



REQUEST FOR QUOTATION 18-20

BIG ROCK BOAT RAMP DOCK SUPPLY

ADDENDUM NO. 1

March 22nd, 2018

This addendum forms part of the Request For Quotation Documents and shall be read, interpreted, and coordinated with all other parts. The costs of all elements contained herein shall be included in the submission. The following revisions, changes, corrections, additions, and or deletions supersede the information contained in the original Documents to the extent referenced and shall become part thereof.

Addendum Item 1 Drawing Updates

Drawings 395-300-A has been updated with 395-300-B and drawing 395-400-A has been replaced with 395-400-B as the pipe diameter has been reduced from 22" DR 32.5 to 20" DR 32.5 due to availability.

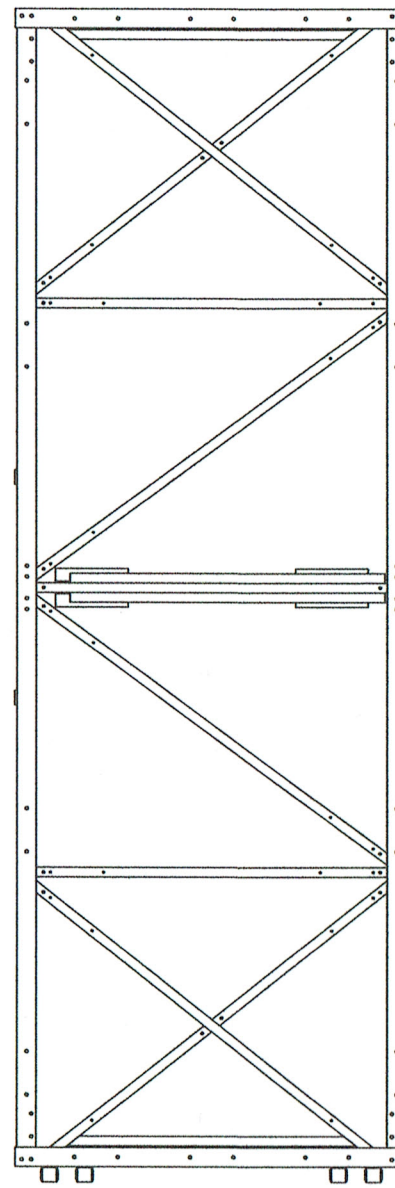
These changes are noted in the revision block of the updated drawings as attached.

End of Addendum

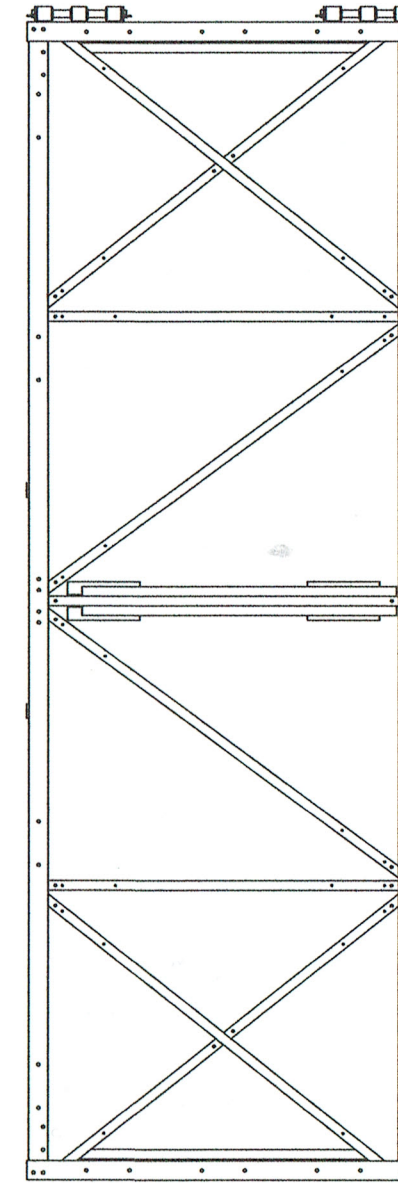
Clinton J. Crook, SCMP, CPSM
Senior Buyer

GENERAL NOTES AND SPECIFICATIONS

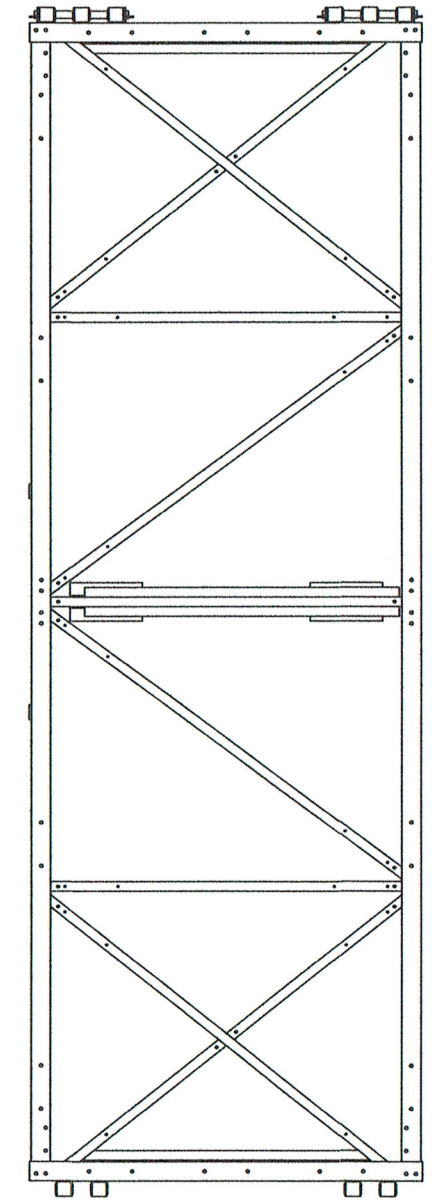
1. ALL STEEL PLATE 44W/300W AND STEEL SHAPES 50W/350W UNLESS NOTED (CSA G40.20/G40.21).
2. HOT DIP GALVANIZED (ASTM A123).
3. REFER TO AMERICAN GALVANIZERS ASSOCIATION "DESIGN GUIDE" FOR VENTING HOLES LOCATION AND SIZE
4. WELDING SHALL ONLY BE UNDERTAKEN BY A COMPANY CERTIFIED BY THE CANADIAN WELDING BUREAU (CWB) TO THE REQUIREMENTS OF CSA 47.1 (LATEST EDITION) IN DIVISION 1 OR 2. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AND MEET THE QUALITY REQUIREMENTS OF CSA W59 (LATEST EDITION).
ALL WELDERS EMPLOYED BY THE COMPANY SHALL HOLD VALID QUALIFICATIONS ISSUED BY THE CWB.
ALL WELDING SHALL BE DONE IN ACCORDANCE WITH WELDING PROCEDURES APPROVED BY THE CWB
5. FRAMES ARE IDENTICAL EXCEPT FOR HINGE CONFIGURATIONS



FRAME 1
SCALE 1:40



FRAME 2
SCALE 1:40



FRAME 3
SCALE 1:40



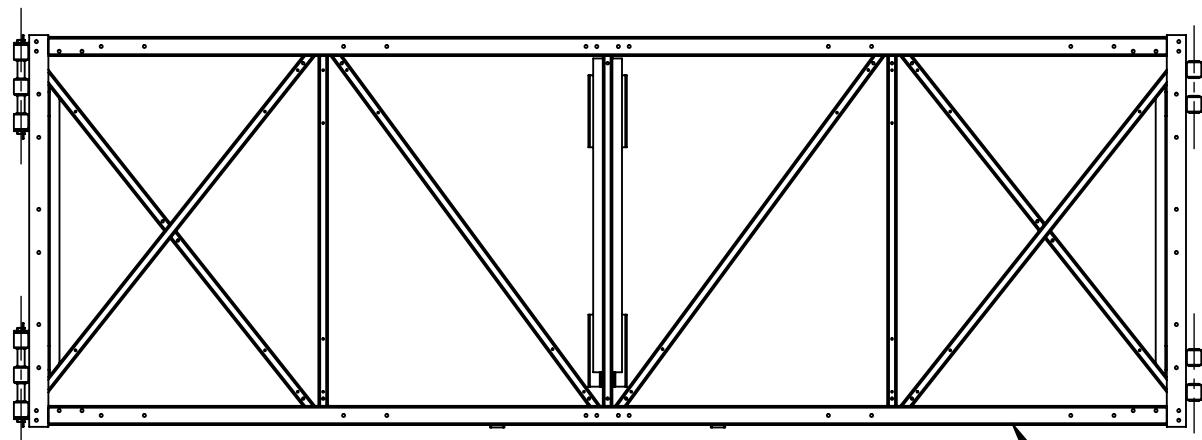
REV.	DESCRIPTION	DATE	APPROVED
B	CHANGED PIPE FROM 22" TO 20"	20/03/2018	JK
A	ISSUED FOR TENDER	2/03/2018	JK
REV.	DESCRIPTION	DATE	APPROVED

REVISIONS			
DIMENSIONS IN INCHES	SHEET SIZE B (11x17)	DRAWN BY J KING	DATE (dd/mm/yyyy) 26/02/2018

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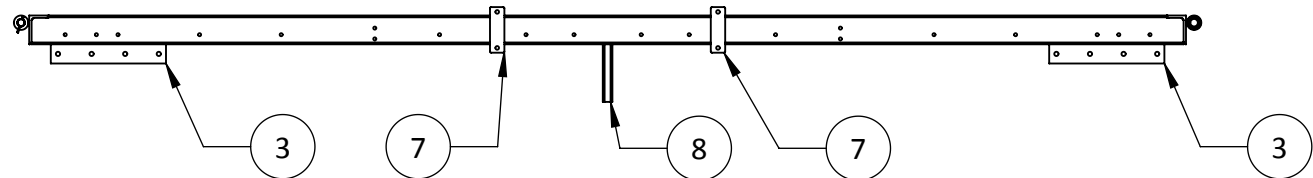
CLIENT	CITY OF CAMPBELL RIVER		CR Engineering Inc.	
PROJECT	BIG ROCK BOAT RAMP		TITLE: FRAME WELDMENT CONFIGURATIONS	
	PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
	395	395-300	1 OF 11	B

ITEM No.	PART No.	REV	DESCRIPTION	FRAME 1/QTY.	FRAME 2/QTY.	FRAME 3/QTY.	MATERIAL
1	395-131	A	FRAME WELDMENT	1	1	1	50W/350W
2	395-138		MOUNTING PLATE INNER	4	4	4	44W/300W
3	395-136		MOUNTING PLATE OUTER	4	4	4	44W/300W
4	395-54		HINGE TWO - ANGLE END	2	-	2	A513 DOM
5	395-59		HINGE THREE - ANGLE END	-	2	2	A513 DOM
6	395-241		PIPE END STOP	4	4	4	44W/300W
7	395-168		PILE HOOP MOUNT PLATE	2	2	2	44W/300W
8	395-242		PIPE MID-SUPPORT	2	2	2	50W/350W

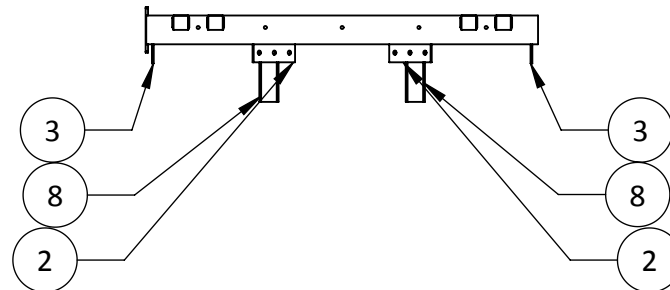


FRAME WELDMENT TOP VIEW
SCALE 1:40

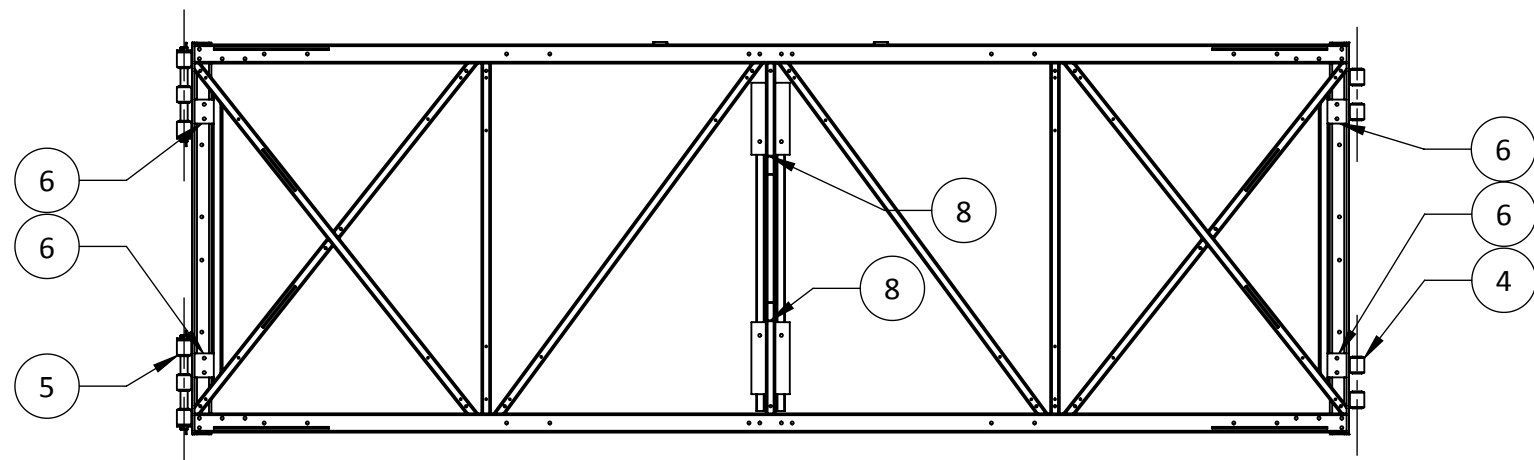
1



FRAME WELDMENT SIDE VIEW
SCALE 1:40



FRAME WELDMENT END VIEW
SCALE 1:40



FRAME WELDMENT BOTTOM VIEW
SCALE 1:40

DIMENSIONS ASME Y14.5M
 X/X = ± 1/8"
 .X = ± 0.1"
 .XX = ± 0.01"
 .XXX = ± 0.001"
 ANGLES = 3°

DIMENSIONS - INCH DRAWN BY J KING DATE 26/02/2018

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CLIENT
CITY OF CAMPBELL RIVER

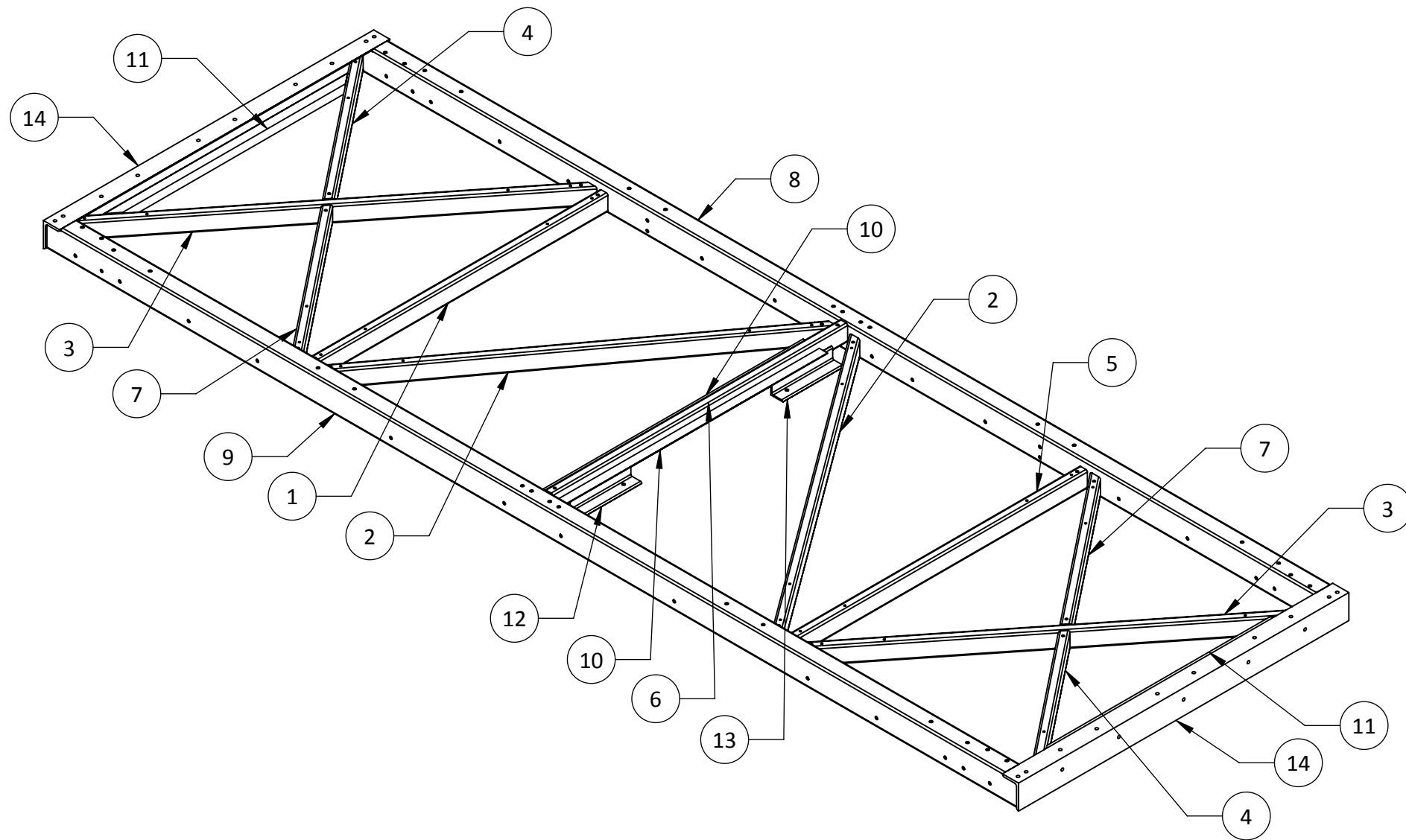
PROJECT
BIG ROCK BOAT RAMP

CR Engineering Inc.

TITLE:
FRAME WELDMENT CONFIGURATIONS BOM

PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-300	2 OF 11	B

NOTE - SEAL WELDS 1/4" FILLET TYPICAL



ITEM No.	QTY.	LENGTH	Description	TOTAL LENGTH
1	1	72 7/8"	HSS 4 x 2 x 3/16	774 5/8"
2	2	92"	HSS 4 x 2 x 3/16	774 5/8"
3	2	93 13/16"	HSS 4 x 2 x 3/16	774 5/8"
4	2	45 11/16"	HSS 4 x 2 x 3/16	774 5/8"
5	1	72 7/8"	HSS 4 x 2 x 3/16	774 5/8"
6	1	72 7/8"	HSS 4 x 2 x 3/16	774 5/8"
7	2	46 1/2"	HSS 4 x 2 x 3/16	774 5/8"
8	1	240"	HSS 6 x 4 x 3/16"	480"
9	1	240"	HSS 6 x 4 x 3/16"	480"
10	2	65 3/8"	L 2 x 2 x 1/4	250 13/16"
11	2	60 1/16"	L 2 x 2 x 1/4	250 13/16"
12	2	15"	L3x3 x 5/16"	60"
13	2	15"	L3x3 x 5/16"	60"
14	2	81 5/8"	L6x4 x 1/2	163 1/4"

DIMENSIONS ASME Y14.5M
 X/X = ± 1/8"
 .X = ± 0.1"
 .XX = ± 0.01"
 .XXX = ± 0.001"
 ANGLES = 3°

DIMENSIONS - INCH DRAWN BY J KING DATE 26/02/2018

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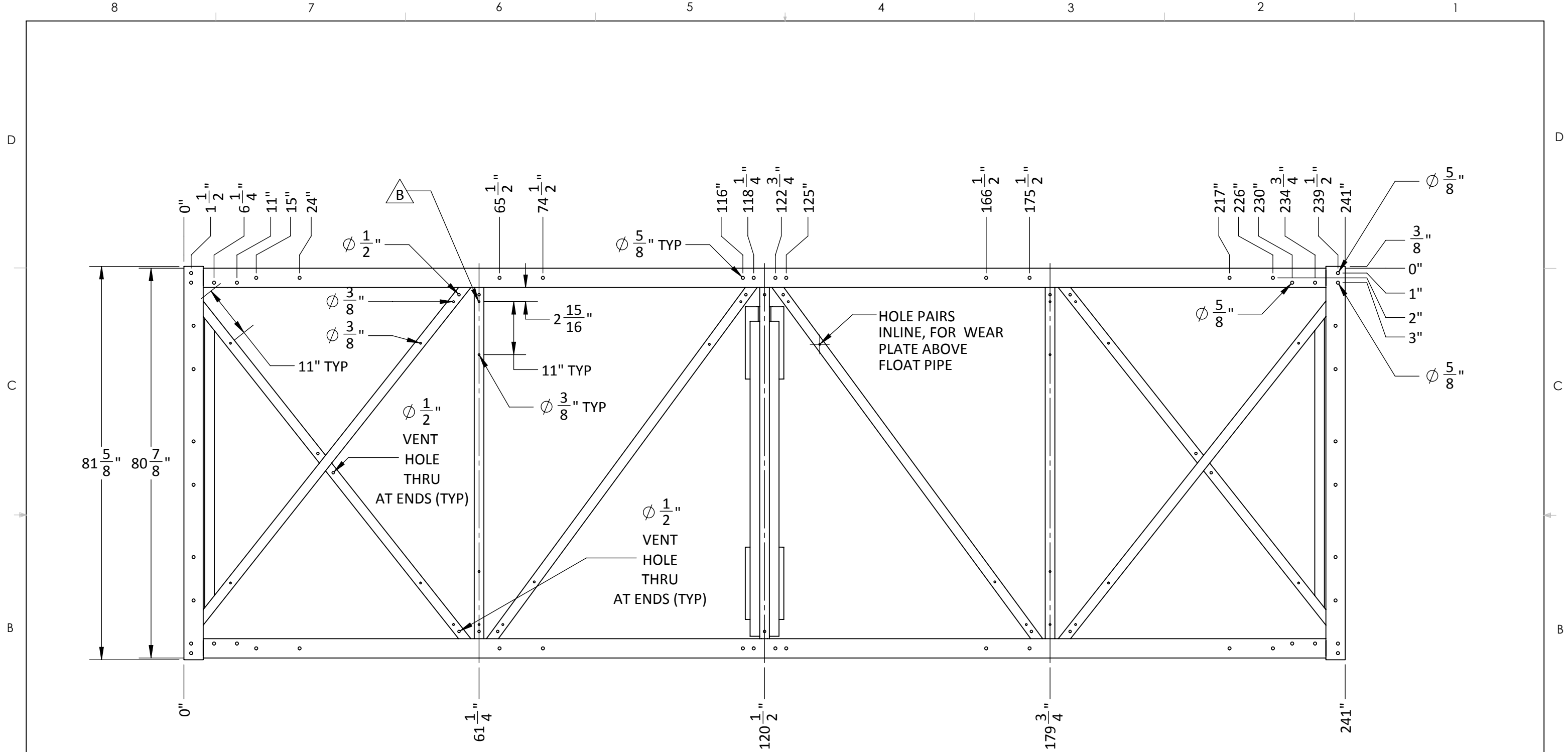
CLIENT
CITY OF CAMPBELL RIVER

PROJECT
BIG ROCK BOAT RAMP

CR Engineering Inc.

TITLE:
FRAME CUT LIST

PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-300	3 OF 11	B



DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		
DIMENSIONS - INCH	DRAWN BY J KING	DATE 26/02/2018
This design and drawing are the property of CR Engineering Inc. and may not be reproduced or used without CR Engineering Inc. written permission.		

