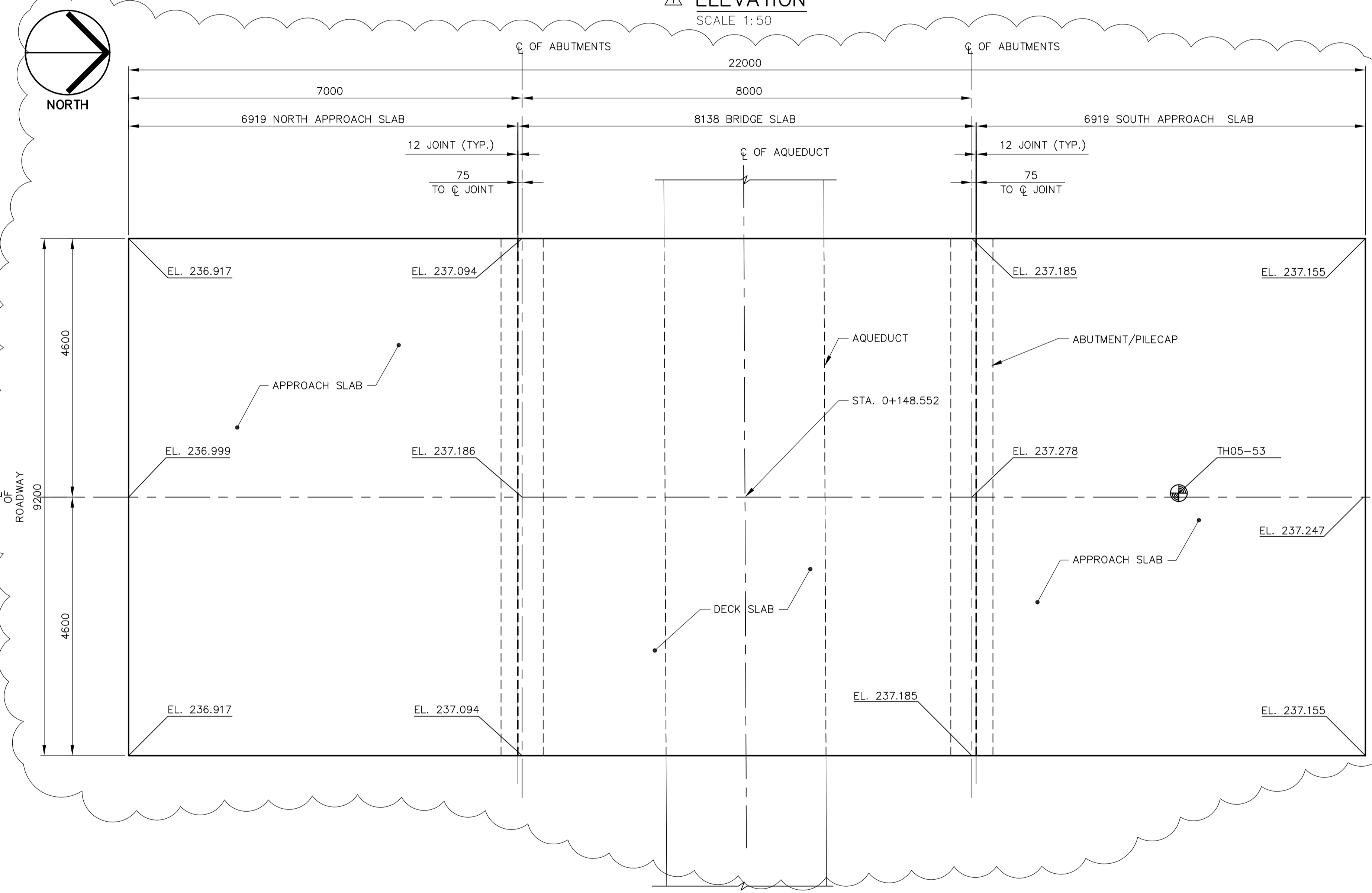
