SYMBOLS LEGEND

SYMBOL	DESCRIPTION
-	GRID LINES
X / XX	SECTION OR DETAIL CUT; SHEET NUMBER
X / XX	ELEVATION CUT; SHEET NUMBER
XXX'-XX"	ELEVATION CALLOUT
X	DRAWING REVISION NUMBER
	CURRENT REVISION CLOUD
	WELDED-WIRE REINFORCEMENT
	ROUGHENED SURFACE, INTENTIONALLY ROUGHEN TO 1/4" AMPLITUDE, UNO
	SERVICE LOAD PROVIDED FOR SPECIALTY DESIGNER
	STEP
	SLOPE
1	KEY NOTE
	SUBGRADE
	FORM SAVER

SYMBOL	DESCRIPTION
[XX.Xk], X"	MECH UNIT (XX.Xk = MECH UNIT OPERATING WEIGHT IN KIPS INCLUDING INERTIA BASE); EXTENT OF CONCRETE PAD; PAD THICKNESS
X	PENETRATION THRU STRUCTURAL MEMBER
	STRUCTURAL MAS WALL CONTROL JOINT
	CAST-IN-PLACE CONCRETE
	OVERFRAMING

SYMBOL	DESCRIPTION
SOGXXA	SLAB TYPE; SLAB THICKNESS; TYPE
F1 / XX'-X"	FTG MARK (SF = STRIP FTG); T/FTG EL
CXX	COLUMN SIZE OR MARK

SYMBOL	DESCRIPTION
XXk — BEAM SIZE [XX] c=X" — XXk (XXX'-XX")	STEEL BEAM; SHEAR STUD QUANTITY; ULTIMATE BM REACTION USING LRFD LOAD COMBINATIONS (KIPS); CAMBER (INCHES); EL OF T/STEEL
	FULL HEIGHT SHEAR CONNECTION, SEE 1B-S5.02
2E3.25A / XXX'-XX"	DECK TYPE; ABOVE DECK CONCRETE THICKNESS; TYPE; DECK SPAN DIRECTION; T/SLAB AT SLAB-ON-DECK

NOTES:
1. ITEMS NOT DESIGNED BY M/M ARE SHOWN HALFTONED,
2. ITEMS INCLUDE:
   - EXISTING CONSTRUCTION
   - PERFORMANCE SPECIFIED ITEMS (STAIRS, RAILINGS, ETC.)

ABBREVIATIONS

(E) or EXIST	Existing
(S)	Salvaged
/	Per
@	At
AB	Anchor Bolt
ACI	American Concrete Institute
ADDNL	Additional
AESS	Architecturally Exposed Structural Steel
AFF	Above Finish Floor
ALT	Alternate
ALUM	Aluminum
APA	American Plywood Association
APPROX	Approximate
ARCH	Architect or Architectural
B/ or BO	Bottom of
BAL	Balance
BD	Board
BF	Braced Frame
BG	Backgouge
BL	Brick Ledge
BLDG	Building
BLKG	Blocking
BM	Beam
BN	Boundary Nail
BOS	Bottom of Steel
BOT or B	Bottom
BRG	Bearing
BSMT	Basement
BTWN	Between
CC	Center to Center
CF	Cold Formed
CG	Center of Gravity
CIP	Cast-In-Place
CJ	Control Joint
CJP	Complete Joint Penetration
CL	Centerline
CLG	Ceiling
CLMS	Ceiling/Light/Mechanical/ Superimposed Load
CLR	Clear
CMU	Concrete Masonry Unit
COL	Column
CONC	Concrete
CONN	Connection
CONST	Construction
CONT	Continue or Continuous
CONTR	Contractor
COORD	Coordinate
CSJ	Construction Joint
CTR(D)	Center(ed)
d	Penny
D or DL	Dead Load
DAS	Deformed Anchor Stud
DBL	Double
DCW	Demand Critical Weld
DFS	Deferred Submittal
Di	Gravity Ice Load
DIA OR Ø	Diameter
DIAG	Diagonal
DIM	Dimension
DN	Down
DO	Ditto
DP	Drilled Pier or Deep
DT	Precast Double Tee
DTL(s)	Detail(s)
DWG(s)	Drawing(s)
DWL(s)	Dowels(s)
E	Earthquake Load
E-W	East-West

EA	Each
EC	Epoxy Coated
EE	Each End
EF	Each Face
EJ	Expansion Joint
EL	Elevation
ELEV	Elevator
EMBED	Embedded
EN	Edge Nail
ENGR	Engineer
EOR	Engineer-of-Record
EQ	Equal
EQ SP	Equally Spaced
EQUIP	Equipment
ES	Each Side
EW	Each Way
EXP	Expansion
EXP ANCH	Expansion Anchor
EXT	Exterior
F	Fluid Load
Fa	Flood Load
FAB	Fabricate
FD	Footing Dowel
FF	Finished Floor
FIN	Finish(ed)
FLG	Flange
FLR	Floor
FND	Foundation
FO	Face of
FP	Full Penetration or Fire Proofing
FRAM	Framing
FS	Far Side
FT	Foot or Feet
FTG	Footing
FV	Field Verify
GA	Gage or Gauge
GALV	Galvanized
GC	General Contractor
GL	Glu-lam
GR	Grade or Grind
GR BM	Grade Beam
GR MB	Grade Beam
H	Soil Lateral Load
HAS or HDAS	Headed Anchor Stud
HD	Headed or Holddown
HDAR	Headed Anchor Rod
HDG	Hot Dipped Galvanized
HK	Hook
HORIZ	Horizontal
HT	Height
HVAC	
I.F.	Inside Face
IN	Inch
INT	Interior
IS	Inside Diameter
IT	Precast Inverted Tee Beam
JST	Joist
JT	Joint
k	Kip
L	Length or Live Load
LB	Precast L-Shaped Beam
LB(S)	Pound(s)
LCE	Compression Embedment
LCS	Compression Lap Splice
LDH	Hook Development Length
LG	Length
LL	Live Load
LLH	Long Leg Horizontal
LLV	Long Leg Vertical

LOC(s)	Location(s) or Locate
LONG	Longitudinal
Lr	Roof Live Load
LSL	Laminated Strand Lumber
LT	Light
LTE	Tension Embedment
LTS	Tension Lap Splice Length
LTWT	Lightweight
LVL	Level or Laminated Veneer Lumber
LWC	Light Weight Concrete
MACH	Machine
MACH RM	Machine Room
MAS	Masonry
MATL	Material
MAX	Maximum
MBS	Metal Building Supplier
MCJ	Masonry Control Joint
MECH	Mechanical
MEP	Mech/Elect/Plumb
MIL	Micro-Lam
MIN	Minimum
MISC	Miscellaneous
MLS	
mm	Millimeter
MNFR	Manufacturer
MO	Masonry Opening
MTL	Metal
N	North
N-S	North-South
NIC	Not in Contract
NM	
NO OR #	Number
NOM	Nominal
NS	Non-Shrink or Near Side
NTS	Not to Scale
NWC	Normal Weight Concrete
O.F.	Outside Face
OAE	Or Approved Equivalent
OC	On Center
OD	Outside Diameter
OH	Opposite Hand
OPNG	Opening
OPP	Opposite
OVS	Oversized
OWS	One-Way Slab
PAF	Powder Actuated Fastener
PC	Precast
PCA	Portland Cement Association
PD	Pier Dowel
PEMB	Pre-Engineered Metal Building
PEN	Penetration
PERP	Perpendicular
PL	Plate (Steel)
PLF	Pounds Per Lineal Foot
PREFAB	Prefabricated
PRELIM	Preliminary
PS	Prestressed
PSF	Pounds Per Square Foot
PSI	Pounds Per Square Inch
PT	Point or Post-Tension or Pretensioned
QTY	Quantity
R	Radius or Rain Load
RAD	Radius
RB	Precast Rectangular Beam
RC	Reinforced Concrete
RE: or REF	Refer to (Reference)

REINF	Reinforce(ing)(d)(ment)
REQD	Required
REQT(s)	Requirement(s)
RET	Return
RO	Rough Opening
ROF	Random Oriented Fiber
S	South
SC	Slip Critical
SCHED	Schedule
SECT	Section
SIM	Similar
SL	Snow Load
SLH	Short Leg Horizontal
SLRS	Seismic Load Resisting System
SLV	Short Leg Vertical
SOG	Slab on Grade
SP	Space(s)
SP @	Space at
SPECS	Specifications
SPRT	Support
SS	Stainless Steel
STD	Standard
STIFF	Stiffener
STL	Steel
STR	Structural
SW	Shearwall
SYM	Symmetrical
T	Top or Thermal Load
T&B	Top and Bottom
T/ or T.O.	Top of
THK	Thick or Thickness
TL	Total Load
TOC	Top of Concrete
TOF	Top of Footing
TOM	Top of Masonry
TOP	Topping
TOS	Top of Steel
TOW	Top of Wall
TRANS	Transverse
TWS	Two-Way Slab
TYP	Typical
ULT	Ultimate
UNO	Unless Noted Otherwise
Vasd	Service Level/Nominal Design Wind Speed
VERT	Vertical
VIF	Verify in Field
Vult	Ultimate Design Wind Speed
W	Wind Load
W/	With
W/O	Without
WD	Width or Wood
WF	Wide Flange
Wi	Wind-on-Ice Load
WP	Working Point or Waterproofing
WPS	Welding Procedure Specification
WT	Weight
WWR	Welded Wire Reinforcing
WxH	Width x Height

DEFERRED SUBMITTALS

1) GENERAL:

1A) THE FOLLOWING PORTIONS OF THE STRUCTURAL DESIGN WILL NOT BE SUBMITTED AT THE TIME OF PERMIT APPLICATION. WHEN RECEIVED AND REVIEWED, THESE DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL BY THE CONTRACTOR:
- EXCAVATION SHORING
- METAL STAIRS
- ARCHITECTURAL/METAL CLADDING PANEL
- LIGHT GAGE METAL STUDS
- METAL RAILINGS
- ANCHORAGE, BRACING AND ATTACHMENT OF REQUIRED ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, FIRE SPRINKLER, AND OTHER EQUIPMENT AND SYSTEMS.
- PERMANENT EARTH SHORING SYSTEMS

1B) CONNECTION OF DEFERRED SUBMITTAL ITEMS TO PRIMARY STRUCTURE BY DEFERRED SUBMITTAL SUPPLIER. DEFERRED SUBMITTAL SUPPLIER TO PROVIDE CONNECTIONS AND FRAMING ARRANGEMENT TO AVOID LOADING WHICH EXCEEDS THE CAPACITY OF THE ELEMENT BEING ATTACHED TO. REFERENCE LOAD MAPS FOR MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SPRINKLER LOAD ALLOWANCES.

1C) ALL DEFERRED SUBMITTALS TO BE ATTACHED TO PRIMARY STRUCTURE WITH A PINNED CONNECTION. MOMENT CONNECTIONS TO PRIMARY STRUCTURE NOT PERMITTED UNLESS NOTED ON DRAWINGS OR APPROVED BY ENGINEER IN WRITING PRIOR TO SUBMITTAL OF DRAWINGS OR CALCULATIONS.

1D) LOADING AND LOCATION FOR ATTACHMENT OF DEFERRED SUBMITTAL ITEMS ARE NOTED ON DRAWINGS AND ARE NOT TO BE RE-LOCATED OR INCREASED WITHOUT WRITTEN APPROVAL.

1E) GC / METAL STUD FRAMING DESIGNER / CLADDING DESIGNER COORDINATION:
- METAL STUD FRAMING AND FRAMING ATTACHMENT IS DESIGNED FOR THE TRIBUTARY WIND AND GRAVITY LOAD OF THE STUD SPACING. CLADDING SUPPLIER TO DESIGN CLADDING TO ATTACH AT EACH STUD. CLADDING ATTACHMENT SPACING WHICH EXCEEDS THE STUD SPACING IS NOT ACCEPTABLE WITHOUT APPROVAL FROM THE METAL STUD SUPPLIER/DESIGNER AND THE PROJECT EOR.
- IF THE CLADDING SUPPLIER DOES NOT WANT OR CANNOT ATTACH TO EACH STUD THE LOADS FROM THE CLADDING SUPPLIER MUST BE PROVIDED TO THE METAL STUD FRAMING SUPPLIER. THE METAL STUD FRAMING SUPPLIER WILL NEED TO INCORPORATE THESE LOADS INTO THE METAL STUD FRAMING DESIGN.
- GC TO COORDINATE BETWEEN METAL STUD FRAMING SUPPLIER AND CLADDING SUPPLIER AS REQUIRED.

1F) FLOOR FRAMING AND EDGE ANGLE ARE DESIGNED TO SUPPORT ONE LEVEL OF CURTAIN WALL OR METAL STUD WALL FRAMING. SUPPORTING MULTIPLE LEVELS OF CURTAIN WALL OR METAL STUD WALL FROM ONE FLOOR LEVEL IS NOT PERMITTED.

1G) WALLS, GRADE BEAMS AND THE UNDERSIDE OF CONCRETE ON METAL DECK SHALL BE CONSIDERED CRACKED FOR THE PURPOSE OF DESIGNING ANCHORS FOR ATTACHMENT OF DEFERRED SUBMITTAL ITEMS.

1H) SUBMIT STAMPED STRUCTURAL CALCULATIONS FOR ALL DEFERRED SUBMITTAL ITEMS PRIOR TO OR CONCURRENTLY WITH DRAWINGS OR PRODUCT DATA. INCLUDE ANALYSIS OF ATTACHMENT TO PRIMARY STRUCTURE. INCLUDE CURRENT ICC REPORT WITH ALL PROPRIETARY STRUCTURAL ELEMENTS AND ANCHORS/FASTENERS.

1I) POWDER ACTUATED FASTENERS (PAF) INTO CONCRETE OR CMU SHALL NOT BE USED TO RESIST TENSION LOADS. POWDER ACTUATED FASTENERS SHALL NOT BE USED TO RESIST GRAVITY LOADS WHICH INCLUDE BRICK VENEER.

1J) REFERENCE COLD-FORMED STEEL FRAMING NOTES FOR ADDITIONAL DEFERRED SUBMITTAL DESIGN CRITERIA.

DESIGN CRITERIA

1) CODES AND STANDARDS:

1A) GENERAL DESIGN
- INTERNATIONAL BUILDING CODE 2018

2) SEISMIC LOADS
- SEISMIC DESIGN CATEGORY = C
- RISK CATEGORY = II
- EARTHQUAKE IMPORTANCE FACTOR, Ie = 1.00
- DESIGN SPECTRAL RESPONSE COEFFICIENT, SDs = 0.333
- DESIGN SPECTRAL RESPONSE COEFFICIENT, SD1 = 0.133
- SOIL SITE CLASS = C
- BASIC STRUCTURAL SYSTEM: STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
- STRUCTURAL SEISMIC LATERAL SYSTEM: STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
- RESPONSE MODIFICATION FACTOR, R = 3
- SEISMIC RESPONSE COEFFICIENT, Cs = 0.111
- SYSTEM OVERSTRENGTH FACTOR, OMEGA = 3
- SEISMIC RESISTING SYSTEM NOT CONSIDERED FOR ANCILLARY STRUCTURE ADDITION IN LEVEL B1 AND NEW SLAB REPLACEMENT AT LEVEL 1.
- ESCALATOR CANOPY STRUCTURE:
  DESIGN BASE SHEAR EAST-WEST DIRECTION = 30 K
  DESIGN BASE SHEAR NORTH-SOUTH DIRECTION = 30 K
- SEISMIC ANALYSIS PROCEDURE: EQUIVALENT LATERAL-FORCE ANALYSIS

3) WIND LOADS
- RISK CATEGORY = II
- BASIC ULTIMATE WIND SPEED, Vult = 115 MPH
- BASIC NOMINAL WIND SPEED, Vasd = 89.1 MPH
- EXPOSURE CATEGORY = C
- INTERNAL PRESSURE COEFFICIENT, Gcpi = +/-0.18
- INTERNAL PRESSURE COEFFICIENT, Gcpi = +/-0.0 FOR CANOPY
- TOPOGRAPHIC ALTITUDE ADJUSTMENT, Ke = 0.78

4) DESIGN WIND PRESSURE FOR COMPONENTS AND CLADDING AND ELEMENTS DESIGNED BY THE CONTRACTOR

4A) LISTED COMPONENT AND CLADDING WIND PRESSURES ARE INCLUDED FOR REFERENCE ONLY. FINAL CALCULATIONS SHALL BE COMPLETED BY CONTRACTOR
4B) PRESSURES LISTED BELOW ARE ULTIMATE
4C) SEE 'WALL CORNER AND SPECIAL ROOF ZONES DIAGRAM'
4D) COMPONENT AND CLADDING SURFACE PRESSURES (PSF)

- **WALLS PRESSURES**

WALLS AREA	10 SF	100 SF	200 SF	500 SF
WALLS INTERIOR NEG (ZONE 4)	-24.5	-21.8	-20.6	-19.0
WALLS CORNER NEG (ZONE 5)	-49.0	-38.1	-33.4	-27.2
WALLS POSITIVE ZONE 4 & 5	24.5	20.4	18.6	16.3

- **ROOF PRESSURES**

ROOF AREA	10 SF	100 SF	500 SF
ROOF INTERIOR NEG (ZONE 1)	-46.2	-35	-54.4
- USE THESE FOR JOIST UPLIFT WIND DESIGN FORCES UNO			
ROOF INTERIOR NEG (ZONE 1')	-24.5	-24.5	-16.0
ROOF NEGATIVE (ZONE 2)	-62.6	-48.2	-76.2
- EAVES, RAKES, RIDGES			
ROOF CORNERS NEG (ZONE 3)	-62.6	-48.2	-76.2
ROOF POSITIVE ALL ZONES	-16	-16	-16.0
ROOF NEGATIVE OVERHANG ZONE 1 & 1'	-46.2	-43.5	-54.4
ROOF NEGATIVE OVERHANG ZONE 2	-62.6	-43.4	-59.8
ROOF NEGATIVE OVERHANG ZONE 3'	-62.6	-43.4	-59.8

- **PARAPET PRESSURES**

PARAPET QP = 27.2 psf

SOLID PARAPET PRESSURE	10 SF	100 SF	500 SF
PARAPET CASE A: ZONE 2:	87.0	68.6	54.4
ZONE 3:	87.0	68.6	54.4
PARAPET CASE B: INTERIOR ZONE:	-49.0	-42.2	-35.4
CORNER ZONE:	-73.4	-58.5	-43.5

PARAPET CASE A = PRESSURE TOWARDS BUILDING (POS)
PARAPET CASE B = PRESSURE AWAY FROM BLDG (NEG)

PARAPET CAP UPLIFT PRESSURES
ZONE 2: -68.0 PSF
ZONE 3: -68.0 PSF

5) LATERAL LOAD RESISTING SYSTEM DESCRIPTION:
- SEISMIC RESISTING SYSTEM NOT CONSIDERED FOR ANCILLARY STRUCTURE ADDITION IN LEVEL B1 AND NEW SLAB REPLACEMENT AT LEVEL 1.
- ESCALATOR CANOPY STRUCTURE - ROOF HSS FRAME AS DIAPHRAGM AND WOOD GLULAM COLUMN, HSS BEAM, AND ROD BRACE AS LATERAL FRAMES IN SHORT DIRECTION, WOOD GLULAM COLUMN MOMENT FRAMES IN LONG DIRECTION.

6) GRAVITY LOADS

6A) SEE LOAD KEY ON SHEET 1B-S0.02 FOR SUPERIMPOSED DEAD LOAD AND LIVE LOADS USED IN DESIGN.

6B) DRIFTING, SLIDING AND UNBALANCED SNOW
- GROUND SNOW LOAD = 132.0 PSF
- SNOW EXPOSURE FACTOR, Ce = 1.0
- SNOW LOAD IMPORTANCE FACTOR, Is = 1.0
- THERMAL FACTOR, Ct = 1.20 (ESCALATOR CANOPY)
- UNIFORM ROOF SNOW LOAD = 110.9 PSF
- FLAT ROOF SNOW LOAD = 110.9 PSF

7) RAIN LOADS:

7A) DESIGN RAIN INTENSITY = 2.5 INCHES PER HOUR
7B) DESIGN RAIN ROOF PRESSURE = 21 PSF

STRUCTURAL DRAWING LIST

SHEET NUMBER	SHEET TITLE
1B-S0.01	NOTES
1B-S0.02	NOTES
1B-S0.03	NOTES
1B-S0.10	QUALITY ASSURANCE
1B-S0.11	QUALITY ASSURANCE
1B-S1.01	GOLDWALK - LEVEL 1 FRAMING PLAN
1B-S1.02	GOLDWALK - LEVEL 2 FRAMING PLAN
1B-S1.03	GOLDWALK - LEVEL 3 FRAMING PLAN
1B-S1.04	GOLDWALK - CANOPY ROOF FRAMING PLAN
1B-S1.05	GOLDWALK CANOPY DETAILS
1B-S2.00	GOLDWALK CROSS SECTIONS
1B-S3.00	TYPICAL CONCRETE DETAILS
1B-S3.01	FOUNDATION DETAILS
1B-S3.02	CONCRETE DETAILS
1B-S3.10	TYPICAL SOG DETAILS
1B-S3.50	CONCRETE SUPPORTING STEEL DETAILS
1B-S4.00	MASONRY DETAILS
1B-S5.00	TYP STEEL BEAM CONNS - LRFD
1B-S5.01	TYP STEEL BEAM CONNS - LRFD
1B-S5.02	STEEL DETAILS
1B-S5.03	STEEL DETAILS
1B-S5.31	TYPICAL SLAB ON METAL DECK DETAILS
1B-S5.60	PERFORMANCE SPECIFIED FRAMING

Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners
2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler
1225 17th Street
Suite 150
Denver, CO 80202
United States
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Fax 303.825.6823

LANDMARK CONSULTANTS, INC.
141 9th Street
PO Box 774943
Steamboat Springs, CO 80477
Tel 970.871.9494

DESIGNWORKSHOP
1390 Lawrence Street
Suite 100
Denver, CO 80204
Tel 303.623.5186

MARTIN/MARTIN CONSULTING ENGINEERS
12499 West Colfax Ave.
Lakewood, CO 80215
United States
Tel 303.431.6100

me engineers
14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

COLORADO REGISTERED PROFESSIONAL ENGINEER 38107

May 19, 2021

Seal / Signature

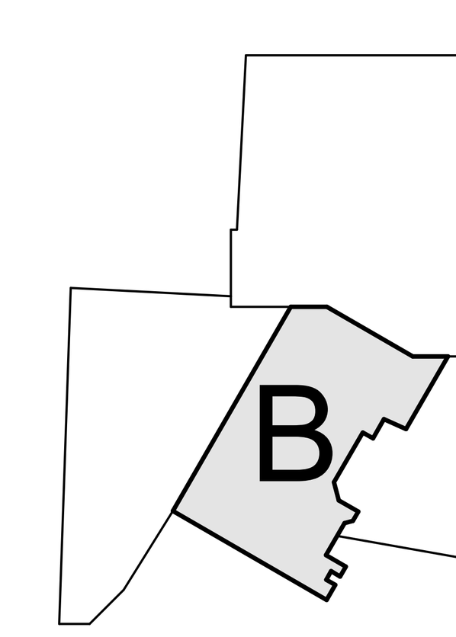
Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
NOTES



Scale
12" = 1'-0"

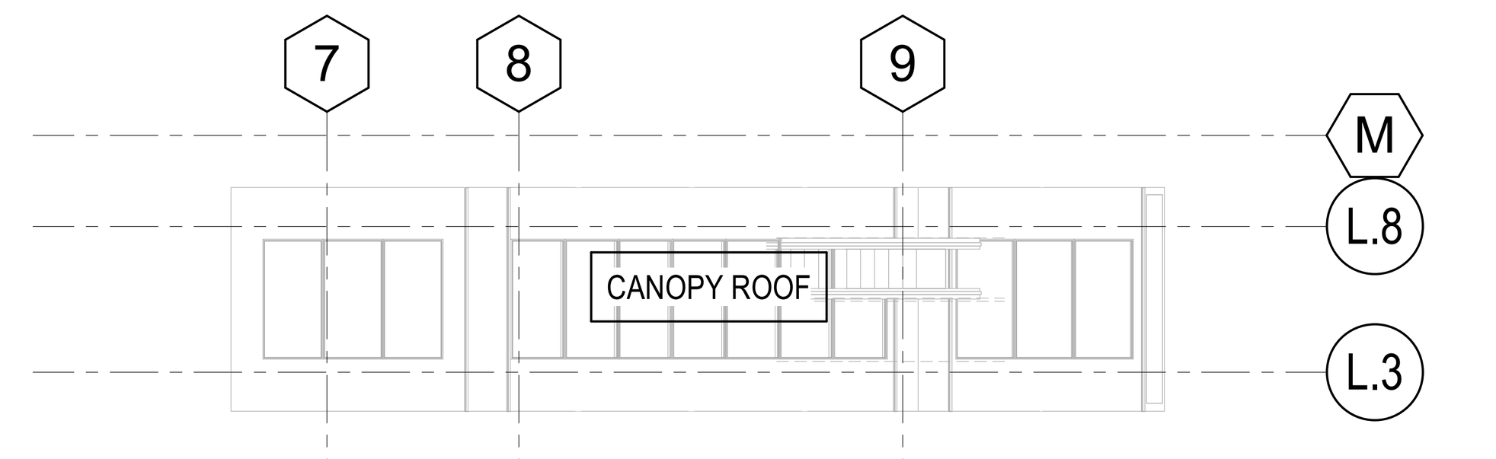
1B-S0.01

DESIGNERS: NIC MARTIN
LEAD REVIT TECH:COLIN MONNES
DATE PRINTED:5/19/2021 11:39:43 AM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SBR_GSQ 2021_V2021.rvt

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

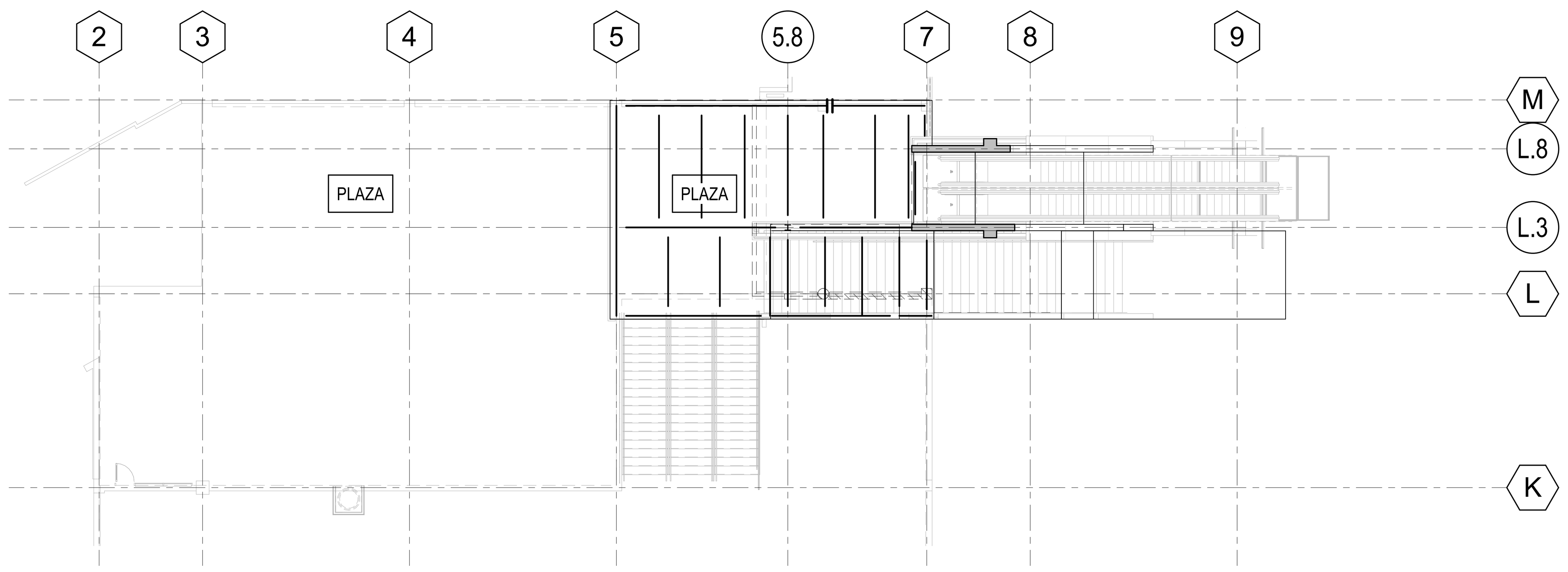
GRAVITY LOADS

LOCATION	SUPERIMPOSED DEAD LOAD...	LIVE LOAD (PSF)	LIVE LOAD REDUCTION	POINT LOAD (LB)	NOTES
PLAZA	63 PSF PAVER SYSTEM + 10 PSF CLMEP 73 PSF TOTAL	100	NO	4,000 LBS PER 1971 ORIGINAL DRAWING	--
CANOPY ROOF	10 PSF	20 PSF ROOF	NO	--	SEE ROOF SNOW



ESCALATOR ROOF LOADING PLAN

1/16" = 1'-0"



GOLDWALK LOADING PLAN

1/16" = 1'-0"

FOUNDATION NOTES

1) DESIGN CRITERIA:
THE GEOTECHNICAL REPORT PREPARED BY NORTHWEST COLORADO CONSULTANTS, INC., NUMBER 20-12000, DATED APRIL 22, 2021 PROVIDED CRITERIA FOR THE FOUNDATION DESIGN FOR THE PROJECT.

2) FOOTINGS:
2A) FOOTING DESIGN CRITERIA:
- MAXIMUM TOTAL LOAD BEARING PRESSURE = 3000 PSF
- MINIMUM CONTINUOUS FOOTING WIDTH = 1 FT
- MINIMUM SPREAD FOOTING WIDTH = 1 FT
- ULTIMATE COEFFICIENT OF FRICTION TO RESIST LATERAL LOADS = 0.4
- FROST DEPTH TO BOTTOM OF FOUNDATION = 48 IN

3) FOUNDATION WALLS:
2A) EQUIVALENT FLUID PRESSURES USED FOR WALL DESIGN:
- "ACTIVE" CONDITION = 45 PCF
- "AT REST" CONDITION = 55 PCF
- "PASSIVE" CONDITION = 275 PCF
- LATERAL PRESSURE DUE TO SURCHARGE = 250 PSF
- ULTIMATE COEFFICIENT OF FRICTION TO RESIST LATERAL LOADS = 0.4

3B) WALL DESIGN BASED ON IN-SITU SOILS ADJACENT TO FOUNDATION WALLS. SEE EARTHWORK SPECIFICATION FOR REQUIREMENTS.

4) SITE RETAINING WALLS:
4A) EQUIVALENT FLUID PRESSURES USED FOR WALL DESIGN:
- "ACTIVE" CONDITION = 45 PCF
- "AT REST" CONDITION = 55 PCF
- "PASSIVE" CONDITION = 275 PCF
- LATERAL PRESSURE DUE TO SURCHARGE = 100 PSF
- ULTIMATE COEFFICIENT OF FRICTION TO RESIST LATERAL LOADS = 0.4

4B) WALL DESIGN BASED ON IN-SITU SOILS ADJACENT TO SITE RETAINING WALLS. SEE EARTHWORK SPECIFICATION FOR REQUIREMENTS.

WOOD NOTES

1. GLUED LAMINATED MEMBERS:
1A) COMBINATION SYMBOL:
- SINGLE SPAN: 24F-V4
- MULTI- SPAN: 24F-V8

1B) MINIMUM DESIGN VALUES ARE BASED ON THE 2018 NDS.

2) METAL CONNECTORS:
2A) FRAMING CONNECTORS SHALL CONFORM TO IBC 2018 SECTION 2303.5. SEE DETAILS FOR REQUIREMENTS.

2B) ALL CONNECTOR HOLES SHALL BE FILLED WITH PROPER NAILS/BOLTS INCLUDING OPTIONAL NAIL LOCATIONS FOR UPLIFT. ALL BOLT HOLES SHALL BE DRILLED INTO FRAMING MEMBERS. MAXIMUM HOLE DIAMETER IS 1/16" LARGER THAN THE BOLT DIAMETER.

3) OPENINGS:
3A) OPENING, POCKETS, ETC., SHALL NOT BE PLACED UNLESS DETAILED ON THE STRUCTURAL DRAWINGS.

MASS TIMBER MATERIAL TABLE

WOOD ELEMENT	SPECIES/ GRADE	Fb TOP/BOT (PSI)	Fv (PSI)	E (PSI)	REMARKS
GLULAMS - SINGLE SPAN	24F-V4	1850/2400	265	1,800,000	-
GLULAMS - MULTI-SPAN/COLS	24F-V4	2400/2400	265	1,800,000	SEE NOTE 2

NOTES:

1. PROPERTIES LISTED SHALL BE MET OR EXCEEDED.
2. MULTI-SPAN CONDITIONS INCLUDE GLULAM MEMBERS WITH CANTILEVERS.

GENERAL NOTES

1) GENERAL:
1A) ENGINEER: REFERENCES ON THE STRUCTURAL DRAWINGS TO 'ENGINEER' MEAN THE STRUCTURAL ENGINEER OF RECORD. OTHER ENTITIES ARE SPECIFICALLY NOTED AS "CONTRACTOR'S ENGINEER", "MECHANICAL ENGINEER", ETC.

1B) THESE NOTES SUPPLEMENT THE SPECIFICATIONS, WHICH SHALL BE REFERENCED FOR ADDITIONAL REQUIREMENTS.

1C) UNDERGROUND UTILITIES: LOCATE EXISTING UTILITIES AND NOTIFY ARCHITECT OF EXISTING UTILITIES OR SUBGRADE CONDITIONS WHICH INTERFERE WITH WORK.

1D) STRUCTURAL ELEMENTS ARE CENTERED ON GRID LINES AND GRID LINE INTERSECTIONS UNLESS DIMENSIONED OTHERWISE.

2) USE OF DRAWINGS:
2A) DO NOT SCALE DRAWINGS.

2B) DETAILS ON DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

2C) DETAILS NOTED TYPICAL APPLY TO ALL SIMILAR CONDITIONS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ELSEWHERE ON THE PROJECT.

2D) WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES AND SPECIFICATIONS:
- CONTACT THE ARCHITECT PRIOR TO PROCEEDING WITH CONSTRUCTION
- THE MORE STRINGENT REQUIREMENTS SHALL GOVERN FOR BIDDING / PRICING

3) EXISTING STRUCTURES:
3A) CONTRACT DOCUMENTS HAVE BEEN PREPARED USING AVAILABLE DRAWINGS AND SITE OBSERVATION AS PERMITTED BY ACCESS RESTRICTIONS DURING DESIGN.

3B) DURING CONSTRUCTION, THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS WHICH ARE NOT KNOWN OR ARE AT VARIANCE WITH PROJECT DOCUMENTATION. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ALL CONDITIONS NOT PER THE CONTRACT DOCUMENTS. EXAMPLES INCLUDE:
- SIZES OR DIMENSIONS OTHER THAN THOSE SHOWN
- DAMAGE OR DETERIORATION TO MATERIALS AND COMPONENTS
- CONDITIONS OF INSTABILITY OR LACK OF SUPPORT
- ITEMS NOTED AS EXISTING ON THE DRAWINGS BUT NOT FOUND IN THE FIELD

3C) PREPARE DIMENSIONAL DRAWINGS OF ALL DISCOVERED ITEMS.

3D) CONTRACTOR SHALL FIELD VERIFY ALL EXISTING STRUCTURAL CONDITIONS PRIOR TO SUBMITTING SHOP DRAWINGS.

3E) CONTRACTOR SHALL MAKE ALLOWANCE FOR THE RESOLUTION OF SUCH DISCOVERIES IN THE CONSTRUCTION SCHEDULE.

3F) SUBMIT A DIMENSIONED DRAWING OF ALL NEW OPENINGS THROUGH EXISTING STRUCTURE AND SECURE APPROVAL PRIOR TO CUTTING. NEW OPENING MAY BE EITHER SHOWN ON THE CONTRACT DOCUMENTS OR PROPOSED BY THE CONTRACTOR. DRAWING SHALL SHOW:
- VERTICAL & HORIZONTAL LOCATION AND SIZE OF NEW OPENING(S)
- ALL EXISTING OPENINGS IN THE VICINITY OF THE NEW OPENING(S)
- ALL EXISTING STRUCTURE (BEAMS, COLUMNS, SLABS, WALLS, ETC) IN THE VICINITY OF THE NEW OPENING(S)
- ALL REINFORCING BAR SIZES AND POSITIONS (LAYOUT LOCATION AND DEPTH) CONFLICTING WITH OR IN THE VICINITY OF THE NEW OPENING(S).

4) COORDINATION:
4A) STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND DRAWINGS FROM OTHER DISCIPLINES. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS INTO SHOP DRAWINGS AND WORK.

4B) COORDINATE DIMENSIONS OF ALL OPENINGS, BLOCKOUTS, DEPRESSIONS, ETC., WITH ARCHITECTURAL DRAWINGS, DRAWINGS FROM OTHER DISCIPLINES, AND FIELD CONDITIONS PRIOR TO SHOP DRAWING SUBMITTAL.

4C) SEE ARCHITECTURAL PLANS FOR INTERIOR PARTITIONS. PARTITION FRAMING SHALL BE CONNECTED TO THE PRIMARY STRUCTURE IN SUCH A WAY SO AS TO ALLOW FOR VERTICAL LIVE LOAD DEFLECTIONS OF SPAN/360 AT FLOOR FRAMING OR SPAN/240 AT ROOF FRAMING. DO NOT MAKE RIGID VERTICAL AND HORIZONTAL CONNECTIONS TO THE PRIMARY STRUCTURE IN THE PLANE OF THE PARTITION.

5) SUBMITTALS AND SUBSTITUTIONS:
5A) SUBMITTALS: REFER TO SPECIFICATIONS FOR DETAILED REQUIREMENTS.
- IF THE CONTRACTOR REQUESTS A CHANGE FROM THE STRUCTURAL DRAWINGS, IT SHALL BE APPROVED BY THE ARCHITECT AND DESIGNED BY MARTIN/MARTIN, INC. PRIOR TO SUBMITTING SHOP DRAWINGS. VARIATION SHALL BE INDICATED ON THE SHOP DRAWINGS. CONTRACTOR SHALL COMPENSATE MARTIN/MARTIN, INC. FOR MAKING THE CHANGE.
- CONSTRUCTION DOCUMENTS SHALL NOT BE REPRODUCED FOR USE IN SUBMITTALS
- ALL SHOP DRAWINGS SHALL REFERENCE THE STRUCTURAL DRAWING NUMBER AND DETAIL USED TO PREPARE THE SUBMITTAL
- SUBMIT A STATEMENT OF RESPONSIBILITY FOR CONSTRUCTION OF THE LATERAL LOAD RESISTING SYSTEM IDENTIFIED IN THE DESIGN CRITERIA IN ACCORDANCE WITH IBC 2018 SECTION 1704

5B) SUBSTITUTIONS: ARCHITECT'S APPROVAL SHALL BE SECURED FOR ALL SUBSTITUTIONS

5C) NONCONFORMANCE: NOTIFY ARCHITECT OF CONDITIONS NOT CONSTRUCTED PER THE CONTRACT DOCUMENTS PRIOR TO PROCEEDING WITH CORRECTIVE WORK. SUBMIT PROPOSED REPAIR TO THE ARCHITECT FOR ACCEPTANCE. CONTRACTOR SHALL COMPENSATE MARTIN/MARTIN, INC. FOR DESIGNING THE REPAIR.

6) TEMPORARY CONDITIONS, CONSTRUCTION ENGINEERING, AND OSHA STANDARDS:
6A) THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION AND ONLY FOR LOADS ANTICIPATED DURING THE STRUCTURE'S SERVICE LIFE.

6B) THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES. REFER TO "LATERAL LOAD RESISTING SYSTEM DESCRIPTION" IN DESIGN CRITERIA FOR ADDITIONAL INFORMATION. CONTRACTOR SHALL PROVIDE ALL REQUIRED ENGINEERING AND OTHER MEASURES TO ACHIEVE THE MEANS, METHODS, AND SEQUENCES OF WORK WHICH MAY INCLUDE, BUT IS NOT LIMITED TO:
- LAYOUT
- DESIGN FOR FORMWORK, SHORING, AND RESHORING
- DESIGN OF CONCRETE MIXES
- ERECTION PROCEDURES WHICH ADDRESS STABILITY OF THE FRAME DURING CONSTRUCTION
- WELD PROCEDURES
- DESIGN OF TEMPORARY BRACING OF WALLS FOR WIND, SEISMIC, OR SOIL LOADS
- SURVEYING TO VERIFY CONSTRUCTION TOLERANCES
- EVALUATION OF TEMPORARY CONSTRUCTION LOADS ON STRUCTURE DUE TO EQUIPMENT AND MATERIALS
- STRUCTURAL ENGINEERING TO RESIST ANY OTHER LOADS NOT IDENTIFIED ON DESIGN DRAWINGS

6C) FOUNDATION WALLS SHALL NOT BE BACKFILLED UNTIL THE SLABS-ON-GRADE AND UPPER SLABS ARE IN-PLACE AND REACH FULL STRENGTH UNLESS ADEQUATE BRACING IS PROVIDED. USE ONLY HAND OPERATED TOOLS FOR COMPACTION ADJACENT TO FOUNDATION WALLS AND GRADE BEAMS. GRADE BEAMS SHALL BE BACKFILLED EVENLY ON BOTH SIDES.

6D) NOTHING SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE CONSTRUED AS ELIMINATING THE NEED FOR THE CONTRACTOR TO COMPLY WITH ALL OSHA REQUIREMENTS. WHERE THE STRUCTURAL DRAWINGS APPEAR TO CONFLICT WITH OSHA REQUIREMENTS, THE STRUCTURAL DRAWINGS REPRESENT FINAL CONDITIONS ONLY.
- THE CONTRACTOR SHALL ADD ALL ERECTION FRAMING NECESSARY TO COMPLY WITH OSHA.
- THE CONTRACTOR SHALL ADD ALL NECESSARY BOLTS, ANCHOR BOLTS, PLATES, STIFFENER PLATES, STABILIZER PLATES, BRACING, ETC., AS WELL AS CLOSURES FOR OPENINGS. IN ADDITION, FIELD WELD ANYTHING THAT MAY BE CONSIDERED A TRIP HAZARD, SUCH AS SHEAR STUDS, AFTER PROTECTIVE DECKING IS INSTALLED.
- WASHERS OR RINGS MAY BE WELDED TO COLUMNS TO PROVIDE FOR SAFETY CABLES. HOLES IN COLUMNS FOR SAFETY CABLES SHALL BE SHOP INSTALLED AND SHALL BE INDICATED ON SHOP DRAWINGS. ADJUST COLUMN SPLICE LOCATIONS OR ADD COLUMN SPLICES AS NECESSARY TO COMPLY WITH OSHA REQUIREMENTS. SUBMIT PROPOSED LOCATIONS.

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May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
NOTES

Scale
As indicated

1B-S0.02

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 11:39:47 AM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SBR_GSQ 2021_V2021.rvt

STEEL NOTES

1) CONNECTIONS:
1A) PROVIDE CONNECTIONS AS SHOWN IN THE 'STEEL BEAM CONNECTION SCHEDULES' AND DETAILS HEREIN. REFER TO SPECIFICATION FOR ALTERNATIVES AND CONNECTIONS NOT SHOWN.

2) STEEL MATERIALS:
2A) SEE 'STEEL MATERIAL TABLE'

3) WELDING REQUIREMENTS:
3A) WELDERS: HAVE IN POSSESSION CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS. QUALIFICATION TESTS.

3B) MINIMUM WELDS: AISC SPECIFICATION, NOT LESS THAN 3/16" FILLET, CONTINUOUS UNLESS OTHERWISE NOTED.

3C) WELD SIZES AND LENGTHS CALLED FOR ON THE DRAWINGS ARE THE NET EFFECTIVE REQUIRED. INCREASE WELD SIZE IF GAPS EXIST AT THE FAYING SURFACE.

3D) WELD SIZES SHALL BE AS SHOWN UNLESS A GREATER SIZE IS REQUIRED BY ANSI/AISC 360-05 TABLES J2.3 AND J2.4.

3E) ALL GROOVE WELDS SHALL BE COMPLETE PENETRATION UNLESS NOTED.

3F) FIELD WELDING SYMBOLS INDICATE SEQUENCE CONSIDERED DURING DESIGN. THE CONTRACTOR SHALL REQUEST APPROVAL FROM THE ENGINEER TO MODIFY WELD INSTALLATION LOCATION INDICATED ON THE DOCUMENTS:
- FROM SHOP TO FIELD
- FROM FIELD TO SHOP

3G) DEFORMED ANCHOR STUDS (DAS) AND HEADED ANCHOR STUDS (HAS / HDAS) SHALL BE SHOP OR FIELD WELDED AT CONTRACTOR'S OPTION UNLESS NOTED OTHERWISE

4) COMPOSITE GRAVITY FRAMING:
4A) COMPOSITE BEAMS ARE DESIGNED ASSUMING STUDS ARE INSTALLED IN THE WEAK POSITION (Rp = 0.6). SEE TYPICAL METAL DECK DETAILS FOR PLACEMENT REQUIREMENTS.

4B) COMPOSITE GIRDERS ARE DESIGNED ASSUMING STUDS ARE WELDED THROUGH THE METAL DECK AND/OR METAL DECKING/SHEET STEEL COVERS MORE THAN HALF OF THE TOP FLANGE (Rp = 0.75). SEE TYPICAL METAL DECK DETAILS FOR PLACEMENT REQUIREMENTS.

5) CAMBER:
5A) FABRICATE BEAMS SUCH THAT ROLLING OR FABRICATION INDUCED CAMBER IS UP AFTER ERECTION.

5B) CAMBER SHOWN IS BASED ON THE COMPUTED DEFLECTION OF THE BEAM DUE TO SELF WEIGHT OF CONCRETE PLACED. DESIGN IS BASED ON THE THEORETICAL CONCRETE THICKNESS PLUS 1/2" THICKNESS FOR DECK LEVELING AND 1/2" THICKNESS FOR BEAM LEVELING. INCLUDE QUANTITY OF ADDED CONCRETE DUE TO DECK AND BEAM DEFLECTION IN BID.

6) STRUCTURAL STEEL INSTALLATION:
6A) UNLESS INDICATED OTHERWISE, SNUG TIGHTEN ALL JOINTS AS DEFINED BY AISC
CONNECTIONS AS INDICATED BELOW SHALL BE PRETENSIONED PER TABLE J3.1 OF ANSI/ AISC 360-16
6B) CONNECTIONS NOTED ON THE DRAWINGS AS "SC" SHALL MEET THE FOLLOWING REQUIREMENTS:
- FAYING SURFACES SHALL BE: CLASS A PER AISC UNLESS NOTED OTHERWISE
BOLTS SHALL BE PRETENSIONED PER TABLE J3.1 OF ANSI/AISC 360-16

7) METAL DECK:
7A) SEE 'METAL DECK SCHEDULE' FOR MATERIALS, PROFILE, AND CONNECTIONS TO STRUCTURE.

7B) QUALITY CONTROL AND QUALITY ASSURANCE FOR STEEL DECK INSTALLATION SHALL BE IN ACCORDANCE WITH SDI QA/QC-2011, "STANDARD FOR QUALITY CONTROL AND QUALITY ASSURANCE FOR THE INSTALLATION OF STEEL DECK" AS MODIFIED BY TABLE C-1 CONTAINED IN THE COMMENTARY TO THAT STANDARD.

7C) DECK DESIGN IS IN ACCORDANCE WITH STEEL DECK INSTITUTE (SDI) FLOOR DECK DESIGN MANUAL (2014), SDI ROOF DECK DESIGN MANUAL (2013), AND SDI DIAPHRAGM DESIGN MANUAL, 4TH EDITION (2015)

7D) PLACE CONCRETE ON METAL DECK IN ACCORDANCE WITH SDI FLOOR DECK DESIGN MANUAL (2014) TO LIMIT CONSTRUCTION LOADS TO ALLOWABLE MAGNITUDES.

7E) SCREED CONCRETE TO PROVIDE CONSTANT THICKNESS.

7F) REINFORCE OPENINGS IN METAL ROOF DECK AND FLOOR DECK SUPPORTING CONCRETE FILL IN ACCORDANCE WITH TYPICAL DECK OPENING DETAILS.

7G) INSTALL DECK OVER 4 SUPPORTS (3 SPAN CONTINUOUS) UNLESS NOTED OTHERWISE. DO NOT INSTALL DECK AS SINGLE SPAN UNLESS SPECIFICALLY SHOWN ON DRAWINGS.

7H) PROVIDE DECK ATTACHMENTS AS NOTED ON DRAWINGS.

7I) HANGERS: SEE TYPICAL METAL DECK DETAILS FOR ALLOWABLE HANGER LOADS, SPACING AND ATTACHMENT.

8) COLD FORMED METAL FRAMING:
8A) COLD FORMED METAL FRAMING IS A PERFORMANCE SPECIFIED ITEM DESIGNED BY THE CONTRACTOR. PROVIDE STUD DEPTH INDICATED ON THE DRAWINGS. DO NOT EXCEED MAXIMUM SPACING INDICATED. VARY FLANGE WIDTH, GAGE, YIELD STRENGTH, BRACING, STUD SPACING, ETC. AS REQUIRED TO SATISFY PERFORMANCE CRITERIA IN THE CONTRACT DOCUMENTS. MINIMUM STUD GAGE SPECIFIED IS REQUIRED FOR ATTACHMENT OF OTHER MATERIALS TO STUDS. DO NOT BASE BIDS ON MINIMUM GAUGE OR MAXIMUM SPACING SPECIFIED.

8B) REFER TO DETAILS FOR MINIMUM CONNECTIONS AND OTHER REQUIREMENTS. DEVELOP FORCES NOTED. DO NOT IMPOSE FORCES ON THE BUILDING STRUCTURE IN DIRECTIONS OR AT LOCATIONS OTHER THAN THAT SHOWN ON THE STRUCTURAL DRAWINGS. DO NOT IMPOSE FORCES LARGER THAN SPECIFIED. CONNECTIONS TO CONCRETE SHALL NOT USE PAFs TO RESIST TENSION LOADS.

STEEL MATERIAL TABLE

STEEL ELEMENT	ASTM/TYPE	Fy (KSI)	Fu (KSI)	COMMENTS
ANCHOR RODS	F1554 GR 55	55	75	WELDABLE, HEAVY HEX HEADED
ANCHOR RODS IN MASONRY	F1554 GR 36, F1554 GR 55, OR A307 GRADE A/C	36	58	WELDABLE, STD HEX HEAD
BOLTS	F3125 - TYPE A325 OR F1852	--	120	BOLTS ARE 3/4"Ø UNO, USE TENSION-CONTROLLED WHERE POSSIBLE
CANOPY STEEL ROD	A572 GR 50	50	65	--
COLD-FORMED STUDS/PLATE, 33 AND 43 MIL	A1003	33	--	--
COLD-FORMED STUDS/PLATE, 54 MIL AND HEAVIER	A1003	50	--	--
COLD-FORMED TRACK, ALL THICKNESSES	A1003	33	--	--
DAS	A1064	70	80	--
HAS	A108	51	65	STUDS ARE 3/4"Ø UNO
OTHER SHAPES	A36	36	58	--
PIPE	A53 GR B	35	60	--
PLATES	A36	36	58	--
RECT HSS	A500 GR C	50	62	--
ROUND HSS	A500 GR C	46	62	--
STEEL GRATING				PER NAAMM MBG 531, "METAL BAR GRATING MANUAL"
WELDING ELECTRODES, THICKNESS OF THINNER PART > 0.1 INCHES (12 GA)	E70			PER AWS
WELDING ELECTRODES, THICKNESS OF THINNER PART ≤ 0.1 INCHES (12 GA)	E60 OR E70	--	--	PER AWS
WF, WT	A992	50	65	--

MASONRY NOTES

1) DEFINITIONS:
1A) STRUCTURAL MASONRY IS DEFINED AS BEING EITHER LOAD BEARING AND/OR SERVING AS PART OF THE LATERAL LOAD RESISTING SYSTEM. STRUCTURAL MASONRY IS SHOWN ON THE STRUCTURAL PLANS AND DEFINED IN SCHEDULES AND DETAILS ON THE DRAWINGS.

1B) SEE ARCHITECTURAL DRAWINGS FOR LOCATION, THICKNESS AND EXTENT OF MASONRY PARTITIONS. SEE DETAILS ON THE STRUCTURAL DRAWINGS FOR GENERAL MASONRY PARTITION REQUIREMENTS.

2) DESIGN STRENGTH:
2A) DEVELOP 2000 PSI COMPRESSIVE STRENGTH (f'm) IN 28 DAYS.

2B) STEEL REINFORCING:
- PRIMARY REINFORCING: ASTM A615, 60 KSI
- HORIZONTAL JOINT REINFORCING: ASTM A951, PREFABRICATED, LADDER TYPE

3) SPLICES:
3A) SEE MASONRY LAP SPLICE SCHEDULE FOR LAP LENGTHS.

4) INSTALLATION REQUIREMENTS:
4A) GROUT SOLID ALL CELLS CONTAINING REINFORCING, EMBEDDED ITEMS, AND ALL OTHER CELLS NOTED ON THE CONTRACT DOCUMENTS.

POST-INSTALLED ANCHOR NOTES

1) PERSONNEL REQUIREMENTS:
1A) THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. SUBMIT DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS HAVE PASSED THE TRAINING COURSE PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

1B) PERSONNEL WHO WILL INSTALL HORIZONTAL OR UPWARDLY INCLINED ADHESIVE ANCHORS IN CONCRETE THAT SUPPORT SUSTAINED TENSION LOADS SHALL BE CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM. THESE ANCHORS ARE DESIGNATED WITH A (CERT) AFTER THE ANCHOR CALL OUT. SUBMIT DOCUMENTED CONFIRMATION THAT PERSONNEL HAVE PASSED THE TRAINING COURSE PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.

2) INSTALLATION REQUIREMENTS:
2A) ALL POST-INSTALLED ANCHORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND PER MANUFACTURER'S ON-SITE TRAINING.

2B) ALL ADHESIVE ANCHORS AND ADHESIVE ANCHORED REINFORCEMENT DESIGNS ARE FOR INSTALLATION IN THE FOLLOWING CONDITIONS, UNLESS NOTED OTHERWISE. WRITTEN APPROVAL MUST BE RECEIVED FROM ENGINEER PRIOR TO INSTALLATION IN ALTERNATE CONDITIONS.
- DRY CONCRETE, UNLESS NOTED OTHERWISE.
- CONCRETE TEMPERATURE AT TIME OF INSTALLATION THROUGH CURE TIME MUST BE WITHIN THE TEMPERATURE RANGE SPECIFIED IN MANUFACTURER'S PRINTED INSTALLATION INSTRUCTION FOR ADHESIVE GEL AND CURE TIMES.
- ANCHOR HOLES TO BE HAMMER DRILLED AND CLEANED.
- CONCRETE MUST BE AT LEAST 21 DAYS OLD BEFORE INSTALLATION OF ANCHORS.
- HOLES TO BE CLEANED AND PREPARED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND EVALUATION REPORT PRIOR TO ADHESIVE INJECTION.

2C) THE POSITION OF EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL BE LOCATED PRIOR TO INSTALLING POST INSTALLED ANCHORS OR REINFORCEMENT. EXISTING REINFORCEMENT SHALL BE LOCATED USING A SCANNER, GPR, X-RAY, CHIPPING OR OTHER MEANS. DO NOT DAMAGE OR CUT EXISTING REINFORCEMENT.

3) SUBSTITUTION REQUESTS:
3A) SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS AND PRODUCT DATA DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS IN COMPLIANCE WITH THE RELEVANT BUILDING CODES, LOAD RESISTANCE, INSTALLATION CATEGORY, EXPOSURE CONDITIONS, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE OF THE SPECIFIED PRODUCT.

POST-INSTALLED ANCHOR TABLE

ANCHOR TYPE	PRODUCT	Fy (KSI)	Fu (KSI)	COMMENT
ADHESIVE (IN CONCRETE)	HILTI HIT-HY 200	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
ADHESIVE (IN CONCRETE W/>12" EMBEDMENT)	HILTI HIT-RE 500 V3	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
ADHESIVE (IN GROUTED OR HOLLOW MASONRY)	HILTI HIT-HY 270	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
ADHESIVE ANCHOR RODS	-	36 MIN	58 MIN	THREADED ROD, UNGREASED
EXPANSION ANCHORS (IN CONCRETE)	HILTI KWIK BOLT TZ	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
EXPANSION ANCHORS (IN GROUTED MASONRY)	HILTI KWIK BOLT 3	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS
SCREW ANCHORS	HILTI KWIK HUS-EZ	-	-	SUBMIT CALCULATIONS FOR SUBSTITUTIONS

METAL GAUGE CONVERSION

GAUGE	MINIMUM THICKNESS (MILS*)
22	27
20	33
18	43
16	54
14	68
12	97

NOTES:
* 1 MIL = 1/1000"

CONCRETE NOTES

1) GENERAL:
1A) ALL WORK SHALL CONFORM WITH ACI 301-10, UNLESS NOTED OTHERWISE IN DRAWINGS OR PROJECT SPECIFICATIONS.

1B) DETAIL BARS IN ACCORDANCE WITH THE DRAWINGS, PROJECT SPECIFICATIONS, AND ACI PUBLICATION SP-66 (2004): "ACI DETAILING MANUAL"

2) REINFORCING MATERIALS:
2A) SEE 'REINFORCING MATERIAL TABLE'

3) REINFORCING FABRICATION:
3A) SPLICES:
- NO SPLICING OF REINFORCEMENT PERMITTED EXCEPT AS NOTED ON DRAWINGS. MAKE BARS CONTINUOUS AROUND CORNERS WHERE DETAIL NOT PROVIDED. WHERE PERMITTED, SPLICES MAY BE MADE BY CONTACT LAPS OR MECHANICAL CONNECTORS.
- SEE 'LAP SPLICE SCHEDULE' FOR LAP LENGTHS.
- SPLICE CONTINUOUS TOP AND BOTTOM BARS IN WALLS, BEAMS, AND GRADE BEAMS 'LTS' UNLESS NOTED OTHERWISE.
- SPLICE TOP BARS AT MIDSPAN AND BOTTOM BARS OVER SUPPORT UNLESS NOTED OTHERWISE.

3B) MISCELLANEOUS REINFORCING REQUIREMENTS:
- PROVIDE ADDITIONAL BARS OR STIRRUPS REQUIRED TO SECURE REINFORCING IN PLACE DURING CONCRETE PLACEMENT.
- MAKE ALL REINFORCING BAR BENDS IN THE FABRICATOR'S SHOP UNLESS NOTED.
- NO WELDING OF REINFORCING PERMITTED UNLESS NOTED ON DRAWINGS. WHERE PERMITTED, PERFORM WELDING IN ACCORDANCE WITH AWS D1.4-2011.
- PROVIDE ADDED REINFORCING TO TRIM ALL OPENINGS, NOTCHES, AND REENTRANT CORNERS AS NOTED IN TYPICAL DETAILS.

4) STRUCTURAL CONCRETE MIX REQUIREMENTS:
4A) SEE 'CONCRETE MIX TABLE'

5) SLAB-ON-GRADE:
5A) VERIFY ALKALINITY OF CONCRETE SURFACE, SLAB VAPOR TRANSMISSION, AND SLAB FLATNESS/LEVELNESS ARE COMPATIBLE WITH FLOORING SYSTEM AND ADHESIVES PRIOR TO INSTALLING FLOORING.

5B) TAKE PRECAUTIONS TO MINIMIZE SLAB CURLING. GRIND SLAB OR USE LEVELING COMPOUND IF FLOOR FLATNESS AND LEVELNESS VALUES ARE NOT ACCEPTABLE TO THE ARCHITECT.

6) NON-SHRINK GROUT:
6A) CONFORM TO ASTM C1107

6B) ACHIEVE 6000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.

7) PLACING REINFORCEMENT:
7A) REINFORCEMENT PROTECTION:
- SEE 'REBAR COVER TABLE'
- SEE ACI 117-10 FOR REINFORCEMENT PLACING TOLERANCES

7B) PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING AND WELDED WIRE REINFORCEMENT AT POSITIONS SHOWN ON PLANS. ALL REINFORCING, DOWELS, BOLTS, AND EMBEDDED PLATES SHALL BE SET AND TIED IN PLACE BEFORE THE CONCRETE IS POURED. "STABBING" INTO PREVIOUSLY PLACED CONCRETE IS NOT PERMITTED.

8) CONSTRUCTION/CONTROL JOINTS:
8A) SUBMIT DRAWINGS SHOWING CONSTRUCTION AND CONTROL JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS.

8B) CONCRETE CONSTRUCTION JOINT SURFACE SHALL BE CLEANED AND ALL LAITANCE AND LOOSE MATERIAL REMOVED PRIOR TO SECOND CONCRETE PLACEMENT.

8C) INTENTIONALLY ROUGHENED CONSTRUCTION JOINTS: WHERE CONSTRUCTION JOINTS ARE LABELED AS "ROUGHENED" ON THE DRAWINGS, THE ENTIRE JOINT SURFACE SHALL BE MECHANICALLY ROUGHENED TO A 1/4" AMPLITUDE AND THOROUGHLY CLEANED. EXPOSE THE COARSE AGGREGATE IN THE HARDENED CONCRETE AND REMOVE ALL LAITANCE AND LOOSE MATERIAL.

9) MODIFICATIONS TO HARDENED OR EXISTING CONCRETE
9A) UNLESS NOTED ON THE STRUCTURAL DOCUMENTS MODIFICATIONS AS LISTED BELOW SHALL NOT BE MADE TO HARDENED OR EXISTING CONCRETE WITHOUT APPROVAL OF THE ARCHITECT:
- SAW CUTTING
- CORING
- CHIPPING
9B) DO NOT CUT OR DAMAGE ANY REINFORCING WITHOUT APPROVAL OF THE ARCHITECT

10) SLEEVES, OPENINGS, AND EMBEDED PIPE/CONDUITS:
10A) GENERAL
- REFER TO TYPICAL DETAILS FOR REQUIREMENTS FOR CONDUIT AND PIPE EMBEDDED IN WALLS AND SLABS
- REFER TO TYPICAL DETAILS FOR SPACING AND LAYOUT LIMITATIONS FOR SLEEVES AND OPENINGS
- FORM OPENINGS AND PROVIDE SLEEVES BEFORE PLACING CONCRETE, CORING OF CONCRETE IS NOT PERMITTED
- AT COMPOSITE SLABS DO NOT CUT DECK FOR AT LEAST 7 DAYS AFTER CONCRETE PLACEMENT
10B) REINFORCING
- REFER TO TYPICAL DETAILS FOR REINFORCEMENT REQUIREMENTS AT SLEEVES, OPENINGS OR CONDUIT
- DO NOT CUT REINFORCING WHICH MAY CONFLICT

REINFORCING MATERIAL TABLE

REINF ELEMENT	ASTM	Fy (KSI)	Fu (KSI)	COMMENTS
TYP REINFORCING	A615	60	90	-
WELDED & FIELD BENT REINF	A706	60	80	-
WELDED WIRE REINFORCING, SMOOTH	A1064	65	75	-
EPOXY COATING OF REINFORCING	A775 OR A934	-	-	-

CONCRETE MIX TABLE1

CONC MIX TYPE	INTENDED USE	28 DAY STRENGTH f'c (KSI)	CONC WEIGHT	MAX W/C RATIO, INCLUDING FLY ASH	MAX AGGREGATE SIZE (IN), NOTE a	TOTAL AIR CONTENT (%), NOTE b	OTHER REQTS, NOTE c
1	FOOTINGS	3.5	NWC	-	1	-	-
2	BSMT WALLS	4.5	NWC	0.45	3/4	6	-
3	INT TOPPING SLABS, SLABS ON DECK	3.5	NWC	0.50	3/4	NP	-
4	INT SLABS ON GRADE	3.5	NWC	-	1	NP	FRC
5	ALL CONC OTHERWISE NOT SPECIFIED	4	NWC	0.50	3/4	6	-

CONCRETE MIX TABLE NOTES:
PROPORTIONS OF MATERIALS IN CONCRETE MIX SHALL BE ESTABLISHED TO:
- PROVIDE THE MINIMUM COMPRESSIVE STRENGTH AS INDICATED IN THE MIX TABLE. DO NOT EXCEED THE MAXIMUM WATER-CEMENT RATIO NOTED.

- PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO FORMS AND AROUND REINFORCEMENT UNDER CONDITIONS OF PLACEMENT TO BE EMPLOYED, WITHOUT SEGREGATION OR EXCESSIVE BLEEDING. CONTRACTOR SHALL SELECT APPROPRIATE SLUMP. USE ADMIXTURES AS REQUIRED TO OBTAIN DESIRED RESULTS.

USE TYPE I/II PORTLAND CEMENT UNLESS NOTED OTHERWISE. FOR CONCRETE MIXES USED ON FLOORS MINIMUM CEMENTITIOUS CONTENT SHALL BE 540 POUNDS PER CUBIC YARD.

