TOLERANCE TABLE	
DESCRIPTION	TOLERANCE (INCHES U.N.O.)
OVERALL HEIGHT	−0.000, +0.250
OVERALL PLAN DIMENSIONS	−0.000, +0.125
URETHANE DISC THICKNESS	−0.000, +0.063
URETHANE DISC PLAN DIMENSIONS ≤ 20"	−0.000, +0.125
URETHANE DISC PLAN DIMENSIONS > 20"	−0.000, +0.125
URETHANE DISC FLATNESS	0.002 X NOM. DIMENSION
STEEL PLATE THICKNESS	±0.063
STEEL PLATE PLAN DIMENSIONS ≤ 30"	±0.250
STEEL PLATE PLAN DIMENSIONS > 30"	±0.250
STEEL PLATE FLATNESS IN CONTACT WITH BEARING	0.001 X NOM. DIMENSION
STEEL PLATE FLATNESS: GROUT OR CONCRETE SIDE	0.005 X NOM. DIMENSION
STEEL PLATE FLATNESS: STEEL GIRDER SIDE	0.002 X NOM. DIMENSION
STEEL PLATE FLATNESS: STEEL PLATE SIDE	0.001 X NOM. DIMENSION
STEEL PLATE SURFACE FINISH IN CONTACT WITH BEARING	125 μ" RMS
BEVEL SLOPE	±0.002 RAD
ANCHOR HOLE OR SLOT SIZE	±1/8
ANCHOR HOLE OR SLOT LOCATION	±1/8
GUIDE BAR CONTACT SURFACE: DIMENSION	−0.000, +0.125
GUIDE BAR CONTACT SURFACE: FLATNESS	0.001 X NOM. DIMENSION
GUIDE BAR CONTACT SURFACE: SURFACE FINISH	32 μ" RMS
GUIDE BAR PARALLELISM	±0.005 RAD
DISTANCE BETWEEN GUIDE BARS	−0.000, +0.030
STAINLESS STEEL THICKNESS	−0.000, +0.063
STAINLESS STEEL PLAN DIMENSIONS	−0.000, +0.125
STAINLESS STEEL FLATNESS	0.001 X NOM. DIMENSION
STAINLESS STEEL SURFACE FINISH: SLIDING SURFACE	MIRROR #8
PTFE THICKNESS	−0.000, +0.063
PTFE PLAN DIMENSIONS	−0.000, +0.030
PTFE FLATNESS	0.001 X NOM. DIMENSION
SHEAR RESTRICTING ELEMENT DIMENSIONS	−0.000, +0.005
SHEAR RESTRICTING ELEMENT FLATNESS/OUT OF ROUND	0.001 X NOM. DIMENSION
SHEAR RESTRICTING ELEMENT SURFACE FINISH	32 μ" RMS
OTHER MACHINED PARTS THICKNESS	−0.000, +0.063
OTHER MACHINED PARTS PLAN DIMENSIONS	−0.000, +0.063
OTHER MACHINED PARTS FLATNESS	0.002 X NOM. DIMENSION
OTHER MACHINED PARTS SURFACE FINISH	63 μ" RMS
WELD STUD LOCATION	±1
NOTE: SURFACE FINISH & FLATNESS TOLERANCES ARE PRIOR TO COATING.	

PHYSICAL PROPERTY	ASTM TEST METHOD	REQUIREMENTS	
HARDNESS, TYPE 'D' DUROMETER	D 2240	55	65
MINIMUM TENSILE STRESS, KSI	D 412		
AT 100% ELONGATION		1.9	2.3
AT 200% ELONGATION		3.4	4.0
MINIMUM TENSILE STRENGTH, KSI	D 412	5.0	6.0
MINIMUM ULTIMATE ELONGATION, %	D 412	285	220
MAXIMUM COMPRESSION SET, 22 HR @ 158 °F, %	D 395	40	40

GENERAL NOTES:

1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH AASHTO LRFD DESIGN SPECIFICATIONS, 7TH EDITION WITH INTERIMS THROUGH 2016, THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, ITS LATEST REVISION, AND AS AMENDED BY THE SPECIAL PROVISIONS AND THE CONTRACT PLANS.