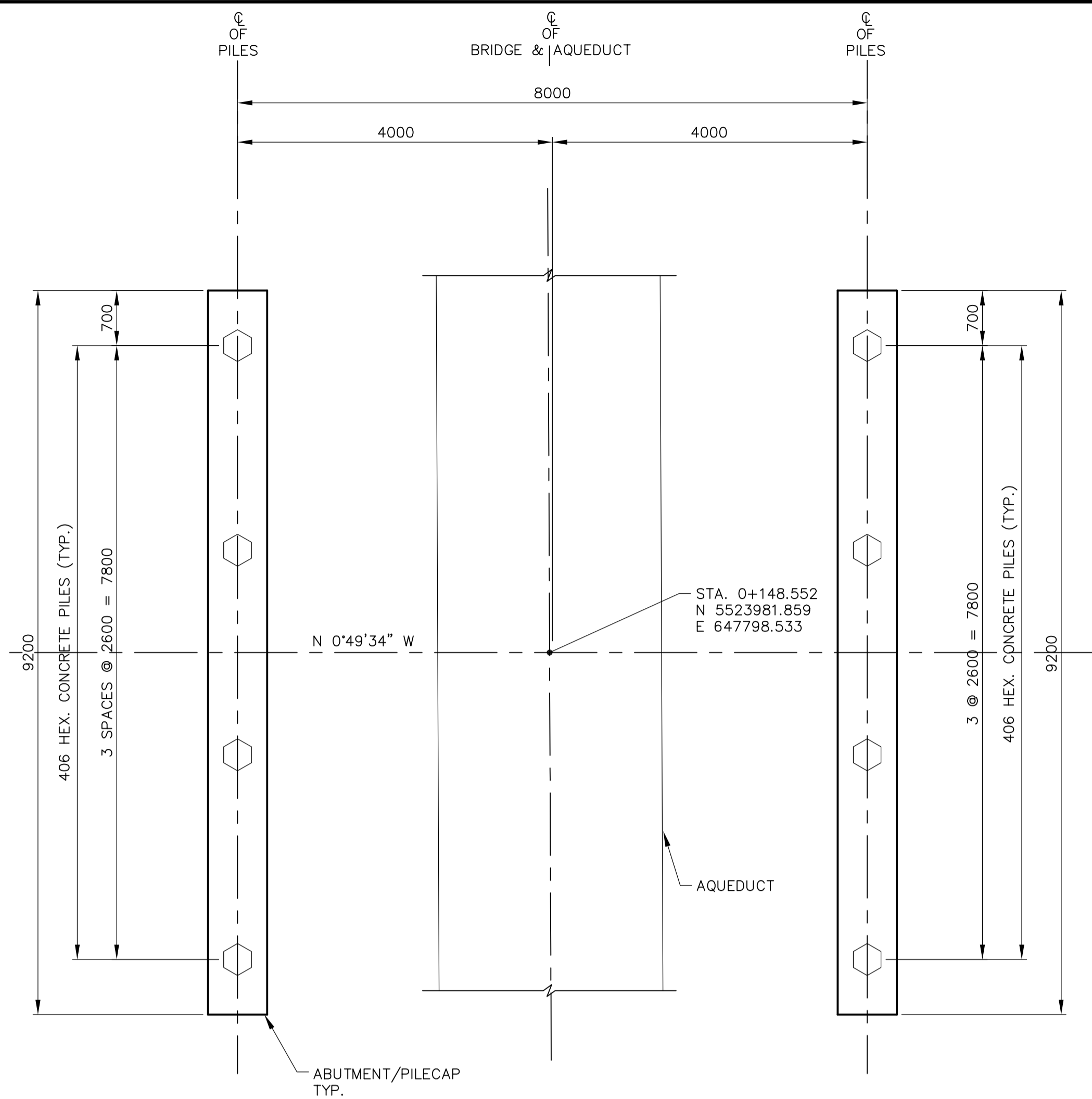


