

RECEIVED

ON: **May 16, 2014**

and Checked for

CONFORMANCE

BY: Jennifer Fitch DATE: 05/22/2014

MILLER CONSTRUCTION, INC.

P.O. BOX 86 ASCUTNEY BLVD WINDSOR, VERMONT 05089-0086

TELEPHONE (802) 674-5525 / FAX (802) 674-5245

TRANSMITTAL

TO: Jennifer Fitch, PE Project Manager Vermont Agency of Transportation	DATE	PROJECT NO.
	5/6/2014	Brookfield BRF FLBR (2)

XX WE ENCLOSE THE FOLLOWING:

UNDER SEPARATE COVER WE ARE SENDING THE FOLLOWING

COPIES	NUMBER	DESCRIPTION	CODE
1		Cross Frame Bracket and Field Splice Cover Shop Drawings	H
1		Cross Frame Bracket WPS	H
<div style="border: 2px solid red; padding: 5px; color: red; font-weight: bold;"> PLEASE SEPARATE THE 'CROSS FRAME BRACKET' AND 'STEEL COVER PLATE' ITEMS WHEN RESUBMITTING. THESE ARE PAID UNDER SEPARATE PAY ITEMS. </div>			

CODE:

A FOR INITIAL APPROVAL

B FOR FINAL APPROVAL

C APPROVED AS NOTED-RESUBMISSION REQUIRED

D APPROVED AS NOTED-RESUBMISSION NOT REQUIRED

E DISAPPROVED-RESUBMIT

F QUOTATION REQUESTED

G APPROVED

H FOR APPROVAL

