XL™ 400 SYSTEM

DRAWING REVISION SCHEDULE

Sheet Number	Sheet Name		Rev1 02.20.2019	Rev2 04.02.2019	Rev3 07.31.2019	Rev4 08.05.2019	Rev5 12.19.2019	Rev6 04.16.2020	Rev7 07.06.2020	Rev8 10.23.2020	Rev9 05.04.2021	Rev10 05.01.2022	Rev11 02.17.2023	Rev12 01.03.2025
SX-0.01	COVER SHEET				X			X				X	X	
~~SX-0.02~~	~~XL400™ DESIGN CRITERIA / LOAD MAP~~	DELETED												
~~SX-0.03~~	~~XL400 ABBREVIATIONS & NOMENCLATURES~~	DELETED			X				X			X		
~~SX-0.04~~	~~XL400 GENERAL NOTES & SPECIFICATIONS~~	DELETED			X							X		
~~SX-0.05~~	~~XL400™ MATERIAL SPECIFICATIONS~~	DELETED			X									
SX-0.09	XL400™ NOTES AND NOMENCLATURE						X		X				X	
SX-0.10	XL400™ COLLAR DETAILS					X				X			X	X
SX-3.10	XL400 MOMENT COLUMN DETAILS			X					X	X	X	X	X	
SX-3.20	XL400 GRAVITY COLUMN DETAILS										X		X	
SX-3.30	XL400 BASE PLATE & FOUNDATION DETAILS										X		X	
SX-3.31	XL400 BASE PLATE & FOUNDATION DETAILS												X	
~~SX-3.32~~	~~XL400 OSHPD BASE PLATE & FOUNDATION DETAILS~~	DELETED	X					X			X	X		
SX-4.10	XL400 MOMENT BEAM DETAILS		X	X	X		X					X	X	
SX-4.20	XL400 DROP-IN GRAVITY BEAM DETAILS			X	X		X					X	X	
SX-4.21	XL400 CONVENTIONAL GRAVITY BEAM DETAILS				X							X		
SX-4.22	XL400 COLLAR CONNECTION DETAILS				X			X				X	X	
SX-4.23	XL400 CANTILEVER DETAILS								X					
SX-5.10	XL400 DECKING DETAILS					X						X	X	
SX-9.10	ROOF SCREEN ELEVATIONS & DETAILS												X	
SX-9.20	ELEVATOR SUPPORT PLAN, ELEVATION & DETAILS												X	

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NO.	DATE:	DESCRIPTION:
1	02/20/2019	SDR 037
2	04/02/2019	SDR 038
3	07/31/2019	Drafting Cleanup
4	08/08/2019	SDR 039, 041 & 042
5	12/19/2019	SDR 017 & 040
6	04/16/2020	SDR 007 & 046
7	07/06/2020	SDR 047
8	10/23/2020	SDR 048
9	05/04/2021	SDR 049
10	05/01/2022	SDR 051
11	02/17/2023	SDR 043
12	01/03/2025	SDR 055

PROJECT NAME

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TITLE:

COVER SHEET

ISSUE DATE: 05/01/2022

PROJECT NO.: -

SCALE:

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SX-0.01

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GENERAL NOTES

1. USE OF THE CONXL SYSTEM IS SUBJECT TO THE APPROVAL OF THE GOVERNING BUILDING CODE AND THE AUTHORITY HAVING JURISDICTION.

2. THE CONXL MOMENT CONNECTION IS PREQUALIFIED IN AISC 358 CHAPTER 10 FOR USE IN CONNECTING BEAMS AND COLUMNS IN SPECIAL MOMENT FRAME (SMF) AND INTERMEDIATE MOMENT FRAME (IMF) SYSTEMS. REFER TO AISC 358 CHAPTER 10 FOR ADDITIONAL DESIGN, FABRICATION, AND ERECTION REQUIREMENTS.

3. ALL STRUCTURAL STEEL IN THE CONXL SYSTEM SHALL CONFORM TO THE FOLLOWING MATERIAL REQUIREMENTS UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS. REFER TO SHEET SX-0.10 FOR COLLAR COMPONENT MATERIAL AND COATING REQUIREMENTS

WIDE-FLANGE AND WT SHAPES	ASTM A992,	FY=50 KSI
PLATES	ASTM A36 OR A572 GR.50	FY=36 KSI (A36), 50 KSI (A572 GR. 50)
ANGLES, CHANNELS, MISC CHANNELS	ASTM A36 OR A572 GR.50	FY=36 KSI (A36), 50 KSI (A572 GR. 50)
GRAVITY HSS COLUMNS	ASTM A500 GR. B OR C	FY=46 KSI (GR. B), 50 KSI (GR. C)
CONX SQUARE HSS MOMENT COLUMNS	ASTM A500 GR. C	FY=50 KSI (SEE NOTE 4)
CONX BUILT-UP BOX MOMENT COLUMNS	ASTM A572 GR. 50 OR 55	FY=50 KSI (GR. 50), 55 KSI (GR. 55) (SEE NOTE 4)

4. WHEN THE CONXL COLLAR IS USED AS THE MOMENT CONNECTION IN AN SMF SYSTEM, THE CONTRACTOR'S QC PLAN SHALL INCLUDE A REQUIREMENT THAT HSS AND BOX COLUMNS THAT ARE PART OF THE SFRS SHALL HAVE A MINIMUM COUPON YIELD STRESS (Fa) INDICATED ON THE MILL CERTIFICATION. FOR COUPON YIELD STRESS (Fa) REQUIREMENTS GREATER THAN THE SPECIFIED MINIMUM YIELD STRESS OF THE MATERIAL, REFER TO THE COLUMN LAYOUT PLAN OR COLUMN SCHEDULE.

5. CONXL COLLAR BOLTS ARE PRETENSIONED TO THE REQUIREMENTS OF ASTM F3125 GRADE A490. REFER TO SHEET SX-0.10 FOR ADDITIONAL MATERIAL AND COATING REQUIREMENTS FOR THE COLLAR BOLTS.

6. MACHINED BOLTS SHALL BE ASTM A307 OR BETTER .

7. HIGH-STRENGTH BOLTS SHALL BE ASTM F3125 GR. A325 OR BETTER INSTALLED SNUG-TIGHT UNLESS NOTED OTHERWISE; REFER TO GENERAL STRUCTURAL NOTES FOR ADDITIONAL REQUIREMENTS.

8. CONTRACTOR'S OPTION TO USE TWIST-OFF TYPE BOLTS FOR HIGH-STRENGTH BOLTS IN PRETENSIONED AND SLIP-CRITICAL APPLICATIONS.

9. REDUCED BEM SECTION (RBS) FLANGE CUTS SHALL BE FABRICATED IN ACCORDANCE WITH AISC 358 SECTION 5.7.

10. REFER TO SHEET SX-4.10 FOR STABILITY BRACING DETAILS FOR BEAMS THAT ARE PART OF THE SFRS.

11. HSS AND BOX COLUMNS THAT ARE PART OF THE SFRS IN SMF AND IMF SYSTEMS SHALL BE COMPLETELY FILLED WITH STRUCTURAL CONCRETE. REFER TO GENERAL STRUCTURAL NOTES FOR CONCRETE MATERIAL REQUIREMENTS.

12. GROUT FOR COLUMN BASE PLATES SHALL BE PLACED AND ITS COMPRESSIVE STRENGTH SHALL REACH ATLEAST 3,000 PSI PRIOR TO PLACING CONCRETE FOR ELEVATED FLOORS.

CONXL ACRONYMS & SYMBOLS

BWA	BEAM WEB ANGLE
BWP	BEAM WEB PLATE
CWP	COLUMN WEB PLATE
DTI	DIRECT TENSION INDICATOR
Fa	COUPON YIELD STRESS
GSN	GENERAL STRUCTURAL NOTES
HRC	HARDNESS ROCKWELL C
IMF	INTERMEDIATE MOMENT FRAME
RBS	REDUCED BEAM SECTION
SFRS	SEISMIC FORCE RESISTING SYSTEM
SHCS	SOCKET-HEAD CAP SCREW
SMF	SPECIAL MOMENT FRAME

COLUMN NOMENCLATURE

CG = HSS GRAVITY COLUMN

CM = HSS16x16 CONXL MOMENT COLUMN

CB = BOX16x16 CONXL MOMENT COLUMN

C = COLUMN (MEMBER TYPE)

BEAM NOMENCLATURE

BMM - PROFILE
BMG - PROFILE
BGM - PROFILE
BMC - PROFILE
BCM - PROFILE
BGG - PROFILE
BGC - PROFILE
BCG - PROFILE

BEAM PROFILE:
W18
W21
W24
W27
W30

CONNECTION TYPE FAR END (RIGHT)
CONNECTION TYPE NEAR END (LEFT)

CONNECTION TYPE LEGEND

C = CANTILEVER BEAM TO BEAM OR BEAM TO COLUMN MOMENT CONN. (FULLY RESTRATINED)

G = GRAVITY BEAM TO BEAM OR BEAM TO COLUMN CONN. (PINNED)

M = CONXL BEAM TO COLUMN MOMENT CONN. (FULLY RESTRAINED)

B=BEAM (MEMBER TYPE)

XL400 MOMENT COLLAR NOMENCLATURE

CCA400	COLLAR CORNER ASSEMBLY
CCT400	COLLAR CORNER TOP
CCM400	COLLAR CORNER MIDDLE
CCB400	COLLAR CORNER BOTTOM
CFA400	COLLAR FLANGE ASSEMBLY
CFT400	COLLAR FLANGE TOP
CWX400	COLLAR WEB EXTENSION
CFB400	COLLAR FLANGE BOTTOM

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11	02/17/2023	SDR 043

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE:
XL400™ NOTES AND NOMENCLATURE

ISSUE DATE: 02/03/23

PROJECT NO.: -

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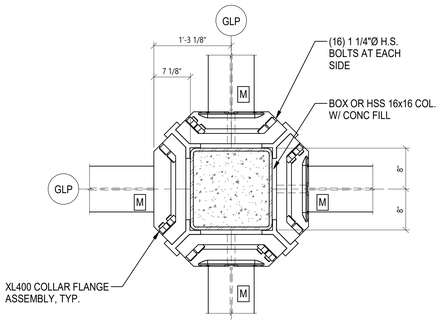
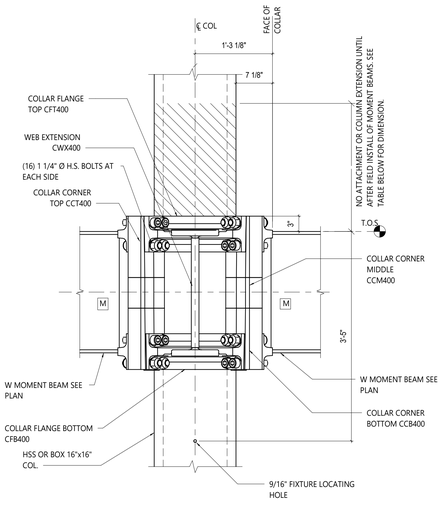


NOTES
1. FOUR MOMENT BEAMS SHOWN; SEE PLANS FOR ACTUAL QUANTITIES

XL400 COLLAR PLAN

SCALE: 1" = 1'-0" | 10

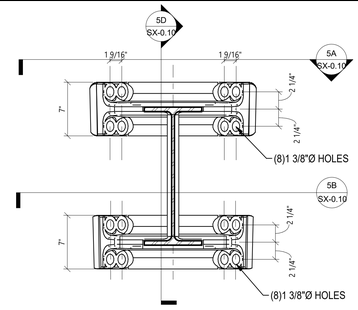


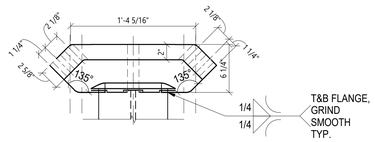
INSTALL CLEARANCE FOR COLLAR CONNECTION	
MOMENT BEAM	REQUIRED CLEARANCE
W18	2'-6"
W21	2'-9"
W24	3'-0"
W27	3'-3"
W30	3'-6"

NOTE:
(1) THE COLLAR WEB EXTENSION PLATE MAY BE OMITTED AT SIDES WHERE NO BEAM IS CONNECTED TO THE COLUMN.
(2) THE GROOVE WELD MACHINING PREPARATION ON THE CFT & CFB IS NOT REQUIRED WHEN NO MOMENT BEAM IS CONNECTED.
(3) NO COLLAR CORNER MIDDLE PRESENT WHEN MOMENT BEAM IS A W18.
(4) THE FIXTURE LOCATING HOLE IS ON THE PROJECT SOUTH SIDE OF THE COLUMN

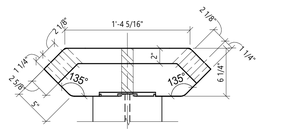
XL400 COLLAR ELEVATION

SCALE: 1" = 1'-0" | 11

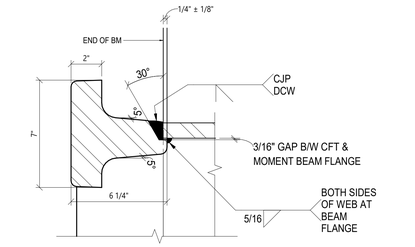




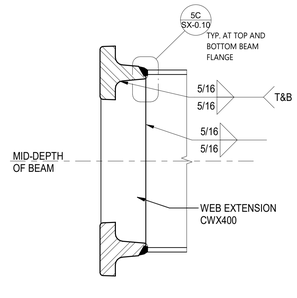
5A UPPER COLLAR FLANGE (CFT400)
1 1/2" = 1'-0"



5B LOWER COLLAR FLANGE (CFB400)
1 1/2" = 1'-0"



5C BEAM FLANGE TO COLLAR CONNECTION
3" = 1'-0"

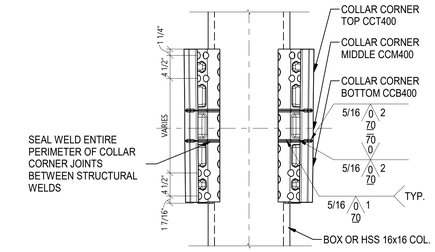


ELEVATION

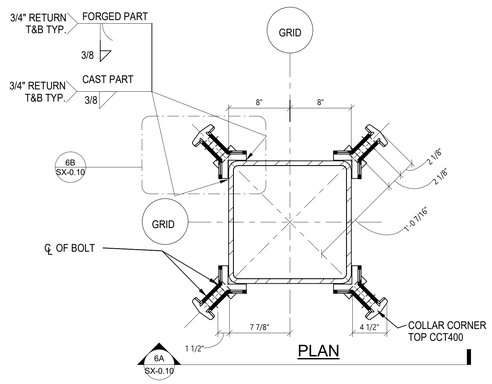
5D COLLAR FLANGE ASSEMBLY (CFA400)
1 1/2" = 1'-0"

XL400 COLLAR FLANGE ASSEMBLY (CFA400)

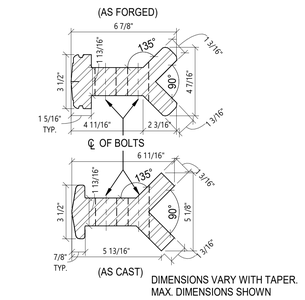
SCALE: 1 1/2" = 1'-0" | 5



6A CONXL MOMENT COLLAR SECTION
1" = 1'-0"



PLAN



DIMENSIONS VARY WITH TAPER. MAX. DIMENSIONS SHOWN

6B SECTION
3" = 1'-0"

XL400 COLLAR CORNER ASSEMBLY (CCA400) TO COLUMN CONNECTION

SCALE: 1 1/2" = 1'-0" | 6

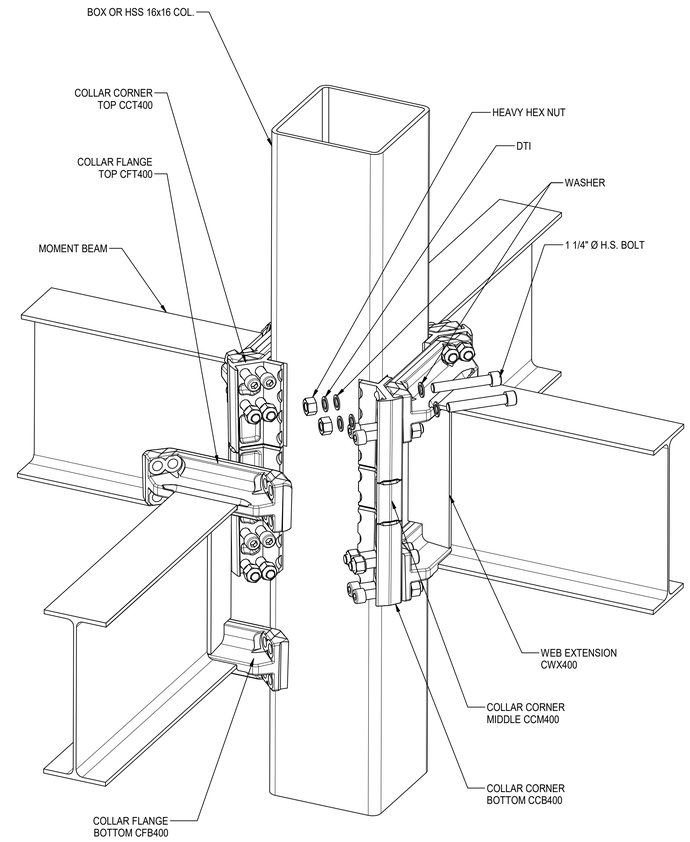
COMPONENT	MATERIAL SPECIFICATION	RECOMMENDED HARDWARE COATING WHEN REQUIRED
CORNER COLLAR	A958/A958M GRADE SC8620, CLASS 80/50	NONE
COLLAR FLANGE	A572 GRADE 50	NONE
SOCKET HEAD CAP SCREW	ASTM F3125 A490S (SEE NOTES BELOW)	ZN/AL INORGANIC PROTECTIVE COATING PER ASTM F1136 GRADE 3
HEAVY HEX NUTS	A563	ZN/AL INORGANIC PROTECTIVE COATING PER ASTM F1136 GRADE 5
FLAT WASHER	F436	ZN/AL INORGANIC PROTECTIVE COATING PER ASTM F1136 GRADE 3
DTI WASHER	F959	NONE

NOTES:

1. COLLAR BOLTS SHALL BE PRETENSIONED 1¼ -in.- (32-mm-) DIAMETER HIGH STRENGTH BOLTS CONFORMING TO ASTM F3125 A490 WITH THREADS EXCLUDED FROM THE SHEAR PLANE. THE BOLTS SHALL HAVE A MODIFIED HEAD GEOMETRY CONFORMING WITH ASME B18.3, SOCKET HEAD CAP SCREW, WITH AN INCREASED DIAMETER OF 2-IN. THE MODIFIED GEOMETRY SHALL EXTEND FROM THE TOP OF THE HEAD, UP TO BUT NOT INCLUDING THE BEARING AREA. THE HEAD SHALL BE MARKED "A490S" IN ACCORDANCE WITH ASTM F3125 SUPPLEMENTARY REQUIREMENT S2.

