

BRACE FRAME NCBF-B-1

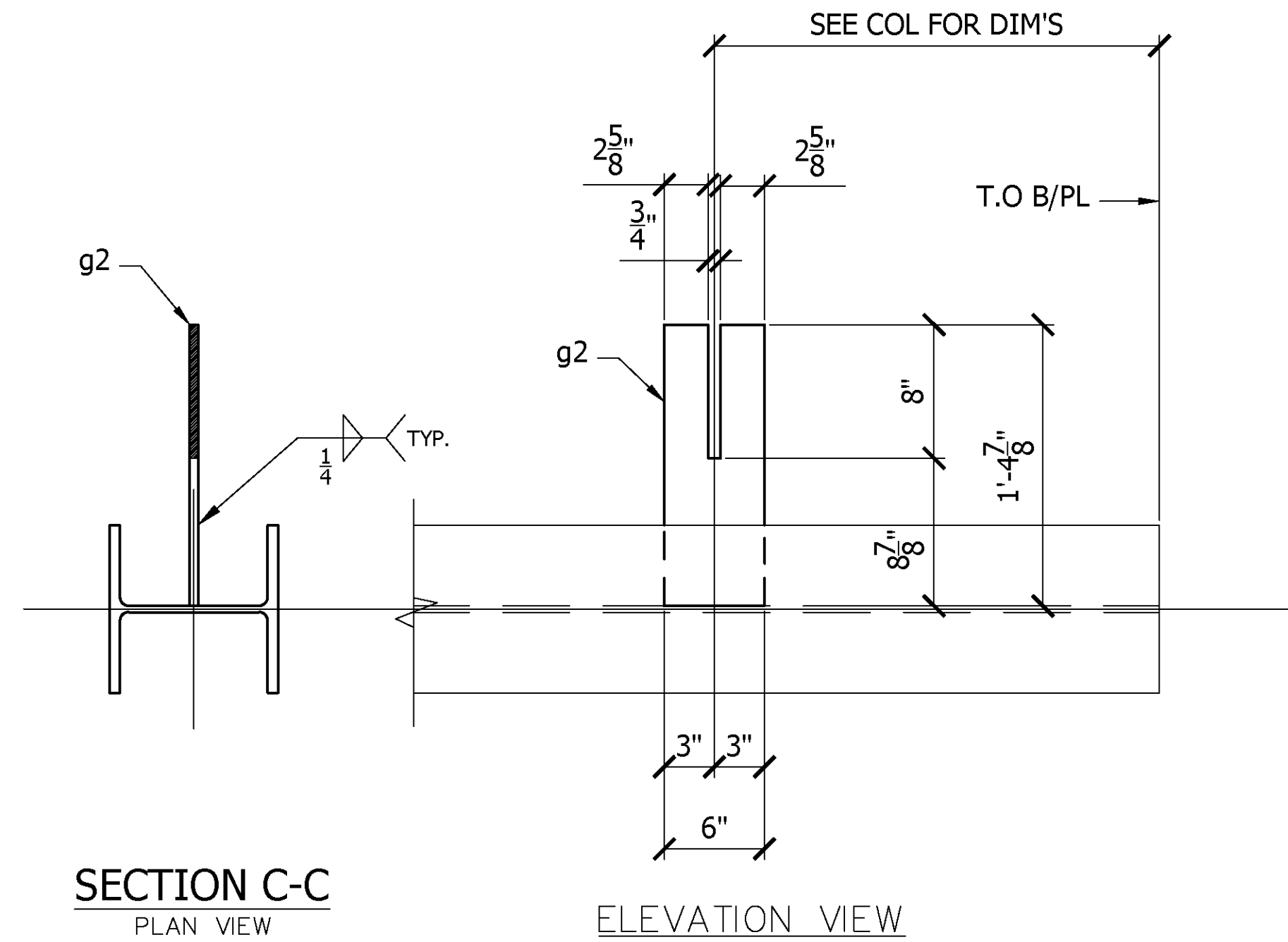
REF: S.01

DATE	REVISION	NO.
7-16-13	REV. PER APPVL	c
7-11-13	REV. PER APPVL	B
7-9-13	REV. PER NEW DESIGN	A

G.K. WELDING, INC. 690 South 31st Street Richmond, CA 94804 Phone: 510-233-0133, Fax 510-233-0140 Lic. 770562	
PROJECT:	NCBF-B-1
LOCATION:	UNIVERSITY OF CALIFORNIA, BERKELEY
CONTRACTOR:	
DESCRIPTION:	BRACE FRAME NCBF-B-1
DRAWN BY:	GREIG & ASSOCIATES
CHECKED BY:	.
APPROVED BY:	.