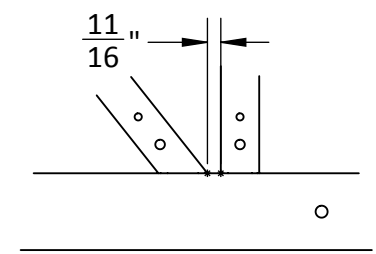
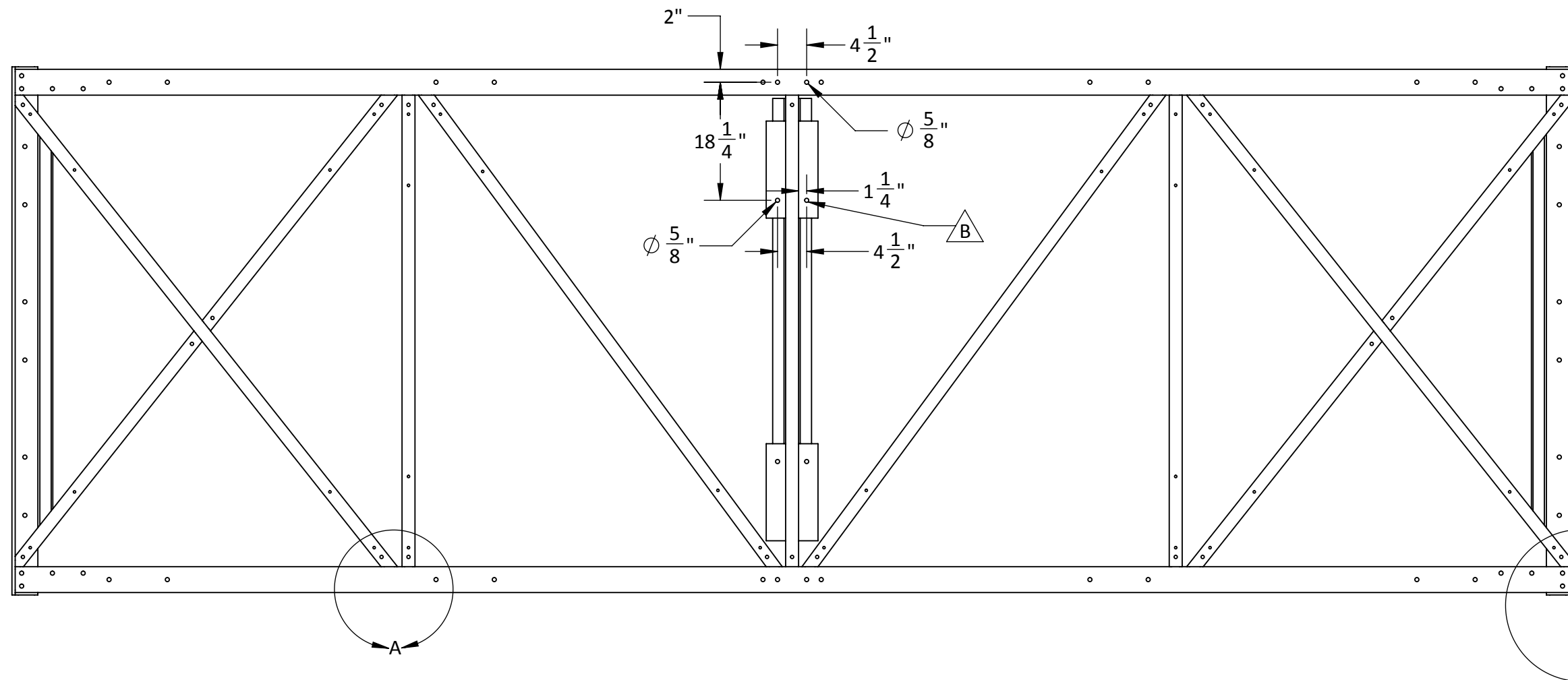
CLIENT CITY OF CAMPBELL RIVER
PROJECT BIG ROCK BOAT RAMP

CR Engineering Inc.			
TITLE: FRAME TOP VIEW			
PROJECT NUMBER 395	DRAWING NUMBER 395-300	SHEET 4 OF 11	REV B

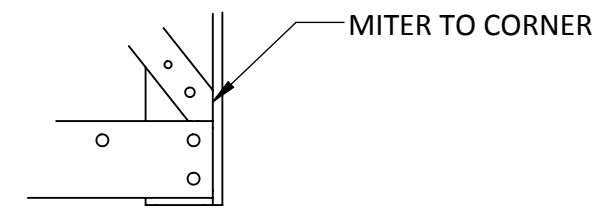
8 7 6 5 4 3 2 1

D
C
B
A

D
C
B
A



DETAIL A
SCALE 1 : 10



DETAIL B
SCALE 1 : 10

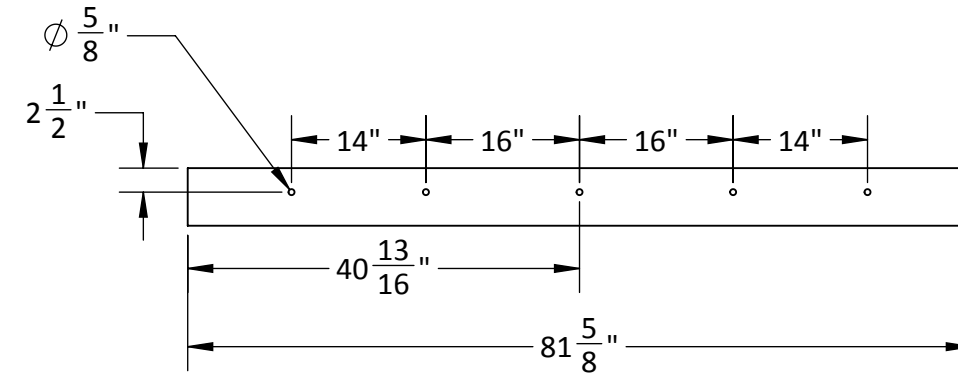
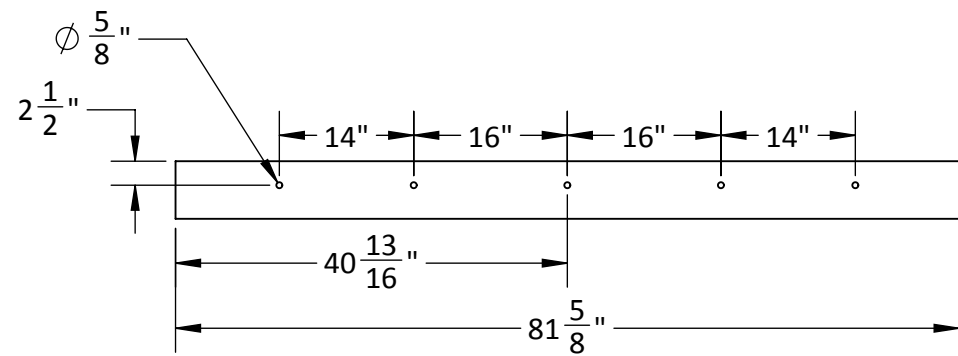
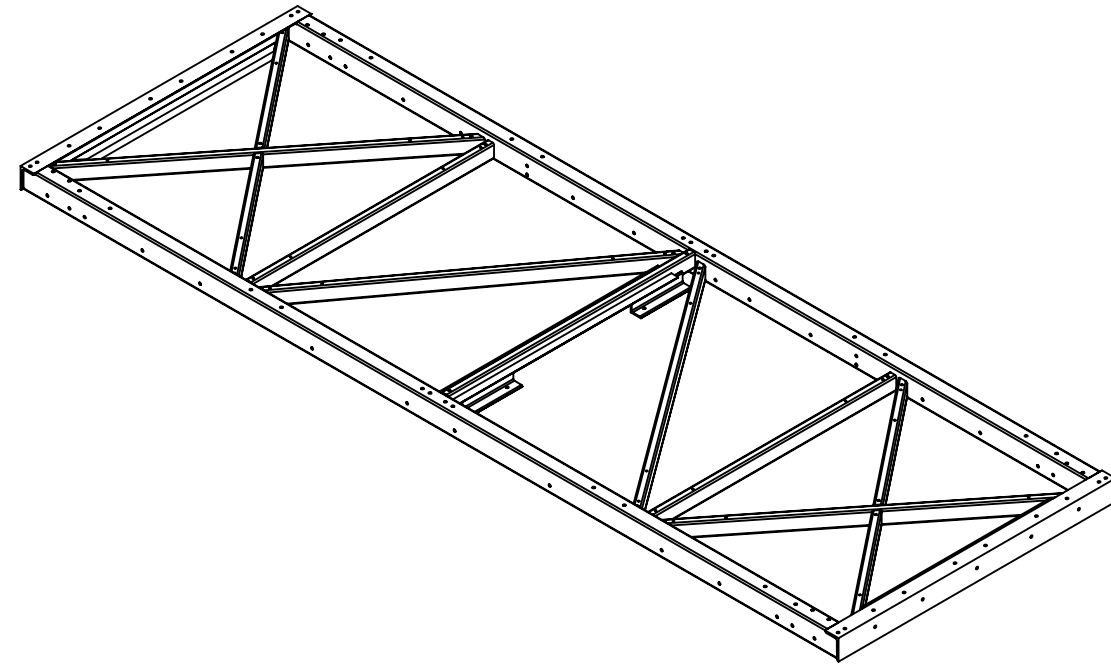
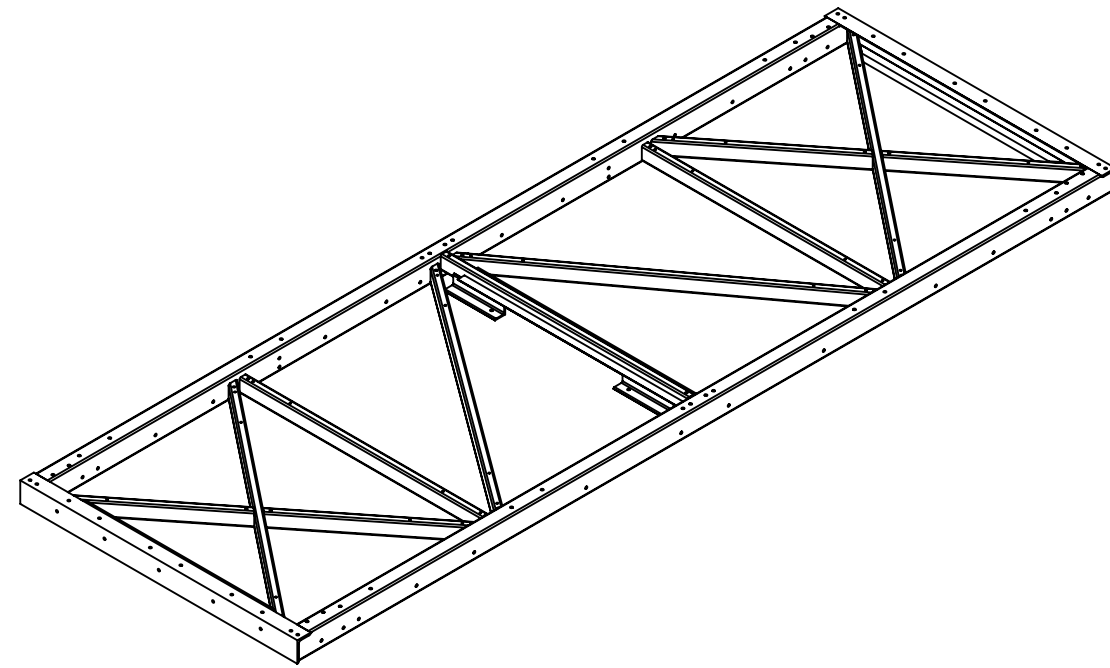
DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT		CITY OF CAMPBELL RIVER		CR Engineering Inc.	
	PROJECT		BIG ROCK BOAT RAMP		TITLE: FRAME BOTTOM VIEW	
DIMENSIONS - INCH DRAWN BY: J KING DATE: 26/02/2018	This design and drawing are the property of CR Engineering Inc. and may not be reproduced or used without CR Engineering Inc. written permission.		PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
			395	395-300	5 OF 11	B

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

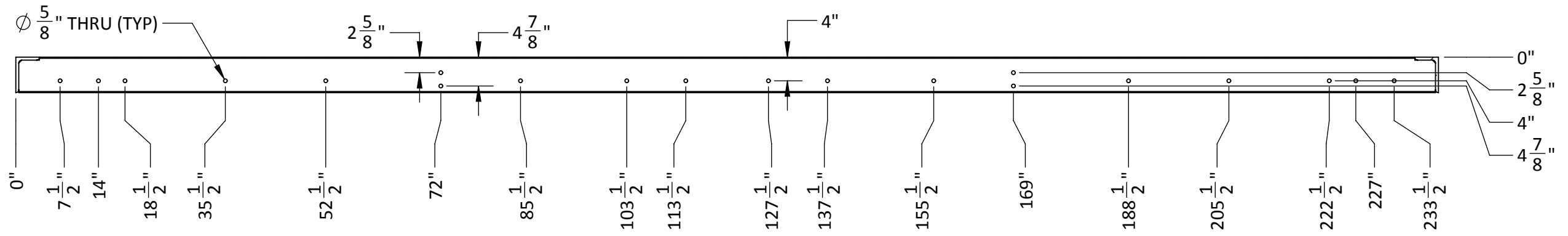
D
C
B
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D
C
B
A

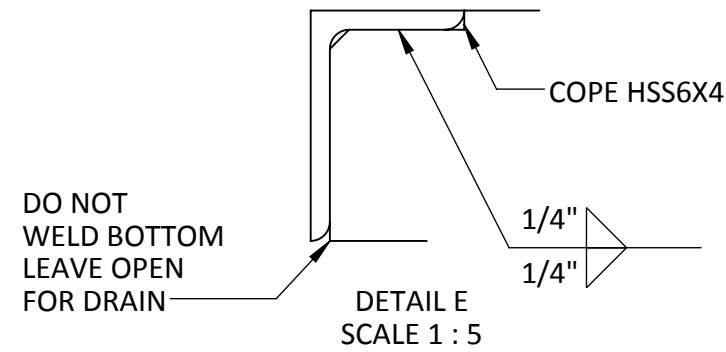


DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc.	
	PROJECT BIG ROCK BOAT RAMP		TITLE: FRAME END VIEWS	
DIMENSIONS - INCH	DRAWN BY J KING	DATE 26/02/2018	PROJECT NUMBER 395	DRAWING NUMBER 395-300
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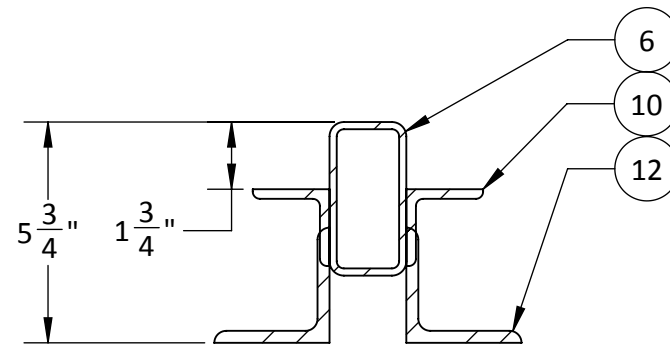
8 7 6 5 4 3 2 1



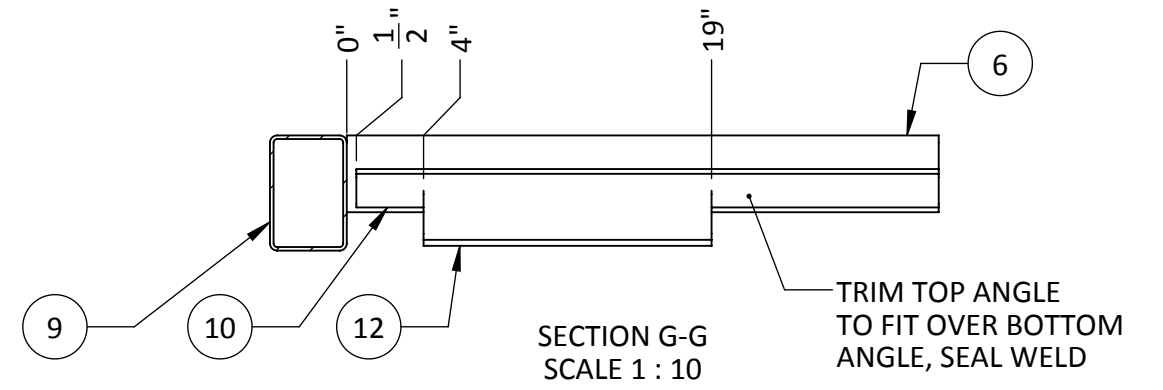
SECTION C-C
SCALE 1 : 20



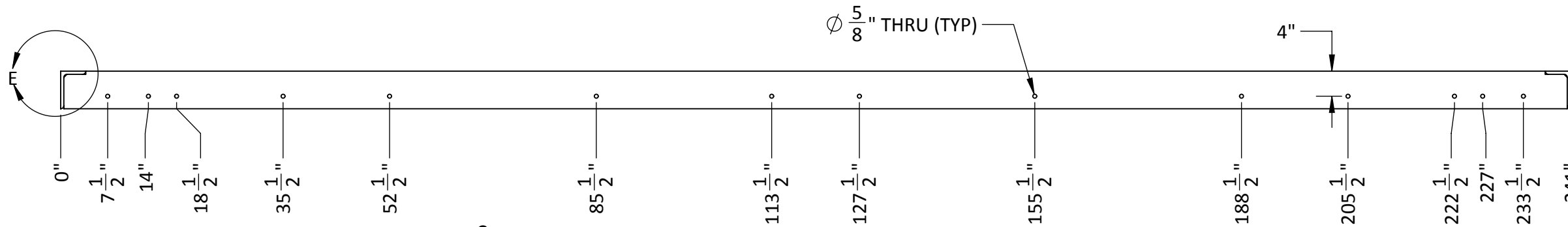
DETAIL E
SCALE 1 : 5



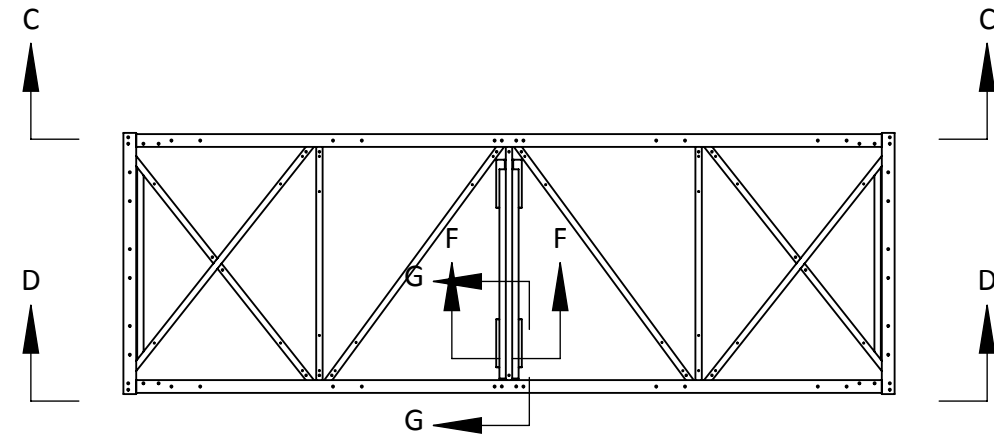
SECTION F-F
SCALE 1 : 5



SECTION G-G
SCALE 1 : 10



SECTION D-D
SCALE 1 : 20



DIMENSIONS ASME Y14.5M

X/X = ± 1/8"

.X = ± 0.1"

.XX = ± 0.01"

.XXX = ± 0.001"

ANGLES = 3°

DIMENSIONS - INCH

DRAWN BY J KING

DATE 26/02/2018

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CLIENT

CITY OF CAMPBELL RIVER

PROJECT

BIG ROCK BOAT RAMP

CR Engineering Inc.

TITLE:

FRAME SIDE VIEWS

PROJECT NUMBER

395

DRAWING NUMBER

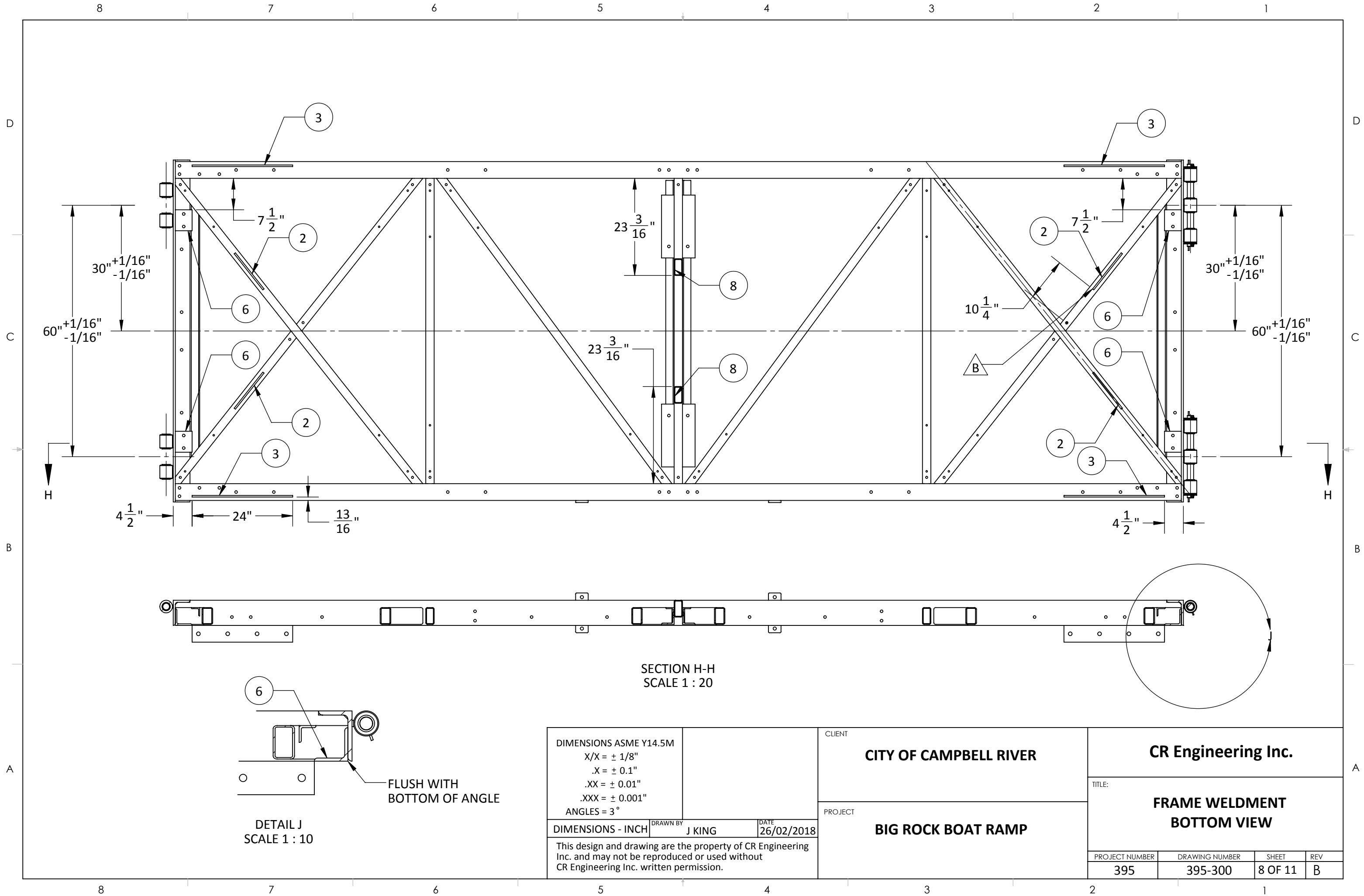
395-300

SHEET

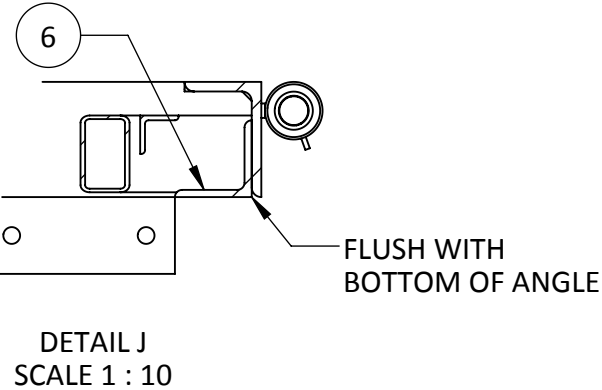
7 OF 11

REV

B



SECTION H-H
SCALE 1 : 20

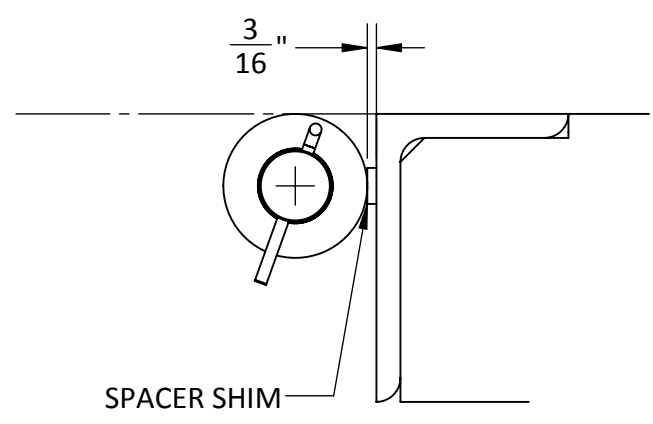


DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		CLIENT CITY OF CAMPBELL RIVER
DIMENSIONS - INCH		PROJECT BIG ROCK BOAT RAMP
DRAWN BY J KING	DATE 26/02/2018	TITLE: FRAME WELDMENT BOTTOM VIEW
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CR Engineering Inc.			
TITLE: FRAME WELDMENT BOTTOM VIEW			
PROJECT NUMBER 395	DRAWING NUMBER 395-300	SHEET 8 OF 11	REV B

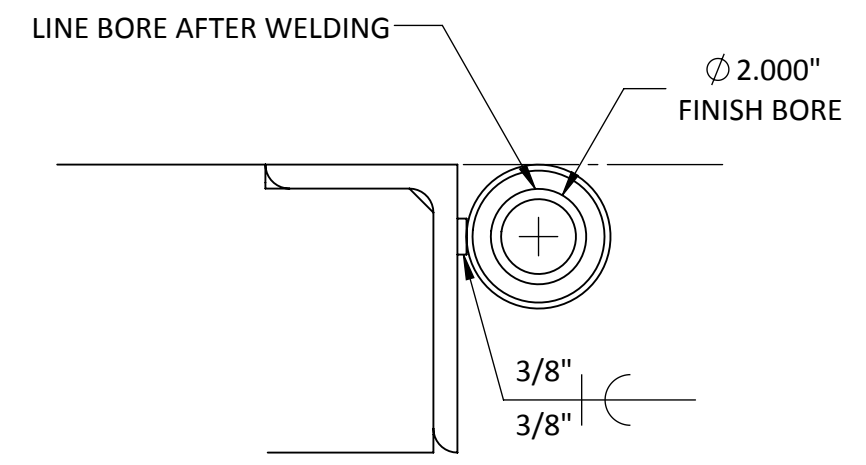
8 7 6 5 4 3 2 1

D
C
B
A

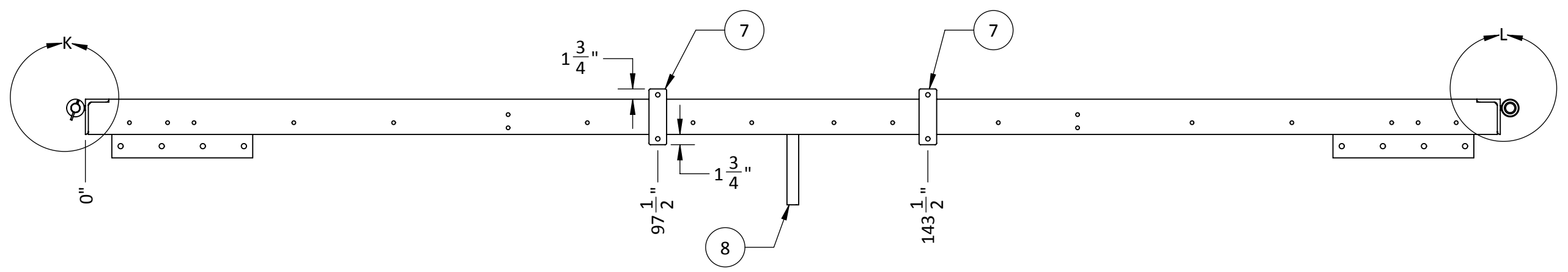


SPACER SHIM

DETAIL K
SCALE 1 : 4



DETAIL L
SCALE 1 : 4



DIMENSIONS ASME Y14.5M
 X/X = ± 1/8"
 .X = ± 0.1"
 .XX = ± 0.01"
 .XXX = ± 0.001"
 ANGLES = 3°

DIMENSIONS - INCH DRAWN BY J KING DATE 26/02/2018

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CLIENT
CITY OF CAMPBELL RIVER

PROJECT
BIG ROCK BOAT RAMP

CR Engineering Inc.

