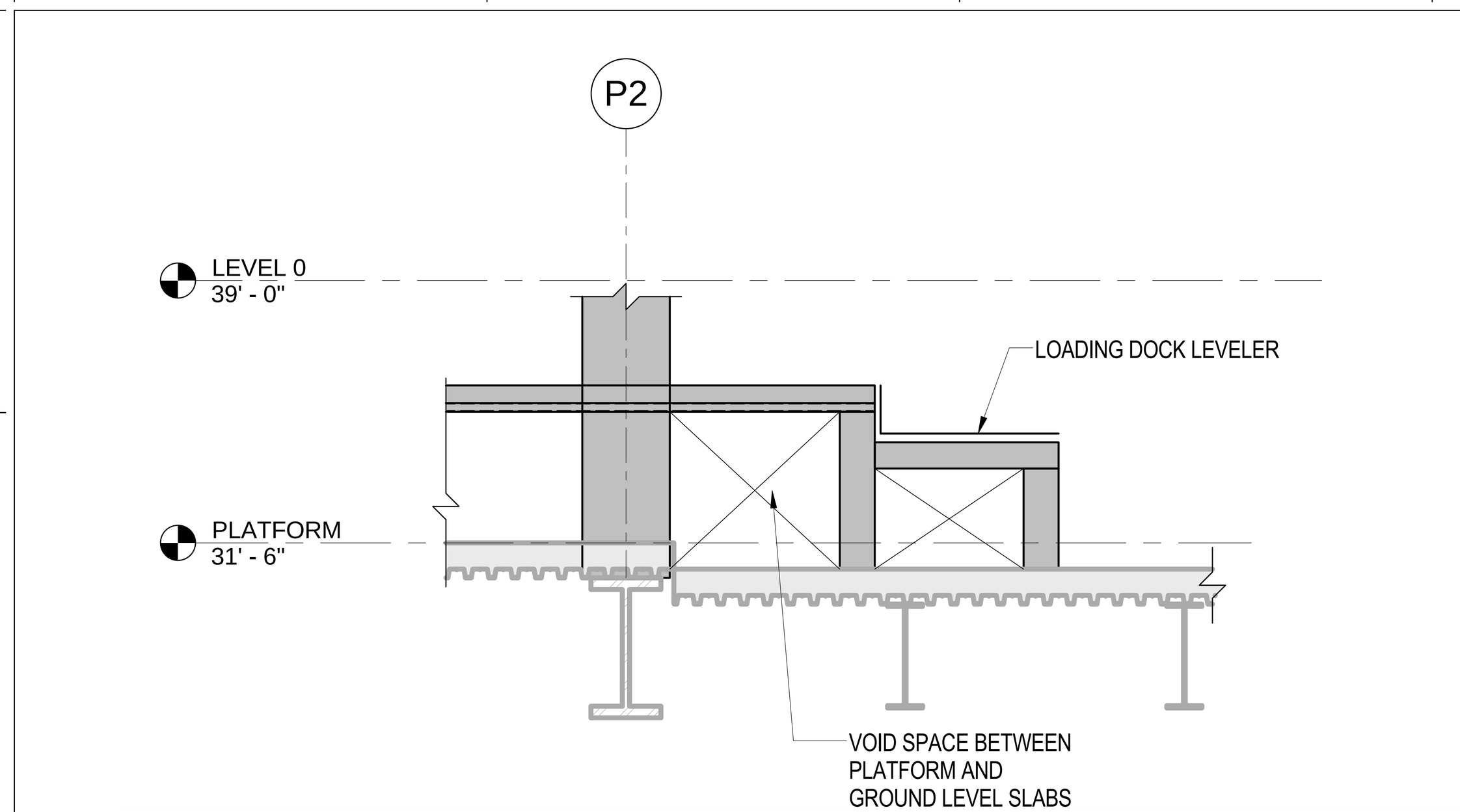
GROUND FLOOR SECTIONS AND DETAILS

DRAWING NUMBER

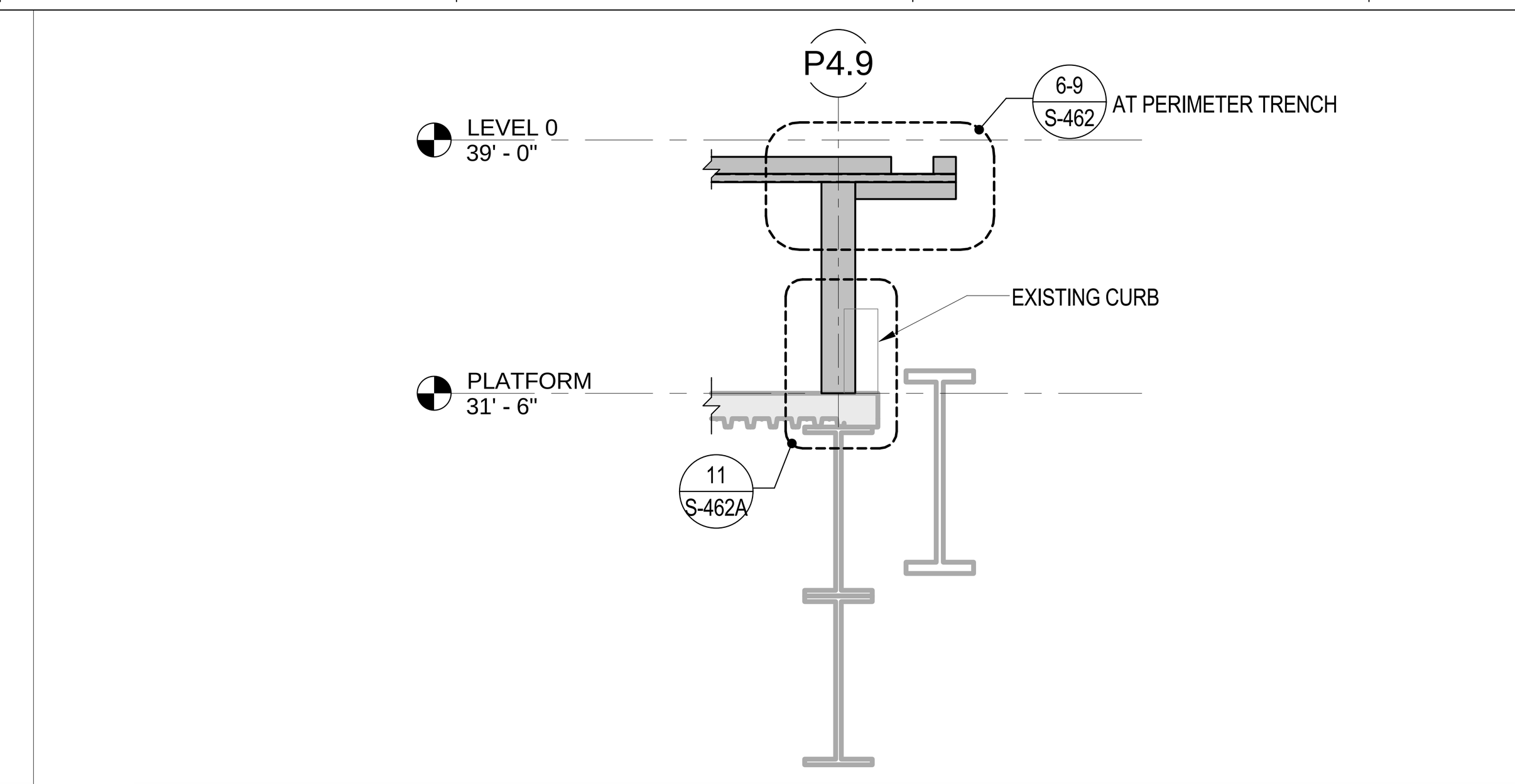
S-462.00

DRAWING NUMBER
S-462

PAGE NUMBER



1 LOADING DOCK LEVELER SECTION
1/4" = 1'-0"



2 CANTILEVER SLAB EDGE SECTION
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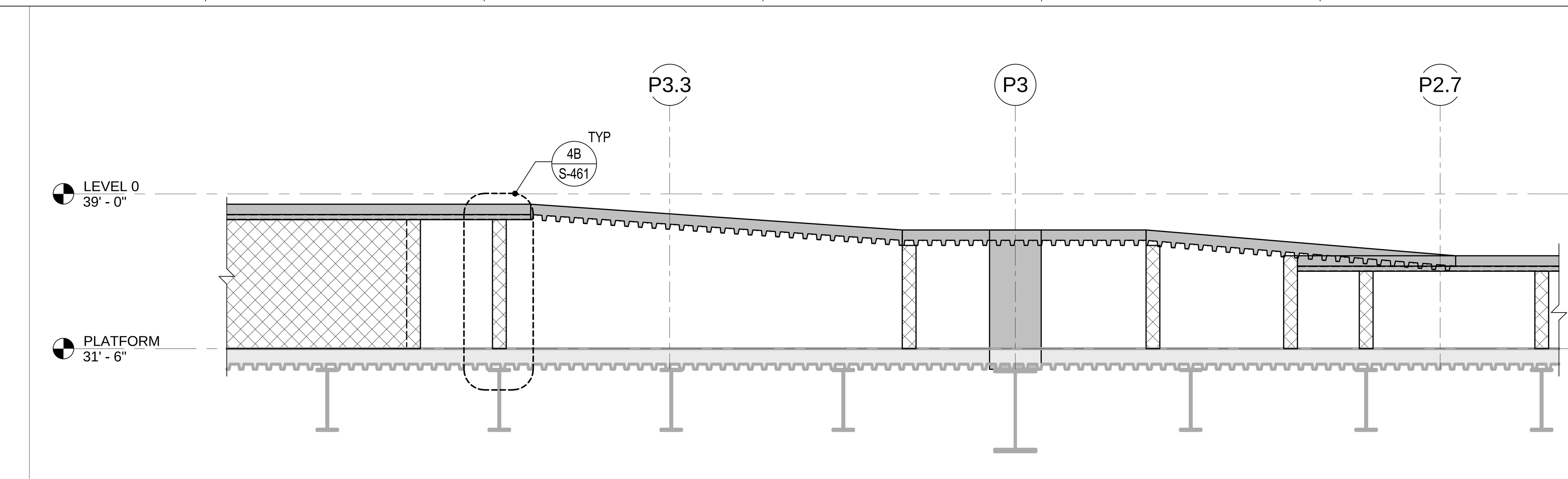

3 RAMP SECTION
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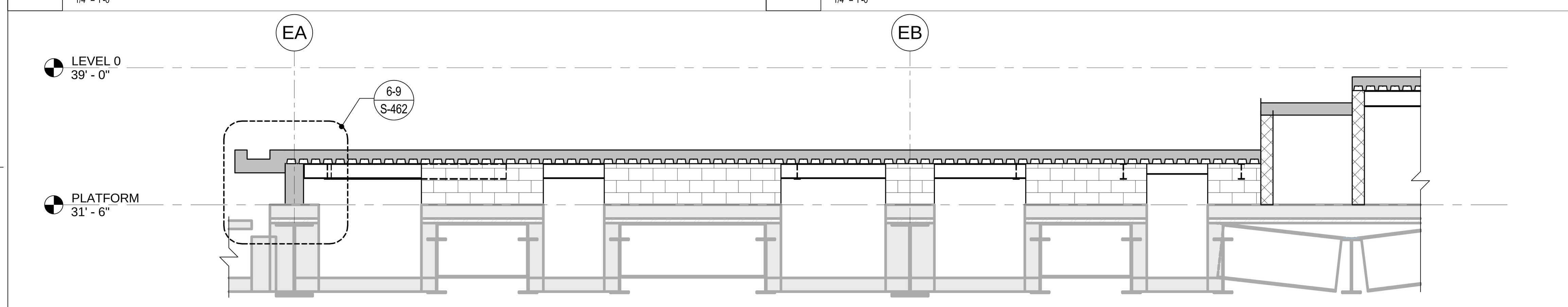
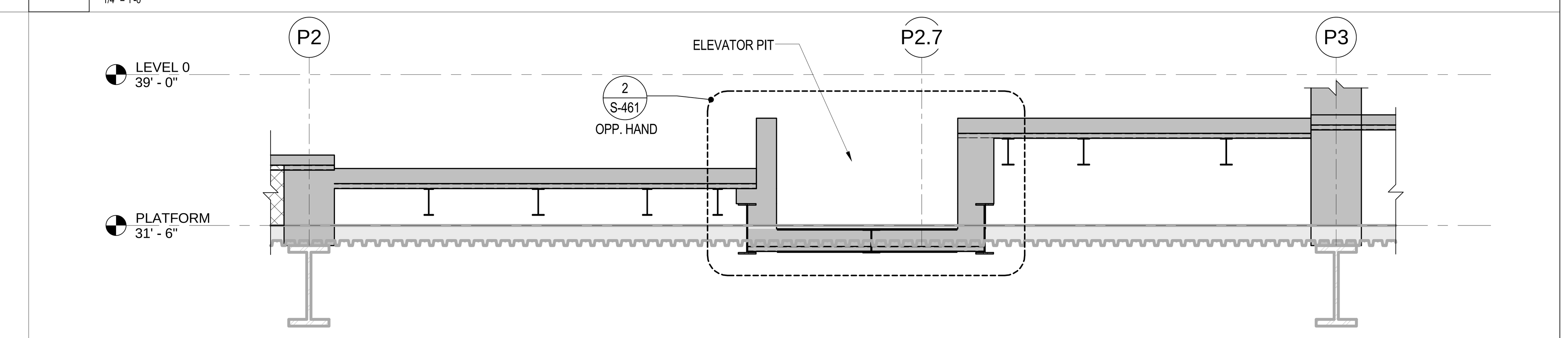
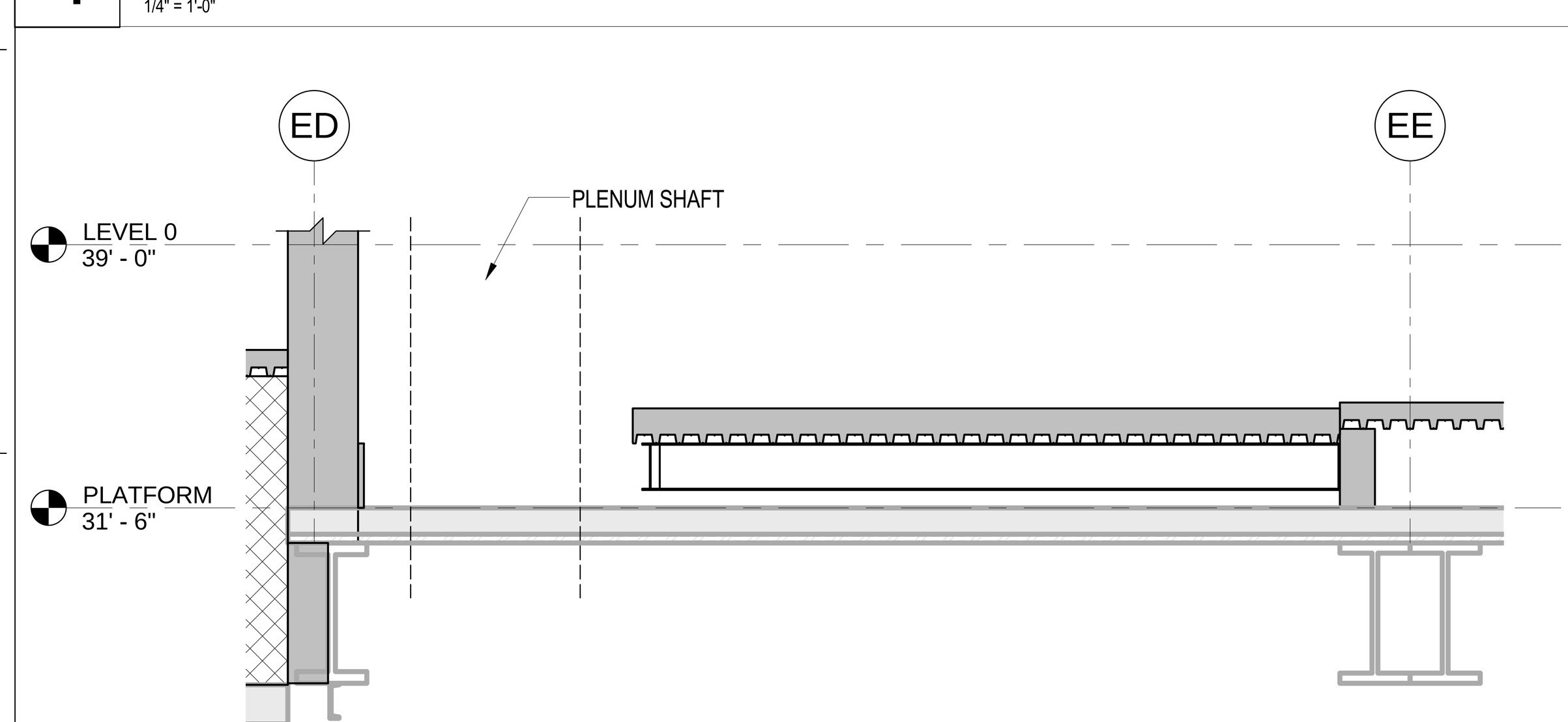


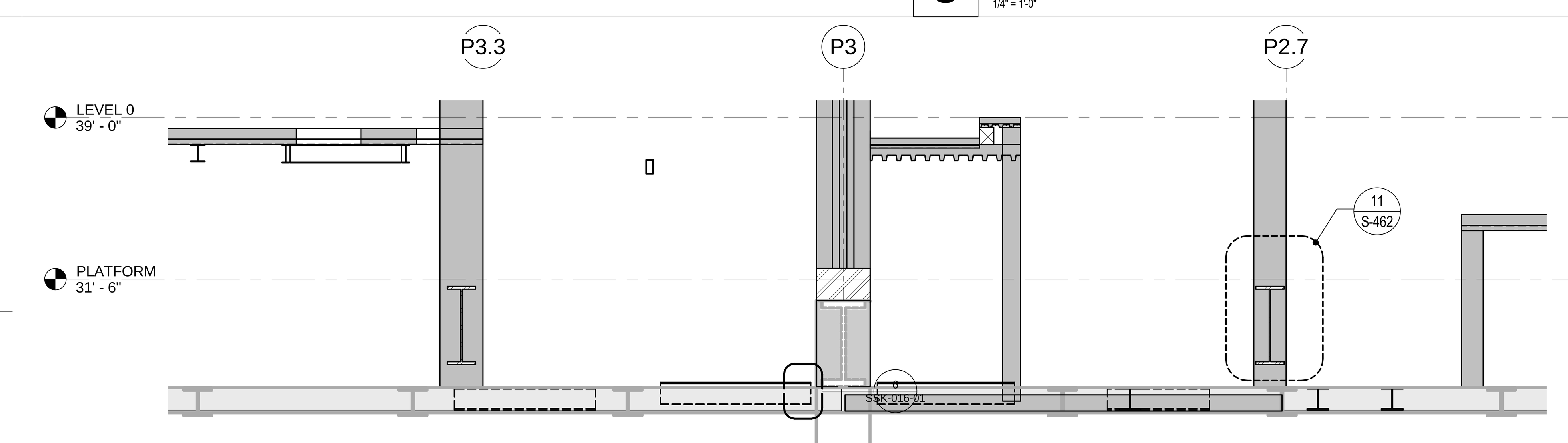
4 KNEE WALLS & BEAMS OVER PLATFORM TRENCHES
1/4" = 1'-0"



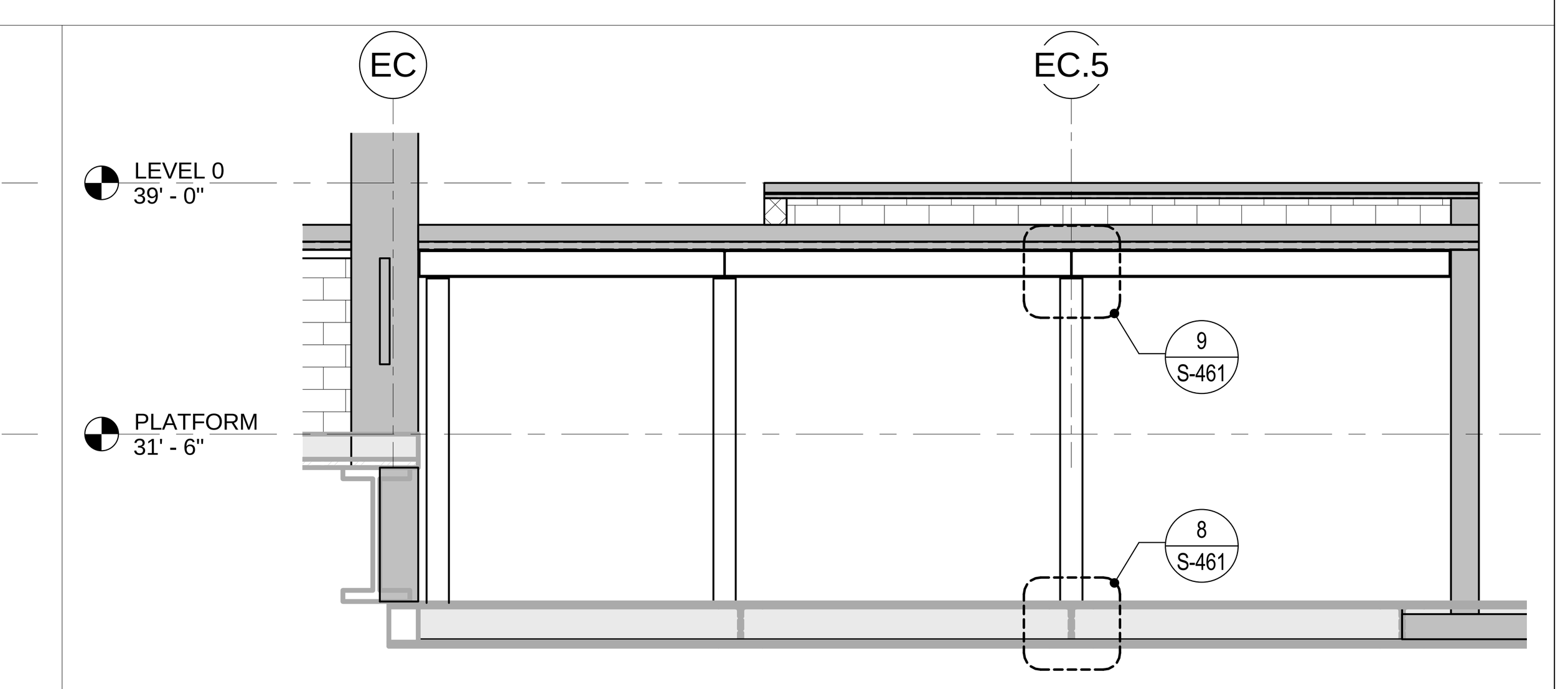
5 N-S SECTION AT PLENUM
1/4" = 1'-0"



6 E-W SECTION AT PLENUM
1/4" = 1'-0"



7 SECTION AT ELEVATOR PITS
1/4" = 1'-0"



8 SECTION AT RAMP
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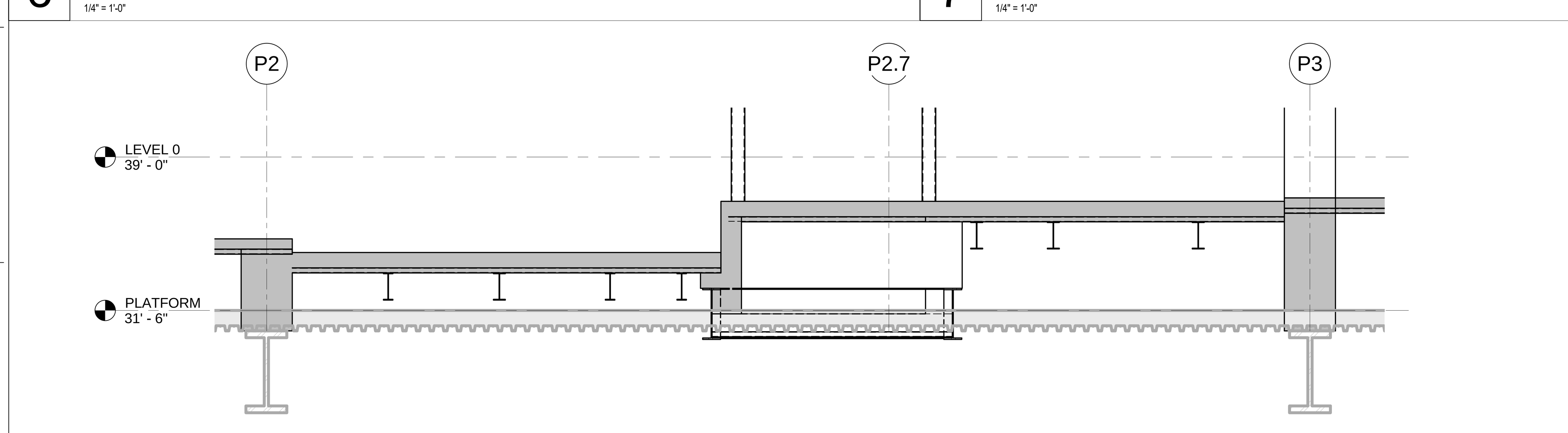
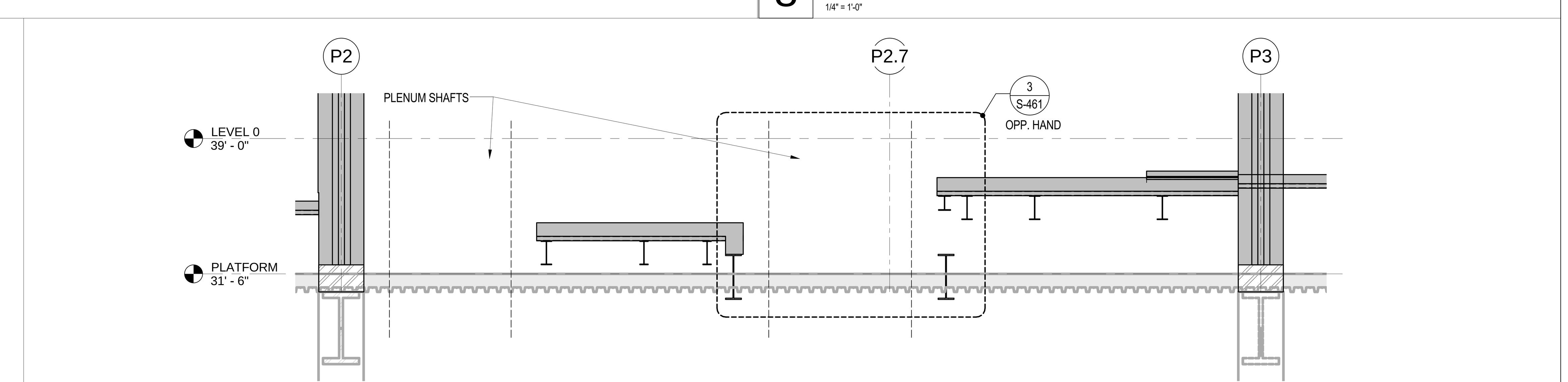
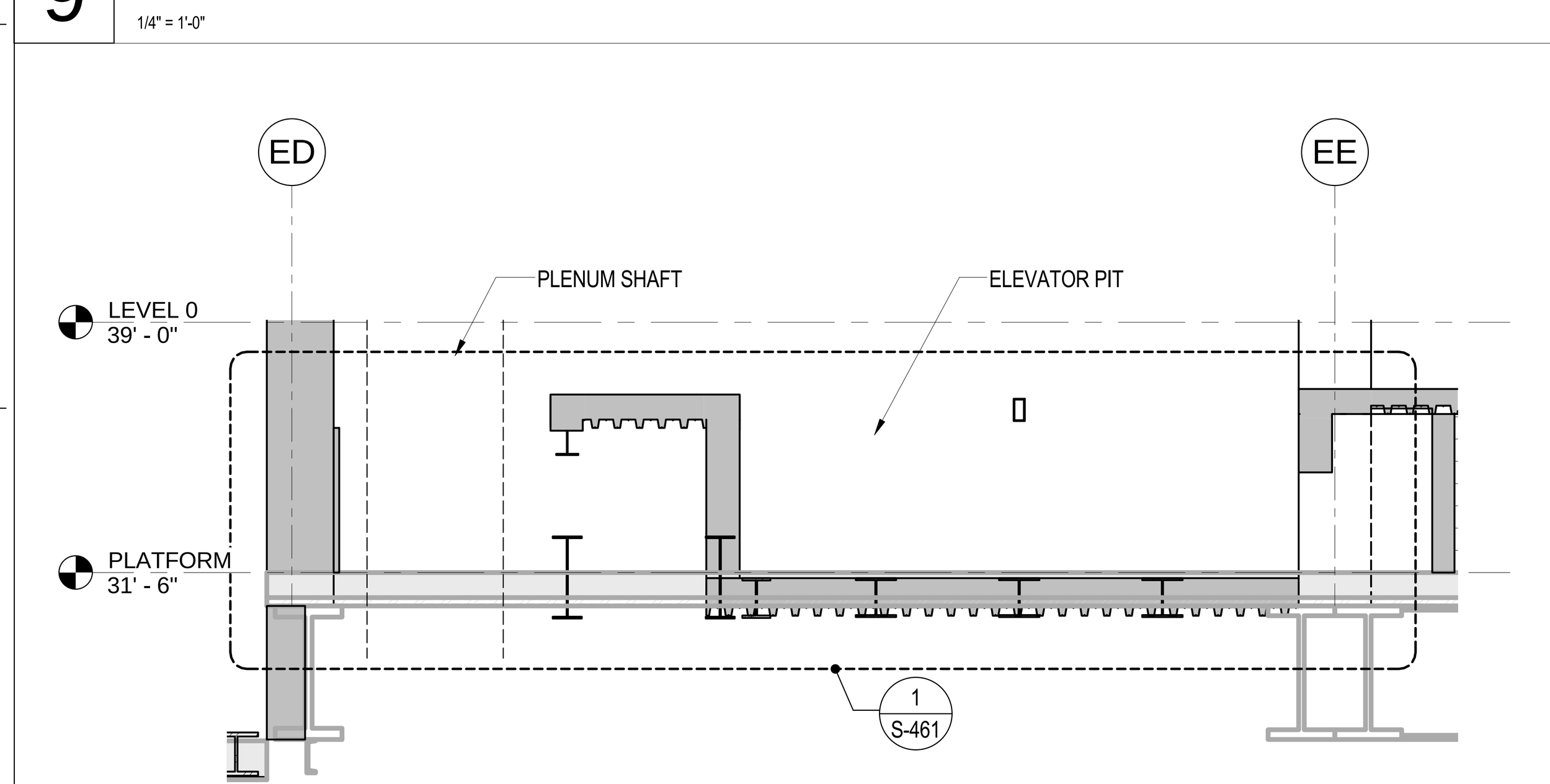


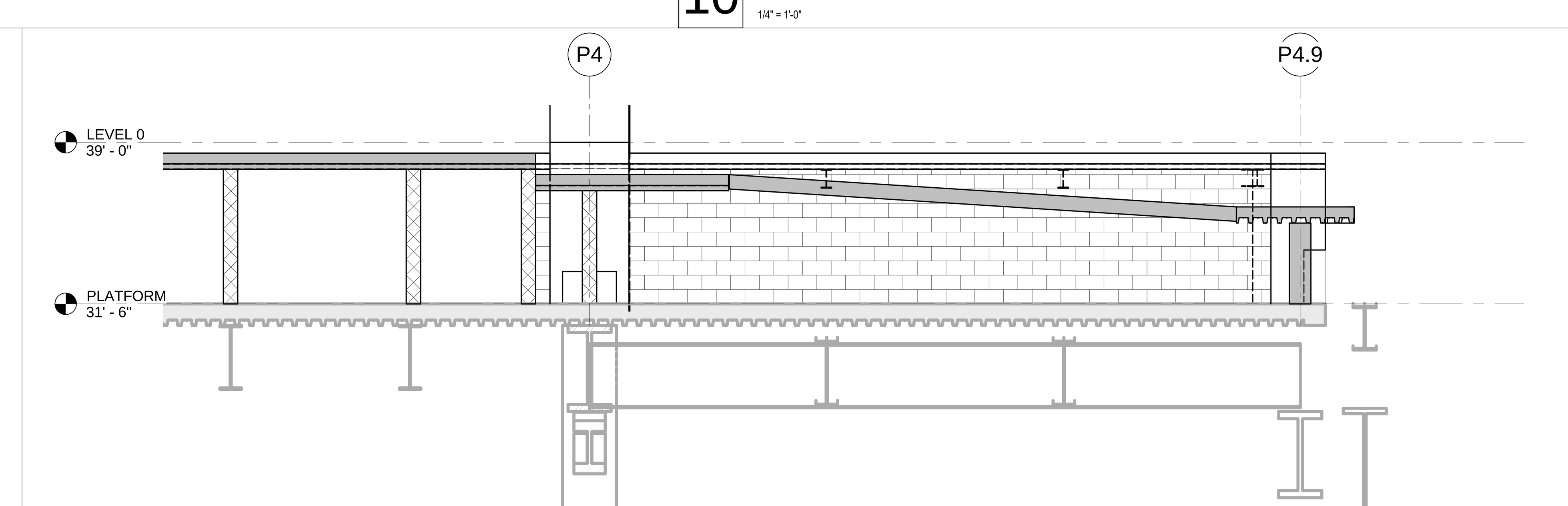
9 N-S SECTION AT PLENUM
1/4" = 1'-0"



10 N-S SECTION AT PLENUM
1/4" = 1'-0"



11 E-W SECTION AT PLENUM
1/4" = 1'-0"



12 SECTION AT RAMP 1
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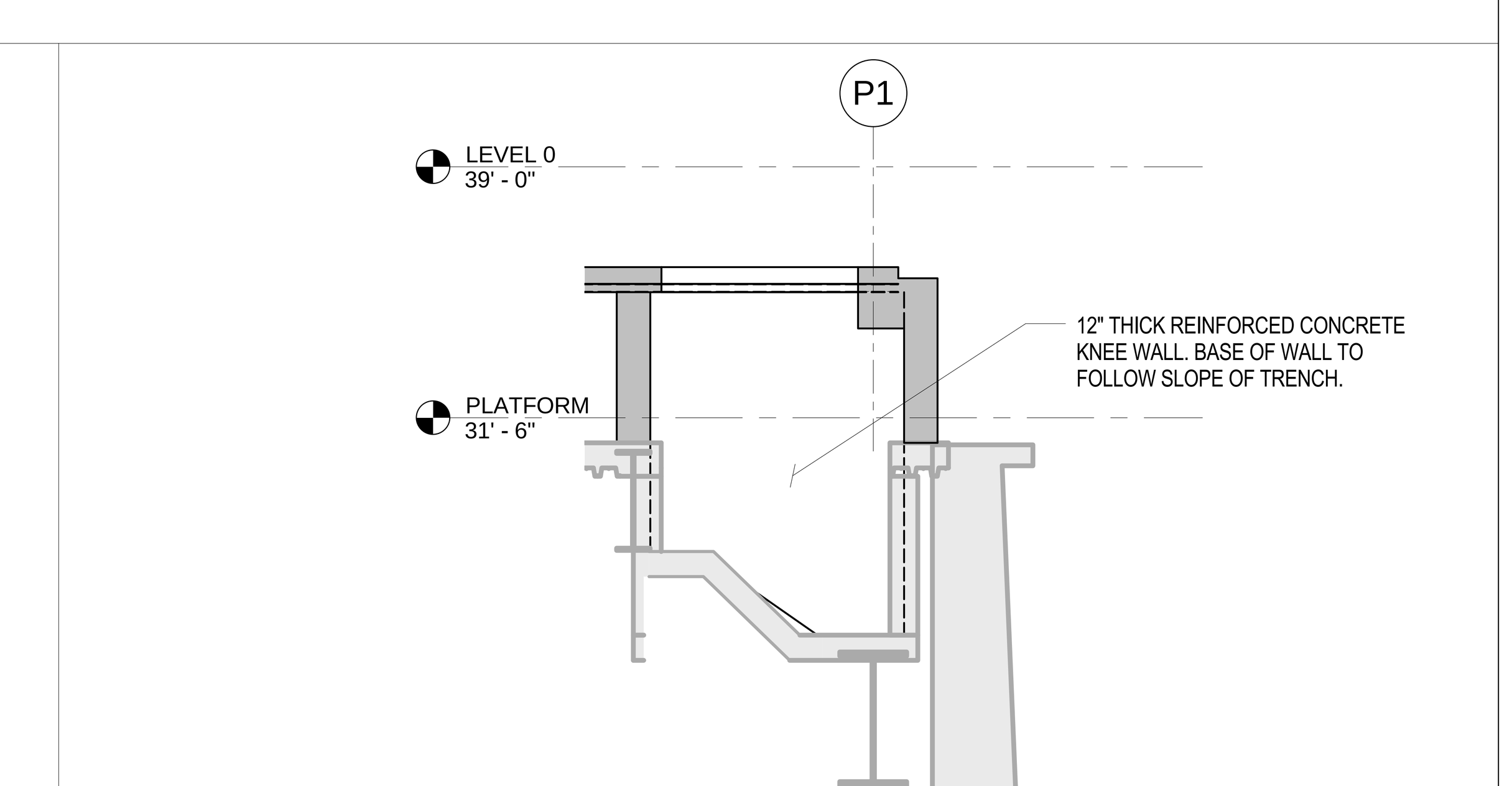
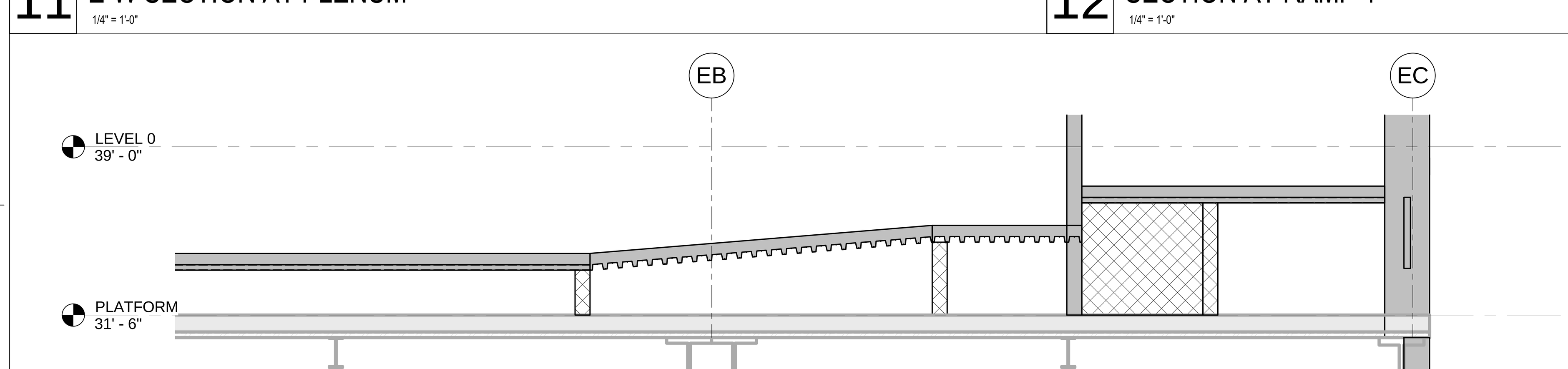


13 SECTION AT PLATFORM INCOMING SERVICES TRENCH
1/4" = 1'-0"



14 SECTION AT RAMP 3
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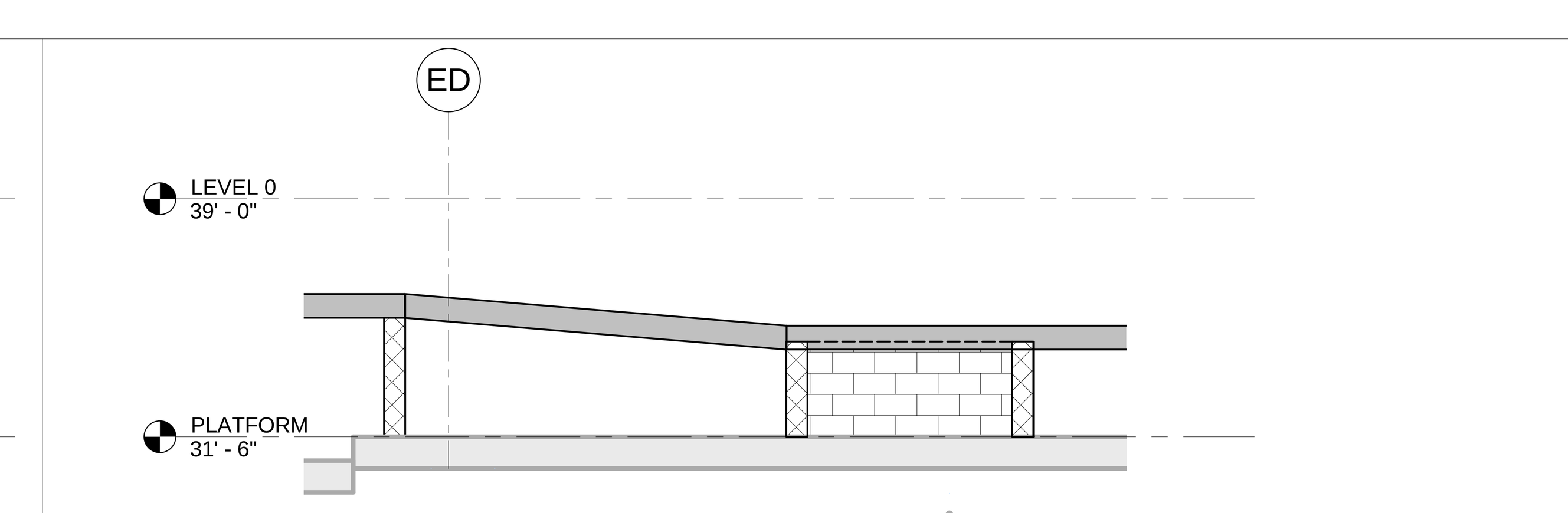

15 SECTION AT RAMP 2
1/4" = 1'-0"

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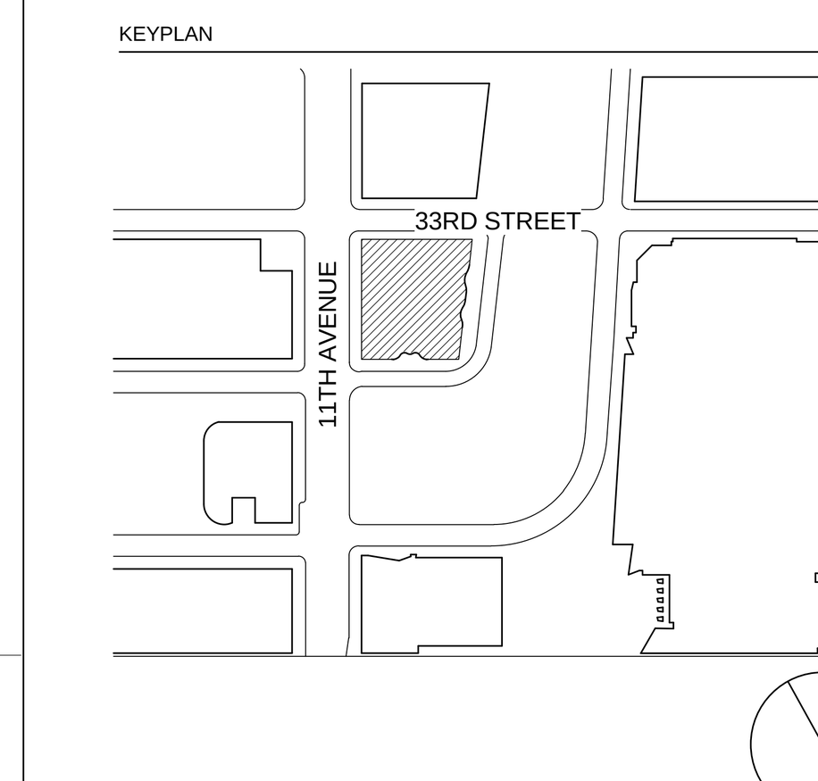

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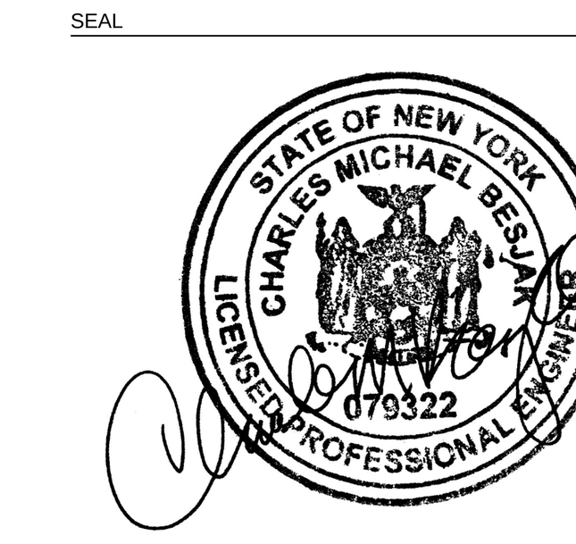

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DRAWING TITLE

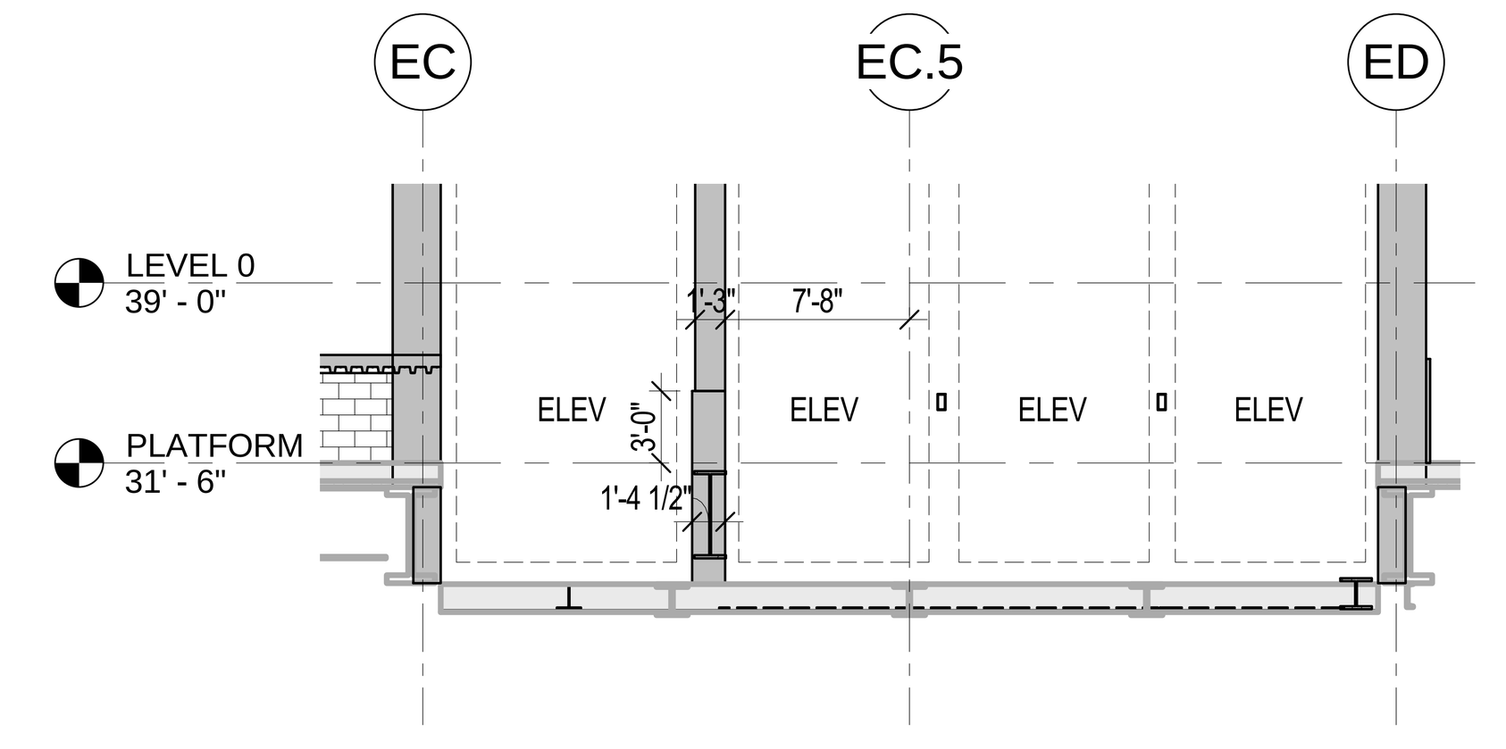
GROUND FLOOR SECTIONS

B-SCAN - DRAWING NUMBER

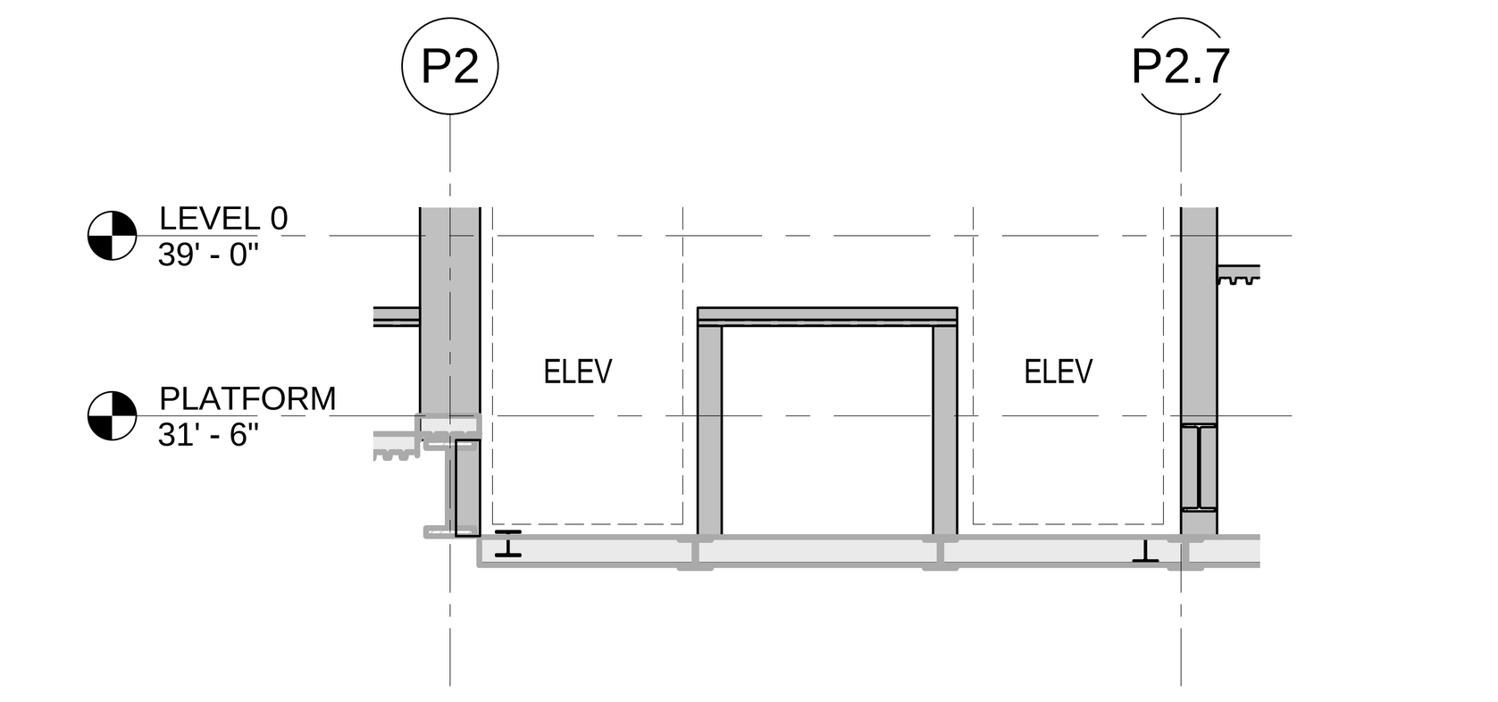
S-463.00

DRAWING NUMBER

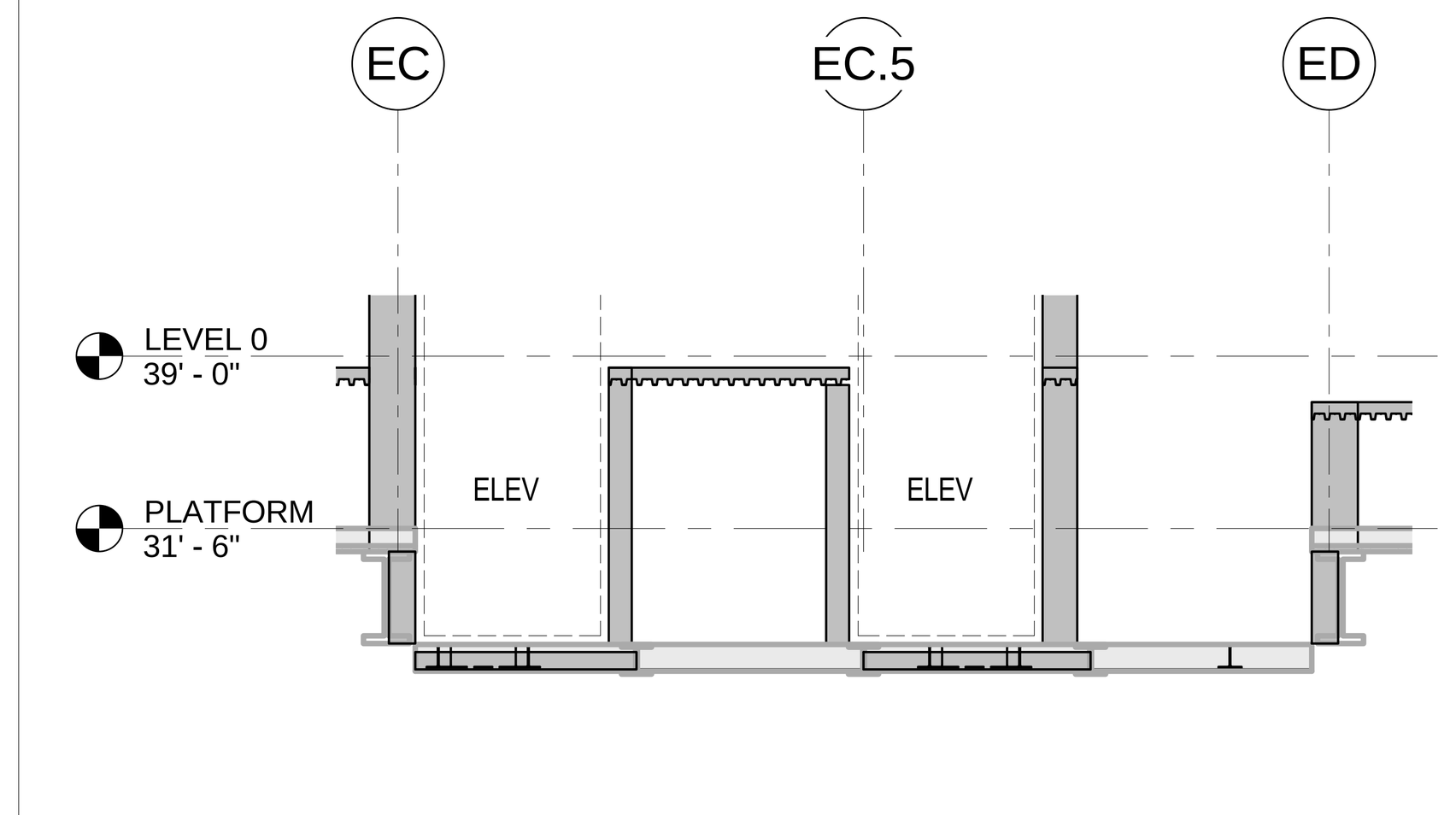
S-463



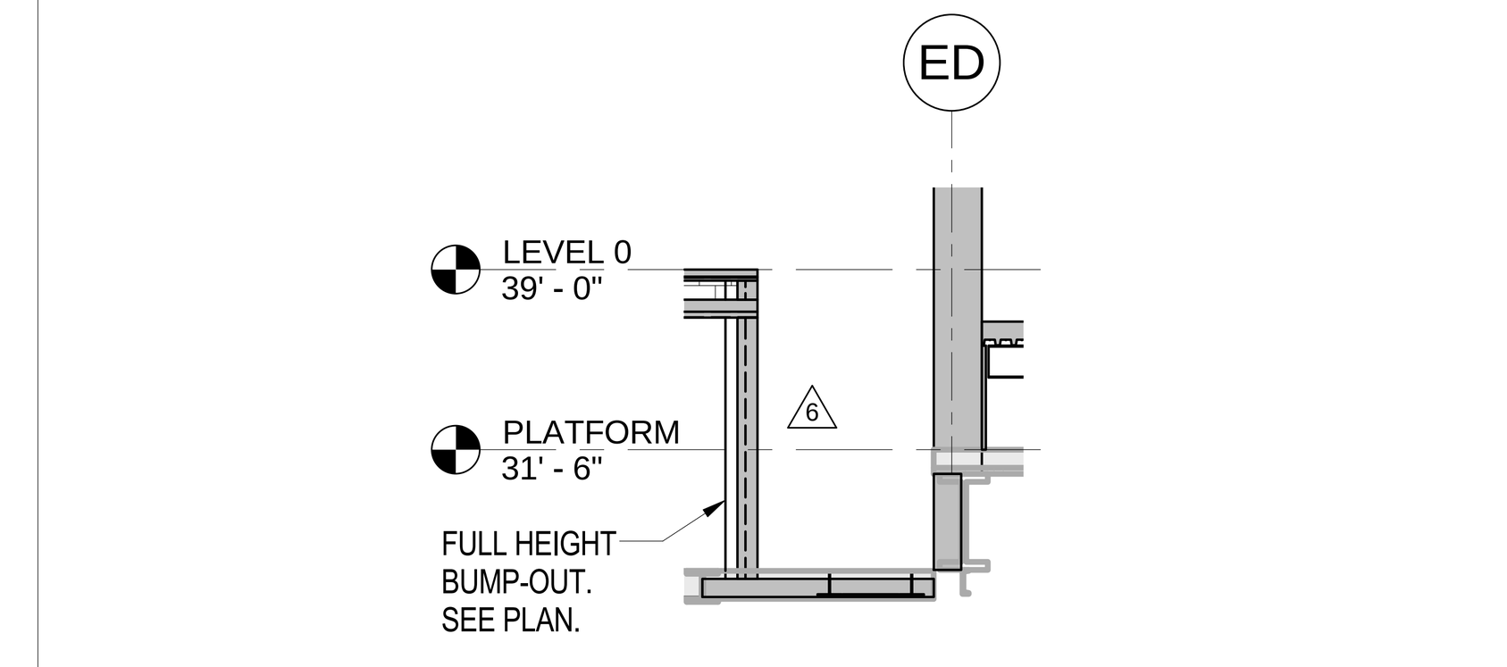
1 PLATFORM LEVEL ELEV. PIT - EW SECTION
1/8" = 1'-0"



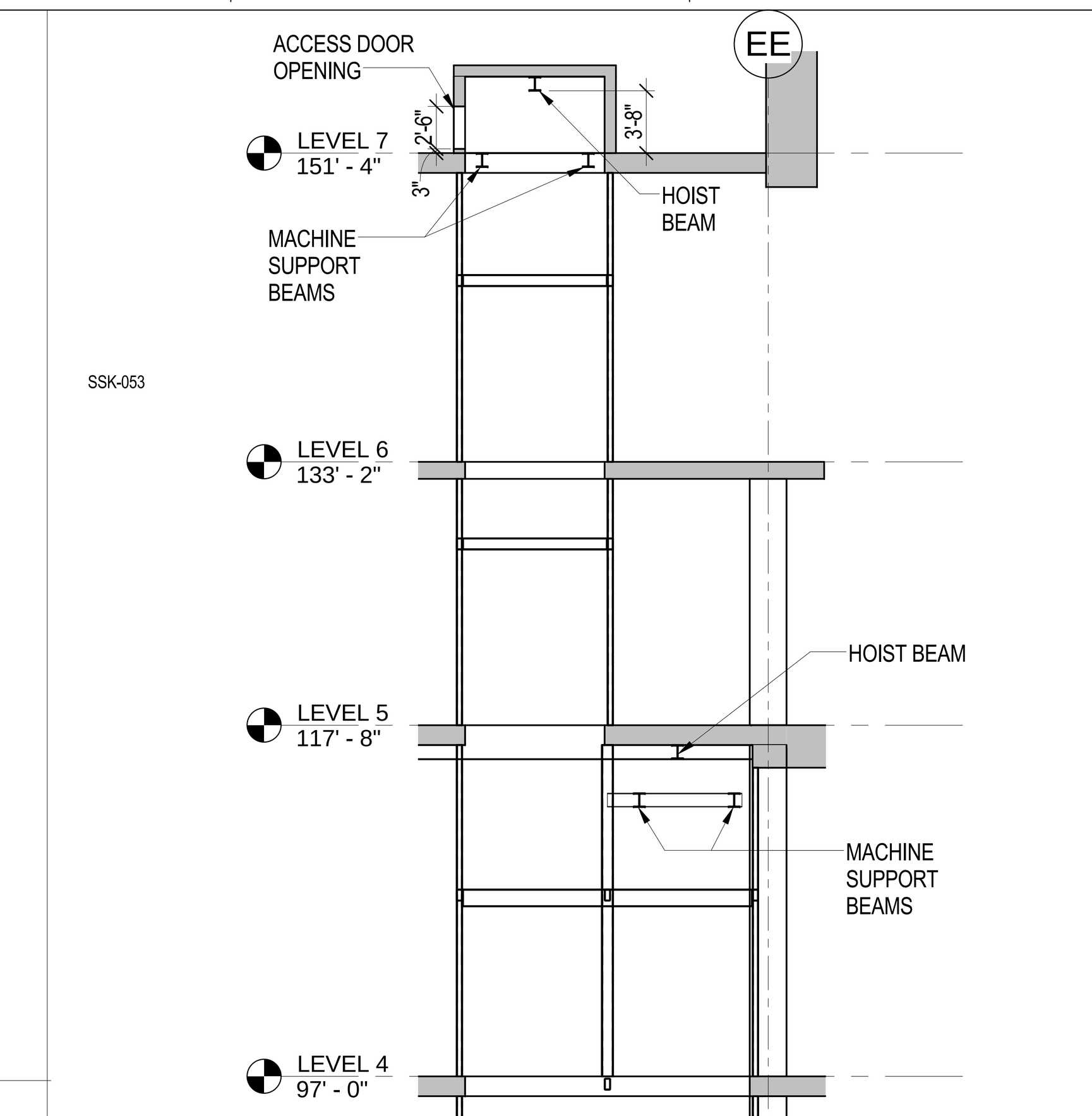
2 PLATFORM LEVEL ELEV. PIT - NS SECTION
1/8" = 1'-0"



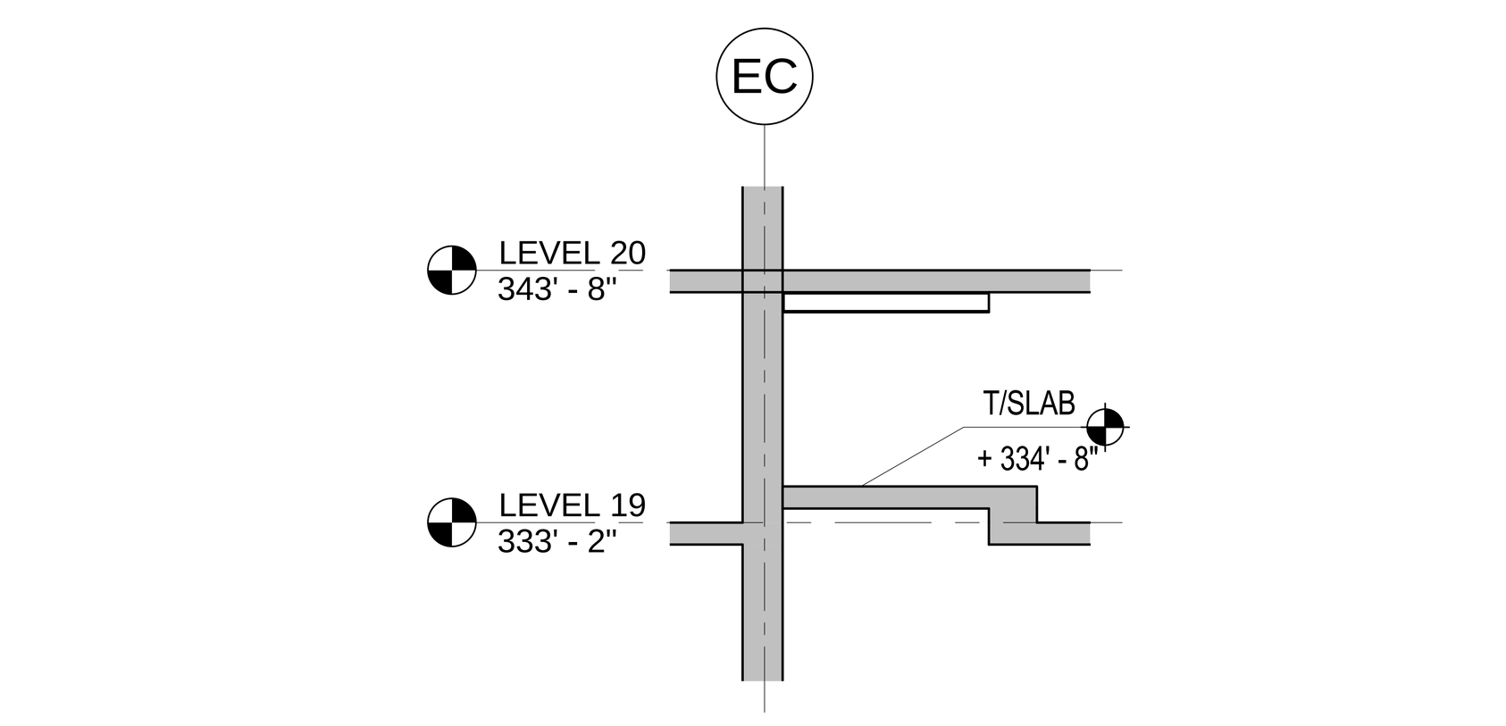
3 PLATFORM LEVEL ELEV. PIT 2 EW SECTION
1/8" = 1'-0"



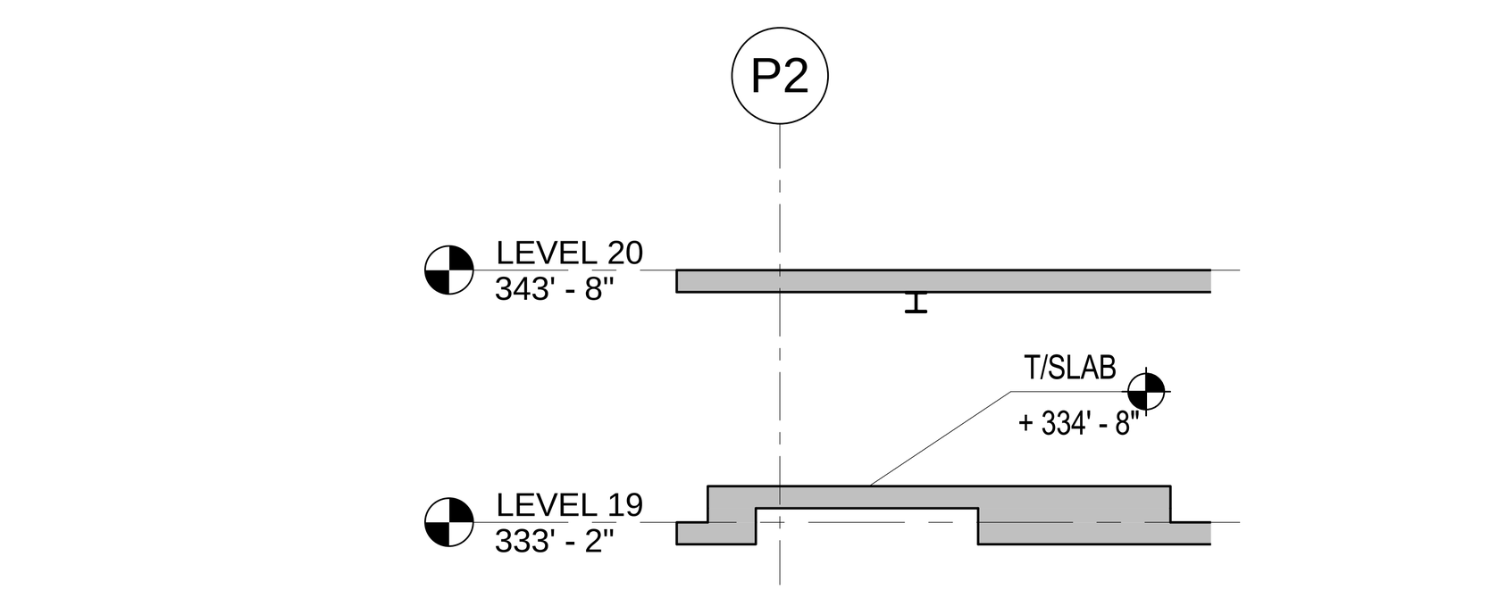
4 PLATFORM LEVEL ELEV. PIT 3 - EW SECTION
1/8" = 1'-0"



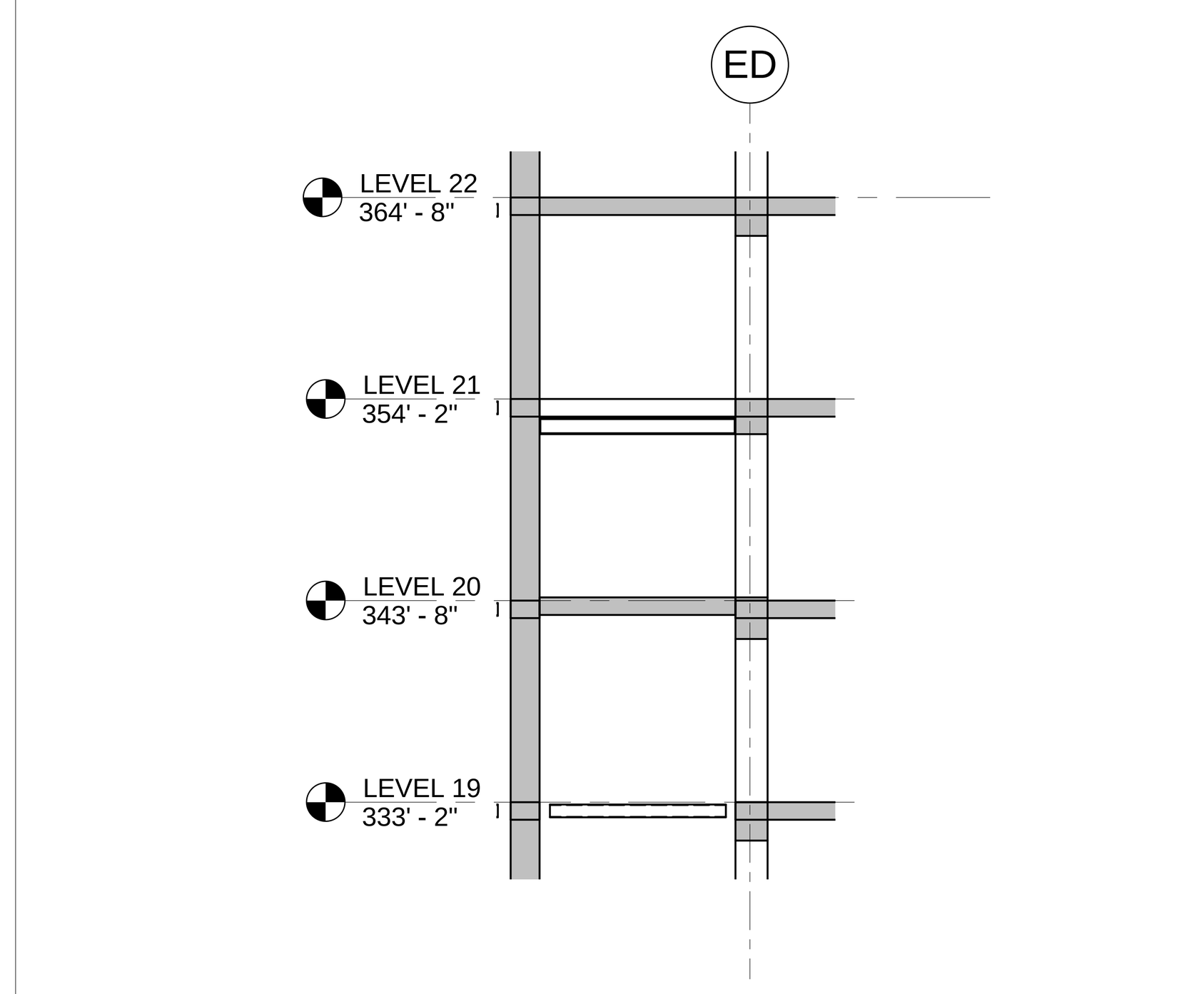
5 LEVEL 6 ELEV. SHAFT - EW SECTION
1/8" = 1'-0"



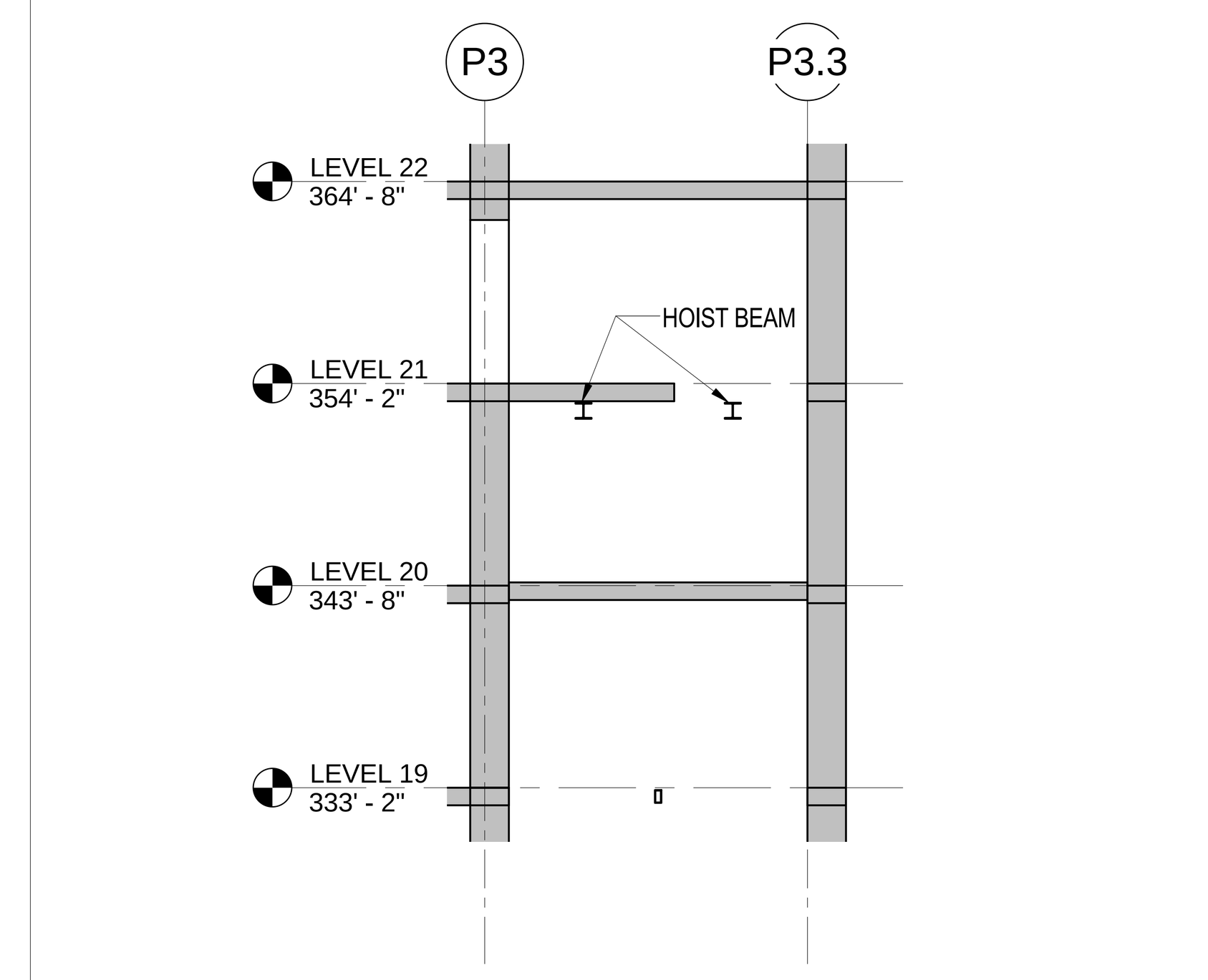
6 LEVEL 19 ELEV. MACHINE RM. - EW SECTION
1/8" = 1'-0"



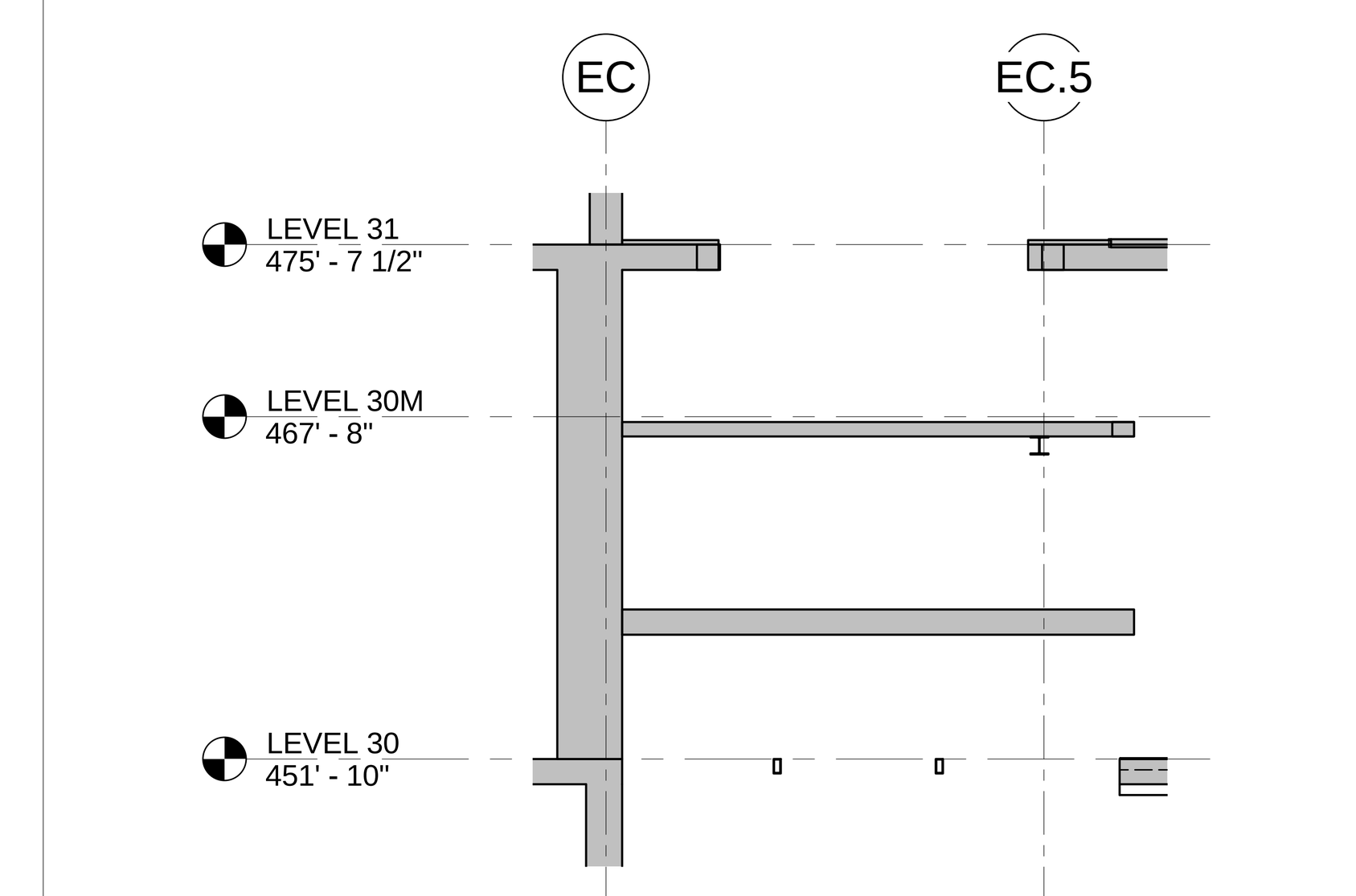
7 LEVEL 19 ELEV. MACHINE RM. - NS SECTION
1/8" = 1'-0"



8 LEVEL 20 ELEV. MACHINE RM. - EW SECTION
1/8" = 1'-0"



9 LEVEL 20 ELEV. MACHINE RM. - NS SECTION
1/8" = 1'-0"



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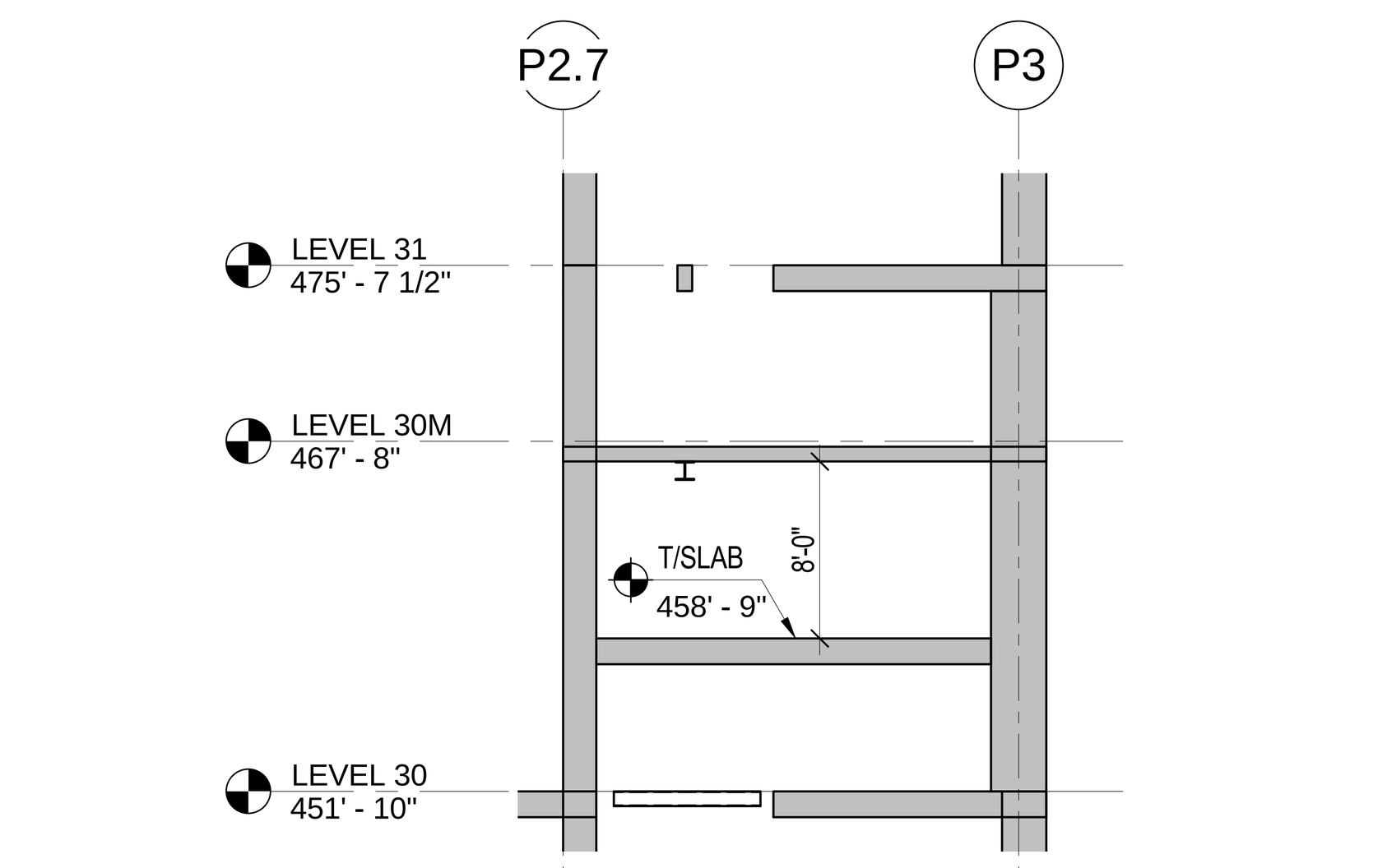
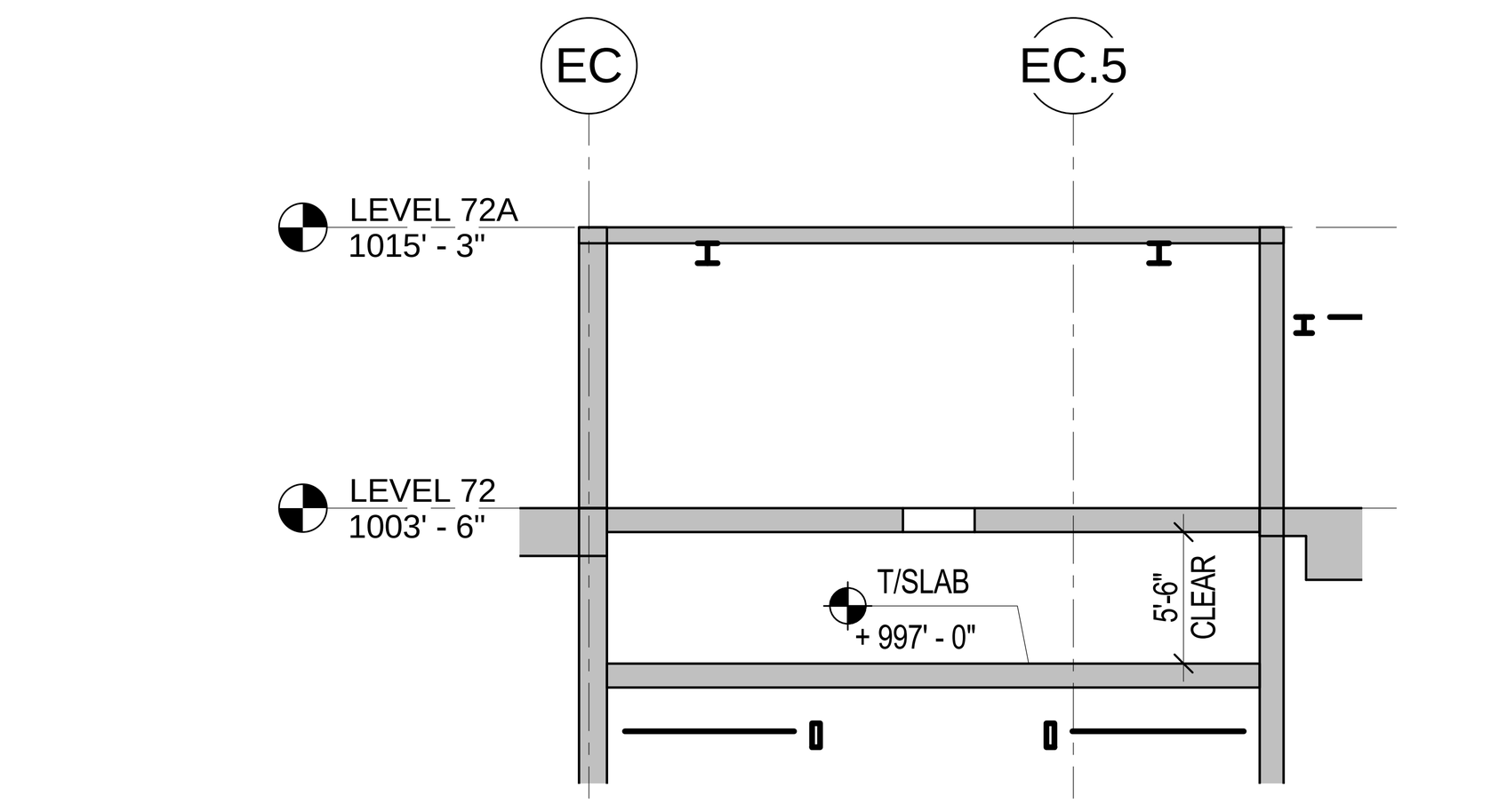
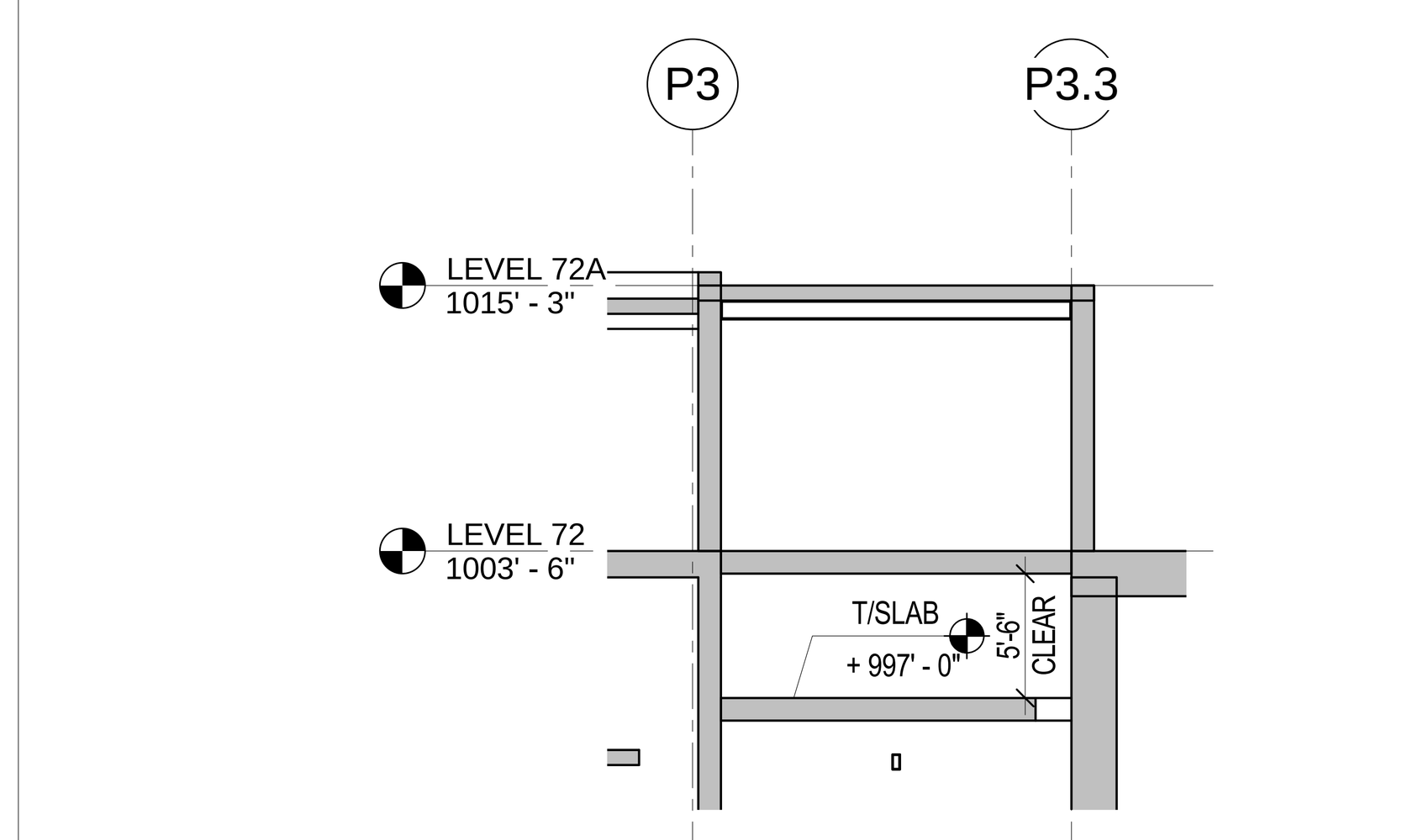