FOR CONCRETE PLACED BY PUMPING PROVIDE CONCRETE MIX FLOWABILITY TO FACILITATE PUMPING. ENTRAINED AIR MAY BE USED TO FACILITATE PUMPING SUBJECT TO THE PROVISIONS OF NOTE b BELOW.

a. FOR THE MAXIMUM COARSE AGGREGATE SIZE INDICATED, USE THE FOLLOWING AGGREGATE SIZE NUMBERS PER ASTM C33:
3/4": #67 AGGREGATE
1": #57 AGGREGATE

b. WHERE AIR CONTENT IS INDICATED IN THE MIX TABLE, PROVIDE AIR ENTRAINING ADMIXTURE. TOTAL AIR CONTENT LIMITS INCLUDE BOTH ENTRAINED AND ENTRAPPED AIR +/- 1 1/2%. 'NP' IN COLUMN INDICATES ADDITION OF ENTRAINED AIR IS NOT PERMITTED EXCEPT WHERE CONTRACTOR CAN DEMONSTRATE THAT SLABS WITH ENTRAINED AIR WILL HAVE A FINISH ACCEPTABLE TO THE ARCHITECT WITHOUT BLISTERS. AIR CONTENT NOTED IS BASED ON 3/4" AGGREGATE. IF 3/8" AGGREGATE IS USED, INCREASE AIR CONTENT BY 1 1/2%.

c. ABBREVIATIONS FOR OTHER REQUIREMENTS AS FOLLOWS:
FRC = FIBER REINFORCED CONCRETE. 1 1/2 LB/YD

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021
Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
003.7835.000
Description
NOTES
Scale
12" = 1'-0"

1B-S0.03

POST-INSTALLED ANCHORS/REINFORCING STEEL SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
EXPANSION ANCHORS, SLEEVE ANCHORS, SCREW ANCHORS			
- PRIOR TO START OF WORK	-	ICC-ES REPORT	REVIEW CONTRACTOR'S INSTALLATION PROCEDURE
- PRIOR TO INSTALLATION OF ANCHOR	EACH ANCHOR	ICC-ES REPORT	VERIFY TYPE, DIAMETER, LENGTH, FINISH, AND BASE MATERIAL. VERIFY SOLID GROUTED AREA AROUND ANCHORS IN GROUTED MASONRY. VERIFY MAXIMUM IMPACT WRENCH TORQUE RATING FOR SCREW ANCHORS
- DURING INSTALLATION OF ANCHOR	C	ICC-ES REPORT	CONTINUOUS INSPECTION REQUIRED REGARDLESS IF PERIODIC INSPECTION IS PERMITTED BY ICC-ES REPORT. VERIFY HOLE DIMENSIONS, HOLE CLEANING, ANCHOR EMBEDMENT, EDGE DISTANCES AND SPACING
- AFTER INSTALLATION OF ATTACHED ASSEMBLY	100% VISUAL	-	VERIFY NUMBER, EDGE DISTANCES, AND ANCHOR FLUSH WITH AND PERPENDICULAR TO THE RECEIVING SURFACE
ADHESIVE ANCHORS, REINFORCING STEEL ANCHORED INTO HARDENED CONCRETE			
- PRIOR TO START OF WORK	-	ICC-ES REPORT	REVIEW CONTRACTOR'S INSTALLATION PROCEDURE
- PRIOR TO INSTALLATION OF ANCHOR	EACH ANCHOR	ICC-ES REPORT	VERIFY TYPE, DIAMETER, LENGTH, FINISH, AND BASE MATERIAL. VERIFY SOLID GROUTED AREA AROUND ANCHORS IN GROUTED MASONRY
- DURING INSTALLATION OF ANCHOR	C	ICC-ES REPORT	CONTINUOUS INSPECTION REQUIRED REGARDLESS IF PERIODIC INSPECTION IS PERMITTED BY ICC-ES REPORT. VERIFY HOLE DIMENSIONS, HOLE CLEANING, ANCHOR EMBEDMENT, EDGE DISTANCES AND SPACING
- AFTER INSTALLATION OF ATTACHED ASSEMBLY	100% VISUAL	-	VERIFY NUMBER, EDGE DISTANCES, AND ANCHOR FLUSH WITH AND PERPENDICULAR TO THE RECEIVING SURFACE
- CURE TIME	100% VISUAL	-	VERIFY FULL CURE TIME HAS ELAPSED PRIOR TO APPLICATION OF TORQUE OR LOAD TO ANCHOR

POST-INSTALLED ANCHOR/REINFORCING STEEL TESTING

ITEM	FREQUENCY	STANDARD	CRITERIA
EXPANSION ANCHORS, SLEEVE ANCHORS, SCREW ANCHORS			
- TORQUE TEST	100%	-	TEST ANCHOR WITH CALIBRATED TORQUE WRENCH TO 100% OF THE INSTALLATION TORQUE NOTED IN ICC-ES REPORT. ATTAIN SPECIFIED TORQUE WITHIN 1/2 TURN OF THE NUT
ADHESIVE ANCHORS, REINFORCING STEEL ANCHORED INTO HARDENED CONCRETE			
- TENSION TEST	FIRST 3 AND 1% OF REMAINING	ASTM E488 STATIC TENSION	TEST THE INSTALLATION OF THE FIRST 3 OF EACH TYPE, BASE MATERIAL, AND POSITION (DOWN, HORIZONTAL, OVERHEAD). OBSERVE ASTM E488 MINIMUM EDGE DISTANCES FOR DETERMINING TEST LOCATIONS. SUBMIT PROPOSED TEST LOCATIONS AND REQUESTS FOR REQUIRED TENSION TEST LOAD VALUES TO ENGINEER

STRUCTURAL CONCRETE TESTING

ITEM	FREQUENCY	STANDARD	CRITERIA
REINFORCING STEEL, BOLTS AND EMBEDMENTS			
- WELDING	-	-	PER STRUCTURAL STEEL TESTING
CONCRETE			
- COMPOSITE SAMPLE		ASTM C172	OBTAIN AT POINT OF PLACEMENT. FOR DRILLED PIERS OBTAIN NEAR BEGINNING OF LOAD PRIOR TO PLACEMENT IN SHAFT. ADJUST FREQUENCY AS REQUIRED TO PROVIDE MINIMUM 5 TOTAL TESTS PER MIX BUT NOT MORE THAN ONE SAMPLE PER TRUCK LOAD
1. f'c < 5000 PSI	100 CY/MIX/DAY		
2. f'c ≥ 5000 PSI AND SHOTCRETE	50 CY/MIX/DAY		
- SLUMP/SLUMP FLOW	EACH COMPOSITE SAMPLE	ASTM C143 (SLUMP) OR ASTM C1611 (SLUMP FLOW)	SPECIFIED SLUMP SHALL BE AS SUBMITTED IN THE MIX DESIGN ± 1 1/2". PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE
- AIR CONTENT WHEN AIR ENTRAINMENT IS SPECIFIED AND LIGHTWEIGHT CONCRETE	EACH COMPOSITE SAMPLE	ASTM C231 PRESSURE METHOD (NWC) OR ASTM C173 VOLUMETRIC METHOD (LWC)	-
- TEMPERATURE	EACH COMPOSITE SAMPLE AND 60 MINUTE INTERVALS	ASTM C1064	REQUIRED WHEN AIR TEMPERATURE IS 40 °F AND BELOW OR 80°F AND ABOVE
- UNIT WEIGHT FOR STRUCTURAL LIGHTWEIGHT	EACH COMPOSITE SAMPLE	ASTM C138	-
- COLD WEATHER CURING	-	ASTM C1074	RECORD MAXIMUM AND MINIMUM CONCRETE TEMPERATURE DURING CURING PERIOD, WHEN DAILY AVERAGE AIR TEMPERATURE OF 40 °F OR BELOW IS EXPECTED FOR 3 SUCCESSIVE DAYS DURING CURING PERIOD
- COMPRESSIVE STRENGTH	EACH COMPOSITE SAMPLE	ASTM C31 ASTM C39 EITHER: (4)6x12 OR (6)4x8 CYLINDERS	TEST PER SCHEDULE BELOW: - 7 DAYS: (1) 6x12 OR (1) 4x8 - 28 DAYS: (2) 6x12 OR (3) 4x8 - 56 DAYS: (1) 6x12 OR (2) 4x8 (IF 28 DAY TESTS DO NOT ACHIEVE SPECIFIED 28 DAY STRENGTH) ACCEPTANCE CRITERIA PER ACI 318
SHOTCRETE (ADDITIONAL REQUIREMENTS)			
- COMPRESSIVE	-	IBC 2018 - 1908.10	-
- CURING	-	IBC 2018 - 1908.9	-
FLOOR FLATNESS REQUIREMENTS			
- MEASURE CONCRETE FLOOR FLATNESS (FF) AND FLOOR LEVELNESS (FL)	-	ASTM E1155	PERFORM MEASUREMENTS WITHIN 48 HOURS OF FINISHING OPERATIONS AND PRIOR TO REMOVAL OF SHORES OR FORMS. MEASURE AREAS INDICATED IN THE SPECIFICATIONS

STRUCTURAL CONCRETE TESTING NOTES:

1. NONDESTRUCTIVE TESTING MAY BE PERMITTED BY THE ARCHITECT, BUT WILL NOT BE USED AS SOLE BASIS FOR APPROVAL OR REJECTION OF DEFICIENT CONCRETE.
2. REPORTS OF COMPRESSIVE STRENGTH TESTS SHALL CONTAIN THE FOLLOWING INFORMATION: DATE OF CONCRETE PLACEMENT, LOCATION OF CONCRETE BATCH IN WORK, DESIGN 28-DAY COMPRESSIVE STRENGTH, SLUMP, CONCRETE SUPPLIER AND MIXTURE ID NUMBER, TIME OF BATCH AND PLACEMENT, AMBIENT AIR TEMPERATURE, SITE ADDED WATER AND ADMIXTURES, UNIT WEIGHT, AND AS REQUIRED BY ASTM C39.

STRUCTURAL CONCRETE SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
REINFORCING STEEL			
- DURING PLACEMENT	P	ACI 301-16 3.2-3.3	VERIFY GRADE, FINISH, SIZE, BAR QUANTITY, LOCATION, SPACING, COVER, HOOK LENGTHS, SPLICE LENGTH, SPLICE LOCATIONS, BEND DIAMETERS, COATING, SURFACE CONDITION, AND SUPPORT
- PRIOR TO PLACEMENT OF CONCRETE	100%		
- WELDING	C	AWS D1.4	VERIFY ASTM A706 REINFORCING STEEL
- FIELD BENDING	P	ACI 301-16 3.3.2.8	-
- COATED REINFORCING	P	ACI 301-16 3.2.1.2	-
- MECHANICAL CONNECTORS	C	ICC-ES REPORT	-
BOLTS AND EMBEDMENTS			
- PRIOR TO PLACEMENT OF CONCRETE	100%	-	VERIFY TYPE, FINISH, DIAMETER, LENGTH, QUANTITY, EMBEDMENT LENGTH, SPACING AND EDGE DISTANCES. VERIFY USE OF PLACING TEMPLATE WHERE SPECIFIED
- WELDING	-	-	INSPECT PER THE STRUCTURAL STEEL TABLE
CONCRETE			
- MIX DESIGN	EACH TRUCK	-	VERIFY USE OF APPROVED DESIGN MIXTURE FOR EACH TRUCK LOAD
- FORMWORK PRIOR TO PLACEMENT OF CONCRETE	P	ACI 301-16 2.2-2.3	INSPECT FIRST POUR OF EACH TYPE (GRADE BEAM, COLUMN, STRUCTURAL SLAB, SLAB-ON-DECK, ETC.)
- PLACEMENT OF CONCRETE	C	ACI 301-16 5.3.2	-
- CURING	P	ACI 301-16 5.3.6	-
- SHORE/FORM REMOVAL	P	ACI 301-16 2.3.2	FOR BEAMS AND STRUCTURAL SLABS

QUALITY ASSURANCE GENERAL NOTES
STATEMENT OF STRUCTURAL SPECIAL INSPECTIONS AND TESTING

1. **GENERAL:**
   A. SCOPE OF WORK
   - THE OWNER WILL ENGAGE A QUALIFIED INSPECTION AND TESTING AGENCY(S) TO PERFORM SPECIAL INSPECTIONS AND TESTING FOR ALL STRUCTURAL MEMBERS AND ASSEMBLIES AS NOTED HEREIN.
   - SPECIAL INSPECTIONS ARE IN ADDITION TO INSPECTIONS BY THE AUTHORITY HAVING JURISDICTION REQUIRED BY IBC 2018 SECTION 110.
   - REFER TO THE SPECIFICATIONS FOR REPORTING AND PROCEDURAL REQUIREMENTS FOR QUALITY ASSURANCE AND QUALITY CONTROL.
   - REFER TO ARCH/MECH/ELEC/CIVIL SPECIFICATIONS AND DRAWINGS FOR ADDITIONAL SPECIAL INSPECTION AND TESTING THAT MAY BE REQUIRED.

   B. SPECIAL INSPECTIONS AND TESTING ARE APPLICABLE TO ALL REVISIONS AND/OR FUTURE WORK ADDED BY AMENDMENTS TO THESE DOCUMENTS.

   C. DEFINITIONS
   - SPECIAL INSPECTOR: THE AGENCY ENGAGED BY THE OWNER AND APPROVED BY THE AUTHORITY HAVING JURISDICTION TO ACT AS THE DESIGNATED REPRESENTATIVE TO PERFORM INSPECTIONS.
   - SPECIAL INSPECTION: INSPECTION PERFORMED BY THE SPECIAL INSPECTOR ACCORDING TO IBC 2018 SECTION 1704 TO ENSURE COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.
   - (P) PERIODIC INSPECTION: THE PART-TIME OR INTERMITTENT OBSERVATION BY THE SPECIAL INSPECTOR OF WORK BEING PERFORMED. SPECIAL INSPECTOR SHALL BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. OBSERVATION OF ALL WORK (100% VISUAL) SHALL BE MADE AT THE COMPLETION OF THE WORK.
   - (C) CONTINUOUS INSPECTION: THE FULL-TIME OBSERVATION BY THE SPECIAL INSPECTOR OF WORK BEING PERFORMED. SPECIAL INSPECTOR SHALL BE PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. OBSERVATION OF ALL WORK (100% VISUAL) SHALL BE MADE AT THE COMPLETION OF THE WORK.

   D. DEFICIENCIES IN WORK
   - CORRECT DEFICIENCIES IN WORK THAT TESTS AND INSPECTIONS INDICATE DO NOT COMPLY WITH THE CONTRACT DOCUMENTS AND REFERENCED STANDARDS.
   - ALL COST OF ADDITIONAL TESTING AND/OR INSPECTIONS FOR CORRECTIVE WORK SHALL BE BORNE BY THE CONTRACTOR.

2. **SHOP FABRICATIONS:**
   A. GENERAL
   - PERFORM INSPECTIONS AND TESTING FOR ALL SHOP FABRICATED STRUCTURAL MEMBERS AND ASSEMBLIES AS NOTED HEREIN. SPECIAL INSPECTOR SHALL PERFORM SPECIAL INSPECTIONS AND TESTING UNLESS THE FABRICATOR IS REGISTERED AND APPROVED BY THE AUTHORITY HAVING JURISDICTION TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION OR FABRICATION HAS A CURRENT ICC-ES EVALUATION REPORT.
   - SPECIAL INSPECTOR SHALL VERIFY THE FABRICATOR MAINTAINS AND FOLLOWS DETAILED SHOP FABRICATION AND QUALITY CONTROL PROCEDURES, UNLESS FABRICATOR IS REGISTERED AND APPROVED.
   - AT THE COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AUTHORITY HAVING JURISDICTION ACCORDING TO IBC 2018 SECTION 1704.2.5.1.
   - APPROVED FABRICATORS MAY PERFORM TESTING NOTED HEREIN EXCEPT THAT NONDESTRUCTIVE TESTING (NDT) SHALL ONLY BE PERFORMED BY PERSONNEL WITH QUALIFICATIONS THAT MEET OR EXCEED THE CRITERIA OF AWS D1.1 SUBCLAUSE 6.14.6 AND AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT) SNT-TC-1A OR ASNT CP-189.

   B. SHOP FABRICATIONS INCLUDED
   - SHOP FABRICATED STRUCTURAL STEEL INCLUDING STAIRS AND RAILING ELEMENTS
   - SHOP FABRICATED STEEL CONNECTIONS FOR STRUCTURAL WOOD CONNECTIONS

SOILS SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
SUBGRADE			
- EXCAVATION	P	-	VERIFY EXCAVATIONS ARE EXTENDED TO THE PROPER DEPTH AND HAVE REACHED THE PROPER BEARING MATERIAL
- BEARING MATERIAL	P	SOILS REPORT	VERIFY BEARING MATERIAL IS ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY
CONTROLLED FILL			
- PRIOR TO PLACEMENT	P	-	VERIFY SUBGRADE HAS BEEN PROPERLY PREPARED
- PLACEMENT	C	-	VERIFY USE OF PROPER MATERIALS, DENSITIES, COMPACTION, AND LIFT THICKNESSES

SOILS SPECIAL INSPECTION NOTES:

1. SEE CIVIL DRAWINGS AND/OR SPECIFICATIONS FOR ADDITIONAL EARTHWORK AND UTILITY INSPECTION REQUIREMENTS.
2. SEE CIVIL DRAWINGS AND/OR SPECIFICATIONS FOR CLASSIFICATION AND TESTING REQUIREMENTS FOR COMPACTED FILL AND/OR CONTROLLED LOW-STRENGTH MATERIAL.

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Project Name
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Description
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1B-S0.10

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: M/C MARTIN
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STRUCTURAL COLD FORMED STEEL DECK SPECIAL INSPECTIONS

ITEM	FREQUENCY	STANDARD	CRITERIA
PRIOR TO DECK PLACEMENT			
- VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS	PERFORM	SDI QA/QC-2011	.
- DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	PERFORM	SDI QA/QC-2011	-
PRIOR TO WELDING			
- WELDING PROCEDURE SPECIFICATION (WPS) AVAILABLE	OBSERVE	SDI QA/QC-2011	-
- MANUFACTURER CERTIFICATIONS OF WELDING CONSUMABLES AVAILABLE	OBSERVE	SDI QA/QC-2011	-
- MATERIAL IDENTIFICATION (TYPE/GRADE)	OBSERVE	SDI QA/QC-2011	-
- CHECKING WELDING EQUIPMENT	OBSERVE	SDI QA/QC-2011	-
PRIOR TO MECHANICAL FASTENING (SCREWS AND PAFs)			
- MANUFACTURER INSTALLATION INSTRUCTIONS ARE AVAILABLE FOR MECHANICAL FASTENERS	OBSERVE	SDI QA/QC-2011	-
- PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATIONS	OBSERVE	SDI QA/QC-2011	-
- PROPER STORAGE FOR MECHANICAL FASTENERS	OBSERVE	SDI QA/QC-2011	-
DURING DECK INSTALLATION			
DURING WELDING DECK CONNECTION INSTALLATION			
- USE OF QUALIFIED WELDERS		SDI QA/QC-2011	-
- CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	SDI QA/QC-2011	-
- ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	OBSERVE	SDI QA/QC-2011	-
- WPS FOLLOWED	OBSERVE	SDI QA/QC-2011	-
DURING MECHANICAL DECK CONNECTION INSTALLATION			
- FASTENING (SCREWS AND PAFs)	OBSERVE	SDI QA/QC-2011	-
- FASTENERS ARE POSITIONED AS REQUIRED	OBSERVE	SDI QA/QC-2011	-
- FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	OBSERVE	SDI QA/QC-2011	-
AFTER DECK PLACEMENT			
- VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION COMPLY WITH CONSTRUCTION DOCUMENTS	PERFORM	SDI QA/QC-2011	-
- VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	PERFORM	SDI QA/QC-2011	-
- DOCUMENT ACCEPTANCE OR REJECTION OF THE INSTALLATION OF DECK AND DECK ACCESSORIES	PERFORM	SDI QA/QC-2011	VERIFY CUTS OR NOTCHES THROUGH DECK ARE REPAIRED
AFTER WELDING			
- VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS	PERFORM	AWS D1.3, SDI C, SDI NC, SDI RD	-
- WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM	AWS D1.3, SDI C, SDI NC, SDI RD	-
- VERIFY REPAIR ACTIVITIES	PERFORM	AWS D1.3, SDI C, SDI NC, SDI RD	VERIFY WELDED AREAS ARE TREATED WITH APPROVED TREATMENT TO MATCH CORROSION RESISTANCE OF AFFECTED AREA
- DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	PERFORM	AWS D1.3, SDI C, SDI NC, SDI RD	-
AFTER MECHANICAL FASTENING (SCREWS AND PAFs)			
- CHECK SPACING, TYPE, DIAMETER, AND INSTALLATION OF SUPPORT, SIDELAP, AND PERFORM PERIMETER FASTENERS	PERFORM	SDI C, SDI NC, SDI RD, ICC-ES REPORTS	VERIFY SCREWS ADEQUATELY PENETRATE BASE MATERIAL (3 THREADS MIN). NO POPPED SCREW HEADS OR STRIPPED SCREWS ARE PERMITTED. ALL DAMAGE SCREWS SHALL BE REPLACED. VERIFY PAFs ARE FULLY DRIVEN
- VERIFY REPAIR ACTIVITIES	PERFORM	SDI C, SDI NC, SDI RD	-
- DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	PERFORM	SDI C, SDI NC, SDI RD	VERIFY MATERIALS HAVE BEEN DRAWN TOGETHER

STRUCTURAL STEEL TESTING

ITEM	FREQUENCY	STANDARD	CRITERIA/REMARKS
WELDING			
- COMPLETE JOINT PENETRATION GROOVE WELDS FOR MATERIAL 5/16" THICK AND GREATER	10%	UT	FREQUENCY SHALL BE INCREASED SHOULD THE REJECT RATE EXCEED 5% FOR AN INDIVIDUAL WELDER, IN ACCORDANCE WITH AISC 360, CHAPTER N.
- THERMALLY CUT SURFACES OF BEAM COPES AND ACCESS HOLES WHEN MATERIAL THICKNESS EXCEEDS 2 INCHES	100%	MT OR PT	-
- SHEAR CONNECTOR, HEADED ANCHOR STUDS, DEFORMED ANCHOR STUDS, THREADED STUDS	2 BEND TESTS AT START OF EACH SHIFT, 1% BEND TEST, 100% RING TEST	AWS D1.1 SECTION 7	BEND TEST: PER AWS D1.1 BENT STUD (TORQUE TEST FOR THREADED STUDS) ACCEPTANCE CRITERIA. RING TEST: STRIKE WITH HAMMER. IF THE STUD RINGS, STUD IS ACCEPTABLE. IF STUD DOES NOT RING, PERFORM BEND TEST
FRAMING			
- SHAPES EXCEEDING 1 1/2 INCHES THICK, LOADED IN TENSION IN THE THROUGH- THICKNESS	100%	ASTM A898 (LEVEL 1 CRITERIA)	NOT REQUIRED FOR STEEL PRODUCED IN USA. CRITERIA TO BE MET 6 INCHES ABOVE AND BELOW EACH WELD. REQUIRED WHERE NOTED AS 'TTT' IN DRAWINGS
- PLATES EXCEEDING 3/4 INCH, LOADED IN TENSION IN THE THROUGH-THICKNESS DIRECTION IN TEE AND CORNER JOINTS	100%	ASTM A435	NOT REQUIRED FOR STEEL PRODUCED IN USA. ANY DISCONTINUITY CAUSING A TOTAL LOSS OF BACK REFLECTION THAT CANNOT BE CONTAINED WITHIN A CIRCLE 3 INCHES IN DIAMETER SHALL BE REJECTED. REQUIRED WHERE NOTED AS 'TTT' IN DRAWINGS
EMBEDDED PLATE ASSEMBLIES WITH PLATES EXCEEDING 3/4 INCH	100%	UT	NOT REQUIRED FOR STEEL PRODUCED IN USA. TEST ALONG CENTERLINE OF PLATE WIDTH AFTER WELDING

UT - ULTRASONIC TESTING
MT - MAGNETIC PARTICLE TESTING
PT - PENETRANT TESTING
TTT - TENSION THRU THICKNESS, SEE STR STEEL TESTING

STRUCTURAL STEEL INSPECTIONS

ITEM	INSPECTION TASK	STANDARD	CRITERIA/REMARKS
- PRIOR TO FABRICATION OR ERECTION	PERFORM	AISC 360, CHAPTER N	REVIEW MATERIAL TEST REPORTS AND CERTIFICATIONS FOR STRUCTURAL STEEL, FASTENERS, ANCHOR RODS, HEADED STUD ANCHORS
PRIOR TO WELDING			
- REVIEW MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AND WELDING PROCEDURE SPECIFICATIONS	PERFORM	AISC 360, CHAPTER N	-
- FIT UP OF WELDS, INCLUDING JOINT GEOMETRY, AND CONFIGURATIONS AND FINISH OF ACCESS HOLES	OBSERVE	AISC 360, CHAPTER N	-
- MATERIAL IDENTIFICATION	OBSERVE	AISC 360, CHAPTER N	-
- WELDER IDENTIFICATION SYSTEM	OBSERVE	AISC 360, CHAPTER N	-
DURING WELDING			
- USE OF QUALIFIED WELDERS	OBSERVE	AISC 360, CHAPTER N	-
- CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	AISC 360, CHAPTER N	-
- NO WELDING OVER CRACKED TACK WELDS	OBSERVE	AISC 360, CHAPTER N	-
- ENVIRONMENTAL CONDITIONS, AND WPS FOLLOWED	OBSERVE	AISC 360, CHAPTER N	-
- WELDING TECHNIQUES - SINGLE PASS WELDS	OBSERVE	AISC 360, CHAPTER N	-
- WELDING TECHNIQUES - MULTI-PASS WELDS	OBSERVE	AISC 360, CHAPTER N	-
AFTER WELDING			
- WELDS CLEANED	OBSERVE	AISC 360, CHAPTER N	-
- SIZE, LENGTH, AND LOCATION OF WELDS	PERFORM	AISC 360, CHAPTER N	-
- WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM	AISC 360, CHAPTER N, AWS D1.1	WHERE INSPECTOR OBSERVES QUESTIONABLE WELDS, NON-DESTRUCTIVE TESTING SHALL BE PERFORMED
- ARC STRIKES	PERFORM	AISC 360, CHAPTER N	-
- K-AREA	PERFORM	AISC 360, CHAPTER N	-
- REPAIR ACTIVITIES	PERFORM	AISC 360, CHAPTER N	-
- PLACEMENT AND INSTALLATION OF HEADED STUD ANCHORS	PERFORM	AISC 360, CHAPTER N	-
- DOCUMENT ACCEPTANCE OR REJECTION OF WELDED MEMBER OR JOINT	PERFORM	AISC 360, CHAPTER N	-
PRIOR TO BOLTING			
- REVIEW MANUFACTURER CERTIFICATIONS FOR FASTENER MATERIALS	PERFORM	AISC 360, CHAPTER N	-
- FASTENERS MARKS IN ACCORDANCE WITH ASTM REQUIREMENTS	OBSERVE	AISC 360, CHAPTER N	-
- PROPER FASTENERS AND BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	OBSERVE	AISC 360, CHAPTER N	-
- CONNECTING ELEMENTS MEET REQUIREMENTS, INCLUDING HOLE REPAIR AND FAYING SURFACE	OBSERVE	AISC 360, CHAPTER N	-
- PRE-INSTALLATION VERIFICATION TESTING	OBSERVE	AISC 360, CHAPTER N	NOT APPLICABLE FOR SNUG TIGHT JOINTS
- PROPER STORAGE FOR FASTENER COMPONENTS	OBSERVE	AISC 360, CHAPTER N	-
DURING BOLTING			
- FASTENERS PLACED IN ALL HOLES AND POSITIONED AS REQUIRED	OBSERVE	AISC 360, CHAPTER N	-
- PRETENSIONED AND SLIP-CRITICAL JOINTS	OBSERVE	AISC 360, CHAPTER N AND RCSC SPECIFICATION	JOINT BROUGHT IN SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING, FASTENER PREVENTED FROM ROTATING, PRETENSIONED IN PROPER SEQUENCE
- PRETENSIONED AND SLIP-CRITICAL JOINTS USING CALIBRATED WRENCH OR TURN-OF-NUT METHOD WITHOUT MATCHMARKING	PERFORM	AISC 360, CHAPTER N AND RCSC SPECIFICATION	JOINT BROUGHT IN SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING, FASTENER PREVENTED FROM ROTATING, PRETENSIONED IN PROPER SEQUENCE. INSPECTOR SHALL BE RESENT DURING INSTALLATION OF FASTENERS
AFTER BOLTING			
- DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	PERFORM	DOCUMENT ACCEPTANCE OR REJECTION MEMBER OR JOINT	-

OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS
PERFORM - THESE INSPECTIONS SHALL BE PERFORMED FOR EACH WELDED CONNECTION, EACH BOLTED CONNECTION, AND EACH ITEM, PRIOR TO ACCEPTANCE

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COLORADO REGISTERED 38107 PROFESSIONAL ENGINEER

May 19, 2021

Seal / Signature

Date	Description
- 2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
QUALITY ASSURANCE

Scale

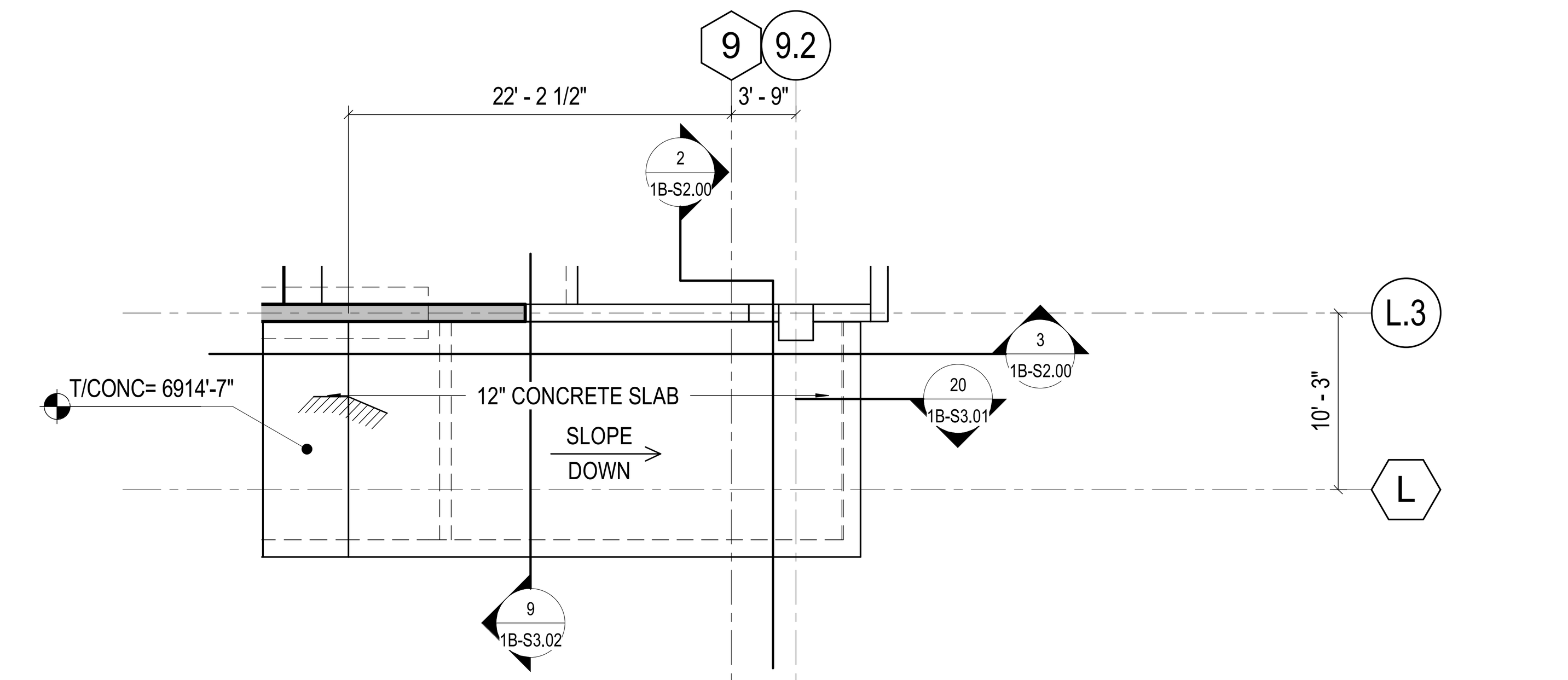
1B-S0.11

MM JOB #: 20.1411.5.01
PRINCIPAL: KELLY KNOWLES
FOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

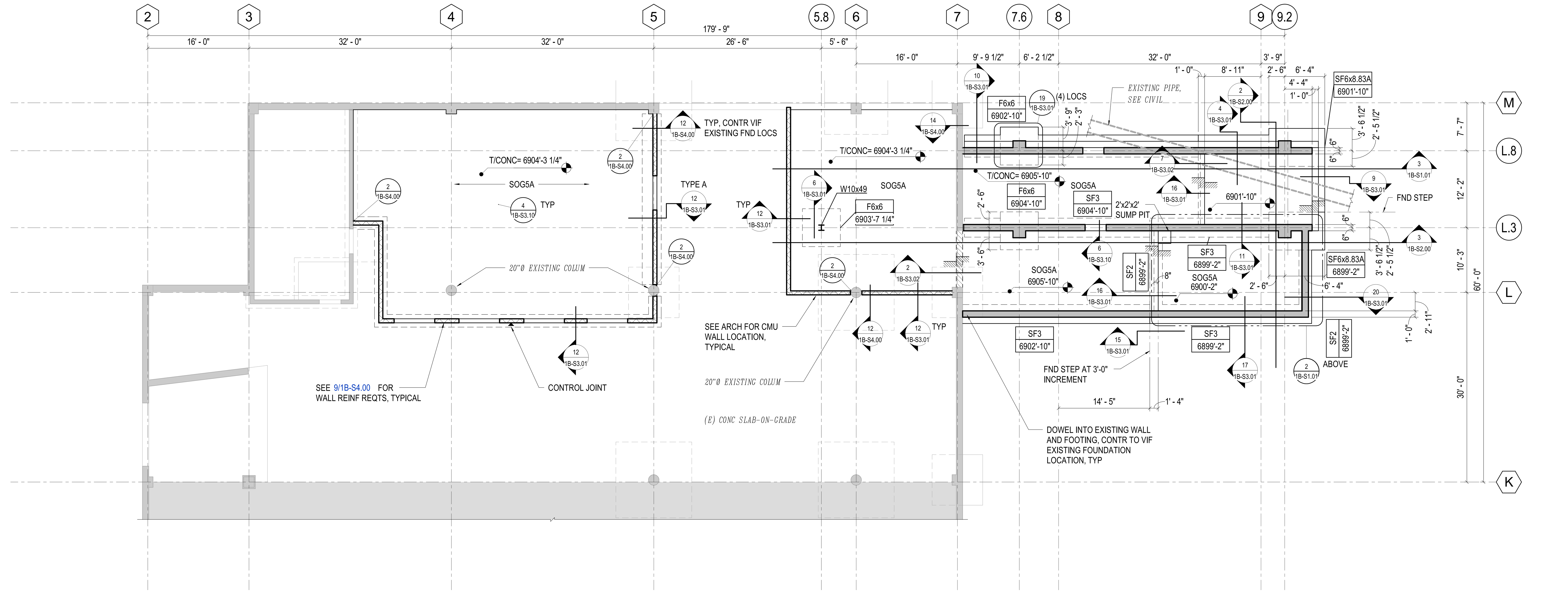
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 11:39:57 AM
FILE PATH: I:\BIM 360\003.7835.000 - Steamboat Redev\03.7835.000_Structural_SSRC_GSD 2021_V2021.rvt

PLAN NOTES

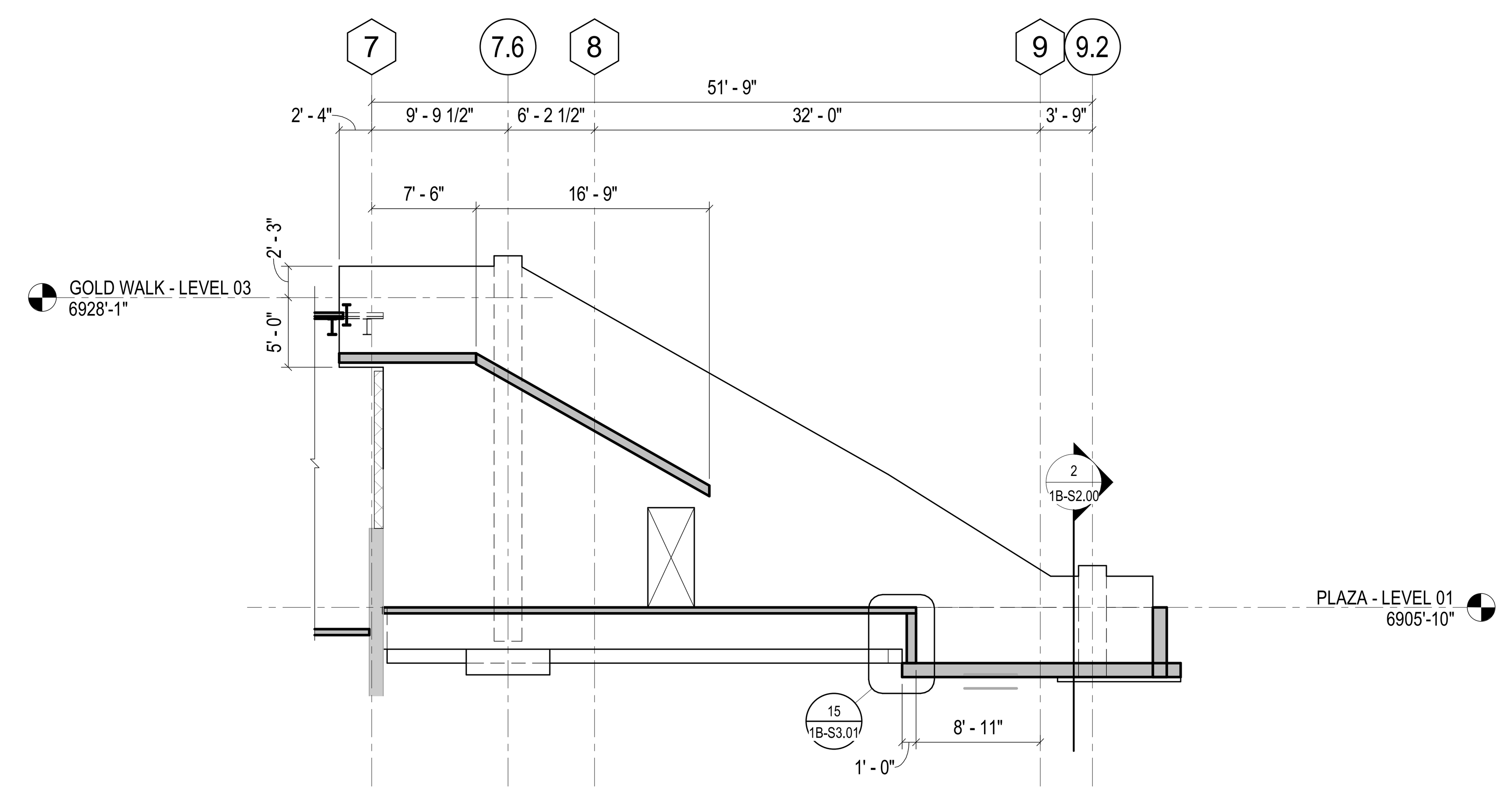
1. CONTRACTOR TO VERIFY ALL EXISTING CONDITION PRIOR TO STEEL FABRICATION.
2. CONTRACTOR TO FIELD LOCATE ALL UTILITIES BELOW GRADE. CONTRACTOR SHALL NOTIFY ARCHITECT BY DIMENSIONED DRAWING OF LOCATIONS WHERE UTILITIES CONFLICT WITH FOUNDATION INSTALLATION. CONTRACTOR SHALL MAKE ALLOWANCE FOR THE RESOLUTION OF SUCH DISCOVERIES PRIOR TO PROCEEDING WITH EFFECTED FOUNDATIONS.
3. SEE ARCH AND MECH DRAWINGS FOR SLAB SLOPES, DEPRESSIONS, FILL, PADS, AND CURBS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
4. SEE 1B-S4.00 FOR TYPICAL MASONRY WALL DETAILS. SEE ARITECTURAL DRAWINGS FOR DIMENSIONS OF ALL MASONRY WALLS.



2 PARTIAL STAIR FRAMING PLAN
1/8" = 1'-0"



1 PLAZA PARTIAL FRAMING PLAN
1/8" = 1'-0"

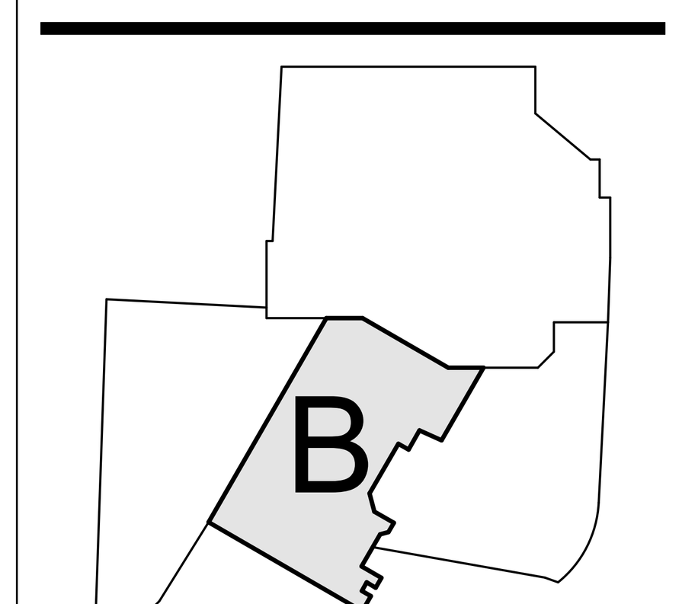


3 ESCALATOR PIT SECTION
1/8" = 1'-0"

LEGEND

OUT OF SCOPE

KEY PLAN



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38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
GOLDWALK - LEVEL 1 FRAMING PLAN

Scale
As indicated

Ref North

1B-S1.01

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

DESIGNERS: MC MARTIN
LEAD REVIT TECH:COLIN MONKES
DATE PRINTED:5/19/2021 11:39:58 AM

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

DESIGNERS: NIC MARTIN
LEAD REVIT TECH:COLIN MONNES
DATE PRINTED:5/19/2021 11:39:59 AM
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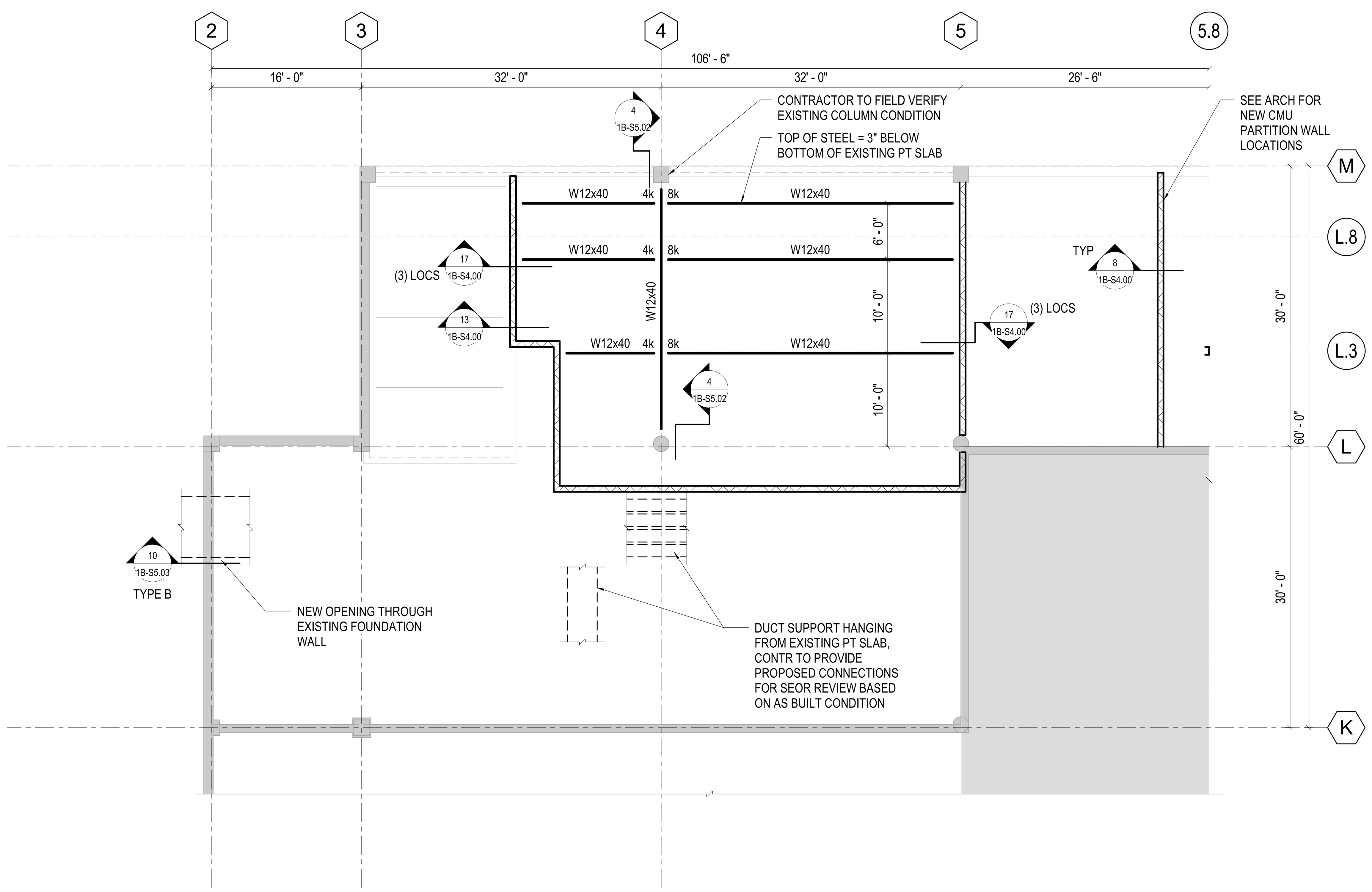


1 GOLDWALK - BOILER ROOM - LEVEL 2 FRAMING PLAN

1/8" = 1'-0"

PLAN NOTES

1. CONTRACTOR TO VERIFY ALL EXISTING CONDITION PRIOR TO STEEL FABRICATION.

2. CONTRACTOR TO FIELD LOCATE ALL EXISTING UTILITIES HANGING FROM EXISTING SLAB. CONTRACTOR SHALL NOTIFY ARCHITECT BY DIMENSIONED DRAWING OF LOCATIONS WHERE UTILITIES CONFLICT WITH NEW INSTALLATION. CONTRACTOR SHALL MAKE ALLOWANCE FOR THE RESOLUTION OF SUCH DISCOVERIES.

3 SEE ARCH AND MECH DRAWINGS FOR SLAB SLOPES, DEPRESSIONS, FILL, PADS, AND CURBS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

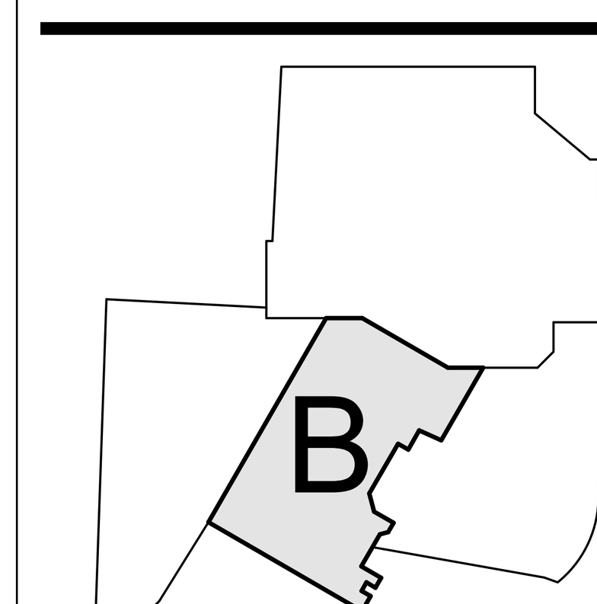
4 STEEL BEAMS:
   A. STEEL BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDLINES/COLUMNS/GIRDERS UNLESS DIMENSIONED OTHERWISE.
   B. REQUIRED BEAM END CONNECTION CAPACITY IN KIPS NOTED ON PLAN THUS: XXk. IF TWO SYMBOLS ARE SHOWN THEY DENOTE THE REQUIRED CONNECTION CAPCITY AT THE CORRESPONDING BEAM END. IF ONLY ONE SYBMOL IS SHOWN IT DENOTES THE REQUIRED CONNECTION CAPACITY AT EACH END OF THE BEAM. DETAIL CONNECTIONS FOR REQUIRED CONNECTION CAPACITY PER SHEET S5.00. ALL BEAM END CONNECTIONS NOTED ON PLAN HAVE BEEN FACTORED PER THE ASCE 7 STRENGTH DESIGN LOAD COMBINATIONS.

4. SEE 1B-S4.00 FOR TYPICAL MASONRY WALL DETAILS. SEE ARITECTURAL DRAWINGS FOR DIMENSIONS OF ALL MASONRY WALLS.

LEGEND

OUT OF SCOPE

KEY PLAN



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38107
PROFESSIONAL ENGINEER

May 19, 2021

Seal / Signature

△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

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Record Set
TC
06/29/2021

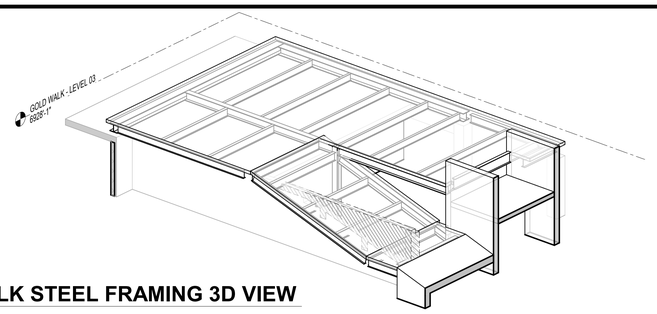
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

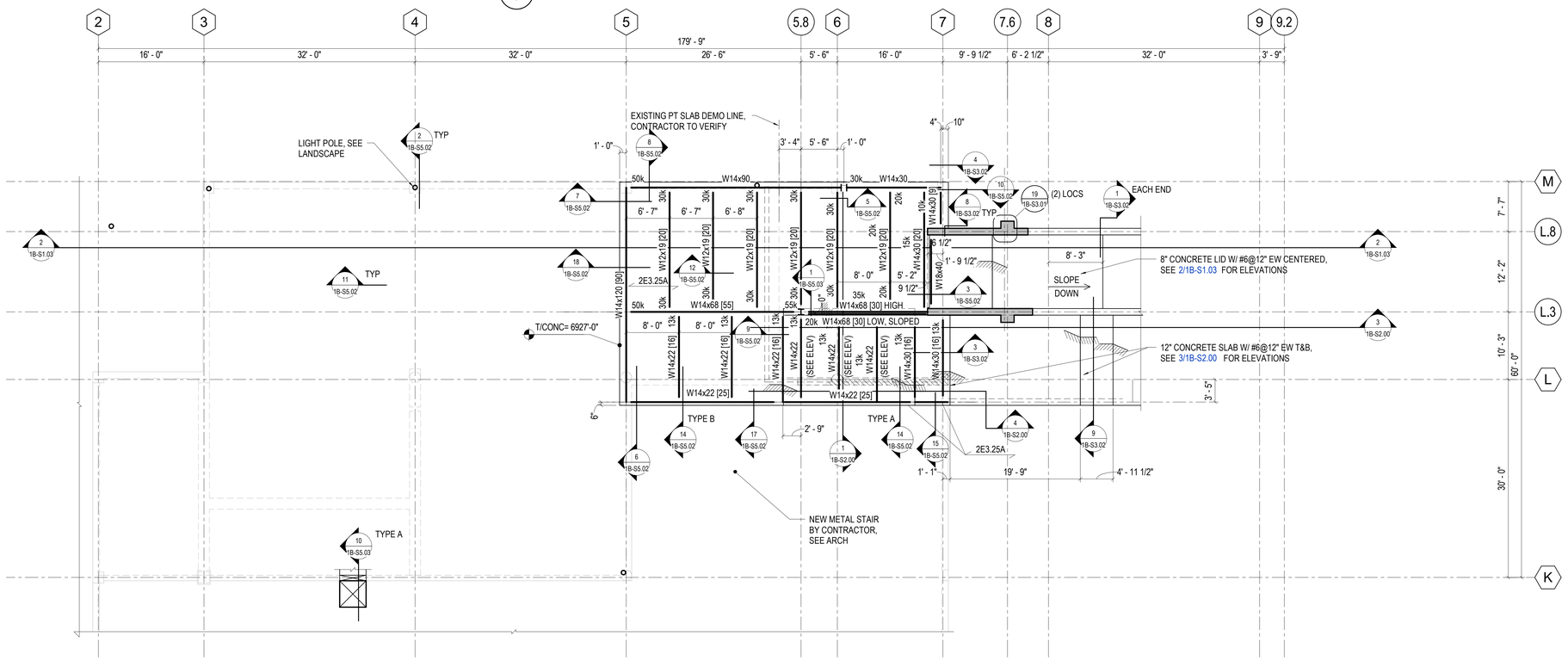
Description
GOLDWALK - LEVEL 2 FRAMING PLAN

Scale
As indicated

1B-S1.02

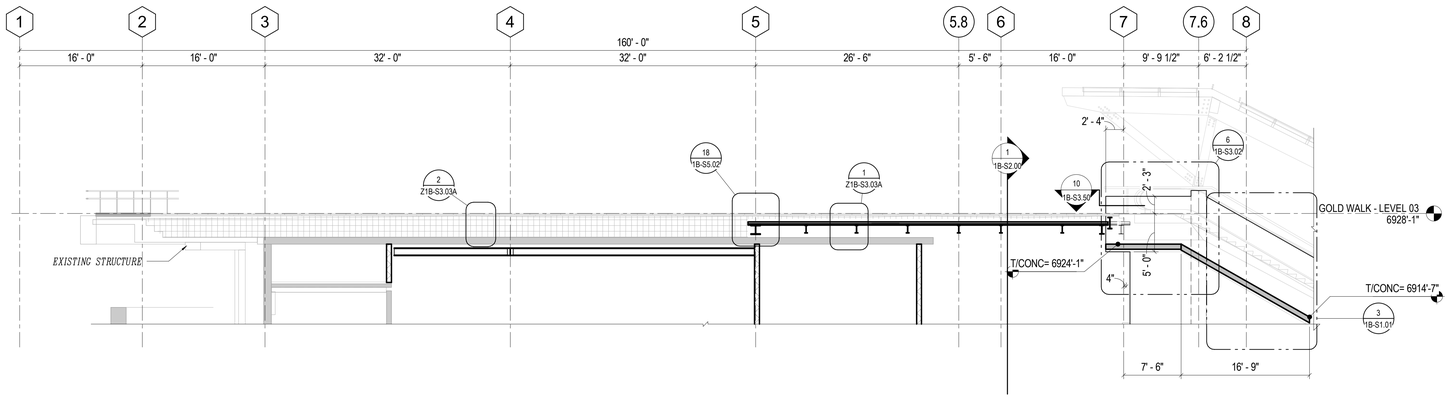


3 GOLDWALK STEEL FRAMING 3D VIEW



1 GOLDWALK FRAMING PLAN

1/8" = 1'-0"



2 GOLDWALK CROSS SECTION

1/8" = 1'-0"

PLAN NOTES

1. CONTRACTOR TO VERIFY ALL EXISTING CONDITION PRIOR TO STEEL FABRICATION.

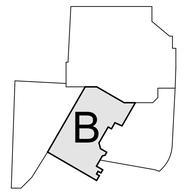
2. CONTRACTOR TO FIELD LOCATE ALL UTILITIES ON THE EXISTING SLAB. CONTRACTOR SHALL NOTIFY ARCHITECT BY DIMENSIONED DRAWING OF LOCATIONS WHERE UTILITIES CONFLICT WITH NEW INSTALLATION. CONTRACTOR SHALL MAKE ALLOWANCE FOR THE RESOLUTION OF SUCH DISCOVERIES.

3 SEE ARCH AND MECH DRAWINGS FOR SLAB SLOPES, DEPRESSIONS, FILL, PADS, AND CURBS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

4 STEEL BEAMS AND JOISTS:
- A. STEEL BEAMS SHALL BE EQUALLY SPACED BETWEEN GRIDLINES / COLUMNS / GIRDERS UNLESS DIMENSIONED OTHERWISE.
- B. TOP OF STEEL BEAMS SHALL EQUAL BOTTOM OF METAL DECK ELEVATION. SEE PLAN FOR TOP OF CONCRETE ELEVATION AND SLAB THICKNESS TO DETERMINE BOTTOM OF METAL DECK ELEVATION.
- C. REQUIRED BEAM END CONNECTION CAPACITY IN KIPS NOTED ON PLAN THUS: XXk. IF TWO SYMBOLS ARE SHOWN THEY DENOTE THE REQUIRED CONNECTION CAPCITY AT THE CORRESPONDING BEAM END. IF ONLY ONE SYBMOL IS SHOWN IT DENOTES THE REQUIRED CONNECTION CAPACITY AT EACH END OF THE BEAM. DETAIL CONNECTIONS FOR REQUIRED CONNECTION CAPACITY PER SHEET S5.00. ALL BEAM END CONNECTIONS NOTED ON PLAN HAVE BEEN FACTORED PER THE ASCE 7 STRENGTH DESIGN LOAD COMBINATIONS.
- D. PLACE NUMBER OF SHEAR STUDS INDICATED ON PLAN THUS: [XX] PER DETAIL 11/S5.31. ALL SHEAR STUDS ARE 3/4"Ø. SEE DETAIL 11/ S5.31 FOR NET IN-PLACE LENGTH OF SHEAR STUDS.