TITLE:
**FRAME WELDMENT
 SIDE VIEW**

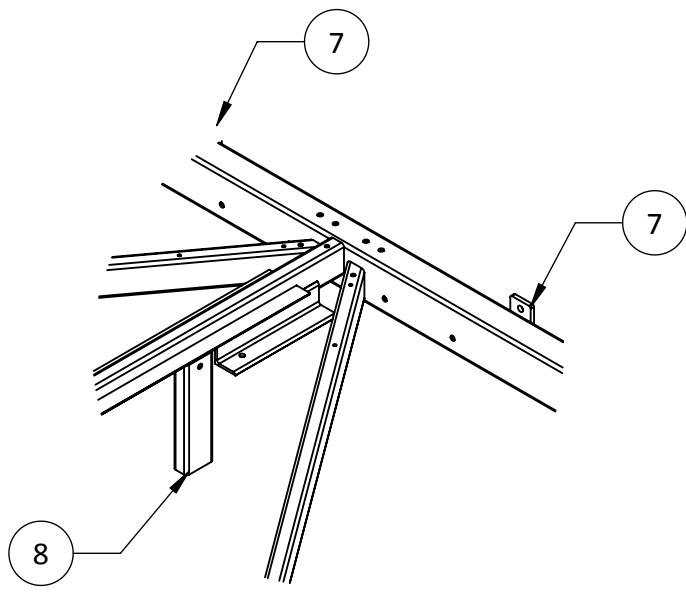
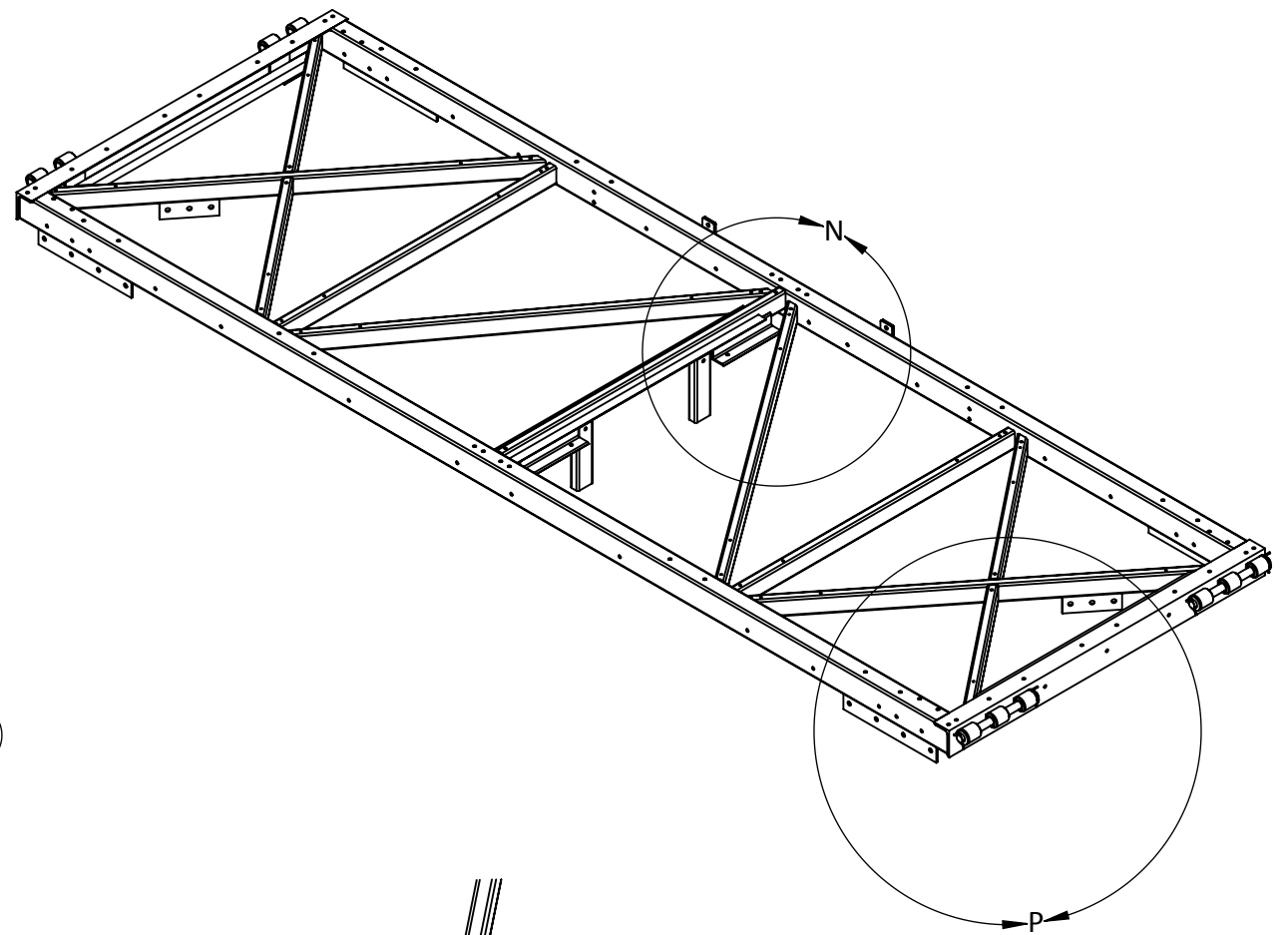
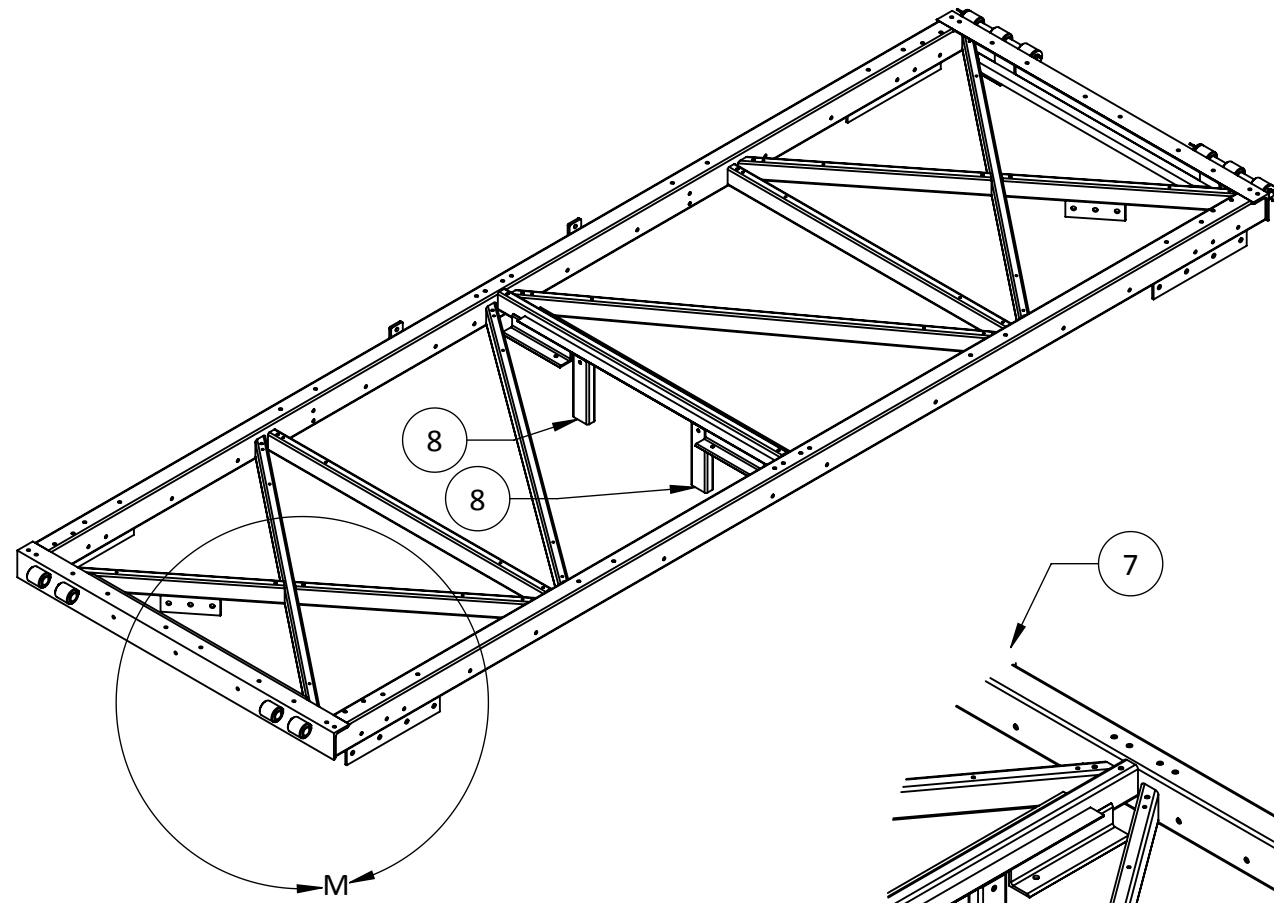
PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-300	9 OF 11	B

8 7 6 5 4 3 2 1

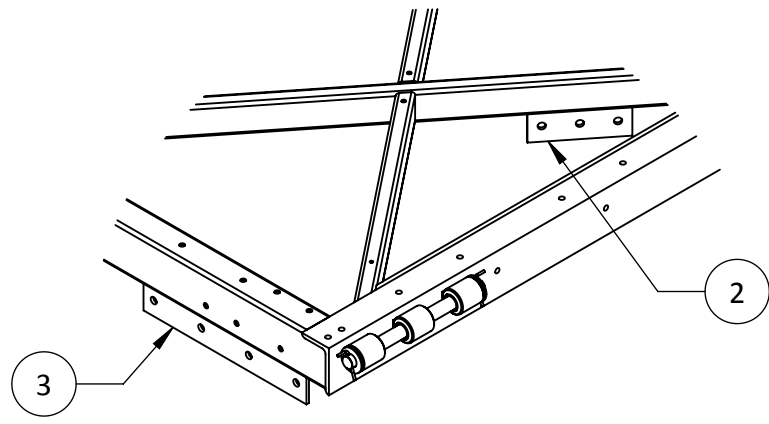
8 7 6 5 4 3 2 1

D
C
B
A

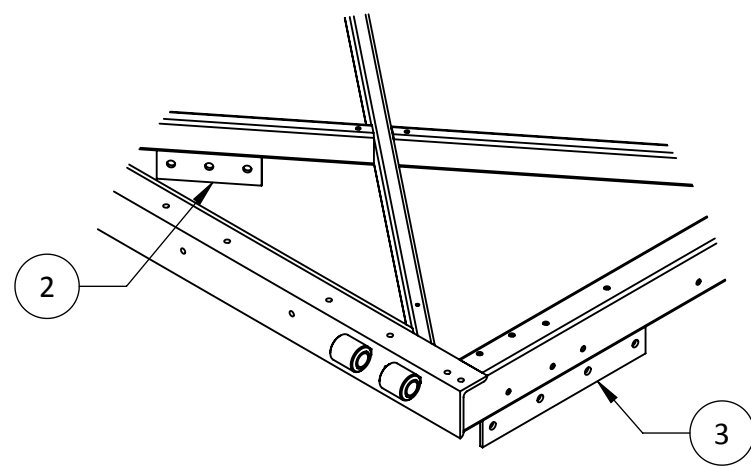
D
C
B
A



DETAIL N
SCALE 1 : 20



DETAIL P
SCALE 1 : 20



DETAIL M
SCALE 1 : 20

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		DRAWN BY J KING		DATE 26/02/2018	
DIMENSIONS - INCH		This design and drawing are the property of CR Engineering Inc. and may not be reproduced or used without CR Engineering Inc. written permission.			

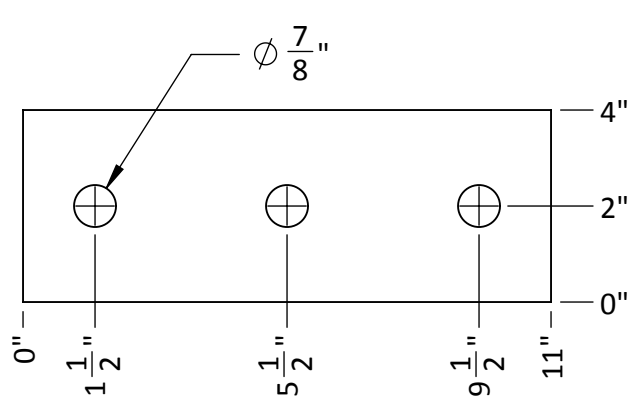
CLIENT CITY OF CAMPBELL RIVER	PROJECT BIG ROCK BOAT RAMP

CR Engineering Inc.			
TITLE: FRAME WELDMENT ISOMETRIC VIEWS			
PROJECT NUMBER 395	DRAWING NUMBER 395-300	SHEET 10 OF 11	REV B

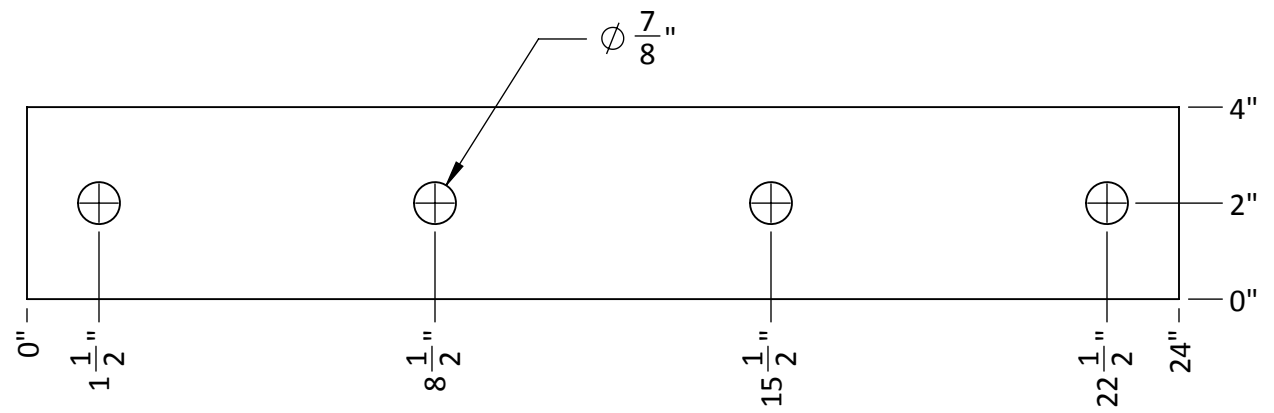
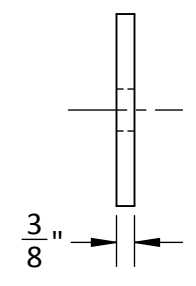
8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

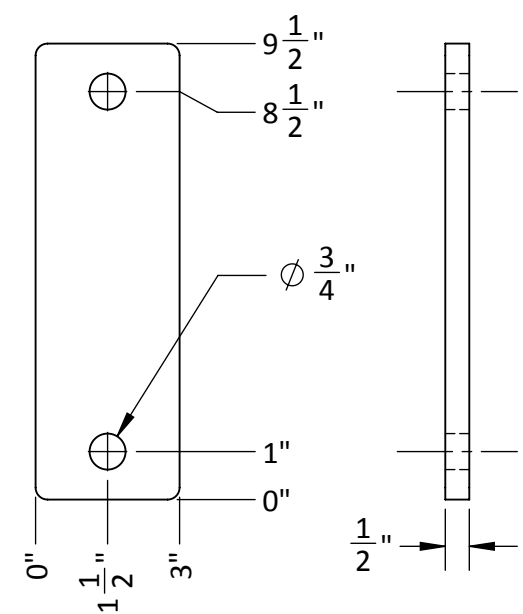
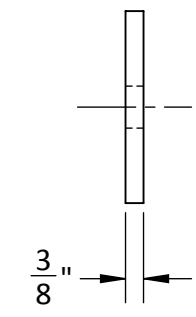
D
C
B
A



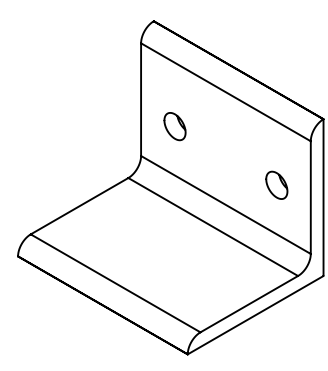
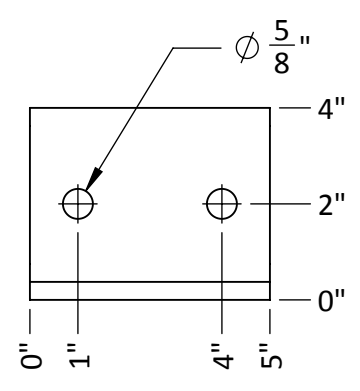
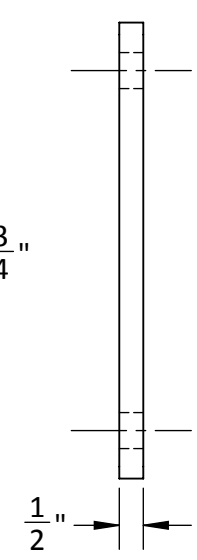
MOUNTING PLATE INNER
P/N 395-138
SCALE: 1:4



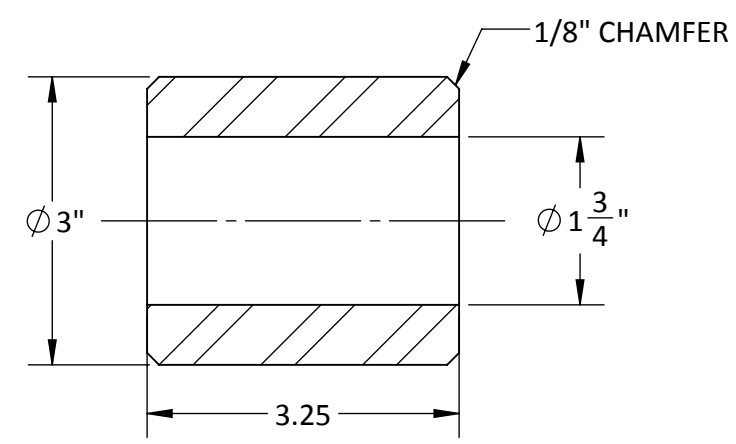
MOUNTING PLATE OUTER
P/N 395-136
SCALE: 1:4



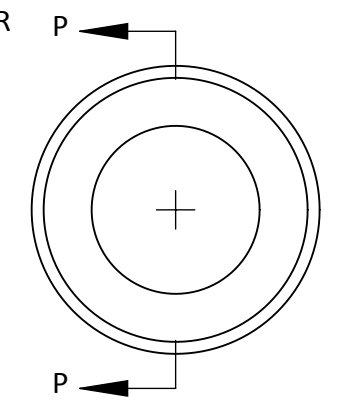
PILE HOOP MOUNT PLATE
P/N 395-168
SCALE: 1:4



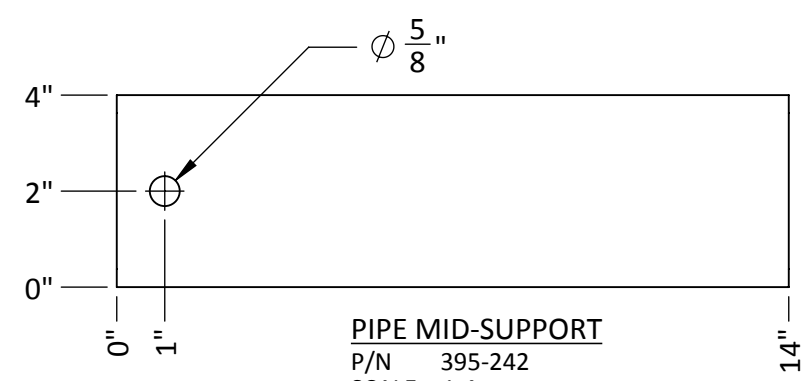
PIPE END STOP
P/N 395-241
SCALE: 1:4



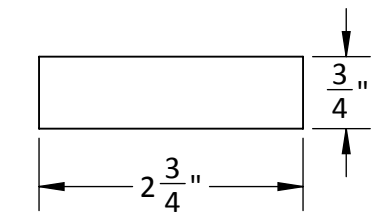
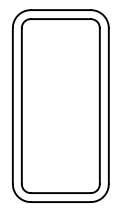
SECTION P-P
ROUGH CUT BORE (DOM 513)
LINE BORE TO $\phi 2.000$ "
AFTER WELDING



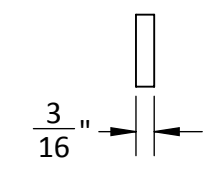
HINGE BODY
P/N 395-56
SCALE: 1:2



PIPE MID-SUPPORT
P/N 395-242
SCALE: 1:4



HINGE SPACER SHIM
P/N 395-58
SCALE: 1:2



LENGTH	Description
14"	HSS 4 x 2 x 3/16

DIMENSIONS ASME Y14.5M
X/X = $\pm 1/8$ "
.X = ± 0.1 "
.XX = ± 0.01 "
.XXX = ± 0.001 "
ANGLES = 3°

DIMENSIONS - INCH DRAWN BY J KING DATE 26/02/2018

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CLIENT
CITY OF CAMPBELL RIVER

PROJECT
BIG ROCK BOAT RAMP

CR Engineering Inc.

TITLE:
DETAILS

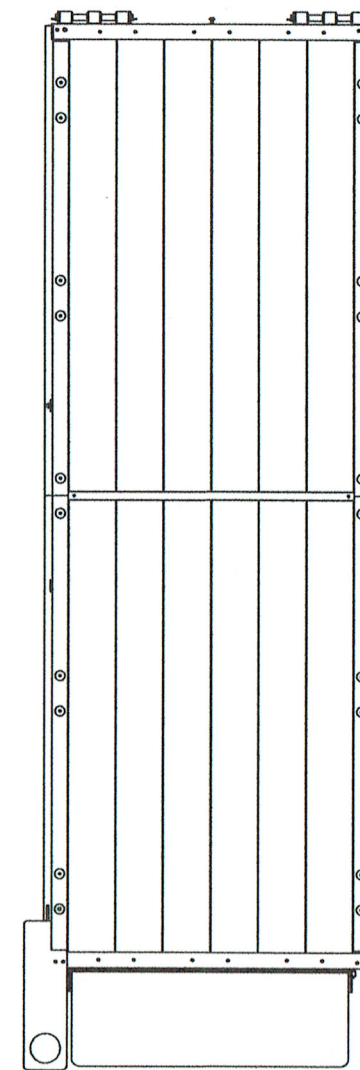
PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-300	11 OF 11	B

8 7 6 5 4 3 2 1

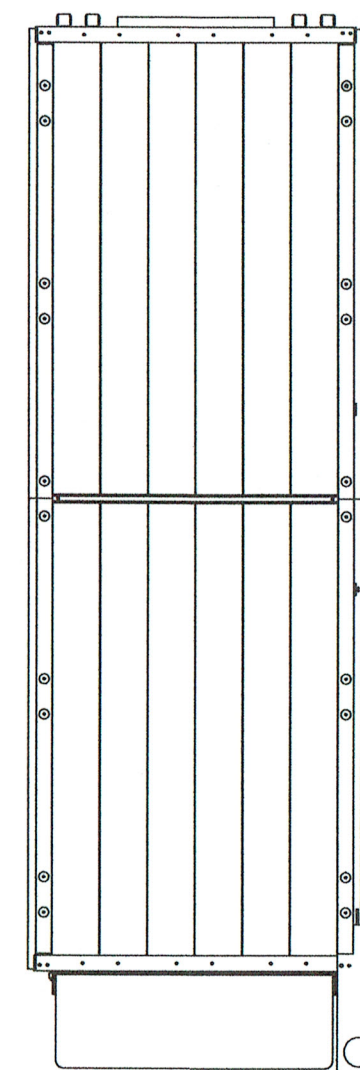
GENERAL NOTES AND SPECIFICATIONS

1. ALL STEEL PLATE 44W/300W AND STEEL SHAPES 50W/350W UNLESS NOTED (CSA G40.20/G40.21).
2. HOT DIP GALVANIZED (ASTM A123).
3. REFER TO AMERICAN GALVANIZERS ASSOCIATION "DESIGN GUIDE" FOR VENTING HOLES LOCATION AND SIZE
4. ALUMINUM PLATE 5052-H32 (ASTM B209-10), SHAPES 6061-T6 (ASTM B308).
5. UHMW - RECYCLED UV STABILIZED BLACK
6. WOOD - DOUGLAS FIR #1 GRADE, ROUGH CUT
8. HDPE PIPE - MANUFACTURED IN ACCORDANCE WITH ASTM F714 PE4710 RESIN
9. HDPE PIPE WELDING - END CAPS TO BE BUTT FUSED BY A McElroy CERTIFIED WELDER TO ASTM F2620
10. HDPE PIPE FOAM - 22" DIAMETER ROUND BILLET EPS 15 KOROLITE EPS GEOFOAM ASTM D6817 (NO MORE THAN 1" ANNULAR SPACE ACCEPTED)
11. WELDING SHALL ONLY BE UNDERTAKEN BY A COMPANY CERTIFIED BY THE CANADIAN WELDING BUREAU (CWB) TO THE REQUIREMENTS OF CSA 47.1 AND CSA 47.2(LATEST EDITION) IN DIVISION 1 OR 2. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AND MEET THE QUALITY REQUIREMENTS OF CSA W59 AND 59.2 (LATEST EDITION).
ALL WELDERS EMPLOYED BY THE COMPANY SHALL HOLD VALID QUALIFICATIONS ISSUED BY THE CWB.
ALL WELDING SHALL BE DONE IN ACCORDANCE WITH WELDING PROCEDURES APPROVED BY THE CWB
12. FRAMES ARE IDENTICAL EXCEPT FOR HINGE CONFIGURATIONS

ESTIMATED STEEL WEIGHT WITH GRATING PER FLOAT 2650 POUNDS (1200 KG)



SCALE 1:48
SHORE END LEFT



SCALE 1:48
SHORE END RIGHT



REV.	DESCRIPTION	DATE	APPROVED
B	CHANGED FLOAT PIPE FROM 22" TO 20"	20/03/2018	JK
A	ISSUED FOR TENDER	2/03/2018	JK

REVISIONS			
DIMENSIONS IN INCHES	SHEET SIZE	DRAWN BY	DATE (dd/mm/yyyy)
	B (11x17)	J KING	27/02/2018

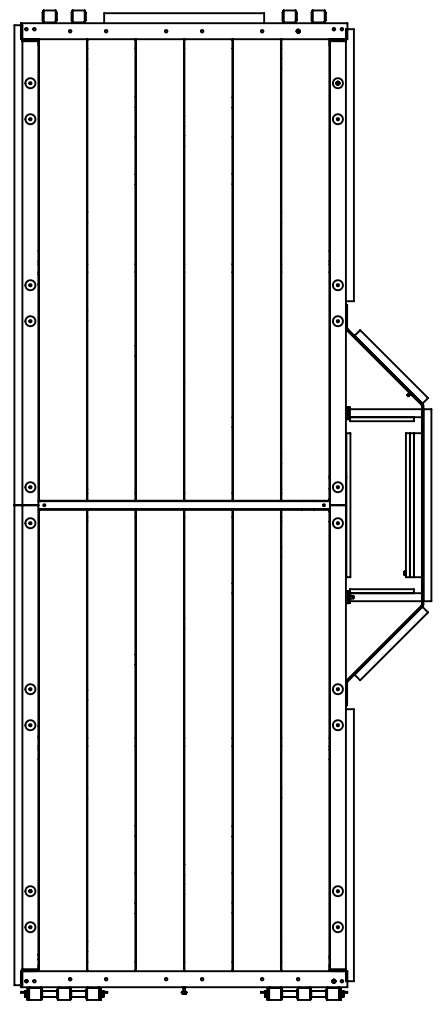
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CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc.	
PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: GENERAL ARRANGEMENT FLOAT CONFIGURATIONS	
PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 1 OF 26	REV B