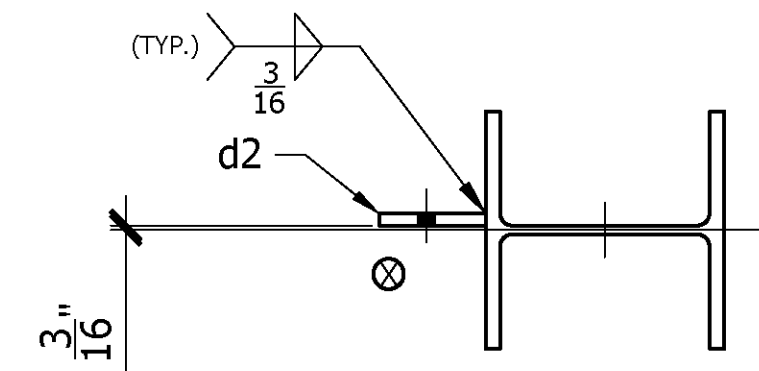
	PRELIMINARY
	FOR APPROVAL
	APPROVED
	SHOP (RFC)
	FIELD
	CONTRACTOR
	FILE

JOB NO: .
DWG. NO: E1



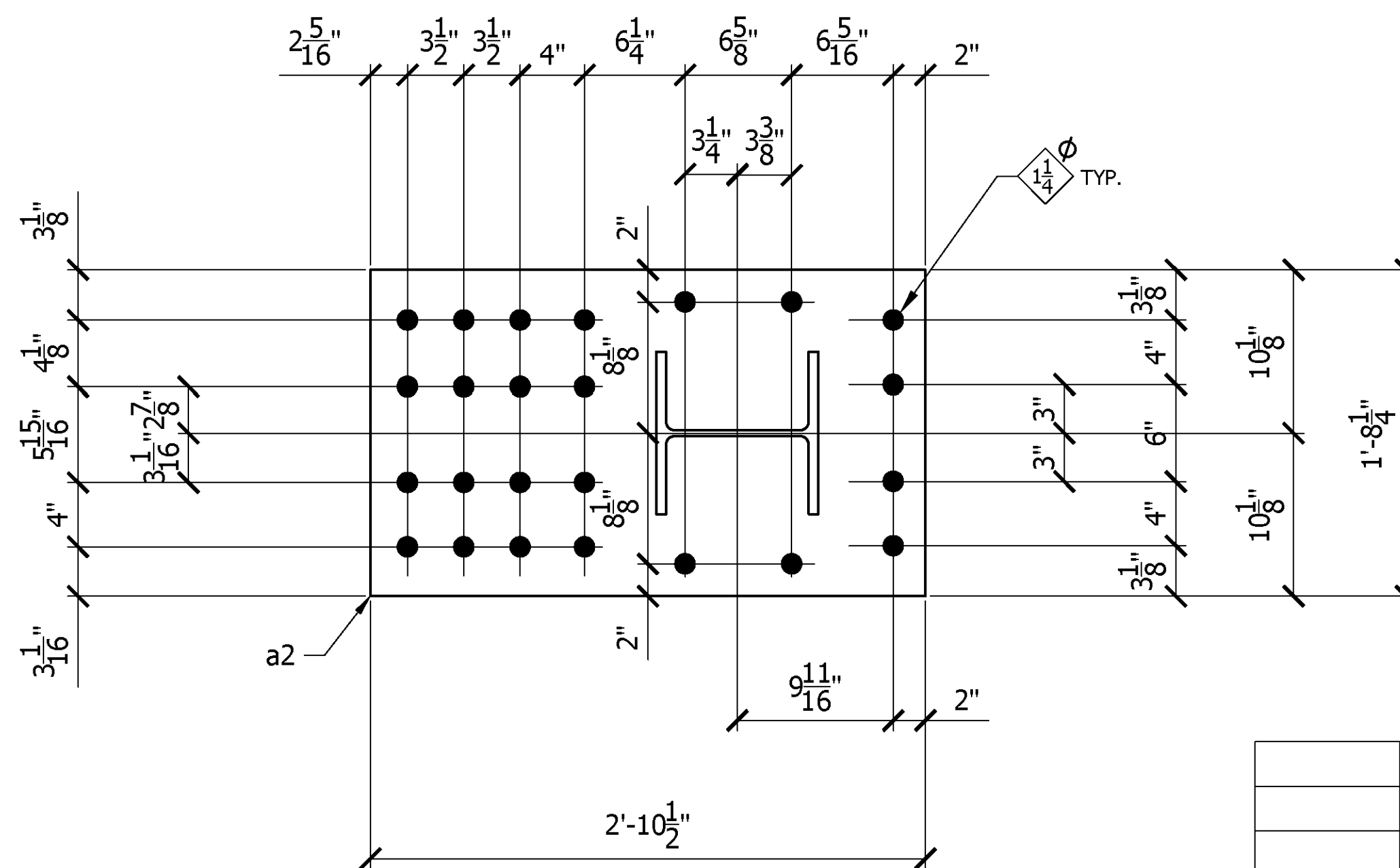
SECTION C-C
PLAN VIEW

ELEVATION VIEW



SECTION B-B

W10X54

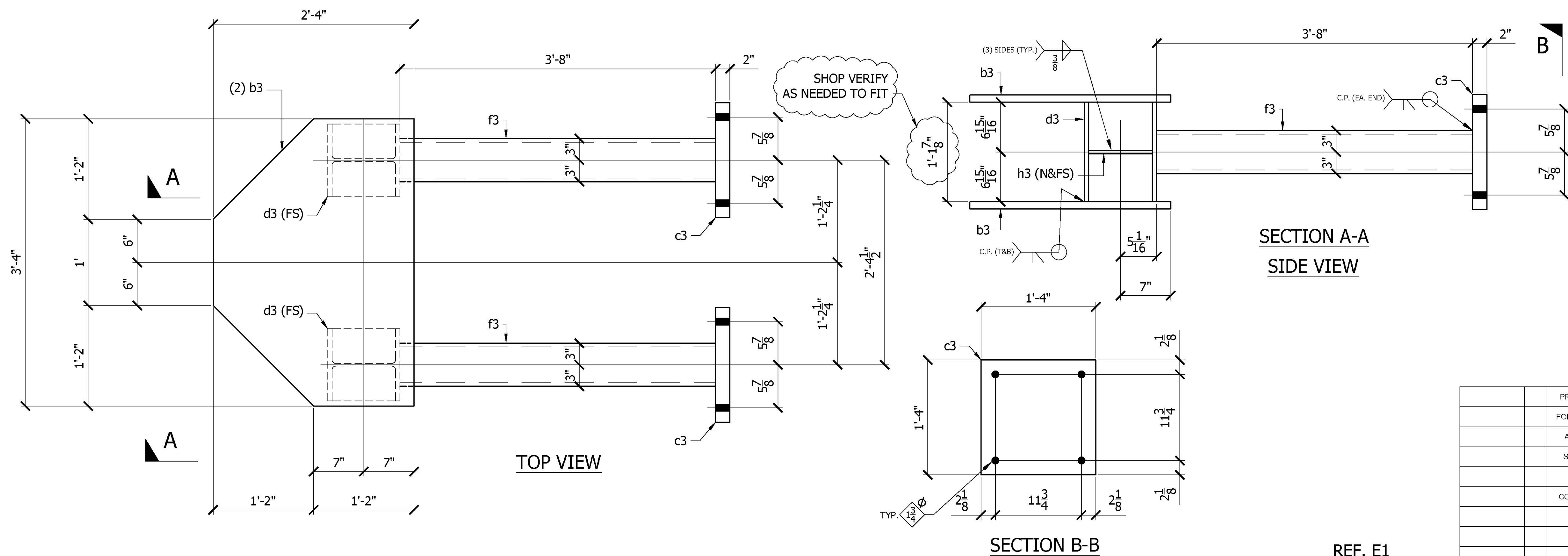


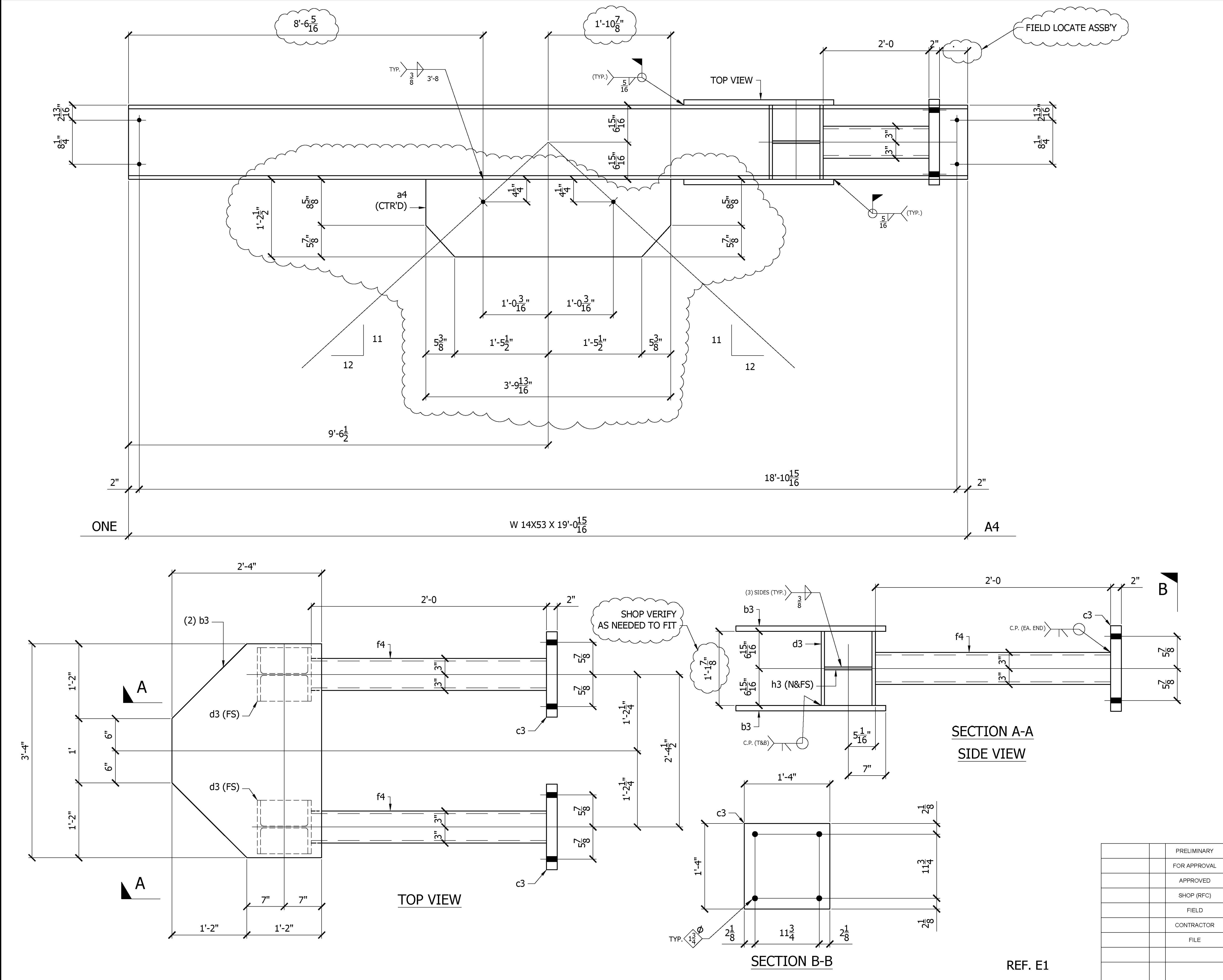
SECTION A-A

W10X54

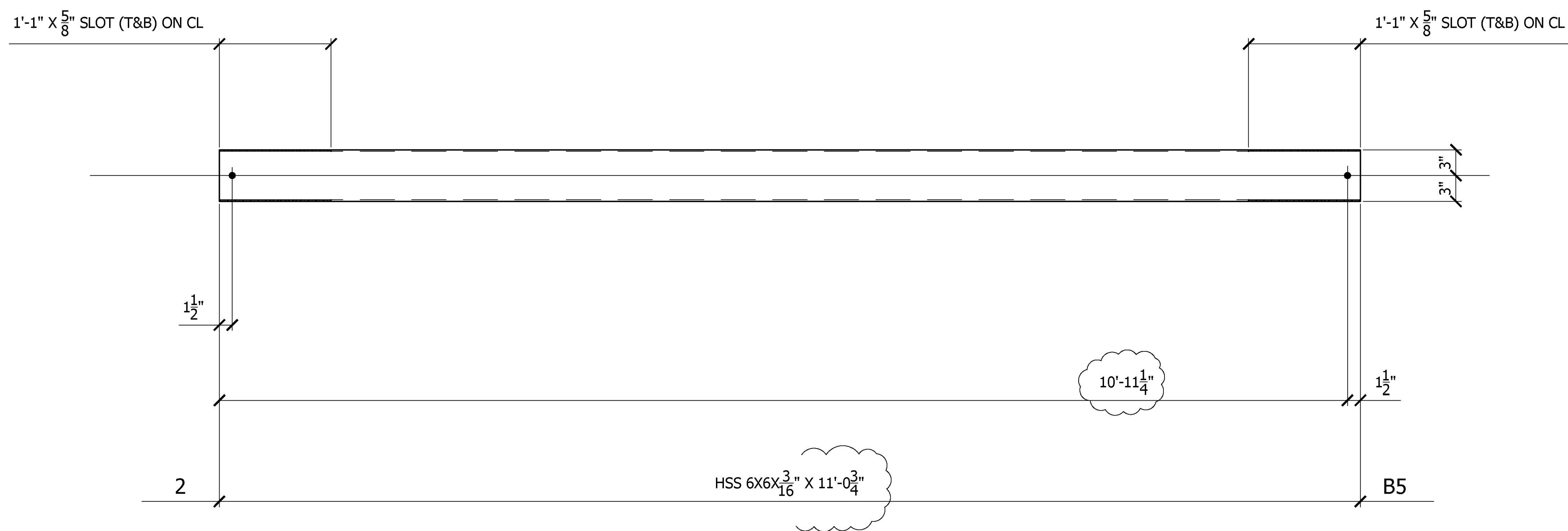
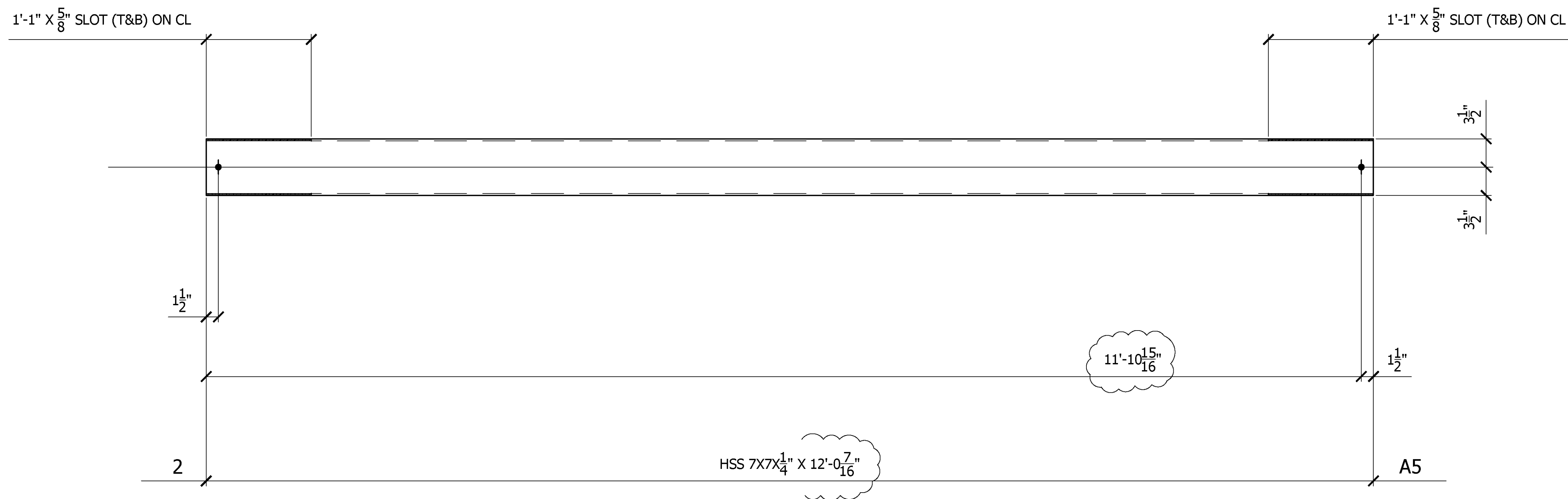
REF. E1

[illegible]

[illegible]



BILL OF MATERIAL					
MARK	QTY	DESCRIPTION	LENGTH		
			FT.	IN.	
A4	ONE	W 14X53	19	0 15 16	
a4	1	PL 1 2" X 14 1 2	3	9 13 16	
b3	2	PL 1" X 28	3	4	
c3	2	PL 2" X 16	1	4	
d3	2	W 10X54	1	1 7 8	
f4	2	HSS 6X6 1 2	2	0	
h3	4	PL 1 2" X 4 5 8	0	8 3 8	



REF. E1

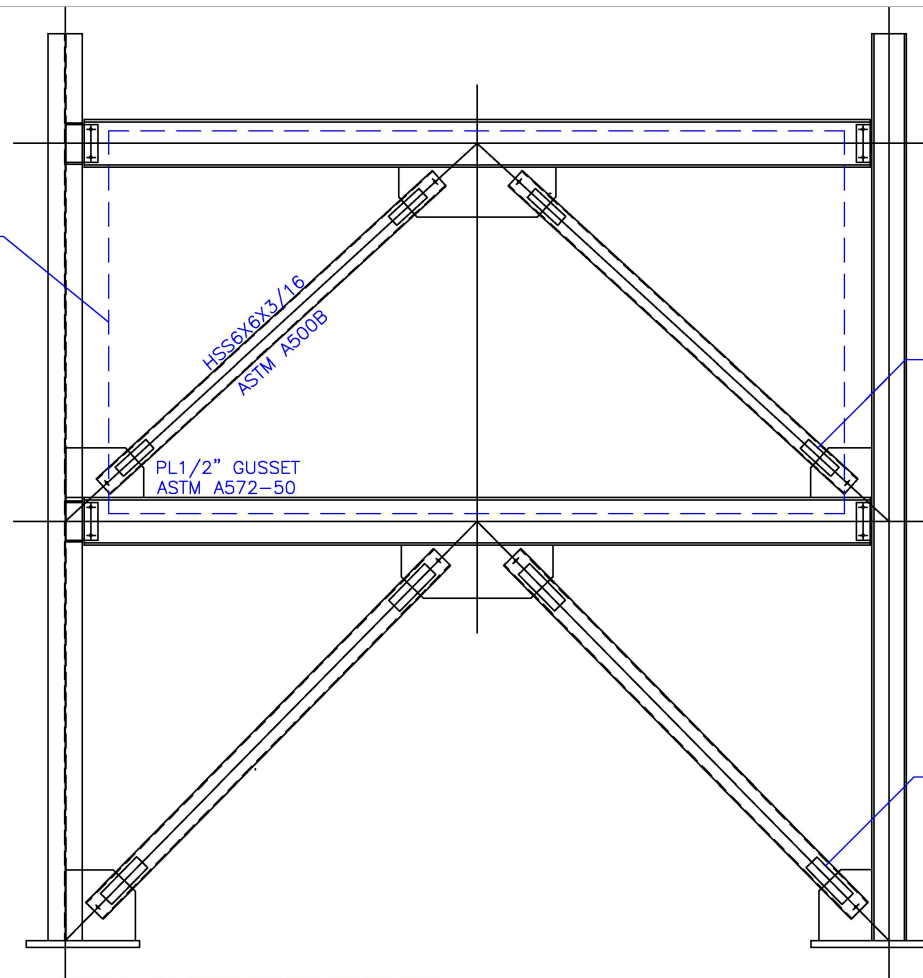
[illegible]



		PRELIMINARY
		FOR APPROVAL
		APPROVED
		SHOP (RFC)
		FIELD
		CONTRACTOR
		FILE

[illegible]

REPLACE DAMAGED 2nd STORY BRACES
AND GUSSETS WITH SAME SECTIONS,
WELDS AND SIZES AS NCBF-B-1 TEST

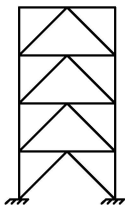


2nd STORY NET SECTION
REINFORCEMENT, typ.
PL3-1/2"x3/8"x12", FRONT & BACK
ASTM A572-50

1st STORY NET SECTION
REINFORCEMENT, typ.
PL4-1/2"x3/8"x15", FRONT & BACK
ASTM A572-50

NOTE 1: ALL FOUR BRACES FILLED WITH
CONCRETE FROM END TO END, NOMINAL
STRENGTH, f'_c , OF 2000psi.

NOTE 2: REPAIR DONE UNDER FIELD
CONDITIONS.



Project

Collaborative Developments for
Seismic Rehabilitation of
Vulnerable Braced Frames