4. SEE 1B-S4.00 FOR TYPICAL MASONRY WALL DETAILS. SEE ARITECTURAL DRAWINGS FOR DIMENSIONS OF ALL MASONRY WALLS.

KEY PLAN



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COLORADO REGISTERED 38107 PROFESSIONAL ENGINEER

May 19, 2021

Seal / Signature

Date	Description
- 2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

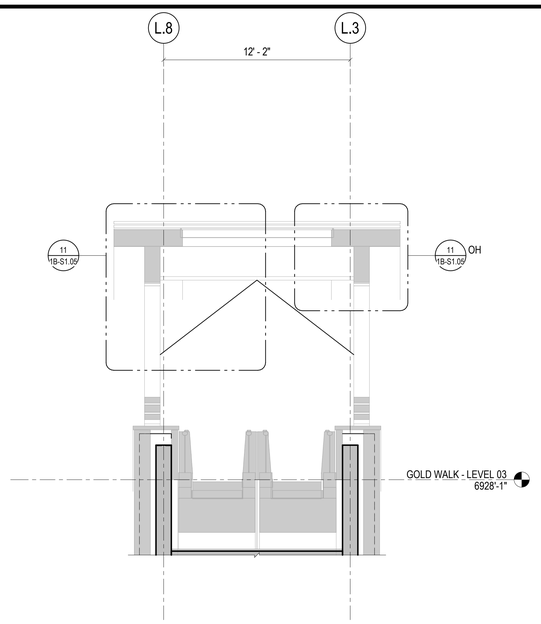
Description
GOLDWALK - LEVEL 3 FRAMING PLAN

Scale
1/8" = 1'-0"

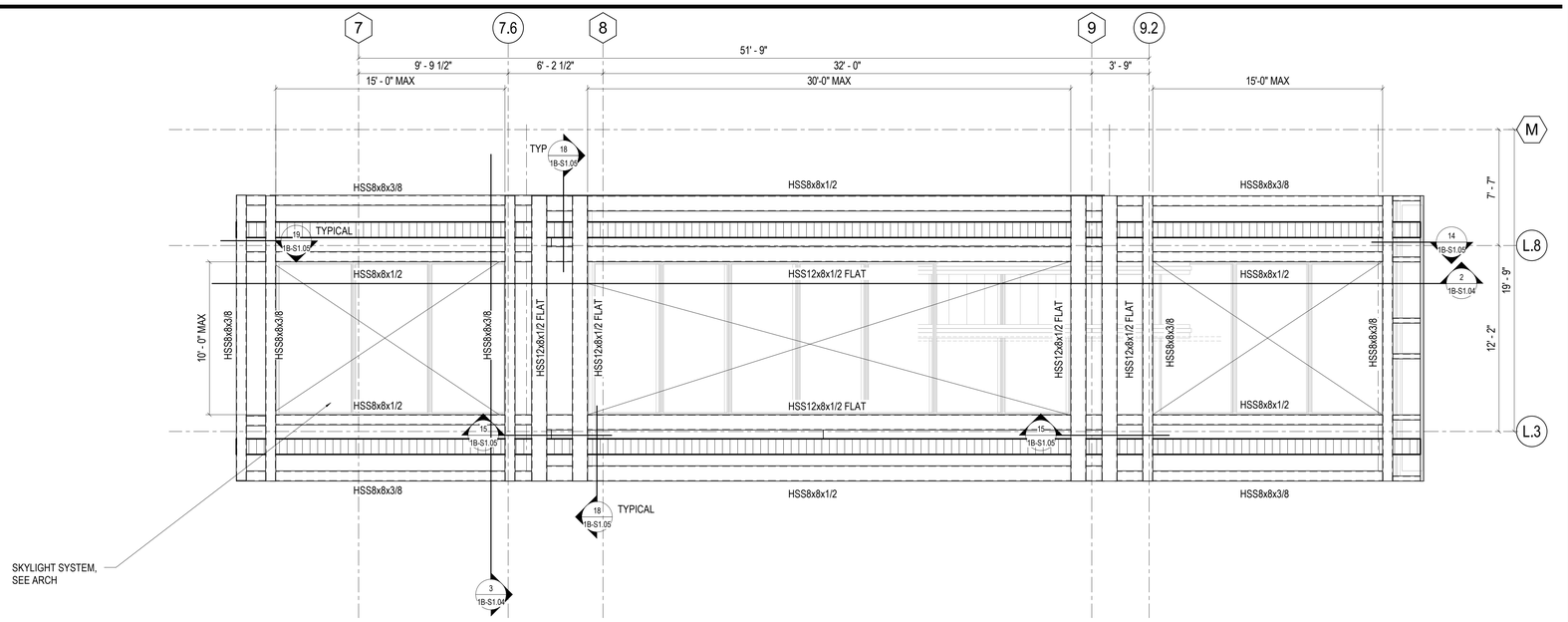
1B-S1.03

MM JOB # 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
FOR KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

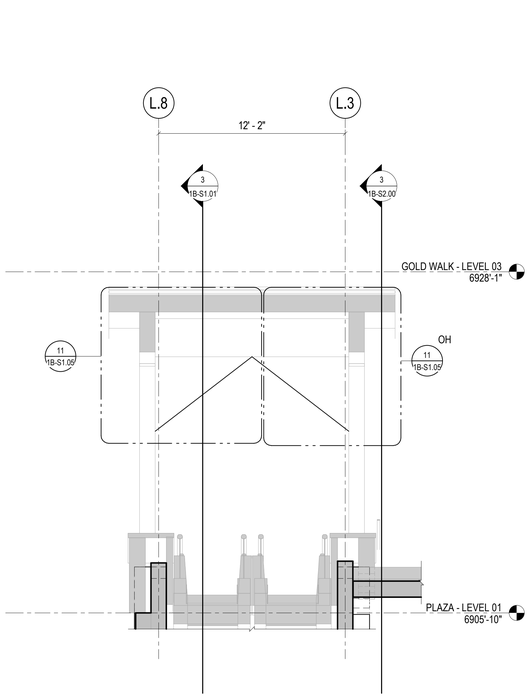
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 11:40:03 AM
FILE PATH: I:\BIM 360\1003.7835.000 - Steamboat Redev\03.7835.000_Structural_SSRC_GSO 2021_V2021.rvt



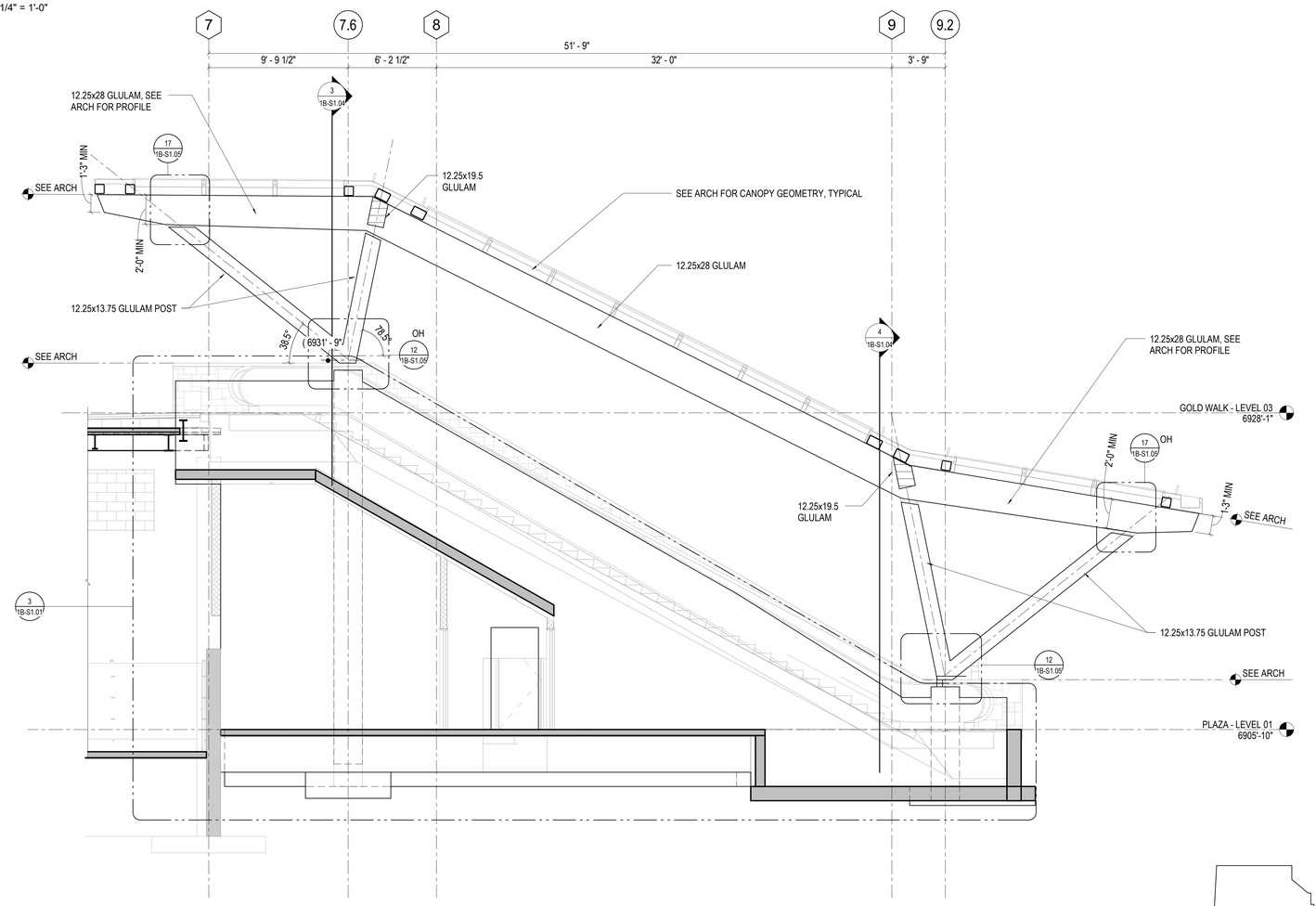
3 HIGH FRAME
1/4" = 1'-0"



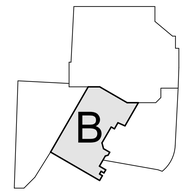
1 ESCALATOR ROOF FRAMING
1/4" = 1'-0"



4 LOW FRAME
1/4" = 1'-0"



2 ESCALATOR ROOF FRAME
1/4" = 1'-0"



DESIGNERS: NIC MARTIN
LEAD REVIT TECH:COLIN MONNES
DATE PRINTED:5/19/2021 11:40:06 AM
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MM JOB #: 20.1411.5.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C.A. CHEN

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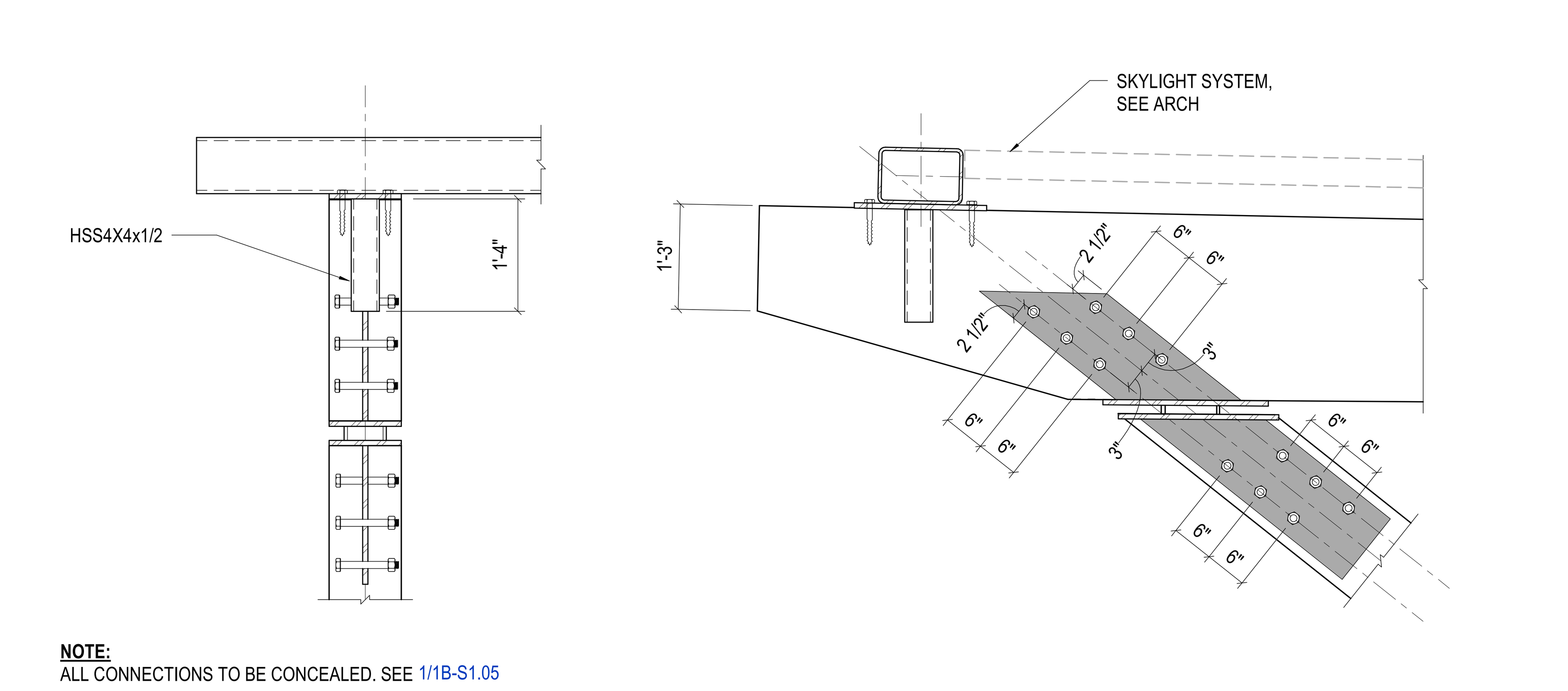
COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021
Seal / Signature

Date	Description
- 2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

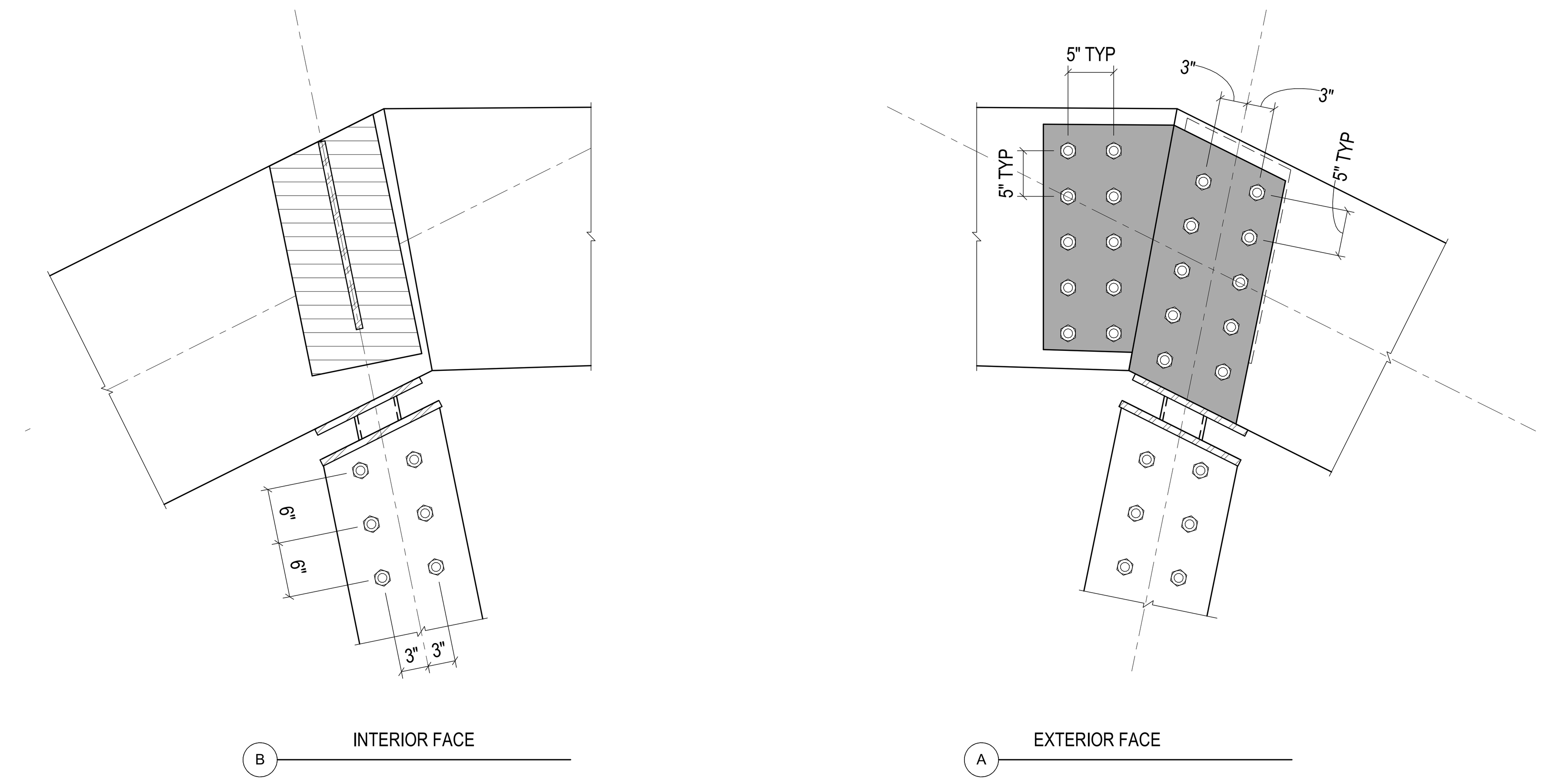
RCRBD
Record Set
TC
06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
003.7835.000
Description
GOLDWALK - CANOPY ROOF FRAMING PLAN
Scale
1/4" = 1'-0"

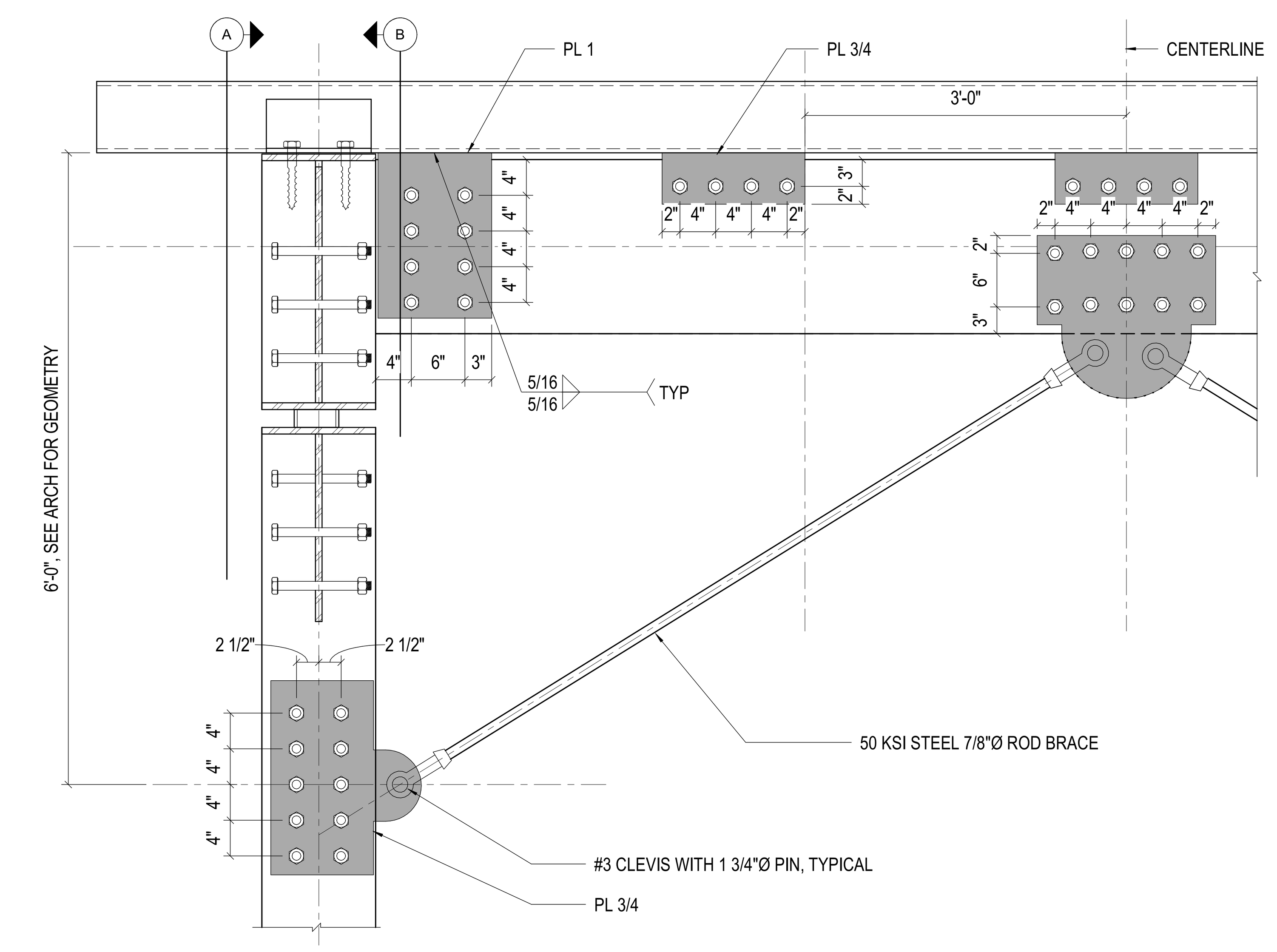
1B-S1.04



17 3/4" = 1'-0" CANOPY FRONT CONNECTION

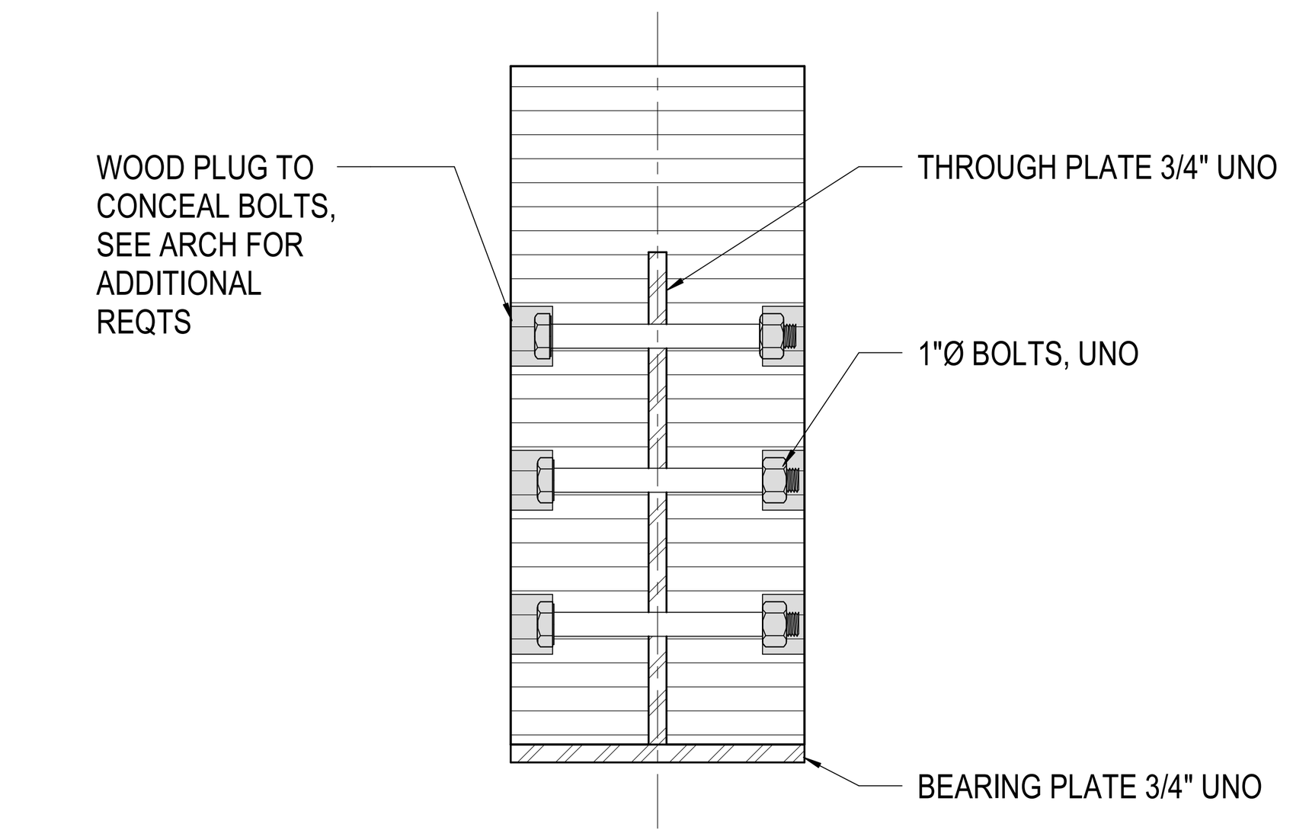


NOTE:
ALL CONNECTIONS TO BE CONCEALED. SEE 1/1B-S1.05

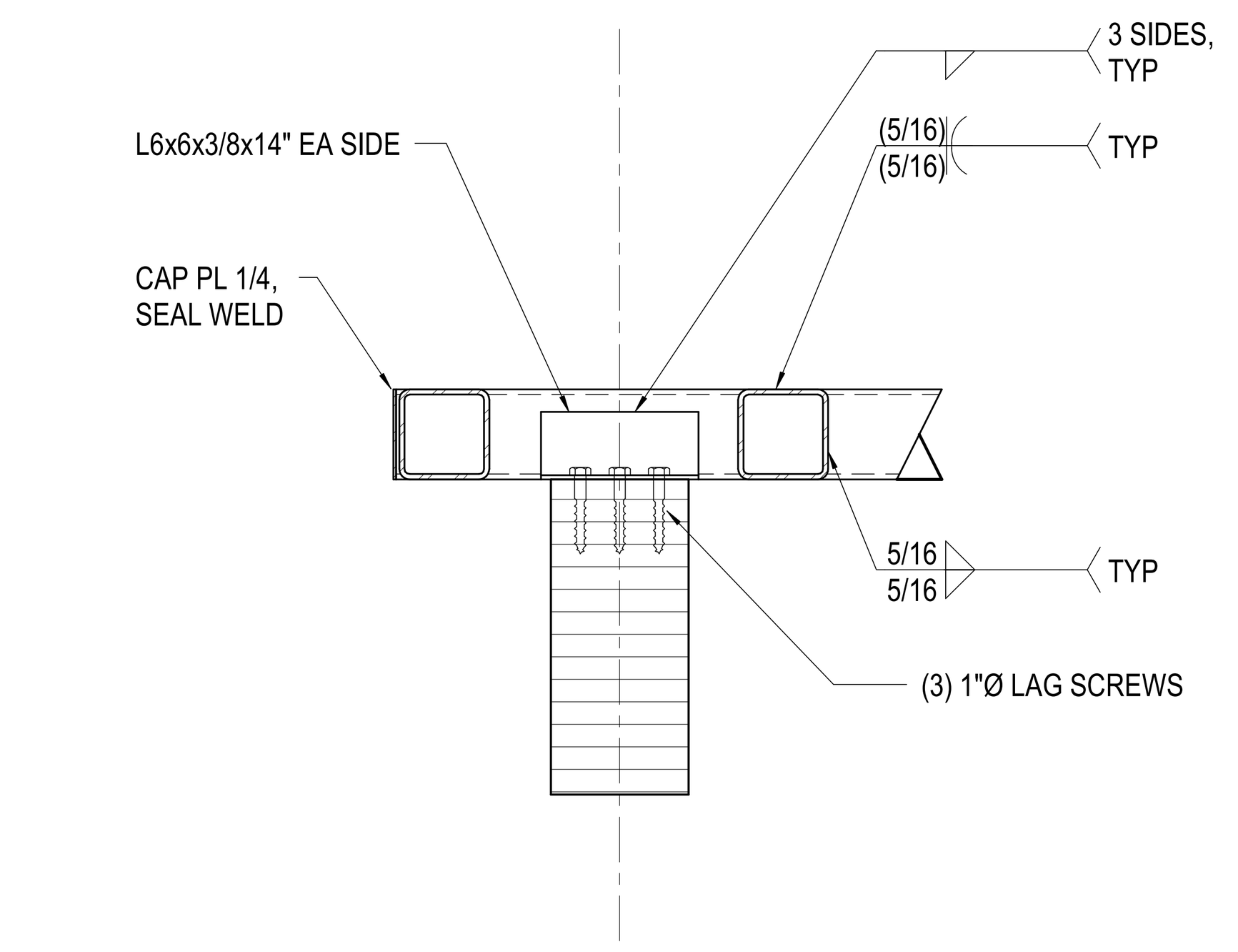


11 1" = 1'-0" CANOPY TOP CONNECTION - 1

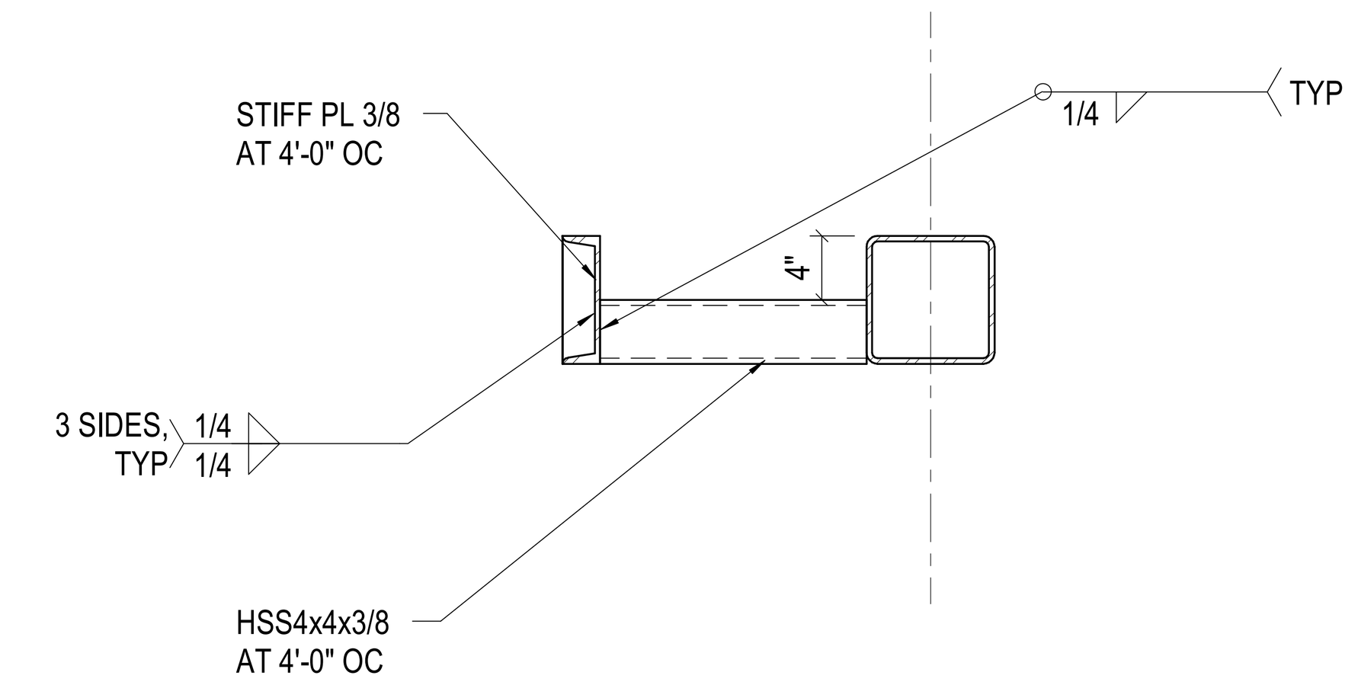
GLULAM STEEL CONNECTIONS ARE DETAILED FOR PERMIT AND BIDDING PURPOSES. CONTRACTOR TO REVIEW CONSTRUCTION TOLERANCE AND SEQUENCE WITH GLULAM SUPPLIER. CONNECTIONS TO BE FINALIZED IN THE FUTURE ISSUANCE.
ALL SHADED PLATES ARE CONCEALED FLITCH PLATE CONNECTIONS INSIDE THE GLULAM MEMBER. ALL BOLTS ARE TO BE CONCEALED WITH WOOD PLUGS UNO. SEE ARCHITECTURAL DRAWINGS FOR AESTHETIC REQUIREMENTS.



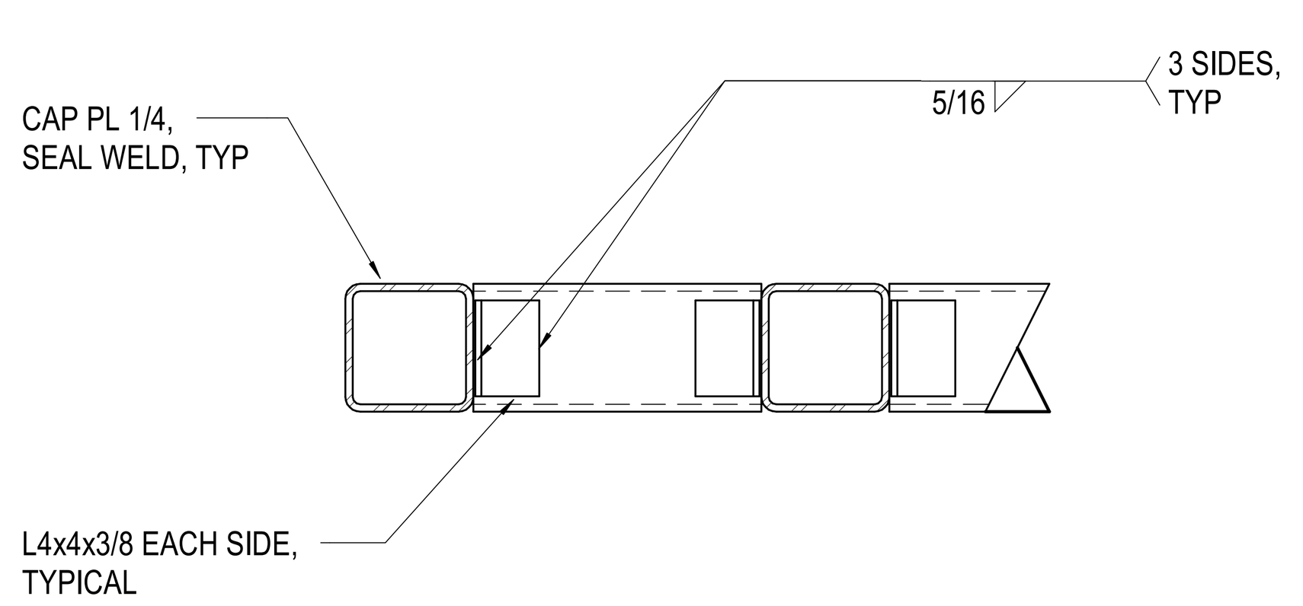
1 1 1/2" = 1'-0" GLULAM CONCEALED CONNECTION



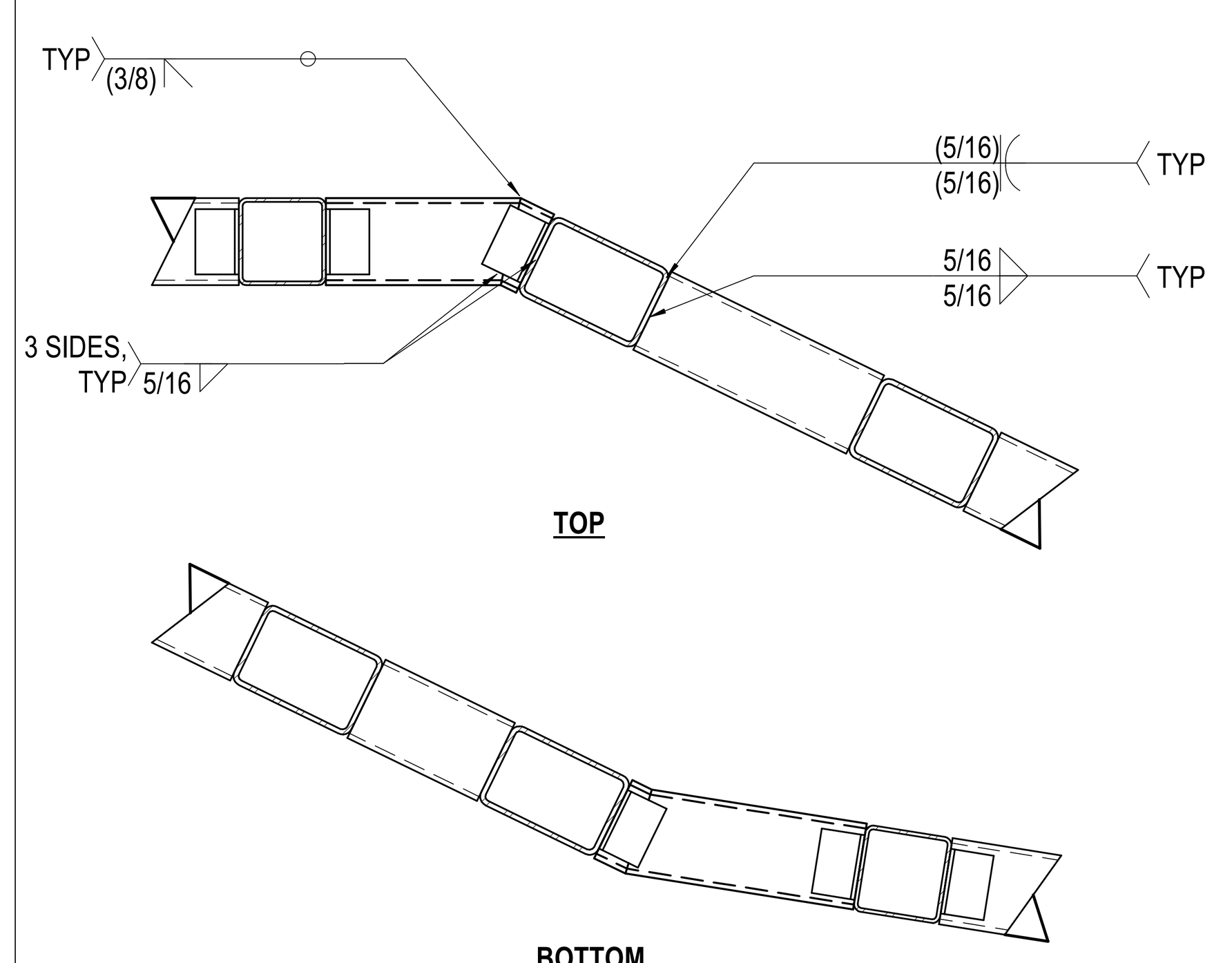
18 3/4" = 1'-0" CANOPY HSS STEEL CONNECTION



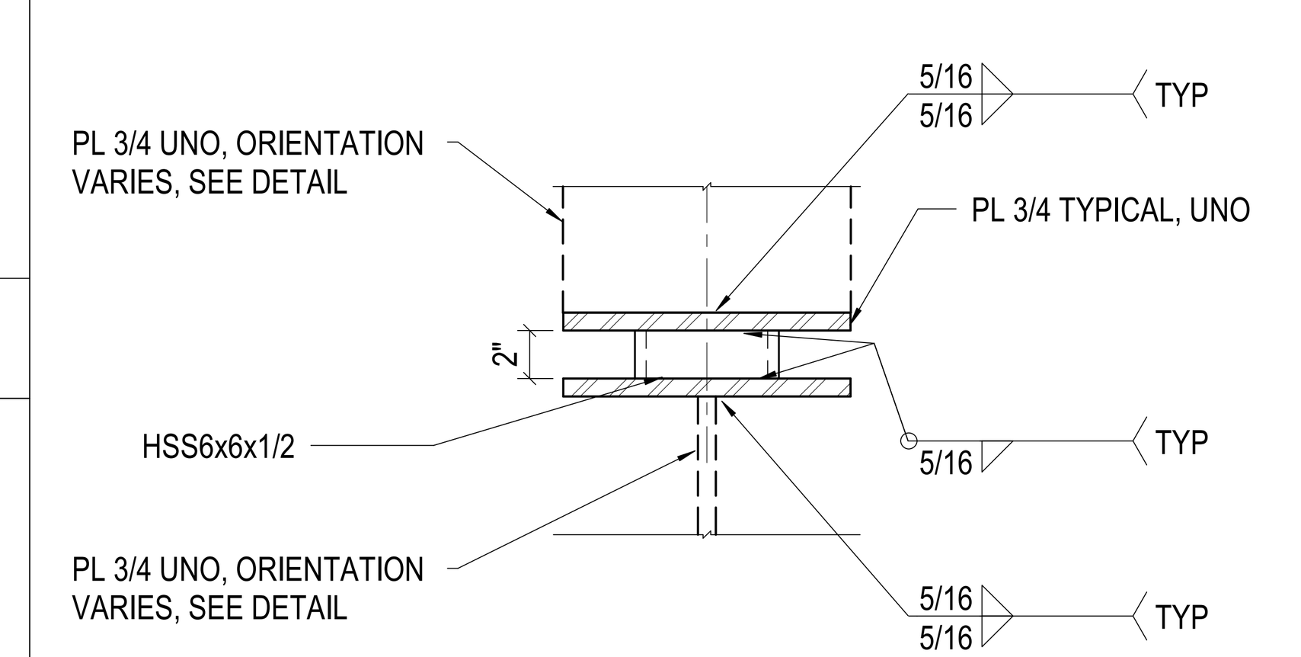
14 1" = 1'-0" CANOPY LOW EDGE HSS BEAM



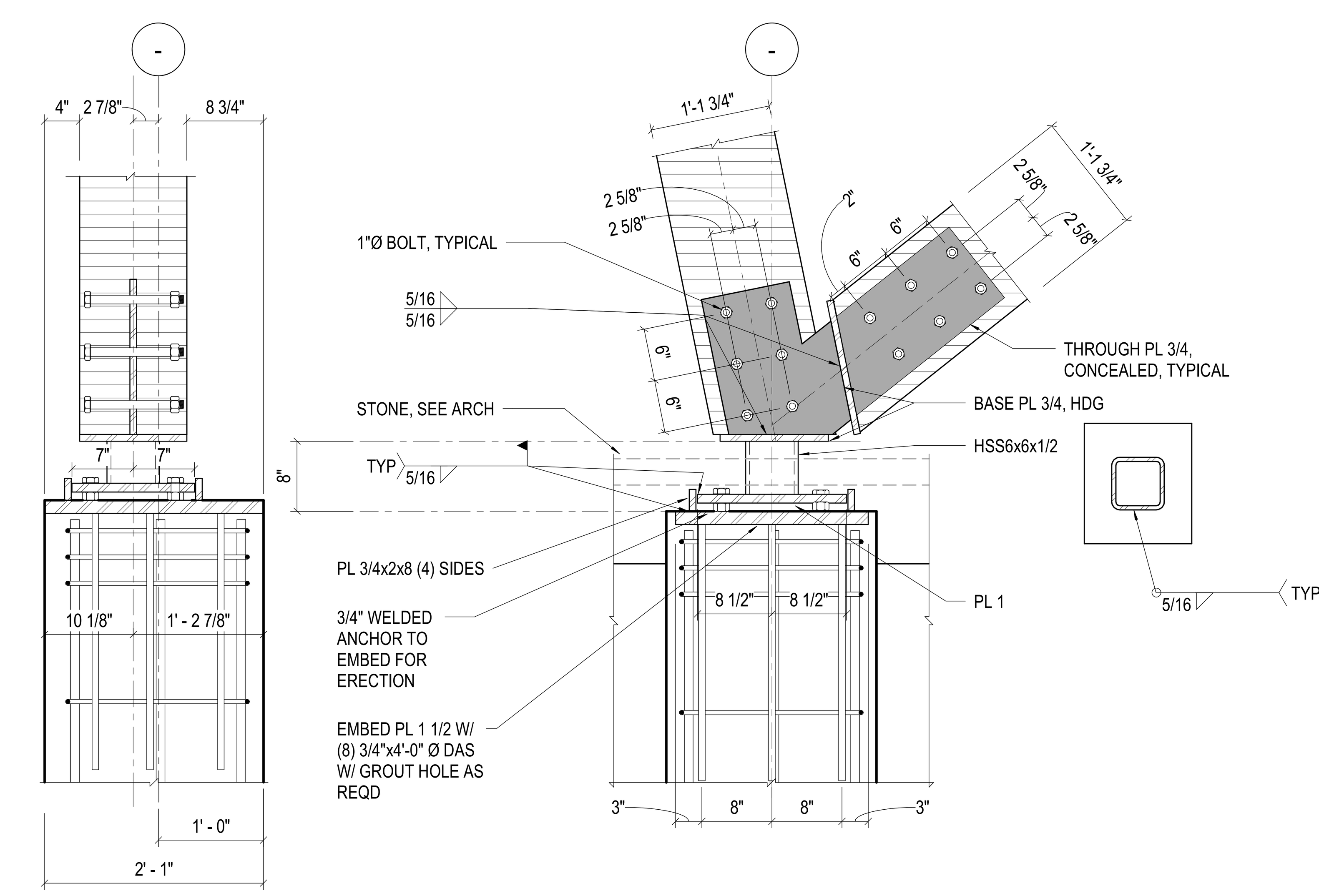
19 1" = 1'-0" CANOPY HSS TOP CONNECTION



15 3/4" = 1'-0" CANOPY HSS STEEL CONNECTION AT SLOPE CHANGE



2 1 1/2" = 1'-0" CANOPY CONNECTION HSS GAP



NOTE:
ALL CONNECTIONS TO BE CONCEALED. SEE 1/1B-S1.05

12 1" = 1'-0" CANOPY V POST BASE CONNECTION - 1

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021
Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

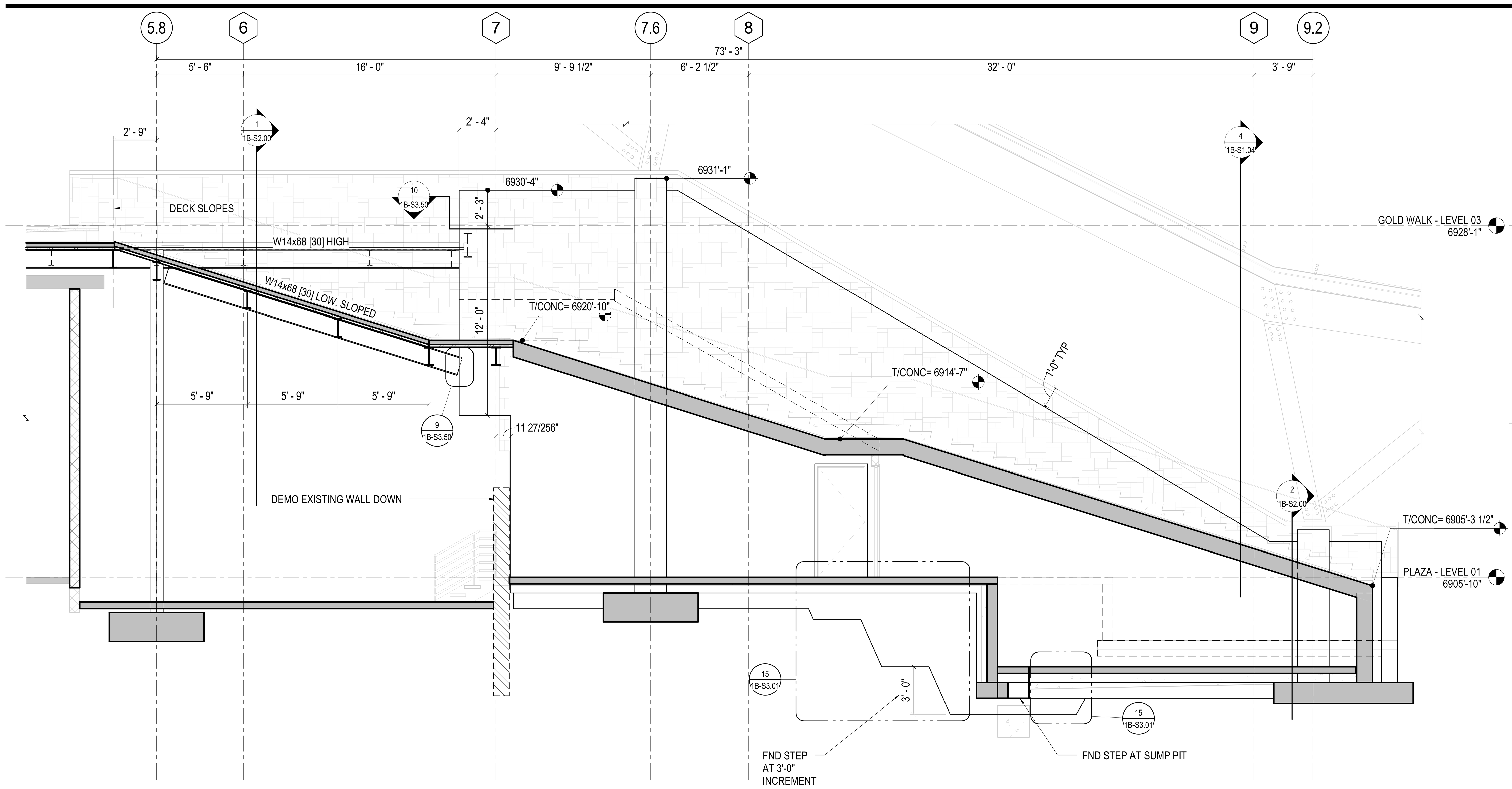
RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
003.7835.000
Description
GOLDWALK CANOPY DETAILS
Scale
As indicated

1B-S1.05

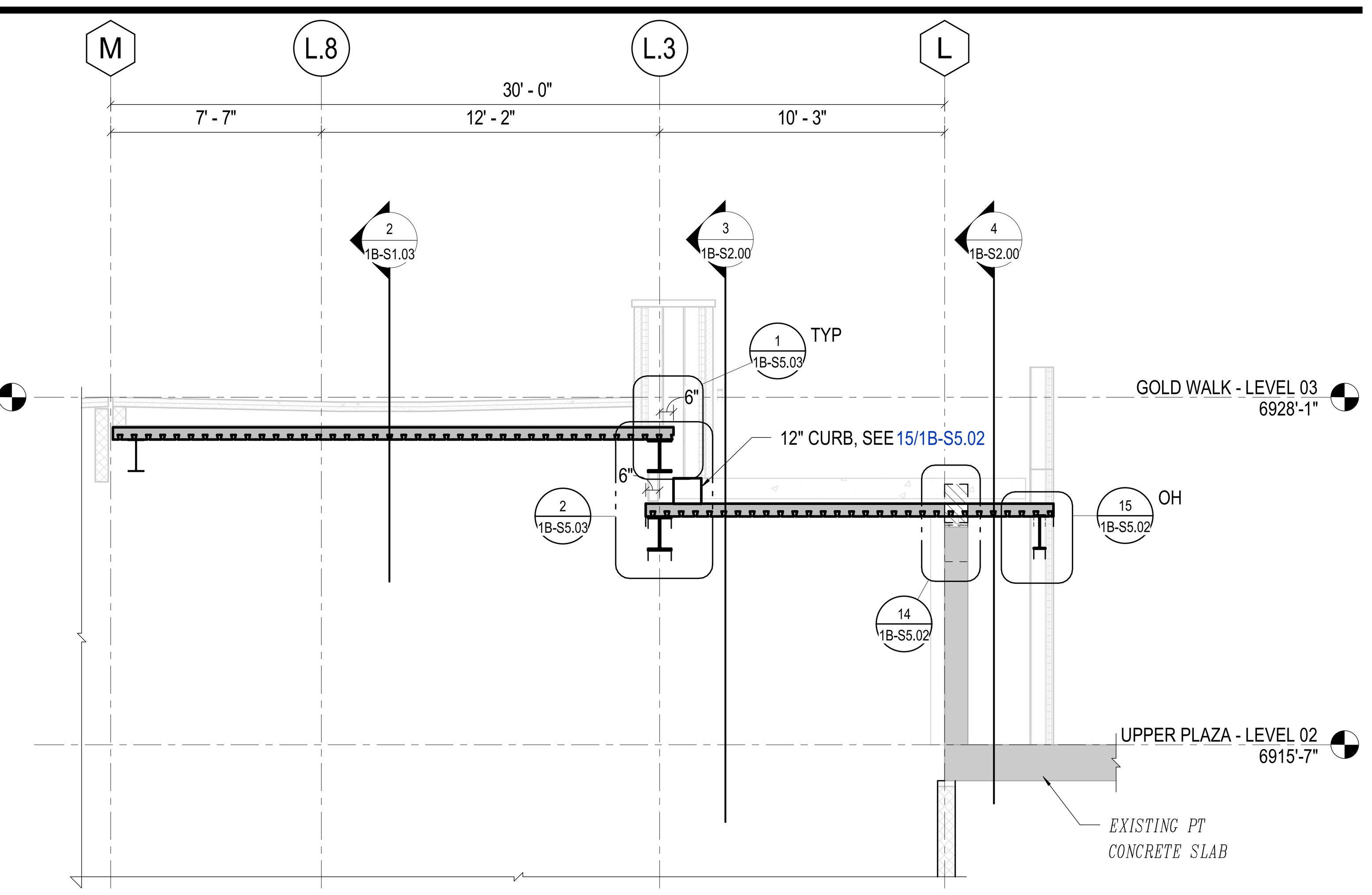
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN NOWNES
DATE PRINTED: 5/19/2021 11:40:07 AM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SSR_GSQ 2021_V2021.rvt

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN



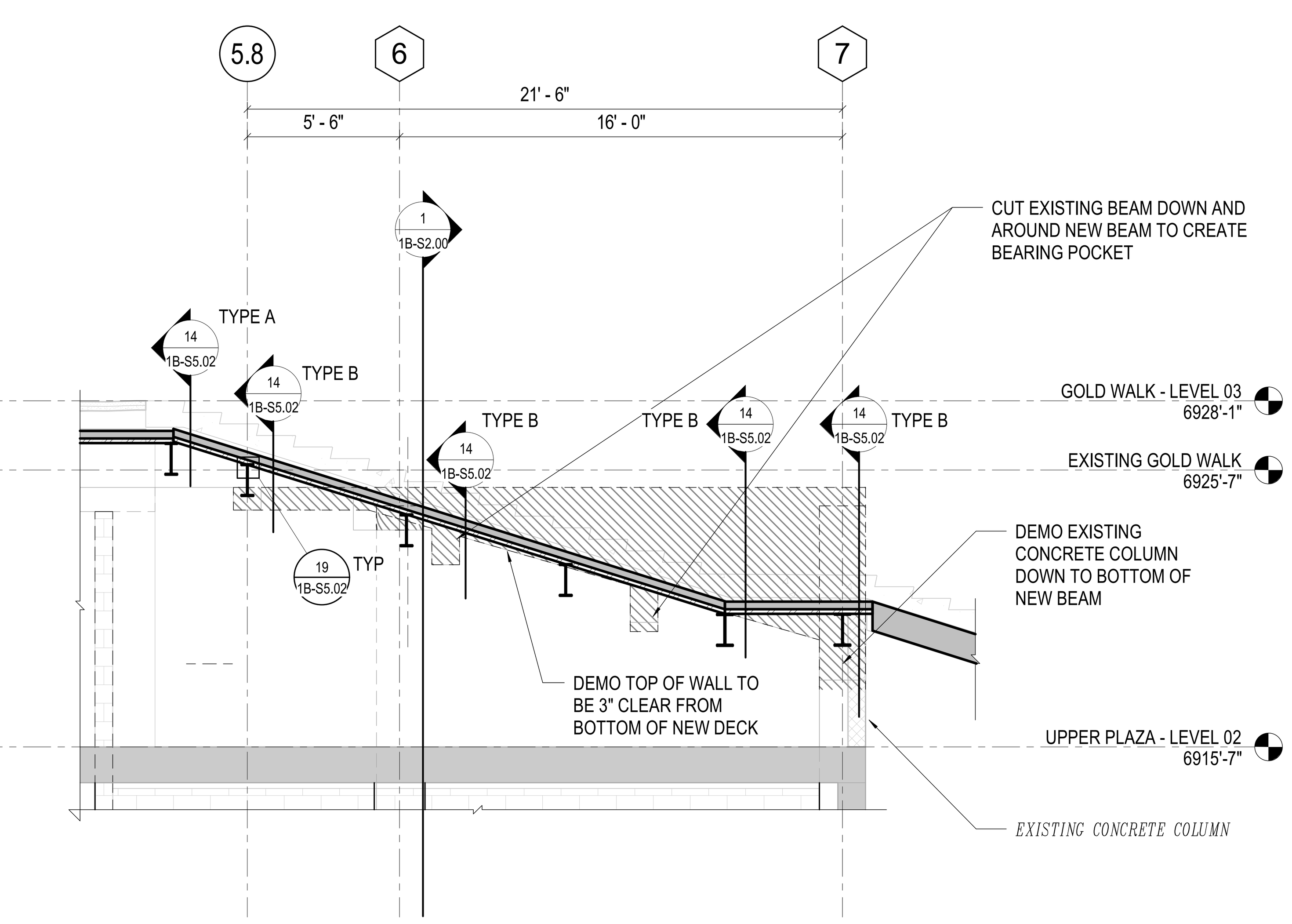
3 CROSS SECTION ALONG GRID L.3

1/4" = 1'-0"



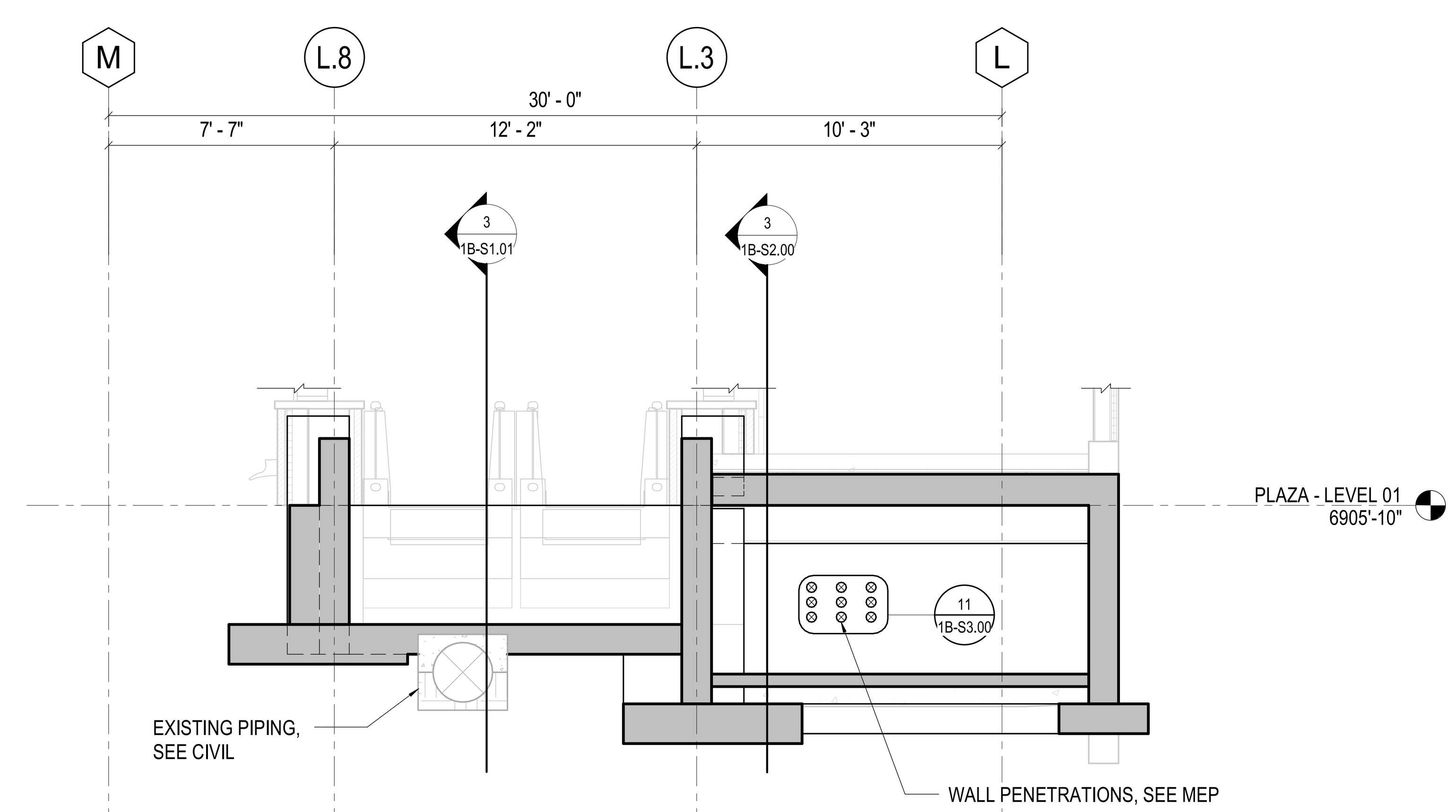
1 CROSS SECTION ALONG GRID 6

1/4" = 1'-0"



4 CROSS SECTION ALONG GRID L

1/4" = 1'-0"



2 CROSS SECTION ALONG GRID 6

1/4" = 1'-0"

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Project Number
003.7835.000

Description
GOLDWALK CROSS SECTIONS

Scale
1/4" = 1'-0"

1B-S2.00

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN NIEMES
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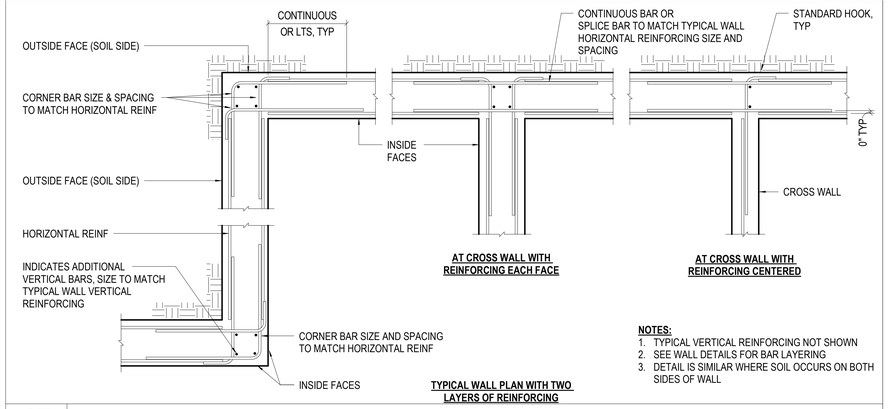


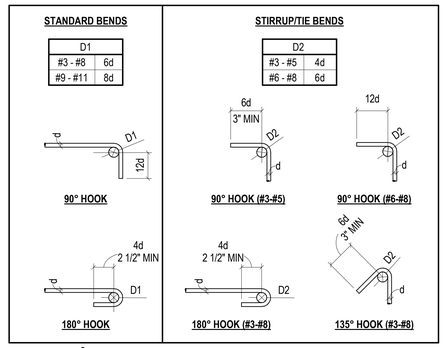
TYPICAL WALL PLAN WITH TWO LAYERS OF REINFORCING

NOTES:
1. TYPICAL VERTICAL REINFORCING NOT SHOWN
2. SEE WALL DETAILS FOR BAR LAYERING
3. DETAIL IS SIMILAR WHERE SOIL OCCURS ON BOTH SIDES OF WALL

17 NO SCALE TYPICAL HORIZONTAL REINFORCING AT BASEMENT AND FOUNDATION WALLS

REBAR COVER TABLE

CASE	COVER (IN)
CONCRETE PLACED AGAINST EARTH	3
CONCRETE PLACED IN FORMS, EXPOSED TO WEATHER OR EARTH	2
SLABS OR WALLS NOT EXPOSED TO EARTH OR WEATHER	1



NOTES:
1. ALL BENDS SHALL BE MADE COLD
2. #14 & #18 BARS SHALL BE BEND TESTED & LAB APPROVED PRIOR TO BENDING

TYPICAL REINFORCING BENDS

LAP SPLICE & DEVELOPMENT LENGTHS (INCHES) F'c=3,500 PSI, Fy=60,000 PSI

	CLEAR COVER			1"	1.5"	2"+	1"	1.5"	2"+	1"	1.5"	2"+
BAR SIZE	LDH	LCE	LCS	LTE			LTE TOP & LTS			LTS TOP		
#3	6	8	12	12			12			16		
#4	8	11	15	13			16			21		
#5	9	13	19	19	16		24	20		31	26	
#6	11	16	23	25	19		33	24		43	31	
#7	13	18	27	41	31	27	53	40	35	69	51	45
#8	15	21	30	51	39	31	66	50	40	86	65	52
#9	16	23	34	62	47	38	81	61	49	105	79	64
#10	18	26	38	74	56	46	96	73	59	124	95	77
#11	20	28	42	86	66	54	111	86	70	145	112	91

LAP SPLICE & DEVELOPMENT LENGTHS (INCHES) F'c=4,000 PSI, Fy=60,000 PSI

	CLEAR COVER			1"	1.5"	2"+	1"	1.5"	2"+	1"	1.5"	2"+
BAR SIZE	LDH	LCE	LCS	LTE			LTE TOP & LTS			LTS TOP		
#3	6	8	12	12			12			15		
#4	7	10	15	12			15			20		
#5	9	12	19	17	15		23	19		29	25	
#6	10	15	23	24	18		31	23		40	29	
#7	12	17	27	38	29	25	50	37	33	65	48	43
#8	14	19	30	48	36	29	62	47	37	81	61	49
#9	15	22	34	58	44	36	75	57	46	98	74	60
#10	17	24	38	69	53	43	89	69	56	116	89	72
#11	19	27	42	80	62	51	104	80	66	135	104	85

LAP SPLICE & DEVELOPMENT LENGTHS (INCHES) F'c=4,500 PSI, Fy=60,000 PSI

	CLEAR COVER			1"	1.5"	2"+	1"	1.5"	2"+	1"	1.5"	2"+
BAR SIZE	LDH	LCE	LCS	LTE			LTE TOP & LTS			LTS TOP		
#3	6	8	12	12			12			14		
#4	7	9	15	12			14			19		
#5	8	12	19	16	14		21	18		27	23	
#6	10	14	23	22	17		29	21		38	28	
#7	11	16	27	36	27	24	47	35	31	61	45	40
#8	13	18	30	45	34	27	59	44	35	76	57	46
#9	15	21	34	55	42	34	71	54	44	92	70	56
#10	16	23	38	65	50	40	84	65	52	110	84	68
#11	18	25	42	76	58	48	98	76	62	128	98	80

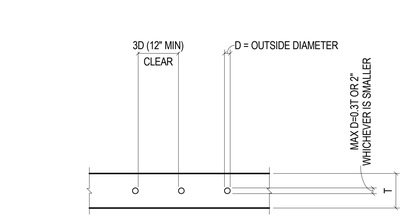
GENERAL NOTES:
1. LENGTHS SPECIFICALLY DETAILED ON DRAWINGS SHALL GOVERN IN LIEU OF LAP LENGTHS SCHEDULED
2. ABBREVIATIONS:
   A. 'LCE' = COMPRESSION EMBEDMENT LENGTH
   B. 'LCS' = COMPRESSION LAP SPLICE LENGTH
   C. 'LDH' = HOOK DEVELOPMENT LENGTH
   D. 'LTE' = TENSION EMBEDMENT LENGTH
   E. 'LTS' = TENSION LAP SPLICE LENGTH
3. 'TOP' BARS ARE HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 IN OF FRESH CONCRETE IS CAST BELOW THE BAR
4. CLEAR COVER IS DEFINED FROM THE NEAREST FACE OF CONCRETE TO THE BAR BEING DEVELOPED OR SPLICED
5. UNLESS NOTED OTHERWISE, ALL HOOK BARS SHALL EXTEND TO THE FAR FACE LESS 2" COVER
6. IF A NOTE OR DETAIL CALLS FOR A BAR TO BE EMBEDDED Ld (DEVELOPMENT LENGTH) INTO CONCRETE, THIS SHALL CORRESPOND TO A 'LTE' LENGTH
7. IF A NOTE OR DETAIL REQUIRES A BAR TO HAVE A DEVELOPMENT OR LAP LENGTH BUT INSUFFICIENT DIMENSION IS AVAILABLE FOR THE LENGTH SCHEDULED, EXTEND BAR TO FAR FACE OF CONCRETE LESS 2" COVER AND HOOK

ADJUSTMENTS TO GIVEN LENGTHS:
1. IF REINFORCING IS SPECIFIED AS EPOXY COATED, INCREASE SCHEDULED LENGTHS BY 50%
2. IF LIGHTWEIGHT AGGREGATE IS SPECIFIED, INCREASE SCHEDULED LAP BY LENGTHS 30%
3. SCHEDULED LENGTHS ASSUME:
   A. CLEAR COVER IS AS INDICATED IN SCHEDULE
   B. CLEAR SPACING BETWEEN BARS IS GREATER THAN 2xCLEAR COVER
   C. IF EITHER CONDITION A OR B IS NOT MET FOR A GIVEN BAR, INCREASE LENGTHS BY 50%
4. LENGTHS NOTED BASED ON Fy = 60,000 PSI.
   A. FOR OTHER YIELD STRENGTHS, MULTIPLY LENGTHS NOTED BY Fy/60,000

LAP SPLICE NOTES:
1. ALL SPLICES SHALL BE WIRED IN CONTACT
2. ALL SPLICES ARE 'LTS' UNLESS NOTED OTHERWISE
3. SMALLER BAR LAP LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS
   A. COMPRESSION LAP LENGTH SHALL NOT BE LESS THAN 'LCE' OF THE LARGER BAR
   B. TENSION LAP LENGTH SHALL NOT BE LESS THAN 'LTE' OF THE LARGER BAR
4. BUNDLED BAR SPLICES:
   A. INDIVIDUAL BAR SPLICES WITHIN THE BUNDLE SHALL BE STAGGERED
   B. INCREASE LAP LENGTH 20% FOR A 3 BAR BUNDLE
   C. INCREASE LAP LENGTH 33% FOR A 4 BAR BUNDLE
5. TOP AND BOTTOM BEAM SPLICES SHALL BE STACKED VERTICALLY

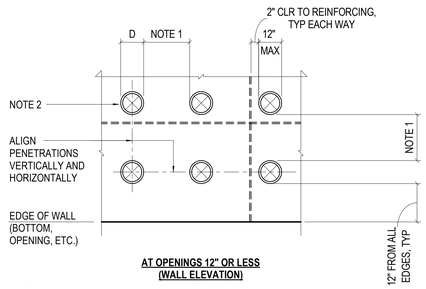
HOOK EMBEDMENT NOTES:
1. SCHEDULED HOOK EMBEDMENT LENGTHS ASSUME:
   A. SIDE COVER IS 2 1/2 INCHES OR GREATER
   B. COVER BEYOND IS 2 INCHES OR GREATER
2. IF REINFORCING IS SPECIFIED AS EPOXY COATED, INCREASE SCHEDULED LENGTHS BY 20%
3. IF LIGHTWEIGHT AGGREGATE IS SPECIFIED, INCREASE SCHEDULED LENGTHS BY 30%
4. IF SIDE COVER IS LESS THAN 2 1/2 INCHES, INCREASE LENGTHS BY 40%

10 NO SCALE REINFORCING DEVELOPMENT, PLACEMENT, AND BEND INFO



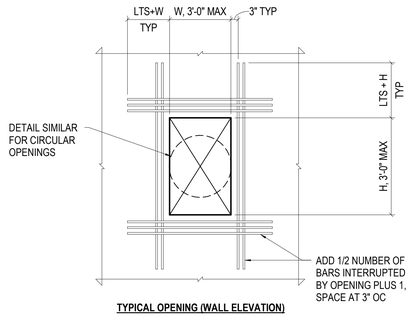
AT PIPING OR CONDUIT (WALL SECTION)

NOTES:
1. WHERE CLEAR DISTANCE BETWEEN PIPING/CONDUIT CAN NOT BE ACHIEVED AS SHOWN, STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED FOR REVIEW
2. IN WALL PIPING/CONDUITS GREATER THAN 0.3T SHALL BE SUBMITTED FOR REVIEW
3. LOCATE PIPING/CONDUITS WITHIN MIDDLE THIRD (T/3) OF WALL



AT OPENINGS 12" OR LESS (WALL ELEVATION)

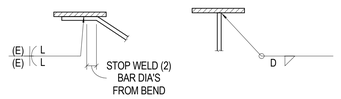
NOTES:
1. GREATER OF 2xD AND 12", WHERE CLEAR DISTANCE IS NOT ACHIEVABLE, TREAT AREA AS SINGLE OPENING REINFORCED PER "TYPICAL OPENING" DETAIL
2. DO NOT CORE OPENINGS, SLEEVE OPENINGS PRIOR TO PLACING CONCRETE
3. DO NOT CUT REBAR AT PENETRATION LOCATIONS. REBAR MAY BE MOVED 8" MAX TO ACCOMMODATE PENETRATIONS
4. SCHEDULE 40 STEEL SLEEVES SHALL BE USED IN CRITICAL AREAS OF THE WALL AND SLABS AS DETERMINED BY STRUCTURAL ENGINEER OF RECORD



TYPICAL OPENING (WALL ELEVATION)

NOTES:
1. DETAIL APPLIES UNLESS REINFORCING IS SPECIFICALLY DETAILED ON THE DRAWINGS
2. HOOK BARS WITH STANDARD HOOK WHERE LTS CANNOT BE ACHIEVED

11 NO SCALE CAST IN PLACE WALL PENETRATIONS

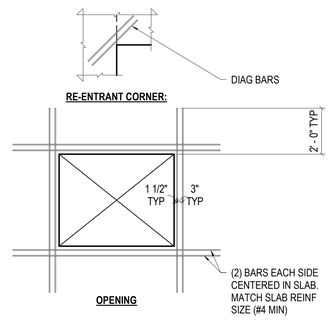


BAR SIZE	E	L
#3	3/16	2
#4	1/4	2 1/2
#5	5/16	3
#6	3/8	3 1/2
#7	7/16	4
#8	1/2	4 1/2

BAR SIZE	D
#3	1/4
#4	5/16
#5	3/8
#6	7/16
#7	1/2
#8	9/16

NOTES:
1. ALL WELDED REBAR SHALL BE A706

8 12" = 1'-0" TYPICAL REBAR WELD SCHEDULE



OPENING

NOTES:
1. DETAIL APPLIES FOR ALL OPNGS IN SOG'S AND TOPPING SLABS
2. REINF NOT REQUIRED AT OPNGS SMALLER THAN 10"x10"
3. SEE OTHER DTLS FOR REINF AT OPNGS IN CONC WALLS, CONC STR SLABS, AND METAL DECK SLABS

