

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.
	7/28/2014	Brookfield BRF FLBR (2)

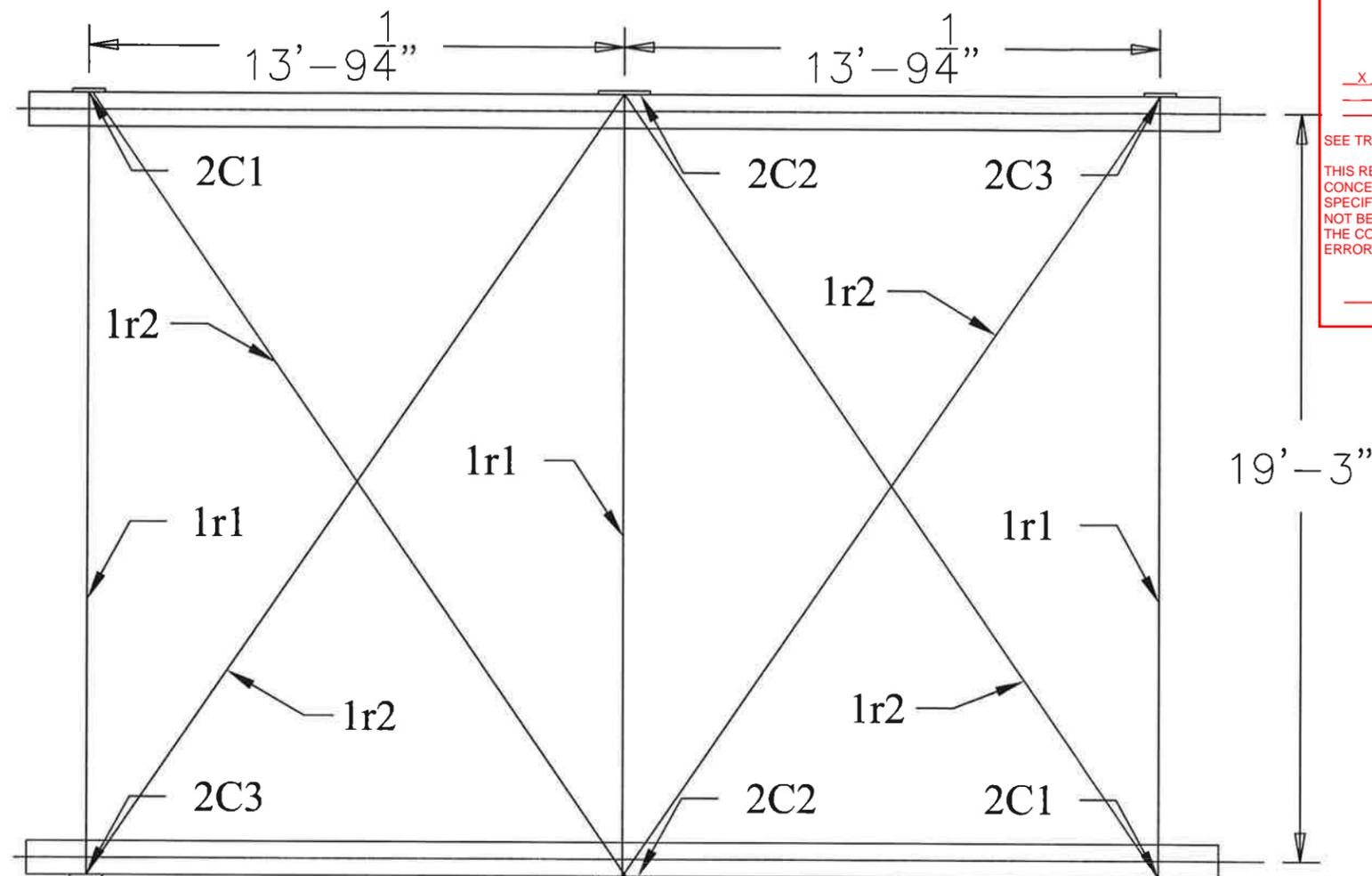
XX WE ENCLOSE THE FOLLOWING: _____ UNDER SEPARATE COVER WE ARE SENDING THE FOLLOWING

COPIES	NUMBER	DESCRIPTION	CODE
1		Cross Frame Bracket Shop Drawings - Rev 4	H
1		Cross Frame Bracket WPS - Rev 2	H
1		Cross Frame Bracket WPS Supplement - Rev 0	H

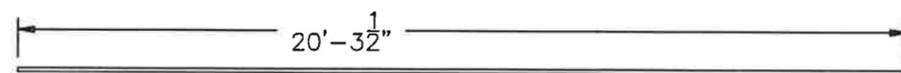
CODE:

- | | |
|---|----------------------------|
| A FOR INITIAL APPROVAL | H FOR APPROVAL |
| B FOR FINAL APPROVAL | I AS REQUESTED OR REQUIRED |
| C APPROVED AS NOTED-RESUBMISSION REQUIRED | J FOR USE IN ERECTION |
| D APPROVED AS NOTED-RESUBMISSION NOT REQUIRED | K LETTER FOLLOWS |
| E DISAPPROVED-RESUBMIT | L FOR FIELD CHECK |
| F QUOTATION REQUESTED | M FOR YOUR USE |
| G APPROVED | |

BY: Paul J. Allmy



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



(6) - 1r1 CROSS ROD DETAIL



(8) - 1r2 CROSS ROD DETAIL

NOTE - 6" THRD
 EACH END

T.Y. LIN INTERNATIONAL
 THE STAMPED DOCUMENTS ARE HEREBY:
 -X- APPROVED
 _____ APPROVED AS NOTED
 _____ REVISE AND RESUBMIT
 SEE TRANSMITTAL FOR ADDITIONAL INFORMATION AS APPLICABLE.
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 _____ JOSH OLUND 08/08/2014
 REVIEWER DATE

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 Rebar Tie Rod x 20'-9 1/2" lg with 4 Nuts & 2 Hardended Steel Washers		
4	1r2	1" Dia Rebar Tie Rod x 25'-6" lg with 4 Nuts & 2 Hardended 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 Rebar Tie Rod x 20'-9 1/2" lg with 4 Nuts & 2 Hardended Steel Washers		
4	1r2	1" Dia Rebar Tie Rod x 25'-6" lg with 4 Nuts & 2 Hardended Steel Washers		

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.
3. ALL REBAR TIE RODS SHALL CONFORM TO ASTM A615 GRADE 75.
4. ALL NUTS SHALL CONFORM TO ASTM A563.

Vermont Agency of Transportation

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 ON: July 28, 2014
 and Checked for
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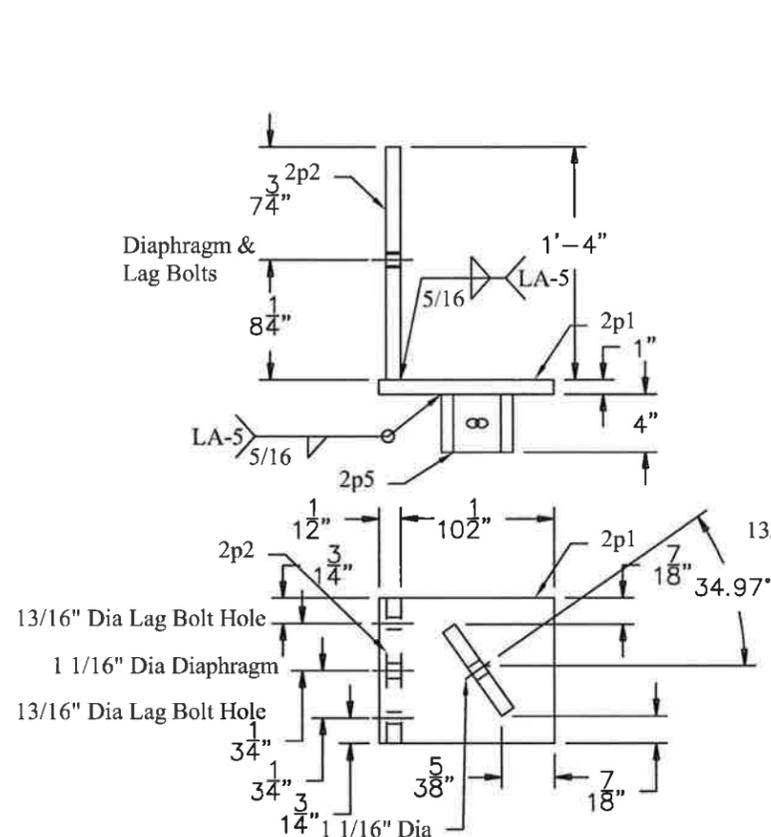
REV NO.	DATE	DESCRIPTION
3	6-24-2014	REVISED PER APPROVAL COMMENTS
2	6-17-2014	REVISED PER APPROVAL COMMENTS
1	5-30-2014	REVISED PER APPROVAL COMMENTS
0	5-5-2014	SUBMITTED FOR APPROVAL