Drawn by

Barb Simpson

Date

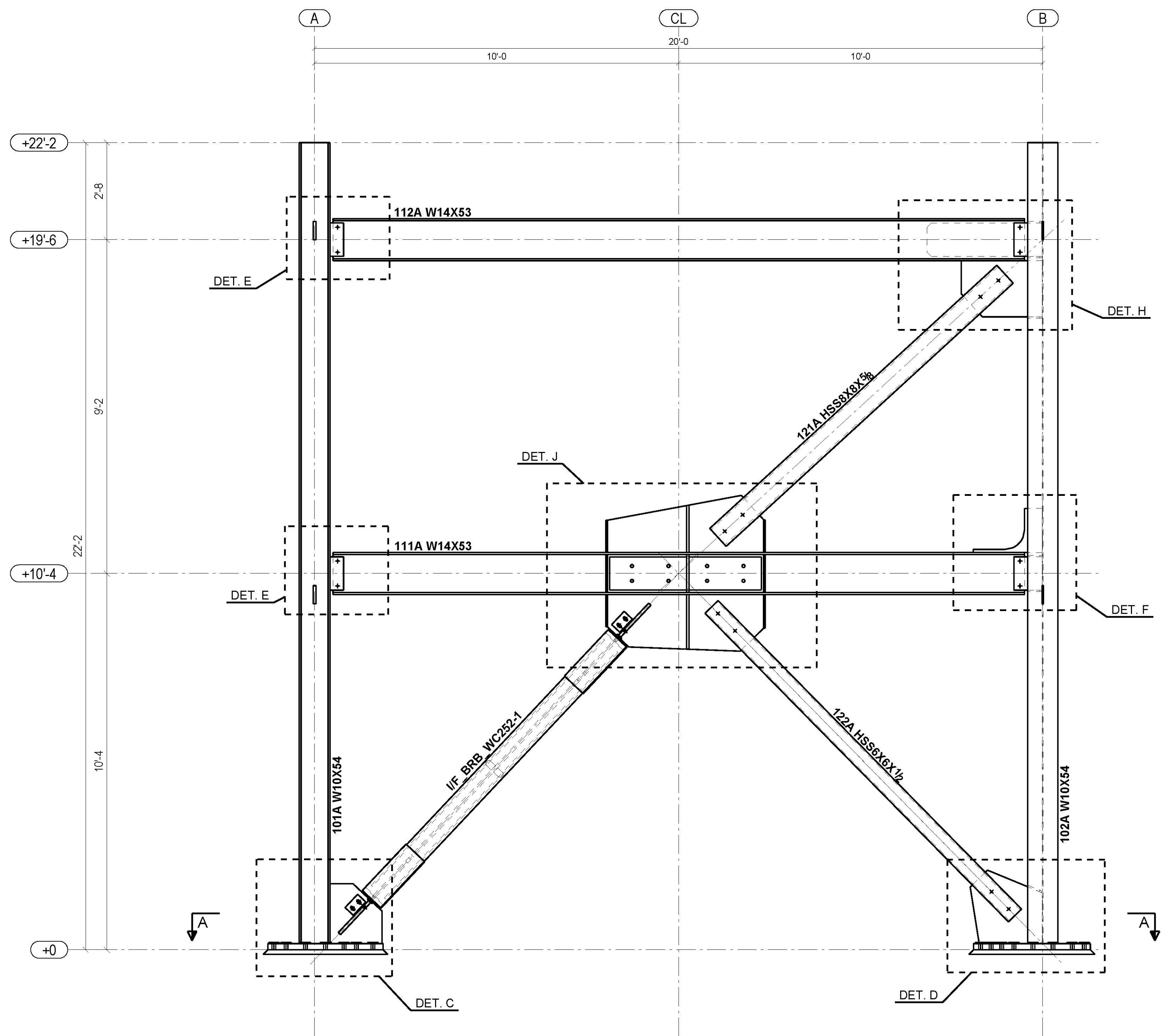
11/20/2013

Sensor Title

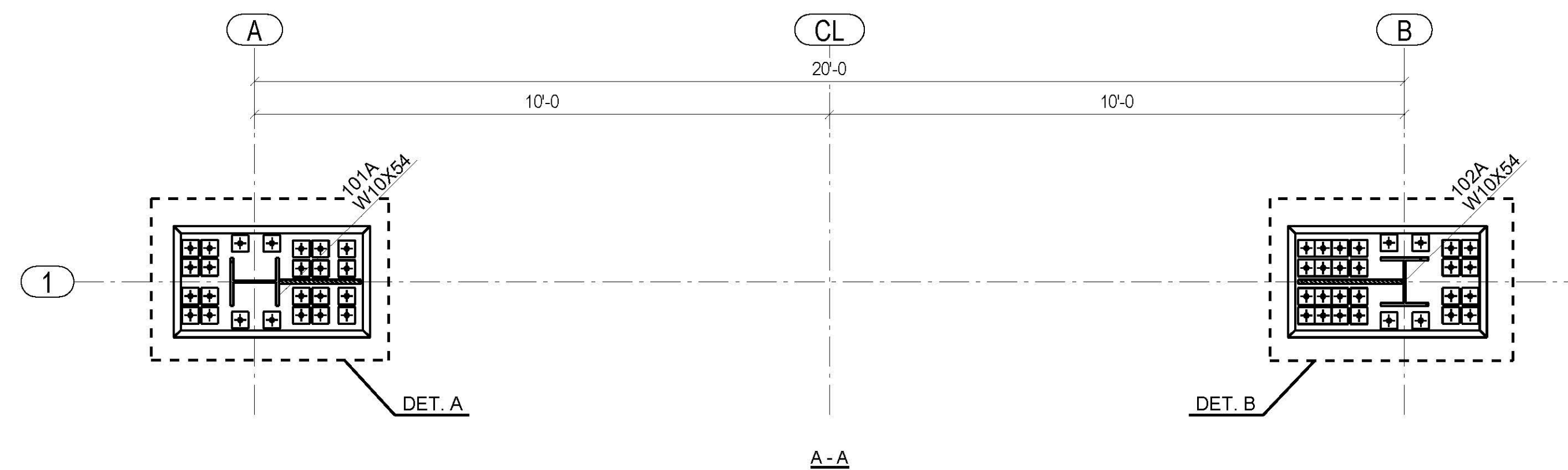
Frame Repair

Sheet

E2

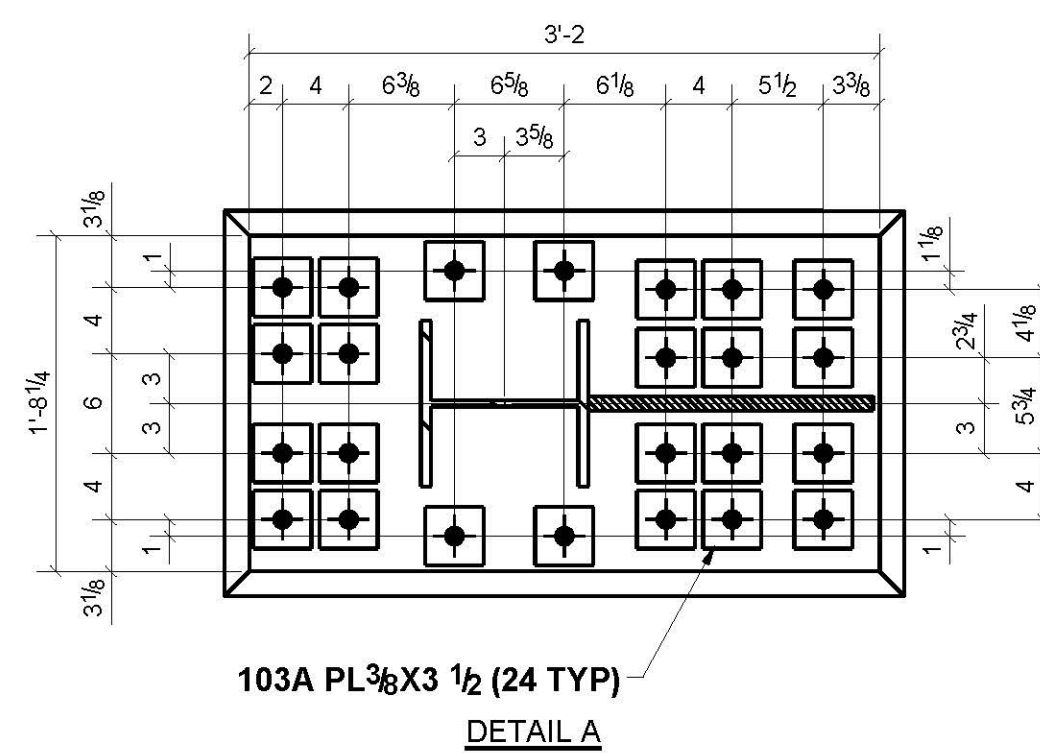


View 01 (3d) - View 01 (3d)