4 3/8" = 1'-0" TYP TRIM REINF

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1B-S3.00

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PROJECT MANAGER: C.A. CHEN

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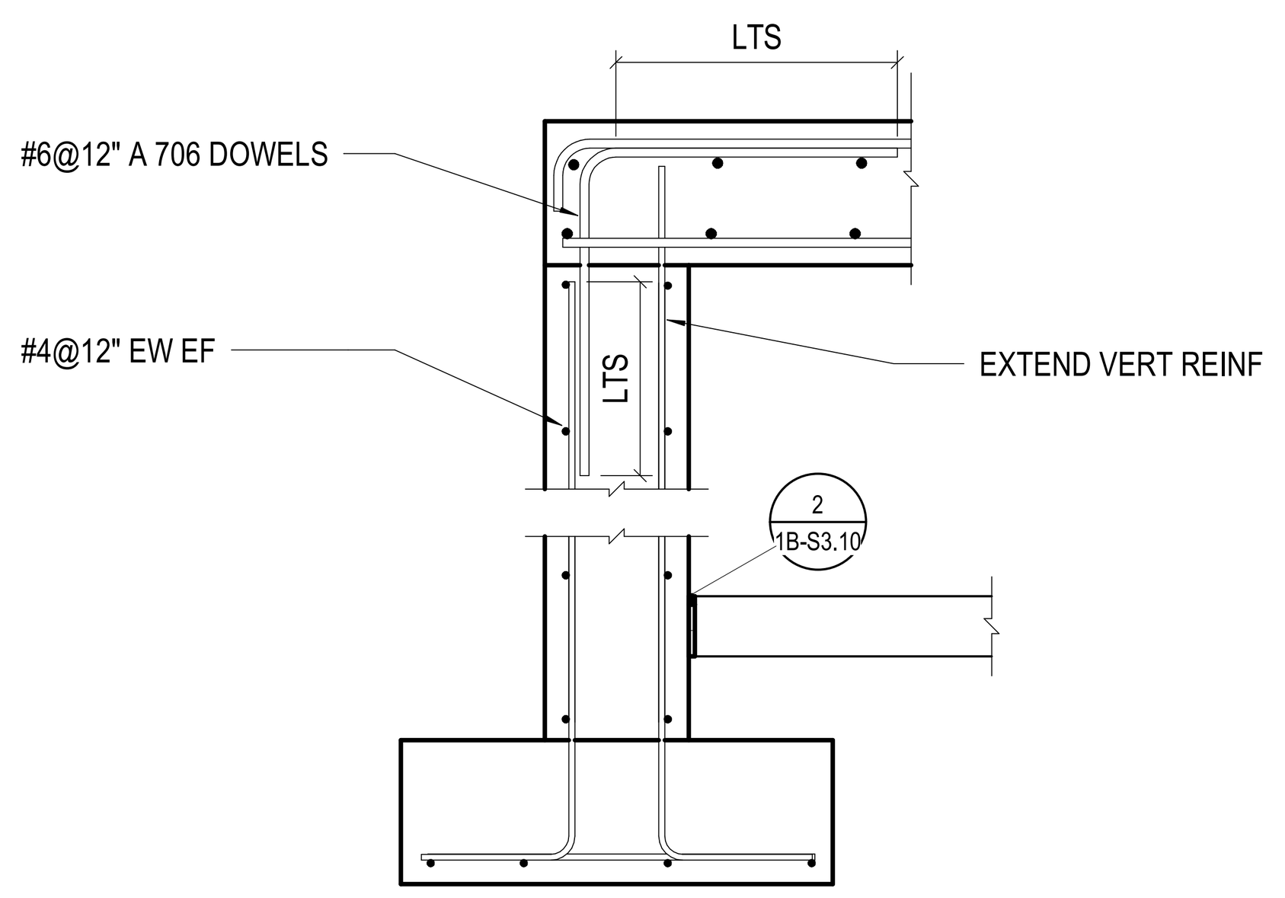
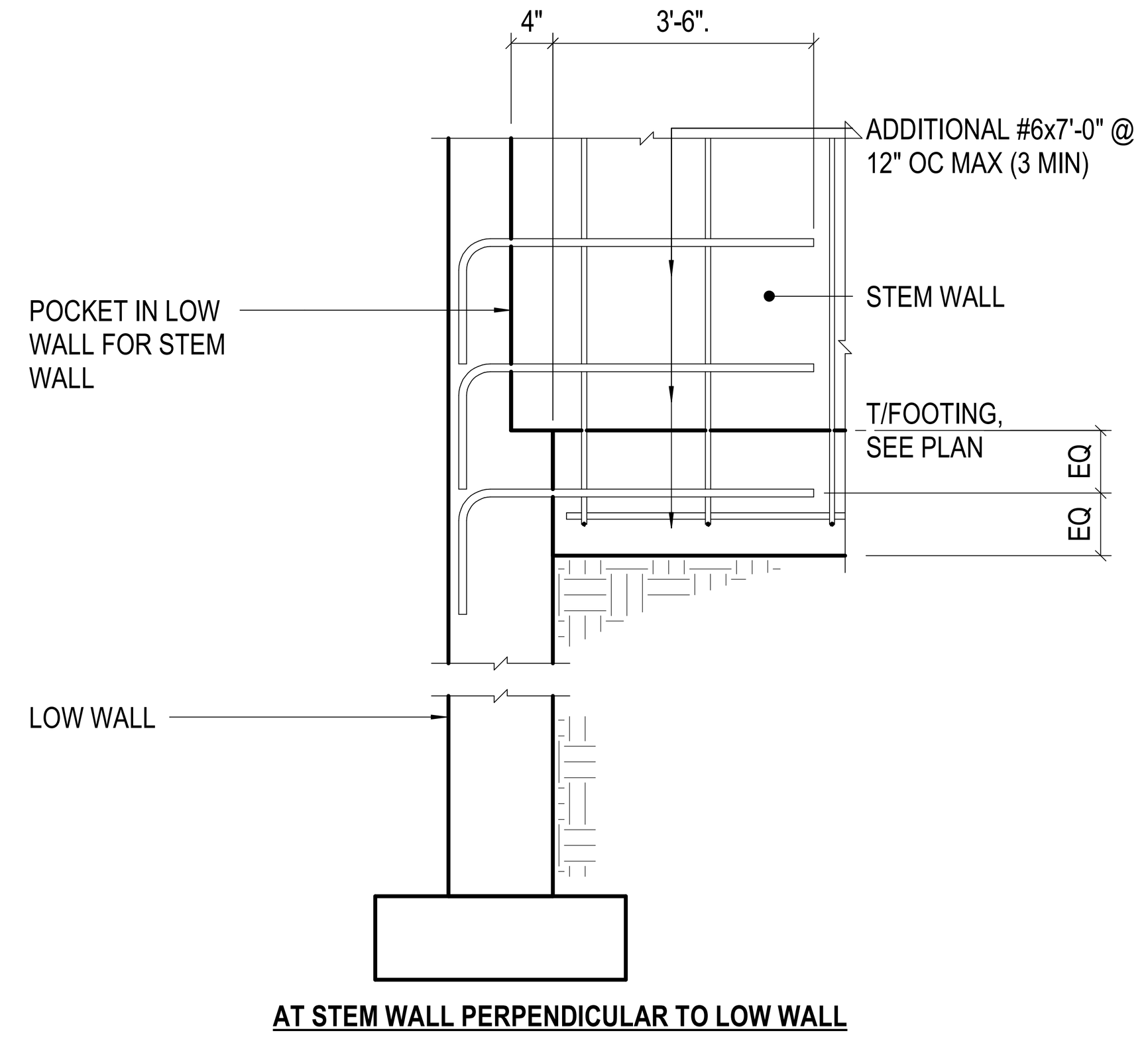
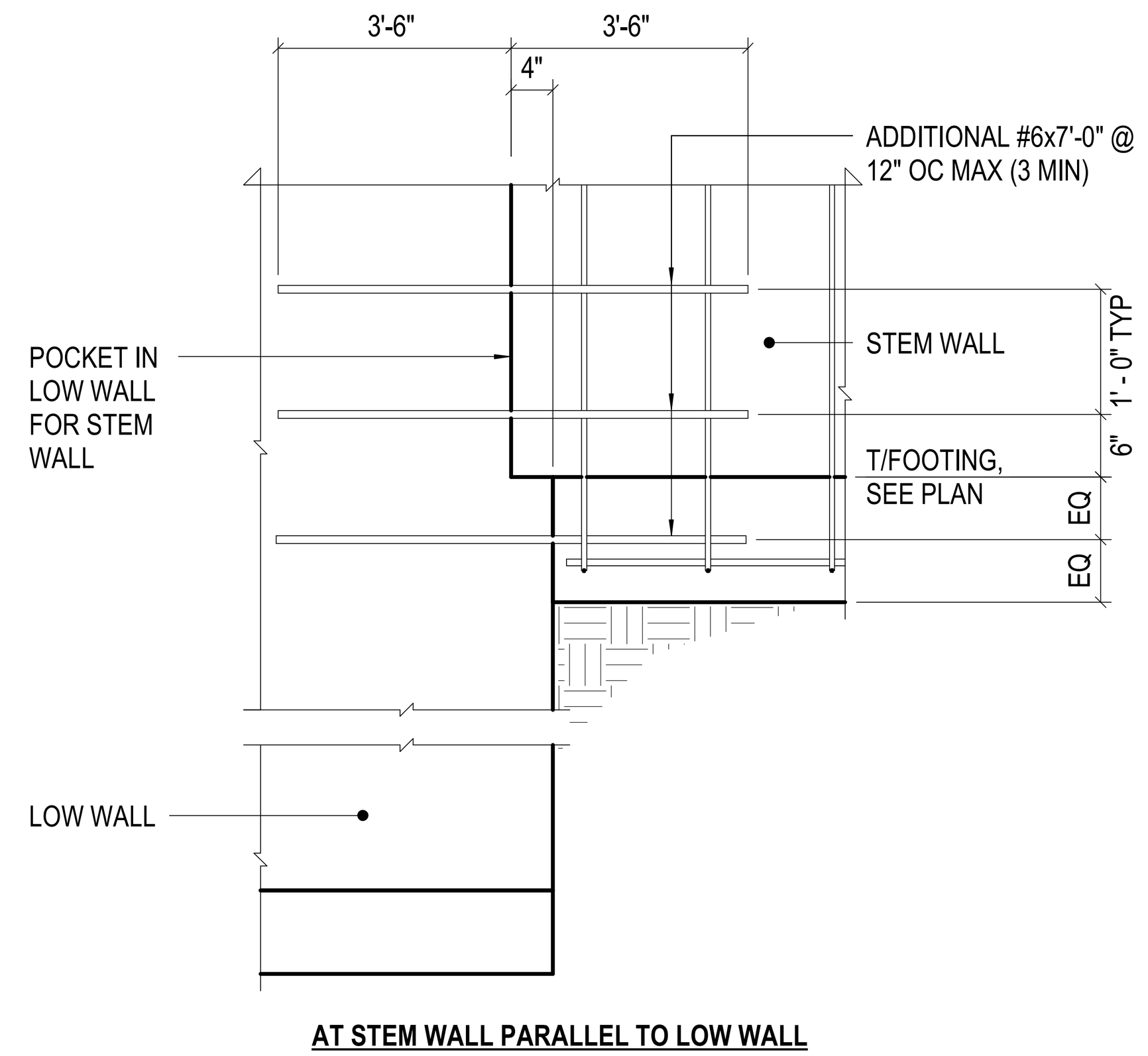


17 3/4" = 1'-0" STAIR EDGE WALL

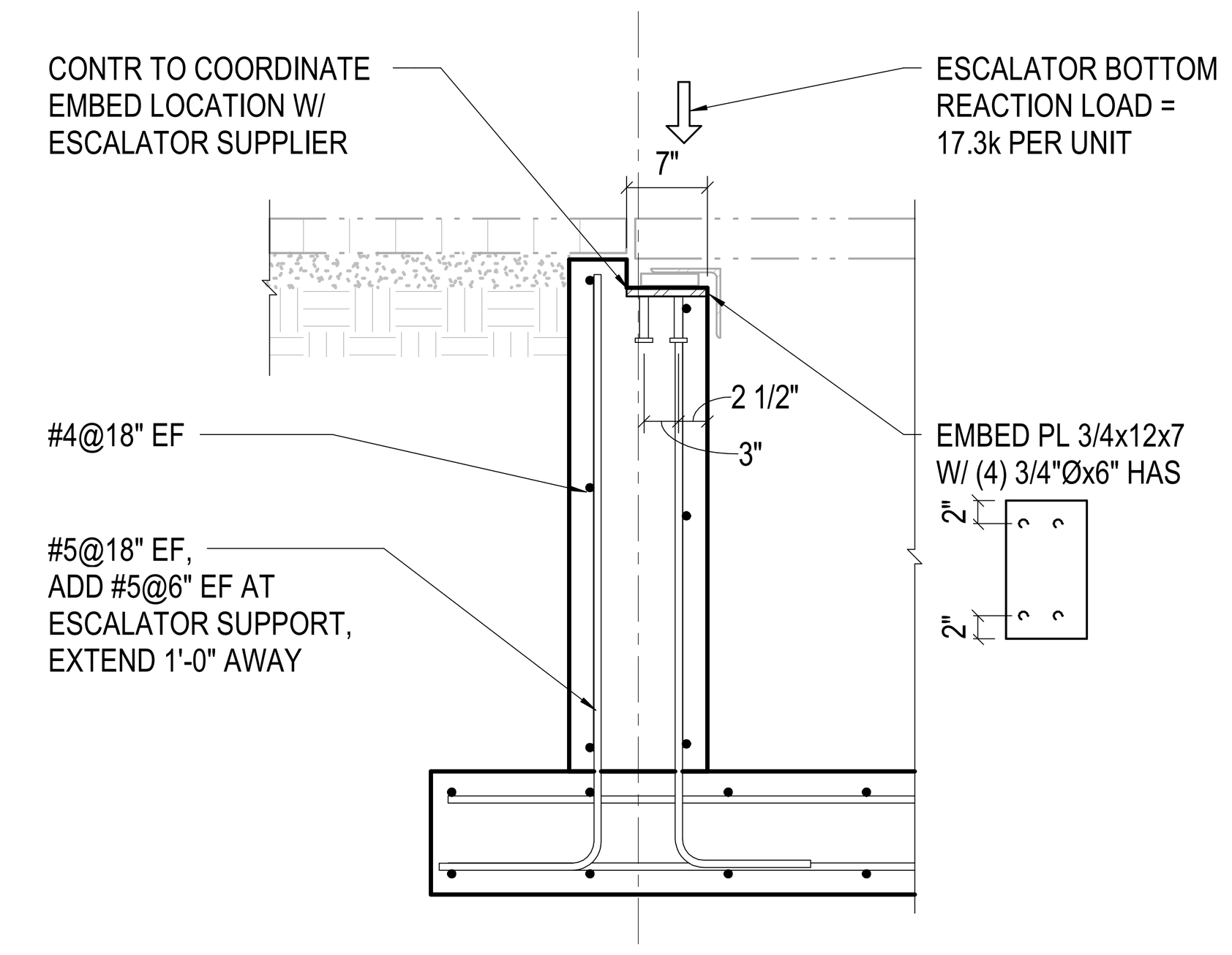


NOTES:
1. WALL HORIZONTAL & VERTICAL MAT REINFORCING NOT SHOWN

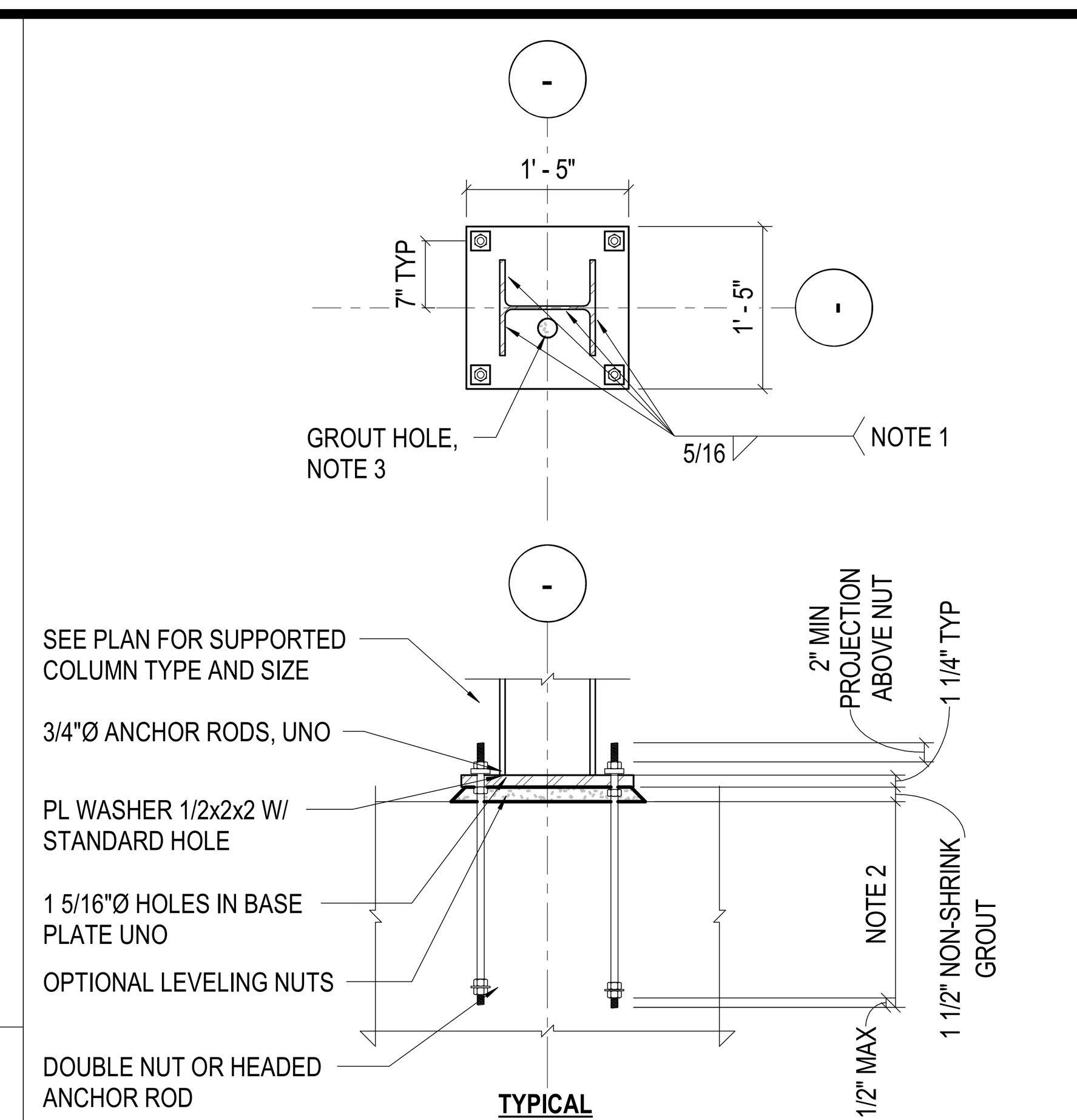


NOTES:
1. WALL HORIZONTAL & VERTICAL MAT REINFORCING NOT SHOWN TO BE CONTINUOUS THROUGH STEP

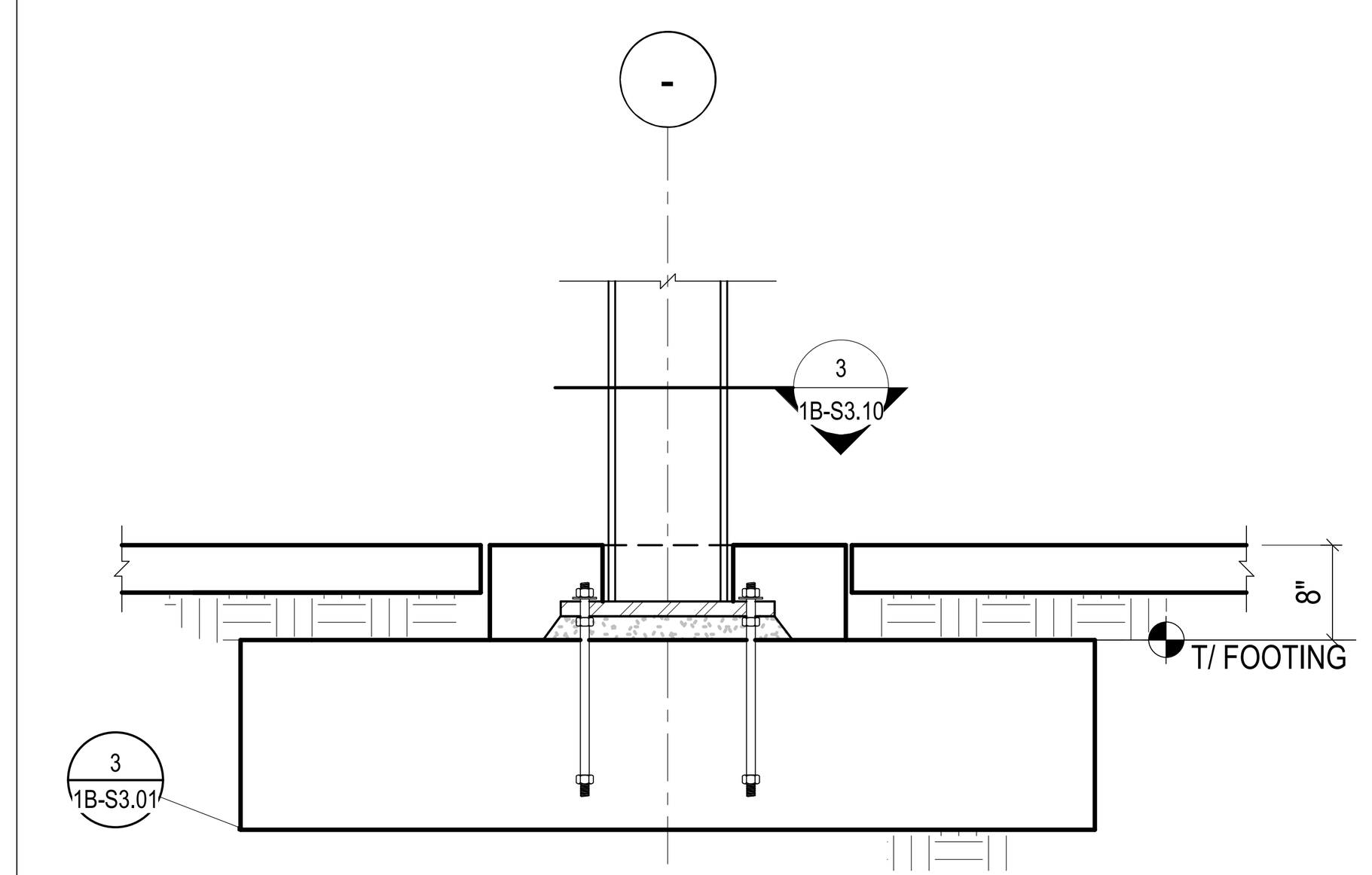
14 3/4" = 1'-0" STRIP FOOTING w/CIP STEM WALL STEP, GREATER THAN 3'-0"



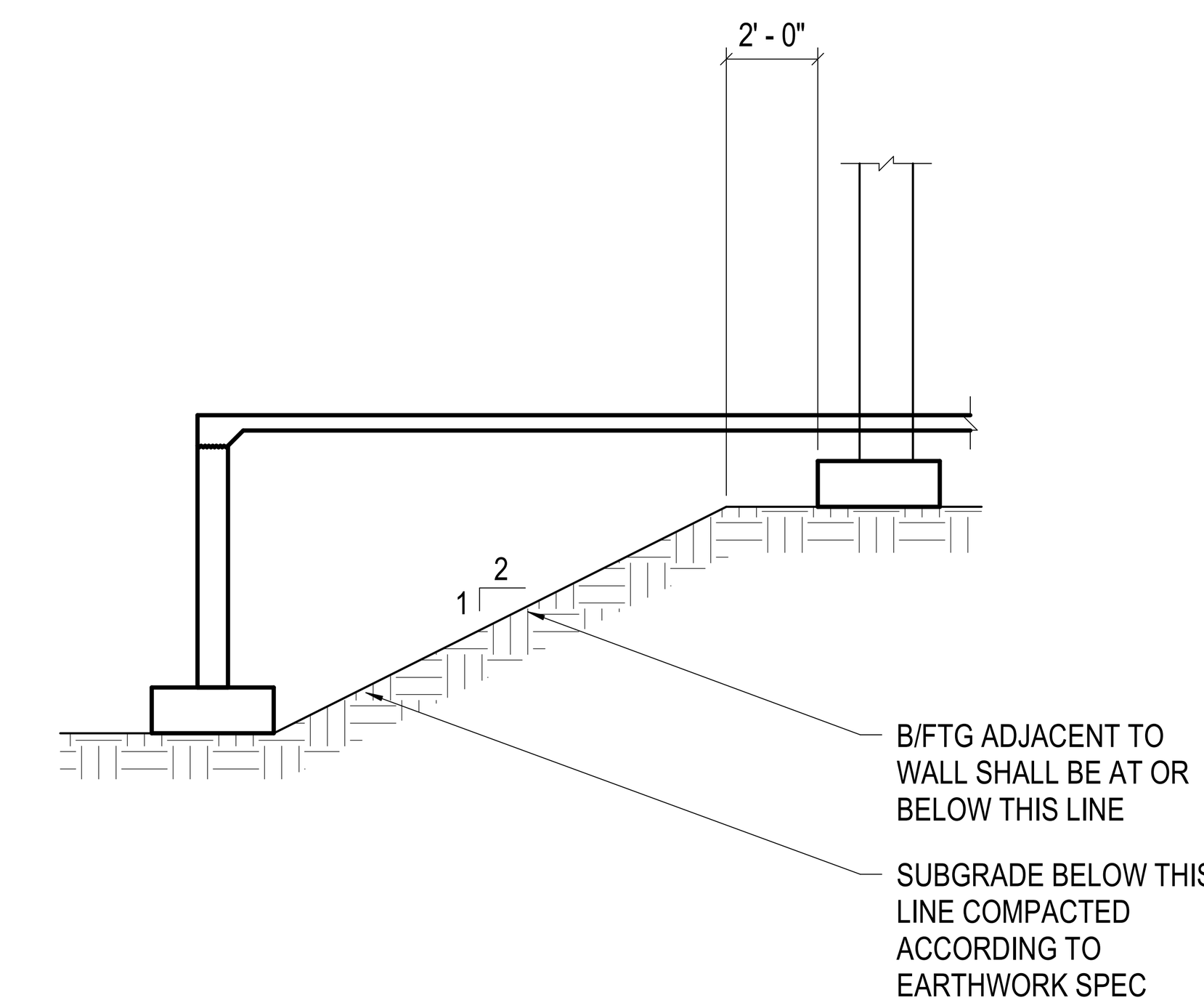
9 3/4" = 1'-0" ESCALATOR PIT WALL



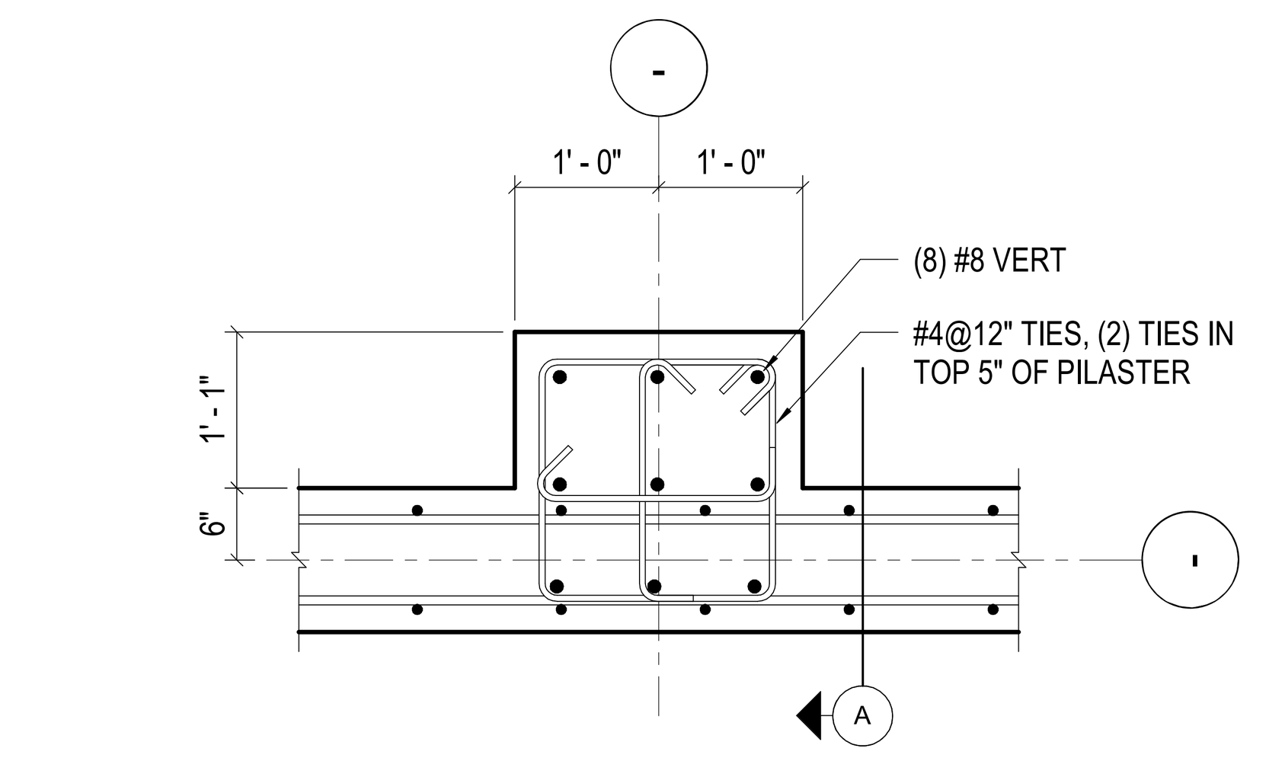
NOTES:
1. ALL AROUND WELD MAY BE USED IN LIEU OF THE WELD SHOWN
2. PROVIDE 3" CLEAR COVER AT FOOTING LOCATIONS
3. 2"Ø MAXIMUM GROUT HOLE AT CONTRACTOR'S OPTION. ONE OR TWO GROUT HOLES RECOMMENDED FOR BASE PLATES LARGER THAN 24" IN WIDTH.

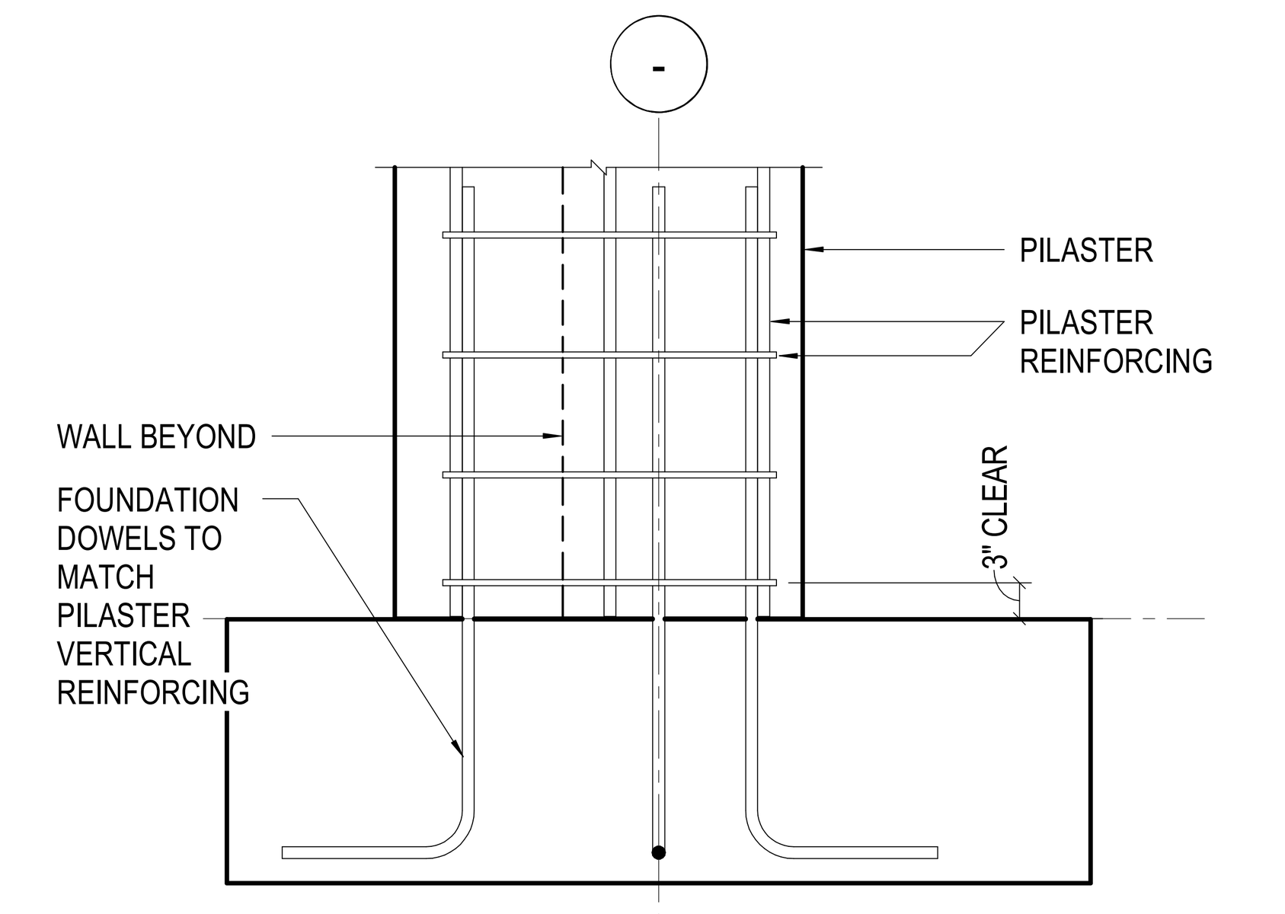


6 3/4" = 1'-0" INTERIOR COLUMN AT SPREAD FOOTING

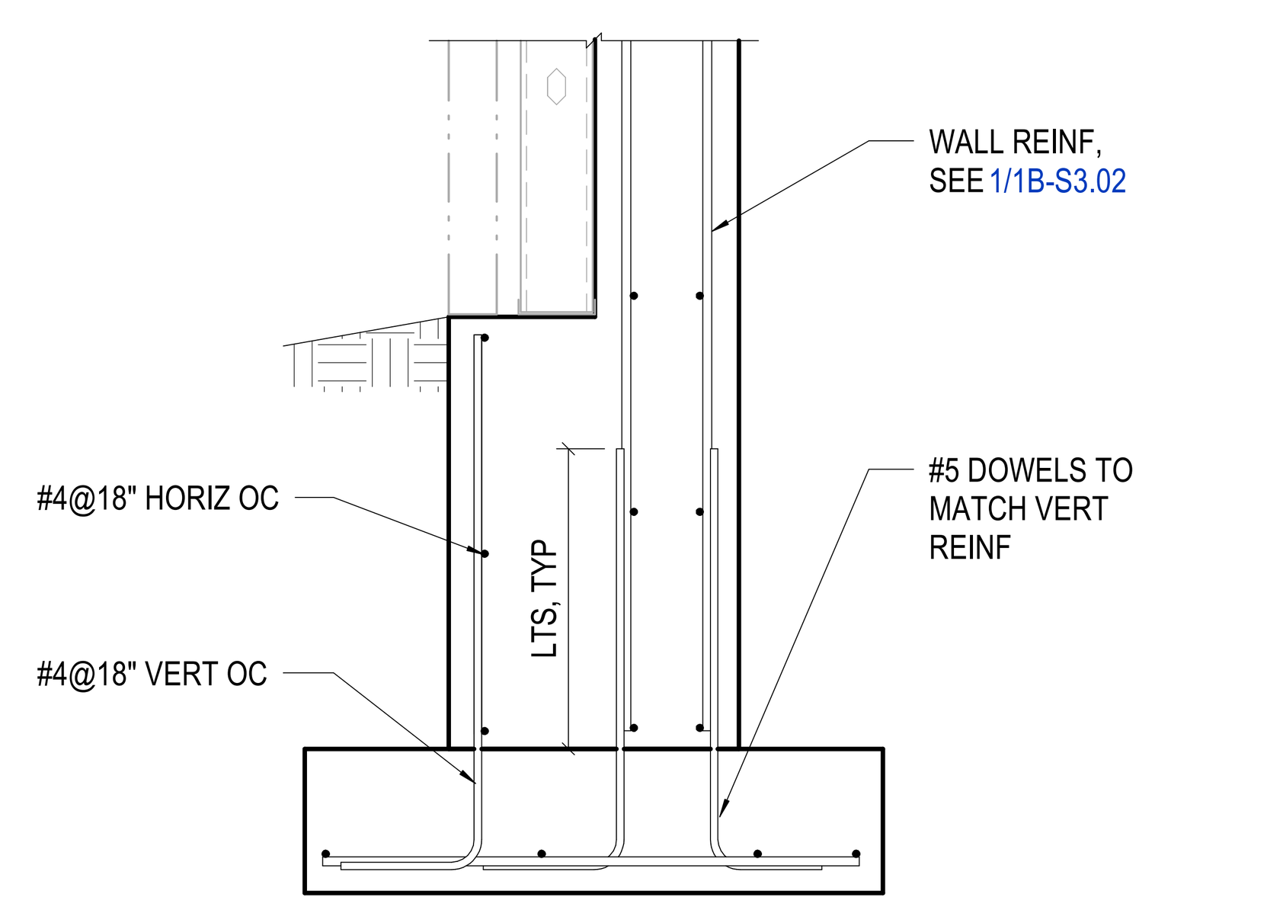


1 1/4" = 1'-0" TYP FTG ADJACENT TO WALL

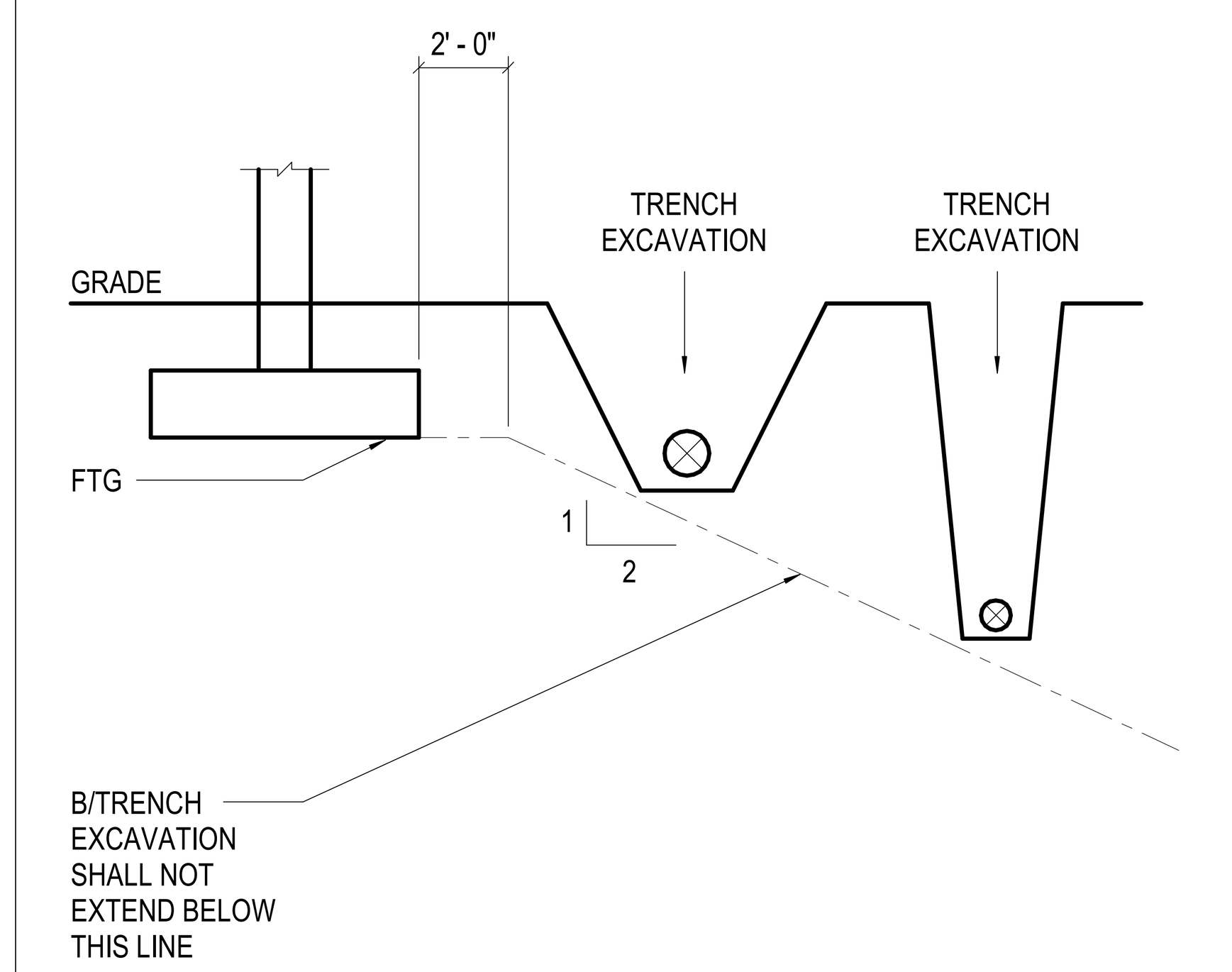




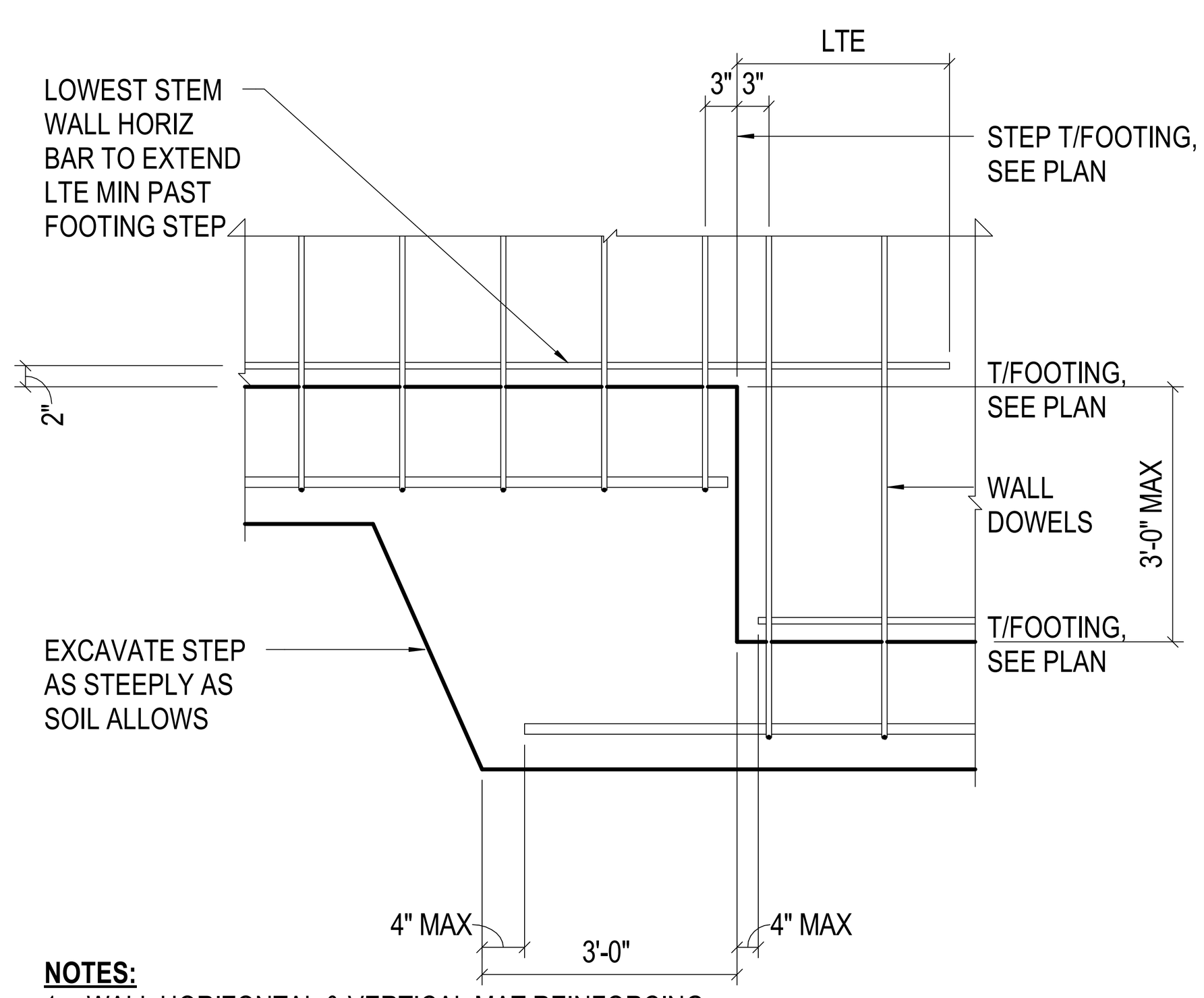
19 3/4" = 1'-0" CANOPY PILASTER



10 3/4" = 1'-0" ESCALATOR FOUNDATION WALL

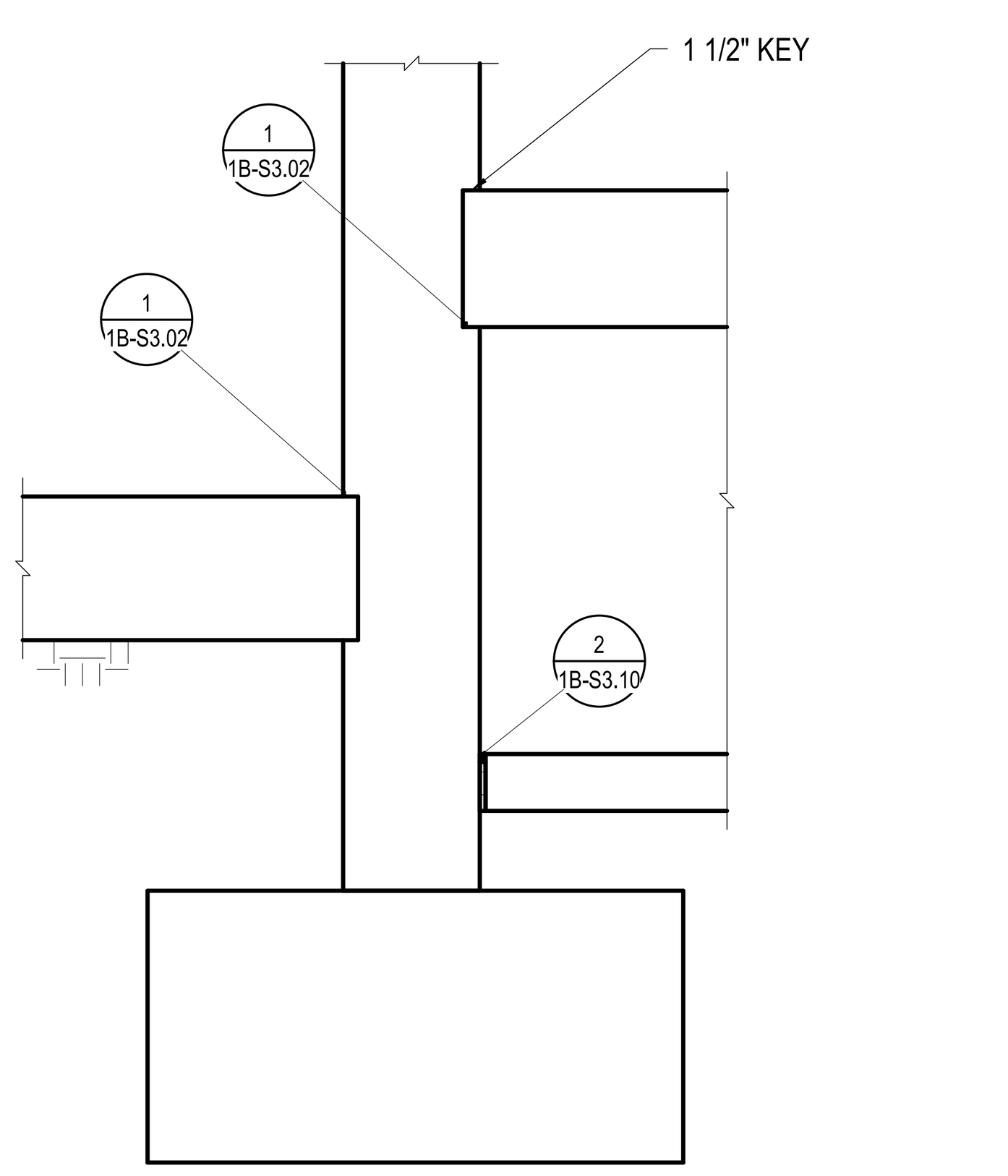


2 NO SCALE TYP EXCAVATION AT FTG



NOTES:
1. WALL HORIZONTAL & VERTICAL MAT REINFORCING NOT SHOWN TO BE CONTINUOUS THROUGH STEP

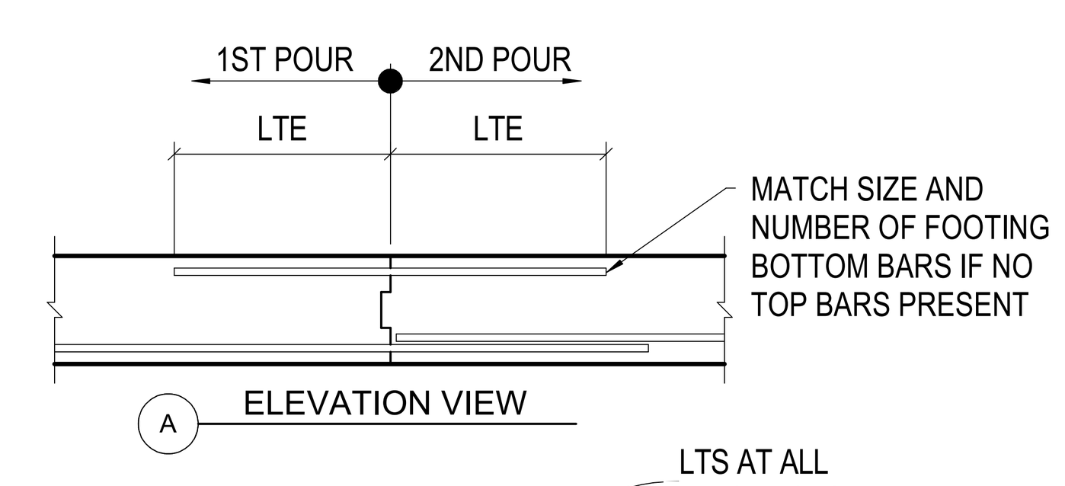
15 3/4" = 1'-0" STRIP FOOTING w/CIP STEM WALL STEP, 3'-0" AND LESS

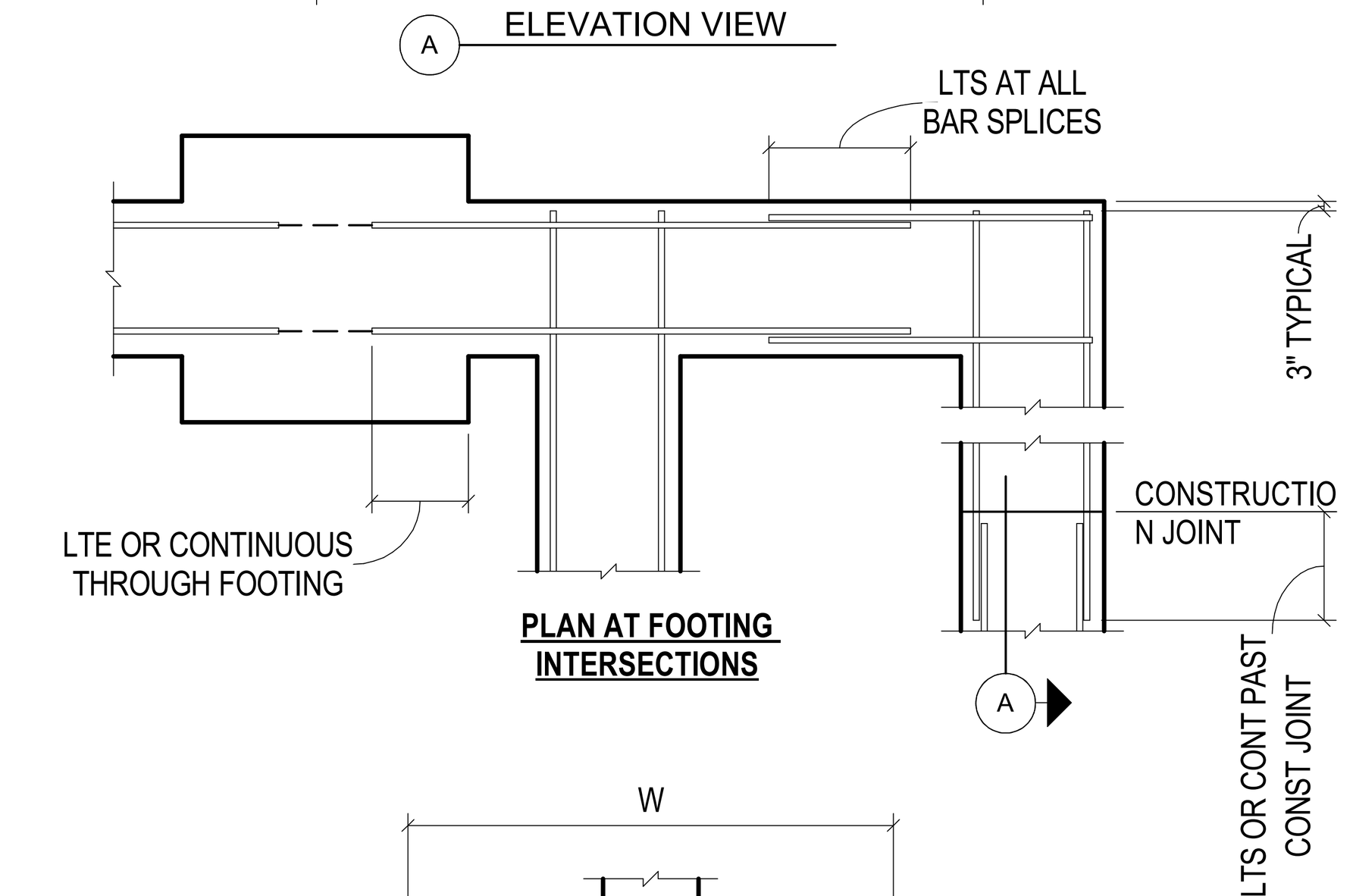


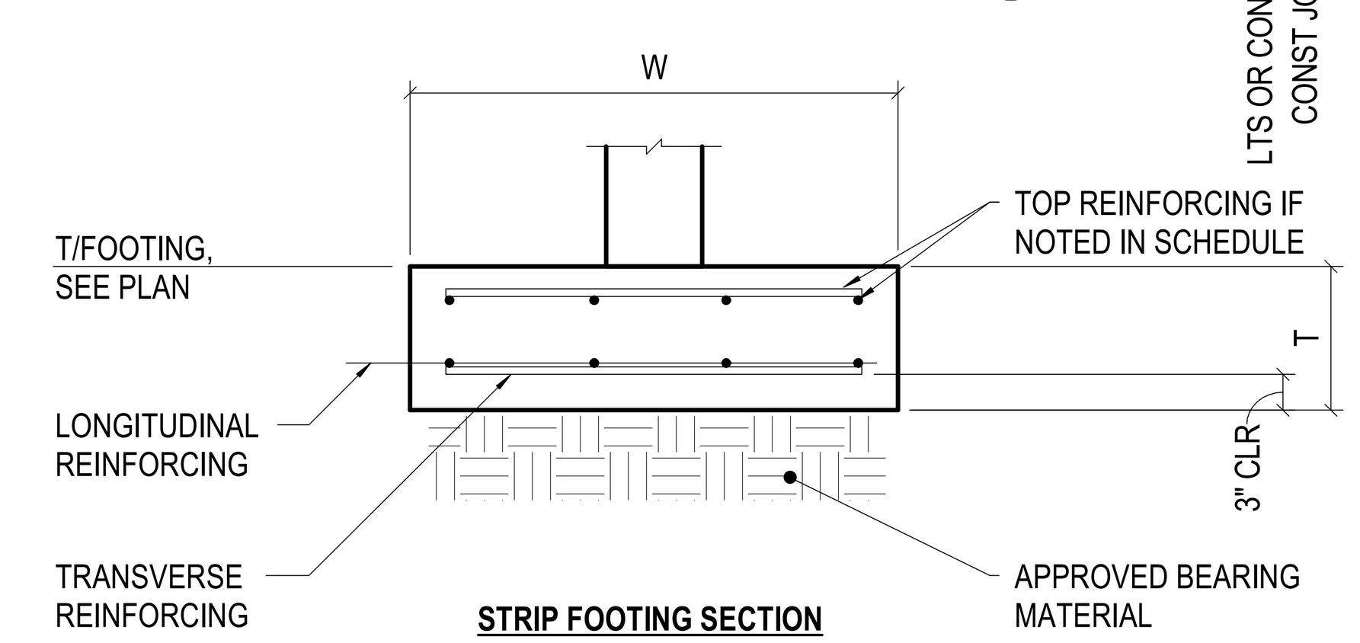
11 3/4" = 1'-0" ESCALATOR PIT WALL TO STAIR

STRIP FOOTING SCHEDULE

MARK	FOOTING SIZE W x T	LONG REINF	TRANS REINF	REMARKS
SF2	2'-0"x1'-0"	(3) #5	#4@12" OC	BOT ONLY
SF3	3'-0"x1'-0"	(3) #5	#4@12" OC	BOT ONLY
SF4	4'-0"x1'-0"	(4) #5	#4@12" OC	BOT ONLY





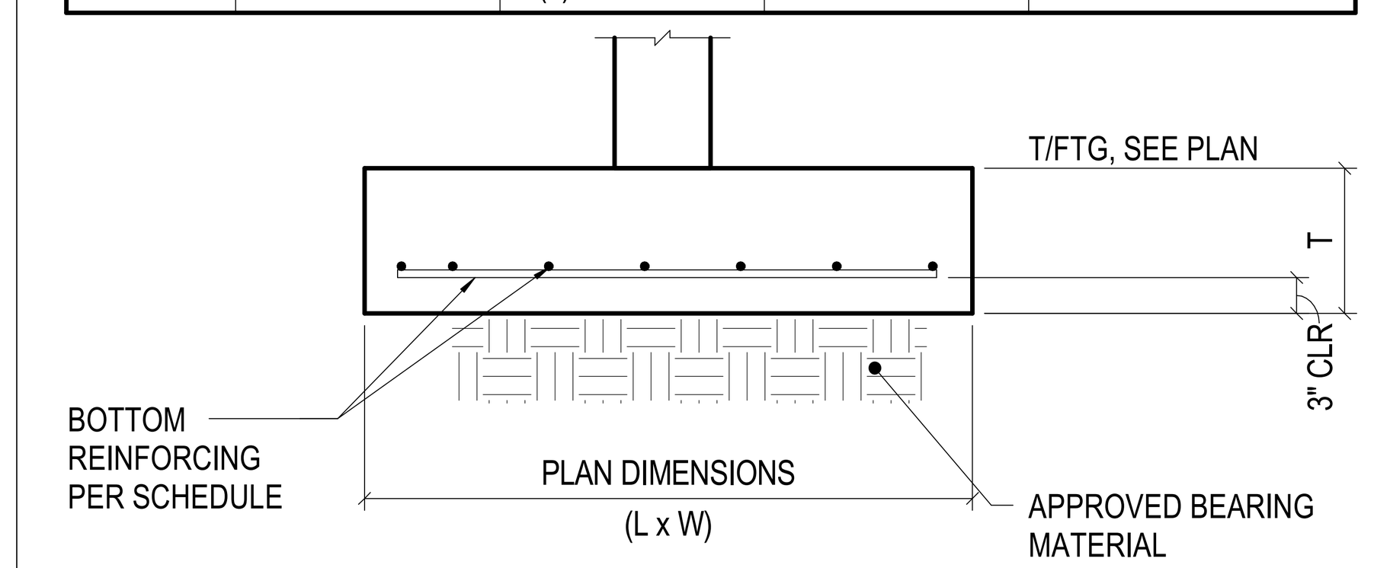


8 NO SCALE TYP STRIP FOOTING

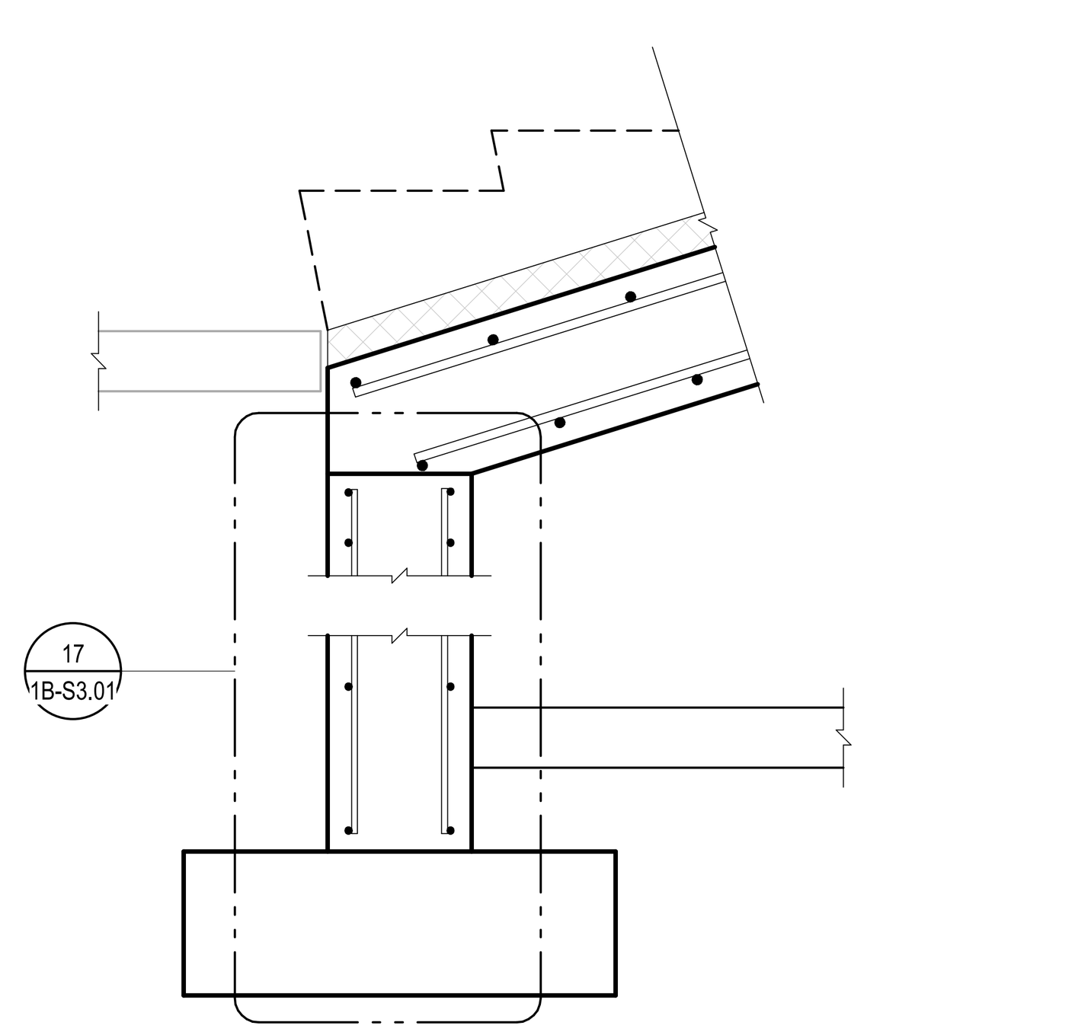
SPREAD FOOTING SCHEDULE

SOIL ALLOWABLE PRESSURE = 3000 PSF

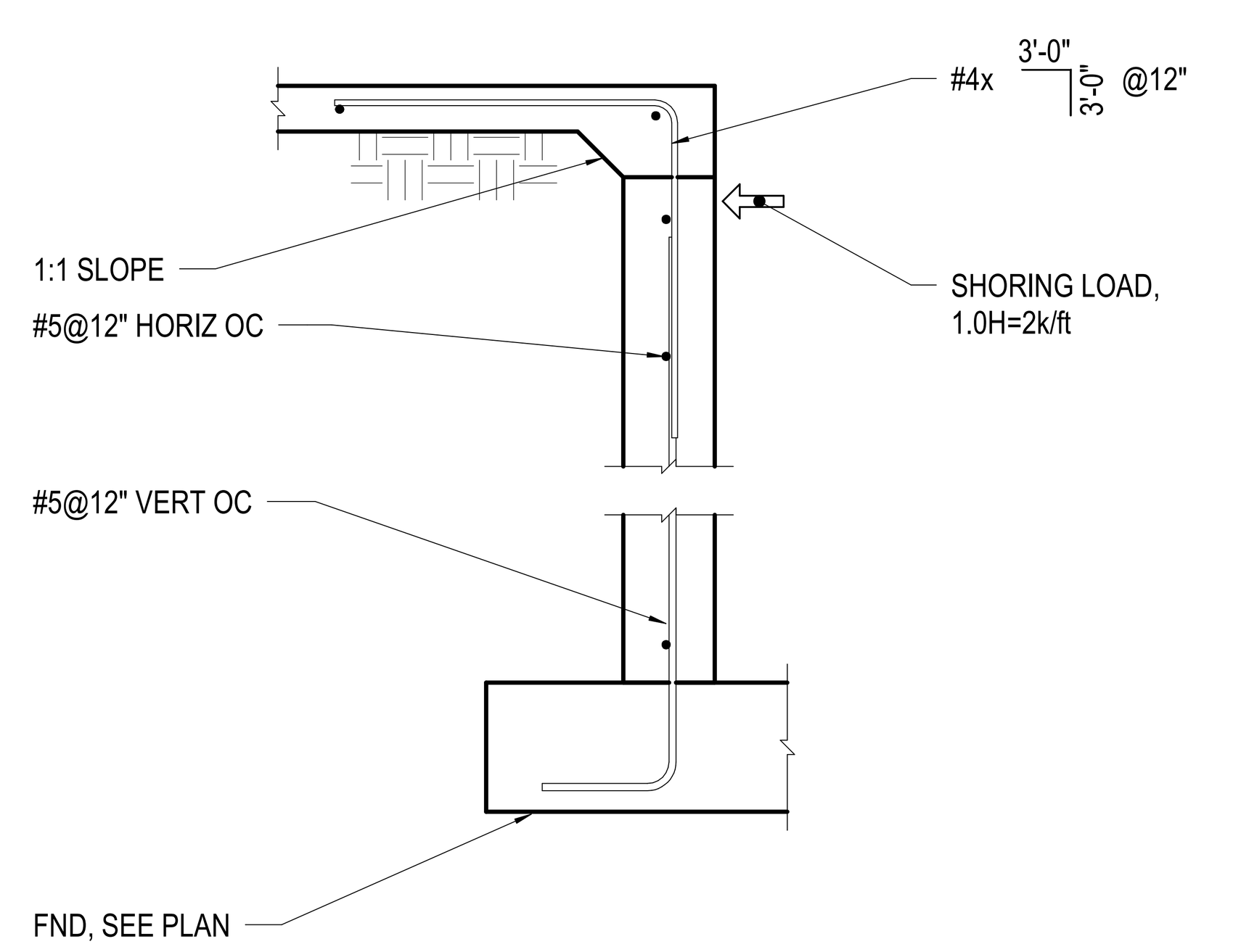
MARK	FOOTING SIZE L x W x T	REINFORCING	SERVICE CAPACITY (KIPS)	REMARKS
F6x6	6'-0"x6'-0"x1'-4"	(7) #5 EW BOT	108	-