I AS REQUESTED OR REQUIRED

J FOR USE IN ERECTION

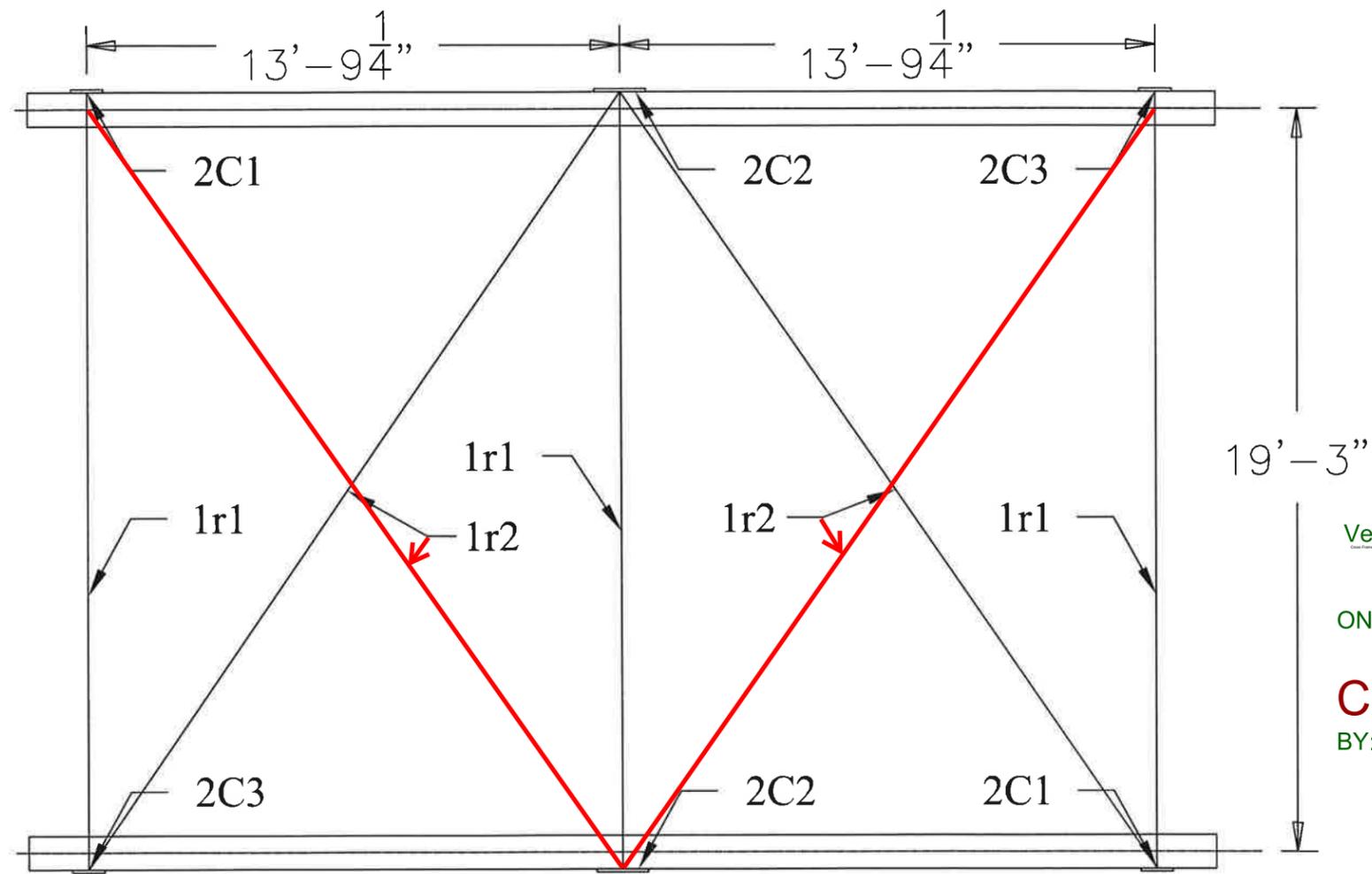
K LETTER FOLLOWS

L FOR FIELD CHECK

M FOR YOUR USE

BY: _____





BILL OF MATERIALS				
QTY	MARK	SHAPE	LENGTH	REMARKS
1	1E1	EAST FRAMING PLAN		
2	2C1	Cross Frame Bracket 1		
2	2C2	Cross Frame Bracket 2		
2	2C3	Cross Frame Bracket 3		
3	1r1	1" Dia Threaded Rod x 20'-9 1/2" lg with 4 Nuts & 2 Hardened Steel Washers		
4	1r2	1" Dia Threaded Rod x 25'-6" lg with 4 Nuts & 2 Hardened Steel Washers		
1	1W1	WEST FRAMING PLAN		
2	2C1	Cross Frame Bracket 1		
2	2C2	Cross Frame Bracket 2		
2	2C3	Cross Frame Bracket 3		
3	1r1	1" Dia Threaded Rod x 20'-9 1/2" lg with 4 Nuts & 2 Hardened Steel Washers		
4	1r2	1" Dia Threaded Rod x 25'-6" lg with 4 Nuts & 2 Hardened Steel Washers		
8	1P1	STEEL COVER PLATE		
8	1p1	Plate 1" x 2'-4 1/2"	5'-11"	

PROVIDE MATERIAL GRADES/SPECS

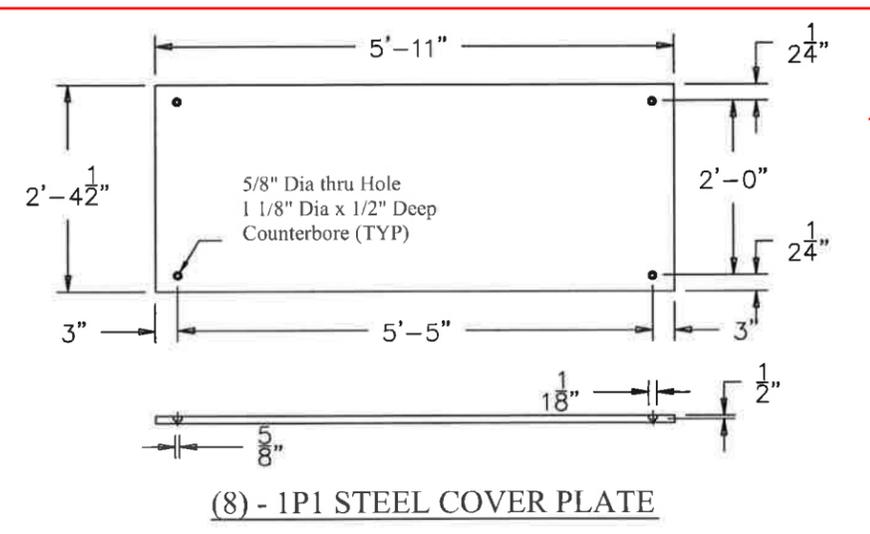
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(1) - 1E1 EAST RAMP FRAMING
 (1) - 1W1 WEST RAMP FRAMING