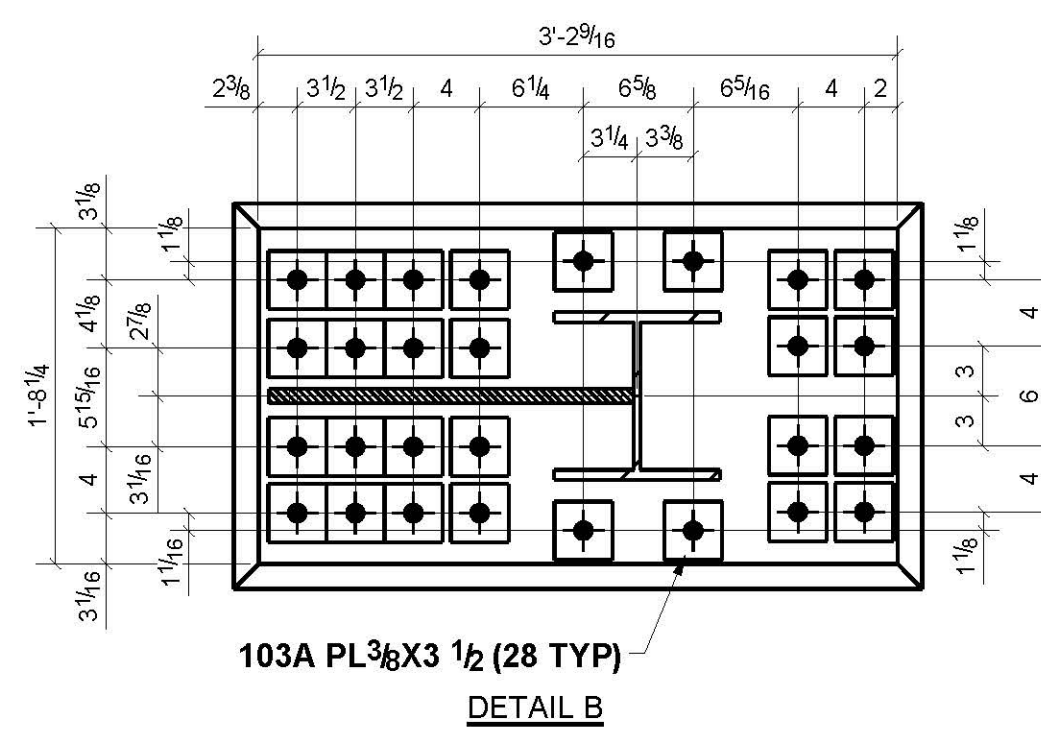


A-A

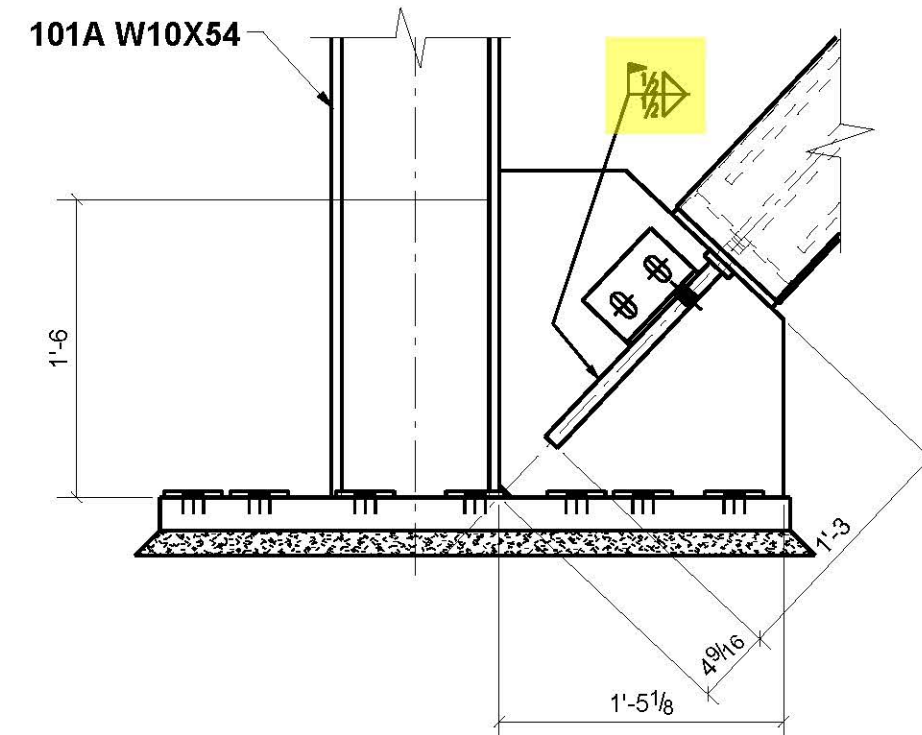
B-B



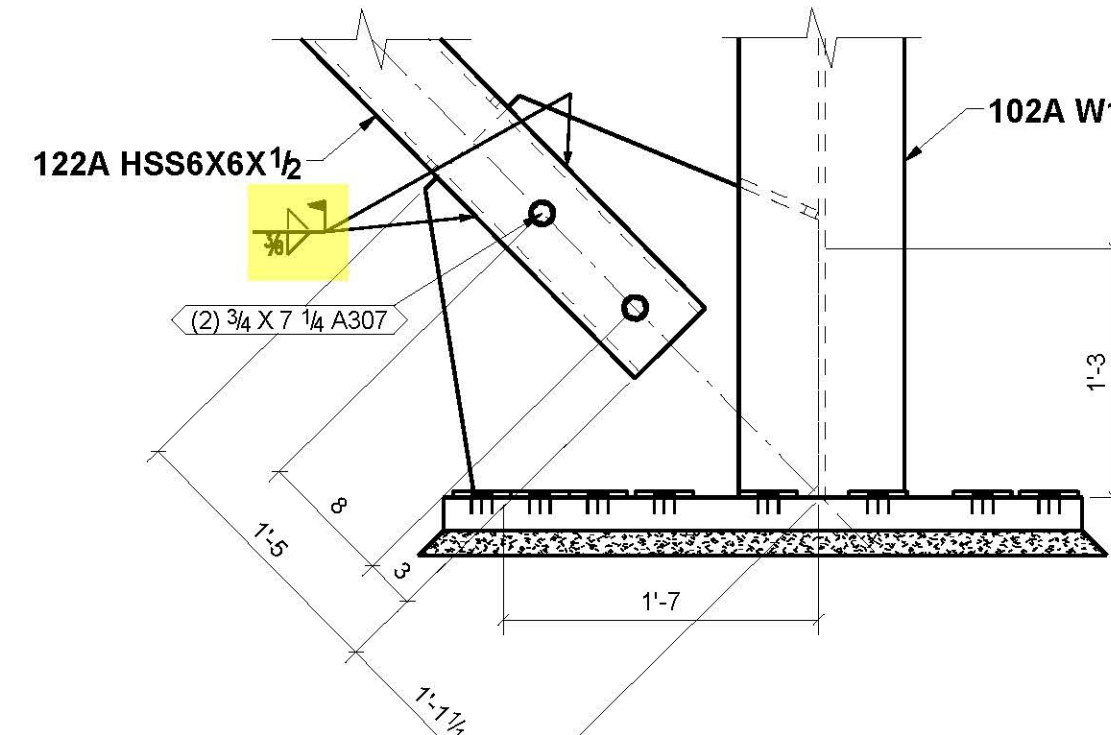
DETAIL A



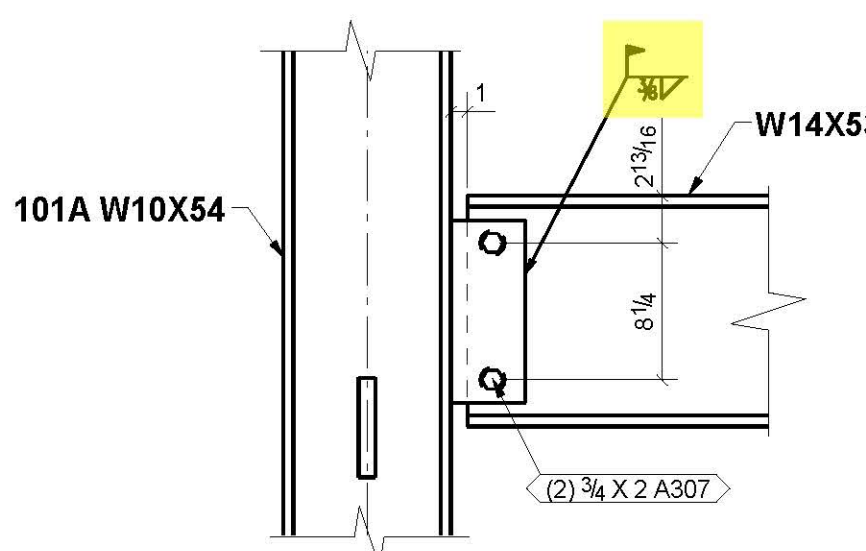
DETAIL B



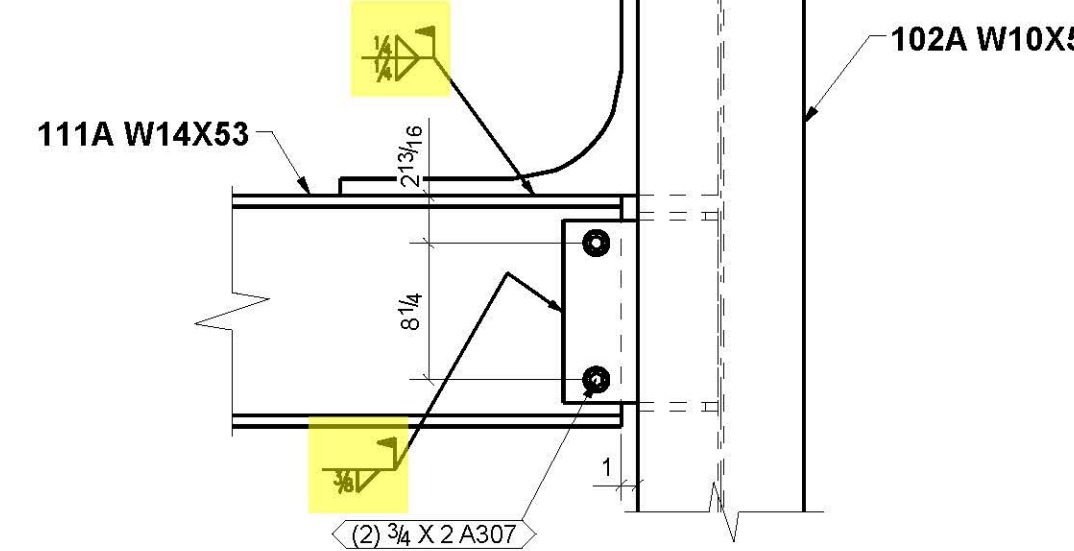
DETAIL C



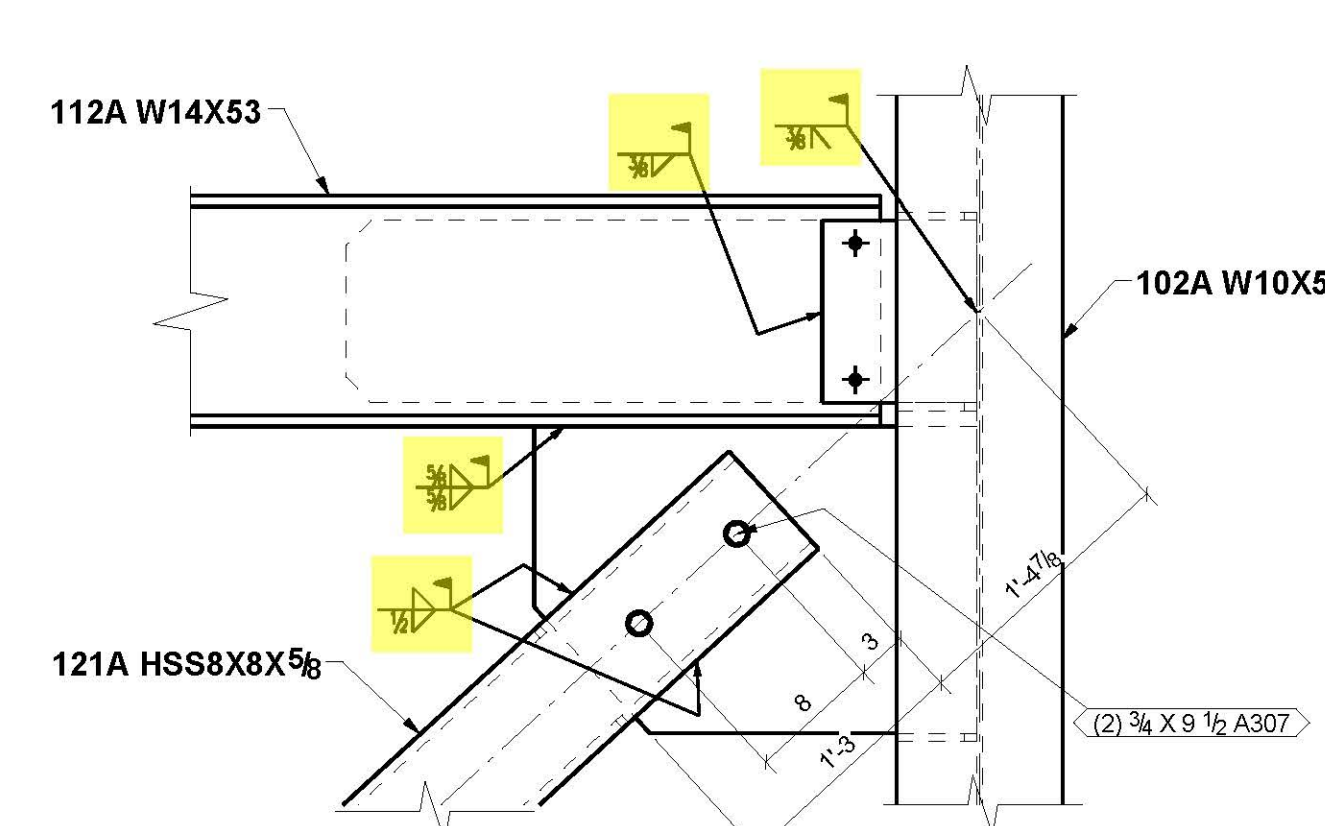
DETAIL D



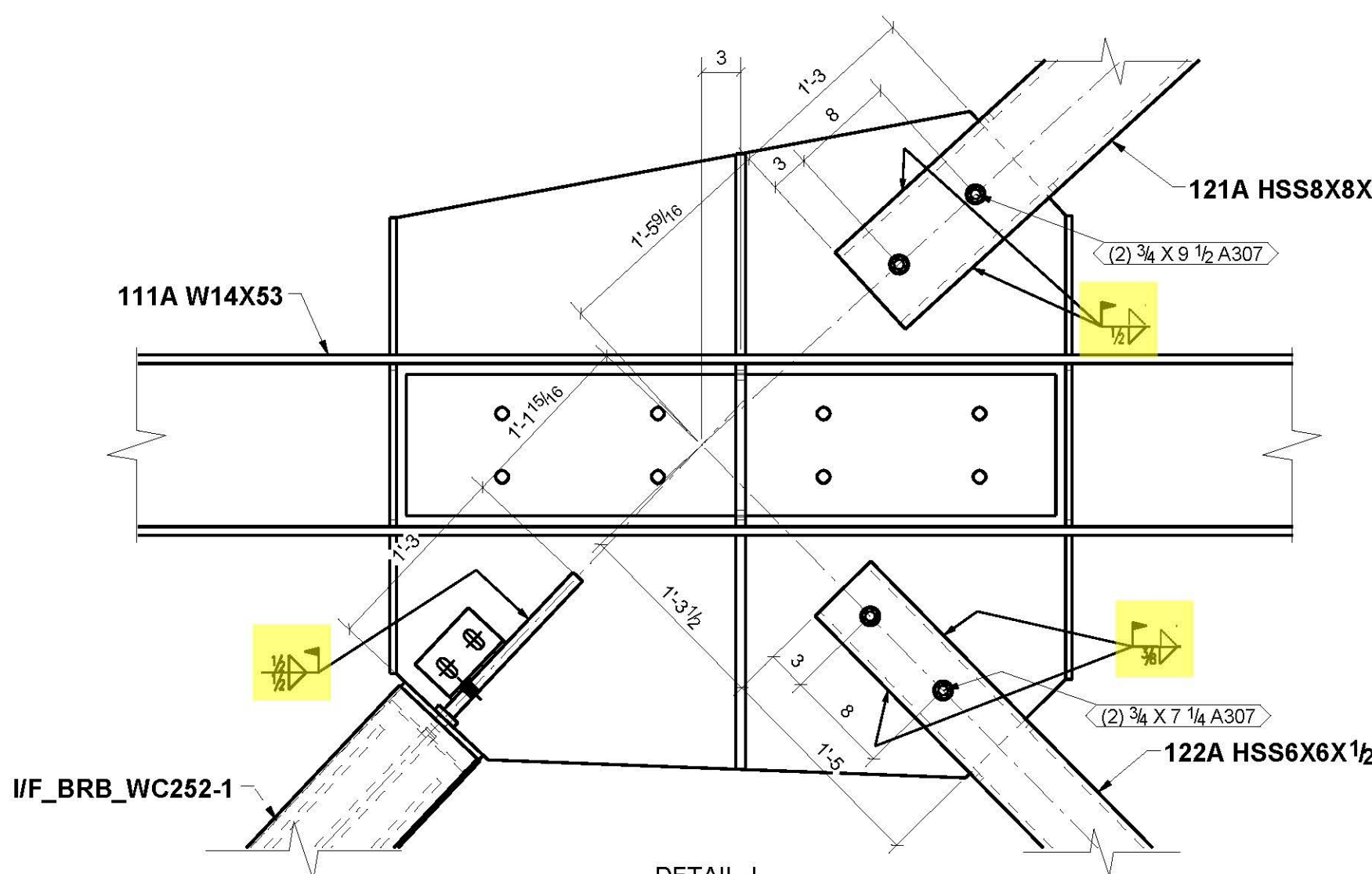
DETAIL E



DETAIL F



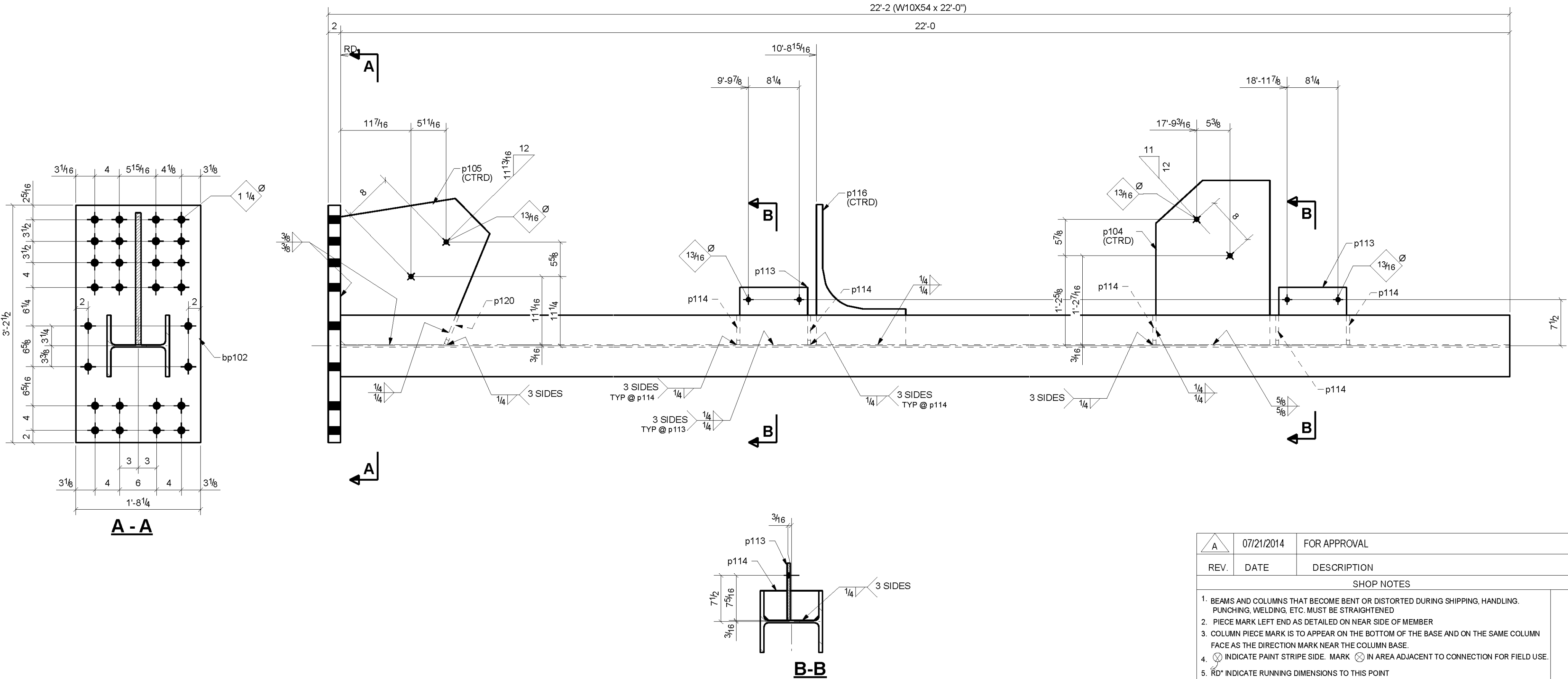
DETAIL H



DETAIL J

△ A	07/21/2014	FOR APPROVAL
REV.	DATE	DESCRIPTION
<div><div><div>SJS</div><div>FAB-NAME</div></div><div><div>FAB-ADDRESS</div><div>FAB-CITY/STATE</div></div><div><div>PHONE</div><div>FAX</div></div><div><div>FAB-PHONE</div><div>FAB-FAX</div></div></div>		
DESIGN DRAWING REFERENCE:		
MADE BY: MSE	CHECKED BY:	DATE:
DETAILS OF:	STRUCTURE: UCB Test Frame	LOCATION: UC Berkeley
JOB NUMBER	FAB	SHEET NUMBER
3360		E101

ABM	MARK	QTY	DESCRIPTION	LENGTH	NOTE	WEIGHT	MATERIAL	REMARKS
				FT. IN.				
			COLUMN					
1001	102A	1	W10X54	22'-0"		1183	A992	
1006	bp102	1	PL2X20 1/4	3'-2 1/2"		442	A572-50	
	p104	1	PL7/8X18 1/2	2'-2 11/16"		116	A572-50	
	p105	1	PL7/8X23 3/4	2'-0 3/16"		115	A572-50	
	p113	2	PL1/2X9 5/16	0'-11"		29	A572-50	
	p114	5	PL1/2X4 13/16	0'-8 7/8"		30	A572-50	
	p116	1	PL1/2X14 1/2	1'-10 3/4"		16	A572-50	
	p120	1	PL1/2X5	0'-8 7/8"		6	A572-50	
TOTAL WEIGHT THIS DRAWING						1937		