**ELEVATION**  
SCALE 1:50



**PLAN**  
SCALE 1:50



**PLAN**  
SCALE 1:50

**NOTES:**

- THE CONTRACTOR TO CONFIRM LOCATION OF  $\phi$  AQUEDUCT PIPE BY PROBING PRIOR TO CONSTRUCTION
- THE CONTRACTOR IS TO EXERCISE EXTREME CARE TO PREVENT DAMAGE TO THE GWD AQUEDUCT. ANY DAMAGE TO THE GWD AQUEDUCT SHALL BE REPORTED TO THE CITY OF WINNIPEG WATER & WASTE DEPARTMENT 24 HOUR EMERGENCY LINE (204) 986-2626.
- ALL EXCAVATION SHALL BE LUMP SUM EXCAVATION.
- HIGH DENSITY INSULATION SHALL BE PLACED BY THE CONTRACTOR AS SHOWN
  - a) INSULATION SHALL BE 100 mm THICK EXTRUDED POLYSTYRENE CONFORMING TO CAN/CGSB 51.20-M TYPE 4 WITH A MINIMUM COMPRESSIVE STRENGTH OF 275 kPa
  - b) INSULATION SHALL BE COMPLETELY ENCLOSED IN 6 MIL POLYETHYLENE WITH ALL JOINTS POLY-VINYL TAPED
- WORKING BASE SHALL BE 75mm THICK LEAN MIX CONCRETE.
- CELLULAR CORRUGATED PAPER VOID FORM FOR DECK SLAB AND ABUTMENT CONSTRUCTION SHALL BE VOIDFORM AS MANUFACTURED BY TECHNICOAT LTD., OR EQUIVALENT, AS APPROVED BY THE CONTRACT ADMINISTRATOR. THE VOID FORM SHALL HAVE SUFFICIENT LOAD CAPACITY TO WITHSTAND ALL CONSTRUCTION LOADS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE VOID FORM SHALL BE PROTECTED WITH 3mm HARDBOARD OR AS OTHERWISE SPECIFIED BY THE MANUFACTURER.
- BRIDGE IS ON 0°13'42" SKEW TO AQUEDUCT.

**DESIGN DATA**

- SPECIFICATIONS:**  
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, THIRD EDITION 2004.
- DESIGN LIVE LOAD:**  
1. AASHTO HSS25  
2. AASHTO HL93
- STRUCTURAL CONCRETE:**  
STRUCTURAL SLAB AND APPROACH SLABS  
 $f_c = 35 \text{ MPa}$   
 WATER/CEMENTING MATERIALS RATIO: 0.40 MAXIMUM  
 CAN/CSA-A5-93 TYPE 10 NORMAL PORTLAND CEMENT.  
 SUBSTRUCTURE INCLUDING CIP CONCRETE PILES:  
 $f_c = 35 \text{ MPa}$   
 WATER/CEMENTING MATERIALS RATIO: 0.45 MAXIMUM  
 CAN/CSA-A5-93 TYPE 50 SULPHATE RESISTANT PORTLAND CEMENT.
- REINFORCING STEEL:**  
DEFORMED REINFORCEMENT: CAN/CSA-G30.18-M92 GRADE 400W
- FOUNDATION DATA:**  
PILE LOADING ABUTMENTS:  
 406 $\phi$  HEX PRECAST CONCRETE PILE  
 ULTIMATE LRFD PILE CAPACITY = 1600 kN  
 MAXIMUM PILE LOAD (SERVICE 1 LOAD COMBINATION) = 660 kN  
 MAXIMUM PILE LOAD (STRENGTH 1 LOAD COMBINATION) = 1030 kN

<p><b>APEGM</b> Certificate of Authorization Earth Tech Canada Inc. No. 730 Expiry: April 30, 2006</p>	<p>Frederickson Cooper ARCHITECTS</p>	<p>EarthTech A Tyco International Ltd. Company</p>	<p>ENGINEER'S SEAL PROVINCE OF MANITOBA ORIGINAL SIGNED BY <b>E.B. LOEWEN</b> Member 8325 06/02/06 REGISTERED PROFESSIONAL ENGINEER</p>	<p>THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING DIVISION</p>	
				<p>WATER TREATMENT PLANT AQUEDUCT BRIDGES FOUNDATIONS &amp; CONCRETE STRUCTURES</p>	
<p>DESIGNED BY: AP DRAWN BY: KC SCALE: AS NOTED</p>		<p>CHECKED BY: EBL APPROVED BY: D.J. TANIGUCHI RELEASED FOR CONSTRUCTION BY: R. SOROKOWSKI</p>		<p>CONSULTANT DRAWING NO. WN-S0170</p>	
<p>B.M. ELEV.</p>		<p>DATE: 2005/08/29</p>		<p>DATE: 2006/02/06</p>	