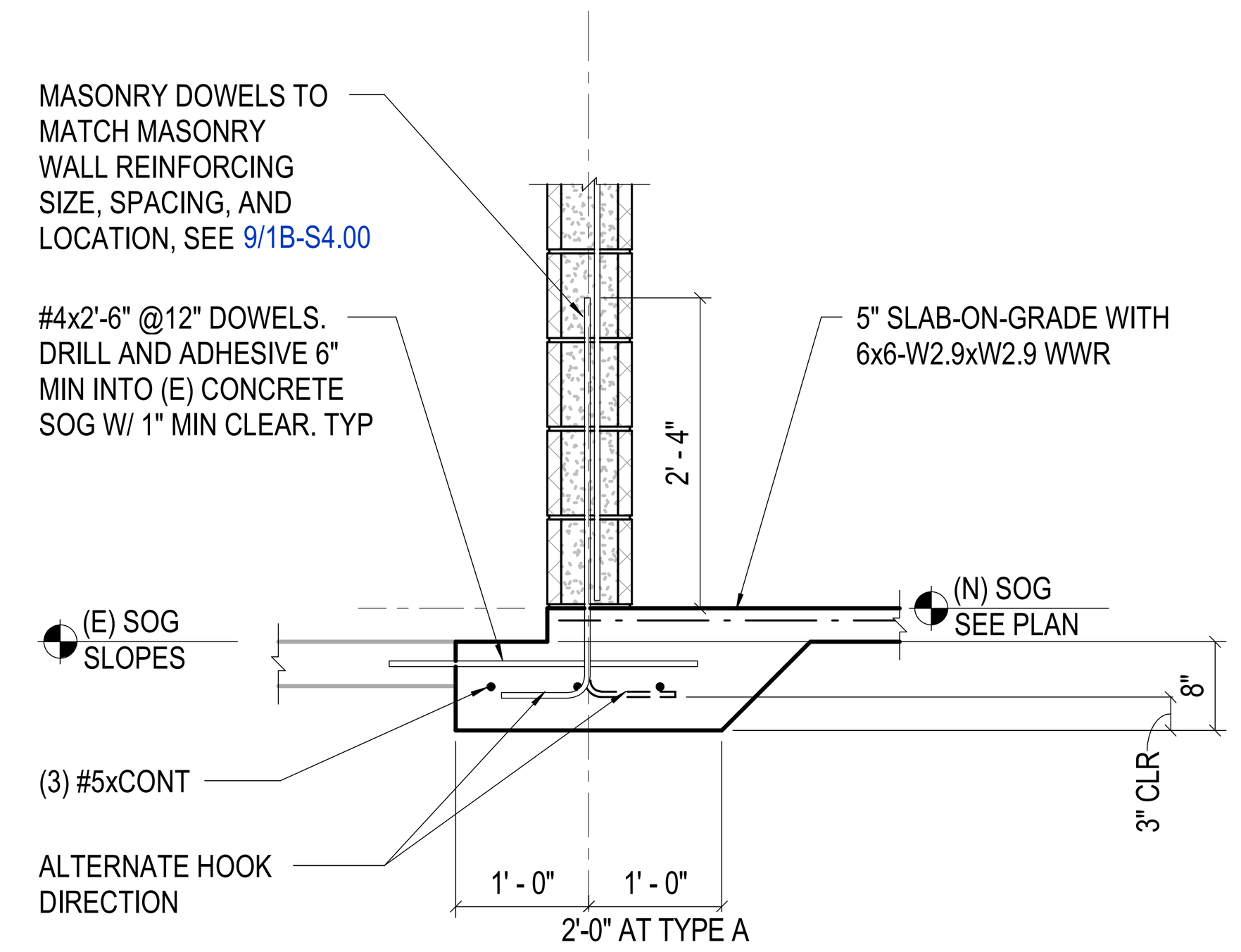
3 NO SCALE TYP SPREAD FOOTING



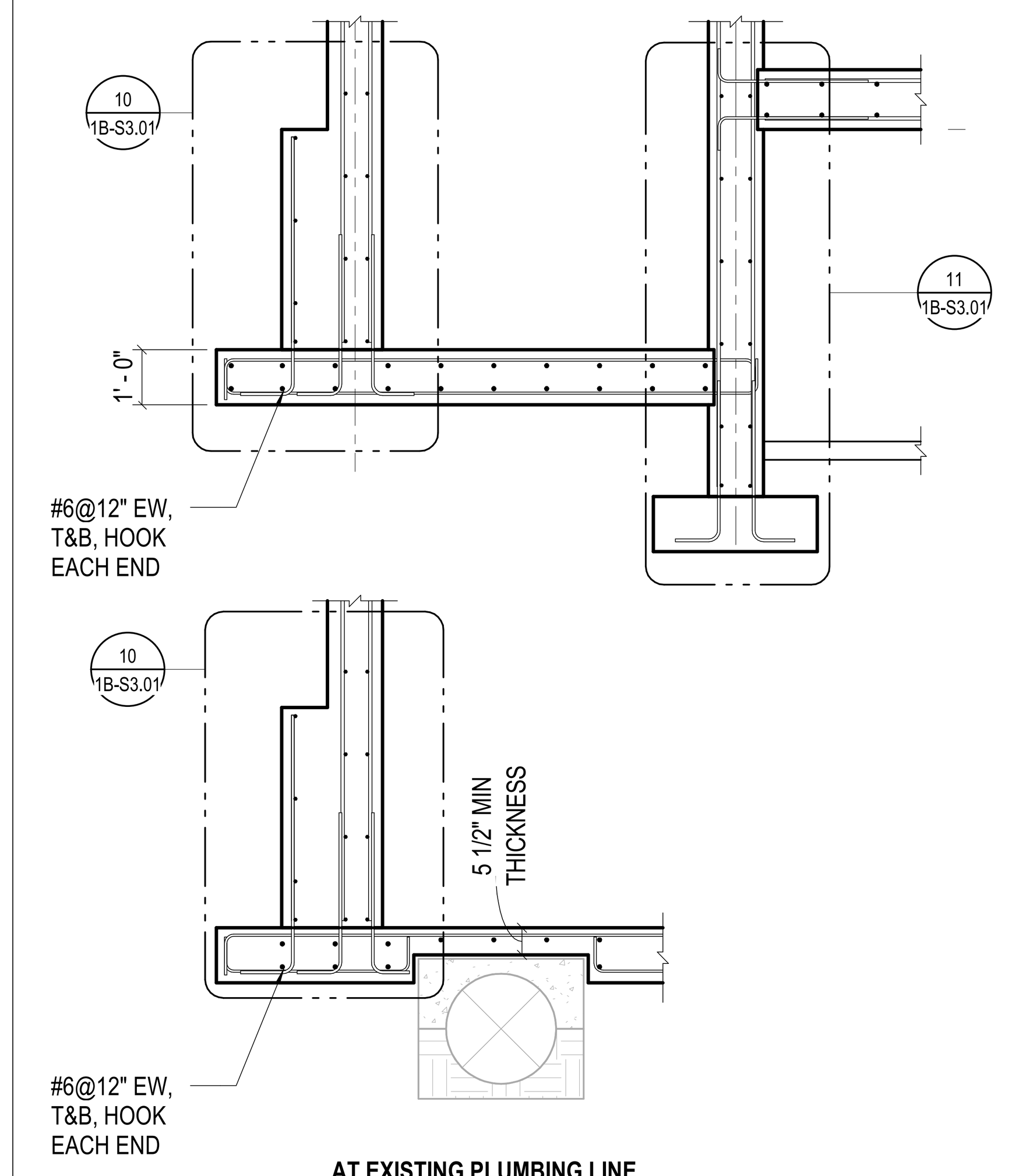
20 3/4" = 1'-0" CIP STAIR TO SITE SLAB



16 3/4" = 1'-0" PIT WALL REINF



12 3/4" = 1'-0" SOG BELOW MASONRY PARTITION WALL



4 NO SCALE ESCALATOR PIT

Steamboat
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38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

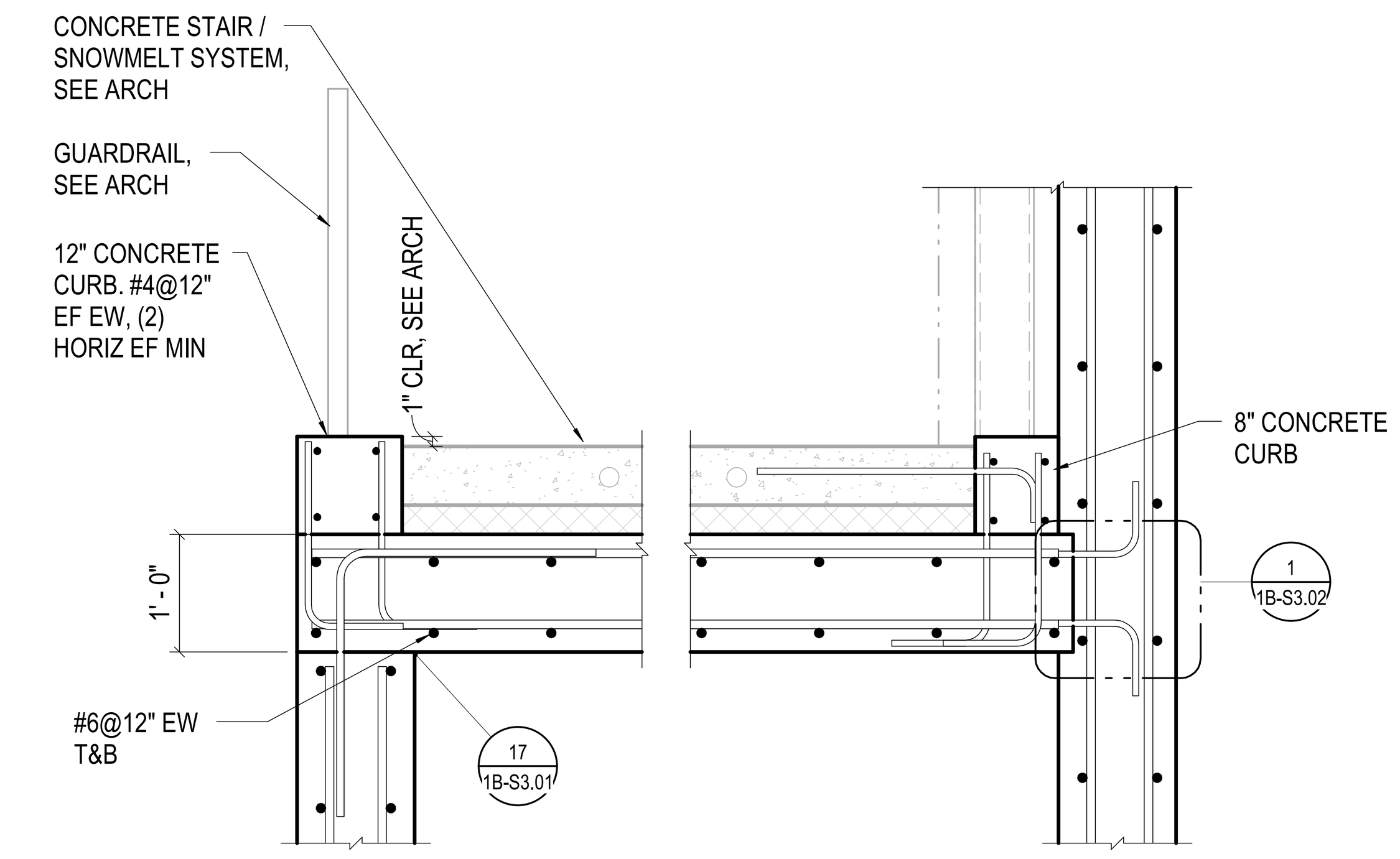
Project Number
003.7835.000

Description
FOUNDATION DETAILS

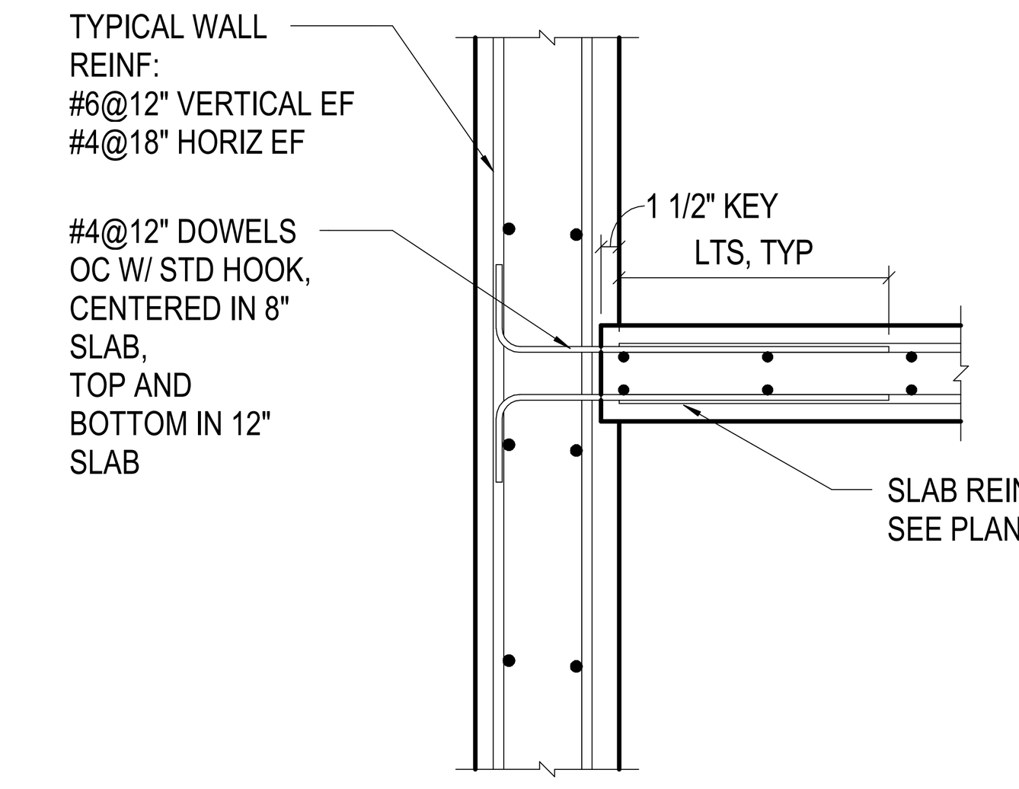
Scale
As indicated

1B-S3.01

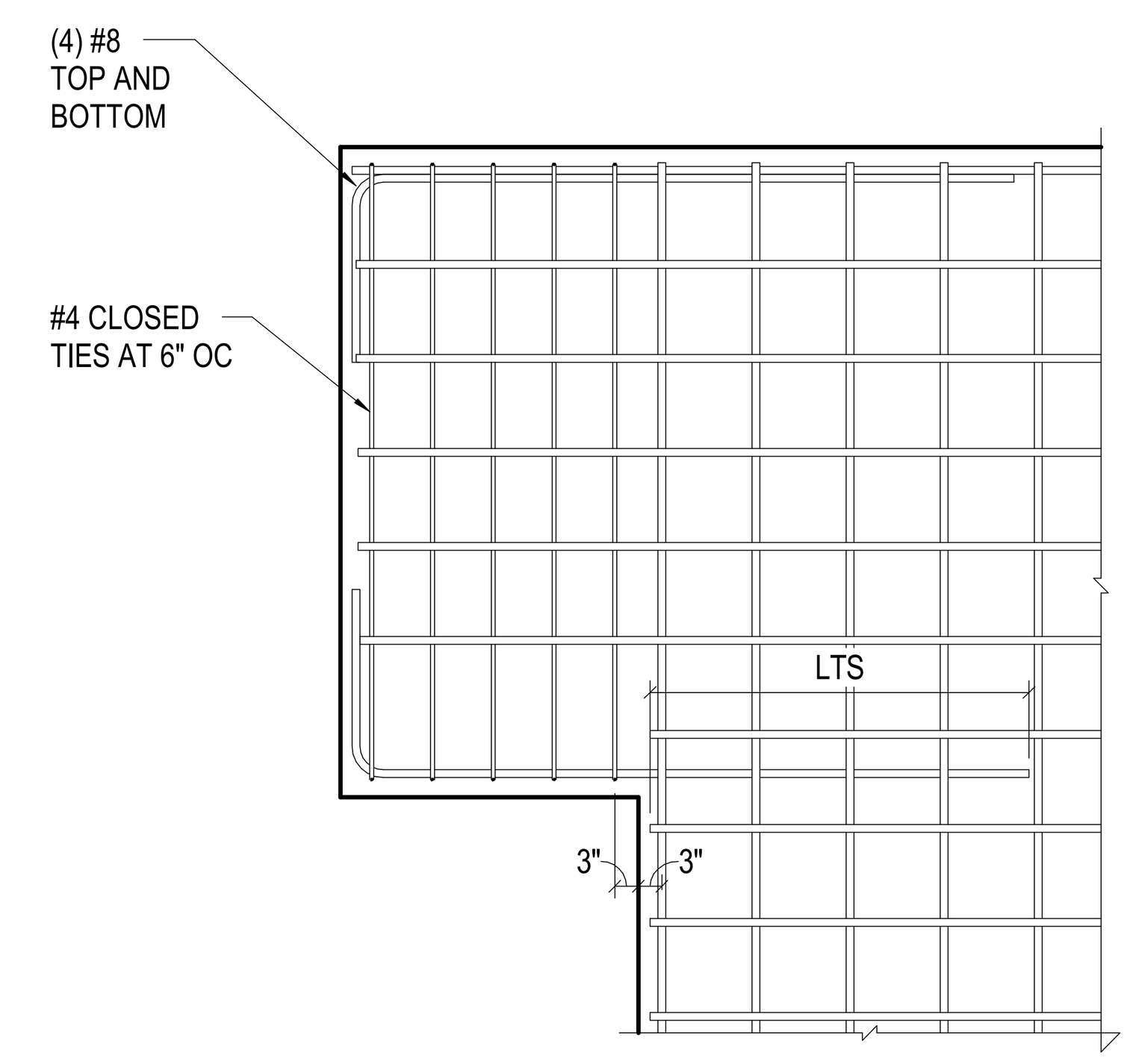
DESIGNERS: NIC MARTIN
LEAD: KELLY ...
DATE PRINTED: 5/19/2021 11:40:09 AM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SSR_GSQ 2021_V2021.rvt
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN



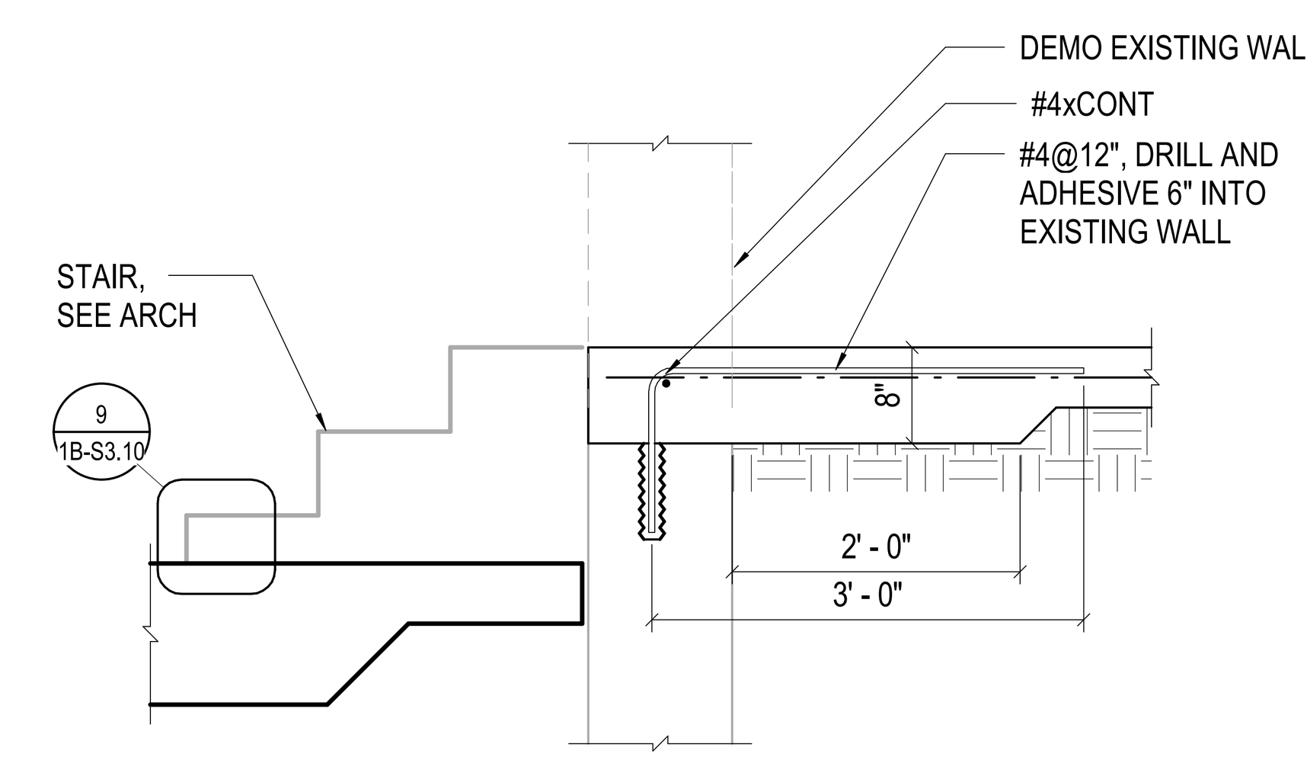
9 3/4" = 1'-0" CIP STAIR CROSS SECTION



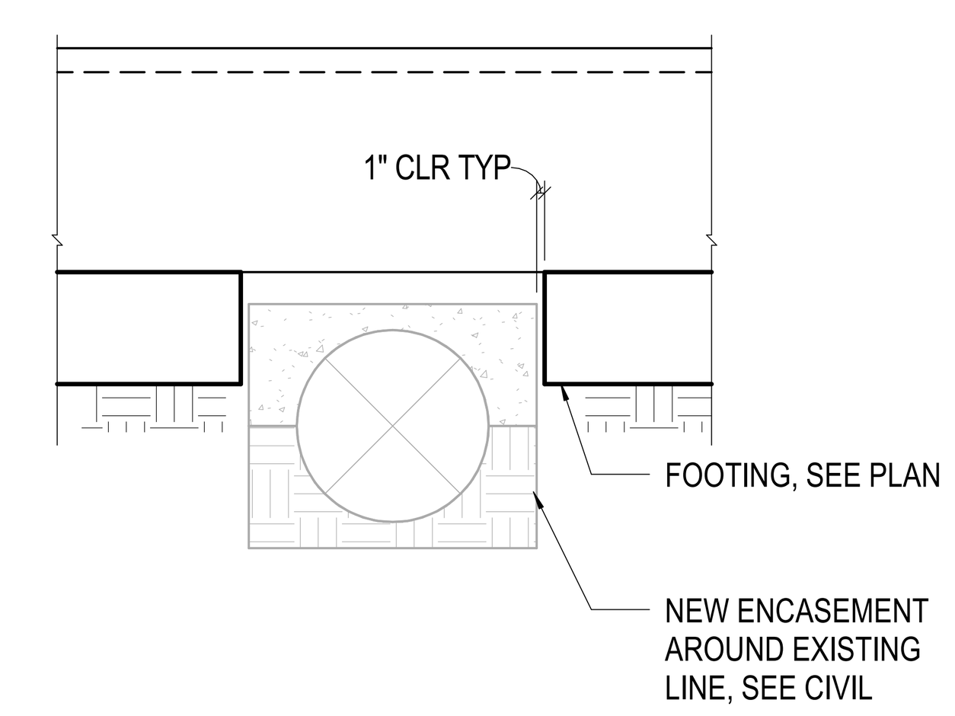
1 3/4" = 1'-0" TYP CIP SLAB TO WALL CONN



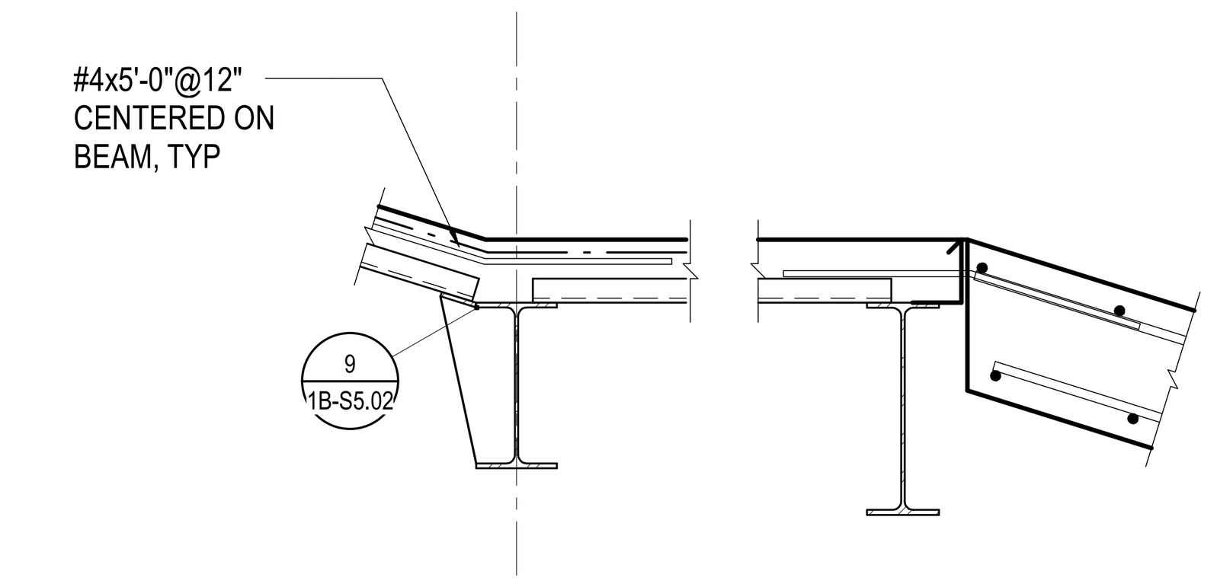
6 1/2" = 1'-0" CIP WALL AT TOP OF ESCALATOR



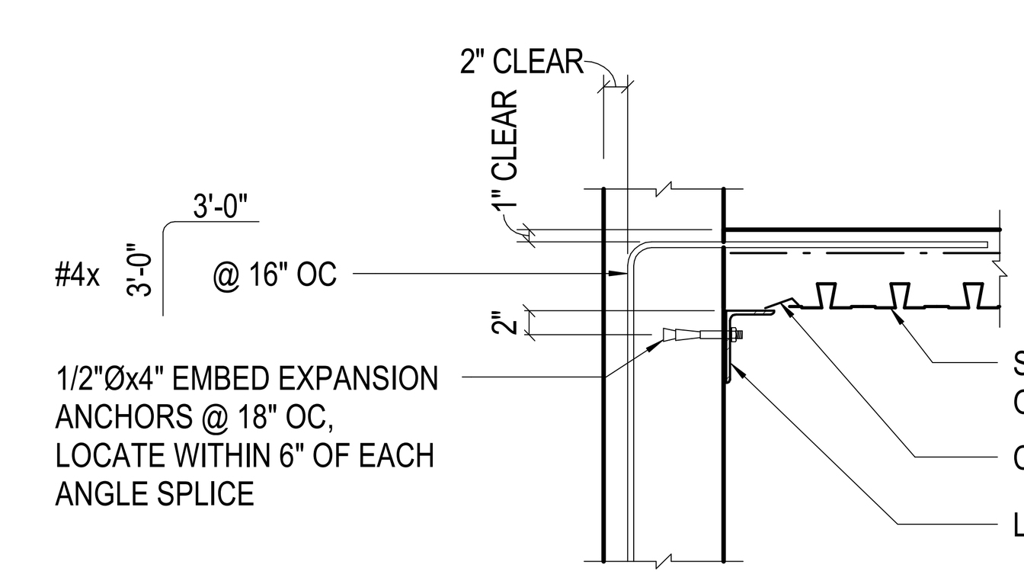
2 3/4" = 1'-0" NEW SLAB ON GRADE TO EXISTING



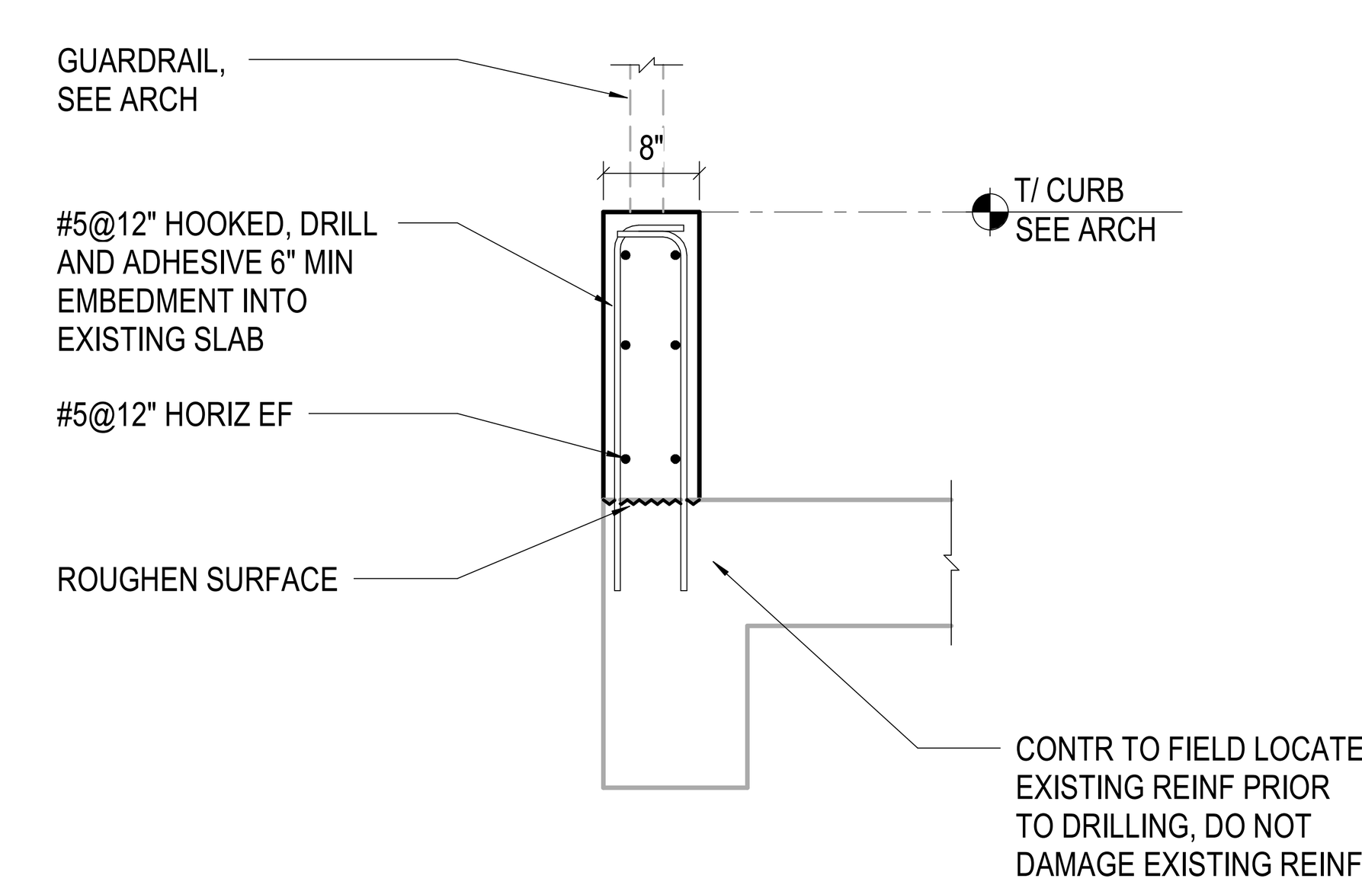
7 1/2" = 1'-0" EXISTING SEWER LINE ON NEW FOOTING



3 3/4" = 1'-0" CIP SLAB TO COMPOSITE DECK TRANSITION



8 3/4" = 1'-0" COMPOSITE DECK TO CIP WALL



4 3/4" = 1'-0" NEW CURB ON EXISTING SLAB

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38107
May 19, 2021
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Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

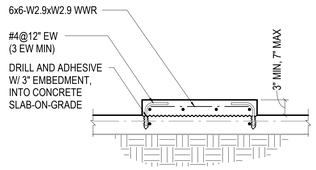
RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS
Project Number
003.7835.000
Description
CONCRETE DETAILS

Scale
As indicated

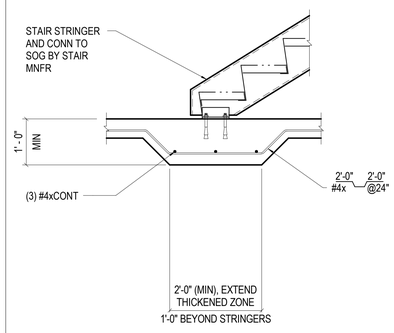
1B-S3.02

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 11:40:10 AM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SBR_GSQ 2021_V2021.rvt

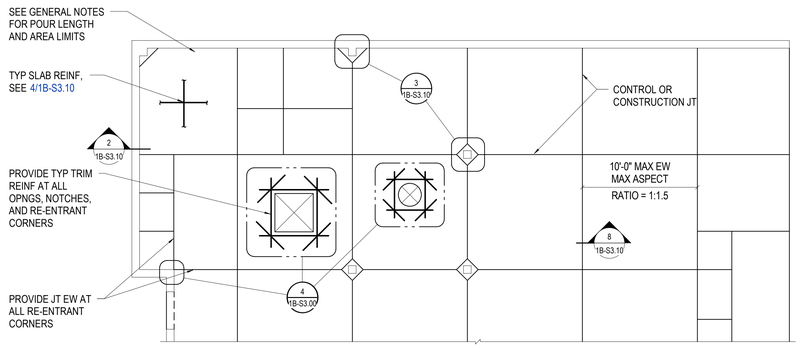


NOTES:
1. SEE ARCH/MEP DRAWINGS FOR SIZE, THICKNESS, AND LOCATIONS

13 3/4" = 1'-0" NEW CIP CONC EQUIPMENT BASE

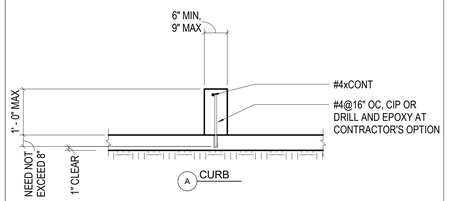


9 3/4" = 1'-0" SLAB-ON-GRADE SUPPORTING METAL PAN STAIR



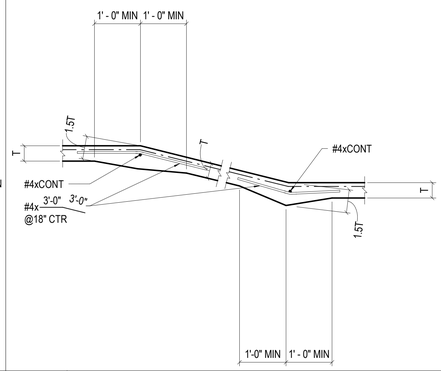
NOTES:
1. KEY PLAN ILLUSTRATES CONSTRUCTION CONCEPTS ONLY. SEE PLAN FOR ACTUAL DIMENSIONS AND ARRANGEMENT
2. PROVIDE ADDITIONAL CONTROL JOINTS AT ABRUPT CHANGES IN THICKNESS AND LOCATIONS PRONE TO CRACKING, COORD LOCS WITH FLOOR FINISHES AND INTERIOR WALLS

5 NO SCALE TYP SOG KEY PLAN

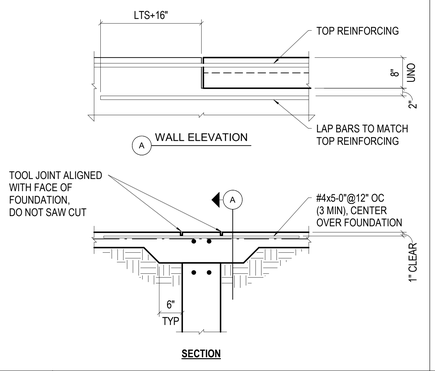


NOTES:
1. SEE ARCHITECT FOR SIZE, THICKNESS, AND LOCATIONS
2. WWR TO MATCH THAT OF SLAB OR 6x6-W2.9xW2.9 WHERE SLAB WWR NOT IDENTIFIED

14 3/4" = 1'-0" SLAB-ON-GRADE CURB/ EQUIPMENT PAD

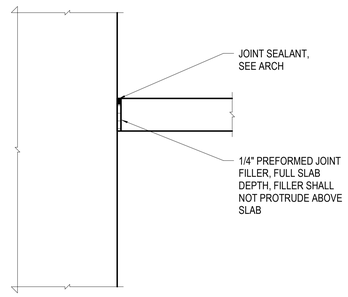


10 3/4" = 1'-0" TYPICAL SOG RAMP/SLOPE

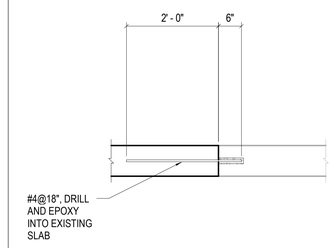


SECTION

6 3/4" = 1'-0" SLAB-ON-GRADE INTERIOR THRESHOLD

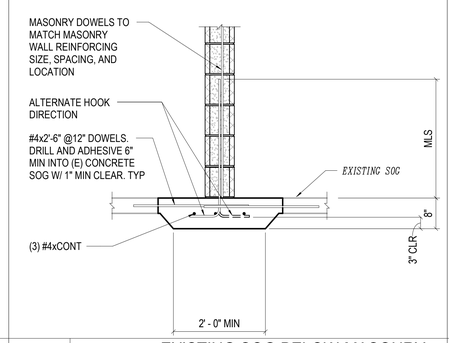


2 1 1/2" = 1'-0" TYP SOG ISOLATION JOINT

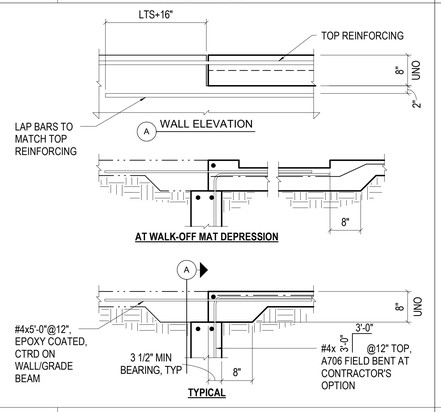


NOTES:
1. TYPICAL SLAB REINFORCING NOT SHOWN

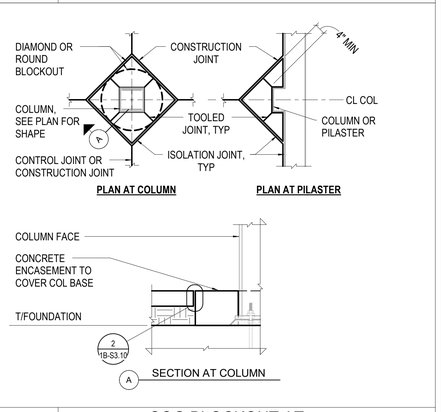
15 3/4" = 1'-0" SOG DOWEL TO EXISTING



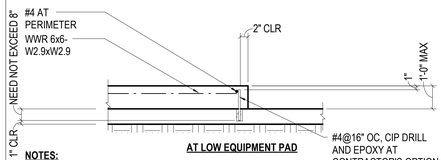
11 3/4" = 1'-0" EXISTING SOG BELOW MASONRY PARTITION WALL



7 3/4" = 1'-0" TYP SOG EXT THRESHOLD1



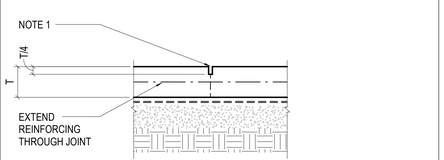
3 3/4" = 1'-0" SOG BLOCKOUT AT COLUMN/PILASTER



AT LOW EQUIPMENT PAD

NOTES:
1. SEE ARCHITECT FOR SIZE, THICKNESS, AND LOCATIONS
2. WWR TO MATCH THAT OF SLAB OR 6x6-W2.9xW2.9 WHERE SLAB WWR NOT IDENTIFIED

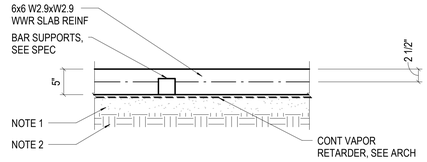
12 3/4" = 1'-0" TYPICAL SOG EQUIPMENT PAD



CONTROL JOINT

NOTES:
1. PROVIDE TOOLED JOINT OR SAW CUT AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT CUTTING WITHOUT CHIPPING, SPALLING, OR TEARING (BUT NOT MORE THAN 12 HOURS AFTER CASTING)

8 1 1/2" = 1'-0" SLAB-ON-GRADE JOINTS



TYPICAL SLAB-ON-GRADE SECTION: SOG5A

NOTES:
1. GRANULAR COURSE: 6" MIN COMPACTED GRANULAR FILL, SEE EARTHWORK SPEC
2. PREPARED/COMPACTED SUBGRADE, SEE EARTHWORK SPEC

4 1" = 1'-0" TYP SOG DETAIL - SOG5A

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COLORADO REGISTERED 38107 PROFESSIONAL ENGINEER

May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
TYPICAL SOG DETAILS

Scale
As indicated

1B-S3.10

DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 11:40:11 AM
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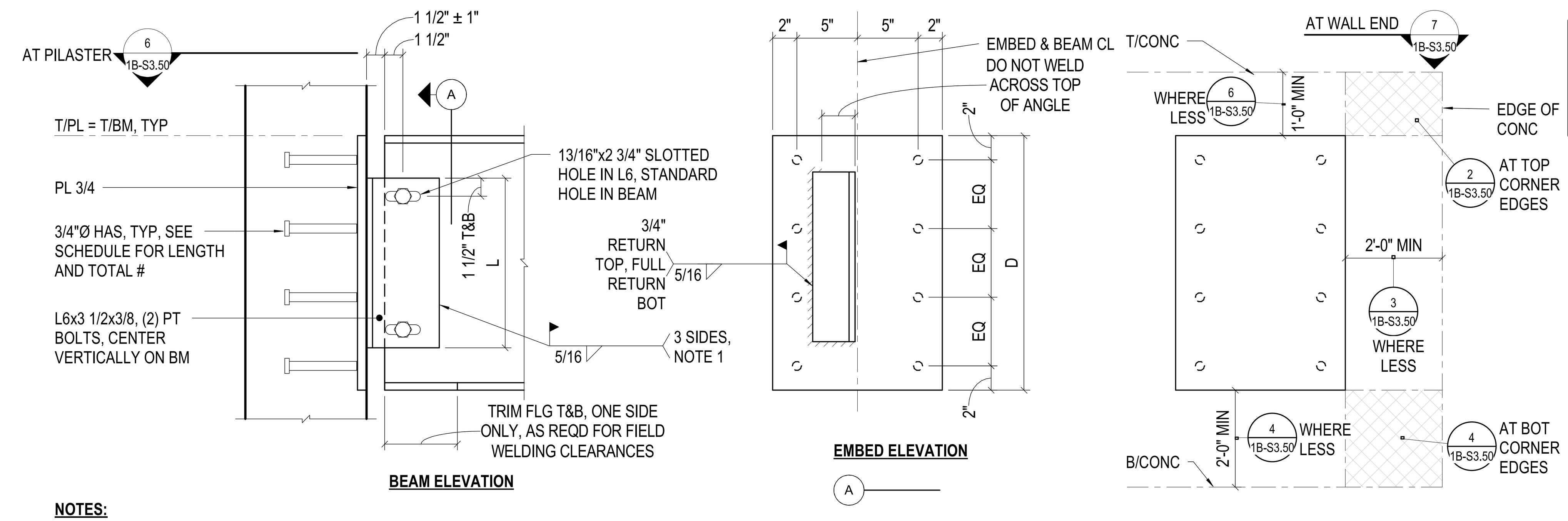
MM JOB #: 20.1411.5.01
PRINCIPAL: KELLY KNOWLES
FOR: KELLY KNOWLES
PROJECT MANAGER: C.A. CHEN



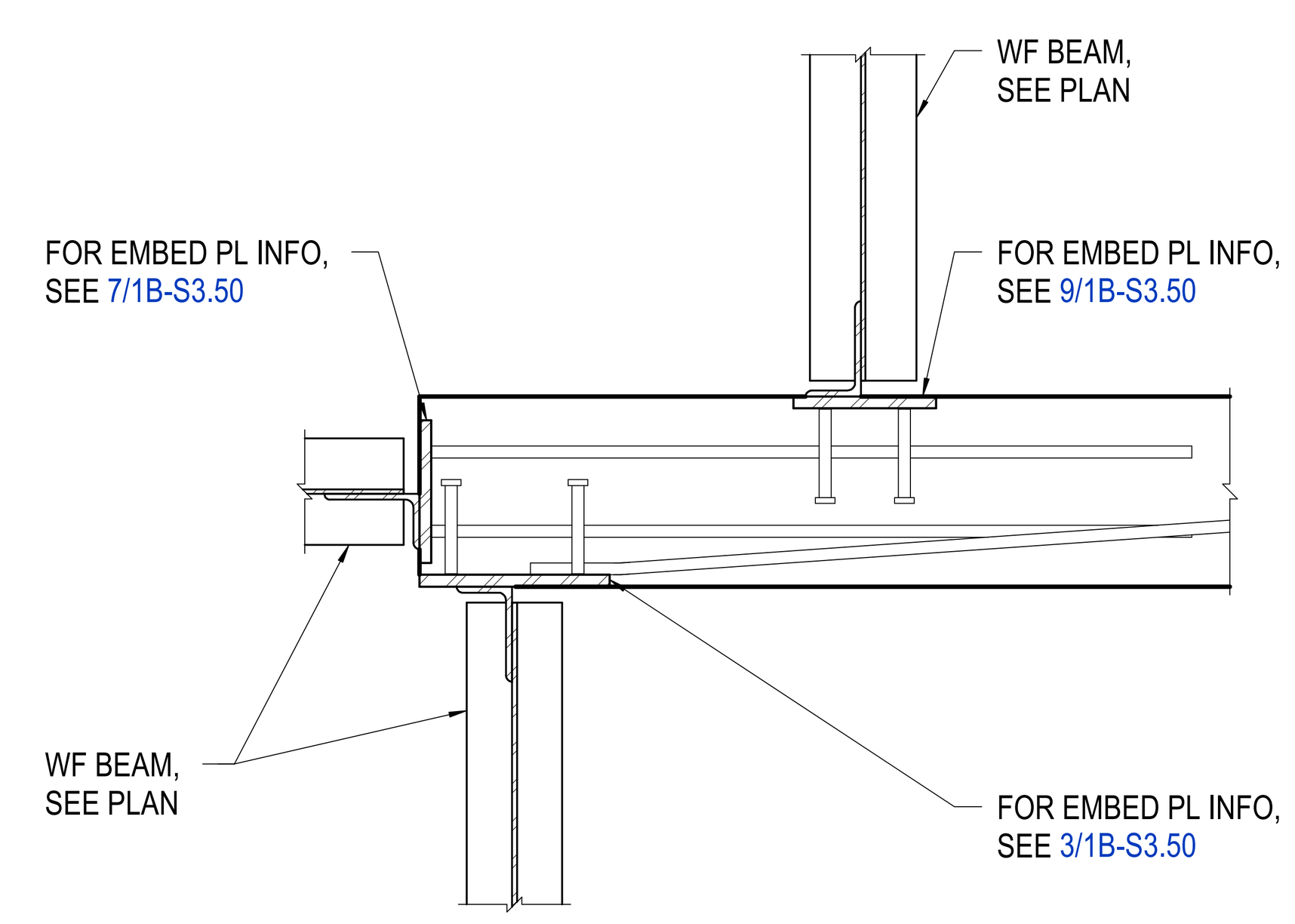
TYP EMBEDDED PL SCHED**

BEAM	CAPACITY (KIPS)* 8" STUDS	D (IN)	L (IN)	TOTAL # HAS
W14	51	14	9	6

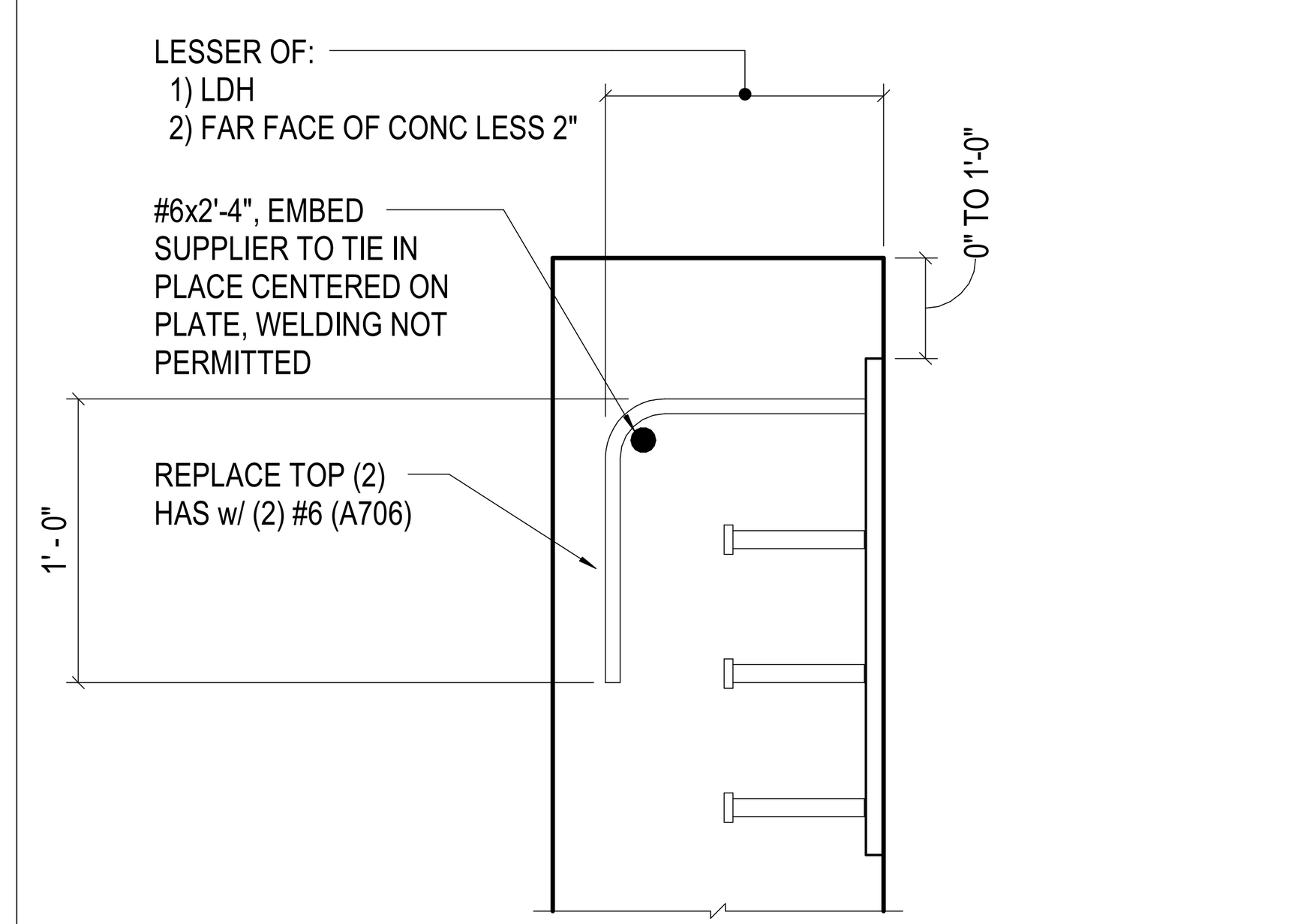
* ULTIMATE LEVEL (LRFD)
** EMBEDDED PLATE TYPE IS BASED ON BEAM DEPTH. IF PLAN REACTION IS GREATER THAN SCHEDULED CAPACITY, REQUEST CUSTOM CONNECTION FROM ENGINEER

NOTES:
1. COMPLETE ALL WELDS PRIOR TO INSTALLING DECK OR USING BEAM TO SUPPORT ANY CONSTRUCTION MATERIALS
2. SEE 8/1B-S3.00 FOR WELDING OF REBAR TO EMBED PLATES WHEN REQUIRED. DAS MAY BE SUBSTITUTED FOR REBAR.

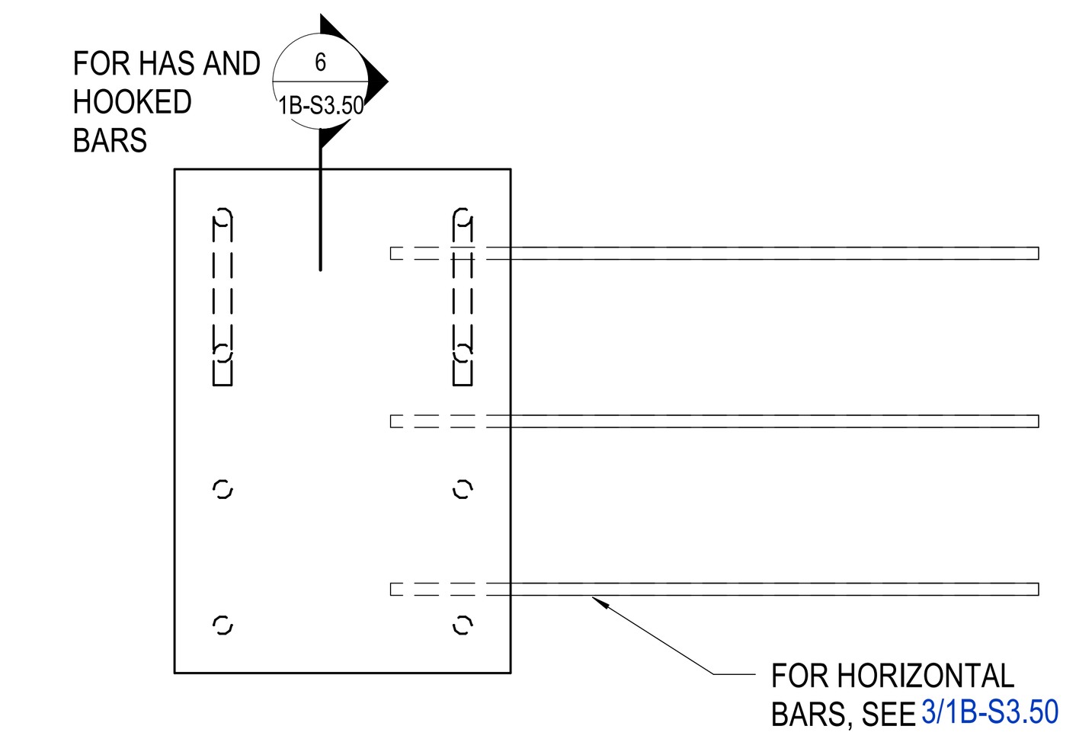
9 NO SCALE TYPICAL BEAM EMBED PL CONNECTION & SCHEDULE - LRFD



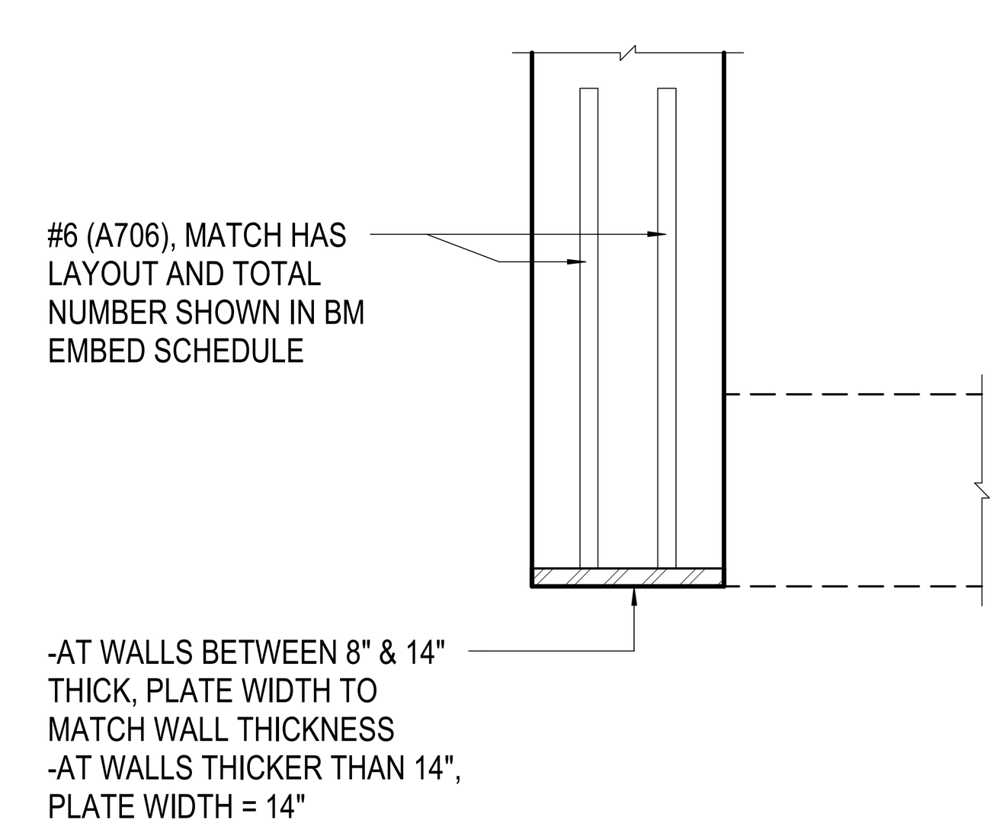
10 1" = 1'-0" BEAM EMBED NEAR WALL



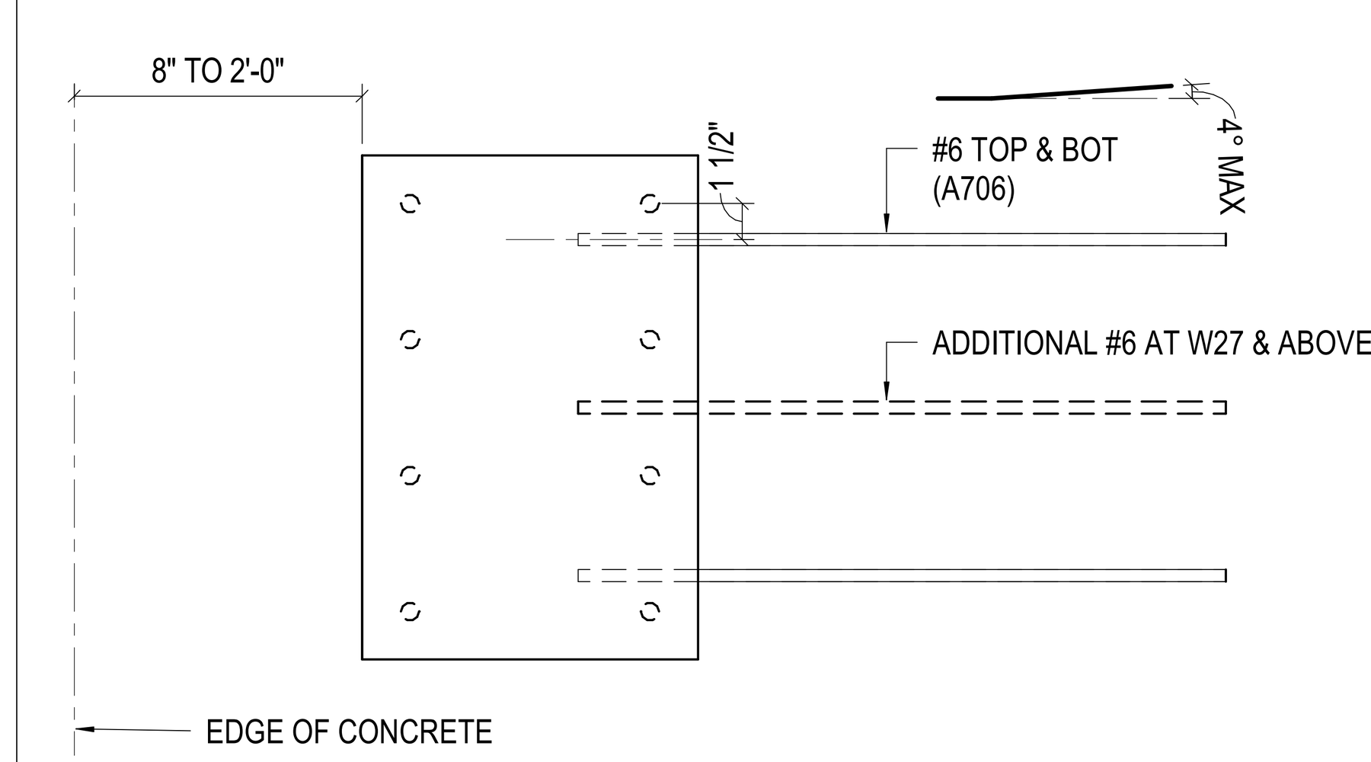
6 NO SCALE BEAM EMBED NEAR TOP OF WALL SINGLE SIDED



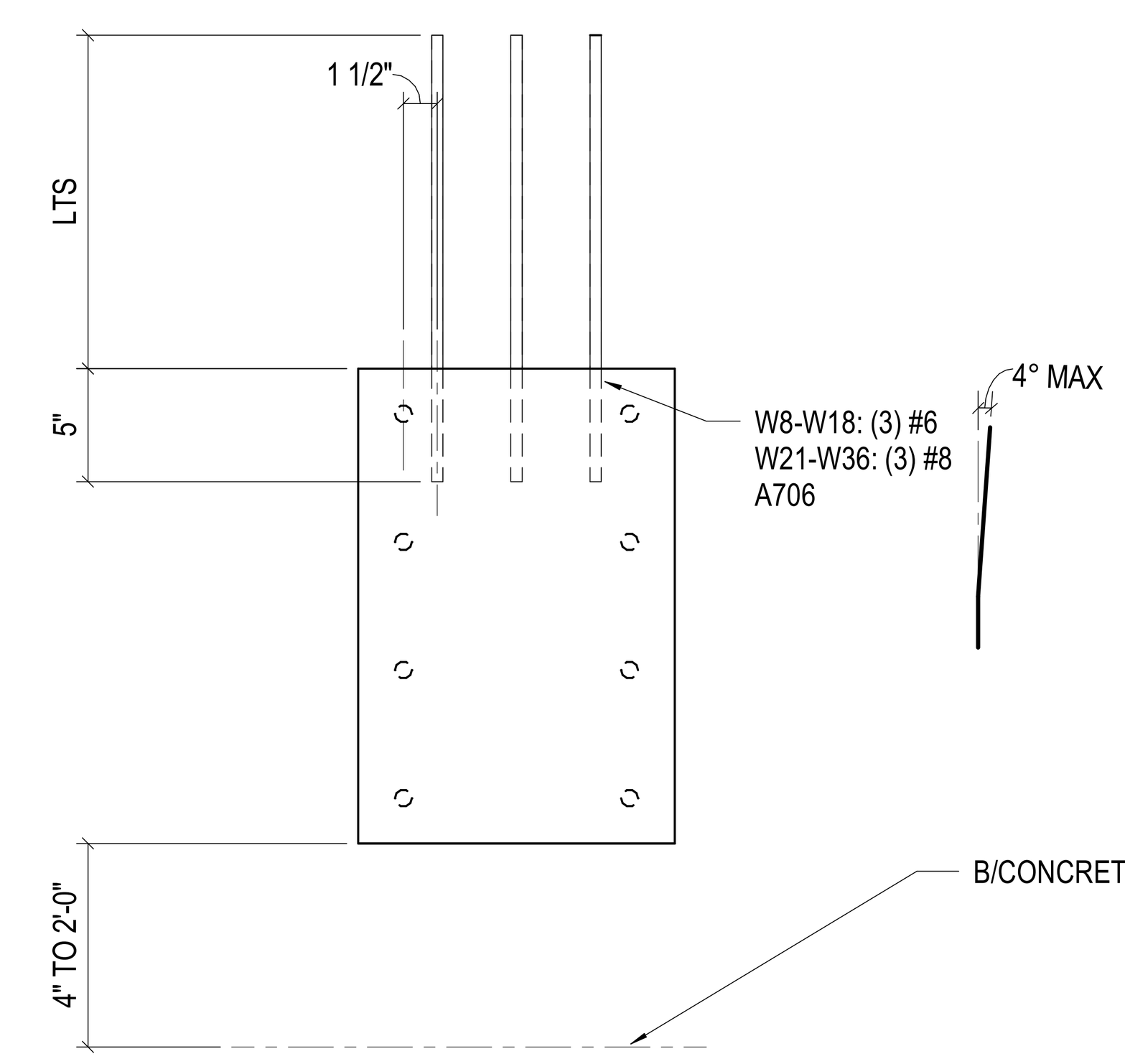
2 NO SCALE BEAM EMBED NEAR TOP EDGE OF WALL



7 NO SCALE BEAM EMBED AT END OF WALL



3 NO SCALE BEAM EMBED NEAR EDGE OF WALL



4 NO SCALE BEAM EMBED NEAR BOTTOM OF WALL

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LEAD REVIT TECH: COLIN MONIES
DATE PRINTED: 5/19/2021 11:40:11 AM
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MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
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PROJECT MANAGER: C. A. CHEN