PLACE IN SEPARATE SUBMITTAL FROM CROSS FRAME BRACKETS

RAMP FRAMING MATERIAL NOTES

1. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M 270 GRADE 36.
2. ALL STRUCTURAL STEEL AND FASTENERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AND M 232.



(8) - 1P1 STEEL COVER PLATE

T.Y. LIN INTERNATIONAL
 THE STAMPED DOCUMENTS ARE HEREBY:
 _____ APPROVED
 _____ APPROVED AS NOTED
 _____ X REVISE AND RESUBMIT

SEE TRANSMITTAL FOR ADDITIONAL INFORMATION AS APPLICABLE.

THIS REVIEW IS FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. ANY DEVIATION FROM THE PLANS OR SPECIFICATIONS NOT CLEARLY NOTED BY THE CONTRACTOR HAS NOT BEEN REVIEWED. REVIEW BY THE ENGINEER SHALL NOT RELIEVE THE CONTRACTOR OF THE CONTRACTUAL RESPONSIBILITY FOR ANY ERRORS OR DEVIATION FROM THE CONTRACT REQUIREMENTS.

 JOSH OLUND REVIEWER
 05/21/2014 DATE

DRAWING COVERS
TIMBER BRIDGE SUPPORT DETAILS

PROJECT	BROOKFIELD BRIF FLBR(2)
LOCATION	VT ROUTE 65 OVER WESTERN AND EASTERN RAMP
ENGINEER	T Y LIN INTERNATIONAL
CUSTOMER	MILLER CONSTRUCTION

MERRIMACK SHEET METAL

119 HALL STREET
 CONCORD NH 03301

Tel. 603.224.7766
 Fax 603.224.7925

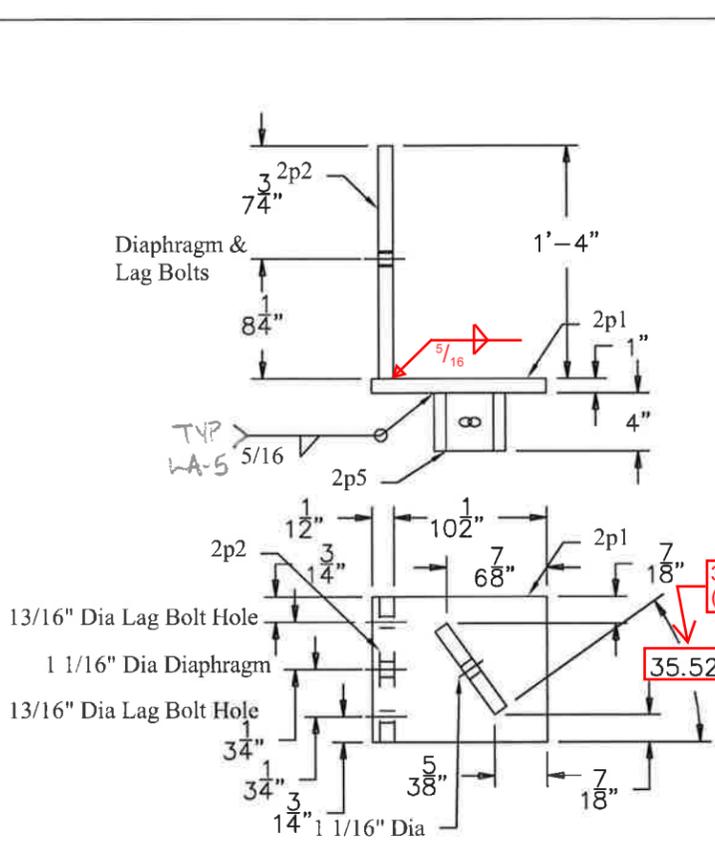
DRAWN BY: RL
 CHECKED BY: JD
 JOB NO.: #5414
 DWG: F1