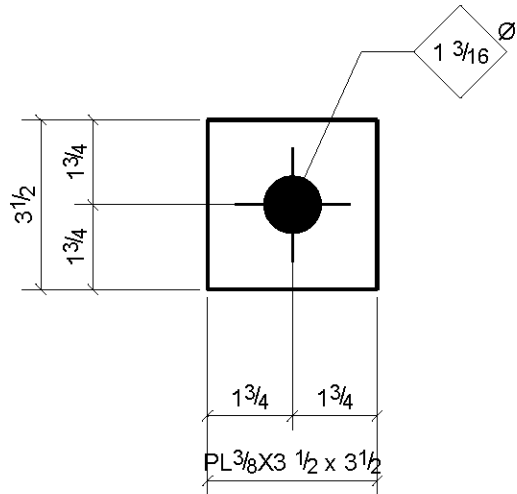
<div>A</div>	07/21/2014	FOR APPROVAL
REV.	DATE	DESCRIPTION
SHOP NOTES		
<div>1. BEAMS AND COLUMNS THAT BECOME BENT OR DISTORTED DURING SHIPPING, HANDLING, PUNCHING, WELDING, ETC. MUST BE STRAIGHTENED.</div> <div>2. PIECE MARK LEFT END AS DETAILED ON NEAR SIDE OF MEMBER</div> <div>3. COLUMN PIECE MARK IS TO APPEAR ON THE BOTTOM OF THE BASE AND ON THE SAME COLUMN FACE AS THE DIRECTION MARK NEAR THE COLUMN BASE.</div> <div>4. INDICATE PAINT STRIPE SIDE. MARK IN AREA ADJACENT TO CONNECTION FOR FIELD USE.</div> <div>5. RD* INDICATE RUNNING DIMENSIONS TO THIS POINT</div> <div>6. ALL FULL PENETRATION WELDS SHALL BE UT TESTED IN ACCORDANCE WITH AWS D1.1, UNLESS DIRECTED OTHERWISE BY CONTRACT SPECIFICATIONS.</div> <div>7. WELDING TO CONFORM TO AWS SPECIFICATIONS. ELECTRODES: E70XX - LOW HYDROGEN</div> <div>8. DEBURR ALL HOLES U.N.O.</div>		
ALL MATERIAL THIS DRAWING IS CODE # U.N.O.		
ERECTION DRAWING REFERENCE:		
DESIGN DRAWING REFERENCE:		
ALL MATERIAL TO BE ASTM AS NOTED		RELEASED FOR FABRICATION BY DATE
CLEAN: N/A	PAINT: N/A	OPEN HOLES: 13/16 UON
APPROVAL/REVIEW AUTHORITY: PLEASE REVIEW THIS DRAWING CAREFULLY. IT REPRESENTS OUR INTERPRETATION OF THE INTENT OF THE CONTRACT DOCUMENTS. HOWEVER, THE STEEL FABRICATOR AND THE STRUCTURAL STEEL DETAILER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION SHOWN ON THE CONTRACT DOCUMENTS AND/OR ARCHITECTURAL AND STRUCTURAL DESIGN DRAWINGS. THIS IS THE RESPONSIBILITY OF THE BUYER. UNLESS NOTED TO THE CONTRARY ON THIS DRAWING, WHEN IT IS RETURNED FOR APPROVAL IT WILL BE ASSUMED THAT ALL INFORMATION SHOWN HEREIN HAS THE AFFIRMATION OF THE APPROVAL/REVIEW AUTHORITY. SUBSEQUENT CHANGES TO INFORMATION SHOWN ON THESE DRAWINGS AFTER SUBMISSION WILL BE CONSIDERED AS CONTRACT CHANGES.		
<div> FAB-NAME</div> <div>FAB-ADDRESS FAB-CITY/STATE PHONE FAX FAB-PHONE FAB-FAX</div>		
MADE BY: MSE	CHECKED BY:	DATE:
DETAILS OF: COLUMN	STRUCTURE: UCB Test Frame	LOCATION: UC Berkeley
JOB NUMBER 3360		FAB SHEET NUMBER 102A

ONE - COLUMN - 102A

GRID LOCATION

BILL OF MATERIAL

ABM	MARK	QTY	DESCRIPTION	LENGTH	NOTE	WEIGHT	MATERIAL	REMARKS
				FT. IN.				
			PLATE_WASHER					
	103A	52	PL3/8X3 1/2	0'-3 1/2"		68	A572-50	
			TOTAL WEIGHT THIS DRAWING			68		

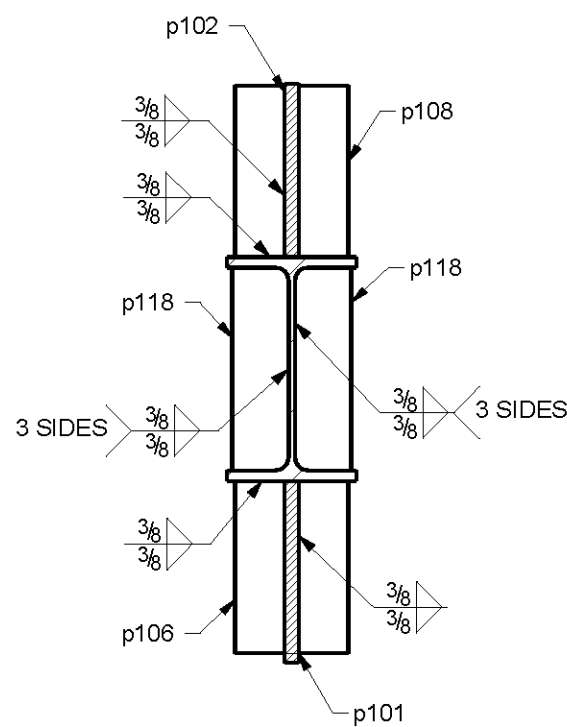
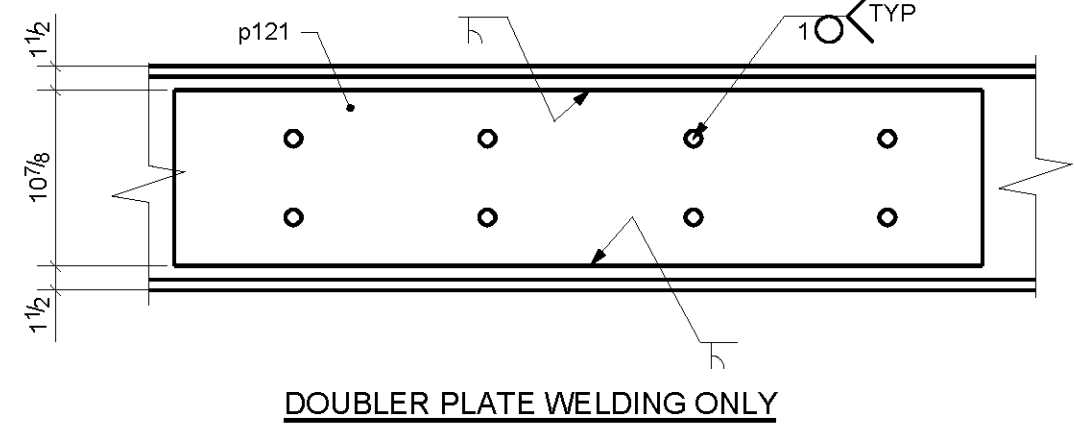
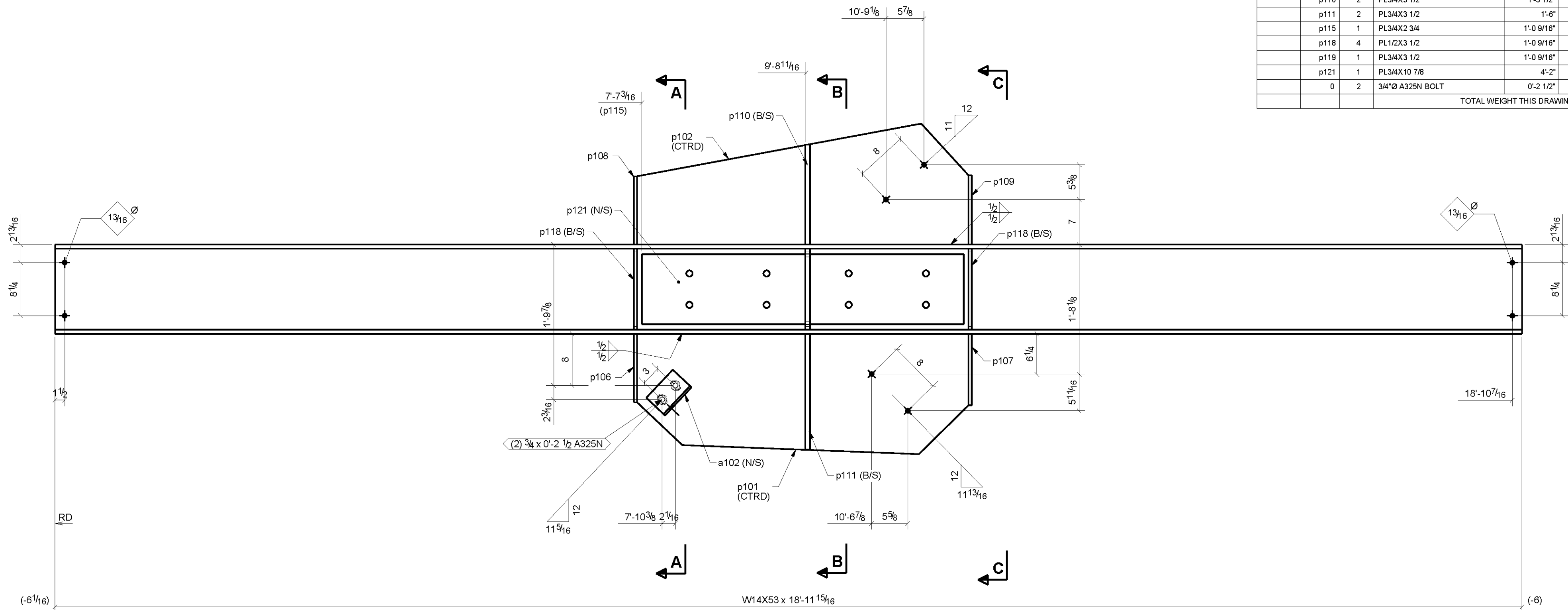


<div>A</div>	07/21/2014	FOR APPROVAL	
REV.	DATE	DESCRIPTION	
SHOP NOTES			
<div>1. BEAMS AND COLUMNS THAT BECOME BENT OR DISTORTED DURING SHIPPING, HANDLING. PUNCHING, WELDING, ETC. MUST BE STRAIGHTENED</div> <div>2. PIECE MARK LEFT END AS DETAILED ON NEAR SIDE OF MEMBER</div> <div>3. COLUMN PIECE MARK IS TO APPEAR ON THE BOTTOM OF THE BASE AND ON THE SAME COLUMN FACE AS THE DIRECTION MARK NEAR THE COLUMN BASE.</div> <div>4. INDICATE PAINT STRIPE SIDE. MARK IN AREA ADJACENT TO CONNECTION FOR FIELD USE.</div> <div>5. RD" INDICATE RUNNING DIMENSIONS TO THIS POINT</div> <div>6. ALL FULL PENETRATION WELDS SHALL BE UT TESTED IN ACCORDANCE WITH AWS D1.1. UNLESS DIRECTED OTHERWISE BY CONTRACT SPECIFICATIONS.</div> <div>7. WELDING TO CONFORM TO AWS SPECIFICATIONS. ELECTRODES: E70XX - LOW HYDROGEN</div> <div>8. DEBURR ALL HOLES U.N.O.</div>			
ALL MATERIAL THIS DRAWING IS CODE # U.N.O.			
ERECTION DRAWING REFERENCE:			
DESIGN DRAWING REFERENCE:			
ALL MATERIAL TO BE ASTM AS NOTED		RELEASED FOR FABRICATION BY DATE	
CLEAN:	N/A	OPEN HOLES:	
PAINT:	N/A	13/16 UON	
<div>APPROVAL/REVIEW AUTHORITY: PLEASE REVIEW THIS DRAWING CAREFULLY.</div> <div>IT REPRESENTS OUR INTERPRETATION OF THE INTENT OF THE CONTRACT DOCUMENTS. HOWEVER, THE STEEL FABRICATOR AND THE STRUCTURAL STEEL DETAILER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF THE OF THE INFORMATION SHOWN ON THE CONTRACT DOCUMENTS AND/OR ARCHITECTURAL AND STRUCTURAL DESIGN DRAWINGS. THIS IS THE RESPONSIBILITY OF THE BUYER. UNLESS NOTED TO THE CONTRARY ON THIS DRAWING, WHEN IT IS RETURNED FROM APPROVAL IT WILL BE ASSUMED THAT ALL INFORMATION SHOWN HEREIN HAS THE THE AFFIRMATION OF THE APPROVAL/ REVIEW AUTHORITY. SUBSEQUENT CHANGES TO INFORMATION SHOWN ON THESE DRAWINGS AFTER SUBMISSION WILL BE CONSIDERED AS CONTRACT CHANGES.</div>			
		FAB-ADDRESS FAB-CITY/STATE	PHONE FAX FAB-PHONE FAB-FAX
FAB-NAME			
MADE BY:	CHECKED BY:	DATE:	M C H
DETAILS OF: PLATE_WASHER		SEQ REV	
STRUCTURE: UCB Test Frame		1 A	
LOCATION: UC Berkeley		JOB NUMBER 3360	FAB SHEET NUMBER 103A