COLLAR COMPONENT MATERIAL REQUIREMENTS

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



XL400-COLLAR EXPLODED ISOMETRIC

SCALE: 1 1/2" = 1'-0" | 3

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7	07/06/2020	SDR 047
11	02/17/2023	SDR 043
12	01/03/2025	SDR 055

PROJECT NAME

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TITLE: XL400™ COLLAR DETAILS

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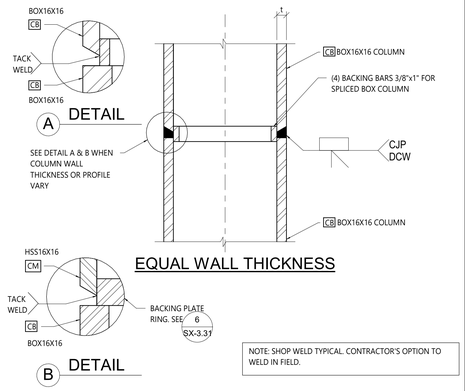
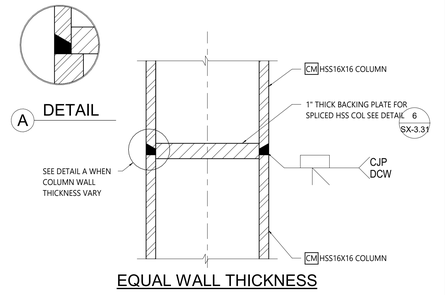


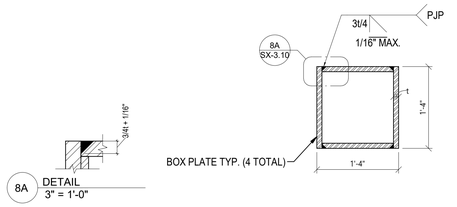
NOTE: SHOP WELD TYPICAL. CONTRACTOR'S OPTION TO WELD IN FIELD.

BOX COLUMN SPLICE — SCALE: 3" = 1'-0" — 5

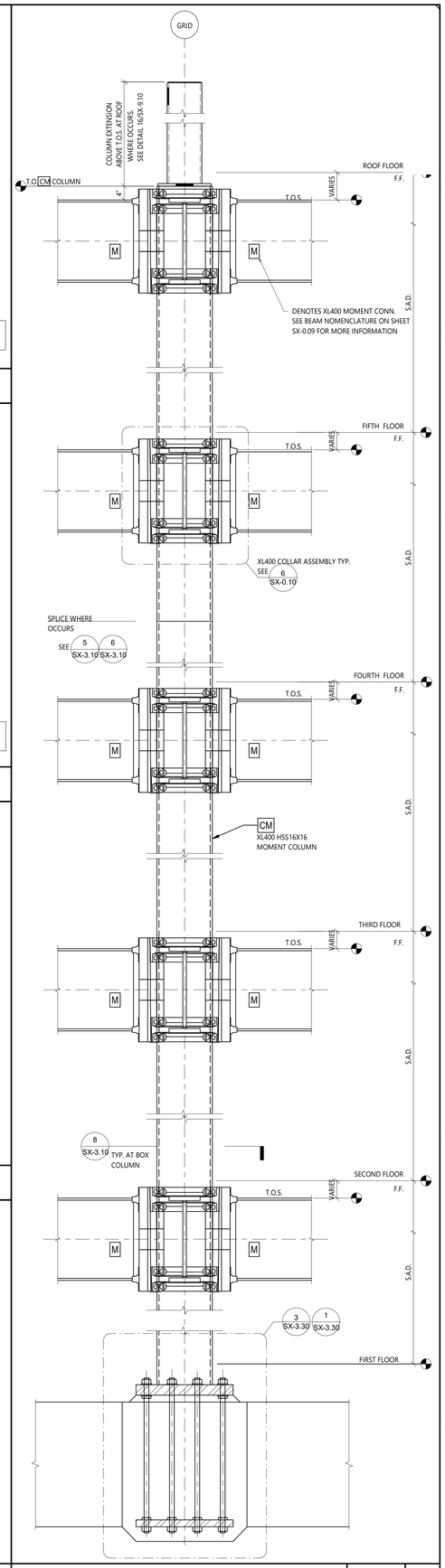


NOTE: SHOP WELD TYPICAL. CONTRACTOR'S OPTION TO WELD IN FIELD.

HSS COLUMN SPLICE — SCALE: 3" = 1'-0" — 6



XL400 BOX COLUMN FABRICATION — SCALE: 3/8" = 1'-0" — 8



CM MOMENT COLUMN ELEVATION — SCALE: 3/4" = 1'-0" — 4

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4	08/08/2019	SDR 039, 041 & 042
8	10/23/2020	SDR 048
11	02/17/2023	SDR 043

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE: XL400 MOMENT COLUMN DETAILS

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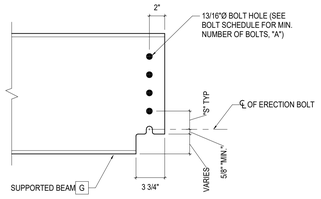
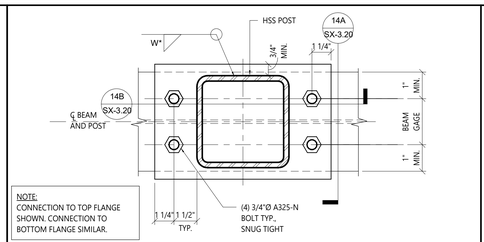


NOTES

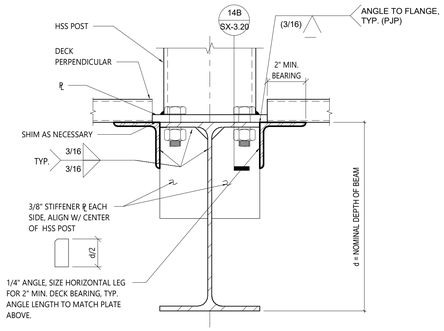
1. FOR BOLT SCHEDULE SEE TABLE 3/SX-3.20

GRAVITY BEAM COPED BOTTOM FLANGE

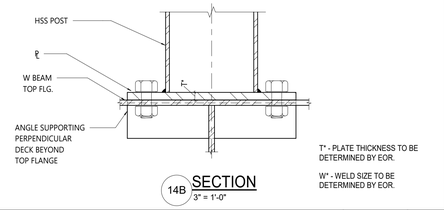
SCALE: 1 1/2" = 1'-0" | 17



NOTE:
CONNECTION TO TOP FLANGE SHOWN. CONNECTION TO BOTTOM FLANGE SIMILAR.



14A SECTION
3" = 1'-0"



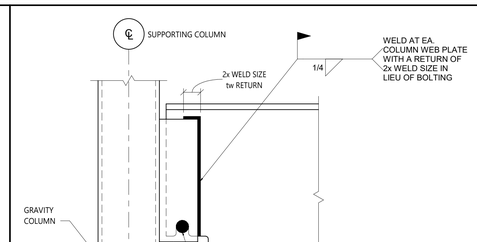
14B SECTION
3" = 1'-0"

T* - PLATE THICKNESS TO BE DETERMINED BY EOR.

W* - WELD SIZE TO BE DETERMINED BY EOR.

GRAVITY POST TO BEAM CONNECTION

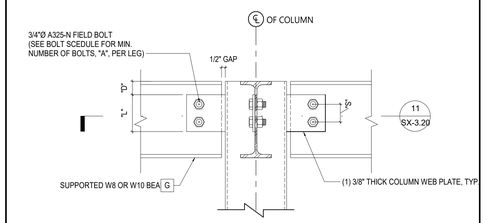
SCALE: 3" = 1'-0" | 14



NOTE:
FOR NOTES NOT SHOWN SEE DETAILS 5/-

ALTERNATE WELDED BEAM TO GRAVITY COLUMN CONNECTION

SCALE: 3" = 1'-0" | 9

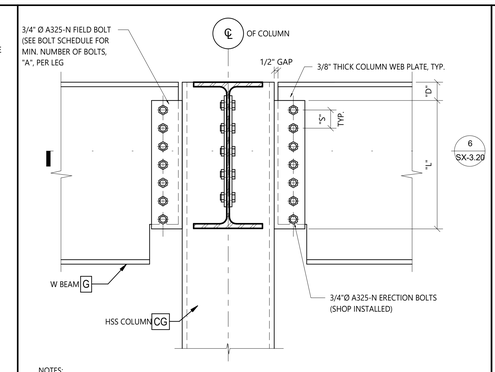


NOTES

1. FOR NOTES NOT SHOWN SEE 5/SX-3.20

W8 AND W10 BEAM TO GRAVITY COLUMN DETAIL

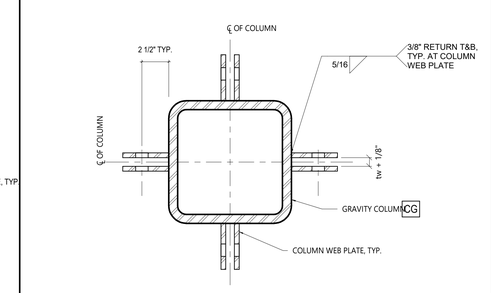
SCALE: 1 1/2" = 1'-0" | 10



NOTES:
1) FOR COLUMN WEB PLATE DEMENSIONS AND BOLT SCHEDULE SEE DETAILS 7/SX-3.20 & 3/SX-3.20
2) FOR GRAVITY BEAM BOTTOM FLANGE COPE DIMENSIONS SEE DETAIL 17/SX-3.20

BEAM TO GRAVITY COLUMN DETAIL

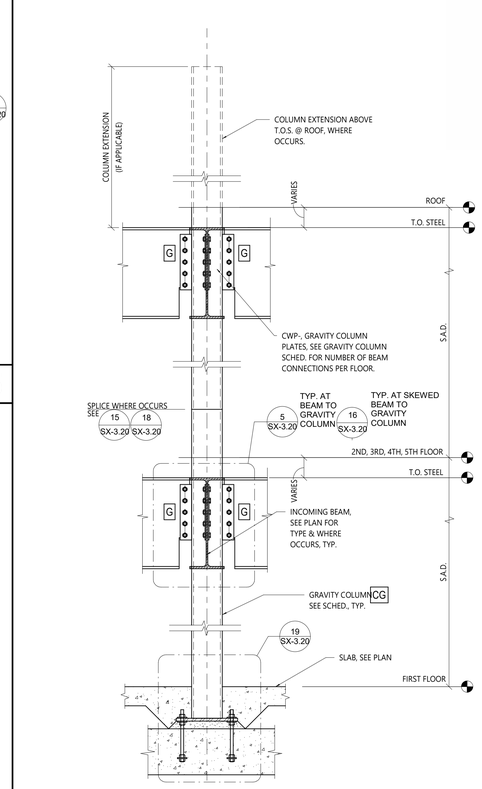
SCALE: 1 1/2" = 1'-0" | 5



NOTES:
1) BEAMS NOT SHOWN FOR CLARITY
2) 4 BEAM TO COLUMN CONNECTION SHOWN. SEE PLANS FOR ACTUAL NUMBER OF CONNECTIONS

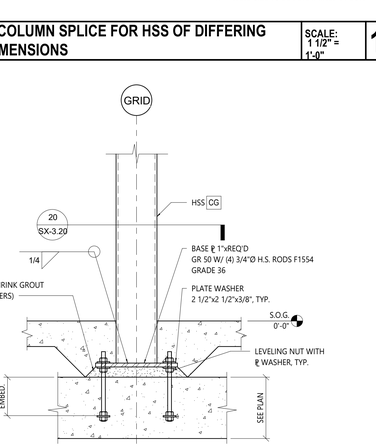
SECTION BEAM TO GRAVITY COLUMN

SCALE: 3" = 1'-0" | 6



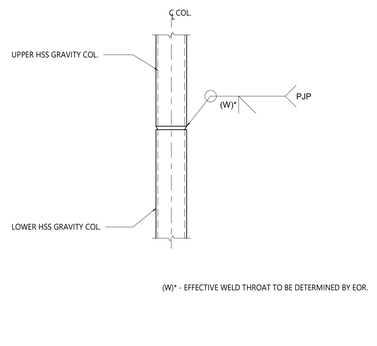
CG GRAVITY COLUMN ELEVATION

SCALE: 3/4" = 1'-0" | 2



GRAVITY COLUMN BASE CONNECTION

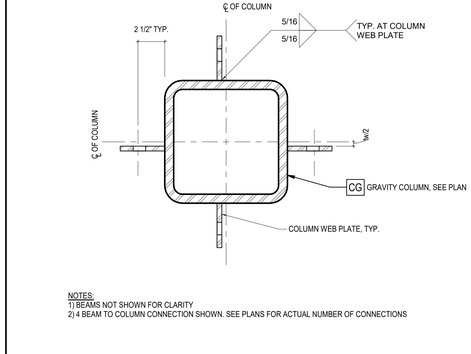
SCALE: 1" = 1'-0" | 19



(W)* - EFFECTIVE WELD THROAT TO BE DETERMINED BY EOR.

