

FIXED BEARING GEOMETRY

BRIDGE NO.	SUB-STRUCTURE NO.	△ ASKEW ANGLE	DIRECTION OF SKEW	FIXED BEARING TYPE *	SOLE PLATE					MASONRY PLATE							ANCHOR BOLT		
					LENGTH (SPL)	WIDTH (SPW)	THICKNESS		CORNER CLIP (SPCLIP)	MPL1	LENGTH		WIDTH (MPW)	THICKNESS (MPT)	CORNER CLIP (MPCLIP)	KEEPER PLATE WIDTH (KPW)	KEEPER PLATE OFFSET (KPO)	OFFSET (BO)	LENGTH (BL)
							SPTA (UPSTATION)	SPTB (DOWNSTATION)			MPL	MPL2							
43N	ABUT. 1	44°42'11"	AHEAD RIGHT	AA	10 1/2"	24 1/2"	1"	1 1/4"	3/4"	5"	5 1/2"	10 1/2"	24 1/2"	7/8"	1/2"	14 1/2"	3"	9 3/4"	1'-11"
43S	ABUT. 2	45°05'18"	AHEAD RIGHT	BB	10"	22"	3/4"	1 1/8"	---	6 3/4"	7 1/4"	13"	22"	3/4"	---	12"	4 3/4"	8 1/2"	1'-11"
48N	ABUT. 1	68°34'38"	AHEAD LEFT	CC	13"	27 1/2"	7/8"	3/4"	---	5"	8 1/2"	11 1/2"	27 1/2"	1"	---	17 1/2"	4"	11 1/4"	1'-11"
48S	ABUT. 2	62°21'08"	AHEAD LEFT	CC	10"	27 1/2"	3/4"	3/4"	---	5"	8 1/2"	11 1/2"	27 1/2"	1"	---	17 1/2"	4"	11 1/4"	1'-11"
50N	ABUT. 1	44°11'07"	AHEAD RIGHT	AA	11"	26"	1 5/16"	1"	1 3/4"	5"	5 1/2"	10 1/2"	26"	1 1/8"	1 1/4"	14 1/2"	3"	10 1/2"	1'-11"
50S	ABUT. 2	45°44'11"	AHEAD RIGHT	AA	10"	26"	1 1/4"	1"	1 1/4"	5"	5 1/2"	10 1/2"	26"	1 1/8"	1 1/4"	14 1/2"	3"	10 1/2"	1'-11"
51N	ABUT. 1	90°00'00"	---	AA	10"	26"	1 1/8"	7/8"	---	5"	5 1/2"	10 1/2"	26"	1"	---	14 1/2"	3"	10 1/2"	1'-11"
51S	ABUT. 1	90°00'00"	---	AA	10 1/2"	28"	1 1/8"	7/8"	---	5"	5 1/2"	10 1/2"	26"	1"	---	14 1/2"	3"	10 1/2"	1'-11"
51N	PIER 2	90°00'00"	---	DD	14"	27 1/2"	1 5/16"	3/4"	---	6 3/4"	8 1/4"	15"	27 1/2"	1 1/8"	---	17 1/2"	5 3/4"	11 1/4"	1'-11"
51S	PIER 3	89°33'39"	AHEAD RIGHT	EE	13"	29 1/2"	1"	7/8"	---	6 1/4"	7 3/4"	14"	29 1/2"	1 1/8"	---	18 1/2"	5 1/4"	12 1/4"	2'-1"

* SEE TABLE OF "FIXED BEARING TYPE DETAILS" BELOW

BRIDGE 51N AND 51S ARE NOT A PART OF THIS PROJECT.

BEARING NOTES :