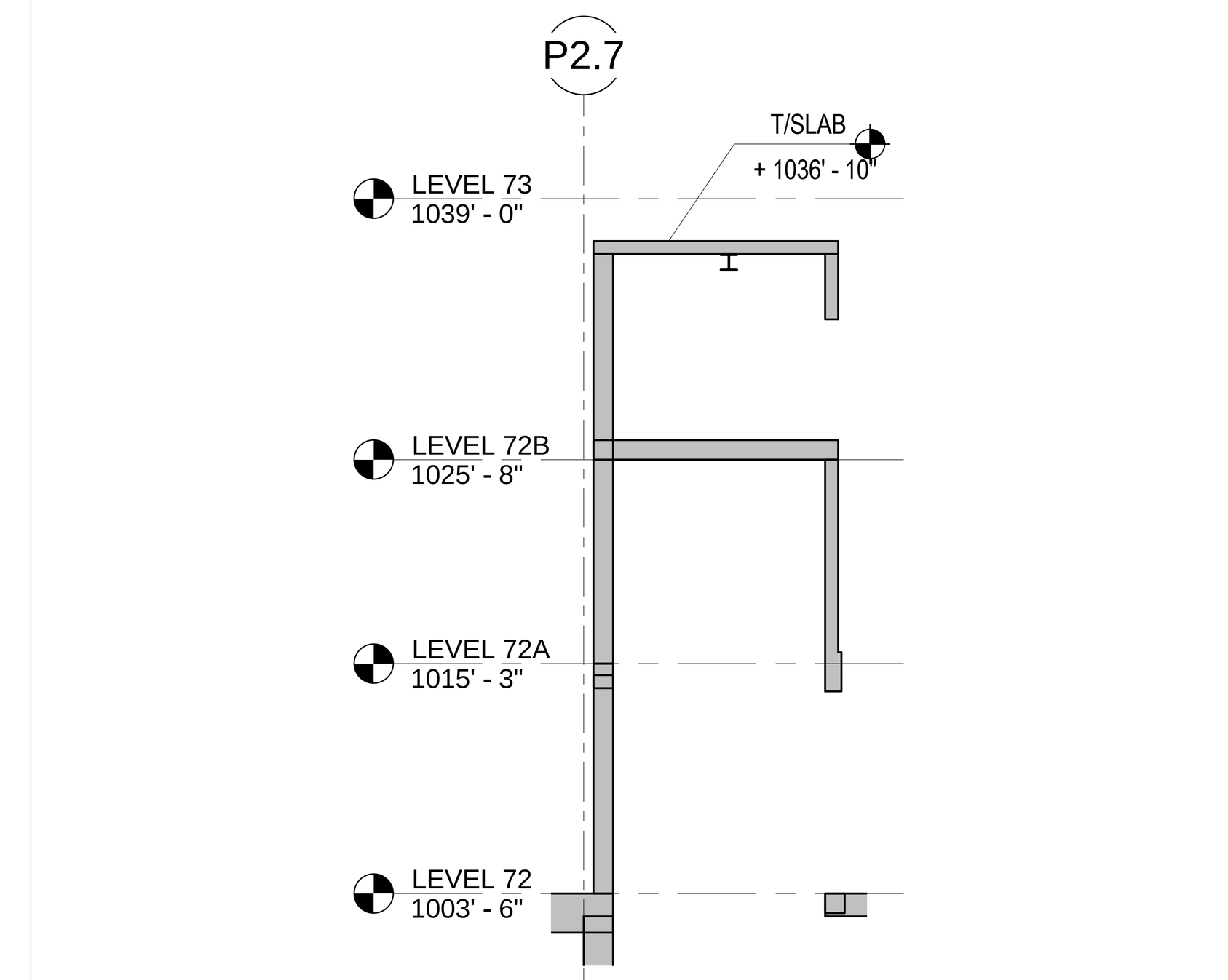
11 LEVEL 30 ELEV. MACHINE RM. - NS SECTION
1/8" = 1'-0"



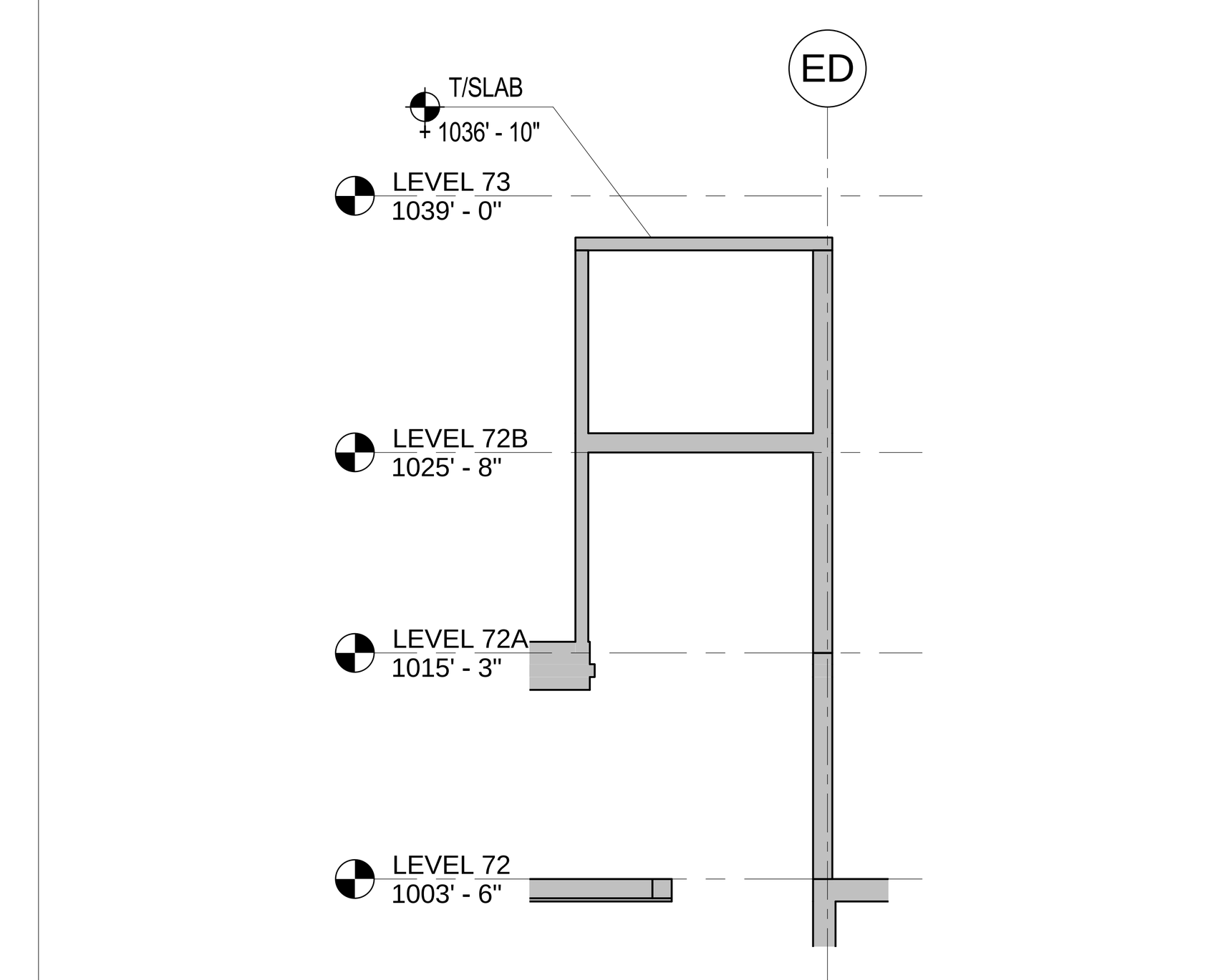
12 LEVEL 72 ELEV. MACHINE RM. - EW SECTION
1/8" = 1'-0"



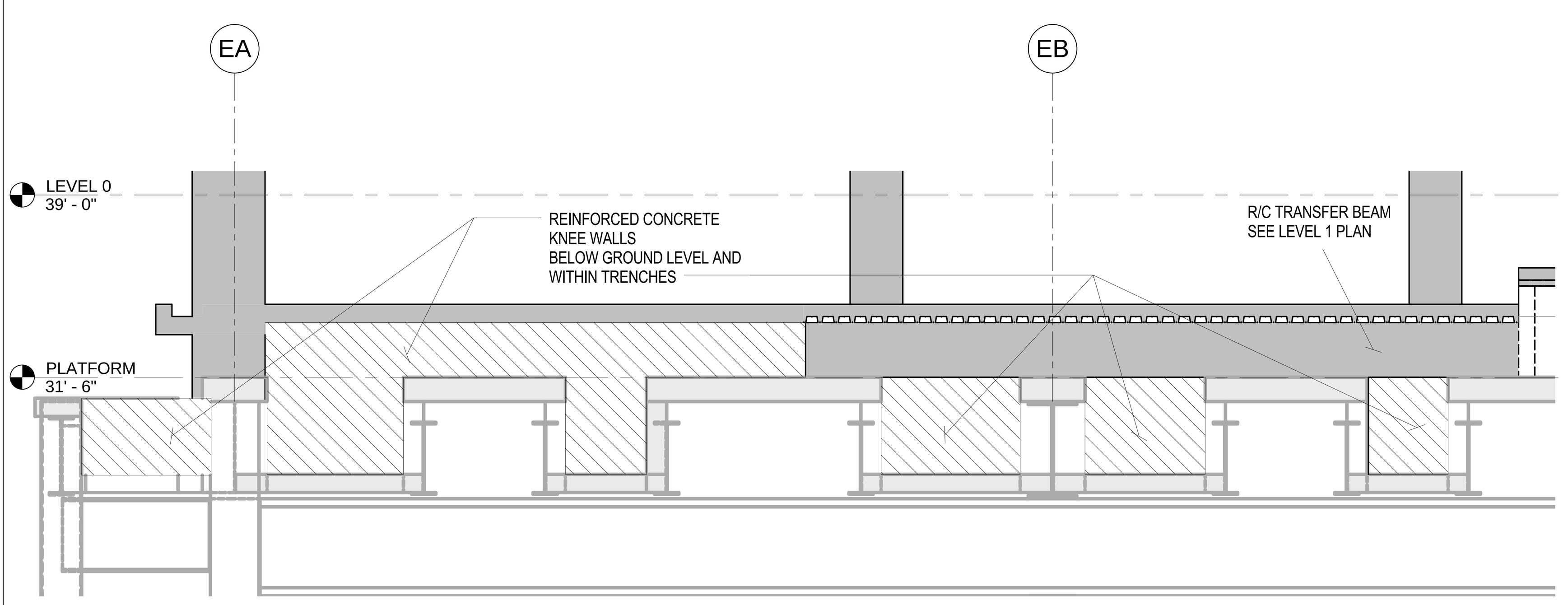
13 LEVEL 72 ELEV. MACHINE RM. - NS SECTION
1/8" = 1'-0"



14 LEVEL 72A ELEV MAHINE RM. - NS SECTION
1/8" = 1'-0"



15 LEVEL 72A ELEV. MACHINE RM. - EW SECTION
1/8" = 1'-0"



16 WALLS AT SOUTH WEST TRENCHES
1/4" = 1'-0"

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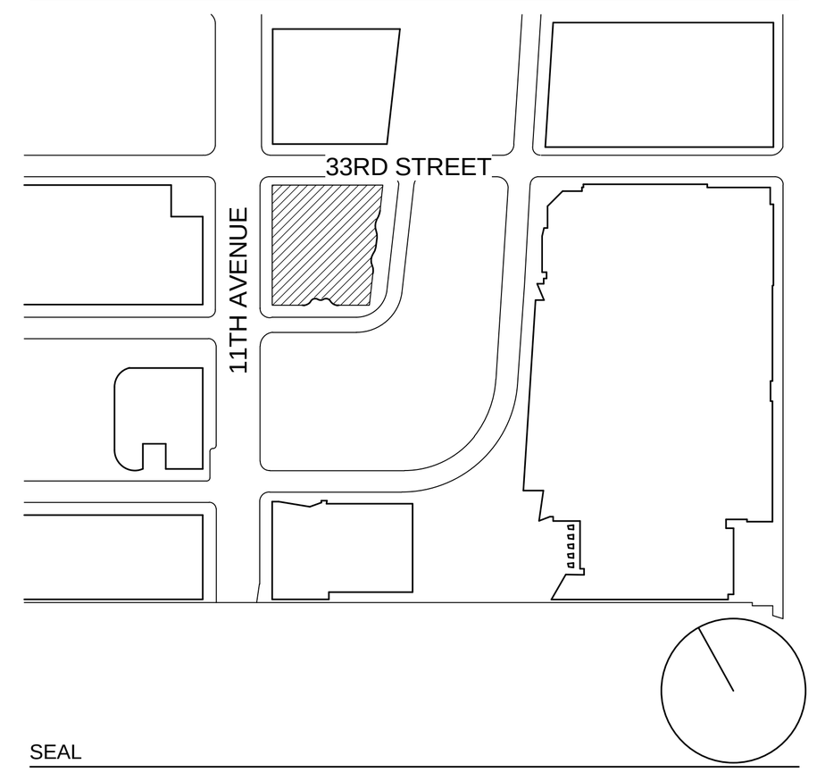

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6	20 JAN 2017	ISSUED TO DOB
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Buildings
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AMENDED APPLICATION
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DRAWING TITLE

MISCELLANEOUS CONCRETE SECTIONS

B-SCAN - DRAWING NUMBER

S-464.00

DRAWING NUMBER

S-464

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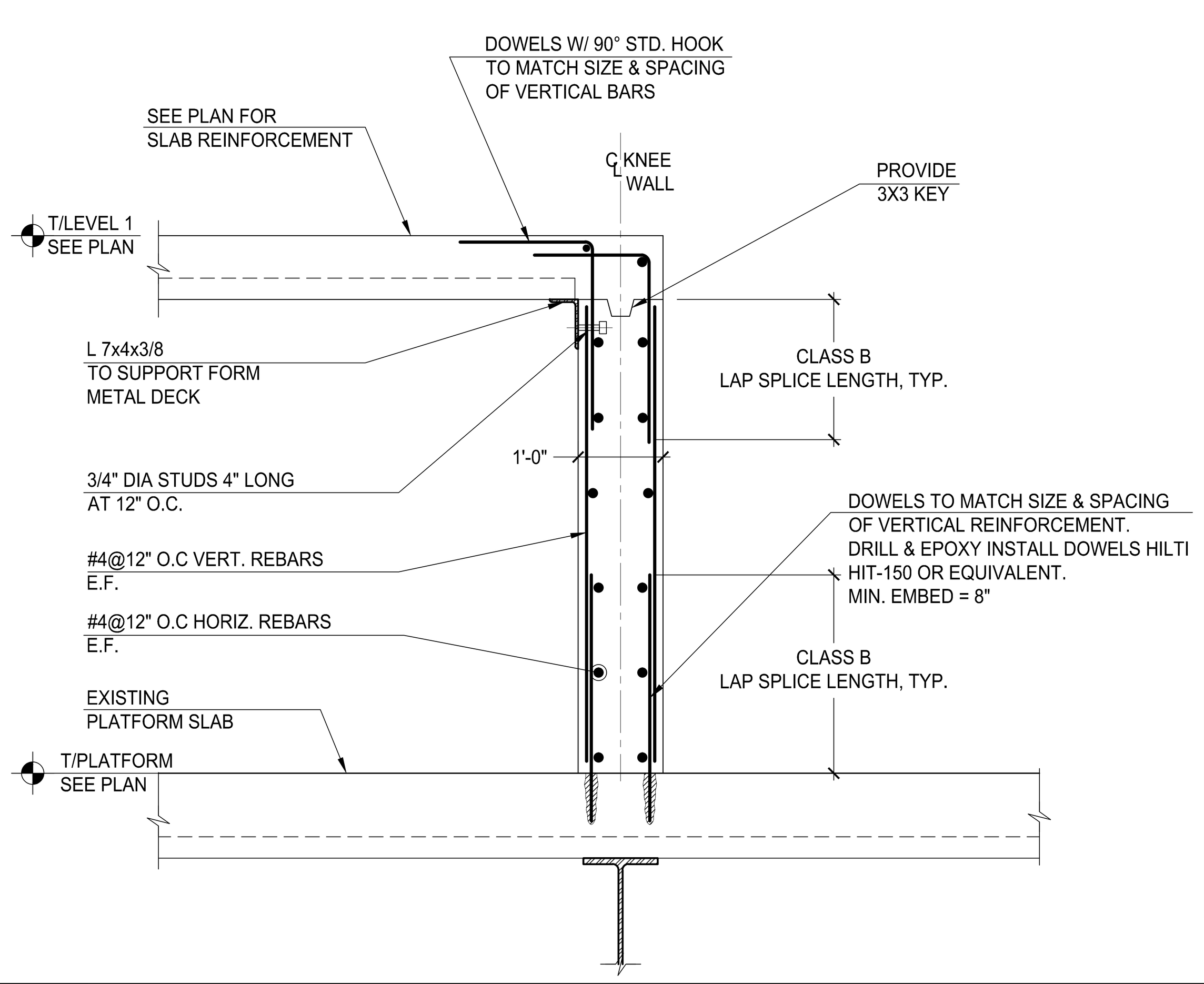

1 PERIMETER KNEE WALL DETAIL
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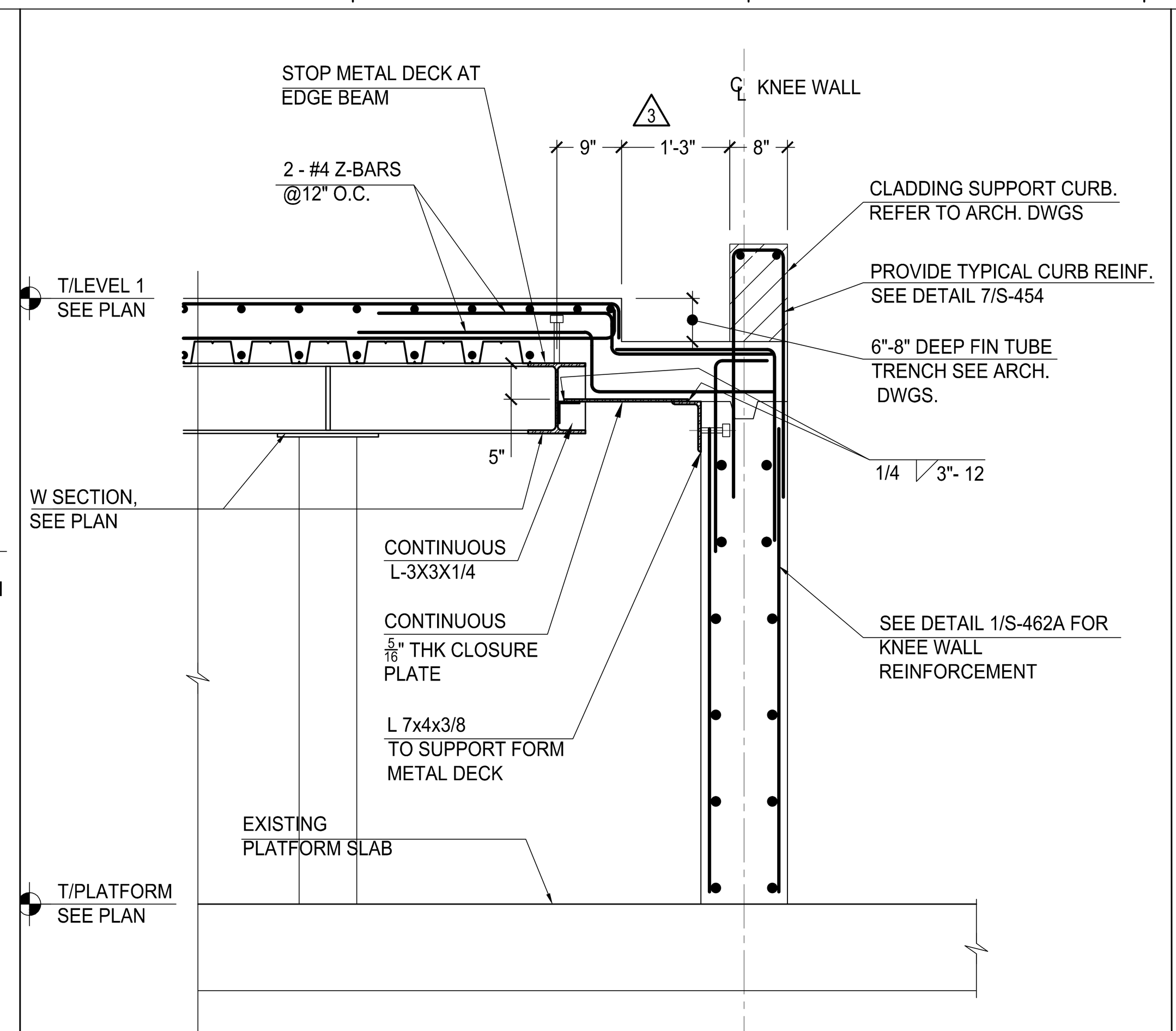
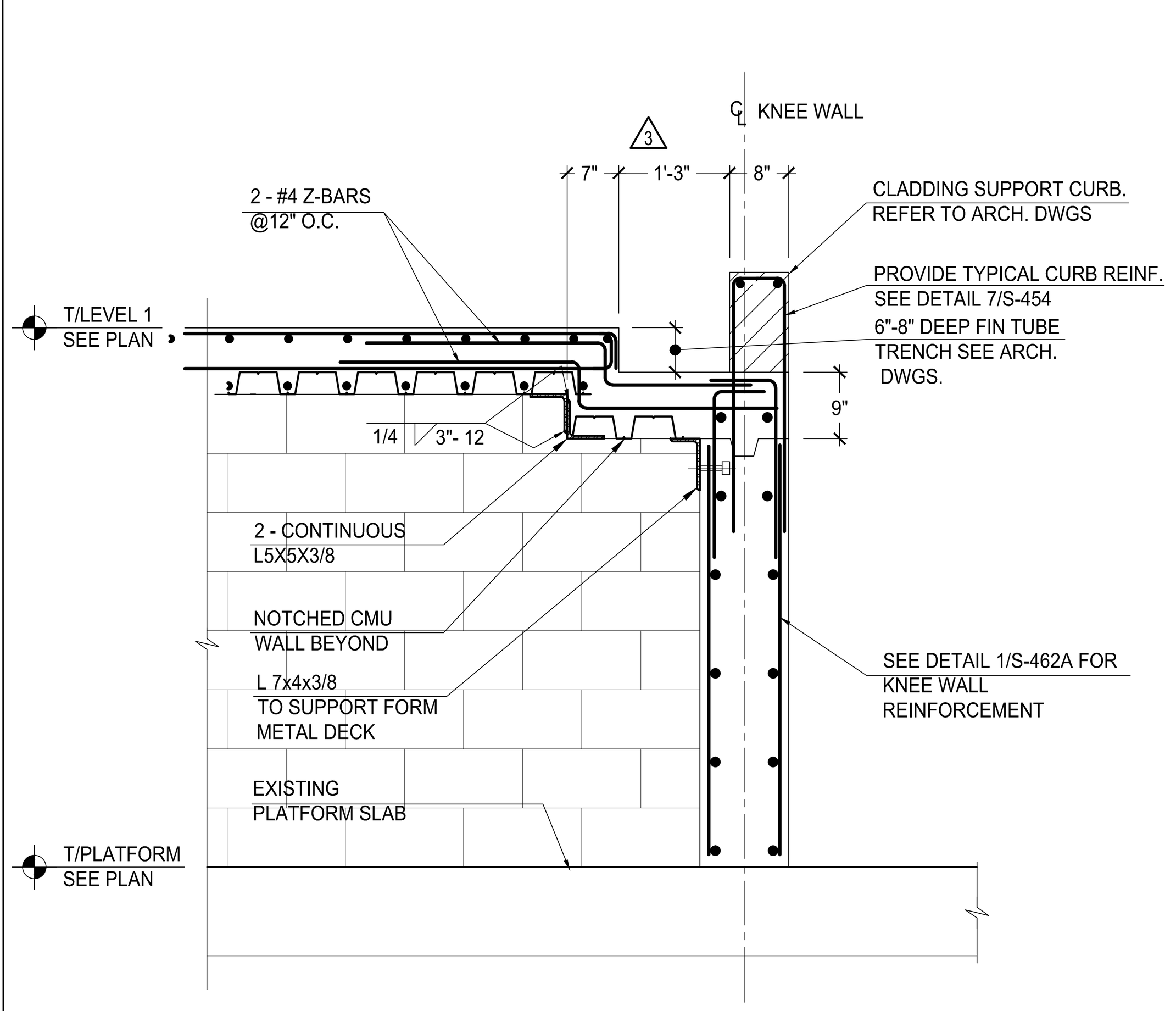
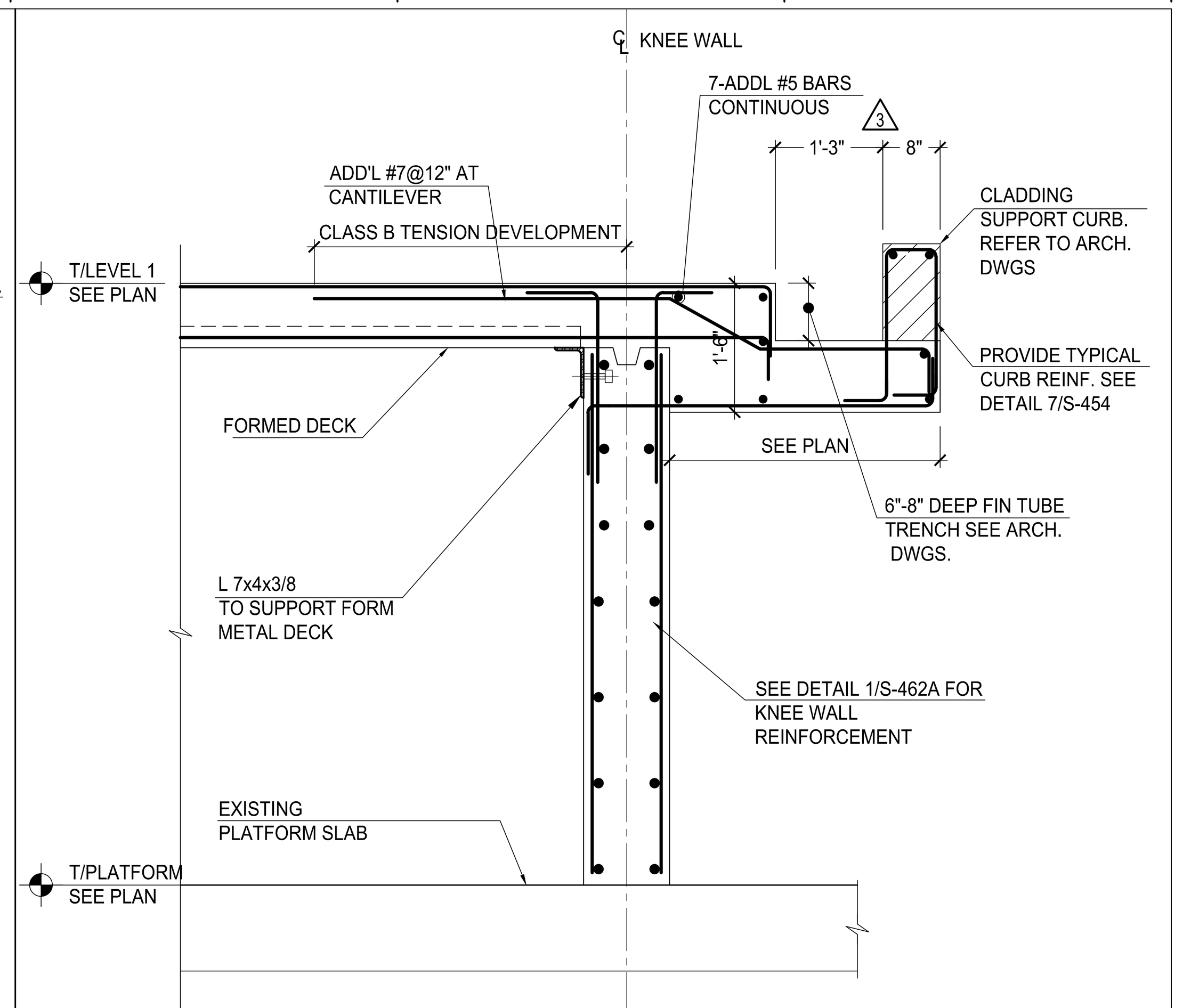


2 PERIMETER FIN TUBE TRENCH AT STEEL FRAMING
SCALE: NOT TO SCALE



3 PERIMETER FIN TUBE TRENCH AT CMU WALLS
SCALE: NOT TO SCALE



4 PERIMETER FIN TUBE TRENCH AT CANTILEVER TYPE 1
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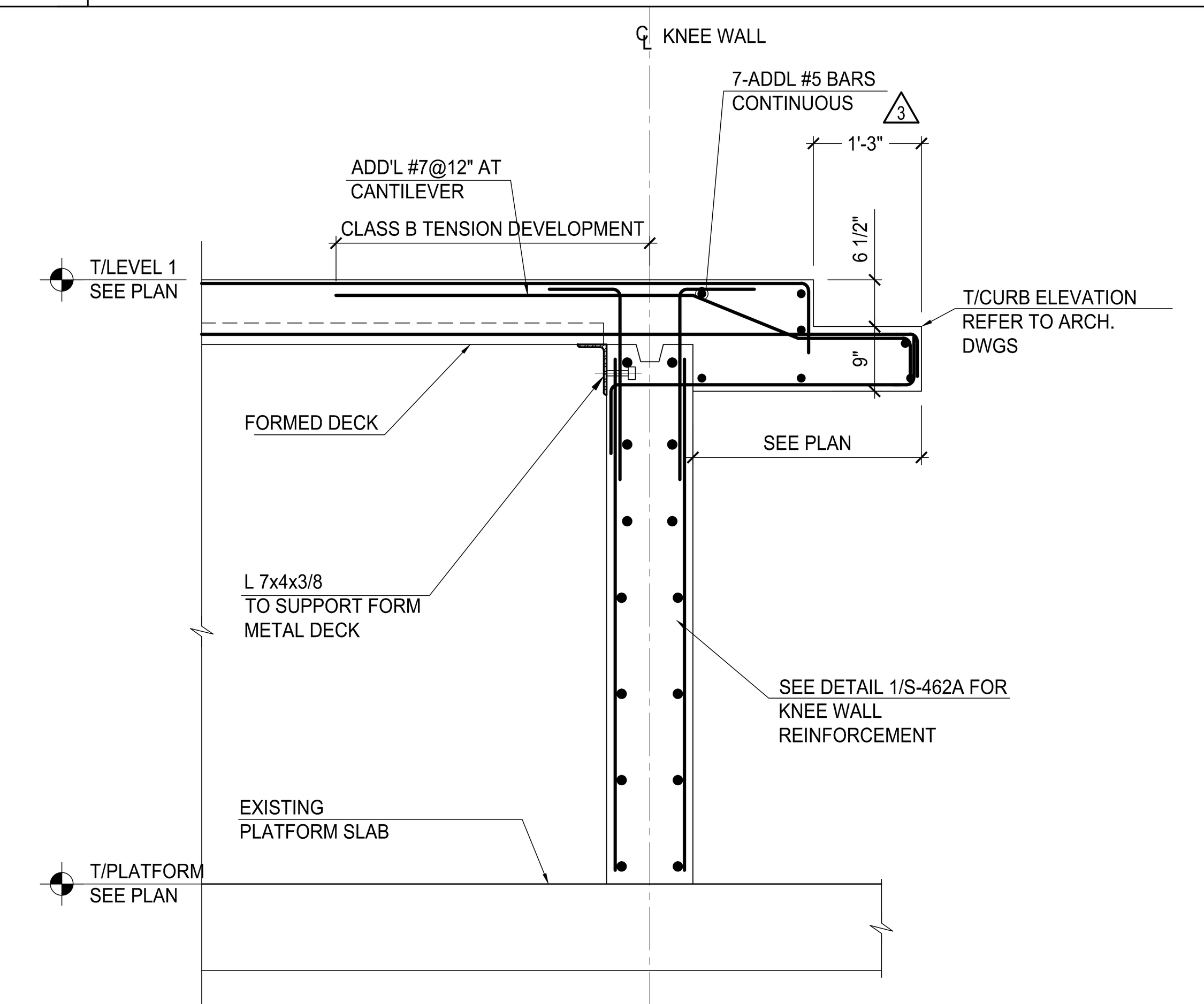
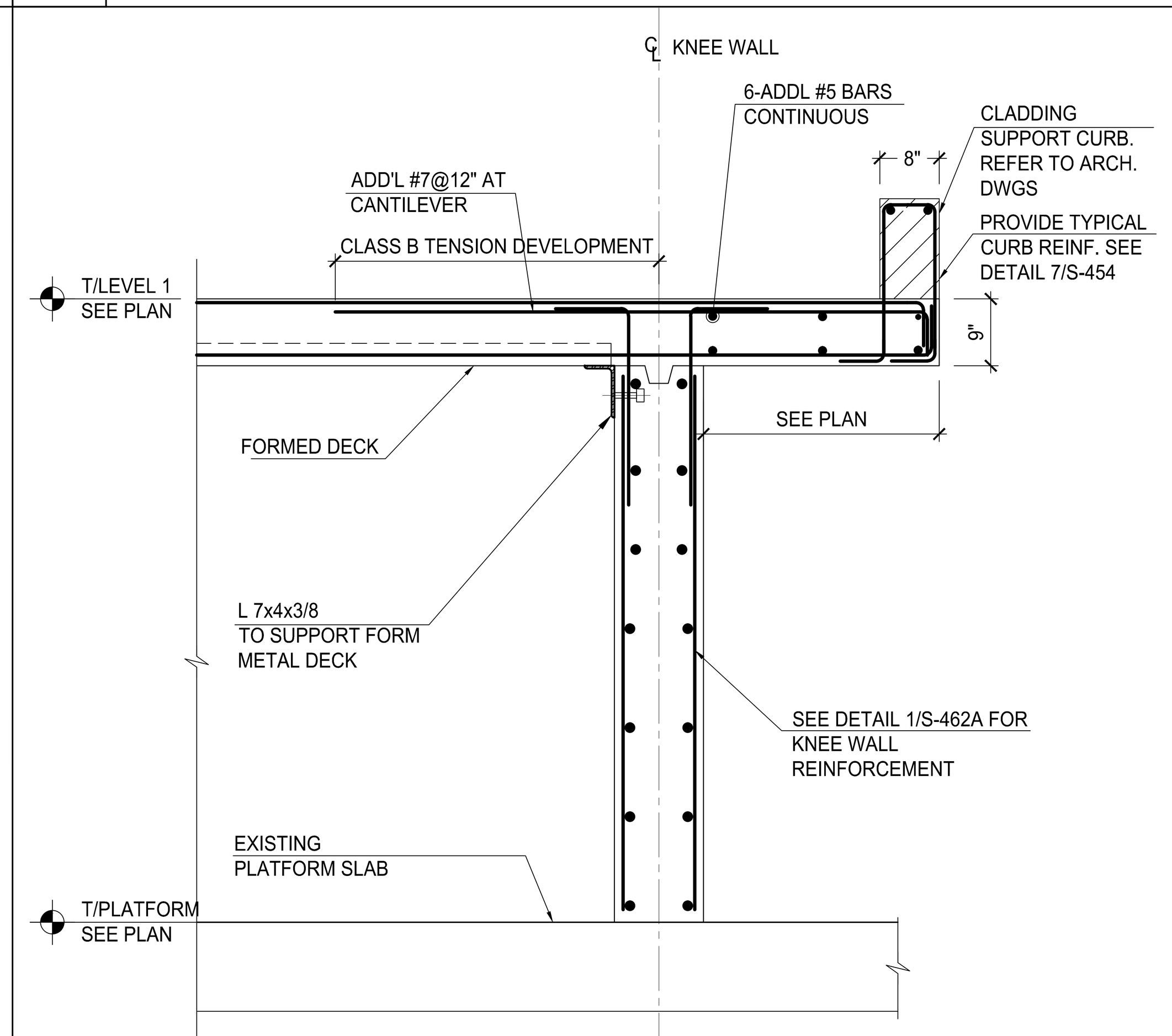
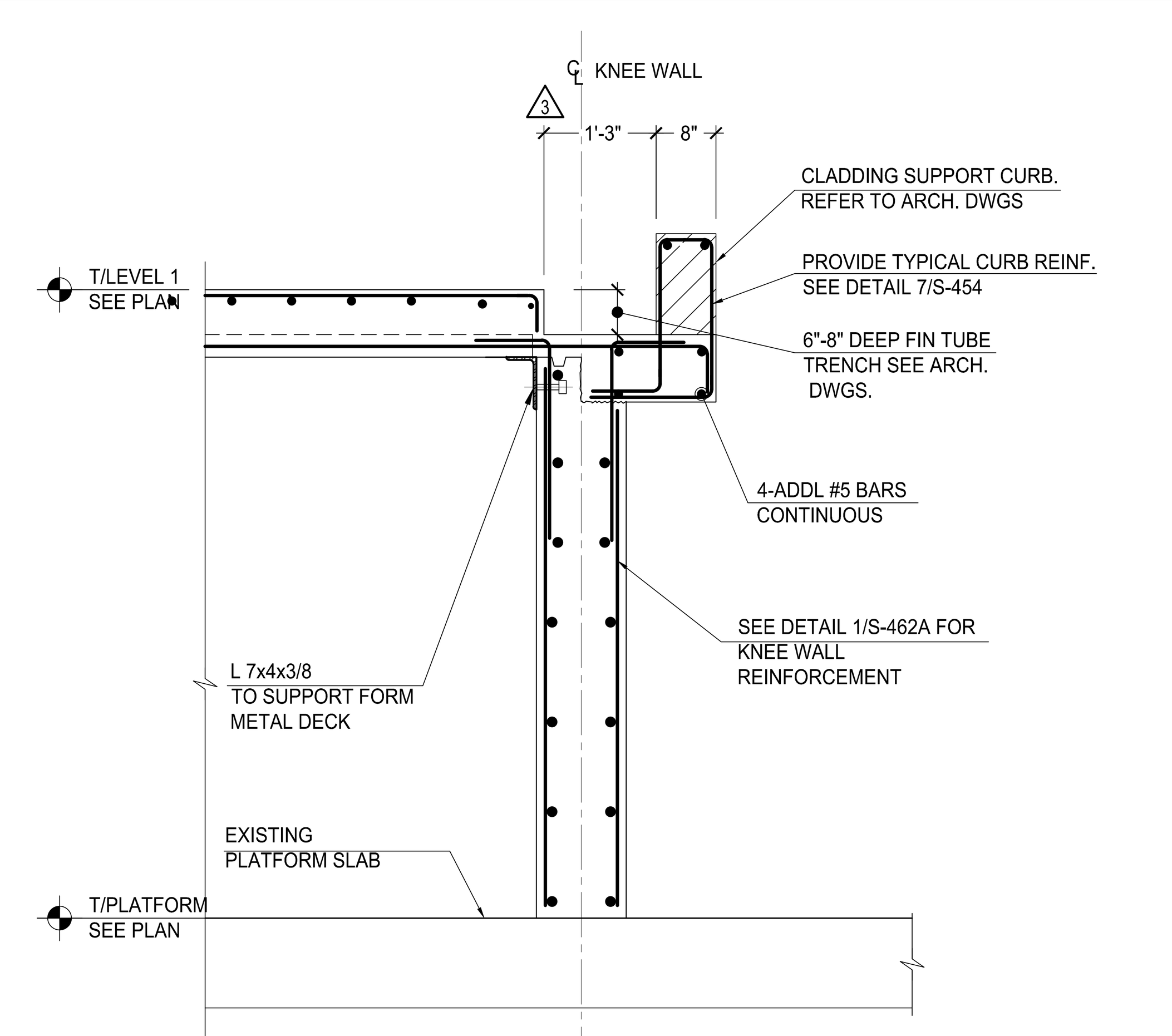


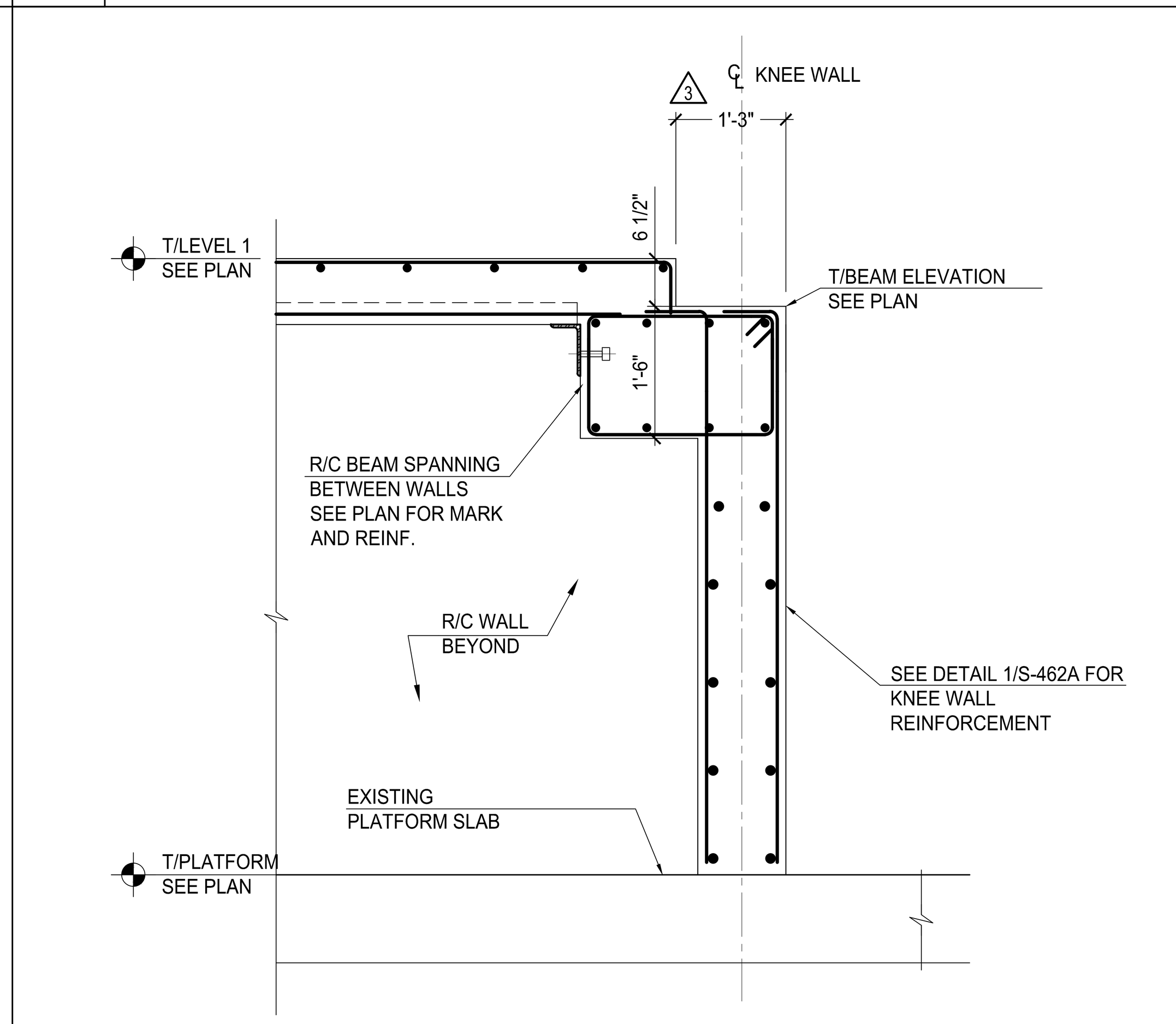
5 PERIMETER CANTILEVER NOTCHED SLAB EDGE
SCALE: NOT TO SCALE



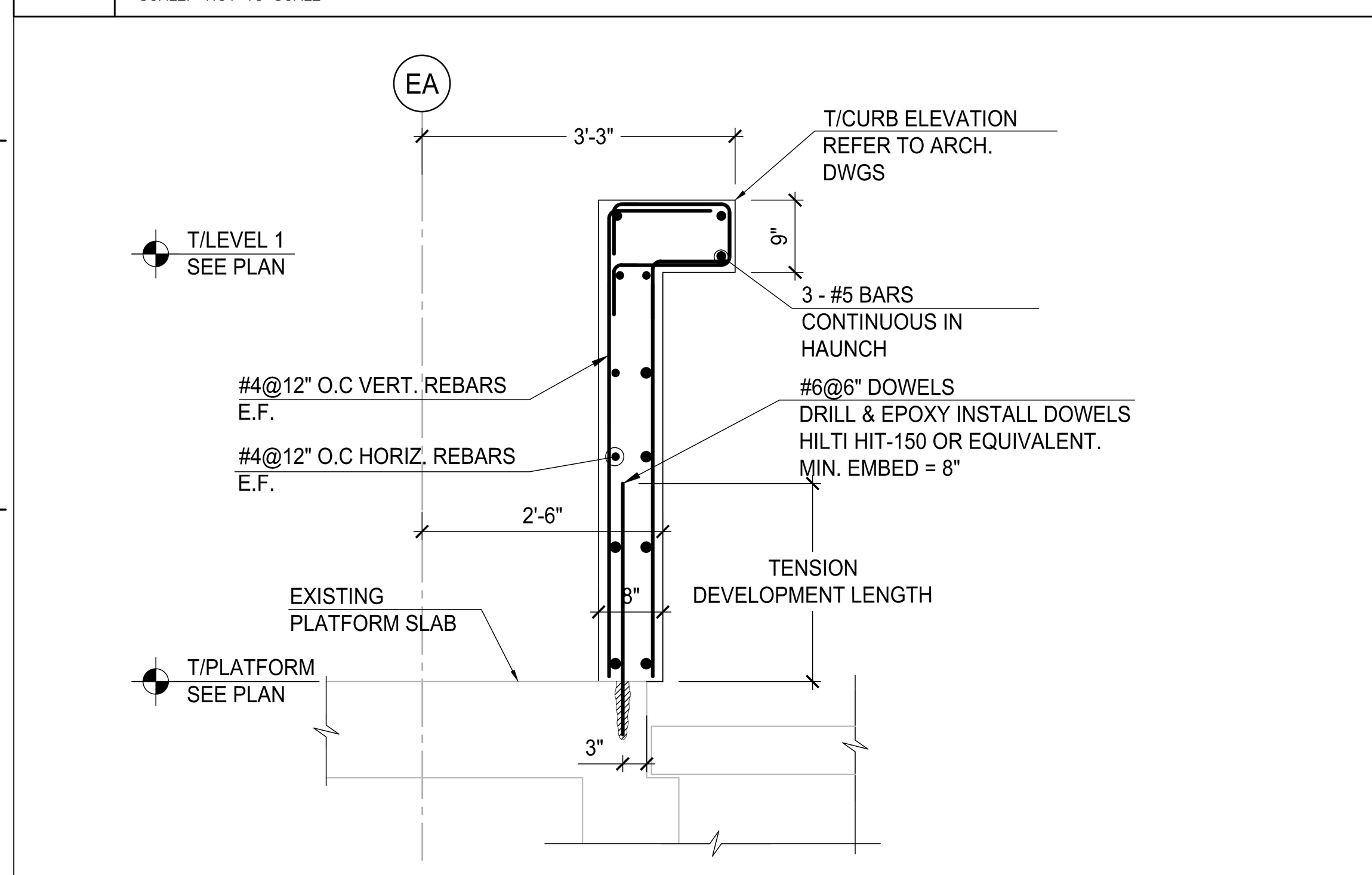
6 PERIMETER CANTILEVER
SCALE: NOT TO SCALE



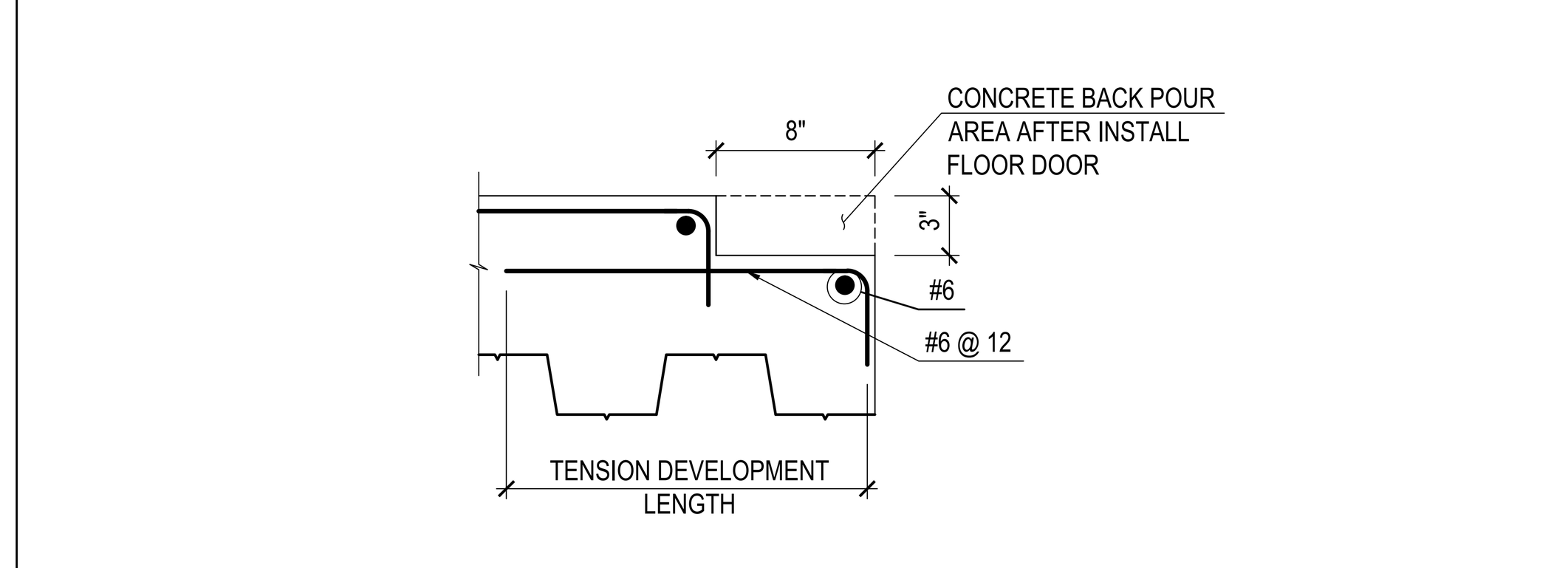
7 PERIMETER FIN TUBE TRENCH AT CANTILEVER TYPE 2
SCALE: NOT TO SCALE



8 PERIMETER WALL AT NORTH PLATFORM TRENCH
SCALE: NOT TO SCALE



9 CURTAINWALL SUPPORT CURB ALONG GRID EA
SCALE: NOT TO SCALE



10 CONCRETE CURB DETAIL
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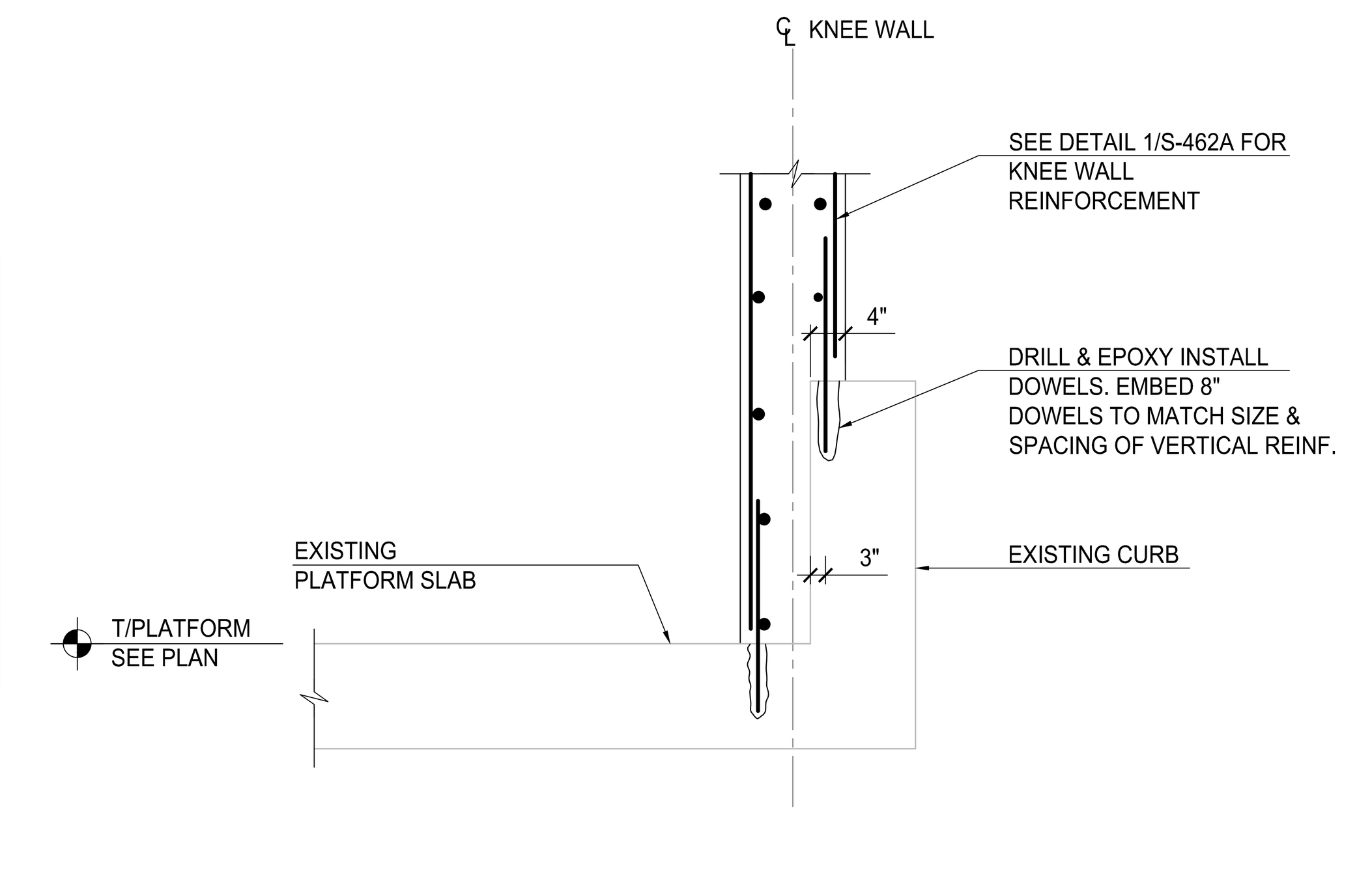
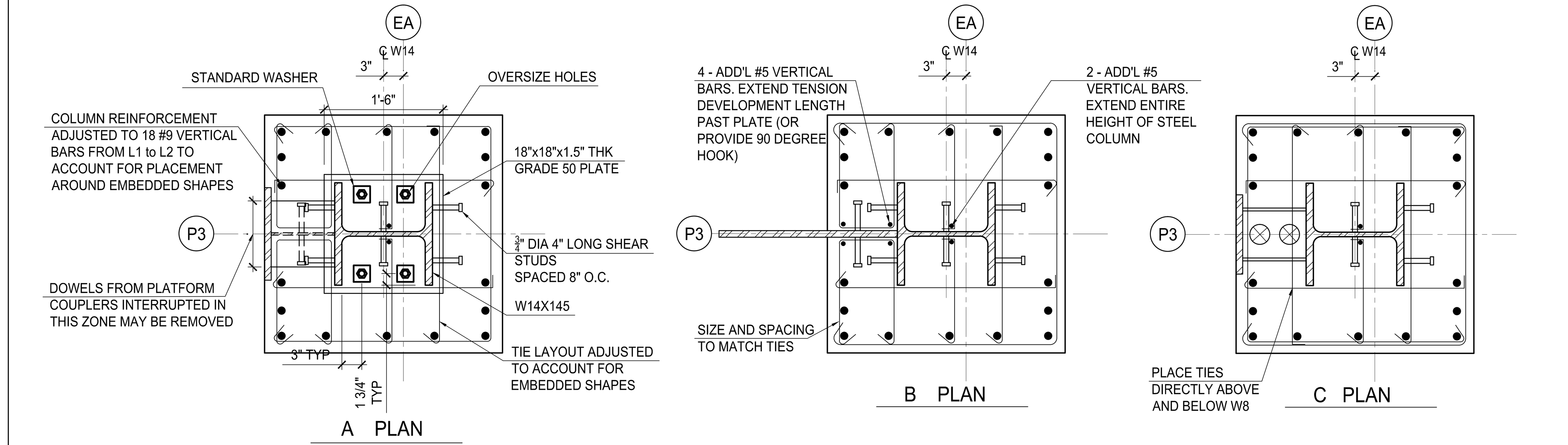
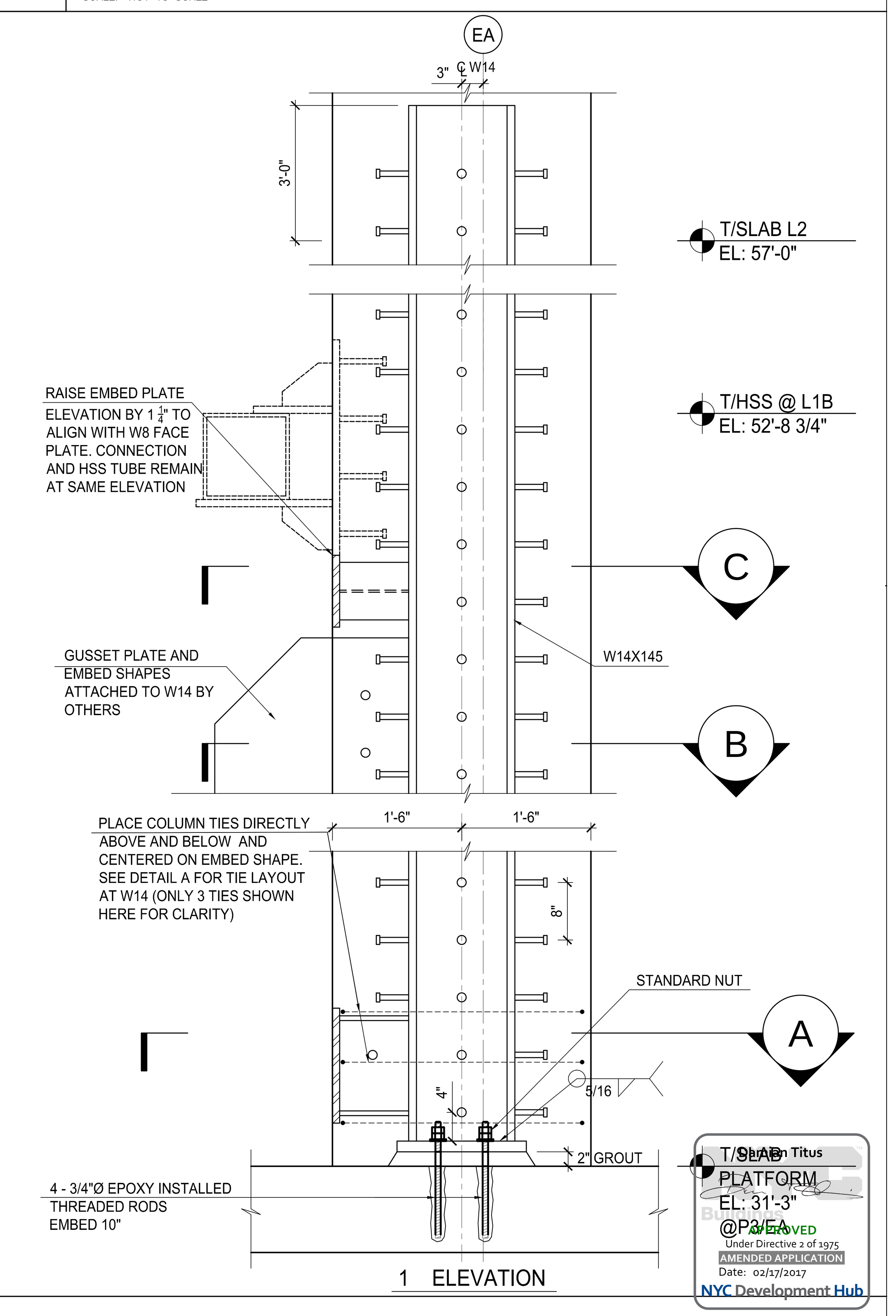


11 WALL DETAIL AT EXISTING CURB CONDITION
SCALE: NOT TO SCALE





12 COLUMN P3/EA DETAIL AT LEVEL 1
SCALE: NOT TO SCALE

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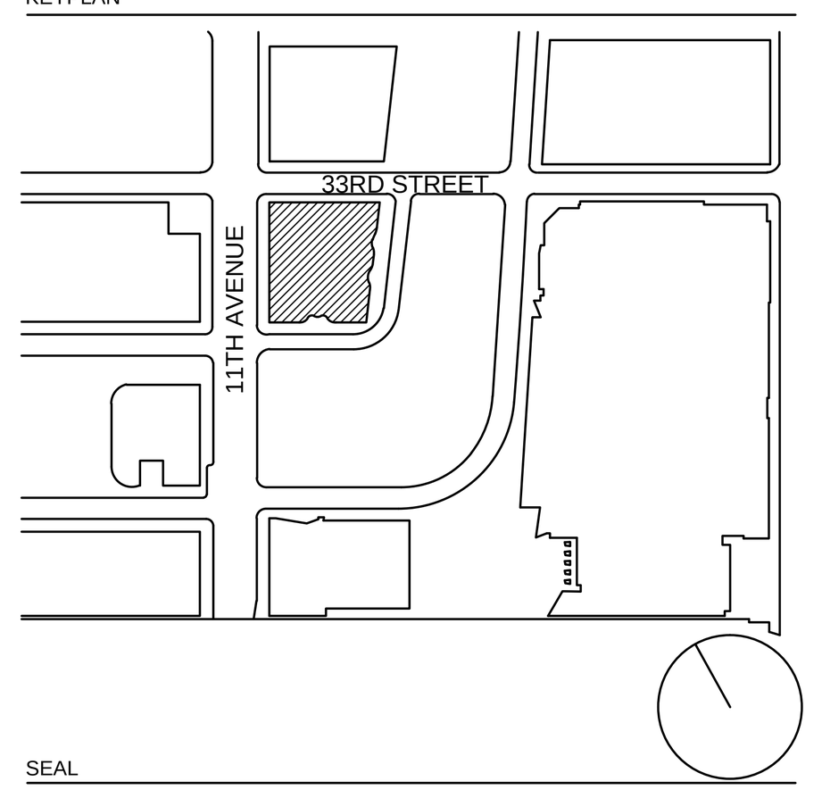
KEYPLAN


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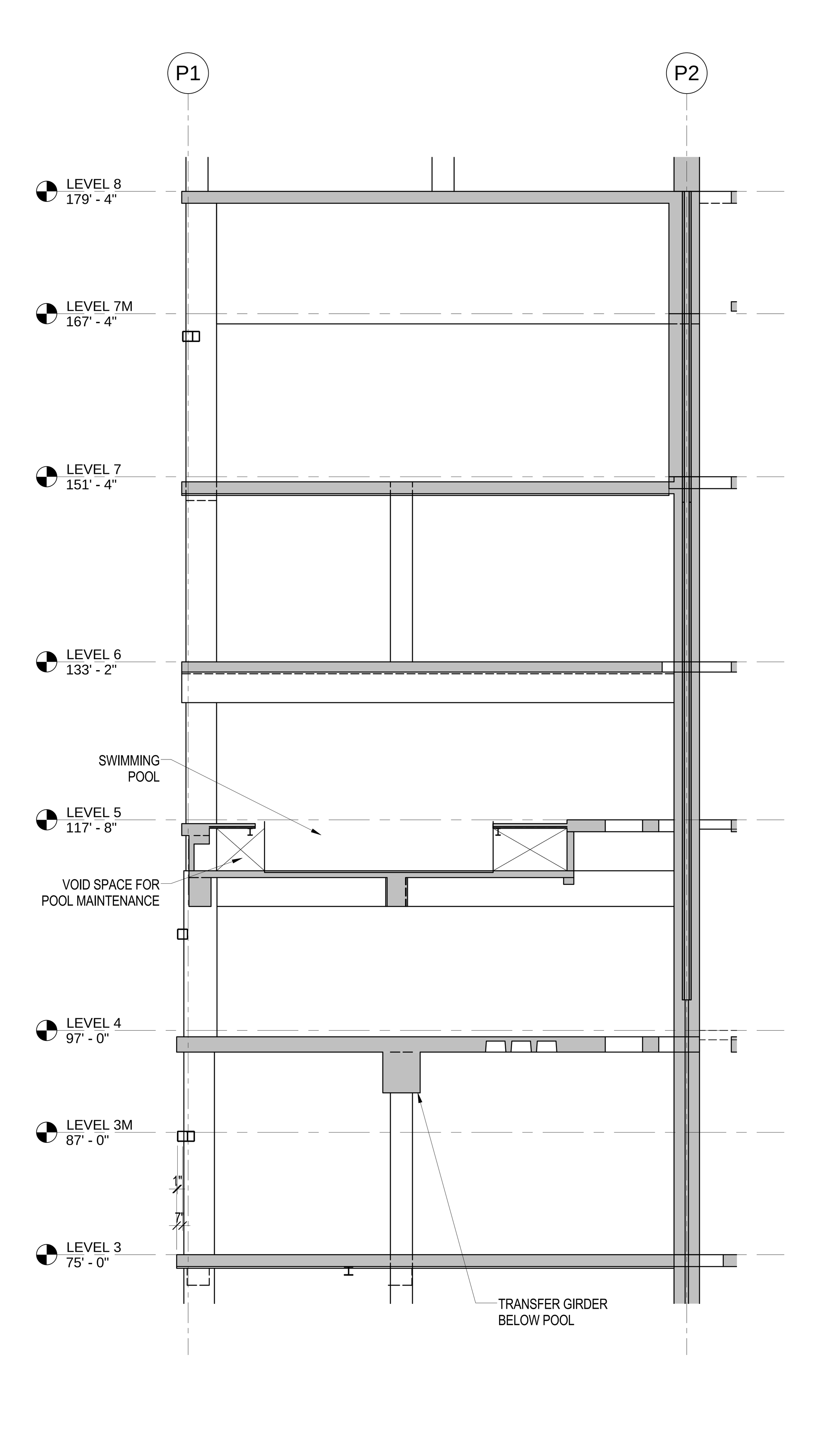
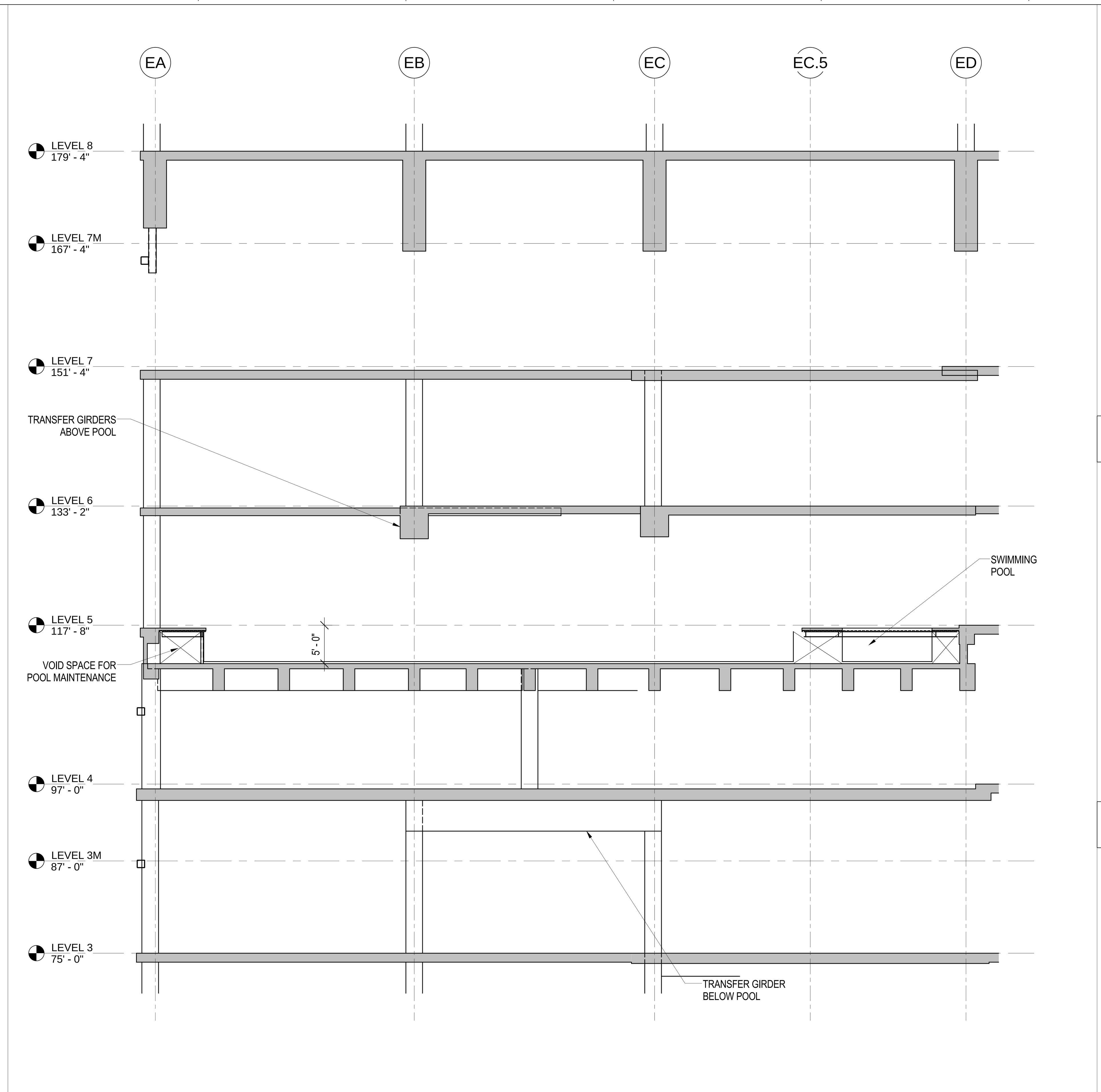
DRAWING TITLE
GROUND FLOOR SECTIONS AND DETAILS

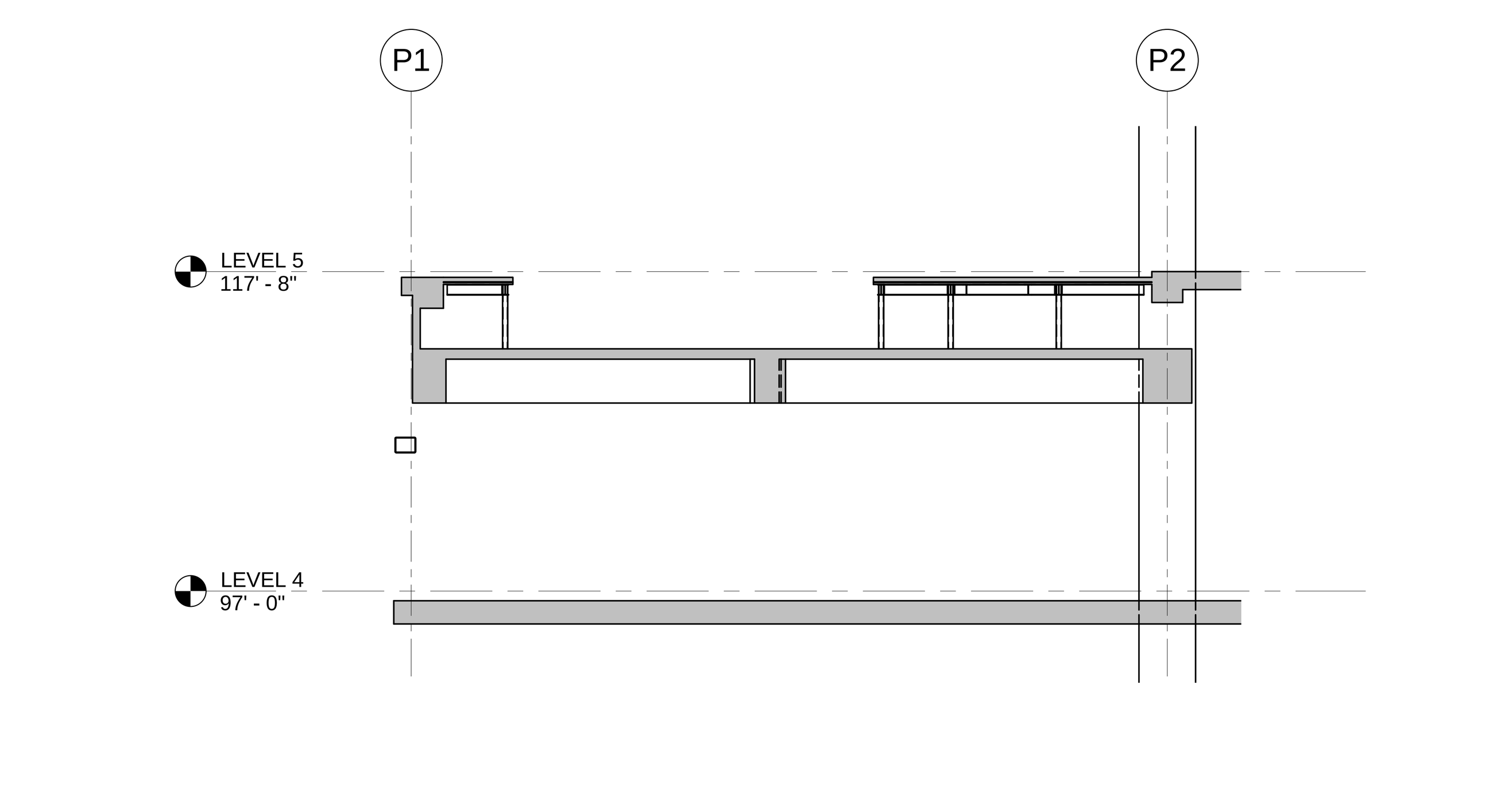
B-SCAN - DRAWING NUMBER
S-465.00
DRAWING NUMBER
S-462A



1 N-S SECTION AT NORTH POOL 1
1/8" = 1'-0"



2 E-W SECTION AT NORTH POOL
1/8" = 1'-0"



3 N-S SECTION AT NORTH POOL 2
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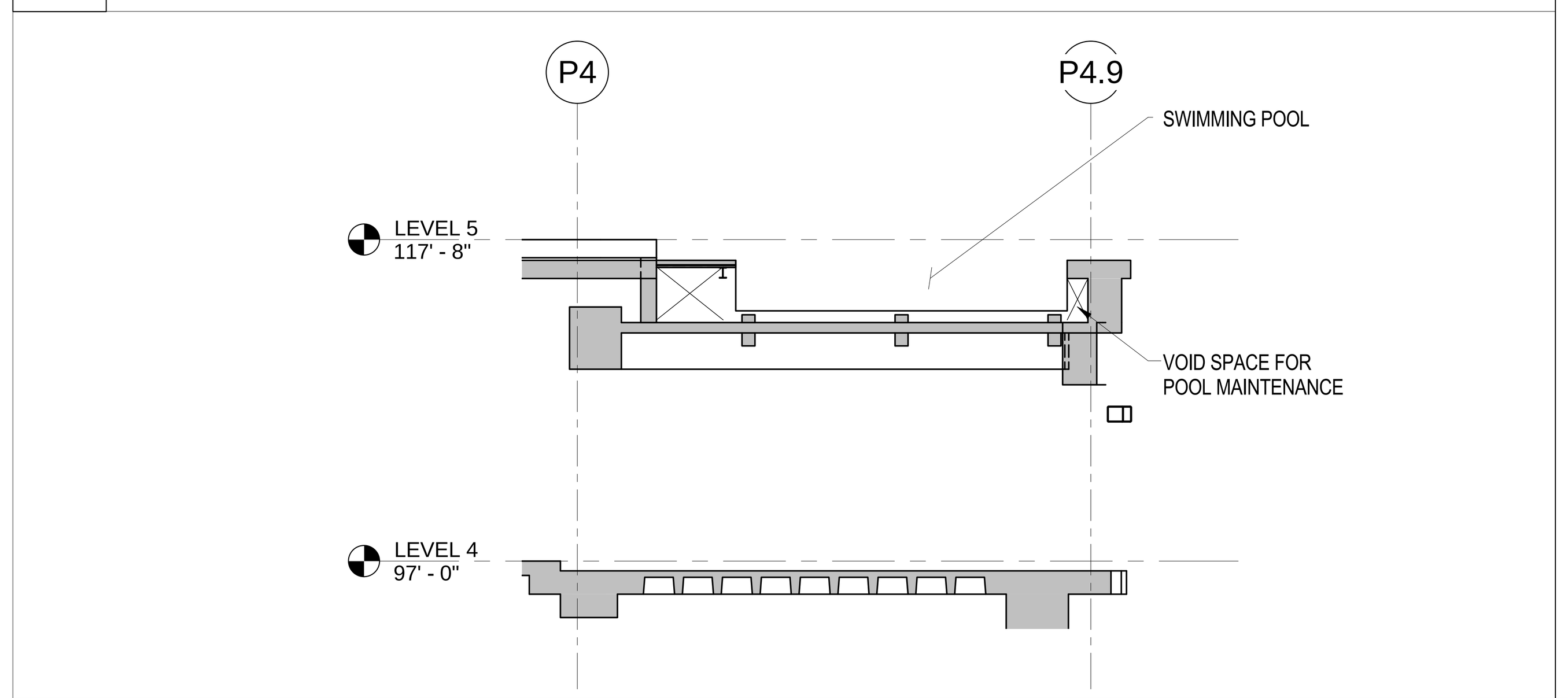

4 N-S SECTION AT SOUTH POOL
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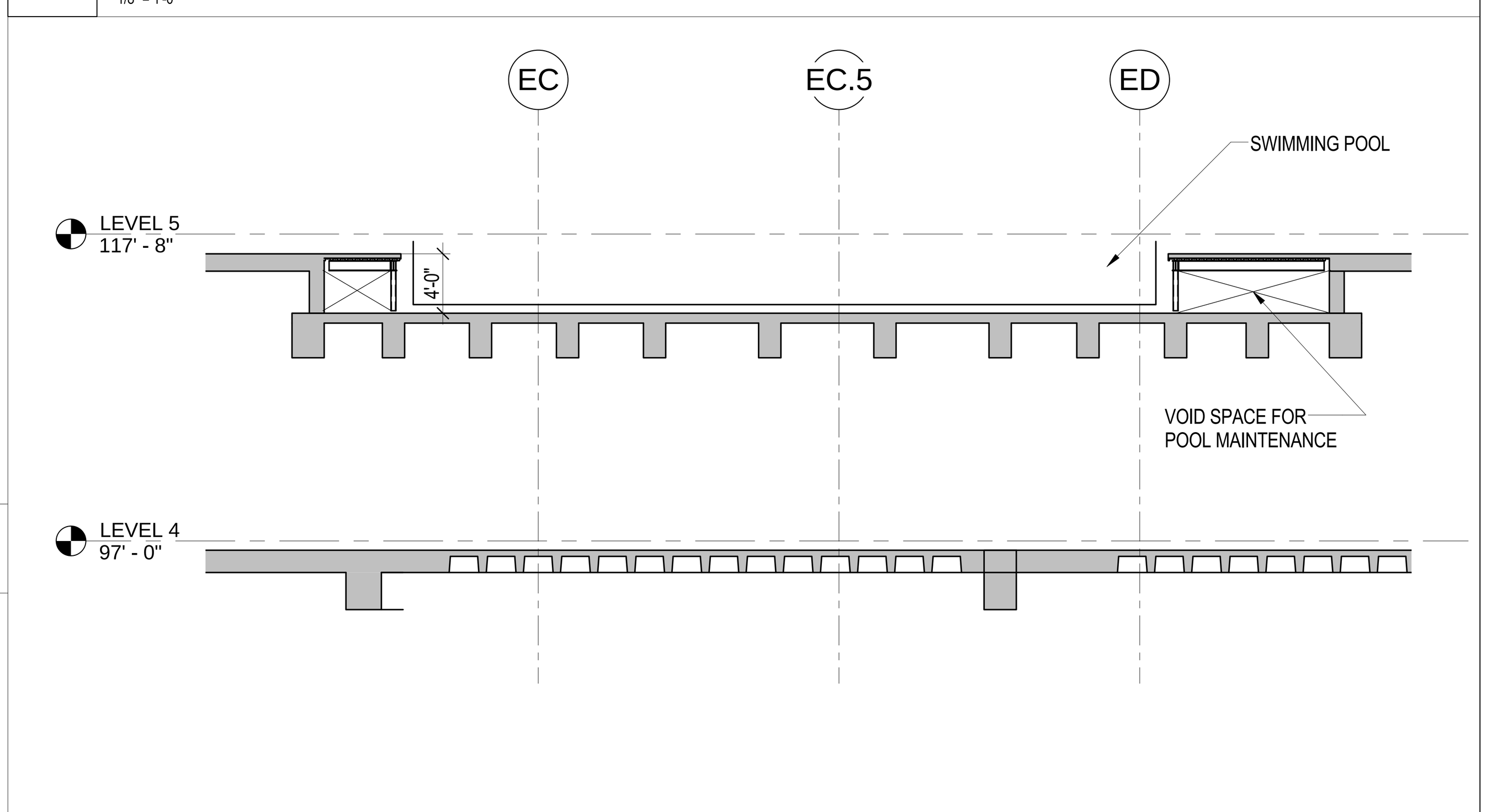
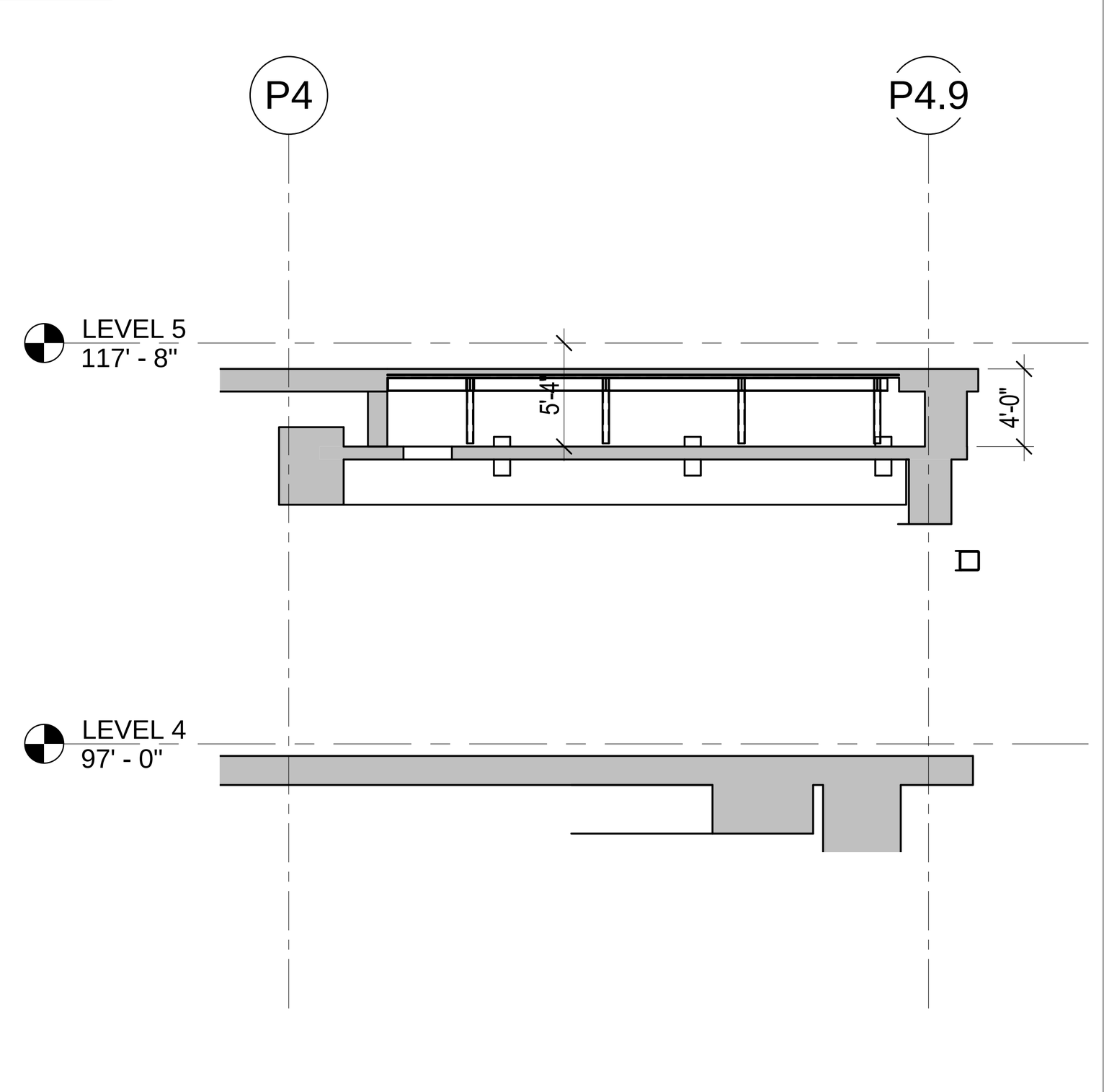
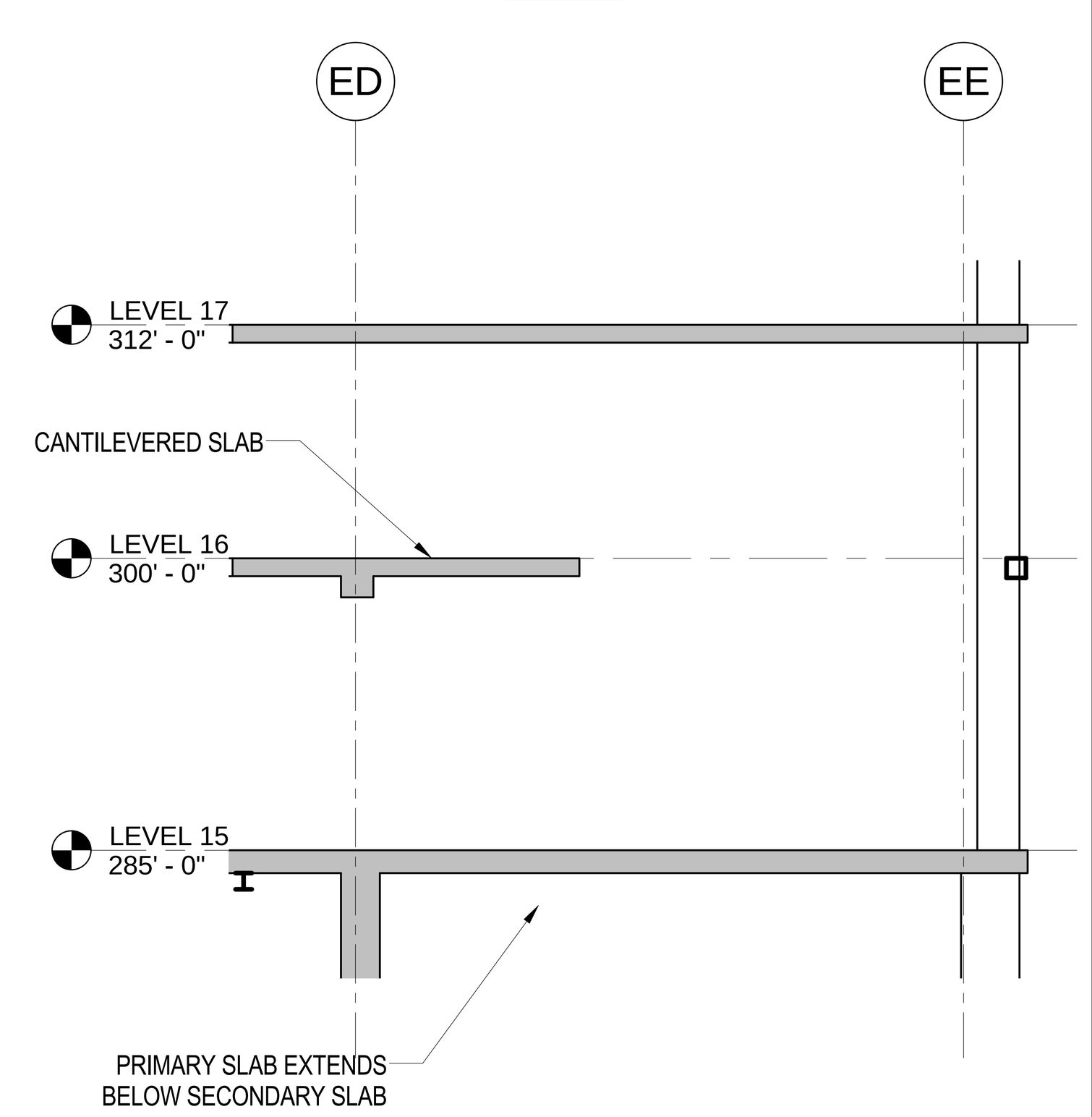


