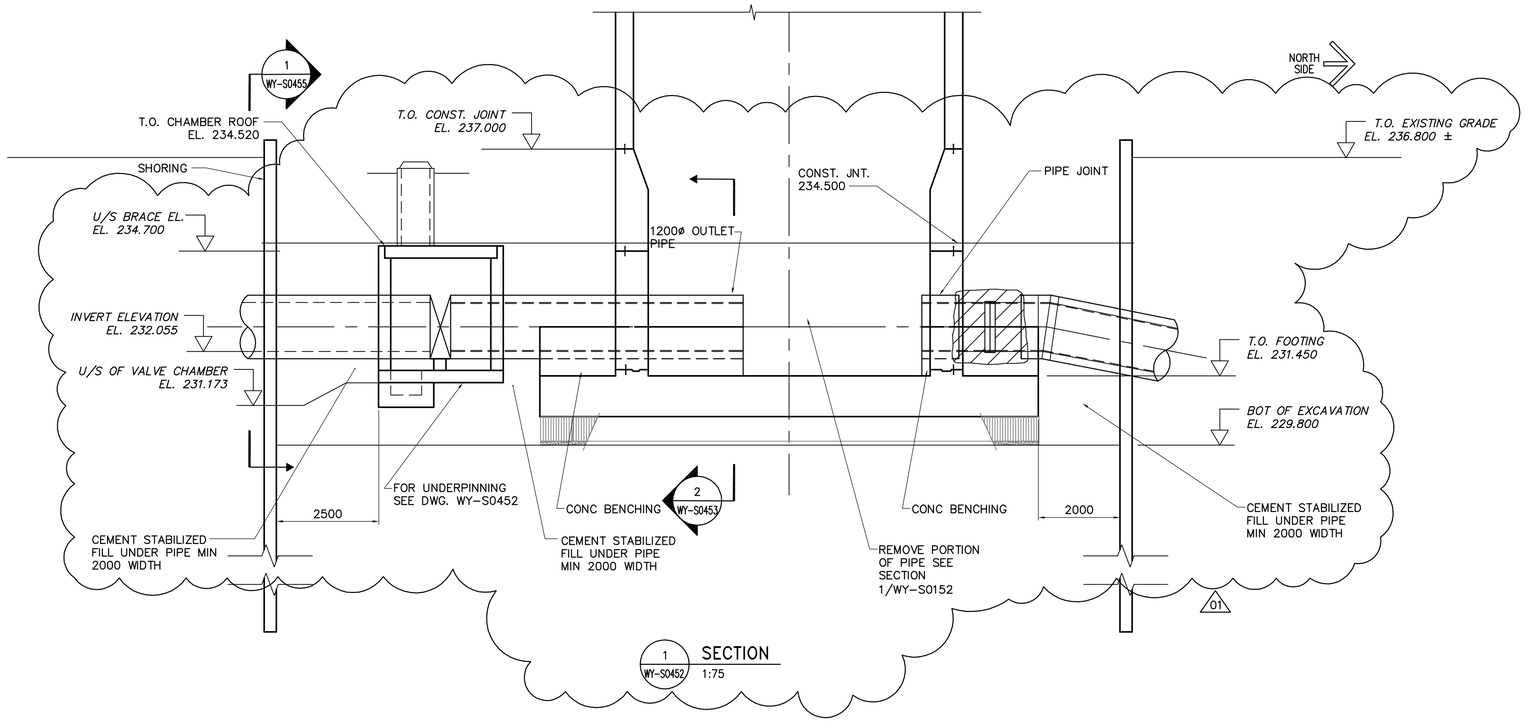
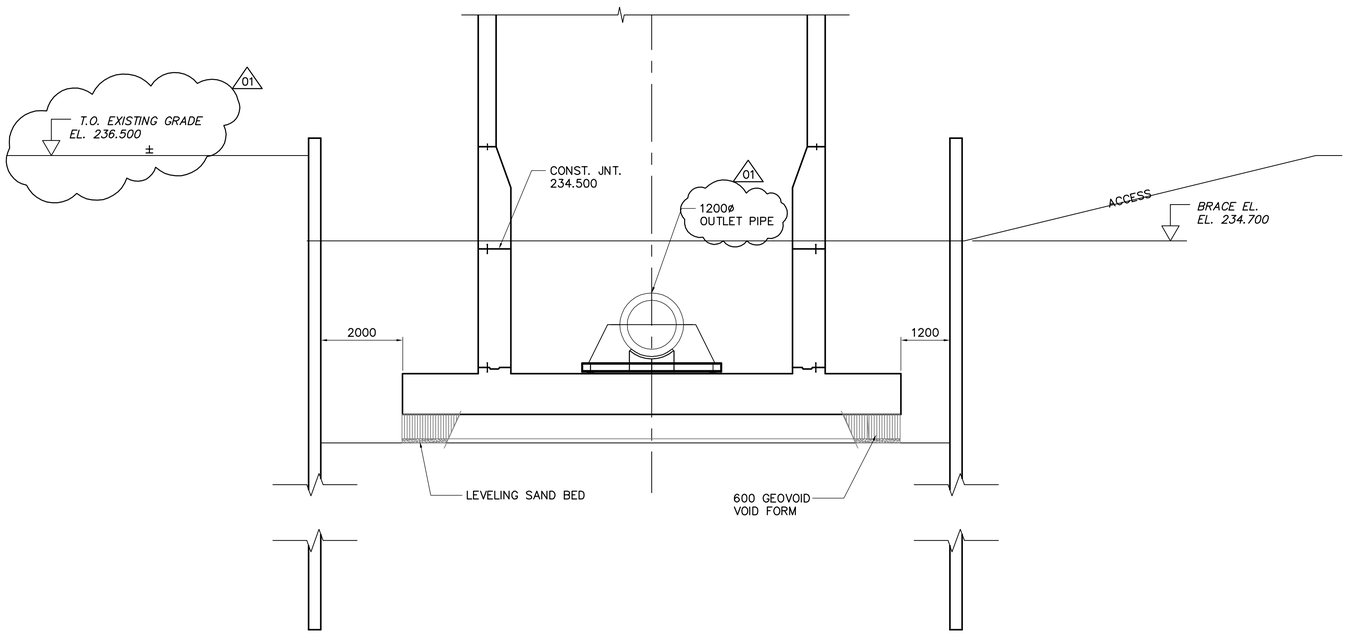


1 WY-S0452 **SECTION** 1:75



2 WY-S0453 **SECTION** 1:75

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CONSTRUCTION SEQUENCE:

1. LOCATIONS OF UTILITIES SHOWN ON DRAWINGS ARE APPROXIMATE ONLY AND EXACT LOCATIONS SHALL BE DETERMINED BY METHOD OF SOFT-CUT (WATER JETTING METHOD) EXCAVATION OR HAND EXCAVATION PRIOR TO COMMENCING ANY HEAVY EQUIPMENT EXCAVATION ACTIVITIES.
2. THE CONTRACTOR SHALL SUPPLY AND INSTALL PERIMETER SHORING AS INDICATED ON THE DRAWINGS EXCEPT AT ACCESS AREAS ON THE NORTH AND EAST SIDES. THE SHORING ARRANGEMENT SHALL CONSIST OF AN INTERNALLY BRACED SYSTEM* DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF MANITOBA. THE PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR TO PROVIDE THE SHORING DESIGN SHALL INSPECT THE SHORING AT CRITICAL STAGES AND CERTIFY IN WRITING TO THE CONTRACT ADMINISTRATOR THAT IT MEETS THE REQUIREMENTS OF HIS DESIGN.