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

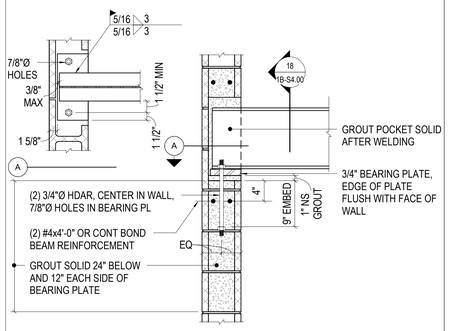
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

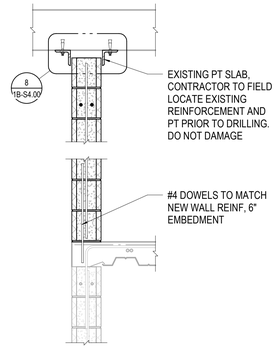
Description
CONCRETE SUPPORTING STEEL DETAILS

Scale
As indicated

1B-S3.50



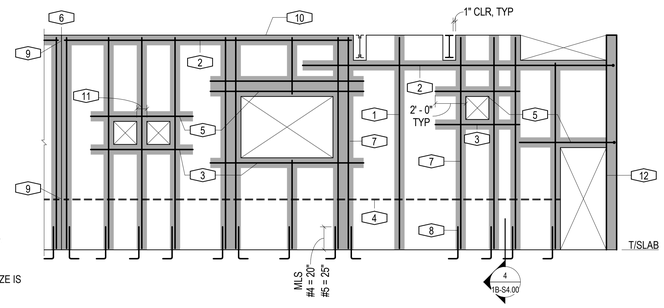
17 1" = 1'-0" MASONRY BEAM BEARING



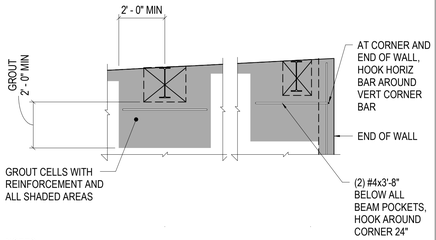
13 3/4" = 1'-0" NEW CMU WALL ON EXISTING CONCRETE DECK

KEYNOTES:

1. TYPICAL WALL VERTICAL REINFORCING: #4@48" OC
2. BOND BEAM W/ (1) #5 AT T/WALL
3. BOND BEAM W/ (1) #5 AT BOT OF ALL OPENINGS
4. HORIZ JOINT REINF: "LADDER" TYPE JOINT REINF W/ (2) W1.7 WIRES @ 16" OC
5. LINTEL
6. CONTROL JOINTS @ 20'-0" OC MAX AND EACH END OF WALL
7. JAMB REINFORCEMENT EACH SIDE OF OPENING
8. DOWELS TO MATCH SIZE AND LOCATION OF VERTICAL BARS
9. TERMINATE ALL HORIZONTAL REINFORCEMNET AT CONTROL JOINTS
10. T/WALL SUPPORT, SEE DETAILS THIS PAGE, LOCATE AT 8'-0" ON CENTER
11. AT SERIES OF TWO OR MORE OPENINGS, MASONRY LINTEL REINFORCEMNET SHALL BE CONTINUOUS. IF SPACE BETWEEN OPENINGS IS LESS THAN 1'-4", USE OVERALL WIDTH OF SERIES OF OPENINGS TO DETERMINE LINTEL SIZE AND JAMB REINF
12. WHERE EDGE OF OPENING IS FLUSH WITH PERPENDICULAR WALL, OR REQUIRED JAMB SIZE IS LARGER THAN AVAILABLE, A CONTROL JOINT IS NOT PERMITTED AT THIS INTERSECTION



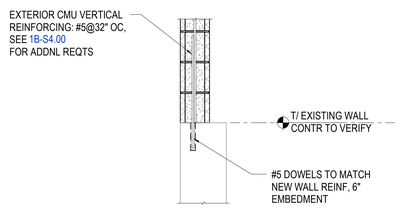
9 1/4" = 1'-0" TYPICAL MASONRY PARTITION ELEVATION



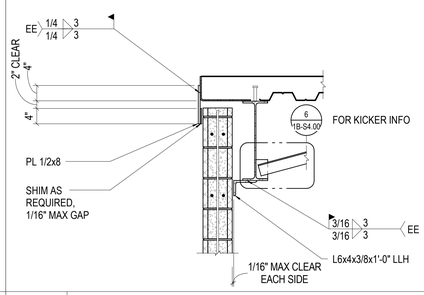
NOTES:

1. TYPICAL WALL VERTICAL & HORIZONTAL REINFORCING NOT SHOWN
2. GROUT SHOWN IS MINIMUM REQUIRED FOR BEAM BEARING.

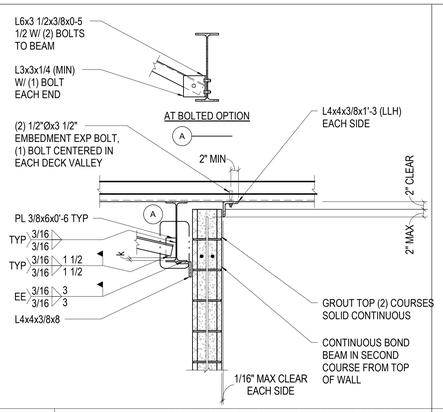
18 3/8" = 1'-0" MASONRY WALL AT BEAM POCKET



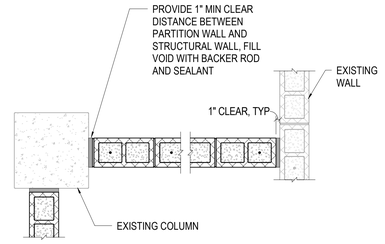
14 3/4" = 1'-0" MASONRY WALL ON EXISTING WALL



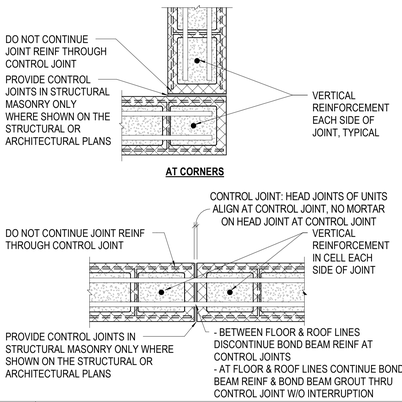
10 3/4" = 1'-0" MASONRY PARTITION SUPPORT - EOS



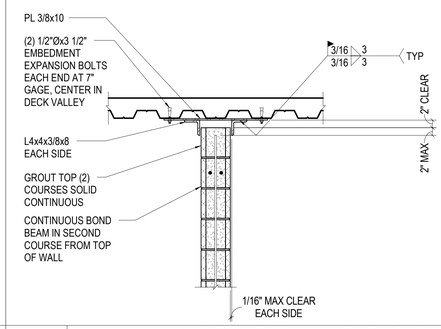
6 3/4" = 1'-0" MASONRY PARTITION SUPPORT - ADJACENT TO STEEL BEAM



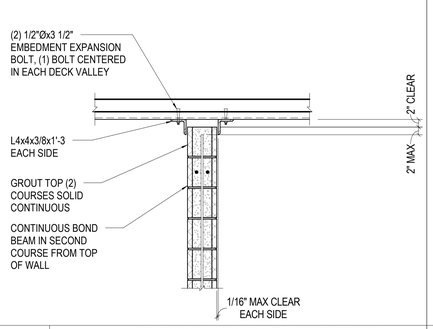
2 3/4" = 1'-0" MASONRY WALL INTERSECTION - PARTITION TO STRUCTURAL WALL



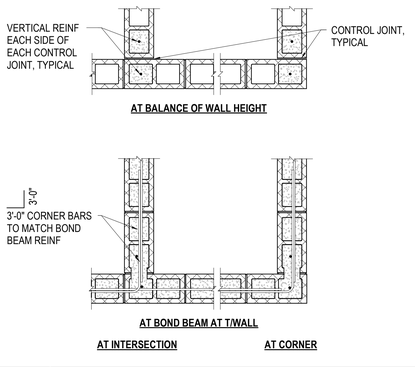
15 1 1/2" = 1'-0" TYPICAL MASONRY WALL CONTROL JOINT



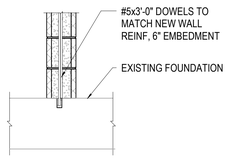
11 3/4" = 1'-0" TYP MASONRY PARTITION SUPPORT - PARALLEL/SKEWED TO DECK



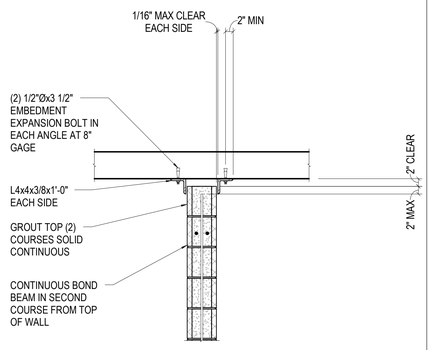
7 3/4" = 1'-0" TYPICAL MASONRY PARTITION SUPPORT - PERP TO DECK



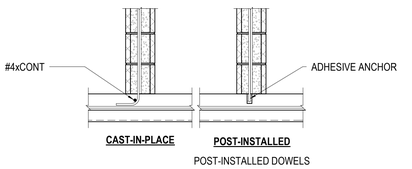
3 3/4" = 1'-0" PARTITION TO PARTITION WALL DETAIL



12 3/4" = 1'-0" MASONRY WALL ON EXISTING FOUNDATION



8 3/4" = 1'-0" MASONRY PARTITION SUPPORT - CIP SLAB



4 3/4" = 1'-0" MASONRY PARTITION ON METAL DECK SLAB

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107

May 19, 2021

Seal / Signature

△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
MASONRY DETAILS

Scale
As indicated

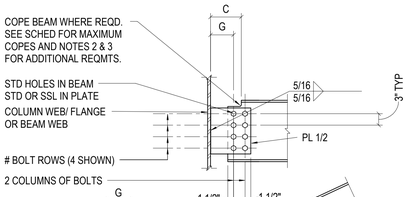
1B-S4.00

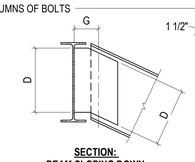
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 11:40:12 AM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03. 7835.000_Structural_SSRC_GSD 2021_V2021.rvt

MM JOB #: 20.1411.5.01
PRINCIPAL: KELLY KNOWLES
FOR KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

EXTENDED SINGLE PL CONNECTIONS

# BOLT ROWS	BEAM SIZES	G ≤ 6" CAPACITY (KIPS)	G ≤ 6" C MAX TOP	G ≤ 6" C MAX T & B	G ≤ 10" CAPACITY (KIPS)	G ≤ 10" C MAX TOP	G ≤ 10" C MAX T & B
2	W8-W12	18	6"	6"	12	10"	10"
3	W10-W18	33	6"	6"	23	10"	10"
4	W16-W24	55	8"	6"	38	10"	10"
5	W18-W30	80	10"	6"	56	12"	10"
6	W21-W40	110	11"	8"	78	14"	10"
7	W24-W44	142	13"	9"	102	16"	12"
8	W30-W44	177	16"	11"	130	16"	15"
9	W33-W44	214	16"	14"	160	16"	16"

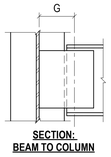




SECTION: BEAM SLOPING DOWN

SECTION: BEAM SLOPING UP

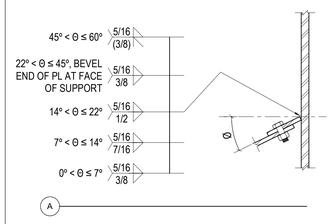
PLAN: SKEWED BEAM SLOPING UP OR DOWN

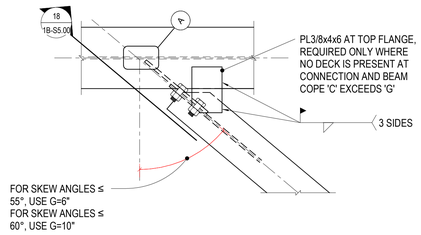


SECTION: BEAM TO COLUMN

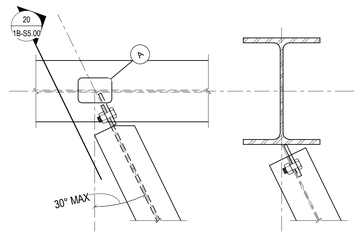
NOTES:
1. ULTIMATE LEVEL (LRFD) IN KIPS.
2. WHERE NO DECK IS PRESENT AT CONNECTION, AND BEAM COPE 'C' EXCEEDS 'G', BRACE TOP FLANGE OF BEAM TO GIRDER. PROVIDE PL3/8x4x6 ON TOP FLANGE. WELD 4 SIDES.
3. AT COLUMNS, BEAM COPE 'C' SHALL NOT EXCEED 'G'.
4. MINIMUM BEAM WEB THICKNESS SHALL BE 0.23".

18 NO SCALE TYP BEAM EXTENDED SINGLE PL CONN - LRFD



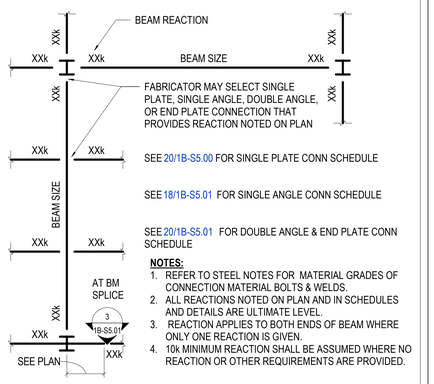


AT SKEW ≤ 60°



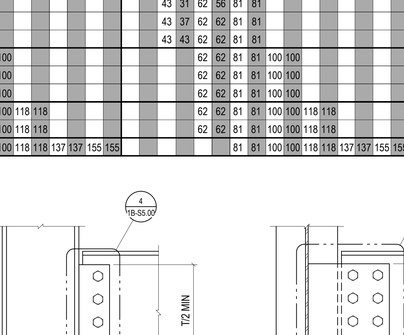
AT SKEW ≤ 30°

13 NO SCALE TYP BEAM SKEWED CONN



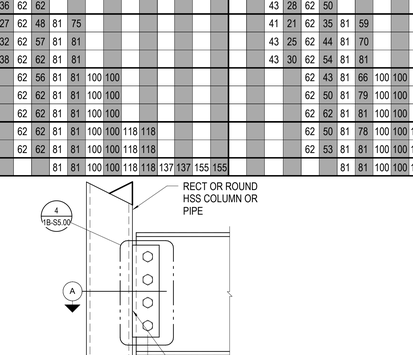
NOTES:
1. REFER TO STEEL NOTES FOR MATERIAL GRADES OF CONNECTION MATERIAL BOLTS & WELDS.
2. ALL REACTIONS NOTED ON PLAN AND IN SCHEDULES AND DETAILS ARE ULTIMATE LEVEL.
3. REACTION APPLIES TO BOTH ENDS OF BEAM WHERE ONLY ONE REACTION IS GIVEN.
4. 10k MINIMUM REACTION SHALL BE ASSUMED WHERE NO REACTION OR OTHER REQUIREMENTS ARE PROVIDED.

1 NO SCALE TYP BEAM CONNECTIONS



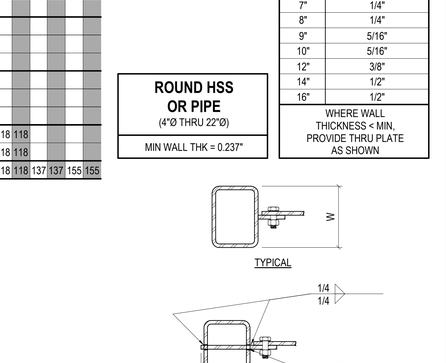
SLOPED BEAM - CONTRACTOR OPTION #2 (2:12 OR 10° MAX SLOPE)

NOTES:
1. DETAIL MAY BE USED AT MEMBERS SLOPED 10° (2:12) OR LESS AT CONTRACTOR'S OPTION



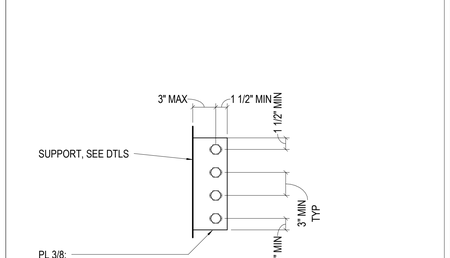
SLOPED BEAM - CONTRACTOR OPTION #1 (ANY BEAM SLOPE)

NOTES:
1. DETAIL MAY BE USED AT MEMBERS SLOPED AT ANY PITCH AT CONTRACTOR'S OPTION

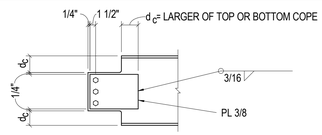


NOTES:
1. THE GEOMETRY SHOWN IS THE BASIS FOR CALCULATIONS OF LIMIT STATES INVOLVING COPED BEAMS, ALL EDGE DISTANCE DIMENSIONS SHOWN ARE MINIMUMS

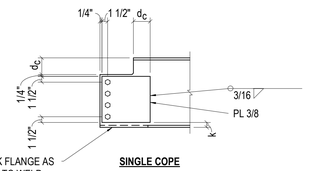
14 NO SCALE TYP BEAM COPE GEOMETRY



2 NO SCALE TYP BEAM WEB EXTENSION



TOP & BOTTOM COPE



SINGLE COPE

NOTES:
1. DETAIL APPLIES ONLY WHERE INDICATED IN CONNECTION SCHEDULES

3 NO SCALE TYP BEAM WEB REINFORCING

4 NO SCALE TYP BEAM SINGLE PLATE

3/4"Ø A325 SINGLE PLATE CONNECTION SCHEDULE - MAX REACTION (KIPS) - ULTIMATE LEVEL (LRFD)

T INDICATES TOP COPE ONLY — TB INDICATES TOP AND BOTTOM COPE

COPE CONDITION		UNCOPED								COPE LENGTH ≤ 4"										COPE LENGTH ≤ 5 1/4"										COPE LENGTH ≤ 6 1/8"										COPE LENGTH ≤ 8"									
# OF BOLTS		2	3	4	5	6	7	8	9	2		3		4		5		6		7		8		9		2		3		4		5		6		7		8		9		2		3		4		5		6		7		8		9	
COPE TYPE / BEAM SIZES										T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15 & C8	24								19	9															15	9#															13	9#														
	18-28	24								24	13															20	10															19	9														
	31 & UP	24								24	17															24	13															24	11														
W10	12-19 & C10	24	43							21	11	39	25													16	9#	33	20													14	9#	29	17												
	22-30	24	43							24	14	43	32													24	11	43	25													21	9	41	22												
	33-45	24								24	17															24	13															24	11														
	49 & UP	24								24	20															24	15															24	13														
W12	14-22 & C12	24	43							22	12	41	26													17	9	35	19													15	9#	30	15												
	26-35	24	43							24	13	43	31													24	10	43	23													21	9	42	19												
	40 & UP	24	43							24	17	43	39													24	13	43	31													24	12	43	27												
W14	22-26		43									43	31															43	23															40	19												
	30-38		43									43	36															43	28															43	24												
	43 & UP		43									43	41															43	32															43	27												
W16	26-31		43	62								43	33	62	60													43	26	62	45													43	21	62	36										
	36-57		43	62								43	39	62	62													43	31	62	55													43	26	62	47										
	67 & UP		43	62								43	43	62	62													43	41	62	62													43	36	62	62										
W18	35-46		43	62	81							43	40	62	62	81	81											43	31	62	56	81	81											43	27	62	48	81	75								
	50-71		43	62	81							43	43	62	62	81	81											43	37	62	62	81	81											43	32	62	57	81	81								
	76 & UP		43	62	81							43	43	62	62	81	81											43	43	62	62	81	81											43	38	62	62	81	81								
W21	44-57			62	81	100								62	62	81	81	100	100											62	62	81	81	100	100											62	56	81	81	100	100						
	62-93			62	81	100								62	62	81	81	100	100											62	62	81	81	100	100											62	62	81	81	100	100						
	101 & UP			62	81	100								62	62	81	81	100	100											62	62	81	81	100	100											62	62	81	81	100	100						
W24	55-62			62	81	100	118							62	62	81	81	100	100	118	118									62	62	81	81	100	100	118	118									62	62	81	81	100	100	118	118				
	68 & UP			62	81	100	118							62	62	81	81	100	100	118	118									62	62	81	81	100	100	118	118									62	62	81	81	100	100	118	118				
W27 - W44					81	100	118	137	155							81	81	100	100	118	118	137	137	155	155							81	81	100	100	118	118	137	137	155	155							81	81	100	100	118	118	137	137	155	155

NOTES:
1. # INDICATES WEB REINFORCEMENT REQD TO ACHIEVE NOTED CAPACITY. SEE 3/1B-S5.00
2. FOR SKEWED BEAM CONNECTIONS SEE 13/1B-S5.00

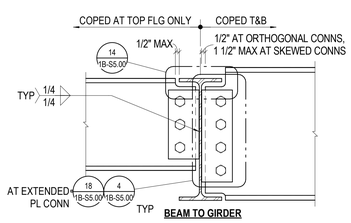
ROUND HSS OR PIPE
(4"Ø THRU 22"Ø)

MIN WALL THK = 0.237"

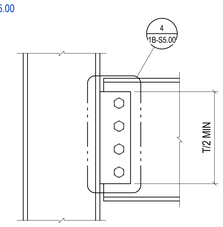
RECT HSS

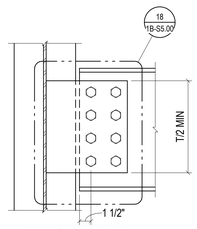
W	MIN WALL THK
3"	1/4"
4"	1/4"
5"	1/4"
6"	1/4"
7"	1/4"
8"	1/4"
9"	5/16"
10"	5/16"
12"	3/8"
14"	1/2"
16"	1/2"

WHERE WALL THICKNESS < MIN, PROVIDE THRU PLATE AS SHOWN

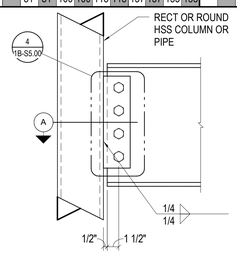


BEAM TO GIRDER

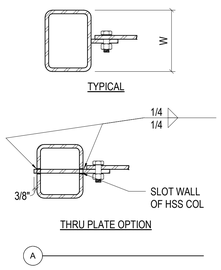




BEAM TO COLUMN WEB



BEAM TO HSS COL



20 NO SCALE TYP BEAM SINGLE PLATE CONNECTION SCHEDULE - LRFD

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COLORADO REGISTERED 38107 PROFESSIONAL ENGINEER

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Seal / Signature

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Project Name
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Project Number
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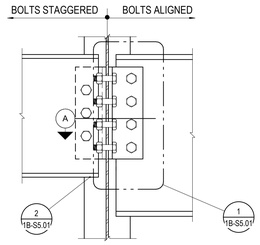
Description
TYP STEEL BEAM CONNS - LRFD

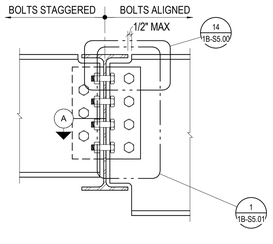
Scale
As indicated

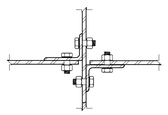
1B-S5.00

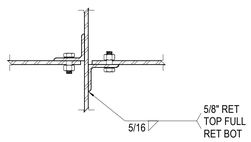
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN WONNES
DATE PRINTED: 5/19/2021 11:40:17 AM
FILE PATH: I:\BIM 360\003.7835.000 - Steamboat Redev\03.7835.000_Structural_SSRC_GSO 2021_V2021.rvt

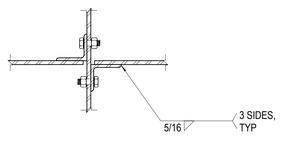
MM JOB #: 20.1411.5.01
PRINCIPAL: KELLY KNOWLES
FOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN

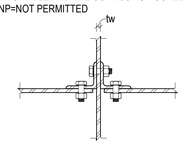


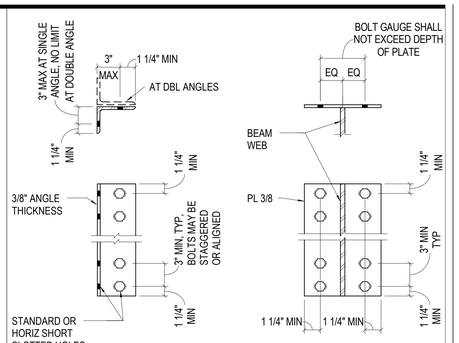


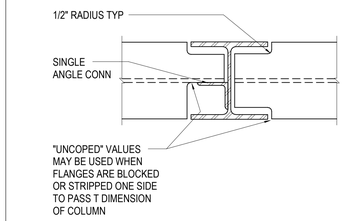












3/4"Ø A325 SINGLE ANGLE CONNECTION SCHEDULE - MAX REACTION (KIPS) - ULTIMATE LEVEL (LRFD)

T INDICATES TOP COPE ONLY
TB INDICATES TOP AND BOTTOM COPE

COPE CONDITION		UNCOPED								COPE LENGTH ≤ 4"																COPE LENGTH ≤ 5 1/4"																COPE LENGTH ≤ 6 1/8"																COPE LENGTH ≤ 8"															
# OF BOLTS		2	3	4	5	6	7	8	9	2		3		4		5		6		7		8		9		2		3		4		5		6		7		8		9		2		3		4		5		6		7		8		9		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE									T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15 & C8	15								15	9															15	9#															13	9#															10	9#														
	18-28	15								15	13															15	10															15	9															14	9#														
	31 & UP	15								15	15															15	13															15	11															15	9														
W10	12-19 & C10	15	31							15	11	31	25													15	9#	31	20													14	9#	29	17													11	9#	22	13												
	22-30	15	31							15	14	31	31													15	11	31	25													15	9	31	22													15	9#	30	17												
	33-45	15								15	15															15	13															15	11															15	9														
	49 & UP	15								15	15															15	15															15	13															15	10														
W12	14-22 & C12	15	31							15	12	31	26													15	9	31	19													15	9#	31	15													12	9#	21	11												
	26-35	15	31							15	13	31	31													15	10	31	23													15	9	31	19													15	9#	31	14												
	40 & UP	15	31							15	15	31	31													15	13	31	31													15	12	31	27													15	9	31	20												
W14	22-26		31									31	31															31	23															31	19															31	14												
	30-38		31									31	31															31	28															31	24															31	18												
	43 & UP		31									31	31															31	31															31	27															31	21												
W16	26-31		31	50								31	31	50	50													31	26	50	45													31	22	50	37													31	16	50	26										
	36-57		31	50								31	31	50	50													31	31	50	50													31	27	50	47													31	20	50	34										
	67 & UP		31	50								31	31	50	50													31	31	50	50													31	31	50	50													31	28	50	50										
W18	35-46		31	50	69							31	31	50	50	69	69											31	31	50	50	69	69											31	27	50	48	69	69											31	21	50	35	69	59								
	50-71		31	50	69							31	31	50	50	69	69											31	31	50	50	69	69											31	31	50	50	69	69											31	25	50	44	69	69								
	76 & UP		31	50	69							31	31	50	50	69	69											31	31	50	50	69	69											31	31	50	50	69	69											31	30	50	50	69	69								
W21	44-57			50	69	89								50	50	69	69	89	89											50	50	69	69	89	89											50	50	69	69	89	89											50	43	69	66	89	89						
	62 & UP			50	69	89								50	50	69	69	89	89											50	50	69	69	89	89											50	50	69	69	89	89											50	50	69	69	89	89						
W24 TO W44				50	69	89	108	127	146					50	50	69	69	89	89	108	108	127	127	146	146					50	50	69	69	89	89	108	108	127	127	146	146					50	50	69	69	89	89	108	108	126	127	147	146					50	50	69	69	89	89	108	108	127	127	146	146

NOTES:
1. # INDICATES WEB REINFORCEMENT REQD TO ACHIEVE NOTED CAPACITY. SEE 3/1B-S5.00

AT COLUMN

AT GIRDER

BOLTED BEAM / BOLTED SUPPORT

BOLTED BEAM / WELDED SUPPORT

WELDED BEAM / BOLTED SUPPORT

FOR SHARED HOLES WHERE WEB tw<0.41", TOTAL CONNECTION CAPACITY(SUM OF REACTIONS FROM BOTH SIDES) IS LIMITED TO VALUES IN THE TABLE BELOW. USE THE LESSER VALUE FROM THIS TABLE AND THE CONNECTION SCHEDULE.
NP=NOT PERMITTED

BOLTED BEAM/BOLTED SUPPORT
SHARED HOLES

# OF BOLTS	0.24" ≤ tw < 0.30"	0.30" ≤ tw < 0.35"	0.35" ≤ tw < 0.41"
2	NP	NP	NP
3	36	46	53
4	59	74	86
5	82	102	119
6	104	131	152
7	127	159	186
8	150	187	218
9	172	215	250

A

18 NO SCALE TYP BEAM SINGLE ANGLE CONNECTION SCHEDULE - LRFD

3/4"Ø A325 DOUBLE ANGLE AND END PLATE CONNECTION SCHEDULE - MAX REACTION (KIPS) - ULTIMATE LEVEL (LRFD)

T INDICATES TOP COPE ONLY
TB INDICATES TOP AND BOTTOM COPE

COPE CONDITION		UNCOPED								COPE LENGTH ≤ 4"																COPE LENGTH ≤ 5 1/4"																COPE LENGTH ≤ 6 1/8"																COPE LENGTH ≤ 8"															
# OF BOLTS		2	3	4	5	6	7	8	9	2		3		4		5		6		7		8		9		2		3		4		5		6		7		8		9		2		3		4		5		6		7		8		9		2		3		4		5		6		7		8		9	
BEAM SIZES	COPE TYPE									T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB	T	TB
W8	10-15	29								19	9															15	9#															13	9#															10	9#														
	18-28	40								28	13															22	10															19	9															14	9#														
	31 & UP	50								39	17															31	13															27	11															21	9														
W10	12-19	33	50							21	11	39	25													16	9#	33	20													14	9#	29	17													11	9#	21	13												
	22-30	42	63							30	14	49	32													24	11	48	25													21	9	41	22													16	9#	32	17												
	33-45	50								40	17															31	13															27	11															21	9														
	49 & UP	59								49	20															39	15															33	13															26	10														
W12	14-22	35	52							22	12	41	26													17	9	35	19													15	9#	30	15													12	9#	21	11												
	26-35	40	60							31	13	47	31													24	10	47	23													21	9	42	19													16	9#	32	14												
	40 & UP	51	77							42	17	61	39													34	13	61	31													30	12	58	27													23	9	45	20												
W14	22-26		60									47	31															46	23															40	19															31	14												
	30-38		71									55	36															55	28															49	24															38	18												
	43 & UP		80									63	41															63	32															60	27															47	21												
W16	26-31		65	87								51	33	67	60													50	26	67	45													43	22	67	37													34	16	53	26										
	36-57		77	103								61	39	79	70													61	30	79	55													54	27	79	47													42	20	68	34										
	67 & UP		103	138								81	53	106	94													81	41	106	74													81	36	106	64													63	28	103	50										
W18	35-46		78	105	131							62	40	80	72	99	93											61	31	80	56	99	88											53	27	80	48	99	76											41	21	68	35	99	59								
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	76 & UP		107	143	178							88	57	114	102	140	132											88	44	114	79	140	124											88	38	114	69	140	108											68	30	111	54	140	84								
W21	44-57			122	153	184								94	84	116	108	137	130											94	65	116	102	137	130											94	57	116	89	137	128											78	43	116	66	137	100						
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	101 & UP			143	178	214								134	120	165	155	196	186											134	93	165	146	196	186											134	81	165	127	196	183											134	63	165	99	196	142						
W24	55-62			138	173	207	242							106	94	130	122	155	147	180	171									106	74	130	115	155	147	180	171									106	64	130	100	155	144	180	171									93	50	130	78	155	110	180	153				
	68-103			143	178	214	250							111	99	137	128	163	154	189	180									111	77	137	121	163	154	189	180									111	67	137	105	163	152	189	180									104	52	137	82	163	118	189	161				
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	146 & UP				178	214	250									178	178	214	214	250	250											178	177	214	214	250	250											178	154	214	214	250	250											178	120	214	172	250	235				
W30	90-148				178	214	250	286								155	146	185	175	214	204	243	233									155	137	185	175	214	204	243	233									155	119	185	172	214	204	243	233									155	93	185	134	214	182	243	233		
	173 & UP				178	214	250	286								178	178	214	214	250	250	285	285									178	178	214	214	250	250	286	286									178	166	214	214	250	250	286	286									178	130	214	187	250	250	286	286		
W33	118-152					214	250	286	322									214	205	250	239	284	273	319	307									214	205	250	239	284	273	318	308									214	201	250	239	284	273	318	308									214	157	250	214	284	273	319	307
	169 & UP					214	250	286	322									214	214	250	250	286	286	322	322									214	214	250	250	286	286	322	322									214	214	250	250	286	286	322	322									214	191	250	250	286	286	322	322
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	170 & UP					214	250	286	322									214	214	250	250	286	286	322	322									214	214	250	250	286	286	322	322									214	214	250	250	286	286	322	322									214	194	250	250	286	286	322	322
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	235 & UP					214	250	286	322									214	214	250	250	286	286	322	322									214	214	250	250	286	286	322	322									214	214	250	250	286	286	322	322									214	214	250	250	286	286	322	322
W44	ALL						250	286	322											250	250	286	286	322	322											250	250	286	286	322	322											250	250	286	286	322	322											250	250	286	286	322	322

NOTES:
1. # INDICATES WEB REINFORCEMENT REQD TO ACHIEVE NOTED CAPACITY. SEE 3/1B-S5.00

WHERE WEB tw<0.41", CONNECTION CAPACITY IS LIMITED. THE VALUE OF (Va / NBa) + (Vb / NBb) IS LIMITED TO:
0.35" ≤ tw < 0.41", 30.7k
0.30" ≤ tw < 0.35", 26.3k
0.23" ≤ tw < 0.30", 20.2k
tw ≤ 0.23", 14.9k

WHERE:
Va = REACTION OF BEAM A
Vb = REACTION OF BEAM B
NBa = # BOLTS USED IN BEAM A CONN
NBb = # BOLTS USED IN BEAM B CONN

IF CONNECTION DOES NOT SATISFY CRITERION, INCREASE THE NUMBER OF ROWS OF BOLTS

DETAIL CONN TO PERMIT SAFE ERECTION OF BM EA SIDE WHERE BOLTS ARE SHARED, IN ACCORDANCE WITH ALL OSHA STANDARDS, TYP

TYPICAL AT COLUMN/GIRDER

COPED BEAM CONDITION AT GIRDER

20 NO SCALE TYP BEAM DOUBLE ANGLE AND END PLATE CONNECTION SCHEDULE - LRFD

ANGLE

END PLATE

1 NO SCALE TYP BEAM ANGLES/END PLATE

2 NO SCALE TYP BEAM FLANGE BLOCK

DOUBLE ANGLE

END PLATE

FOR ANGLE/END PLATE SIZE & DETAIL

FOR CAPACITY AND WELDING, SEE 20/1B-S5.01

3 NO SCALE TYP BEAM DBL ANGLE SPLICE

END PLATE

ANGLES - BOLTED BEAM / BOLTED SUPPORT

ANGLES - WELDED BEAM / BOLTED SUPPORT

A

Steamboat
ALTERRA MOUNTAIN COMPANY
east west partners

2305 Mount Werner Circle
Steamboat Springs, CO 80487

Gensler

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United States

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PO Box 774943
Steamboat Springs, CO 80477
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DESIGNWORKSHOP

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Lakewood, CO 80215
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Tel 303.431.6100

me engineers

14143 Denver West Pkwy
Suite 300
Golden, CO
United States
Tel 303.421.6655

38107

May 19, 2021

Seal / Signature

△	Date	Description
-	2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD
Record Set
TC
06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

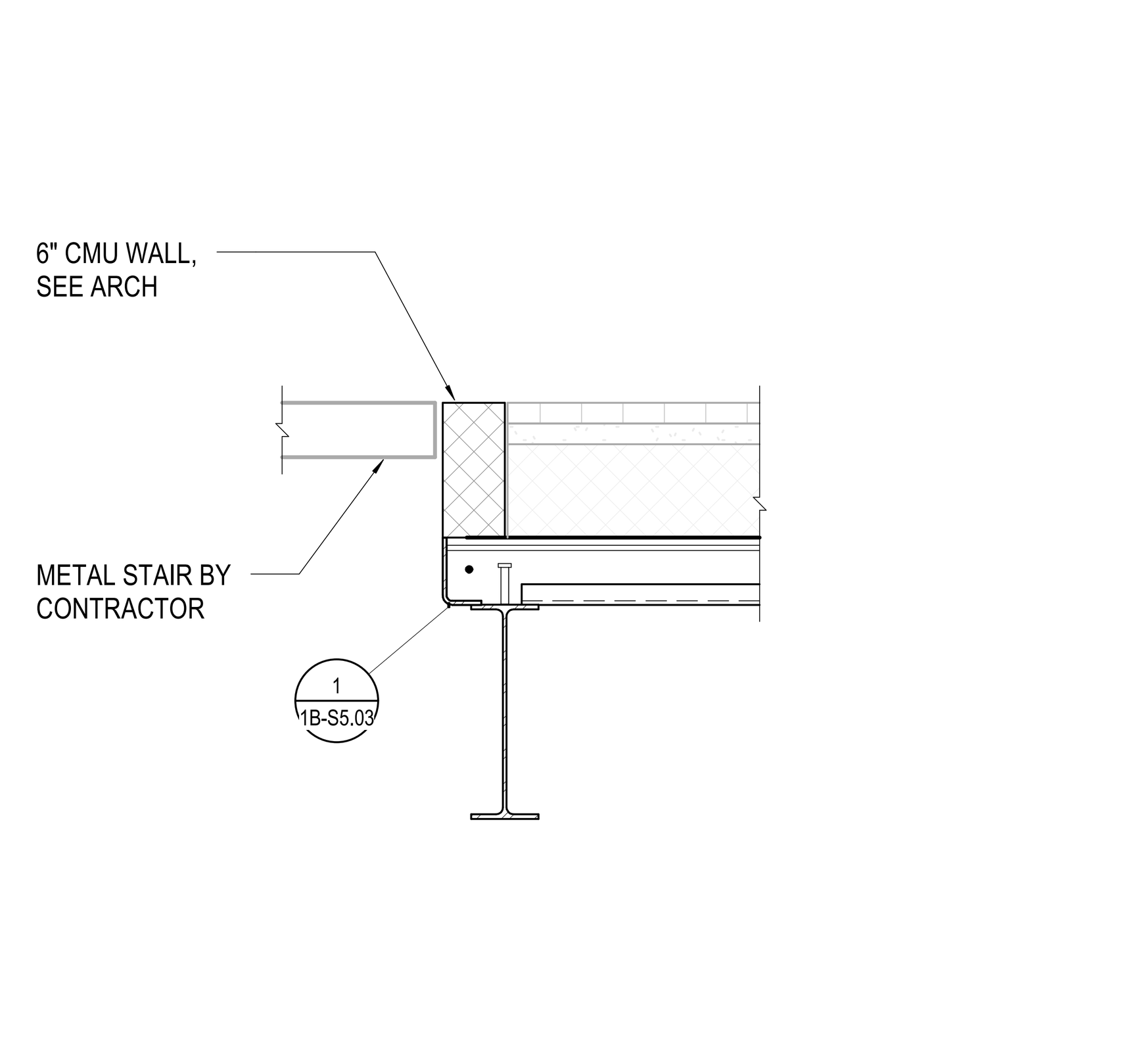
Description
TYP STEEL BEAM CONNS - LRFD

Scale
As indicated

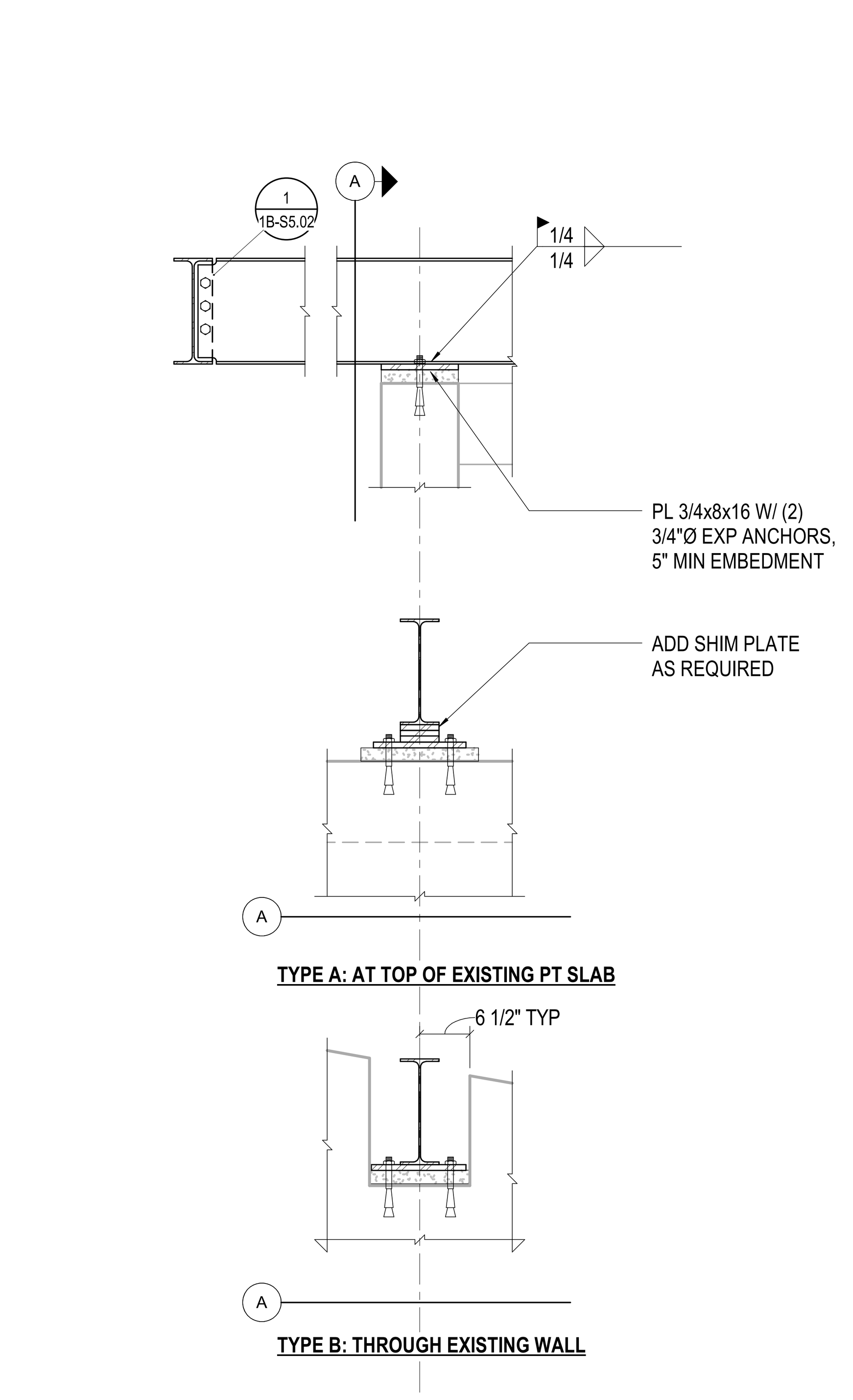
1B-S5.01

DESIGNERS: NIC MARTIN
LEAD REVIT TECH:COLIN MONNES
DATE PRINTED:5/19/2021 11:40:24 AM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SBR_GSQ 2021_V2021.rvt

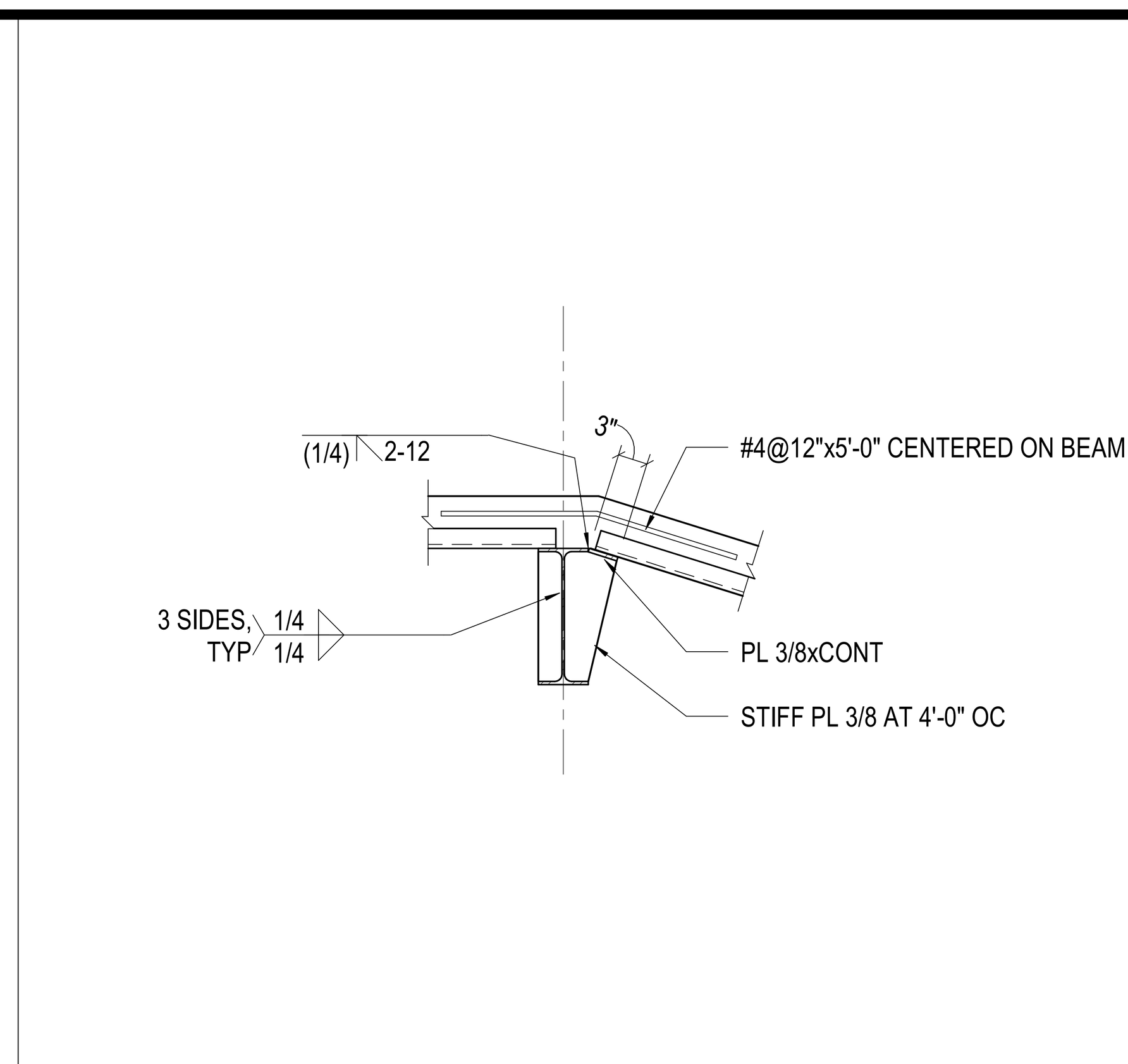
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN



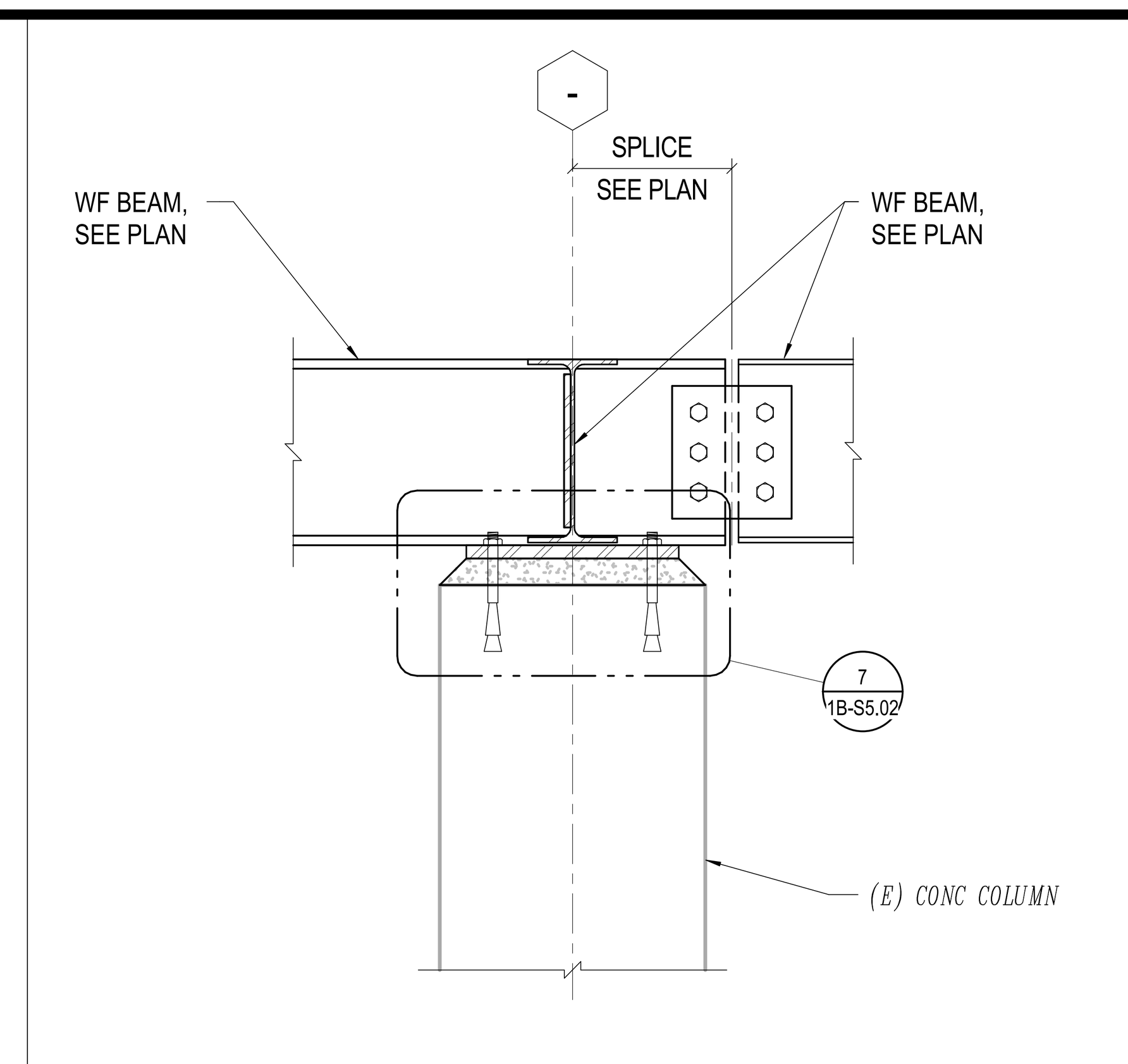
17 3/4" = 1'-0" COMPOSITE DECK TO NEW METAL STAIR



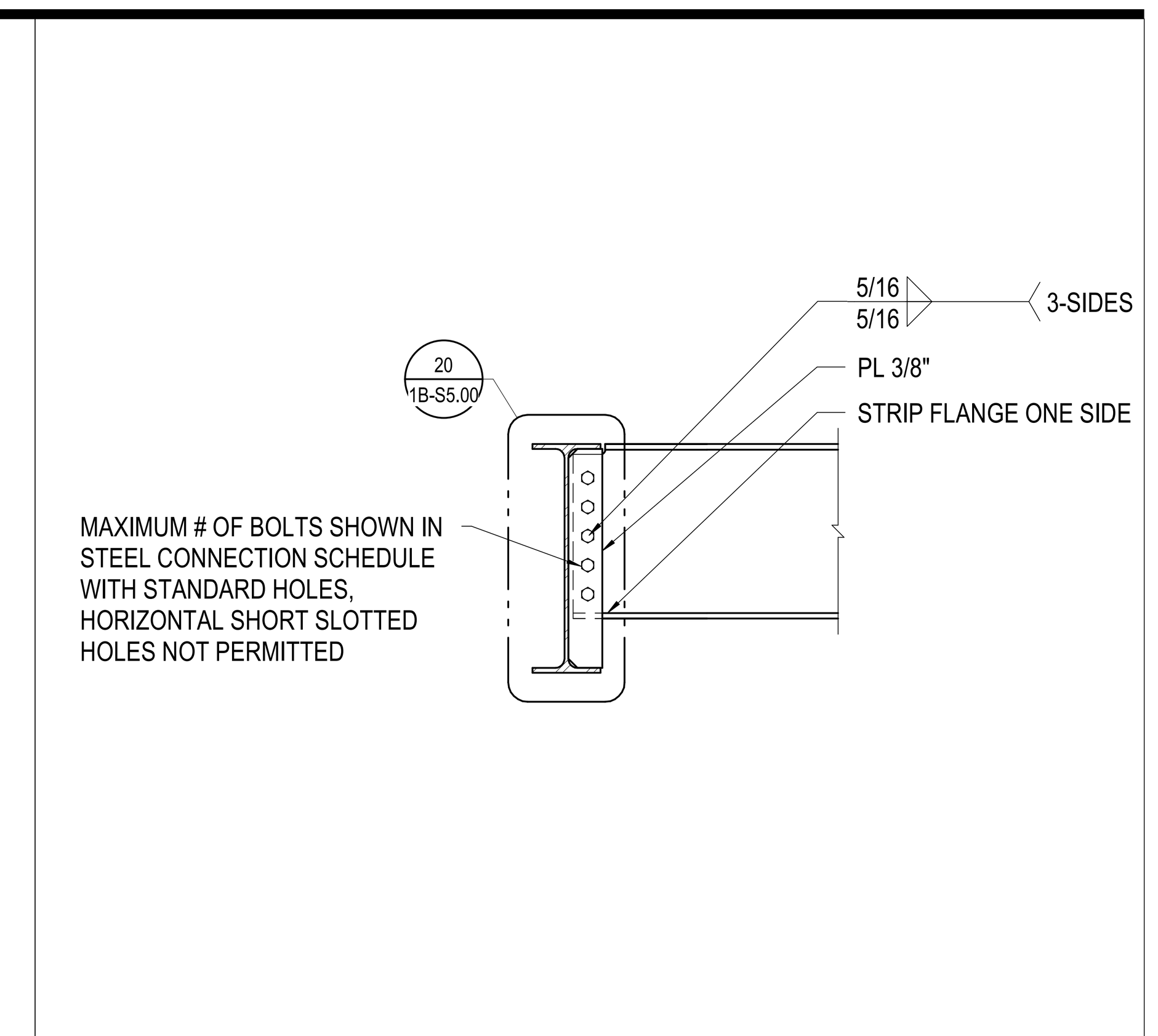
14 3/4" = 1'-0" NEW STEEL ON EXISTING SLAB



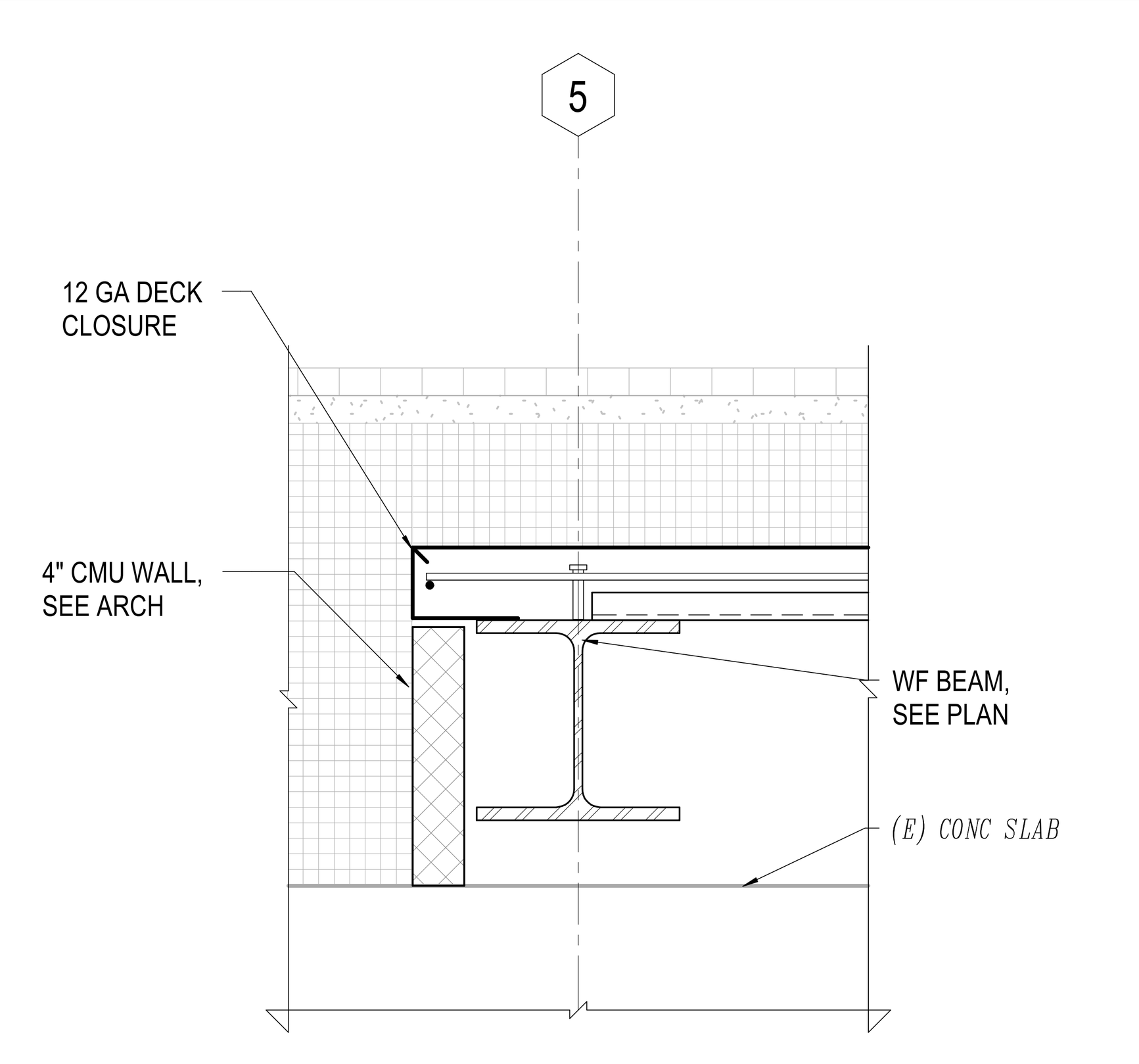
9 3/4" = 1'-0" SLOPED SLAB TRANSITION



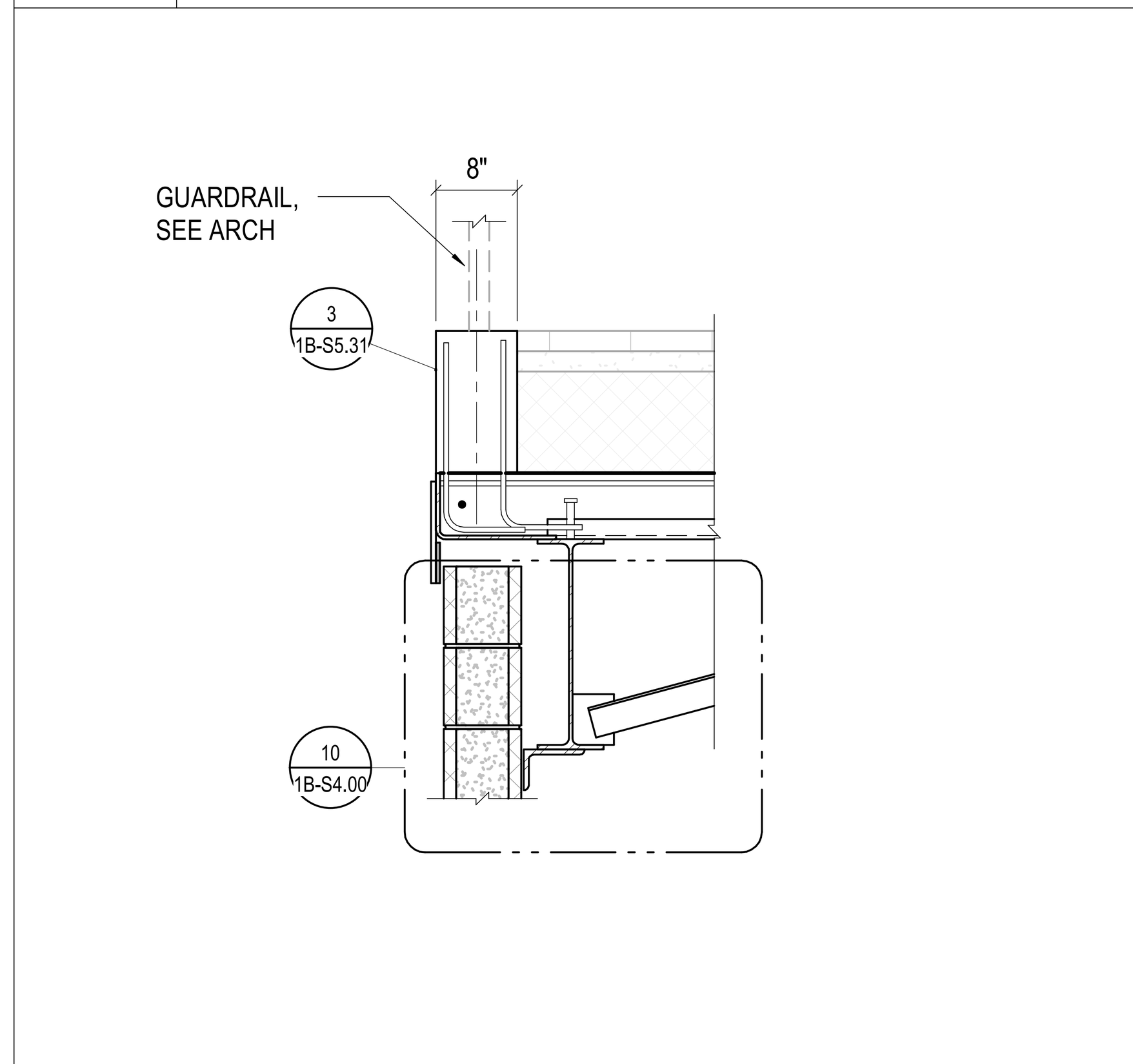
5 1" = 1'-0" BEAM CONNECTION AT (E) COLUMN