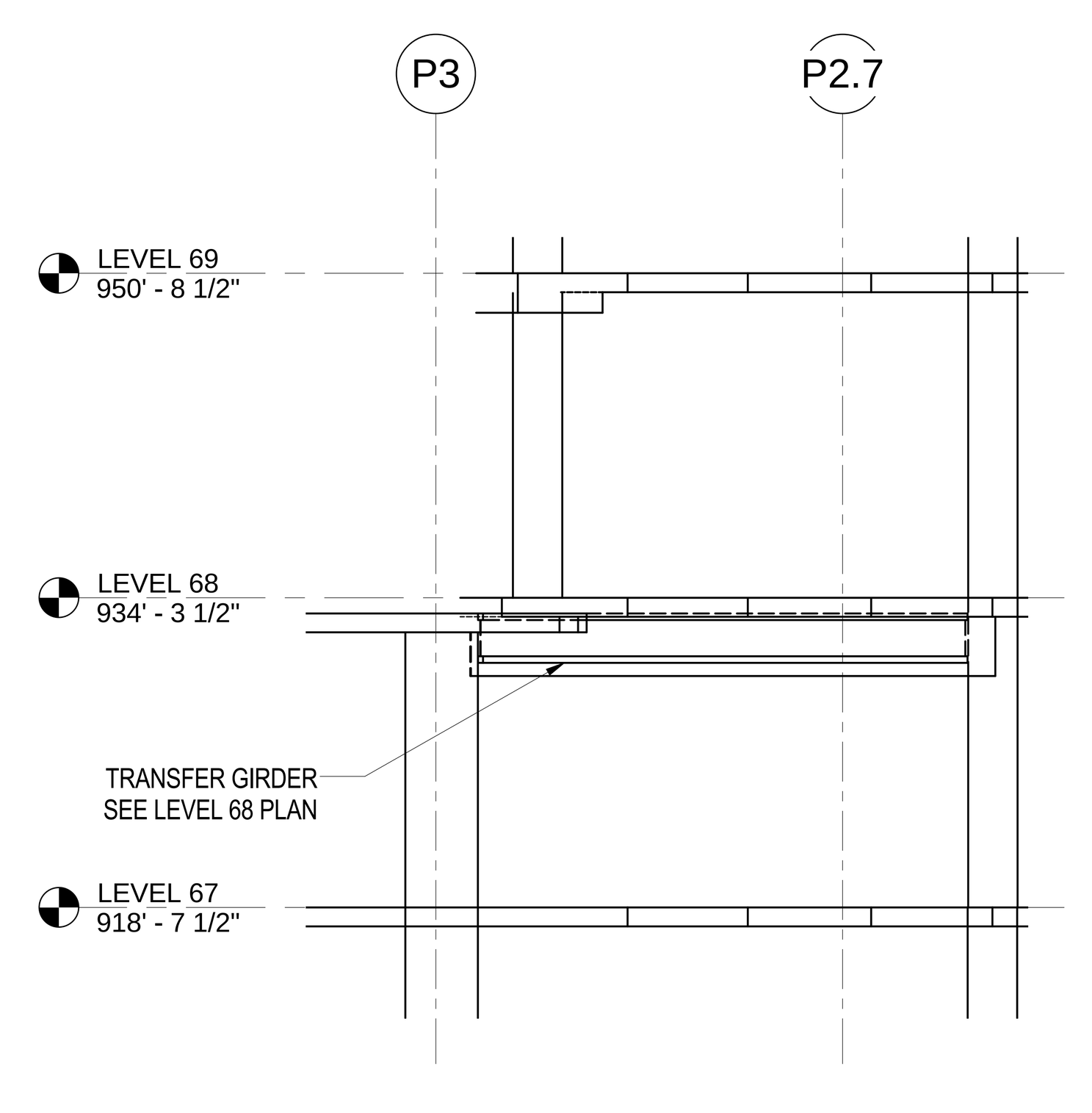
5 E-W SECTION AT SOUTH POOL
1/8" = 1'-0"



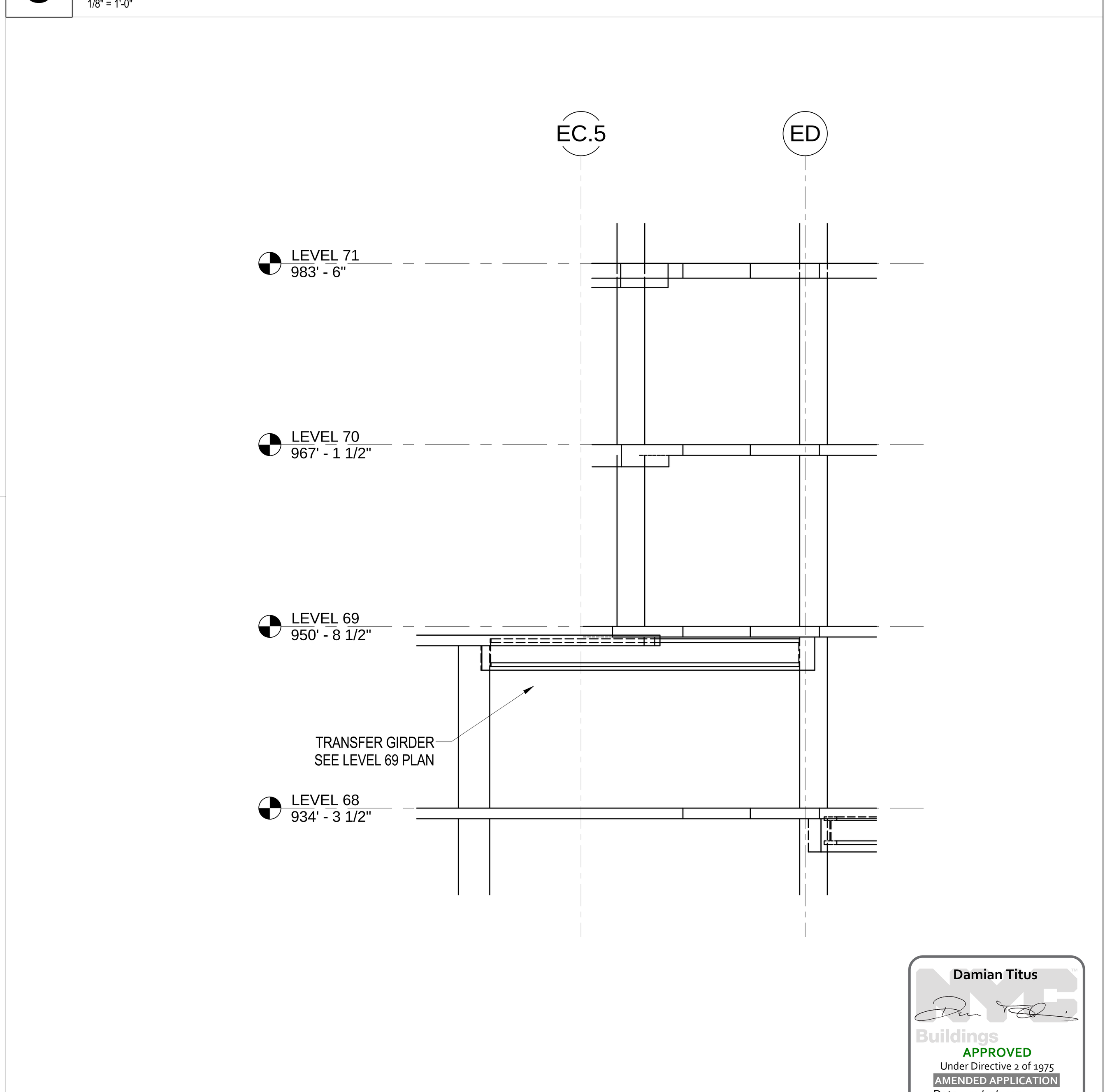
6 N-S SECTION AT SOUTH POOL1
1/8" = 1'-0"



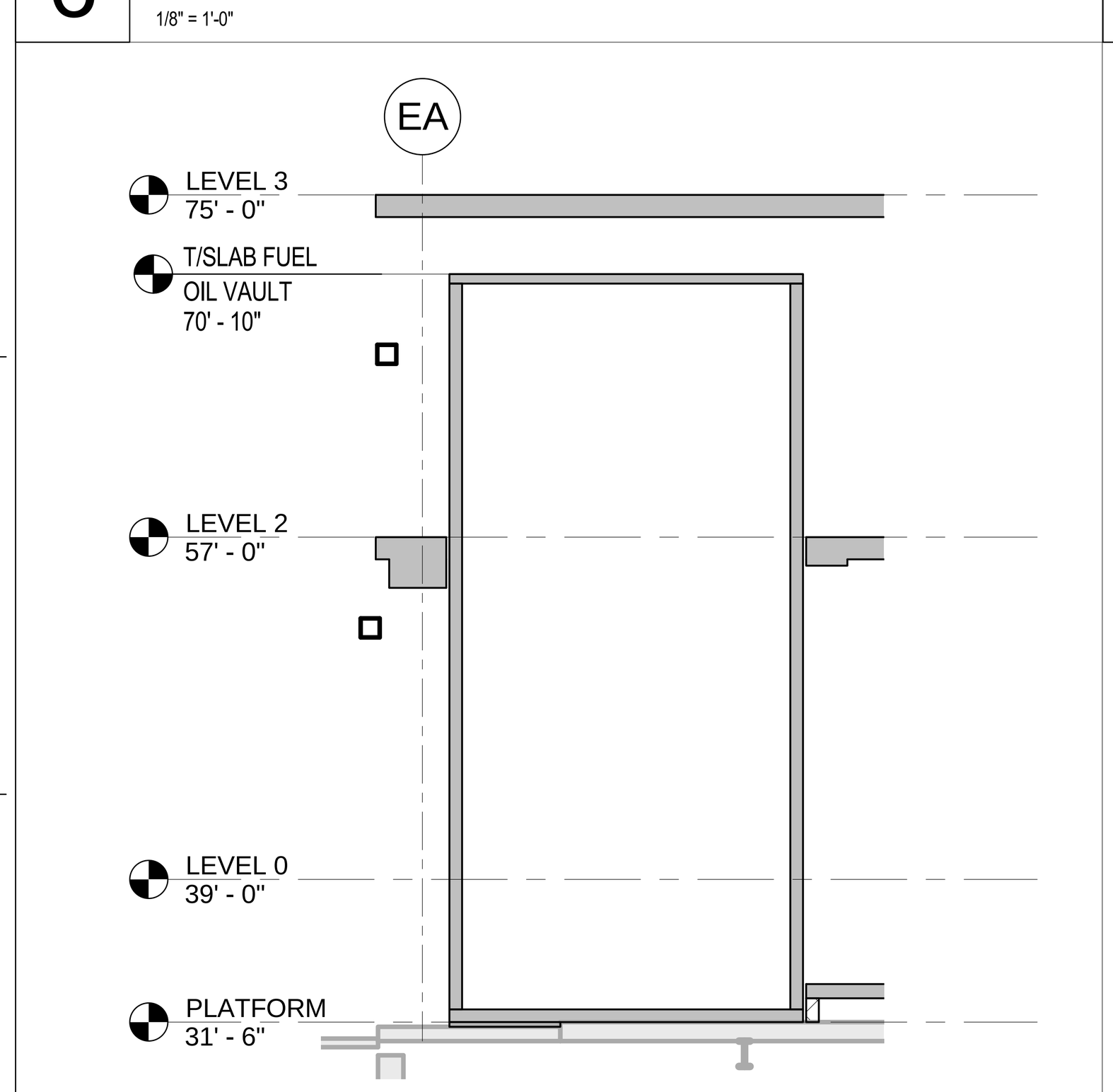
7 SECTION AT LEVEL 15 HOTEL LOBBY
1/8" = 1'-0"



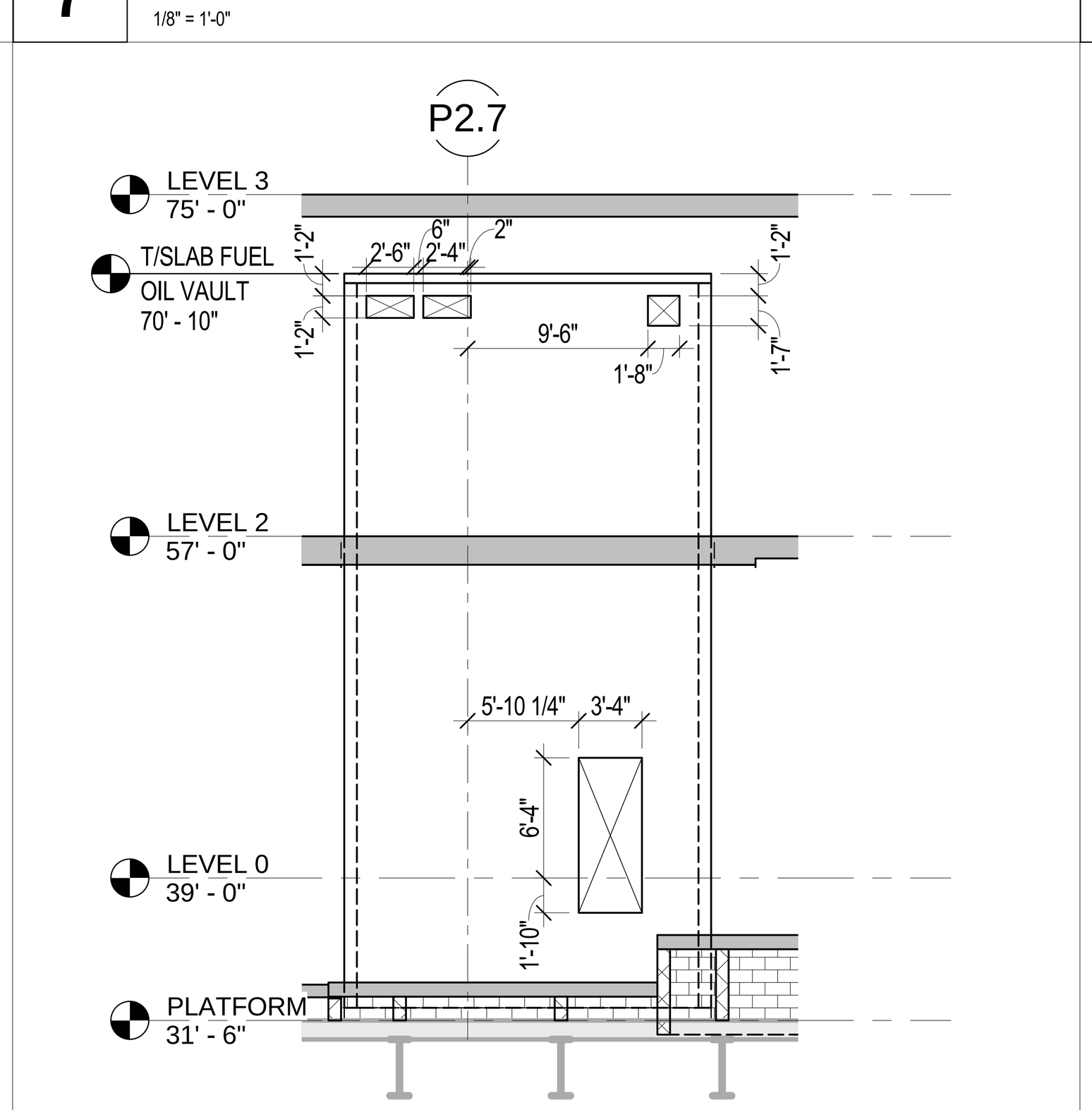
8 COLUMN 8T TRANSFER SECTION
1/8" = 1'-0"



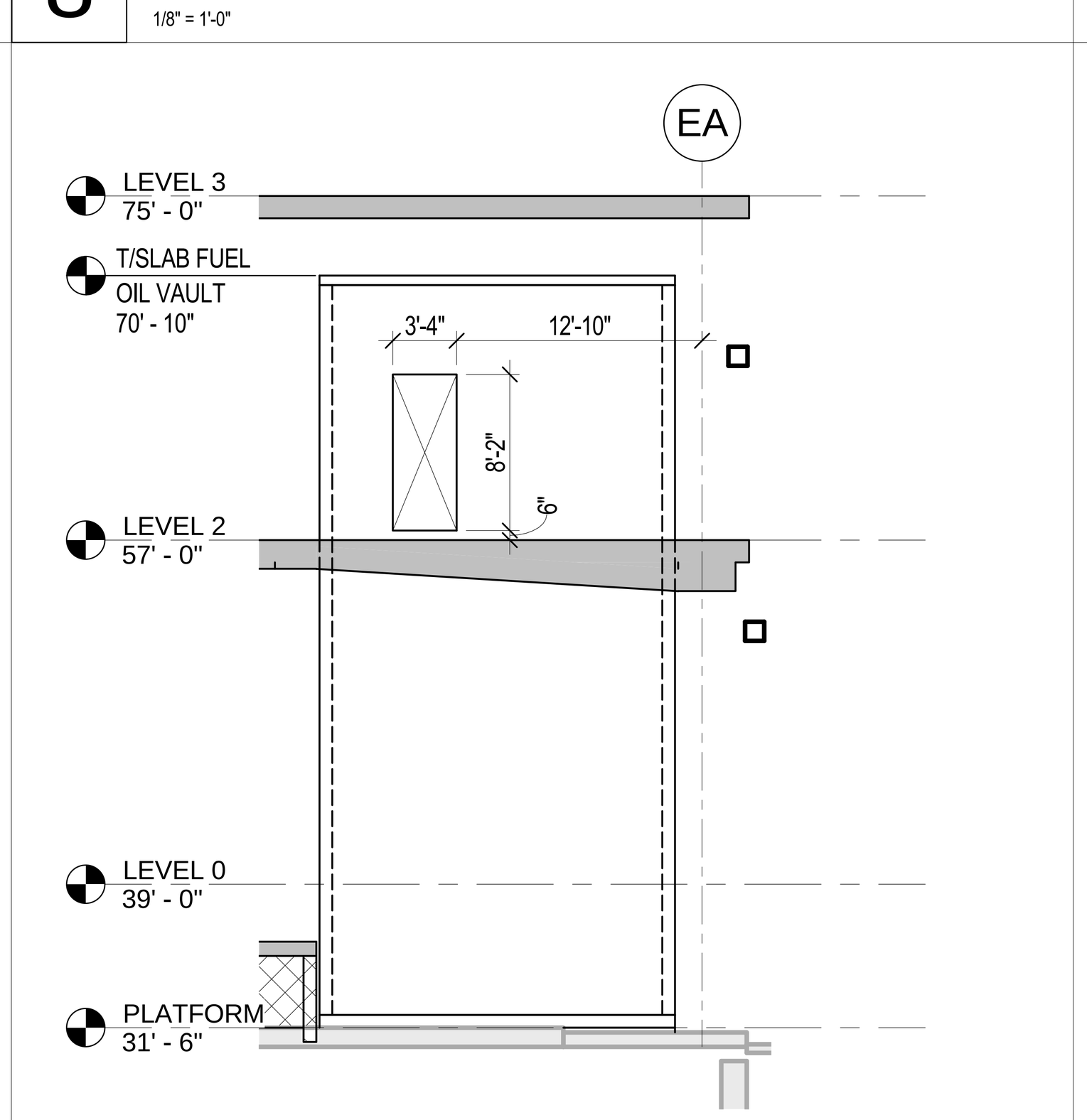
9 COLUMN 11T TRANSFER SECTION
1/8" = 1'-0"



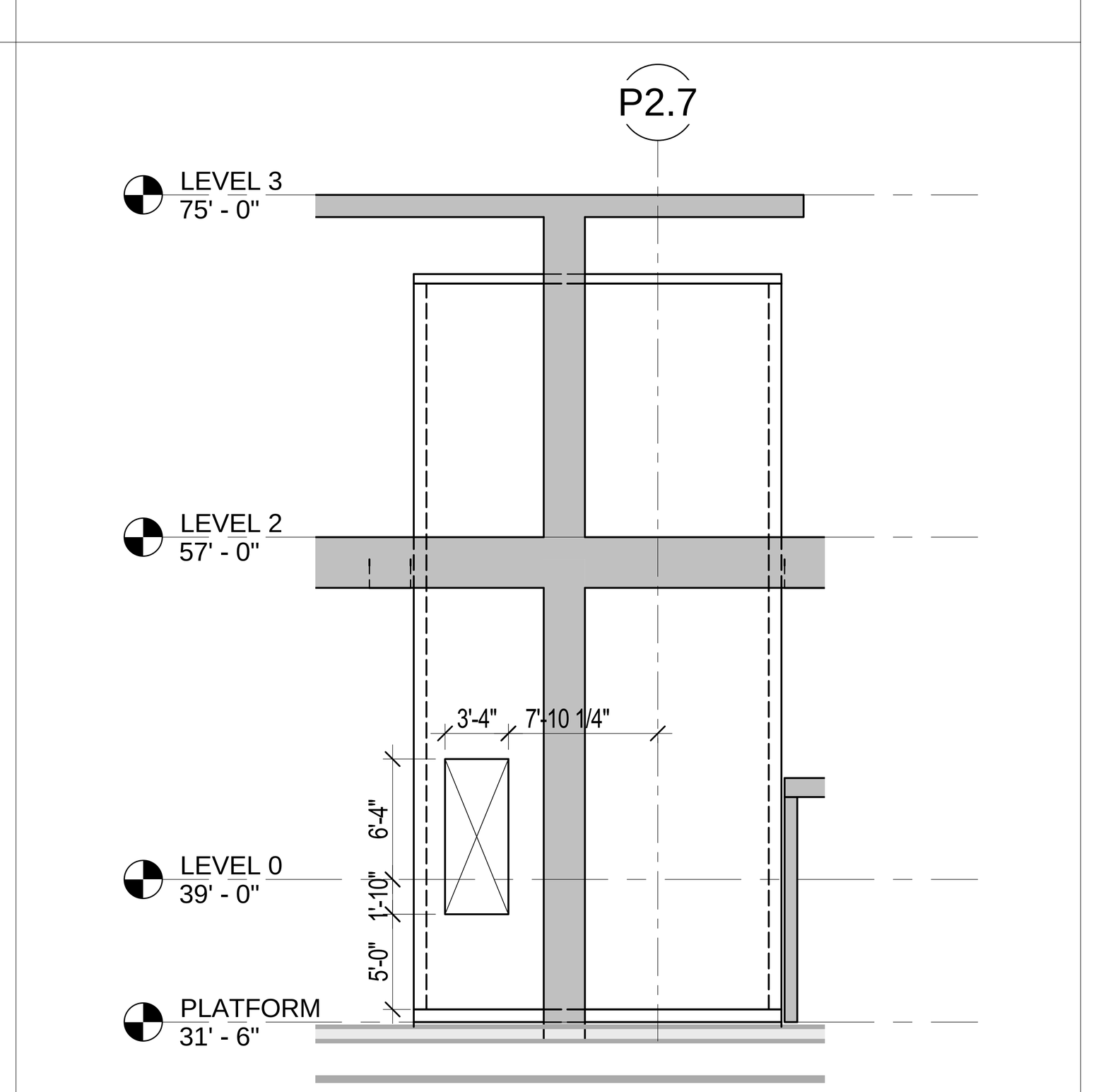
10 FUEL OIL VAULT ELEVATION 1
1/8" = 1'-0"



11 FUEL OIL VAULT ELEVATION 2
1/8" = 1'-0"



12 FUEL OIL VAULT ELEVATION 3
1/8" = 1'-0"



13 FUEL OIL VAULT ELEVATION 4
1/8" = 1'-0"

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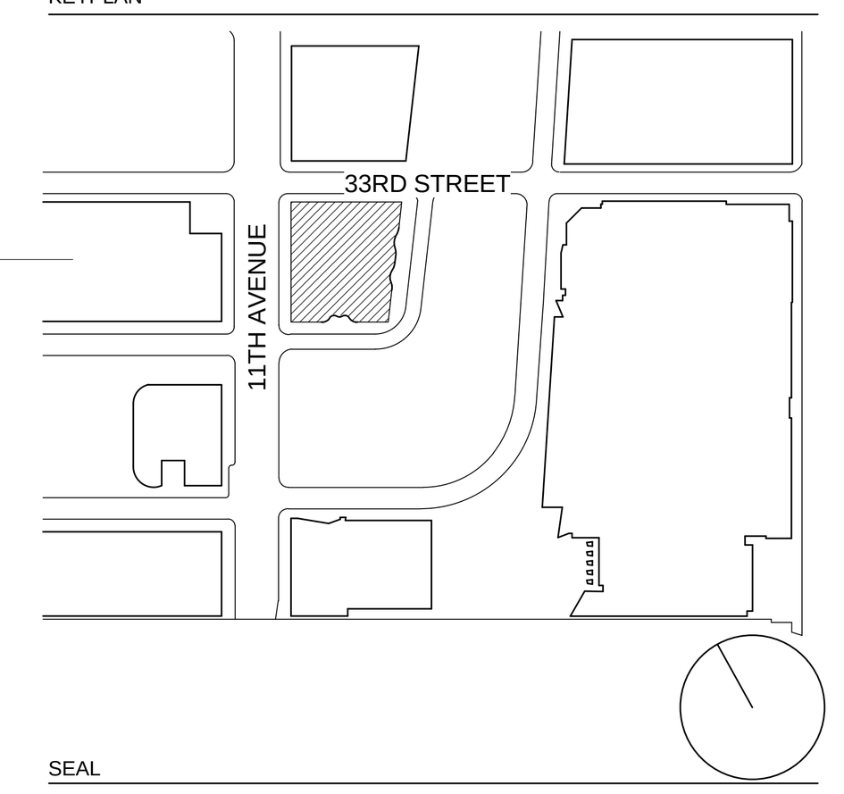

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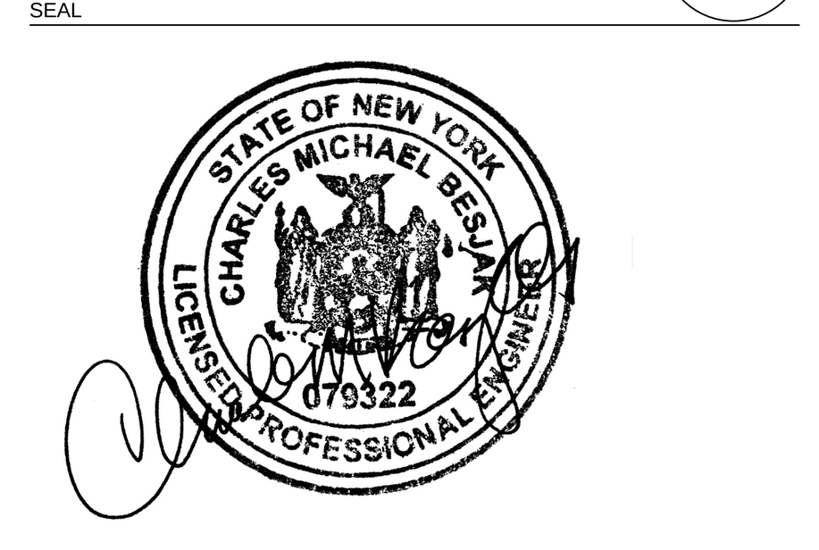

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7	20 JAN 2017	ISSUED TO DOB
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2	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
1	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT

DRAWING TITLE

MISCELLANEOUS CONCRETE SECTIONS

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Date: 02/17/2017
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B-SCAN - DRAWING NUMBER

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S-471

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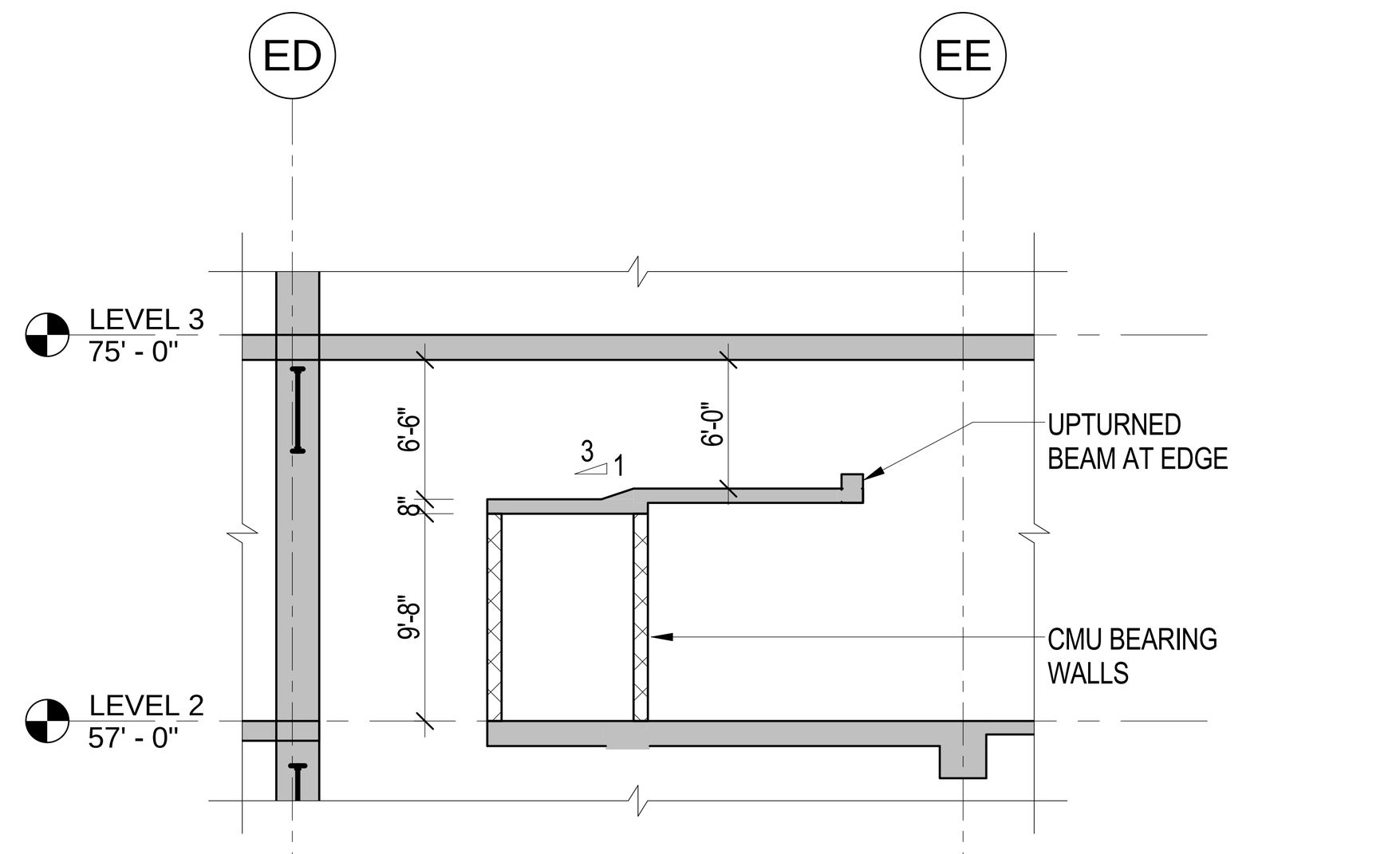

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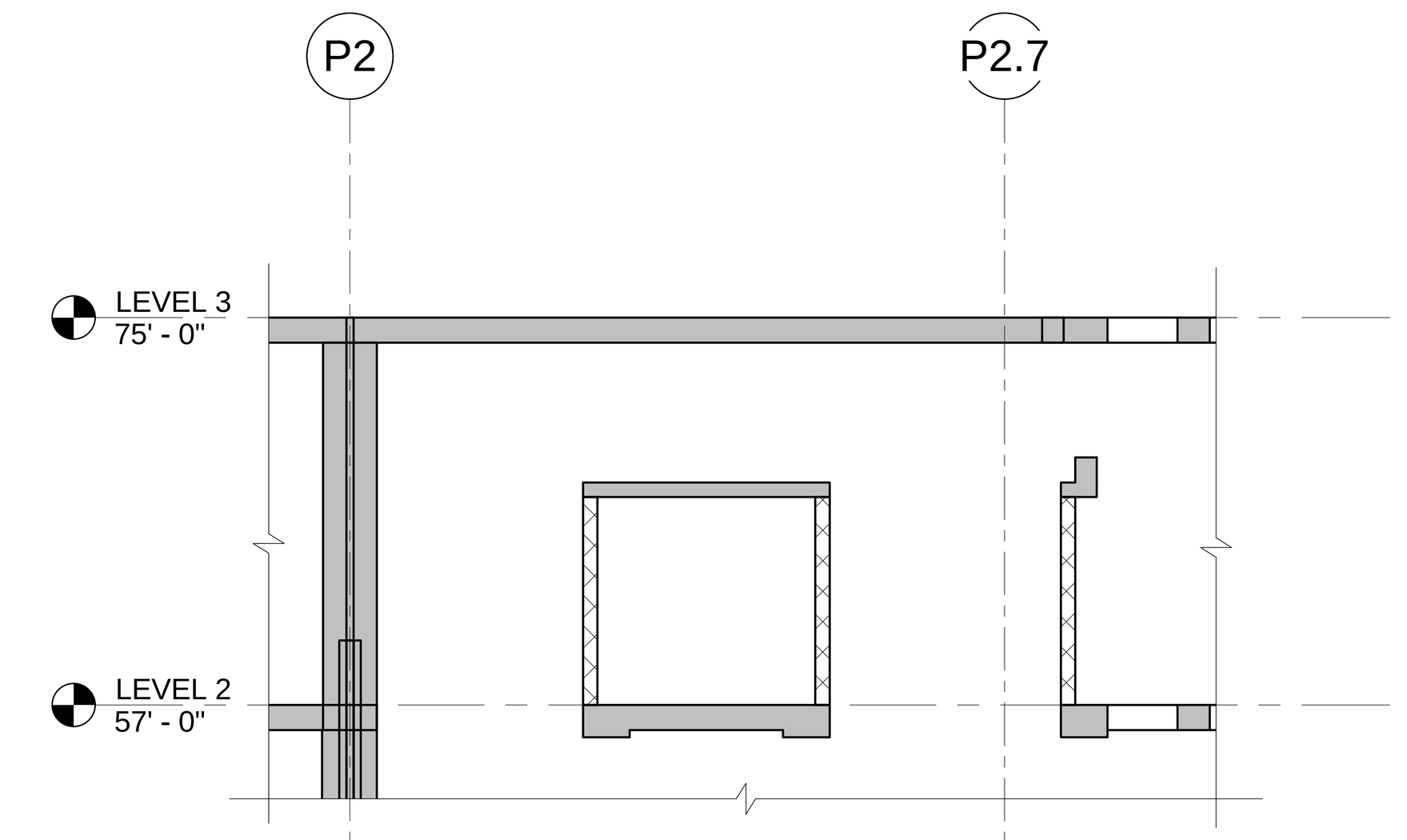
1/8" = 1'-0"



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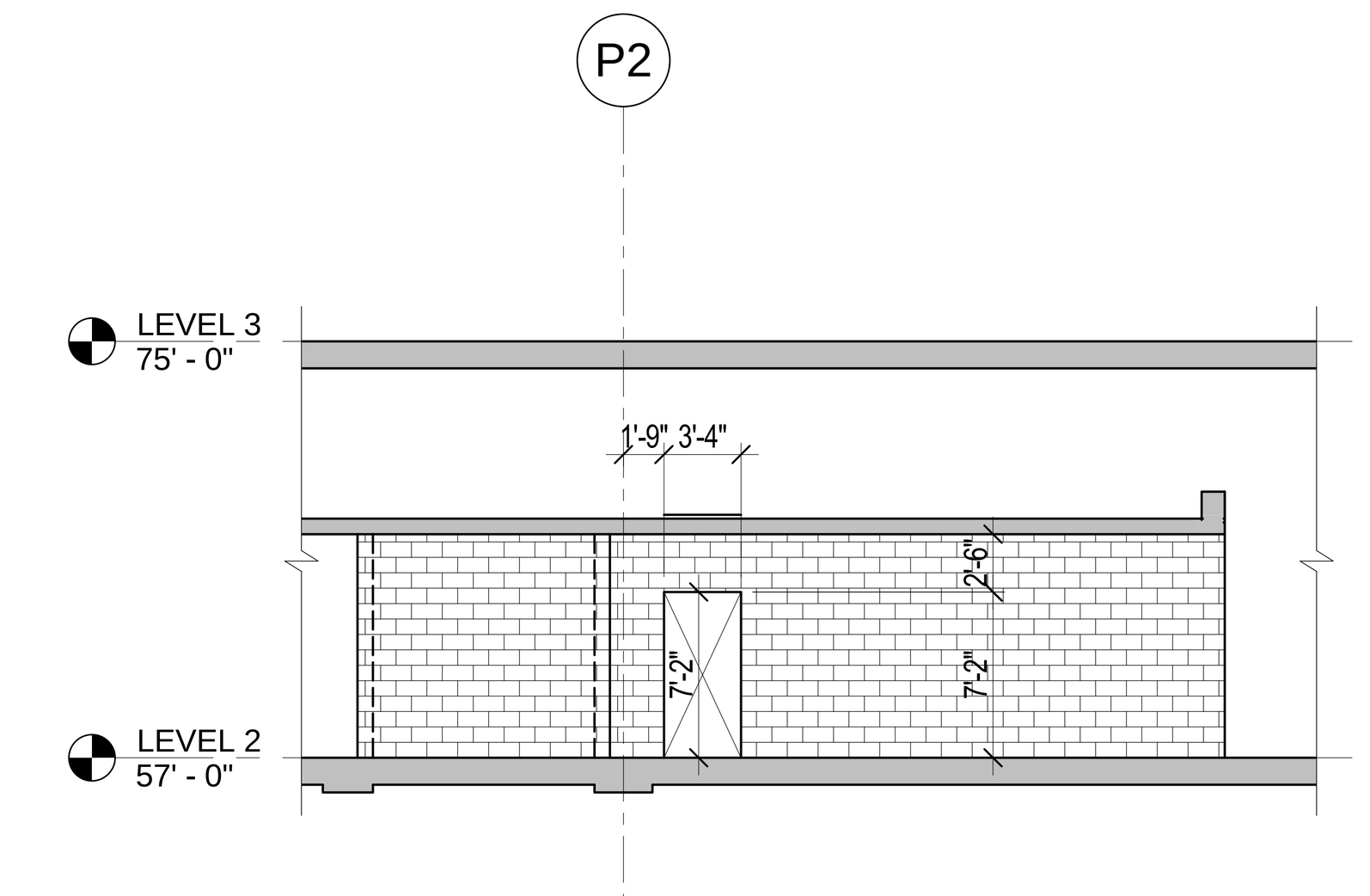
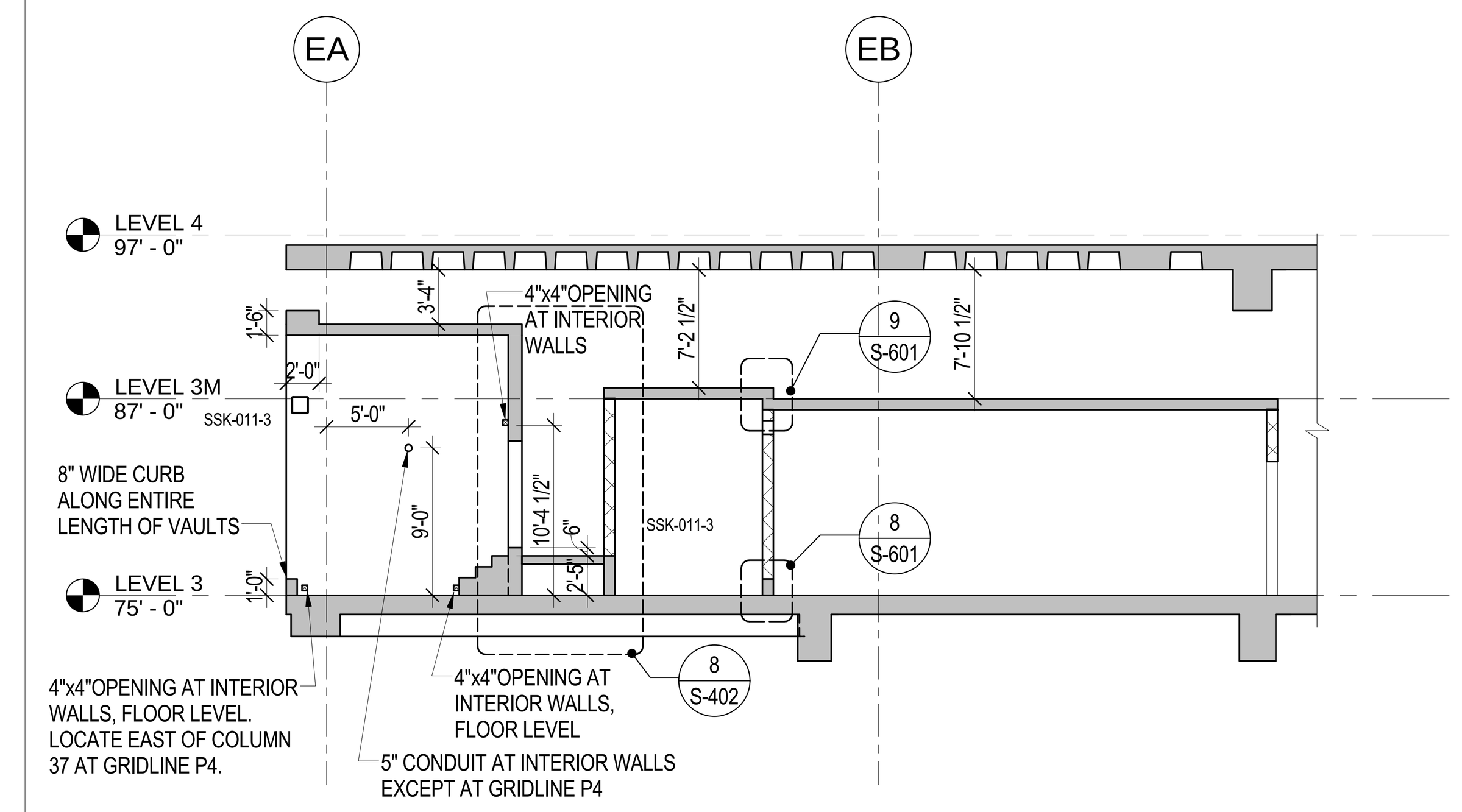
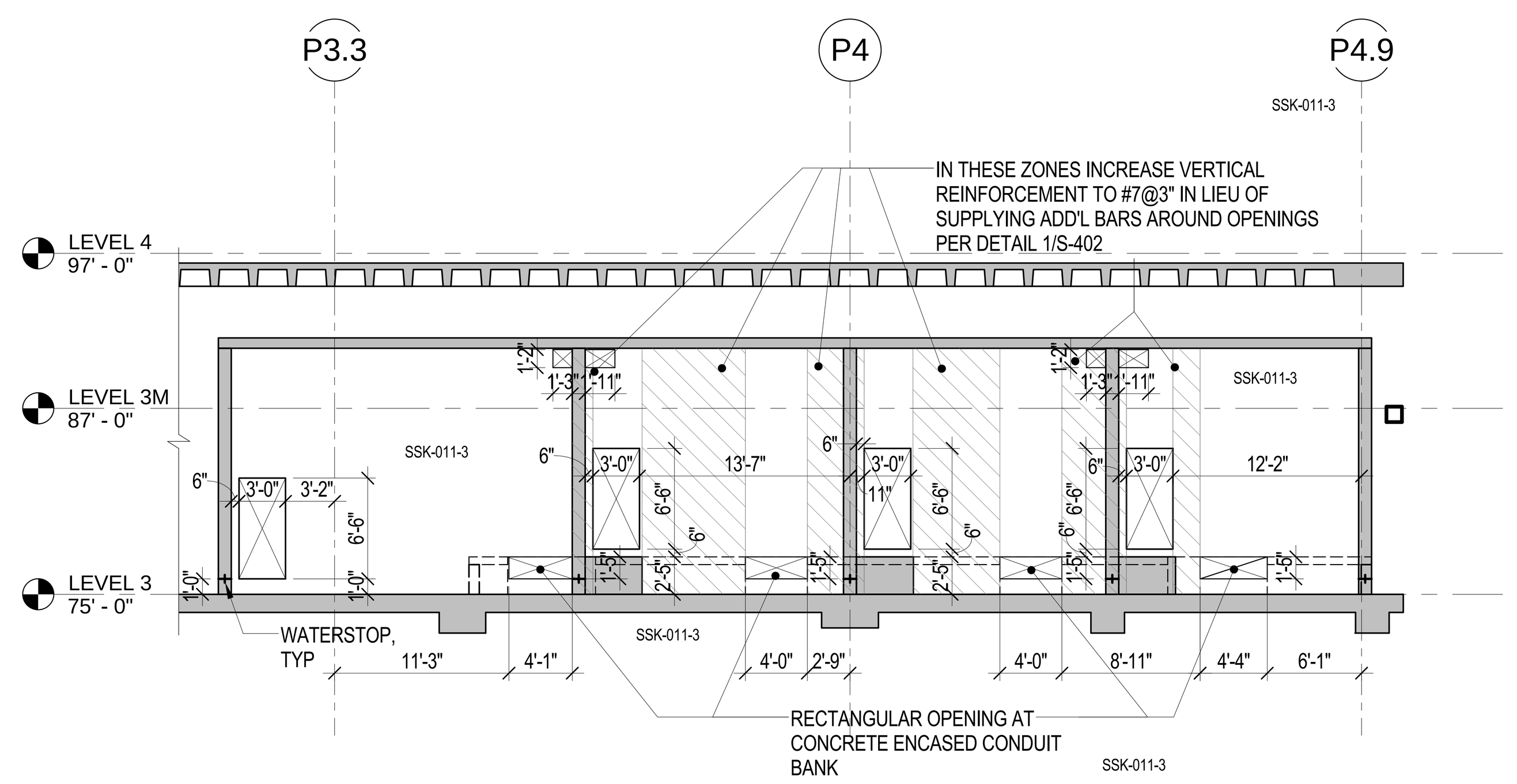
1/8" = 1'-0"



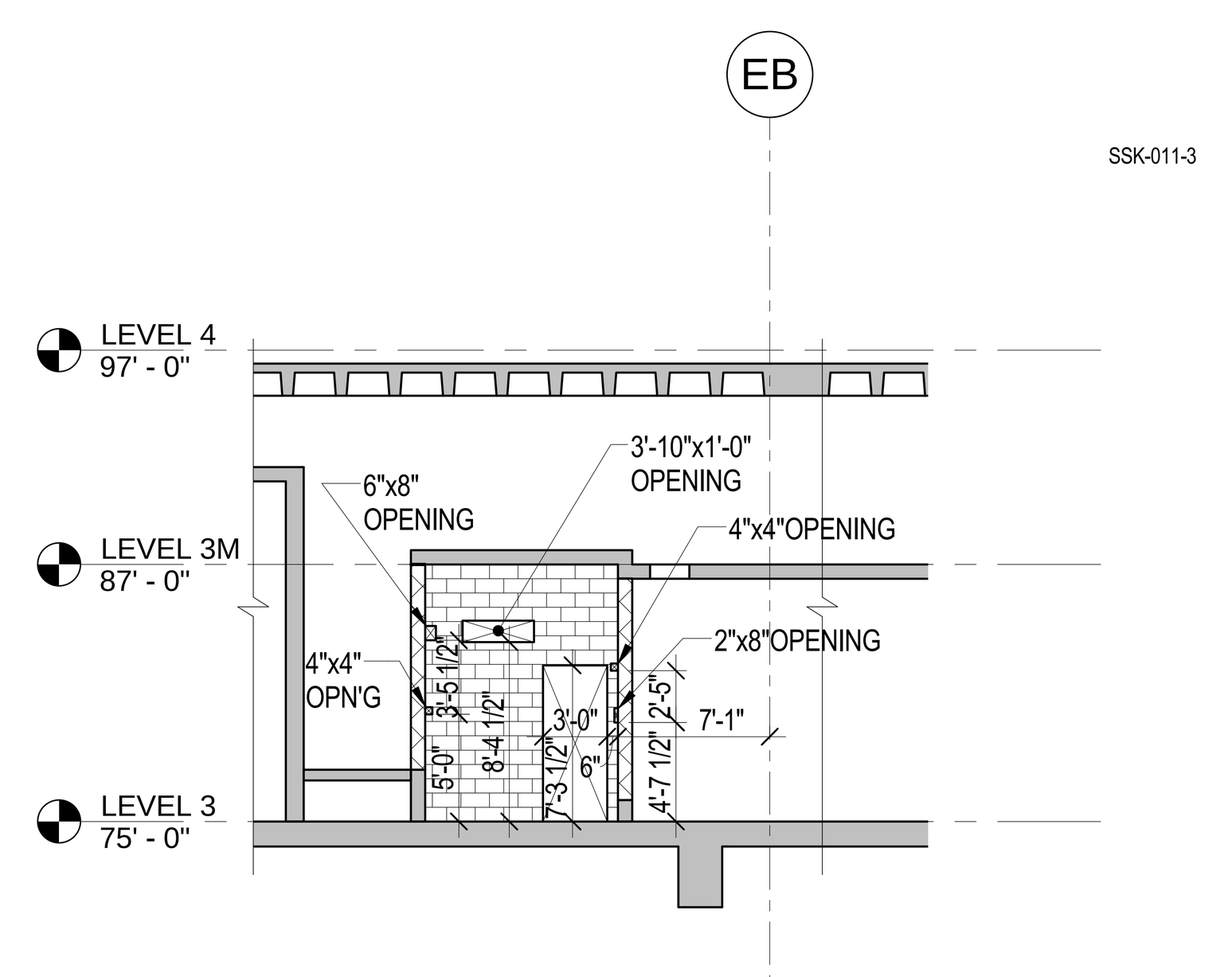
3 N-S SECTION AT LIRR PLENUM
1/8" = 1'-0"



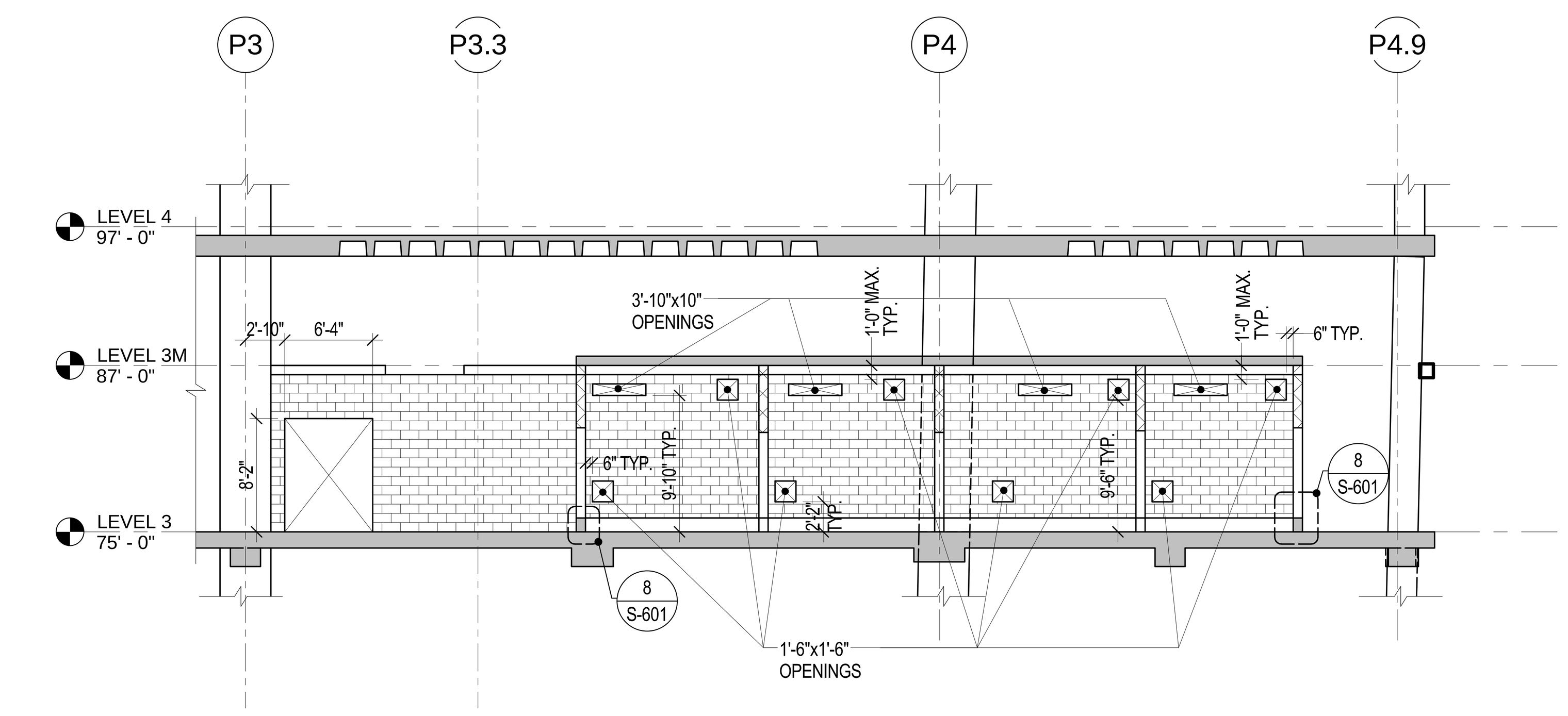
4 E-W SECTION AT TRANSFORMER VAULT AND NETWORK COMPARTMENT
1/8" = 1'-0"



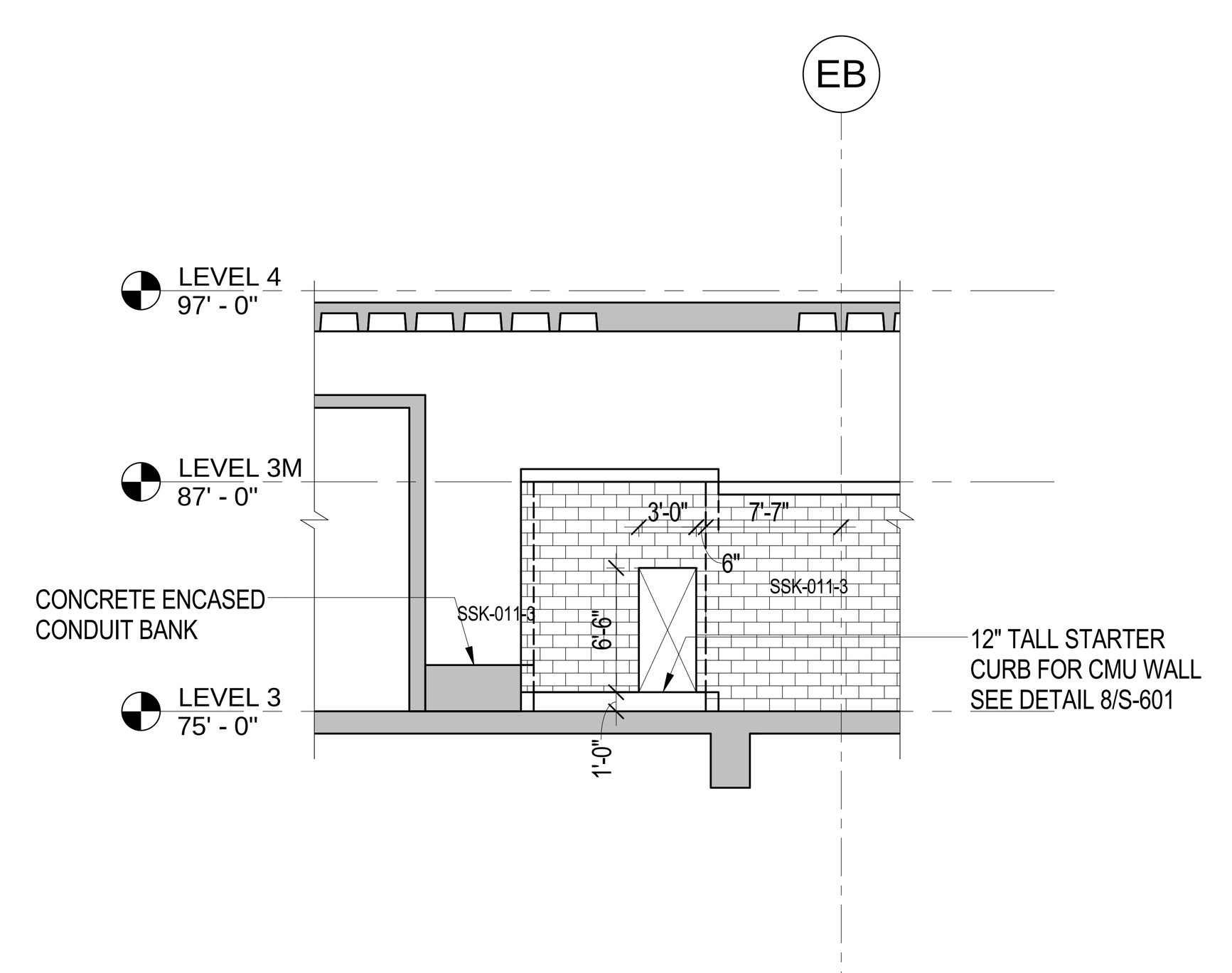
5 N-S SECTION AT TRANSFORMER VAULT
1/8" = 1'-0"



6 E-W SECTION AT INTERIOR NETWORK COMPARTMENT WALL
1/8" = 1'-0"



7 N-S SECTION AT NETWORK COMPARTMENTS AND SWITCHGEAR ROOM
1/8" = 1'-0"



8 E-W SECTION AT EXTERIOR NETWORK COMPARTMENT WALL
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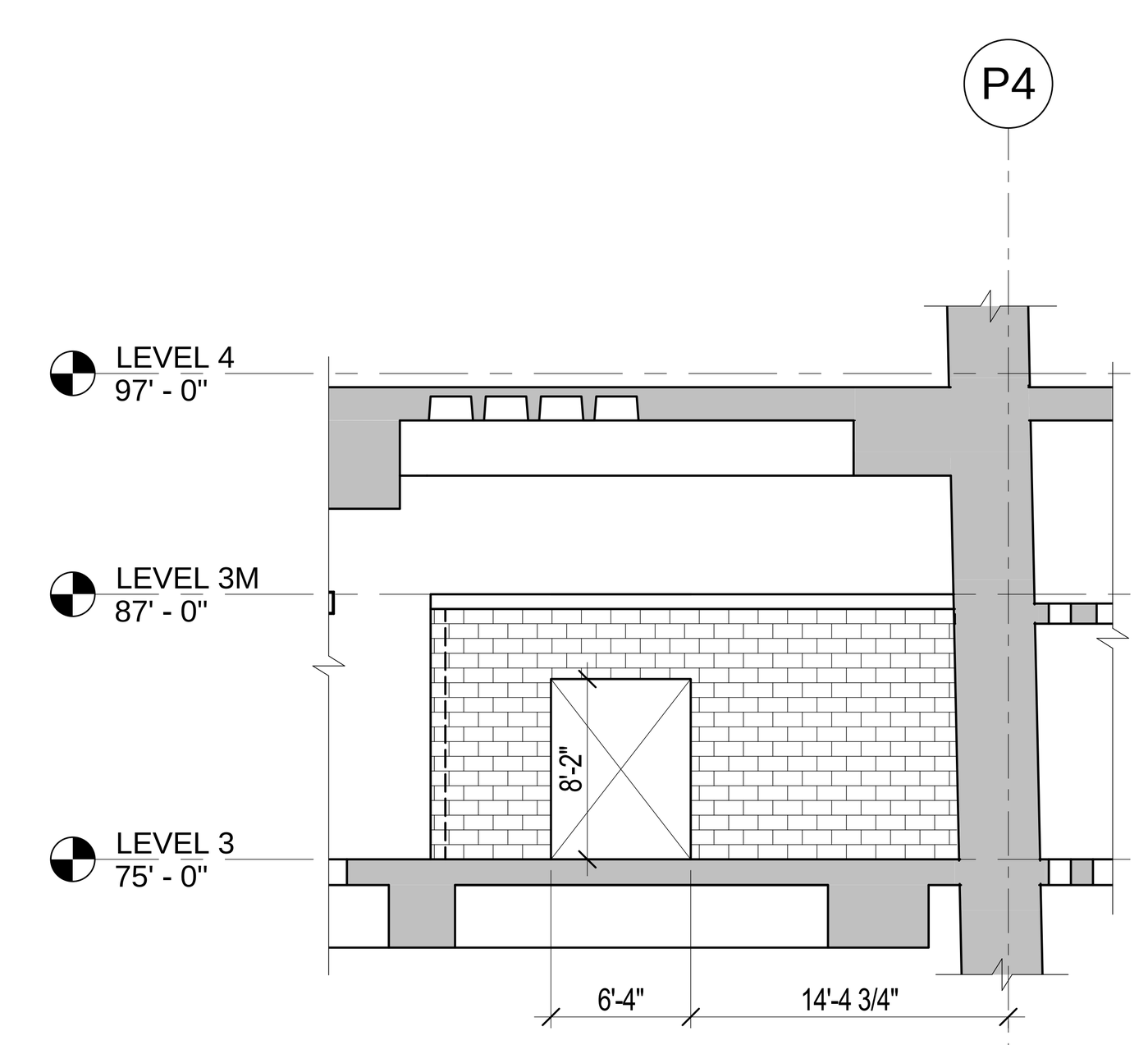
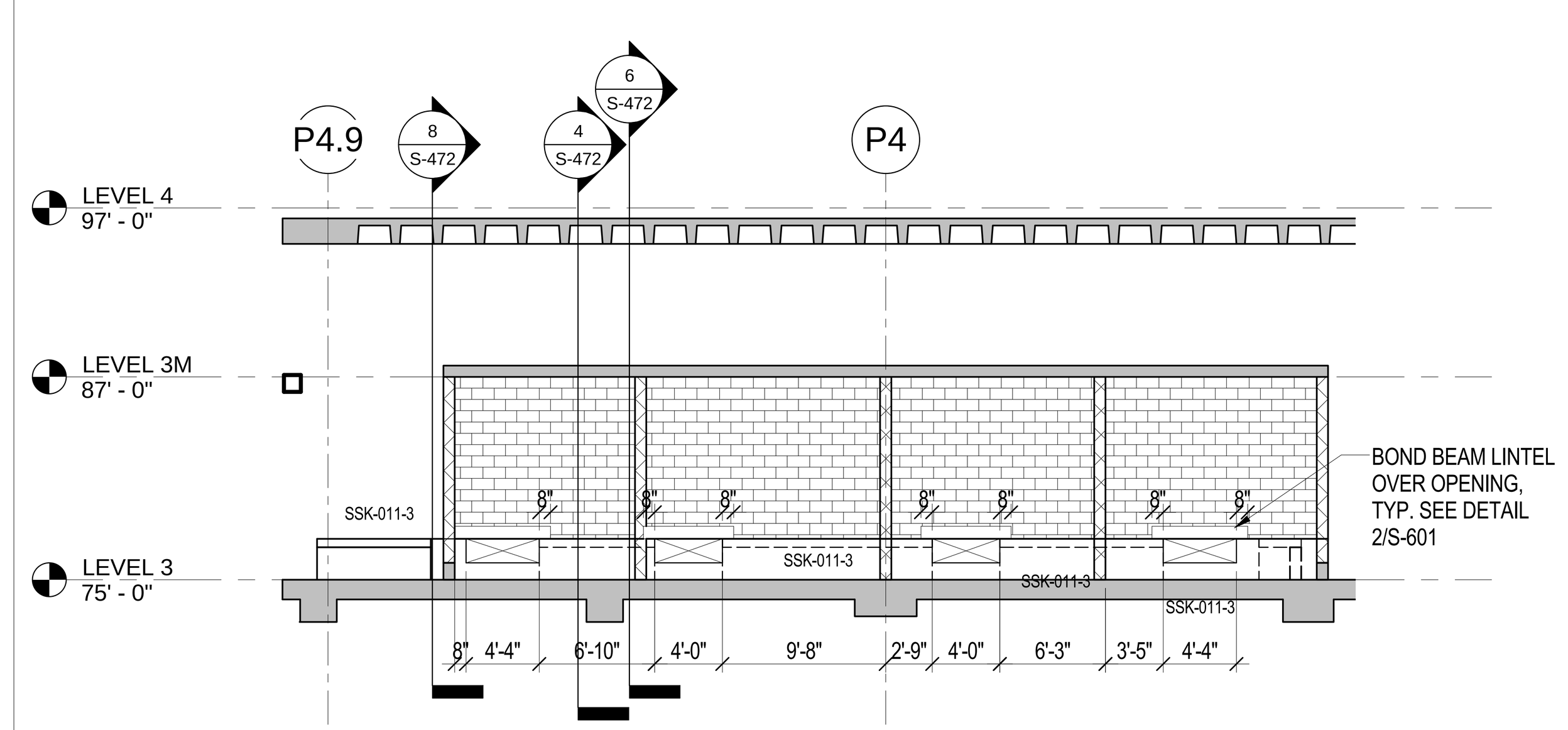


9 N-S SECTION AT SWITCHGEAR ROOM WALL
1/8" = 1'-0"



10 N-S SECTION AT INTERIOR OF NETWORK COMPARTMENTS
1/8" = 1'-0"

SSK-011-3

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33RD STREET
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DRAWING TITLE

MISCELLANEOUS CONCRETE SECTIONS

B-SCAN - DRAWING NUMBER

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S-472

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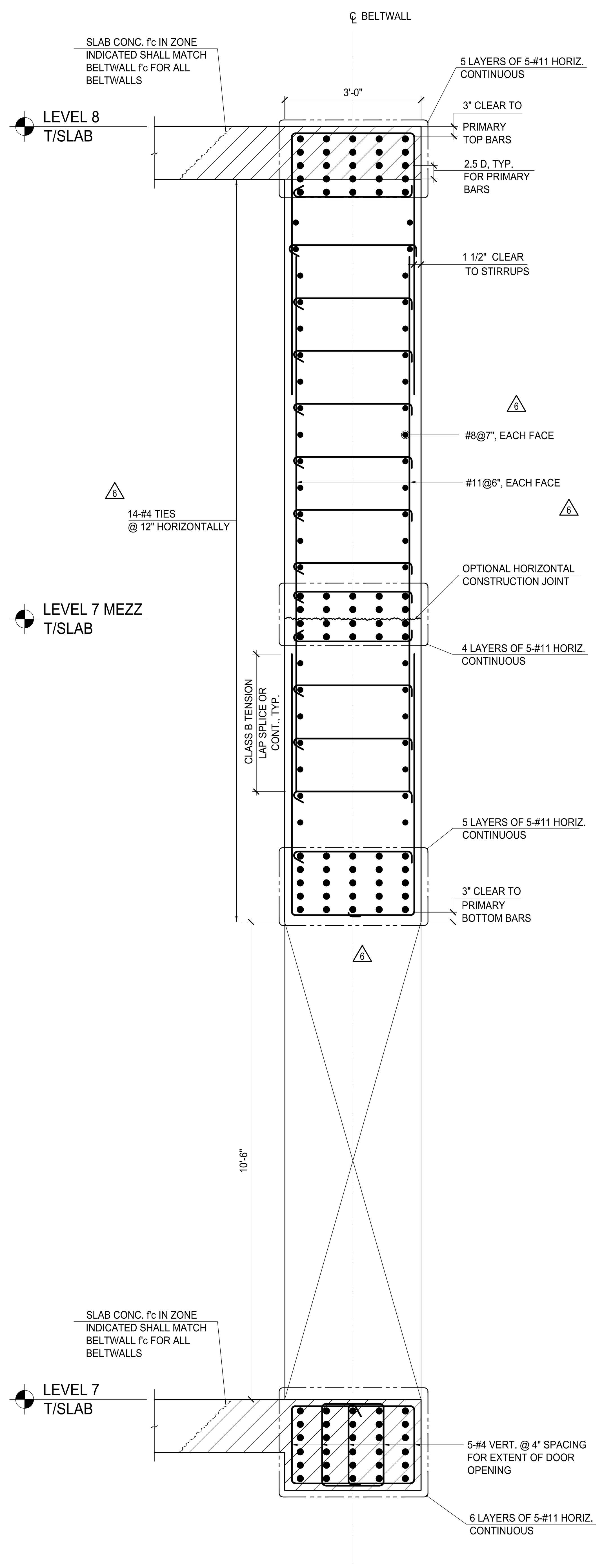

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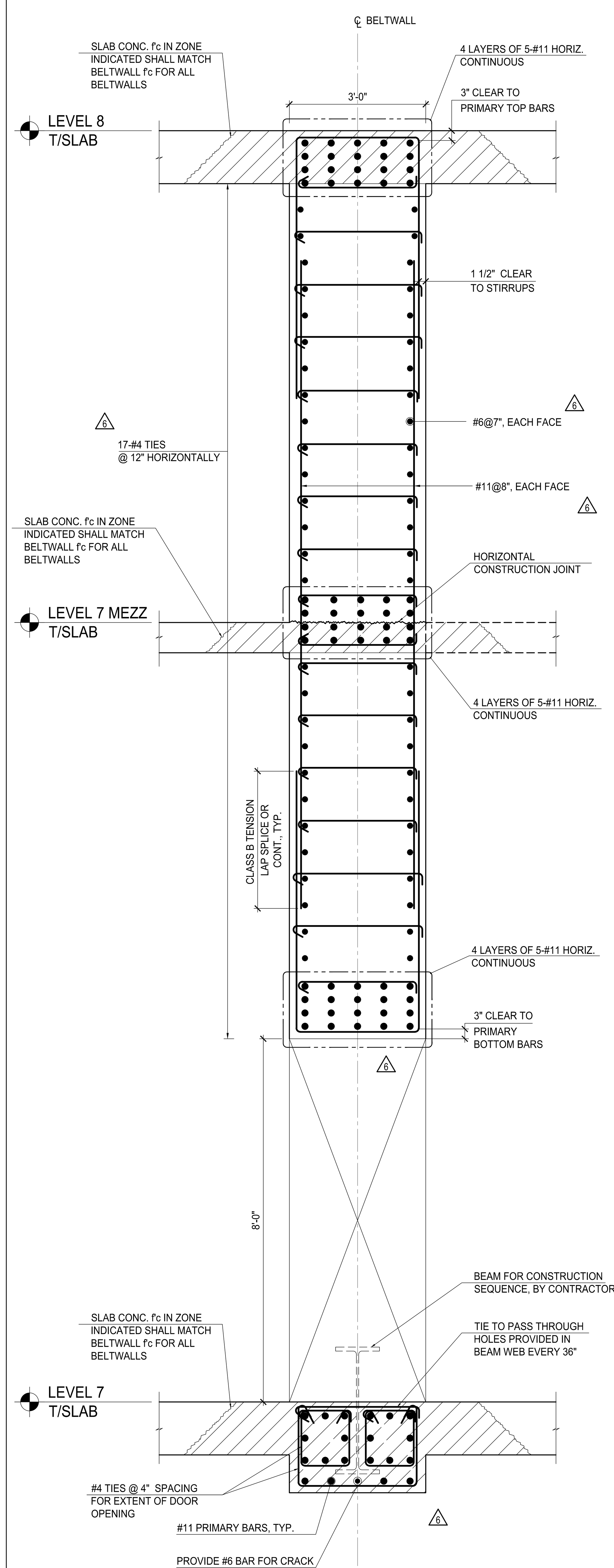

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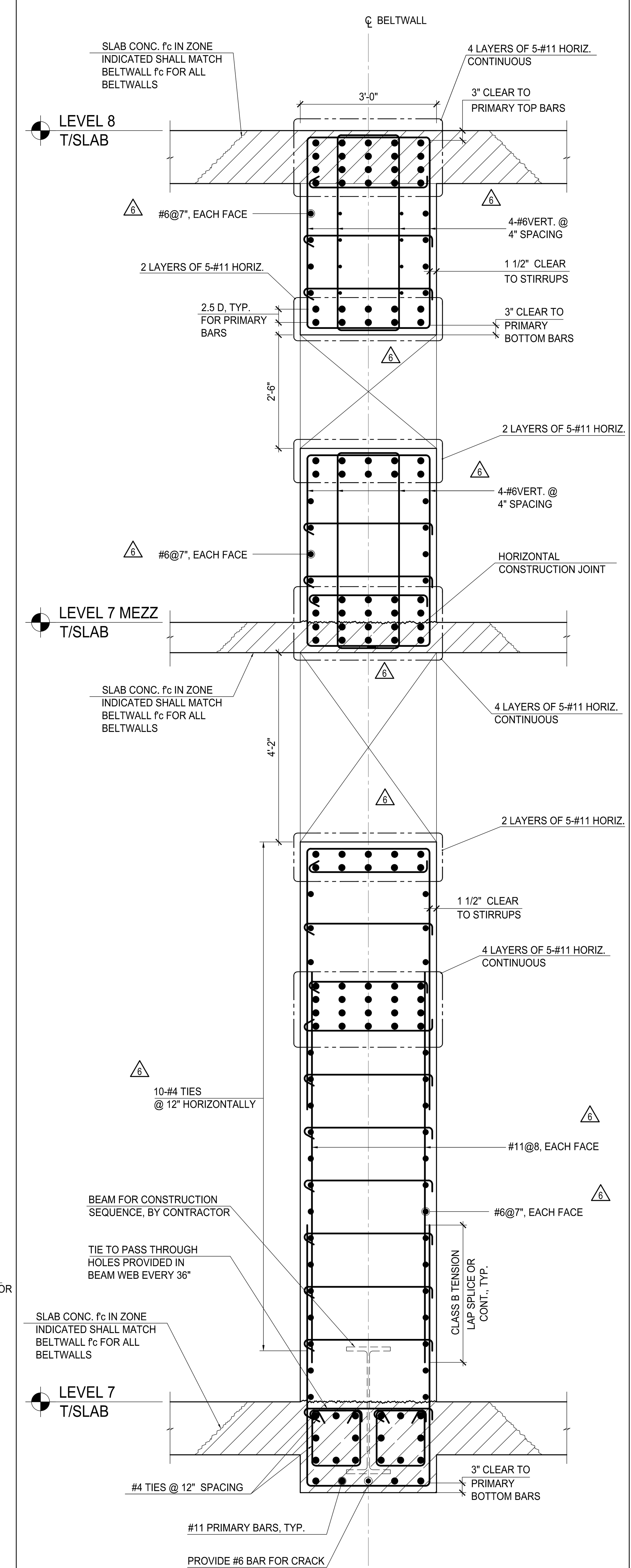

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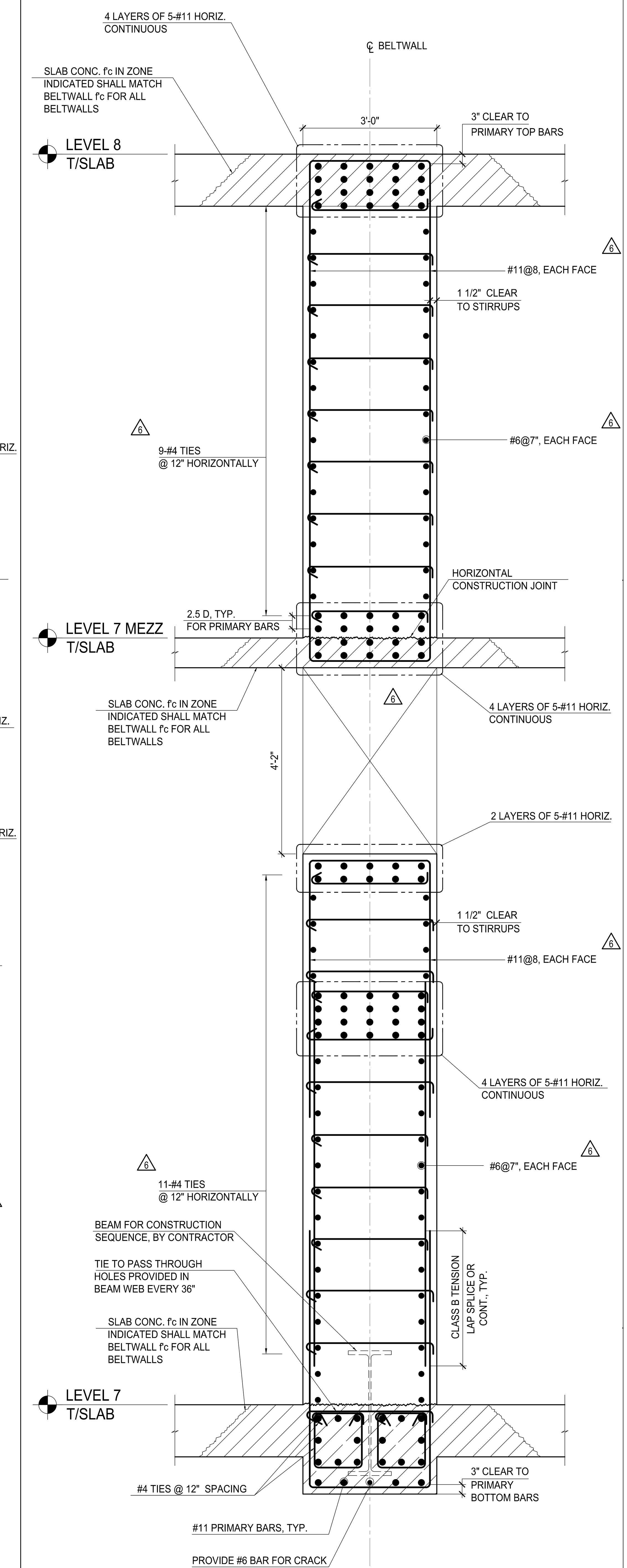

4 LEVEL 7 WEST BELTWALL SECTION
SCALE: NOT TO SCALE

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LEVEL 07-08 BELTWALL SECTIONS

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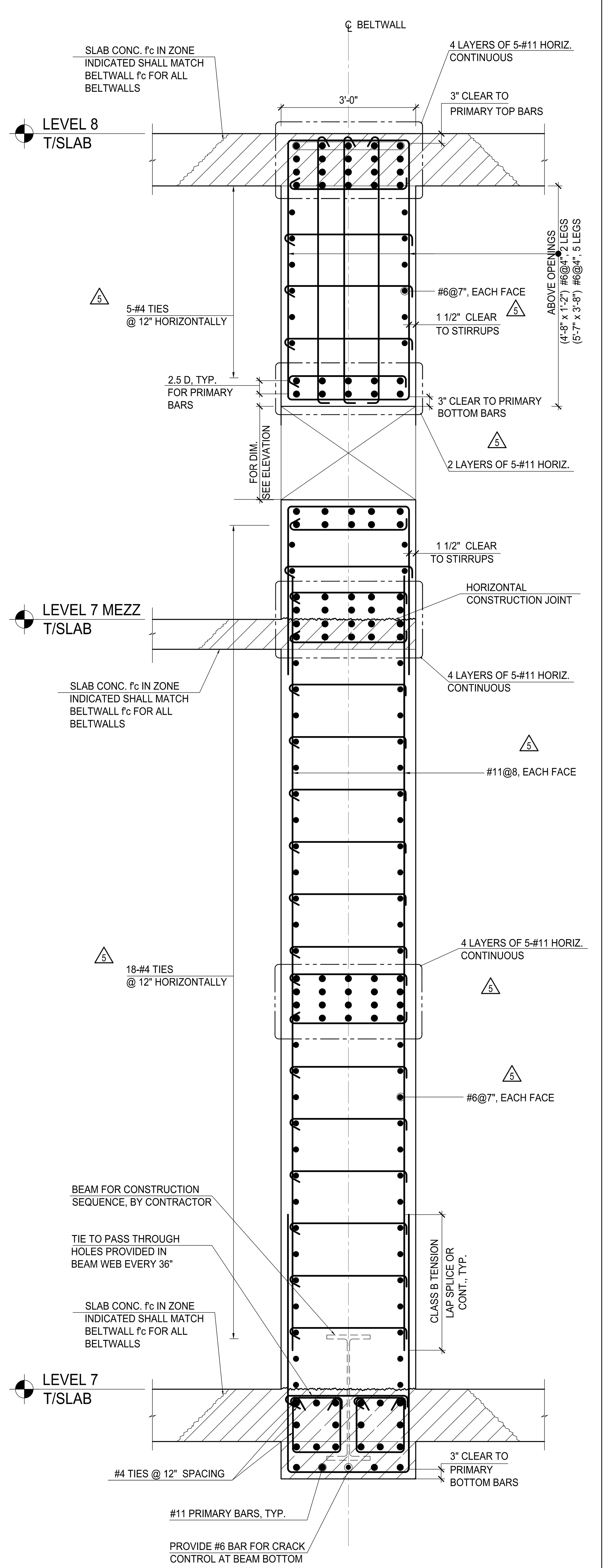
S-481

PAGE NUMBER

94 OF 112



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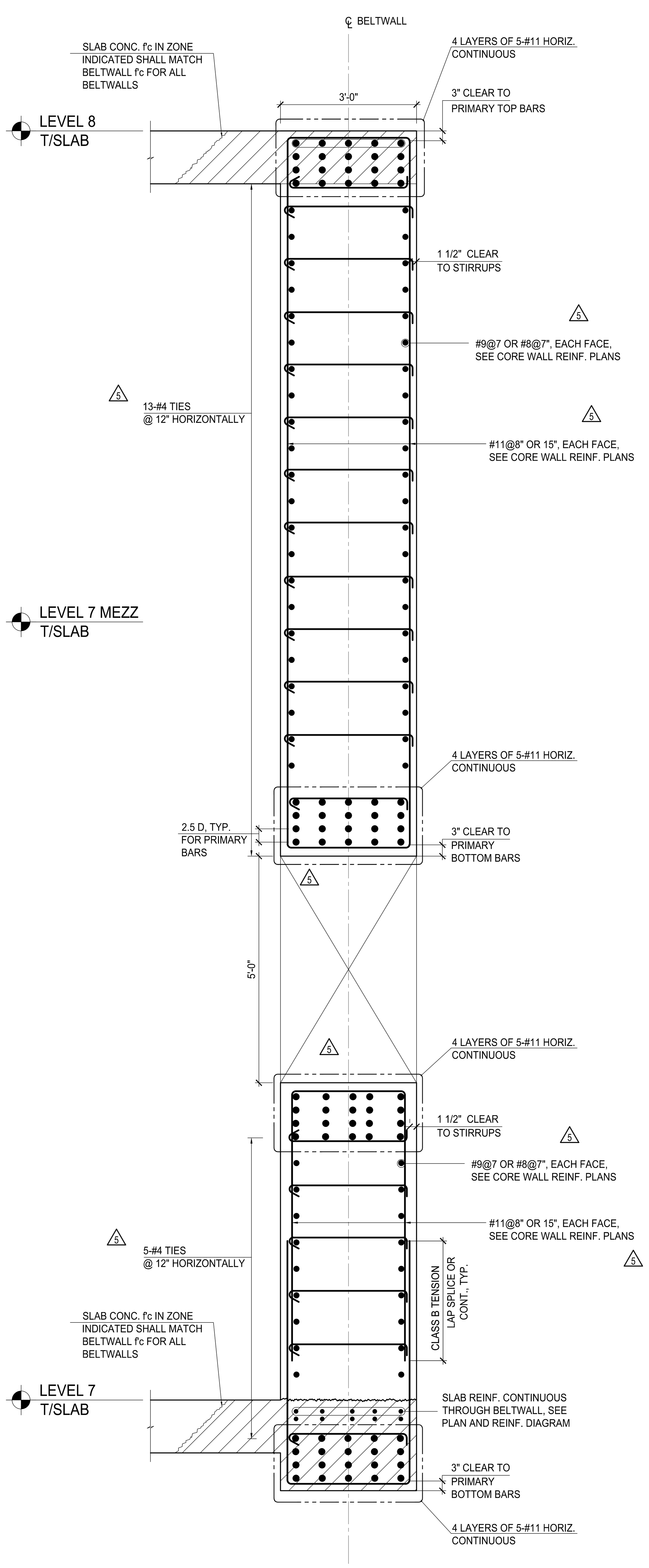

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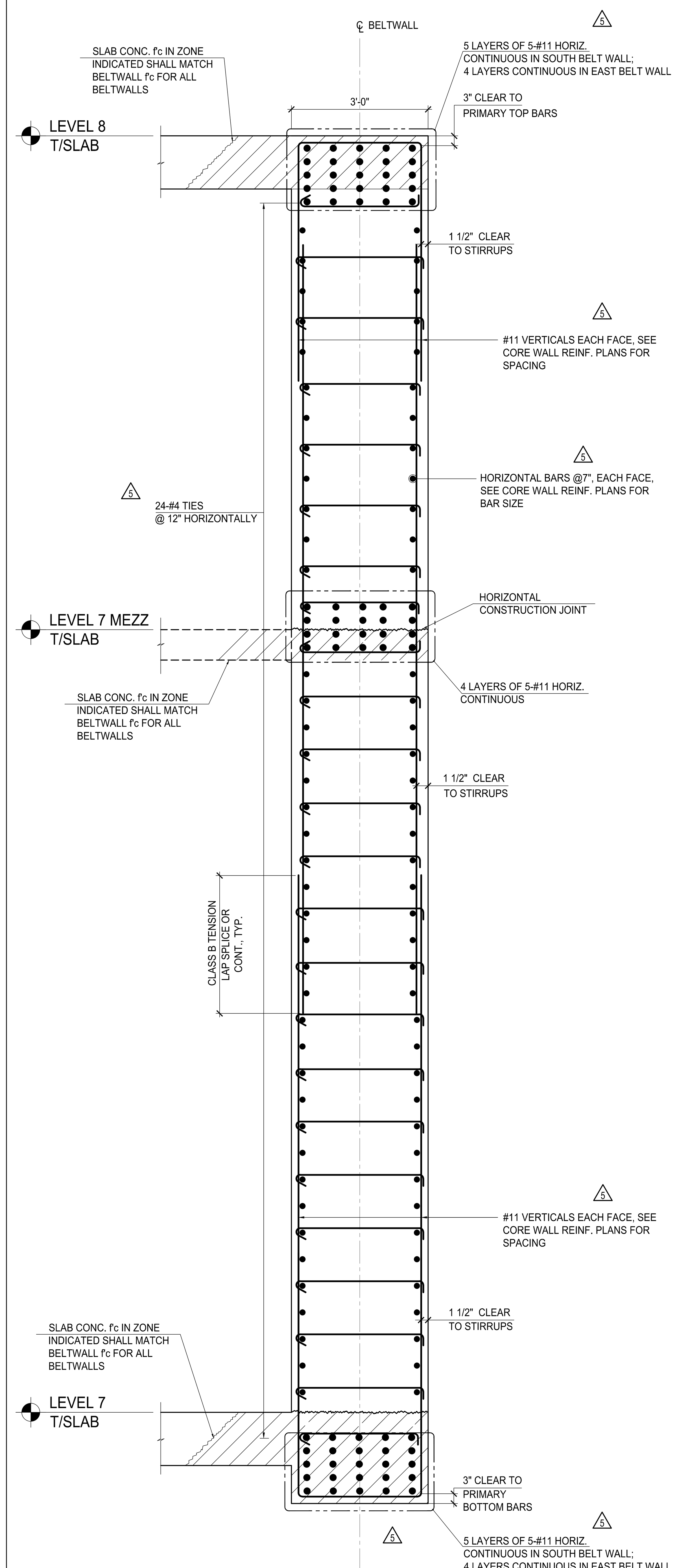

3 LEVEL 7 BELTWALL SECTION

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LEVEL 07-08 BELTWALL SECTIONS

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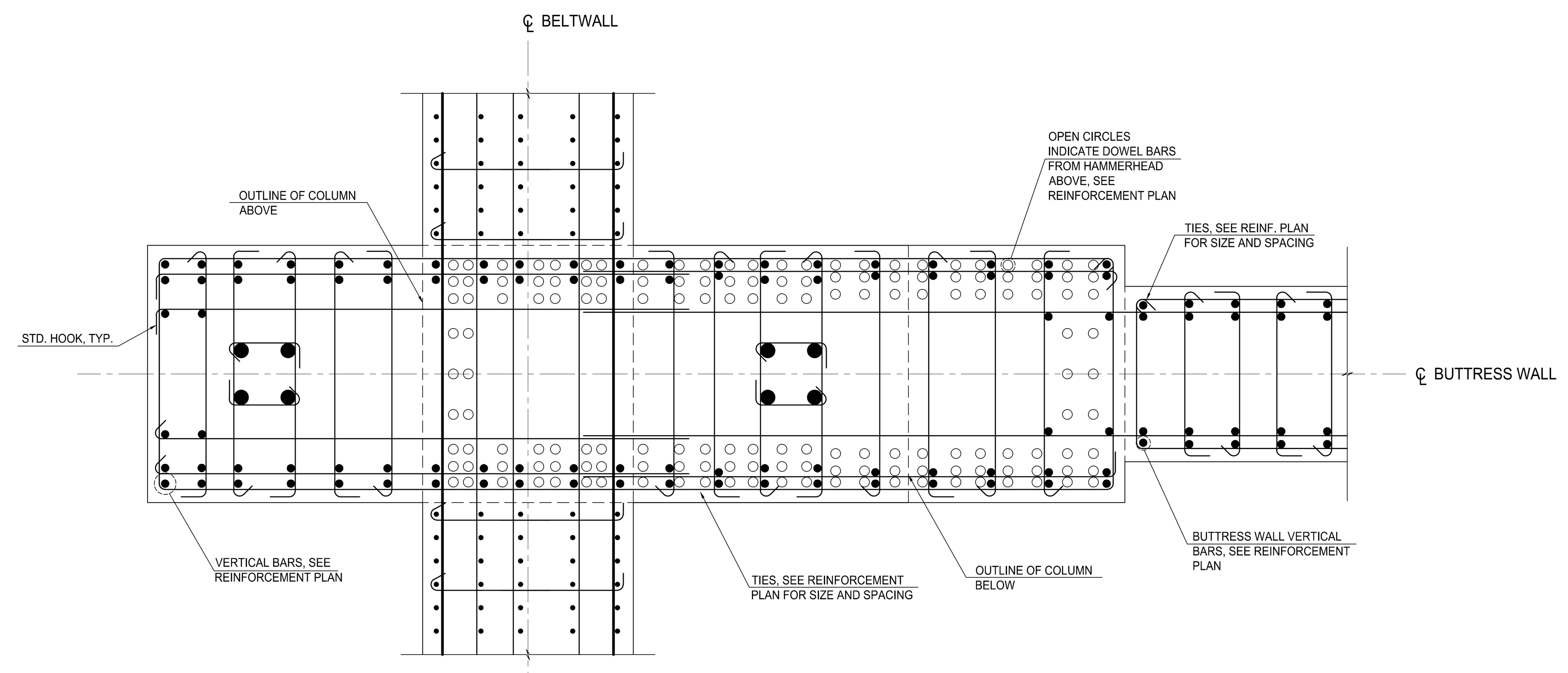
DRAWING NUMBER

S-482



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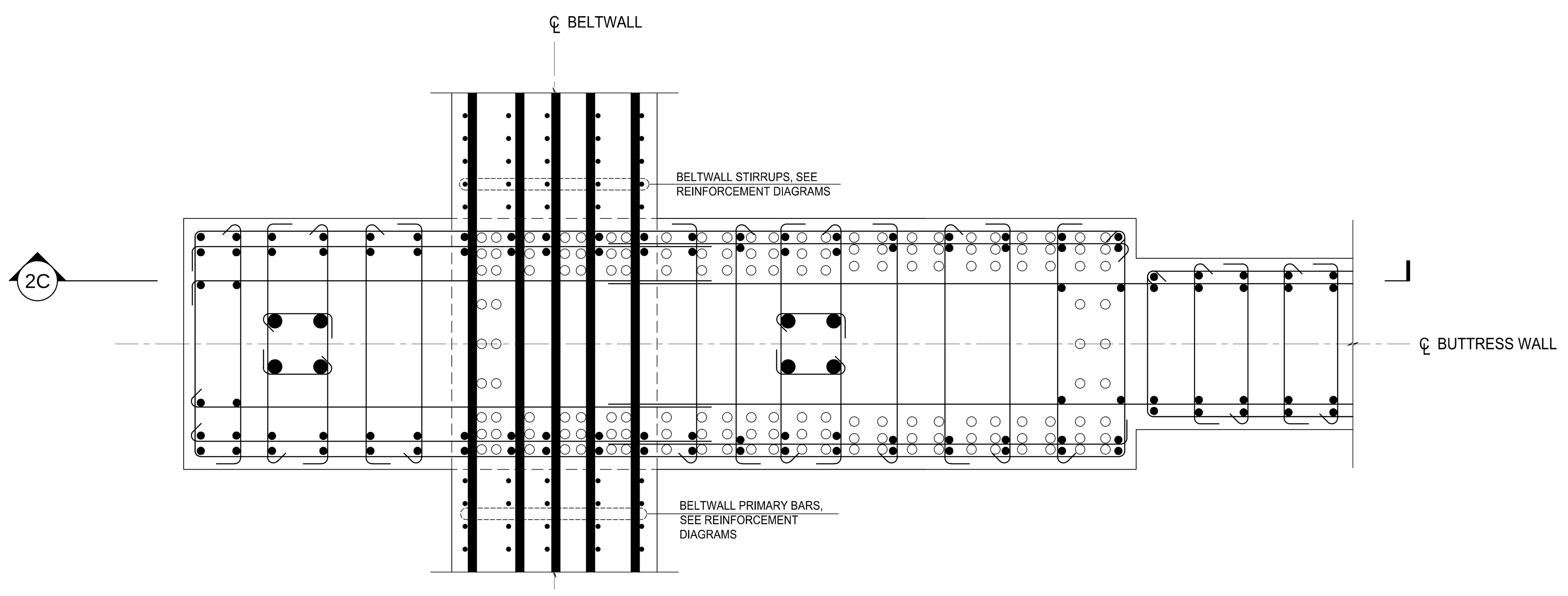