2. WELDING SHALL CONFORM TO AWS-D1.5 BRIDGE WELDING CODE, AS WELL AS VERMONT SPECIFICATION 506.10.

3. PTFE (TEFLON) FOR THE HORIZONTAL SLIDING SURFACES SHALL BE VIRGIN, UNFILLED POLYTETRAFLUOROETHYLENE. GUIDE BAR PTFE SHALL BE 25% CARBON FILLED, PIGMENTED.

4. THE PTFE IS TO BE PURCHASED ETCHED ON ONE SIDE FOR BONDING INTO MACHINED RECESS. STEEL SURFACES MATING PTFE MATERIAL SHALL BE GRIT BLASTED AND DEGREASED PRIOR TO APPLICATION OF ADHESIVE. ADHESIVE SHALL BE APPLIED TO PTFE USING DIRECTIONS SUPPLIED BY THE ADHESIVE MANUFACTURER. CORNERS OF PTFE TO BE ROUNDED TO ACCOMMODATE THE FILLET OF THE MACHINED RECESS.

5. THE POLYETHER URETHANE DISC SHALL MEET THE PHYSICAL PROPERTIES IN TABLE 18.3.2.8-1 OF AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS (3RD EDITION, 2010) SUMMARIZED IN THE TABLE ON THIS SHEET. THE HARDNESS SHALL BE 62 ±3 DUROMETER, SHORE 'D'. INTERMEDIATE VALUES SHALL BE DETERMINED BY INTERPOLATION. EACH DISC SHALL BE MOLDED AS A SINGLE (MONOLITHIC) PIECE. THE TOP AND BOTTOM OF THE DISC SHALL BE ROUGHENED.

6. ALL SHARP CORNERS OF STEEL MATERIALS SHALL BE REMOVED BY GRINDING OR SANDING.

7. HOLE MUST BE DRILLED OR PUNCHED.

8. DS BROWN MAY SUBSTITUTE A709 GR. 50W FOR A709 GR. 50 DUE TO AVAILABILITY AT NO ADDITIONAL COST TO THE OWNER OR CONTRACTOR.

9. IN ACCORDANCE WITH AISC STEEL BRIDGE COMPONENT CERTIFICATION REQUIREMENTS, CALCULATIONS AND DRAWINGS HAVE BEEN REVIEWED BY MARK J. CASE P.E.

10. HLMR "DISC" STYLE BEARING MANUFACTURING FACILITY AND REPRESENTATIVE FOR COORDINATING PRODUCTION:
THE D.S. BROWN COMPANY
300 EAST CHERRY STREET
NORTH BALTIMORE, OHIO 45872
CSR – ERIC JOHNSON – (419) 257-3561

SAMPLING AND TESTING NOTES:

1. ALL SAMPLING AND TESTING MUST BE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, SECTION 18.1.5 AND SECTION 18.3.4. TESTING OF THE BEARINGS SHALL BE IN ACCORDANCE WITH THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, SECTION 531.04(e).

2. THE MAXIMUM COEFFICIENT OF FRICTION SHALL BE 3%.

MARKING NOTES:

1. EACH BEARING SHALL BE MARKED WITH THE MANUFACTURER'S NAME, THE BEARING TYPE OR MODEL NUMBER, THE BEARING NUMBER, STATION AHEAD AND THE INSTALLED LOCATION. THE MARKING SHALL BE PERMANENT AND IN A LOCATION THAT WILL BE VISIBLE AFTER ERECTION OF STRUCTURE.

2. MARK THE THICKER EDGE OF THE SOLE OR TOP PLATE AS SUCH FOR THE PURPOSE OF FIELD IDENTIFICATION. PLACE MARK ON THE EDGE OF THE SOLE OR TOP PLATE SO THAT IT WILL BE VISIBLE AFTER BEARING INSTALLATION. IN THE EVENT NO BEVEL IS PRESENT NO MARK IS REQUIRED.

3. ALL BEARINGS SHALL HAVE MARKS PLACED ON THE VERTICAL EDGES OF THE SOLE PLATE AND MASONRY PLATES TO INDICATE THE CENTERLINE OF BEARING. EACH EXPANSION BEARING SHALL HAVE MARKS PLACED ON THE SIDE OF THE GUIDE BARS OR SOLE PLATE TO INDICATE THE CENTERLINE OF MOVEMENT. THE TOP OF THE MASONRY PLATE SHALL BE MARKED TO INDICATE THE LOCATION OF THE CENTERLINE OF MOVEMENT EXTENDED. THIS MARK SHALL BE FULL LENGTH ON THE MASONRY PLATE PRIOR TO ASSEMBLY. THESE MARKS CAN BE USED IN THE FIELD TO DETERMINE THE INITIAL OFFSET LOCATION OF THE SLIDE PLATE, IF APPLICABLE. THE MARKS SHALL BE MADE IN INDELIBLE INK AND SHALL BE VISIBLE AFTER BEARING INSTALLATION.

