

PILE CONSTRUCTION NOTES

1. REINFORCING STEEL

- CSA G30.18 GR. 400W
- VERTICAL BARS FULL LENGTH OF PILE
- HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A767

2. ANCHOR BOLTS

- ASTM F1554 GR.55 (380 MPa)
- 8-51 DIA. ANCHOR BOLTS 2000 LONG
- EACH BOLT C/W 3 NUTS & 2 WASHERS
- TOP 300 THREADED 4.5 UNC CLASS 2A
- BOTTOM 100 THREADED 4.5 UNC CLASS 2A
- HOT DIP GALVANIZED FULL LENGTH
- B.C.D. = BOLT CIRCLE DIAMETER TO CENTRE OF BOLT GROUP
- ANCHOR BOLTS SHALL BE ALIGNED WITH A TEMPORARY STEEL TEMPLATE. PLACEMENT OF ANCHOR BOLTS AND CONCRETE WITHOUT THE TEMPLATE WILL NOT BE PERMITTED.
- FOLLOWING INSTALLATION OF THE STEEL STRUCTURE, TIGHTEN THE LOWER LEVELING NUTS AND UPPER ANCHOR NUTS TO A SNUG-TIGHT CONDITION, FOLLOWED BY 1/6 NUT ROTATION (+20°/-0°) OF THE UPPER ANCHOR NUTS.