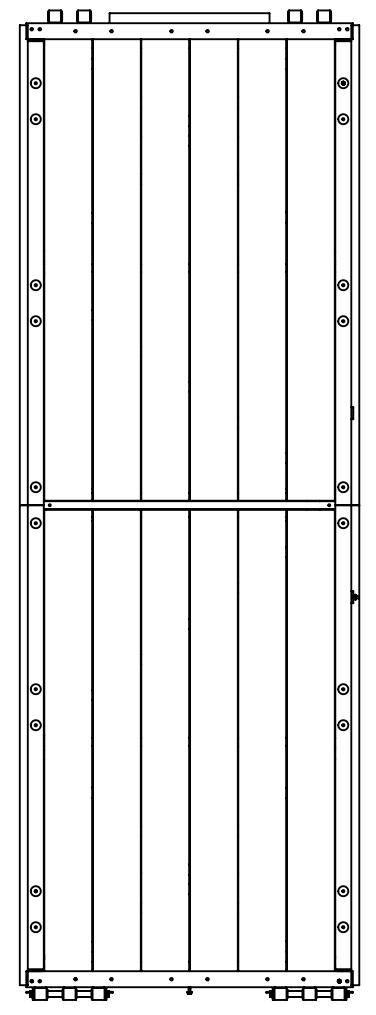
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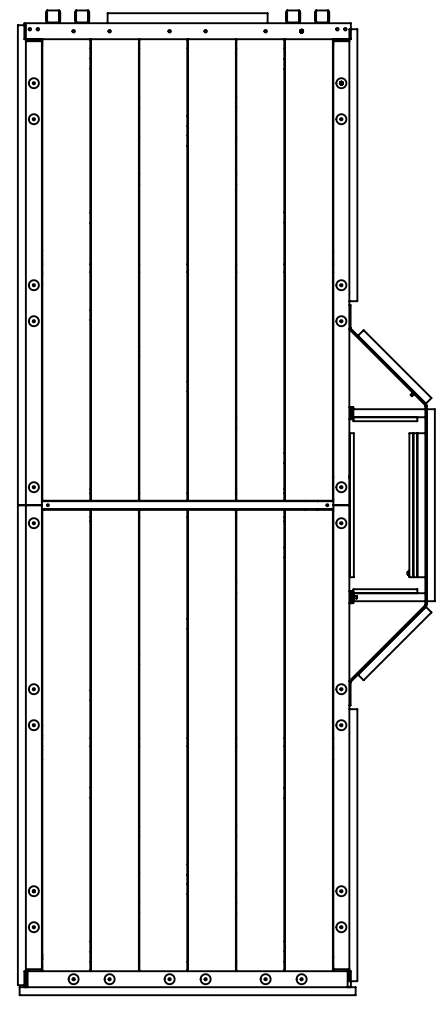
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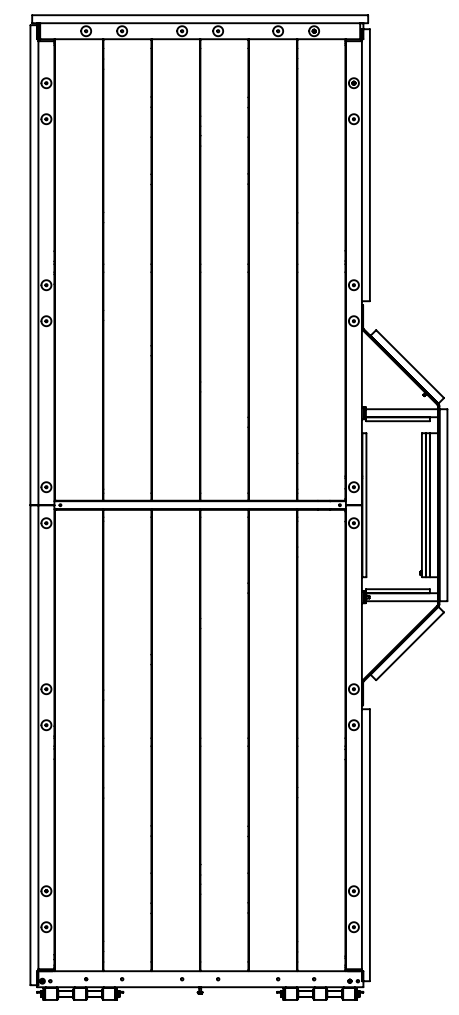
SCALE 1:48
MID FLOAT



SCALE 1:48
MID FLOAT NO HOOP



SCALE 1:48
OUTSIDE END LEFT



SCALE 1:48
OUTSIDE END RIGHT

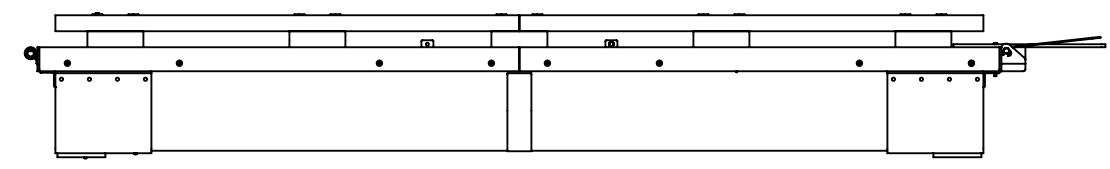
DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc. TITLE: GENERAL ARRANGEMENT FLOAT CONFIGURATIONS		
	DIMENSIONS - INCH This design and drawing are the property of CR Engineering Inc. and may not be reproduced or used without CR Engineering Inc. written permission.				PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS
DRAWN BY J KING	DATE 27/02/2018	PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 2 OF 26	REV B

8 7 6 5 4 3 2 1

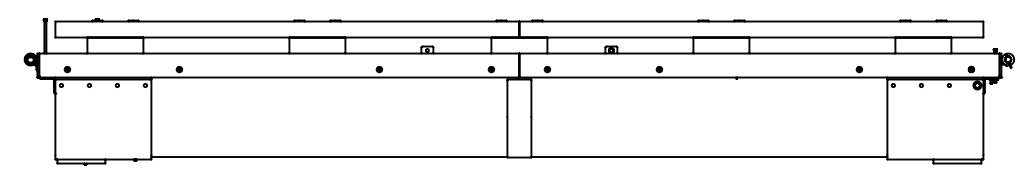
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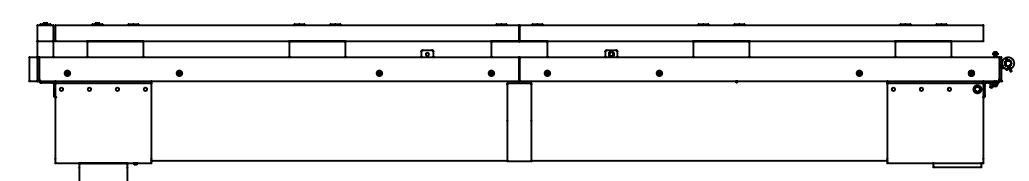
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SHORE FLOAT



MID FLOAT



OUTSIDE FLOAT

BOLT ON FOOT



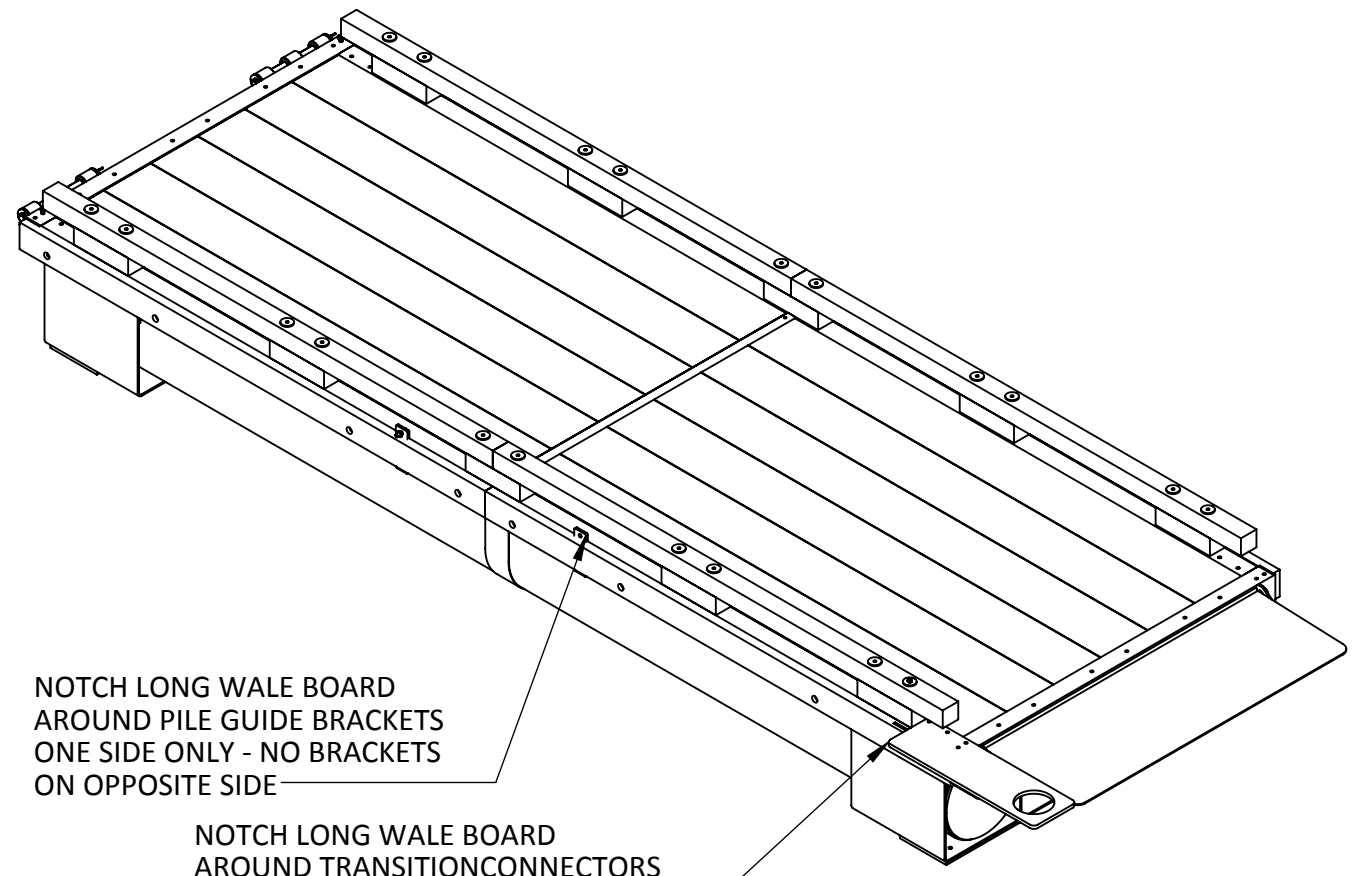
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	DIMENSIONS - INCH DRAWN BY J KING DATE 27/02/2018		PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS	
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		TITLE: GENERAL ARRANGEMENT FLOAT CONFIGURATIONS		
		PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 3 OF 26
			REV B	

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

D
C
B
A

D
C
B
A



NOTCH LONG WALE BOARD
AROUND PILE GUIDE BRACKETS
ONE SIDE ONLY - NO BRACKETS
ON OPPOSITE SIDE

NOTCH LONG WALE BOARD
AROUND TRANSITION CONNECTORS
(LEFT AND RIGHT)

DIMENSIONS ASME Y14.5M
X/X = ± 1/8"
.X = ± 0.1"
.XX = ± 0.01"
.XXX = ± 0.001"
ANGLES = 3°

DIMENSIONS - INCH DRAWN BY J KING DATE 27/02/2018

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CLIENT
CITY OF CAMPBELL RIVER

PROJECT
**BIG ROCK BOAT RAMP
GALVANIZED STEEL DOCKS**

CR Engineering Inc.

TITLE:
**GENERAL ARRANGEMENT
FLOAT**

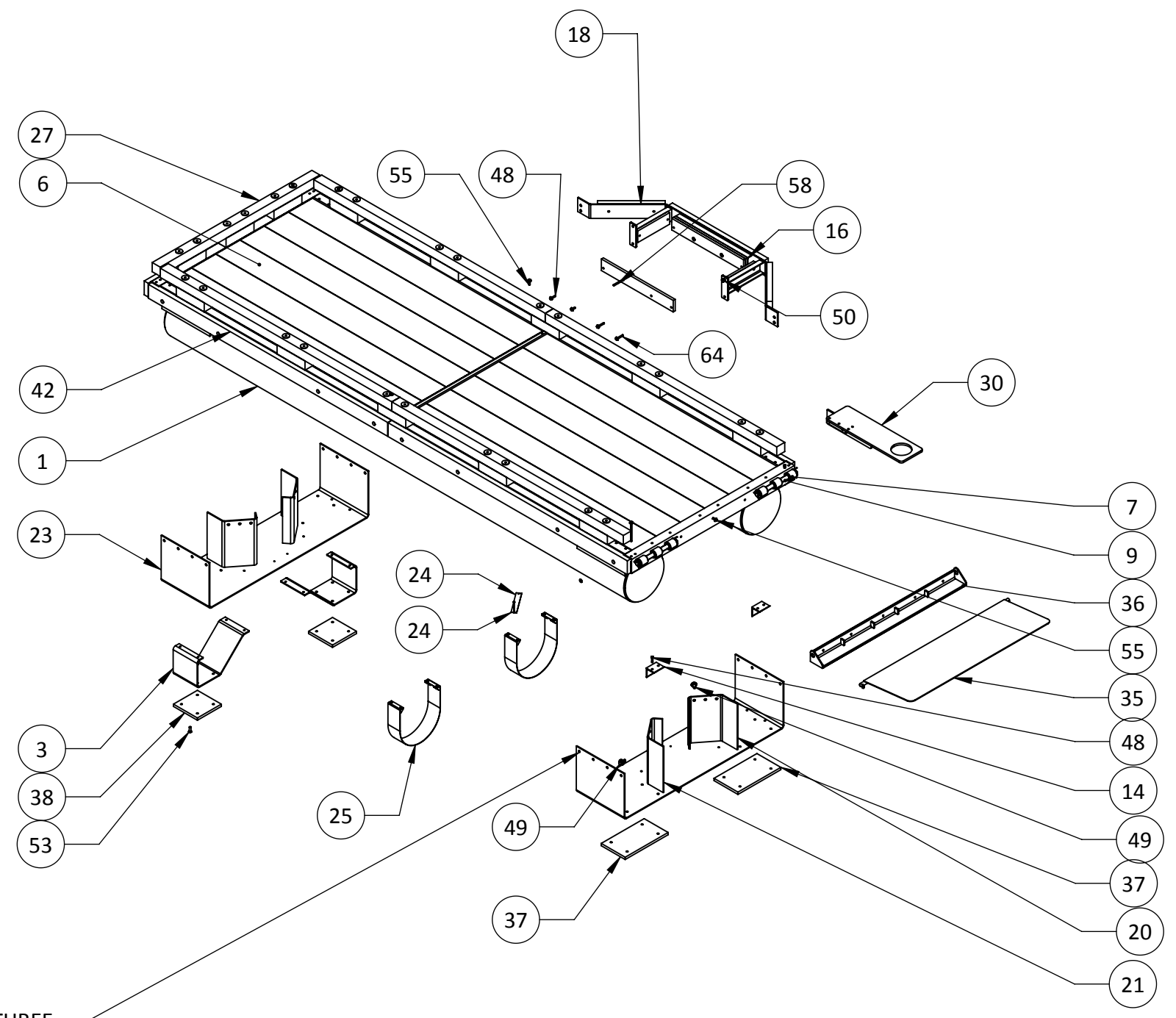
PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-400	4 OF 26	B

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

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D
C
B
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NOTE - ASSEMBLE WITH ONE STAINLESS FLAT WASHER BETWEEN ALUMINUM AND GALVANIZED BRACKET, ONE WASHER ON EACH SIDE, TOTAL STAINLESS WASHERS IS THREE

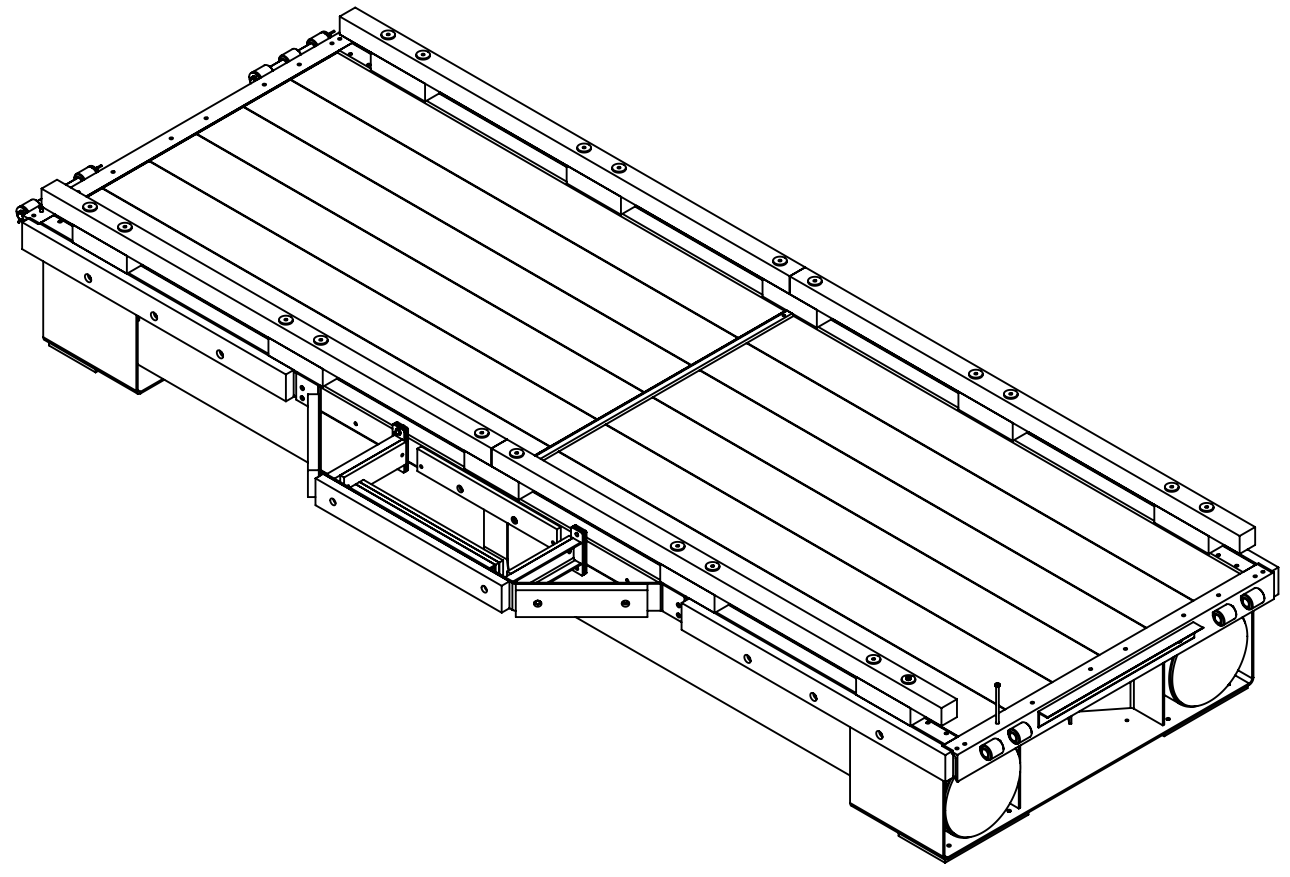
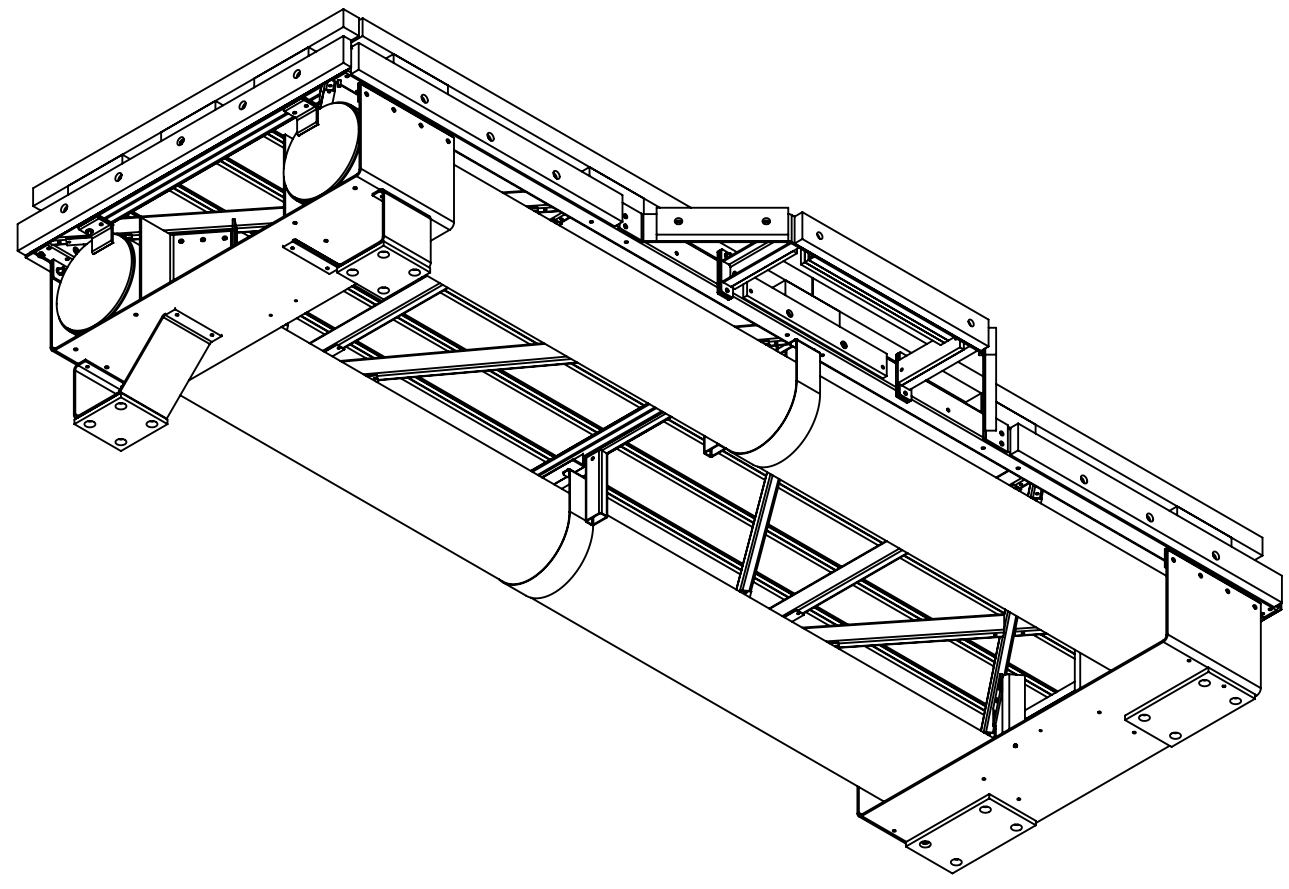
DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc.	
	PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: EXPLODED VIEW	
DIMENSIONS - INCH This design and drawing are the property of CR Engineering Inc. and may not be reproduced or used without CR Engineering Inc. written permission.	DRAWN BY J KING	DATE 27/02/2018	PROJECT NUMBER 395	DRAWING NUMBER 395-400
			SHEET 5 OF 26	REV B

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

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DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		
DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018
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CLIENT CITY OF CAMPBELL RIVER
PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS

CR Engineering Inc.			
TITLE: ISOMETRIC VIEWS			
PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 6 OF 26	REV B

8 7 6 5 4 3 2 1

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PART No.	DESCRIPTION	SHORE END LEFT/QTY.	SHORE END RIGHT/QTY.	MID FLOAT/QTY.	MID FLOAT NO HOOP/QTY.	OUTSIDE END LEFT/QTY.	OUTSIDE END RIGHT/QTY.	TOTAL	MATERIAL
395-08	20" (508mm), HDPE DR 32.5, BUTT FUSED END CAPS, FILLED WITH ROUND TYPE 2 KOROFLOAT FOAM	2	2	2	2	2	2		HDPE
395-244	CONNECTOR BACKING PLATE	1	1	-	-	-	-		44W/300W
395-275	CONNECTOR LEFT	1	-	-	-	-	-		44W/300W
395-270	CONNECTOR RIGHT	-	1	-	-	-	-		44W/300W
395-206	END FLOAT FOOT	-	-	-	-	2	2		5052-H32
395-145	FLOAT GAP FILLER ANGLE	-	1	1	1	1	-		44W/300W
395-300	FRAME 1 WELDMENT	-	1	-	-	1	-		300W/350W
395-300	FRAME 2 WELDMENT	1	-	-	-	-	1		300W/350W
395-300	FRAME 3 WELDMENT	-	-	1	1	-	-		300W/350W
395-42	GRATING - ROUND HOLE 12" x 1-1/2", 13 GA	12	12	12	12	12	12		STEEL
395-52	HINGE PIN	2	-	2	2	-	2		316 SS
395-65	PILE GUIDE	-	-	1	-	1	1		44W/300W
395-241	PIPE END STOP	4	4	4	4	4	4		44W/300W
395-180	PIPE SUPPORT	2	2	2	2	2	2		5052-H32
395-141	STAINLESS WEAR PLATE	16	16	16	16	16	16		304 SS
395-43	STRAP	2	2	2	2	2	2		316 SS
395-253	TIE UP RAIL BLOCK	10	10	10	10	13	13		ROUGH CUT FIR
395-254	TIE UP RAIL END	-	-	-	-	1	1		ROUGH CUT FIR
395-252	TIE UP RAIL SIDE	4	4	4	4	4	4		ROUGH CUT FIR
395-281	TRANSITION PLATE SUPPORT ANGLE	1	1	-	-	-	-		44W/300W
395-155	TRANSITION RAMP	1	1	-	-	-	-		44W/300W
395-44	UHMW BOTTOM SHOE	4	4	4	4	2	2		BLACK UHMW
395-207	UHMW END FOOT SHOE	-	-	-	-	2	2		BLACK UHMW
395-146	WALE BOARD END	-	-	-	-	1	1		ROUGH CUT FIR
395-151	WALE BOARD LONG SIDE	4	4	2	4	2	2		ROUGH CUT FIR
395-147	WALE BOARD SHORT SIDE	-	-	2	-	2	2		ROUGH CUT FIR
395-208	TIMBER WASHER 1/2"	20	20	20	20	26	26		GALVANIZED
395-245	ZINC ANODE 3LB	2	2	2	2	2	2		MARTYR CM706A OR EQUIVALENT

DIMENSIONS ASME Y14.5M
X/X = ± 1/8"
.X = ± 0.1"
.XX = ± 0.01"
.XXX = ± 0.001"
ANGLES = 3°

DIMENSIONS - INCH DRAWN BY J KING DATE 27/02/2018

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CLIENT
CITY OF CAMPBELL RIVER

PROJECT
**BIG ROCK BOAT RAMP
GALVANIZED STEEL DOCKS**

CR Engineering Inc.