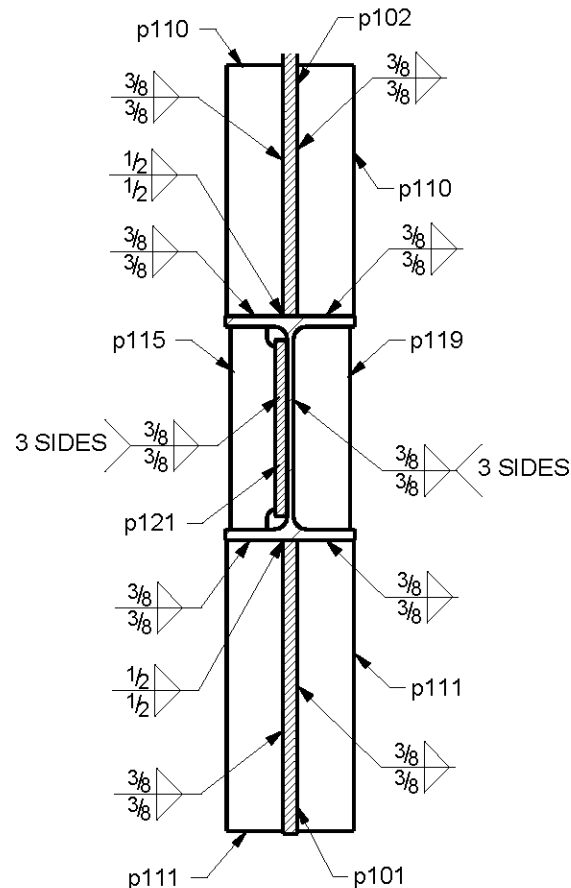
52 - PLATE_WASHERS - 103A

BILL OF MATERIAL

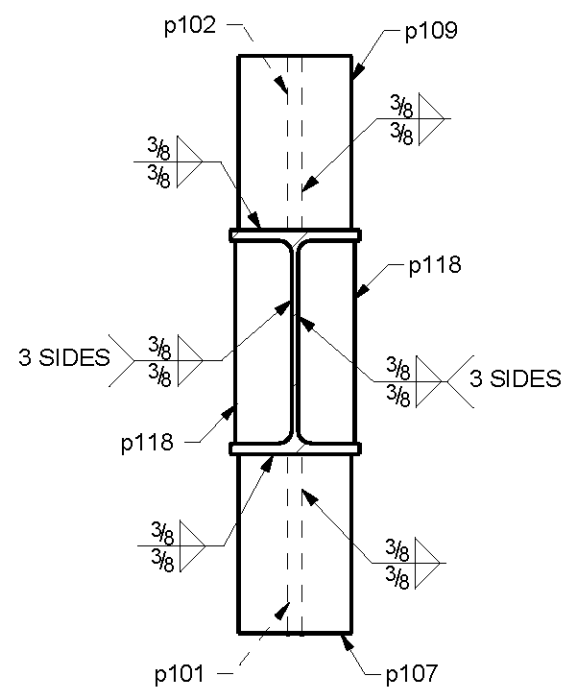
ABM	MARK	QTY	DESCRIPTION	LENGTH	NOTE	WEIGHT	MATERIAL	REMARKS
				FT. IN.				
			BF_BEAM					
1002	111A	1	W14X53	18'-11 15/16"		1008	A992	
	a102	1	L4X4X5/16	0'-6"		4	A992	
	p101	1	PL7/8X18 11/16	4'-3 1/2"		217	A572-50	
	p102	1	PL7/8X18 3/4	4'-3 1/2"		188	A572-50	
	p106	1	PL1/2X7	0'-10 5/8"		11	A572-50	
	p107	1	PL1/2X7	0'-11 1/16"		11	A572-50	
	p108	1	PL1/2X7	0'-10 9/16"		11	A572-50	
	p109	1	PL1/2X7	0'-10 3/4"		11	A572-50	
	p110	2	PL3/4X3 1/2	1'-3 1/2"		23	A572-50	
	p111	2	PL3/4X3 1/2	1'-6"		27	A572-50	
	p115	1	PL3/4X2 3/4	1'-0 9/16"		7	A572-50	
	p118	4	PL1/2X3 1/2	1'-0 9/16"		25	A572-50	
	p119	1	PL3/4X3 1/2	1'-0 9/16"		9	A572-50	
	p121	1	PL3/4X10 7/8	4'-2"		114	A572-50	
	0	2	3/4"Ø A325N BOLT	0'-2 1/2"		1		
TOTAL WEIGHT THIS DRAWING						1667		



A - A
(DOUBLER PLATE NOT SHOWN FOR CLARITY)



B - B



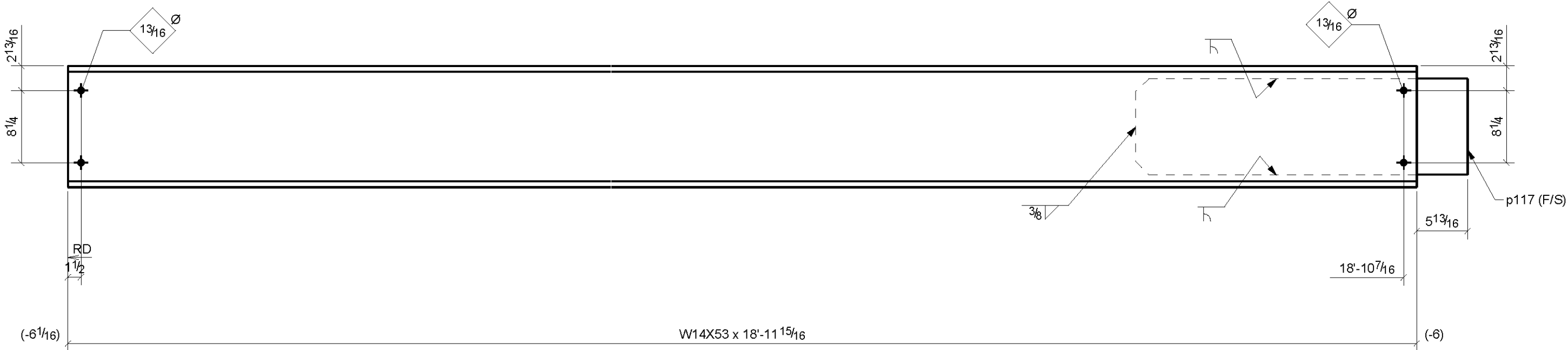
C - C
(DOUBLER PLATE NOT SHOWN FOR CLARITY)

<div>A</div>	07/21/2014	FOR APPROVAL		
REV.	DATE	DESCRIPTION		
SHOP NOTES				
1. BEAMS AND COLUMNS THAT BECOME BENT OR DISTORTED DURING SHIPPING, HANDLING, PUNCHING, WELDING, ETC. MUST BE STRAIGHTENED				
2. PIECE MARK LEFT END AS DETAILED ON NEAR SIDE OF MEMBER				
3. COLUMN PIECE MARK IS TO APPEAR ON THE BOTTOM OF THE BASE AND ON THE SAME COLUMN FACE AS THE DIRECTION MARK NEAR THE COLUMN BASE.				
4. <input checked="" type="checkbox"/> INDICATE PAINT STRIPE SIDE. MARK <input checked="" type="checkbox"/> IN AREA ADJACENT TO CONNECTION FOR FIELD USE.				
5. RD* INDICATE RUNNING DIMENSIONS TO THIS POINT				
6. ALL FULL PENETRATION WELDS SHALL BE UT TESTED IN ACCORDANCE WITH AWS D1.1. UNLESS DIRECTED OTHERWISE BY CONTRACT SPECIFICATIONS.				
7. WELDING TO CONFORM TO AWS SPECIFICATIONS. ELECTRODES: E70XX - LOW HYDROGEN				
8. DEBURR ALL HOLES U.N.O.				
ALL MATERIAL THIS DRAWING IS CODE #		U.N.O.		
ERECTION DRAWING REFERENCE:				
DESIGN DRAWING REFERENCE:				
ALL MATERIAL TO BE ASTM AS NOTED		RELEASED FOR FABRICATION BY _____ DATE _____		
CLEAN: N/A PAINT: N/A	OPEN HOLES: 13/16 UON			
APPROVAL/REVIEW AUTHORITY: PLEASE REVIEW THIS DRAWING CAREFULLY. IT REPRESENTS OUR INTERPRETATION OF THE INTENT OF THE CONTRACT DOCUMENTS. HOWEVER, THE STEEL FABRICATOR AND THE STRUCTURAL STEEL DETAILER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF THE OF THE INFORMATION SHOWN ON THE CONTRACT DOCUMENTS AND/OR ARCHITECTUTAL AND STRUCTURAL DESIGN DRAWINGS. THIS IS THE RESPONSIBILITY OF THE BUYER. UNLESS NOTED TO THE CONTRARY ON THIS DRAWING, WHEN IT IS RETURNED FROM APPROVAL, IT WILL BE ASSUMED THAT ALL INFORMATION SHOWN HEREIN HAS THE AFFIRMATION OF THE APPROVAL/REVIEW AUTHORITY. SUBSEQUENT CHANGES TO INFORMATION SHOWN ON THESE DRAWINGS AFTER SUBMISSION WILL BE CONSIDERED AS CONTRACT CHANGES.				
<div>SIS</div>		FAB-ADDRESS FAB-CITY/STATE PHONE FAX		
FAB-NAME		FAB-PHONE FAB-FAX		
MADE BY: MSE	CHECKED BY:	DATE:		
DETAILS OF: BF_BEAM				
STRUCTURE: UCB Test Frame				
LOCATION: UC Berkeley				
M	C	H	SEQ	REV
	<div><div></div></div>		1	<div><div>A</div></div>
JOB NUMBER	FAB	SHEET	NUMBER	
3360		111A		

GRID LOCATION

BILL OF MATERIAL

ABM	MARK	QTY	DESCRIPTION	LENGTH	NOTE	WEIGHT	MATERIAL	REMARKS
				FT. IN.				
			BF_BEAM					
1002	112A	1	W14X53	18'-11 15/16		1008	A992	
	p117	1	PL1/2X11	3'-2"		59	A572-50	
TOTAL WEIGHT THIS DRAWING						1067		



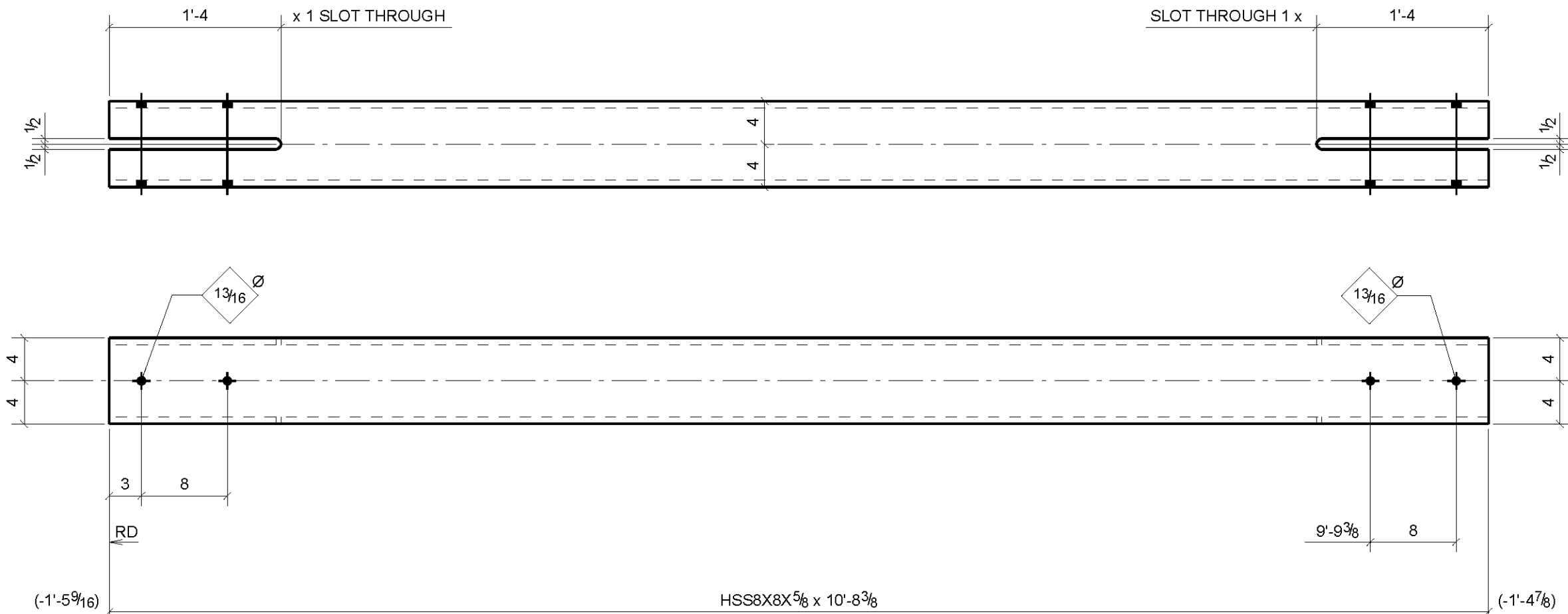
<div>△A</div>	07/21/2014	FOR APPROVAL	
REV.	DATE	DESCRIPTION	
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ERECTION DRAWING REFERENCE:			
DESIGN DRAWING REFERENCE:			
ALL MATERIAL TO BE ASTM AS NOTED		RELEASED FOR FABRICATION BY DATE	
CLEAN:	N/A	OPEN HOLES:	
PAINT:	N/A	13/16 UON	
<div>APPROVAL/REVIEW AUTHORITY: PLEASE REVIEW THIS DRAWING CAREFULLY.</div> <div>IT REPRESENTS OUR INTERPRETATION OF THE INTENT OF THE CONTRACT DOCUMENTS. HOWEVER, THE STEEL FABRICATOR AND THE STRUCTURAL STEEL DETAILER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF THE OF THE INFORMATION SHOWN ON THE CONTRACT DOCUMENTS AND/OR ARCHITECTURAL AND STRUCTURAL DESIGN DRAWINGS. THIS IS THE RESPONSIBILITY OF THE BUYER. UNLESS NOTED TO THE CONTRARY ON THIS DRAWING, WHEN IT IS RETURNED FROM APPROVAL IT WILL BE ASSUMED THAT ALL INFORMATION SHOWN HEREIN HAS THE THE AFFIRMATION OF THE APPROVAL/ REVIEW AUTHORITY. SUBSEQUENT CHANGES TO INFORMATION SHOWN ON THESE DRAWINGS AFTER SUBMISSION WILL BE CONSIDERED AS CONTRACT CHANGES.</div>			
<div><div>SES</div><div>FAB-NAME</div></div>		FAB-ADDRESS FAB-CITY/STATE	
PHONE FAX		FAB-PHONE FAB-FAX	
MADE BY: MSE	CHECKED BY:	DATE:	M C H
DETAILS OF: BF_BEAM		SEQ	REV
STRUCTURE: UCB Test Frame		1	△A
LOCATION: UC Berkeley		JOB NUMBER 3360	FAB SHEET NUMBER 112A

ONE - BF_BEAM - 112A

GRID LOCATION

BILL OF MATERIAL

ABM	MARK	QTY	DESCRIPTION	LENGTH	NOTE	WEIGHT	MATERIAL	REMARKS
				FT. IN.				
			VERT_BRACE					
1004	121A	1	HSS8X8X5/8	10'-8 3/8"		597	A500-GR.B	
			TOTAL WEIGHT THIS DRAWING			597		