3. FORM TOP OF PILE WITH A TUBULAR FORM (SONOTUBE):

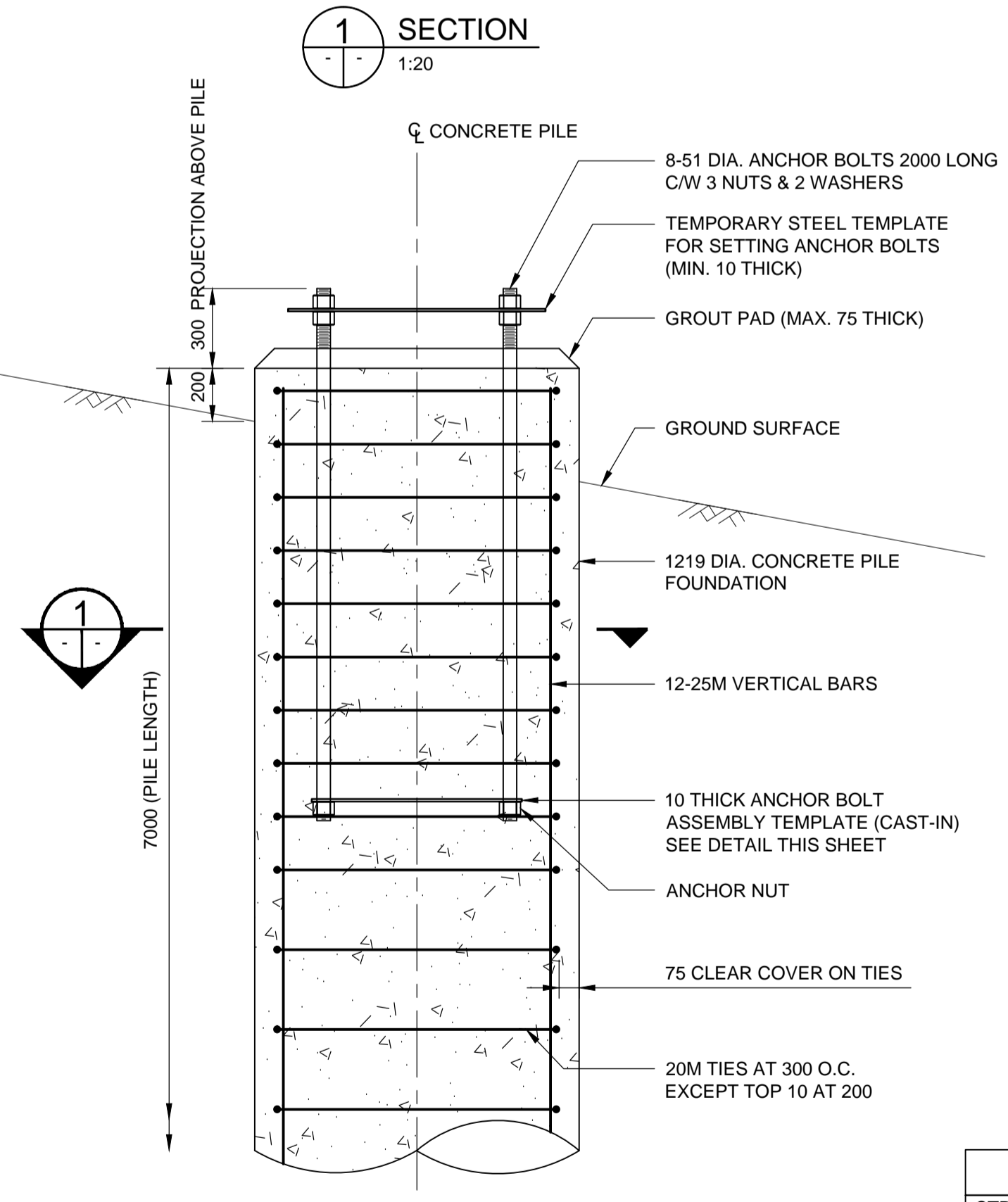
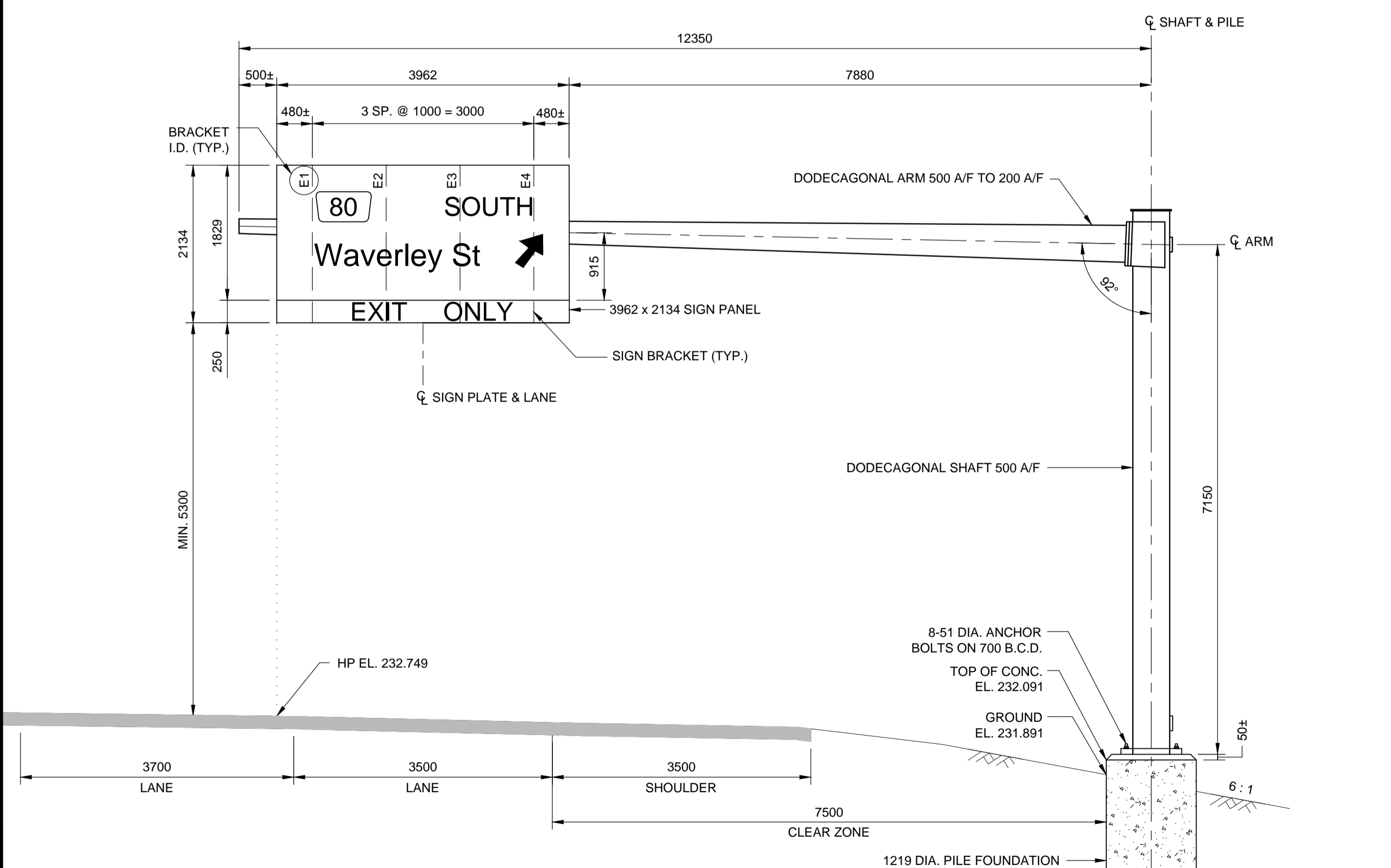