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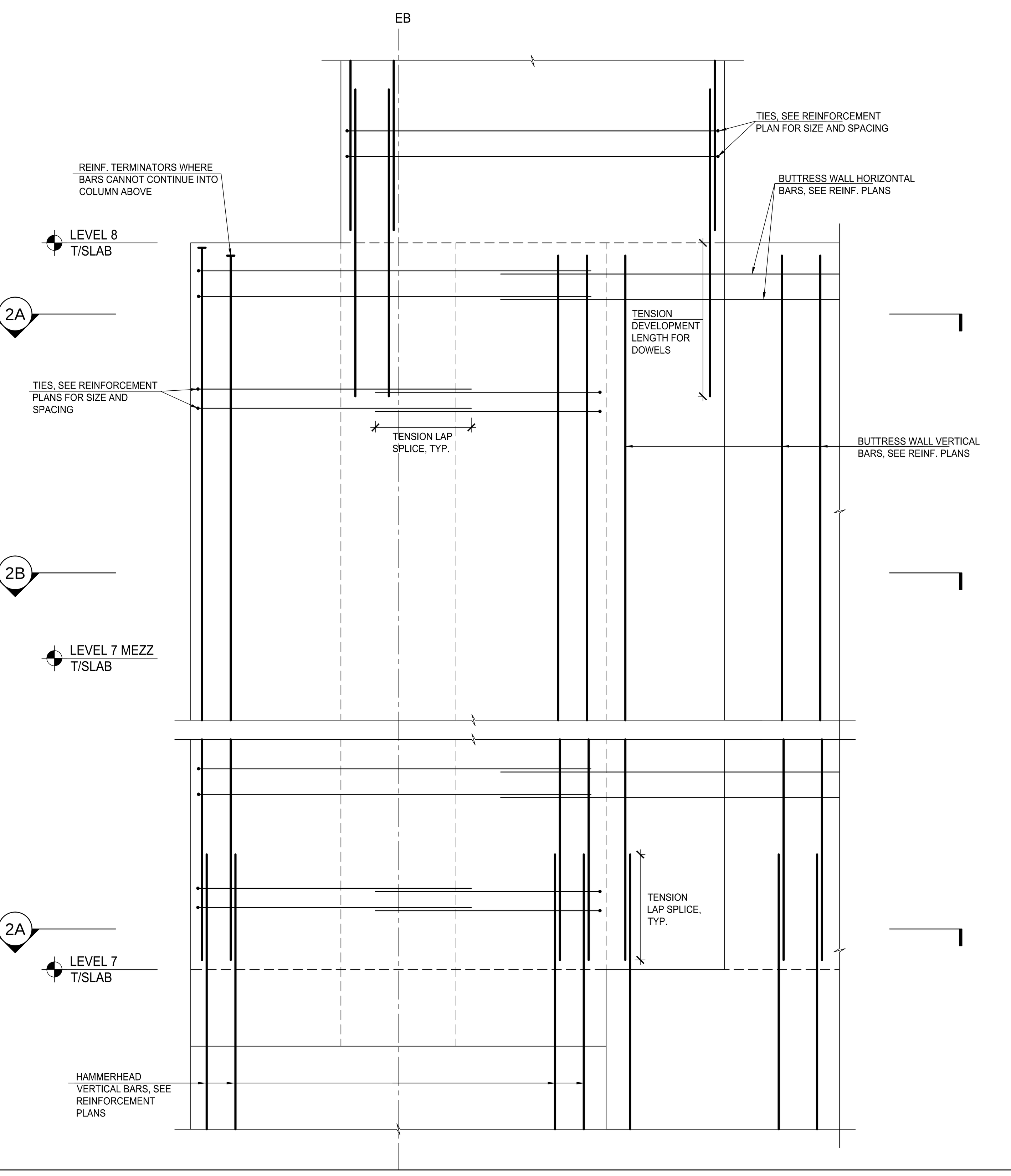

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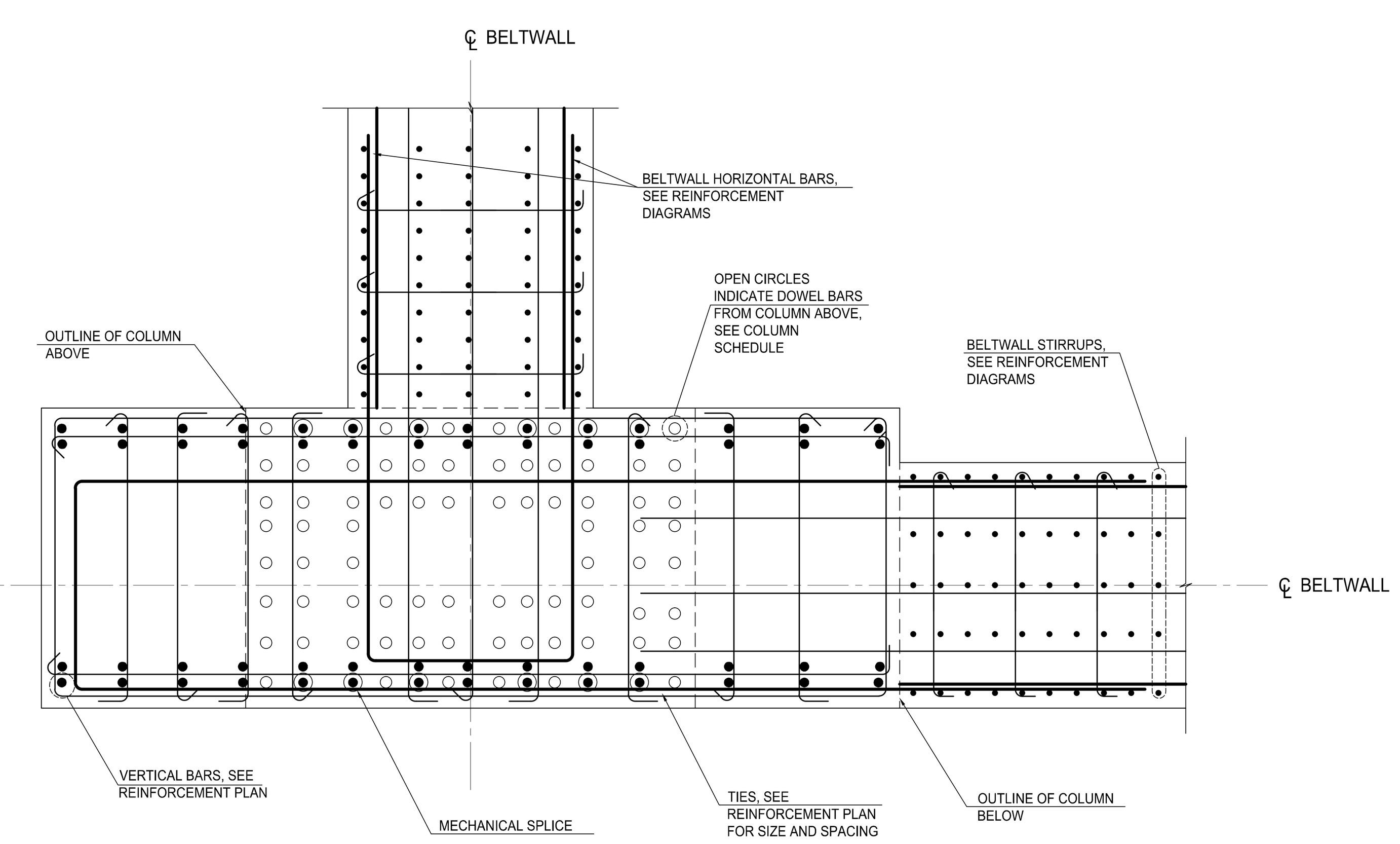

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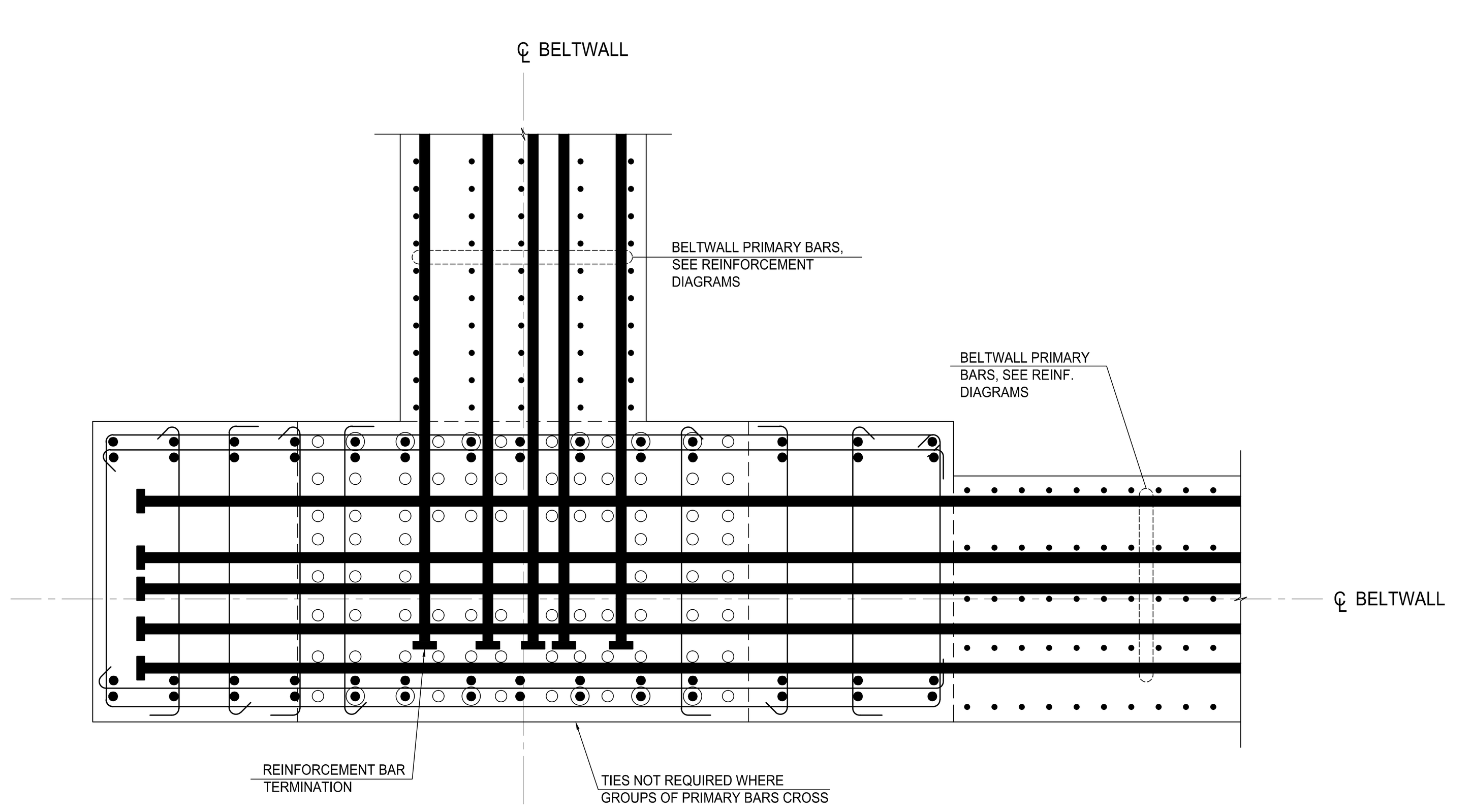

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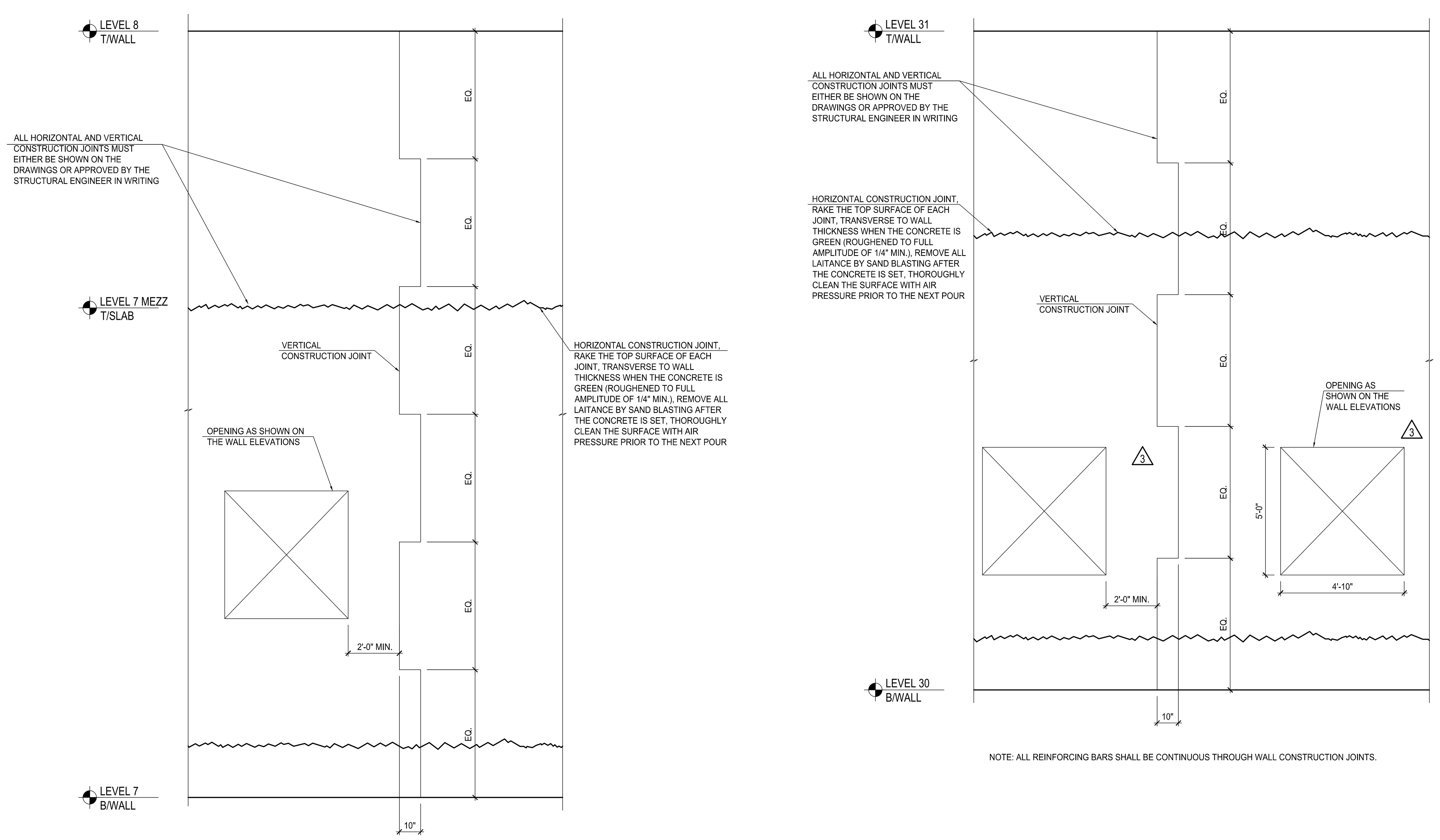

NOTE: ALL REINFORCING BARS SHALL BE CONTINUOUS THROUGH WALL CONSTRUCTION JOINTS.

1 SPECIAL WALL CONSTRUCTION JOINTS

SCALE: NOT TO SCALE

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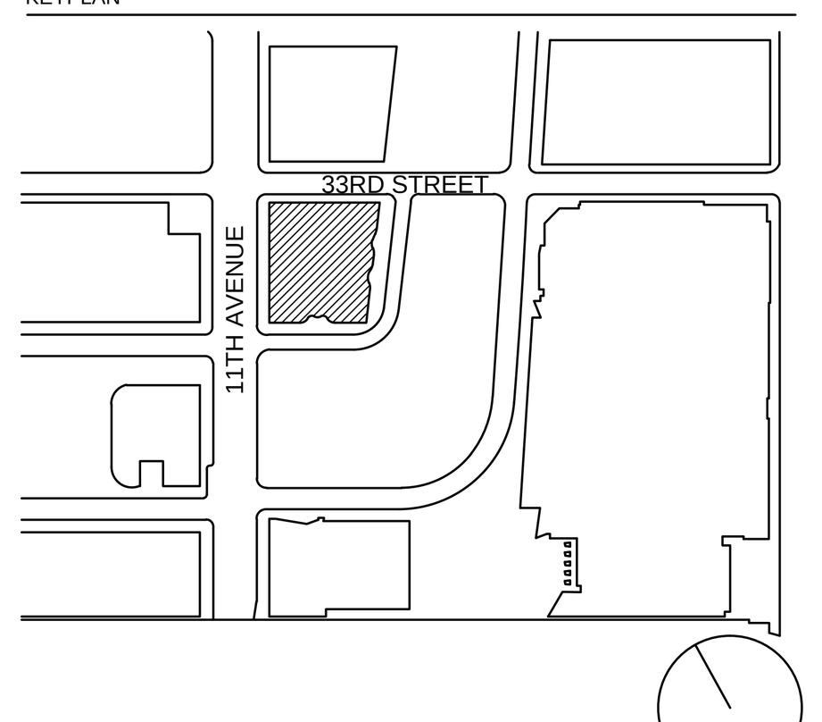

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BELTWALL AND OUTRIGGER WALL DETAILS

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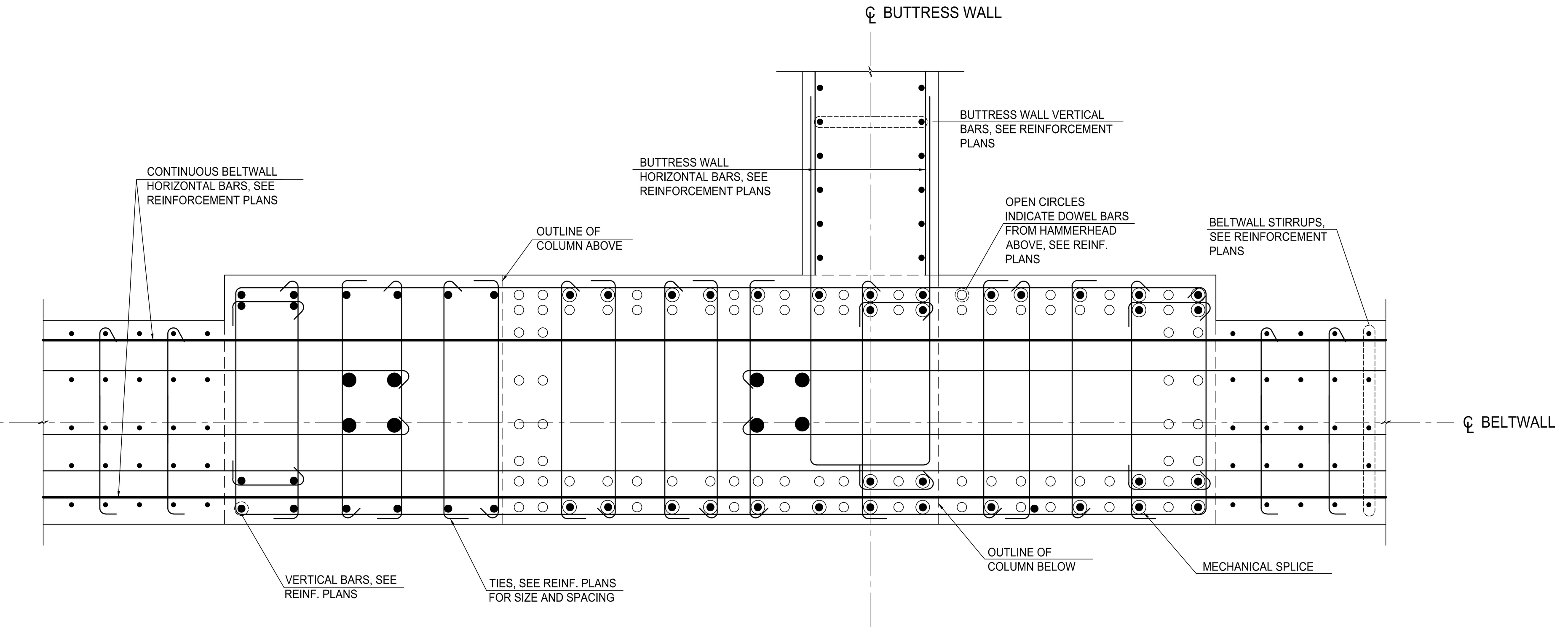
DRAWING NUMBER

S-491

PAGE NUMBER



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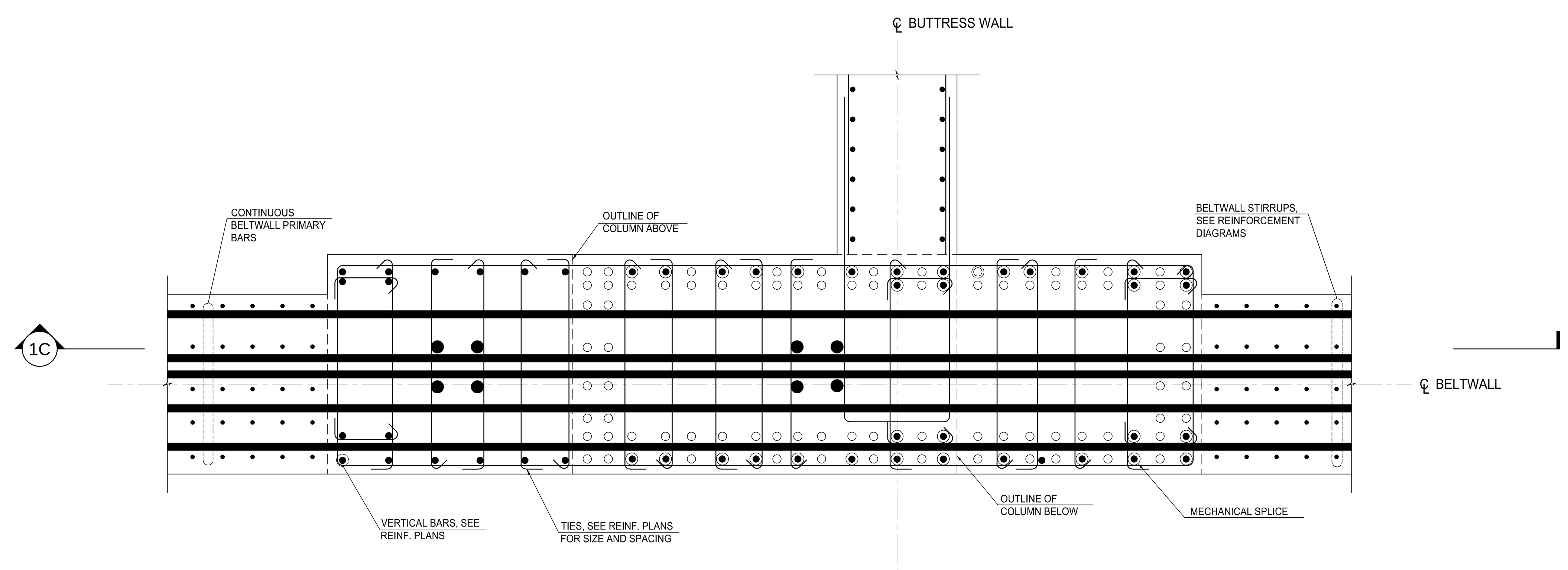

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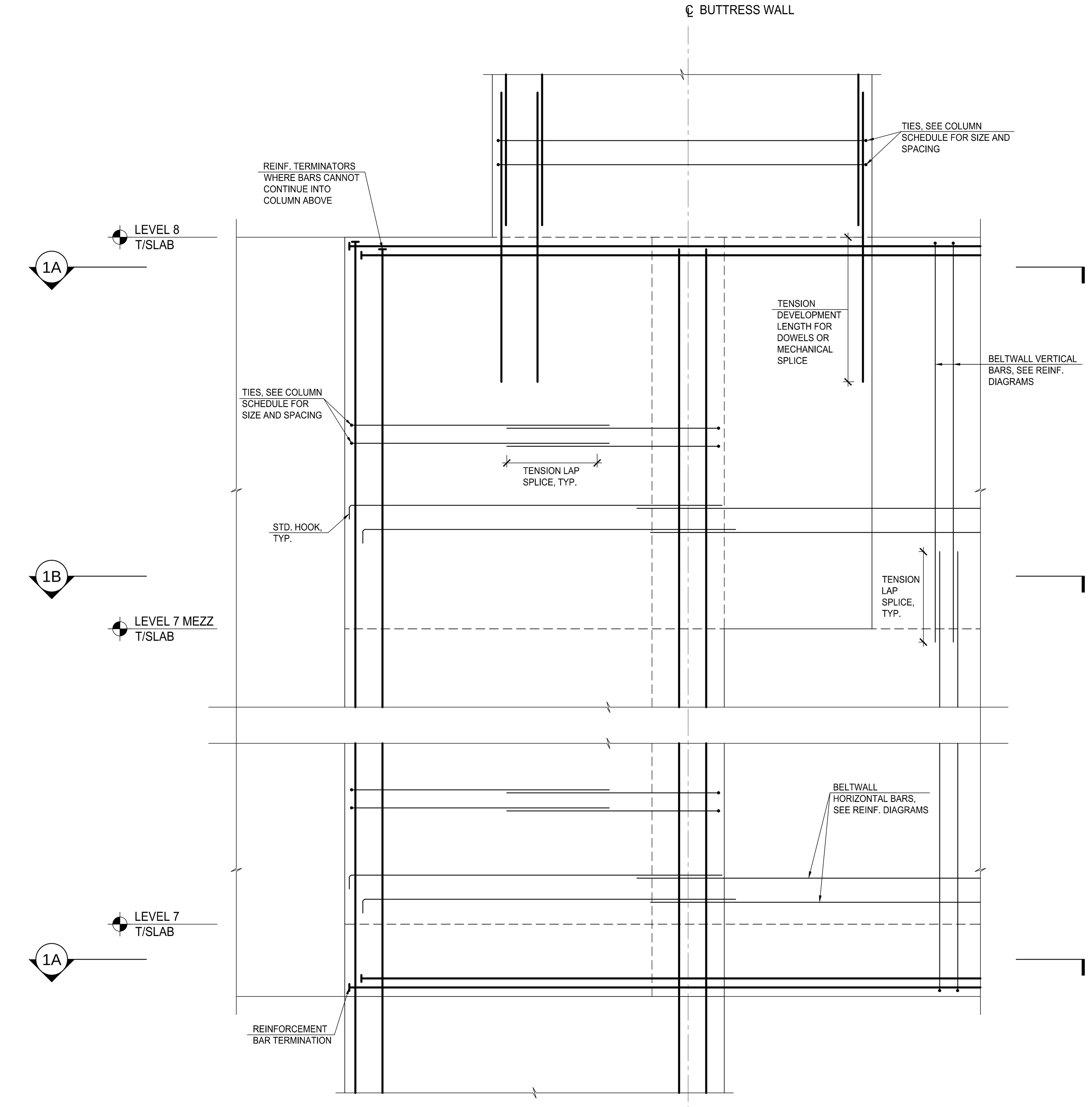
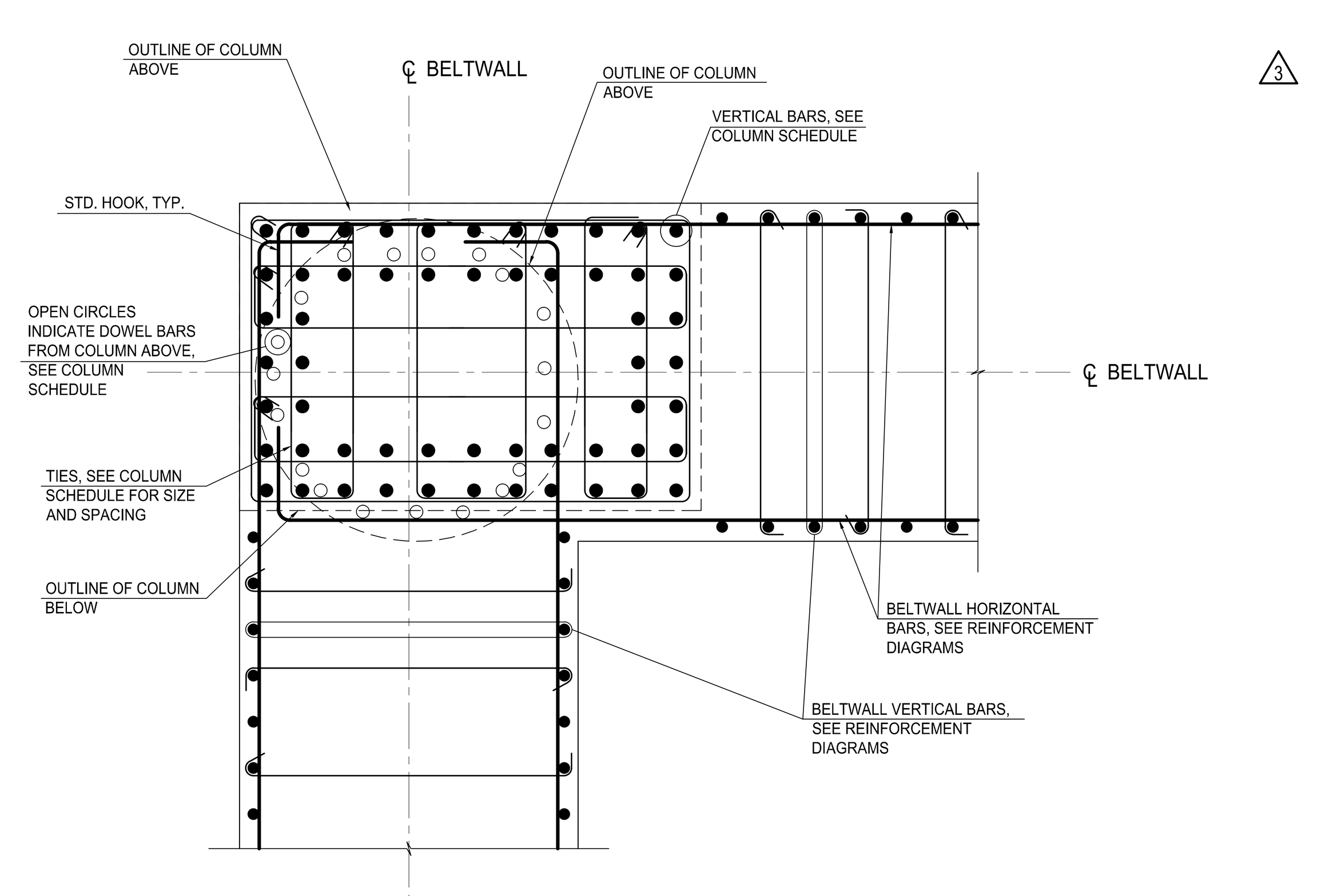


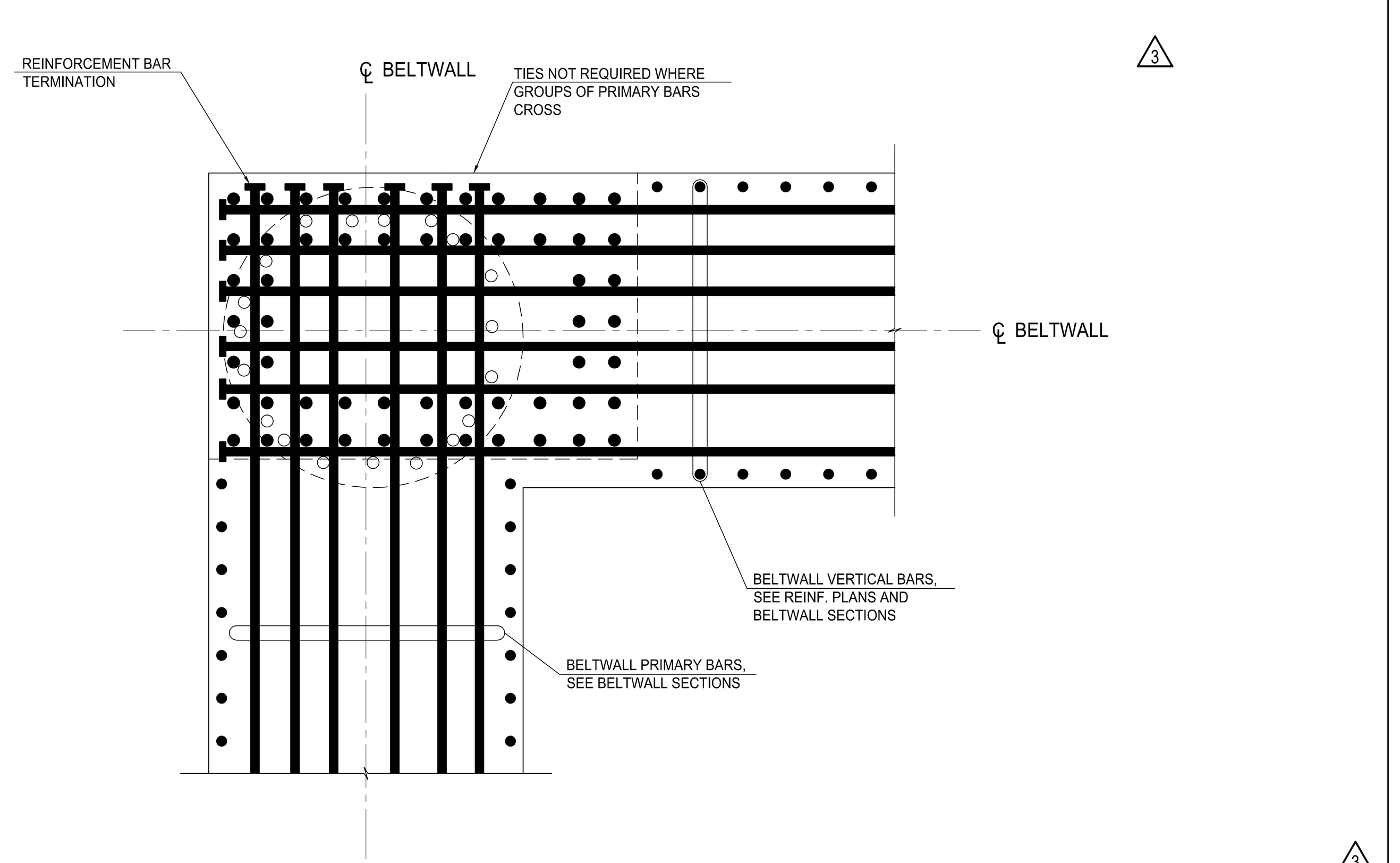
1C L07 BELTWALL AT H4 ELEVATION

SCALE: NOT TO SCALE



2B L30 BELTWALL CORNER DETAIL AT MIDDLE (COL 1)

SCALE: NOT TO SCALE



2A L30 BELTWALL CORNER DETAIL AT TOP & BOTTOM (COL 1)

SCALE: NOT TO SCALE

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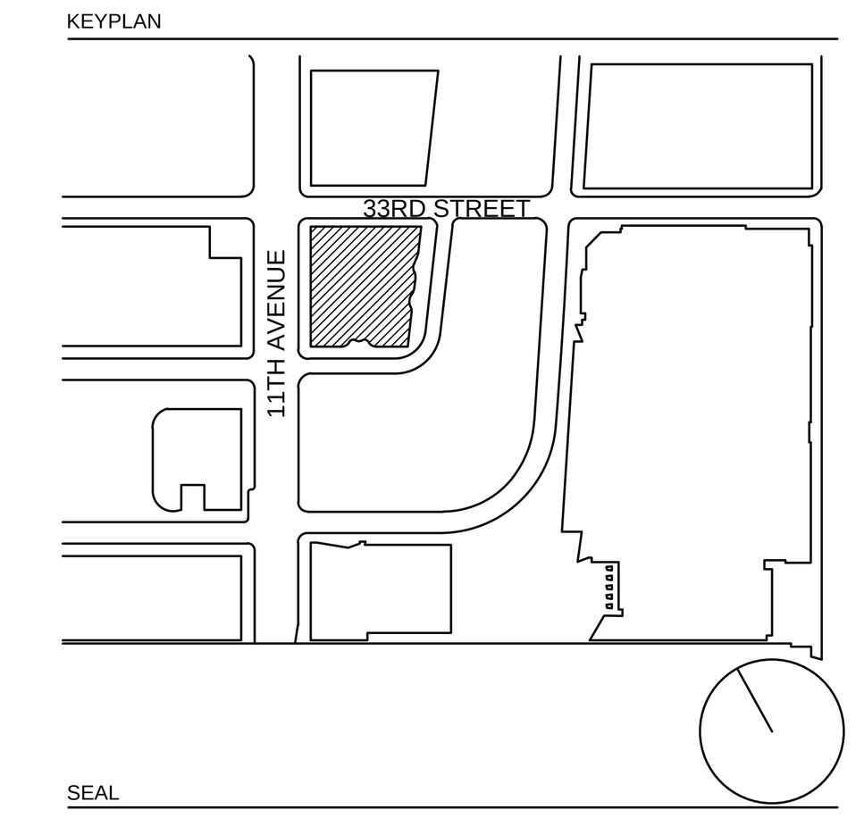
KEYPLAN



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DRAWING TITLE

BELTWALL AND OUTRIGGER WALL DETAILS

Damian Titus
NYC Buildings APPROVED
NYC Development Hub

B-SCAN - DRAWING NUMBER

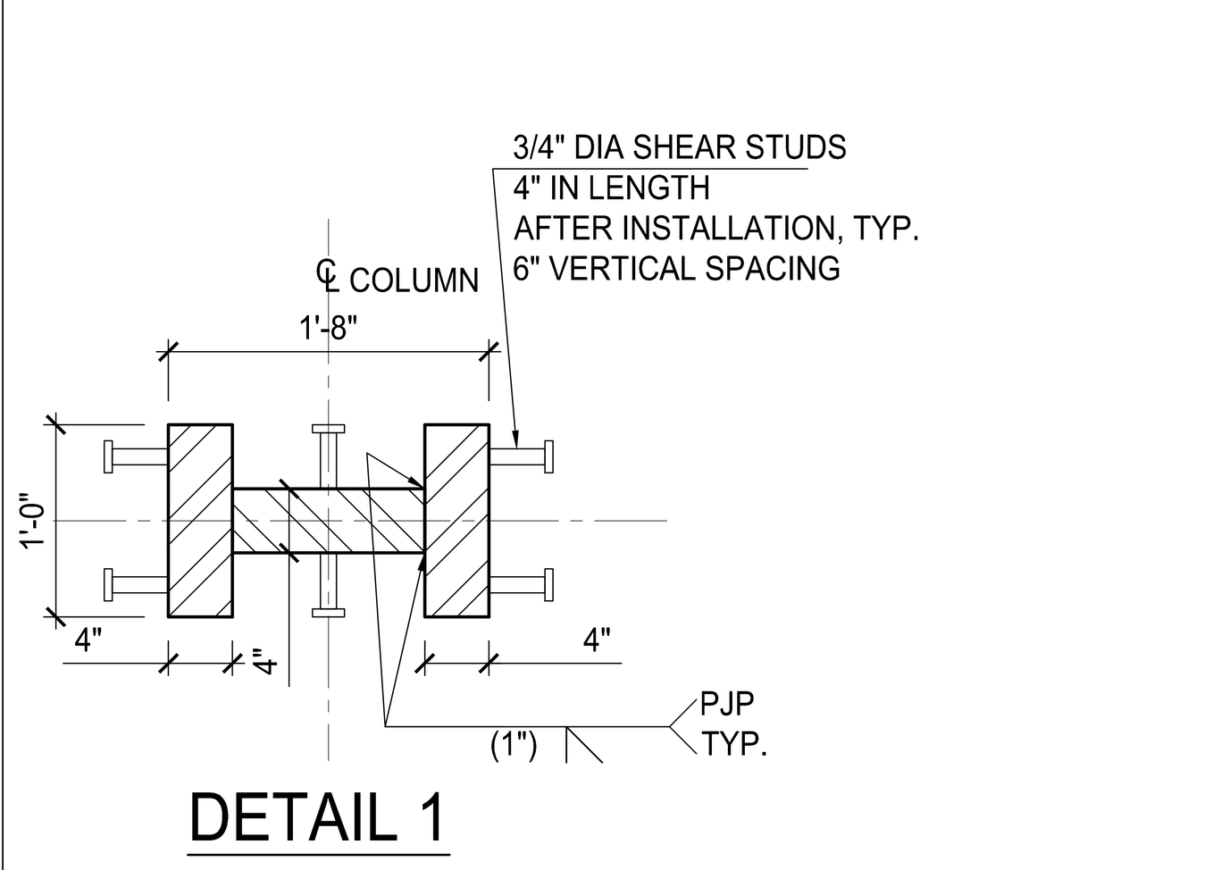
S-492.00

DRAWING NUMBER

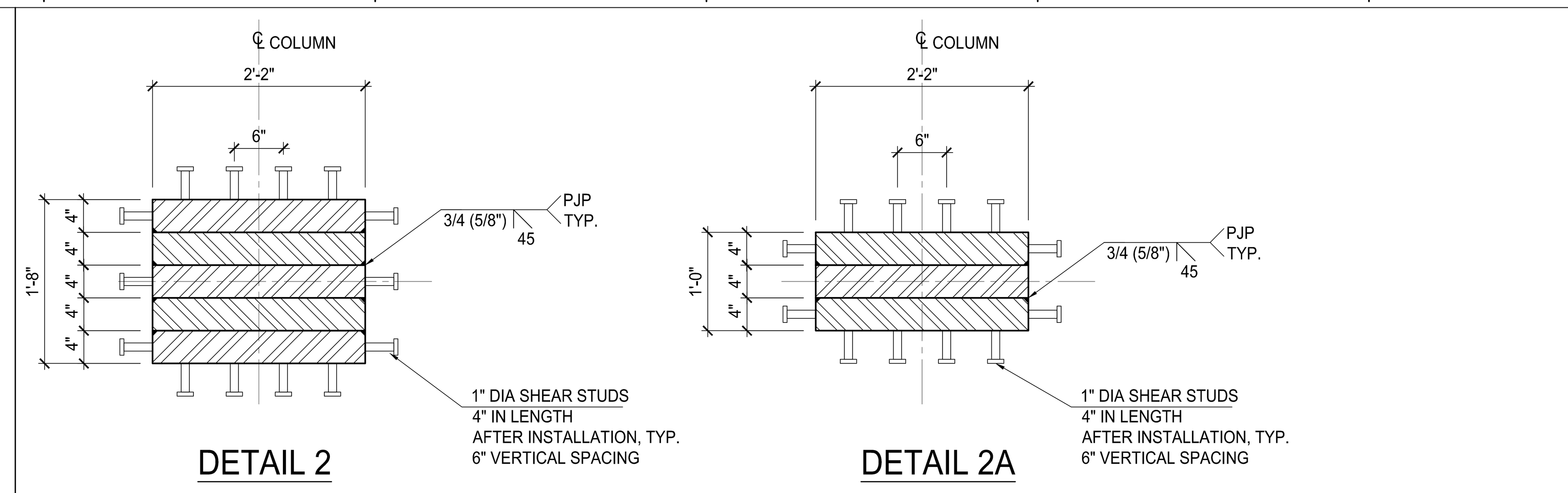
S-492

PAGE NUMBER

97 OF 112



1 BUILT UP EMBEDDED COLUMN DETAIL
SCALE: NOT TO SCALE



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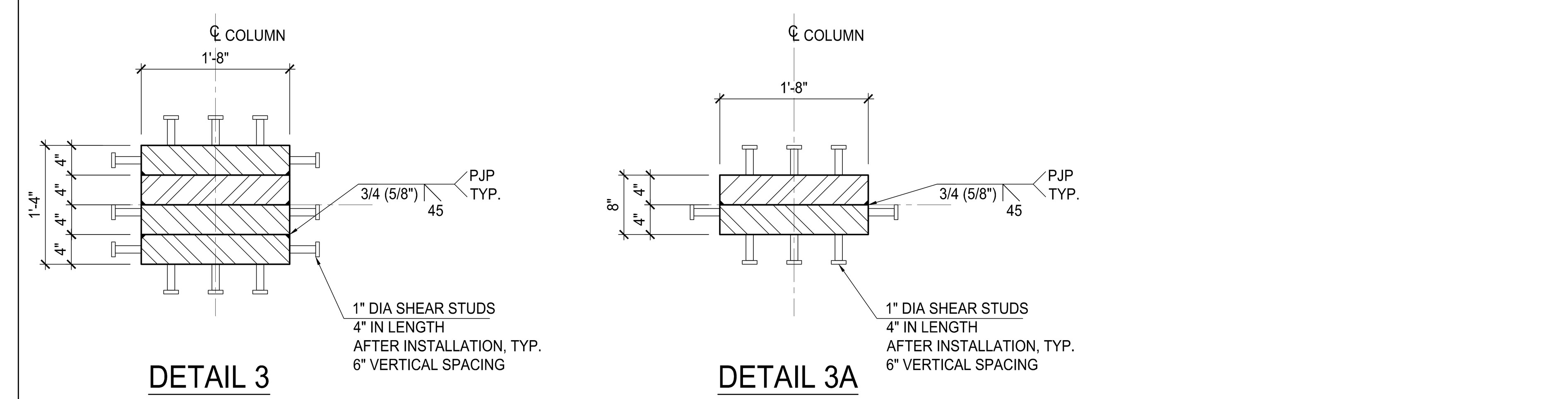
SCALE: NOT TO SCALE



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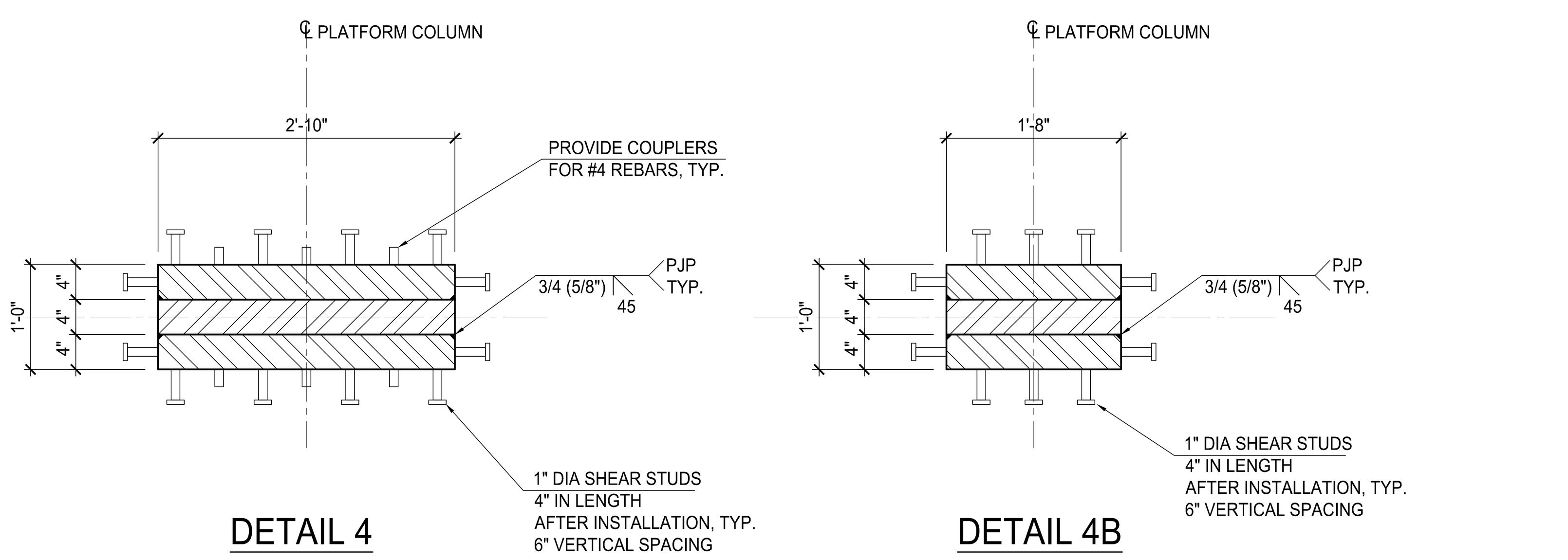

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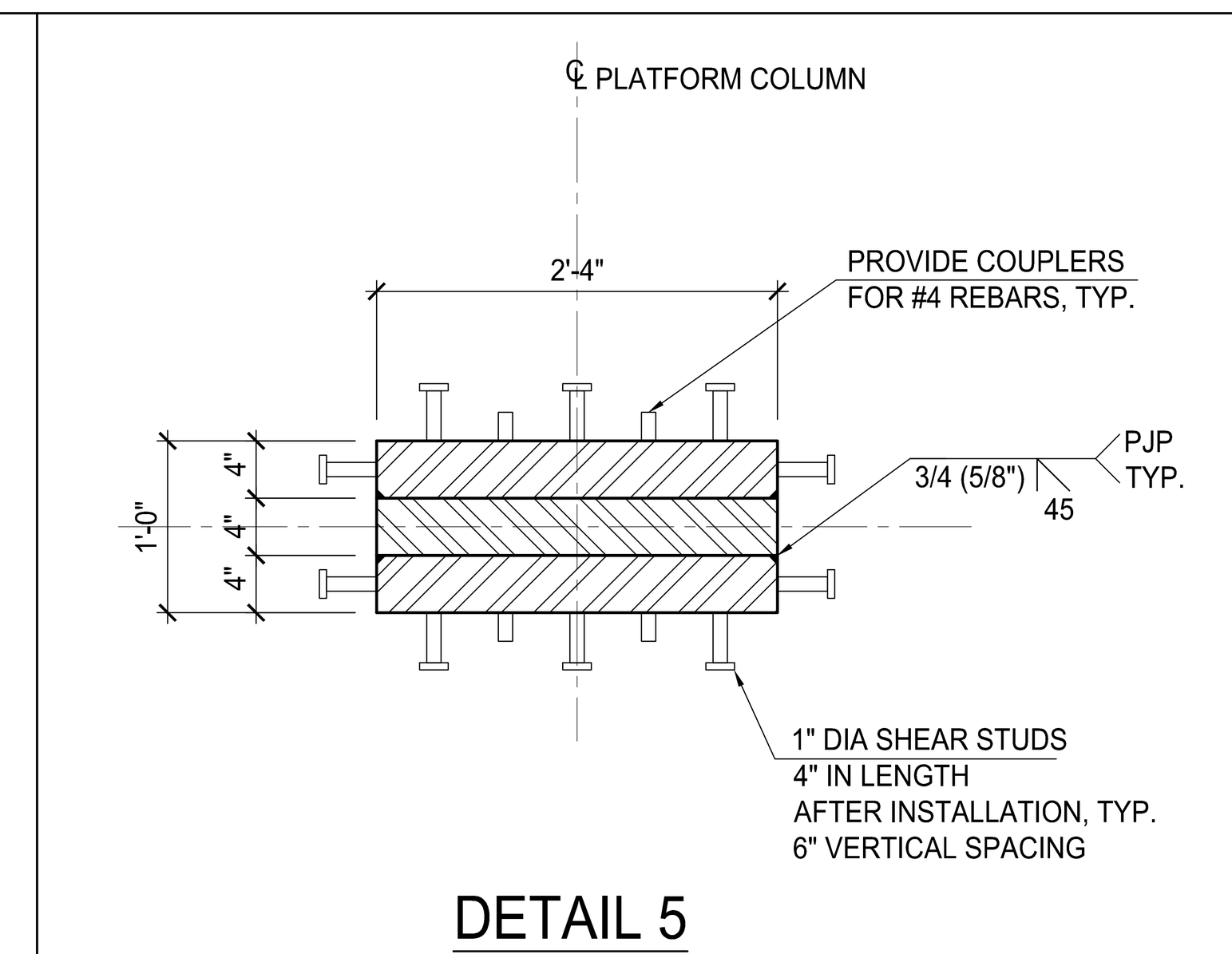

5 BUILT UP EMBEDDED COLUMN DETAIL
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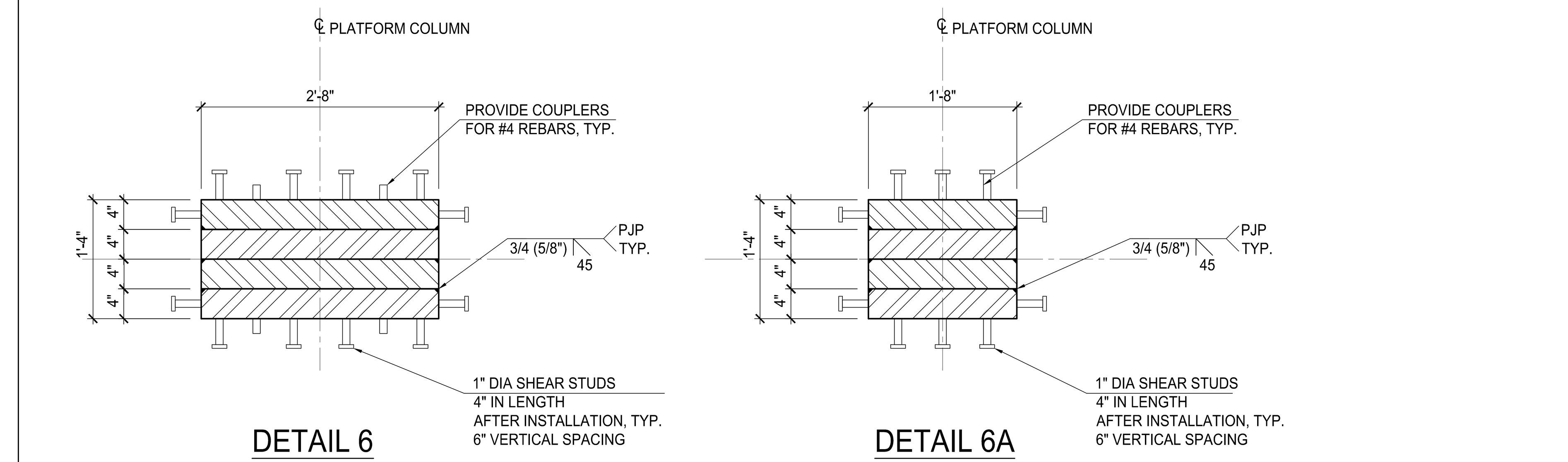
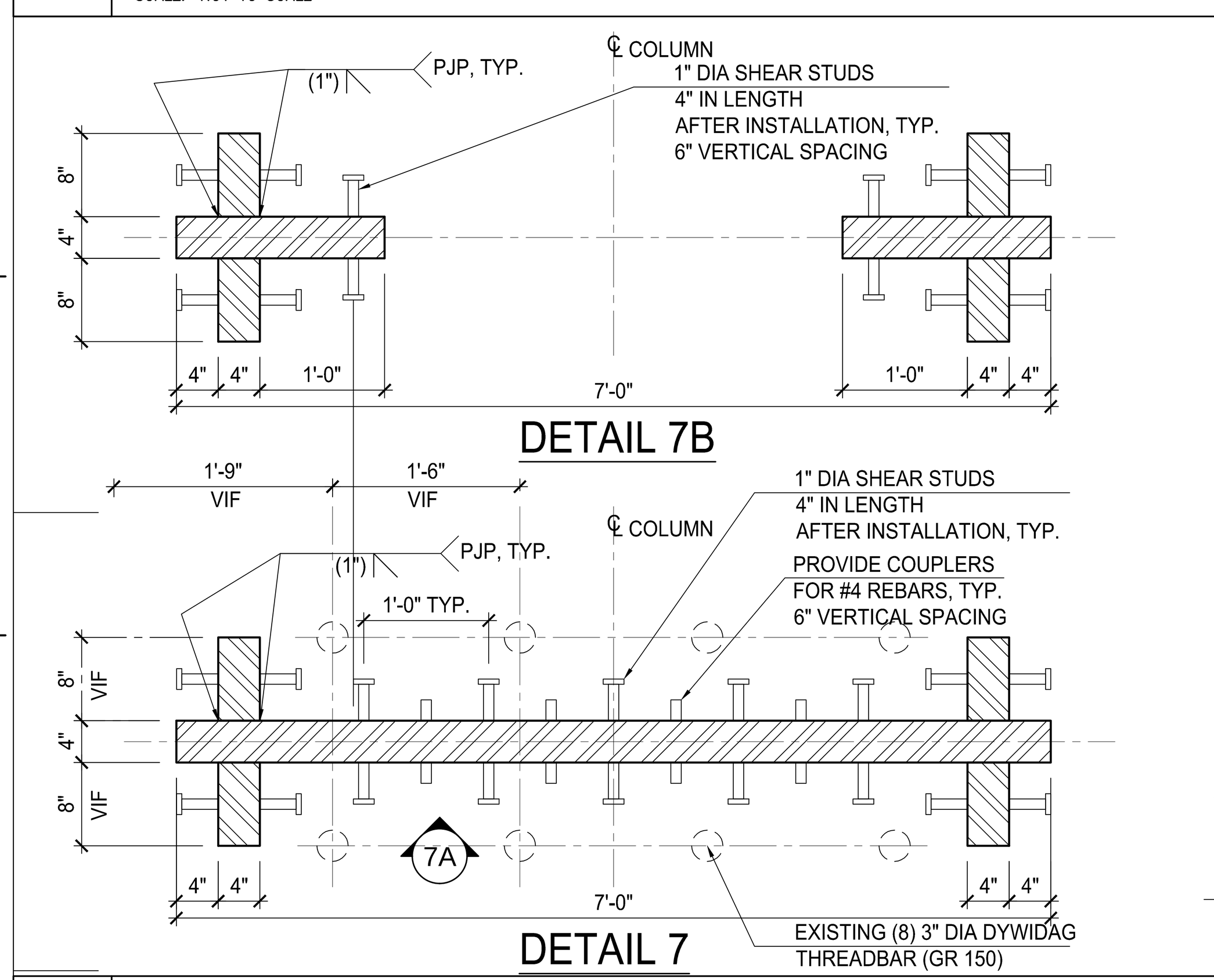
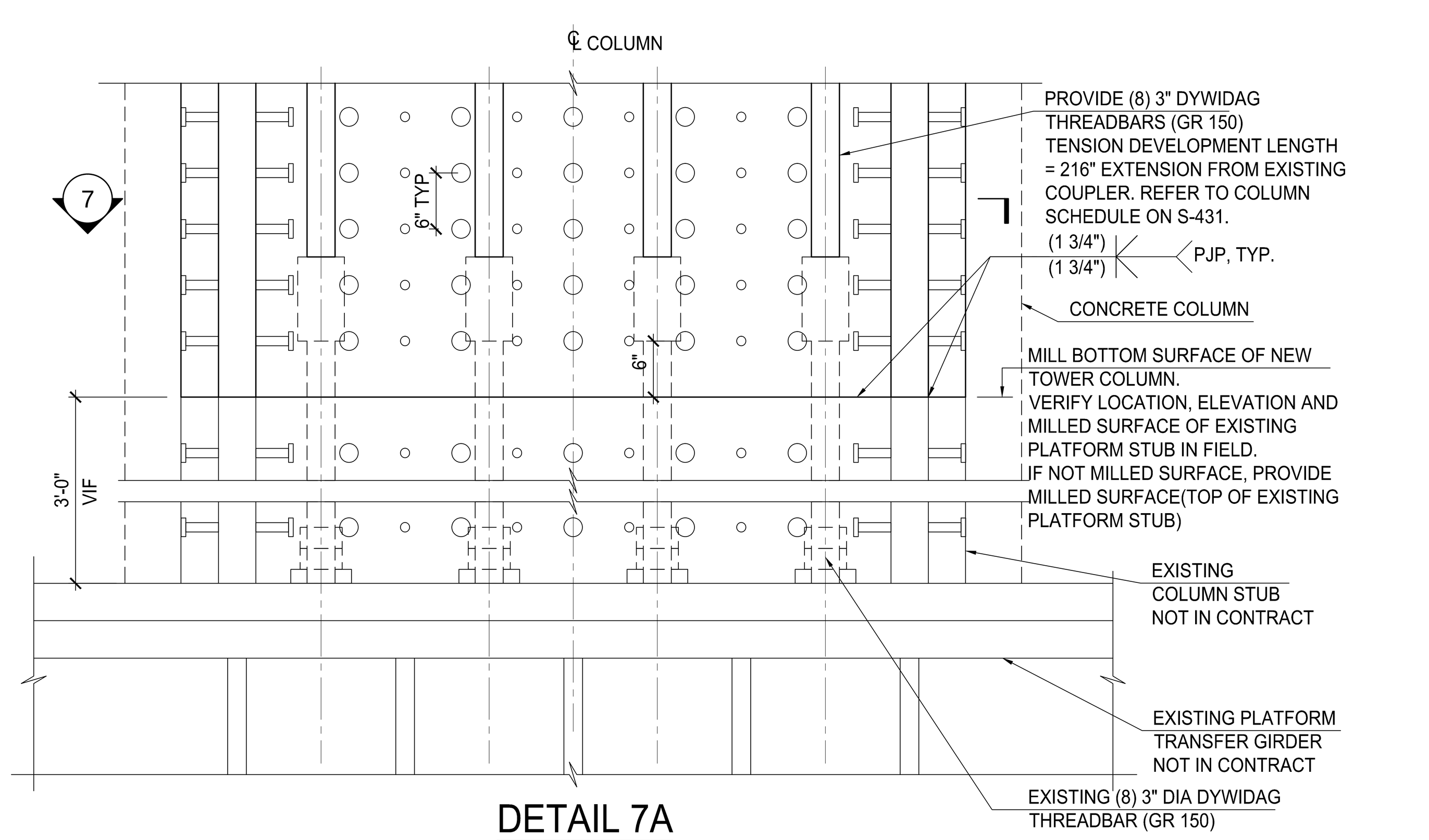


6 BUILT UP EMBEDDED COLUMN DETAIL
SCALE: NOT TO SCALE

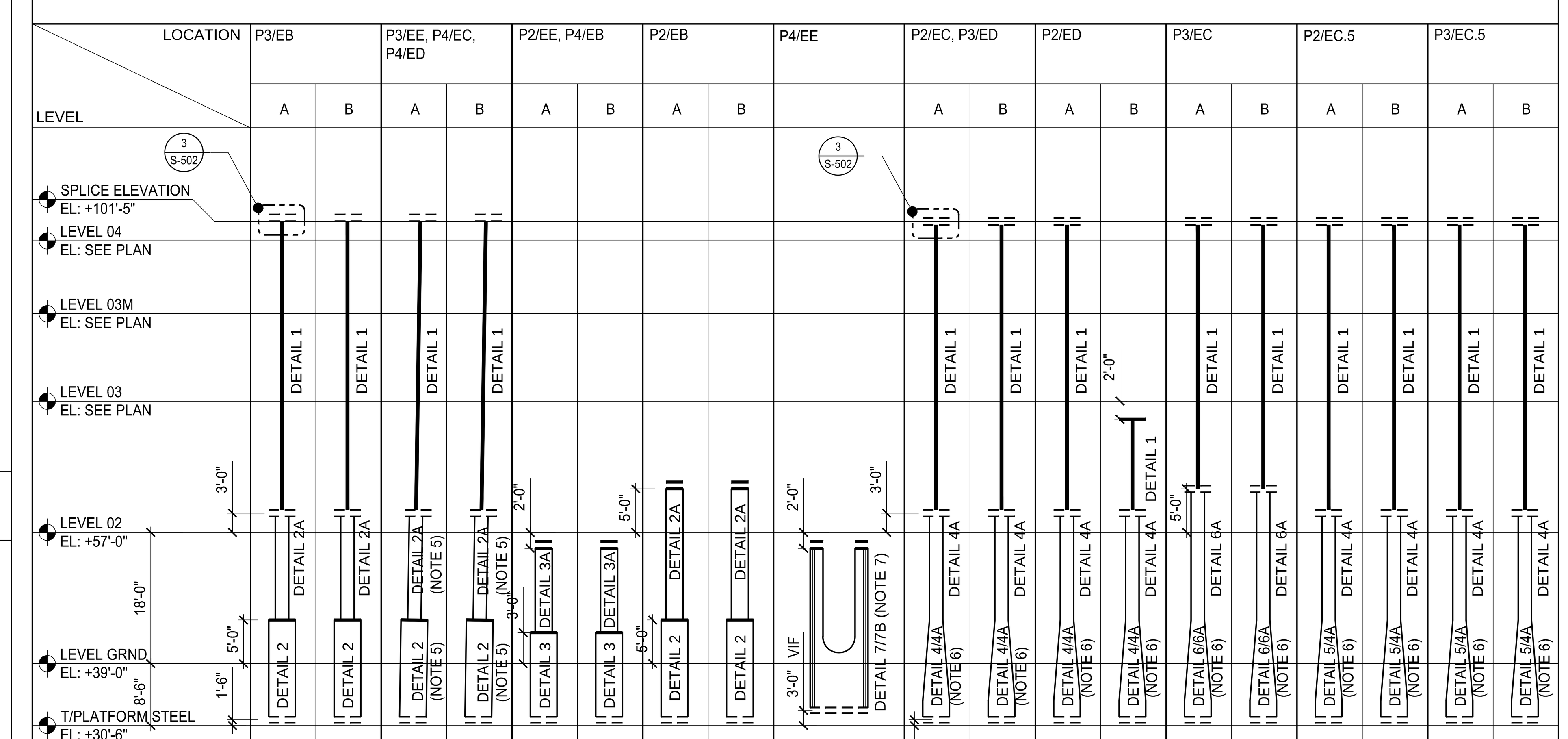




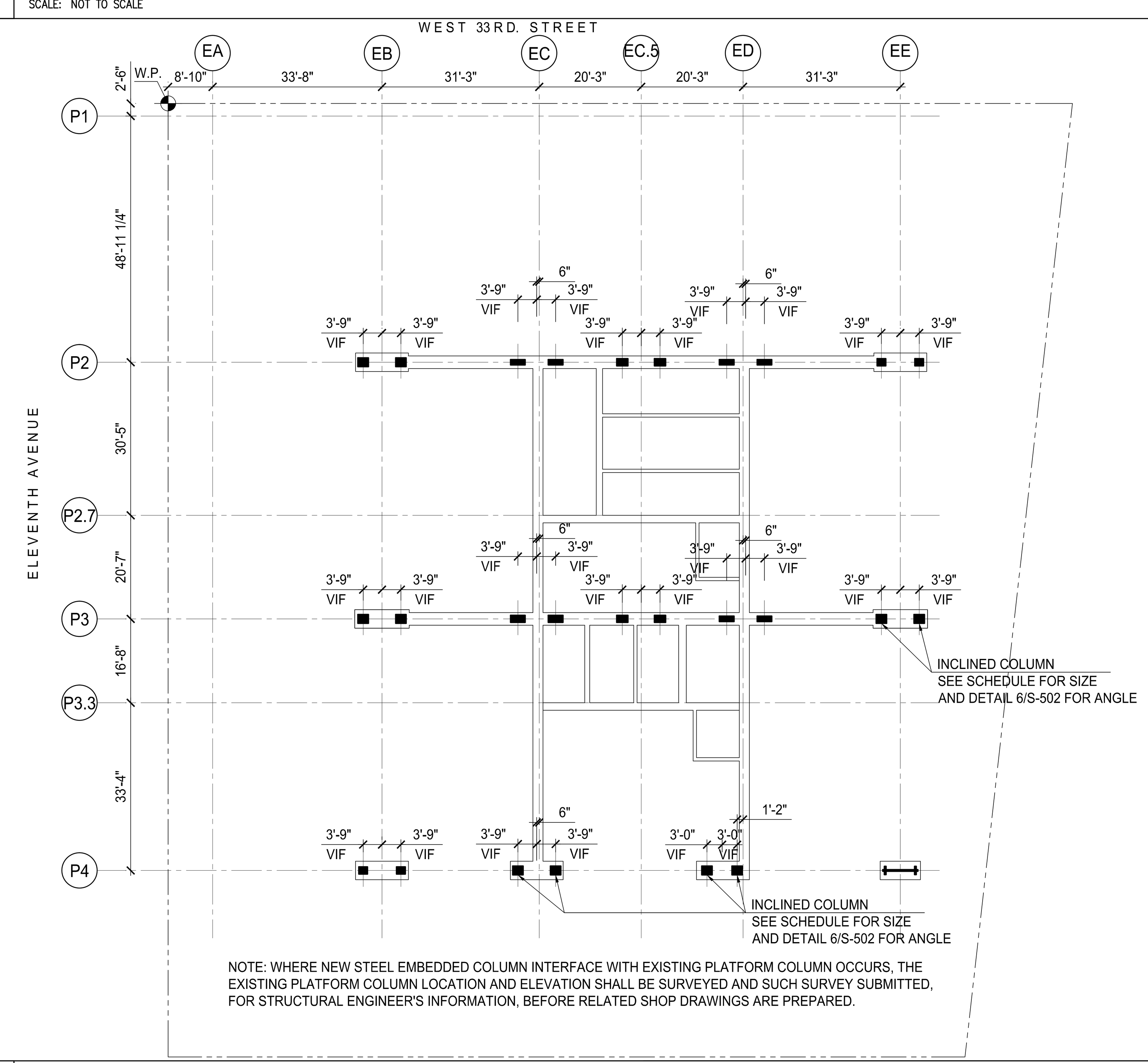
7 BUILT UP EMBEDDED COLUMN DETAIL
SCALE: NOT TO SCALE

EMBEDDED STEEL COLUMN CORE SCHEDULE

DETAIL 1: fy = 50 ksi
DETAIL 2 THRU DETAIL 7: fy = 65 ksi

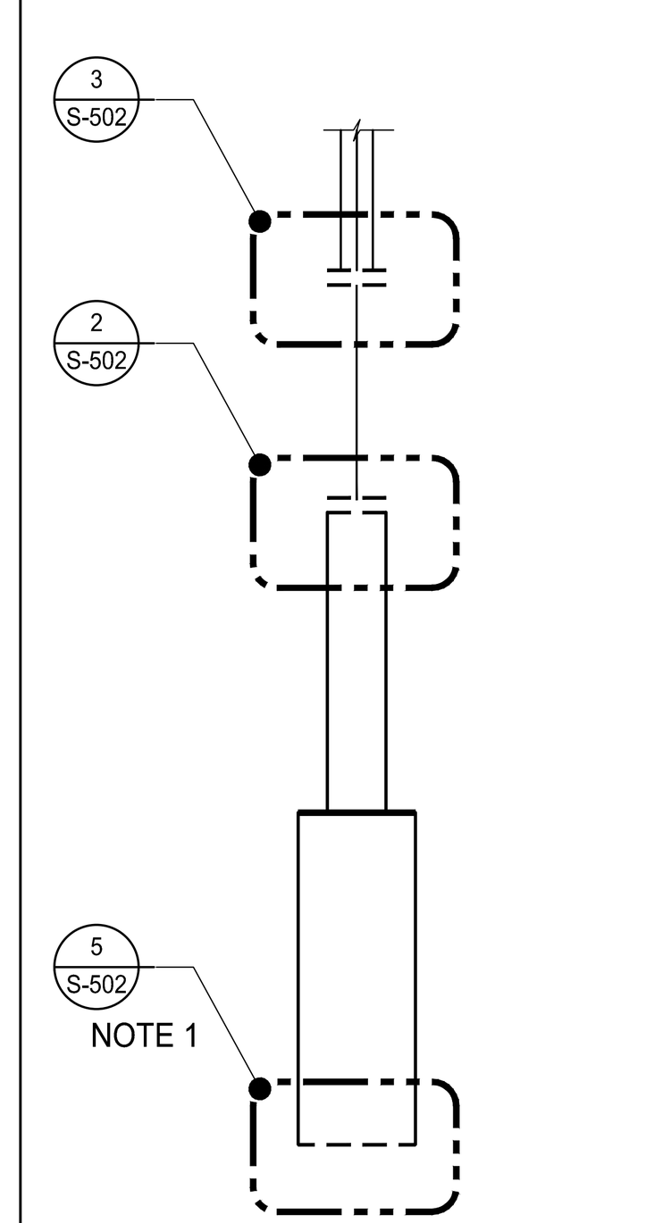


NOTE:
1. WHERE APPLICABLE 'A' DENOTES STEEL SHAPE AT WEST, 'B' DENOTES STEEL SHAPE AT EAST.
2. = = INDICATES RECOMMENDED COLUMN SPLICE LOCATION. FINAL SPLICE LOCATIONS TO BE DETERMINED BY CONTRACTOR AND APPROVED BY EOR.
3. ULTRASONIC TESTING AND VISUAL CONTINUOUS INSPECTION IN ACCORDANCE WITH ASTM A435 SHALL BE UTILIZED TO VERIFY BASE MATERIAL FOR LAMINATIONS, INCLUSIONS AND OTHER DISCONTINUITIES.
4. USE E80XX ELECTRODES WITH STEEL THAT HAS A YIELD STRESS OF 65 KSI AND E70XX ELECTRODES WITH STEEL THAT HAS A YIELD STRESS OF 50 KSI
5. COLUMNS ARE INCLINED. SEE DETAIL 5/S-502 FOR INLCLINED COLUMN GEOMETRY.
6. DETAIL # / #A REFERS TO COLUMN WITH TAPERING CROSS SECTION. CROSS SECTION UNIFORMLY CHANGES FROM DETAIL # AT THE BASE TO DETAIL #A ABOVE.
7. SEE DETAIL 7/S-502 FOR COLUMN PROFILE ELEVATION.
8. SEE SHEET S-502 FOR SPLICE DETAILS.



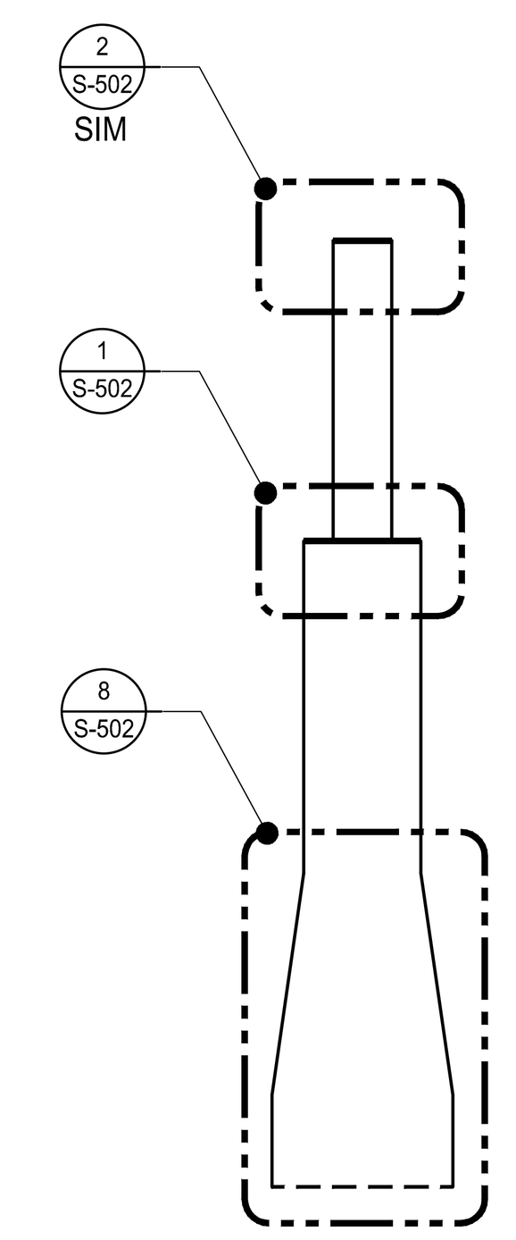
NOTE: WHERE NEW STEEL EMBEDDED COLUMN INTERFACE WITH EXISTING PLATFORM COLUMN OCCURS, THE EXISTING PLATFORM COLUMN LOCATION AND ELEVATION SHALL BE SURVEYED AND SUCH SURVEY SUBMITTED, FOR STRUCTURAL ENGINEER'S INFORMATION, BEFORE RELATED SHOP DRAWINGS ARE PREPARED.

A KEY PLAN
SCALE: NOT TO SCALE



NOTE: 1. SEE DETAIL 7A/S-501 FOR SPLICE AT P4/EE.

B COLUMN SPLICE KEY
SCALE: NOT TO SCALE



C COLUMN PROFILE KEY
SCALE: NOT TO SCALE

NOTE:
CONTRACTOR TO CONFIRM PLATE SIZES AND LAYOUT DEPENDING ON MATERIAL AVAILABLITY.
IF PLATE SIZE AND LAYOUT INDICATED HERE ARE NOT AVAILABLE, CONTRACTOR TO SUBMIT PROPOSED PLATE SIZES AND LAYOUT FOR ENGINEER REVIEW.

Damian Titus
APPROVED
NYC Development Hub

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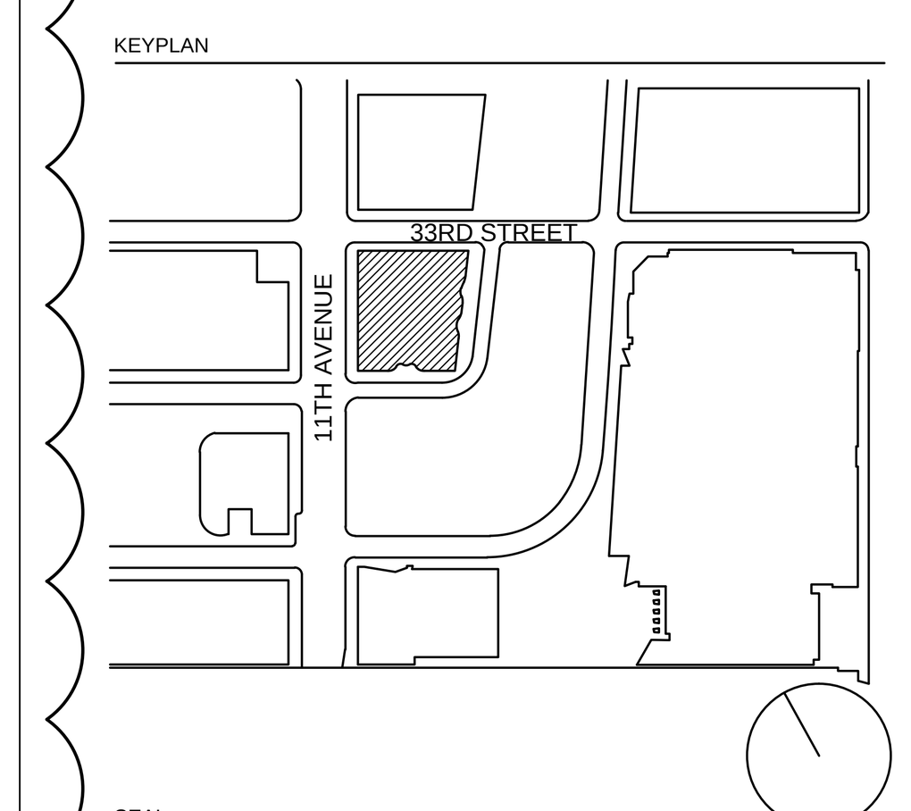

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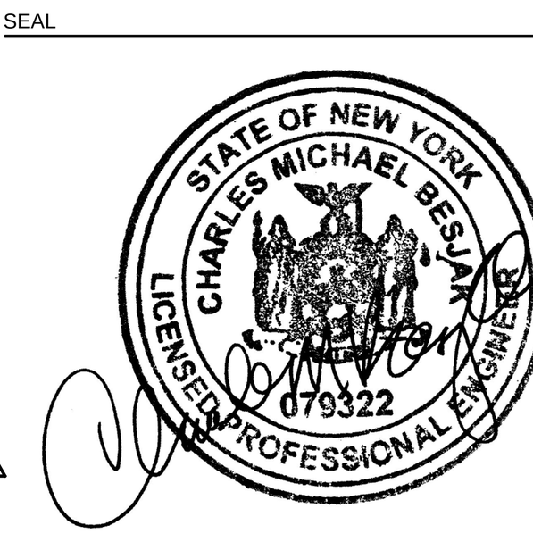

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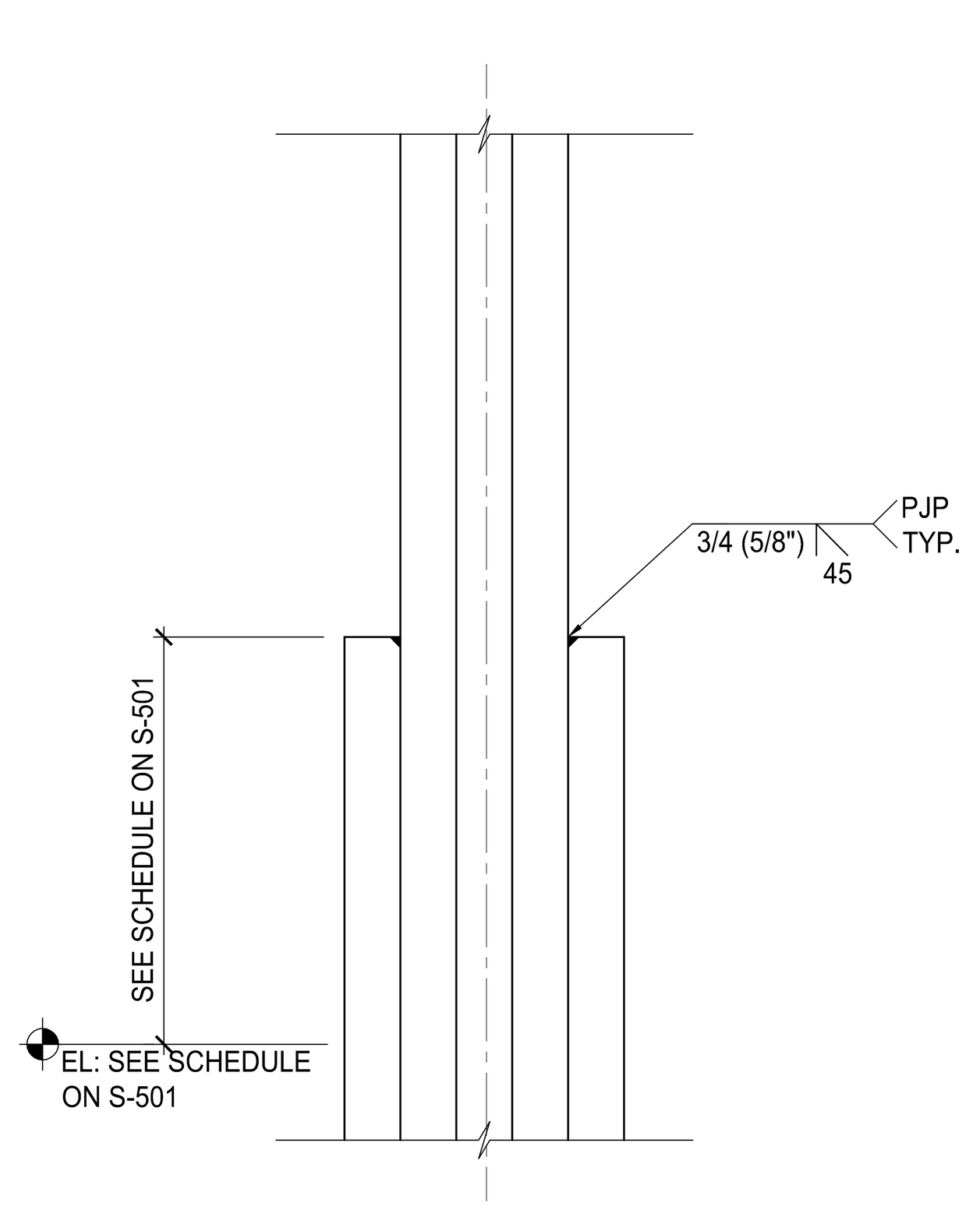
DRAWING TITLE