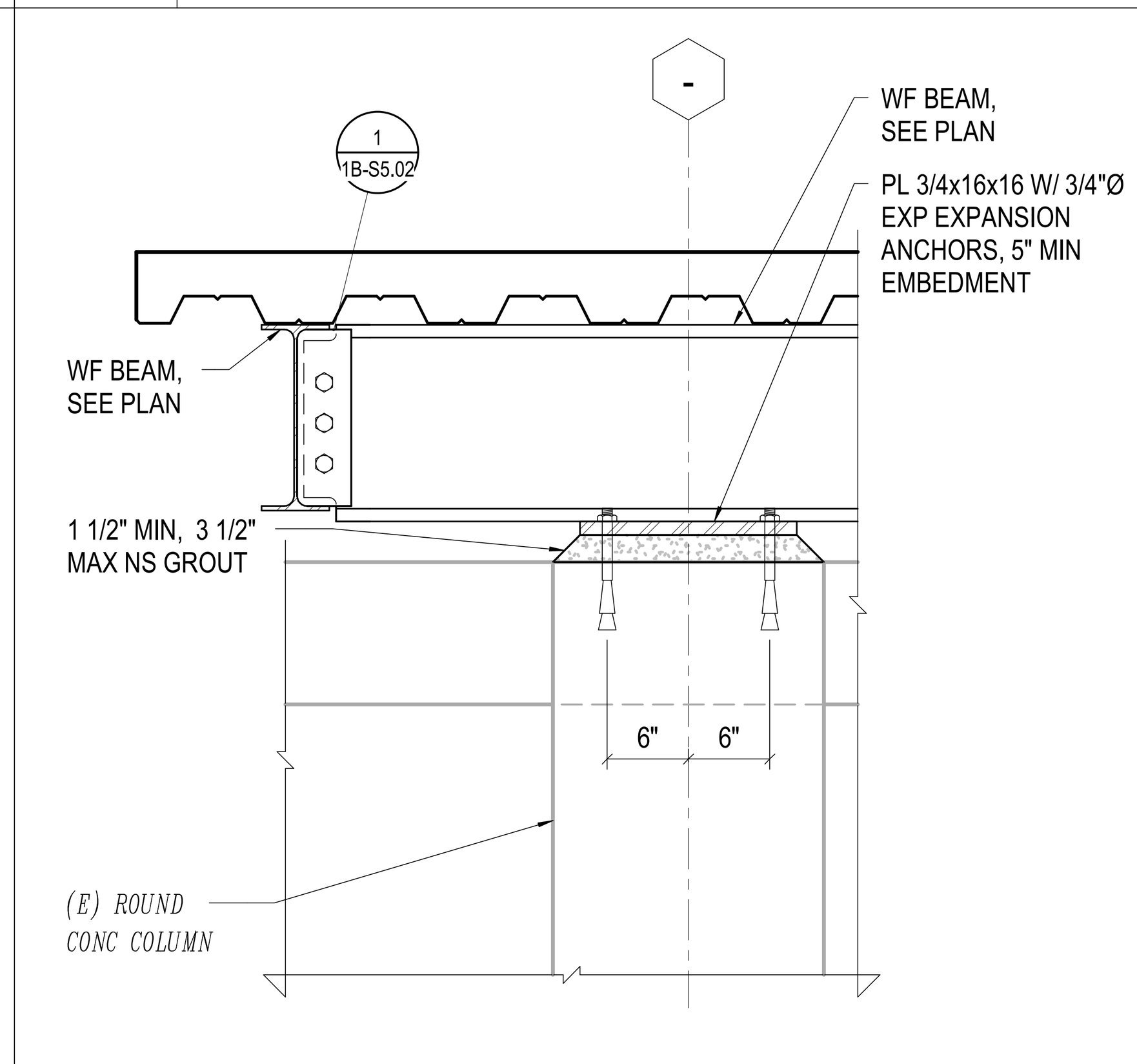
1 3/4" = 1'-0" TYPICAL FULL HEIGHT SHEAR CONNECTION



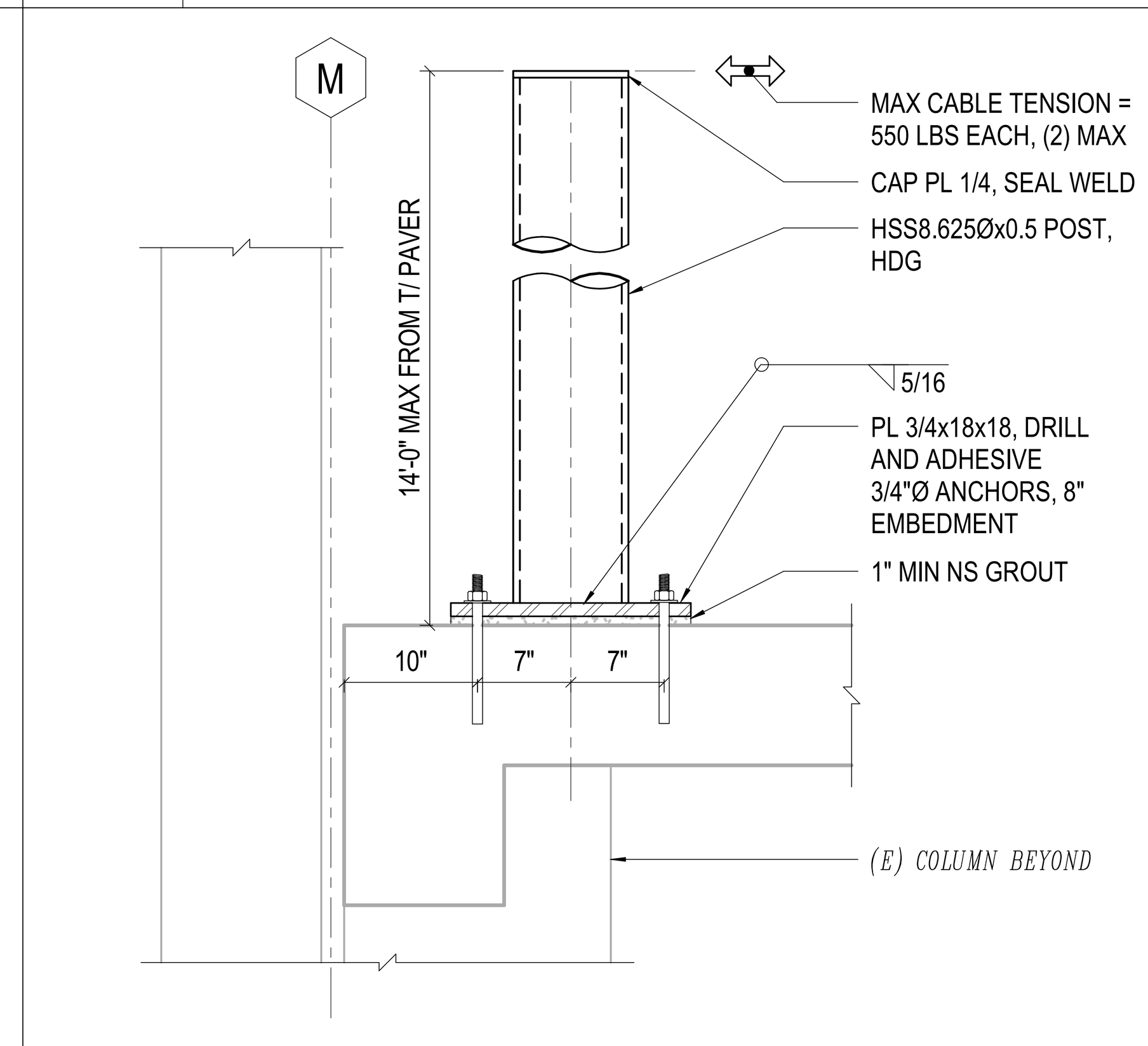
18 1" = 1'-0" SLAB TRANSITON AT GRID 5



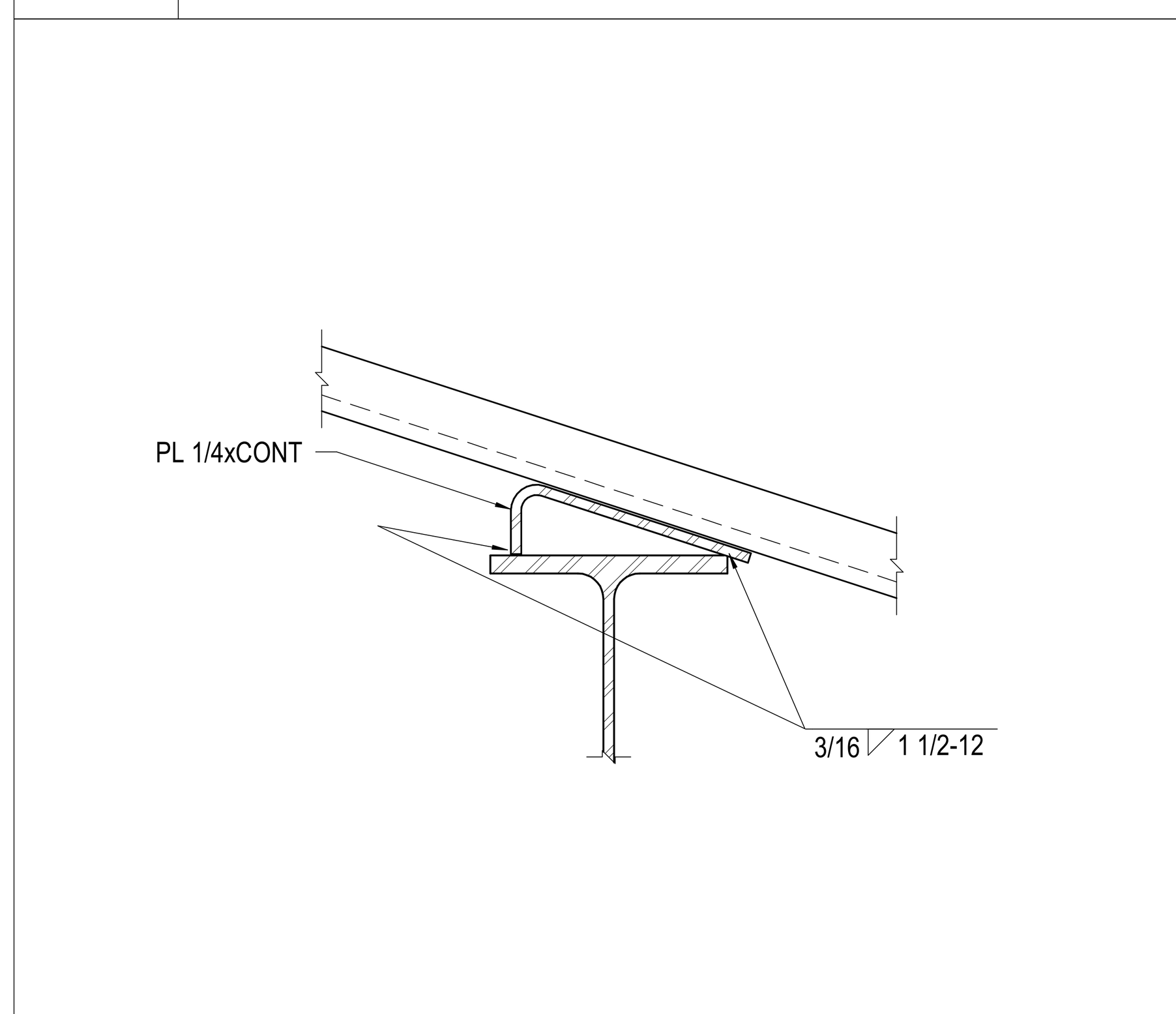
10 3/4" = 1'-0" EXTERIOR SLAB EDGE ALONG GRID 7



6 1" = 1'-0" BEAM CONNECTION AT (E) ROUND COLUMN

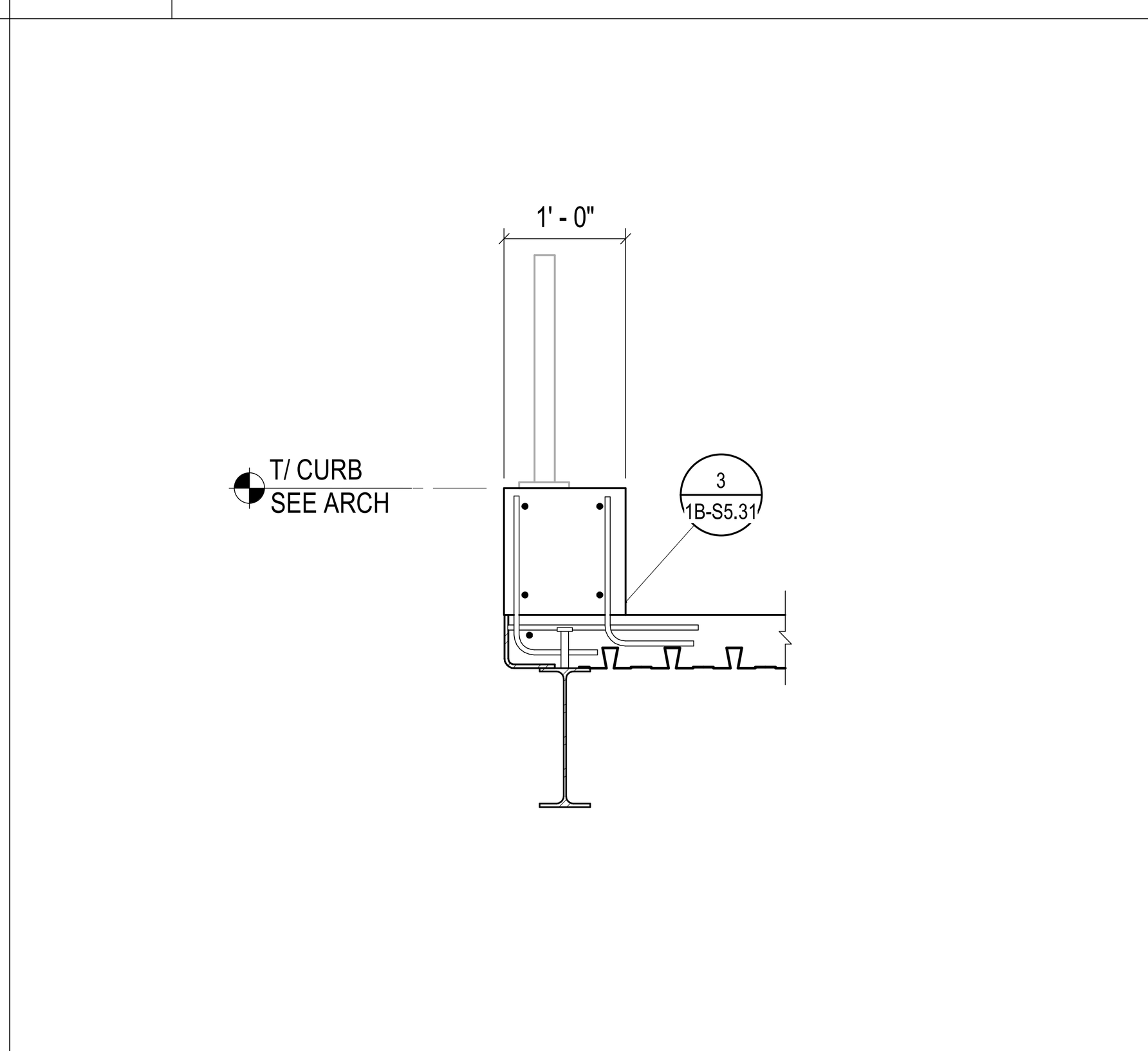


2 NO SCALE CATENARY LIGHT POST

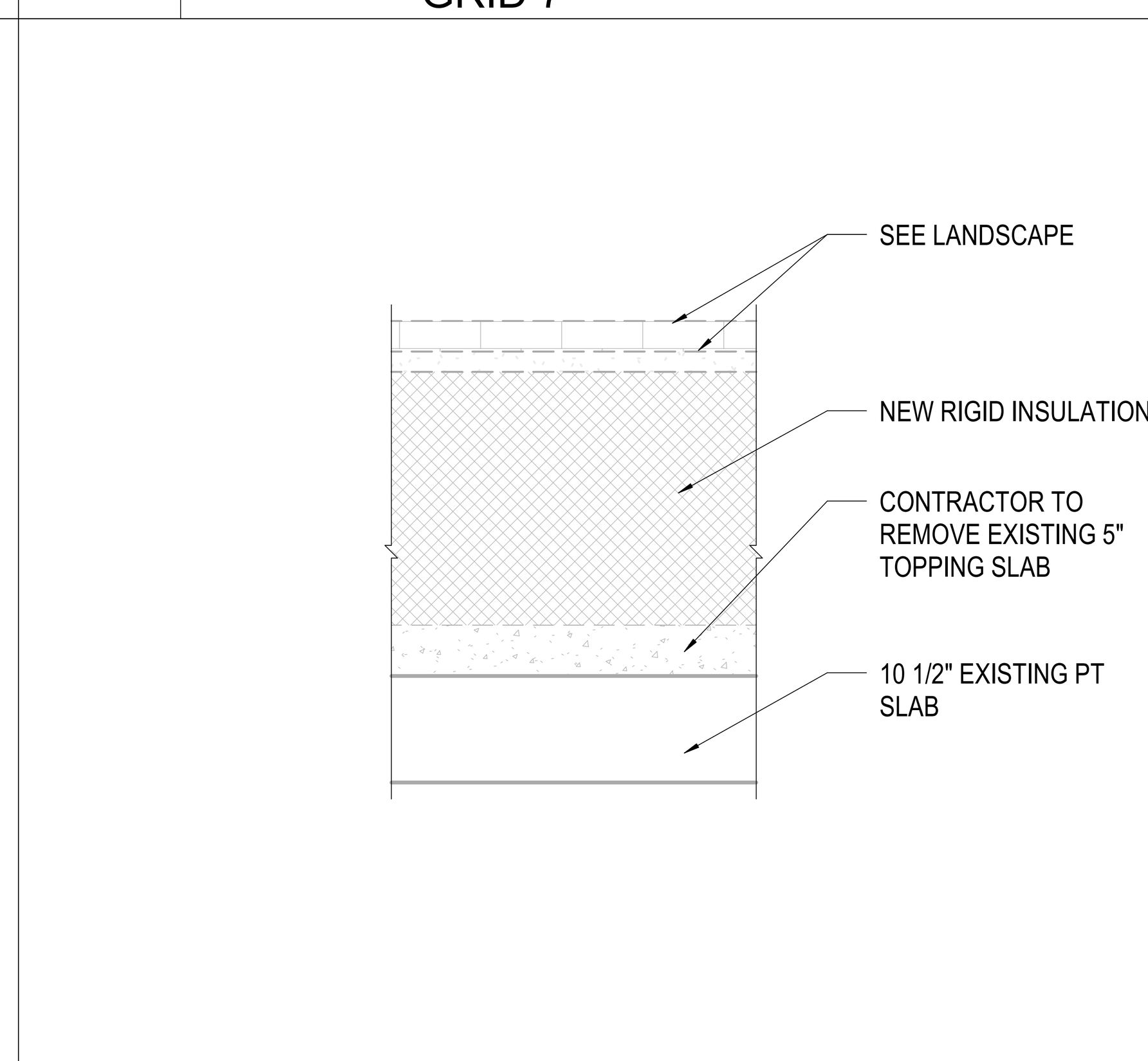


NOTE:
1. PLATE REQUIRED WHEN SLOPE IS 1/2:12 OR STEEPER

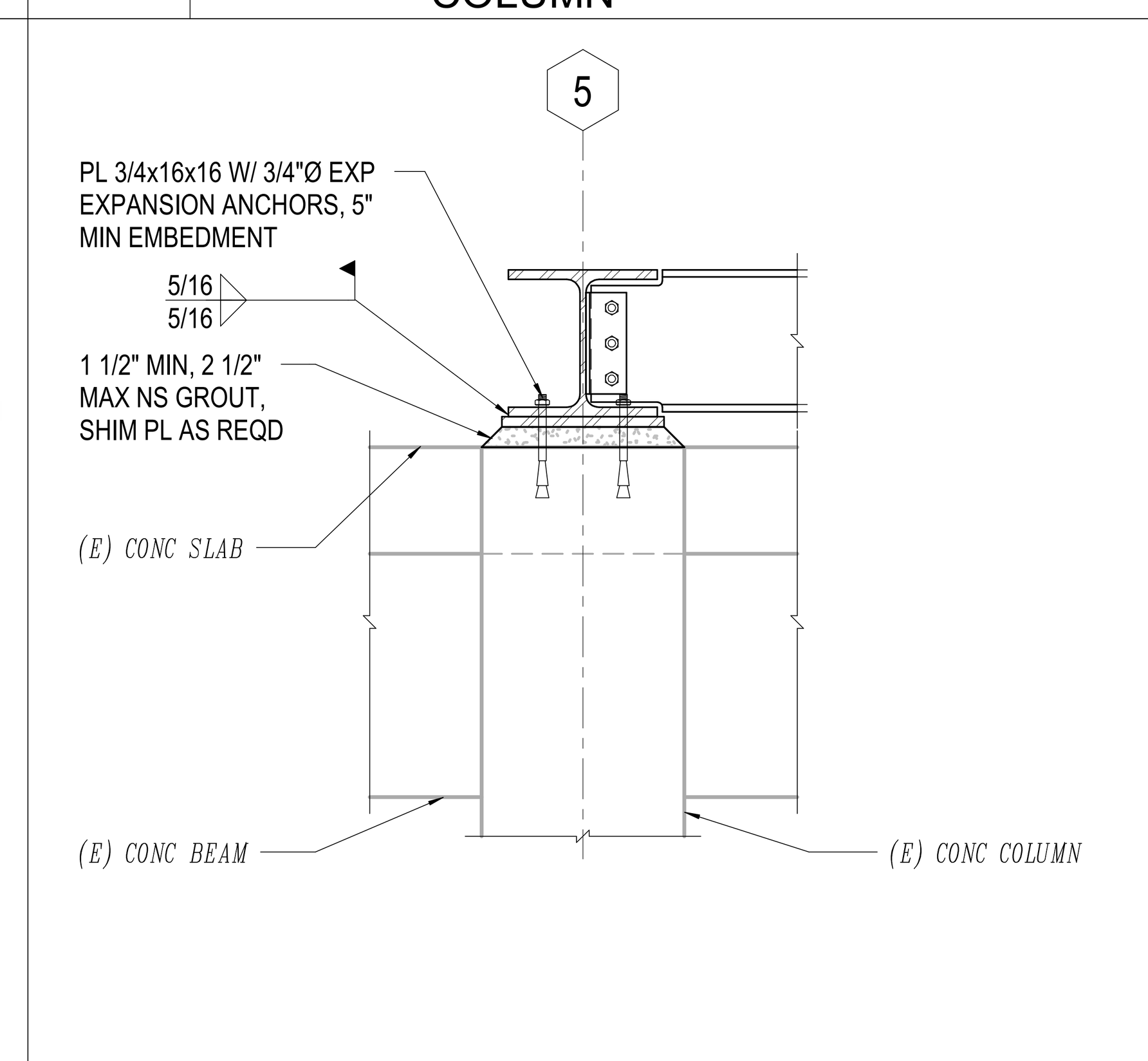
19 3" = 1'-0" TYP METAL DECK AT BEAM PERPENDICULAR TO SLOPE



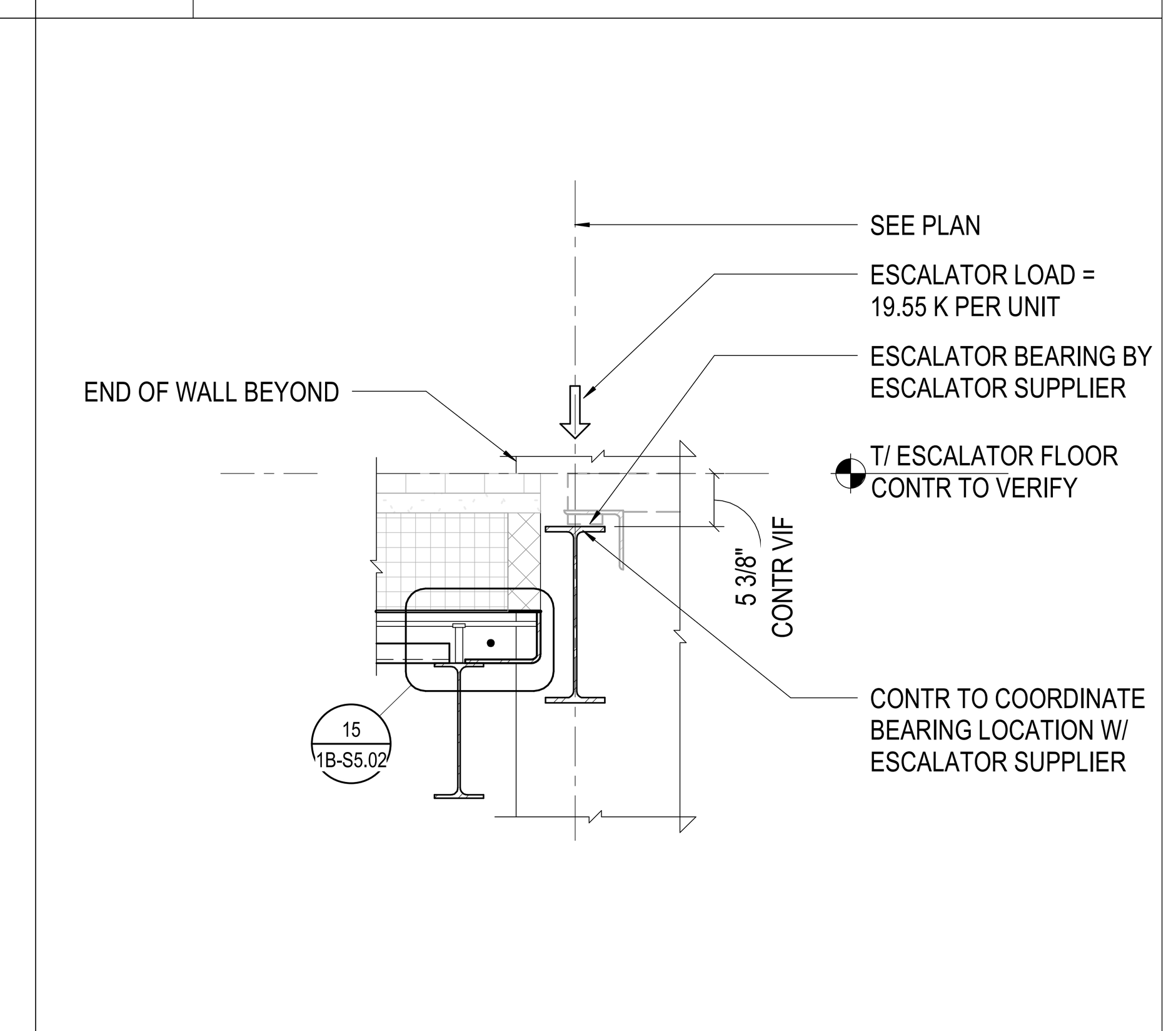
15 3/4" = 1'-0" EXTERIOR SLAB EDGE



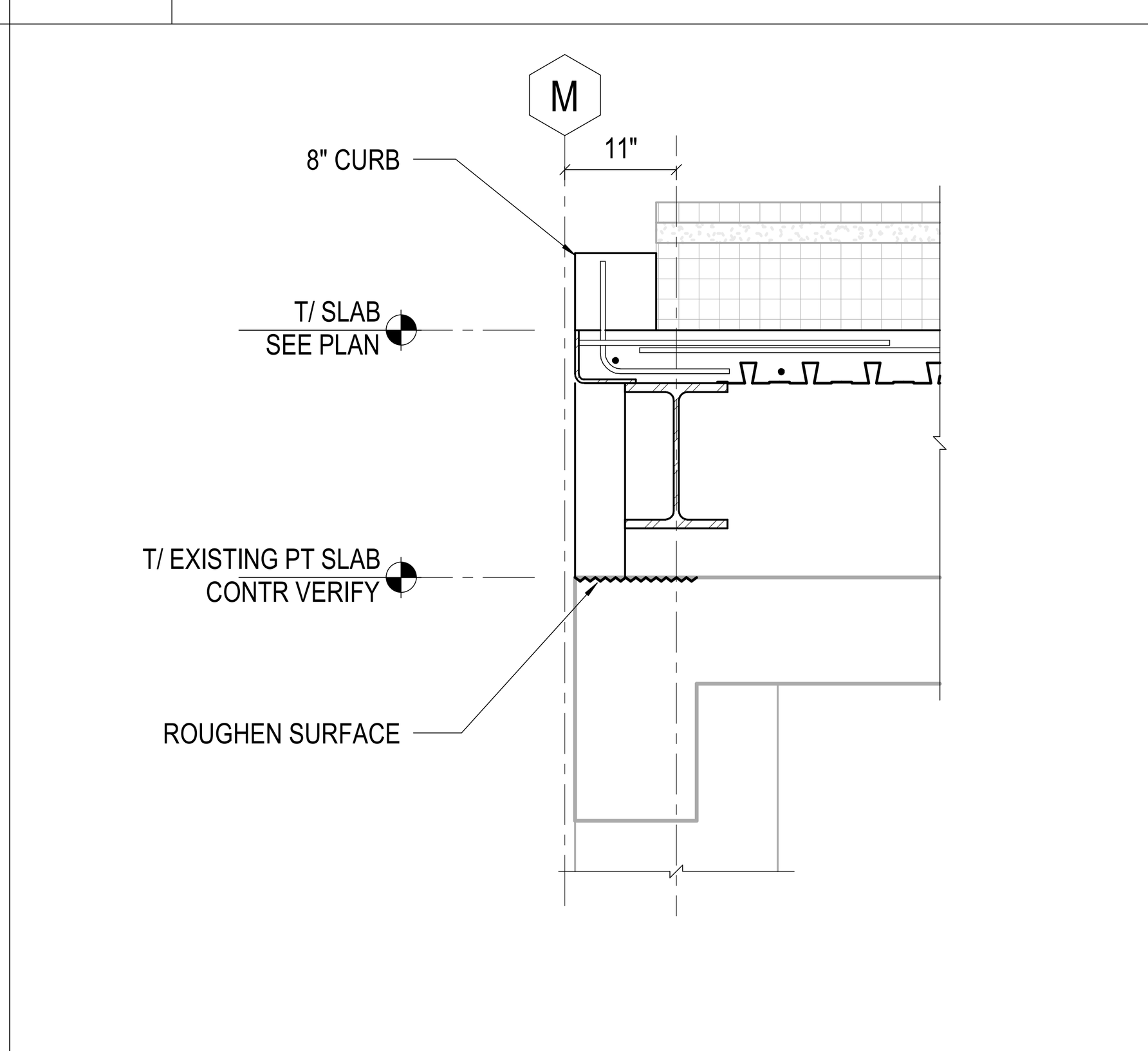
11 3/4" = 1'-0" GOLDWALK INFILL SLAB



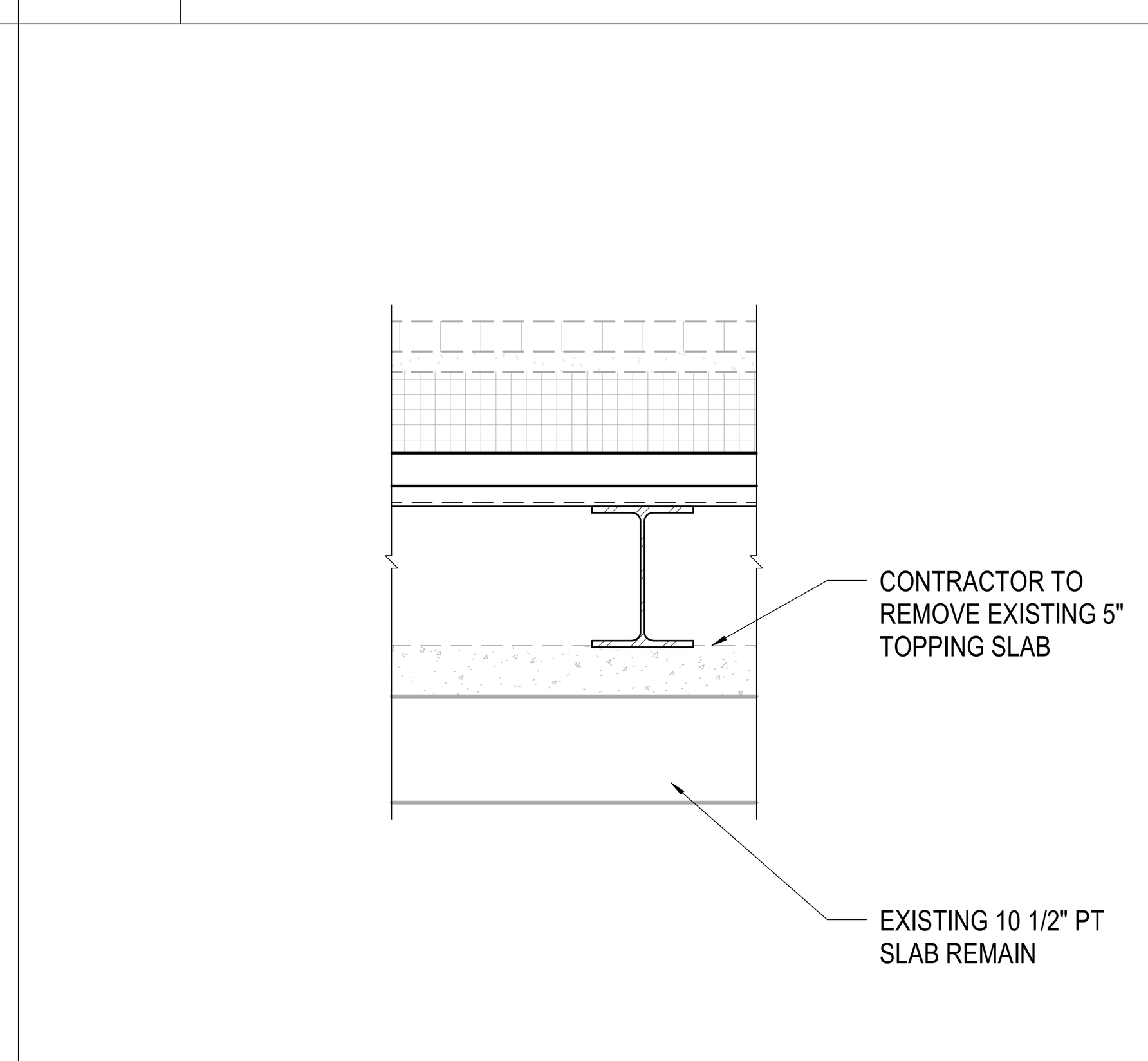
7 3/4" = 1'-0" BEAM CONNECTION AT (E) COLUMN



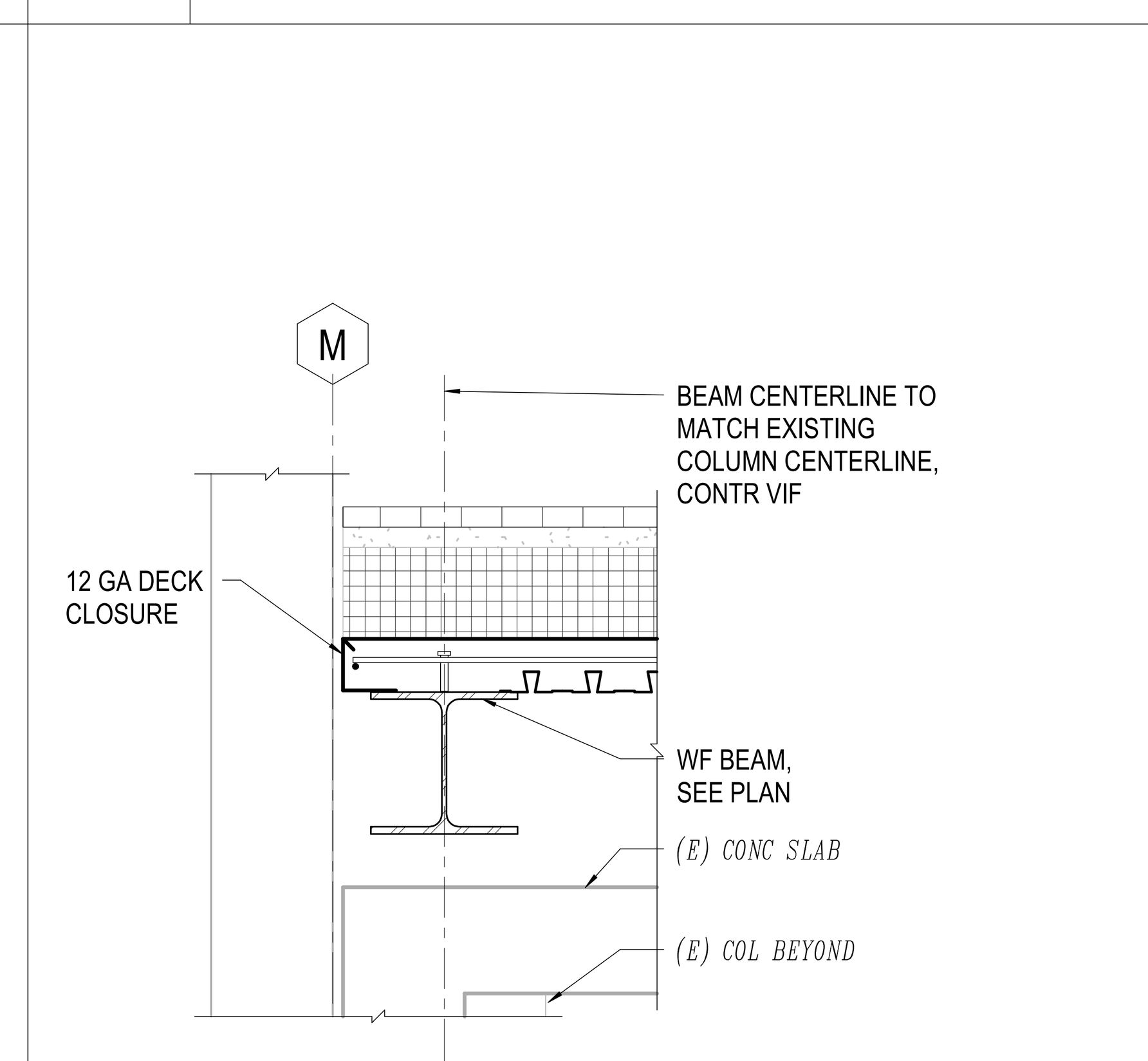
3 NO SCALE ESCALATOR TOP CONNECTION TO STEEL BEAM



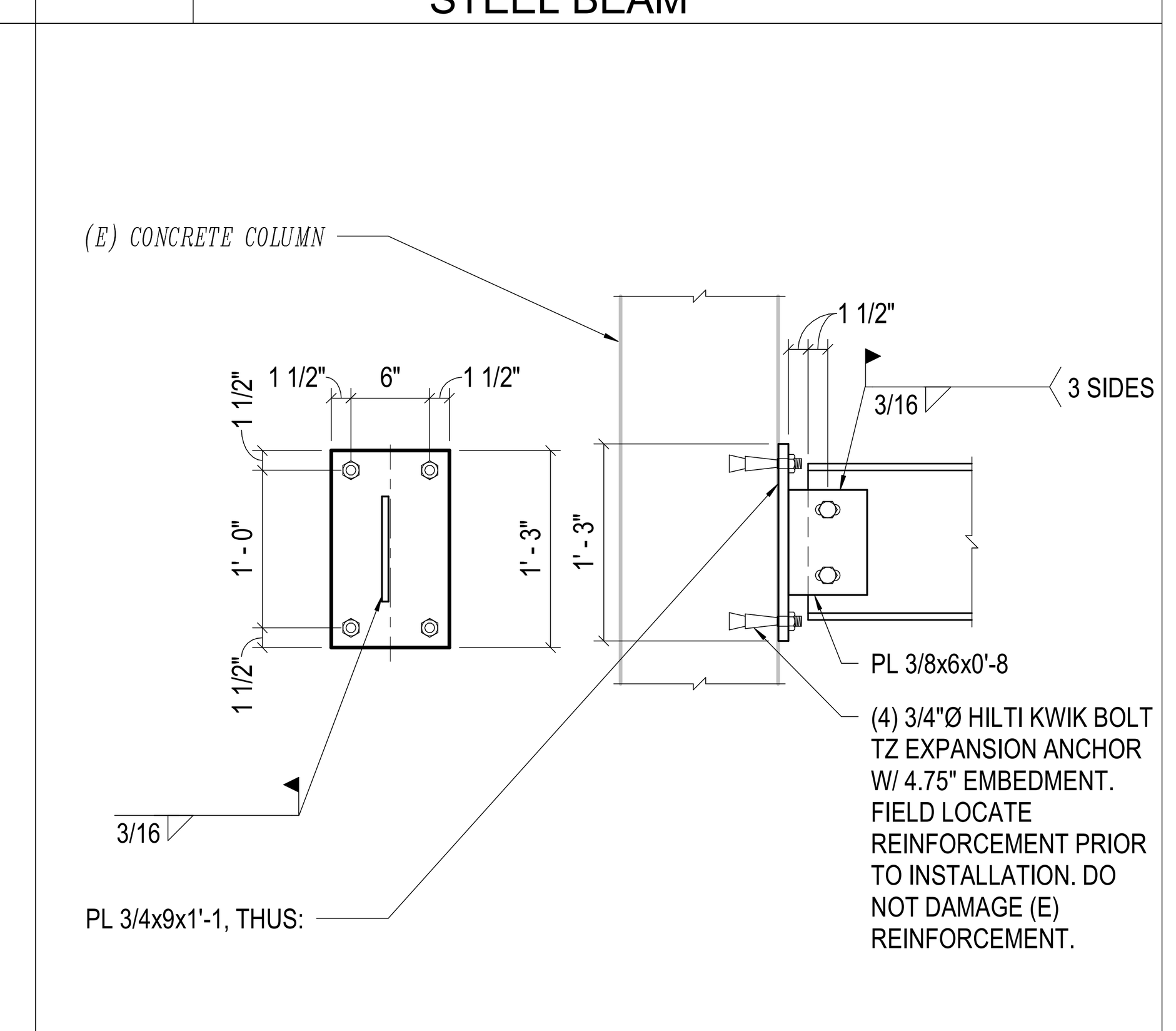
16 3/4" = 1'-0" NEW CURB ON STRUCTURAL STEEL



12 3/4" = 1'-0" GOLDWALK SLAB ON METAL DECK



8 3/4" = 1'-0" COMPOSITE SLAB EDGE ALONG GRID M



4 NO SCALE W-SHAPE TO (E) CONCRETE COLUMN

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May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

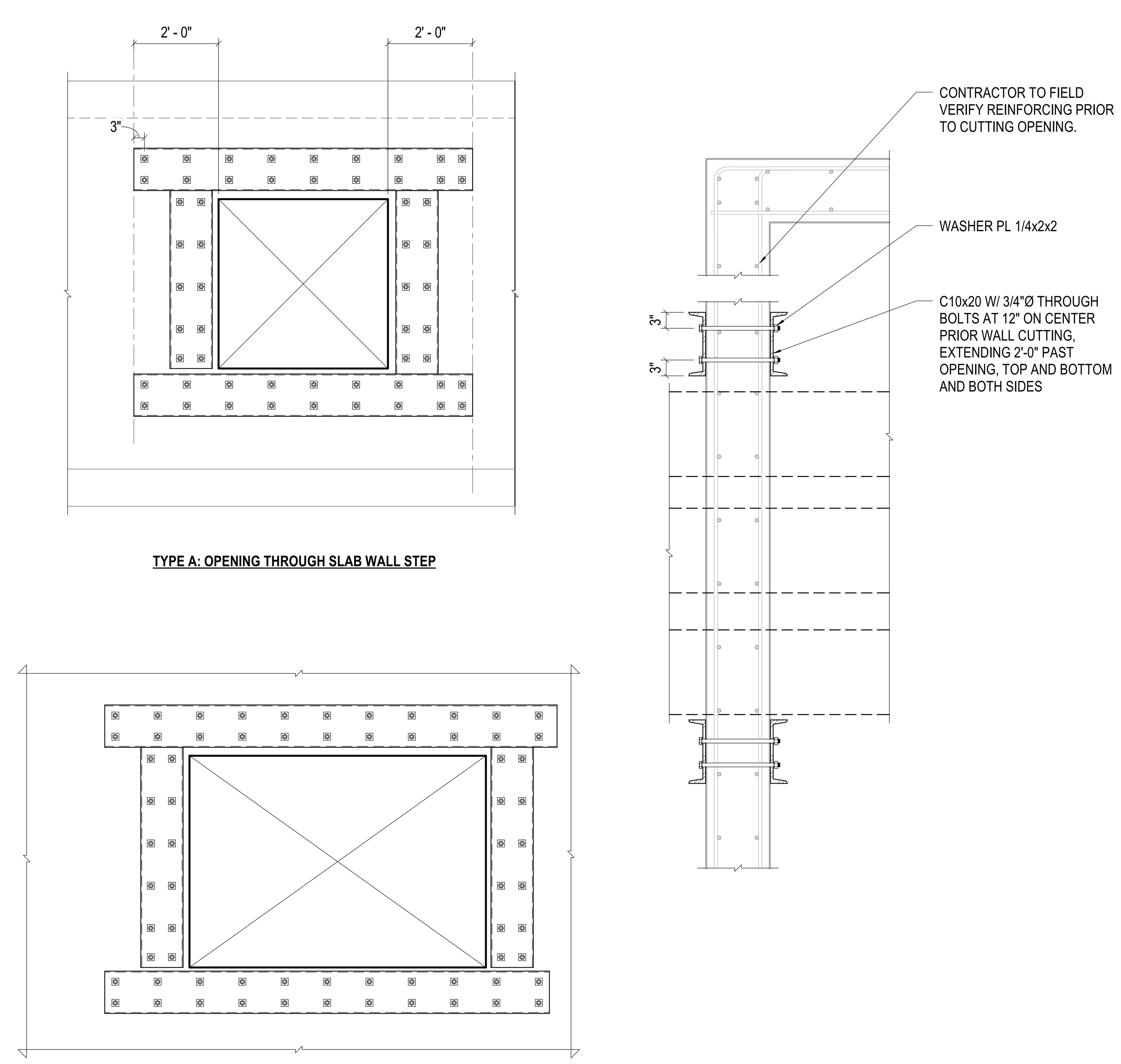
Description
STEEL DETAILS

Scale
As indicated

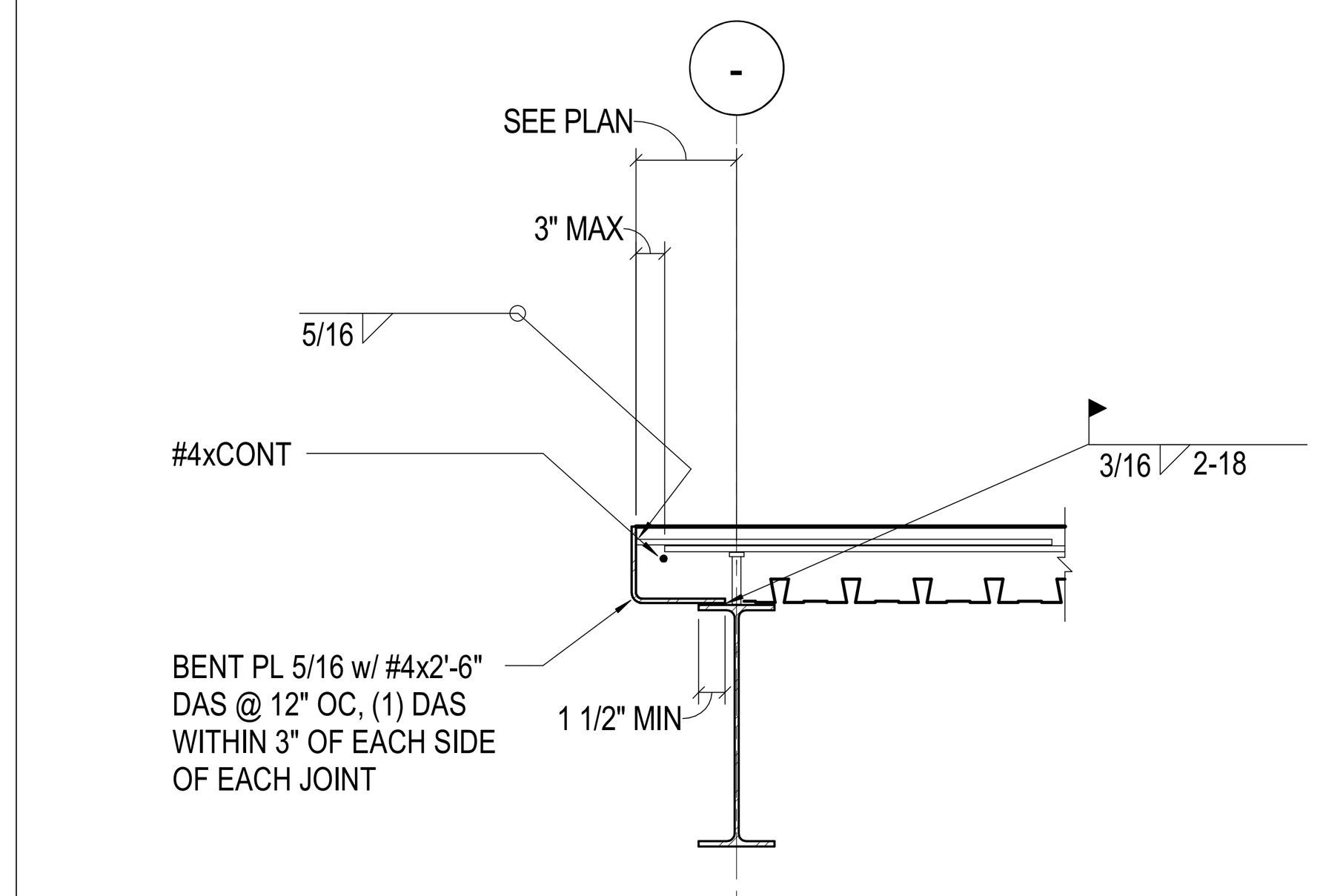
1B-S5.02

DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN KNOWLES
DATE PRINTED: 5/19/2021 11:40:28 AM

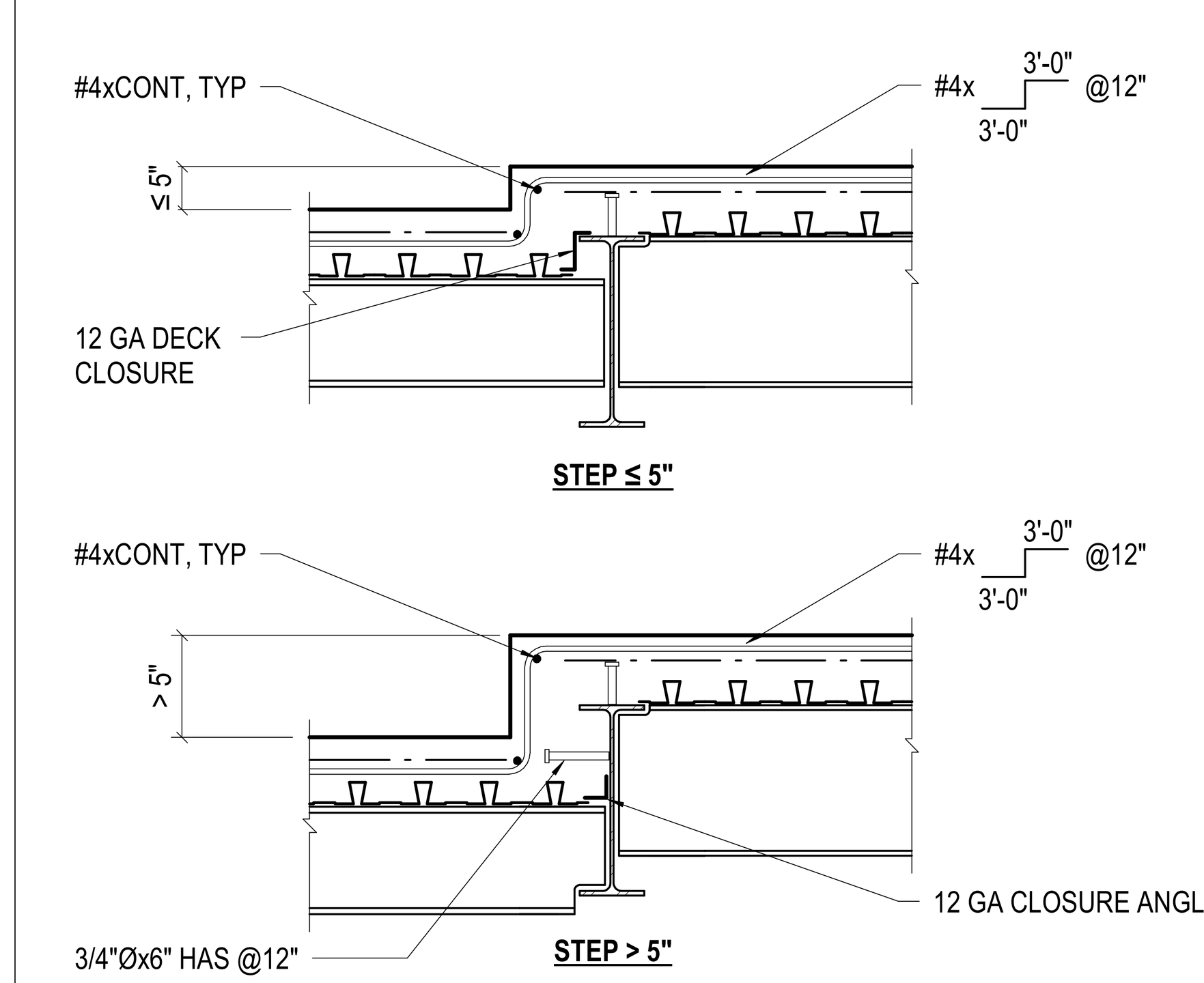
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN



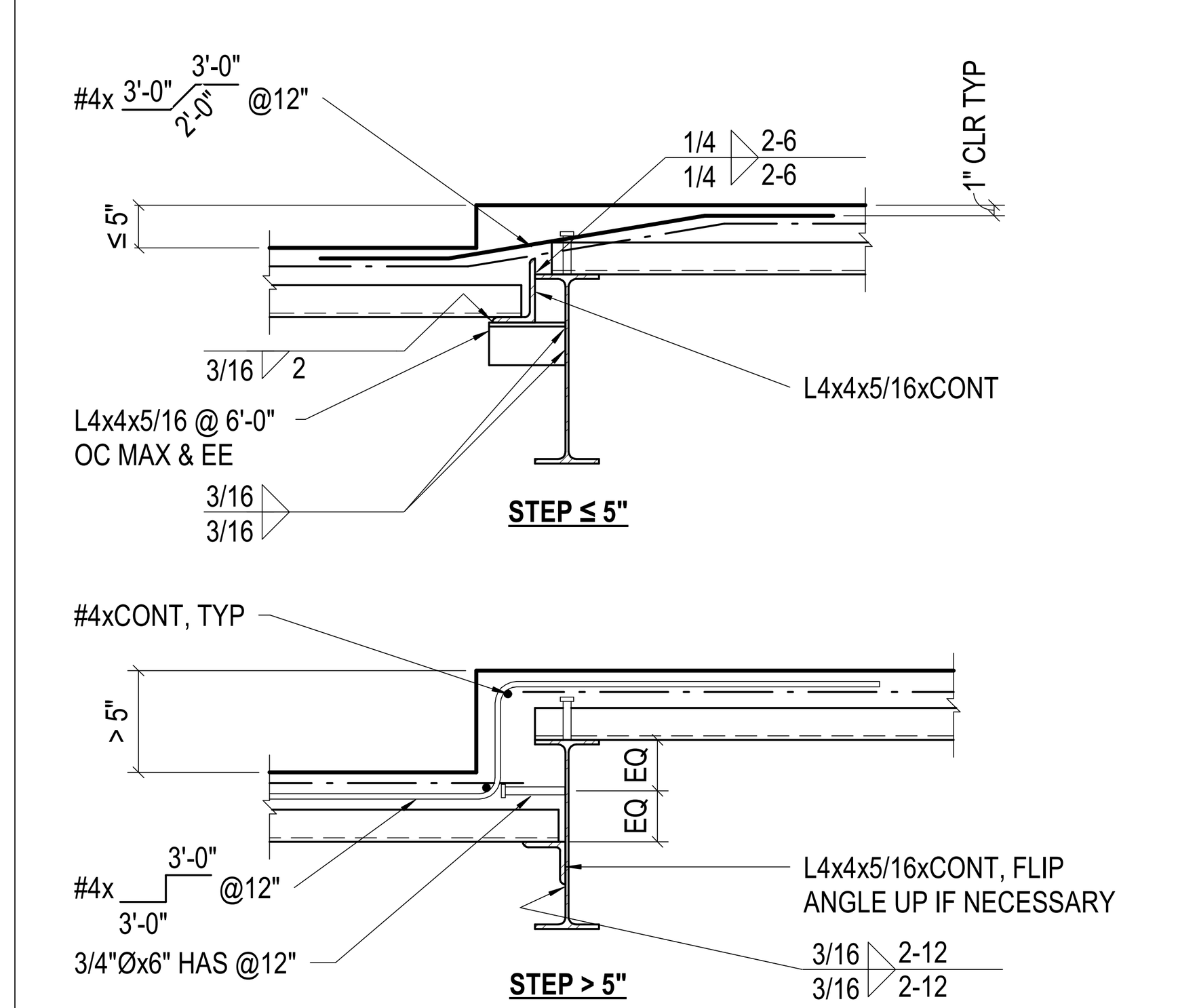
10 NO SCALE OPENING THROUGH EXISTING WALL



1 3/4" = 1'-0" TYPICAL EXTERIOR SLAB EDGE



2 3/4" = 1'-0" TYP SLAB STEP - DECK PARALLEL



3 3/4" = 1'-0" TYP SLAB STEP - DECK PERP

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COLORADO REGISTERED PROFESSIONAL ENGINEER 38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
STEEL DETAILS

Scale
As indicated

1B-S5.03

MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR: KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN
DESIGNERS: NIC MARTIN
LEAD REVIT TECH: COLIN MONNES
DATE PRINTED: 5/19/2021 11:40:29 AM
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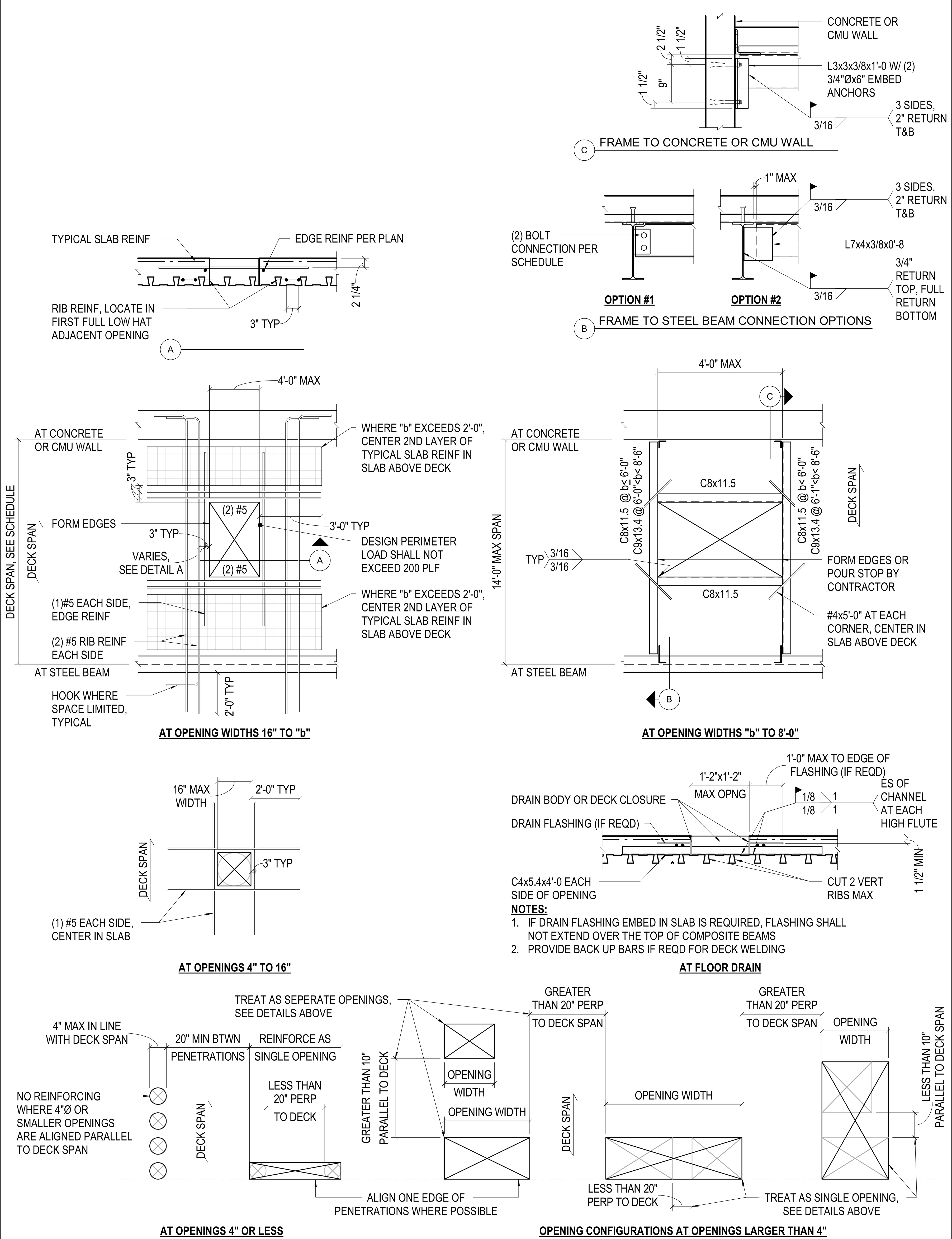


NOTES:
1. PLACE SLEEVES ON DECK PRIOR TO CONCRETE PLACEMENT
2. DO NOT CUT DECK UNTIL CONCRETE HAS REACHED 75% f'c
3. WHERE POSSIBLE ALIGN PENETRATIONS PARALLEL & PERPENDICULAR TO DECK SUCH THAT ONE EDGE OF PENETRATION ALIGNS IN EACH DIRECTION
4. TREAT ADJACENT OPENINGS AS A SINGLE LARGE OPENING IF EITHER:
   A. OPENINGS ARE ALIGNED PARALLEL TO DECK SPAN WITH LESS THAN 10" CLEAR OR
   B. OPENINGS ARE ALIGNED PERPENDICULAR TO DECK SPAN WITH LESS THAN 20" CLEAR

NOTES:
5. NO PENETRATION REINFORCING IS REQUIRED AT:
   A. SLEEVES 4"Ø OR SMALLER
   B. SLEEVES 4"Ø OR SMALLER ALIGNED PARALLEL TO DECK SPAN
   C. SLEEVES 4"Ø OR SMALLER IF SPACED GREATER THAN 20" PERPENDICULAR TO DECK SPAN; IF SPACING BETWEEN OPENINGS PERPENDICULAR TO DECK SPAN DOES NOT EXCEED 20", REINFORCE AS A SINGLE OPENING

19 NO SCALE SLAB ON METAL DECK PENETRATIONS AND SLAB OPENINGS

SLAB ON METAL DECK CONNECTION SCHEDULE

TYPE	PERPENDICULAR SUPPORT MEMBERS		PARALLEL SUPPORT MEMBERS		SIDELAPS	
	CONNECTION	PATTERN	CONN	PATTERN	CONN	PATTERN
A	3/4"Ø PUDDLE WELDS	24/3 AT 2.0 EPICORE	3/4"Ø PUDDLE WELDS	12" OC	#12 SCREW	3'-0" OC

NOTES:
1. SHEAR STUDS MAY REPLACE PUDDLE WELDS ONE-FOR-ONE

SLAB ON METAL DECK PROPERTIES

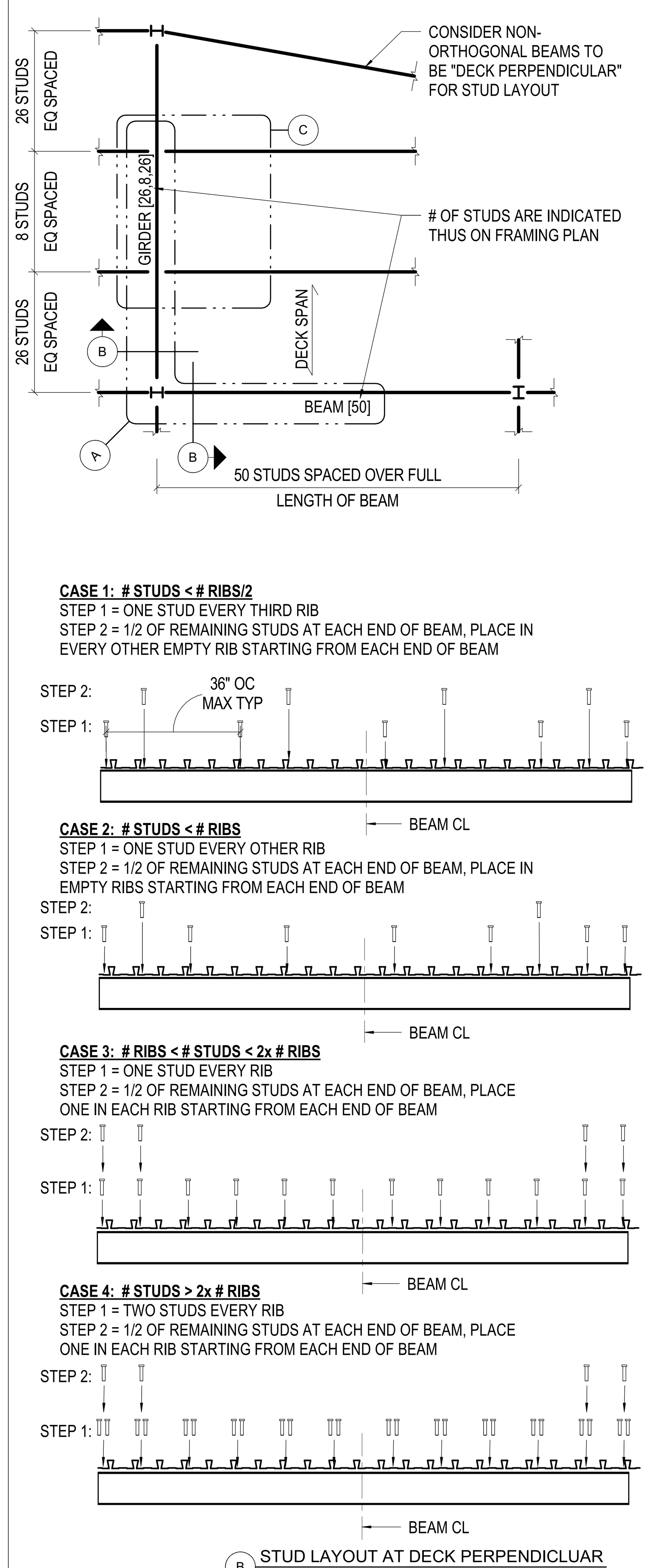
DECK TYPE	DECK DEPTH (IN)	DECK GAUGE	DECK Fy (KSI)	I POS (IN^4/FT)	S POS (IN^3/FT)	S NEG (IN^3/FT)	MINIMUM DECK BEARINGS (IN)	
							EXTERIOR	INTERIOR
2" EPICORE	2	20	50	0.47	0.34	0.31	2	4
2" EPICORE	2	18	50	0.63	0.47	0.43	2	4

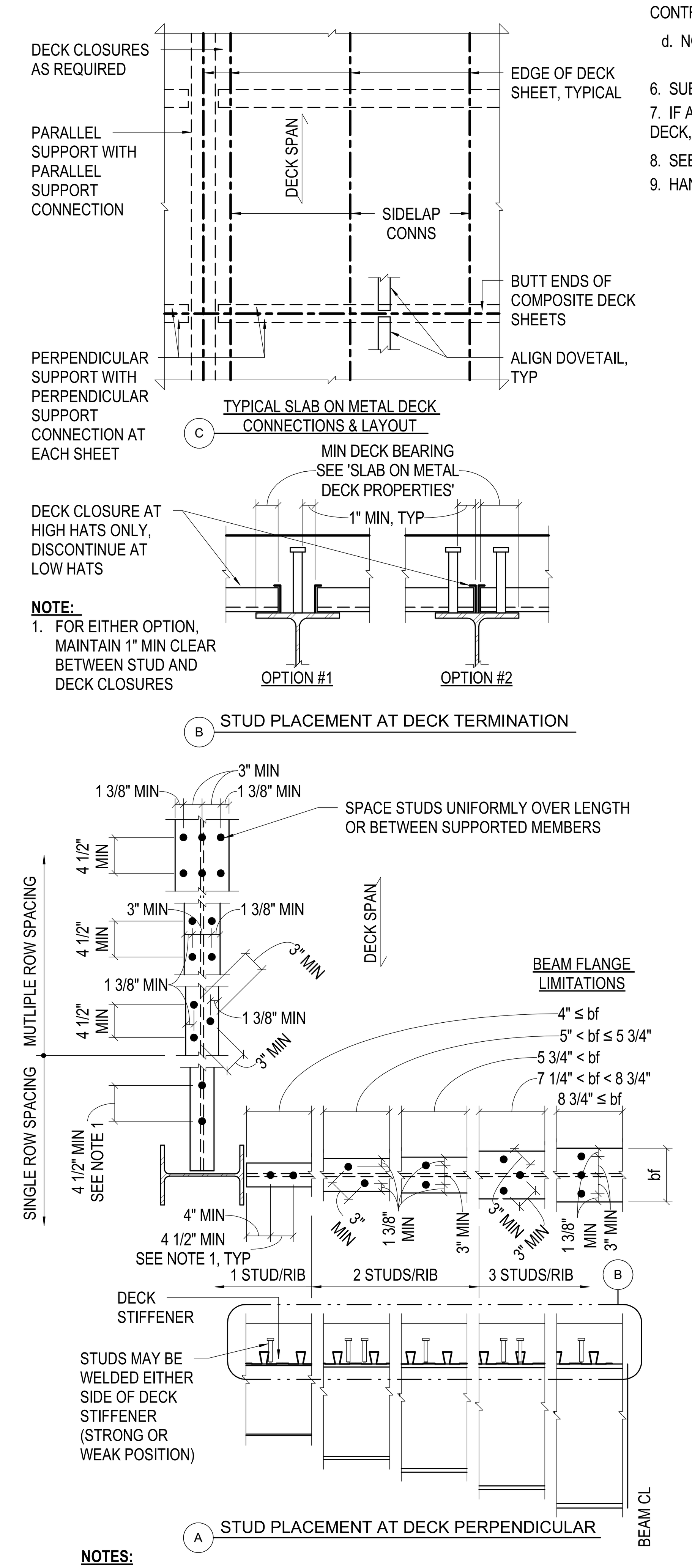
NOTES:
1. COMPOSITE METAL DECK SPECIFIED IS MANUFACTURED BY EPICORE. ALTERNATE COMPOSITE METAL DECK MAY BE SUPPLIED PROVIDED MINIMUM DECK PROPERTIES ARE SATISFIED AND THE RATIO OF THE RIB WIDTH MEASURED AT MID HEIGHT OF DECK TO RIB HEIGHT IS NO LESS THAN 1.5.