REV NO.	DATE	DESCRIPTION
0	5-5-2014	SUBMITTED FOR APPROVAL

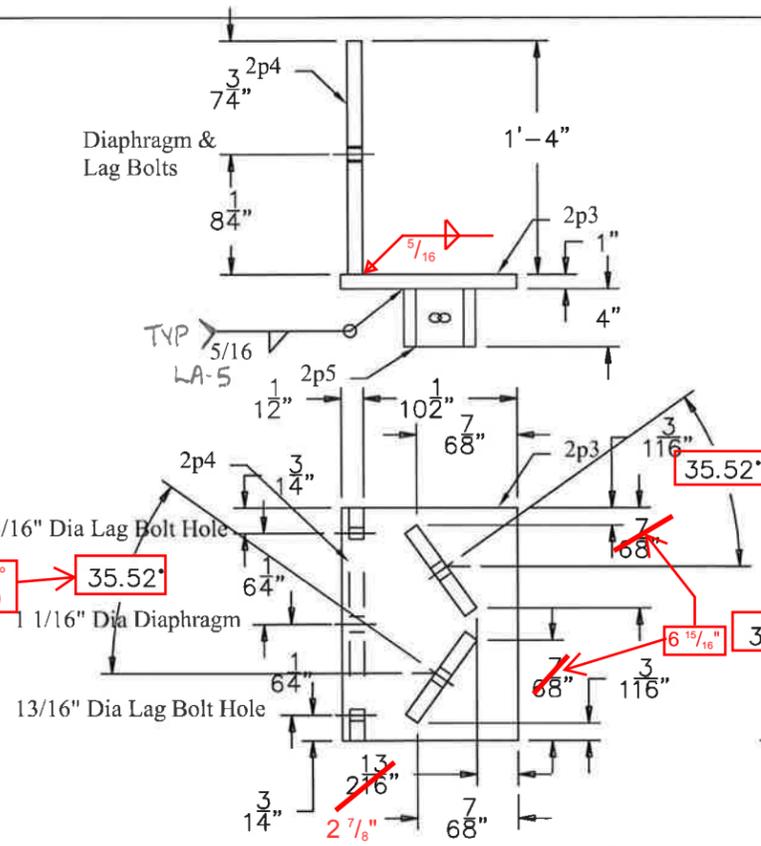
HOLES AS NOTED
 MATERIAL: AASHTO M 270 GRADE 36 GALV

BILL OF MATERIALS

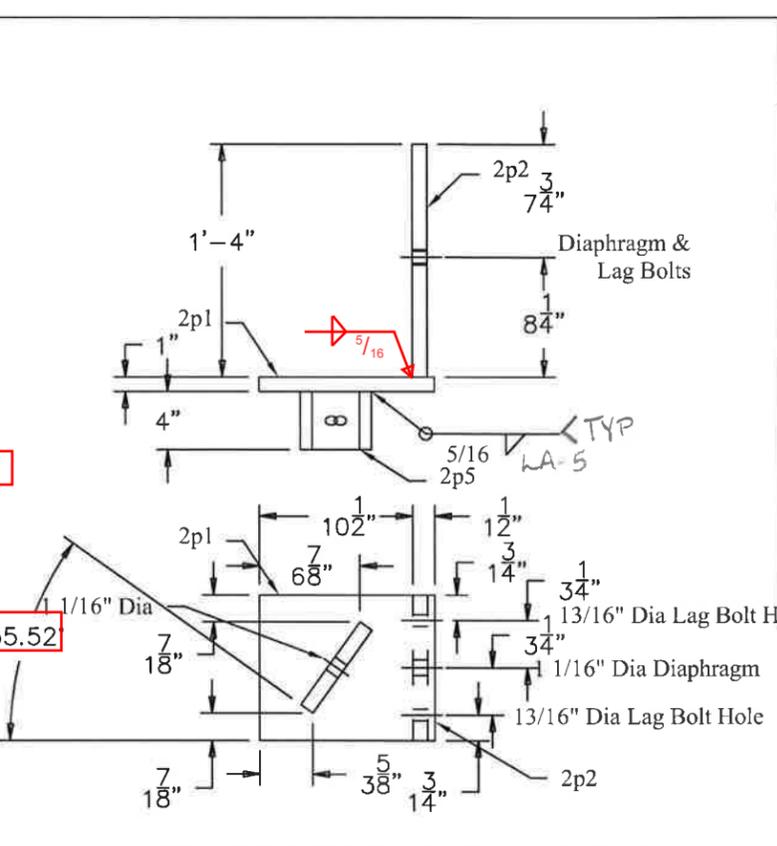
QTY	MARK	SHAPE	LENGTH	REMARKS
4	2C1	CROSS FRAME BRACKET 1		
4	2p1	Plate 1" x 10"	1'-0"	
4	2p2	Plate 1" x 10"	1'-4"	
4	2p5	Plate 1" x 4"	0'-7"	
4	2C2	CROSS FRAME BRACKET 2		
4	2p3	Plate 1" x 12"	1'-4"	
4	2p4	Plate 1" x 16"	1'-4"	
8	2p5	Plate 1" x 4"	0'-7"	
4	2C3	CROSS FRAME BRACKET 3		
4	2p1	Plate 1" x 10"	1'-0"	
4	2p2	Plate 1" x 10"	1'-4"	