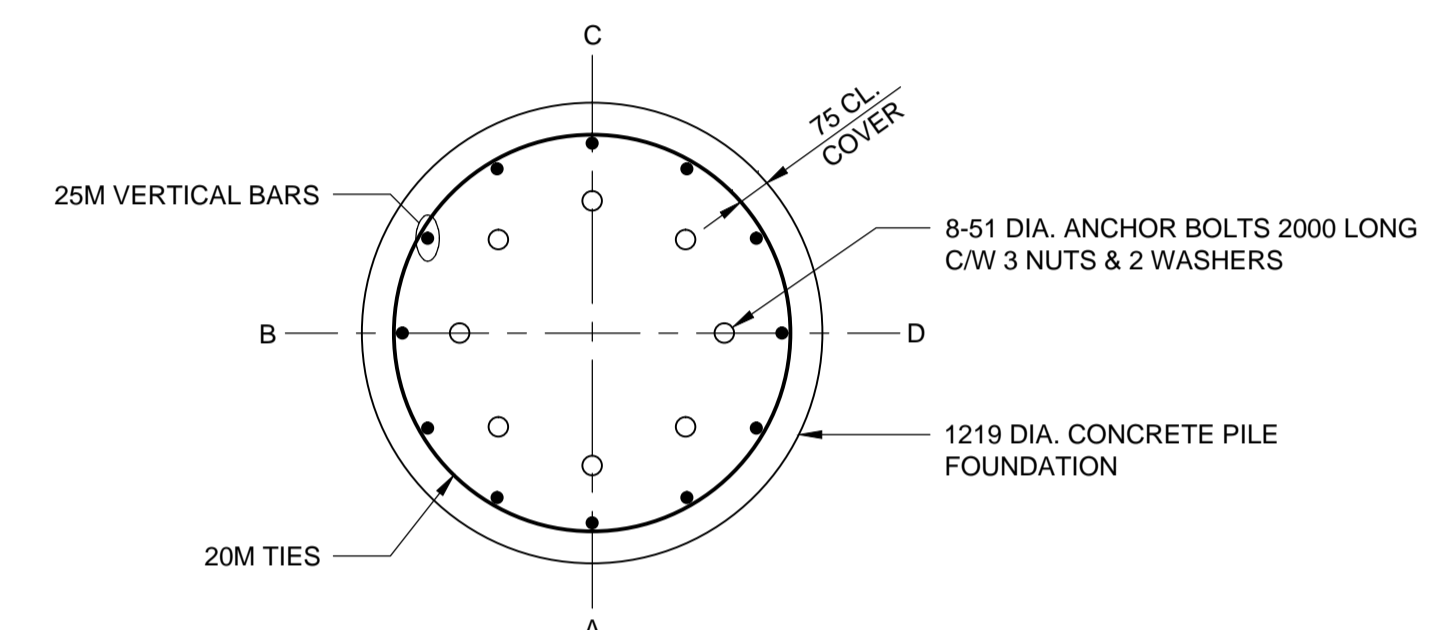
- 1m FOR DRILLED SHAFTS
- 1.5m FOR HYDRO-EXCAVATED SHAFTS