GRAVITY COLUMN SPLICE FOR HSS OF SIMILAR OUTER DIMENSIONS

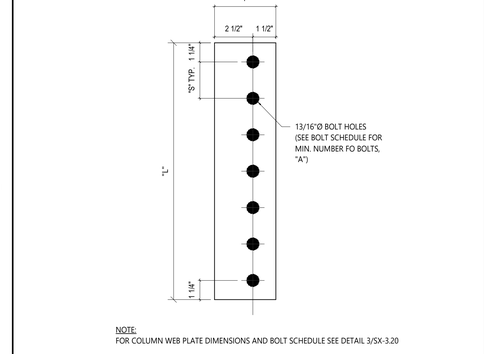
SCALE: 1 1/2" = 1'-0" | 15



NOTES:
1) BEAMS NOT SHOWN FOR CLARITY
2) 4 BEAM TO COLUMN CONNECTION SHOWN. SEE PLANS FOR ACTUAL NUMBER OF CONNECTIONS

SECTION W8 AND W10 BEAM TO GRAVITY COLUMN

SCALE: 3" = 1'-0" | 11



NOTE:
FOR COLUMN WEB PLATE DIMENSIONS AND BOLT SCHEDULE SEE DETAIL 3/SX-3.20

GRAVITY COLUMN WEB PLATE (CWP)

SCALE: 3" = 1'-0" | 7

COLUMN WEB PLATE (CWP) DIMENSIONS

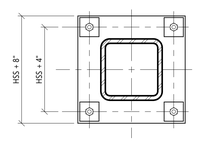
INCOMING BEAM	"L" CLIP LENGTH (IN)	"A" NUMBER OF BOLTS	"S" BOLT SPACING (IN)	"D" T.O.S. TO EDGE OF CLIP (IN)
W8*	4 13/16"	2*	2 5/16*	1 3/4*
W10*	4 13/16"	2*	2 5/16*	1 3/4*
W12	7 1/8	3	2 5/16	1 3/4
W14	9 7/16	4	2 5/16	1 3/4
W16	11 3/4	5	2 5/16	1 3/4
W18	14 1/16	6	2 5/16	1 3/4
W21	14 1/16	6	2 5/16	1 3/4
W24	16 3/8	7	2 5/16	1 3/4
W27	16 3/8	7	2 5/16	1 3/4
W30	16 3/8	7	2 5/16	1 3/4
W33	18 11/16	8	2 5/16	1 3/4
W36, W40, W44	18 11/16	8	2 5/16	1 3/4

NOTES

1. *FOR W8 AND W10 INCOMING BEAMS IN A BEAM TO COLUMN GRAVITY CONNECTION, USE DETAIL 10/SX-3.20.
2. IN CONDITIONS WHERE k REGION OF SUPPORTING BEAM IS ENCROACHED BY THE CWPS, ADJUST "D" VALUE SO CWPS ARE CLEAR OF THIS REGION.

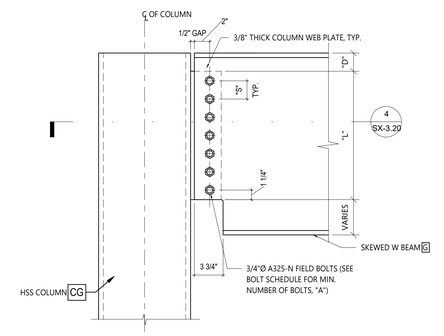
BEAM TO COLUMN CONNECTION BOLT SCHEDULE

SCALE: 1 1/2" = 1'-0" | 3



SECTION - GRAVITY COLUMN BASE CONNECTION

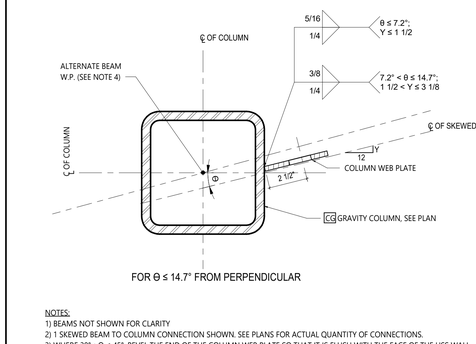
SCALE: 1 1/2" = 1'-0" | 20



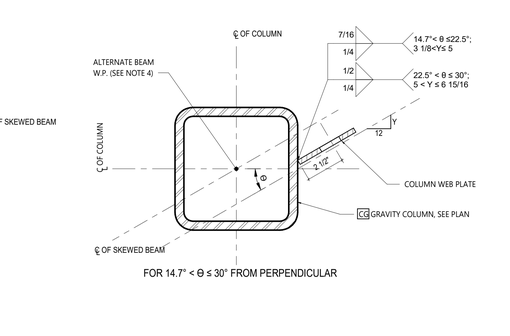
NOTES:
1) FOR COLUMN WEB PLATE DEMENSIONS AND BOLT SCHEDULE SEE DETAILS 7/SX-3.20 & 3/SX-3.20

SKEWED BEAM TO GRAVITY COLUMN DETAIL

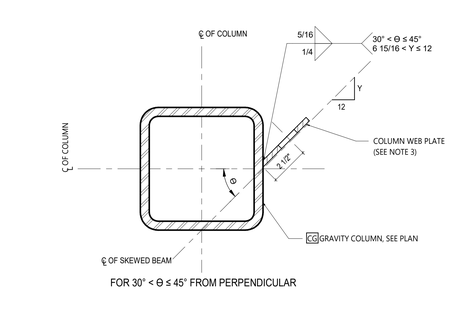
SCALE: 1 1/2" = 1'-0" | 16



FOR Θ ≤ 14.7° FROM PERPENDICULAR



FOR 14.7° < Θ ≤ 30° FROM PERPENDICULAR



FOR 30° < Θ ≤ 45° FROM PERPENDICULAR

NOTES:
1) BEAMS NOT SHOWN FOR CLARITY
2) 1 SKEWED BEAM TO COLUMN CONNECTION SHOWN. SEE PLANS FOR ACTUAL QUANTITY OF CONNECTIONS.
3) WHERE 30° < Θ ≤ 45°, BEVEL THE END OF THE COLUMN WEB PLATE SO THAT IT IS FLUSH WITH THE FACE OF THE HSS WALL.
4) THE ALTERNATE BEAM WORK POINT MAY BE USED PROVIDED THAT THE WELDS OF THE COLUMN WEB PLATE ARE MADE ON THE FLAT SURFACE OF THE HSS WALL. THE ALTERNATE BEAM WORK POINT DOES NOT APPLY WHERE 30° < Θ ≤ 45°.

SECTION SKEWED BEAM TO GRAVITY COLUMN

SCALE: 3" = 1'-0" | 4

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9	05/04/2021	SDR 049
10	05/01/2022	SDR 051
11	02/17/2023	SDR 043

PROJECT NAME

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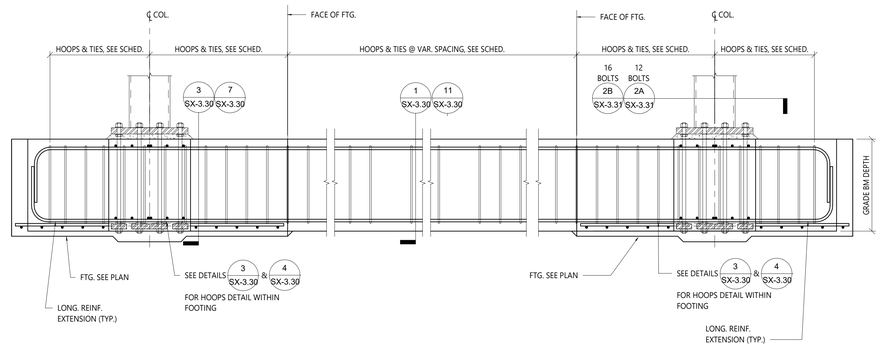
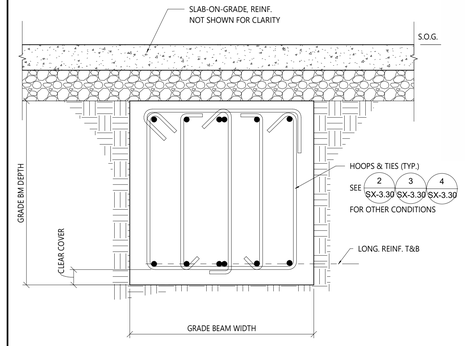


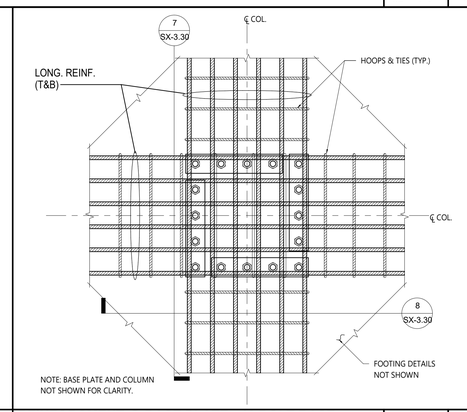
GRADE BEAM ELEVATION

SCALE: 1/2" = 1'-0" | 5



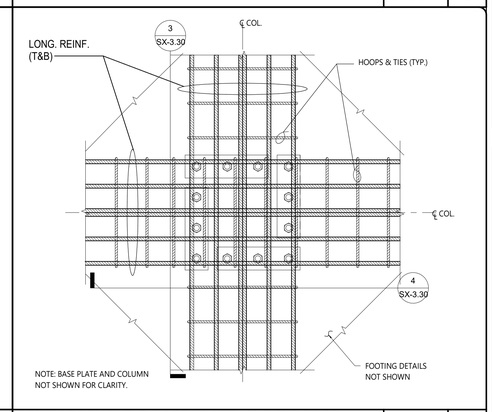
GRADE BEAM SECTION - 12 BOLT BASE PATTERN

SCALE: 1" = 1'-0" | 1



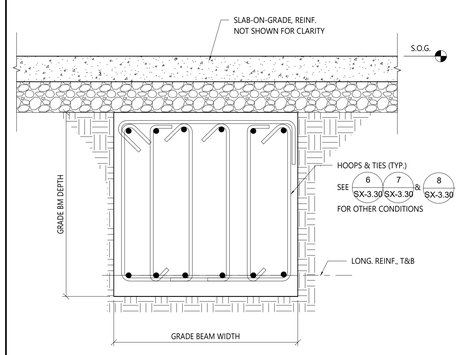
REINFORCMENT @ BASE PLATE - 16 BOLT BASE PATTERN - PLAN VIEW

SCALE: 3/4" = 1'-0" | 6



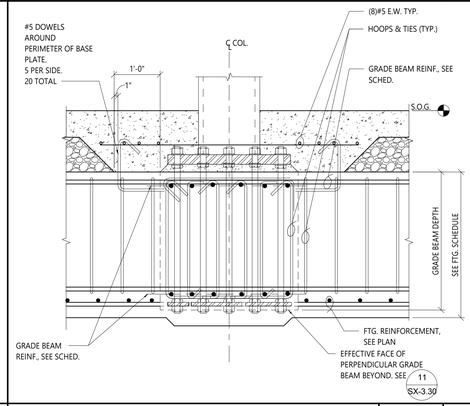
REINFORCEMENT @ BASE PLATE -12 BOLT BASE PATTERN - PLAN VIEW

SCALE: 3/4" = 1'-0" | 2



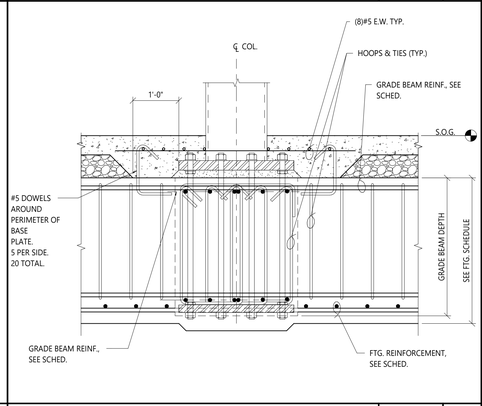
GRADE BEAM SECTION - 16 BOLT BASE PATTERN

SCALE: 1" = 1'-0" | 11



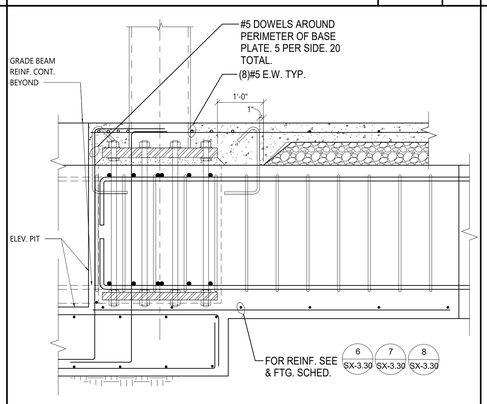
SECTION - 16 BOLT BASE PATTERN

SCALE: 3/4" = 1'-0" | 7



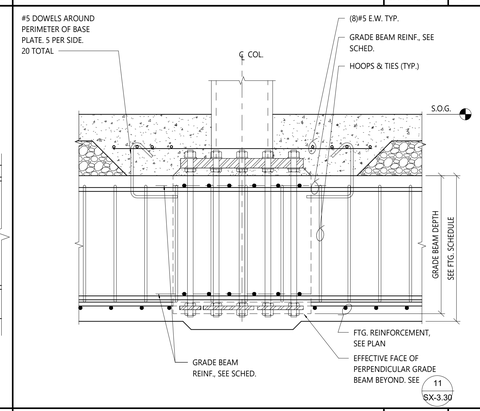
SECTION - 12 BOLT BASE PATTERN

SCALE: 3/4" = 1'-0" | 3



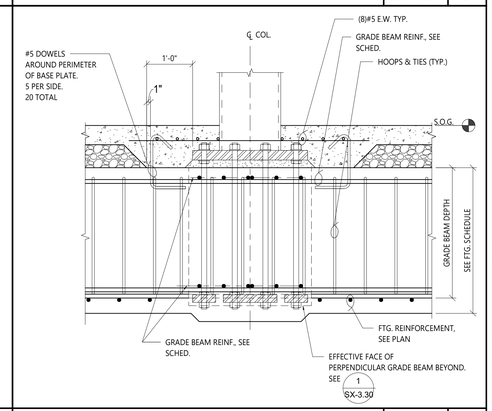
SPREAD FTG @ ELEVATOR PIT

SCALE: 3/4" = 1'-0" | 12



SECTION - 16 BOLT BASE PATTERN

SCALE: 3/4" = 1'-0" | 8



SECTION - 12 BOLT BASE PATTERN

SCALE: 3/4" = 1'-0" | 4

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PROJECT NAME

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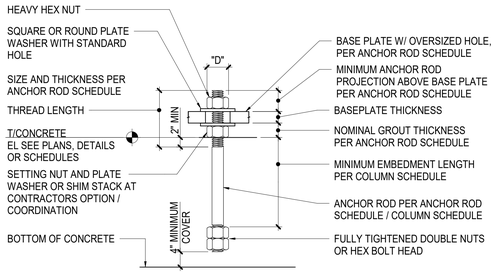


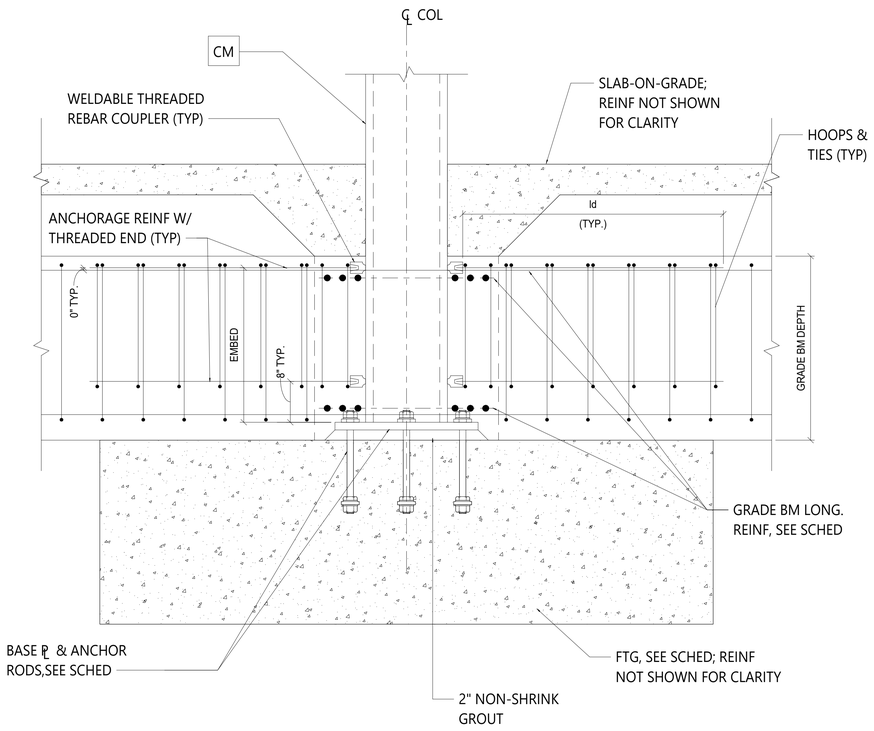
ANCHOR ROD SCHEDULE

ANCHOR ROD DIAMETER	BASE PL HOLE DIA "D"	MIN WASHER SIZE	MIN WASHER t	MIN PROJ ABOVE BASE PL	NOMINAL GROUT THICKNESS	MIN. EDGE DIST. IN BASE PLATE
3/4"	1 5/16"	2"	1/4"	3"	2"	1 1/2"
1"	1 7/8"	3"	3/8"	3 1/2"	2"	2"
1 1/4"	2 1/8"	3 1/2"	1/2"	4"	2 1/2"	2 1/4"
1 1/2"	2 3/8"	4"	1/2"	4"	2 1/2"	2 1/2"
1 3/4"	2 7/8"	4 1/2"	5/8"	5"	3"	2 3/4"
2"	3 1/4"	5"	3/4"	5"	3 1/2"	3 1/2"
2 1/2"	3 3/4"	5 1/2"	7/8"	5 1/2"	4"	4"

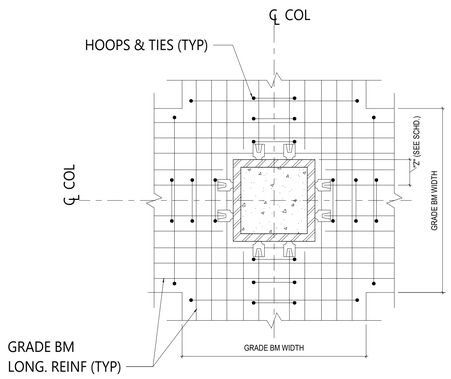
NOTES:

1. SEE TYPICAL BASE PLATE DETAILS
2. TACK-WELD AS REQUIRED FOR ERECTION
3. REFER TO NOTE #11 ON SX-0.09 FOR ADDITIONAL GROUTING REQUIREMENTS.

