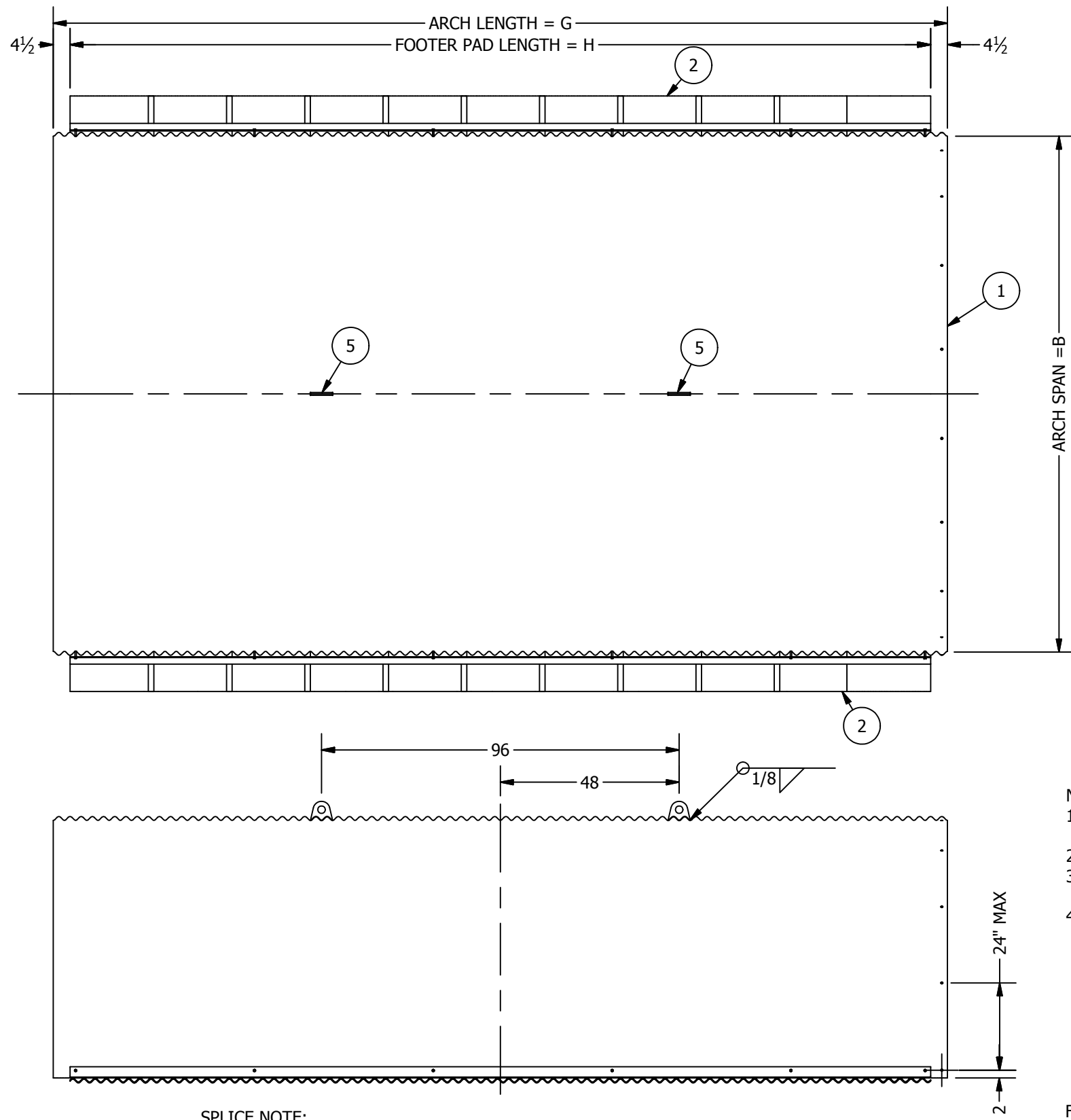


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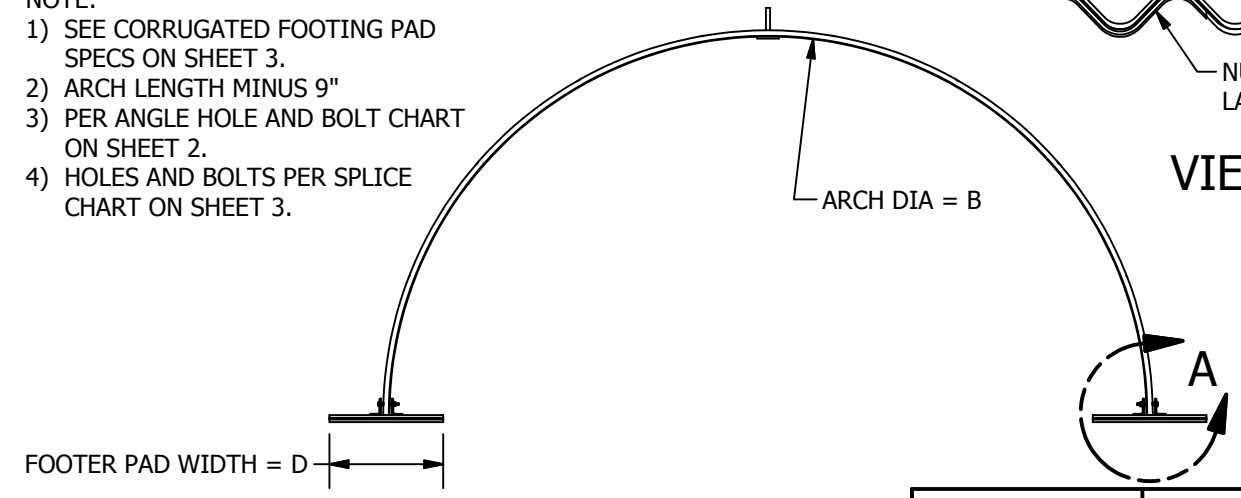
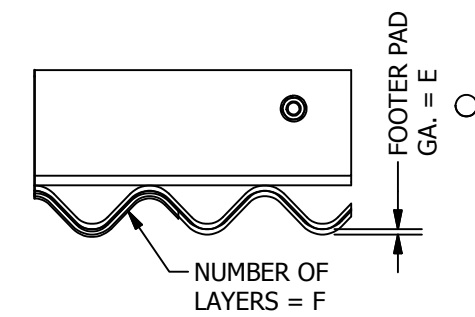
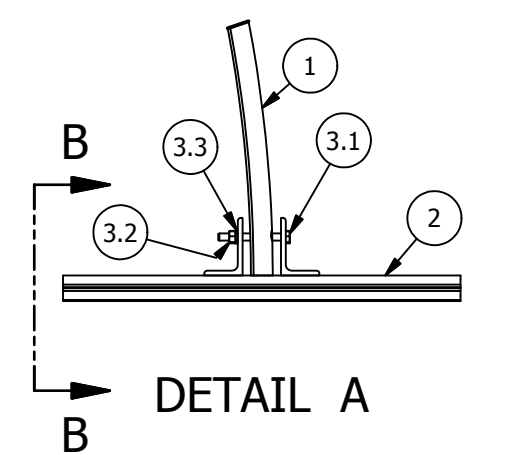


SPLICE NOTE:
 1. DRILL 9/16" HOLES FOR SPLICE. 2" FROM BOTTOM ON EACH SIDE AND EVENLY SPACE HOLES AROUND ARCH. SEE HOLES AND BOLTS PER SPLICE CHART ON SHEET 3.