HOLES AS NOTED
 MATERIAL: AASHTO M 270 GRADE 36 GALV

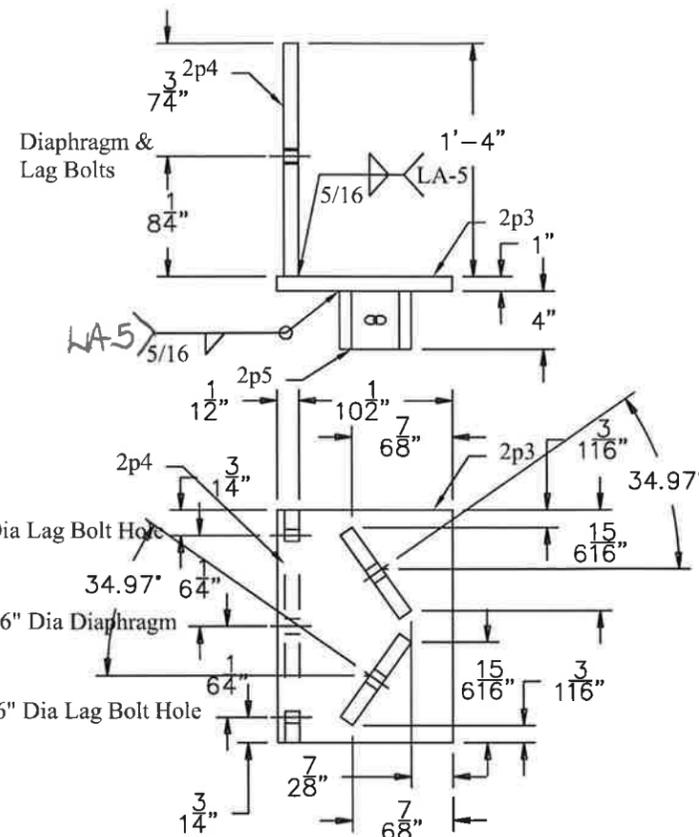
DRAWING COVERS	
TIMBER BRIDGE SUPPORT DETAILS	
PROJECT	BROOKFIELD BRG FLBR(2)
LOCATION	VT ROUTE 65 OVER WESTERN AND EASTERN RAMP
ENGINEER	T Y LIN INTERNATIONAL
CUSTOMER	MILLER CONSTRUCTION
MERRIMACK SHEET METAL	
119 HALL STREET CONCORD NH 03301	
Tel. 603.224.7766 Fax 603.224.7925	
DRAWN BY:	RL
CHECKED BY:	JD
JOB NO:	#5414
DWG:	F1

BILL OF MATERIALS

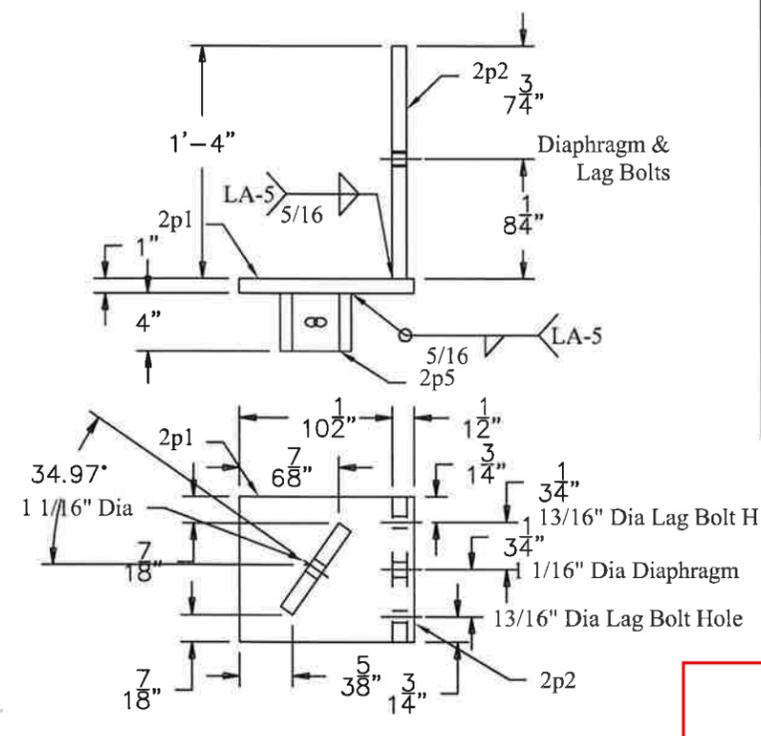
QTY	MARK	SHAPE	LENGTH	REMARKS
4	2C1	CROSS FRAME BRACKET 1		
4	2p1	Plate 1" x 10"	1'-0"	
4	2p2	Plate 1" x 10"	1'-4"	
4	2p5	Plate 1" x 4"	0'-7"	
4	2C2	CROSS FRAME BRACKET 2		
4	2p3	Plate 1" x 12"	1'-4"	
4	2p4	Plate 1" x 16"	1'-4"	
8	2p5	Plate 1" x 4"	0'-7"	
4	2C3	CROSS FRAME BRACKET 3		
4	2p1	Plate 1"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