ANCHOR ROD DETAIL — SCALE: 3/4" = 1'-0" — 14

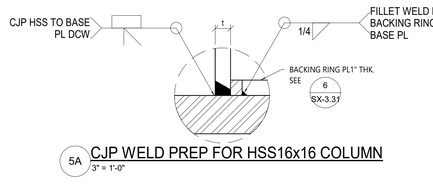


ALTERNATE - EMBEDDED SMF COLUMN BASE DETAIL — SCALE: 1" = 1'-0" — 12

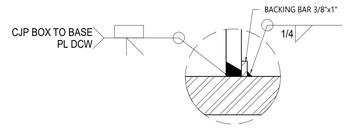


COLUMN PROFILE	WALL THICKNESS (IN.)	"Z" OFFSET (IN.)
BOX16X16	2 1/2", 2 1/4", 2"	6"
BOX16X16	1 3/4", 1 1/2", 1 1/4"	5"
BOX16X16	≤ 1 1/8"	4"
HSS16X16	ALL	4"

12A SECTION
1" = 1'-0"

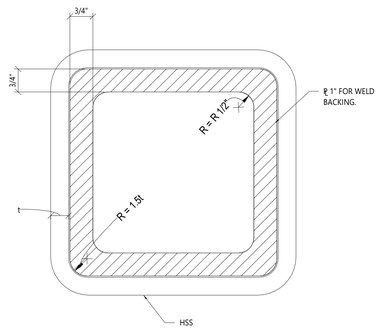


5A CJP WELD PREP FOR HSS16x16 COLUMN
3" = 1'-0"

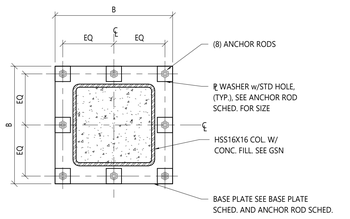


5B CJP WELD PREP DETAIL FOR BOX16x16 COLUMN
3" = 1'-0"

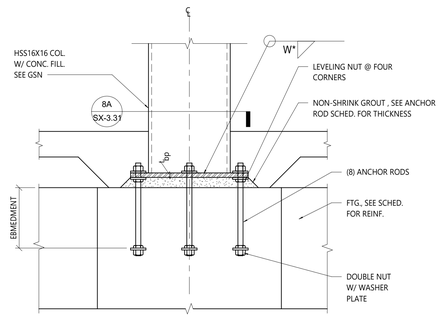
COLUMN TO BASE PLATE WELD DETAILS — SCALE: 3" = 1'-0" — 5



HSS COLUMN BASE PLATE AND SPLICE JOINT BACKING PLATE RING — SCALE: 6" = 1'-0" — 6

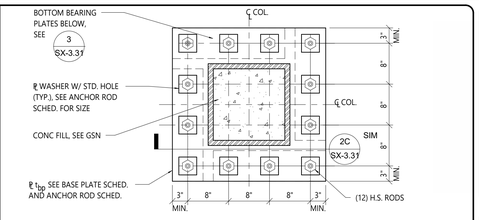


8A PLAN VIEW
1" = 1'-0"

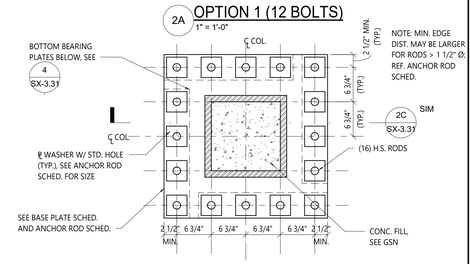


COLUMN PROFILE	WALL THICKNESS (IN.)	WELD SIZE, "W" (IN.)	BASE PL WIDTH, "B" (IN.)	BASE PL THICKNESS tbp (IN.)

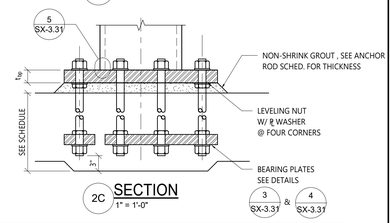
PIN BASE PLATE DETAIL FOR 16x16 MOMENT COLUMN — SCALE: 1" = 1'-0" — 8



2A OPTION 1 (12 BOLTS)
1" = 1'-0"



2B OPTION 2 (16 BOLTS)
1" = 1'-0"

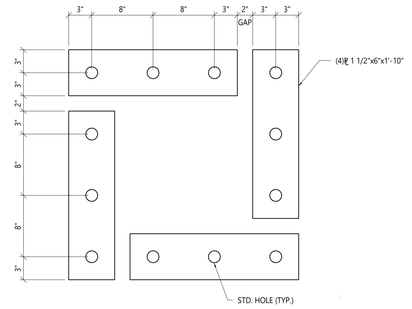


2C SECTION
1" = 1'-0"

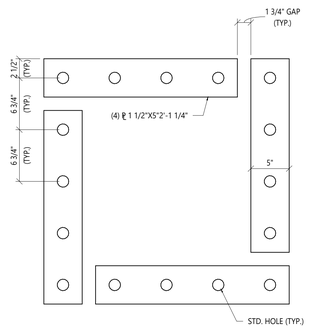
3 SX-3.31 & 4 SX-3.31

COL. PROFILE	COLUMN WALL THICKNESS (IN)	WELD DETAIL	BASE PLATE THICKNESS t_{bp} (IN)	OPTION #	ANCHOR ROD Ø	ANCHOR ROD MATERIAL
HSS16x16						
BOX16x16						
BOX16x16						
BOX16x16						

MOMENT BASE PLATE DETAIL FOR 16x16 MOMENT COL. — SCALE: 1" = 1'-0" — 2



BOTTOM BEARING PLATES (12 BOLT) OPTION 1 — SCALE: 1 1/2" = 1'-0" — 3



BOTTOM BEARING PLATES (16 BOLT) OPTION 2 — SCALE: 1 1/2" = 1'-0" — 4

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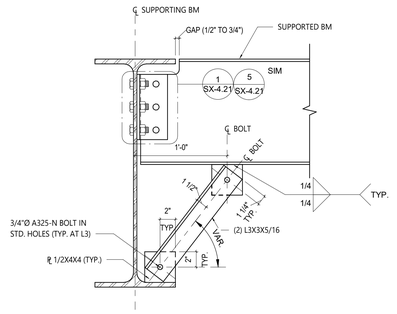
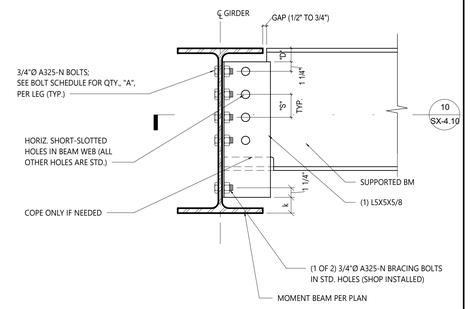


NOTES:

1. SEE DETAIL 3/SX-4.21 FOR BOLT SCHEDULE.

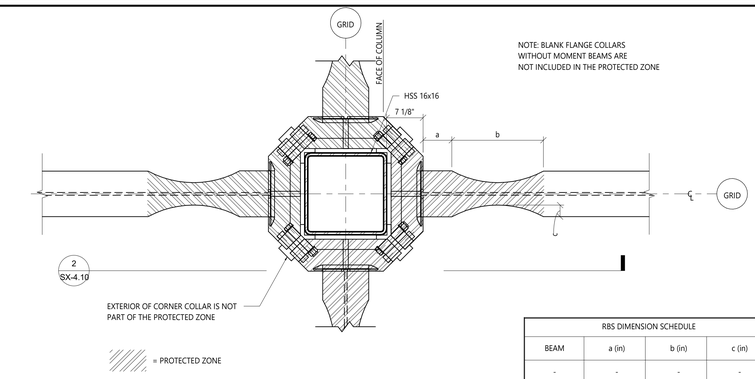
BOTTOM FLANGE LATERAL BRACING - IN-LINE KICKER OPTION | SCALE: 1 1/2" = 1'-0" | **13**



NOTES

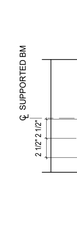
1. SEE DETAIL 3/SX-4.21 FOR BOLT SCHEDULE.

BOTTOM FLANGE LATERAL BRACING - SINGLE ANGLE OPTION | SCALE: 1 1/2" = 1'-0" | **9**

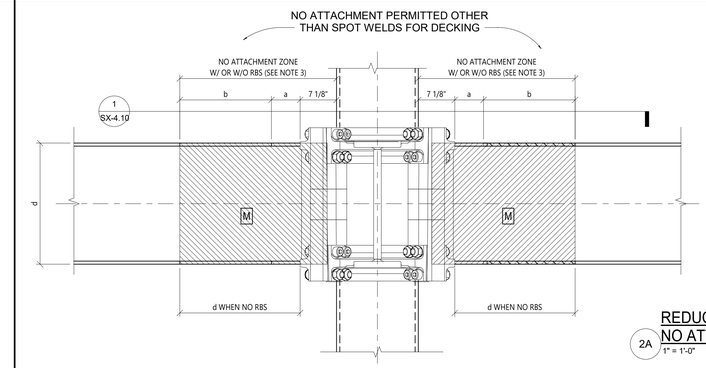


RBS DIMENSION SCHEDULE			
BEAM	a (in)	b (in)	c (in)
-	-	-	-
-	-	-	-

REDUCED BEAM SECTIONB(RBS) TOP VIEW | SCALE: 1" = 1'-0" | **1**



SECTION - BOTTOM FLANGE LATERAL BRACING - SINGLE ANGLE OPTION | SCALE: 1 1/2" = 1'-0" | **10**

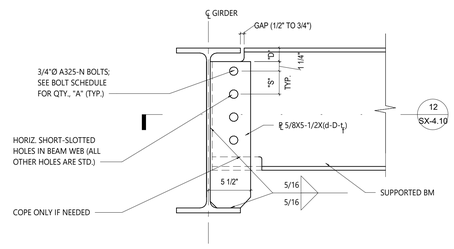


NOTES:

1. SPECIAL INSPECTION SHALL BE IN ACCORDANCE WITH 2019 CBC, CHAPTER 17 AND AWS D1.1. VISUAL INSPECTION MEANS THE INSPECTOR VISUALLY INSPECTS THE WELDING FOR ADHERENCE TO THE APPROVED WELD PROCEDURE STARTING WITH FIT-UP AND PROCEEDING THROUGH THE WELDING PROCESS. CONTINUOUS OBSERVATION IS NOT REQUIRED.
2. METAL DECK CAN BE SPOT WELDED IN PROTECTED ZONE. ELECTRODE USED IN PROTECTED ZONE SHALL BE LOW HYDROGEN.
3. SHEAR STUDS, MECHANICAL DECK FASTENERS, PENETRATIONS, AND FASTENERS TO THE BEAM WITHIN THE PROTECTED ZONE ARE PROHIBITED.
4. CONTRACTOR SHALL PAINT PROTECTED ZONE WITH NOTE, "NO ATTACHMENT ZONE".

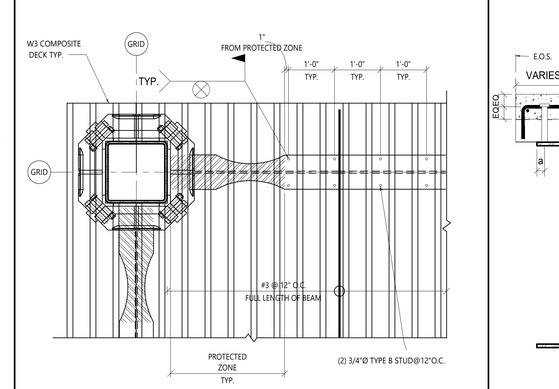
2A REDUCED BEAM SECTION DETAIL (RBS) & NO ATTACHMENT ZONE
1" = 1'-0"

REDUCED BEAM SECTION (RBS) | SCALE: 1" = 1'-0" | **2**

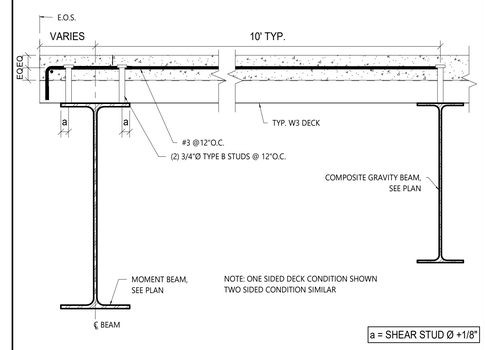


NOTES
1. SEE DETAIL 3/SX-4.21 FOR BOLT SCHEDULE.

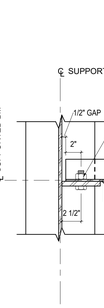
BOTTOM FLANGE LATERAL BRACING - SINGLE PLATE OPTION | SCALE: 1 1/2" = 1'-0" | **11**



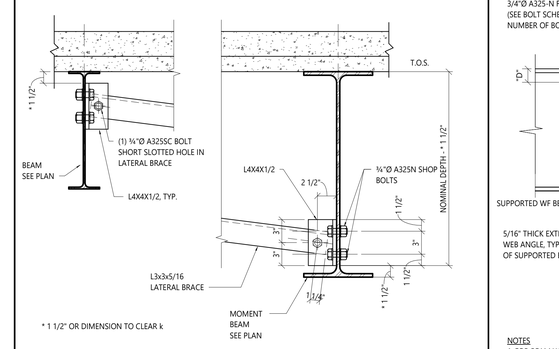
TORSIONAL BRACING - DECK PERPENDICULAR TO MOMENT BEAM- PLAN VIEW | SCALE: 3/4" = 1'-0" | **7**



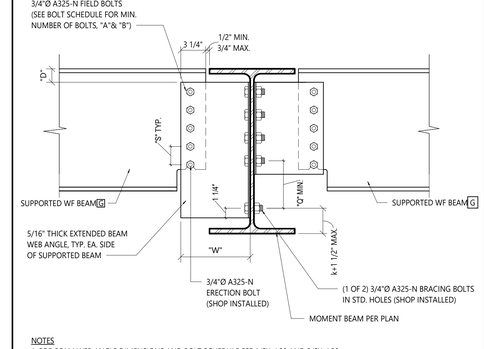
TORSIONAL BRACING - DECK PERPENDICULAR TO MOMENT BEAM- SECTION VIEW | SCALE: 1 1/2" = 1'-0" | **3**



SECTION - BOTTOM FLANGE LATERAL BRACING - SINGLE PLATE OPTION | SCALE: 1 1/2" = 1'-0" | **12**



BOTTOM FLANGE LATERAL BRACING - PERPENDICULAR KICKER OPTION | SCALE: 1 1/2" = 1'-0" | **8**



NOTES

1. FOR BEAM WEB ANGLE DIMENSIONS AND BOLT SCHEDULE SEE 1/SX-4.20 AND 3/SX-4.20
2. FOR NOTES NOT SHOWN SEE 17/SX-4.20

BOTTOM FLANGE LATERAL BRACING - EXTENDED DOUBLE CLIP OPTION | SCALE: 1 1/2" = 1'-0" | **4**

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REVISIONS:

NO:	DATE:	DESCRIPTION:
1	02/20/2019	SDR 037
6	04/16/2020	SDR 007 & 046
9	05/04/2021	SDR 069
10	05/01/2022	SDR 051
11	02/17/2023	SDR 043

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE: XL400 MOMENT BEAM DETAILS