TITLE:
**PARTS AND ASSEMBLIES
BILL OF MATERIALS**

PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-400	7 OF 26	B

PART No.	DESCRIPTION	SHORE END LEFT/QTY.	SHORE END RIGHT/QTY.	MID FLOAT/QTY.	MID FLOAT NO HOOP/QTY.	OUTSIDE END LEFT/QTY.	OUTSIDE END RIGHT/QTY.	TOTAL	MATERIAL
HFBOLT 0.25-20x4.5x0.75-N	BOLT 1/4 x 4-1/2 WITH NUT AND TWO FLAT WASHERS, RED LOCKTITE NUT	32	32	32	32	32	32	448	GALVANIZED
HFBOLT 0.375-16x1.25x1-N	BOLT 3/8 x 1-1/4 WITH NYLOCK NUT AND TWO FLAT WASHERS	4	4	4	4	4	4	56	18-8 STAINLESS
HFBOLT 0.5-13x1.5x1.25-N	BOLT 1/2 x 1-1/2 WITH NYLOCK NUT AND TWO FLAT WASHERS	4	4	4	4	4	4	56	18-8 STAINLESS
HFBOLT 0.5-13x1.75x1.25-N	BOLT 1/2 x 1-3/4 WITH NYLOCK NUT AND TWO FLAT WASHERS	-	-	-	-	8	8	16	18-8 STAINLESS
HFBOLT 0.5-13x2x1.25-N	BOLT 1/2 x 2 WITH NUT AND TWO FLAT WASHERS, RED LOCKTITE NUT	-	3	3	3	3	-	36	GALVANIZED
HFBOLT 0.5-13x2.5x1.25-N	BOLT 1/2 x 2-1/2 WITH NUT AND TWO FLAT WASHERS, RED LOCK TITE NUT	5	5	12	-	17	17	56	GALVANIZED
HFBOLT 0.5-13x3x1.25-N	BOLT 1/2 x 3 WITH NUT AND TWO FLAT WASHERS, RED LOCKTITE NUT	-	-	2	-	2	2		GALVANIZED
HFBOLT 0.5-13x5.5x1.25-N	BOLT 1/2 x 5-1/2 WITH NUT AND TWO FLAT WASHERS, RED LOCK TITE NUT	-	-	8	-	8	8	64	GALVANIZED
HFBOLT 0.5-13x6x1.25-N	BOLT 1/2 x 6 WITH NUT AND TWO FLAT WASHERS, RED LOCKTITE NUT	2	2	-	-	-	-	4	GALVANIZED
HFBOLT 0.5-13x6.5x1.25-N	BOLT 1/2 x 6-1/2 WITH NUT AND TWO FLAT WASHERS, RED LOCKTITE NUT	16	16	16	16	16	16	224	GALVANIZED
HFBOLT 0.5-13x8x1.25-N	BOLT 1/2 x 8 WITH NUT AND TWO FLAT WASHERS, RED LOCKTITE NUT	4	4	-	-	-	-	8	GALVANIZED
HFBOLT 0.5-20x10x1.25-N	BOLT 1/2 x 10 WITH NUT AND TWO FLAT WASHERS, RED LOCKTITE NUT	-	-	-	-	6	6	12	GALVANIZED
HHSBOLT 0.6250-11x2x1.25-N	BOLT 5/8 x 2 GRADE A307 WITH NUT AND TWO FLAT WASHERS, RED LOCKTITE NUT	4	4	4	4	4	4	56	GALVANIZED
HHSBOLT 0.7500-10x2x1.375-N	BOLT GRADE A307 3/4 x 2 WITH NUT AND THREE STAINLESS FLAT WASHERS, RED LOCKTITE NUT	28	28	28	28	28	28	392	GALVANIZED
SCHCSCREW 0.625-11x2x2-HX-N	SCREW COUNTERSUNK 5/8 x 2, WITH NYLOCK NUT AND ONE FLATWASHER	16	16	16	16	16	16	224	18-8 STAINLESS

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT		CITY OF CAMPBELL RIVER		CR Engineering Inc. TITLE: SINGLE FLOAT FASTENERS BILL OF MATERIALS (BEST ESTIMATE)	
	PROJECT		BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS			
DIMENSIONS - INCH This design and drawing are the property of CR Engineering Inc. and may not be reproduced or used without CR Engineering Inc. written permission.	DRAWN BY	J KING	DATE	27/02/2018	PROJECT NUMBER	395
					DRAWING NUMBER	395-400
					SHEET	8 OF 26
					REV	B

ITEM No.	PART No.	DESCRIPTION	QTY.	MATERIAL
1	395-08	20" (508mm), HDPE DR 32.5, BUTT FUSED END CAPS, FILLED WITH ROUND TYPE 2 KOROFLOAT FOAM	28	HDPE
2	395-244	CONNECTOR BACKING PLATE	2	44W/300W
3	395-206	END FLOAT FOOT	4	5052-H32
4	395-145	FLOAT GAP FILLER ANGLE	12	44W/300W
5	395-131	FRAME WELDMENT	14	50W/350W
6	395-42	GRATING - ROUND HOLE 12" x 1-1/2", 13 GA	168	STEEL
7	395-56	HINGE BODY	120	A513 1026 DOM (3" x 1.75") OR EQUIVALENT
8	395-57	HINGE BUSHING	120	MD FILLED NYLON 2" x 1-1/2"
9	395-52	HINGE PIN	48	316 SS
10	395-58	HINGE SPACER SHIM	120	44W/300W
11	281-95	KEEPER PIN	48	304 SS
12	395-138	MOUNTING PLATE INNER	56	44W/300W
13	395-136	MOUNTING PLATE OUTER	56	44W/300W
14	395-241	PIPE END STOP	112	44W/300W
15	395-62	PILE GUARD CHANNEL	16	44W/300W
16	395-63	PILE GUARD MOUNTING CHANNEL	8	44W/300W
17	395-164	PILE GUARD MOUNTING PLATE	16	44W/300W
18	395-61	PILE GUIDE GUARD	8	44W/300W
19	395-168	PILE HOOP MOUNT PLATE	28	44W/300W
20	395-142	PIPE INNER BRACKET LEFT	28	5052-H32
21	395-142	PIPE INNER BRACKET RIGHT	28	5052-H32
22	395-242	PIPE MID-SUPPORT	28	50W/350W
23	395-137	PIPE SUPPORT	28	5052-H32
24	395-141	STAINLESS WEAR PLATE	224	304 SS
25	395-43	STRAP	28	316 SS

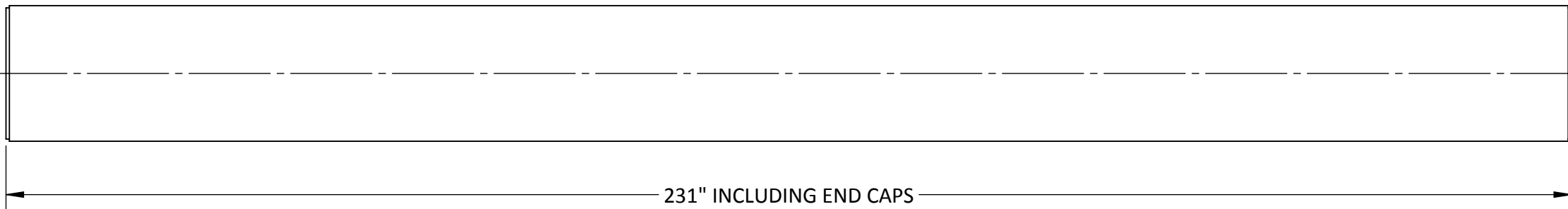
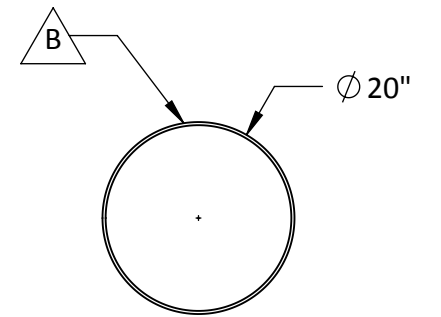
ITEM No.	PART No.	DESCRIPTION	QTY.	MATERIAL
26	395-253	TIE UP RAIL BLOCK	146	ROUGH CUT FIR
27	395-254	TIE UP RAIL END	2	ROUGH CUT FIR
28	395-252	TIE UP RAIL SIDE	56	ROUGH CUT FIR
29	395-208	TIMBER WASHER 1/2"	292	GALVANIZED
30	395-144	TRANSITION CONNECTOR PLATE	2	44W/300W
31	395-272	TRANSITION CONNECTOR SPACER BLOCK	2	44W/300W
32	395-271	TRANSITION CONNECTOR STIFFENER	2	44W/300W
33	395-152	TRANSITION HINGE SHAFT	2	44W/300W
34	395-163	TRANSITION KEEPER PIN	4	304 SS
35	395-153	TRANSITION PLATE	2	44W/300W
36	395-281	TRANSITION PLATE SUPPORT ANGLE	2	44W/300W
37	395-44	UHMW BOTTOM SHOE	52	BLACK UHMW
38	395-207	UHMW END FOOT SHOE	4	BLACK UHMW
39	395-66	UHMW WEAR PLATE SIDE	16	BLACK UHMW
40	395-67	UHMW WEAR PLATE OUTER	24	BLACK UHMW
41	395-146	WALE BOARD END	2	ROUGH CUT FIR
42	395-151	WALE BOARD LONG SIDE	40	ROUGH CUT FIR
43	395-147	WALE BOARD SHORT SIDE	16	ROUGH CUT FIR
44	395-148	WALE BOARD HOOP OUTSIDE	8	ROUGH CUT FIR
45	395-149	WALE BOARD HOOP SIDE	16	ROUGH CUT FIR
46	395-245	ZINC ANODE 3LB	28	MARTYR CM706A OR EQUIVALENT

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc.	
	PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: PARTS BILL OF MATERIALS FOR ALL 14 FLOATS	
	DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018	PROJECT NUMBER 395

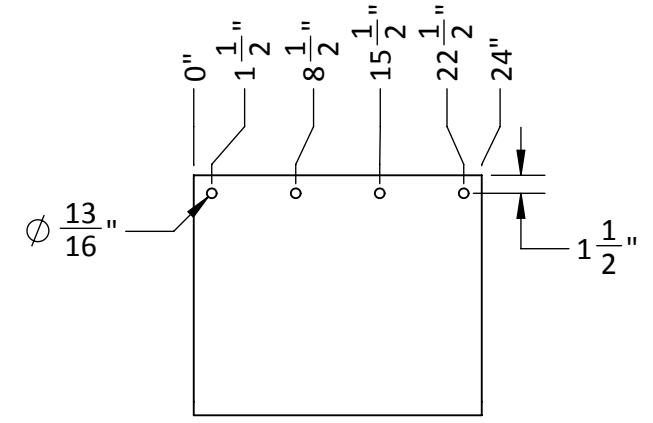
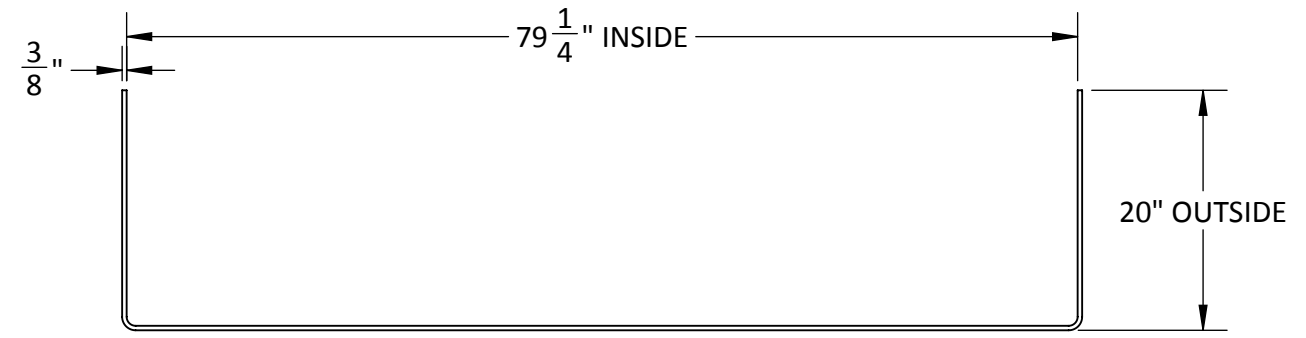
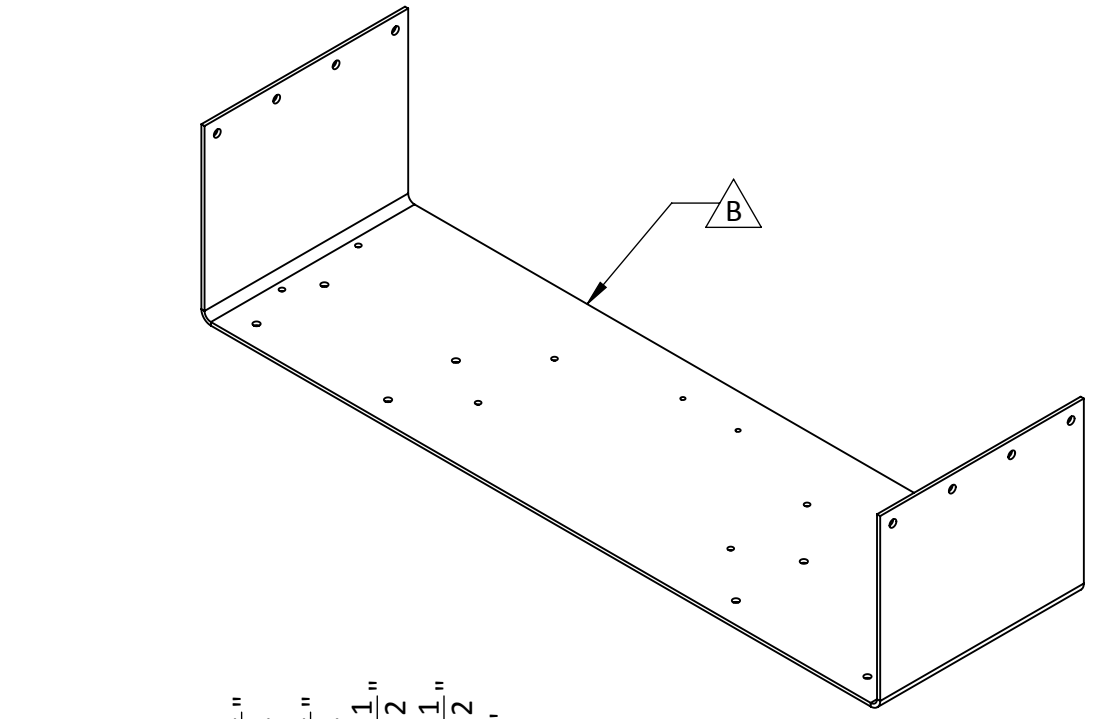
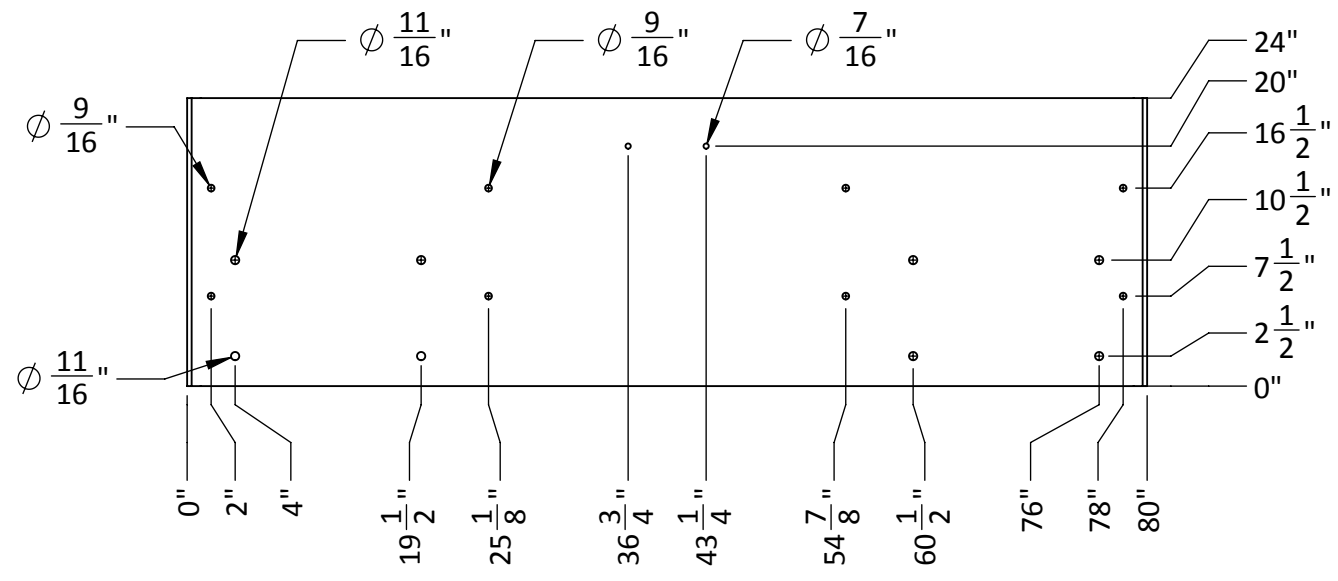
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SHEET	REV
9 OF 26	B

20" (559mm), HDPE DR 32.5, BUTT FUSED END CAPS, FILLED WITH ROUND TYPE 2 KOROFLOAT FOAM
 SUPPLIER - SANDALE UTILILITY PRODUCTS, SURREY, BC



DIMENSIONS ASME Y14.5M X/X = $\pm 1/8''$.X = $\pm 0.1''$.XX = $\pm 0.01''$.XXX = $\pm 0.001''$ ANGLES = 3°	CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc.	
	PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: FLOAT PIPE	
	DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018	PROJECT NUMBER 395
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PIPE SUPPORT
P/N 395-137
SCALE: 1:16

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		
DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018
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CLIENT CITY OF CAMPBELL RIVER
PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS

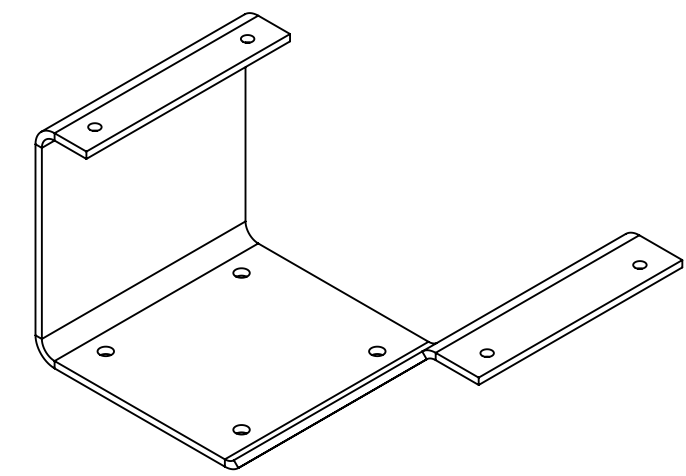
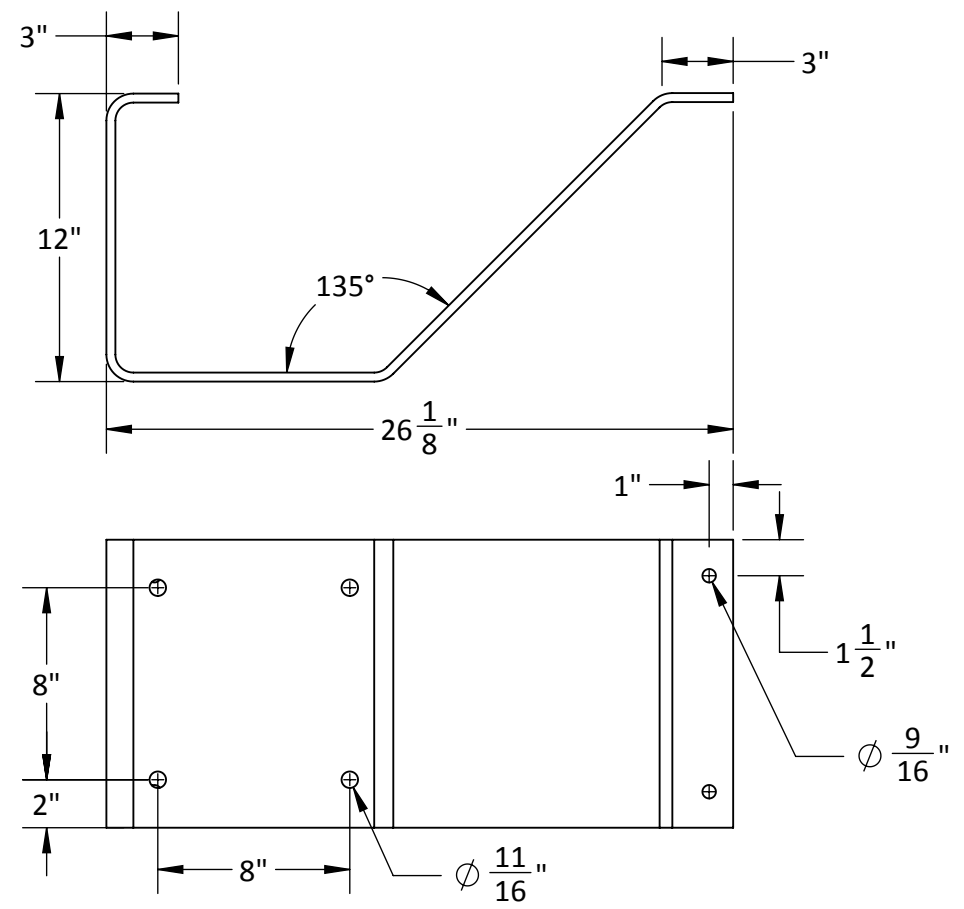
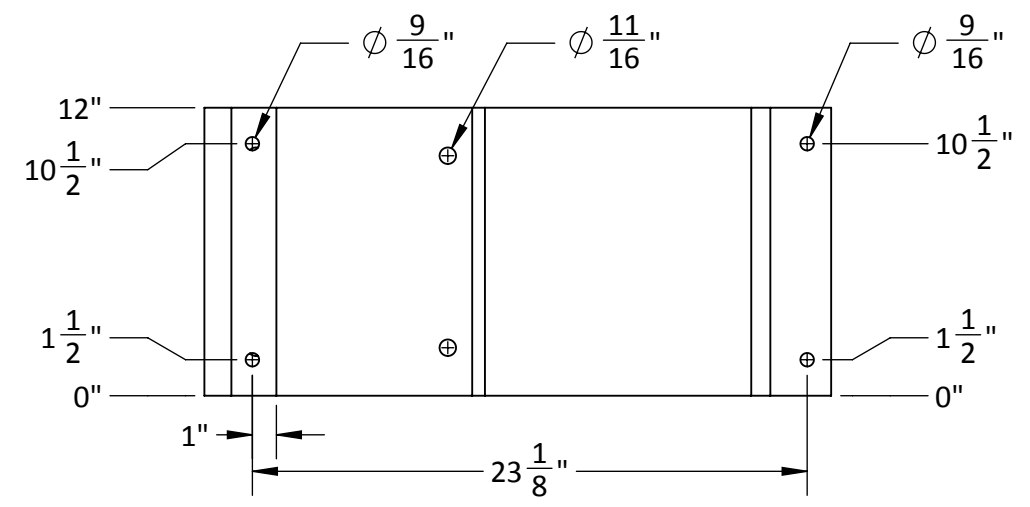
CR Engineering Inc.			
TITLE: PIPE SUPPORT			
PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 11 OF 26	REV B

D

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B

A



END FLOAT FOOT
 P/N 395-206
 SCALE: 1:8

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		
DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018
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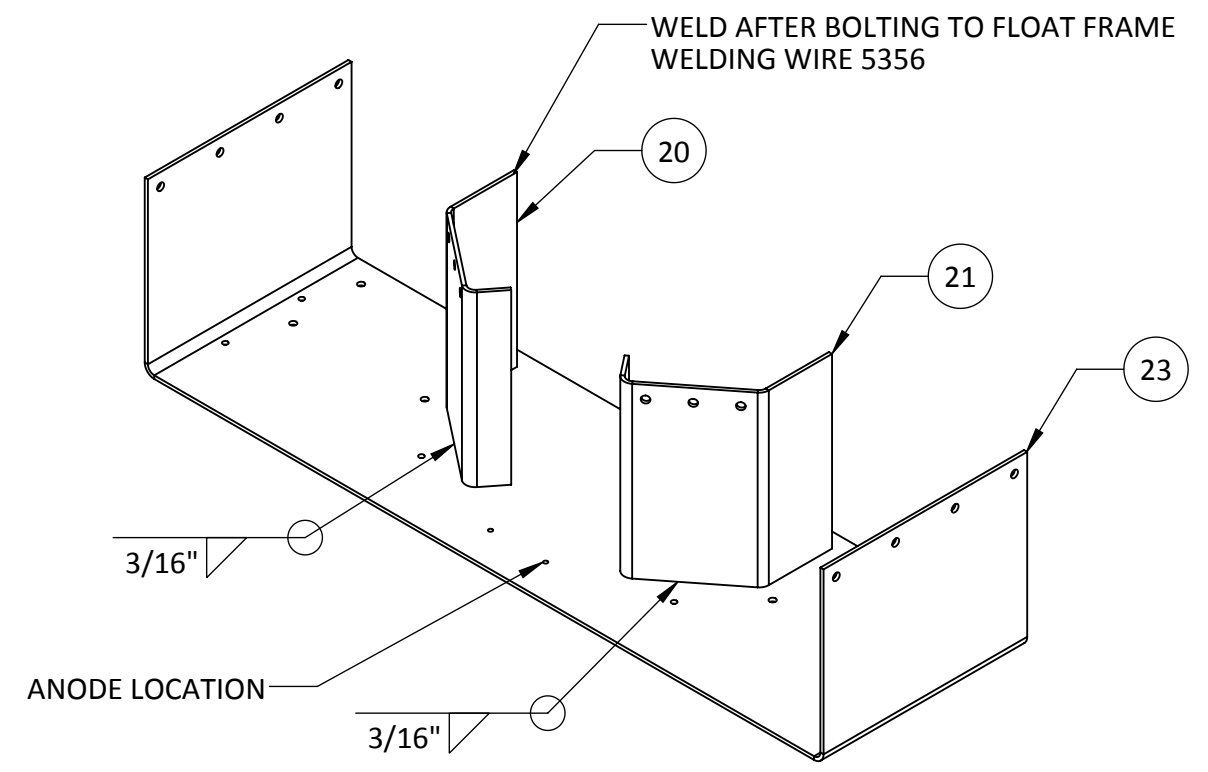
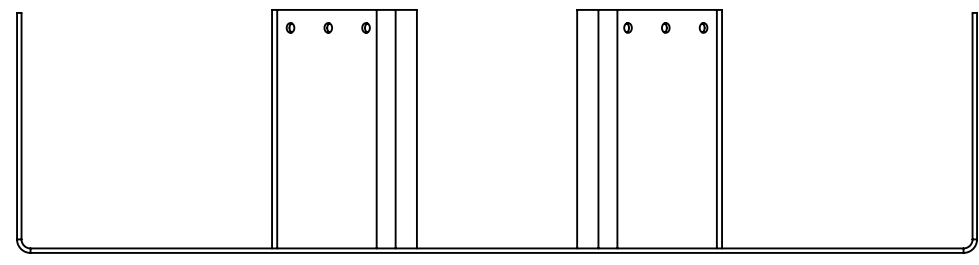
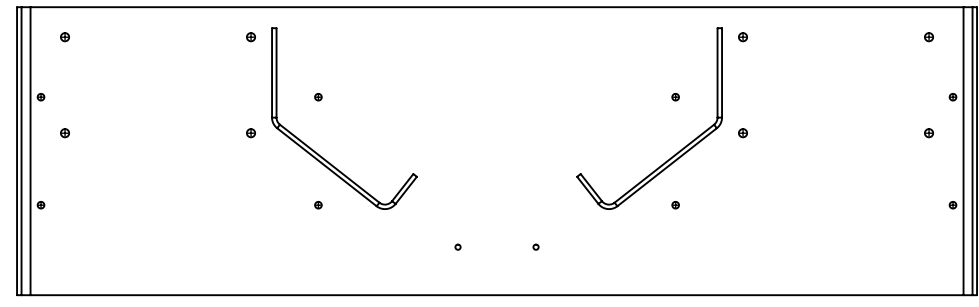
CLIENT CITY OF CAMPBELL RIVER
PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS

CR Engineering Inc.			
TITLE: END FLOAT FOOT			
PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 12 OF 26	REV B

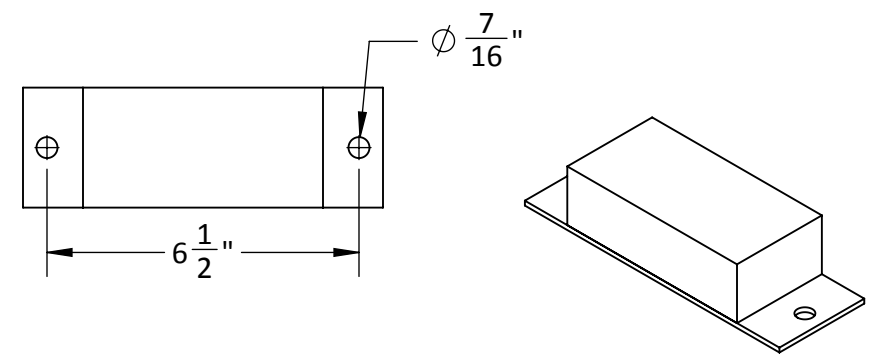
8 7 6 5 4 3 2 1

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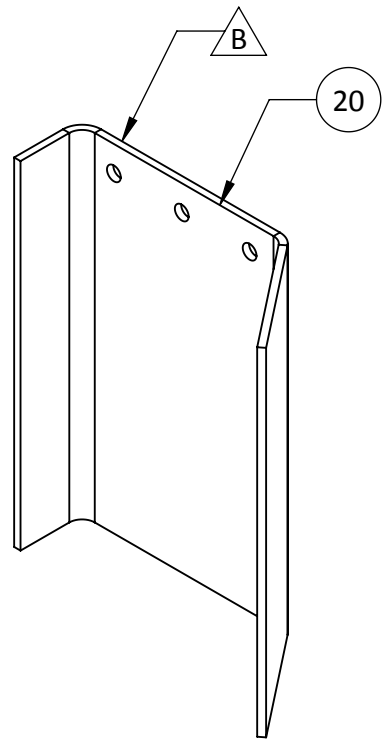
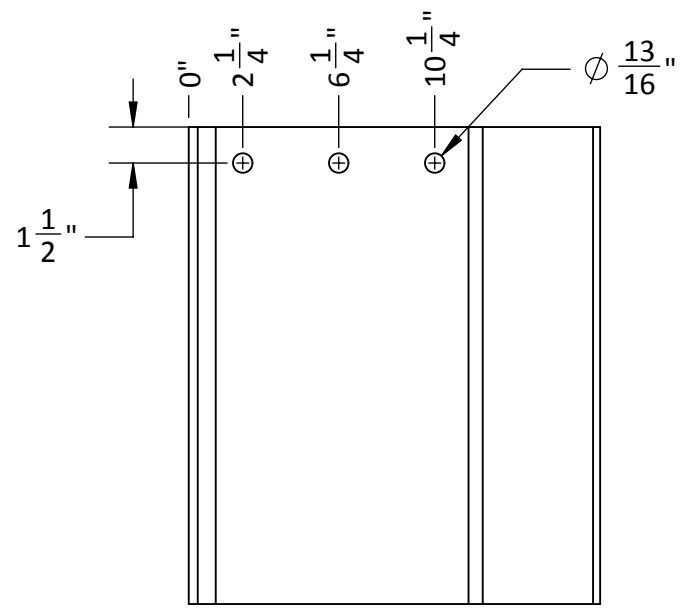
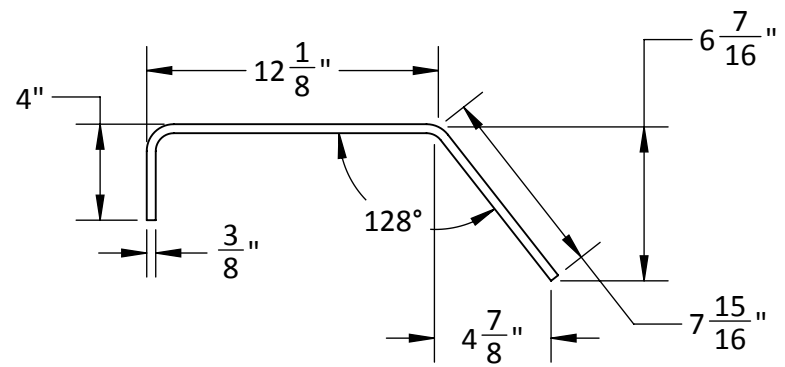
PIPE SUPPORT
P/N 395-180
SCALE: 1:16



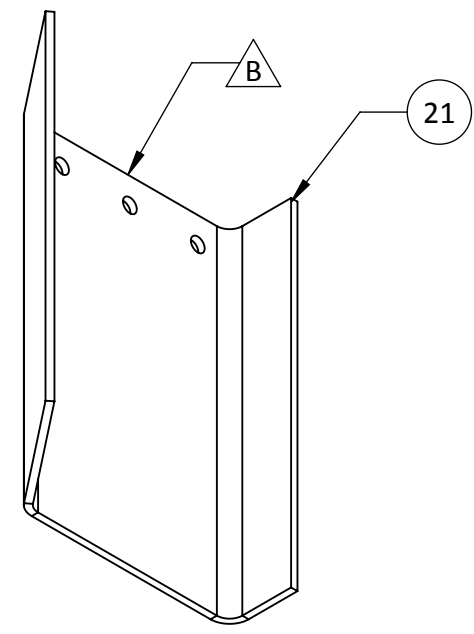
ZINC ANODE 3LB
P/N 395-245
SCALE: 1:4
MARTYR CM706 OR EQUIVALENT

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT		CITY OF CAMPBELL RIVER		CR Engineering Inc. PIPE SUPPORT ASSEMBLY			
	PROJECT		BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS					
DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018			PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
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8 7 6 5 4 3 2 1



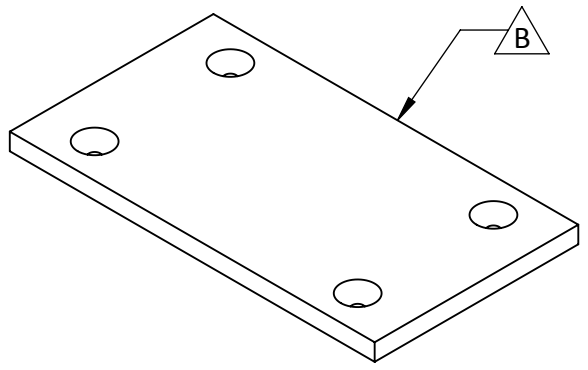
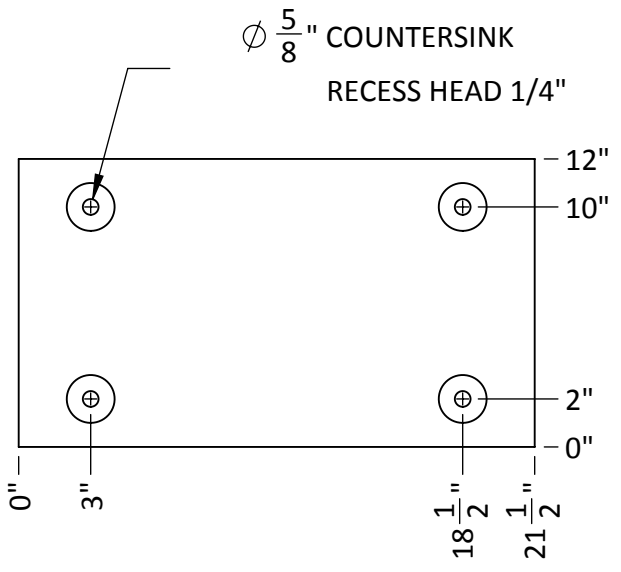
PIPE INNER BRACKET LEFT
P/N 395-142
SCALE: 1:8



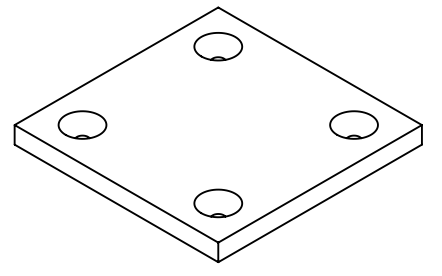
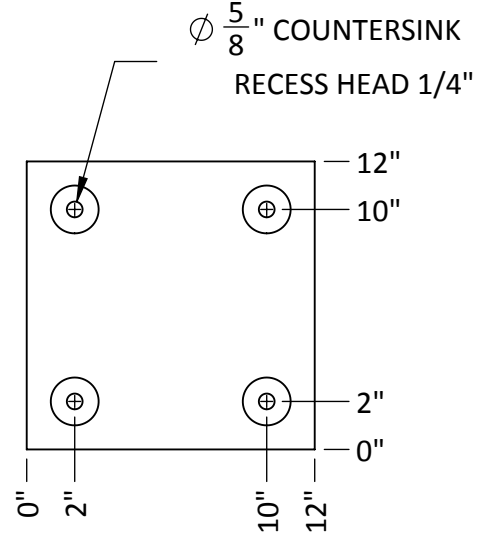
PIPE INNER BRACKET RIGHT
P/N 395-142
SCALE: 1:8

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc.	
	PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: PIPE INNER BRACKET	
	DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018	PROJECT NUMBER 395
This design and drawing are the property of CR Engineering Inc. and may not be reproduced or used without CR Engineering Inc. written permission.			SHEET 14 OF 26	REV B

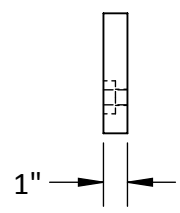
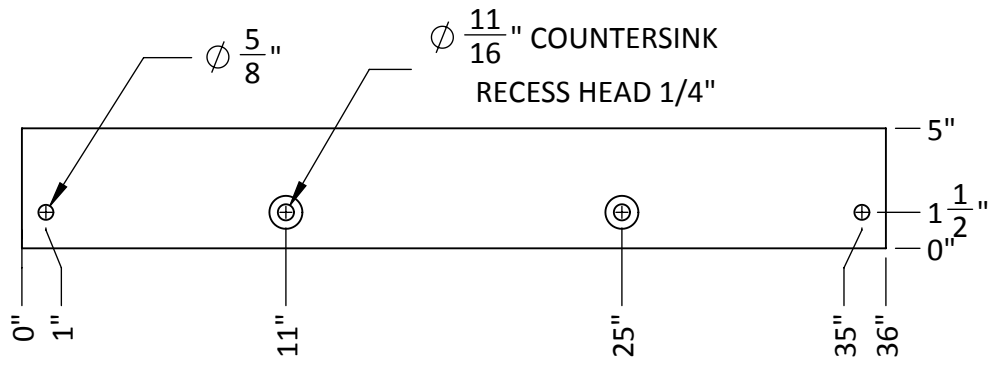
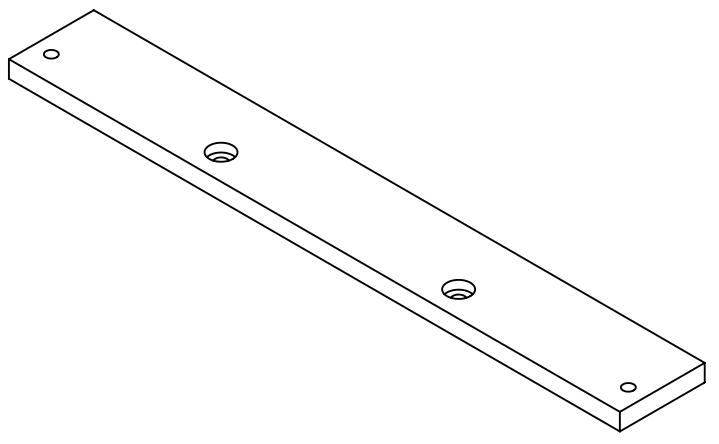
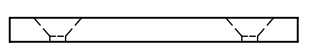
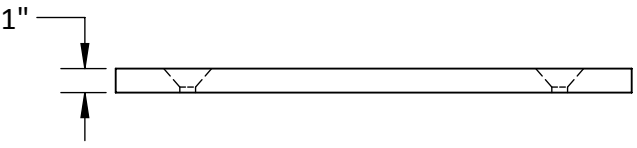
8 7 6 5 4 3 2 1



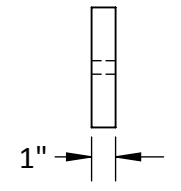
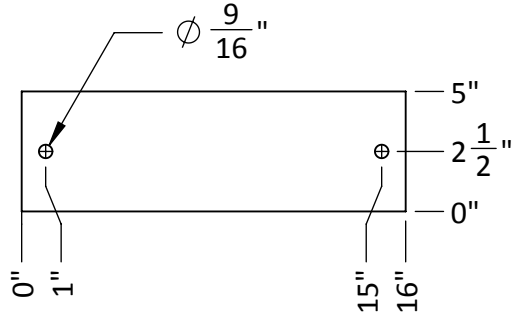
UHMW BOTTOM SHOE
P/N 395-44
SCALE: 1:8



UHMW END FOOT SHOE
P/N 395-207
SCALE: 1:8



UHMW WEAR PLATE OUTER
P/N 395-67
SCALE: 1:8



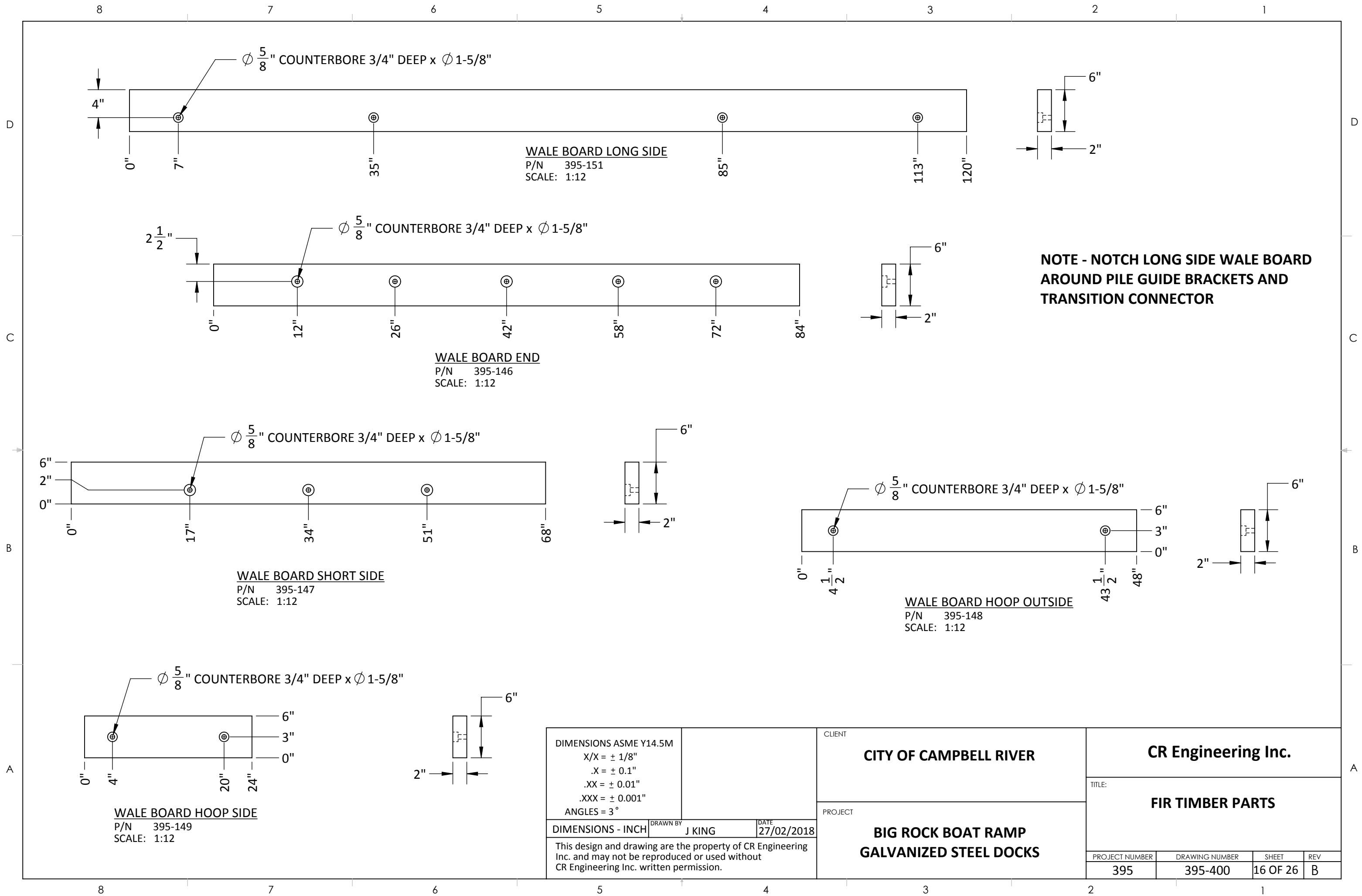
UHMW WEAR PLATE SIDE
P/N 395-66
SCALE: 1:8

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		DRAWN BY J KING	DATE 27/02/2018
DIMENSIONS - INCH		PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS	
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CLIENT CITY OF CAMPBELL RIVER	TITLE: BLACK UHMW PARTS		
PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS	PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 15 OF 26
			REV B

CR Engineering Inc.			
TITLE: BLACK UHMW PARTS			
PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 15 OF 26	REV B

8 7 6 5 4 3 2 1

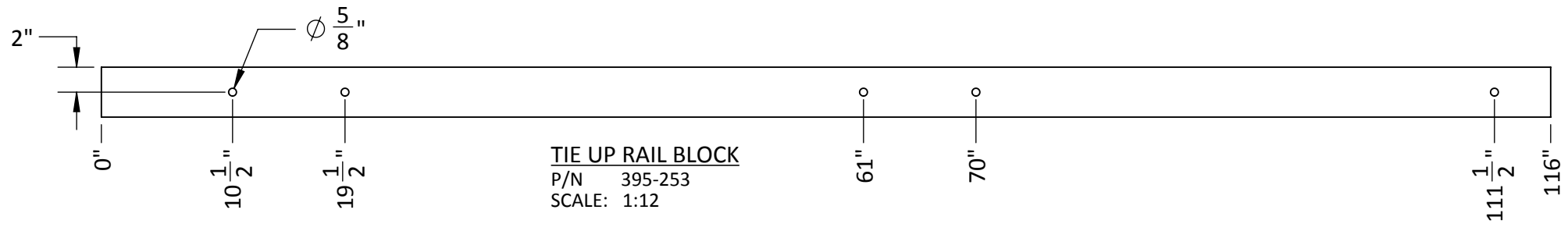


DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		CLIENT CITY OF CAMPBELL RIVER
DIMENSIONS - INCH DRAWN BY J KING DATE 27/02/2018		PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS
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PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 16 OF 26
		REV B

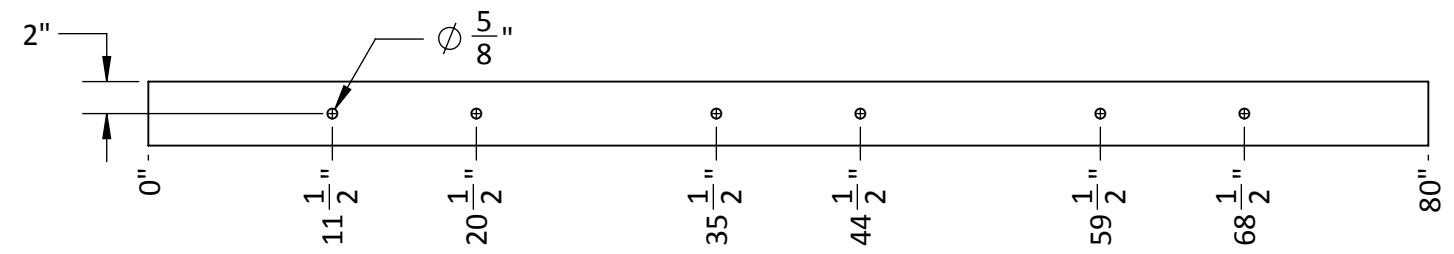
CR Engineering Inc.			
TITLE: FIR TIMBER PARTS			
PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 16 OF 26	REV B

8 7 6 5 4 3 2 1

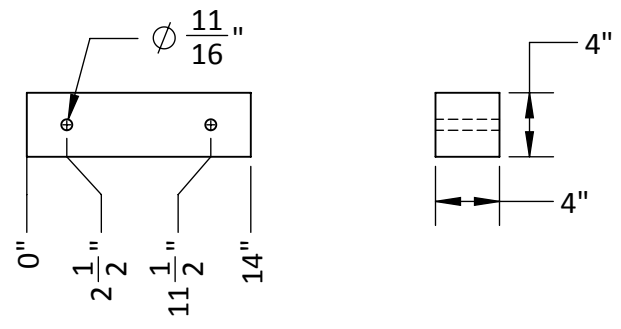
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TIE UP RAIL BLOCK
P/N 395-253
SCALE: 1:12



TIE UP RAIL END
P/N 395-254
SCALE: 1:12

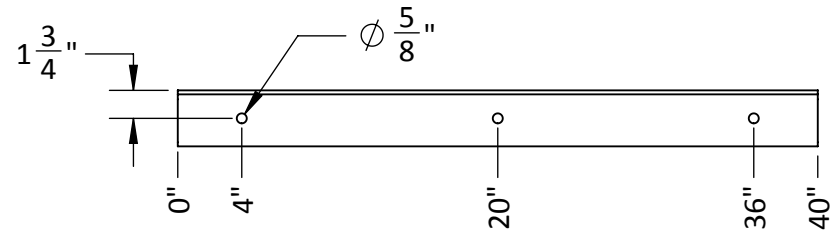


TIE UP RAIL BLOCK
P/N 395-253
SCALE: 1:12

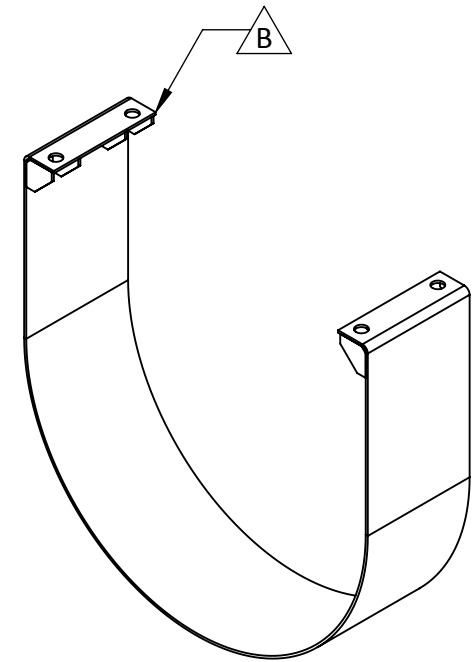
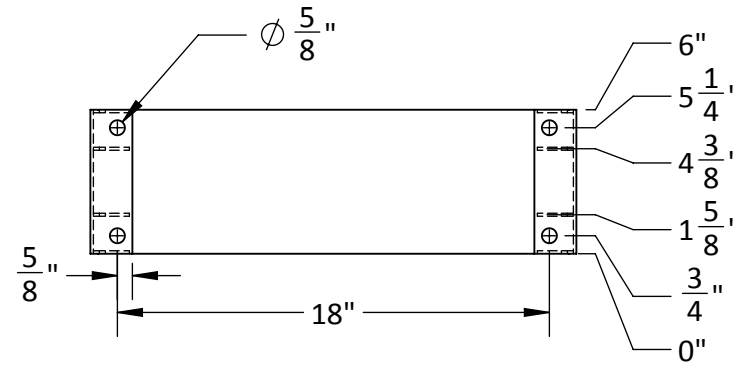
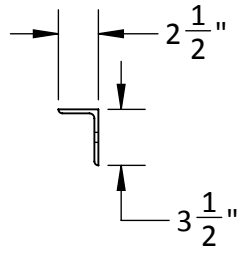
DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc. FIR TIMBER PARTS			
	PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS					
DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018	PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 17 OF 26	REV B
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8 7 6 5 4 3 2 1

