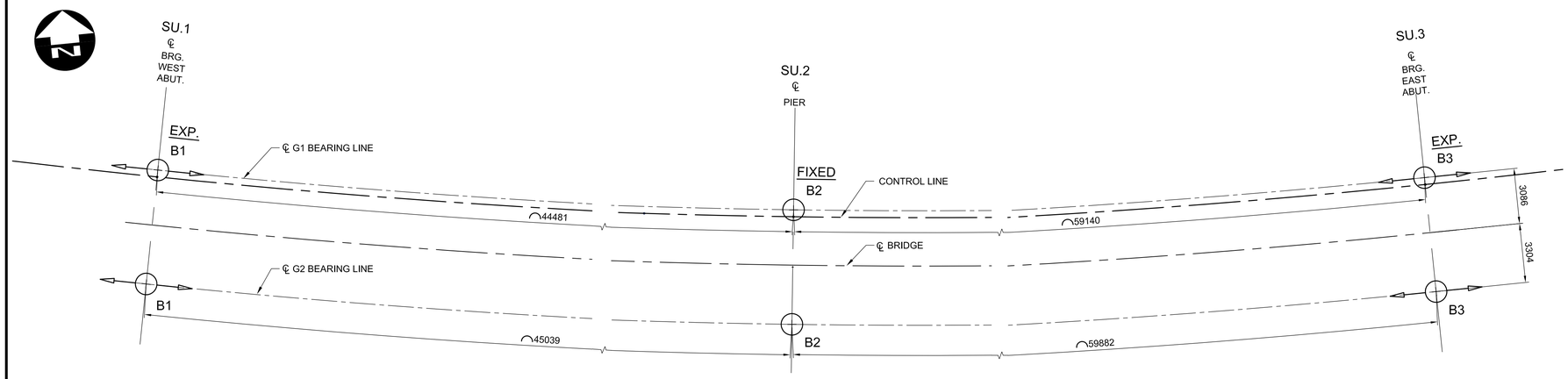
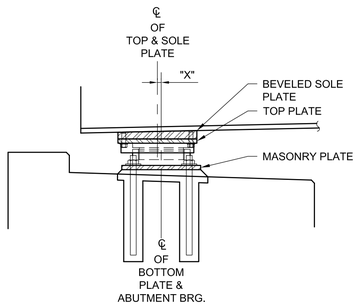
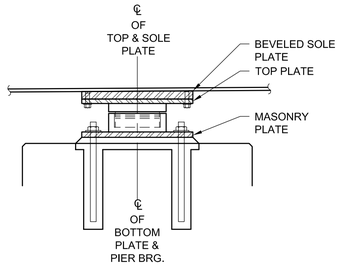


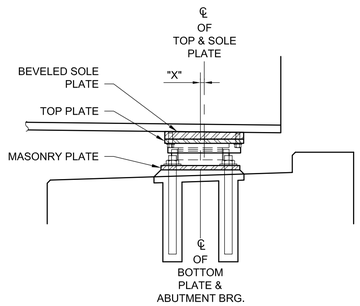
BEARING LAYOUT
1: 150



TYPICAL SECTION AT B1
1:20

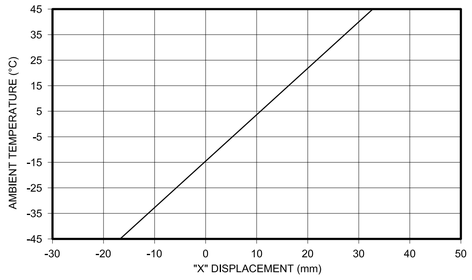


TYPICAL SECTION AT B2
1:20

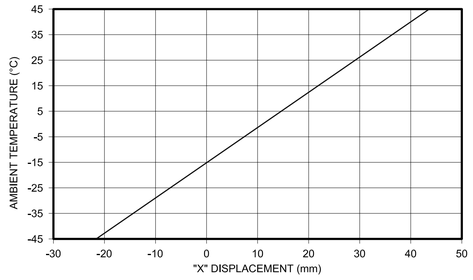


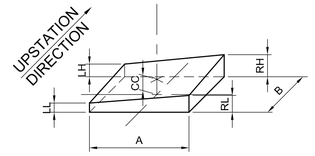
TYPICAL SECTION AT B3
1:20

BEARING SETTING CHART AT SU. 1

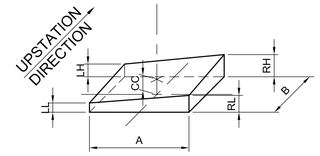


BEARING SETTING CHART AT SU. 3

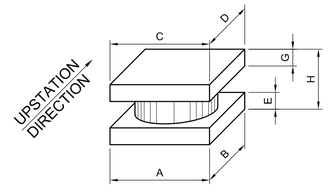




JACKING PLATE KEY
NTS



SOLE PLATE KEY
NTS



BEARING KEY
NTS

BEARING LEGEND:

⊕ - FIXED

⊕ - UNI-DIRECTIONAL

- ARROWHEADS DENOTE MOVEMENT DIRECTIONS

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. ALL BEARINGS SHALL BE POT BEARINGS.
3. ALL REQUIREMENTS OF THE SPECIFICATIONS FOR THE SUPPLY OF STRUCTURAL STEEL SHALL BE MET.
4. ALL STEEL FOR BEARINGS MASONRY PLATES, SOLE PLATES AND SHIM PLATES SHALL CONFORM TO CSA G40.21M-300W.
5. STRUCTURAL BOLTS SHALL CONFORM TO ASTM A325 WITH CORROSION PROPERTIES TO MATCH CONNECTING MATERIALS.
6. ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 105, HOT-DIP GLAVANIZED.
7. STAINLESS STEEL SHALL CONFORM TO CURRENT AISI TYPE 304 SPECIFICATIONS NO. 8 MIRROR FINISH.
8. ALL WELDING SHALL CONFORM TO CURRENT AWS SPECIFICATION D1.5.
9. ALL BEARING PARTS, EXCEPT FOR STAINLESS STEEL AND BEARING PADS, SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM 123 TO A NET RETENTION OF 610 g/m^2.
10. GROUT PADS AND ANCHOR BOLTS VOIDS SHALL BE GROUTED WITH SIKA 212 FLOWABLE GROUT OR APPROVED EQUIVALENT. GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 35 MPa.
11. ALL BEARINGS SHALL BE GROUTED AFTER GIRDER ERECTION AND PRIOR TO DECK POUR.
12. ALL FIELD WELDS SHALL BE METALIZED TO ASTM A780, METHOD A3 (ONLY), TO A THICKNESS OF 180 µm.
13. TAPERED SOLE PLATE IS DIMENSIONED SO THAT SLIDING SURFACE IS HORIZONTAL FOR LONG TERM DEAD LOAD CONDITIONS.
14. BEARING SUPPLIER SHALL DESIGN BOLTED CONNECTION BETWEEN BEARING TOP PLATE AND SOLE PLATE FOR A MINIMUM OF 1.25 TIMES THE COMBINED SPECIFIED HORIZONTAL LOADS. ARRANGE CONNECTION TO ENSURE ALL BOLTS CAN BE REMOVED WITHOUT INTERFERENCE FROM ANCHOR BOLTS OR OTHER OBSTRUCTIONS AFTER BEARING IS INSTALLED.
15. BEARING DIMENSIONS SHOWN ARE FOR REFERENCE ONLY AND ARE BASED ON GOODCO / Z-TECH CATALOG. BEARING HEIGHTS SHOWN ARE NOMINAL. BEARING SUPPLIER TO CONFIRM ALL DIMENSIONS.
16. ELEVATIONS MAY HAVE TO BE ADJUSTED FOR ACTUAL THICKNESS OF BEARING SUPPLIED.
17. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN THE BEARINGS BASED ON THE LOADS AND MOVEMENTS PROVIDED IN THE BEARING DATA TABLE.
18. EPOXY MASTIC COATING SUITABLE FOR APPLICATION ON GALVANIZED STEEL TO PREVENT CONTACT BETWEEN ZINC SURFACE AND GROUT OR BETWEEN GALVANIZED AND NON-GALVANIZED SURFACES. IT SHALL BE USED ON UNDERSIDE OF MASONRY PLATES AND TOP OF BEVELED SOLE PLATES.
19. BOLTS BETWEEN BEARING TOP PLATE AND SOLE PLATES SHALL CONFORM TO ASTM A193, STAINLESS STEEL, AISI TYPE 316.
20. ADJUSTMENT FOR TEMPERATURE SHALL BE IN ACCORDANCE WITH THE BEARING SETTING CHART "X" IS OFFSET DISTANCE BETWEEN CENTRE OF BEARING TOP PLATE AND CENTRE OF BEARING BOTTOME PLATE.
    - POSITIVE "X" MEANS MOVING BEARING TOP PLATE TOWARDS THE GIRDER END, AND
    - NEGATIVE "X" MEANS MOVING BEARING TOP PLATE AWAY FROM THE GIRDER END.

JACKING:

1. DURING FUTURE ABUTMENT BEARING REPLACEMENT, GIRDERS SHALL BE JACKED AND SUPPORTED TEMPORARILY ON BOTH SIDES OF THE ABUTMENT BEARING.
2. DURING FUTURE PIER BEARING REPLACEMENT, GIRDERS SHALL BE JACKED AND SUPPORTED TEMPORARILY ON BOTH SIDES OF THE PIER BEARINGS.
3. JACKS SHALL BE LOCATED AT THE JACKING STIFFENERS, AS INDICATED ON THE GIRDER DRAWINGS.
4. MAXIMUM JACKING HEIGHT SHALL BE 5 mm.
5. MAXIMUM JACKING LOADS PER BEARING:

JACKING LOAD CASE	SU.1	SU.2	SU.3
UNFACTORED LOAD (kN / BEARING)	1900	6700	3000
FACTORED LOAD (kN / BEARING)	2300	8300	3700

6. JACKING OF GIRDERS SHALL BE DONE WITH NO LIVE LOAD ON THE BRIDGE, UNTIL THE DESIGNED BLOCKAGE IS IN PLACE AND OPERATIONAL.