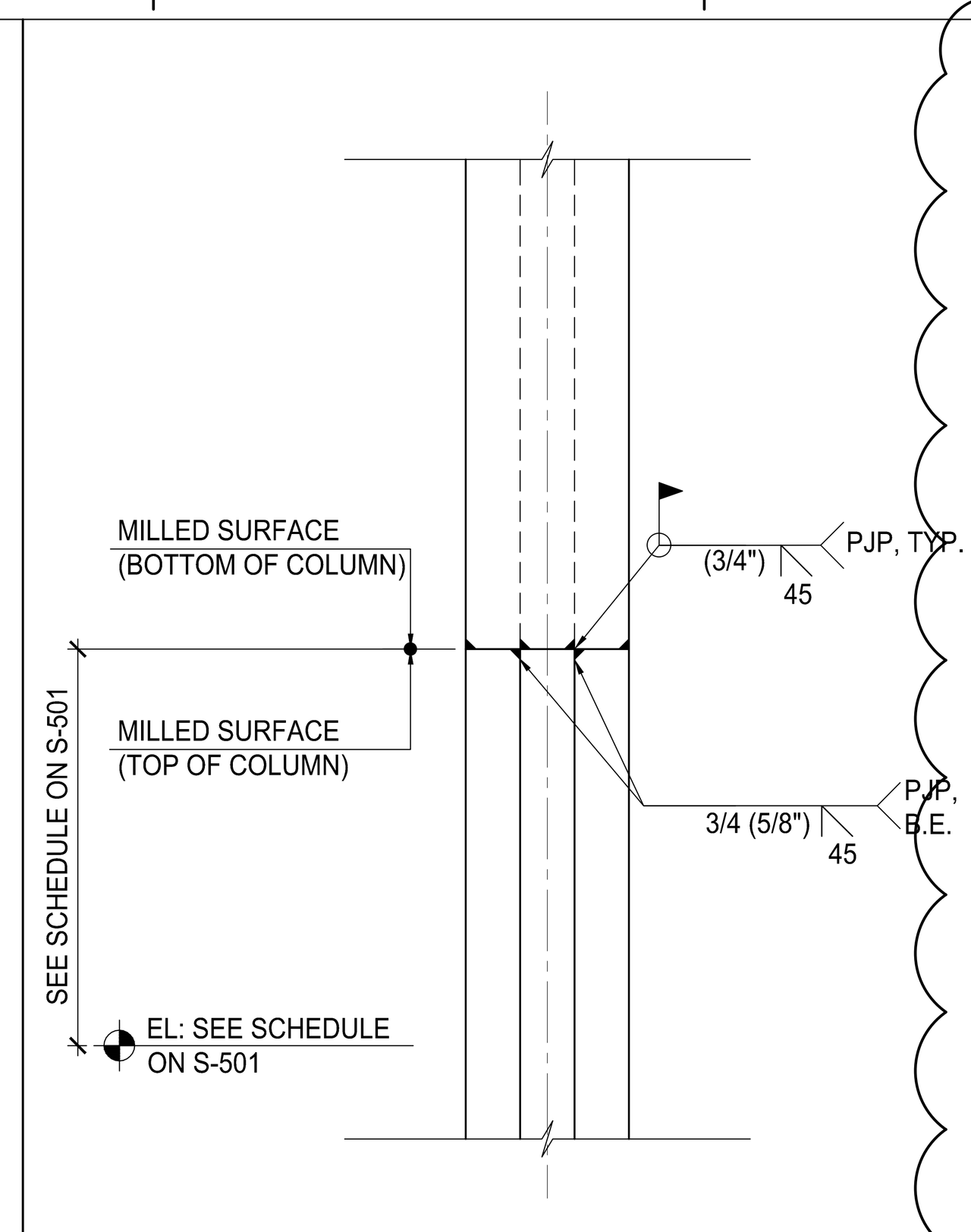
TYPICAL STEEL CORE SCHEDULE AND DETAILS

B-SCAN - DRAWING NUMBER
S-501.01

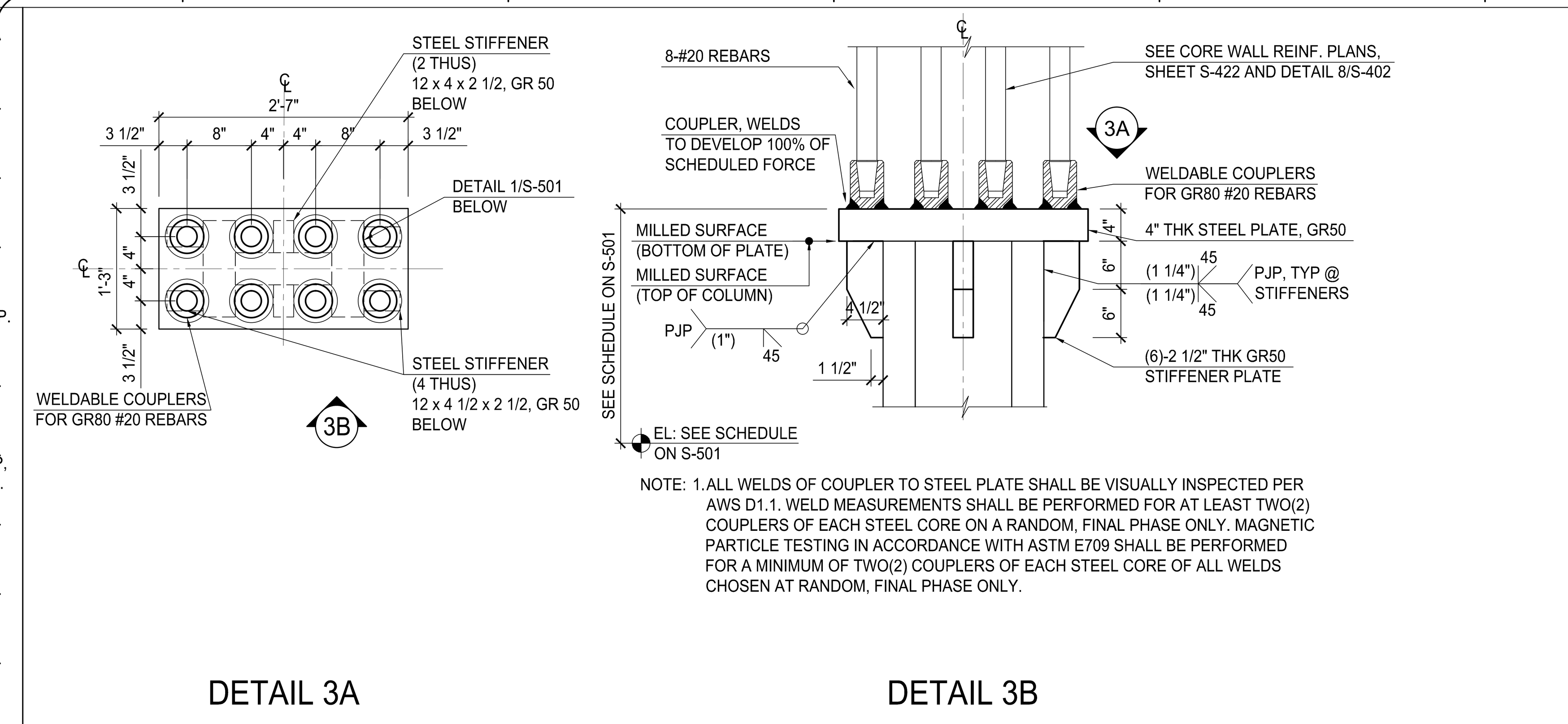
DRAWING NUMBER
S-501



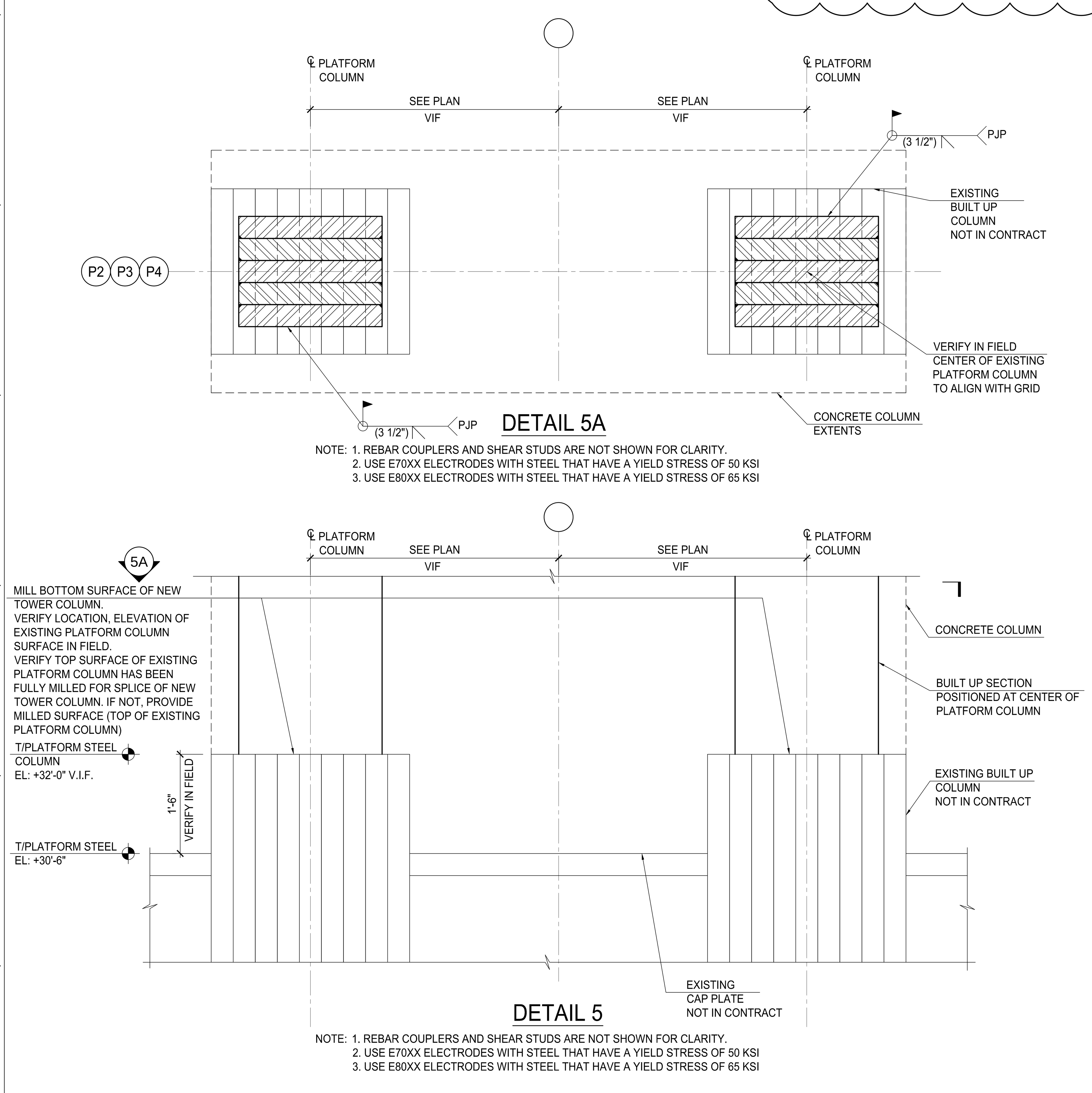
1 BUILT UP STEEL COLUMN CORE DETAIL
SCALE: NOT TO SCALE



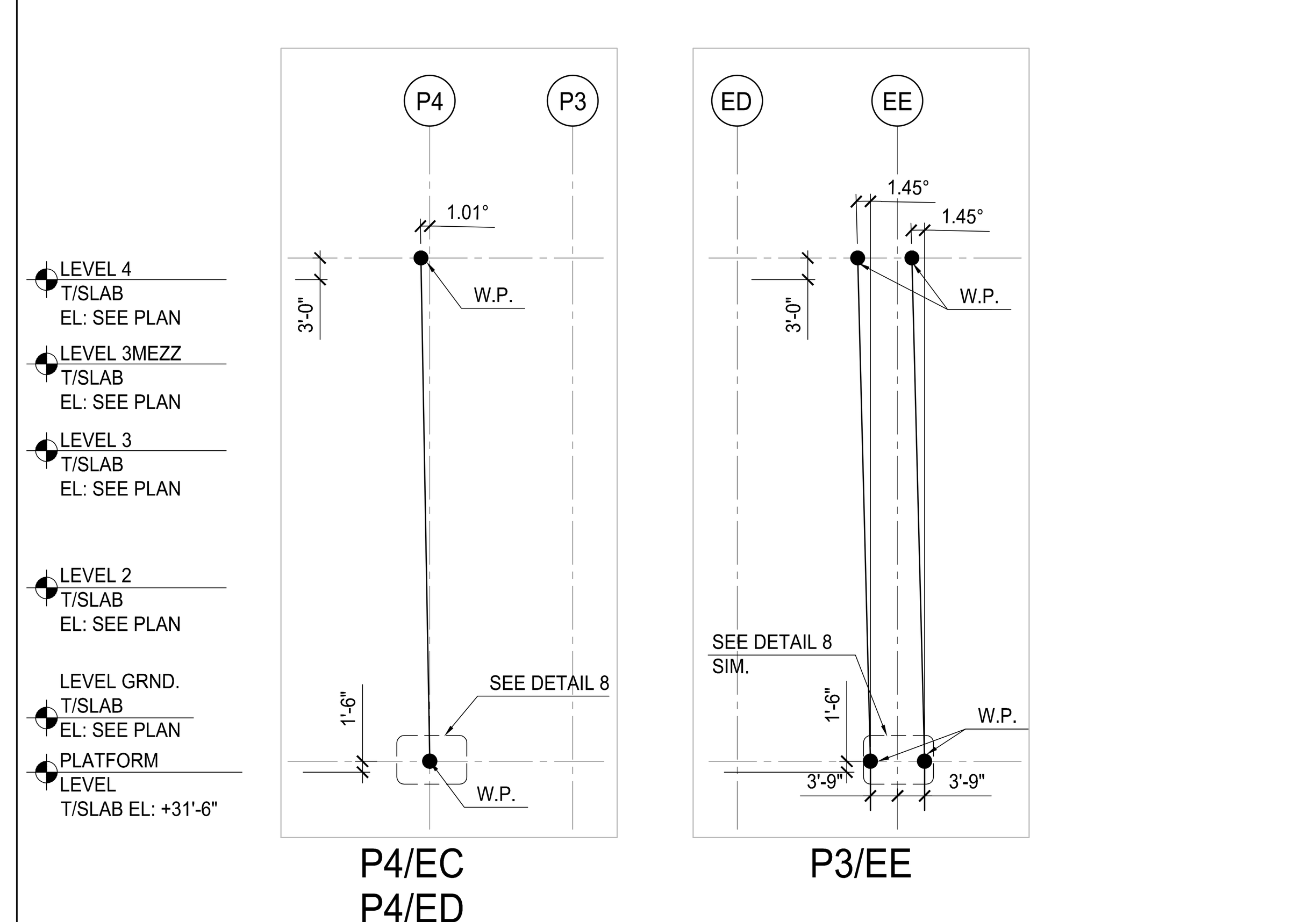
2 BUILT UP STEEL COLUMN CORE SPLICE DETAIL
SCALE: NOT TO SCALE



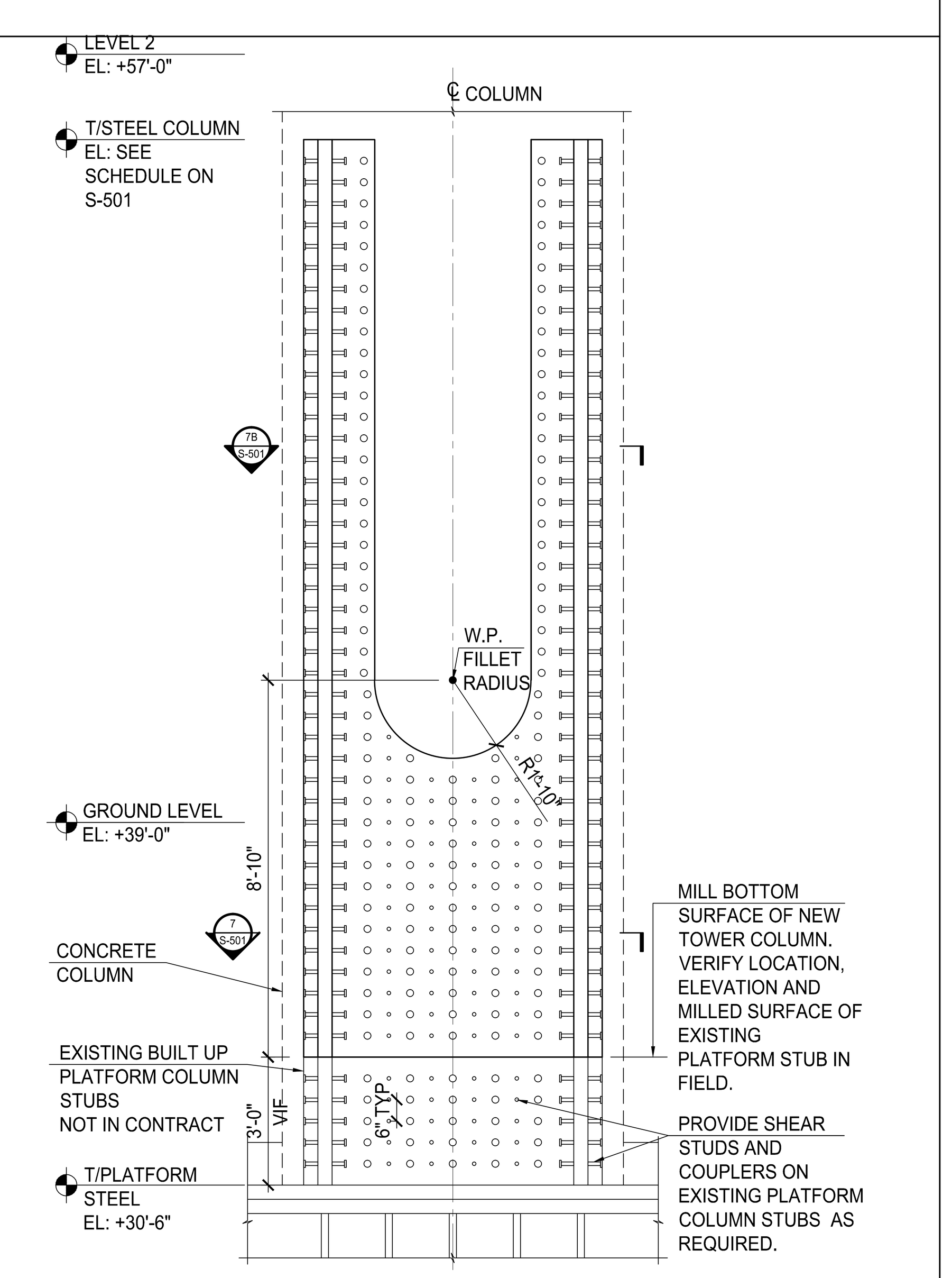
3 TYPICAL BUILT UP COLUMN DETAIL 1 TO #20 BAR SPLICE
SCALE: NOT TO SCALE



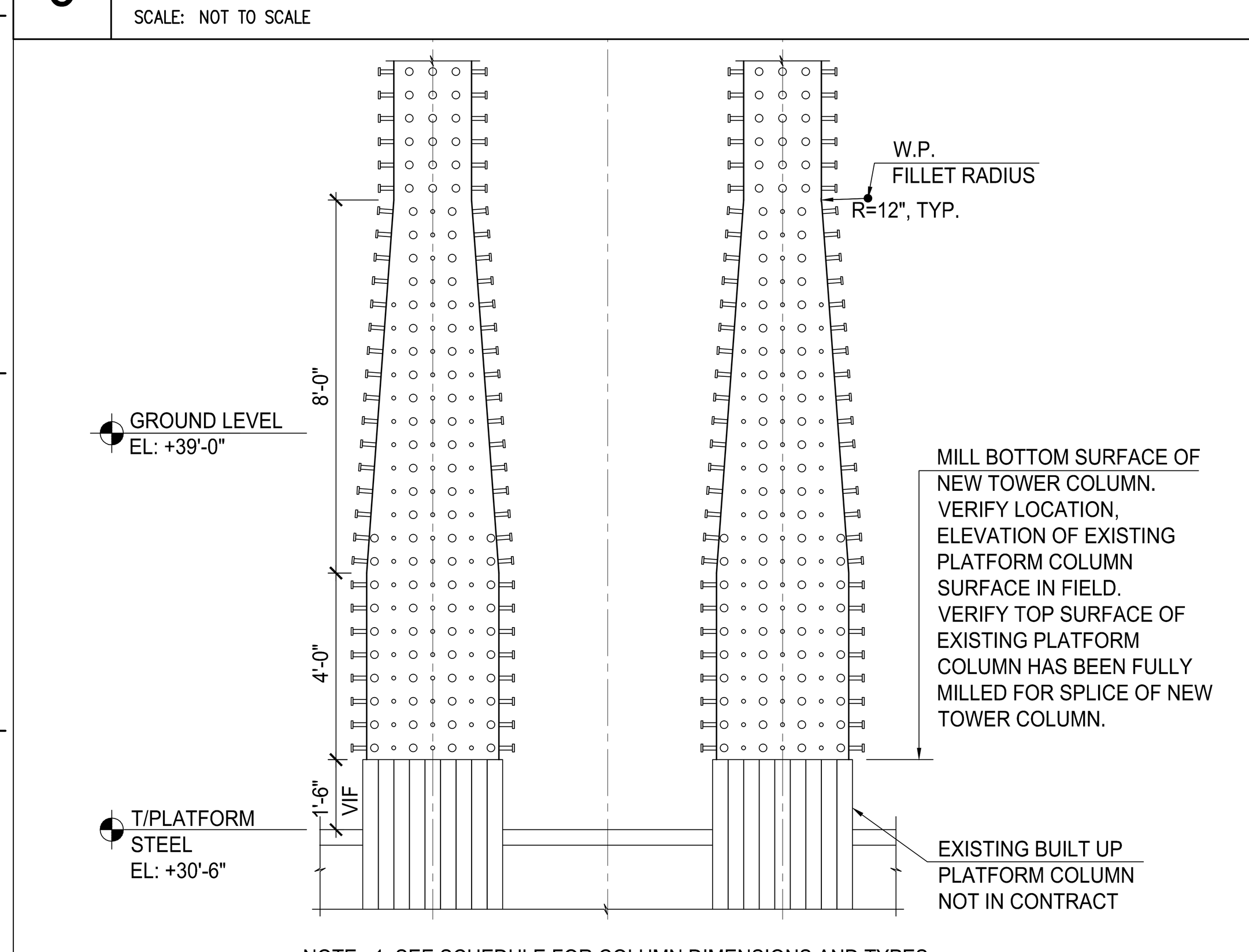
5 BUILT UP COLUMN BASE SPLICE DETAIL
SCALE: NOT TO SCALE



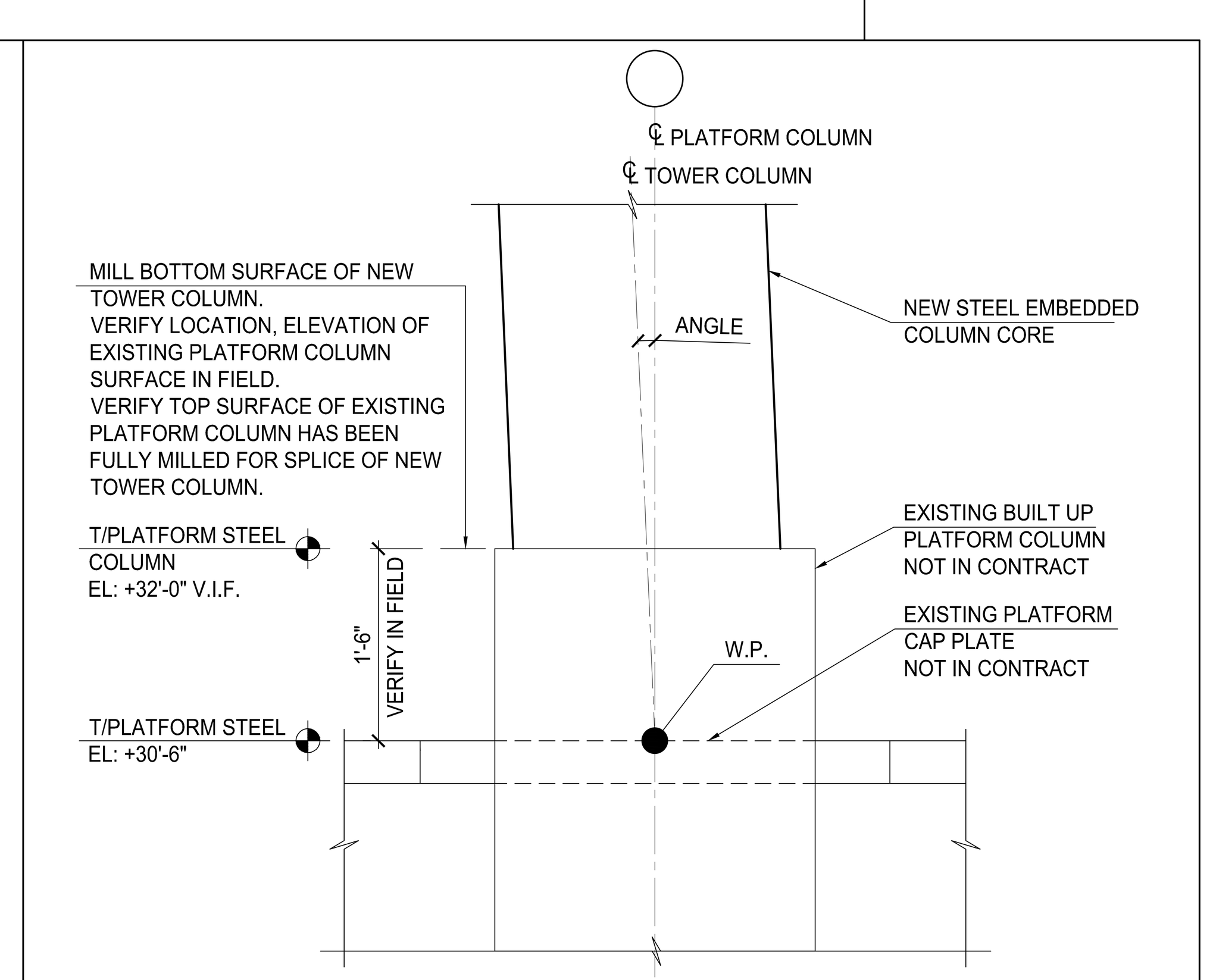
6 INCLINED COLUMN GEOMETRY
SCALE: NOT TO SCALE



7 P4/EE STEEL PROFILE DETAIL
SCALE: NOT TO SCALE



8 TAPERED COLUMN DETAIL
SCALE: NOT TO SCALE



9 INCLINED COLUMN WORK POINT
SCALE: NOT TO SCALE

NOTE:
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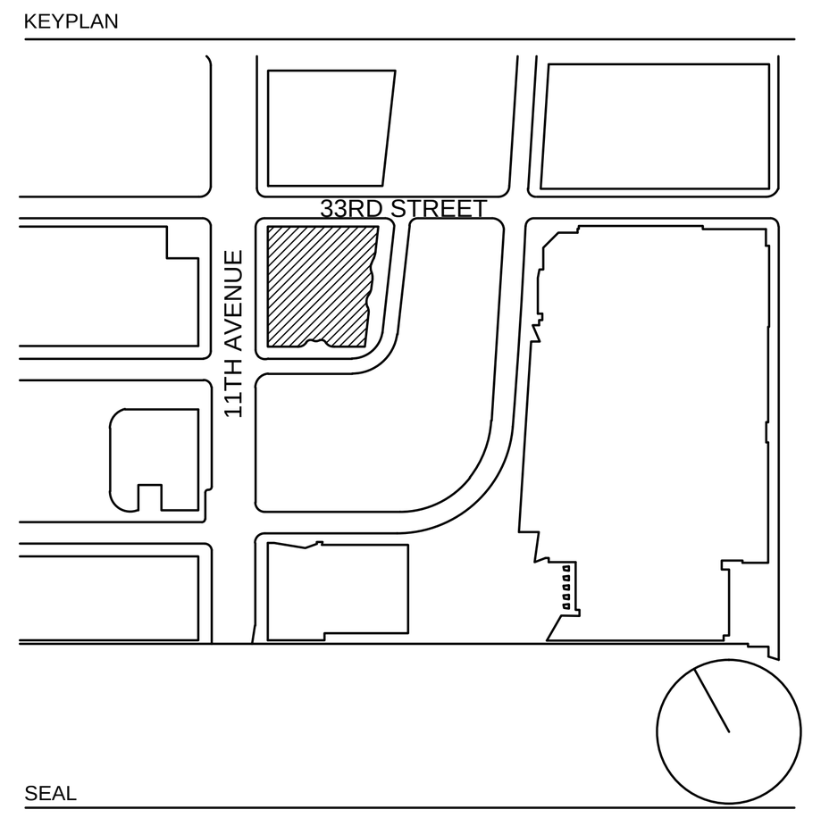

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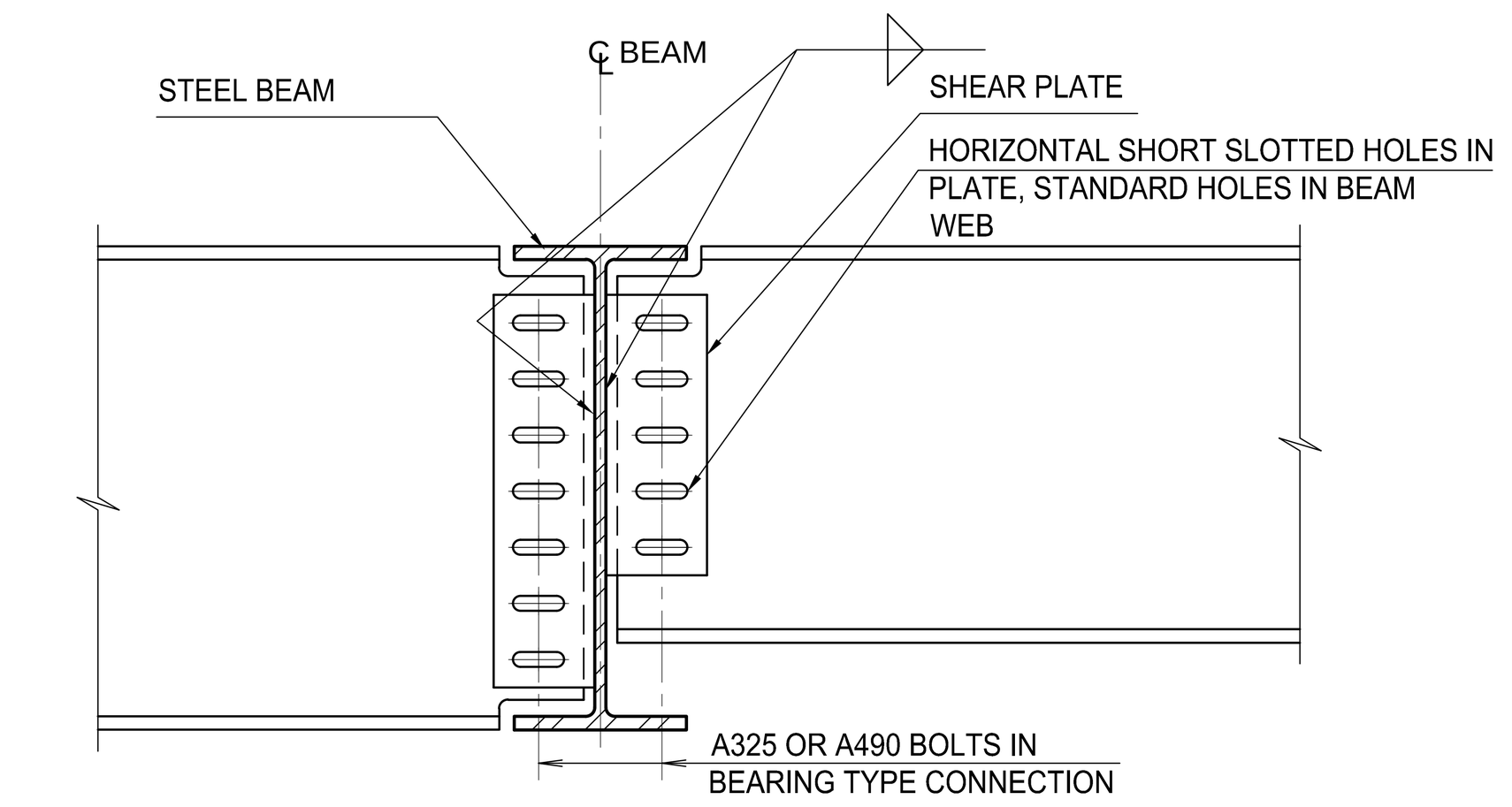
DRAWING TITLE
TYPICAL STEEL CORE SCHEDULE AND DETAILS

B-SCAN - DRAWING NUMBER
S-502.01

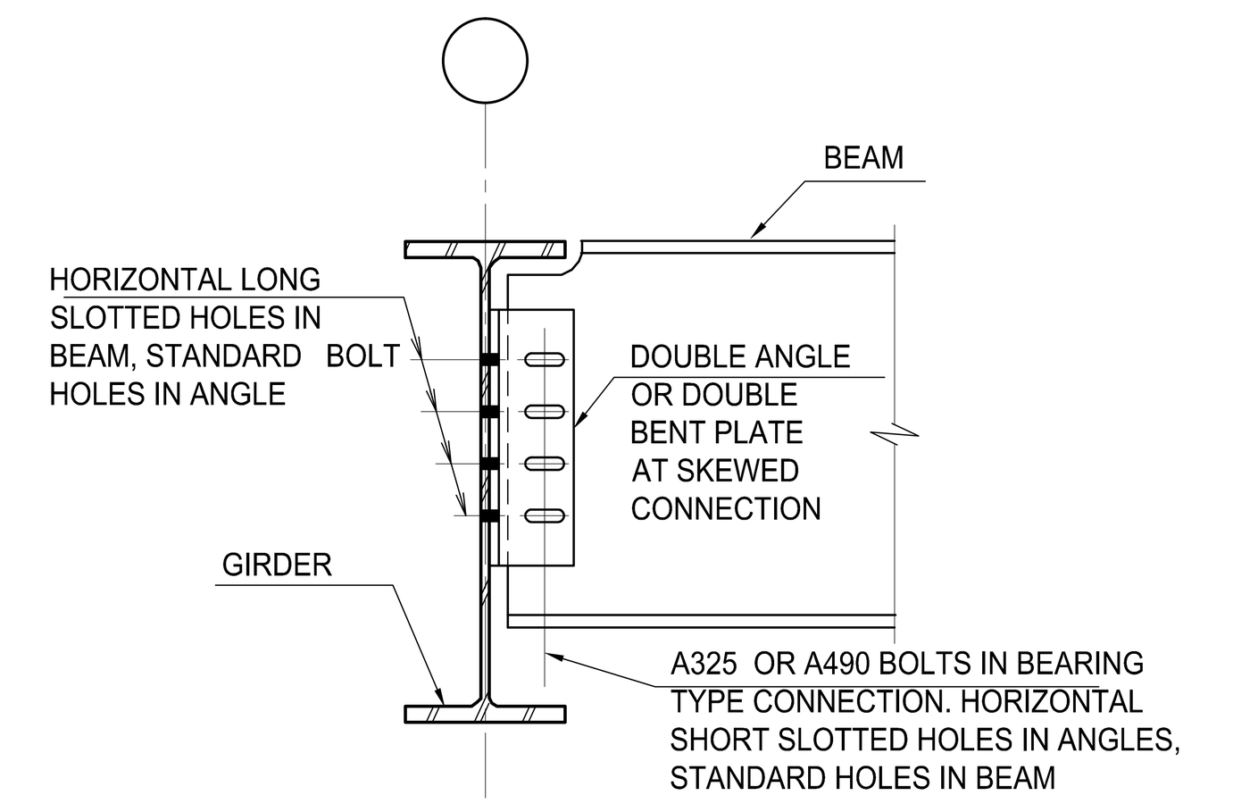
DRAWING NUMBER
S-502

PAGE NUMBER



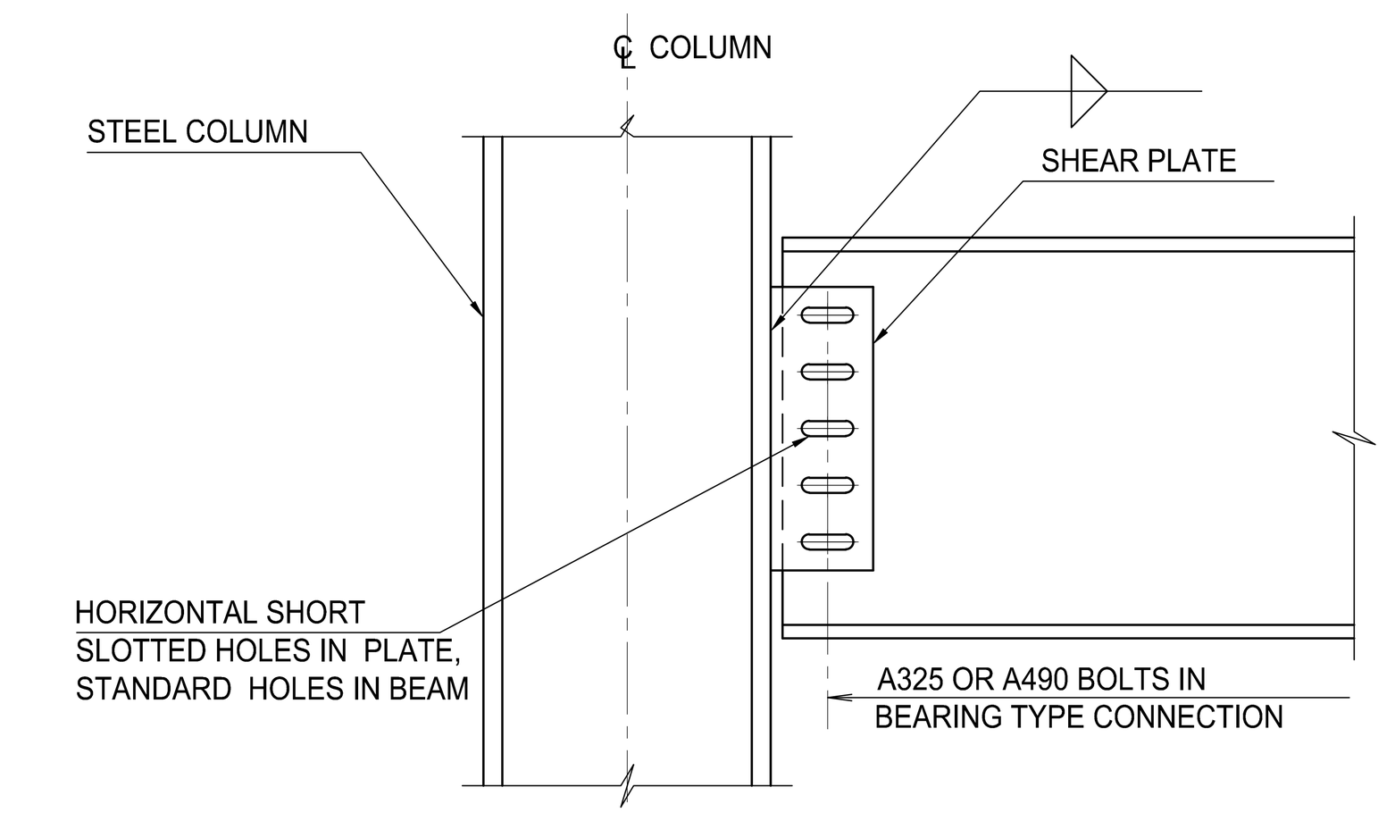
NOTE: STANDARD AISC SHEAR PLATE CONNECTION.
1. CONNECTION TO DEVELOP THE FACTORED BEAM REACTION IN ACCORDANCE WITH THE AISC-LRFD RECOMMENDED PRACTICE FOR A SINGLE PLATE CONNECTION WITH A FLEXIBLE SUPPORT.
2. PROVIDE DOUBLE ANGLE SHEAR CONNECTIONS FOR ALL BEAMS SUPPORTING STAIR HANGERS - SEE DETAIL 2.
3. TYPICAL AT ALL INTERIOR BEAM TO BEAM CONNECTIONS.

1 TYPICAL INTERIOR BEAM TO BEAM SHEAR CONNECTION
SCALE: NOT TO SCALE



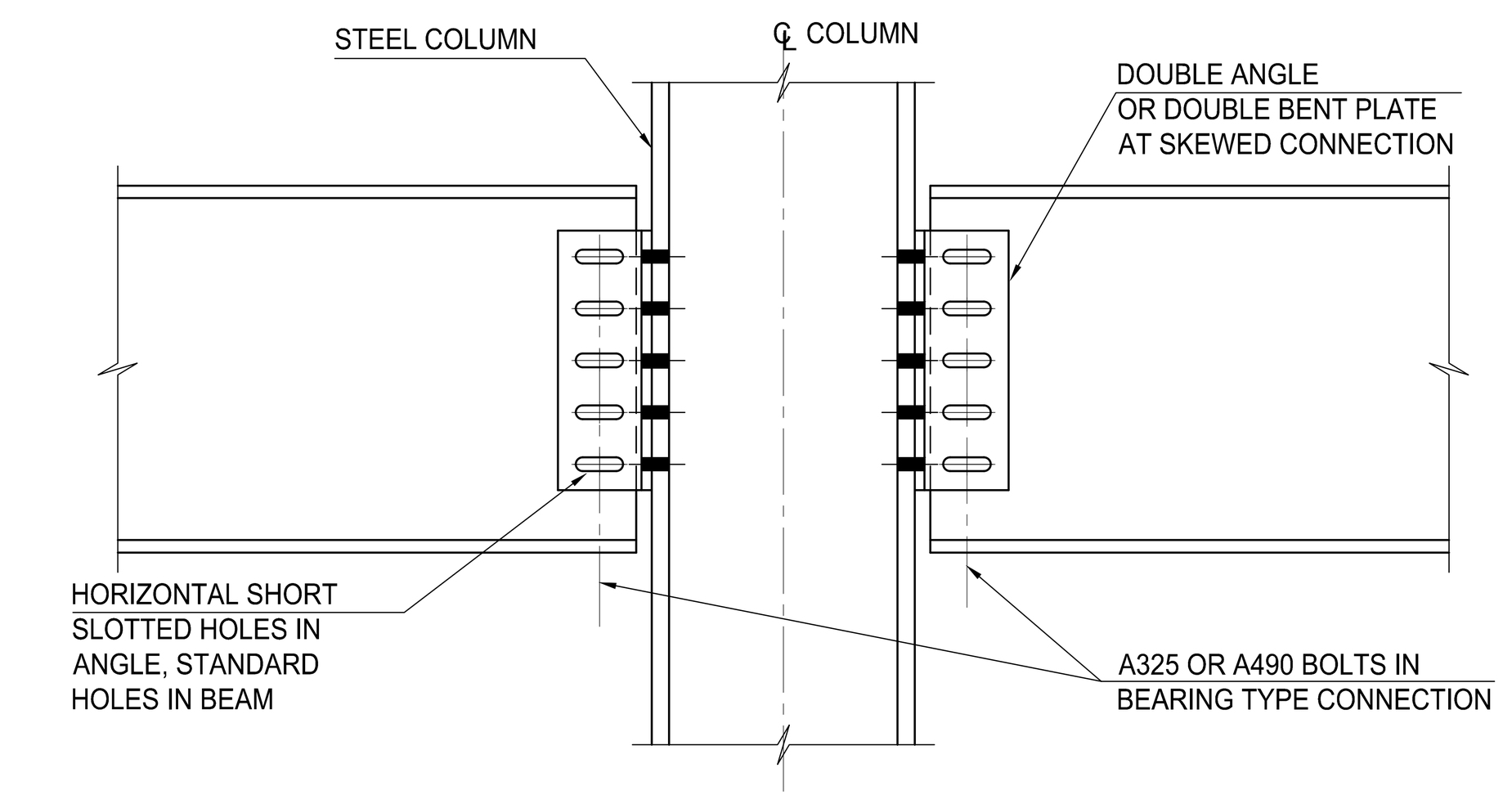
NOTE: STANDARD AISC DOUBLE ANGLE SHEAR CONNECTION.
1. CONNECTION TO DEVELOP THE FACTORED BEAM REACTION IN ACCORDANCE WITH THE AISC-LRFD RECOMMENDED PRACTICE FOR A DOUBLE ANGLE CONNECTION.
2. ALTERNATE FOR ALL INTERIOR BEAM TO BEAM CONNECTIONS.
3. FOR TWO SIDED CONNECTION BEAM TO BE INSTALLED FIRST TO HAVE ONE ADDITIONAL BOLT ROW TO FACILITATE ERECTION.

2 ALTERNATE BEAM TO BEAM SHEAR CONNECTION
SCALE: NOT TO SCALE



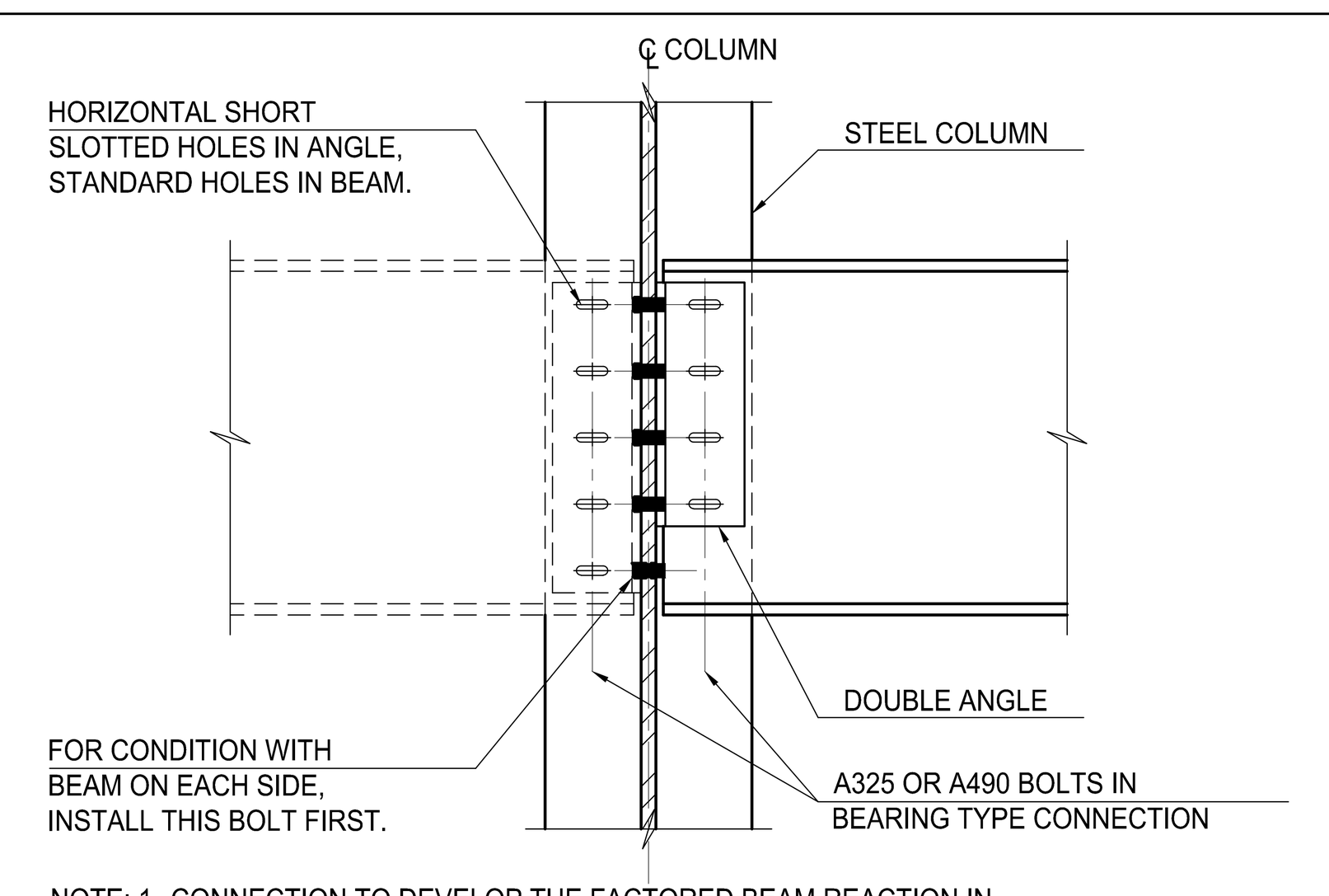
NOTE: STANDARD AISC SHEAR PLATE CONNECTION.
1. CONNECTION TO DEVELOP THE FACTORED BEAM REACTION IN ACCORDANCE WITH THE AISC-LRFD RECOMMENDED PRACTICE FOR A SINGLE PLATE CONNECTION WITH A RIGID SUPPORT.
2. TYPICAL AT ALL INTERIOR COLUMN FLANGE CONNECTIONS U.N.O
3. SEE DETAIL 4 FOR EXTERIOR COLUMN SHEAR CONNECTION. SEE DETAIL 4 FOR BEAMS SUPPORTING STAIR HANGERS

3 TYPICAL INTERIOR BEAM TO COLUMN FLANGE SHEAR CONNECTION
SCALE: NOT TO SCALE



NOTE: STANDARD AISC DOUBLE ANGLE SHEAR CONNECTION.
1. CONNECTION TO DEVELOP THE FACTORED BEAM REACTION IN ACCORDANCE WITH THE AISC-LRFD RECOMMENDED PRACTICE FOR A DOUBLE ANGLE CONNECTION.
2. TYPICAL AT ALL EXTERIOR COLUMN SHEAR CONNECTION U.N.O
3. SHALL BE UTILIZED FOR BEAM SUPPORTING STAIR HANGERS.

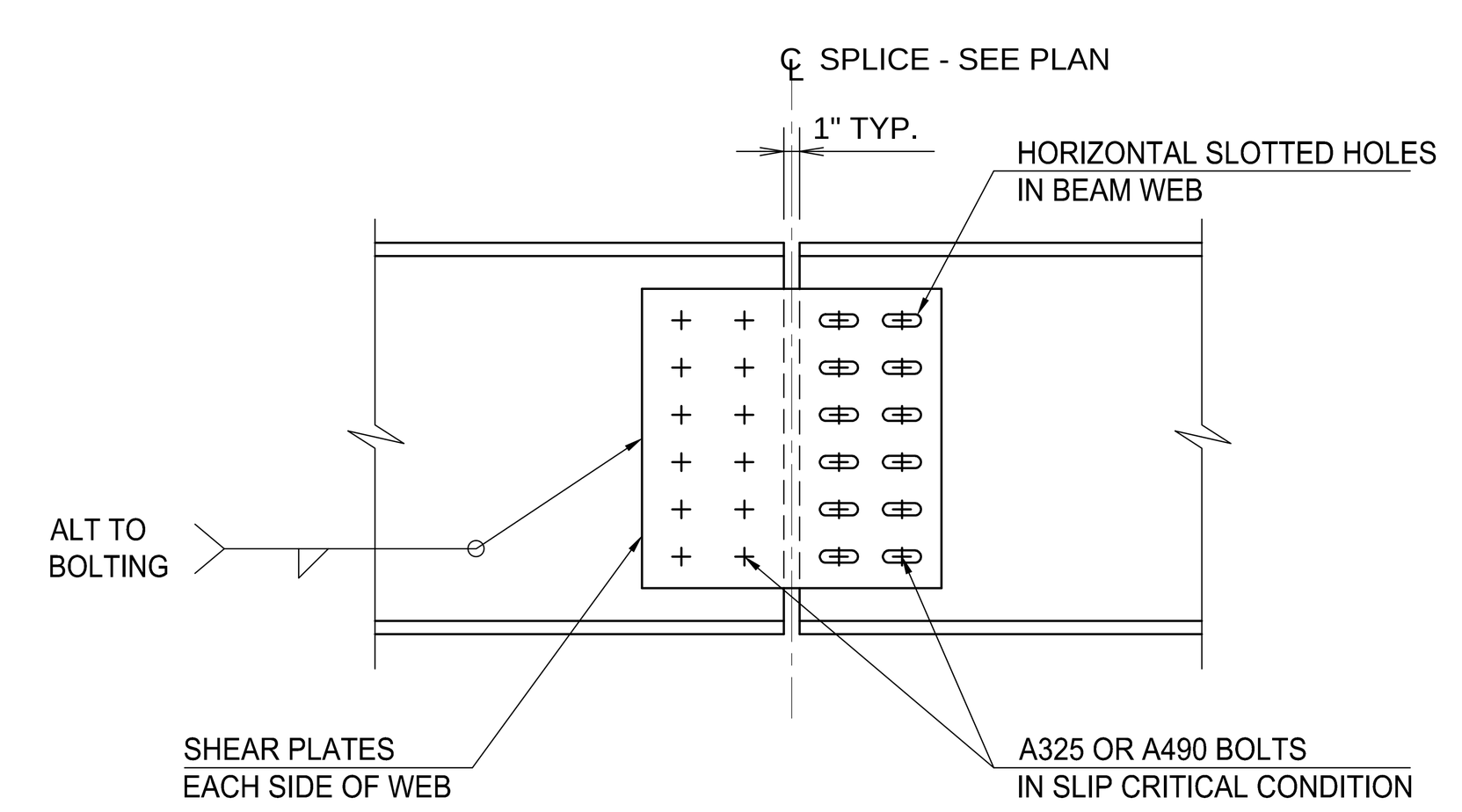
4 ALTERNATE BEAM TO COLUMN FLANGE SHEAR CONNECTION
SCALE: NOT TO SCALE



NOTE: 1. CONNECTION TO DEVELOP THE FACTORED BEAM REACTION IN ACCORDANCE WITH THE AISC-LRFD RECOMMENDED PRACTICE FOR A DOUBLE ANGLE CONNECTION.
2. FOR CONDITION WITH BEAM ON EACH SIDE, ONE SET OF DOUBLE ANGLES SHALL HAVE ONE BOLT MORE THAN REQUIRED BY THE SCHEDULED REACTION.

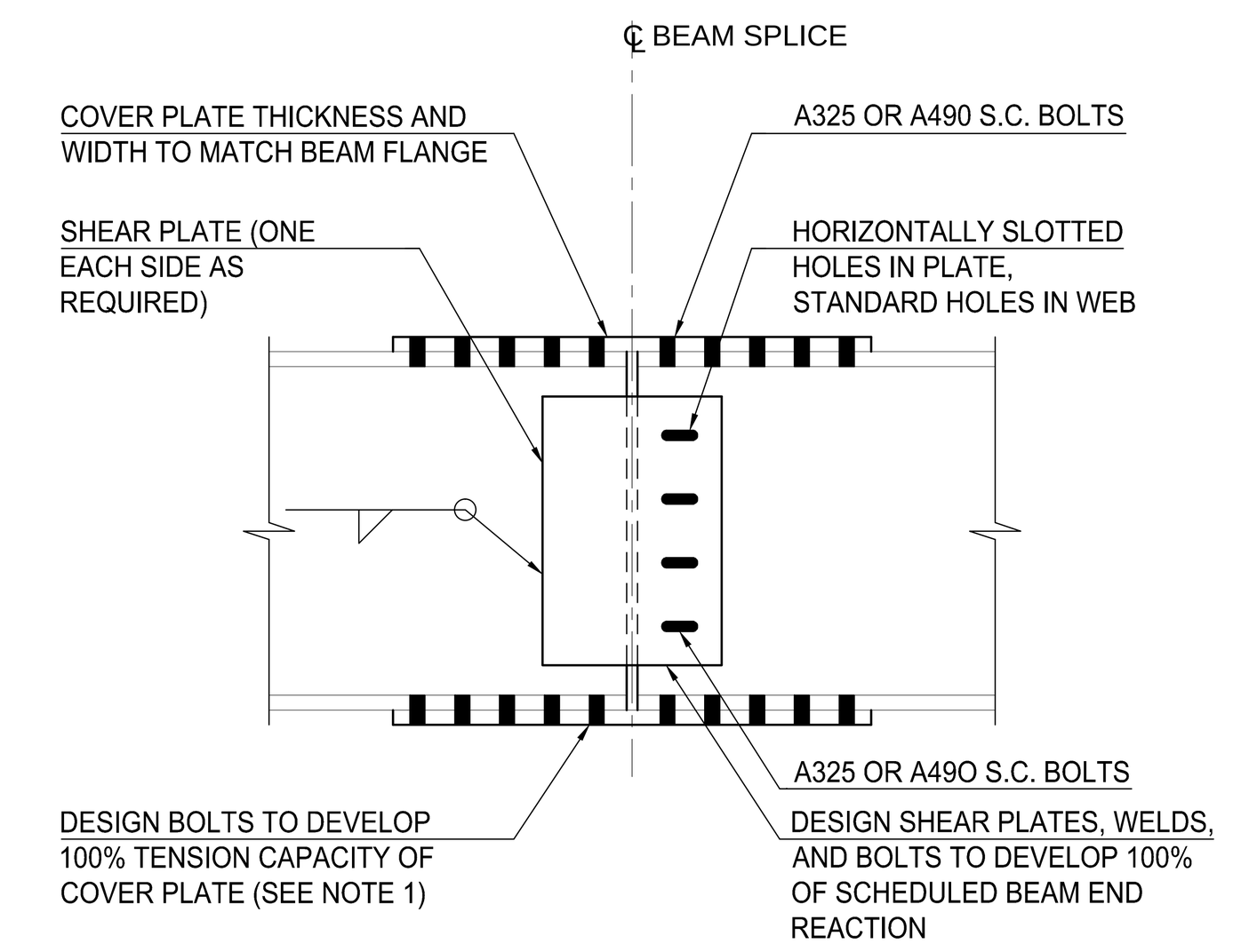
NOTE: TYPICAL AT ALL COLUMN WEB CONNECTIONS U.N.O.

5 TYPICAL BEAM TO COLUMN WEB SHEAR CONNECTION
SCALE: NOT TO SCALE



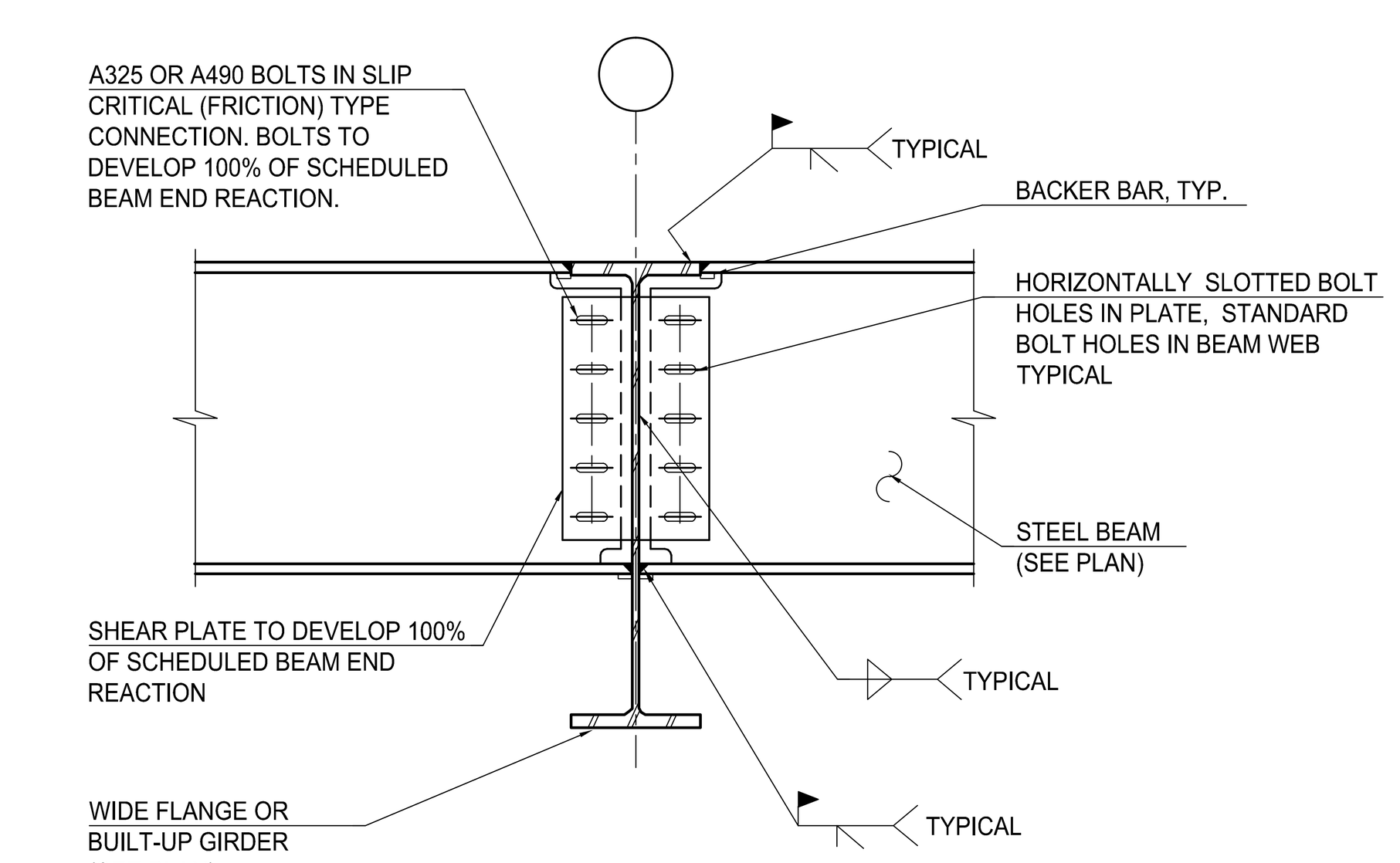
NOTE: 1. SHEAR PLATES AND BOLTS TO DEVELOP 100% BEAM SHEAR PER SCHEDULE. (OR BOXED REACTION, SEE PLAN).
2. THIS DETAIL SHALL ONLY BE USED WHERE PERMITTED BY ENGINEER.

6 BEAM TO BEAM SHEAR SPLICE
SCALE: NOT TO SCALE

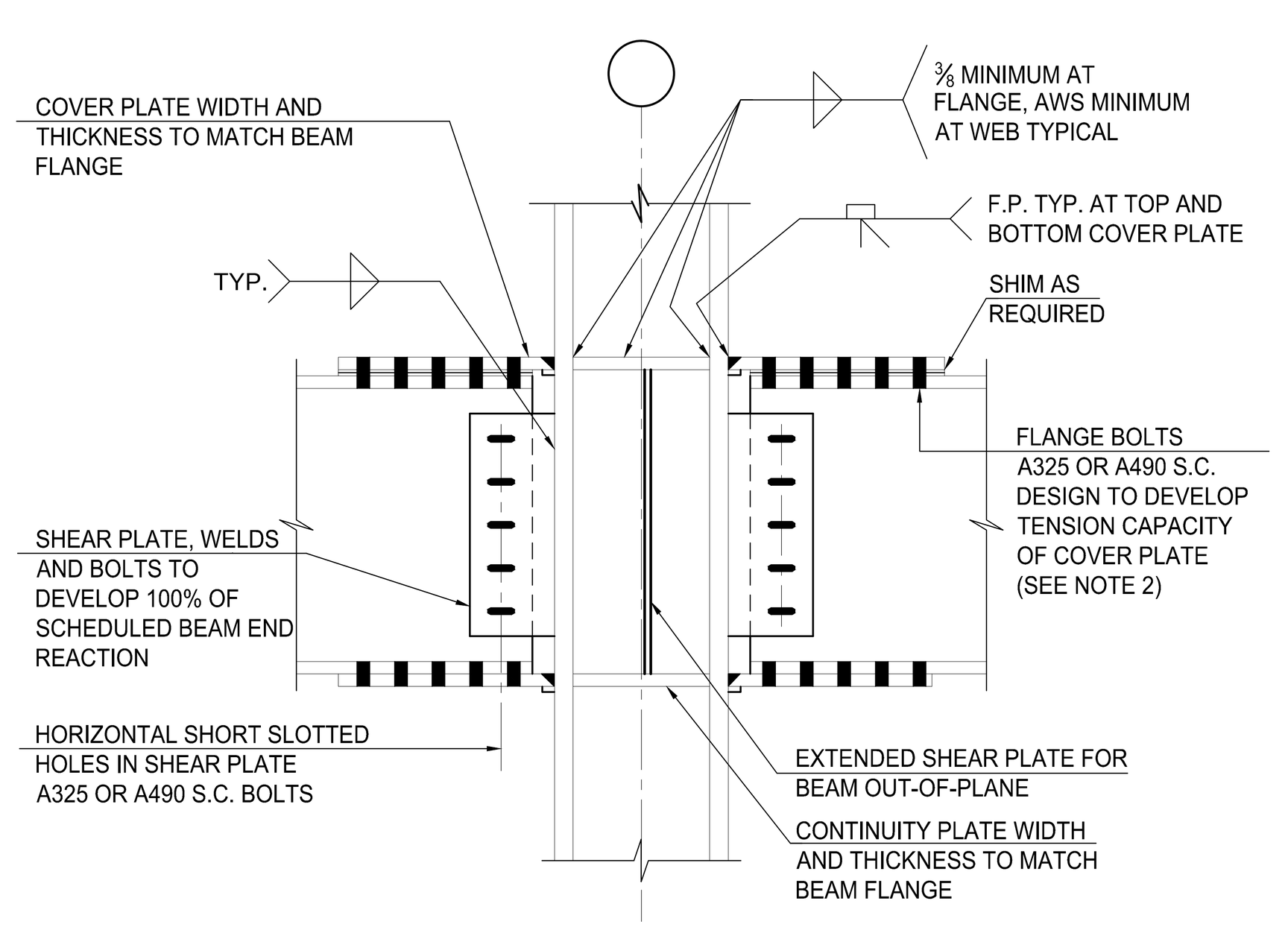


NOTES: 1. TENSION CAPACITY OF PLATE = PLATE GROSS AREA x Fy x 0.72

7 TYPICAL BEAM TO BEAM MOMENT SPLICE
SCALE: NOT TO SCALE

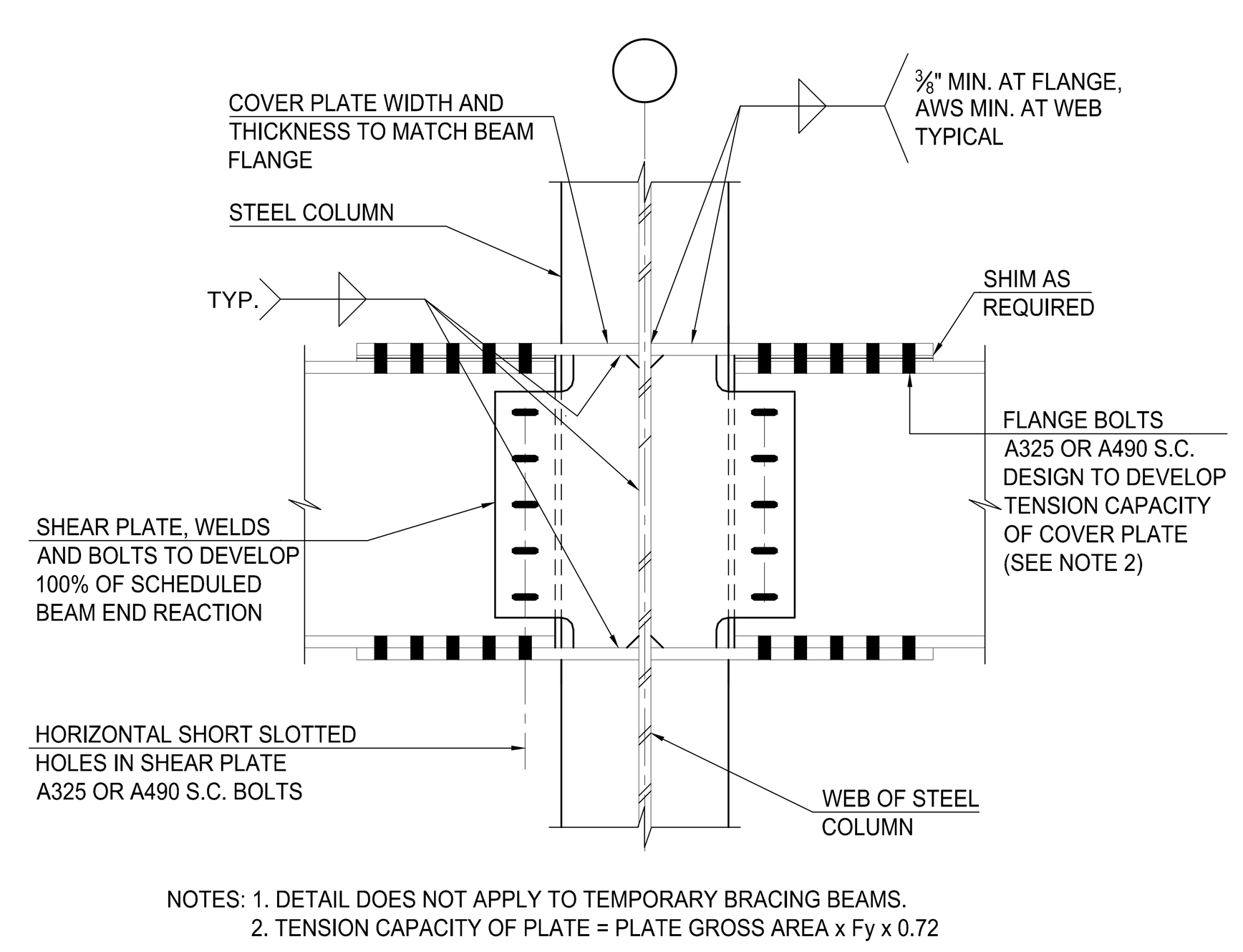


8 TYPICAL BEAM TO GIRDER MOMENT CONNECTION
SCALE: NOT TO SCALE



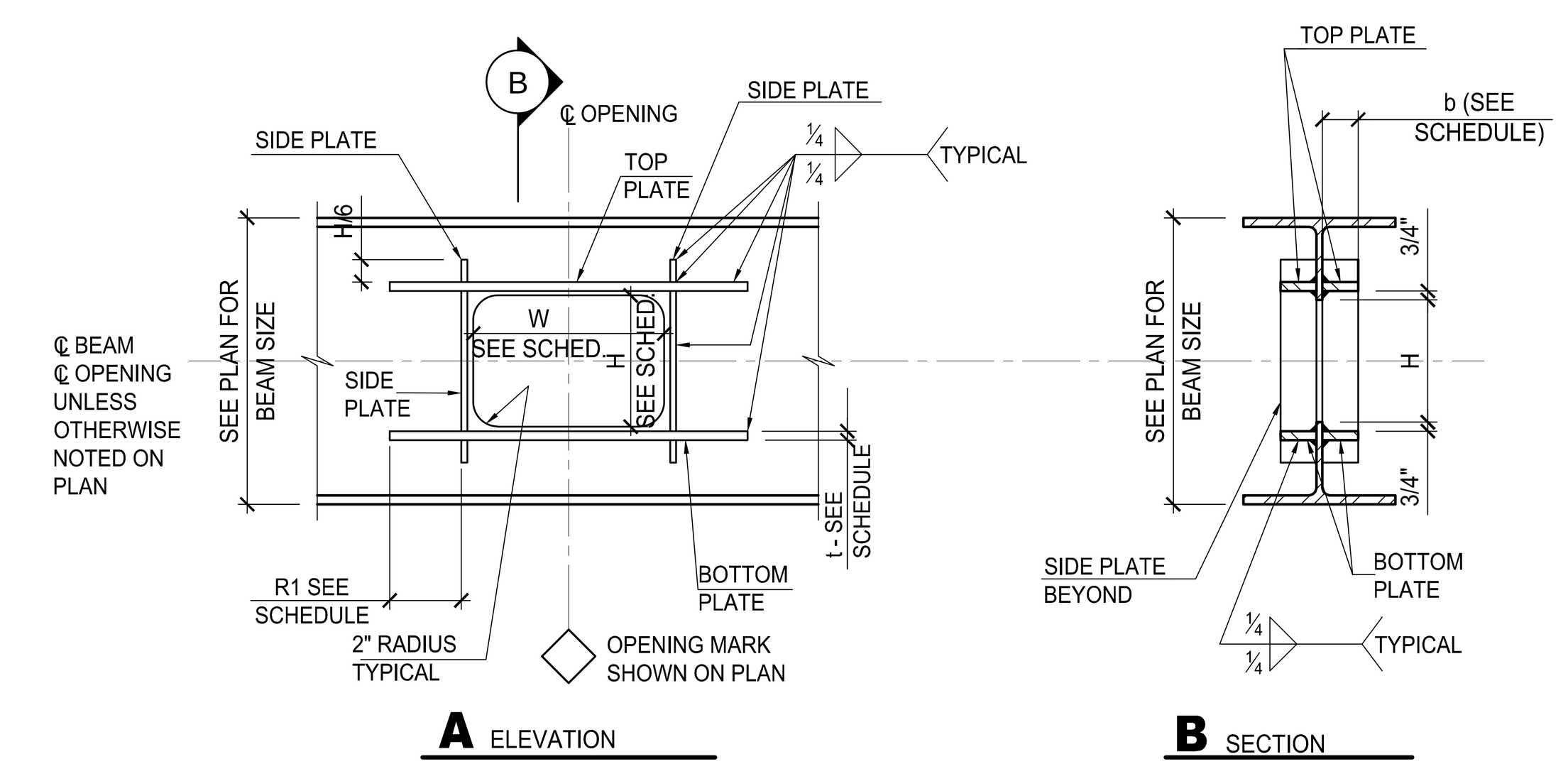
NOTES: 1. DETAIL DOES NOT APPLY TO TEMPORARY BRACING BEAMS.
2. TENSION CAPACITY OF PLATE = PLATE GROSS AREA x Fy x 0.72

9 TYPICAL BEAM TO COLUMN FLANGE MOMENT CONNECTION
SCALE: NOT TO SCALE



NOTES: 1. DETAIL DOES NOT APPLY TO TEMPORARY BRACING BEAMS.
2. TENSION CAPACITY OF PLATE = PLATE GROSS AREA x Fy x 0.72

10 TYPICAL BEAM TO COLUMN WEB MOMENT CONNECTION
SCALE: NOT TO SCALE



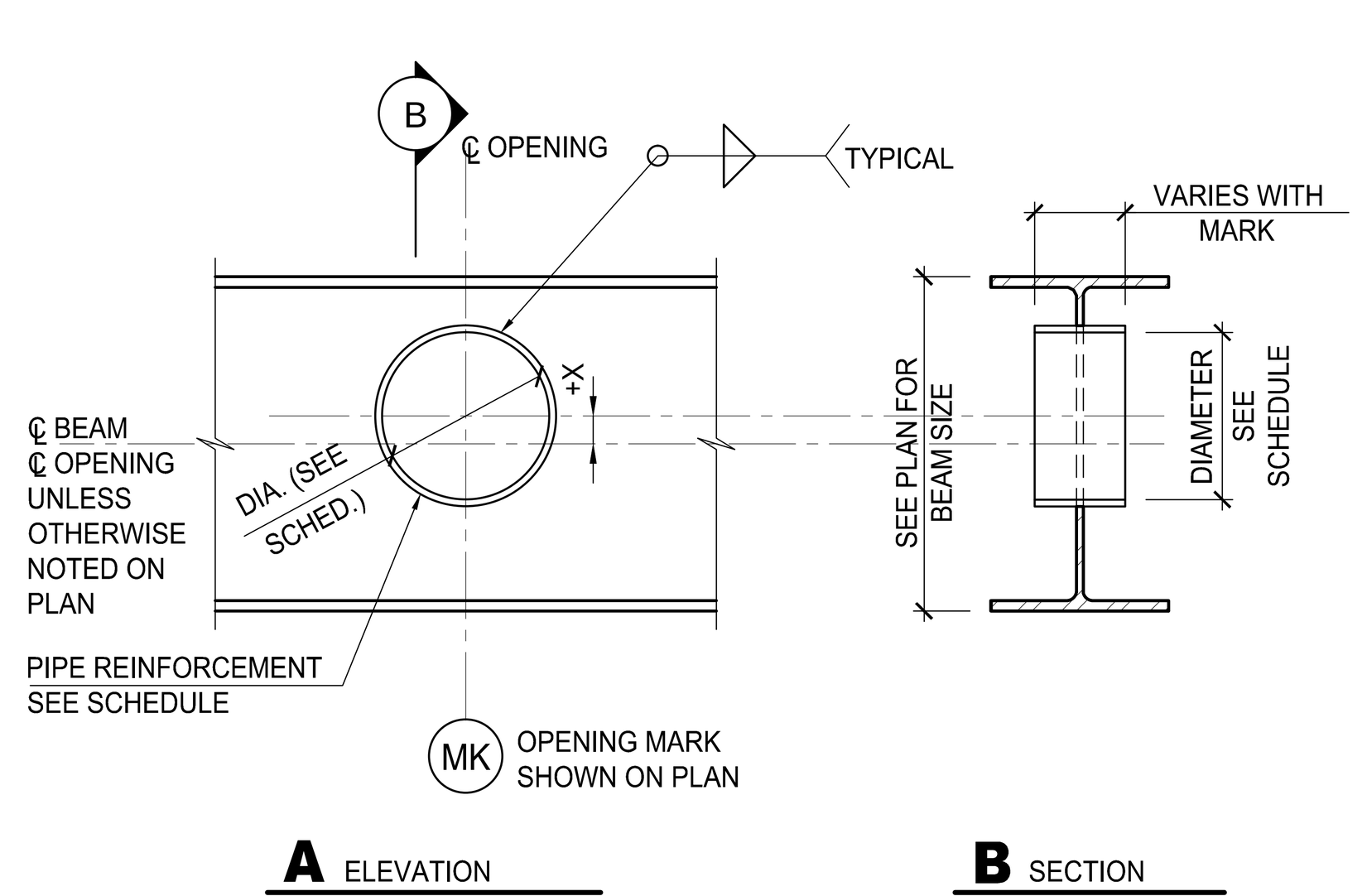
RECTANGULAR BEAM PENETRATION SCHEDULE

MARK	H	W	SIDE PLATE (EACH SIDE)	TOP & BOT PLATES (EACH SIDE) (b x t)	R1

NOTE: PLATE MATERIAL TO MATCH PENETRATED BEAM MATERIAL.

NOTE: 1. BEAM OPENING REINFORCEMENT SHALL MATCH BEAM MATERIAL STRENGTH UNLESS NOTED OTHERWISE.
2. FILLET WELD TO BE AWS MINIMUM BUT NOT LESS THAN 1/4".

11 TYPICAL RECTANGULAR STEEL BEAM OPENING DETAIL - REINFORCED
SCALE: NOT TO SCALE

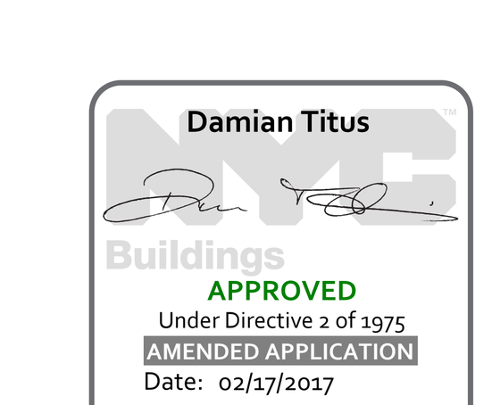


REINFORCED ROUND OPENING SCHEDULE

MARK	PIPE REINF. SIZE

NOTES: 1. BEAM OPENING REINFORCEMENT SHALL MATCH BEAM MATERIAL STRENGTH UNLESS NOTED OTHERWISE.
2. FILLET WELD TO BE AWS MINIMUM BUT NOT LESS THAN 1/4".

12 TYPICAL CIRCULAR STEEL BEAM OPENING DETAIL - REINFORCED
SCALE: NOT TO SCALE



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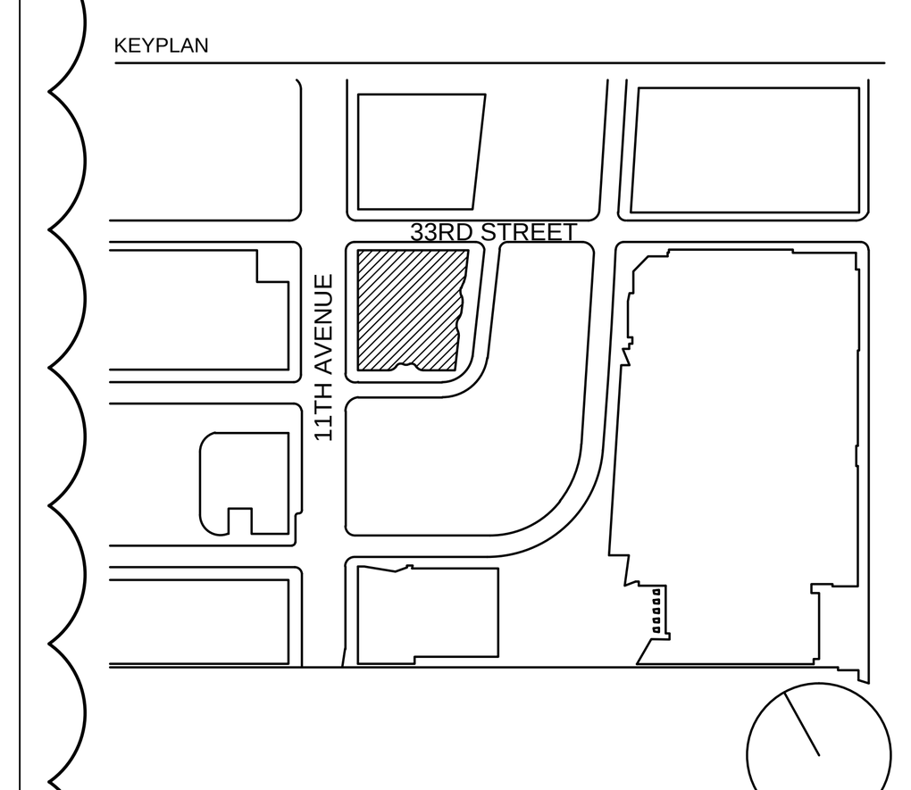
KEYPLAN


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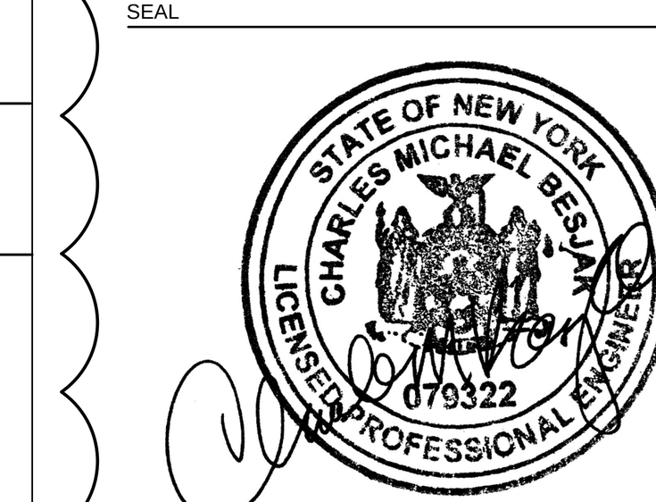


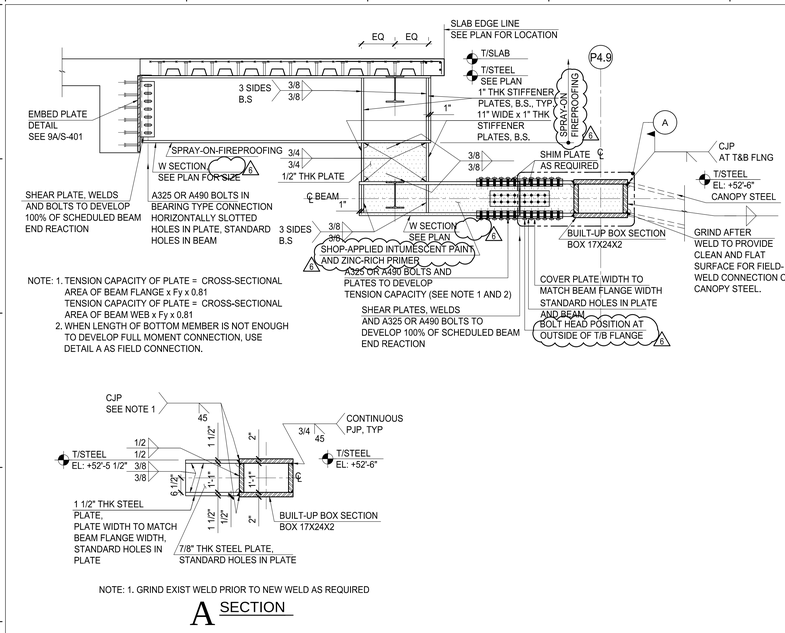
NO.	DATE	DESCRIPTION
8	20 JAN 2017	ISSUED TO DOB
7	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
6	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
5	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

DRAWING TITLE
TYPICAL STEEL SECTIONS AND DETAILS

B-SCAN - DRAWING NUMBER
S-511.01

DRAWING NUMBER
S-511

PAGE NUMBER
100 OF 112



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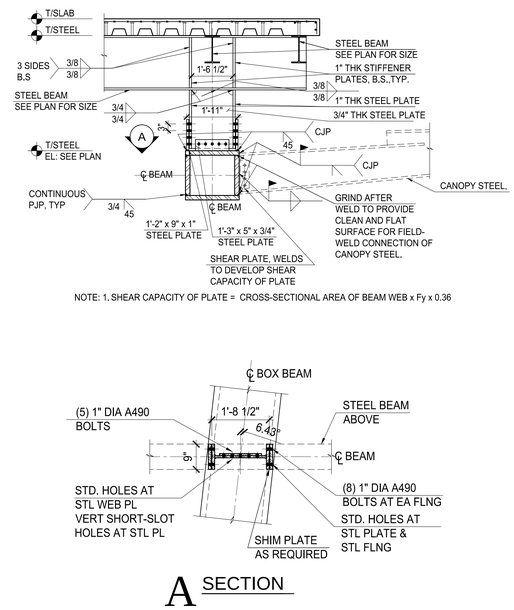

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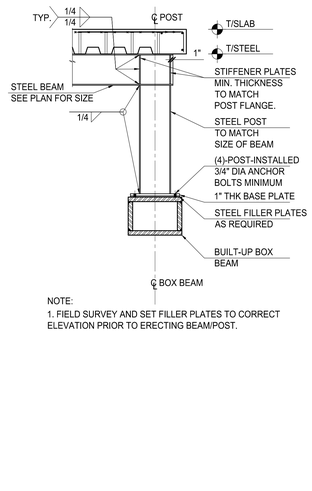

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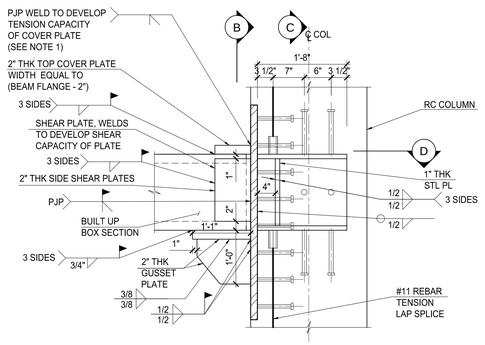

3 SOUTH CANOPY BOX EMBED CONNECTION

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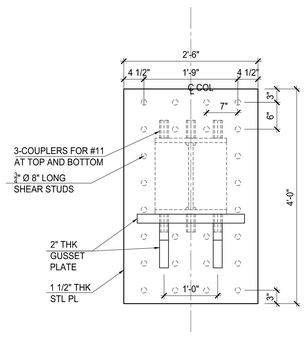

4 EAST CANOPY EMBED PLATE

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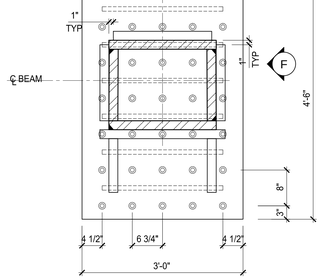

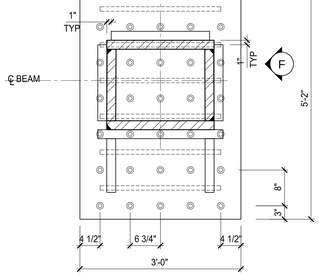

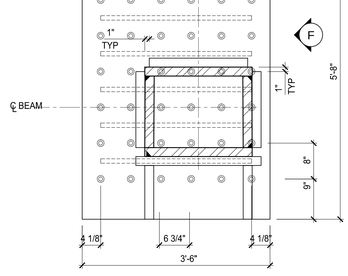

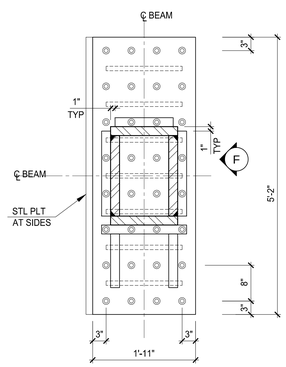

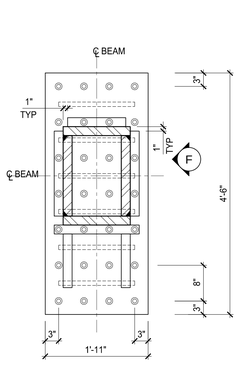

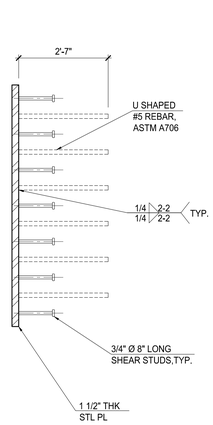

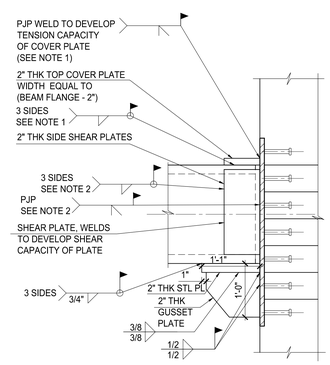

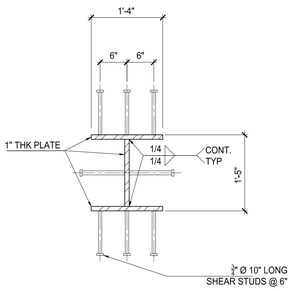

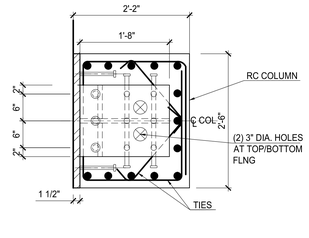

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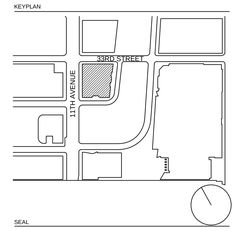
KEYPLAN



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1	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT

DRAWING TITLE

STRUCTURAL STEEL CANOPY SECTIONS AND DETAILS

B-SIGN - DRAWING NUMBER

S-513.00

DRAWING NUMBER

S-513

PAGE NUMBER

101 OF 112

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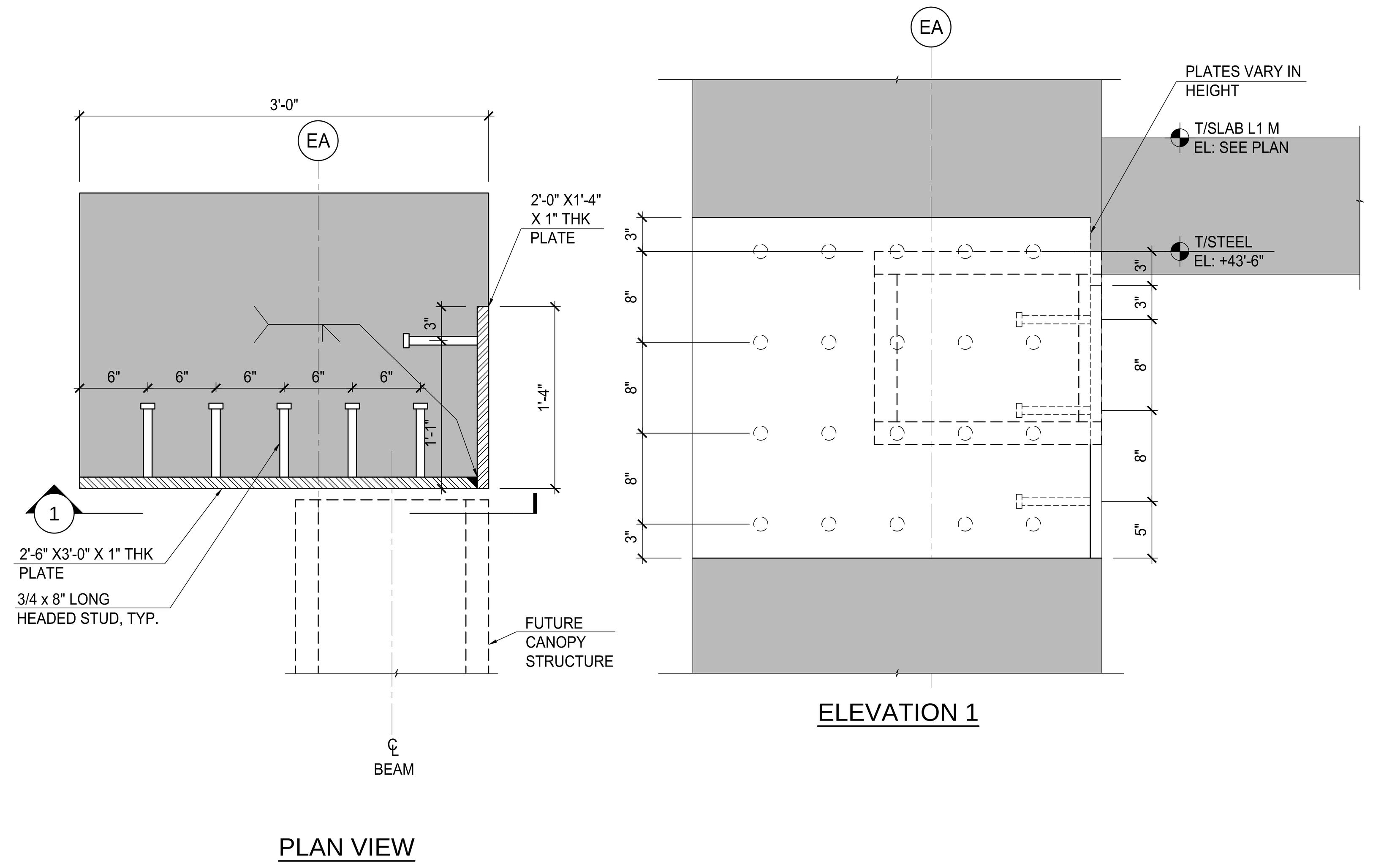
Under Directive 2 of 1975
LIMITED APPLICATION
Date: 02/17/2017
NYC Development Hub

12 11 10 9 8 7 6 5 4 3 2



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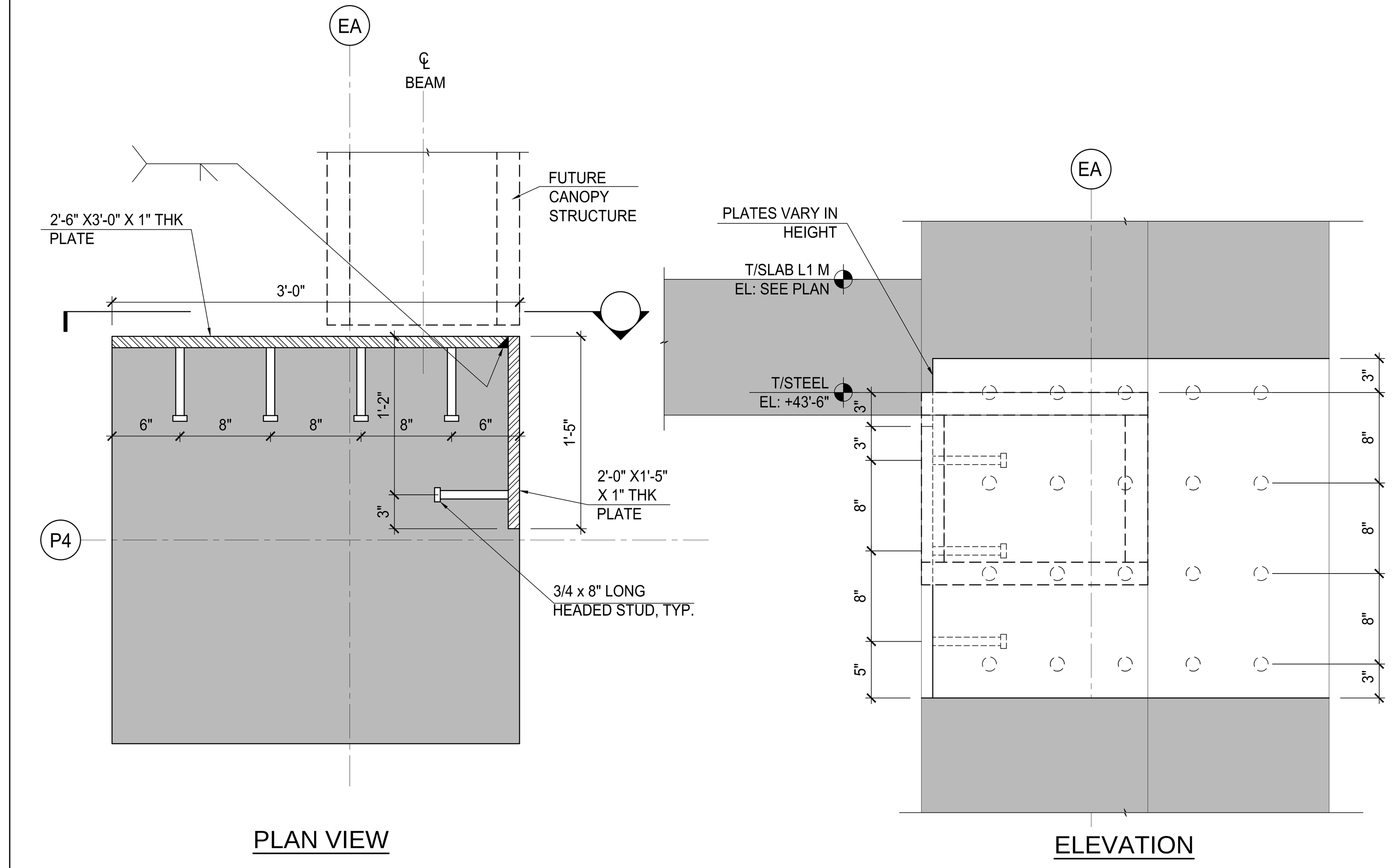