4	2p5	Plate 1" x 4"	0'-7"	



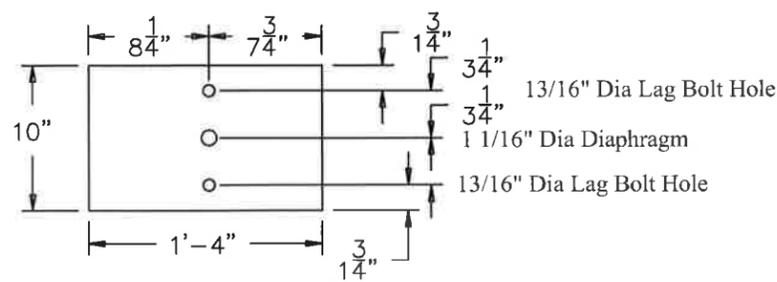
(4) - 2C1 CROSS FRAME BACKET



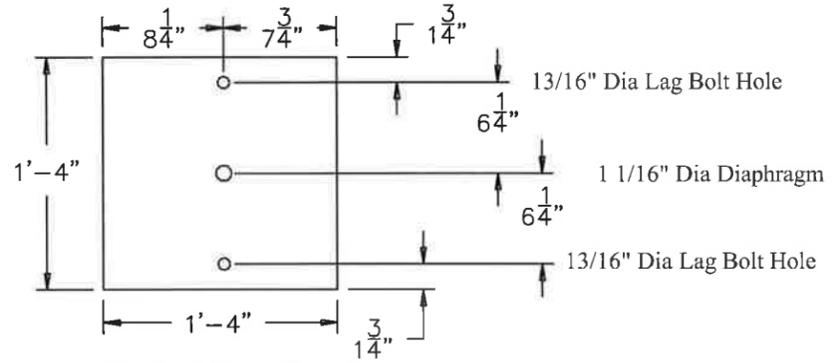
(4) - 2C2 CROSS FRAME BACKET



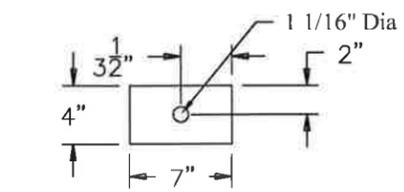
(4) - 2C3 CROSS FRAME BACKET



(8) - 2p2 Plate Details



(4) - 2p4 Plate Details



(16) - 2p5 Plate Details

T.Y. LIN INTERNATIONAL

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TIMBER BRIDGE CROSS FRAME BRACKETS	
PROJECT	BROOKFIELD BRIF FLBR(2)
LOCATION	VT ROUTE 65 OVER WESTERN AND EASTERN RAMP
ENGINEER	T Y LIN INTERNATIONAL
CUSTOMER	MILLER CONSTRUCTION