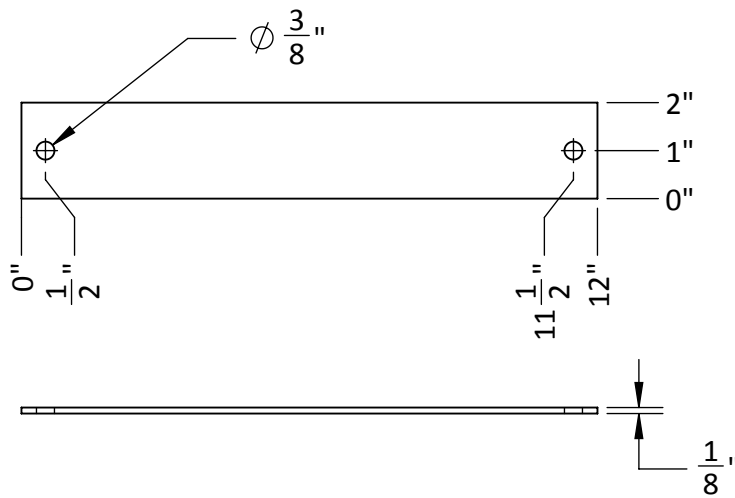
LENGTH	Description
40"	L3.5x2.5x0.25



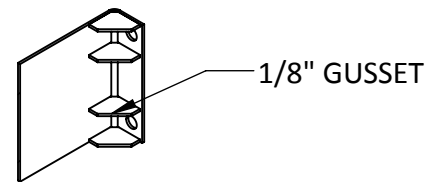
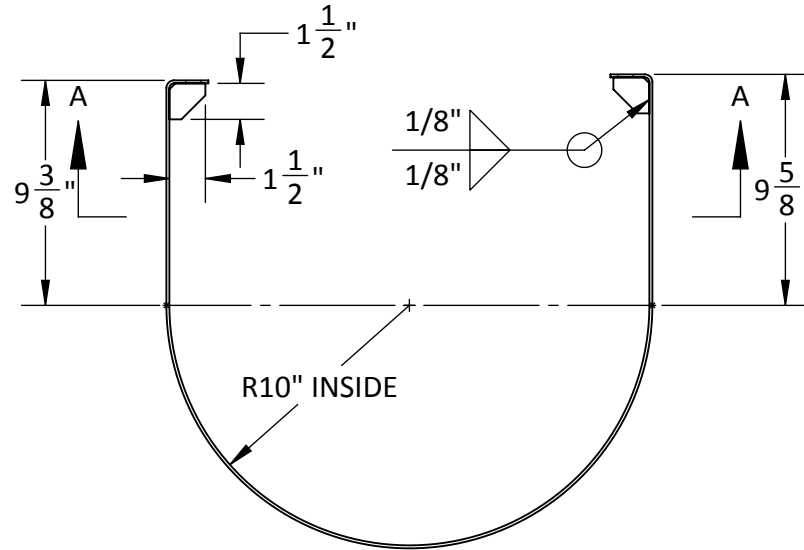
FLOAT GAP FILLER ANGLE
P/N 395-145
SCALE: 1:12



STRAP
P/N 395-43
SCALE: 1:8

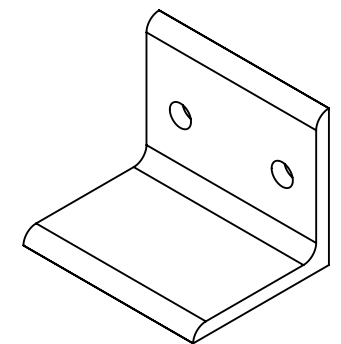
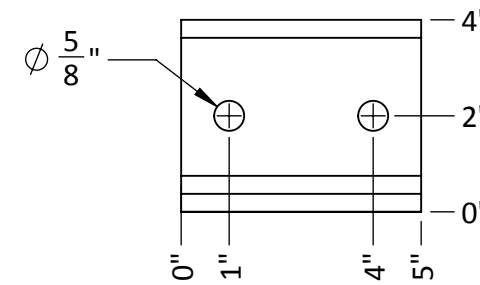


STAINLESS WEAR PLATE
P/N 395-141
SCALE: 1:4



SECTION A-A

LENGTH	Description
5"	L 4" x 4" x 3/8"



PIPE END STOP
P/N 395-241
SCALE: 1:4

DIMENSIONS ASME Y14.5M
X/X = ± 1/8"
.X = ± 0.1"
.XX = ± 0.01"
.XXX = ± 0.001"
ANGLES = 3°

DIMENSIONS - INCH DRAWN BY J KING DATE 27/02/2018

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CLIENT
CITY OF CAMPBELL RIVER

PROJECT
**BIG ROCK BOAT RAMP
GALVANIZED STEEL DOCKS**

TITLE:
DETAILS

PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-400	18 OF 26	B

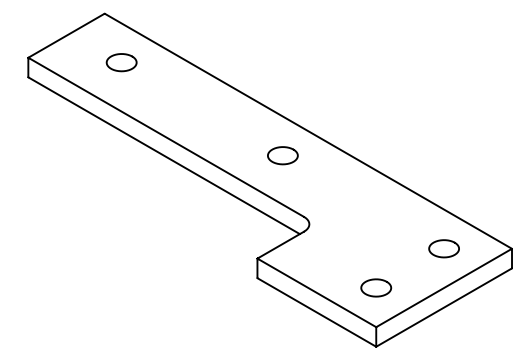
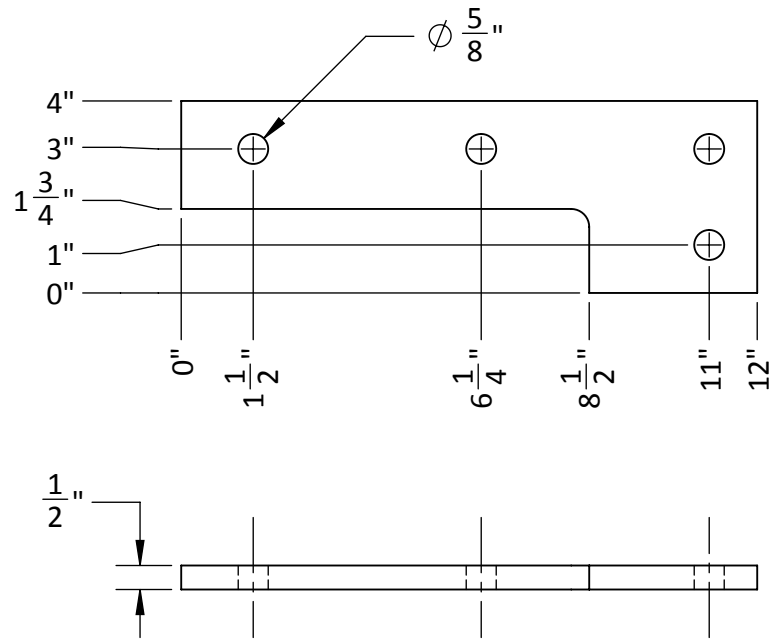
CR Engineering Inc.

DETAILS

8 7 6 5 4 3 2 1

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D
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A



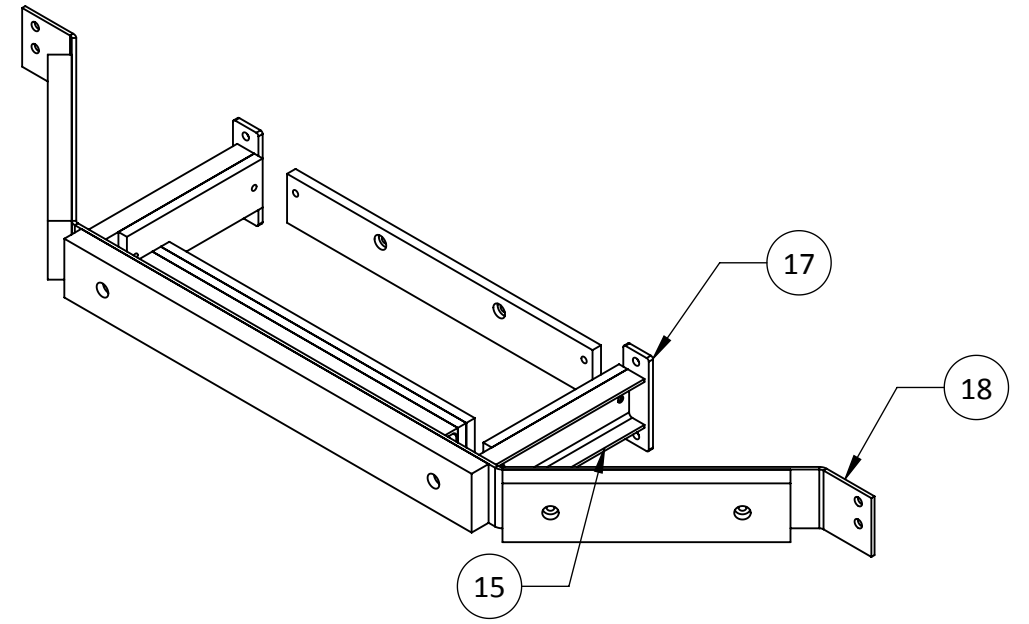
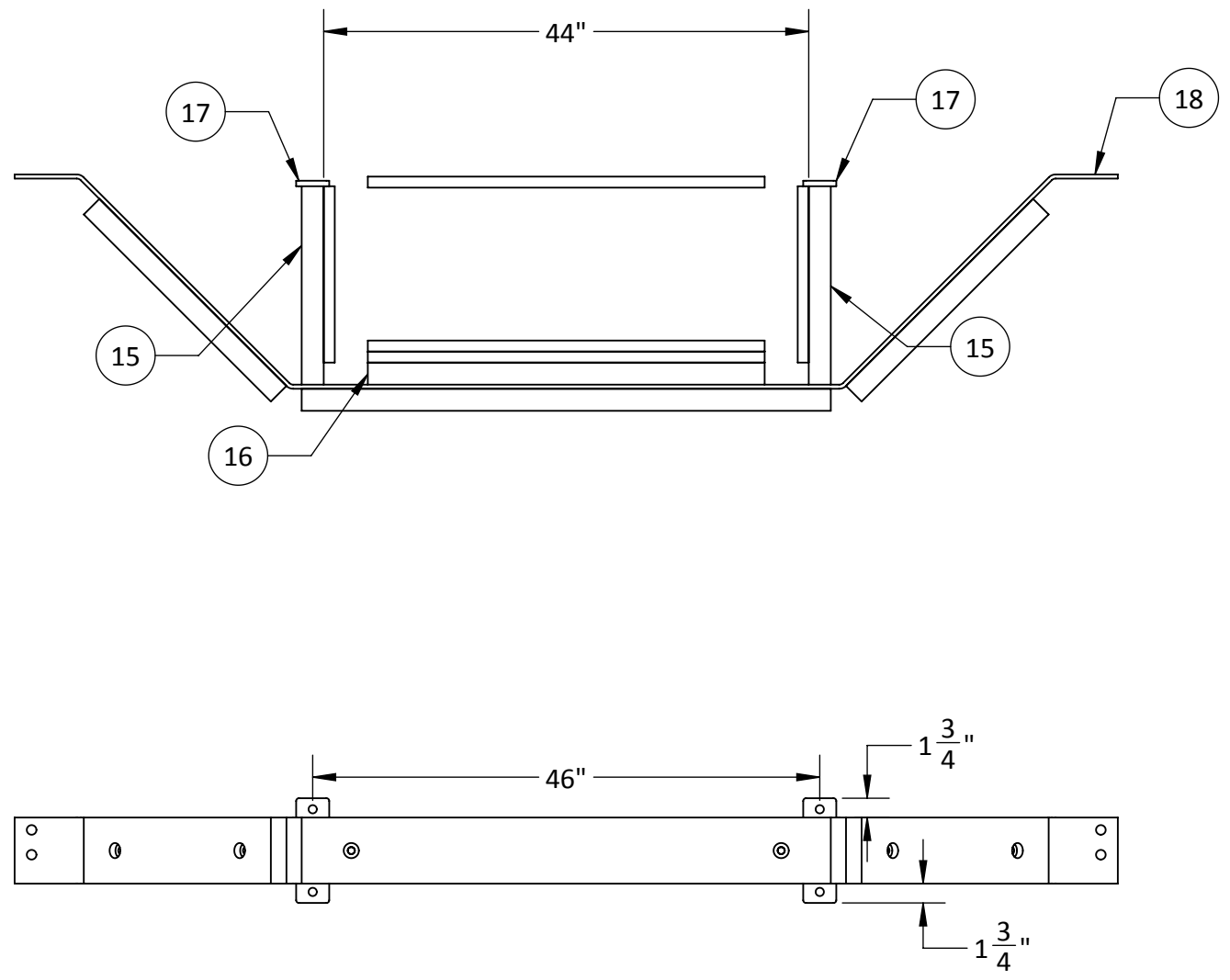
CONNECTOR BACKING PLATE
P/N 395-244
SCALE: 1:4

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	DRAWN BY J KING	DATE 27/02/2018	CLIENT		CITY OF CAMPBELL RIVER		CR Engineering Inc.	
			PROJECT		BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: TRANSITION PILE CONNECTOR BACKINGP PLATE	
DIMENSIONS - INCH			PROJECT NUMBER	DRAWING NUMBER	SHEET	REV		
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8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

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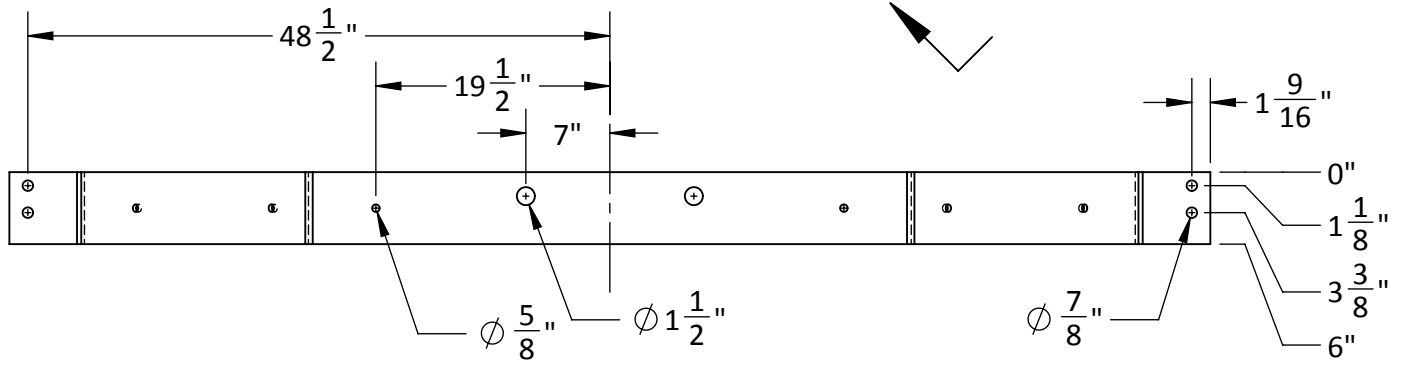
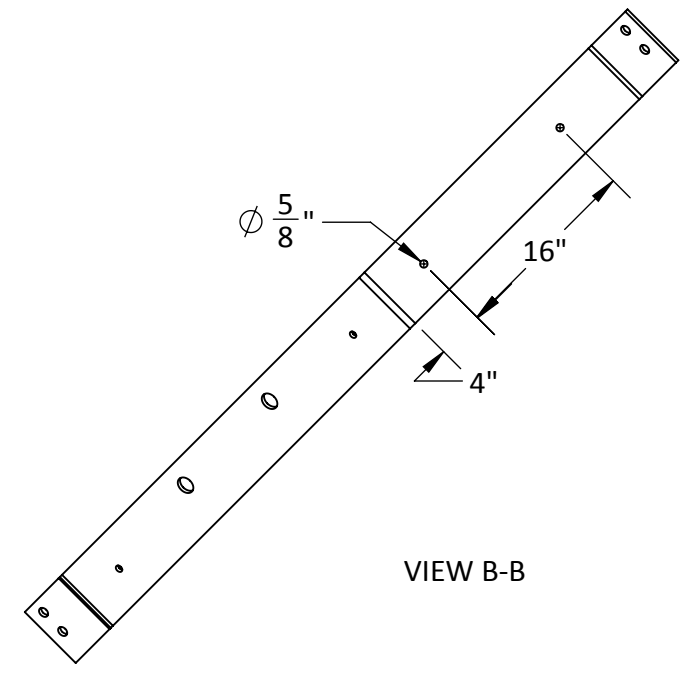
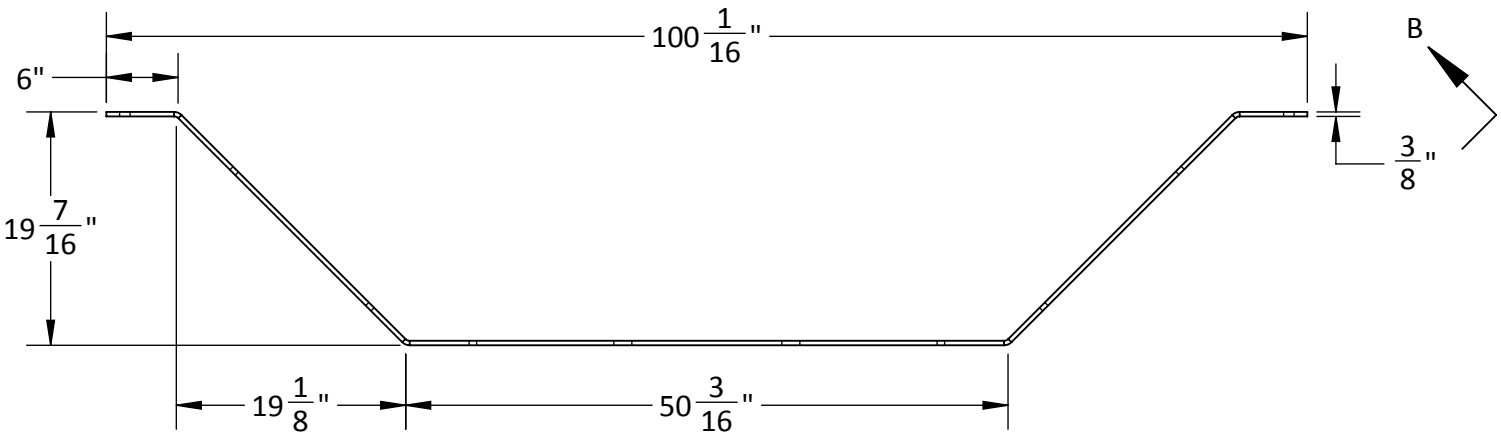


PILE GUIDE
P/N 395-65
SCALE: 1:16

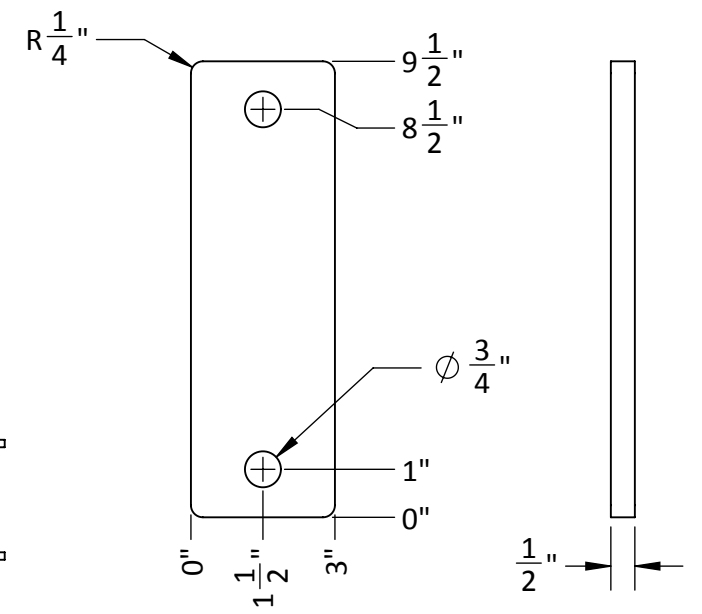
DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc.			
	PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: PILE GUIDE ASSEMBLY GALVANIZED			
DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018	PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 20 OF 26	REV B
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8 7 6 5 4 3 2 1

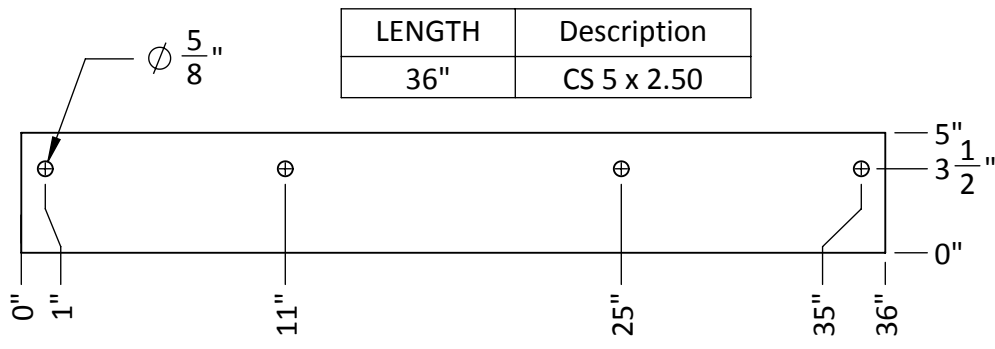
8 7 6 5 4 3 2 1



PILE GUIDE GUARD
P/N 395-61
SCALE: 1:16

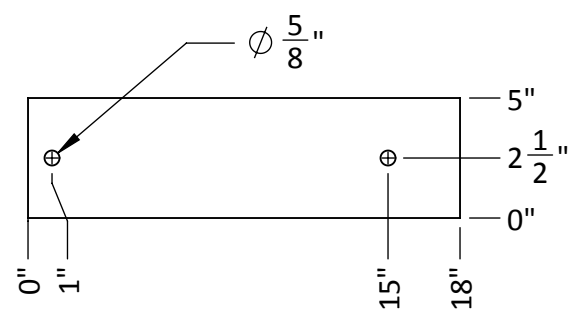


PILE GUARD MOUNTING PLATE
P/N 395-164
SCALE: 1:4



PILE GUARD MOUNTING CHANNEL
P/N 395-63
SCALE: 1:8

LENGTH	Description
18"	CS 5 x 2.50



PILE GUARD CHANNEL
P/N 395-62
SCALE: 1:8

DIMENSIONS ASME Y14.5M
X/X = ± 1/8"
.X = ± 0.1"
.XX = ± 0.01"
.XXX = ± 0.001"
ANGLES = 3°

DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018
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CLIENT
CITY OF CAMPBELL RIVER

PROJECT
BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS

CR Engineering Inc.

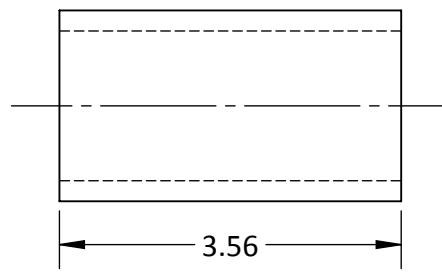
TITLE:
PILE GUIDE DETAILS

PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-400	21 OF 26	B

8 7 6 5 4 3 2 1

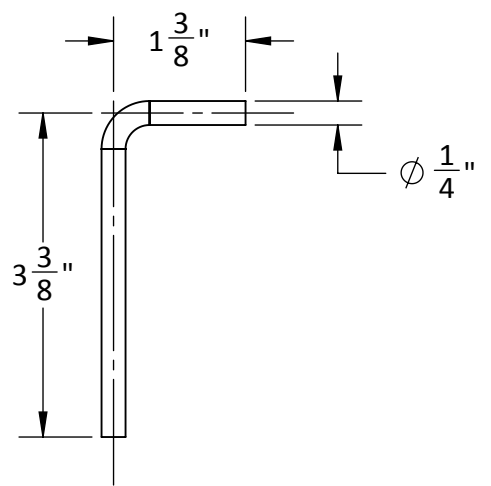
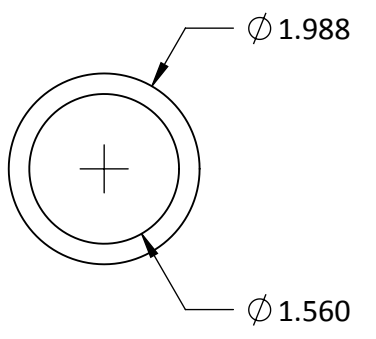
8 7 6 5 4 3 2 1

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A

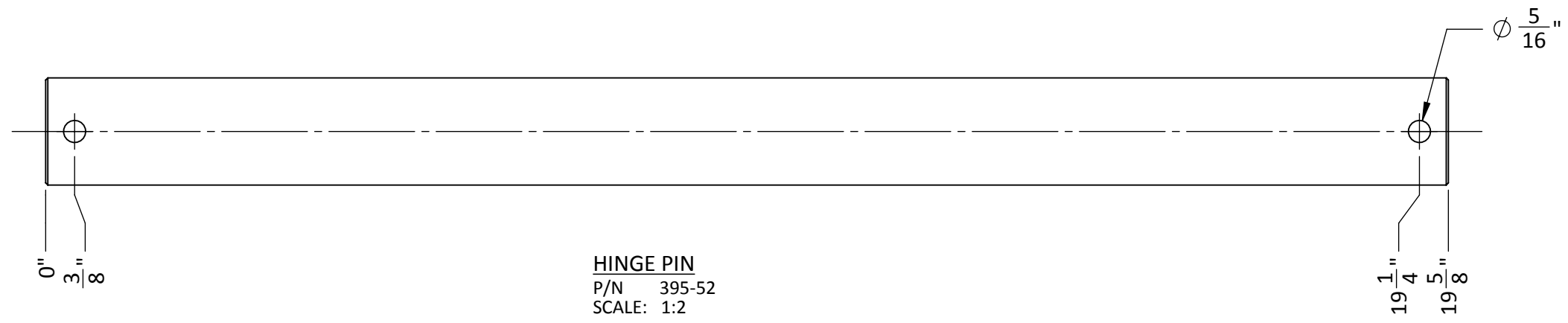


HINGE BUSHING
P/N 395-57
SCALE: 1:2

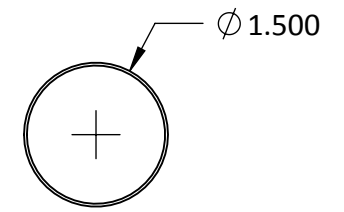
MD FILLED NYLON 2" ϕ x 1-1/2" ϕ ROUGH STOCK



KEEPER PIN
P/N 281-95
SCALE: 1:2



HINGE PIN
P/N 395-52
SCALE: 1:2



DIMENSIONS ASME Y14.5M
X/X = $\pm 1/8$ "
.X = ± 0.1 "
.XX = ± 0.01 "
.XXX = ± 0.001 "
ANGLES = 3°

DIMENSIONS - INCH DRAWN BY J KING DATE 27/02/2018

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CLIENT
CITY OF CAMPBELL RIVER

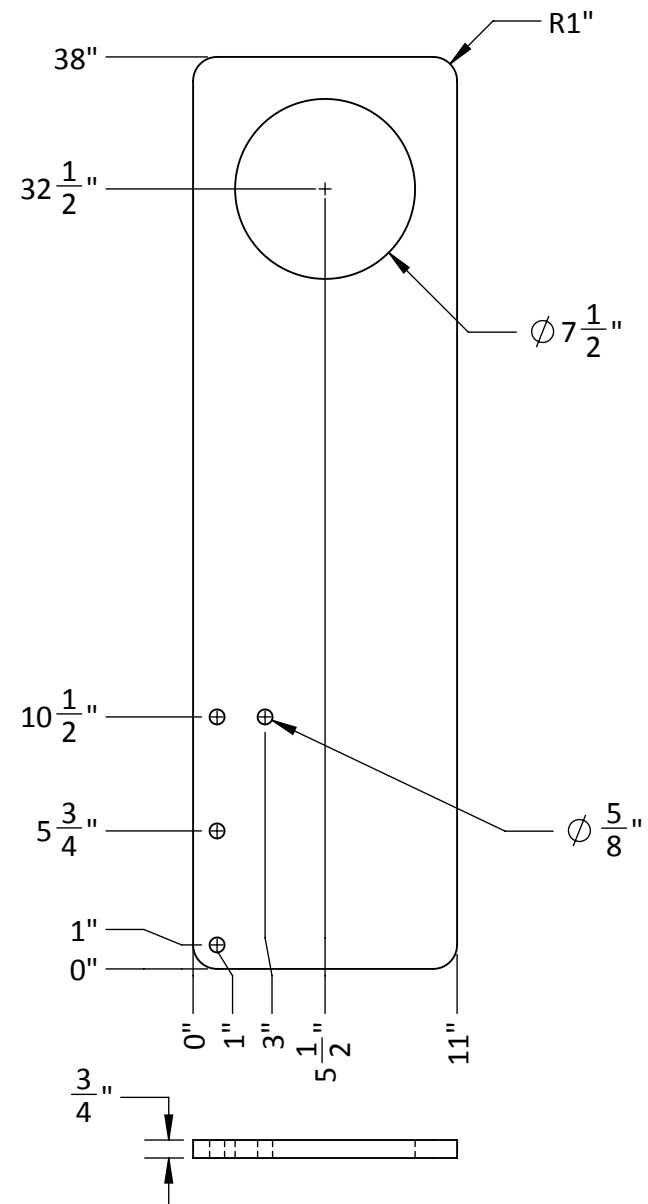
PROJECT
**BIG ROCK BOAT RAMP
GALVANIZED STEEL DOCKS**

CR Engineering Inc.