ISSUE DATE: 05/01/2022

PROJECT NO.: -

SCALE: As indicated

SHEET NO.
SX-4.10

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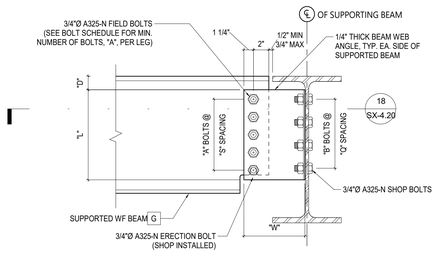
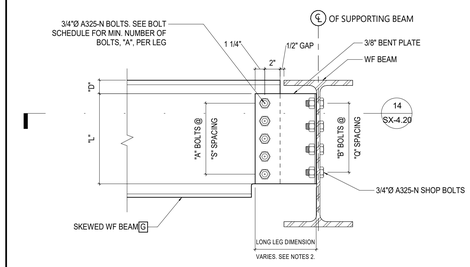


NOTES

1. FOR BEAM WEB ANGLE DIMENSIONS AND BOLT SCHEDULE SEE 1/SX-4.20 AND 3/SX-4.20
2. FOR GRAVITY BEAM COPE DIMENSIONS SEE DETAIL 6/SX-4.20

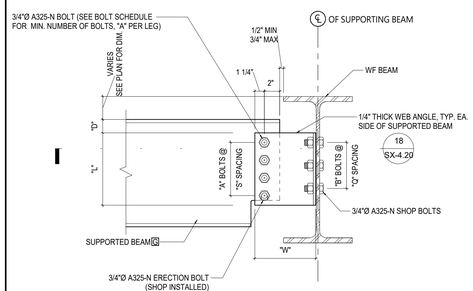
BEAM TO BEAM GRAVITY CONNECTION | SCALE: 1 1/2" = 1'-0" | 17



NOTES

1. FOR BEAM WEB ANGLE DIMENSIONS AND BOLT SCHEDULE SEE 1/SX-4.20 AND 3/SX-4.20
2. FOR SKEWED GRAVITY BEAMS, THE "LONG LEG" DIMENSION SHOULD BE CALCULATED USING THE SKEW ANGLE AND THE DIMENSIONS SHOWN ON 14/SX-4.20
3. FOR SKEWED GRAVITY BEAM COPE DIMENSIONS SEE DETAIL 7/SX-4.20

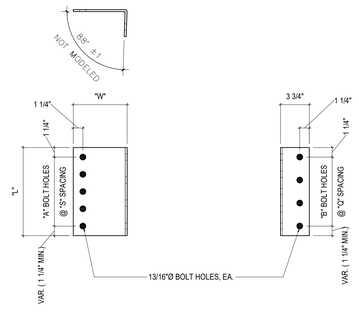
SKEWED GRAVITY BEAM CONNECTION | SCALE: 1 1/2" = 1'-0" | 13



NOTES

1. FOR NOTES NOT SHOWN SEE 17/SX-4.20

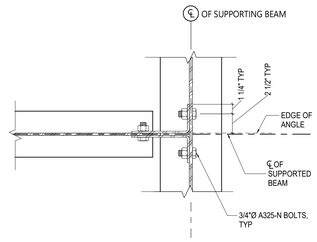
DROPPED BEAM TO BEAM GRAVITY CONNECTION | SCALE: 1 1/2" = 1'-0" | 5



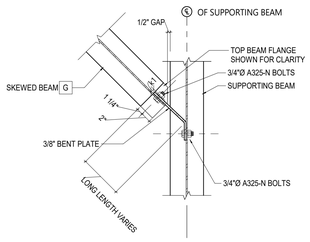
NOTES

1. FOR BEAM WEB ANGLE DIMENSIONS AND BOLT SCHEDULE SEE DETAILS 2/SX-4.20 & 3/SX-4.20

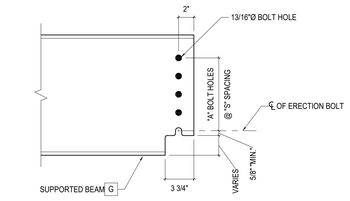
BEAM WEB ANGLE (BWA) | SCALE: 1 1/2" = 1'-0" | 1



SECTION BEAM TO BEAM GRAVITY CONNECTION | SCALE: 1 1/2" = 1'-0" | 18



SECTION SKEWED GRAVITY BEAM CONNECTION | SCALE: 1" = 1'-0" | 14



NOTES

1. FOR BOLT SCHEDULE SEE TABLE 3/SX-4.20

GRAVITY BEAM COPED BOTTOM FLANGE | SCALE: 1 1/2" = 1'-0" | 6

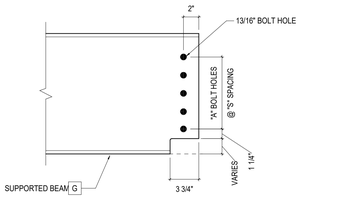
BEAM WEB ANGLE (BWA) LONG LEG LENGTH

FLANGE WIDTH bf OF SUPPORTING BEAM	"W" (IN)
4	5 5/8
5 - 5 1/4	6 1/4
5 1/2 - 6	6 9/16
6 1/2	6 7/8
6 3/4 - 7 1/8	7 1/8
7 1/2 - 7 5/8	7 5/16
8 - 8 3/8	7 11/16
9 - 9 1/8	8 1/16
10 - 10 1/8	8 9/16
10 1/4 - 10 1/2	8 3/4
11 - 11 3/8	9 1/16
11 1/2 - 11 7/8	9 5/16
12 - 12 3/8	9 5/8
12 1/2 - 12 5/8	9 3/4
12 3/4 - 13	9 7/8
14 - 14 3/8	10 9/16
14 1/2 - 15 1/8	10 15/16
15 1/2 - 15 3/4	11 3/16

NOTES

1. AT SKEWED BEAMS, THE "W" DIMENSION OF THE BEAM WEB ANGLE SHOULD BE CALCULATED USING THE SKEW ANGLE AND THE DIMENSIONS NOTED ON DETAILS 1/SX-4.20 & 13/SX-4.20
2. IN CASES WHERE THE OTHER END OF A GRAVITY BEAM IS A MOMENT CONNECTION (BMG, BGM, BCM & BMC) ALL BOLTS USED IN THE GRAVITY CONNECTION SHALL BE DESIGNATED A325-SC

BEAM WEB ANGLE DIMENSION SCHEDULE | SCALE: 1 1/2" = 1'-0" | 2



NOTES

1. FOR BOLT SCHEDULE SEE TABLE 3/SX-4.20

SKEWED BEAM COPED BOTTOM FLANGE | SCALE: 1 1/2" = 1'-0" | 7

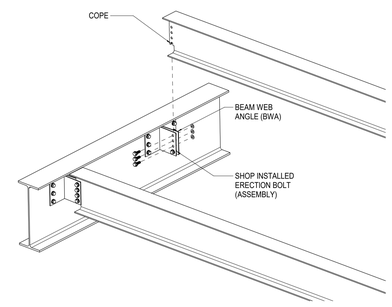
BEAM WEB ANGLE (BWA) DIMENSIONS

INCOMING BEAM	"L" CLIP LENGTH (IN)	AT SUPPORTED BEAM (LONG LEG OF BWA) "A" NUMBER OF BOLTS	AT SUPPORTED BEAM (LONG LEG OF BWA) "S" BOLT SPACING (IN)	AT SUPPORTING BEAM (SHORT LEG OF BWA) "B" NUMBER OF BOLTS	AT SUPPORTING BEAM (SHORT LEG OF BWA) "Q" BOLT SPACING (IN)	"D" T.O.S. TO EDGE OF CLIP (IN)
W12	8 1/2	3	2 5/16	3	3	1 3/4
W14	9 7/16 (TYP.) 11 1/2 (NOTE 4)	4	2 5/16	3	3	1 3/4
W16	11 3/4	5	2 5/16	4	3	1 3/4
W18	14 1/2	6	2 5/16	5	3	1 3/4
W21	14 1/2	6	2 5/16	5	3	1 3/4
W24	17 1/2	7	2 5/16	6	3	1 3/4
W27	17 1/2	7	2 5/16	6	3	1 3/4
W30	17 1/2	7	2 5/16	6	3	1 3/4
W33	20 1/2	8	2 5/16	7	3	1 3/4
W36, W40, W44	20 1/2	8	2 5/16	7	3	1 3/4

NOTES

1. FOR W8 AND W10 INCOMING BEAMS, USE DETAIL 1/SX-4.21, 5/SX-4.21, OR 12/SX-4.21.
2. IN CONDITIONS WHERE k REGION OF SUPPORTING BEAM IS ENCROACHED BY THE ANGLES, ADJUST "D" VALUE SO ANGLES ARE CLEAR OF THIS REGION
3. IN CONDITIONS WHERE A DEEPER BEAM IS FRAMING INTO A SHALLOWER BEAM, USE THE SMALLER NUMBER OF BOLTS FOR BOTH LEGS OF THE BWA.
4. IN CASES WHERE THE SUPPORTING BM HAS A W14 BM ON ONE SIDE AND A W16 OR DEEPER BM ON THE OPPOSITE SIDE AT THE SAME LOCATION (I.E. THEIR CONNECTING ELEMENTS SHARE BOLT HOLES AT THE SUPPORTING BM WEB), USE L = 11 1/2 FOR THE W14 BM CLIP LENGTH.

BEAM TO BEAM CONNECTION BOLT SCHEDULE | SCALE: 1 1/2" = 1'-0" | 3



BEAM TO GRAVITY BEAM ASSEMBLY DIAGRAM | SCALE: 1 1/2" = 1'-0" | 4

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REVISIONS:

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1	02/20/2019	SDR 037
2	04/02/2019	SDR 038
3	07/31/2019	Drafting Cleanup
5	12/19/2019	SDR 017 & 040
10	05/01/2022	SDR 051

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE: XL400 DROP-IN GRAVITY BEAM DETAILS

ISSUE DATE: 05/01/2022

PROJECT NO.: -

SCALE: As indicated

SHEET NO.
SX-4.20

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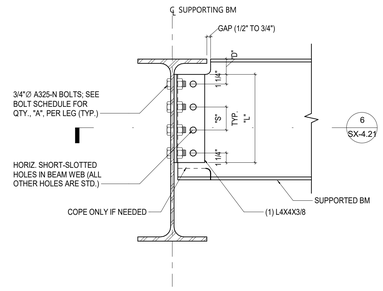
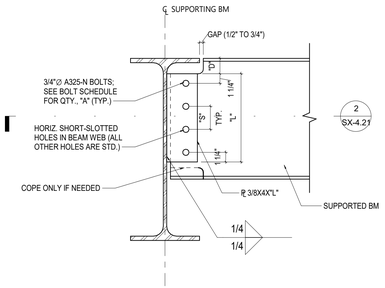


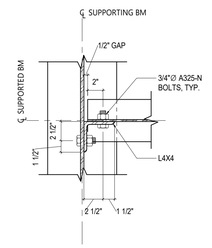
BEAM TO BEAM GRAVITY CONNECTION - SINGLE ANGLE

SCALE: 1 1/2" = 1'-0" | 5



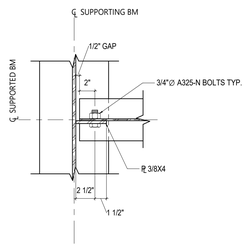
BEAM TO BEAM GRAVITY CONNECTION - SHEAR TAB

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



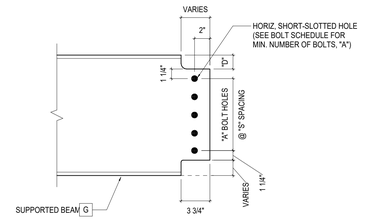
SECTION - BEAM TO BEAM GRAVITY CONNECTION - SINGLE ANGLE

SCALE: 1 1/2" = 1'-0" | 6



SECTION - BEAM TO BEAM GRAVITY CONNECTION - SHEAR TAB

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



NOTES

1. FOR BOLT SCHEDULE SEE TABLE 3/SX-4.21

SKEWED BEAM FLANGE COPES

SCALE: 1 1/2" = 1'-0" | 7

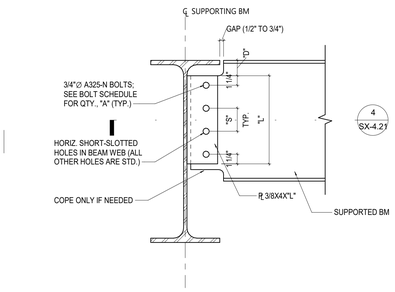
BEAM WEB ANGLE (BWA) AND BEAM WEB PLATE (BWP) DIMENSIONS				
INCOMING BEAM	"L" CLIP LENGTH (IN)	"A" NUMBER OF BOLTS	"S" BOLT SPACING (IN)	"D" T.O.S. TO EDGE OF CLIP (IN)
W8	5 1/2	2	3	1 3/4 (TYP.), 1 1/4 (NOTE 1)
W10	5 1/2	2	3	1 3/4 (TYP.), 1 1/4 (NOTE 1)
W12	8 1/2	3	3	1 3/4
W14	8 1/2	3	3	1 3/4
W16	11 1/2	4	3	1 3/4
W18	14 1/2	5	3	1 3/4
W21	14 1/2	5	3	1 3/4
W24	17 1/2	6	3	1 3/4
W27	20 1/2	7	3	1 3/4
W30	20 1/2	7	3	1 3/4
W33	23 1/2	8	3	1 3/4
W36, W40, W44	23 1/2	8	3	1 3/4

NOTES

1. FOR W8-ON-W8 AND W10-ON-W8 CONNECTIONS, USE D = 1 1/4", OTHERWISE, USE D = 1 3/4". FOR W8 AND W10 INCOMING BEAMS IN A BEAM TO XL400 COLLAR GRAVITY CONNECTION USE DETAIL 13/SX-4.22.
2. IN CONDITIONS WHERE k REGION OF SUPPORTING BEAM IS ENCROACHED BY THE PLATES OR ANGLES, ADJUST "D" VALUE SO PLATES AND ANGLES ARE CLEAR OF THIS REGION
3. IN CONDITIONS WHERE A DEEPER BEAM IS FRAMING INTO A SHALLOWER BEAM, USE THE SMALLER NUMBER OF BOLTS FOR BOTH LEGS OF THE BWA OR BWP.

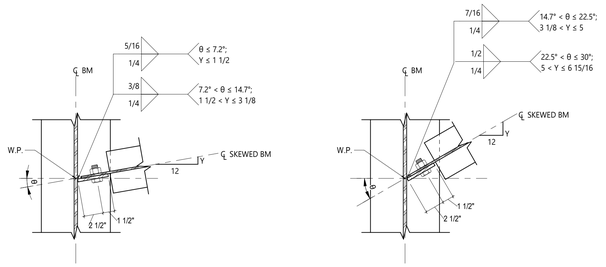
BEAM TO BEAM CONNECTION BOLT SCHEDULE

SCALE: 1 1/2" = 1'-0" | 3



SKEWED GRAVITY BEAM CONNECTION

SCALE: 1 1/2" = 1'-0" | 12



FOR θ ≤ 14.7° FROM THE PERPENDICULAR

FOR 14.7° < θ ≤ 30° FROM THE PERPENDICULAR

FOR 30° < θ ≤ 45° FROM THE PERPENDICULAR

NOTE: BEVEL END OF SHEAR TAB SO THAT IT IS FLUSH WITH THE FACE OF THE SUPPORTING BEAM WEB.

SECTION - SKEWED GRAVITY BEAM CONNECTION

SCALE: 1 1/2" = 1'-0" | 4

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NO.	DATE:	DESCRIPTION:
2	04/02/2019	SDR 038
10	05/01/2022	SDR 051
11	02/17/2023	SDR 043

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE: XL400 CONVENTIONAL GRAVITY BEAM DETAILS

ISSUE DATE: 05/01/2022

PROJECT NO.: -

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

SHEET NO.