BILL OF MATERIAL					
SL ITEM#	SHOP MARK	ITEM QTY	DESCRIPTION	REMARKS	WEIGHT/LBS.
ANNULAR PIPE	1	1	Annular 3X1 - Half		.00
CMP FAB	2	2	EcoArch Footer Pad		.00
	3		TO ATTACH FOOTER PAD TO ARCH		
BOLT.375X3.5-ED-USMM	3.1	VARIES	Bolt Hex 3/8"-16 X 3 1/2",A307,F1941 ClFeZn8	SHIP LOOSE	.13
NUT.375-ED-USMM	3.2	VARIES	Nut, 3/8"-16 A563DH/F1941 ClFeZn8	SHIP LOOSE	.02
WSH-LOCK.375-ED-USMM	3.3	VARIES	Washer,Lock 3/8" F436 TYPE 1/F1941		.01
	4		FOR SECTION SPLICE		
BOLT.375X1.5-ED-USMM	4.1	VARIES	Bolt Hex 3/8"-16 X 1 1/2",A307,F1941 ClFeZn8	SHIP LOOSE	.13
NUT.375-ED-USMM	4.2	VARIES	Nut, 3/8"-16 A563DH/F1941 ClFeZn8	SHIP LOOSE	.02
WSH-LOCK.375-ED-USMM	4.3	VARIES	Washer,Lock 3/8" F436 TYPE 1/F1941	SHIP LOOSE	.01
CC100220	5	2	Weldment, Pad Eye, 10K	LIFT HOOK	9.52

TABLE			
MARK	ITEM	DESCRIPTION	NOTES
A	MATERIAL		
B	ARCH SPAN (DIA)		
C	ARCH GAUGE		
D	FOOTER PAD WIDTH		1)
E	FOOTER PAD GAUGE		1)
F	FOOTER PAD LAYERS		1)
G	ARCH LENGTH		
H	FOOTER PAD LENGTH		2)
I	FOOTER PAD BOLTS		3)
J	SPLICE BOLTS		4)

NOTE:
 1) SEE CORRUGATED FOOTING PAD SPECS ON SHEET 3.
 2) ARCH LENGTH MINUS 9"
 3) PER ANGLE HOLE AND BOLT CHART ON SHEET 2.
 4) HOLES AND BOLTS PER SPLICE CHART ON SHEET 3.



ECN #	REV	DATE	DESCRIPTION	BY
E2015-0396	D	11/23/2015	CHANGE FASTENERS TO NEW NAMING FORMAT	DMA
E2015-0396	C	10/28/2015	CHANGE BOLT LENGTH IN BOM/CHANGE BOLT COUNT FOR SPLICE	JLK
E2015-0396	B	10/27/2015	ADD HOLE AND BOLT CHARTS	JLK
E2015-0396	A	10/27/2015	FOR INTERNAL REVIEW ONLY	JLK
REVISIONS				

DRAWING IS NOT TO SCALE
 ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
 ALL WELDS MUST BE REPAIRED AFTER FABRICATION (PER ASTM 760)
 PIPE LENGTHS HAVE A TOLERANCE OF ± 2"
 PIPE DIAMETERS HAVE A TOLERANCE OF THE GREATER OF ± 1/2" OR 1%
 ALL ANGLES HAVE A TOLERANCE OF ± 3°

TOLERANCES
 ± 1/4"
 UNLESS OTHERWISE NOTED

CUSTOMER APPROVAL SIGNATURE
 DATE

THIS DESIGN IS PROPERTY OF TRUENORTH STEEL. DUPLICATION WITHOUT WRITTEN PERMISSIONS IS STRICTLY PROHIBITED.

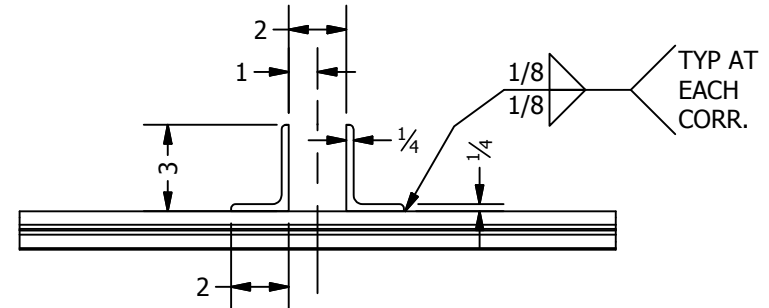
TrueNorthSteel

DESCRIPTION: EcoArch Universal Drawing

DRAWN BY: JLK PART#: CMP FAB
 DATE: 10/27/2015 WEIGHT: 0.000 lbmass
 CHECKED: DMA MATERIAL: SEE BOM
 CHK DATE: 10/27/2015 JOB# QTY: SHEET NO: 1 OF 3

