

1 BEARING LAYOUT
1 : 250

- ⊕ MULTI DIRECTIONAL ELASTOMERIC BEARING
- FIXED DISC BEARING
- ⊕ MULTI DIRECTIONAL DISC BEARING

BEARING NOTES

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
- FABRICATION AND DESIGN OF THE BEARINGS SHALL MEET THE REQUIREMENTS OF THE CANADIAN HIGHWAY BRIDGE DESIGN CODE, CAN/CSA-S6-06.
- DESIGN THE BEARINGS FOR THE SLS AND ULS LOADS AND MOVEMENTS SHOWN IN THE BEARING DESIGN TABLE. MOVEMENTS INCLUDE FOR ADDITIONAL REQUIREMENTS AND ARE THE MINIMUM TO BE PROVIDED BY THE BEARING SUPPLIER.
- DESIGN BEARINGS FOR A MINIMUM ROTATION AS NOTED IN THE BEARING DESIGN TABLE.
- DESIGN THE BEARINGS FOR AN OPERATING RANGE OF -40 DEGREES CELCIUS TO +40 DEGREES CELCIUS.
- STEEL FOR BEARINGS SHALL CONFORM TO CSA G40.21 GRADE 300W. ALL EXPOSED STEEL SURFACES FOR THE BEARINGS SHALL BE HOT DIP GALVANIZED OR ZINC METALIZED. GALVANIZING TO MEET THE REQUIREMENTS OF CSA G164.
- INTERNAL STEEL REINFORCING PLATES FOR ELASTOMERIC BEARINGS SHALL CONFORM TO CSA G40.21 GRADE 230.
- STAINLESS STEEL MATING SURFACE SHALL CONFORM TO ASTM STANDARD A240 AND SHALL HAVE A MINIMUM THICKNESS OF 3MM. THE ROUGHNESS OF THE CONTACT SURFACE SHALL BE NO GREATER THAN 0.26 MICROMETERS ARITHMETIC AVERAGE FOR PLANE SURFACES.
- WELDING OF STAINLESS STEEL PLATES SHALL BE CONTINUOUS WITH STAINLESS STEEL WELDING RODS.
- PTFE SHALL BE MADE FROM VIRGIN RESIN SATISFYING THE REQUIREMENTS OF ASTM D4895. PTFE FOR ELASTOMERIC BEARINGS SHALL BE DIMPLED AND LUBRICATED.
- PROVIDE PROTECTION TO THE STAINLESS AND PTFE SURFACES DURING SHIPPING, HANDLING, AND INSTALLATION.
- ELASTOMER SHALL BE NATURAL RUBBER, LOW TEMPERATURE GRADE 4 OR 5, AND A 60 DUROMETER SHORE A HARDNESS.
- BEARING FIXING BOLTS SHALL BE A325, TYPE 1.
- BEARING DESIGN SHALL ALLOW REMOVAL/REPLACEMENT OF BEARINGS BY JACKING THE BRIDGE TO A MAXIMUM OF 6mm.

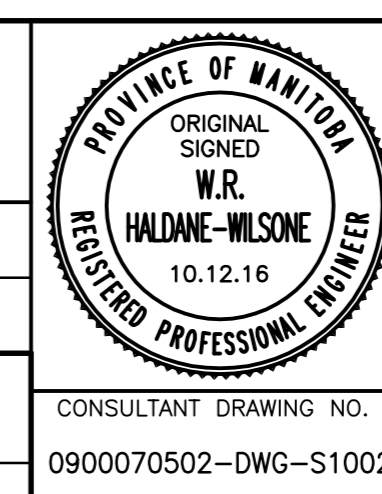
BEARING DESIGN TABLE

MK.	DESCRIPTION	TYPE	QUANTITY	LIMIT STATE	VERTICAL			LONGITUDINAL		TRANSVERSE		ROTATION [RADIAN]
					PERMANENT [KN]	TOTAL [KN]	LONGITUDINAL TOTAL [KN]	TRANSVERSE TOTAL [KN]	LONGITUDINAL MOVEMENT [MM]	TRANSVERSE MOVEMENT [MM]		
ABUTMENTS	A	STEEL REINFORCED ELASTOMERIC	MULTI DIRECTIONAL	4	SLS	700	845	85	-	100	10	0.01
					ULS	840	1125	115	-	-	-	
	B	STEEL REINFORCED ELASTOMERIC	MULTI DIRECTIONAL	20	SLS	310	615	65	-	100	10	0.01
					ULS	375	950	95	-	-	-	
	C	STEEL REINFORCED ELASTOMERIC	MULTI DIRECTIONAL	4	SLS	440	660	65	-	100	10	0.01
					ULS	530	790	80	-	-	-	
PIER 1 AND PIER 3	D	DISC	MULTI DIRECTIONAL	4	SLS	3470	4860	485	-	80	10	0.02
					ULS	4165	6800	680	-	-	-	
	E	DISC	MULTI DIRECTIONAL	4	SLS	2830	3870	390	-	80	10	0.02
					ULS	3395	5565	560	-	-	-	
	F	DISC	FIXED	2	SLS	2980	4020	405	920	0	0	0.02
					ULS	3575	5740	575	1480	-	-	
G	DISC	MULTI DIRECTIONAL	2	SLS	3470	4860	485	-	0	10	0.02	
				ULS	4165	6800	680	-	-	-		



B.M. ELEV.	F.B.
00 ISSUED FOR TENDER	10.12.16 RHW
NO. REVISIONS	DATE BY

WARDROP ATETRA TECH COMPANY	
DESIGNED BY R.H.W.	CHECKED BY R.H.W.
DRAWN BY G.I.	APPROVED BY C.D.S.
HOR. SCALE: AS NOTED	RELEASED FOR CONSTRUCTION DATE 10.12.17
VERTICAL: AS NOTED	ORIGINAL SIGNED 10.12.17
DATE 10.12.13	DATE 10.12.13



THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	
OSBORNE STREET BRIDGE SUPPLY, FABRICATION, & DELIVERY OF BEARINGS	CITY DRAWING NUMBER B109-11-002 SHEET 2 OF 5
BEARING SUPPLY OVERALL LAYOUT AND BEARING DATA	2