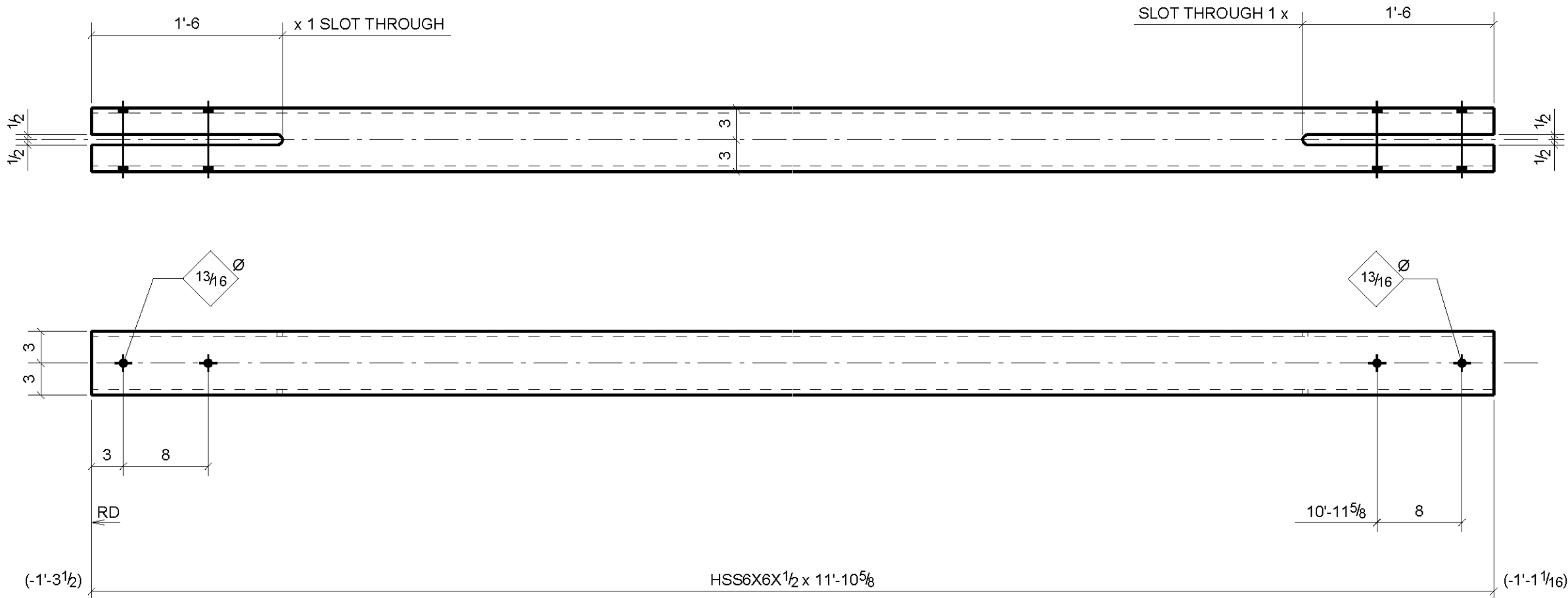
ONE - VERT_BRACE - 121A

<div>A</div>	07/21/2014	FOR APPROVAL	
REV.	DATE	DESCRIPTION	
SHOP NOTES			
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ALL MATERIAL THIS DRAWING IS CODE # U.N.O.			
ERECTION DRAWING REFERENCE:			
DESIGN DRAWING REFERENCE:			
ALL MATERIAL TO BE ASTM AS NOTED		RELEASED FOR FABRICATION BY DATE	
CLEAN:	N/A	OPEN HOLES:	
PAINT:	N/A	13/16 UON	
<div>APPROVAL/REVIEW AUTHORITY: PLEASE REVIEW THIS DRAWING CAREFULLY.</div> <div>IT REPRESENTS OUR INTERPRETATION OF THE INTENT OF THE CONTRACT DOCUMENTS. HOWEVER, THE STEEL FABRICATOR AND THE STRUCTURAL STEEL DETAILER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION SHOWN ON THE CONTRACT DOCUMENTS AND/OR ARCHITECTURAL AND STRUCTURAL DESIGN DRAWINGS. THIS IS THE RESPONSIBILITY OF THE BUYER. UNLESS NOTED TO THE CONTRARY ON THIS DRAWING, WHEN IT IS RETURNED FROM APPROVAL IT WILL BE ASSUMED THAT ALL INFORMATION SHOWN HEREIN HAS THE AFFIRMATION OF THE APPROVAL/REVIEW AUTHORITY. SUBSEQUENT CHANGES TO INFORMATION SHOWN ON THESE DRAWINGS AFTER SUBMISSION WILL BE CONSIDERED AS CONTRACT CHANGES.</div>			
<div> FAB-NAME</div>		FAB-ADDRESS FAB-CITY/STATE	PHONE FAX FAB-PHONE FAB-FAX
MADE BY: MSE	CHECKED BY:	DATE:	M C H SEQ REV
DETAILS OF: VERT_BRACE		1 A	
STRUCTURE: UCB Test Frame		JOB NUMBER 3360	FAB SHEET NUMBER 121A
LOCATION: UC Berkeley			

GRID LOCATION

BILL OF MATERIAL

ABM	MARK	QTY	DESCRIPTION	LENGTH	NOTE	WEIGHT	MATERIAL	REMARKS
				FT. IN.				
			VERT_BRACE					
1003	122A	1	HSS6X6X1/2	11'-10 5/8"		394	A500-GR.B	
TOTAL WEIGHT THIS DRAWING						394		

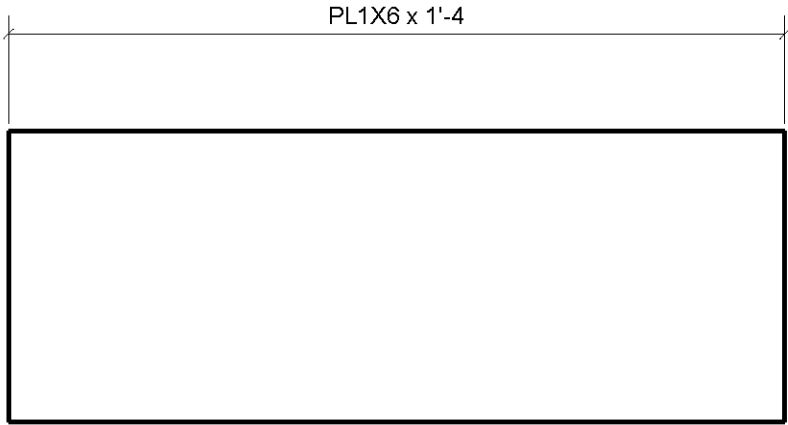


<div>A</div>	07/21/2014	FOR APPROVAL	
REV.	DATE	DESCRIPTION	
SHOP NOTES			
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DESIGN DRAWING REFERENCE:			
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PAINT:	N/A	13/16 UON	
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<div> FAB-NAME</div>		FAB-ADDRESS FAB-CITY/STATE	
MADE BY: MSE		CHECKED BY:	DATE:
DETAILS OF: VERT_BRACE		M C H	
STRUCTURE: UCB Test Frame		SEQ 1	
LOCATION: UC Berkeley		REV A	
JOB NUMBER 3360		FAB SHEET NUMBER 122A	

ONE - VERT_BRACE - 122A

GRID LOCATION

BILL OF MATERIAL								
ABM	MARK	QTY	DESCRIPTION	LENGTH	NOTE	WEIGHT	MATERIAL	REMARKS
				FT. IN.				
			PLATE					
	131A	2	PL1X6	1'-4"		54	A572-50	
			TOTAL WEIGHT THIS DRAWING			54		

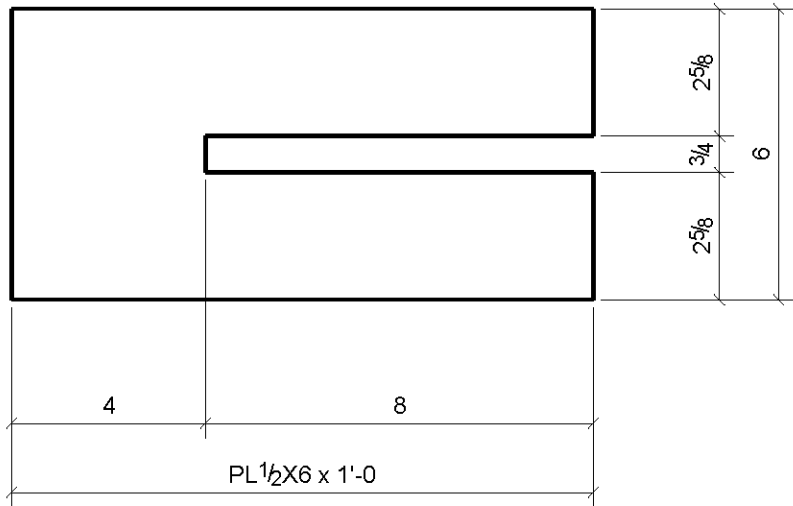





<div>A</div>	07/21/2014	FOR APPROVAL	
REV.	DATE	DESCRIPTION	
SHOP NOTES			
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DESIGN DRAWING REFERENCE:			
ALL MATERIAL TO BE ASTM AS NOTED		RELEASED FOR FABRICATION BY _____ DATE _____	
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<div> FAB-NAME</div>		FAB-ADDRESS FAB-CITY/STATE	PHONE FAX FAB-PHONE FAB-FAX
MADE BY: MSE	CHECKED BY:	DATE:	<div>MCH</div> <div>SEQ</div> <div>REV</div>
DETAILS OF: PLATE		<div>JOB NUMBER</div> <div>3360</div>	<div>1</div> <div><div>A</div></div>
STRUCTURE: UCB Test Frame		FAB	SHEET NUMBER
LOCATION: UC Berkeley		131A	

2 - PLATES - 131A

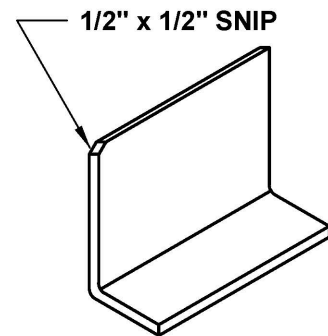
GRID LOCATION

BILL OF MATERIAL								
ABM	MARK	QTY	DESCRIPTION	LENGTH	NOTE	WEIGHT	MATERIAL	REMARKS
				FT. IN.				
			PLATE					
	132A	2	PL1/2X6	1'-0"		19	A572-50	
			TOTAL WEIGHT THIS DRAWING			19		

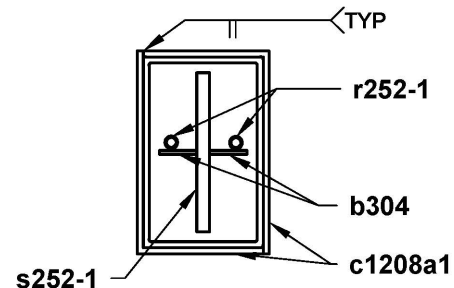


<div>A</div>	07/21/2014	FOR APPROVAL	
REV.	DATE	DESCRIPTION	
SHOP NOTES			
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<div></div>		FAB-ADDRESS FAB-CITY/STATE	
FAB-NAME		PHONE FAX	FAB-PHONE FAB-FAX
MADE BY: MSE	CHECKED BY:	DATE:	M C H SEQ REV
DETAILS OF: PLATE		1 A	
STRUCTURE: UCB Test Frame		JOB NUMBER 3360	FAB SHEET NUMBER 132A
LOCATION: UC Berkeley			

2 - PLATES - 132A



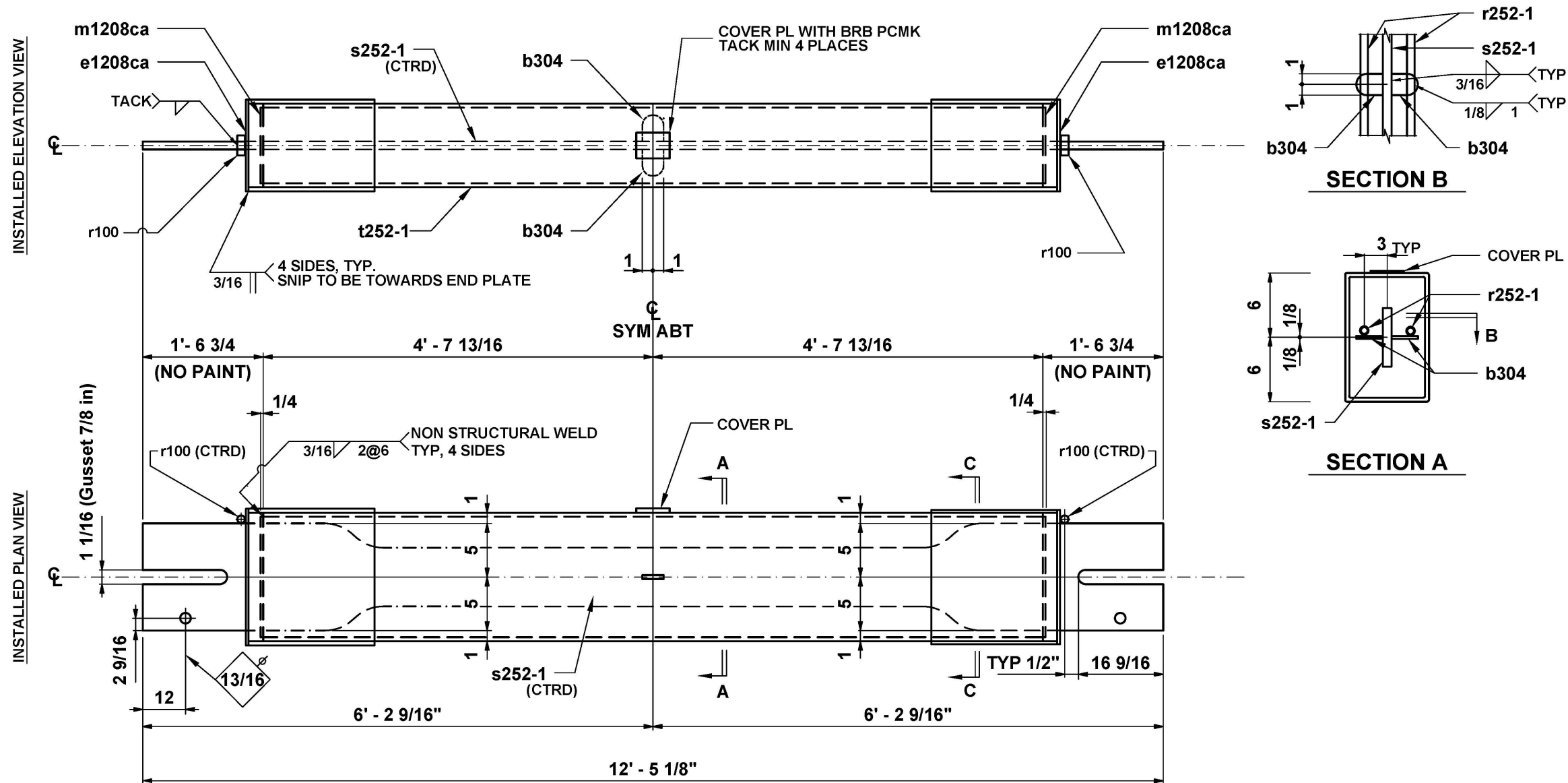
BENT COLLAR PLATE
REF DWG: c1208a1



SECTION C

BRACE LOCATION(S)