3 WEST CANOPY EMBED PLATE AT COL 37

SCALE: NOT TO SCALE

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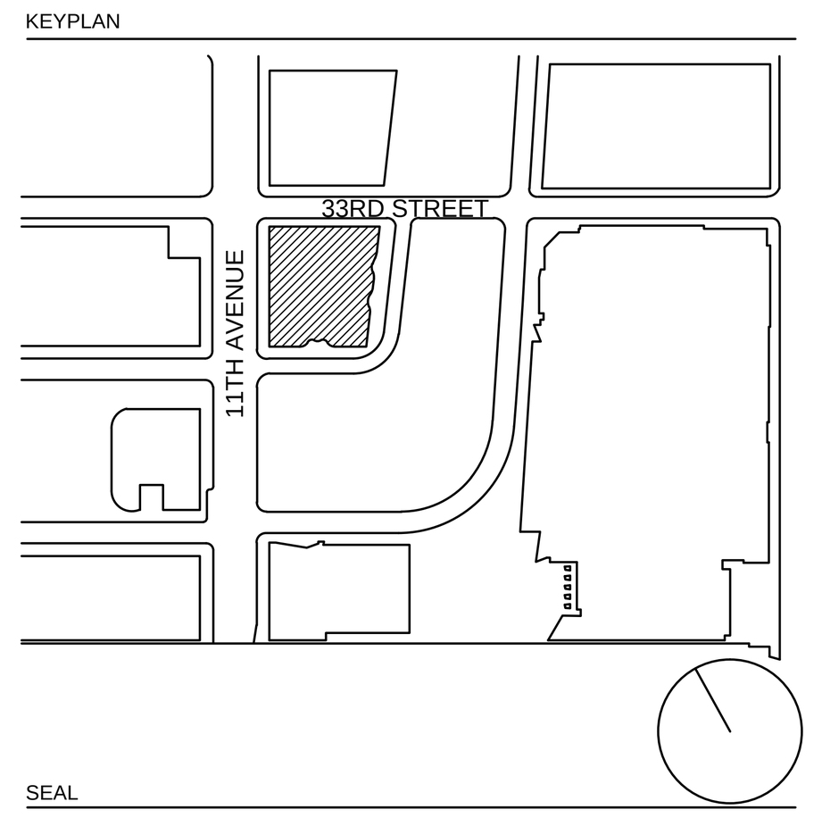
KEYPLAN



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CHARLES MICHAEL BESJAK
079322
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NO.	DATE	DESCRIPTION
2	20 JAN 2017	ISSUED TO DOB
1	15 AUG 2016	ISSUED FOR BULLETIN NO. 3

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AMENDED APPLICATION
Date: 02/17/2017
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DRAWING TITLE

STRUCTURAL STEEL CANOPY SECTIONS AND DETAILS

B-SCAN - DRAWING NUMBER

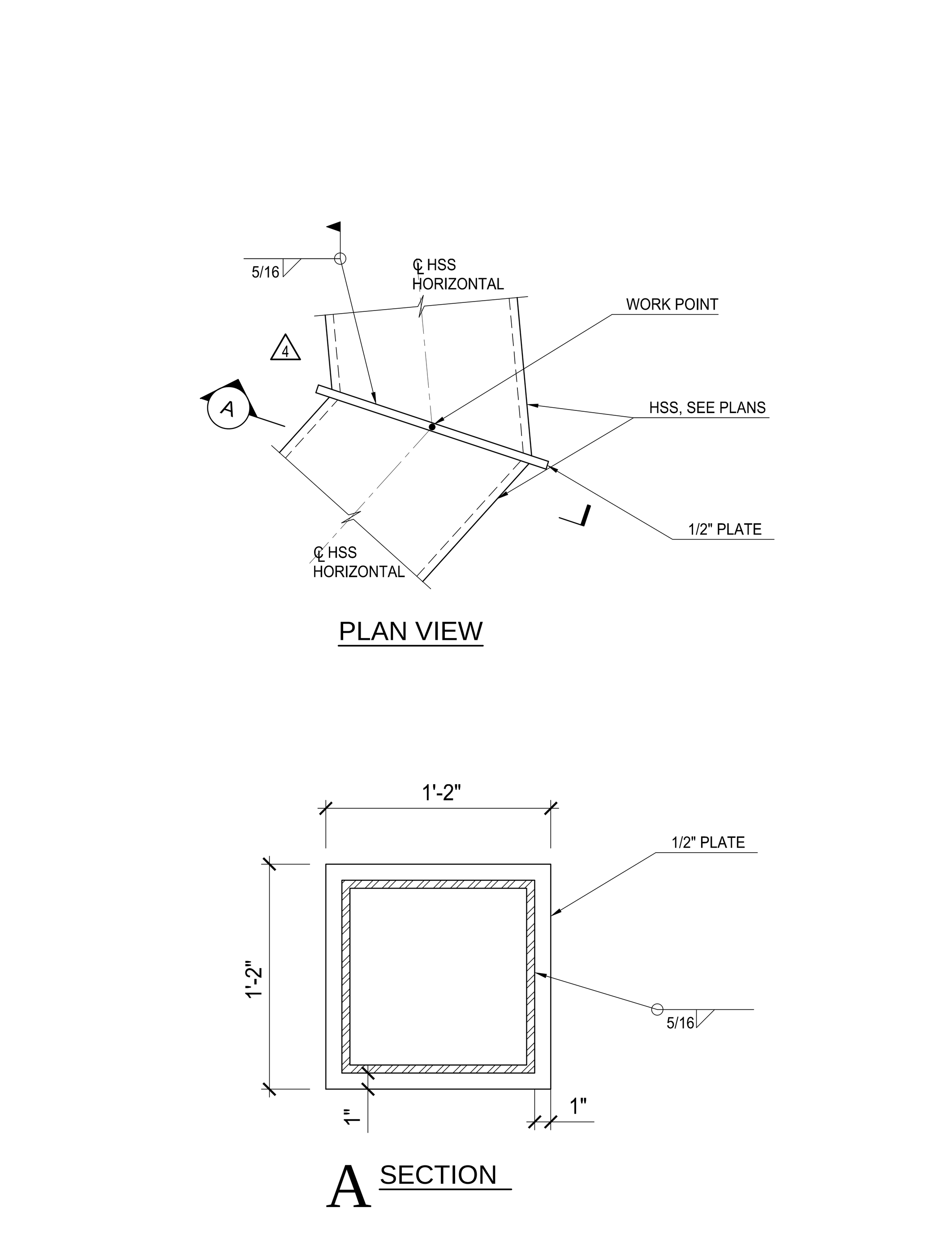
S-514.00

DRAWING NUMBER

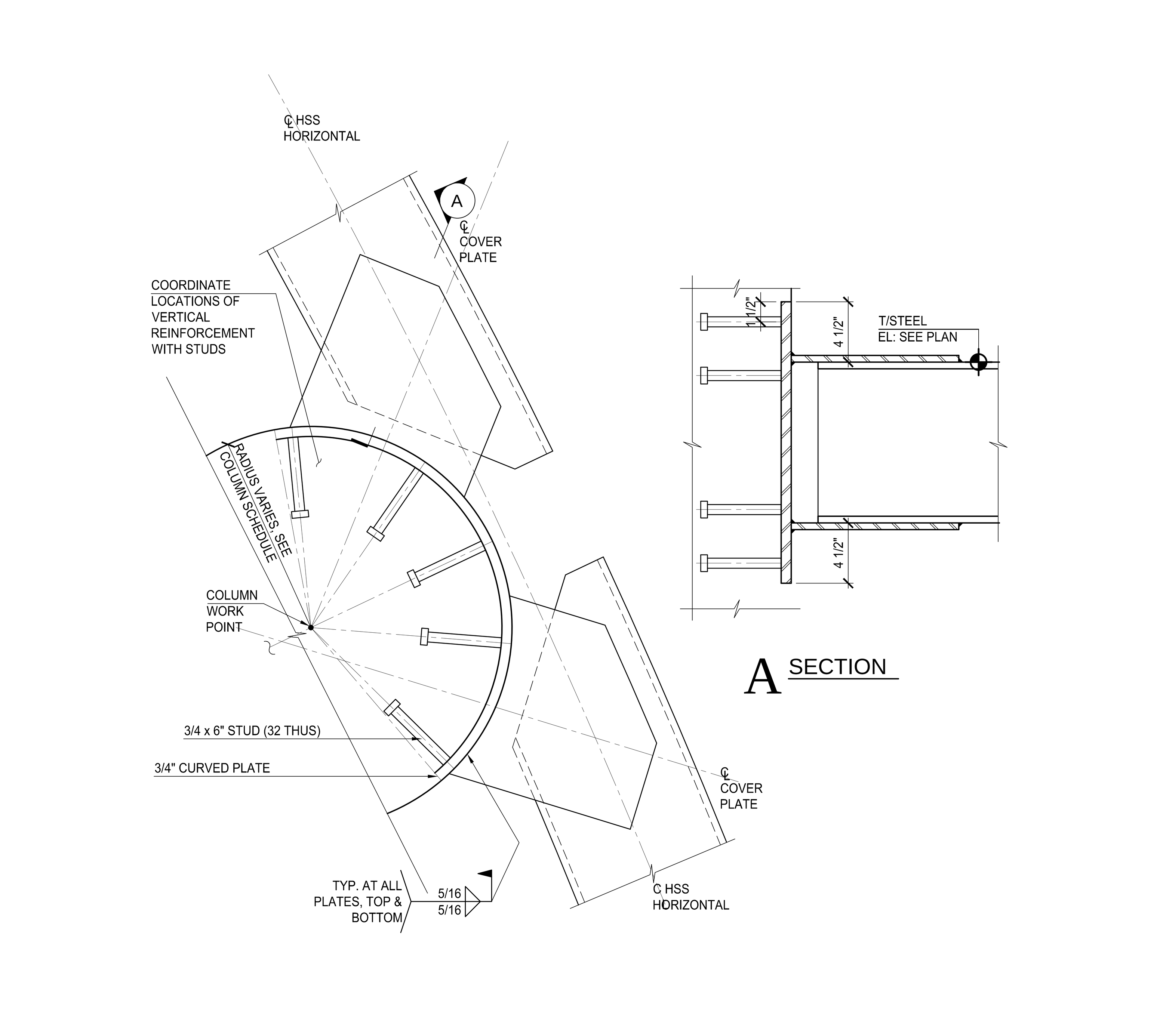
S-514

PAGE NUMBER

102 OF 112



1 ANGLED HSS HORIZONTAL CONNECTION OR HSS HORIZONTAL SPLICE DETAIL
SCALE: NOT TO SCALE



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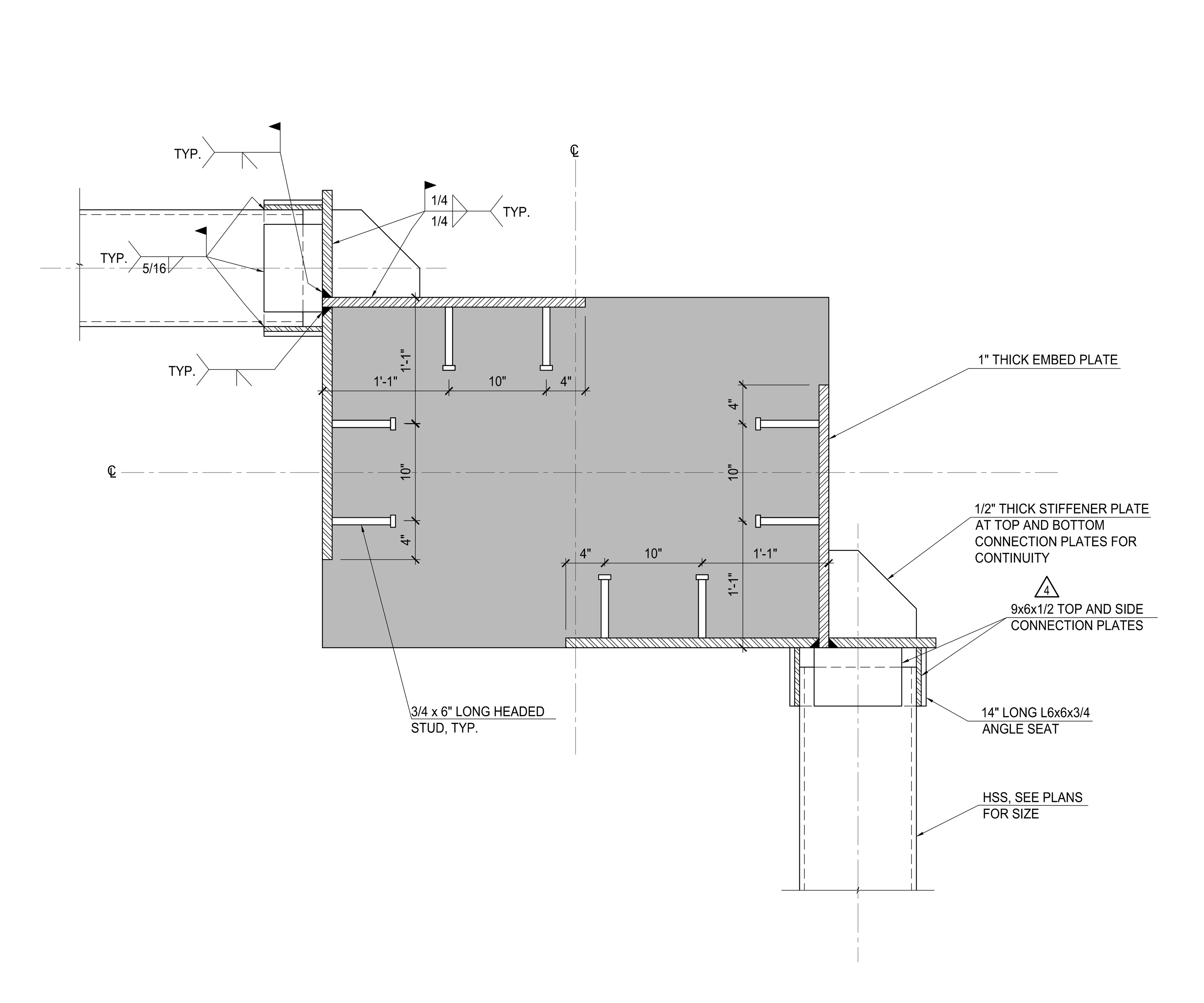

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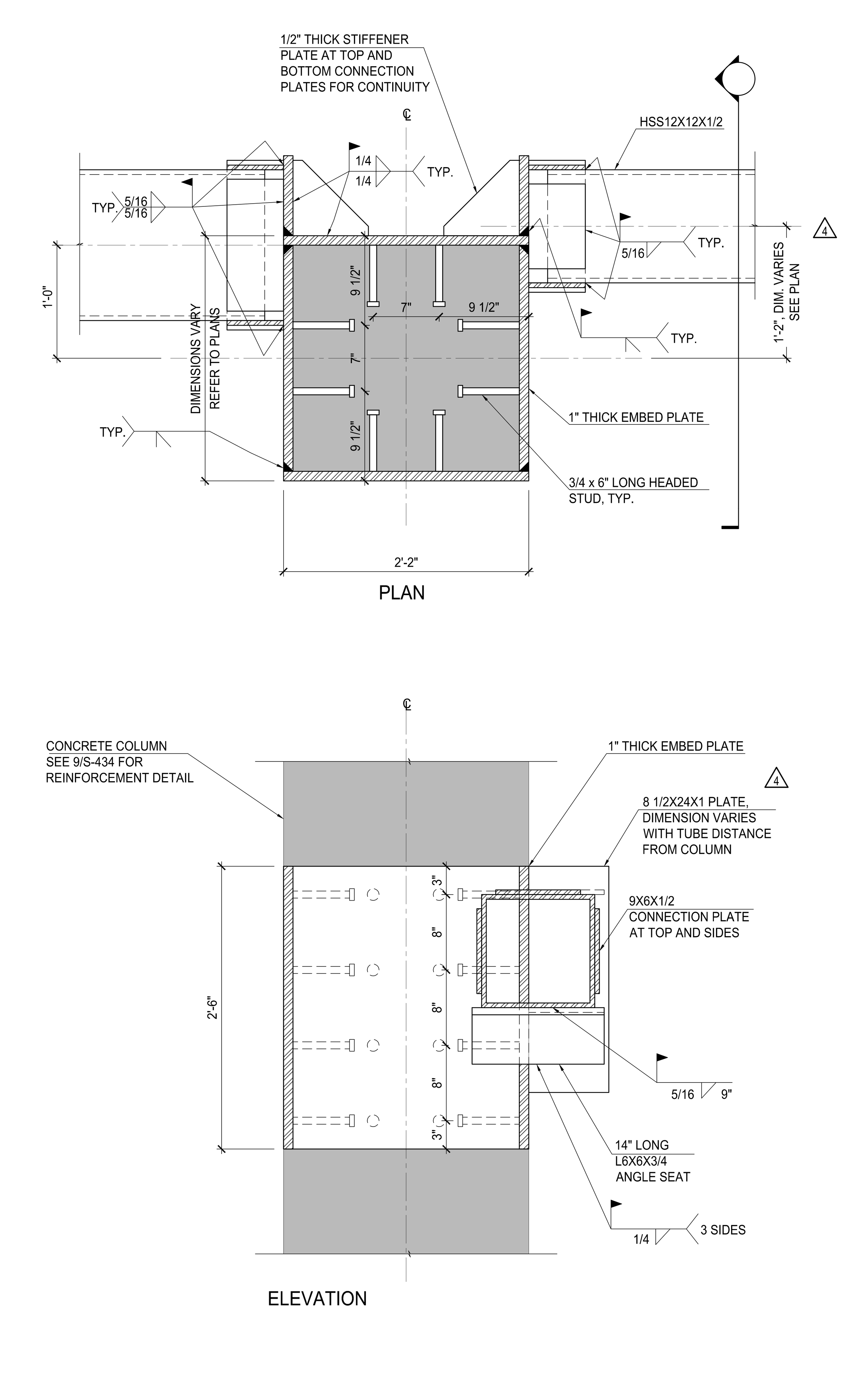

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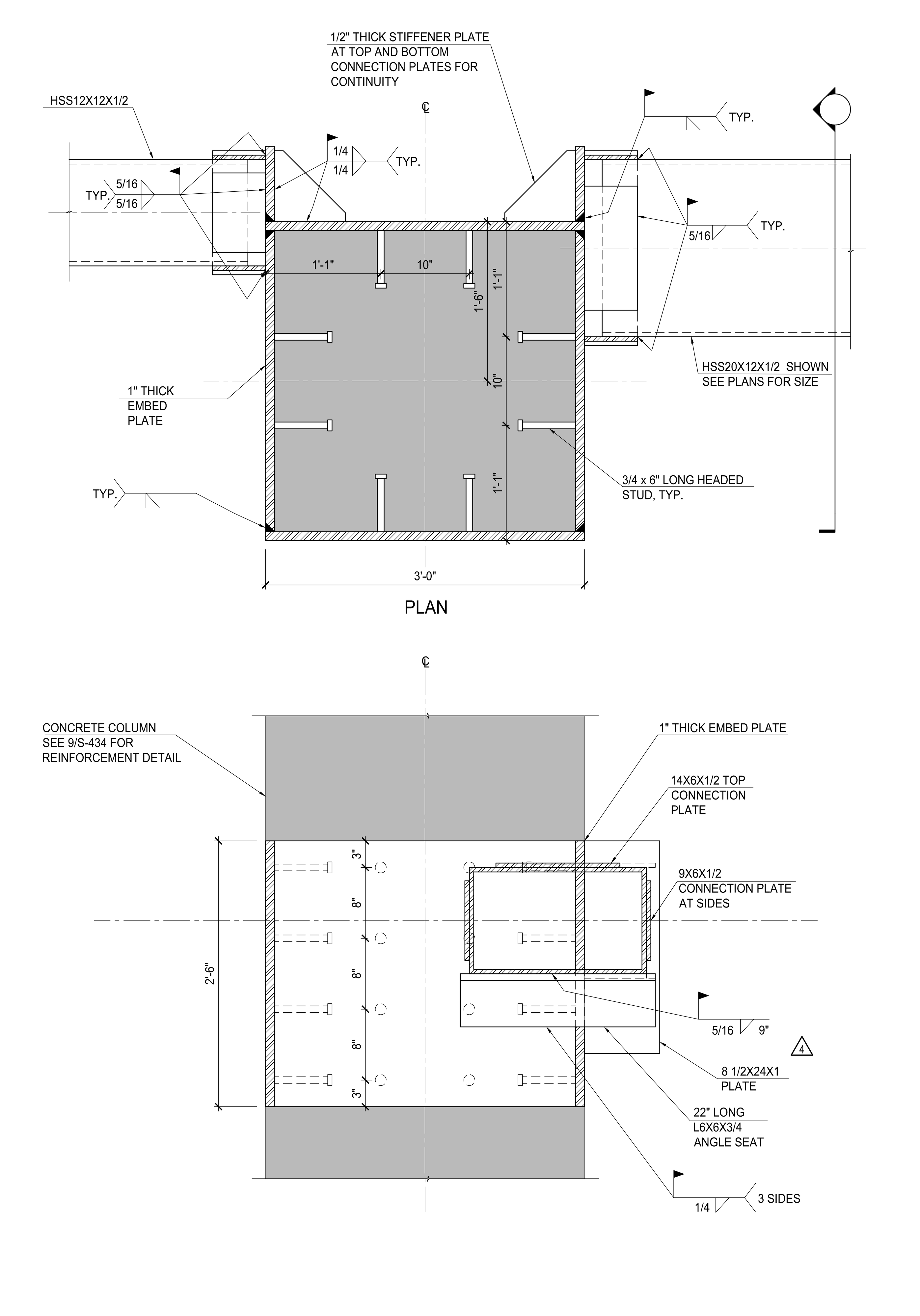

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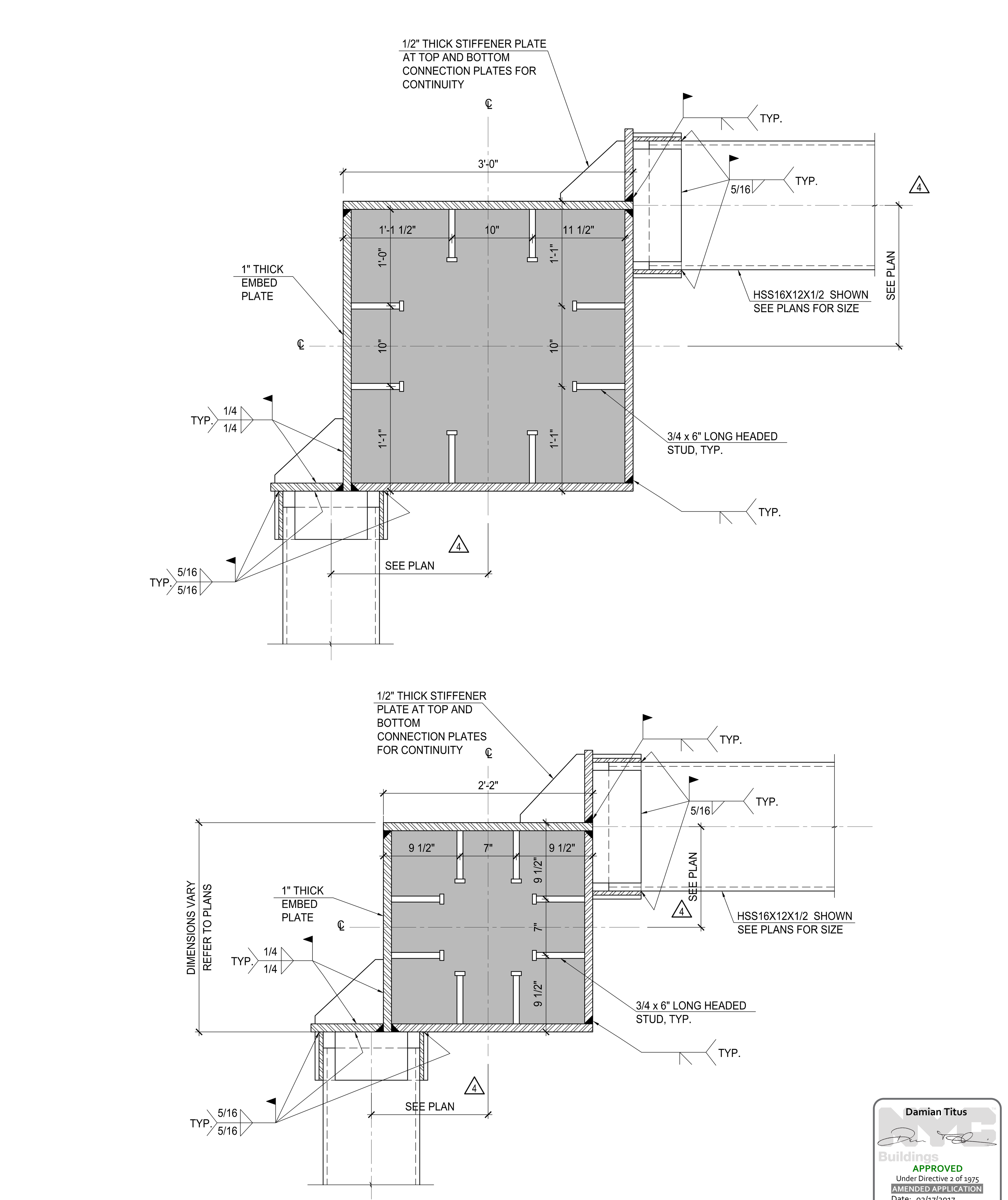

5 TYPICAL CORNER CONNECTION
SCALE: NOT TO SCALE

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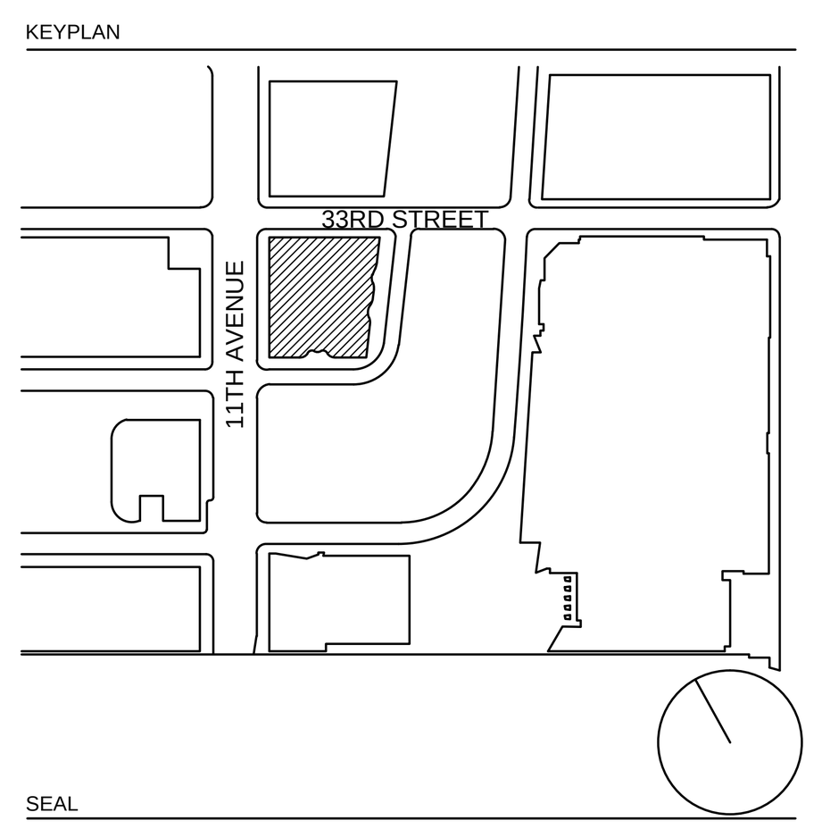

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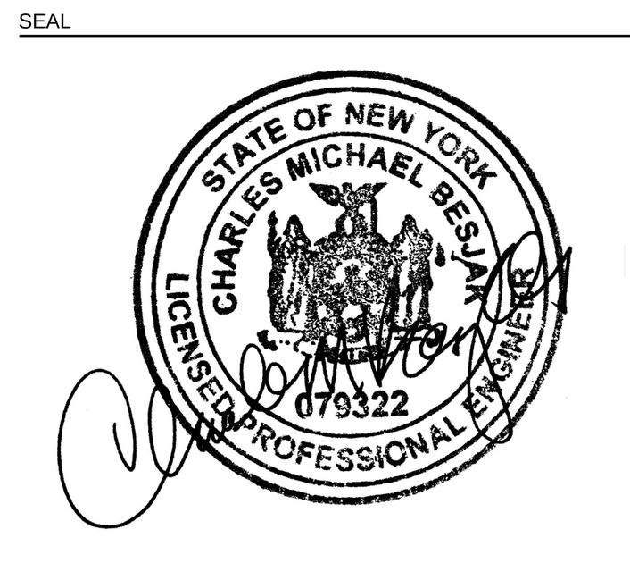

NO.	DATE	DESCRIPTION
5	20 JAN 2017	ISSUED TO DOB
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3	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
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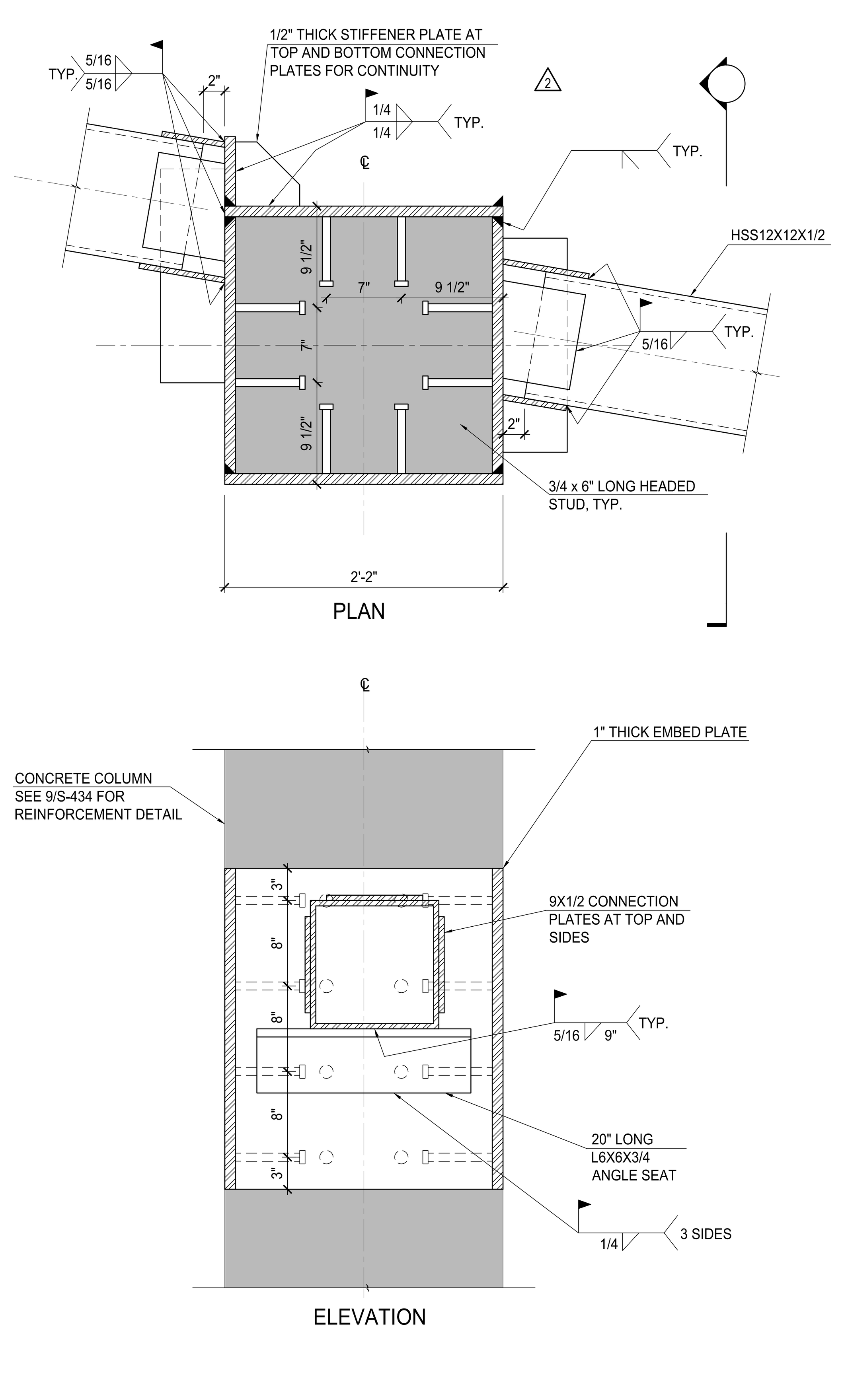
1	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.

DRAWING TITLE
INTERMEDIATE EXTERIOR WALL SUPPORT DETAILS

B-SCAN - DRAWING NUMBER
S-515.00

DRAWING NUMBER
S-515

PAGE NUMBER
103 OF 112



1 ANGLED OR SLOPING COLUMN CONNECTION
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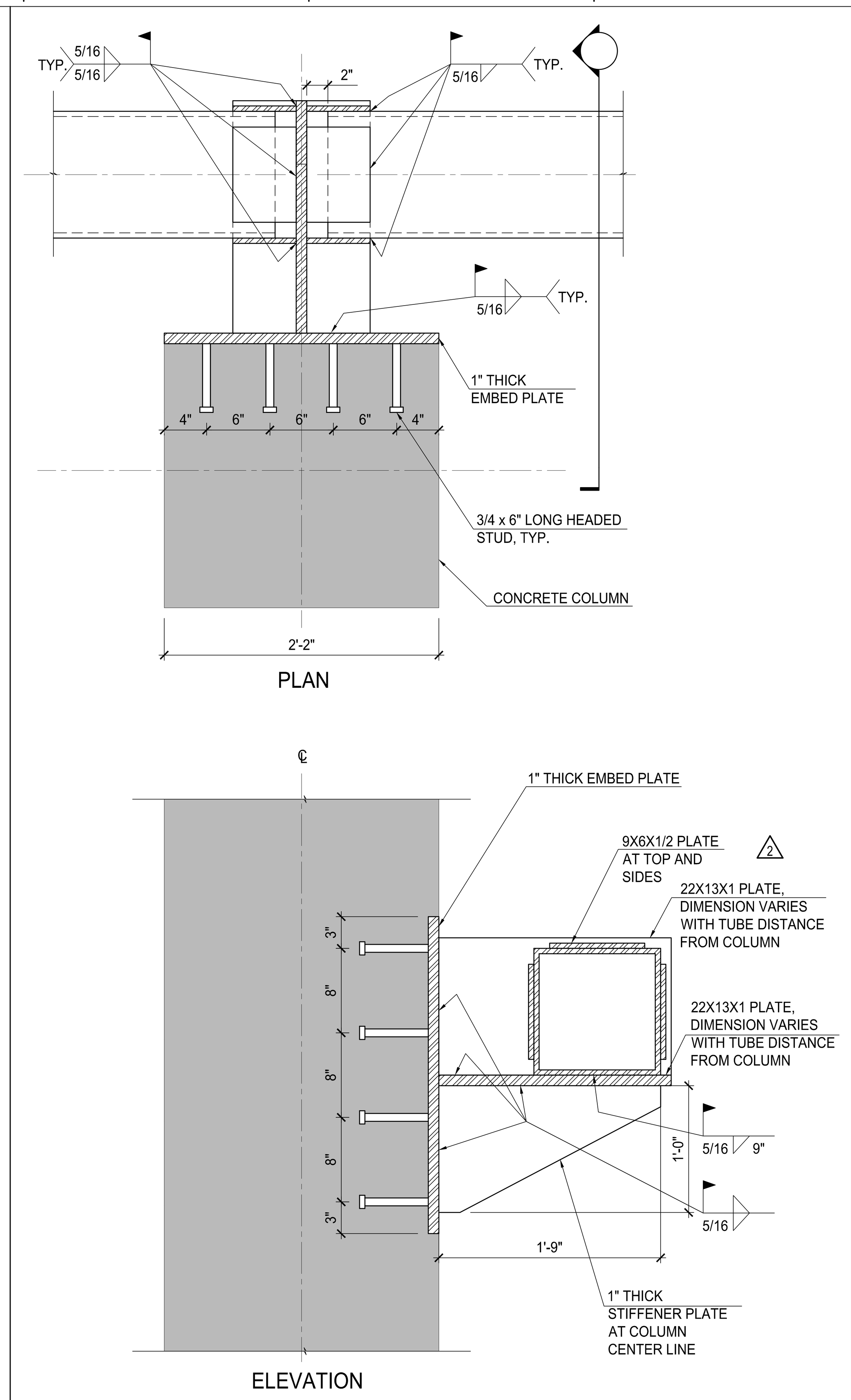

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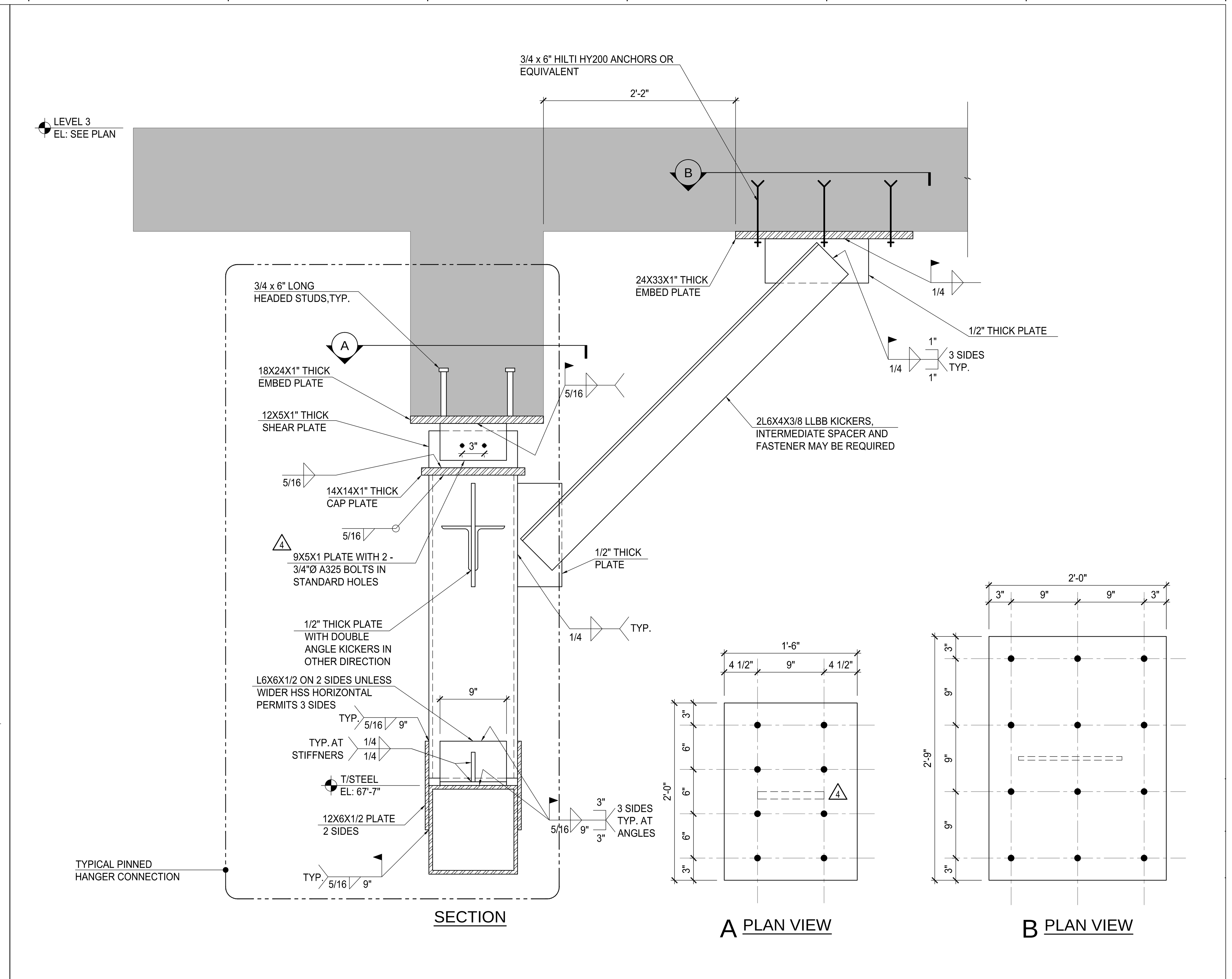

3 TYPICAL PINNED HANGER CONNECTION AND LEVEL 2B - LEVEL 3 KICKER
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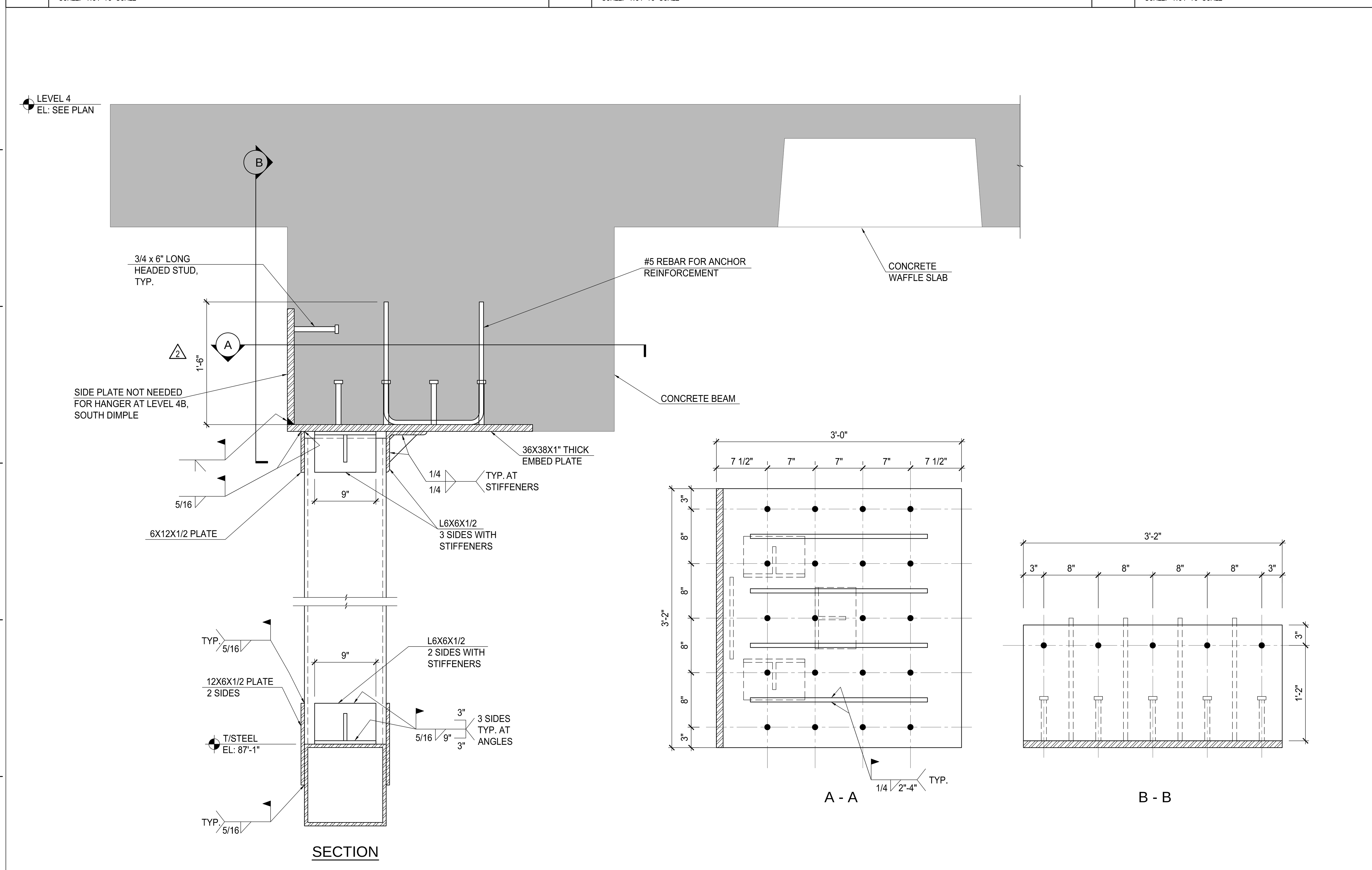
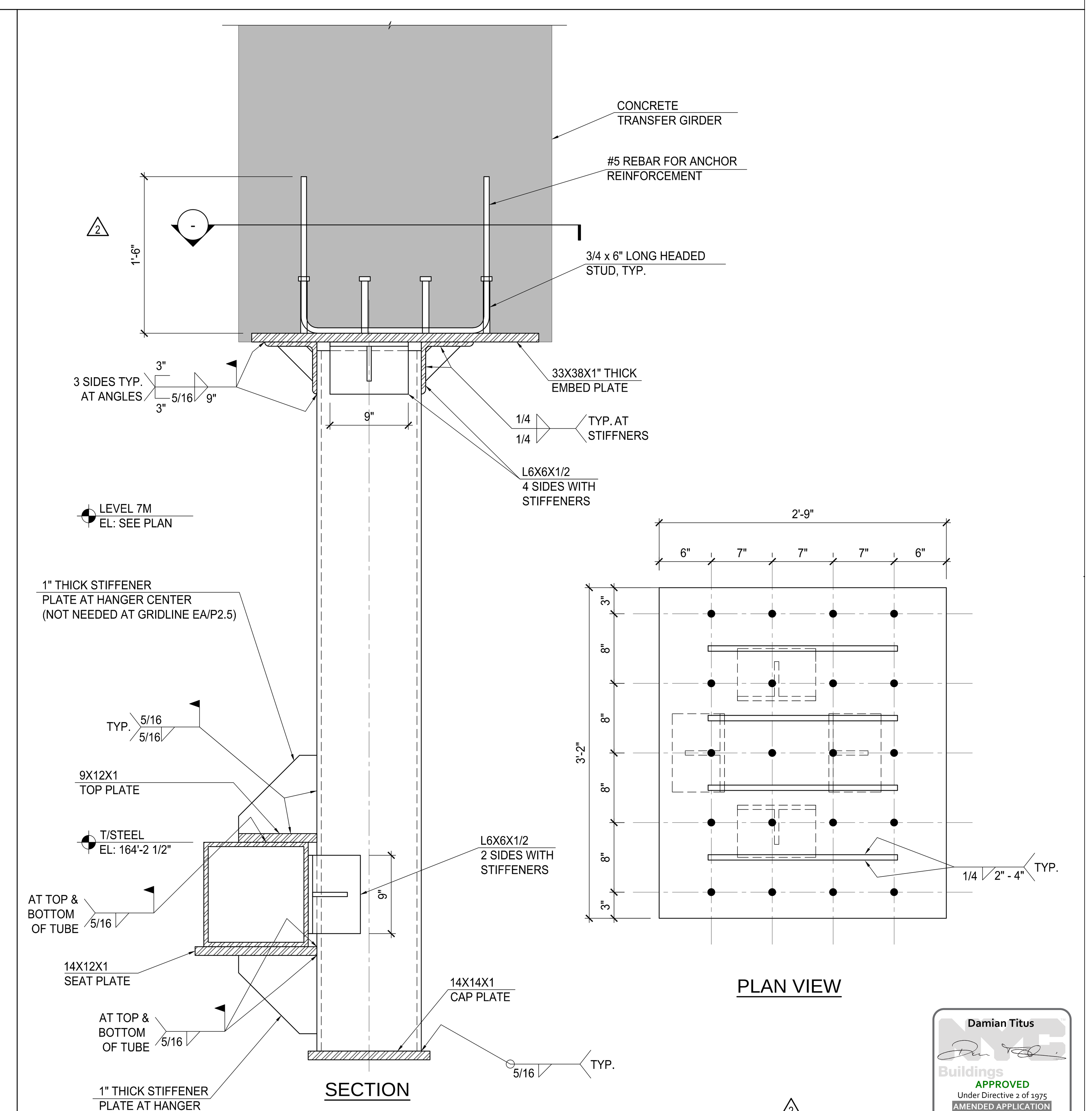


4 TYPICAL CANTILEVERED HANGER CONNECTION WITH HANGER FLUSH WITH HORIZONTAL HSS
SCALE: NOT TO SCALE



5 TYPICAL CANTILEVERED HANGER CONNECTION WITH HANGER INBOARD OF HORIZONTAL HSS
SCALE: NOT TO SCALE

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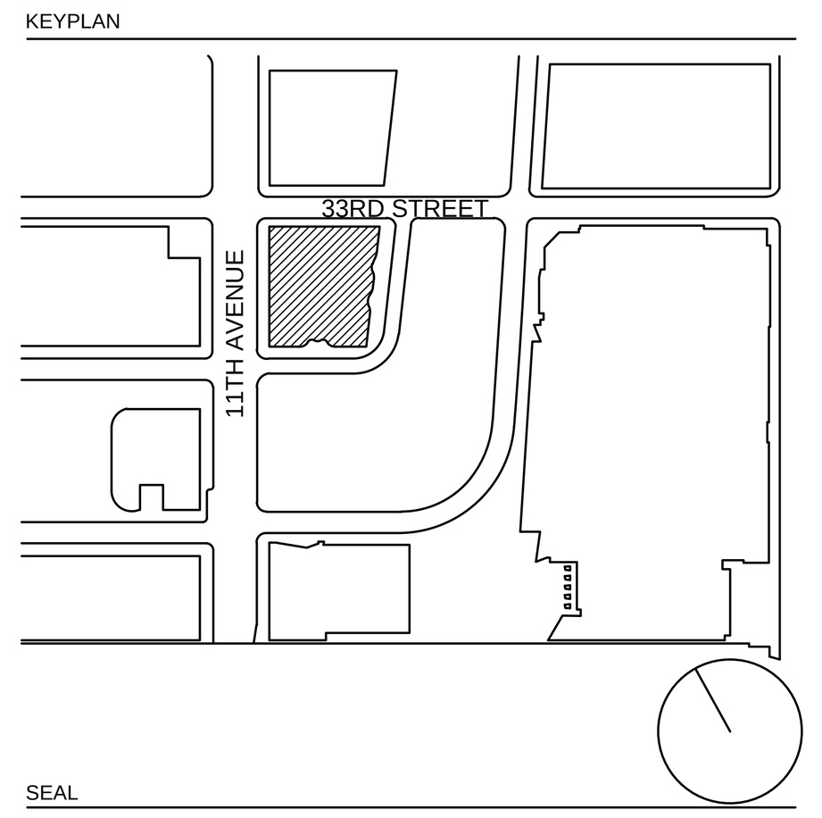

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NO.	DATE	DESCRIPTION
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3	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
2	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
1	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9

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DRAWING NUMBER
S-516.00

DRAWING NUMBER
S-516

PAGE NUMBER
104 OF 112

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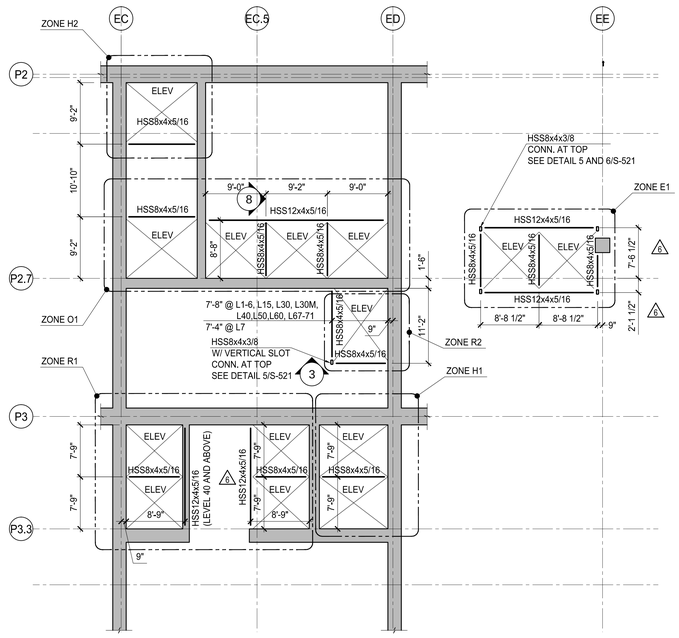
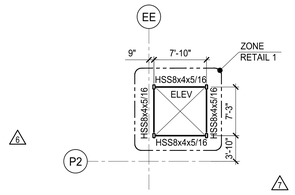


NOTE:
THIS KEY PLAN AND SCHEDULE DETAILS ELEVATOR BEAMS THAT ARE REQUIRED IN BETWEEN FLOOR LEVELS.
FOR ELEVATOR BEAMS AT FLOOR LEVELS SEE PLANS IN S-100 SERIES.



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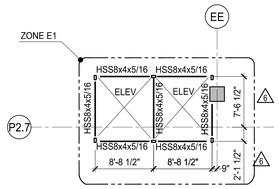

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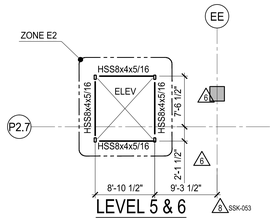
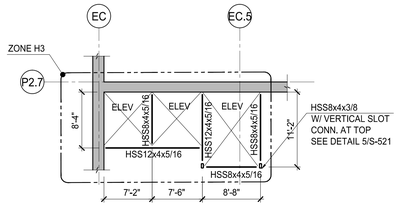


LEVEL 5 & 6



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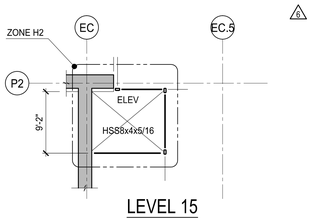

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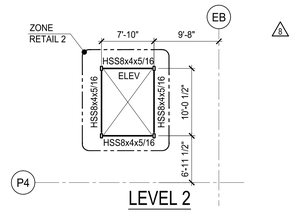
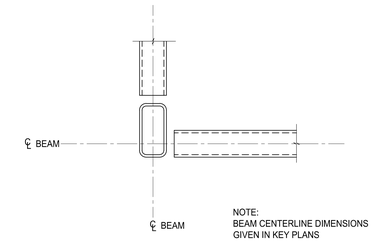


LEVEL 2

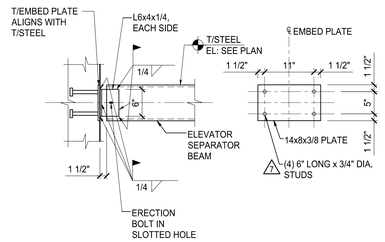
LEVEL	T/STRUCTURAL SLAB ELEVATION (ft)	T/ ELEVATOR STEEL ELEVATION (ft)	APPLICABLE STEEL MEMBER ZONES (SEE KEY PLAN)
71	983' - 6"	994' - 6"	R1, R2
70	967' - 1 ½"	978' - 1 ½"	R1, R2
69	950' - 8 ½"	961' - 8 ½"	R1, R2
68	934' - 3 ½"	945' - 3 ½"	R1, R2
67	918' - 7 ½"	929' - 7 ½"	R1, R2
60	830' - 11 ½"	841' - 11 ½"	R1, R2
50	707' - 3 ½"	718' - 3 ½"	R1, R2
40	583' - 7 ½"	594' - 7 ½"	R1, R2
30	451' - 10"	462' - 10"	R1, R2
15	285' - 0"	296' - 0"	R1, R2, H1, H2, H3
7	151' - 4"	162' - 4"	R1, R2, H1, H2, 01
6	133' - 2"	144' - 2"	R1, R2, H1, H2, 01, E2 (6 SSK-053)
5	117' - 8"	128' - 8"	R1, R2, H1, H2, 01, E2
4	97' - 0"	108' - 0"	R1, R2, H1, H2, 01, E1
3	57' - 0"	68' - 0"	R1, R2, H1, H2, 01, E1 (SEE S-102)
2	51' - 0"	68' - 0"	RETAIL 1
2	56' - 8"	68' - 0"	RETAIL 2
1	39' - 10"	47' - 10"	E1
1	39' - 0"	50' - 0"	R2
1	38' - 6"	49' - 6"	R1
1	37' - 2"	48' - 2"	H1
1	36' - 0"	47' - 0"	O1 (SERVICE), H2
1	35' - 0"	46' - 0"	RETAIL 1
1	34' - 6"	45' - 6"	O1 (PASSENGER)



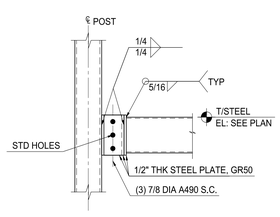
NOTE:
BEAM CENTERLINE DIMENSIONS
GIVEN IN KEY PLANS

TYPICAL OFFSET POST
PLAN DETAIL

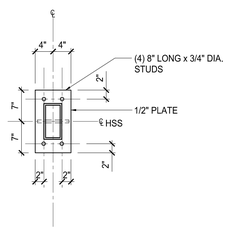
1 INTERMEDIATE ELEVATOR BACK UP STEEL - KEY PLAN AND SCHEDULE
SCALE: NOT TO SCALE



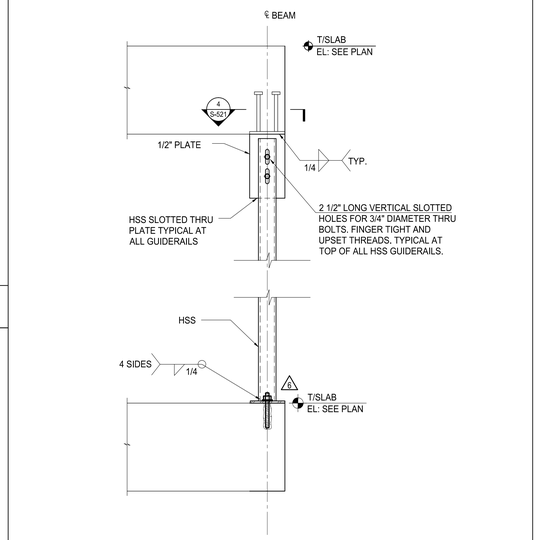
2 TYPICAL 8" ELEVATOR SEPARATOR BEAM AT CONCRETE WALL/BEAM
SCALE: NOT TO SCALE



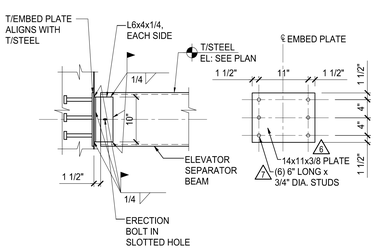
3 TYPICAL SEPARATOR BEAM AT HSS
SCALE: NOT TO SCALE



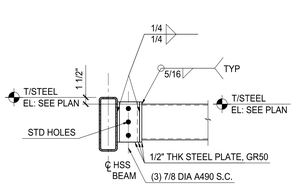
4 TOP OF POST EMBED PLATE DETAIL
SCALE: NOT TO SCALE



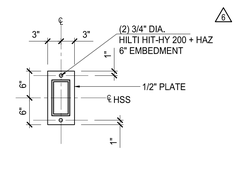
5 TYPICAL ELEVATOR GUIDERAIL SUPPORT DETAIL AT CONCRETE FRAMING / SLAB
SCALE: NOT TO SCALE



6 TYPICAL 12" ELEVATOR SEPARATOR BEAM AT CONCRETE WALL/BEAM
SCALE: NOT TO SCALE

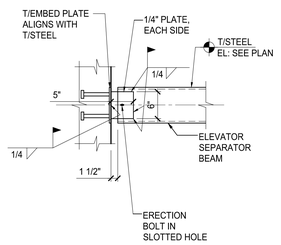


7 TYPICAL SEPARATOR BEAM AT HSS
SCALE: NOT TO SCALE

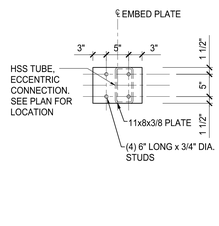


8 BOTTOM OF POST - BASEPLATE DETAIL
SCALE: NOT TO SCALE

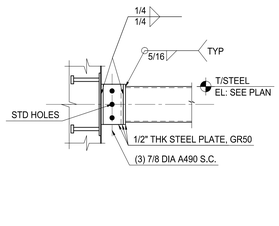
6 SSK-053

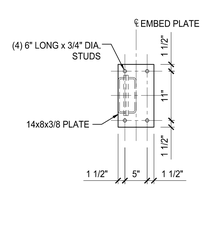


9 8" ELEVATOR SEPARATOR BEAM NEAR CONCRETE WALL/BEAM EDGE
SCALE: NOT TO SCALE



10 8" ELEVATOR SEPARATOR BEAM AT CONCRETE EDGE
SCALE: NOT TO SCALE





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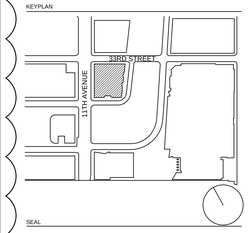
KEYPLAN



SEAL

NO.	DATE	DESCRIPTION
9	20 JAN 2017	ISSUED TO DOB
8	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
7	15 AUG 2016	ISSUED FOR BULLETIN NO. 3
6	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
5	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
4	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
3	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
2	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
1	15 JAN 2015	ISSUED TO DOB

DRAWING TITLE

MISC. ELEVATOR STEEL, PARTIAL PLANS, DETAILS AND SECTIONS

B-SCAN - DRAWING NUMBER

S-521.01

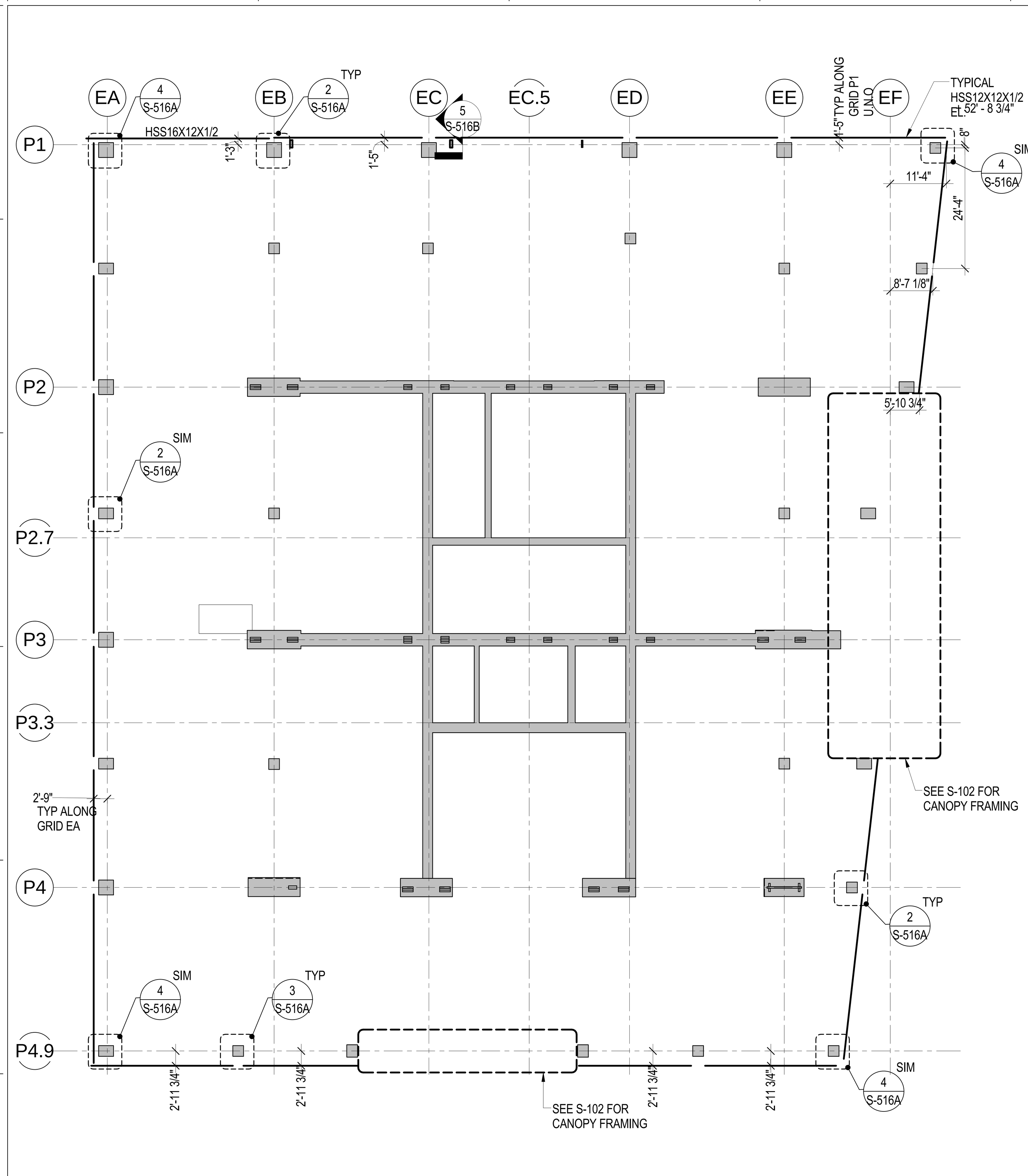
DRAWING NUMBER

S-521

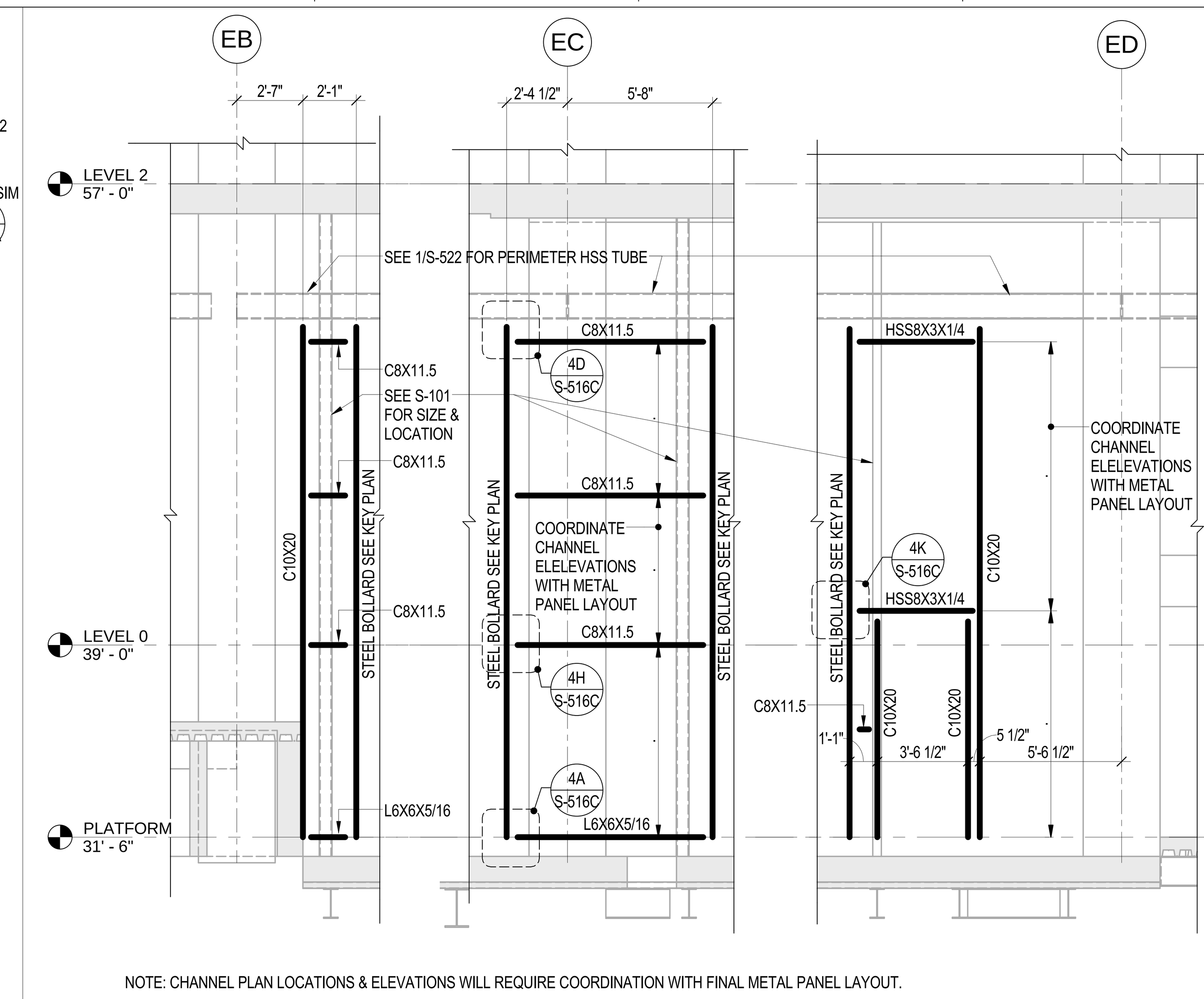
PAGE NUMBER

105 OF 112

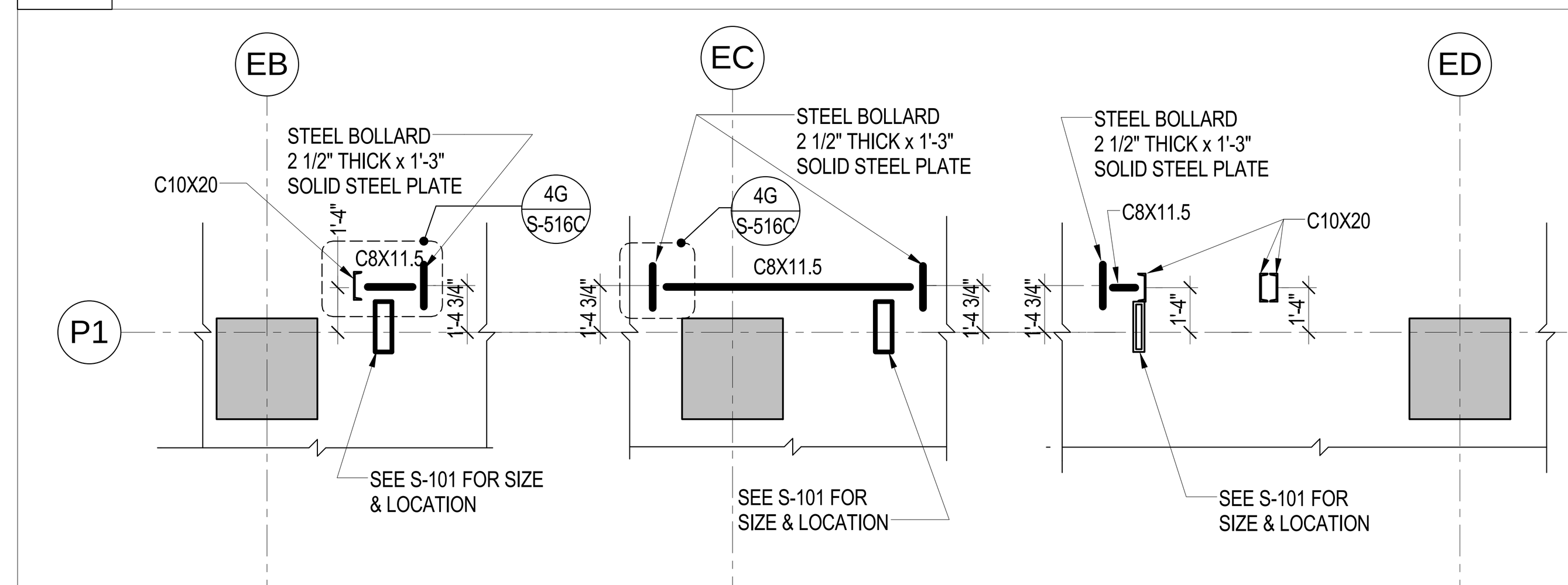
Damian Titus
Buildings
APPROVED
Under Directive 1 of 1975
AMENDED APPLICATION
Date: 02/17/2017
NYC Development Hub



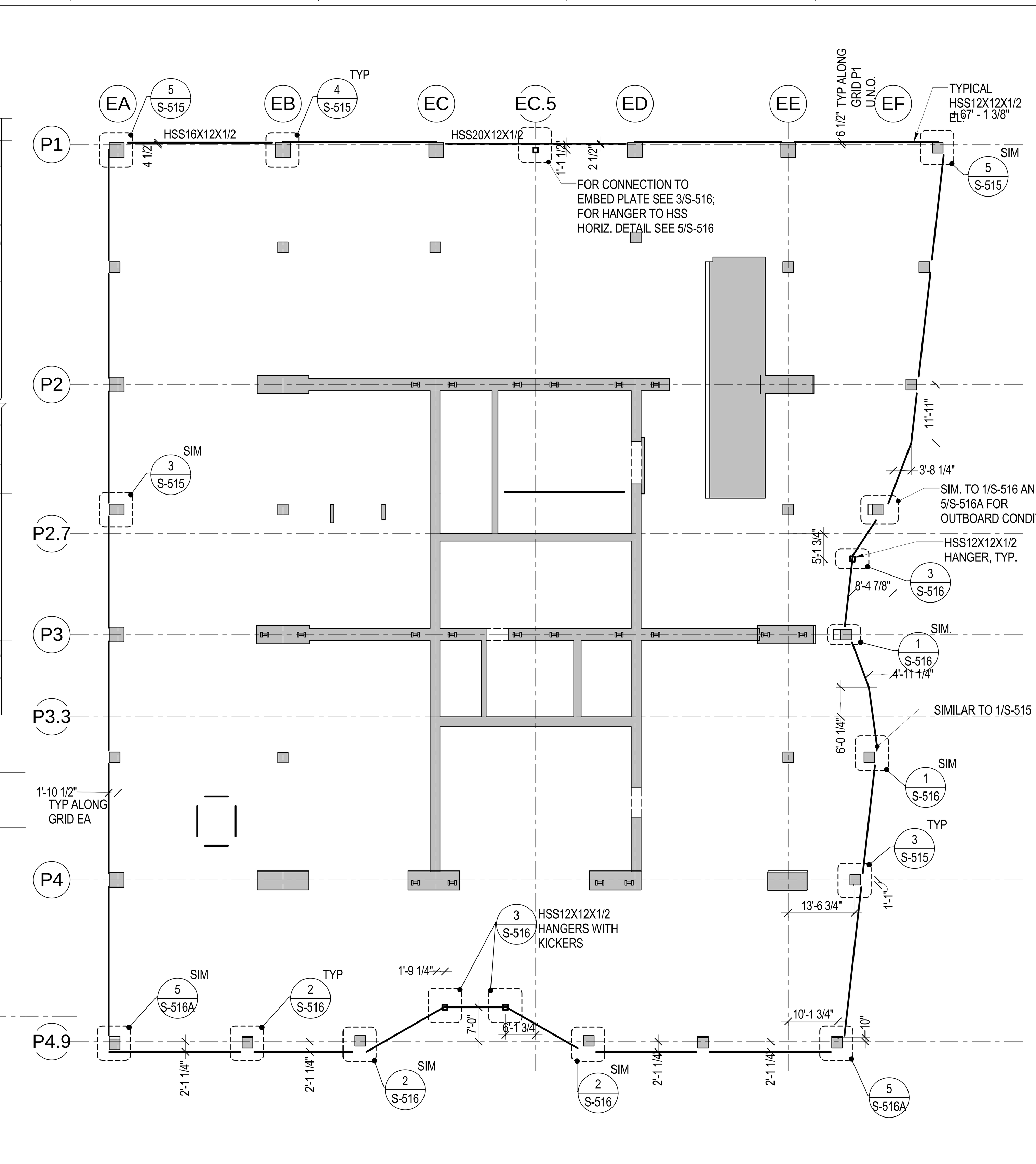
1 LEVEL 1B
NOT TO SCALE



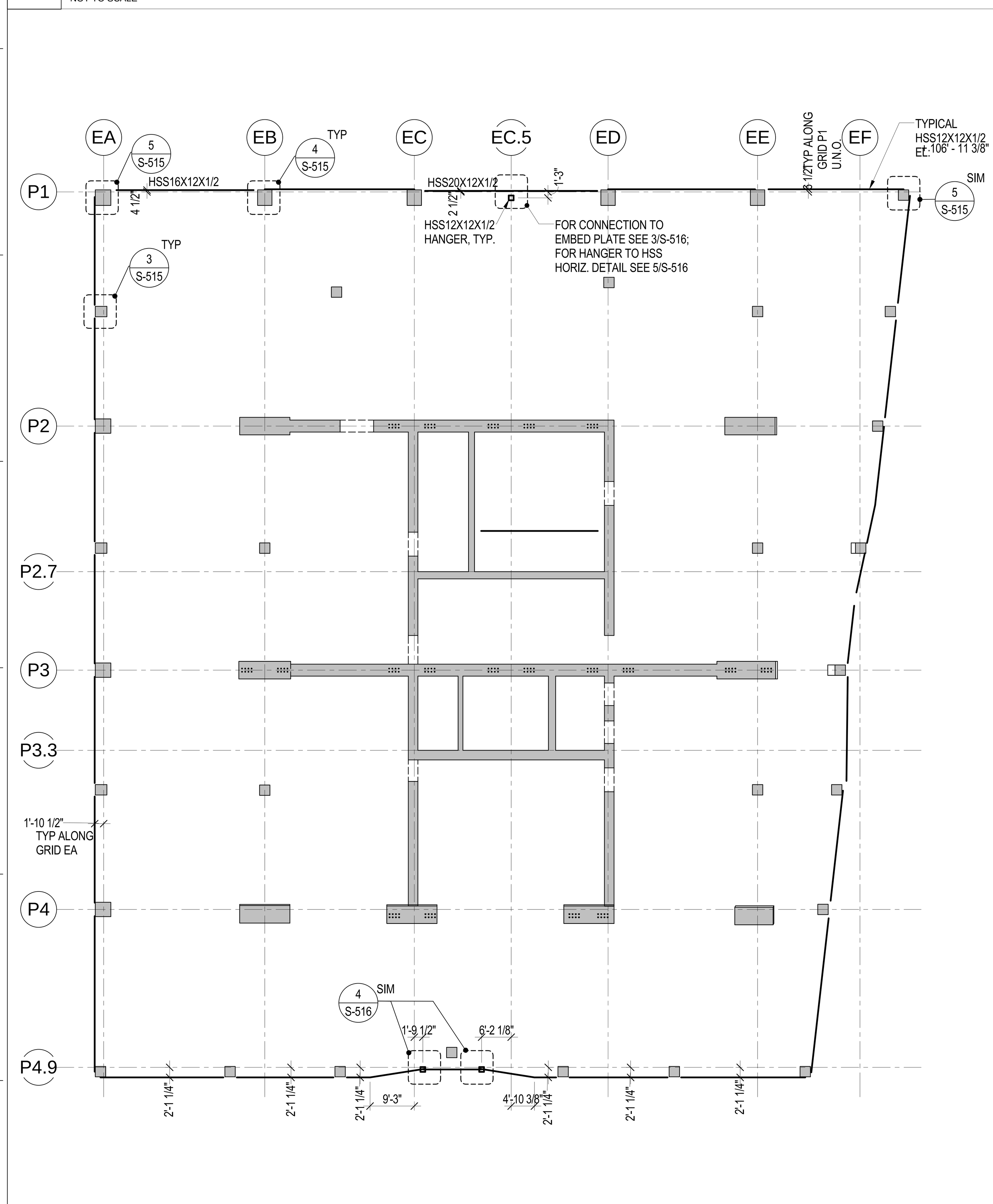
6 METAL PANEL CLADDING SUPPORT KEY - ELEVATION
NOT TO SCALE



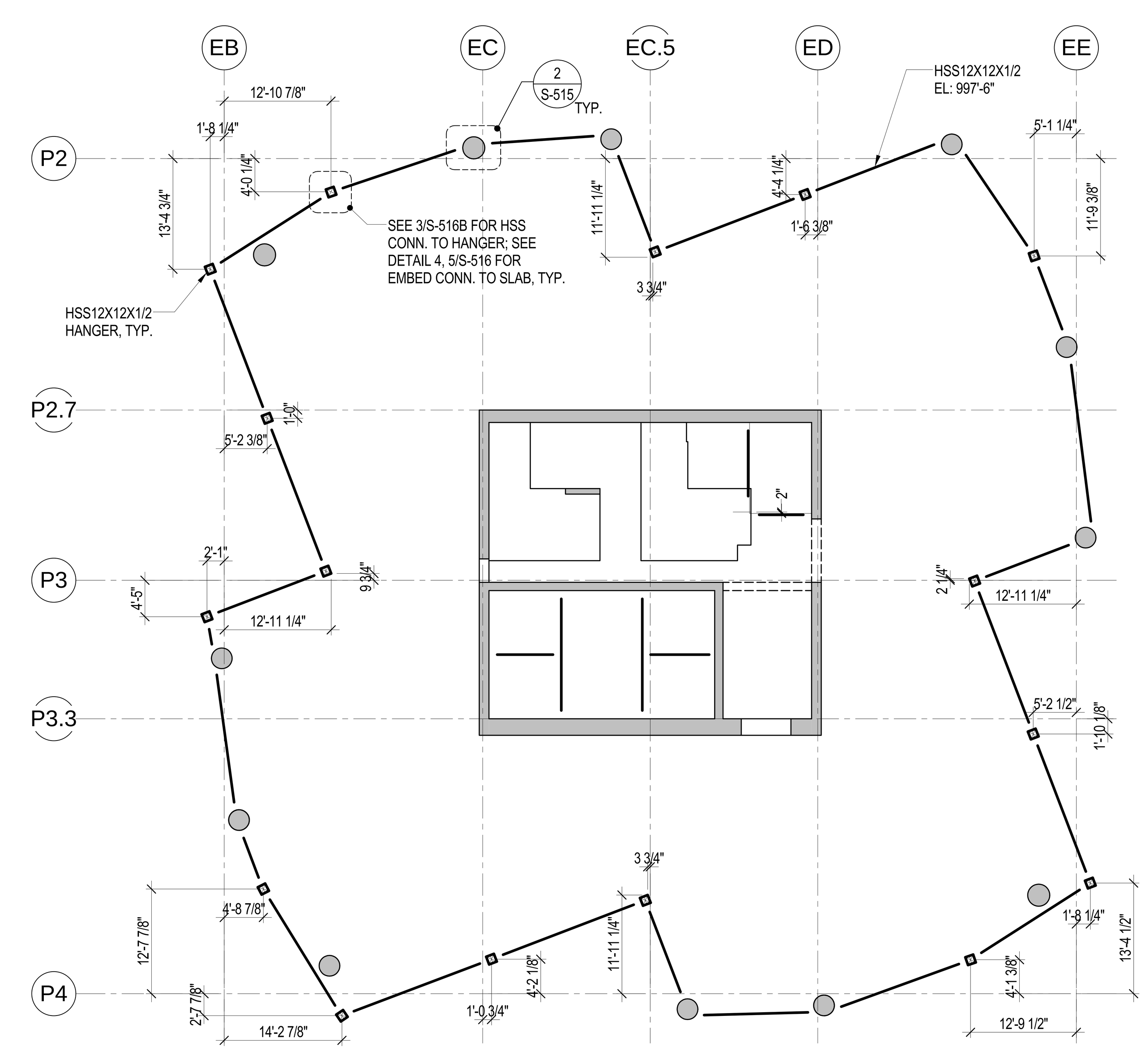
7 METAL PANEL CLADDING SUPPORT KEY - PLAN
NOT TO SCALE



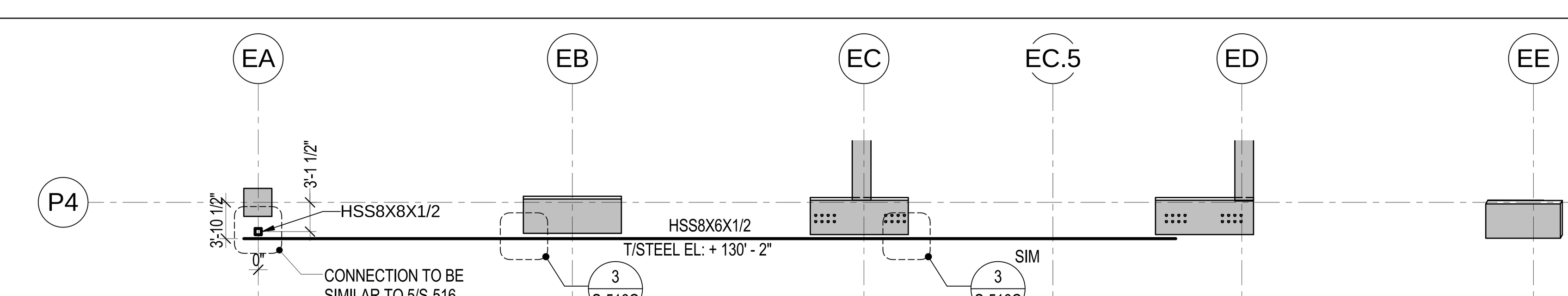
2 LEVEL 2B
NOT TO SCALE



3 LEVEL 4B
NOT TO SCALE



4 LEVEL 71B
3/32" = 1'-0"



5 LEVEL 5B
3/32" = 1'-0"

Damian Titus
NYC Buildings APPROVED Under Directive 2 of 1975
Date: 02/17/2017
NYC Development Hub

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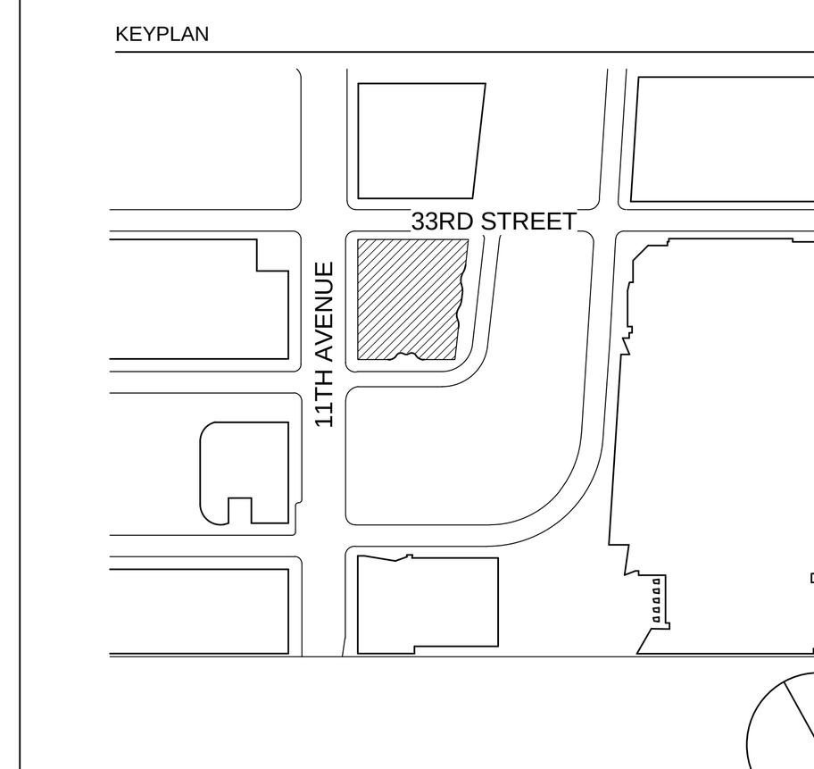

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DRAWING TITLE

MISCELLANEOUS STEEL, PARTIAL PLANS & DETAILS

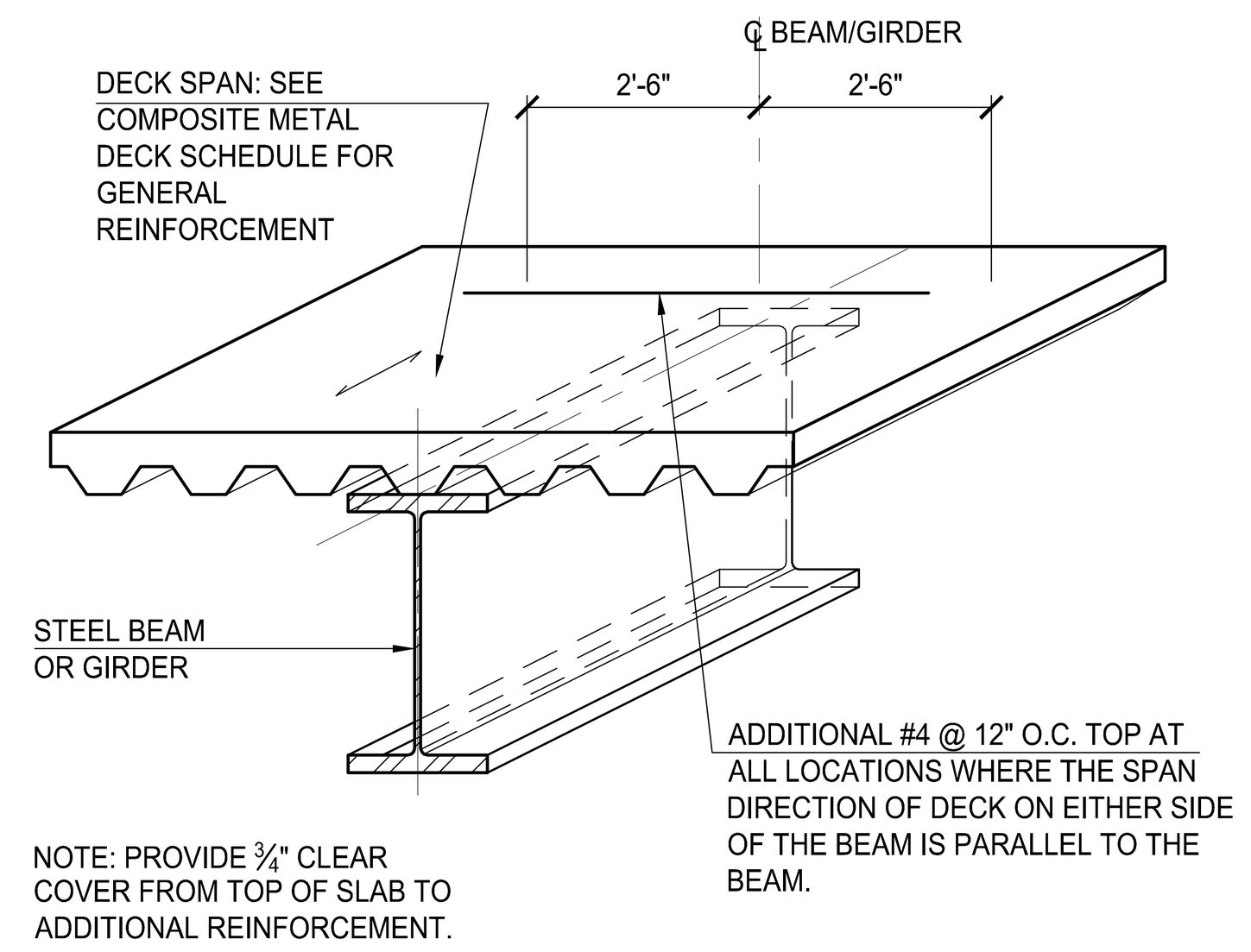
B-SCAN - DRAWING NUMBER

S-522.00

DRAWING NUMBER

S-522

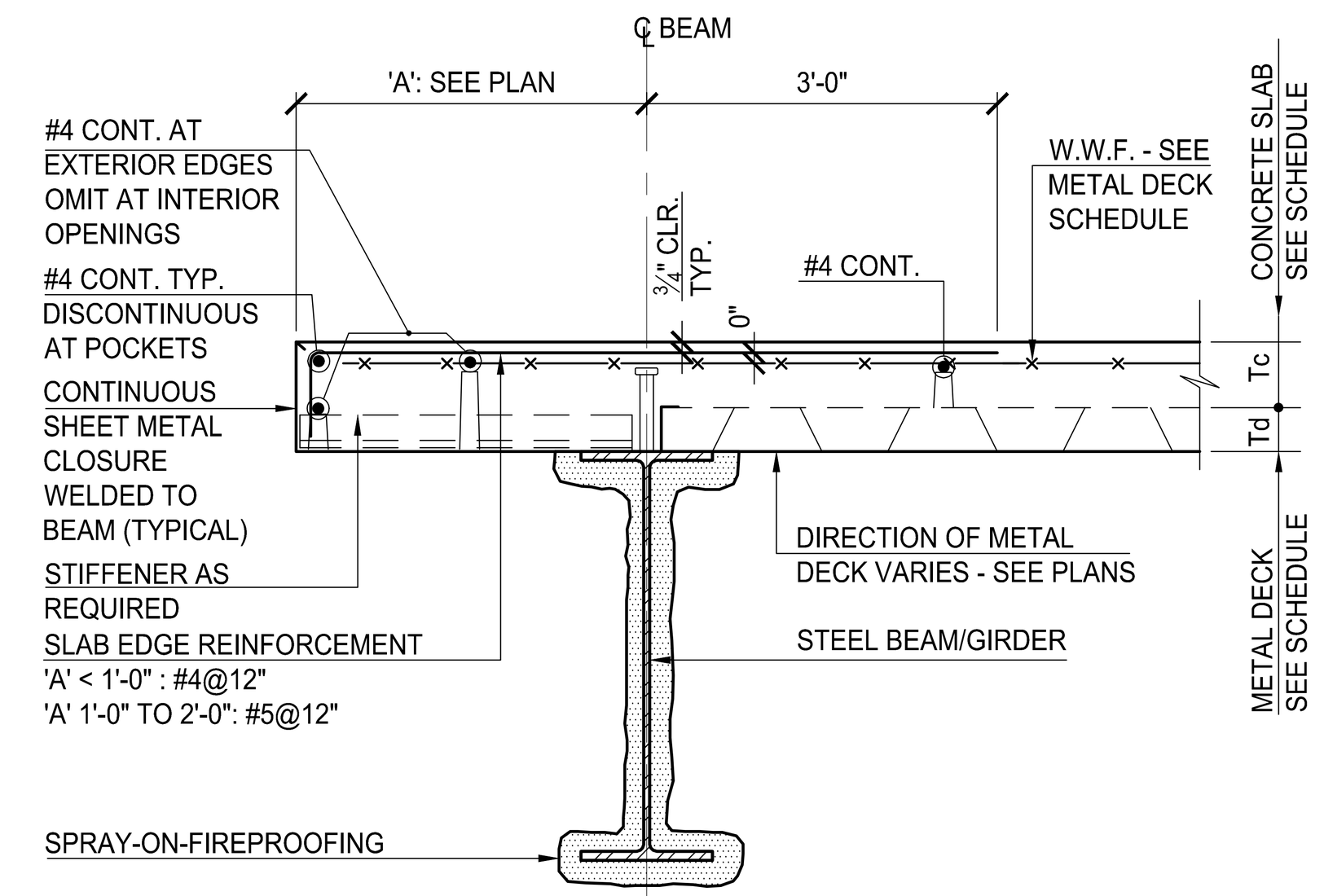
PAGE NUMBER



NOTE: PROVIDE 3/4" CLEAR COVER FROM TOP OF SLAB TO ADDITIONAL REINFORCEMENT.