SCHEDULE OF BEARING DESIGN LOADS AND MOVEMENT

LOCATION	TYPE	MARK	NO.	LIMIT STATE	LOADS (kN)								MOVEMENT (mm)			NOMINAL BEARING DIMENSIONS (mm)							JACKING PLATE THICKNESS (mm)							SOLE PLATE THICKNESS (mm)						
					VERTICAL PERMINANT		TRANSITORY		VERTICAL PERMANENT + TRANSITORY		HORIZONTAL LONGITUDINAL	HORIZONTAL TRANSVERSE	LONGITUDINAL	TRANSVERSE	ROTATION (RADIAN)	A	B	C	D	E	G	H	A	B	LL	LH	RL	RH	CC	A	B	LL	LH	RL	RH	CC
					MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	MAXIMUM	MAXIMUM	MAXIMUM	MAXIMUM																						
ABUTMENT SU.1	MULTIROTATIONAL UNI-DIRECTIONAL	B1	2	SERVICEABILITY	1485	1403	887	-171	2372	1314	0	(*) 130	#70	±2	0.020	715	515	715	515	28	28	201	350	350	25	32	43	50	38	715	515	25	36	62	73	49
				ULTIMATE	1825	1225	1675	-324	3500	1501	0	(*) 230	-	±2	0.025																						
PIER SU.2	MULTIROTATIONAL FIXED	B2	2	SERVICEABILITY	5359	5103	1605	194	6964	5553	0	(*) 235	0	±2	0.020	880	725	880	725	35	29	250	AT GIRDER LOCTION							880	725	25	30	71	76	50
				ULTIMATE	6598	4431	3032	366	9630	6964	0	(*) 525	0	±2	0.025								350	350	25	27	43	46	35								
																							AT DIAPHRAGM LOCATION													
																							350	350	25	27	25	27	26							
ABUTMENT SU.3	MULTIROTATIONAL UNI-DIRECTIONAL	B3	2	SERVICEABILITY	2390	1982	967	-96	3357	2294	0	(*) 155	#90	±2	0.040	715	515	715	515	28	28	201	350	350	29	25	47	43	36	715	515	31	25	68	62	47
				ULTIMATE	2941	1729	1826	-181	4767	2760	0	(*) 300	-	±2	0.050																						

(*) - HORIZONTAL TRANSVERSE LOAD SHALL BE LOAD PROVIDED IN THIS TABLE OR FRICTION LOAD BASED ON 15% OF MAXIMUM PERMANENT LOAD WHICHEVER GOVERNS. SUPPLIER TO CONFIRM THE FRICTIONAL LOAD OF THEIR SPECIFIC BEARING.
(#) - THESE ARE ACTUAL MAXIMUM MOVEMENTS ALONG THE CENTRE LINE OF THE GIRDERS ASSUMING BEARINS ARE INSTALLED AT -5°C.
- FOR DESIGN OF THE BEARINGS ALLOW AN ADDITIONAL MINIMUM ± 25 mm OF LONGITUDINAL MOVEMENT.
- LONGITUDINAL DIRECTION IS PARALLEL TO THE FIRDER LINE AT THE ABUTMENT OR PIER LOCATION. TRANSVERSE DIRECTION IS PERPENDICULAR TO THE GIRDER LINE AT THE ABUTMENT OR PIER.

APEGM
Certificate of Authorization
Dillon Consulting Limited (MB)
No. 1789 **Date:** 2013/08/01

UNDERGROUND STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE _____ DATE _____

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M.
ELEV.

NO.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	13/08/08	MBL

DESIGNED BY RE
DRAWN BY TLK
CHECKED BY SSR
APPROVED BY MBL
HOR. SCALE AS SHOWN
VERTICAL
DATE 2013/08/01

DILLON CONSULTING
RELEASED FOR CONSTRUCTION
DATE

ENGINEER'S SEAL
PROVINCE OF MANITOBA
R. B. ERIC
Member 2995
REGISTERED PROFESSIONAL ENGINEER

ENGINEER'S SEAL
PROVINCE OF MANITOBA
Aug 8/13
S. S. RIHAL
REGISTERED PROFESSIONAL ENGINEER

CONSULTANT PROJECT NUMBER
12-6606

Winnipeg
THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

WAVERLEY WEST ARTERIAL ROADS PROJECT (WWARP) PART 3 - CONTRACT 2
ROUTE 90 TO ROUTE 165, OVERPASS (KENASTON BLVD.) AND ASSOCIATED WORKS

BEARING DETAILS 1 OF 2

CITY DRAWING NUMBER B242-13-14
SHEET 14 OF 128
CONSULTANT DRAWING NUMBER

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