CONTRACTOR NOTES:

1. DUE TO DESIGN DIFFERENCES THE OVERALL HEIGHTS OF THE BEARING BEING SUPPLIED MAY DIFFER FROM THE HEIGHTS SHOWN IN THE CONTRACT PLANS. THESE DIFFERENCES ARE GIVEN IN THE DATA TABLE ON THE INDIVIDUAL BEARING DETAIL SHEETS.

2. THE EXPANSION BEARINGS WILL BE SHIPPED CENTERED, AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OFFSET THE SLIDE OR SOLE PLATES IN THE FIELD DURING INSTALLATION, SEE OFFSET CHART TABLE ON THIS SHEET.

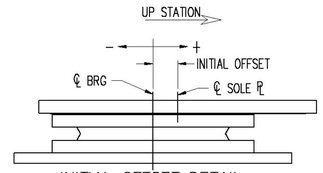
3. WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY BONDED PTFE SURFACES TO 300°F (149°C) AND 200°F (93°C) FOR SURFACES IN CONTACT WITH THE DISC. TEMPERATURES SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS. PROTECT THE DISC FROM ANY WELDING SPLATTER, SPARK AND FLASH. WELD CURRENT SHALL NOT PASS THROUGH INTERIOR COMPONENTS OF THE BEARING.

4. BEARINGS ARE TO BE SHIPPED AS COMPLETE UNITS, STEEL BANDED, AND SHALL BE WRAPPED TO PROTECT FROM MOISTURE AND DIRT DURING TRANSIT AND STORAGE. BEARINGS SHALL BE STORED IN A CLEAN, DRY, LEVEL UPRIGHT POSITION WHILE AT JOBSITE. BEARINGS SHALL BE LIFTED FROM THEIR UNDERSIDES ONLY.

5. AT NO TIME MAY THE BEARINGS BE DISASSEMBLED WITHOUT AUTHORIZATION FROM D.S. BROWN OR WITHOUT THE PRESENCE OF A D.S. BROWN REPRESENTATIVE.

6. CARE SHALL BE EXERCISED BY THE CONTRACTOR TO PROTECT THE STAINLESS STEEL AND PTFE SLIDING SURFACES FROM DAMAGE AT ALL TIMES. THE PTFE SHALL BE PROTECTED FROM DIRECT EXPOSURE TO ULTRAVIOLET RAYS AT ALL TIMES.

7. METALIZING THAT HAS BEEN DAMAGED IN THE FIELD SHALL BE REPAIRED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF VERMONT, AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2011, SECTION 726.08.



INITIAL OFFSET DETAIL

BEARING OFFSET CHART						
LOCATION	15°F	30°F	45°F	60°F	75°F	90°F
PIER 1	+0.000	+0.000	+0.000	+0.000	+0.000	+0.000
PIER 2	−0.375	−0.188	+0.000	+0.188	+0.375	+0.563

Vermont Agency of Transportation
RECEIVED
Morristown BRS 0240(3)S Disc Bearing Submittal_Rev 2_Approved 12.8.17.pdf
CK'D BY CLC OK'D BY CWC
December 1, 2017
RESUBMIT NO Approved
BY C. CARLSON DATE 12/08/17

REV.	DESCRIPTION	DATE	DET.	CKD.

D.S. BROWN
A GIBRALTAR INDUSTRIES COMPANY

THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
WWW.DSBROWN.COM

LOCATION — VT RTE 15A MAJOR COLLECTOR
BRIDGE — NO. 1
PROJECT — BRS 0240(3)S & STP HES 030-2(28)
PROJECT NAME — MORRISTOWN
P.O. NO. — K1619
DESIGNER — T.Y. LIN INTERNATIONAL
CUSTOMER — WINTERSET, INC.

ITEM	QUANTITY
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DESCRIPTION: GENERAL NOTES & TOLERANCE TABLE
LAMOILLE CO., VT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	DA	KTG	11/17	–
PROJECT NUMBER		PRODUCT CODE	RELEASE	SHEET
53146		1114	1	GN1