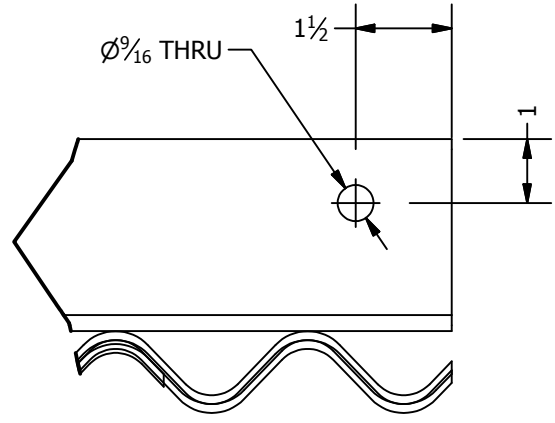
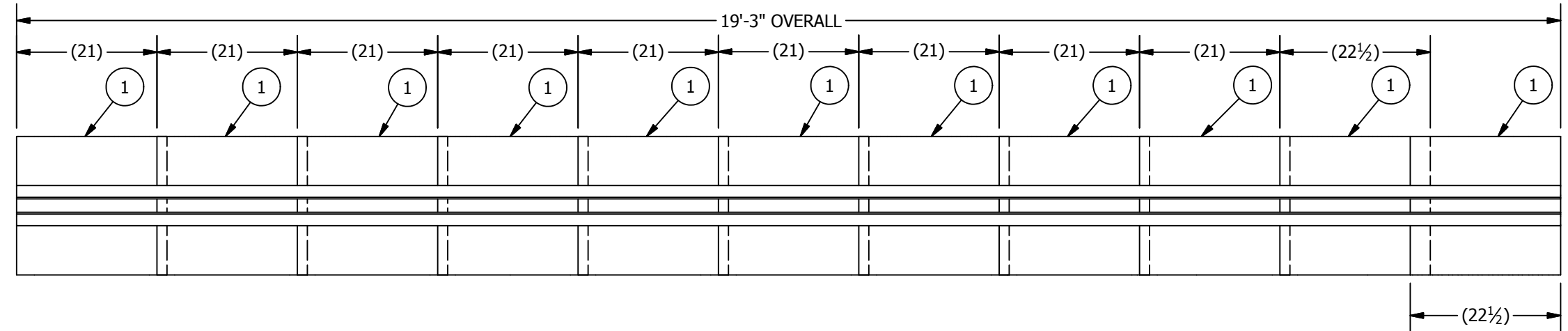
QC	LAYOUT	DIM. INSP.:	WELDER:	WELD INSP.:	COATING:	COAT. INSP.:	COMP. DATE:	HEAT #:
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BILL OF MATERIAL					
SL ITEM#	SHOP MARK	ITEM QTY	DESCRIPTION	REMARKS	WEIGHT/LBS.
	1	23			127.05
L3x2x1/4-Galv	3	2	Angle,L3x2x1/4-A36,Galv	231 in	.00