SX-4.21

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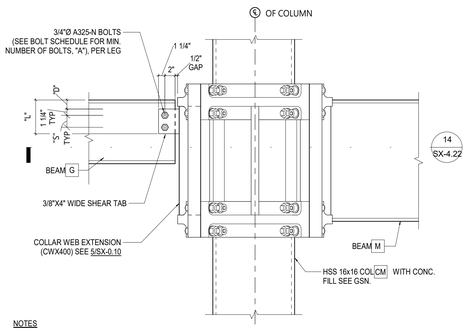
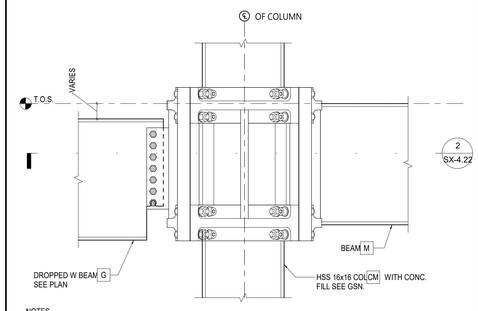


NOTES

1. FOR SHEAR TAB DIMENSIONS AND BOLT SCHEDULE SEE 3/SX3.20

W8 AND W10 GRAVITY BEAM CONNECTION TO XL400 COLLAR

SCALE: 1" = 1'-0" | 13

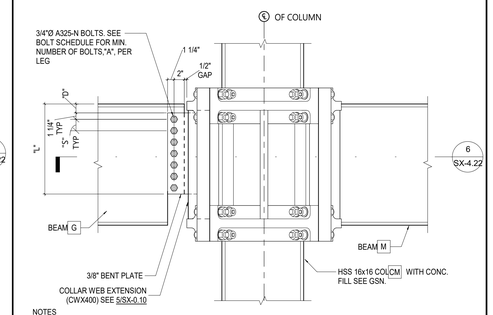


NOTES

FOR NOTES NOT SHOWN SEE DETAIL 1/SX-4.22

DROPPED GRAVITY BEAM CONNECTION TO XL400 COLLAR

SCALE: 1" = 1'-0" | 9

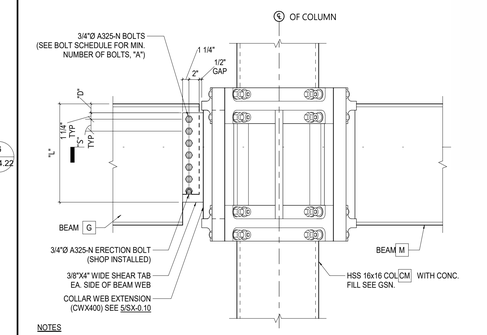


NOTES

1. FOR BENT PLATE DIMENSIONS AND BOLT SCHEDULE SEE DETAIL 3/SX-3.20
2. FOR SKEWED GRAVITY BEAM BOTTOM FLANGE COPE DIMENSIONS SEE DETAIL 16/SX-3.20
3. FOR SKEWED GRAVITY BEAM ATTACHMENT TO CORNER COLLAR SEE DETAIL 10/-

SKEWED GRAVITY BEAM CONNECTION TO XL400 COLLAR

SCALE: 1" = 1'-0" | 5

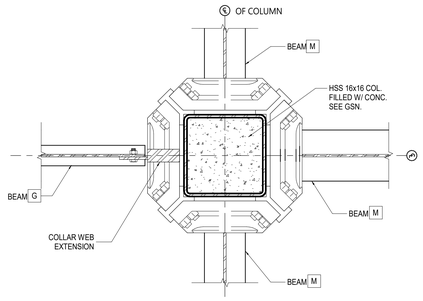


NOTES

1. FOR SHEAR TAB DIMENSIONS AND BOLT SCHEDULE SEE 3/SX3.20
2. FOR GRAVITY BEAM BOTTOM FLANGE COPE DIMENSIONS SEE 17/SX-3.20

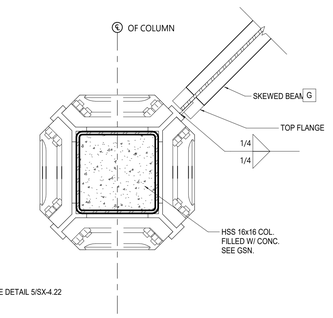
GRAVITY BEAM CONNECTION TO XL400 COLLAR

SCALE: 1" = 1'-0" | 1



SECTION-W8 AND W10 GRAVITY BEAM CONNECTION TO XL400 COLLAR

SCALE: 1" = 1'-0" | 14

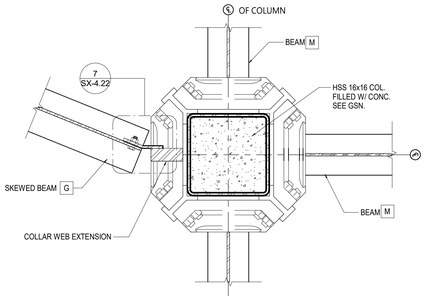


NOTES

FOR NOTES NOT SHOWN SEE DETAIL 5/SX-4.22

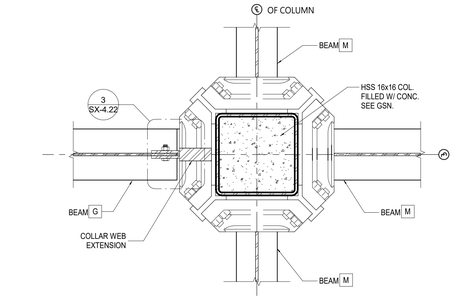
SECTION-SKEWED GRAVITY BEAM CONNECTION TO XL400 CORNER COLLAR

SCALE: 1" = 1'-0" | 10



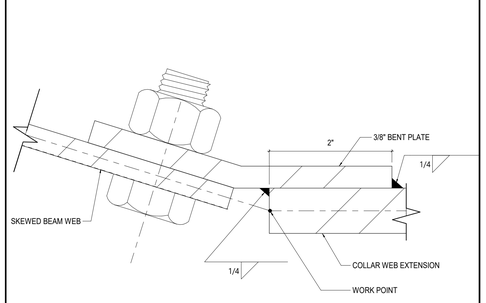
SECTION-SKEWED GRAVITY BEAM CONNECTION TO XL400 COLLAR

SCALE: 1" = 1'-0" | 6



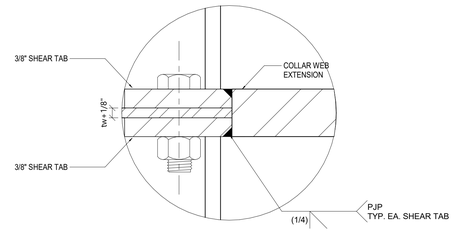
SECTION-GRAVITY BEAM CONNECTION TO XL400 COLLAR

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



DETAIL GRAVITY BEAM CONNECTIONS TO XL400 COLLAR

SCALE: 12" = 1'-0" | 7



DETAIL GRAVITY BEAM CONNECTION TO XL400 COLLAR

SCALE: 6" = 1'-0" | 3

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PROFESSIONAL SEAL:

REVISIONS:

NO.	DATE:	DESCRIPTION:
2	04/02/2019	SDR 038
3	07/31/2019	Drafting Cleanup
5	12/19/2019	SDR 017 & 040
10	05/01/2022	SDR 051
11	02/17/2023	SDR 043

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE:

XL400 COLLAR CONNECTION DETAILS

ISSUE DATE: 05/01/2022

PROJECT NO.: -

SCALE: As indicated

SHEET NO.

SX-4.22

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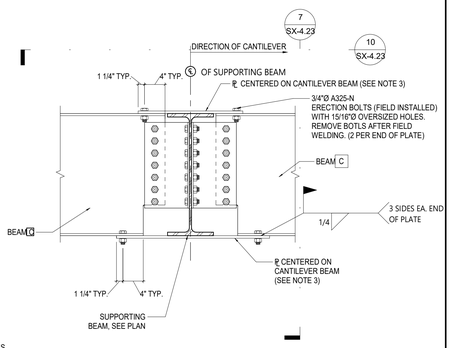
1/6/2025 2:15:16 PM

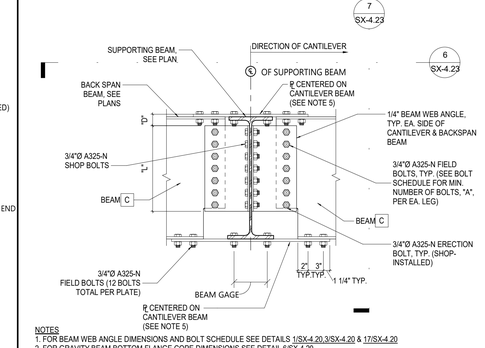
XL400_Rev12_detached.rvt



NOTES
1. FOR NOTES NOT SHOWN SEE 5/SX-4.23
2. SHEAR CONNECTION PER 17/SX-4.20 SHOWN; ALTERNATIVELY, USE SHEAR CONNECTIONS PER 1/SX-4.21 OR 5/SX-4.21.
3. PLATE THICKNESS TO BE DETERMINED BY EOR.

WELDED CANTILEVER CONNECTION - TYPE 1

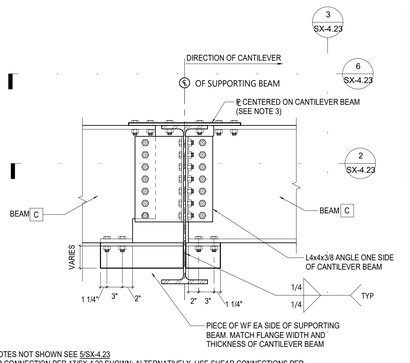
SCALE: 1" = 1'-0" | 9



NOTES
1. FOR BEAM WEB ANGLE DIMENSIONS AND BOLT SCHEDULE SEE DETAILS 1/SX-4.20,3/SX-4.20 & 17/SX-4.20
2. FOR GRAVITY BEAM BOTTOM FLANGE COPE DIMENSIONS SEE DETAIL 6/SX-4.20
3. PROVIDE SHIMS AS NECESSARY
4. SHEAR CONNECTION PER 17/SX-4.20 SHOWN; ALTERNATIVELY, USE SHEAR CONNECTIONS PER 1/SX-4.21 OR 5/SX-4.21.
5. PLATE THICKNESS TO BE DETERMINED BY EOR.

BOLTED CANTILEVER CONNECTION - TYPE 1

SCALE: 1" = 1'-0" | 5



NOTES
1.FOR NOTES NOT SHOWN SEE 5/SX-4.23
2. SHEAR CONNECTION PER 17/SX-4.20 SHOWN; ALTERNATIVELY, USE SHEAR CONNECTIONS PER 1/SX-4.21 OR 5/SX-4.21.
3. PLATE THICKNESS TO BE DETERMINED BY EOR.

BOLTED CANTILEVER CONNECTION -TYPE 2

SCALE: 1" = 1'-0" | 1

PLAN VIEW-WELDED CANTILEVER CONNECTION

SCALE: 1" = 1'-0" | 10

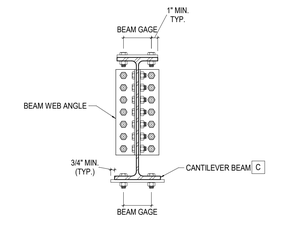
PLAN VIEW-BOLTED CANTILEVER CONNECTION

SCALE: 1" = 1'-0" | 6

NOTES
1.FOR NOTES NOT SHOWN SEE 5/SX4.23

PLAN VIEW - BOLTED CANTILEVER CONNECTION TYPE 2

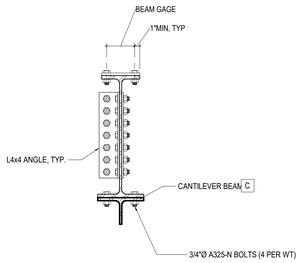
SCALE: 1" = 1'-0" | 2



NOTES
1. SUPPORTING BEAM NOT SHOWN FOR CLARITY

SECTION - BOLTED CANTILEVER CONNECTION -TYPE 1

SCALE: 1" = 1'-0" | 7



NOTES
1. SUPPORTING BEAM NOT SHOWN FOR CLARITY

SECTION-BOLTED CANTILEVER CONNECTION-TYPE2

SCALE: 1" = 1'-0" | 3

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PROFESSIONAL SEAL:

REVISIONS:

NO.	DATE:	DESCRIPTION:
3	07/31/2019	Drafting Cleanup
10	05/01/2022	SDR 051

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE: XL400 CANTILEVER DETAILS

ISSUE DATE: 05/01/2022

PROJECT NO.: -

SCALE: 1" = 1'-0"

SHEET NO.
SX-4.23

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1/6/2025 2:15:18 PM

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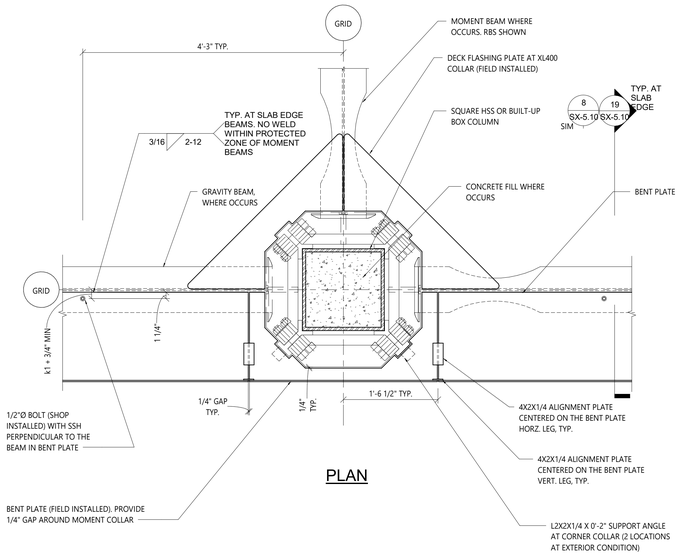
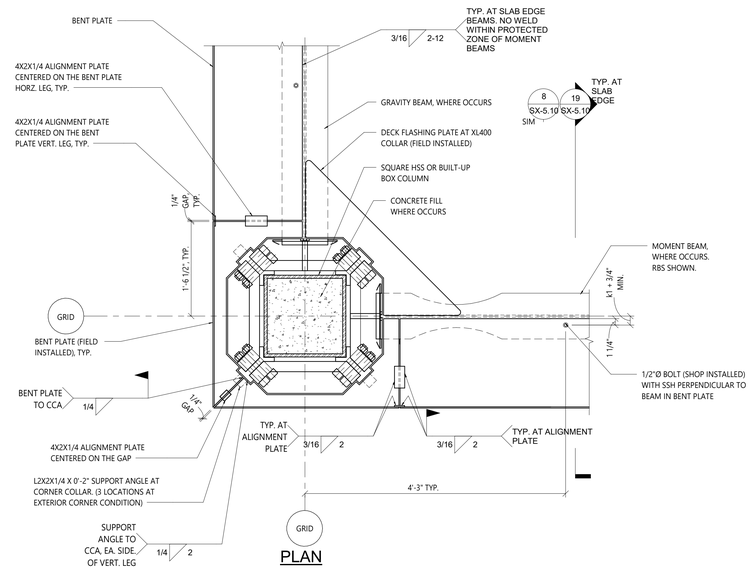


PLAN

NOTES:

1. FOR NOTES NOT SHOWN SEE 2/SX-5.10.
2. DO NOT ATTACH BENT PLATE TO NO ATTACHMENT ZONE OF MOMENT BEAM. FOR MORE INFORMATION ON NO ATTACHMENT ZONE SEE DETAIL 2/SX-4.10.
3. DO NOT ATTACH BENT PLATE TO COLLAR FLANGE TOP (CFT). FOR INFORMATION ON CFT SEE SHEET SX-0.10.
4. FOR MORE INFORMATION ON THE DECK FLASHING PLATE SEE DETAIL 11/SX-5.10.
5. PROVIDE 1/4" GAP AROUND COLLAR TO PROVIDE FIELD FIT-UP TOLERANCE EXCEPT AT COLLAR CORNER TOP (CCT). THE BENT PLATE SHOULD HAVE A TOTAL OF 1/2" GAP AT CCT TO ALLOW THE WELD TO THE SUPPORT ANGLE.
6. FOR EDGE OF SLAB BENT PLATE THICKNESS SEE DETAIL 8/SX-5.10.

EDGE OF SLAB BENT PLATE @ XL400 MOMENT COLUMN - TYPICAL CONDITION — SCALE: 1" = 1'-0" — 10

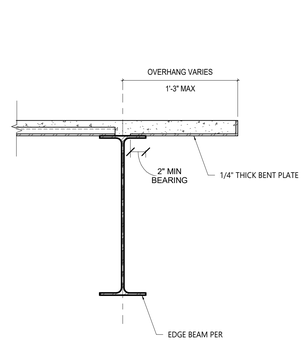


PLAN

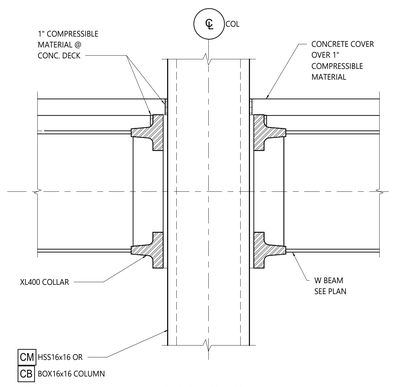
NOTES:

1. DO NOT ATTACH BENT PLATE TO NO ATTACHMENT ZONE OF MOMENT BEAM. FOR MORE INFORMATION ON NO ATTACHMENT ZONE SEE DETAIL 2/SX-4.10.
2. DO NOT ATTACH BENT PLATE TO COLLAR FLANGE TOP (CFT). FOR MORE INFORMATION ON CFT SEE SHEET SX-0.10.
3. FOR MORE INFORMATION ON THE DECK FLASHING PLATE SEE 11/SX-5.10.