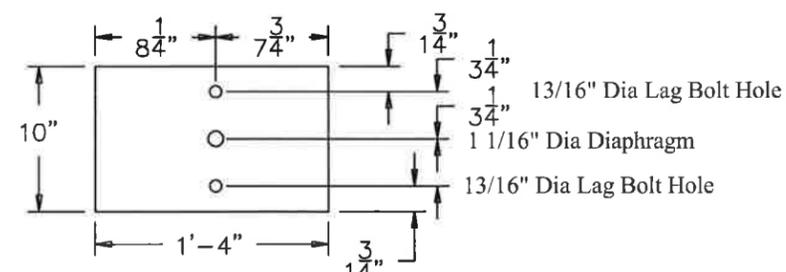
(4) - 2C1 CROSS FRAME BACKET



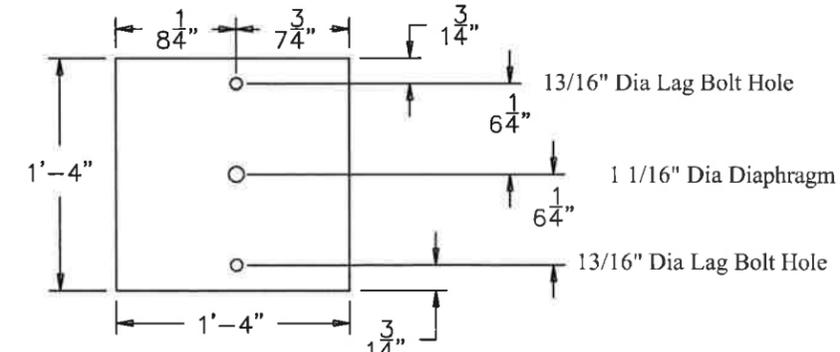
(4) - 2C2 CROSS FRAME BACKET



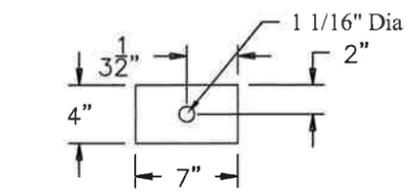
(4) - 2C3 CROSS FRAME BACKET



(8) - 2p2 Plate Details



(4) - 2p4 Plate Details



(16) - 2p5 Plate Details

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

MERRIMACK SHEET METAL		DRAWN BY: RL
119 HALL STREET CONCORD NH 03301		CHECKED BY: JD
Tel. 603.224.7766 Fax 603.224.7925		JOB NO: #5414
		DWG F2

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HOLES AS NOTED
 MATERIAL: AASHTO M 270 GRADE 36 GALV

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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

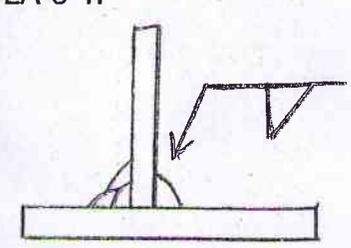
POSTWELD HEAT TREATMENT

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

MERRIMACK SHEET METAL, INC.

HEATING / AIR CONDITIONING
VENTILATION
DUST COLLECTION
SYSTEMS
INSTALLATION
SALES & SERVICE

119 HALL STREET
CONCORD, N.H. 03301
TELEPHONE (603) 224-7766
FAX (603) 224-7925

ALUMINUM / STAINLESS STEEL
DESIGN
FABRICATION
EXPANSION DAMS
RAILINGS
SCUPPERS & DRAINS

WELDING PROCEDURE SUPPLIMENT

PROJECT: BROOKFIELD VT #BRF FLBR (2)

WPS# LA5

DRAWING-F2

PARTS- 2C1/ 2C2/ 2C3

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SURFACE PREP- GRIND TO BARE METAL ALL AREAS TO BE WELDED
(PER INTERNAL AGREEMENT WITH JEFF CLARK,
VTAOT WELD INSECTION MANAGER)

WELD- WELD PER WPS LA-5 (PRE-APPROVED BY VTAOT)
(WRAP ALL WELDS AS SPECIFIED BY JEFF CLARK, VTAOT)

POST WELD- CLEAN ALL WELD OF SPATTER AND SLAG (STANDARD QC)

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