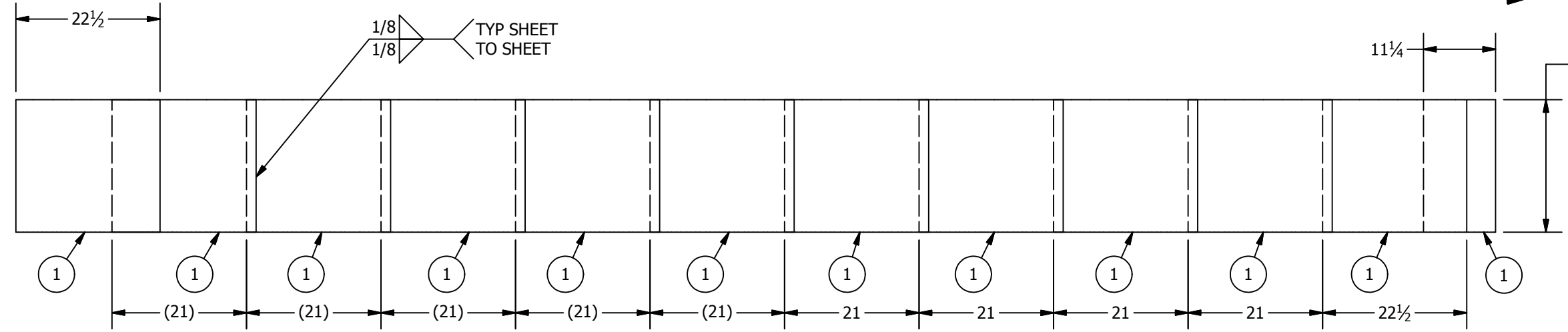
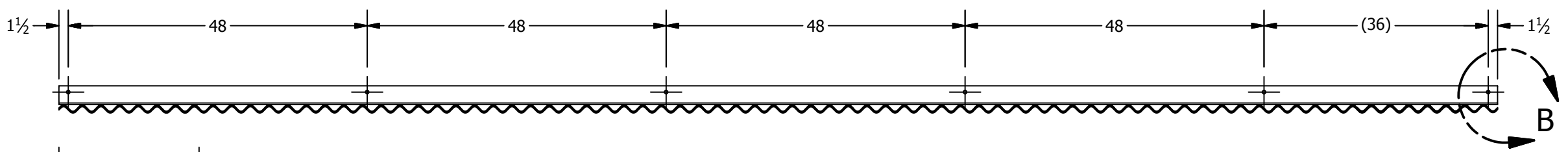


ANGLE HOLE AND BOLT CHART		
SECTION LENGTH	HOLES PER ANGLE	BOLTS PER SECTION
10'	4	8
15'	5	10
20'	6	12

VIEW A-A



DETAIL B



BOTTOM LAYER
WHEN DOUBLE LAYER IS REQUIRED

- NOTE:
- 1) OFFSET SHEETS IN TOP LAYER FROM SHEETS IN BOTTOM LAYER.
 - 2) SEE SHEET 3 FOR WIDTH AND GAUGE FOR FOOTER SHEETS.
 - 3) ON ANGLES PROVIDE ONE HOLE 1 1/2" FROM EACH END AND 4' ON CENTER BETWEEN

ECN #	REV	DATE	DESCRIPTION	BY
E2015-0396	D	11/23/2015	CHANGE FASTENERS TO NEW NAMING FORMAT	DMA
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E2015-0396	B	10/27/2015	ADD HOLE AND BOLT CHARTS	JLK
E2015-0396	A	10/27/2015	FOR INTERNAL REVIEW ONLY	JLK

DRAWING IS NOT TO SCALE ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED ALL WELDS MUST REPAIRED AFTER FABRICATION (PER ASTM 760) PIPE LENGTHS HAVE A TOLERANCE OF ± 2" PIPE DIAMETERS HAVE A TOLERANCE OF THE GREATER OF ± 1/2" or 1% ALL ANGLES HAVE A TOLERANCE OF ± 3°	TOLERANCES ± 1/4" UNLESS OTHERWISE NOTED	CUSTOMER APPROVAL SIGNATURE DATE
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THIS DESIGN IS PROPERTY OF TRUENORTH STEEL. DUPLICATION WITHOUT WRITTEN PERMISSIONS IS PROHIBITED.