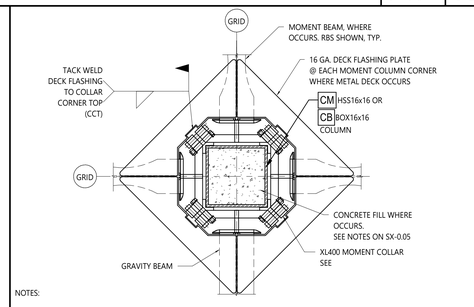
EDGE OF SLAB BENT PLATE @ XL400 MOMENT COLUMN - CORNER CONDITION — SCALE: 1" = 1'-0" — 2



TYPICAL DECK EDGE SECTION — SCALE: 1 1/2" = 1'-0" — 19



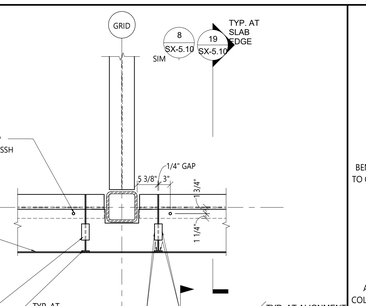
16A SECTION
1" = 1'-0"



NOTES:

1. DO NOT ATTACH DECK FLASHING PLATES TO NO ATTACHMENT ZONE OF MOMENT BEAM. FOR MORE INFORMATION ON NO ATTACHMENT ZONE SEE DETAIL 2/SX-4.10.
2. DO NOT ATTACH DECK FLASHING PLATES TO COLLAR FLANGE TOP (CFT). FOR MORE INFORMATION ON CFT SEE SHEET SX-0.10.
3. PROVIDE 1/4" GAP AROUND COLLAR TO PROVIDE FIELD FIT-UP TOLERANCE EXCEPT AT COLLAR CORNER TOP (CCT). THE FLASHING PLATE SHOULD SIT TIGHT TO CCT AS POINT OF CONTACT FOR TACK WELD

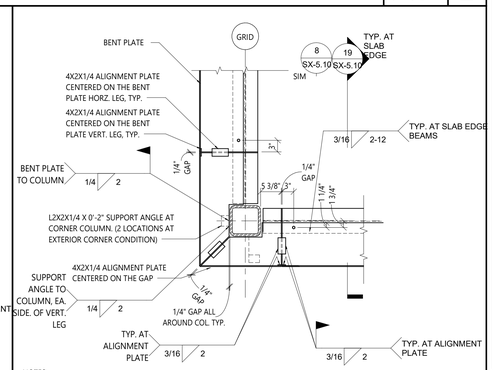
DECK SUPPORT FLASHING PLATE @ XL400 MOMENT COLLAR — SCALE: 3/4" = 1'-0" — 11



NOTES:

1. FOR EDGE OF SLAB BENT PLATE THICKNESS SEE DETAILS 8 AND 19/SX-5.10.

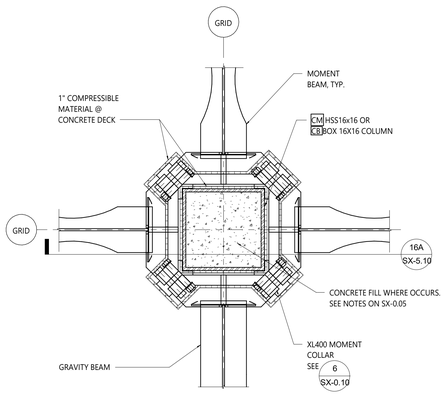
EDGE OF SLAB BENT PLATE AT GRAVITY COLUMN - TYPICAL CONDITION — SCALE: 3/4" = 1'-0" — 7



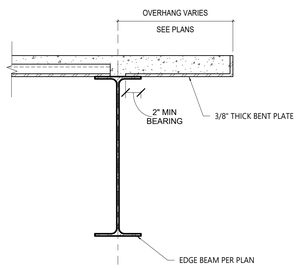
NOTES:

1. FOR EDGE OF SLAB BENT PLATE THICKNESS SEE DETAILS 8 AND 19/SX-5.10.

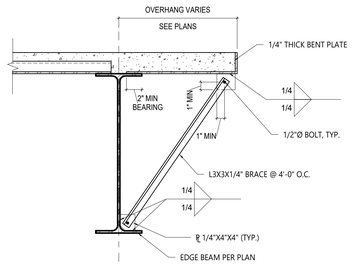
EDGE OF SLAB BENT PLATE AT GRAVITY COLUMN - CORNER CONDITION — SCALE: 3/4" = 1'-0" — 3



COMPRESSIBLE MATERIAL @ XL400 MOMENT COLLAR — SCALE: 1" = 1'-0" — 16



A DECK EDGE W/THICK BENT PLATE
1 1/2" = 1'-0"



B DECK EDGE W/KICKER
1 1/2" = 1'-0"

DECK EDGE SECTIONS - HIGH LOADS AND EXTENDED OVERHANGS — SCALE: 1 1/2" = 1'-0" — 8

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REVISIONS:

NO:	DATE:	DESCRIPTION:
4	08/08/2019	SDR 039, 041 & 042
6	04/16/2020	SDR 007 & 046
11	02/17/2023	SDR 043

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE: XL400 DECKING DETAILS

ISSUE DATE: 05/01/2022

PROJECT NO.: -

SCALE: As indicated

SHEET NO.
SX-5.10

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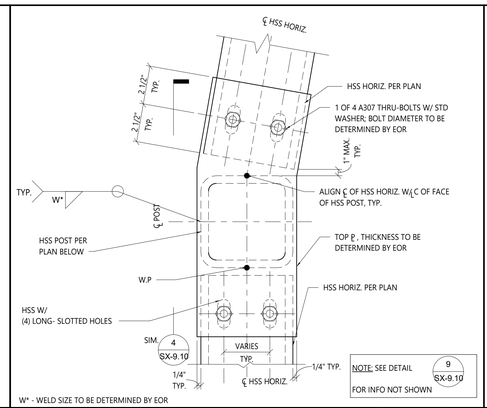
XL400_Rev12_detached.rvt

ROOF SCREEN NOTES:

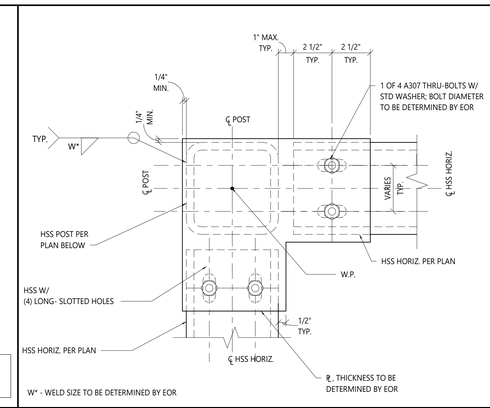
1. WEEP HOLES FOR GALVANIZED PARTS TO BE PER STEEL FABRICATOR OPTION.
2. LONG SLOTTED HOLE DIMENSIONS SHALL BE (d+1/16") X (2.5 X d) WHERE d IS THE BOLT DIAMETER.
3. BASE PLATE DETAILS 3,10 AND 12 MAY BE USED WHERE THE WIND THE LOAD ON THE ROOF SCREEN IS PARALLEL TO THE SPAN DIRECTION OF THE BEAM SUPPORTING THE POST. USE DETAILS 19 AND 20 INSTEAD WHERE THE WIND LOAD ON THE ROOF SCREEN IS PERPENDICULAR TO THE SPAN DIRECTION OF THE BEAM SUPPORTING THE POST.
4. TO ENSURE POST VERTICALITY DURING ERECTION, BEAMS SUPPORTING POSTS SHALL ADHERE TO THE FOLLOWING DEFLECTION CRITERIA WITHOUT THE USE OF CAMBER. WHERE CONCRETE-FILLED METAL DECK IS PRESENT, THE MAXIMUM BEAM DEFLECTION DURING CONCRETE PLACEMENT SHALL BE L/1080 FOR POSTS LOCATED IN THE MIDDLE HALF OF THE BEAM SPAN AND L/1440 FOR POSTS LOCATED IN THE END QUARTERS OF THE BEAM SPAN. WHERE BARE METAL DECK IS PRESENT, THE SAME DEFLECTION CRITERIA SHALL APPLY FOR 1.5X THE ROOF LIVE LOAD OR 25PSF, WHICHEVER IS GREATER.

ROOF SCREEN NOTES — 17



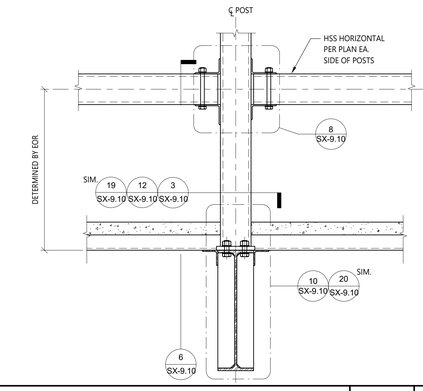
W* - WELD SIZE TO BE DETERMINED BY EOR

ROOF SCREEN TOP PLATE SKEWED CONDITION TYPE 1 - PLAN DETAIL — SCALE: 3" = 1'-0" — 13

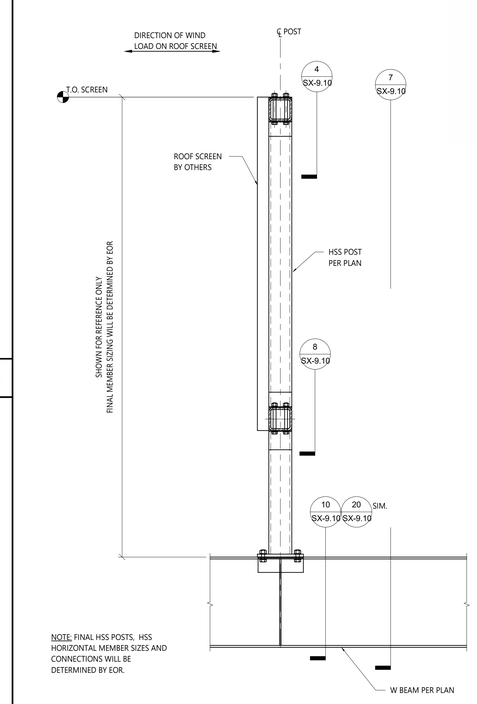


W* - WELD SIZE TO BE DETERMINED BY EOR

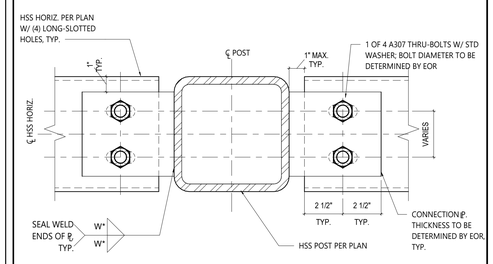
ROOF SCREEN TOP PLATE CORNER CONDITION - PLAN DETAIL — SCALE: 3" = 1'-0" — 9



ROOF SCREEN - SECTION — SCALE: 1" = 1'-0" — 5

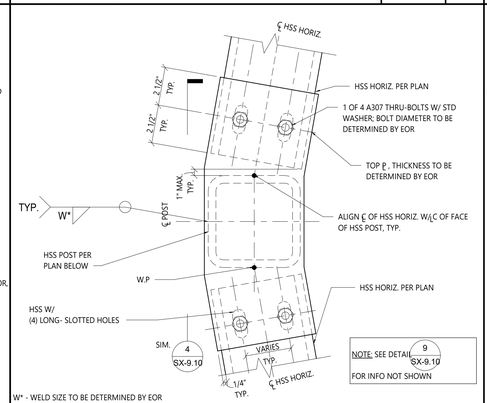


ROOF SCREEN-BASE DESIGN — SCALE: 3/4" = 1'-0" — 2



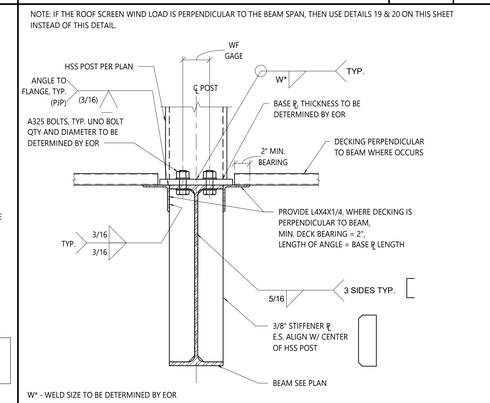
W* - WELD SIZE TO BE DETERMINED BY EOR

HSS CONNECTION TO POST DETAIL - PLAN — SCALE: 3" = 1'-0" — 18



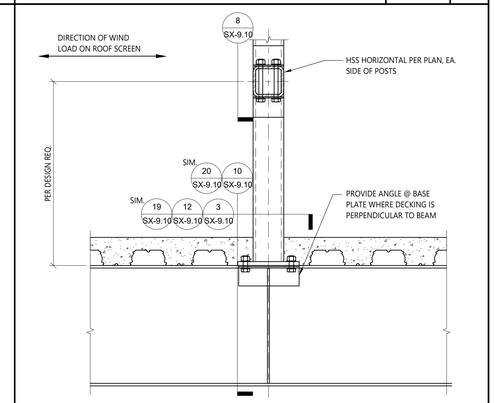
W* - WELD SIZE TO BE DETERMINED BY EOR

ROOF SCREEN TOP PLATE SKEWED CONDITION TYPE 2 - PLAN DETAIL — SCALE: 3" = 1'-0" — 14

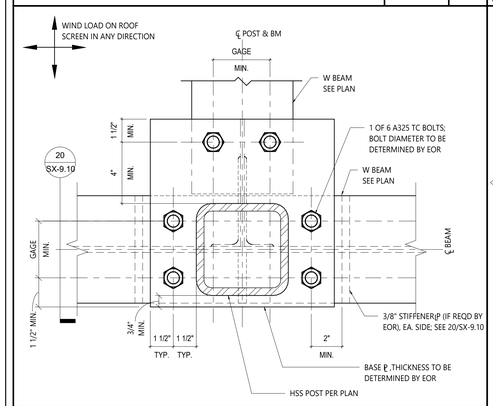


W* - WELD SIZE TO BE DETERMINED BY EOR

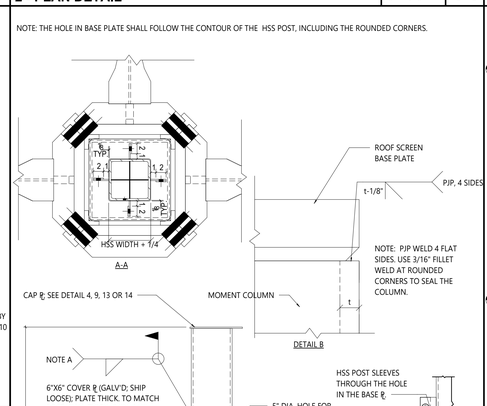
ROOF SCREEN POST - W BEAM CONNECTION — SCALE: 1 1/2" = 1'-0" — 10



ROOF SCREEN - SECTION — SCALE: 1" = 1'-0" — 6



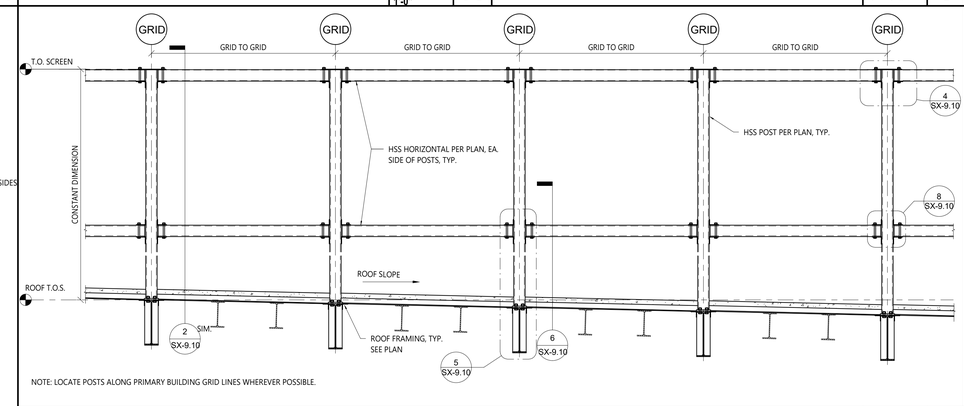
ROOF SCREEN BASE PLATE DETAIL - OPTION 3 — SCALE: 3" = 1'-0" — 19



NOTE A: WELD SIZE FOR COVER ℙ SHALL BE 3/16" OR MIN. REQ'D BY AWS, WHICHEVER IS GREATER.