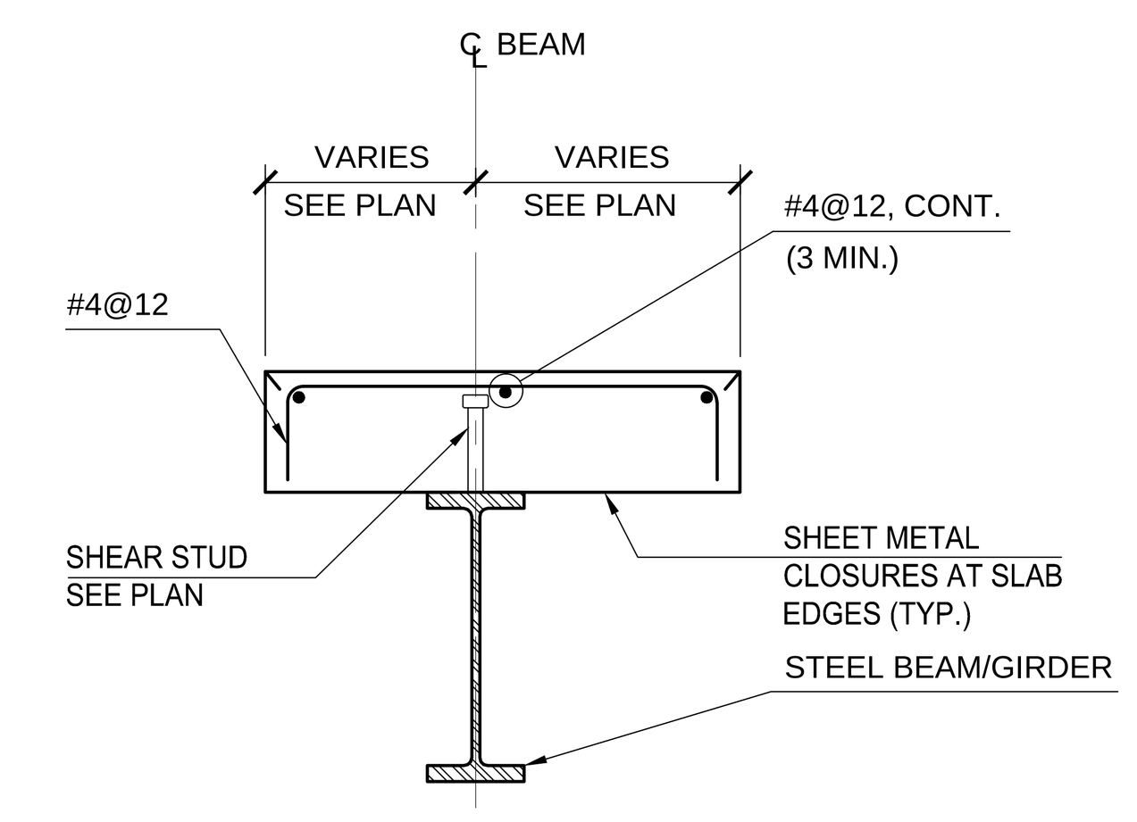
1 TYPICAL ADDITIONAL METAL DECK SLAB REINFORCEMENT AT BEAM

SCALE: N.T.S.



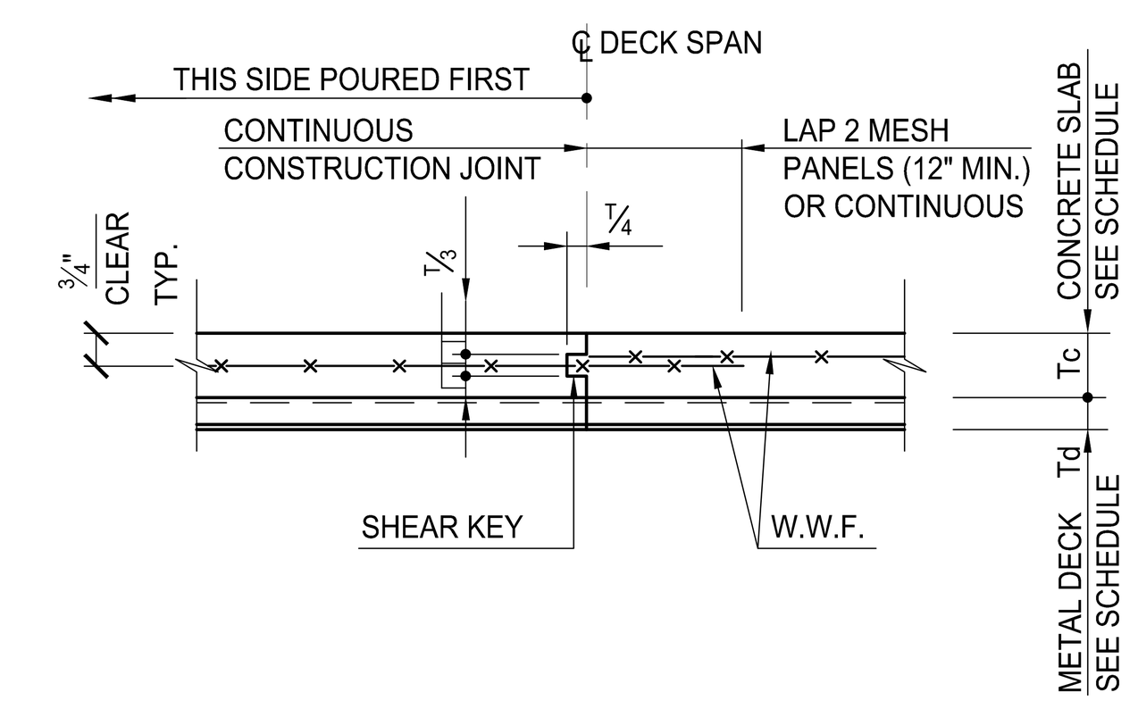
2 TYPICAL METAL DECK SLAB EDGE DETAIL

SCALE: N.T.S.



3 TYPICAL SLAB EDGE BETWEEN OPENINGS

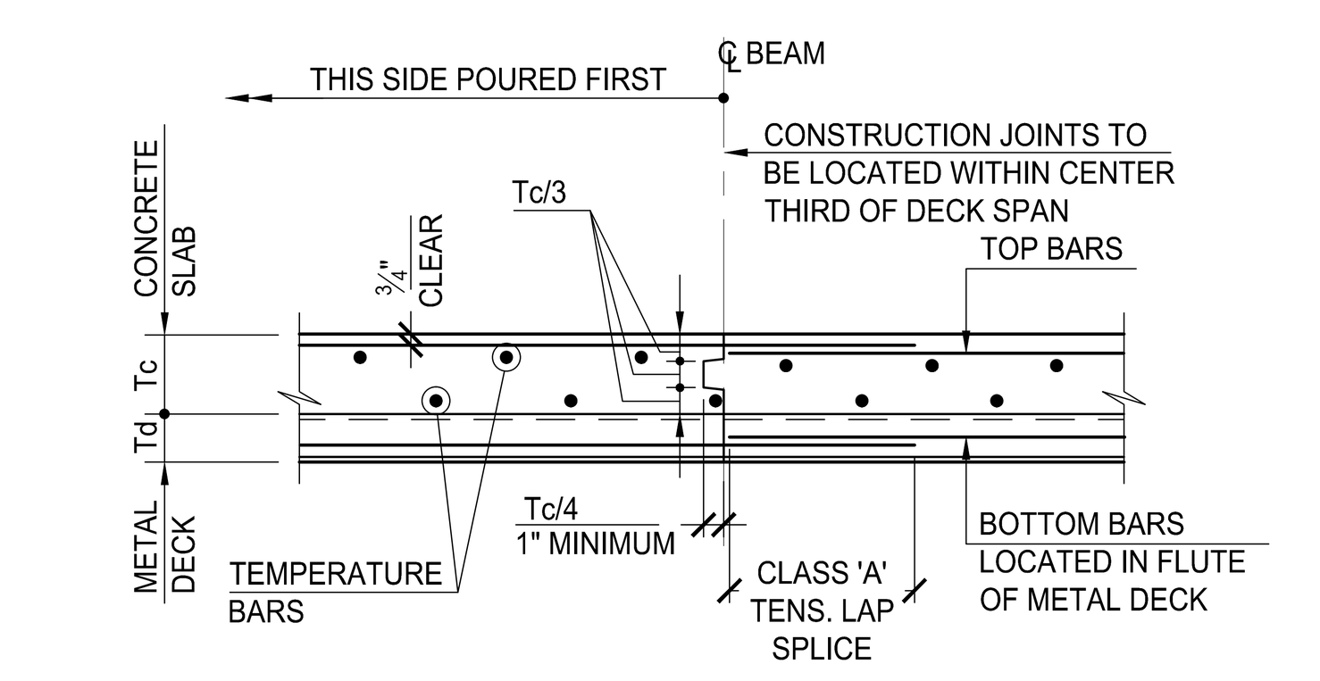
SCALE: N.T.S.



NOTE: ORIENT JOINT PARALLEL TO DECK SPAN IF POSSIBLE. IF JOINT PERPENDICULAR TO DECK SPAN, LOCATE IN MIDDLE THIRD OF SPAN

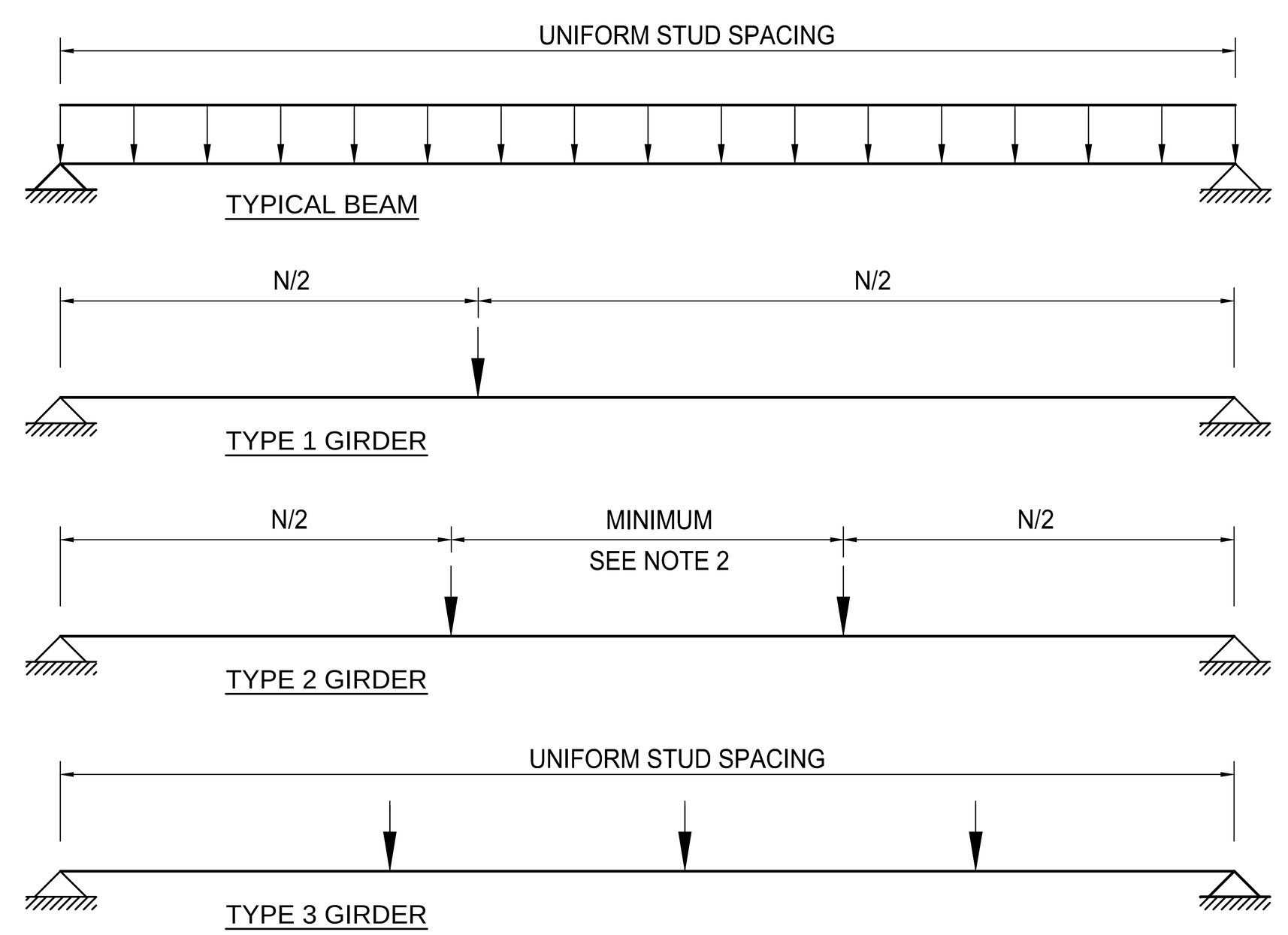
4 TYPICAL COMPOSITE METAL DECK SLAB CONSTRUCTION JOINT

SCALE: N.T.S.



5 TYPICAL REINFORCED METAL DECK SLAB CONSTRUCTION JOINT

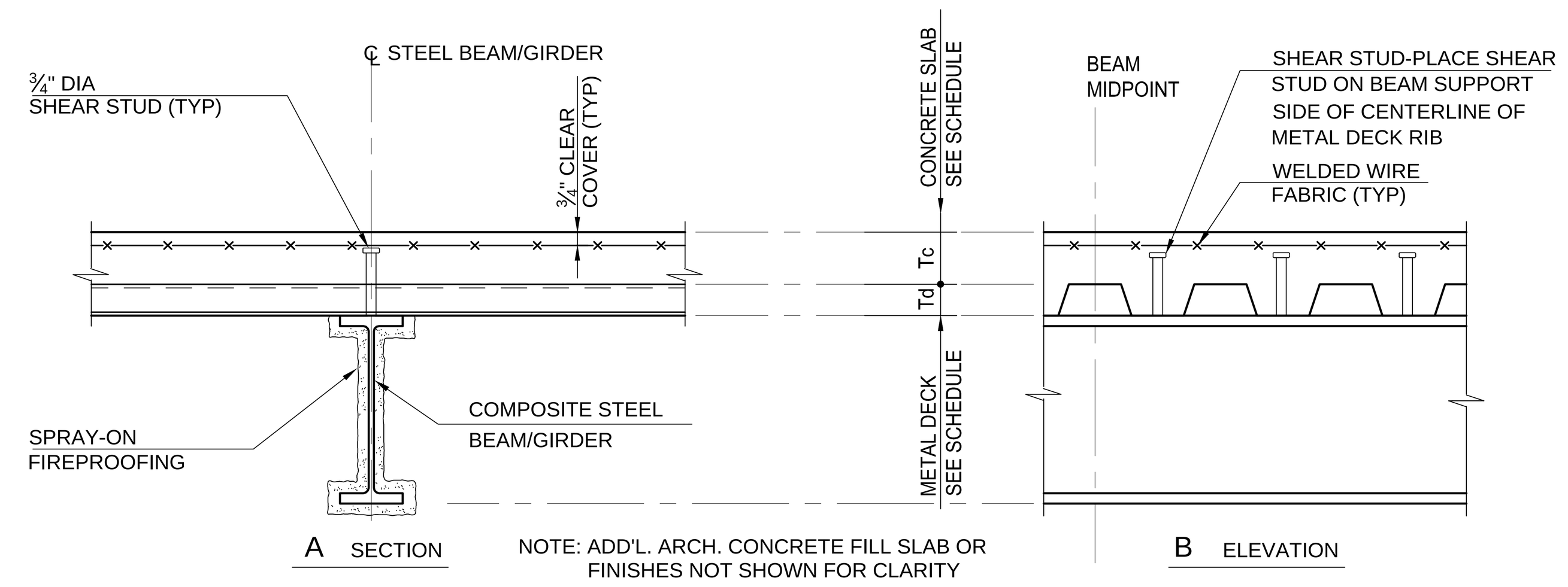
SCALE: N.T.S.



NOTES:
1. ALL DIAGRAMS REPRESENT IDEALIZED CONDITIONS. ACTUAL FRAMING CONFIGURATIONS MAY REQUIRE ADDITIONAL INTERPRETATION.
2. MAXIMUM SPACING OF STUDS SHALL BE 12" ON CENTER.
3. 'N' INDICATES NUMBER OF STUDS SHOWN ON PLANS

6 SHEAR STUD PLACEMENT DIAGRAM

SCALE: N.T.S.



NOTE: ADD'L. ARCH. CONCRETE FILL SLAB OR FINISHES NOT SHOWN FOR CLARITY

COMPOSITE METAL DECK SLAB SCHEDULE

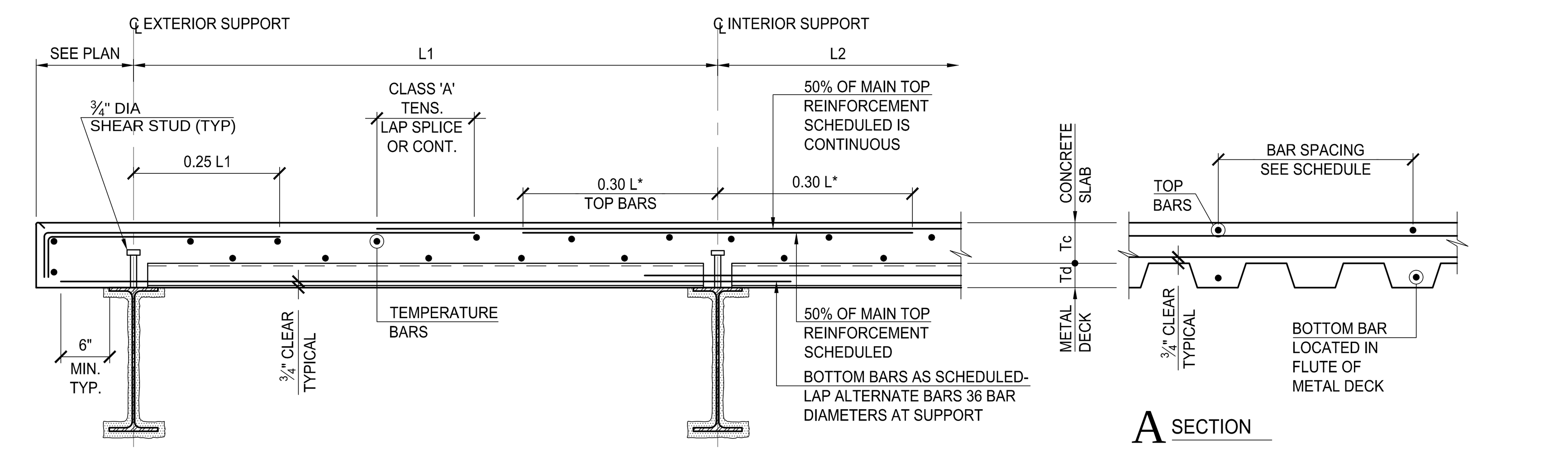
REBAR fy = 60 ksi
DECK fy = 50 ksi, TYP.
fy = 40 ksi FOR 16 GAGE

MARK	Td (IN)	Tc (IN)	IMPOSED LOAD CAPACITIES (PSF)		TEMP. REINF.	CONCRETE		STUD HEIGHT (IN)	REMARKS
			SDL	LL		WGT. (PCF)	f'c (PSI)		
MS1	3	8	60	100	4X4 - W2.5xW2.5	145	5000	10	PORTIONS OF LEVEL 2 (SEE PLAN)
MS2	3	4.5	60	100	6X6 - W2.1xW2.1	145	5000	7	STAIR TRANSFERS AND ELECTRICAL SHED ROOF
MS3	2	3.5	150	100	6X6 - W2.1xW2.1	145	5000	5	POOL DECK SECOND SLAB

7

7 TYPICAL COMPOSITE METAL DECK SLAB

SCALE: N.T.S.



NOTES:
1. L* IS GREATER OF L1 OR L2.
2. METAL DECK SHALL BE DESIGNED AS FORM DECK.
3. SLAB REINFORCING AND SPACING IS BASED ON DECK PROFILE WITH 12" RIB SPACING. ACTUAL SPACING AND QUANTITY SHALL BE CONTINGENT ON SPECIFIC DECK PROFILE PROVIDED BY DECK MANUFACTURER.

REINFORCED METAL DECK SLAB SCHEDULE

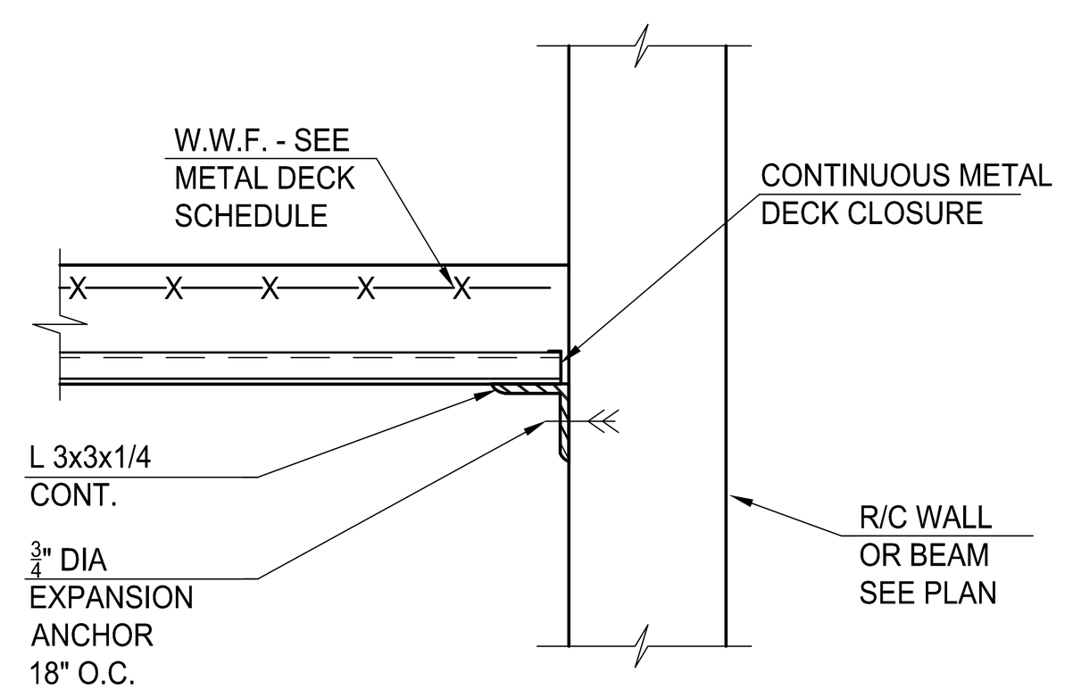
REBAR fy = 60 ksi
DECK fy = 50 ksi, TYP.
fy = 40 ksi FOR 16 GAGE

MARK	Td (IN)	Tc (IN)	IMPOSED LOAD CAPACITIES (PSF)		MAIN REINFORCEMENT		TEMP. REINF.	CONCRETE		STUD HEIGHT (IN)	REMARKS
			SDL	LL	BOT.	TOP		WGT. (PCF)	f'c (PSI)		
RS1	3	6	70	100	#8@12	#6@12	#4@12	145	5000	7	GROUND FLOOR
RS2	3	10 1/2	10	250	#6@12	#6@12	#4@12	145	5000		ELEV.PIT AT GRID EE BELOW GROUND FLOOR
RS3	3	9	70	250	#8@12	#6@12	#4@12	145	5000	10	GROUND FLOOR ABOVE PLENUM, ROOF OF DAMPER SHED
RS4	3	4 1/2	60	250	#4@12	#4@12	#4@12	145	5000	7	ELECTRICAL SHED

7

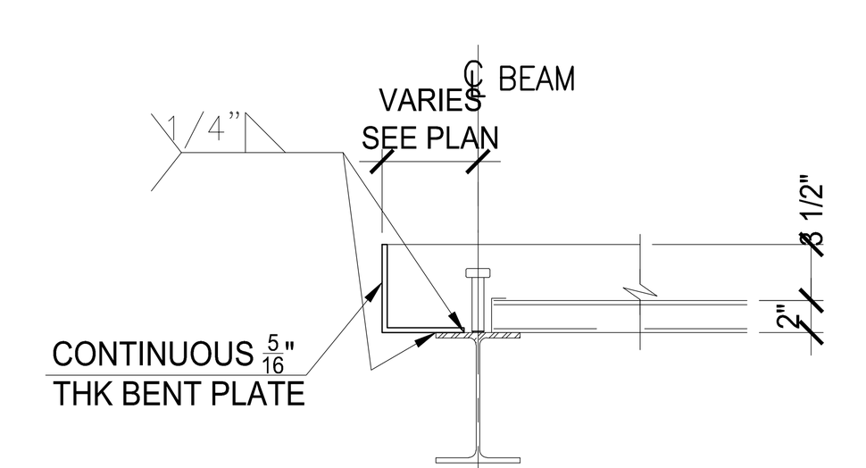
8 TYPICAL REINFORCED METAL DECK SLAB

SCALE: N.T.S.



9 METAL DECK FRAMING INTO WALL

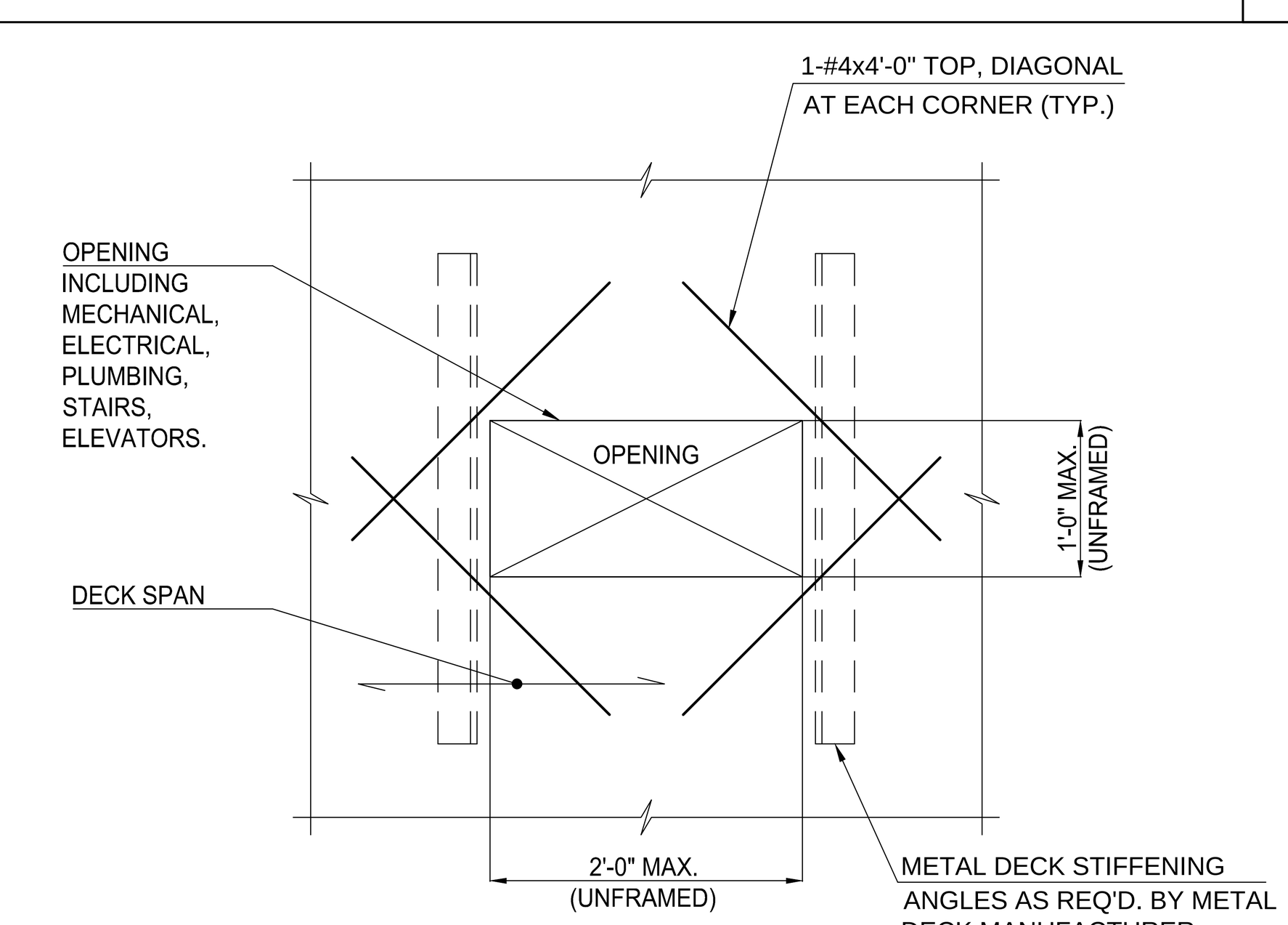
SCALE: N.T.S.



NOTE:
1. SEE DETAIL 1 FOR SLAB EDGE REINF. NOT SHOWN ABOVE.

10 POOL DECK SLAB EDGE DETAIL

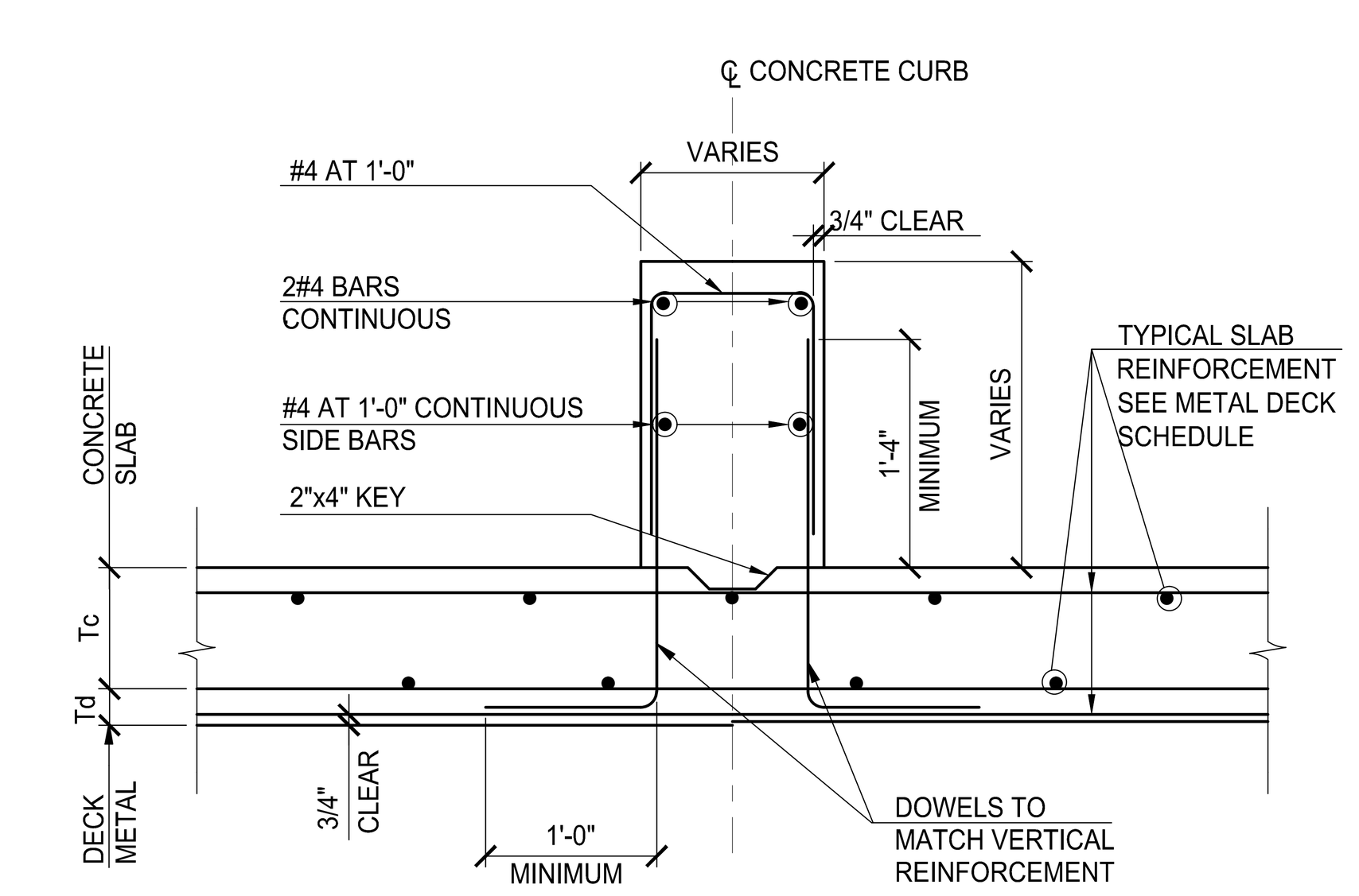
SCALE: N.T.S.



NOTE: DETAIL ALSO APPLIES AT FLOOR BOXES WHICH DO NOT PENETRATE THE METAL DECK.

11 TYPICAL METAL DECK SLAB REINFORCEMENT AT RECTANGULAR OPENING

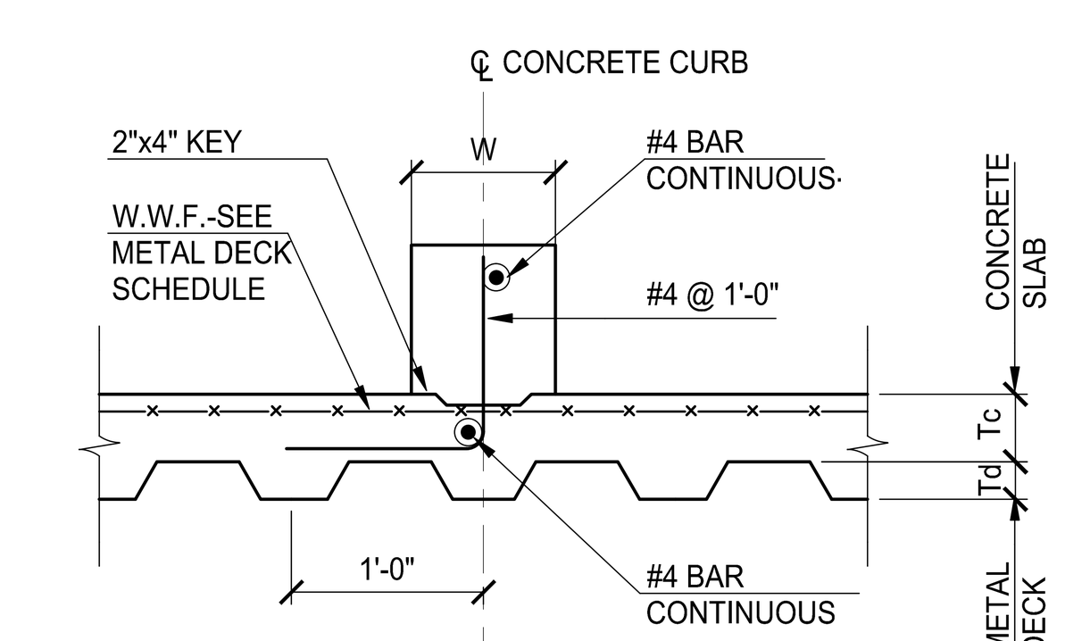
SCALE: N.T.S.



NOTES:
1. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR CONCRETE CURB SIZES AND LOCATIONS.
2. DO NOT ATTACH CLADDING OR APPLY LATERAL LOAD TO CURB.

12 TYPICAL DETAIL FOR CONCRETE CURBS

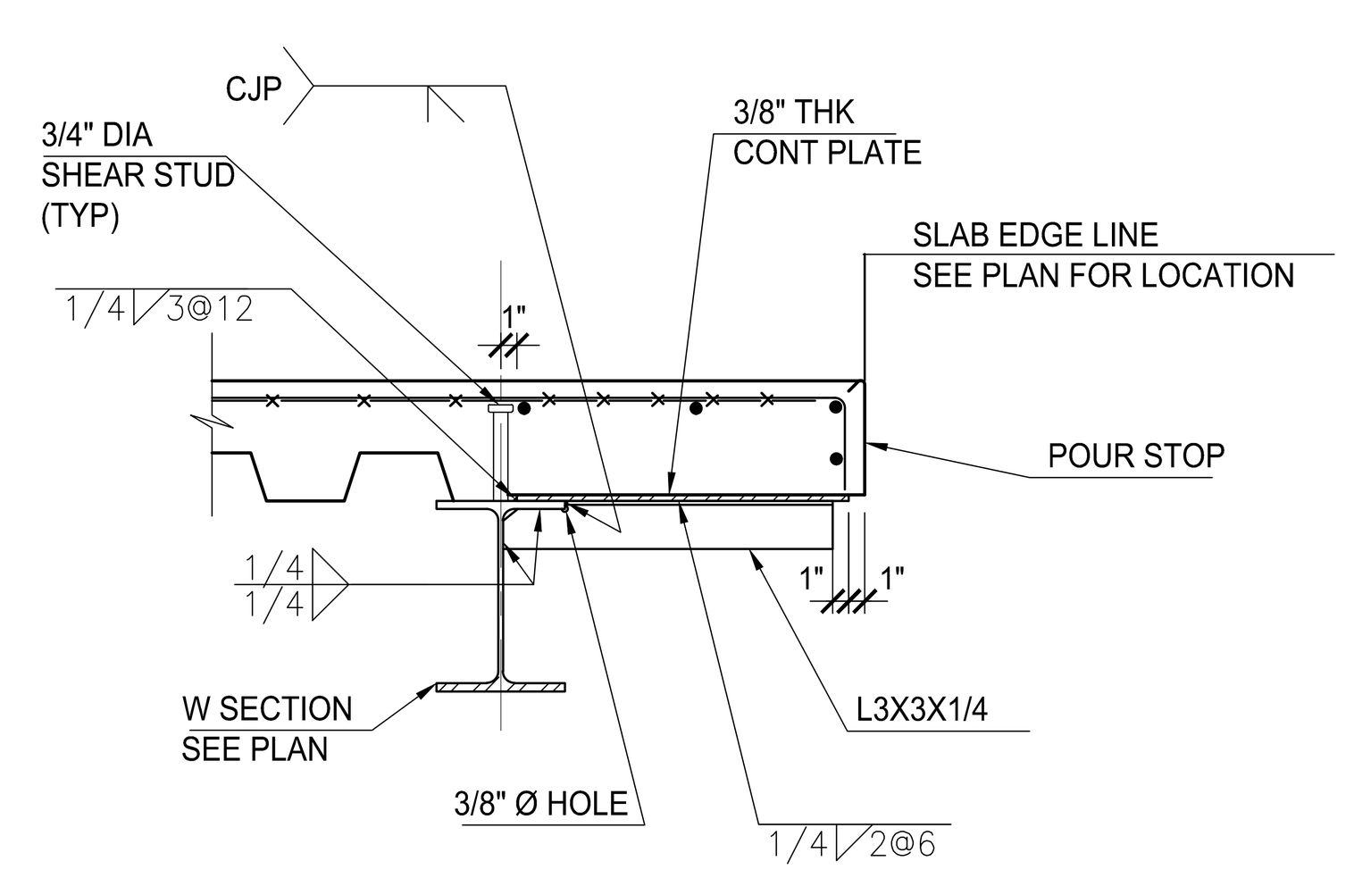
SCALE: N.T.S.



NOTES:
1. THIS DETAIL APPLIES WHEN W<6".
2. FOR CURB SIZE AND LOCATION, SEE ARCHITECTURAL DRAWINGS.
3. PROVIDE 3/4" CLEAR COVER TO BARS UNLESS NOTED OTHERWISE.

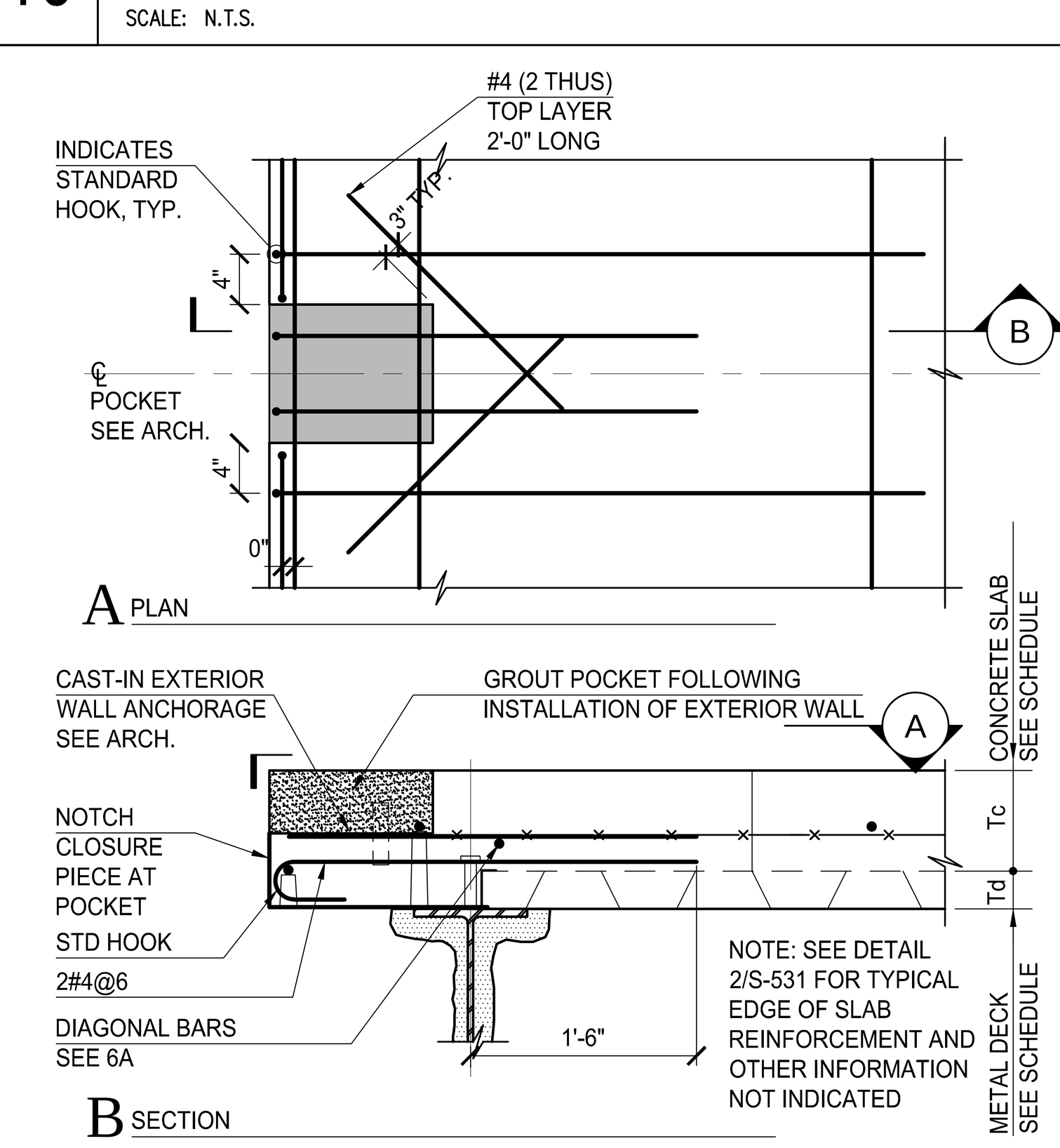
13 TYPICAL DETAIL FOR CONCRETE CURBS ON METAL DECK SLAB

SCALE: N.T.S.



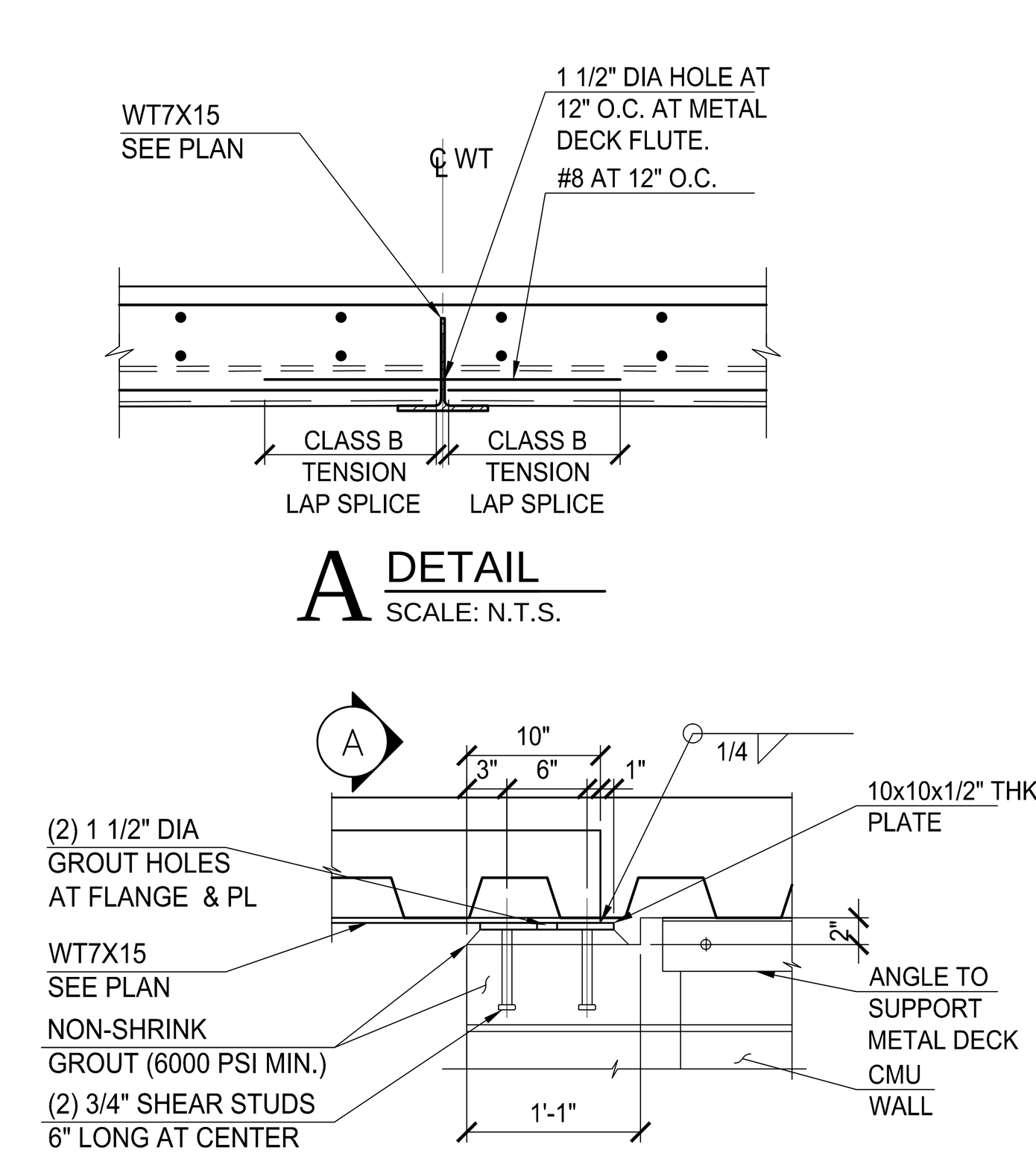
14 CANTILEVER SLAB EDGE AT L2 CANOPY

SCALE: N.T.S.



15 TYPICAL METAL DECK SLAB POCKET DETAIL

SCALE: N.T.S.

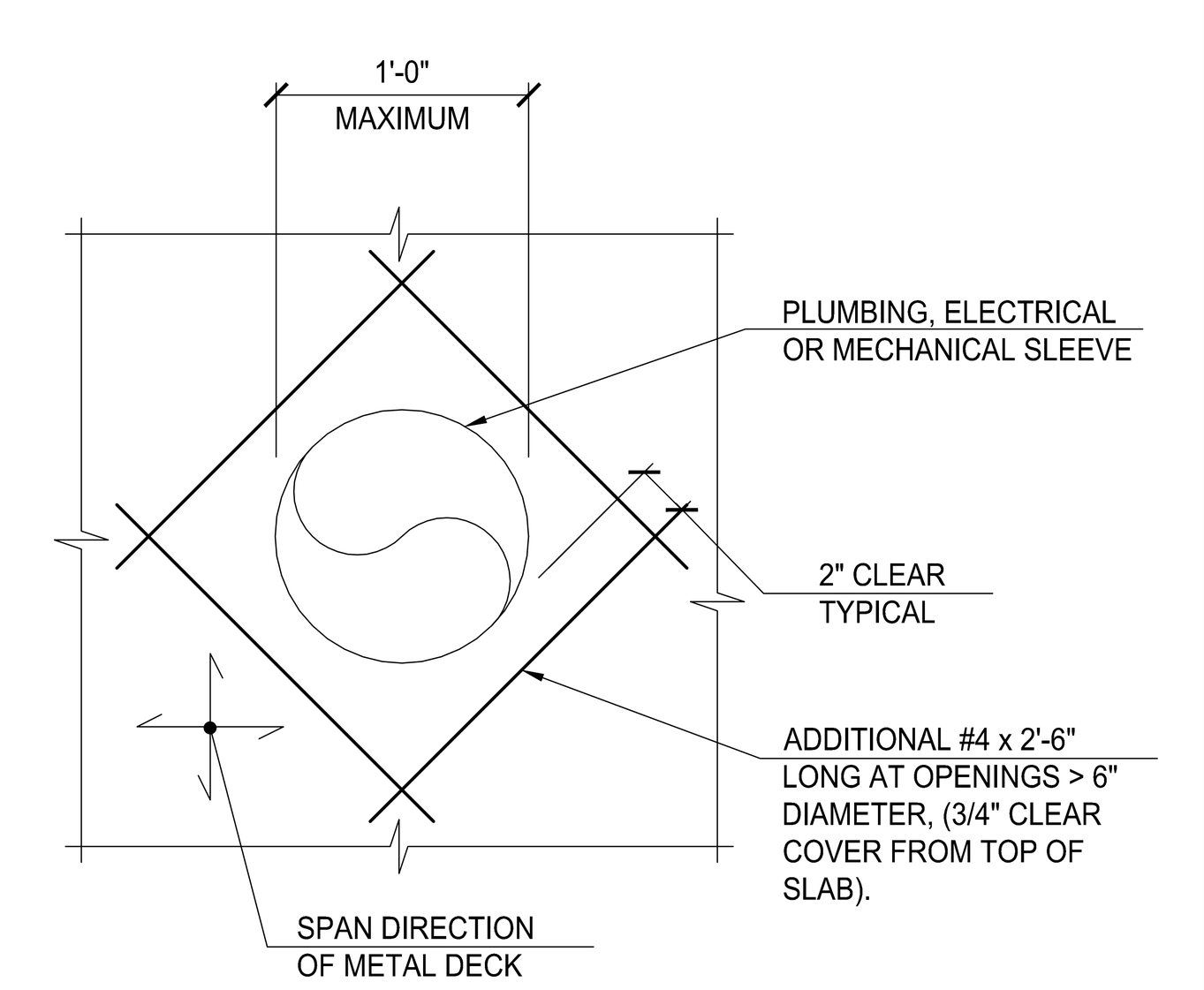


NOTE:
1. SEE DETAIL 8 FOR SLAB REINF. NOT SHOWN ABOVE.

B DETAIL SCALE: N.T.S.

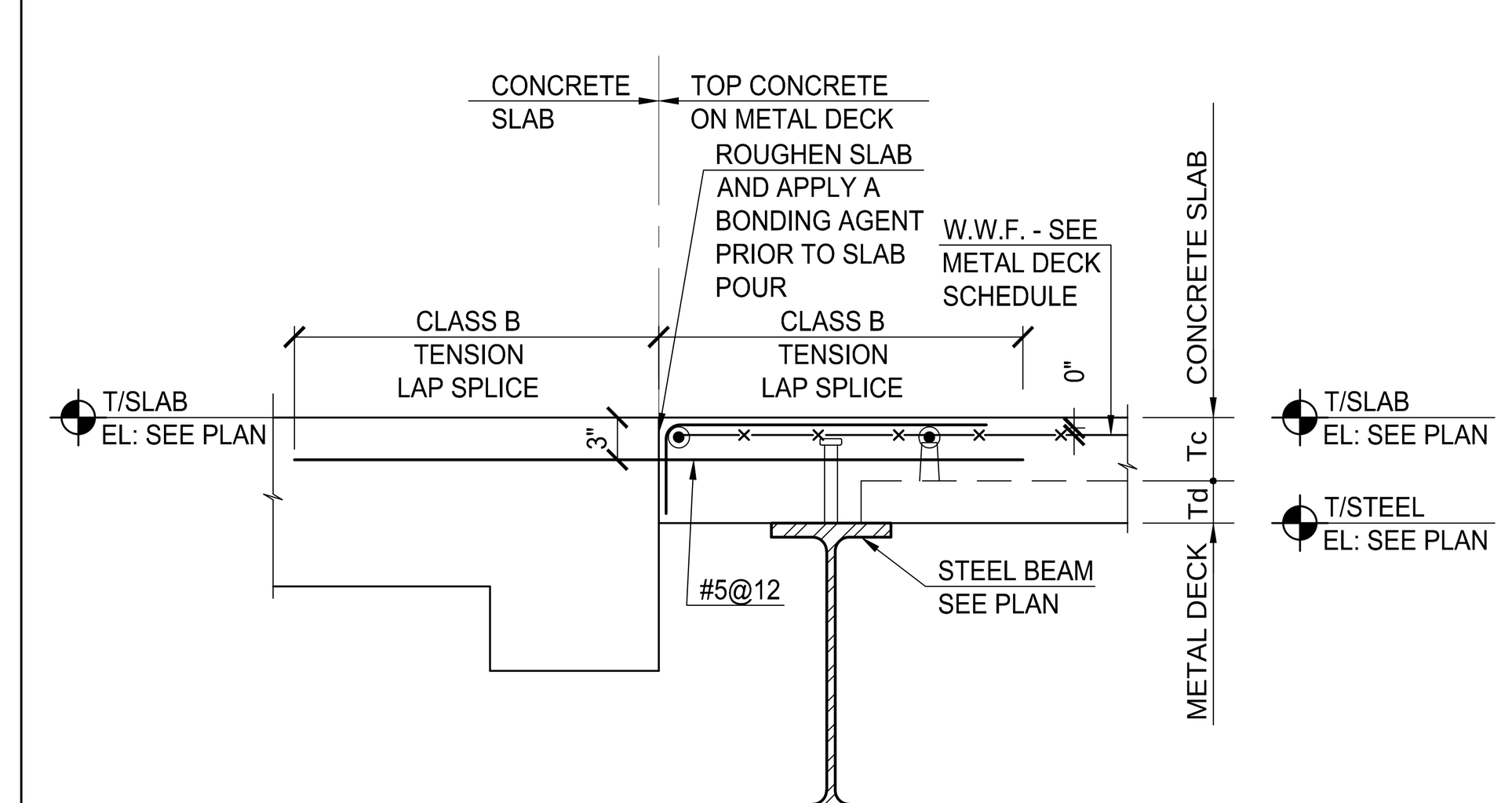
16 GROUND LEVEL WT DECK SUPPORT DETAIL

SCALE: N.T.S.



17 TYPICAL METAL DECK SLAB REINFORCEMENT AT CIRCULAR OPENING

SCALE: N.T.S.



18 SLAB REINFORCEMENT BETWEEN CONCRETE SLAB AND METAL DECK SLAB

SCALE: N.T.S.

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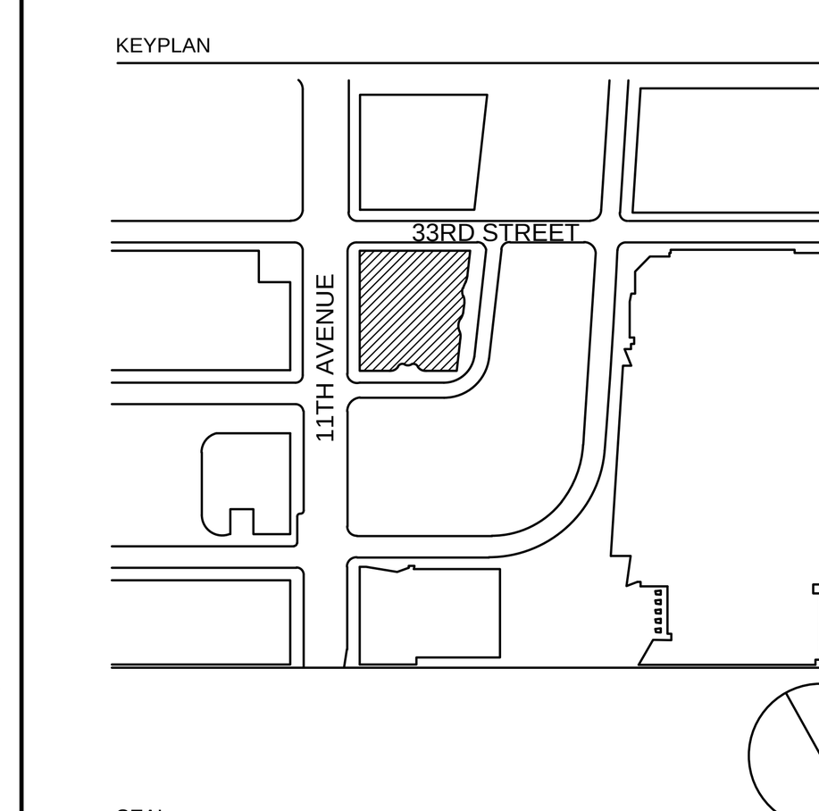

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NO.	DATE	DESCRIPTION
8	20 JAN 2017	ISSUED TO DOB
7	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
6	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 8
5	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3
4	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
3	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
2	15 JAN 2015	ISSUED TO DOB
1	25 NOV 2014	ISSUED FOR SCHEMATIC DESIGN

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NYC Buildings
APPROVED
Under Directive 2 of 1975
Date: 02/27/2017
NYC Development Hub

DRAWING TITLE

TYPICAL METAL DECK SECTIONS AND DETAILS

B-SCAN - DRAWING NUMBER

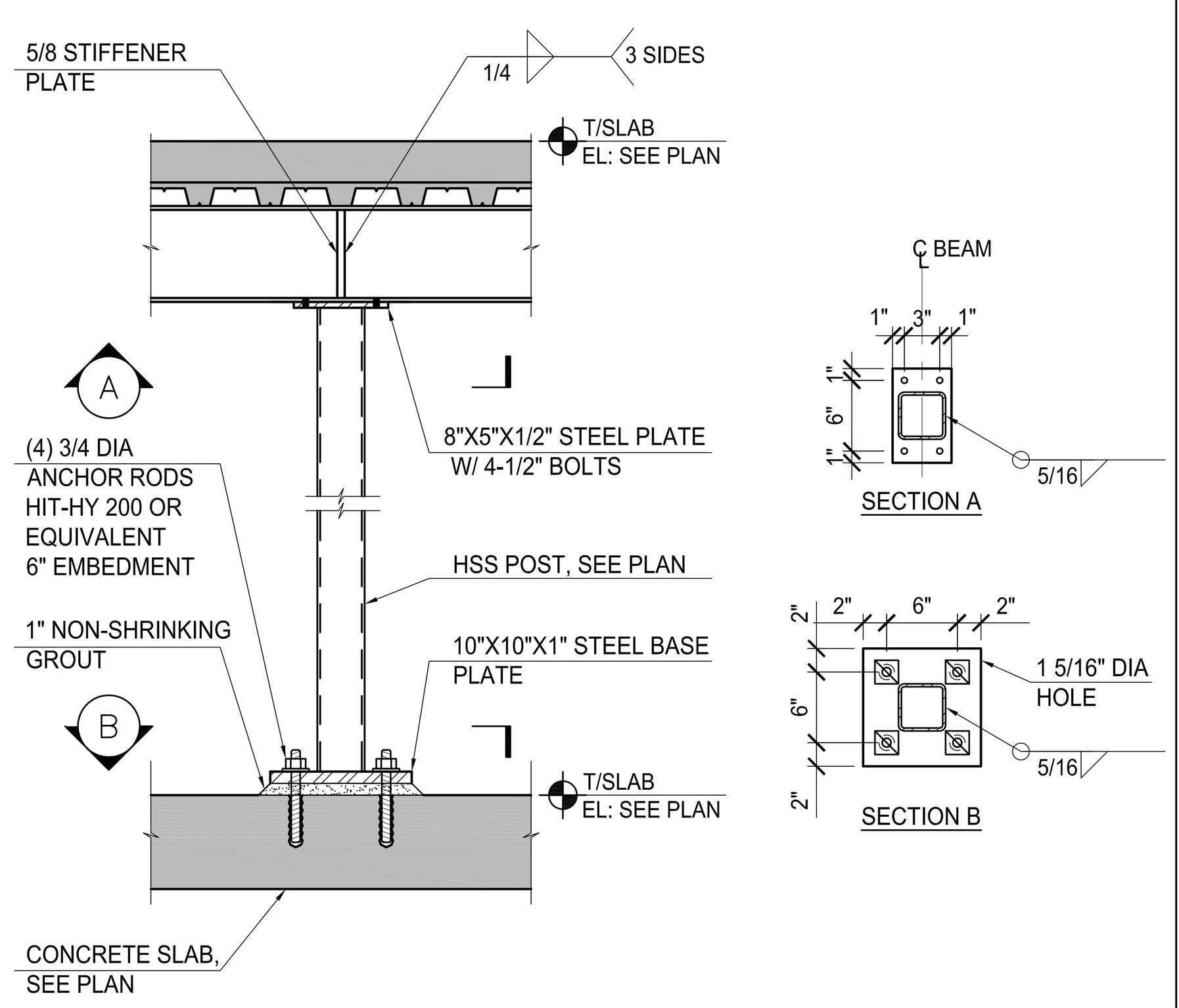
S-531.01

DRAWING NUMBER

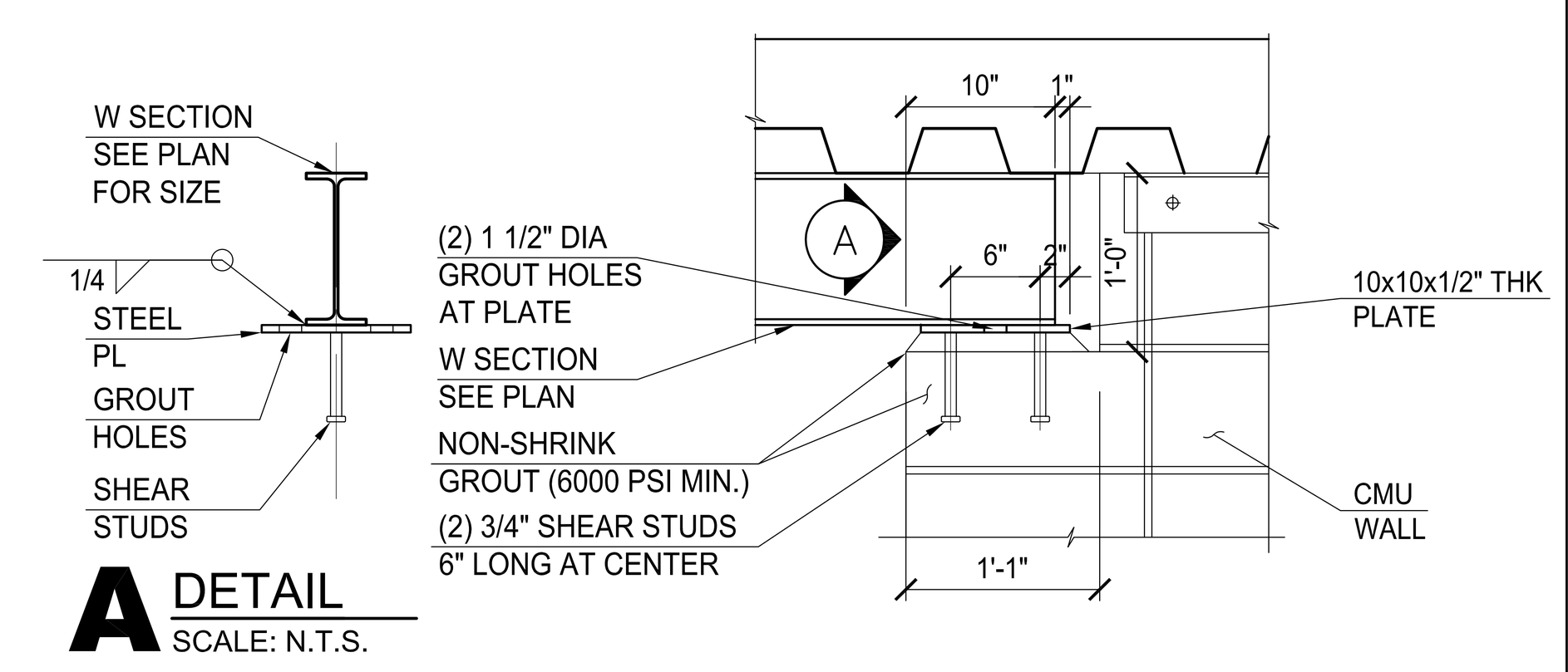
S-531

PAGE NUMBER

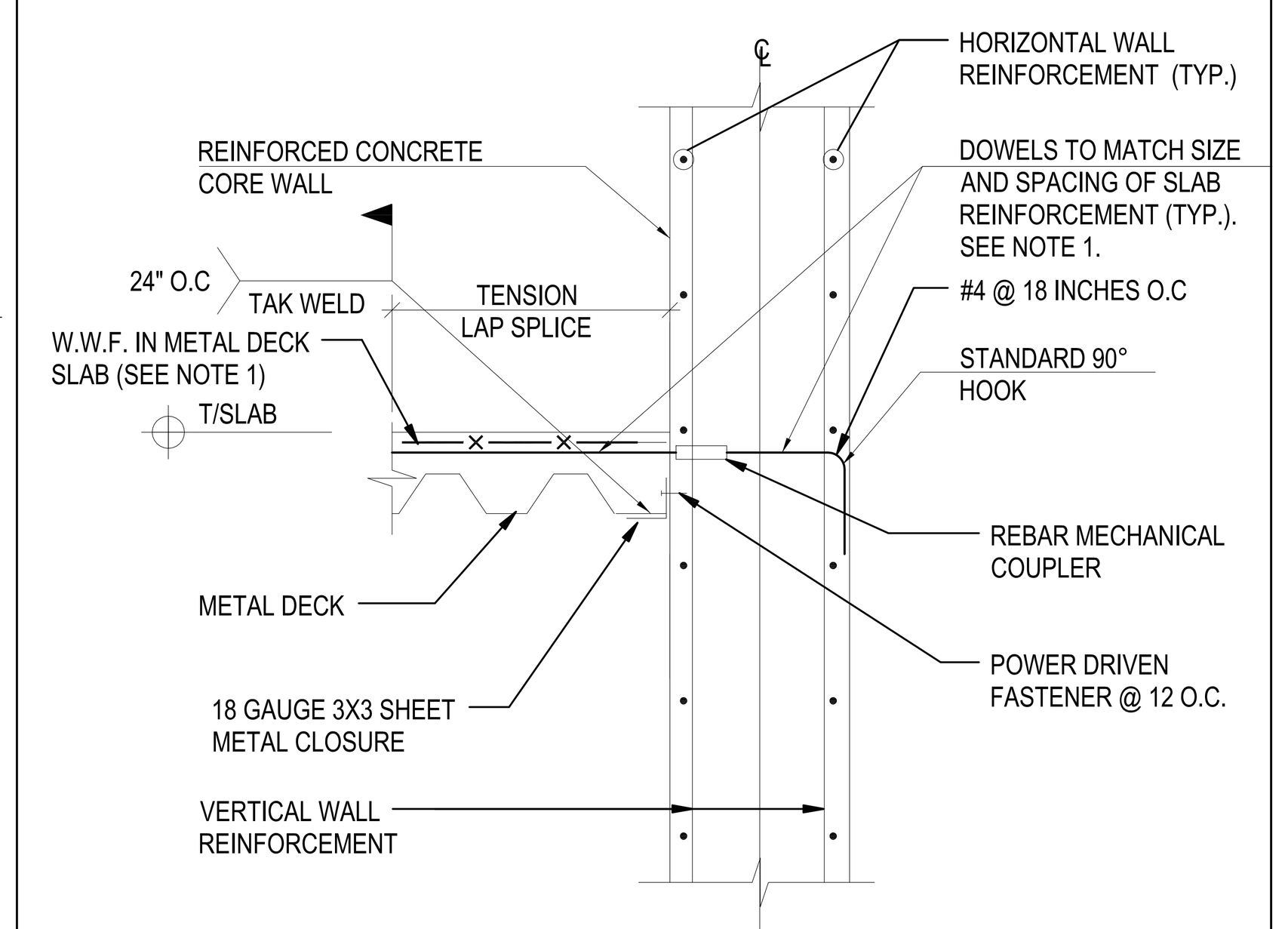
107 OF 112



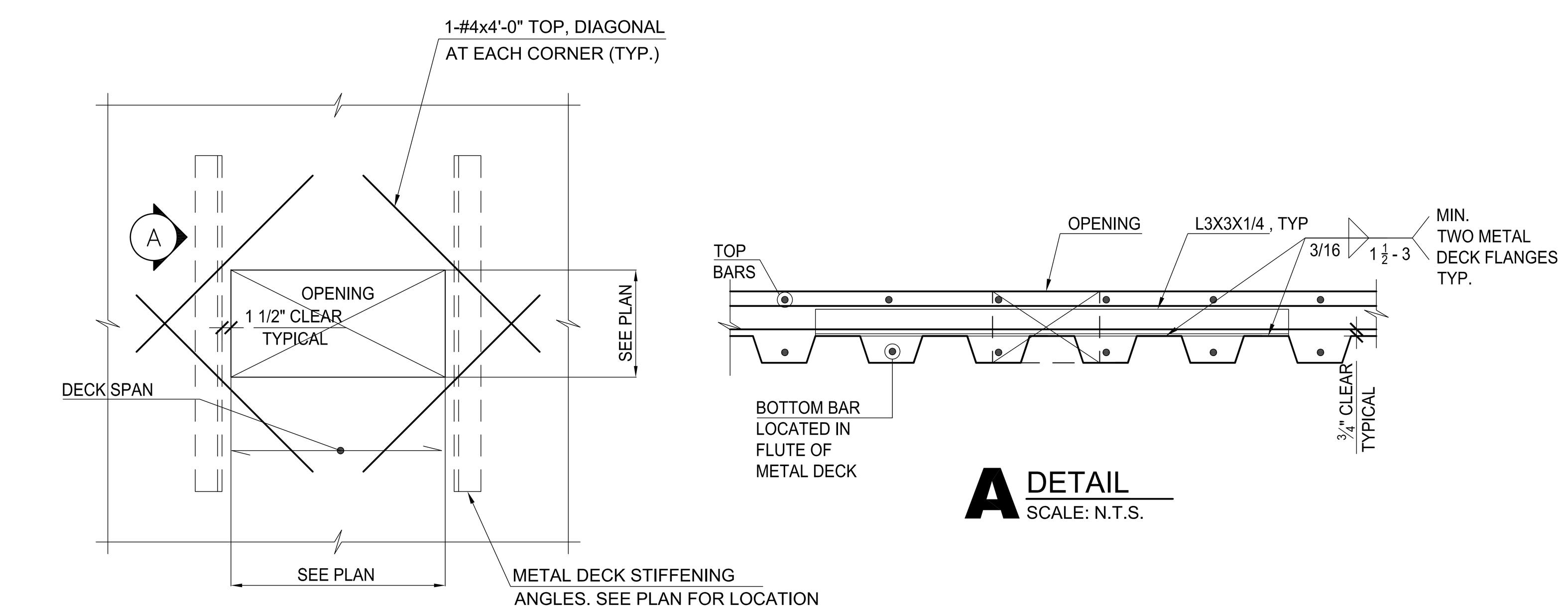
1 POOL HSS POST DETAIL
SCALE: N.T.S.



2 STEEL BEAM CONNECTON TO CMU WALL
SCALE: N.T.S.



3 DECK PARALLEL TO WALL DETAIL
SCALE: N.T.S.



4 TYPICAL METAL DECK SLAB OPENING REINFORCEMENT
SCALE: N.T.S.

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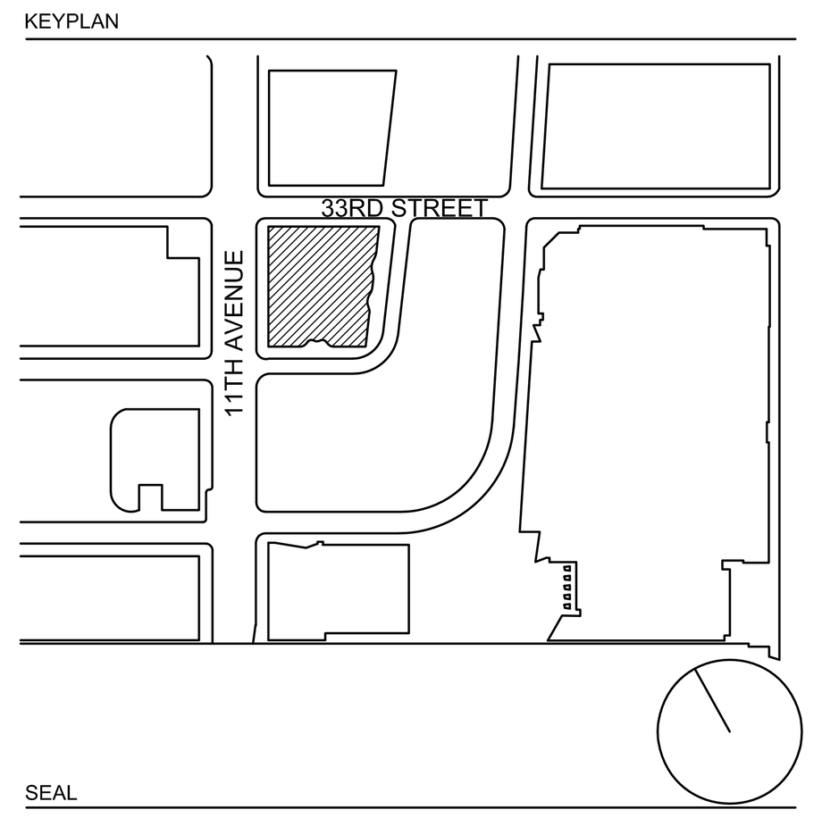

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1	07 DEC 2015	ISSUED FOR STEEL ADDENDUM NO. 3

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TYPICAL METAL DECK SECTIONS AND DETAILS

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AMENDED APPLICATION
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S-532

PAGE NUMBER

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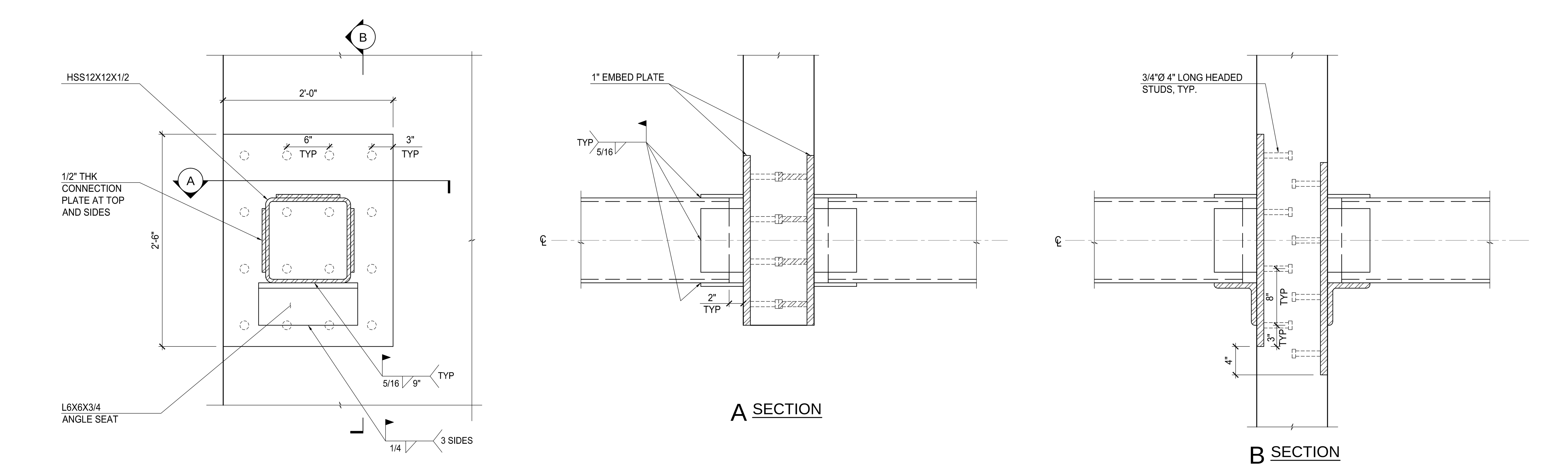
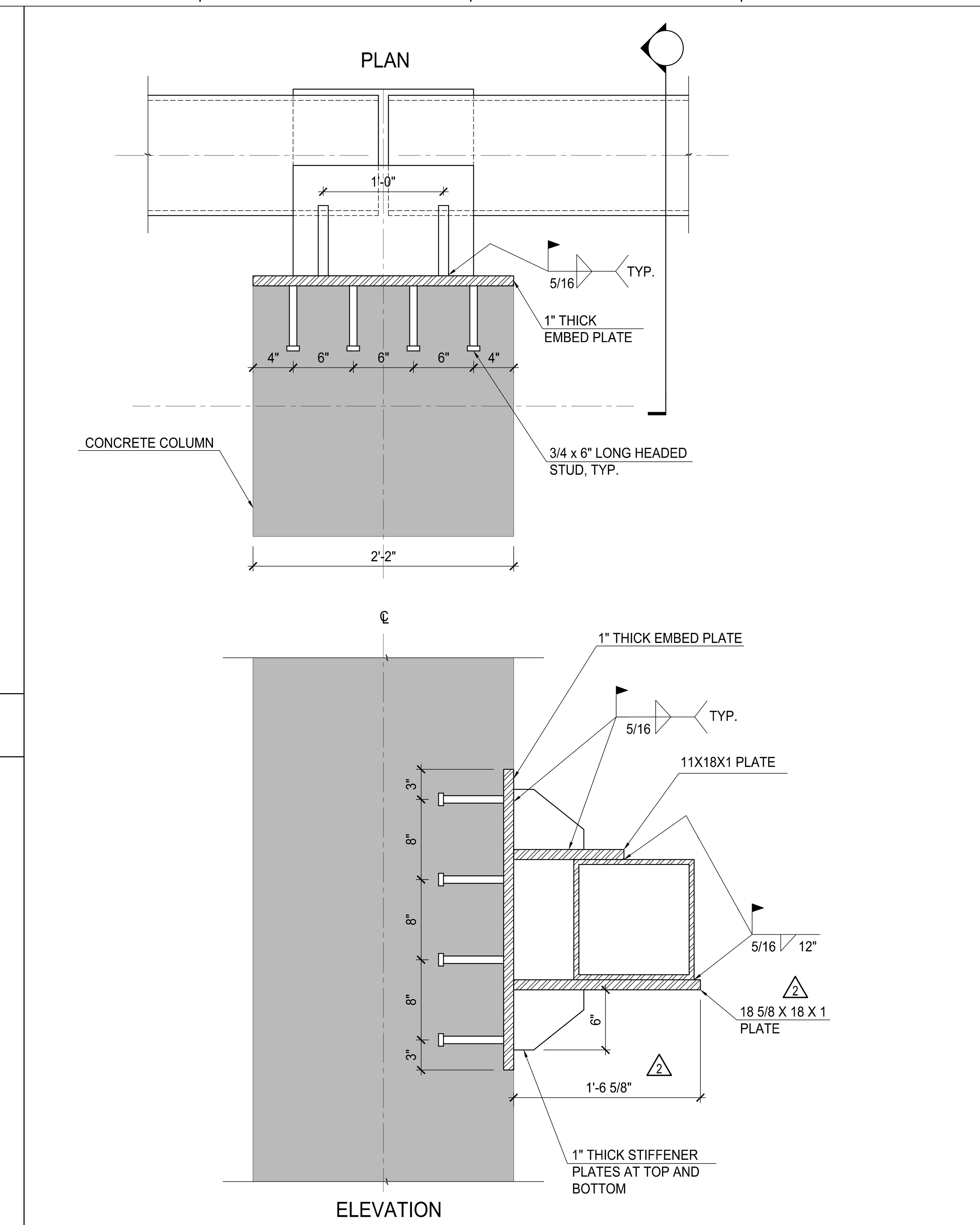


