



BILL OF MATERIALS		
MK.	QTY.	DESCRIPTION
1	1	DODECAGONAL SHAFT 650 A/F x 9.525 THICK PLATE
2	1	BACK-UP STRIP 40 x 4.763
3	1	BASE PLATE 975 DIA. x 51 THICK
4	1	TOP PLATE 12 THICK
5	2	DODECAGONAL GUSSET PLATE 12 THICK
6	1	DODECAGONAL ARM 650 A/F TO 200 A/F x 9.525 THICK PLATE
7	1	DODECAGONAL END PLATE 200 A/F x 4.763 THICK
8	1	BACK-UP STRIP 40 x 4.763
9	2	FLANGE PLATE 51 THICK
10	16	38 DIA. BOLTS C/W NUT & 2 WASHERS (ASTM A325, TYPE 1, GALV.)
11	2	SIDE GUSSET PLATE 25 THICK
12	1	GUSSET PLATE 19 THICK
13	1	GUSSET PLATE 19 THICK
14	20	PLATE WASHER 12 THICK
HANDHOLE MARK H1		
15	1	COVER PLATE 11 GA. x 160x 340 (ASTM A569)
16	1	REINFORCING RING 8 x 65 x 830
17	2	CLAMP BAR 6 x 40 x 180
18	2	10 DIA. x 140 BOLT S/S (TYPE 316)
19	1	GROUND STUD ASSEMBLY 10 DIA. x 40
HANDHOLE MARK H2 (2 REQUIRED)		
20	1	COVER PLATE 11 GA. x 130 x 220 (ASTM A569)
21	1	REINFORCING RING 8 x 65 x 555
22	1	CLAMP BAR 6 x 40 x 150
18	1	10 DIA. x 140 BOLT S/S (TYPE 316)
19	1	GROUND STUD ASSEMBLY 10 DIA. x 40
SIGN MOUNTING BRACKET (6 REQUIRED)		
23	2	CLAMP BAR 12 x 76 (LENGTH TO SUIT)
24	1	BRACKET PLATE 12 THICK
25	2	19 DIA. BOLT C/W NUT & 2 WASHERS (ASTM A325)
26	2	19 DIA. S/S BOLT C/W NUT, 2 WASHERS & 1 LOCK WASHER (ASTM A193 GRADE B8)
27	1	ALUMINUM T-BAR 6061-T6 ASTM B221 102 x 76 x 8 LENGTH TO SUIT SIGN PANEL HEIGHT

*** NOTES:**

- MARK NO. 17 & 22 C/W 8-DIA. PUNCHED 10 N.C. TAPPED AT THE CENTER OF PLATE.
- MARK NO. 18 C/W CUP WASHER.
- MARK NO. 19 C/W 2-10 DIA. HEX NUT, 2-TERMINAL WASHER & 1-LOCK WASHER.



METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

WARNING
IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:

- NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
- TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.
- OBTAIN EXCAVATION PERMITS PRIOR TO CONSTRUCTION.
- A MINIMUM VERTICAL SEPARATION OF 300 mm FROM GAS MAINS AND 100 mm FROM GAS SERVICE MUST BE MAINTAINED BETWEEN ANY MANITOBA HYDRO FACILITY AND ANY NEW INSTALLATIONS.
- A MINIMUM 900 mm OF COVER SHALL BE MAINTAINED IN ALL AREAS WHERE EQUIPMENT WILL BE CROSSING, TRAVELING OR COMPACTING OVER THE HIGH PRESSURE GAS MAINS.
- IF EQUIPMENT MUST CROSS, TRAVEL, OR COMPACT OVER THE GAS MAIN WITH LESS THAN THE MINIMUM DEPTH COVER, EARTH BRIDGING OR STEEL PLATES SHALL BE PLACED OVER THE MAIN AND EXTEND A MINIMUM OF 1.0 METRE ON EITHER SIDE AT EACH CROSSING LOCATION.

GENERAL NOTES

- DESIGN DATA**
AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 5TH EDITION, 2009, PLUS INTERIMS.
DESIGN WIND LOAD = 1.5 kPa
DESIGN ICE LOAD = 0.15 kPa
FATIGUE CATEGORY I CONSIDERING NATURAL WIND GUSTS AND TRUCK INDUCED GUSTS. FATIGUE CATEGORY II FOR GALLOPING.
ALL PLATE MATERIALS SHALL BE CSA G40.21 - 300W STRUCTURAL STEEL.
ALL MATERIALS EXCEPT STAINLESS STEEL AND ALUMINUM SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 TO A MIN. NET RETENTION OF 610 gm².
ALL AREAS OF DAMAGED GALVANIZING SHALL BE REPAIRED WITH SPRAY-ON COATING CALLED 'ZINGA'.
- SIGNS**
1 SIGN PANEL, MAXIMUM SIZE 5791 x 2438 mm. SUPPLIED AND INSTALLED BY THE CITY OF WINNIPEG TRAFFIC SERVICES BRANCH.
- INSTALL HOLES IN THE GUSSET PLATES FOR DRAINAGE DURING GALVANIZING AS DETAILED.
- PROVIDE 'RAISED' IDENTIFICATION NO. WITH WELDING ELECTRODE FOR THE SIGN STRUCTURE.
- GRIND ALL SHARP POINTS AND EDGES.
- EXTERIOR WELD JOINING SHAFT TO TRANSVERSE PLATE SHALL BE AN UNEQUAL LEG COMPLETE PENETRATION WELD WITH THE LONG LEG OF THE WELD ALONG THE SHAFT TERMINATING AT 30° FROM THE SHAFT SURFACE.

150 W.M.	150 W.M.	M.T.S.	M.T.S.	150 mm W.M.	150 mm W.M.	150 mm W.M.	150 mm W.M.
WATERMAIN	HYDRANT VALVE	LAND DRAINAGE SEWER	WASTE WATER SEWER	MANHOLE	CATCH BASIN	TEST HOLES	JUNCTIONS
CONCRETE	ASPHALT	PLANING	SIDEWALK	PAVING STONES	PROPERTY LINE	SURVEY BAR	CURB RAMP
DITCH	SWALE						
EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PROFILE

UNDERGROUND STRUCTURES	DATE	B.M.	ELEV.	N.	E.	654210	N.	E.	DESIGNED BY	DESIGN TEAM	ENGINEER'S SEAL	THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT	WAVERLEY WEST ARTERIAL ROADS PROJECT (WVWP) PART 3 - CONTRACT 2 ROUTE 90 TO ROUTE 165 OVERPASS (KENASTON BLVD.) AND ASSOCIATED WORKS	CITY DRAWING NUMBER	SHEET	CONSULTANT DRAWING NUMBER	
		654008	232.463	5515764.610	633359.697	654210	5514436.957	630550.534	CDW			114	128	B242-13-114	114	128	12-6606

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