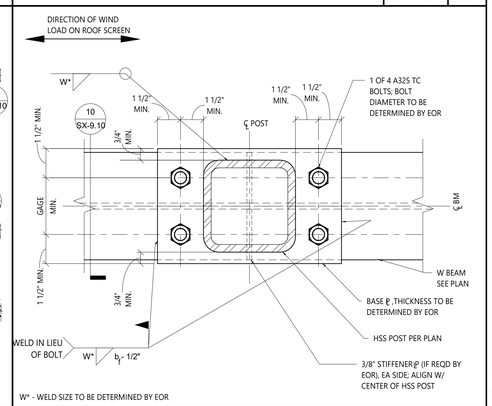
W* - WELD SIZE TO BE DETERMINED BY EOR

POST CONNECTION TO CONXL MOMENT COLUMN AT ROOF — SCALE: 1" = 1'-0" — 16



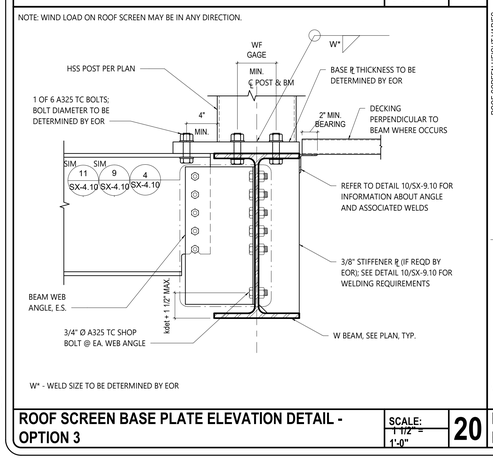
NOTE: LOCATE POSTS ALONG PRIMARY BUILDING GRID LINES WHEREVER POSSIBLE.

ROOF SCREEN-PARTIAL ELEVATION — SCALE: 3/8" = 1'-0" — 7



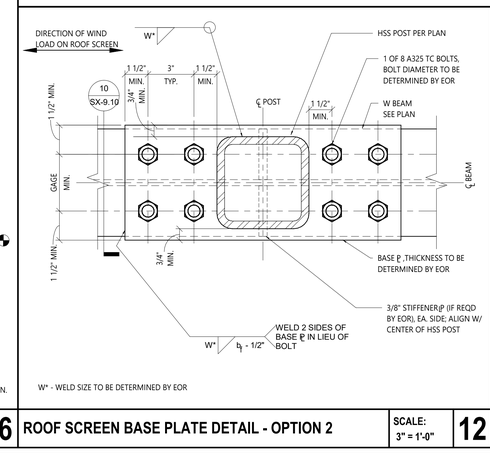
W* - WELD SIZE TO BE DETERMINED BY EOR

ROOF SCREEN BASE PLATE DETAIL - OPTION 1 — SCALE: 3" = 1'-0" — 3



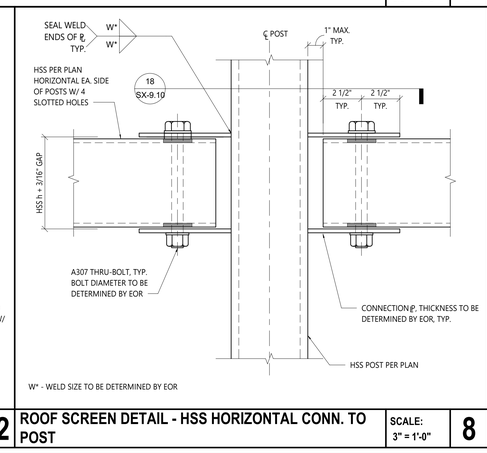
W* - WELD SIZE TO BE DETERMINED BY EOR

ROOF SCREEN BASE PLATE ELEVATION DETAIL - OPTION 3 — SCALE: 1 1/2" = 1'-0" — 20



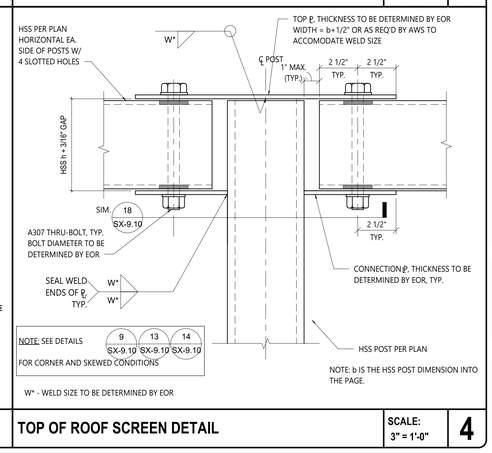
W* - WELD SIZE TO BE DETERMINED BY EOR

ROOF SCREEN BASE PLATE DETAIL - OPTION 2 — SCALE: 3" = 1'-0" — 12



W* - WELD SIZE TO BE DETERMINED BY EOR

ROOF SCREEN DETAIL - HSS HORIZONTAL CONN. TO POST — SCALE: 3" = 1'-0" — 8



W* - WELD SIZE TO BE DETERMINED BY EOR

TOP OF ROOF SCREEN DETAIL — SCALE: 3" = 1'-0" — 4

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REVISIONS:

NO:	DATE:	DESCRIPTION:
4	08/08/2019	SDR 039, 041 & 042
7	07/06/2020	SDR 047
10	05/01/2022	SDR 051
11	02/17/2023	SDR 043

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE: ROOF SCREEN ELEVATIONS & DETAILS

ISSUE DATE: 05/01/2022

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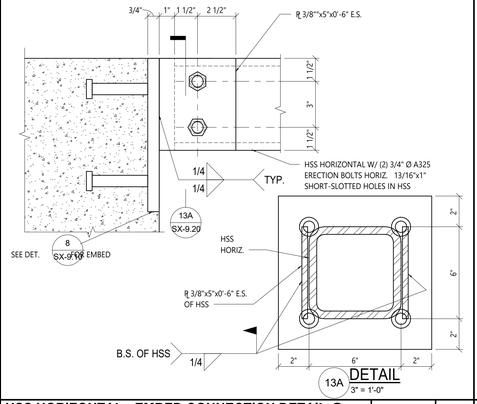
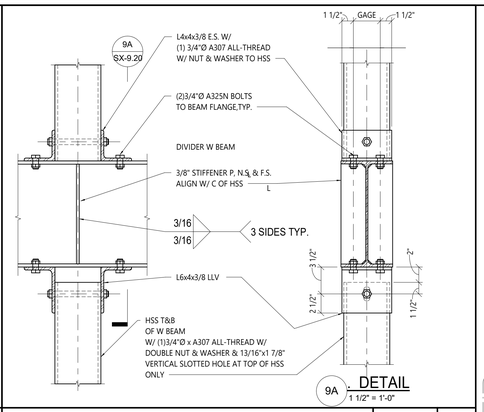


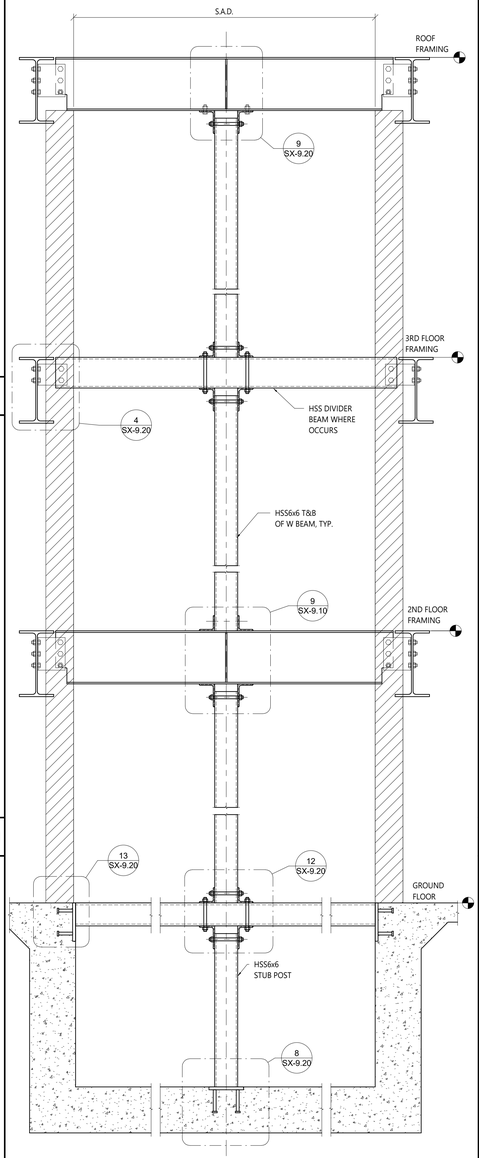
HSS HORIZONTAL - EMBED CONNECTION DETAIL @ ELEVATOR PIT

SCALE: 3" = 1'-0" | 13



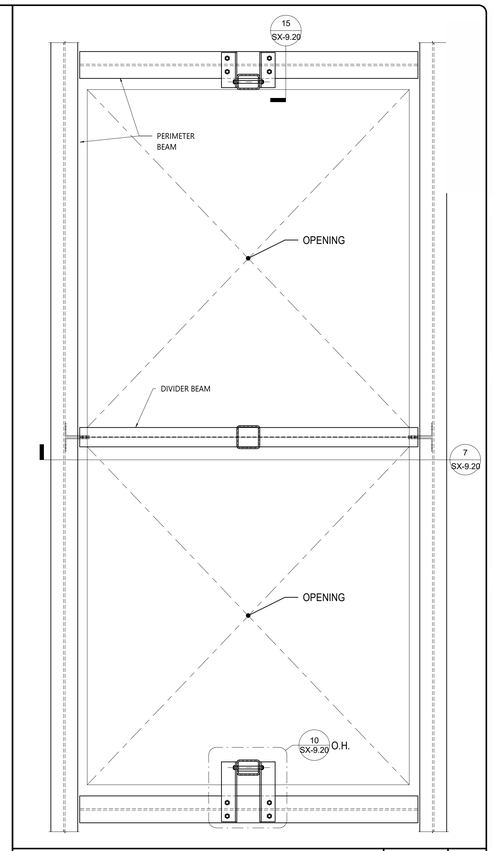
ELEVATOR GUIDERAIL SUPPORT @ DIVIDER BEAM

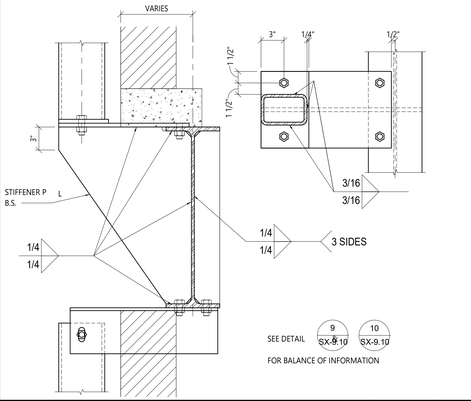
SCALE: 1 1/2" = 1'-0" | 9



SXL9-ELEV-001 ELEVATOR PLAN VIEW

SCALE: 3/4" = 1'-0" | 2

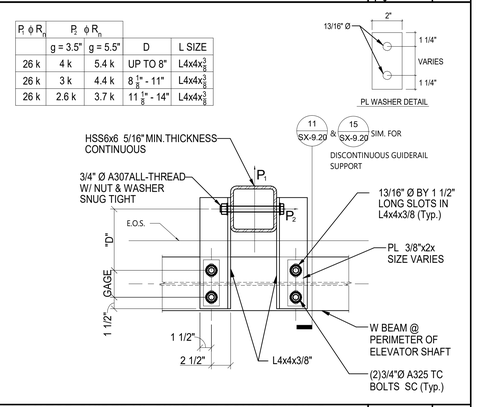




DISCONTINUOUS GUIDERAIL SUPPORT CONNECTION @ PERIMETER BEAM (ALTERNATE DESIGN)

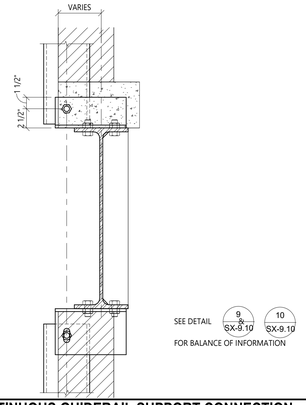
SCALE: 1 1/2" = 1'-0" | 14

P_r ϕR_n		P_r ϕR_n		
	g = 3.5"	g = 5.5"	D	L SIZE
26 k	4 k	5.4 k	UP TO 8"	L4x4x3/8
26 k	3 k	4.4 k	8 1/8" - 11"	L4x4x3/8
26 k	2.6 k	3.7 k	11 1/8" - 14"	L4x4x3/8



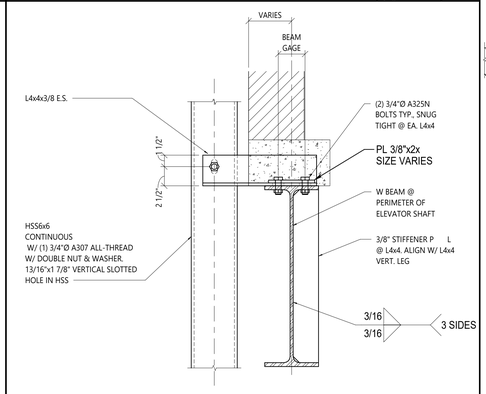
ELEVATOR GUIDERAIL SUPPORT CONNECTION @ PERIMETER - PLAN VIEW

SCALE: 1 1/2" = 1'-0" | 10



DISCONTINUOUS GUIDERAIL SUPPORT CONNECTION @ PERIMETER BEAM

SCALE: 1 1/2" = 1'-0" | 15

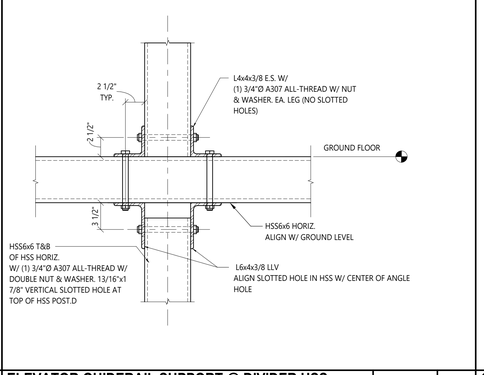


CONTINUOUS GUIDE RAIL SUPPORT CONNECTION @ PERIMETER BEAM - SECTION

SCALE: 1 1/2" = 1'-0" | 11

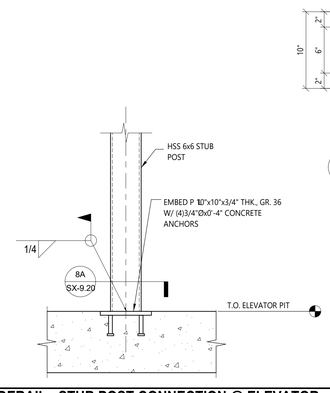
ELEVATOR GUIDERAIL SUPPORT @ DIVIDER BEAMS

SCALE: 3/4" = 1'-0" | 7



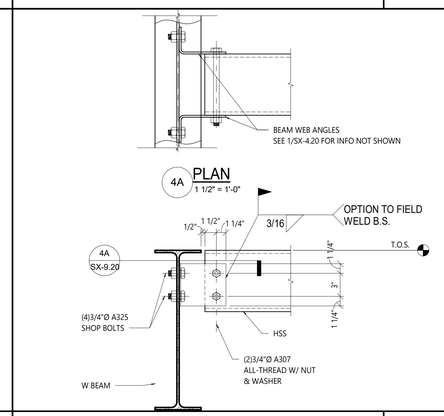
ELEVATOR GUIDERAIL SUPPORT @ DIVIDER HSS HORIZONTAL

SCALE: 1 1/2" = 1'-0" | 12



GUIDERAIL - STUB POST CONNECTION @ ELEVATOR PIT

SCALE: 1" = 1'-0" | 8



ELEVATOR GUIDERAIL SUPPORT DETAIL

SCALE: 1 1/2" = 1'-0" | 4

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PROFESSIONAL SEAL:

REVISIONS:

NO:	DATE:	DESCRIPTION:
11	02/17/2023	SDR 043

PROJECT NAME

PROJECT ADDRESS: -

PLAN SET STATUS:

TITLE: ELEVATOR SUPPORT PLAN, ELEVATION & DETAILS

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