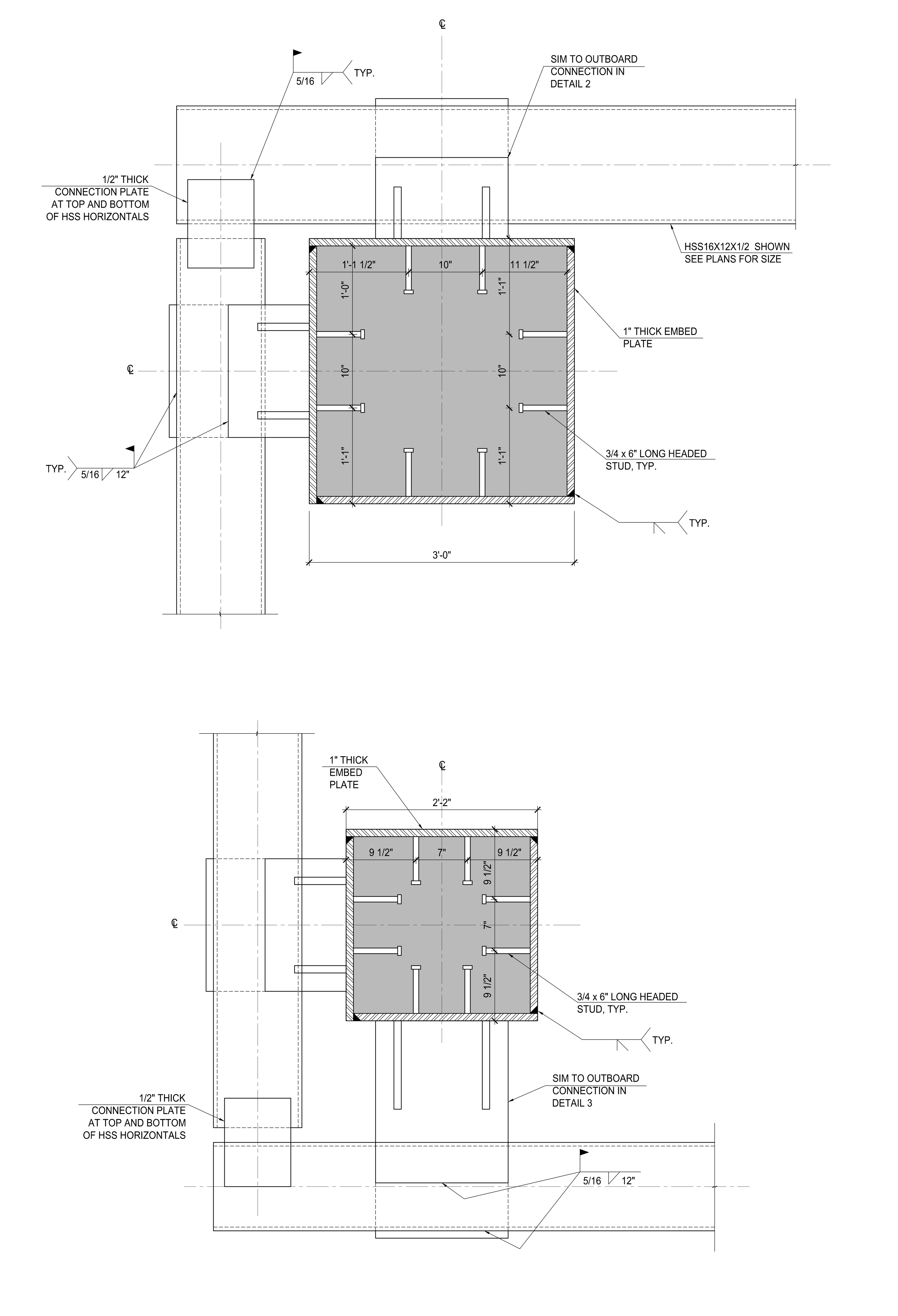
1 HSS CONNECTION TO CON ED WALLS

SCALE: NOT TO SCALE



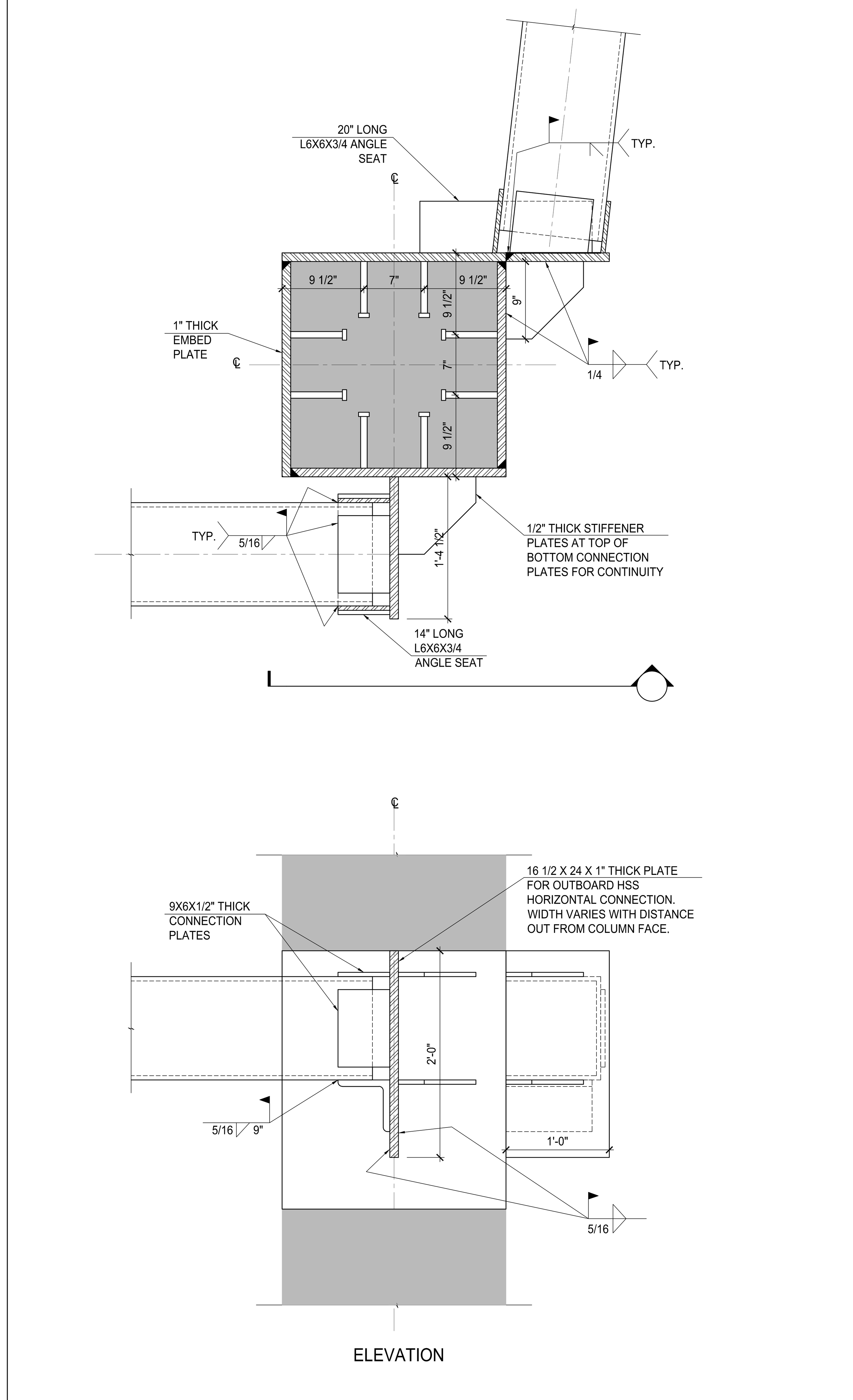
2 LEVEL 1B OUTBOARD CLADDING SUPPORT CONNECTION

SCALE: NOT TO SCALE



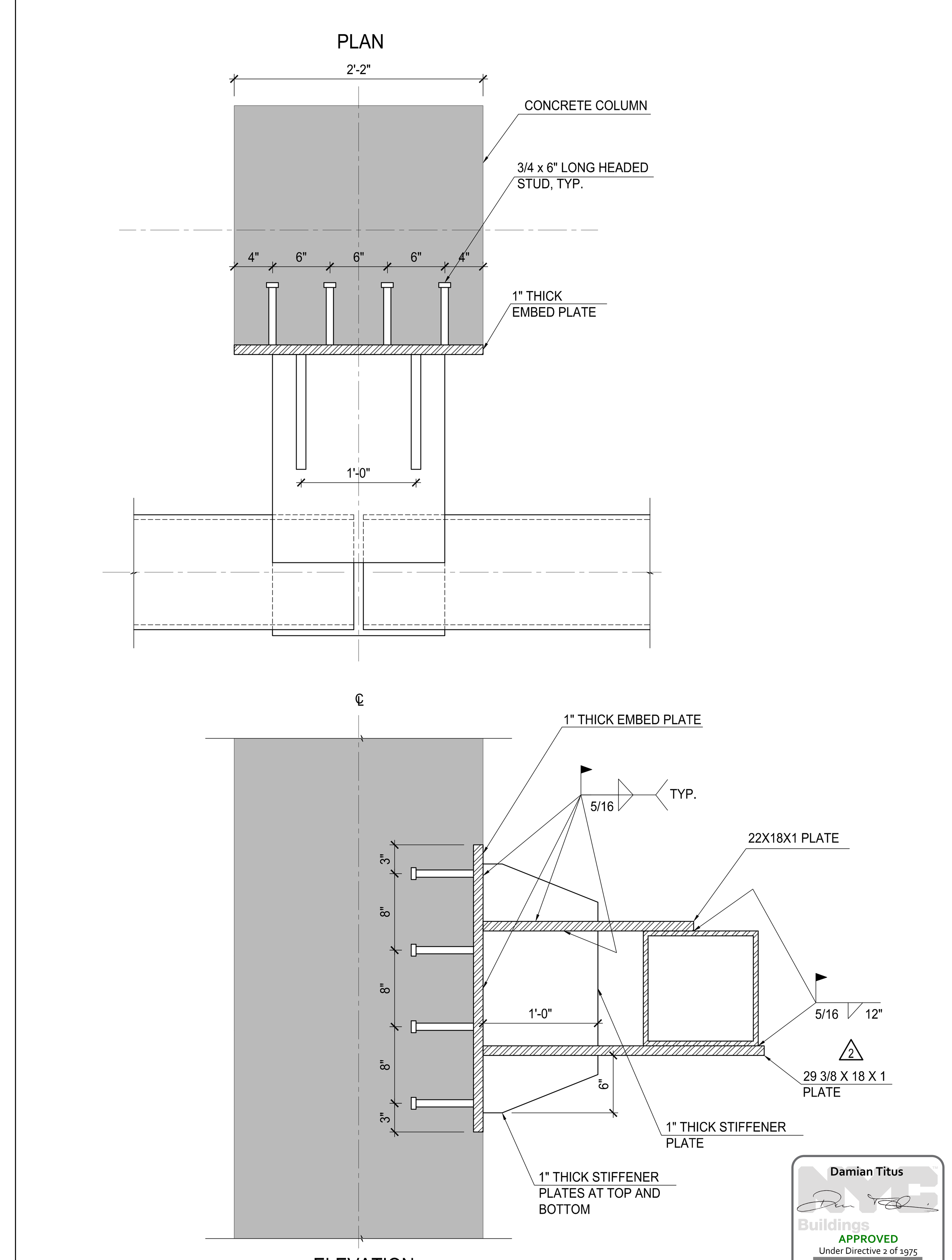
4 LEVEL 1B OUTBOARD CLADDING SUPPORT CONNECTION AT CORNERS

SCALE: NOT TO SCALE



5 CLADDING SUPPORT CONNECTION WITH ONE SIDE OUTBOARD

SCALE: NOT TO SCALE



3 LEVEL 1B OUTBOARD CLADDING SUPPORT CONNECTION AT SOUTH

SCALE: NOT TO SCALE

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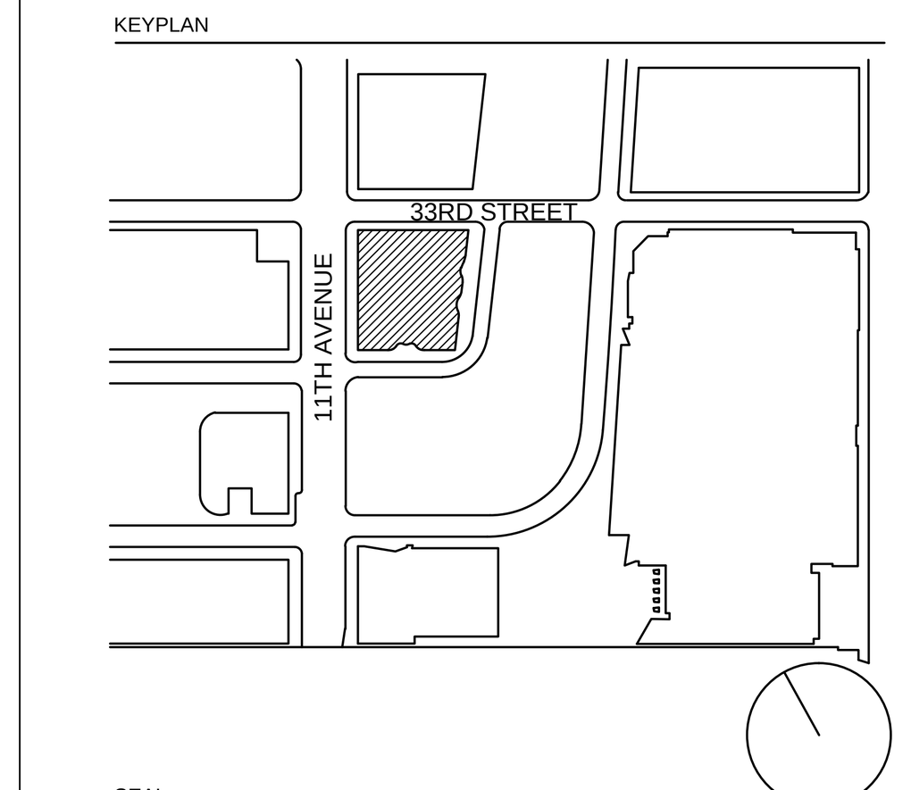

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INTERMEDIATE EXTERIOR WALL SUPPORT DETAILS

B-SCAN - DRAWING NUMBER

S-593.00

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S-516A

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109 OF 112

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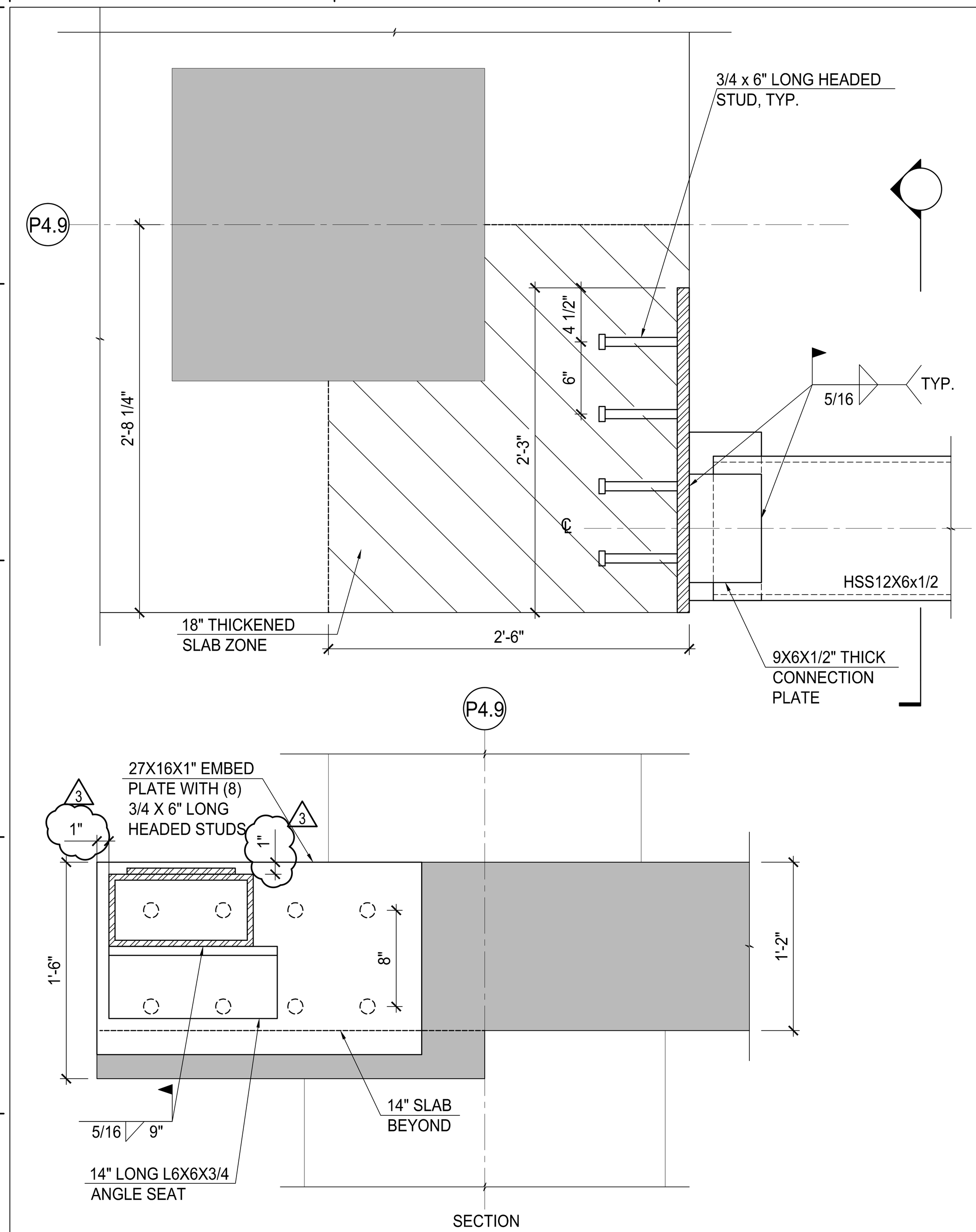
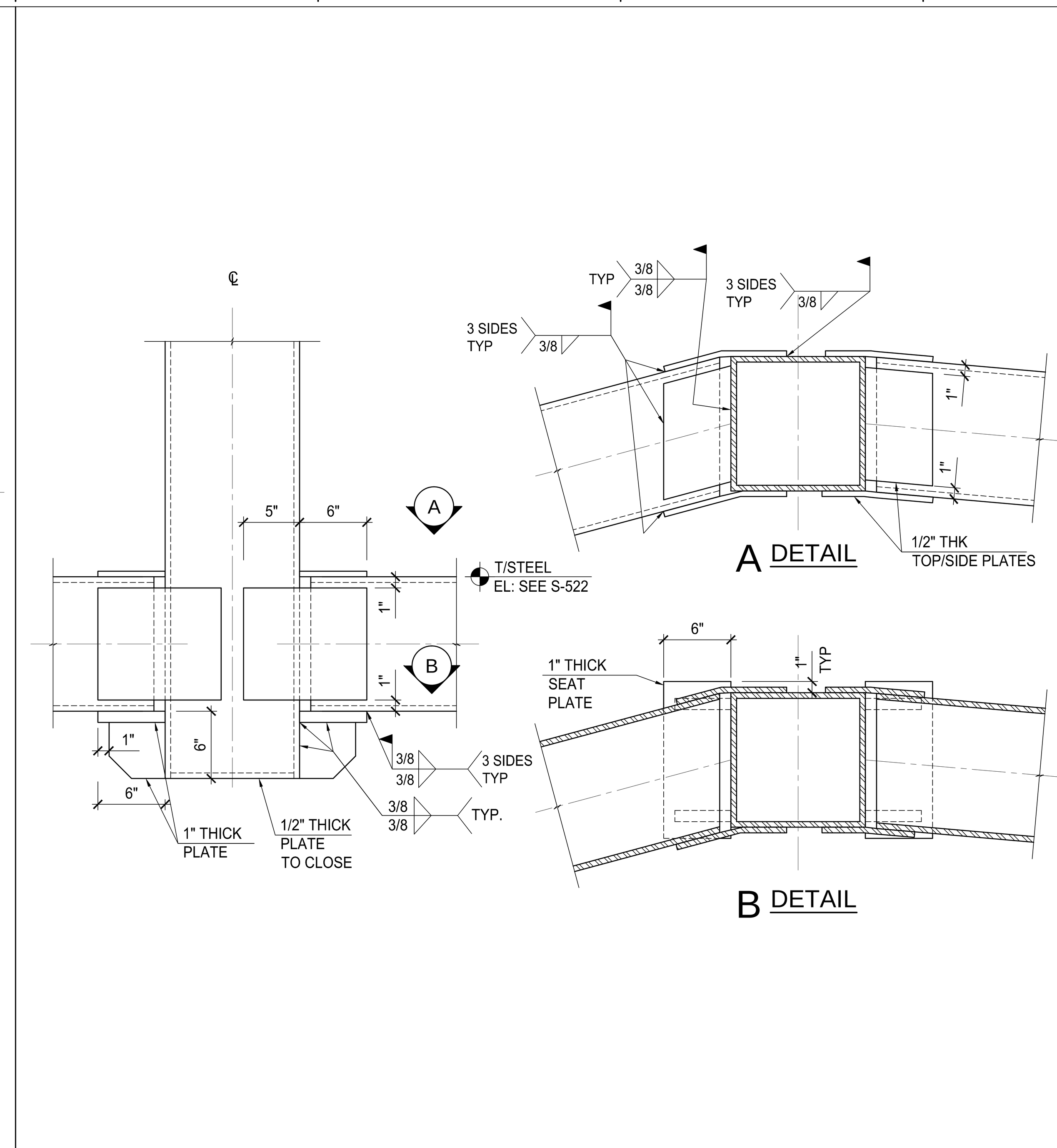


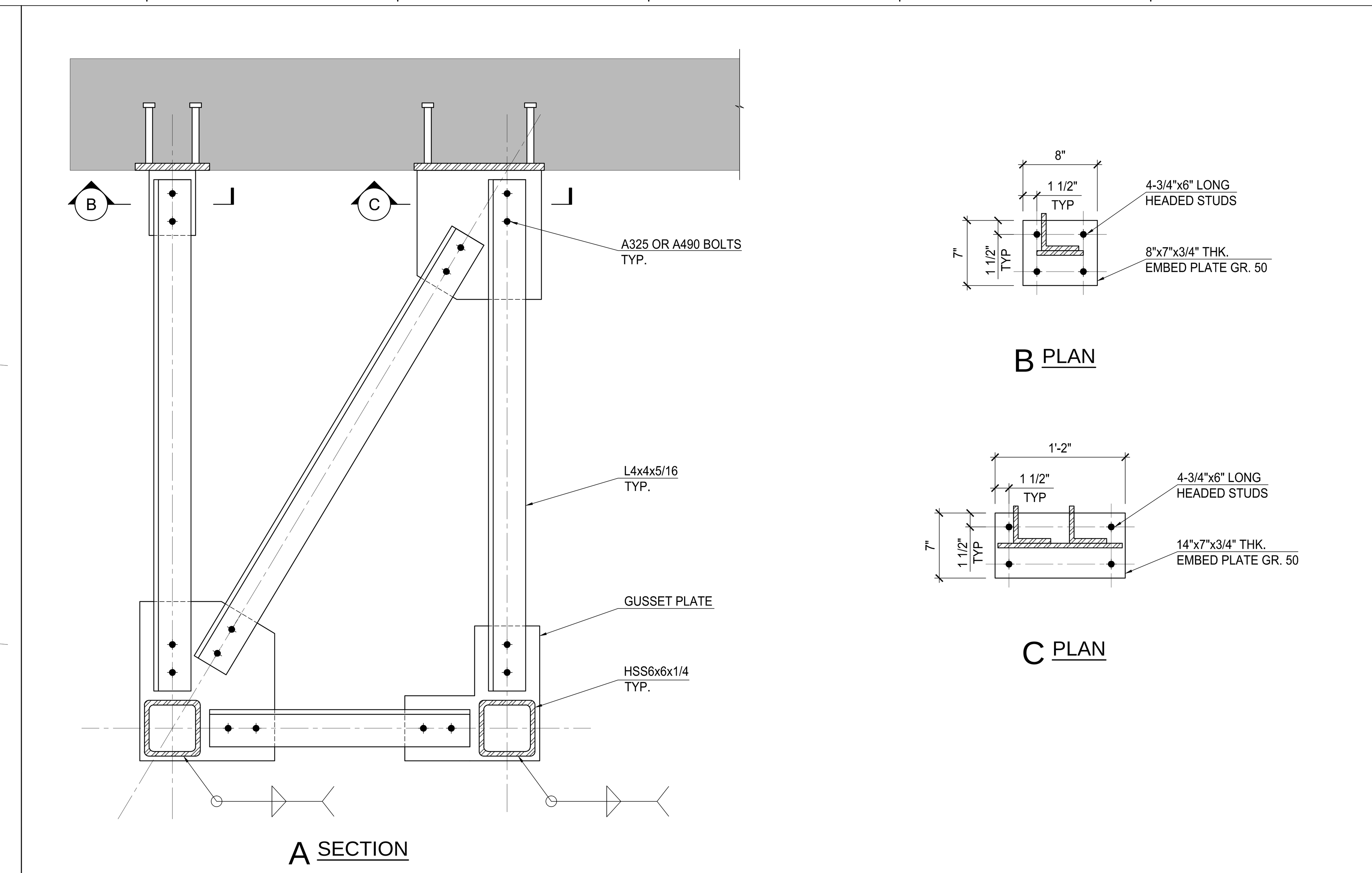
1 LEVEL 2 CLADDING SUPPORT CONNECTION AT SLAB OPENING

SCALE: NOT TO SCALE



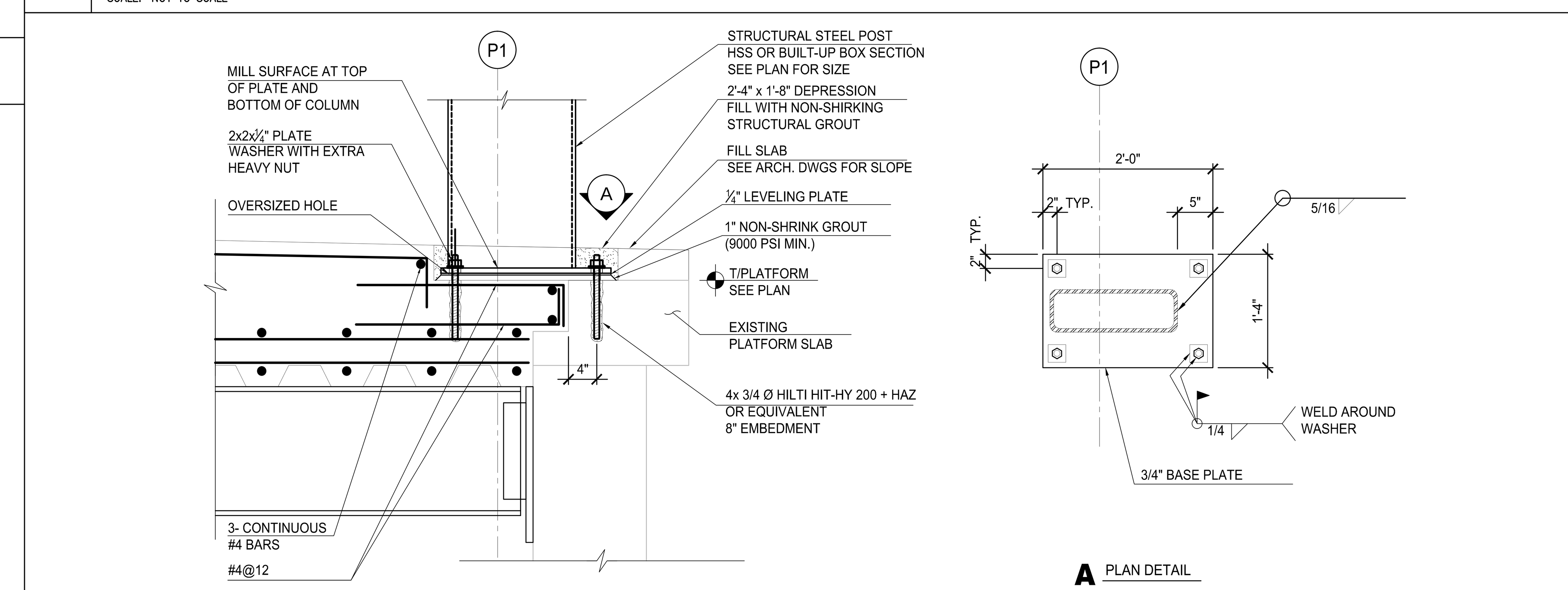
3 HANGER CONNECTION TO ANGLED HSS HORIZONTALS

SCALE: NOT TO SCALE



4 SOFFIT FRAMING AND CONNECTION DETAIL

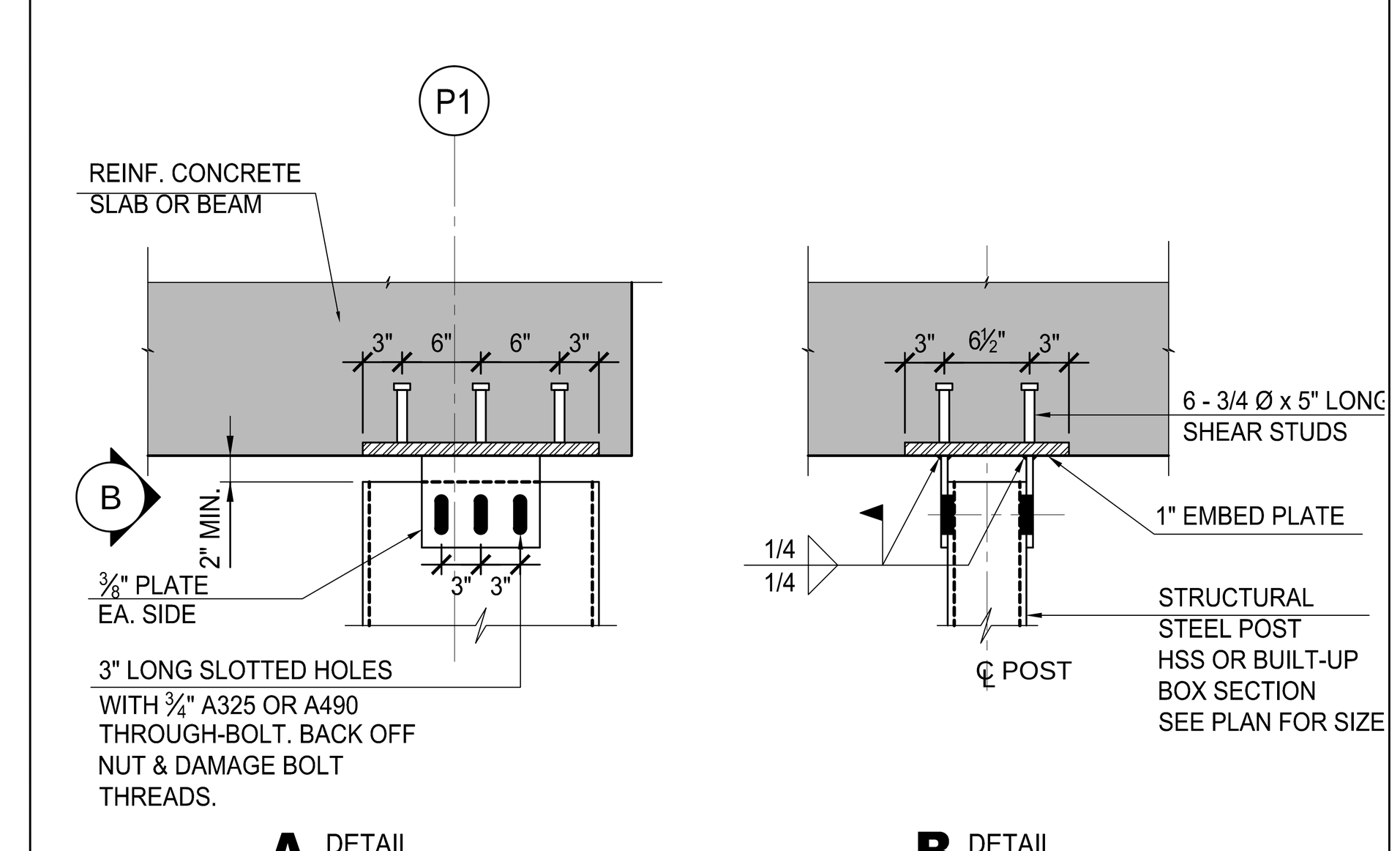
SCALE: NOT TO SCALE



NOTE:
1. FOR TYPICAL LOADING DOCK BARRIER SLAB DETAIL AT TRENCH, SEE DETAIL 13/S-462
2. LOADING DOCK BARRIER ASSEMBLY NOT SHOWN FOR CLARITY

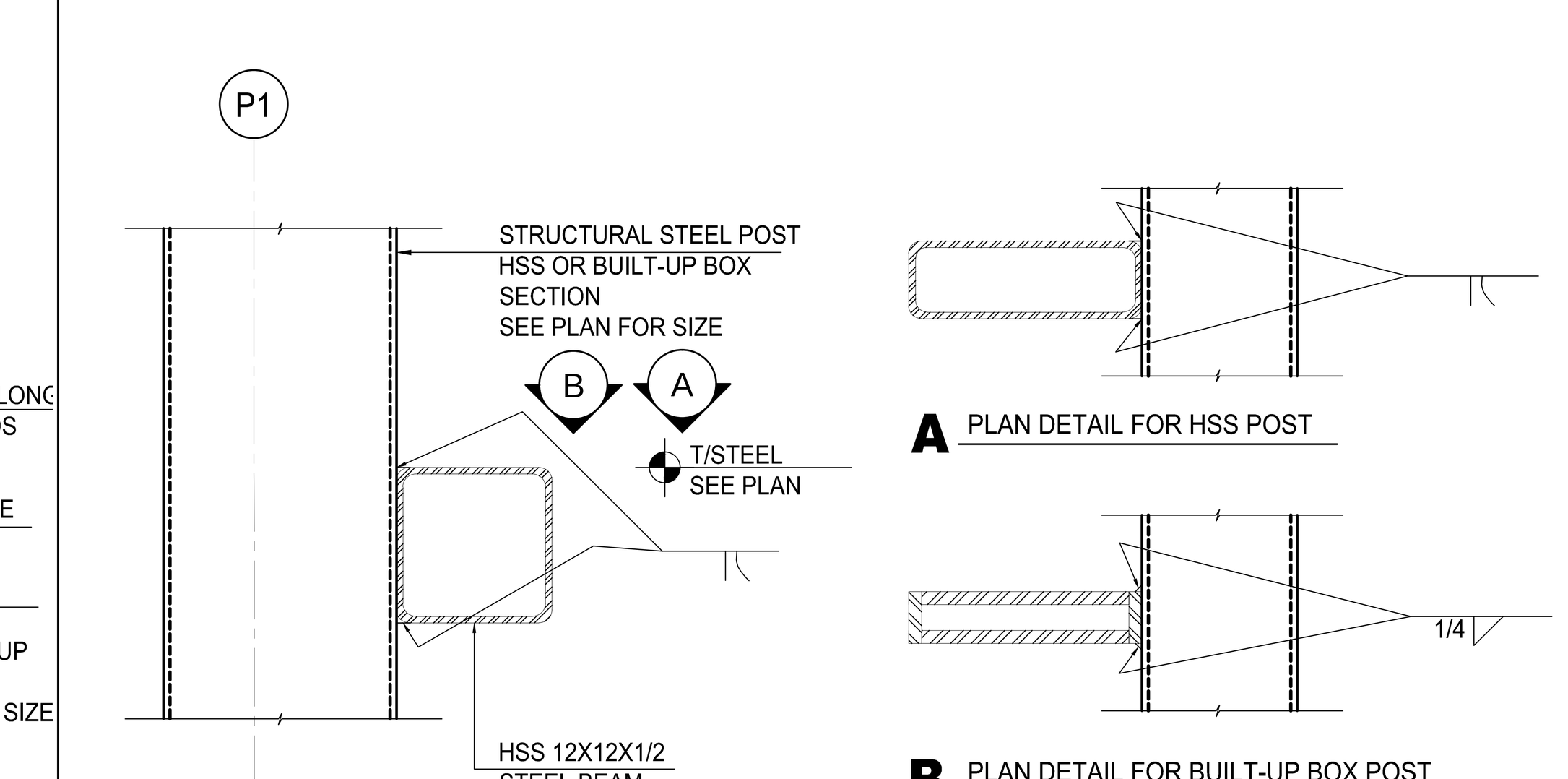
5 LOADING DOCK POST BASE PLATE DETAIL

SCALE: NOT TO SCALE



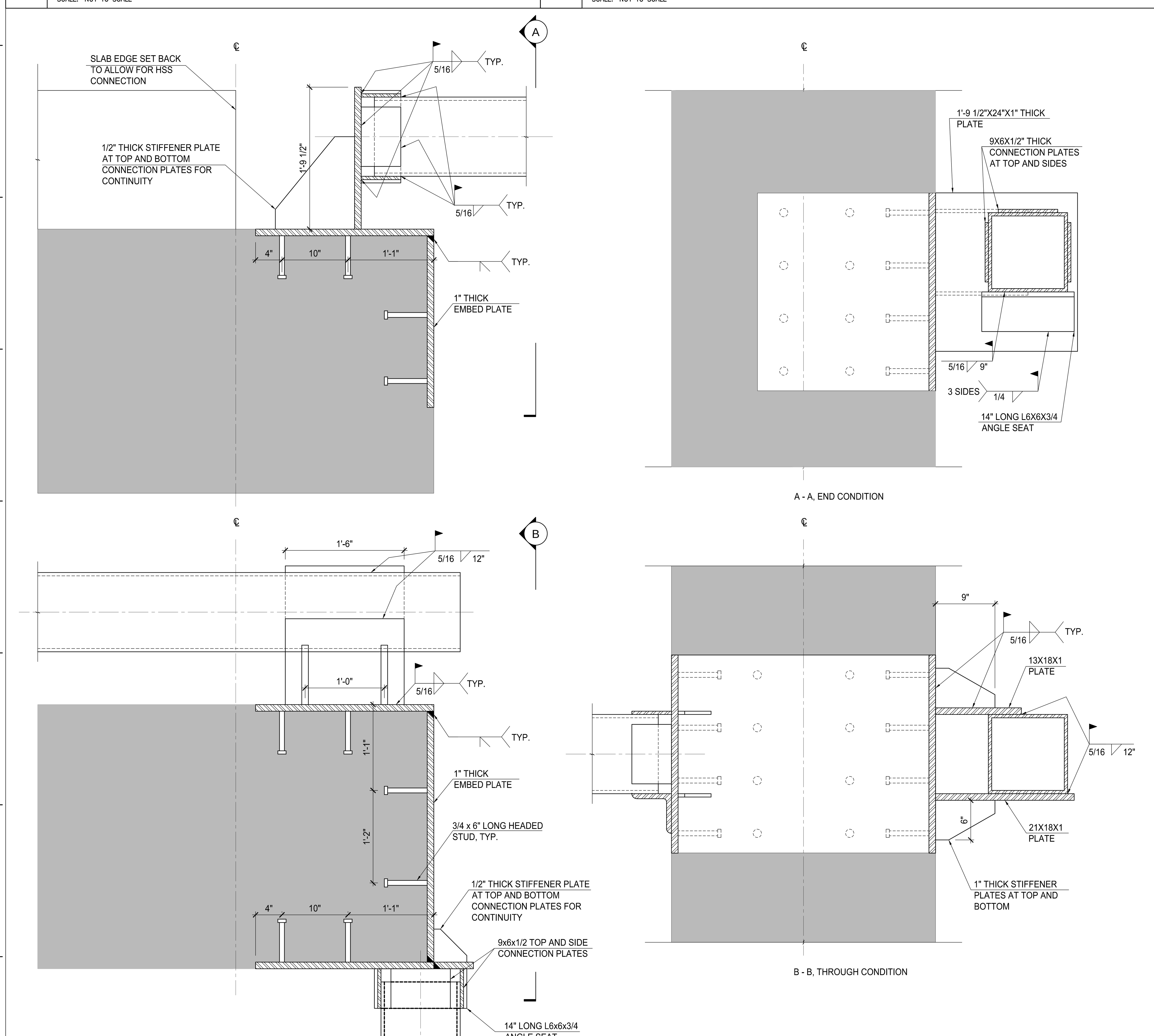
6 LOADING DOCK POST TOP CONNECTION DETAIL

SCALE: NOT TO SCALE



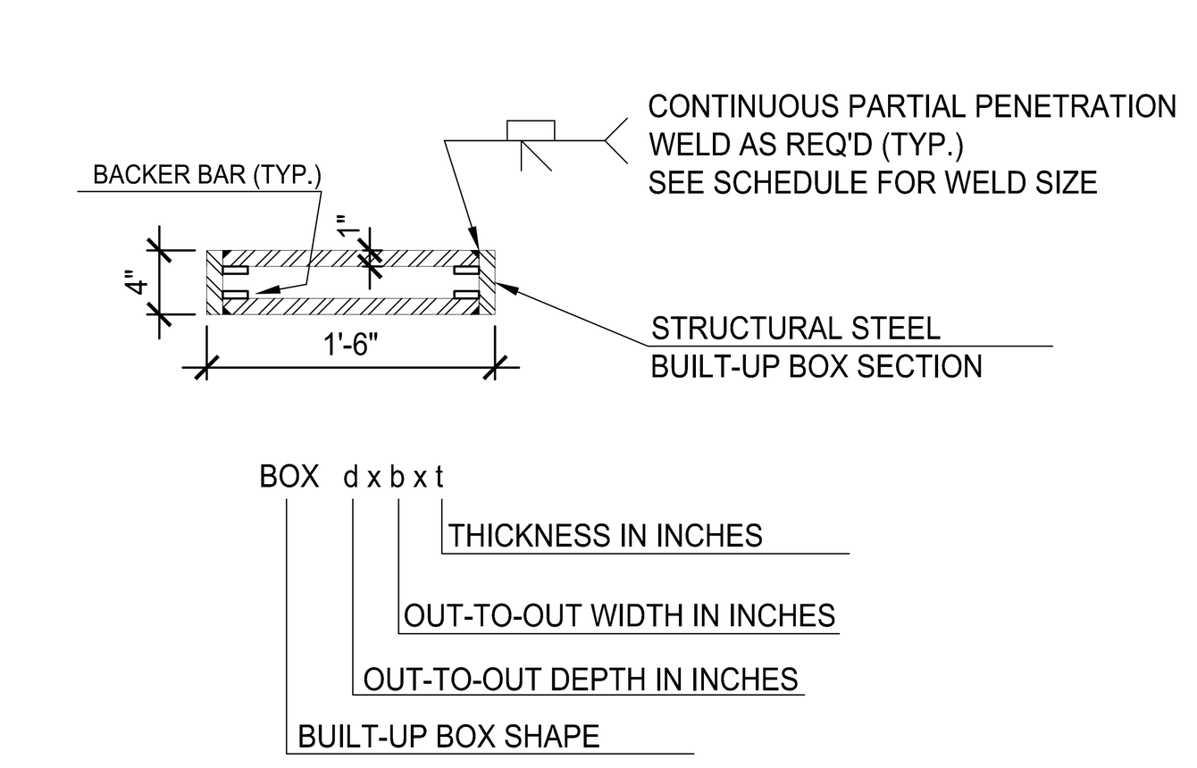
7 LOADING DOCK POST TO HSS BEAM CONNECTION DETAIL

SCALE: NOT TO SCALE



2 CLADDING SUPPORT CONNECTION WITH ONE SIDE OUTBOARD AT OVERSIZED COLUMN

SCALE: NOT TO SCALE



BUILT UP SECTION WELD SIZE SCHEDULE

SECTION	EFFECTIVE THROAT OF PJP WELD SIZE (in)	REMARK
BOX 18 x 4 x 1	5/16	LOADING DOCK DOOR SUPPORT

NOTE: SEE STEEL NOTES FOR MATERIAL

8 BUILT-UP POST DETAIL

SCALE: NOT TO SCALE

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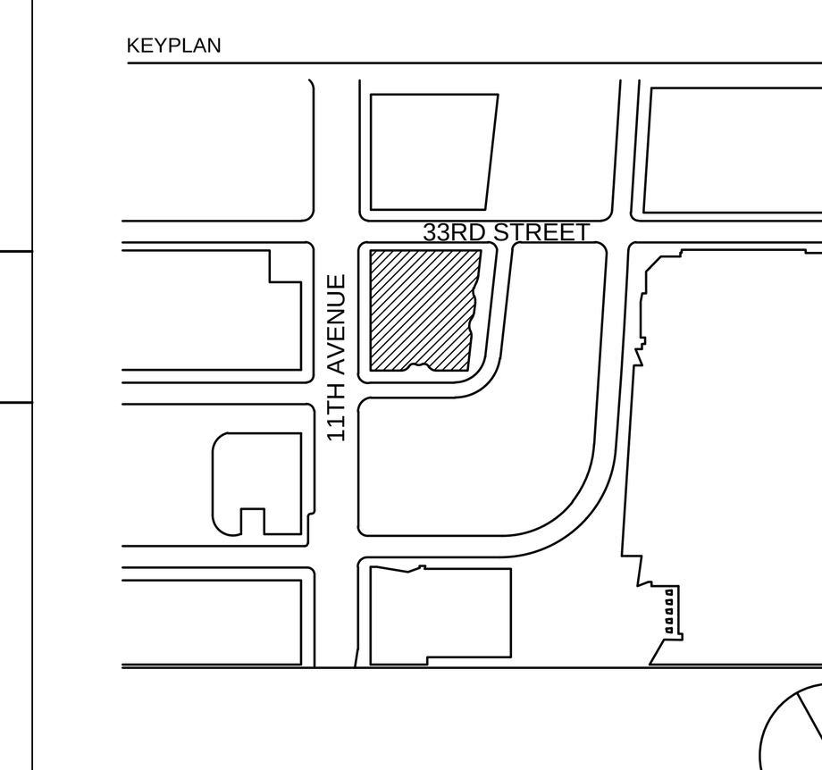

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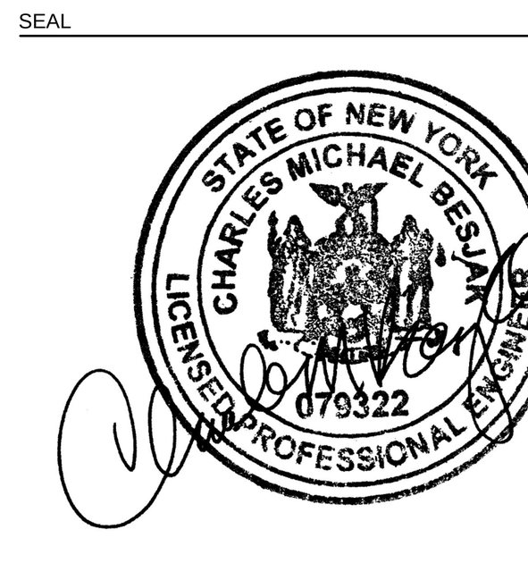

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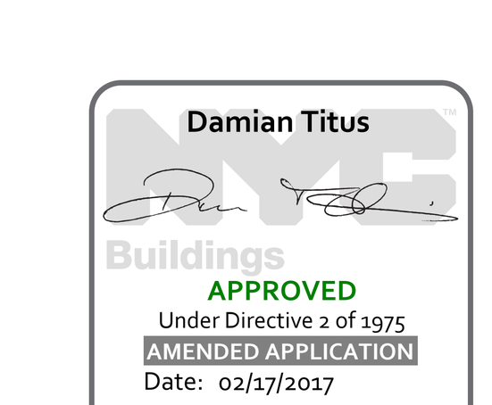
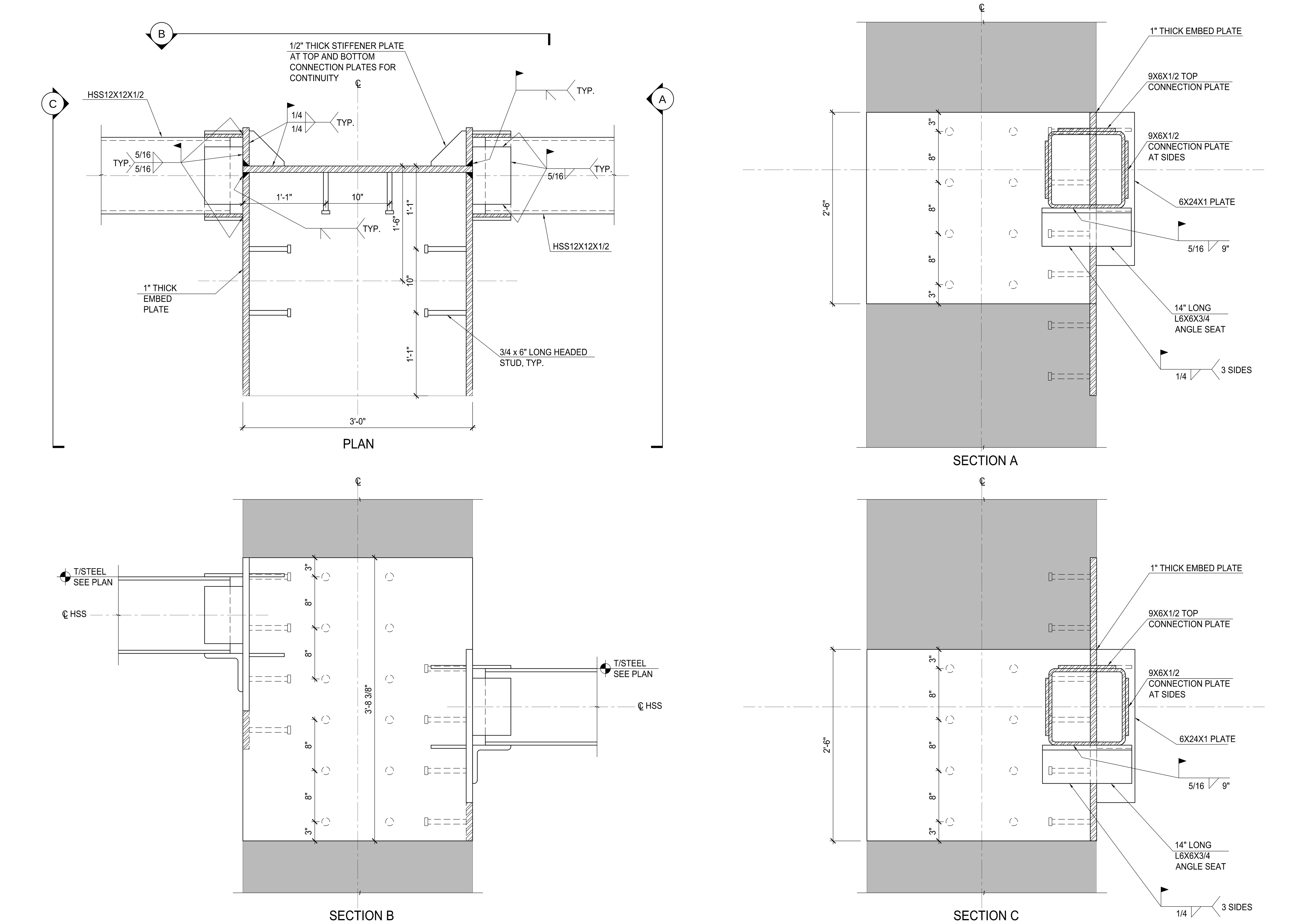
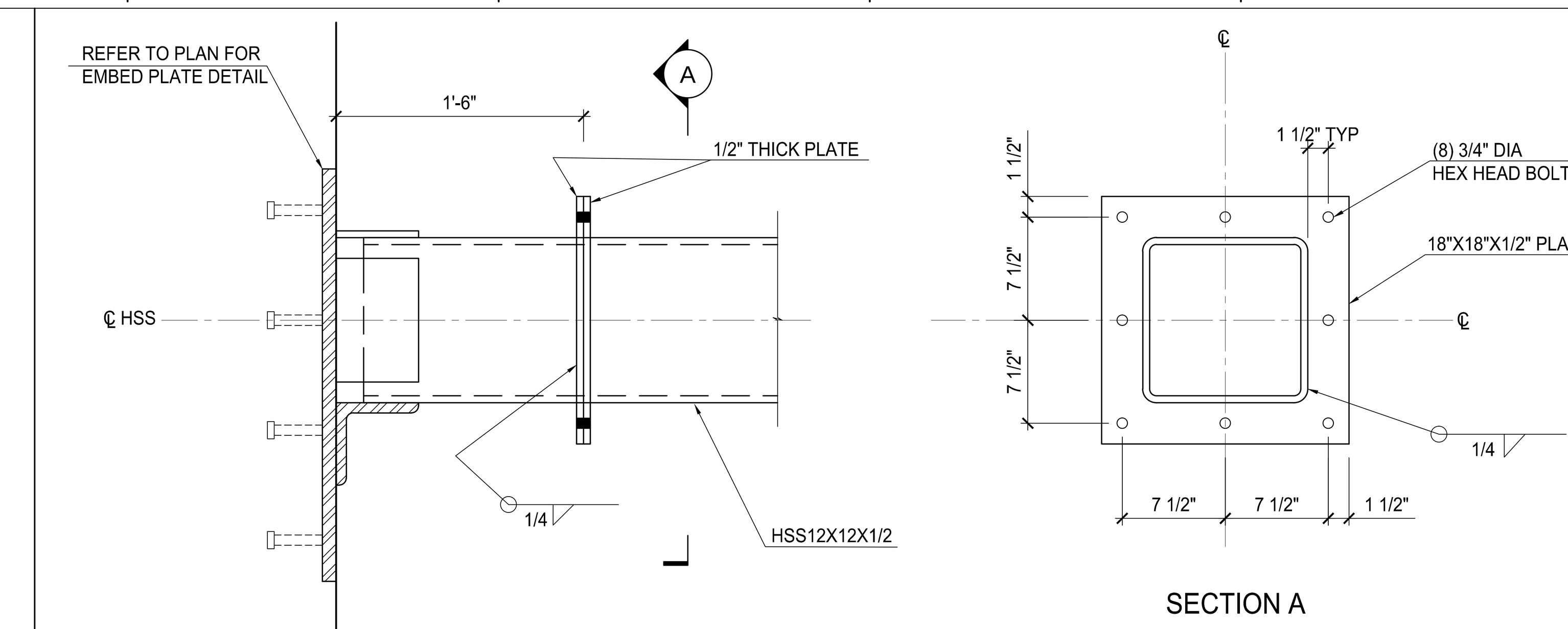




1 L7M CLADDING SUPPORT CONNECTION WITH HSS HORIZONTALS AT DIFFERENT ELEVATIONS

SCALE: NOT TO SCALE



2 L3M REMOVABLE CLADDING SUPPORT DETAIL

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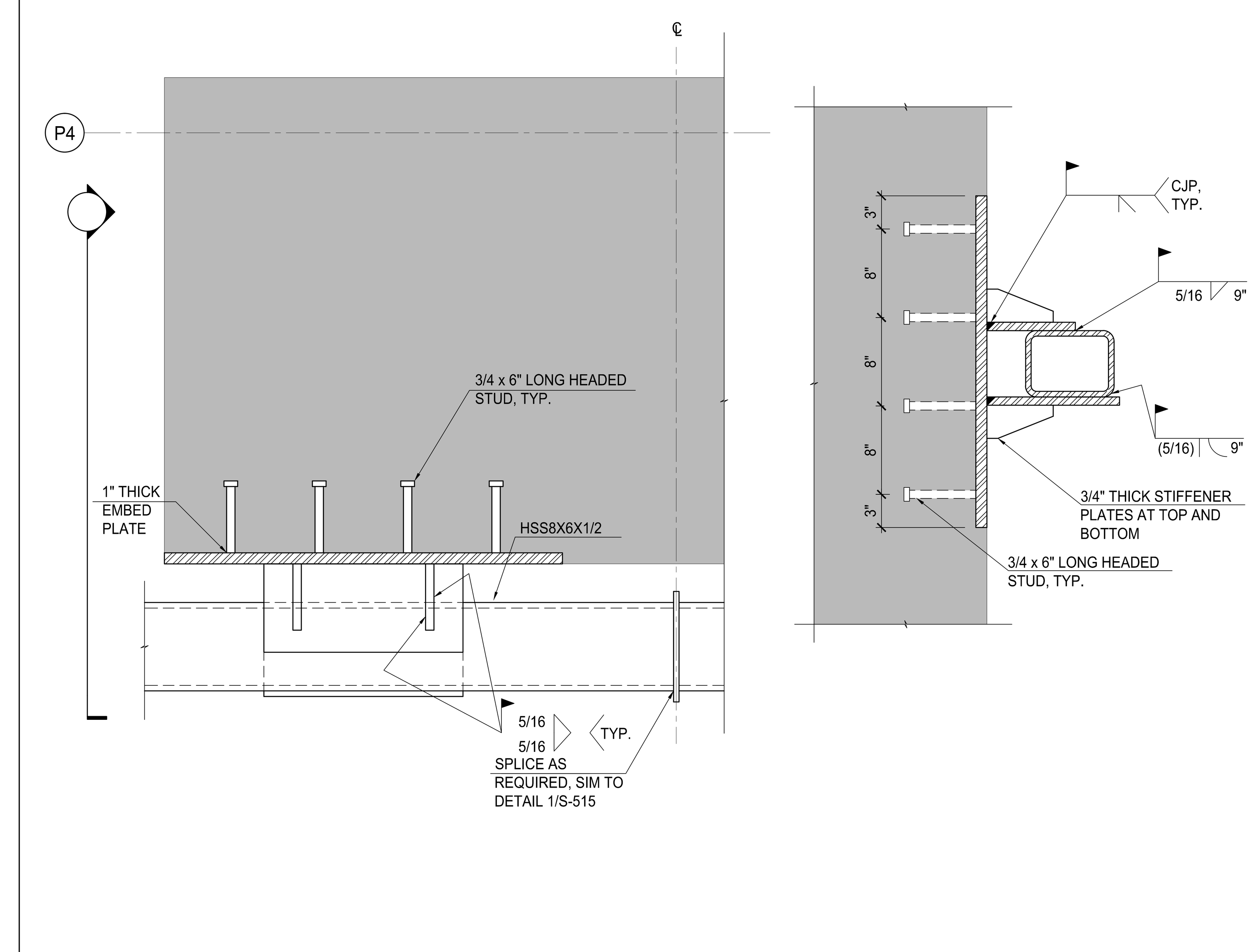
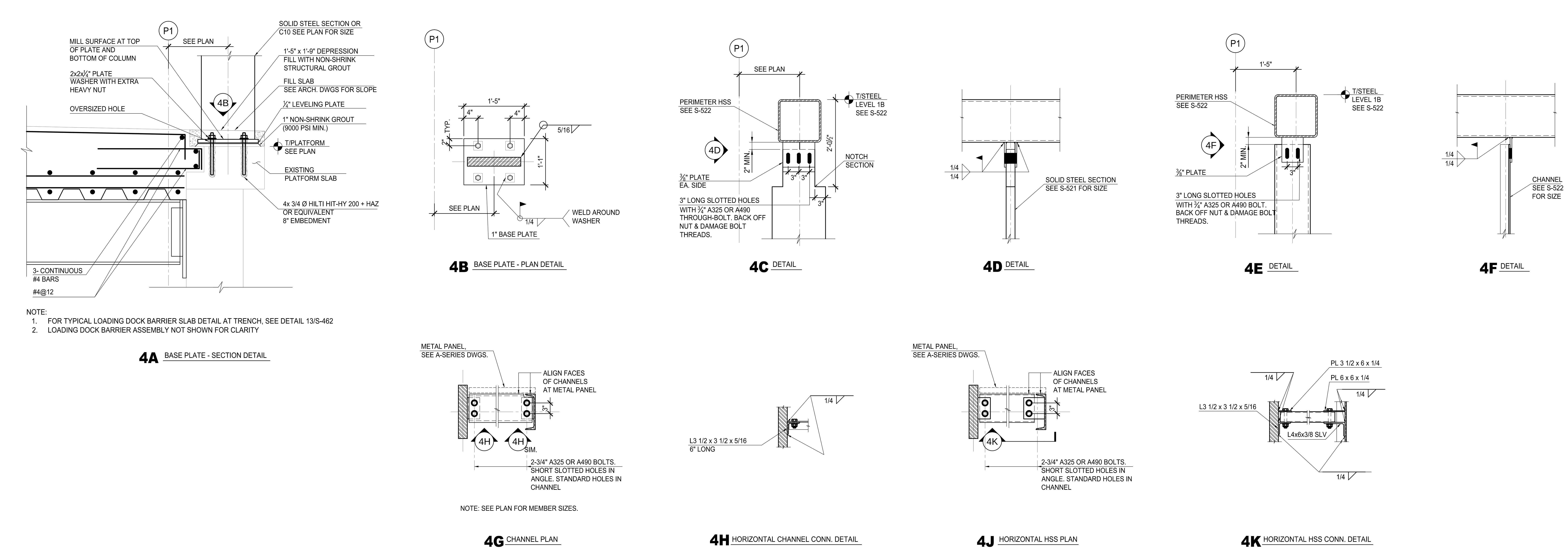


3 L5B CABANA PORTAL TUBE CONNECTIONS

SCALE: NOT TO SCALE



4 METAL PANEL CLADDING SUPPORT DETAILS

SCALE: NOT TO SCALE

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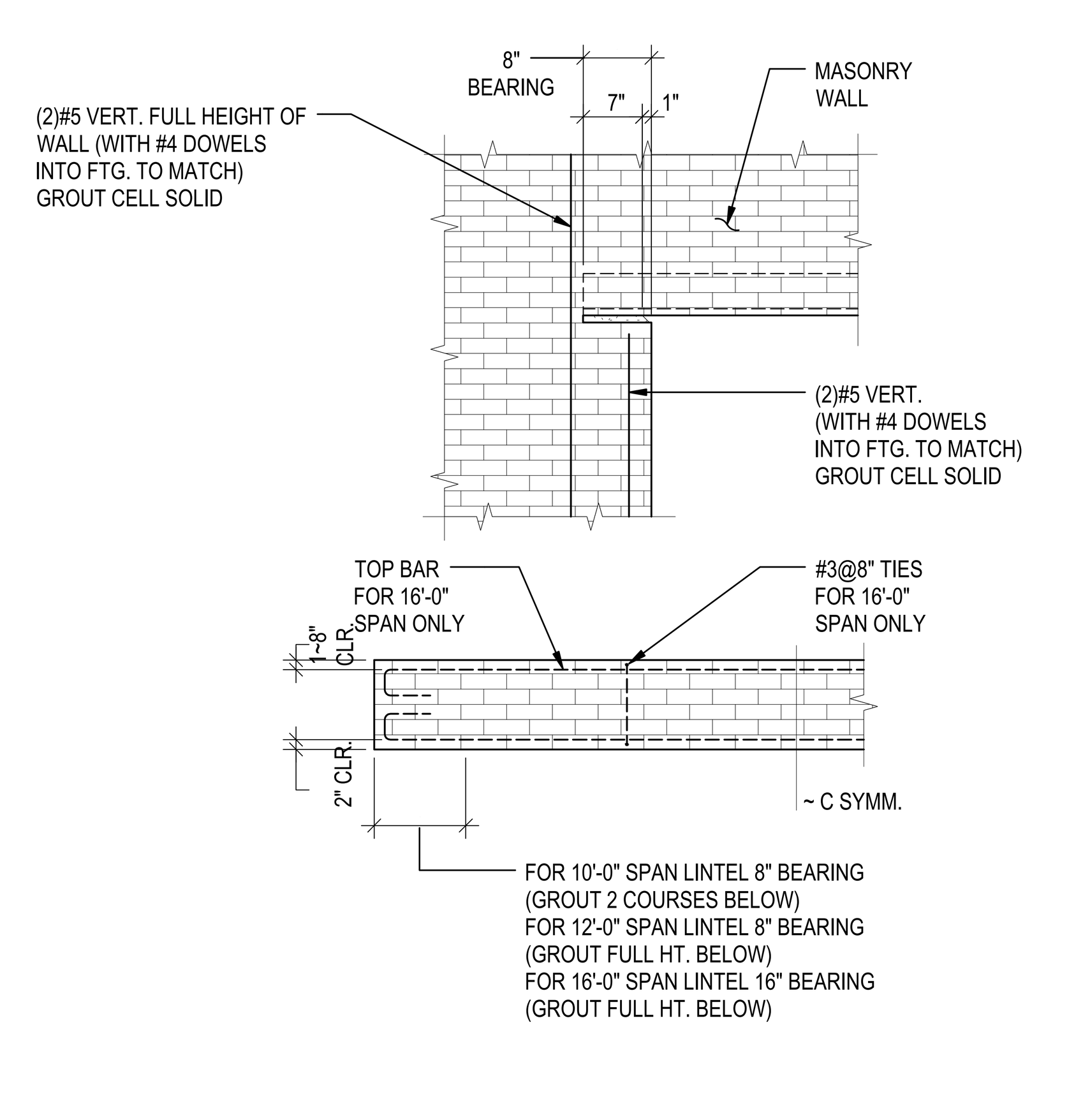
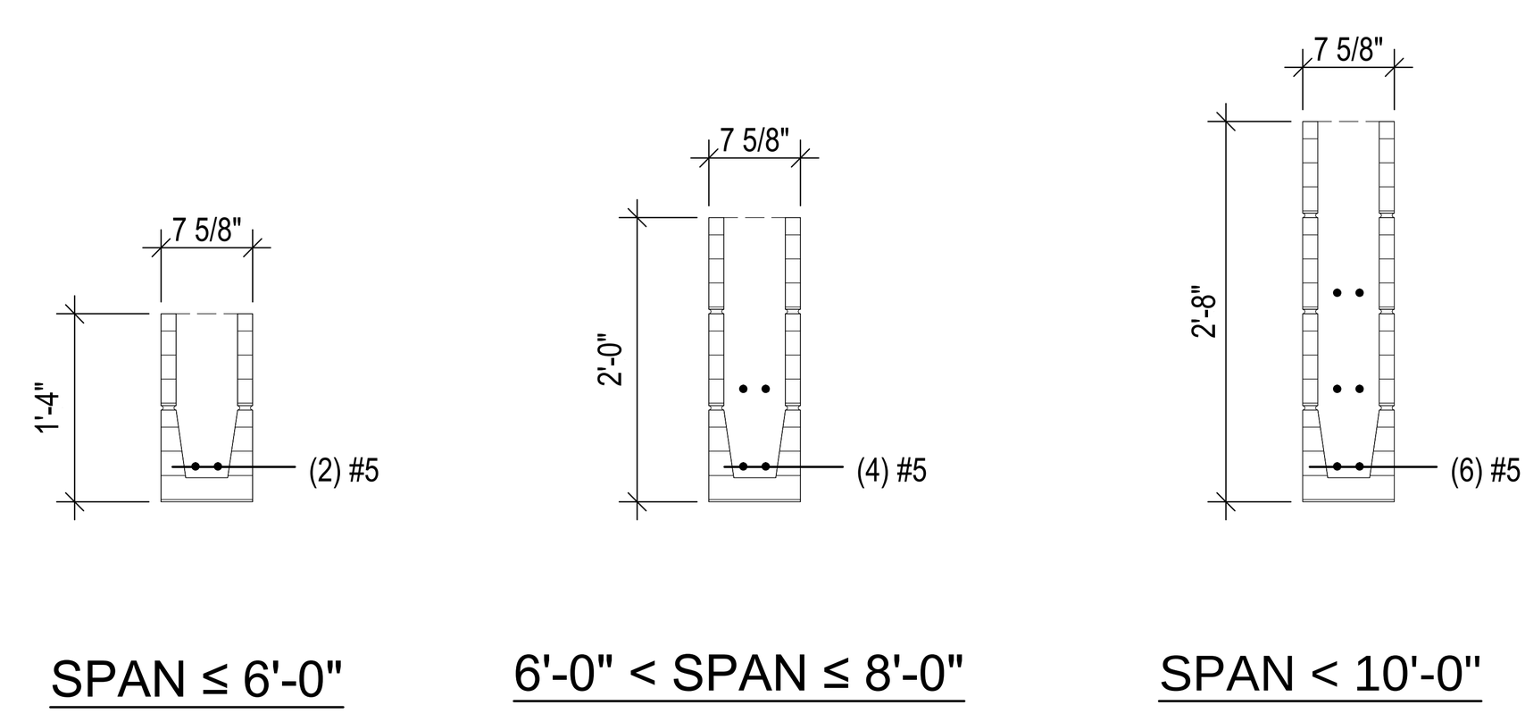
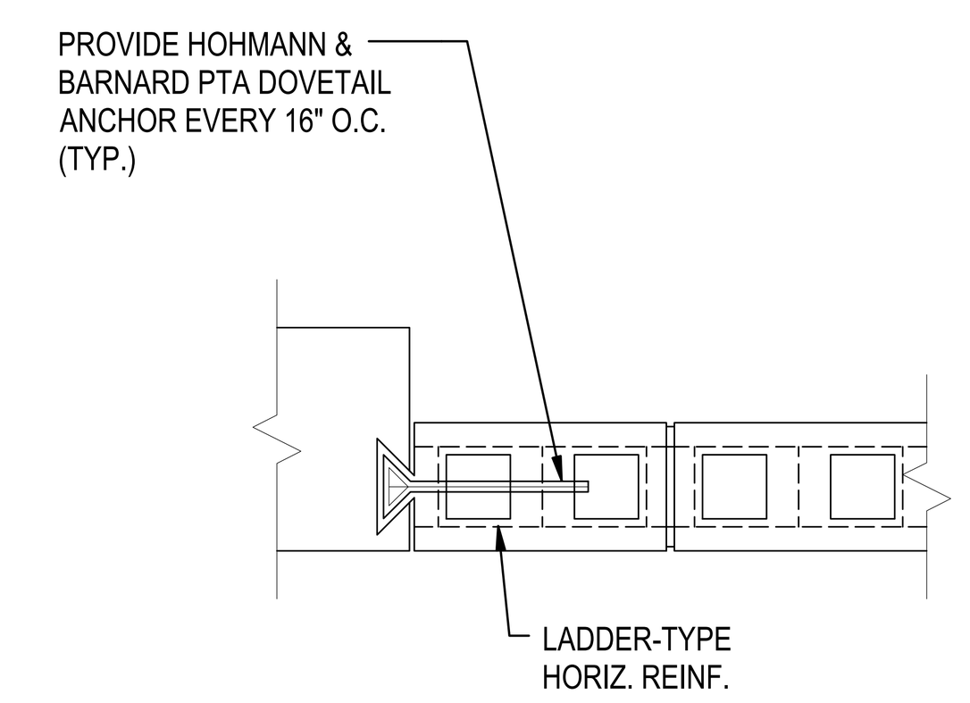


1 CMU LINTEL BEARING DETAIL
SCALE: 1/2" = 1'-0"



2 EXTERIOR CMU LINTEL DETAILS
SCALE: 3/4" = 1'-0"



3 TYPICAL MASONRY ANCHORAGE DETAIL
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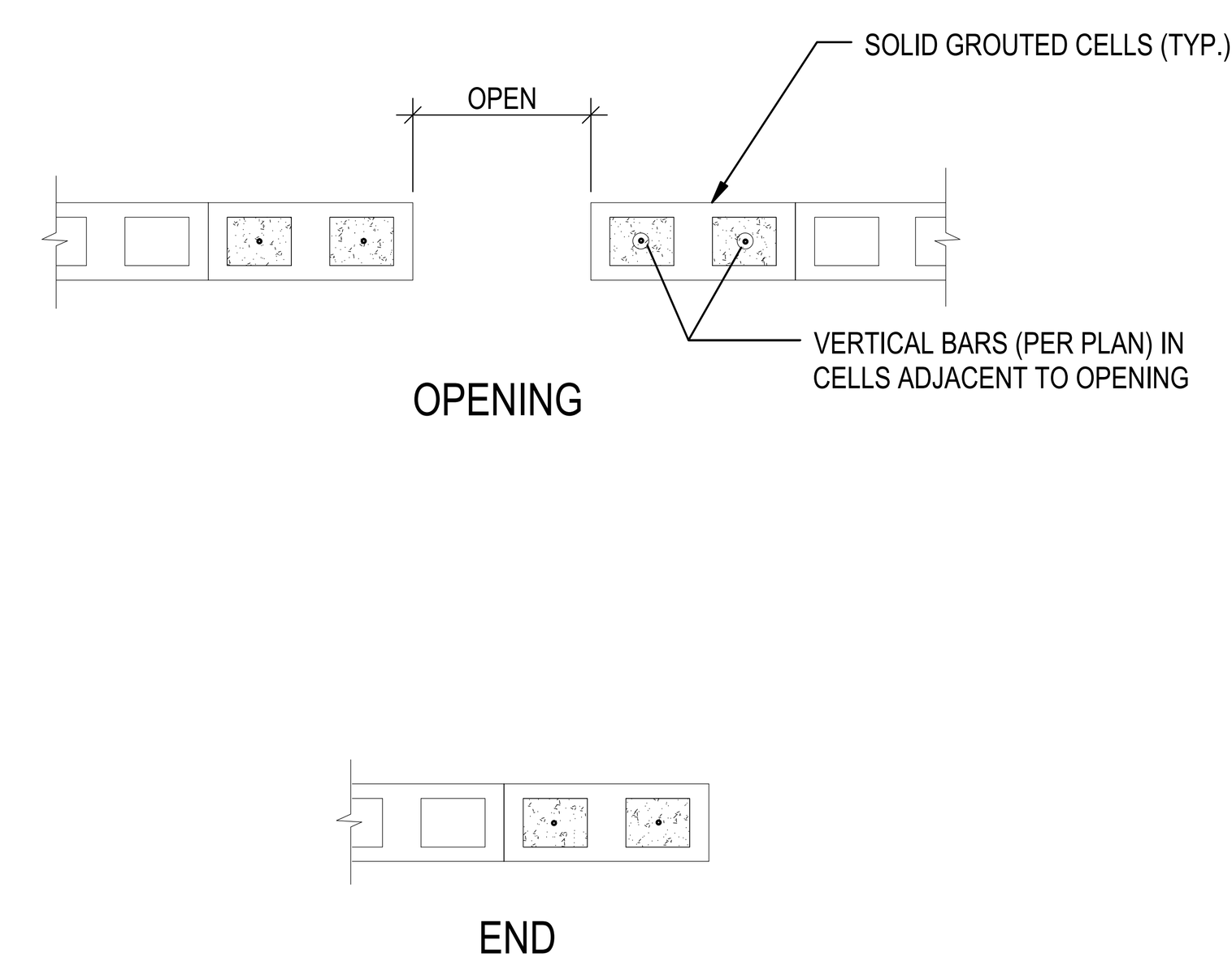

4 TYPICAL OPENING AND END DETAILS
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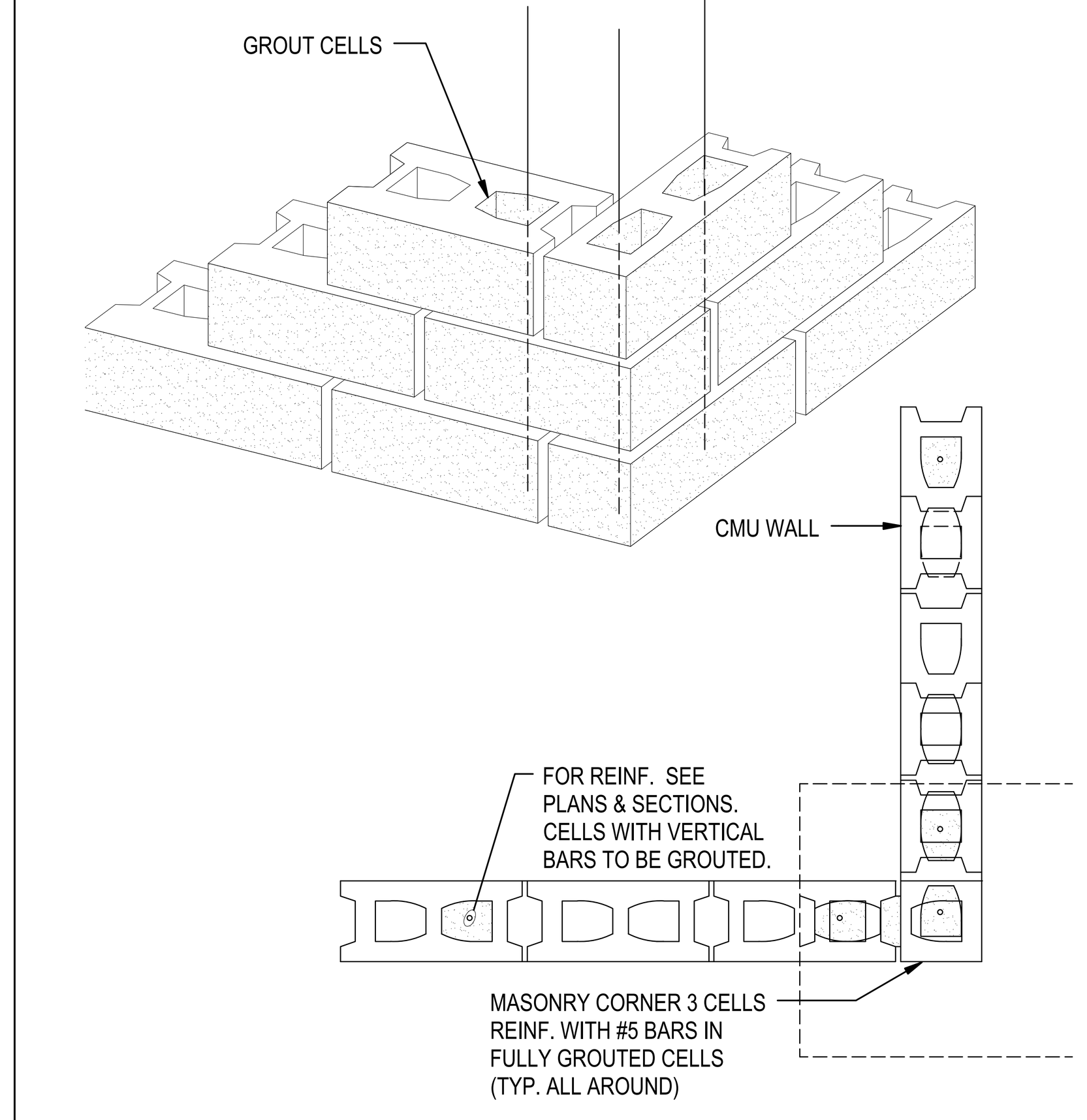
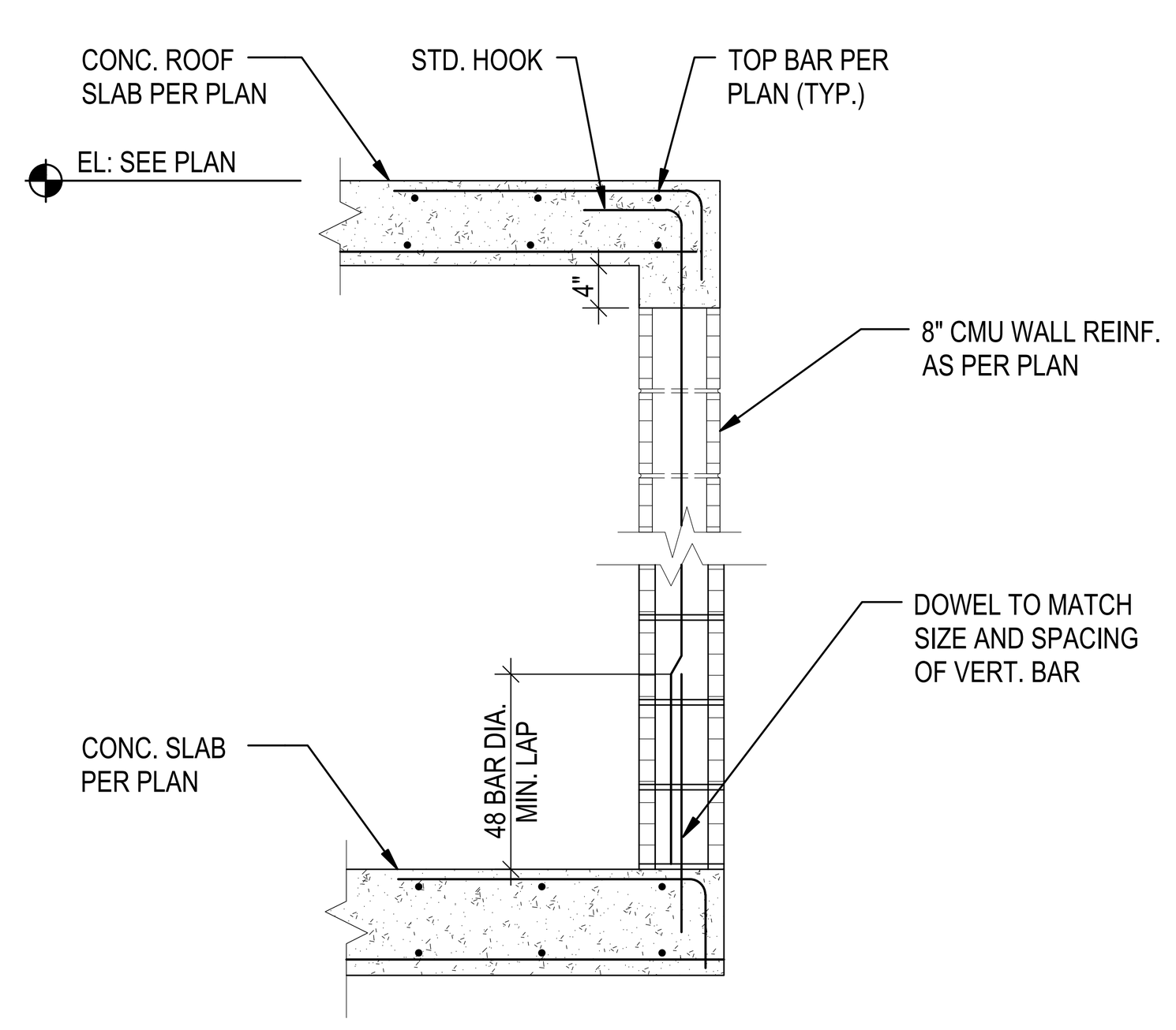
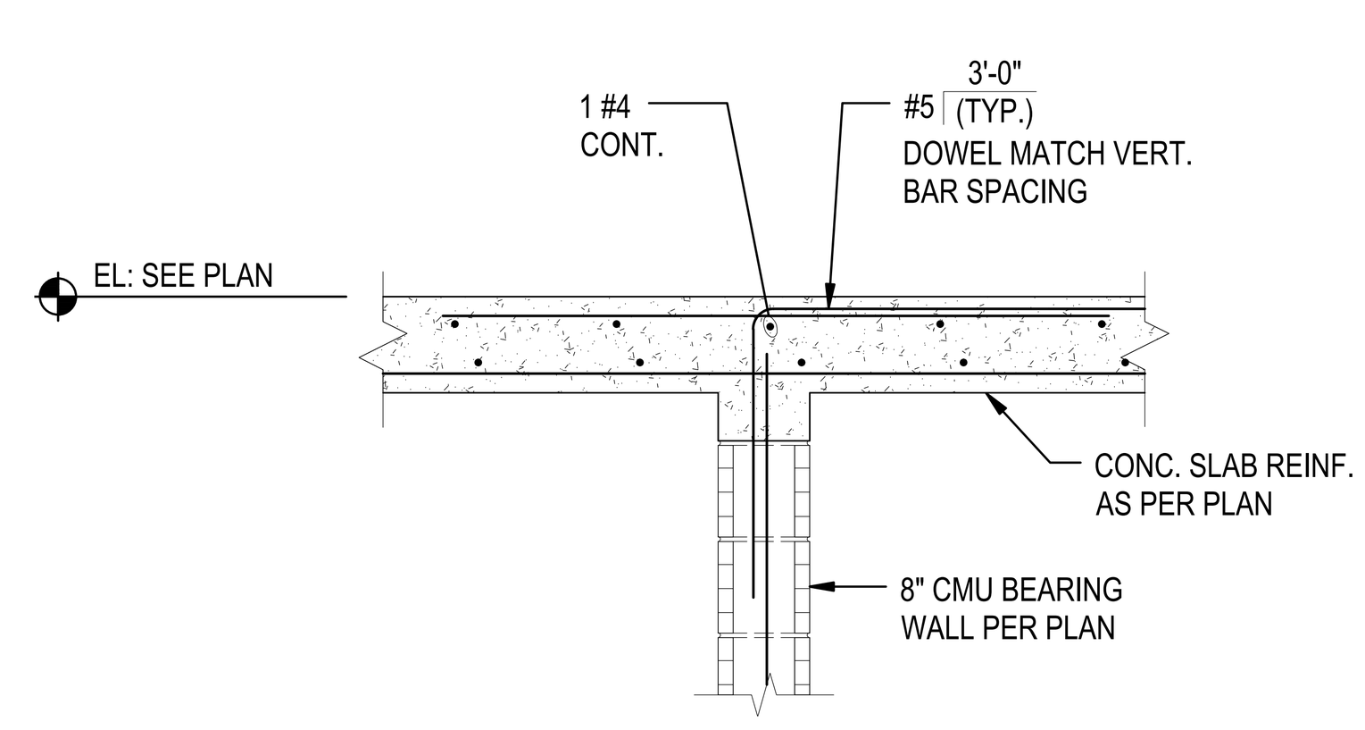


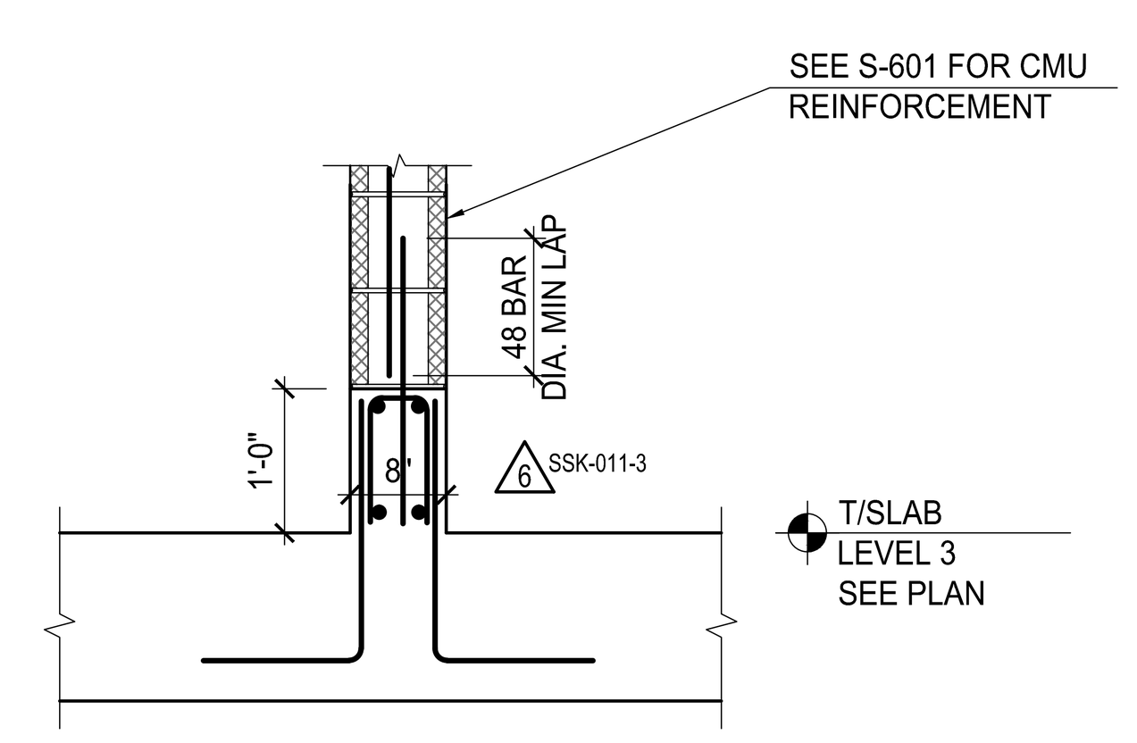
5 TYPICAL CORNER DETAIL
SCALE: 1/2" = 1'-0"



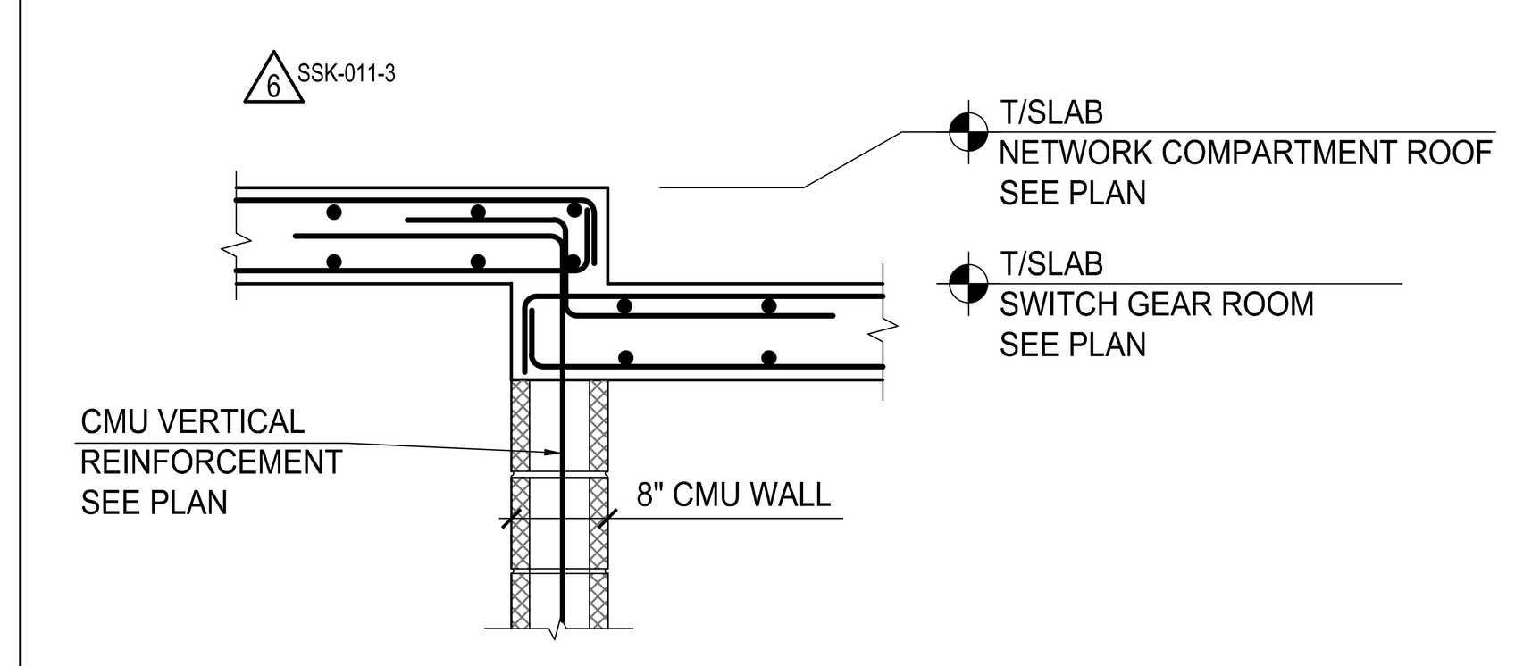
6 TYPICAL EXTERIOR BEARING WALL
SCALE: 3/4" = 1'-0"



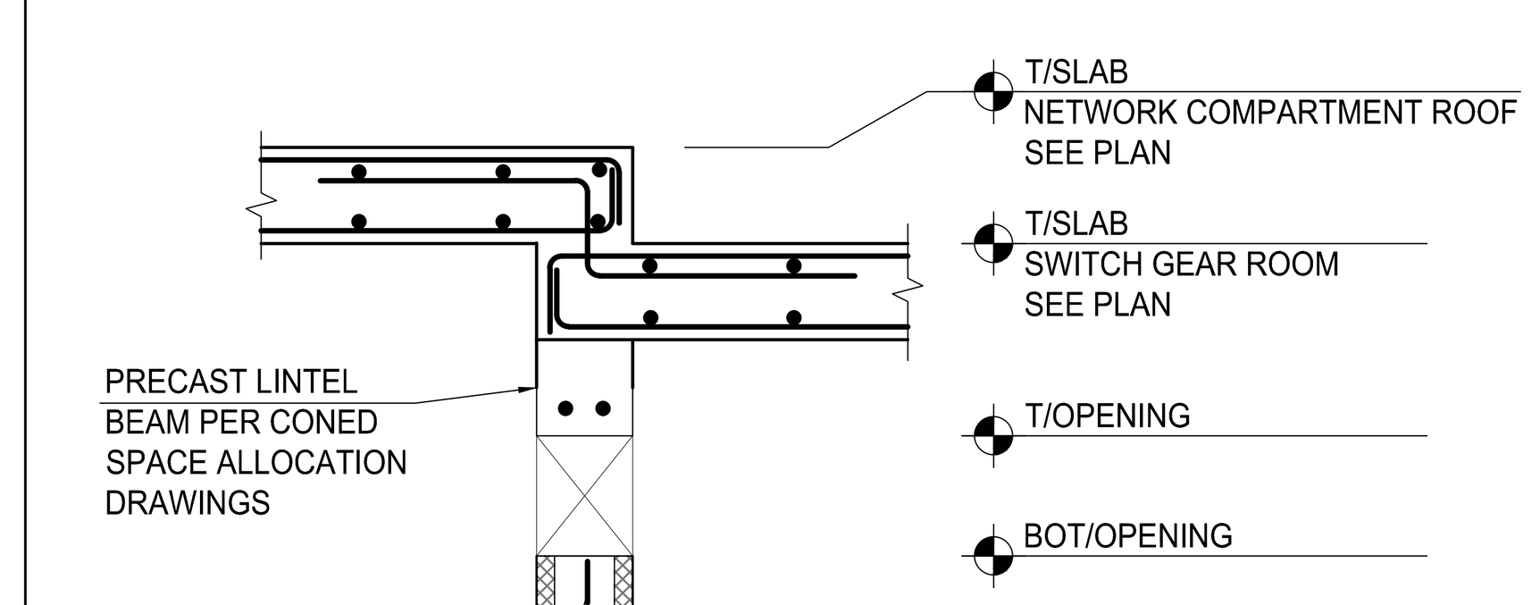
7 TYPICAL INTERIOR BEARING WALL
SCALE: 3/4" = 1'-0"



8 CMU STARTER CURB AT LEVEL 3 NETWORK COMPARTMENT PERIMETER
SCALE: 3/4" = 1'-0"



9 LEVEL 3M SLAB SUPPORT AT CMU WALL
SCALE: 3/4" = 1'-0"



10 LEVEL 3M SLAB SUPPORT AT CMU WALL AT SERVICE OPENING
SCALE: 3/4" = 1'-0"

SSK-011-3

GENERAL NOTE:
THESE DETAILS APPLY TO STRUCTURAL MASONRY ONLY. STRUCTURAL MASONRY IS THE ONLY MASONRY SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND DETAILS OF NON-STRUCTURAL MASONRY.

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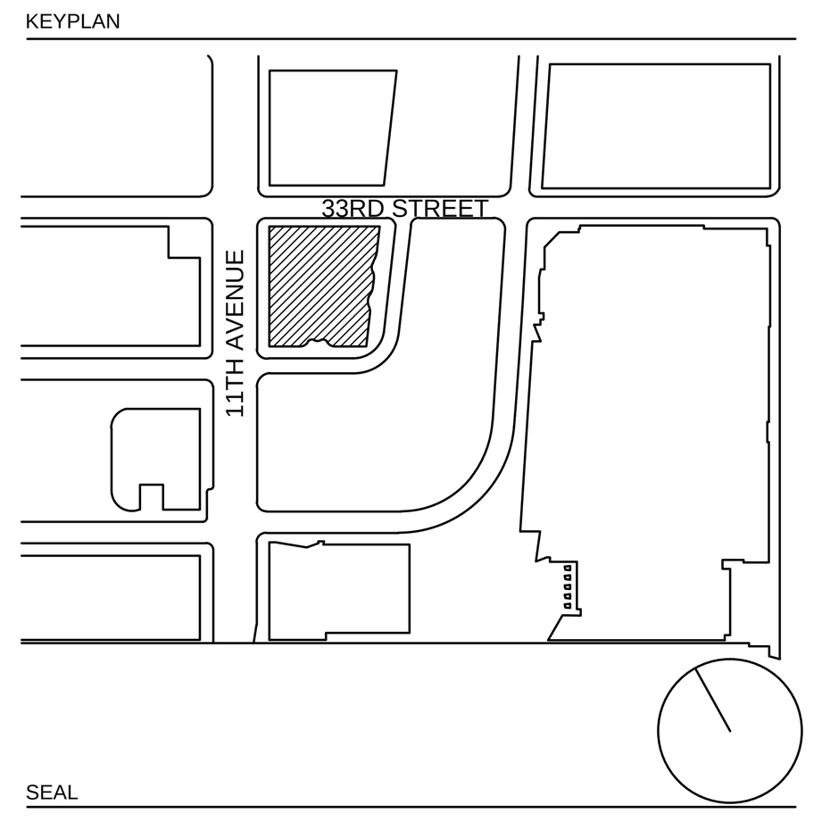
KEYPLAN



SEAL

NO.	DATE	DESCRIPTION
7	20 JAN 2017	ISSUED TO DOB
6	16 DEC 2016	ISSUED FOR BULLETIN NO. 5
5	13 MAY 2016	ISSUED FOR CONSTRUCTION DOCUMENTS
4	04 MAR 2016	ISSUED FOR CONCRETE/STEEL ADD. 9
3	15 JUL 2015	ISSUED FOR CONCRETE/STEEL BID ADD.
2	22 APR 2015	ISSUED FOR DESIGN DEVELOPMENT
1	15 JAN 2015	ISSUED TO DOB

DRAWING TITLE
TYPICAL MASONRY DETAILS

B-SCAN - DRAWING NUMBER
S-601.01

DRAWING NUMBER
S-601

Damian Titus
Buildings
APPROVED
Under Directive 2 of 1975
Date: 02/17/2017
NYC Development Hub