REV NO.	DATE	DESCRIPTION
0	5-5-2014	SUBMITTED FOR APPROVAL
HOLES AS NOTED		
MATERIAL: AASHTO M 270 GRADE 36 GALV		

MERRIMACK SHEET METAL

119 HALL STREET
CONCORD NH 03301

Tel. 603.224.7766
Fax 603.224.7925

DRAWN BY:	RL
CHECKED BY:	JD
JOB NO:	#5414
DWG	F2

WELDING PROCEDURE SPECIFICATION (WPS)
PREQUALIFIED QUALIFIED BY TESTING
or PROCEDURE QUALIFICATION RECORDS (PQR) Yes
AASHTO/AWS D1.5 Qualification Type 5.12.1 - 5.12.2 - 5.13

Contractor/
 Organization MERRIMACK SHEET METAL
 Welding Process(es) GMAW
 Type: Manual Semiautomatic
 Machine Automatic
 Tandem Parallel

Identification LA-5
 Revision 0 Date 6/1/2010 By KK
 Authorized by KK Date 6/1/2010
 Supporting PQR No.(s) PQLA1

JOINT DESIGN USED

Single Double Weld
 Backing: Yes No Material _____
 Root Opening NA Root Face Dimension NA
 Groove Angle NA Radius (J-U) _____
 Backgouging: Yes No Method _____
 Root Treatment CLEAN TO BRIGHT METAL

POSITION

Position of Groove NA Fillet 1F or 2F
 Vertical Progression: Up Down

ELECTRICAL CHARACTERISTICS

Transfer Mode (GMAW): Globular Spray
 Current: AC DCEP DCEN Pulsed
 Electrical Stick Out 3/4
 Other _____

BASE METALS

Material Spec. A36 ; A588 ; A709 ;
 Type or Grade G50
 Thickness: Groove NA Fillet UNLIMITED
 Diameter (Pipe) NA

TECHNIQUE

Stringer or Weave Bead BOTH
 Multi-pass or Single Pass (per side) BOTH
 Number of Electrodes 1
 Electrode Spacing: Longitudinal NA
 Lateral NA Angle NA
 Interpass Cleaning CLEAN WITH WIRE BRUSH

FILLER METALS

AWS Specification A5.28
 AWS Classification ER80S-Ni1
 Manufacturer Trade Name LINCOLN SUPERARC LA-75

PREHEAT

Preheat Temp., Min. 70 F
 Interpass Temp., Min. 70 F
 Interpass Temp., Max. 400 F

SHIELDING

Flux NA Mfg. Trade Name NA
 Electrode-Flux (Class) NA
 Gas Composition 90% ARGON / 10% CO2
 Flow Rate 45 CFH Gas Cup Size 3/4

POSTWELD HEAT TREATMENT

Temp. NA Hold Time NA
 Heating/Cooling Rate NA

HEAT INPUT

Calculated Heat Input Value: kJ/in kJ/mm
 Max. Heat Input 42.7 Min. Heat Input 22.5

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals Diam.	Current		Volts	Travel Speed	Joint Details
			Type & Polarity	Amps or Wire Feed Speed			
ROOT 3/16	GMAW	.045	DCEP	220-260	26-29	15-18 IPM	LA-5-1F
ROOT 1/4	GMAW	.045	DCEP	220-260	26-29	14-17 IPM	
ROOT 5/16	GMAW	.045	DCEP	220-270	26-29	13-16 IPM	
ROOT 3/8	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	
2ND 3/8	GMAW	.045	DCEP	220-270	26-29	11-14 IPM	
3RD 3/8	GMAW	.045	DCEP	220-270	26-29	11-14 IPM	
ROOT 7/16	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	
2ND 7/16	GMAW	.045	DCEP	220-270	26-29	12-14 IPM	
3RD 7/16	GMAW	.045	DCEP	220-270	26-29	12-15 IPM	

Form L-2