- THESE NOTES ARE APPLICABLE FOR THE BEARINGS AND THEIR COMPONENTS SHOWN ON BRIDGE SHEETS C-21, C-23, C-24 AND C-25, IN ADDITION TO THIS SHEET.
- SEE BRIDGE SHEET C-21 FOR FIXED BEARING DETAILS.
SEE BRIDGE SHEET C-23 FOR EXPANSION BEARING DETAILS.
SEE BRIDGE SHEET C-24 FOR EXPANSION BEARING TABLES.
SEE BRIDGE SHEET C-25 FOR SOLE AND MASONRY PLATE DETAILS.
- BEARING ASSEMBLIES, INCLUDING ELASTOMERIC PADS, ANCHOR BOLTS, INTERNAL STEEL PLATES, PTFE SHEET, STAINLESS STEEL PLATES, SOLE PLATES, MASONRY PLATES, PREFORMED FABRIC PADS, BOLTS, NUTS, WASHERS AND ALL WORK REQUIRED TO FABRICATE AND INSTALL BEARINGS TO BE PAID AS ITEM 531.0, "BEARING DEVICE ASSEMBLY".
- THE FABRICATION, TESTING AND INSTALLATION OF THE BEARINGS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THESE CONTRACT PLANS, THE STANDARD SPECIFICATIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES DIVISION I- SECTION 14 AND DIVISION II- SECTION 18.
- STEEL REINFORCED ELASTOMERIC BEARINGS WERE DESIGNED USING METHOD B IN AASHTO DIVISION I- SECTION 14.6.5.
- ELASTOMER SHALL BE GRADE 4, 60 DUROMETER NEOPRENE CONFORMING TO AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18. THE AVERAGE SHEAR MODULUS (G) FOR THE ELASTOMER SHALL BE 150 PSI, WITH AN ALLOWABLE RANGE OF 127.5 PSIT0 172.5 PSI.
- SOLE, MASONRY AND KEEPER PLATES SHALL CONFORM TO AASHTO M270 GRADE 50. ALL OTHER STEEL SHALL BE AASHTO M270 GRADE 36, EXCEPT AS NOTED OTHERWISE. ANCHOR BOLTS, NUTS AND WASHERS FOR BEARINGS SHALL CONFORM TO SUBSECTION 714.08 OF THE SPECIFICATIONS, UNLESS NOTED OTHERWISE. ALL STEEL PLATES AND ALL STEEL COMPONENTS (ANCHOR BOLTS, HIGH-STRENGTH BOLTS, NUTS, WASHERS, ETC.) SHALL BE GALVANIZED OR METALIZED PER SUBSECTION 506.15 OF THE SPECIFICATIONS.
- MINIMUM EMBEDMENT OF ALL ANCHOR BOLTS SHALL BE 1'-3".
- THE 1/8" THICK PREFORMED FABRIC PAD BENEATH THE MASONRY PLATE SHALL HAVE THE SAME SIZE AND ANCHOR BOLT HOLE LAYOUT AS THE CORRESPONDING MASONRY PLATE.
- IN ADDITION TO THE REQUIREMENTS OF SUBSECTION 531.03 OF THE SPECIFICATIONS, THE FABRICATOR OF BEARINGS FURNISHED UNDER THIS SECTION SHALL SUBMIT VULCANIZING PROCEDURES IN ACCORDANCE WITH SUBSECTIONS 105.03 AND 506.04.
- THE DESIGN COEFFICIENT OF FRICTION BETWEEN THE PTFE AND THE STAINLESS STEEL SHALL NOT EXCEED 0.06 AT 900 PSICOMPRESSIVE LOADING.
- BEARING HEIGHTS AND DIMENSIONS SHOWN ARE BEFORE APPLICATION OF LOADS.
- THE CONTRACTOR SHALL ENSURE THAT THE HEAT FROM WELDING THE SOLE PLATE TO THE STRINGER DOES NOT DAMAGE THE ELASTOMERIC MATERIAL OR ANY PART OF THE BEARING.
- THE 'A' DISTANCE IS THE SOLE PLATE ADJUSTMENT TO BE USED BEFORE DEAD LOADS ARE ADDED TO THE STRINGERS.

FIXED BEARING TYPE DETAILS

FIXED BEARING TYPE	STEEL REINFORCED ELASTOMERIC BEARING PAD						
	LENGTH (EPL)	WIDTH (EPW)	THICKNESS (EPT)	COVER LAYER THICKNESS (CLT)	INTERNAL LAYER THICKNESS (ILT)	NO. OF INTERNAL ELASTOMER LAYERS	NO. OF INTERNAL STEEL PLATES
AA	5 1/2"	15 1/2"	2 5/8"	1/4"	3/8"	4	5
BB	9"	13"	3 1/8"	1/4"	1/2"	4	5
CC	7 1/2"	18 1/2"	3 1/8"	1/4"	1/2"	4	5
DD	11"	18 1/2"	2 7/8"	1/4"	5/8"	3	4
EE	10"	20 1/2"	5 1/8"	1/4"	5/8"	6	7

CONSTRUCTION NOTE:

CONCRETE SURFACES UNDER ALL BEARINGS SHALL BE LEVEL WITH A CONSTRUCTION TOLERANCE OF 0.005 RADIAN, EXCEPT FOR THE TOP OF THE PIERS AT BR 48N & 48S WHICH SHALL BE SLOPED TO MATCH THE C CONSTRUCTION GRADE WITH A TOLERANCE OF 0.005 RADIAN.

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of	MIDDLESEX-BOLTON	Bridge No.	
Highway No.	I-89	Log Sta.	
		Surv. Sta.	

BEARING NOTES & FIXED BRG. TABLES

Designed By	K.L. JAMES	Drawn By	N.J. HOYT
Checked By	Date	Bridge Design Supervisor	
	M.H. GALLO 10/99	J.P. HALSTEAD	Date 10/99

PROJECT	MIDDLESEX-BOLTON	PROJECT NO.	IM-089-2(26)
TVGA CAD Drawing No.	127tbl.dgn	Date	10/99
Bridge Sheet No.	C-22	Sheet	22 of 307

Hayashi Corporation
Consulting Engineers