Test Frame at. el. L1



BILL OF MATERIAL

REF:
WORK THIS DWG
W/ DWG NO.: s252-1

1 BRACE WC252-1

NO.	DESCRIPTION	LENGTH		MARK	REMARKS
PCS.		FT.	IN.		
1	Brace	12	5 1/8	WC252-1	BRB 5.00
1	HSS12x8x1/4	9	3 5/8	t252-1	A500-Gr B
4	PL 1/4 x 18	1	9	c1208a1	A36
1	FB 1 x 10	12	5 1/8	s252-1	A36-LY
2	PL 1/4 x 2	0	3 1/8	b304	A36
2	PL 1/4 x 7 3/4	0	11 3/4	m1208ca	A36
2	PL 1/2 x 8 1/4	1	0 1/4	e1208ca	A36
2	#4 rebar	9	10	r252-1	

	6/25/14 TN	MANUFACTURE
	6/6/14 TN	Approval
NO.	DATE	DESCRIPTION OF REVISION
	CHECKED BY	
SHOP PLACE PIECE MARK ON LEFT HAND END OF MEMBER AS DETAILED ERECT MEMBER WITH PIECE MARK TO END SHOWN ON PLACING PLAN		
MATERIAL: A36 & AS NOTED APPROX CONCR.: 0.19 YRDS3 EA		
SURFACE PREP.: SP3 APPROX BRACE WT.: 1490 POUNDS EA		
SHOP PAINT: Primer SPACER: f442a		

SUBJECT:	WC252-1
PROJECT:	UC Berkeley Test Brace
LOCATION:	Strongback Frame
CUSTOMER:	UC Berkeley
SS BRB NO.:	1
ENG. DWG:	0
ERECTION DWG:	
DATE:	6/16/14
DRAWN BY:	TN
CHECKED BY:	
SEQ.:	

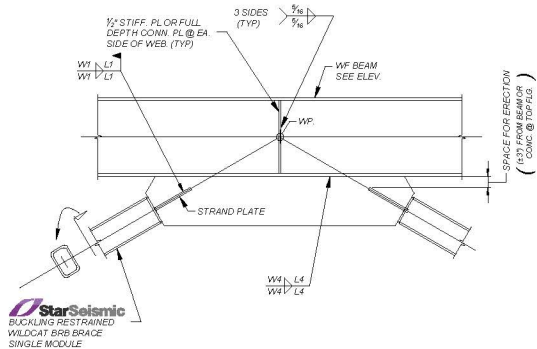


6300 N. SAGEWOOD DR
SUITE H #511
PARK CITY UT 84098

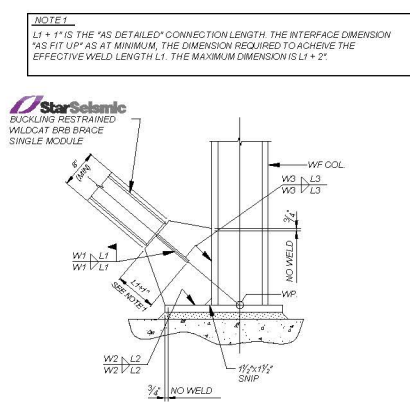
WWW.STARSEISMIC.NET
PHONE: 1-435-940-9222
FAX: 1-435-655-0073

JOB NO.: 140623

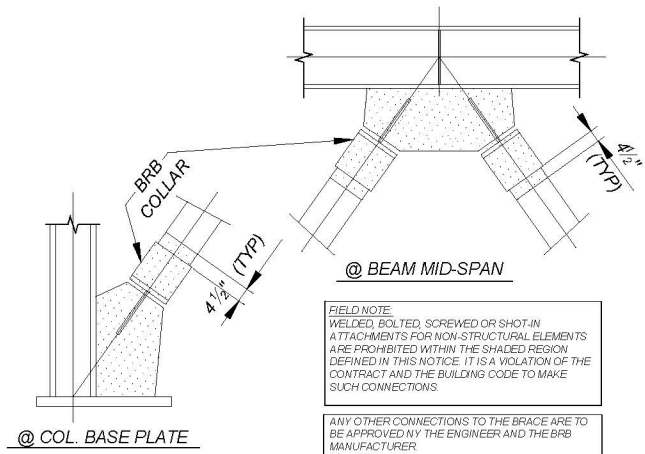
DWG NO.: WC252-1



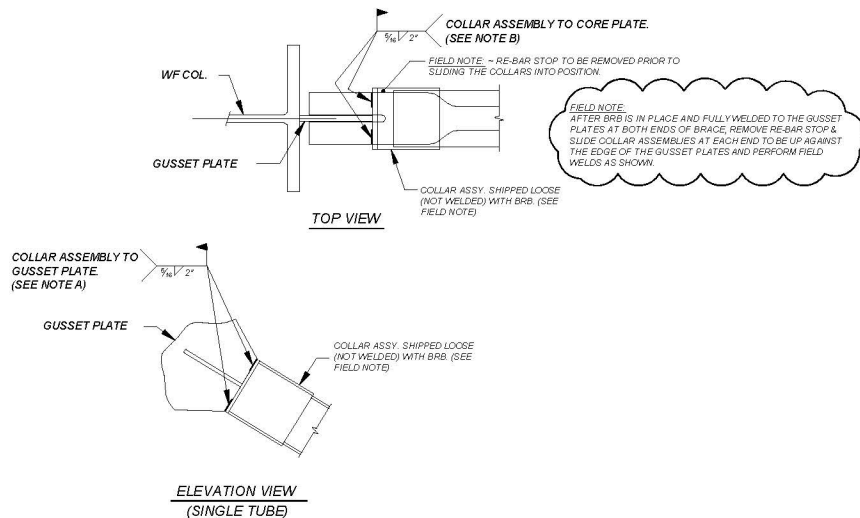
2 TYP. CHEVRON BRACE CONN.
(SINGLE TUBE) NTS



1 STAR BRB TO COLUMN CONN.
(@ COLUMN FLANGE) NTS




3 PROTECTED ZONE DETAIL NTS




4 TYPICAL COLLAR ASSY FIT-UP NTS

NOTES:
A. THIS WELD CAN BE AT THE NEAR OR FAR SIDE OF THE GUSSET PLATE AT THE ERECTOR'S OPTION.
B. THIS WELD CAN BE AT THE TOP OR BOTTOM SIDE OF THE CORE PLATE AT THE ERECTOR'S OPTION.

Project Name:		UC Berkeley Test Brace						WELDED WILDCAT BUCKLING RESTRAINED BRACE DESIGN SUMMARY																						
Steel Core Properties																														
F _y =		46	ksi	Heat Number														020-0587												
F _u =		66.3	ksi	E =		29,000	ksi																							
BRACE #	BRACE LOCATION & GEOMETRY						STIFFNESS ANALYSIS						CAPACITY				CASING													
	GRID	ELEVATION	BRACE DESIGNATION	RISE (in.)	RUN (in.)	LENGTH L _{br} -sp (in.)	Brace Core Area, A _{core} (in ²)	Yielding Zone Length L _y (in.)	Connection Length L _{conn} (in.)	Yielding Zone Stiffness K _{core} (k/in)	Connection Stiffness K _{conn} (k/in)	Transition Stiffness K _{tr} (k/in)	BRB Effective Stiffness K _{eff} (k/in)	W/P-VP Stiffness of A _{core} K _{sp-vp} (k/in)	Stiffness Modifier K _f	Required Strength P _u (kips)	P _u (kips)	Available Strength P _y (kips)	1% Story Height Brace Elongation Δ _{br} (in)	2 x Δ _{br} (in)	Yield Elongation Δ _y (in)	Ductility Demand 2 Δ _{br} /Δ _y	Calculated Strain ε _{br}	Tension Adjustment Factor, ω	Compression Adjustment Factor, β _ω	Tension Strength, T _{max} (kip)	Compression Strength, C _{max} (kip)	Connection Strength, R _u = 1.1C _{max}	Required	Casing Size
1	Test Frame	L1	WC252-1	122	120	171.1	5	78.0	14.3	1859	20351	36050	1446	847	1.71	205.2	228	230	0.86	1.72	0.12	13.87	2.20%	1.62	-1.76	377	415	456	36.63	#N/A

5 BUCKLING RESTRAINED BRACE DESIGN SUMMARY NTS



8300 N. SAGEWOOD DR
SUITE H #511
PARK CITY, UT 84098

WWW.STARSEISMIC.NET
PHONE: 1-435-840-9222
FAX: 1-435-655-0073

WILDCAT™

BRB BRACE CONN. SCHED.

BRACE #	BRACE END	BRACE LOCATION (S)	BRACE TO GUSSET WELD			GUSSET PLATE THICKNESS (IN)	BEAM/COLUMN CONNECTION				CHEVRON WELD		
			# WELDS	L1	W1		BEAM WELD		COLUMN WELD		W4	L4	L5
							W2	L2	W3	L3			
1	L	TEST FRAME	4	14	7/16	7/8	1/2	12	9/16	19	7/16	49	18

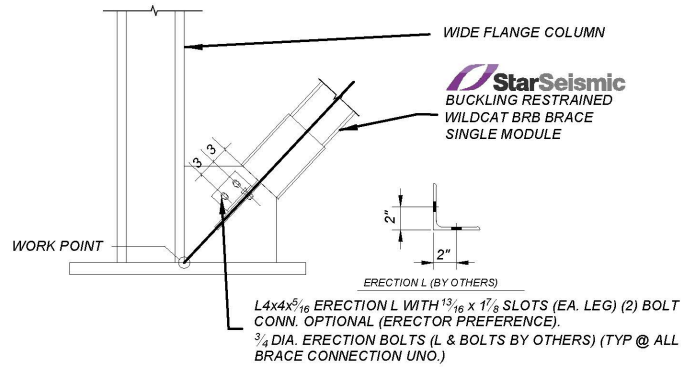
6 BRB CONNECTION SCHEDULE (WELDED CONNECTIONS) NTS

NOTE:
1. ALL GUSSET PLATES ARE TO BE A572-GR50

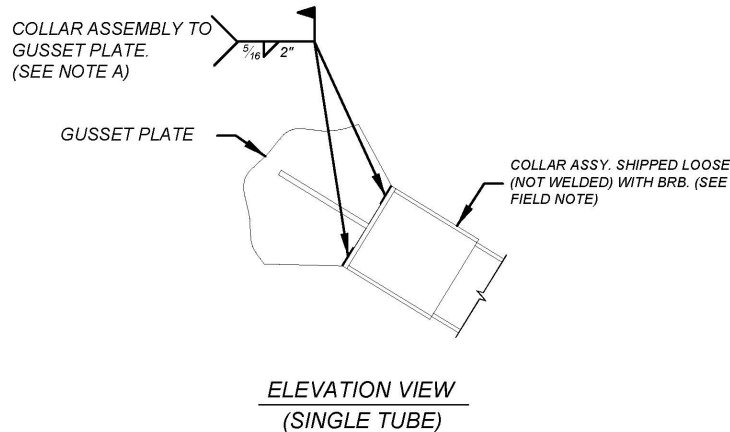
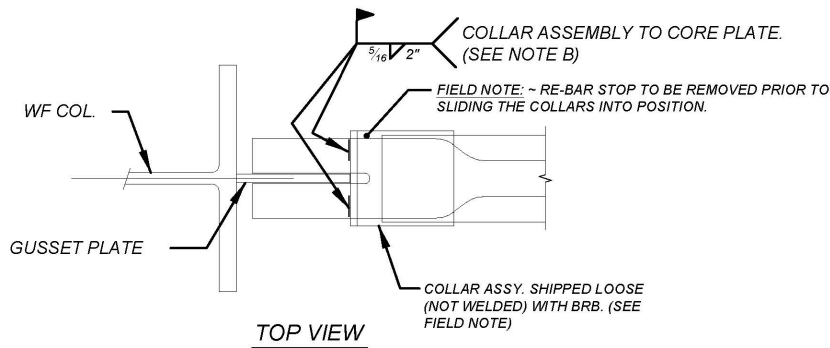
△		
△		
△	09/19/14	For Your Use

StarSeismic
6300 N. SAGEWOOD DR
SUITE H #511
PARK CITY UT 84098
WWW.STARSEISMIC.NET
PHONE: 1-435-840-9222
FAX: 1-435-655-0073

NAME: WELDED BRB GUSSET DETAILS AND SCHEDULE
PROJECT: _____
PROJECT NO.: _____ DATE: 12/09/13 PAGE: WC-01



1 STAR BRB TO COLUMN CONN.
(@ COLUMN FLANGE) NTS



FIELD NOTE:
AFTER BRB IS IN PLACE AND FULLY WELDED TO THE GUSSET PLATES AT BOTH ENDS OF BRACE, REMOVE RE-BAR STOP & SLIDE COLLAR ASSEMBLIES AT EACH END TO BE UP AGAINST THE EDGE OF THE GUSSET PLATES AND PERFORM FIELD WELDS AS SHOWN.

2 TYPICAL COLLAR ASSY FIT-UP NTS

NOTES:

- A. THIS WELD CAN BE AT THE NEAR OR FAR SIDE OF THE GUSSET PLATE AT THE ERECTOR'S OPTION.
- B. THIS WELD CAN BE AT THE TOP OR BOTTOM SIDE OF THE CORE PLATE AT THE ERECTOR'S OPTION.

△		
△		
-	07/15/14 TN	For Your Use

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PARK CITY UT 84098
WWW.STARSEISMIC.NET
PHONE: 1-435-940-9222
FAX: 1-435-655-0073

NAME: WELDED BRB GUSSET DETAILS
PROJECT: UC BERKELEY TEST BRACE
PROJECT NO.: 140623 DATE: 07/15/14 PAGE: WC-01