4. CONTRACTOR SHALL REMOVE THE ANCHOR BOLT SETTING TEMPLATE, NUTS AND FORM, FOLLOWING A MINIMUM 24 HOUR CONCRETE CURING PERIOD.

5. CONCRETE MIX DESIGN

PROPORTIONING OF FINE AGGREGATE, COARSE AGGREGATE, CEMENT, WATER, AND AIR ENTRAINING AGENT SHALL BE SUCH AS YIELD CONCRETE HAVING THE REQUIRED STRENGTH AND WORKABILITY AS FOLLOWS:

- CLASS OF EXPOSURE: S-1
- MINIMUM COMPRESSIVE STRENGTH AT 56 DAYS = 35 MPa
- MAXIMUM WATER/CEMENT RATIO = 0.40
- AIR CONTENT: CATEGORY 2 PER TABLE 4 OF CSA A23.1-09 (4-7%)
- CEMENT IN ACCORDANCE WITH CSA A23.1-09



CENTER OF PILE LAYOUT TABLE

STRUCTURE	STATION	O/S	NORTH	EAST
S774	2+691.860	15.500	5519382.053	631052.210



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.

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150 WM	WATERMAIN	150 WM	MTS	M.T.S.	150 mm W.M.	WATERMAIN	150 mm W.M.
+	HYDRANT VALVE	+	MTS	CONCRETE ASPHALT PLANING	+	HYDRANT VALVE	+
300 LDS	LAND DRAINAGE SEWER	300 LDS	MTS	SIDEWALK PAVING STONES	300 mm L.D.S.	LAND DRAINAGE SEWER	300 mm L.D.S.
250 WWS	WASTE WATER SEWER	250 WWS	MTS	PROPERTY LINE SURVEY BAR	250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.
○	MANHOLE	●	MTS	CURB RAMP	---	MANHOLE	○
○	CATCH BASIN	■	MTS	DITCH	---	CATCH BASIN	○
○	TEST HOLES	⊕	MTS	SWALE	---	TEST HOLES	○
+	JUNCTIONS	+	MTS			JUNCTIONS	+
+	CULVERT	+	MTS			CULVERT	+
+	100 GAS	+	MTS			100 GAS	+
+	EXISTING	+	MTS			EXISTING	+
+	LEGEND-PLAN	+	MTS			LEGEND-PROFILE	+

<p>UNDERGROUND STRUCTURES</p> <p>SUPV. U/G STRUCTURES COMMITTEE</p> <p>DATE</p> <p>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.</p>		<p>B.M. 654008 N: 5515764.610 E: 633359.697</p> <p>654210 N: 5514436.957 E: 630550.534</p>	<p>DESIGNED BY CDW</p> <p>DRAWN BY LFY</p> <p>CHECKED BY SSR</p> <p>APPROVED BY DPK</p> <p>HOR. SCALE AS NOTED</p> <p>VERTICAL AS NOTED</p>	<p>DESIGN TEAM</p> <p>DILLON CONSULTING</p> <p>RELEASED FOR CONSTRUCTION</p>	<p>ENGINEER'S SEAL</p> <p>PROVINCE OF MANITOBA</p> <p>13/08/08</p> <p>C.D. WARD</p> <p>Member 24456</p> <p>REGISTERED PROFESSIONAL ENGINEER</p>	<p>THE CITY OF WINNIPEG</p> <p>PUBLIC WORKS DEPARTMENT</p> <p>WAVERLEY WEST ARTERIAL ROADS PROJECT (WWARP) PART 3 - CONTRACT 2 ROUTE 90 TO ROUTE 165 OVERPASS (KENASTON BLVD.) AND ASSOCIATED WORKS</p> <p>CITY DRAWING NUMBER B242-13-122</p> <p>SHEET 122 OF 128</p> <p>CONSULTANT PROJECT NUMBER 12-6606</p> <p>S774 - BISHOP GRANDIN BV EB AT STA: 2+691</p> <p>CONSULTANT DRAWING NUMBER S774-2013-01</p>
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