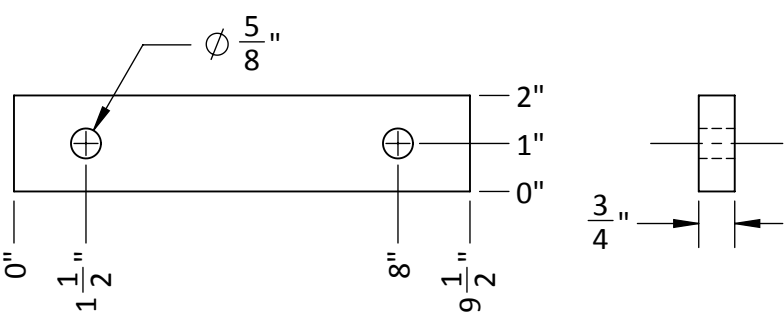
TITLE:
HINGE DETAILS

PROJECT NUMBER	DRAWING NUMBER	SHEET	REV
395	395-400	22 OF 26	B

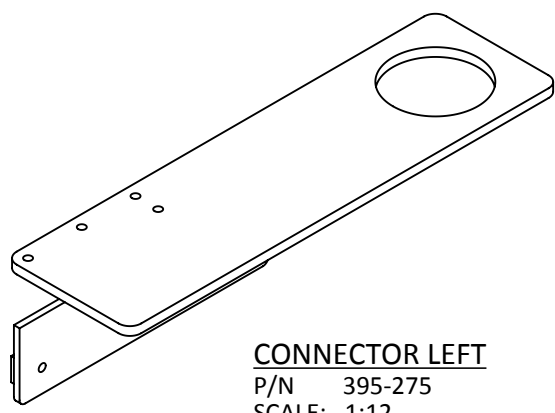
8 7 6 5 4 3 2 1



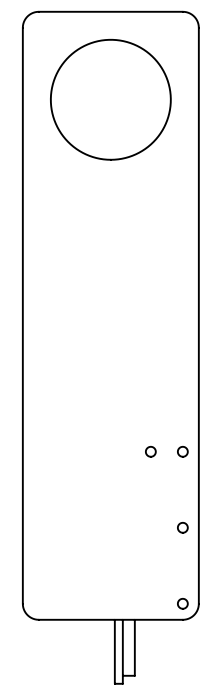
TRANSITION CONNECTOR SPACER BLOCK
P/N 395-272
SCALE: 1:4



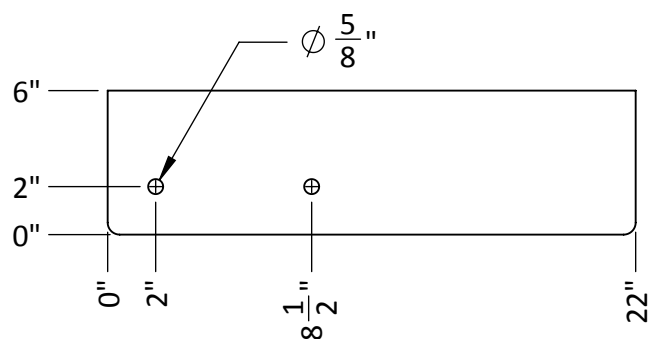
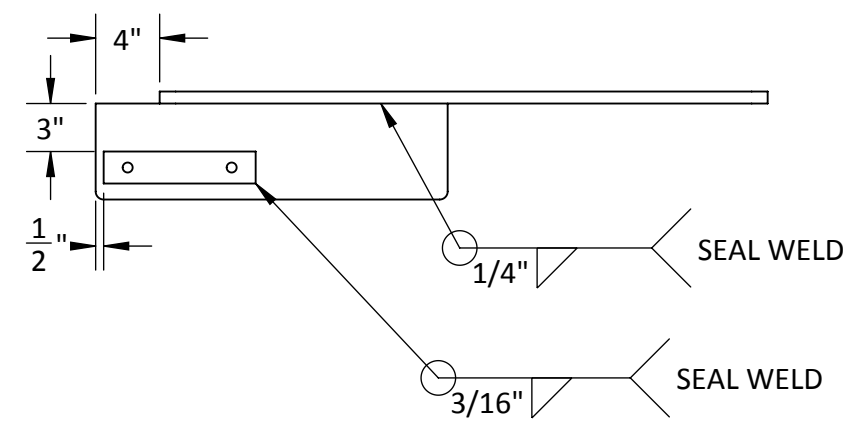
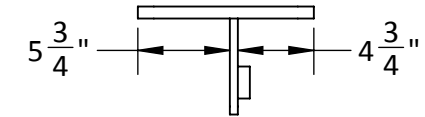
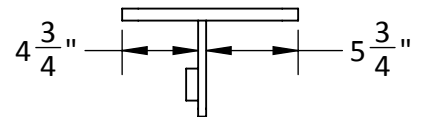
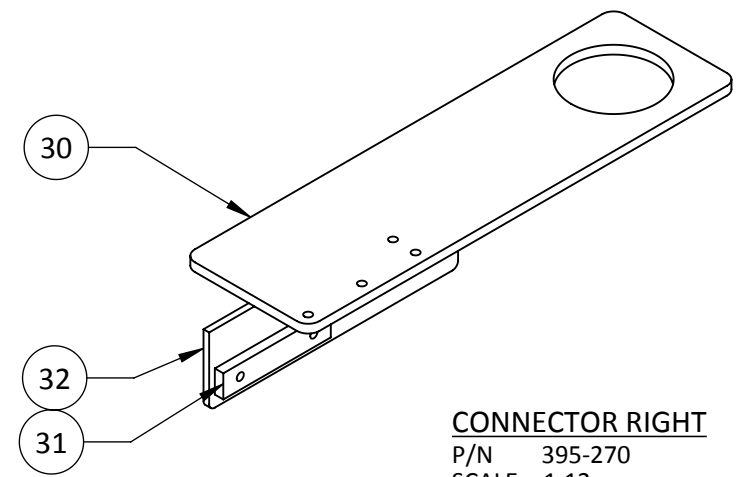
TRANSITION CONNECTOR SPACER BLOCK
P/N 395-272
SCALE: 1:4



CONNECTOR LEFT
P/N 395-275
SCALE: 1:12



CONNECTOR RIGHT
P/N 395-270
SCALE: 1:12



TRANSITION CONNECTOR STIFFENER
P/N 395-271
SCALE: 1:8

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		DRAWN BY J KING		DATE 27/02/2018	
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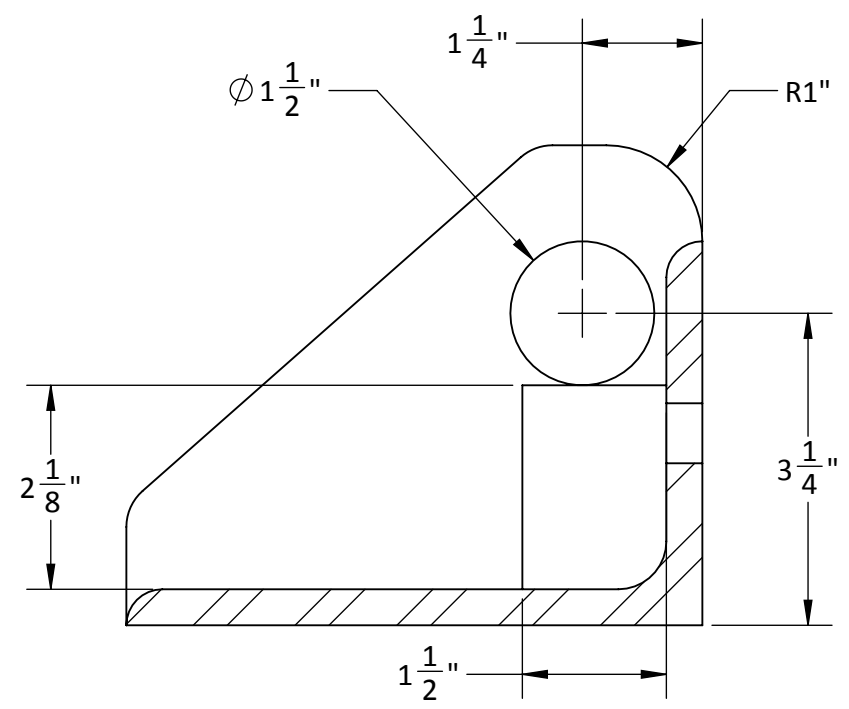
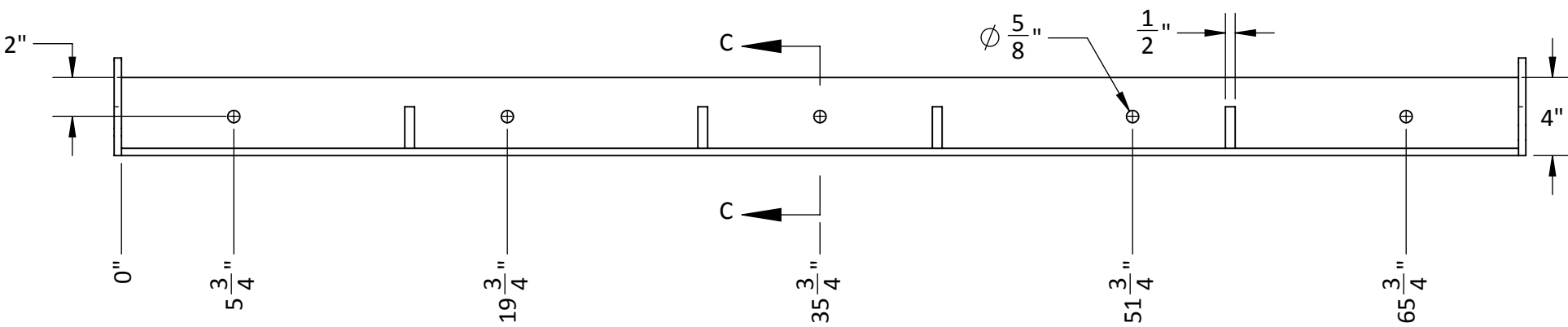
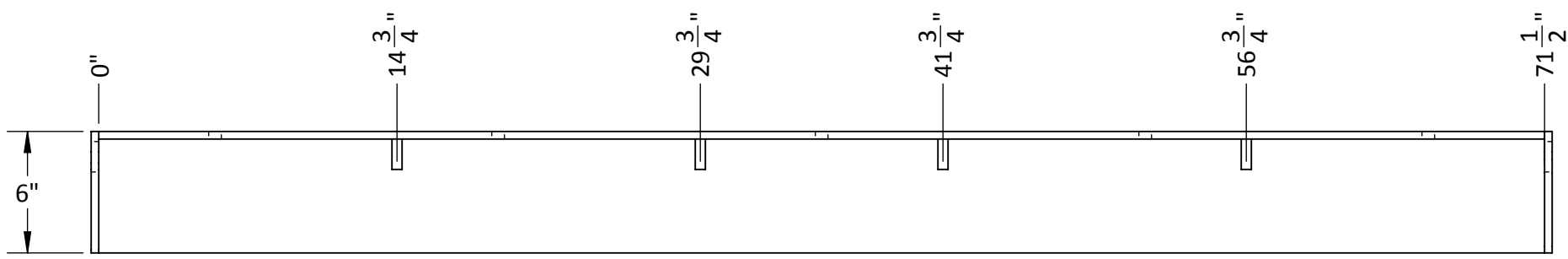
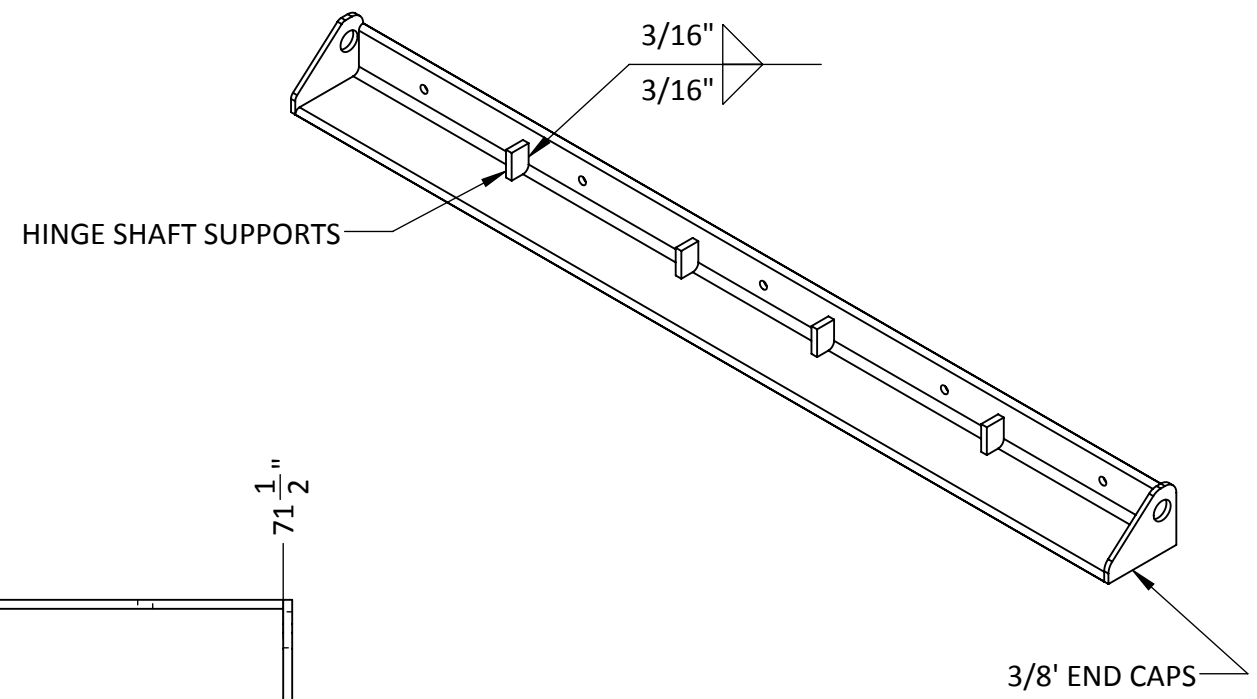
CLIENT CITY OF CAMPBELL RIVER
PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS

CR Engineering Inc.			
TITLE: TRANSITION CONNECTOR MAKE LEFT AND RIGHT HANDED			
PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 23 OF 26	REV B

8 7 6 5 4 3 2 1

D
C
B
A

LENGTH	Description
71 1/2"	L6x4x0.375



TRANSITION PLATE SUPPORT ANGLE
P/N 395-281
SCALE: 1:8

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°		
DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018
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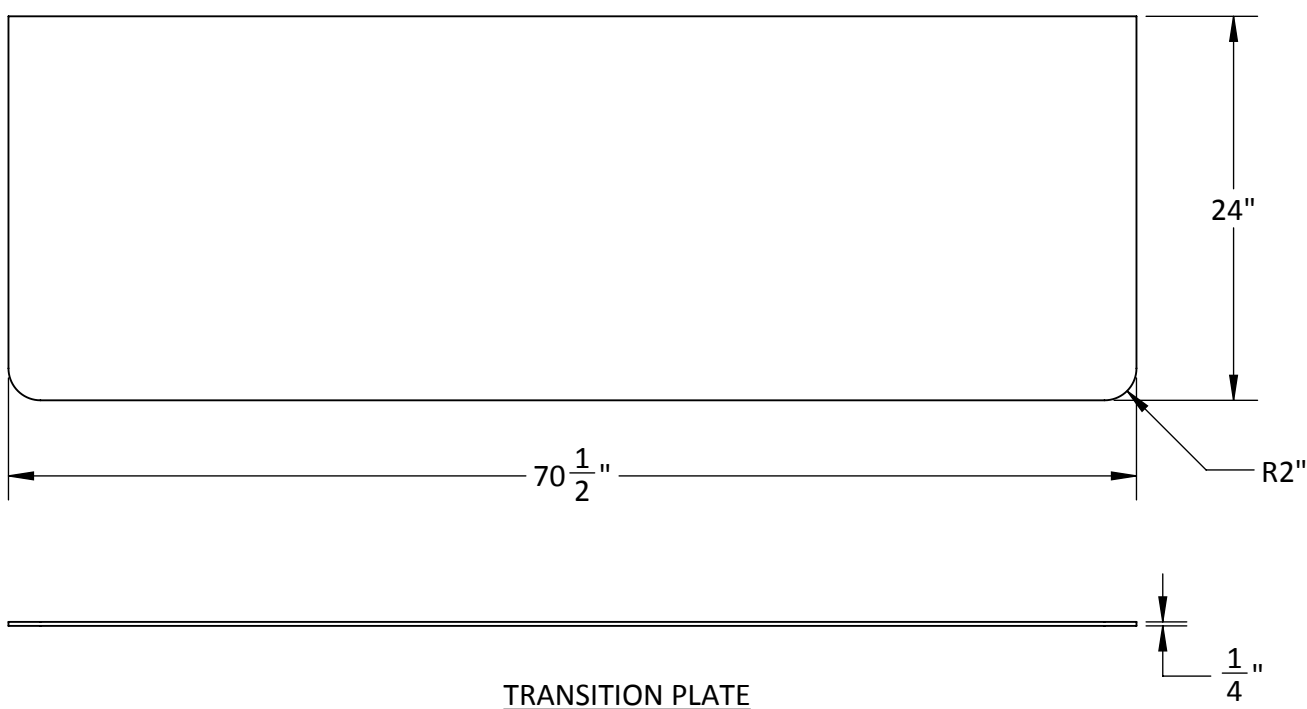
CLIENT CITY OF CAMPBELL RIVER
PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS

CR Engineering Inc.			
TITLE: TRANSITION SHAFT SUPPORT			
PROJECT NUMBER 395	DRAWING NUMBER 395-400	SHEET 24 OF 26	REV B

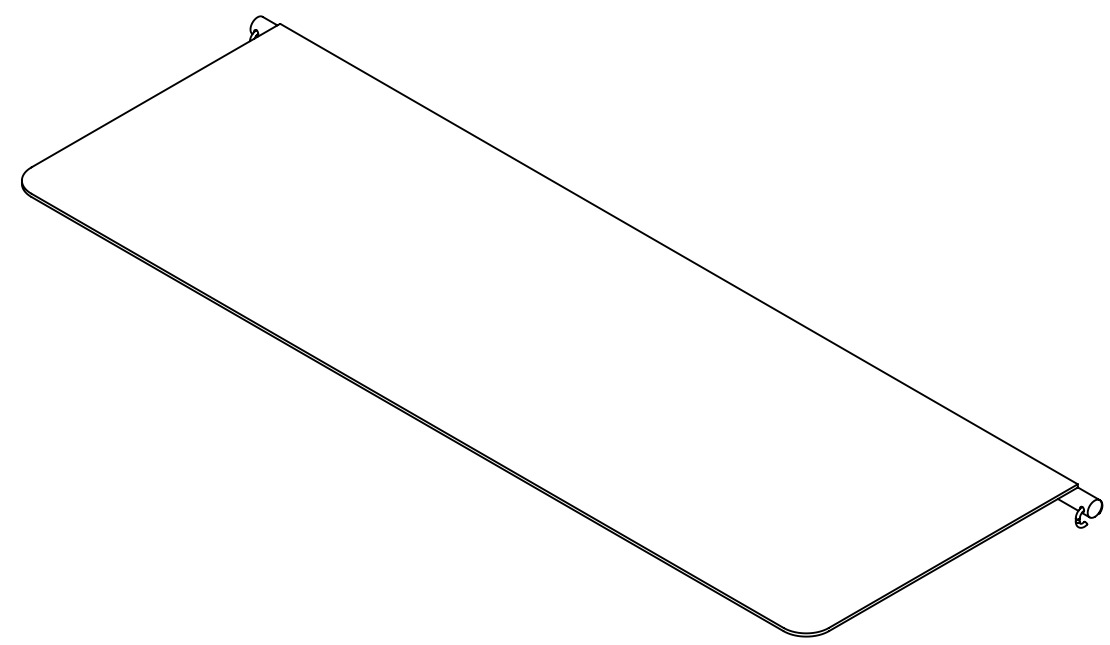
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8 7 6 5 4 3 2 1

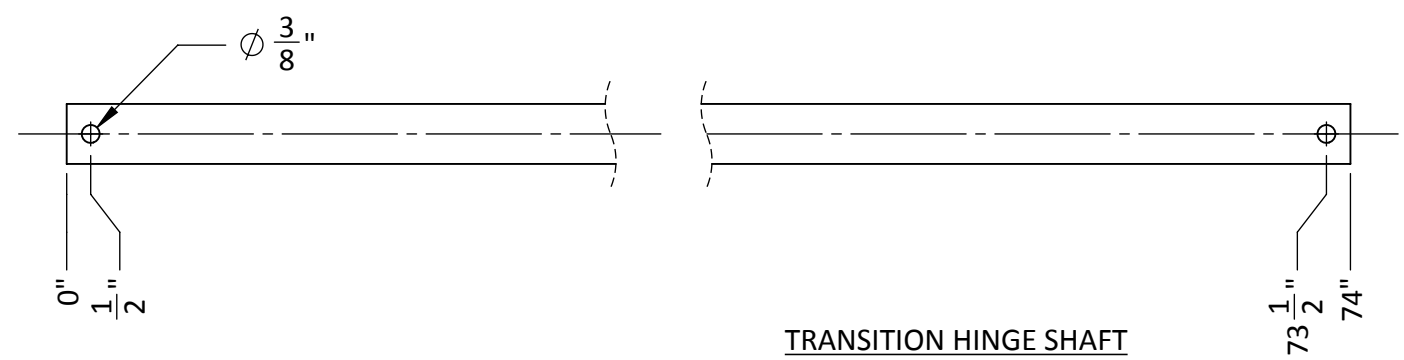
D
C
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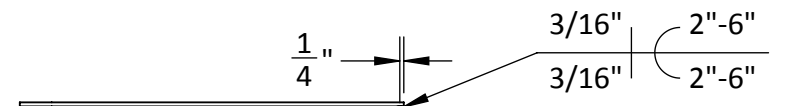
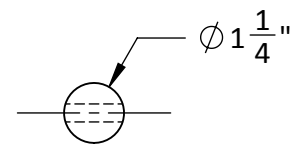
TRANSITION PLATE
P/N 395-153
SCALE: 1:12
MATERIAL - 44W



TRANSITION RAMP
P/N 395-155
SCALE: 1:12



TRANSITION HINGE SHAFT
P/N 395-152
SCALE: 1:4
MATERIAL - 44W

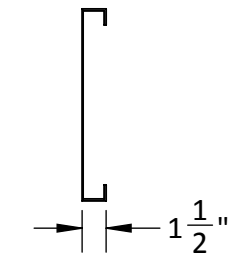
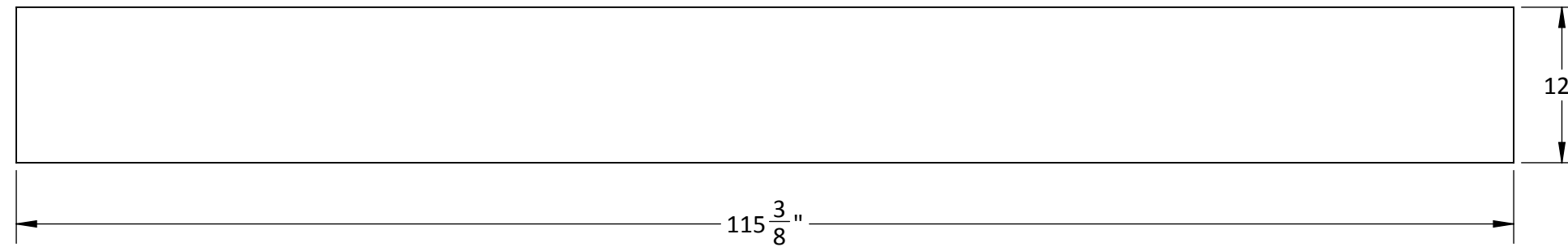


ϕ 1/4" x 4" KEEPER PIN,
TYPE 304 STAINLESS
BEND DURING INSTALLATION

DIMENSIONS ASME Y14.5M X/X = $\pm 1/8$ " .X = ± 0.1 " .XX = ± 0.01 " .XXX = ± 0.001 " ANGLES = 3°	CLIENT		CITY OF CAMPBELL RIVER		CR Engineering Inc.	
	PROJECT		BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: TRANSITION RAMP ASSEMBLY	
	DIMENSIONS - INCH	DRAWN BY J KING	DATE 27/02/2018	PROJECT NUMBER 395		DRAWING NUMBER 395-400
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8 7 6 5 4 3 2 1

ROUND HOLE GRATING
 12" x 1-1/2" x 13 GA
 RAW STEEL



GRATING - ROUND HOLE 12" x 1-1/2", 13 GA
 P/N 395-42
 SCALE: 1:12

DIMENSIONS ASME Y14.5M X/X = ± 1/8" .X = ± 0.1" .XX = ± 0.01" .XXX = ± 0.001" ANGLES = 3°	DRAWN BY J KING DATE 27/02/2018		CLIENT CITY OF CAMPBELL RIVER		CR Engineering Inc.			
	DIMENSIONS - INCH		PROJECT BIG ROCK BOAT RAMP GALVANIZED STEEL DOCKS		TITLE: GRATING			
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8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

D
C
B
A

D
C
B
A