SLAB ON METAL DECK SCHEDULE

SLAB MARK	DECK		CONCRETE				MAXIMUM UNSHORED DECK SPAN				CONN TYPE
	TYPE	GAGE	CONC ABOVE DECK (IN)	TOTAL THK (IN)	CONC TYPE (SEE NOTE 8)	SLAB REINF	1 SPAN	2 SPAN	3 SPAN	CANTILEVER	
2E3.25A	2" EPICORE	20	3 1/4	5 1/4	3 (NWC)	#4@18" EW	7'-5"	7'-10"	8'-1"	-	A

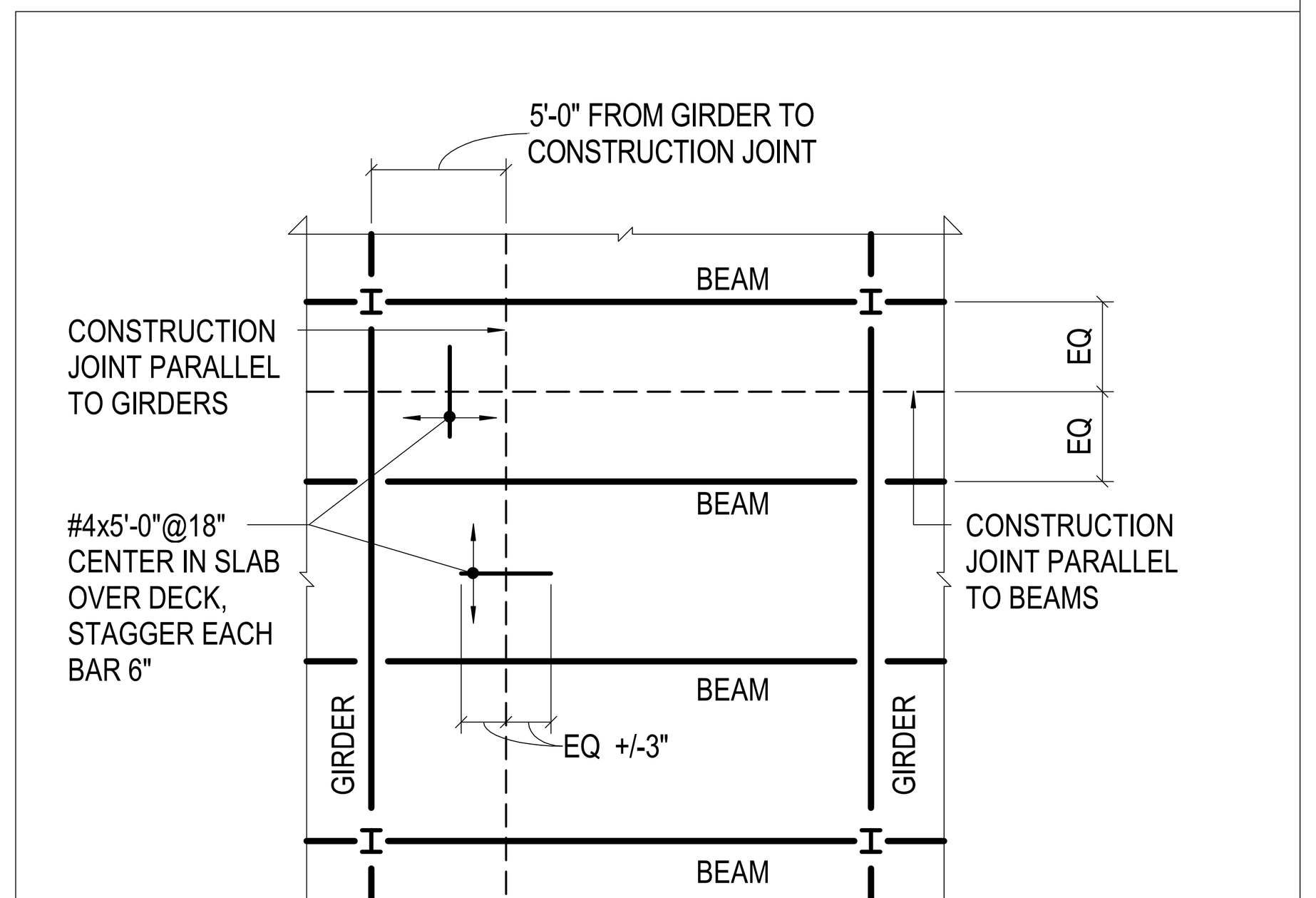
NOTES:
1. AT COMPOSITE SYSTEMS, NET-IN-PLACE LENGTH OF SHEAR STUDS SHALL MEET THE FOLLOWING:
   - 1 1/2" MIN ABOVE T/DECK
   - 1" MIN BELOW T/CONCRETE
2. SEE SPECIFICATIONS FOR FLOOR FINISH & FLATNESS REQUIREMENTS
3. INSTALL DECK OVER 4 SUPPORTS (3 SPAN CONTINUOUS) WHERE POSSIBLE
4. COMPOSITE DECK DESIGN IS SIZED BASED UPON THE FOLLOWING MAXIMUM CONDITIONS:
   a. DECK DEFLECTION = 1/2"
   c. CONSTRUCTION LIVE LOAD = 20 PSF, IF CONSTRUCTION LIVE LOAD EXCEEDS 20 PSF, CONTRACTOR SHALL DESIGN FOR INCREASED LOADING
   d. NORMAL WEIGHT CONCRETE: 150 PCF WET WEIGHT, 145 PCF DRY WEIGHT
6. SUBMIT SHOP DRAWINGS INDICATING STUD LAYOUT (NO. OF STUDS/RIB) AND PLACEMENT ALONG BEAM
7. IF ACTUAL DECK SPANS EXCEED MAXIMUMS SHOWN IN TABLE ABOVE, CONTRACTOR TO SHORE DECK, PROVIDE HEAVIER GAUGE DECK, OR PROVIDE MUTIPLE LAYERS OF DECK.
8. SEE "CONCRETE MIX TABLE" IN GENERAL NOTES FOR CONCRETE MIX REQUIREMENTS
9. HANGERS WITH A 50 POUND MAXIMUM LOAD MAY BE PLACED AT 4'-0" MINIMUM SPACING EACH WAY, UNO





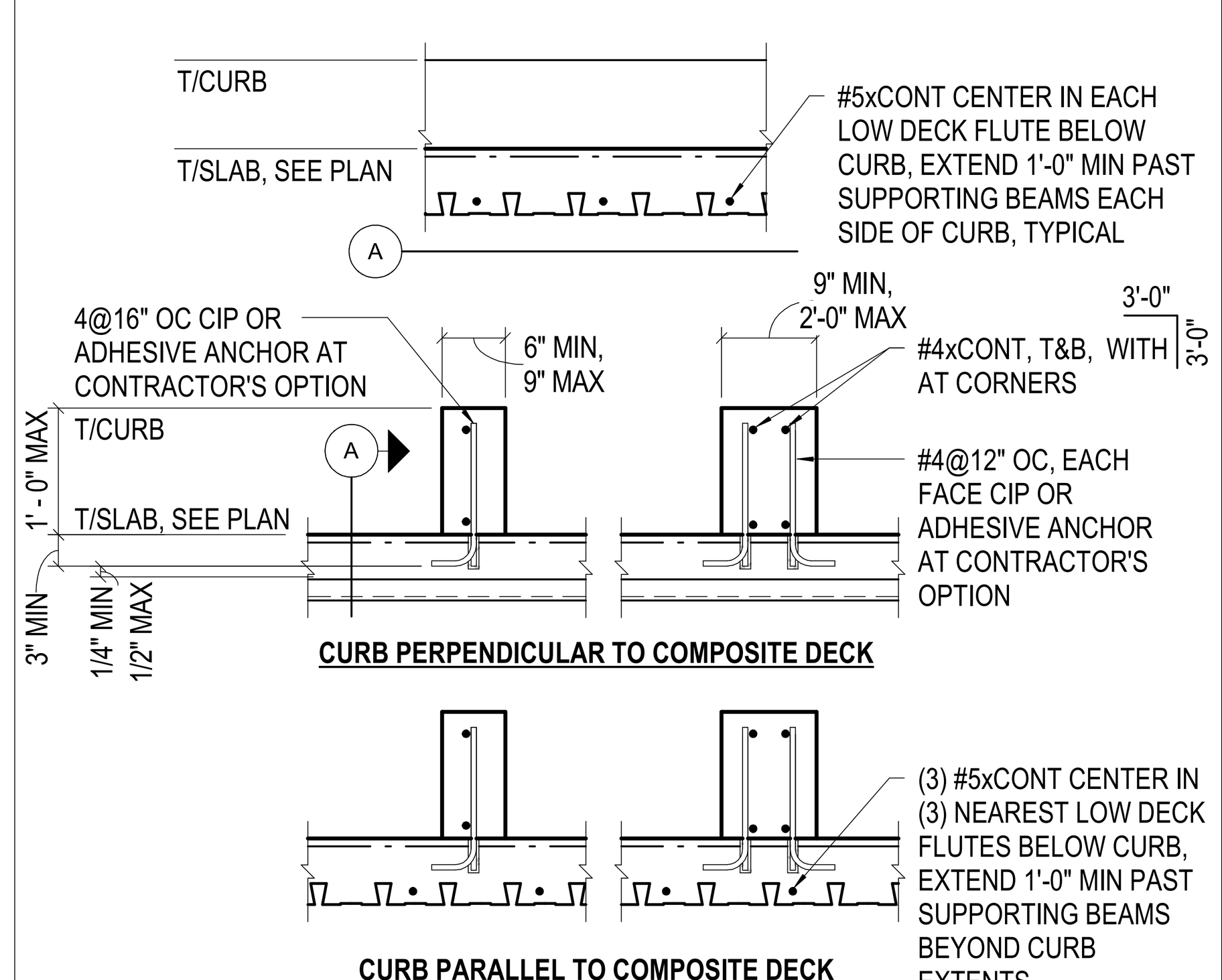
NOTES:
1. PROVIDE STUDS AT 12" MAX WHERE NUMBER OF STUDS IS NOT INDICATED

11 NO SCALE TYPICAL SLAB ON METAL DECK SCHEDULE, DECK LAYOUT AND STUD LAYOUT



NOTES:
1. NO SAW CUT JOINTS IN ELEVATED SLAB ON METAL DECK UNO
2. SEE GENERAL NOTES FOR POUR LENGTH AND AREA LIMITS
3. SUBMIT DRAWINGS SHOWING CONSTRUCTION AND CONTROL JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS. CONSTRUCTION JOINT LOCATIONS AND CASTING SEQUENCE SHALL BE ARRANGED TO MINIMIZE THE EFFECTS OF ELASTIC AND LONG-TERM SHORTENING/SHRINKAGE.

2 NO SCALE TYPICAL SLAB ON METAL DECK CONSTRUCTION JOINT LOCATIONS



NOTES:
1. COORDINATE CURB WITH ARCH/MECH/ELEC DRAWINGS AND EQUIPMENT SUPPLIER FOR SIZE, THICKNESS, AND LOCATIONS

3 3/4" = 1'-0" CONCRETE CURB ON SLAB ON METAL DECK

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May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

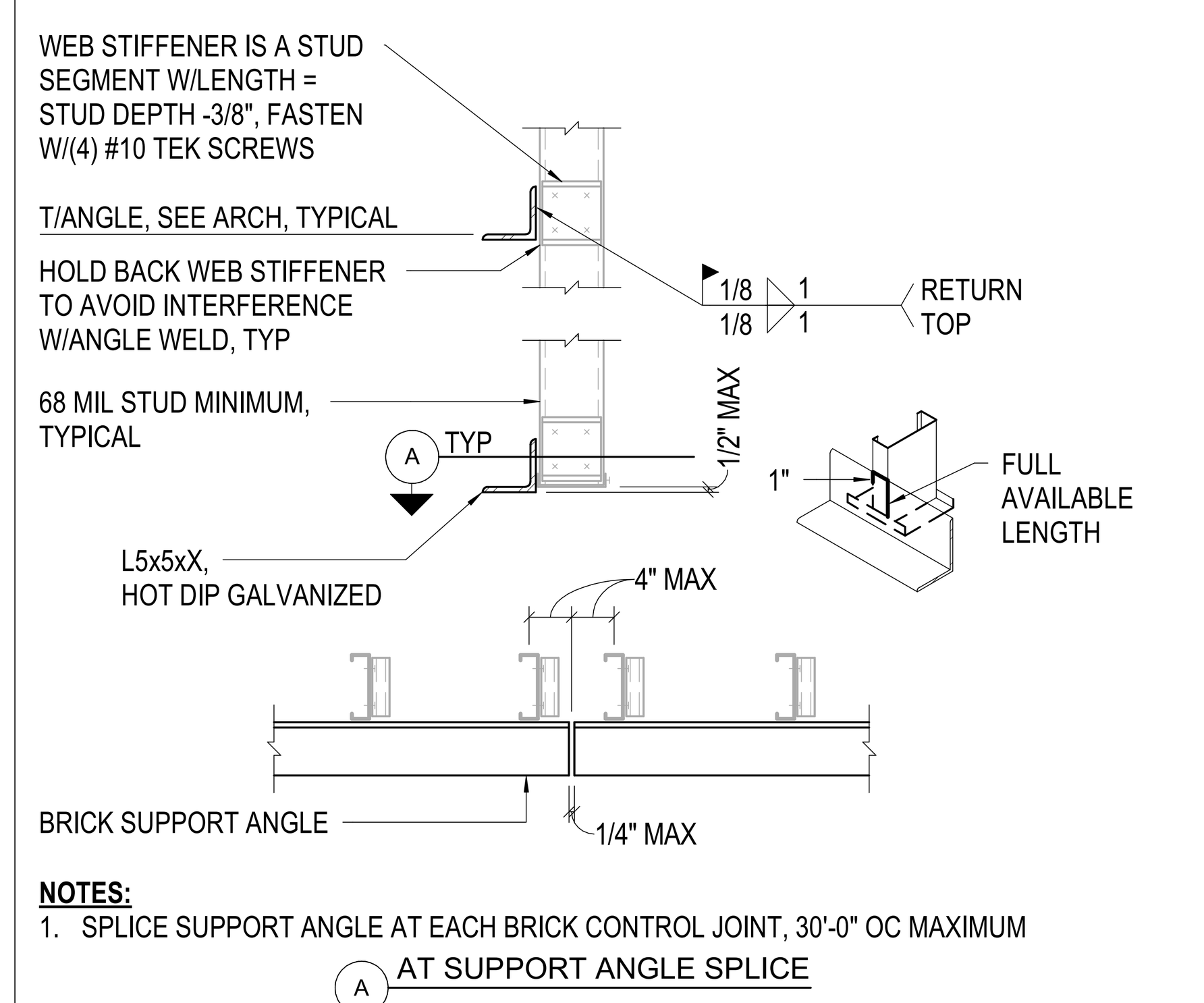
Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

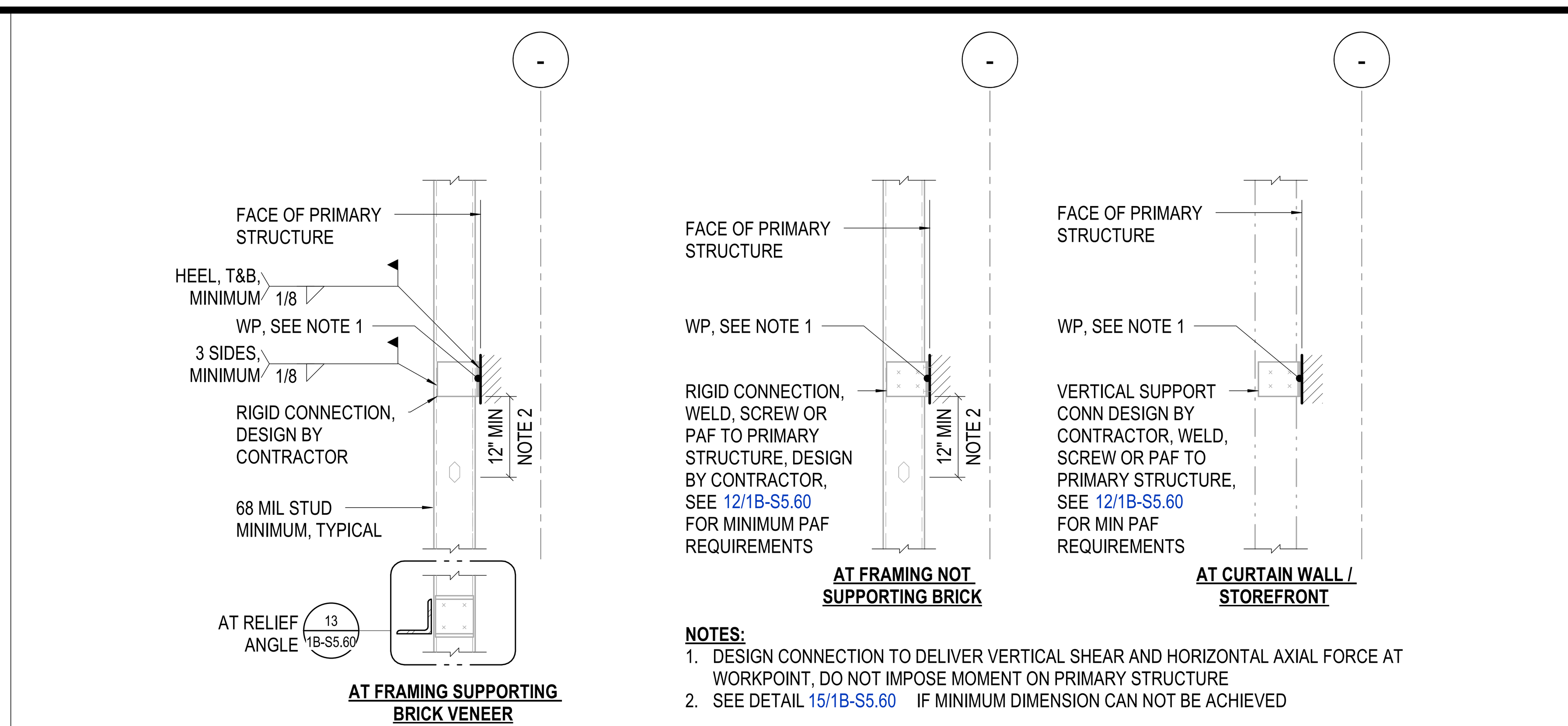
Description
TYPICAL SLAB ON METAL DECK DETAILS

Scale
As indicated

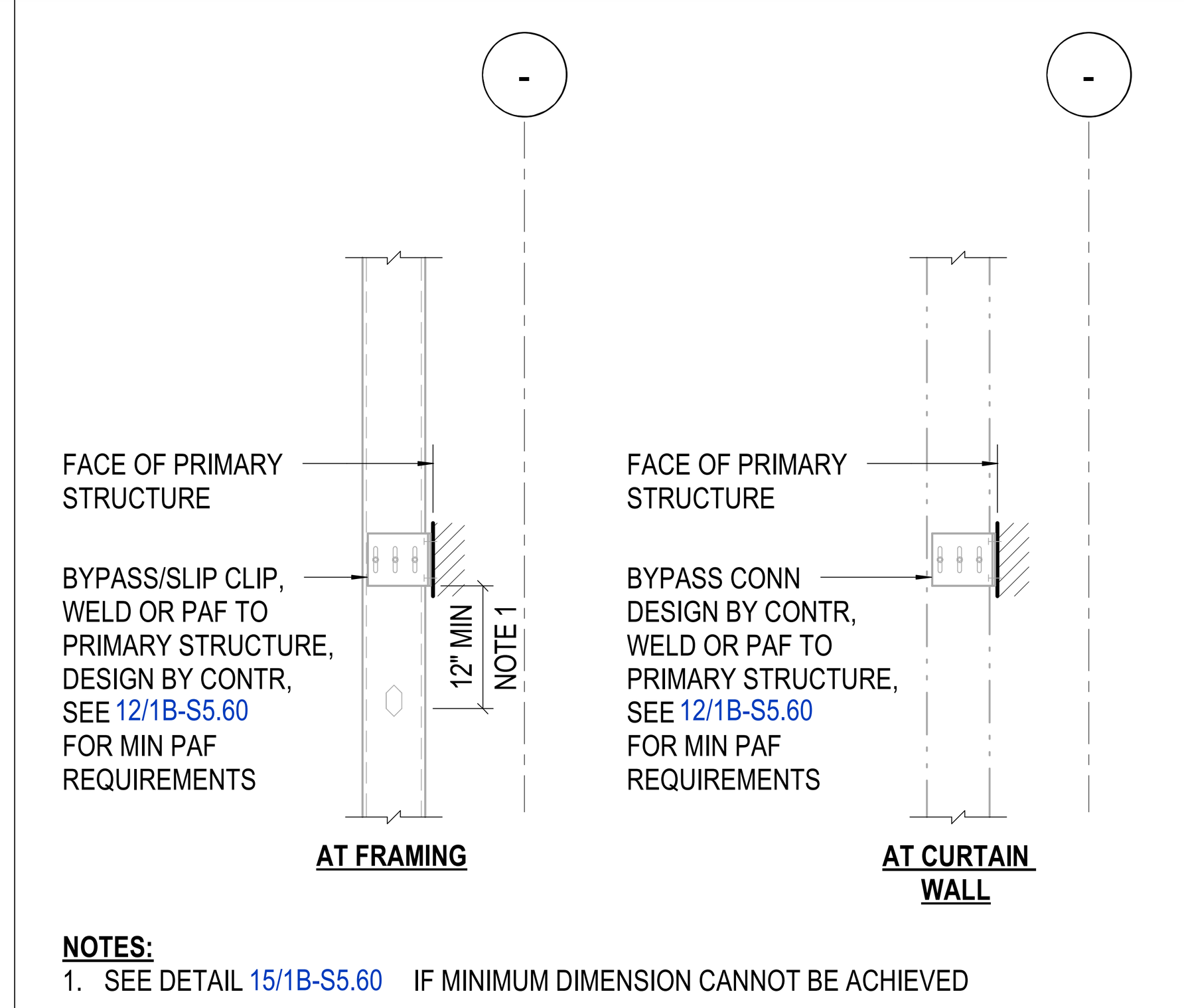
1B-S5.31



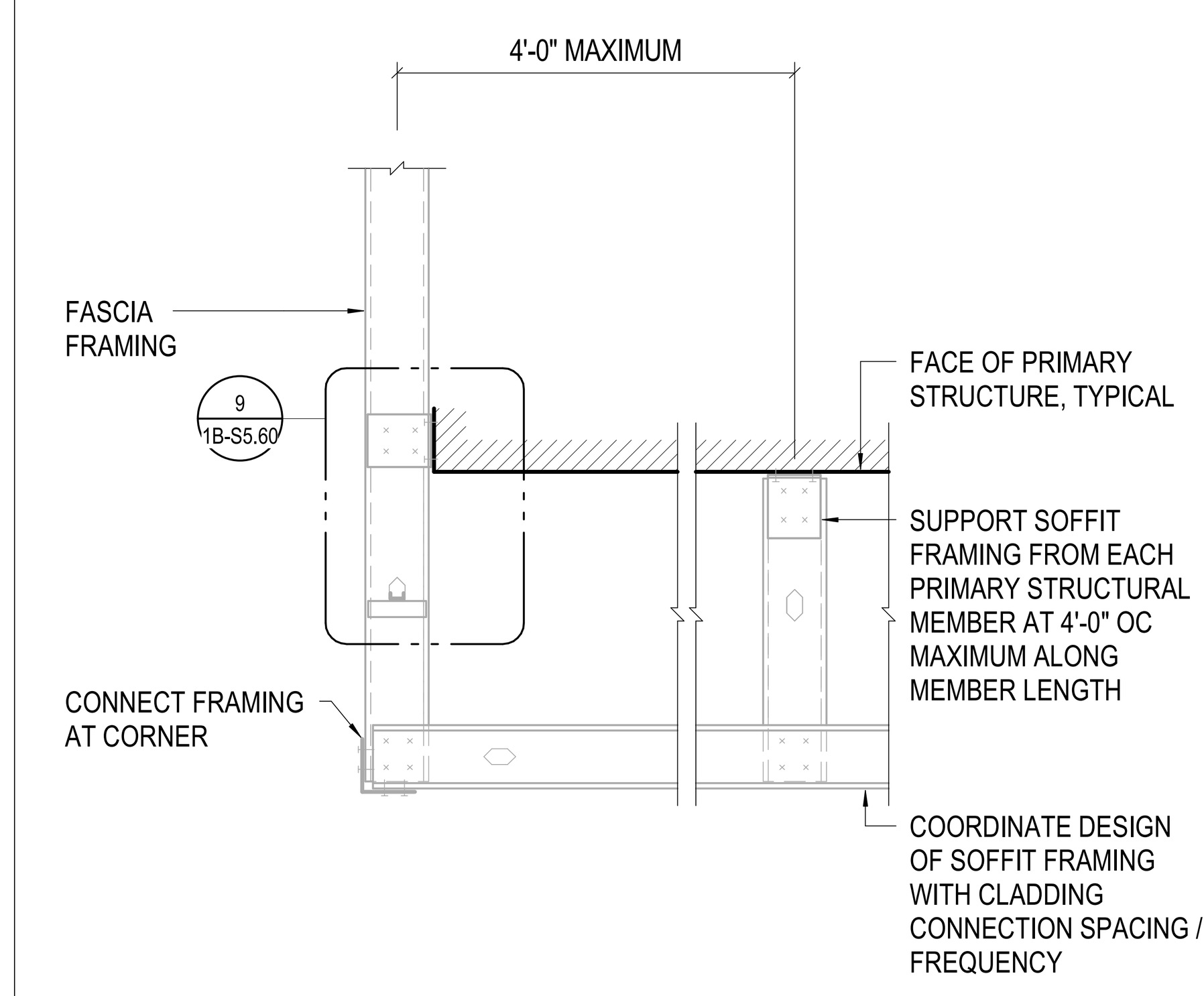
13 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - STONE SUPPORT TO MTL STUD



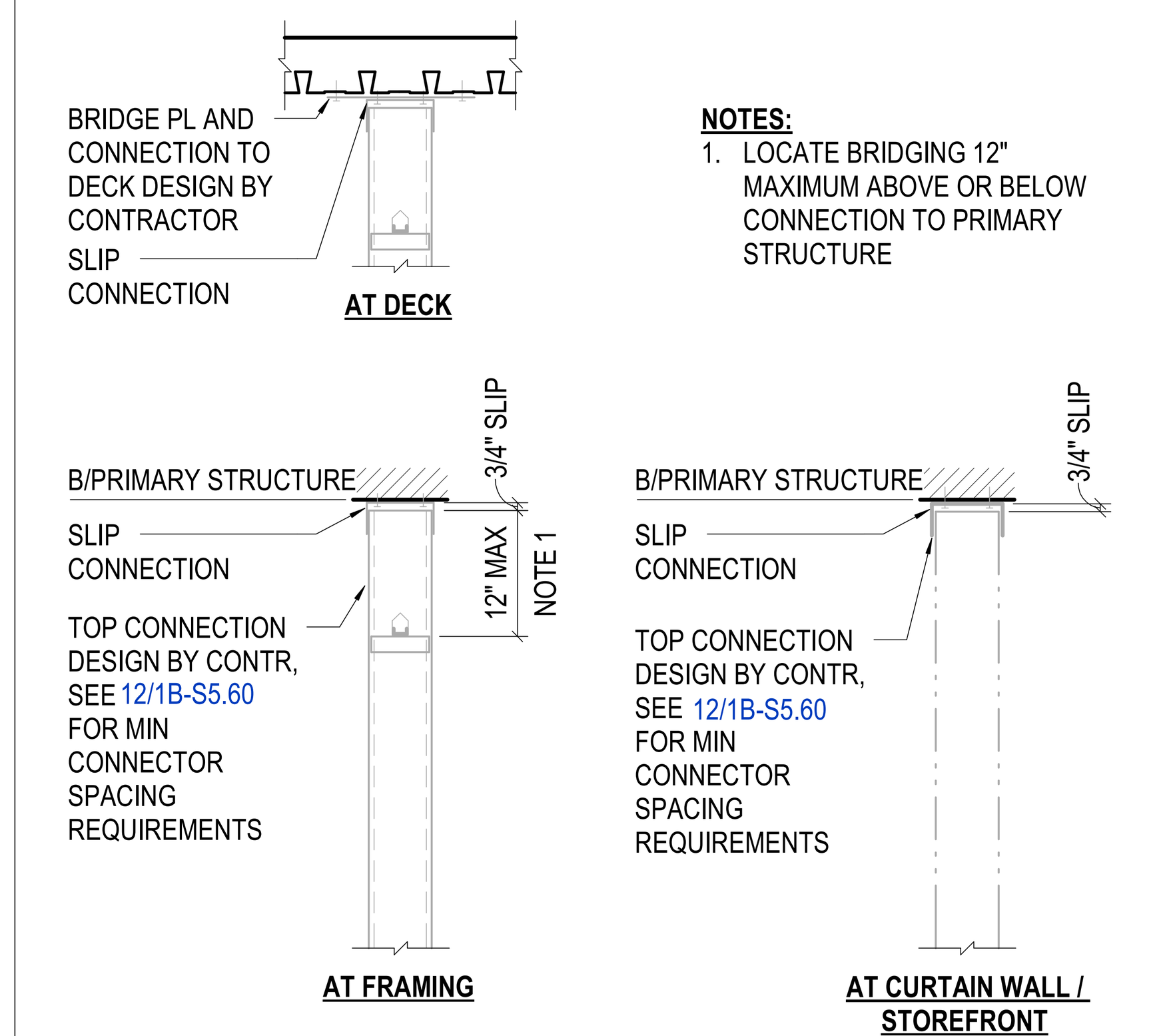
9 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - FIXED CONNECTION MINIMUM REQUIREMENTS



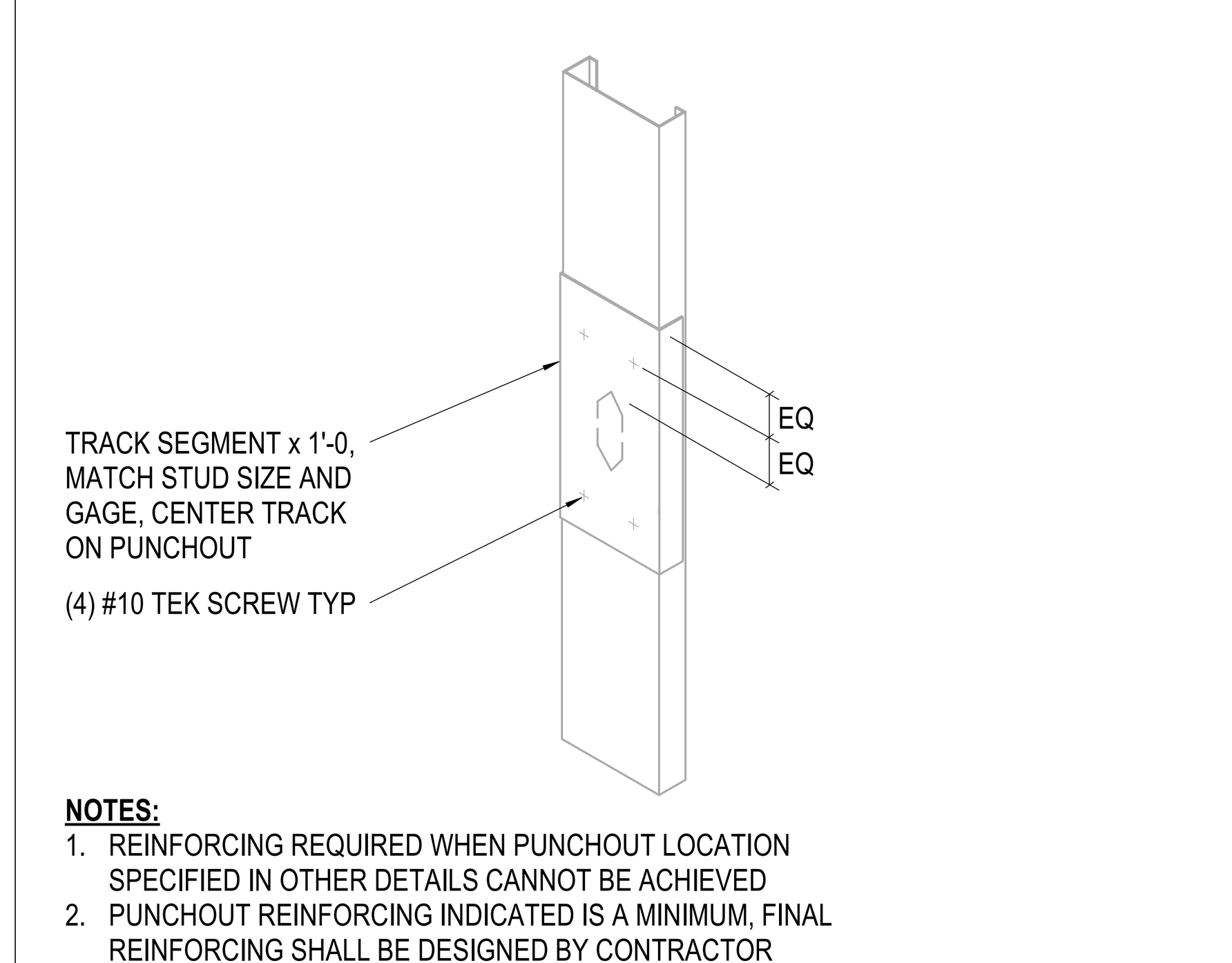
14 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - SLIP CONN MIN REQUIREMENTS



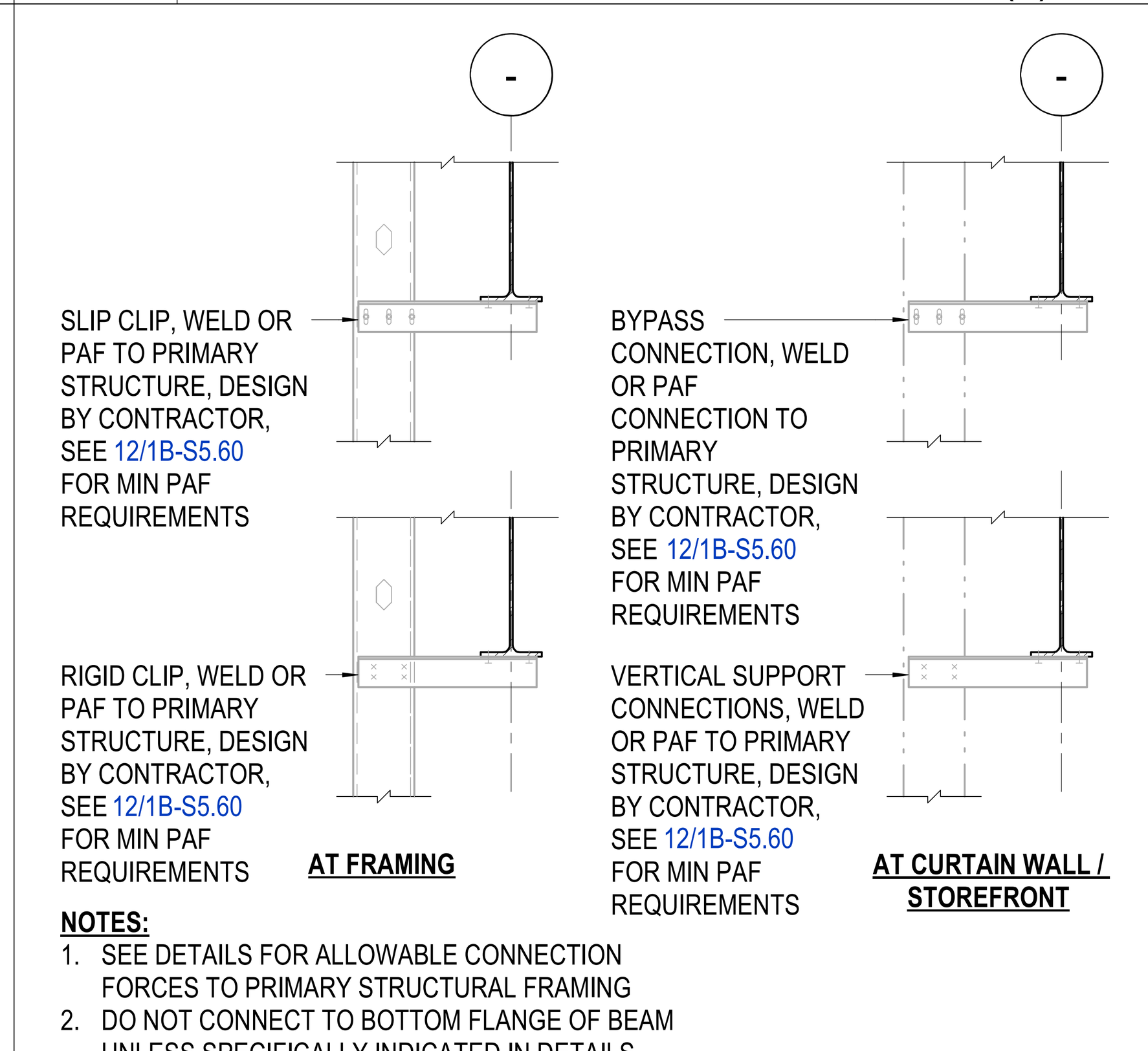
10 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - SOFFIT FRAMING MIN REQT(s)



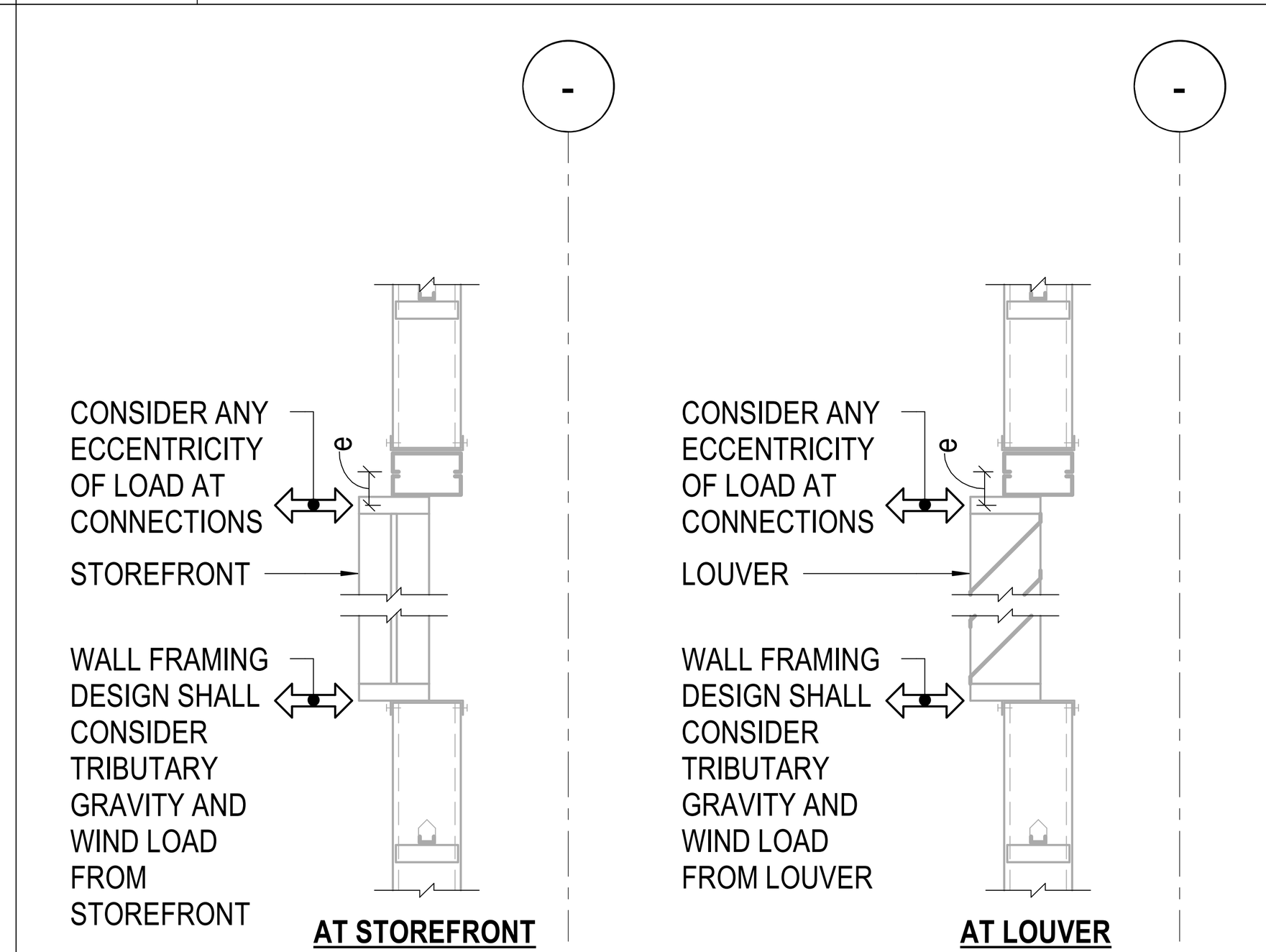
6 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - FRAM TO B/PRIMARY STRUCTURE



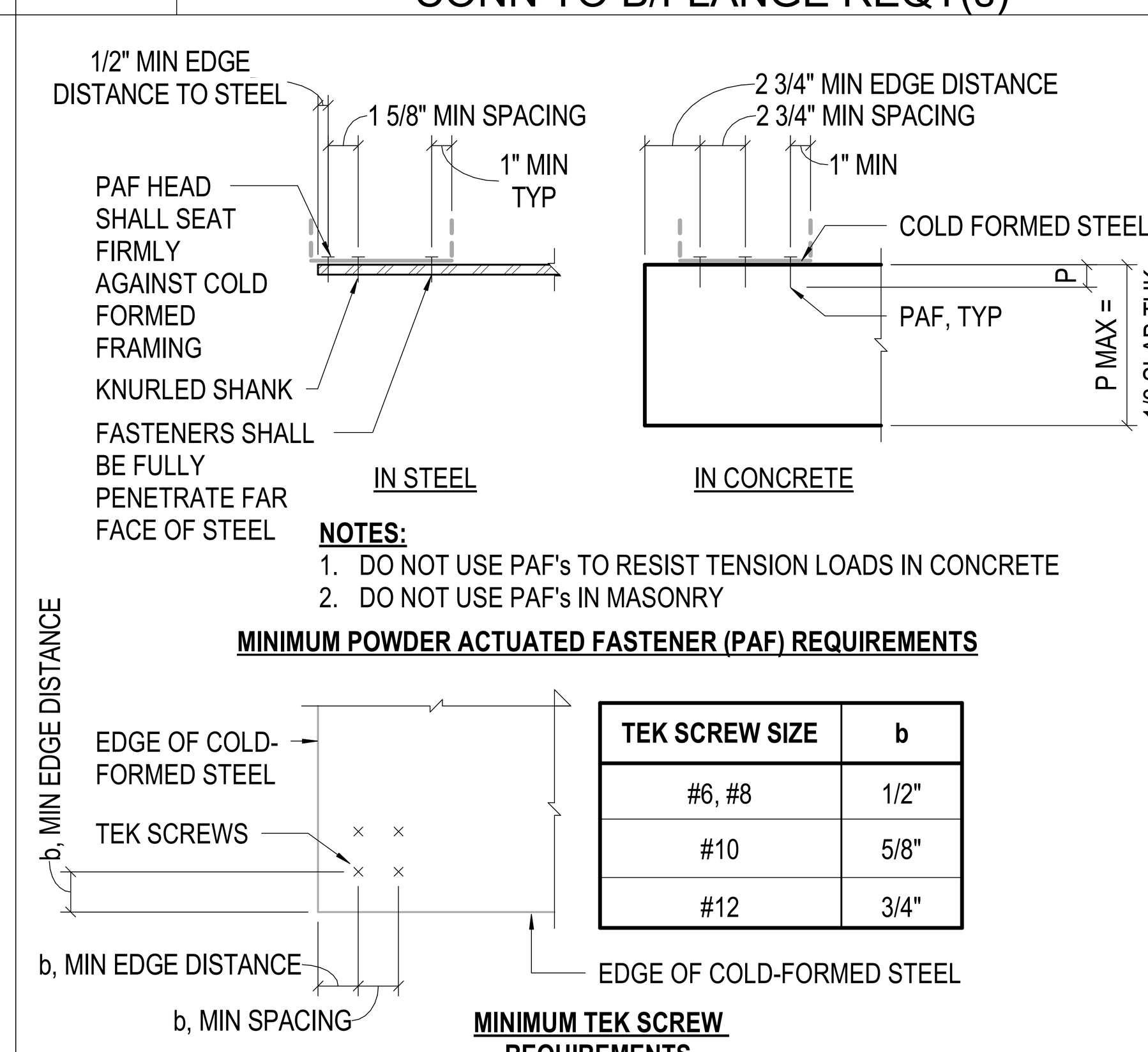
15 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - PUNCHOUT REINFORCING



11 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - CONN TO B/FLANGE REQT(s)

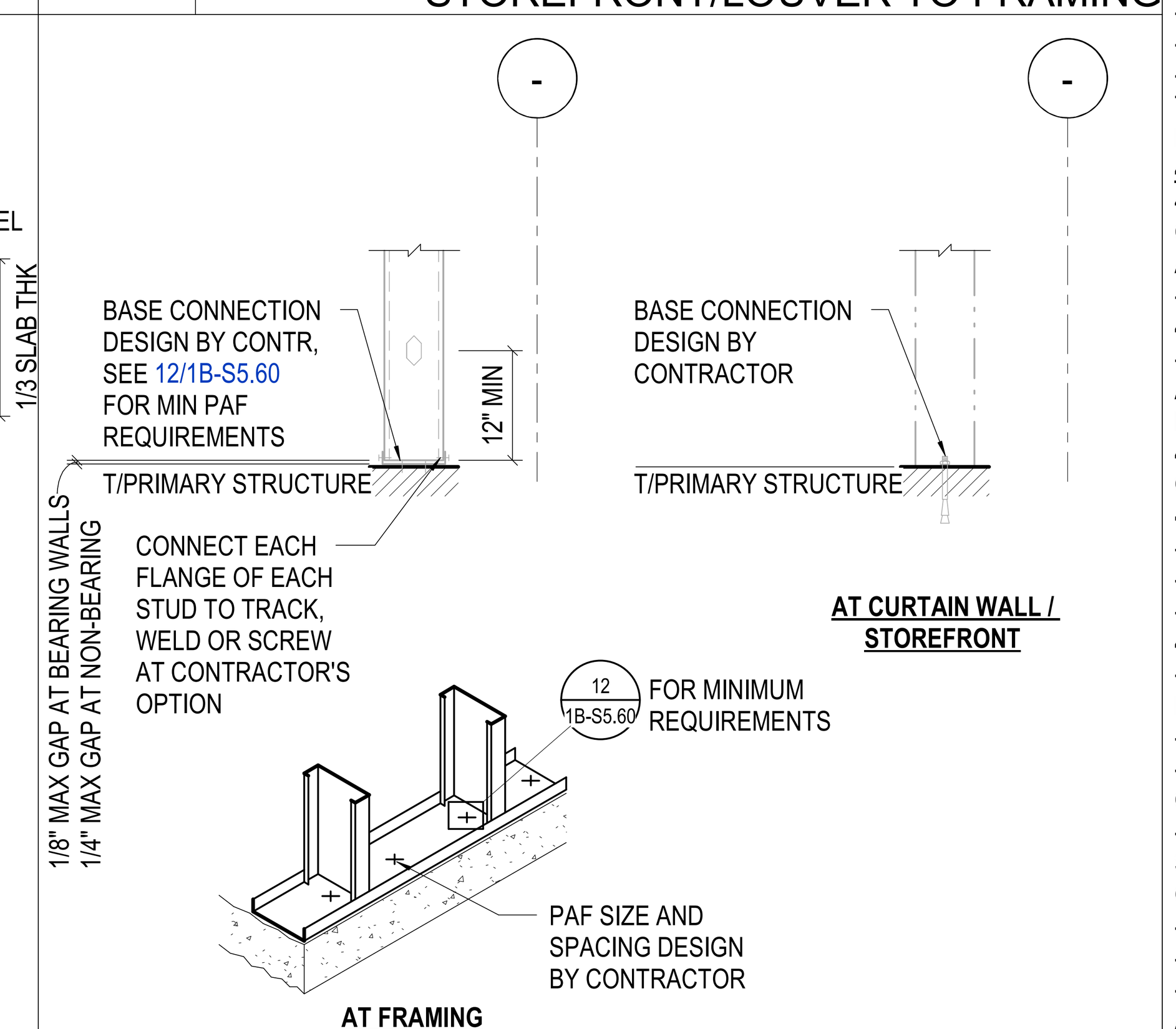


7 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - STOREFRONT/LOUVER TO FRAMING



TEK SCREW SIZE	b
#6, #8	1/2"
#10	5/8"
#12	3/4"

12 1 1/2" = 1'-0" CONTRACTOR ENGINEERED WALL - FASTENER MINIMUM REQT(s)



8 3/4" = 1'-0" CONTRACTOR ENGINEERED WALL - BASE CONN MIN REQUIREMENTS

DESIGN CRITERIA FOR PERFORMANCE SPECIFIED COLD FORMED STEEL FRAMING (CFSF)

1) GENERAL COLD FORMED STEEL FRAMING REQUIREMENTS

1A) COLD FORMED STEEL FRAMING (CFSF) USED FOR EXTERIOR CLADDING SUPPORT IS A PERFORMANCE SPECIFIED SYSTEM DESIGNED (ENGINEERED) AND PROVIDED BY THE CONTRACTOR

1B) THE CONTRACTOR SHALL DESIGN ALL MEMBERS AND CONNECTIONS FORMING A COMPLETE SYSTEM FOR THE CLADDING SELF WEIGHT, WIND AND SEISMIC FORCES INDICATED IN THE DESIGN CRITERIA SECTION AND AS INDICATED IN THE STRUCTURAL DOCUMENTS

1C) INFORMATION PERTAINING TO THE FRAMING IS SHOWN THROUGHOUT THE ARCHITECTURAL AND STRUCTURAL DOCUMENTS AND IN THE SPECIFICATIONS. CONTRACTOR SHALL REFERENCE AND COORDINATE FRAMING WITH ALL TRADES AND DESIGN DOCUMENTS

1D) REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS INCLUDING PROFESSIONAL ENGINEERING AND SUBMITTAL REQUIREMENTS

1E) VARIATIONS PROPOSED BY THE CONTRACTOR TO ACCOMMODATE PREFABRICATION AND ALTERNATE SCHEMES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PREPARING DRAWINGS AND ENGINEERING OF THE COLD FORMED STEEL FRAMING.

2) BIDDING REQUIREMENTS

2A) THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A BID THAT INCLUDES ALL ITEMS ASSOCIATED WITH THE DESIGN AND CONSTRUCTION OF THE EXTERIOR WALL AND SOFFIT FRAMING, INCLUDING BUT NOT LIMITED TO:
- DESIGN OF THE FRAMING MEMBERS (STUDS, SILLS, HEADERS, JAMBS, SOFFITS, HANGERS & KICKERS, ETC.)
- CONNECTION DESIGN: BOTH FRAMING-TO-FRAMING CONNECTIONS AND CONNECTIONS BETWEEN FRAMING AND THE PRIMARY STRUCTURAL FRAME
- COORDINATION AND INSTALLATION OF ALL FRAMING

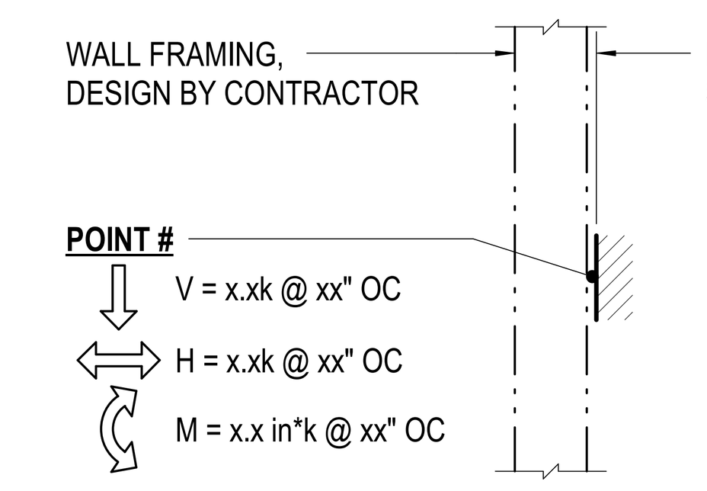
2B) BIDS SHALL BE BASED ON CONTRACTOR'S ENGINEERED SIZES TO RESIST THE DESIGN FORCES AND MEET THE MINIMUM REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS
- DO NOT BASE BIDS SOLELY ON THE MINIMUM REQUIREMENTS

2C) FRAMING MEMBERS DEPTHS SHALL BE AS NOTED ON ARCHITECTURAL DOCUMENTS, UNLESS NOTED OTHERWISE

2D) VARY MEMBER THICKNESS, FLANGE WIDTH, YIELD STRESS, AND SPACING AS REQUIRED TO SATISFY:
- INDICATED PERFORMANCE CRITERIA
- MINIMUM STRUCTURAL REQUIREMENTS INDICATED IN THE SPECIFICATIONS AND STRUCTURAL DETAILS

3) ENGINEERING REQUIREMENTS

3A) GENERAL:
- FRAMING MEMBERS SHALL BE AS NOTED ON THE ARCHITECTURAL DOCUMENTS, UNLESS NOTED OTHERWISE
- FRAMING MEMBERS SHALL DELIVER MAXIMUM FORCES TO THE PRIMARY STRUCTURAL FRAME AT THE LOCATIONS, DIRECTIONS, AND MAGNITUDES NOTED IN STRUCTURAL DETAILS THUS:



- DO NOT CONNECT FRAMING TO THE PRIMARY STRUCTURAL FRAMING AT LOCATIONS OR IN WAYS NOT SPECIFICALLY INDICATED IN THE DETAILS
- ALL CONNECTIONS TO PRIMARY STRUCTURE SHALL BE DESIGNED AS PINNED CONNECTIONS. DO NOT DELIVER MOMENT TO PRIMARY STRUCTURE UNLESS SPECIFICALLY INDICATED.
- DO NOT CONNECT FRAMING TO THE BOTTOM FLANGE OF BEAMS UNLESS SPECIFICALLY INDICATED IN STRUCTURAL DETAILS

3B) GC / COLD FORMED STEEL FRAMING DESIGNER / CLADDING DESIGNER COORDINATION:
- COLD FORMED STEEL FRAMING MEMBERS AND FRAMING ATTACHMENT SHALL BE DESIGNED FOR THE TRIBUTARY LOADING AT THE FRAMING SPACING INDICATED ON THE CONTRACT DOCUMENTS
- CLADDING SUPPLIER SHALL DESIGN CLADDING TO DISTRIBUTE LOAD UNIFORMLY TO AND ATTACH TO EACH FRAMING MEMBER.
- CLADDING ATTACHMENT SPACING WHICH DOES NOT EQUALLY DISTRIBUTE LOAD TO EACH STEEL FRAMING MEMBER IS NOT ACCEPTABLE WITHOUT APPROVAL FROM THE STEEL FRAMING SUPPLIER / DESIGNER AND THE PROJECT ENGINEER OF RECORD (EOR)
- IF THE CLADDING SUPPLIER DOES NOT AND / OR CANNOT UNIFORMLY LOAD / ATTACH TO EACH STEEL FRAMING MEMBER, THE LOADS FROM THE CLADDING SUPPLIER MUST BE PROVIDED TO THE FRAMING SUPPLIER. THE STEEL FRAMING SUPPLIER WILL NEED TO INCORPORATE THESE INCREASED LOADS INTO THE FRAMING DESIGN.
- GC SHALL COORDINATE BETWEEN COLD FORMED STEEL FRAMING SUPPLIER AND CLADDING SUPPLIER AS REQUIRED.

3C) LOADS:
- WIND LOADS GIVEN IN THESE DOCUMENTS ARE BASED ON A COMPONENT AND CLADDING TRIBUTARY AREA OF 10 SQUARE FEET. REDUCTION IN LOADS BASED ON TRIBUTARY AREA ARE ALLOWED AS PERMITTED IN THE GOVERNING BUILDING CODE.
- CALCULATE AND APPLY TO COLD FORMED STEEL FRAMING HEADERS, SILLS & JAMBS CUMULATIVE LINE AND CONCENTRATED TRIBUTARY LOADS FROM CLADDING DEAD LOAD AND WIND PRESSURES ON WINDOWS, LOUVERS, DOORS, CURTAIN WALL, AND OTHER OPENINGS
- COORDINATE MULLION AND JAMB LOCATIONS WITH THE GENERAL CONTRACTOR
- CONTRACTOR SHALL ACCOUNT FOR LOCALIZED LOADS AND MOMENTS DUE TO ECCENTRICALLY APPLIED LOADS SUCH AS SLIP CONNECTIONS AND WINDOW HEAD TRACKS

3D) PRIMARY FRAME DEFLECTIONS: PROVIDE VERTICAL SLIP CONNECTIONS AND DEFLECTION TRACKS AS NEEDED TO ACCOMMODATE VERTICAL DEFLECTIONS OF THE PRIMARY STRUCTURAL FRAMING. UNLESS NOTED OTHERWISE, PROVIDE THE FOLLOWING ALLOWANCES FOR VERTICAL DEFLECTION OF THE PRIMARY STRUCTURAL FRAMING:
- AT EXTERIOR / SPANDREL INFILL FRAMING: 3/4”
- AT EXTERIOR / SPANDREL BYPASS FRAMING: 3/4”
- AT INTERIOR FRAMING: GREATER OF L/240 OR 3/4"

3E) VERTICAL DEFLECTION CRITERIA: DESIGN COLD FORMED METAL FRAMING HEADERS TO MEET THE FOLLOWING VERTICAL DEFLECTION CRITERIA:
- FOR STUDS SUPPORTING MASONRY VENEER = SPAN / 600
- FOR STUDS SUPPORTING STUCCO = SPAN / 240
- FOR STUDS SUPPORTING THIN SET ADHERED VENEER = SPAN / 360
- FOR STUDS SUPPORTING METAL PANELS = SPAN / 240
- FOR STUDS SUPPORTING OTHER = SPAN / 240

3F) HORIZONTAL DEFLECTION CRITERIA: DESIGN COLD FORMED METAL FRAMING MEMBERS TO MEET THE FOLLOWING HORIZONTAL DEFLECTION CRITERIA:
- FOR STUDS BACKING-UP MASONRY VENEER = SPAN / 600
- FOR STUDS BACKING-UP STUCCO OR THIN SET ADHERED VENEER = SPAN / 360
- FOR STUDS BACKING-UP METAL PANELS = SPAN / 240
- FOR STUDS BACKING-UP OTHER = SPAN / 240
- PER IBC TABLE 1604.3 FOOTNOTE F, WIND LOAD IS PERMITTED TO BE TAKEN AS 0.42 TIMES THE COMPONENT AND CLADDING ULTIMATE LOADS FOR THE PURPOSE OF DETERMINING DEFLECTION LIMITS.

4) CONSTRUCTION REQUIREMENTS

4A) CONSTRUCTION SHALL CONFORM TO THE MINIMUM REQUIREMENTS SHOWN ON THE CONTRACT DOCUMENTS, INCLUDING DETAILS THROUGHOUT THE STRUCTURAL DOCUMENTS AND MINIMUM REQUIREMENTS INDICATED IN DETAILS ON THIS SHEET
- SEE DETAILS THIS SHEET INDICATING ADDITIONAL MINIMUM CFSF CRITERIA

4B) REQUIRED SITE VISITS
- THE CONTRACTOR'S COLD FORMED STEEL FRAMING ENGINEER SHALL MAKE SITE VISITS AS APPROPRIATE (1 MINIMUM) TO OBSERVE THE INSTALLATION OF THE COLD FORMED METAL FRAMING

4C) MINIMUM STUD GAGES: MINIMUM STUD THICKNESS BASED ON THE ATTACHMENT OF CLADDING MATERIAL IS GIVEN IN THE FOLLOWING TABLE:

MATERIAL ATTACHED TO STUDS	MIN. MIL THICKNESS	MAX. STUD SPACING
WELDED MASONRY VENEER LEDGE	68	16" OC
MASONRY VENEER BACKUP	43	16" OC
ALL OTHERS	33	24" OC

4D) ADDITIONAL CRITERIA FOR CFSF:
- PROVIDE HORIZONTAL STUD BRIDGING AS REQUIRED TO BRACE FRAMING, MINIMUM OF (1) ROW AT MID-HEIGHT
- PROVIDE (1) STUD EACH SIDE OF MASONRY CONTROL JOINTS
- COLD FORMED STEEL TRACK THICKNESS SHALL BE EQUAL TO OR GREATER THAN THE CONNECTED WALL STUD THICKNESS
- ALL CONNECTIONS SHALL USE PREFABRICATED FRAMING CONNECTORS (CLIPS). DO NOT SITE / FIELD FABRICATE CONNECTORS FROM TRACKS OR STUDS UNLESS SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS
- DO NOT USE PAF's TO RESIST TENSION LOADS IN CONCRETE
- DO NOT USE PAF's IN MASONRY
- DO NOT NOTCH, DRILL OR OTHERWISE MODIFY FRAMING WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER AND EOR

4 3/4" = 1'-0" CONTR ENGINEERED WALL - NOTES /REQUIRED DESIGN CRITERIA

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me engineers
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38107
May 19, 2021

Seal / Signature

Date	Description
2021.05.19	BP3: GOLDWALK - ISSUE FOR BID AND PERMIT

RCRBD Record Set TC 06/29/2021

Project Name
SSRC | BASE AREA IMPROVEMENTS

Project Number
003.7835.000

Description
PERFORMANCE SPECIFIED FRAMING

Scale
As indicated

1B-S5.60

DESIGNERS: NIC MARTIN
LEAD NDT TECH: COLIN KNOWLES
DATE PRINTED: 5/19/2021 11:40:31 AM
FILE PATH: BIM 360://003.7835.000 - Steamboat Redev/03.7835.000_Structural_SSR_GSQ 2021_V2021.rvt
MM JOB #: 20.1411.S.01
PRINCIPAL: KELLY KNOWLES
EOR:KELLY KNOWLES
PROJECT MANAGER: C. A. CHEN