TrueNorthSteel

DESCRIPTION: EcoArch Footer Pad

DRAWN BY: JLK PART#: CMP FAB
DATE: 10/27/2015 WEIGHT: 0.000 lbmass
CHECKED: DMA MATERIAL: SEE BOM
CHK DATE: 10/27/2015 JOB# QTY: SHEET NO: 2 OF 3

QC	LAYOUT	DIM. INSP.:	WELDER:	WELD INSP.:	COATING:	COAT. INSP.:	COMP. DATE:	HEAT #:

CORRUGATED FOOTING PAD SPECS (3X1 CORRUGATIONS)

HEIGHT OF COVER	10FT						15FT						20FT					
	4000 PSF		6000 PSF		8000 PSF		4000 PSF		6000 PSF		8000 PSF		4000 PSF		6000 PSF		8000 PSF	
BEARING PRESSURE																		
SPAN (IN)	WIDTH	GAUGE	WIDTH	GAUGE	WIDTH	GAUGE	WIDTH	GAUGE	WIDTH	GAUGE	WIDTH	GAUGE	WIDTH	GAUGE	WIDTH	GAUGE	WIDTH	GAUGE
60	9.0	16	6.0	16	4.5	16	13.5	12	9.0	16	6.8	16	18.0	12*	12.0	10	9.0	14
66	9.9	16	6.6	16	5.0	16	14.9	10	9.9	14	7.4	16	19.8	12*	13.2	10	9.9	12
72	10.8	16	7.2	16	5.4	16	16.2	8	10.8	12	8.1	16	21.6	10*	14.4	8	10.8	10
78	11.7	14	7.8	16	5.9	16	17.6	8	11.7	12	8.8	14	23.4	8*	15.6	12*	11.7	8
84	12.6	12	8.4	16	6.3	16	18.9	12*	12.6	10	9.5	12	25.2	-	16.8	10*	12.6	8
90	13.5	12	9.0	16	6.8	16	20.3	10*	13.5	8	10.1	12	27.0	-	18.0	10*	13.5	12*
96	14.4	10	9.6	14	7.2	16	21.6	10*	14.4	8	10.8	10	28.8	-	19.2	8*	14.4	12*
102	15.3	10	10.2	14	7.7	16	23.0	8*	15.3	12*	11.5	10	30.6	-	20.4	-	15.3	10*
108	16.2	8	10.8	12	8.1	16	24.3	8*	16.2	12*	12.2	8	32.4	-	21.6	-	16.2	8*
114	17.1	8	11.4	12	8.6	14	25.7	-	17.1	10*	12.8	12*	34.2	-	22.8	-	17.1	8*
120	18.0	12*	12.0	10	9.0	14	27.0	-	18.0	10*	13.5	12*	36.0	-	24.0	-	18.0	-
126	18.9	12*	12.6	10	9.5	12	28.4	-	18.9	8*	14.2	12*	37.8	-	25.2	-	18.9	-
132	19.8	12*	13.2	10	9.9	12	29.7	-	19.8	8*	14.9	10*	39.6	-	26.4	-	19.8	-
138	20.7	10*	13.8	8	10.4	12	31.1	-	20.7	-	15.5	10*	41.4	-	27.6	-	20.7	-
144	21.6	10*	14.4	8	10.8	10	32.4	-	21.6	-	16.2	8*	43.2	-	28.8	-	21.6	-


*TWO LAYERS OF 3X1 REQUIRED

HOLES AND BOLTS PER SPLICE	
ARCH SPAN	HOLES/BOLTS
60	4
66	5
72	5
78	6
84	6
90	6
96	7
102	7
108	8
114	8
120	8
126	9
132	9
138	10
144	10

ECN #	REV	DATE	DESCRIPTION	BY
E2015-0396	D	11/23/2015	CHANGE FASTENERS TO NEW NAMING FORMAT	DMA
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 ALL ANGLES HAVE A TOLERANCE OF ± 3°

TOLERANCES	CUSTOMER APPROVAL SIGNATURE
± 1/4" UNLESS OTHERWISE NOTED	
DATE	

THIS DESIGN IS PROPERTY OF TRUENORTH STEEL DUPLICATION WITHOUT WRITTEN PERMISSIONS IS STRICTLY PROHIBITED	
DESCRIPTION: Corrugated Footing Pad Chart	
DRAWN BY: JLK	PART#:
DATE: 10/27/2015	WEIGHT: 0.000 lbmass
CHECKED: DMA	MATERIAL: N/A
CHK DATE: 10/27/2015	JOB#
QTY:	SHEET NO: 3 OF 3