3. EXCAVATE TO ELEVATION 234.500 WITHIN THE LIMITS SHOWN ON THE DRAWINGS. LOCATE THE EXISTING 1200mm DIAMETER OUTLET PIPE WITH PROBES AND EXCAVATE TO DETERMINE THE EXACT LOCATION OF THE CENTRE LINE OF THE EXISTING 1200mm DIAMETER OUTLET PIPE AT THE NORTH AND SOUTH SHORING LINES. MACHINE EXCAVATION WILL NOT BE PERMITTED WITHIN 400mm OF THE PIPE SURFACE.
4. LAYOUT AND INSTALL THE PRECAST PILING BASED ON THE AS-BUILT CENTRE LINE OF THE 1200mm DIAMETER OUTLET PIPE. ALL PILES SHALL BE PRE DRILLED WITH A 400mm DIAMETER AUGER TO ELEVATION 224.500. THE CONTRACTOR SHOULD ANTICIPATE RE-SETTING ALL PILLING DUE TO PILE REBOUND AT HIS COST. CUT OFF PILES AS REQUIRED FOR INSTALLATION OF THE SHORING INTERNAL BRACING SYSTEM.
5. COMPLETE INSTALLATION OF SHORING AS SHOWN ON THE DRAWINGS AND INSTALL THE INTERNAL BRACING SYSTEM AT ELEVATION 232.700.
6. EXCAVATE TO ELEVATION 232.600 AND INSTALL ALL TEMPORARY PIPE SUPPORTS FOR THE 1200mm OUTLET PIPE AS SHOWN ON THE DRAWINGS. A MAXIMUM TRENCH WIDTH OF 800mm MUST BE MAINTAINED WHEN EXCAVATING UNDER THE EXISTING 1200mm DIAMETER PIPE. THE 1200mm DIAMETER PIPE SHALL ALSO BE SUPPORTED WHERE IT PENETRATES THE PERIMETER SHORING LINE AS INDICATED ON THE DRAWINGS.
7. PROCEED WITH EXCAVATION TO ELEVATION 231.200 AND INSTALL THE SIX UNDERPINNING PILES UNDER DRV 305 VALVE CHAMBER.
8. AFTER THE UNDERPINNING PILES HAVE REACHED 85% OF THEIR 28-DAY COMPRESSIVE STRENGTH PROCEED WITH EXCAVATION TO UNDERSIDE OF GEOVOID VOID FORM AT ELEVATION 229.800.
9. COMPLETE CONSTRUCTION OF THE SURGE TOWER BASE SLAB, STRUCTURAL BENCHING BETWEEN TEMPORARY PIPE SUPPORTS AND SURGE TOWER WALLS TO ELEVATION 234.500. TEMPORARY PIPE SUPPORTS TO BE REMOVED AND REPLACED WITH STRUCTURAL BENCHING IN A STAGED MANNER TO PROVIDE ADEQUATE SUPPORT FOR THE OUTLET PIPE AT ALL TIMES.
10. AFTER THE CONCRETE FOR THE SURGE TOWER HAS REACHED ITS 28-DAY COMPRESSIVE STRENGTH UNDERTAKE WATER TIGHTNESS TESTING. REPAIR ANY DEFECTS AND REPEAT WATER TIGHTNESS TEST UNTIL ALL REQUIREMENTS ARE MET.
11. APPLY EXTERIOR WATERPROOFING AND INSULATION. STABILIZED FILL SHALL BE PLACED UNDER THE EXISTING 1200mm OUTLET PIPE AT LOCATIONS WITHIN THE SHORING PERIMETER WHERE THE OUTLET PIPE IS NOT SUPPORTED DIRECTLY BY THE SURGE TOWER BASE SLAB OR THE EXISTING DRV 305 VALVE CHAMBER. BACKFILL TO ELEVATION 234.000 EXCEPT AT THE OVERFLOW PIPE AREA. SHORING AROUND THE OVERFLOW PIPE AREA SHALL REMAIN IN PLACE AND BE REMOVED OR CUT OFF BY OTHERS. AFTER BACKFILLING TO 234.000 THE INTERNAL BRACING SYSTEM MAY BE REMOVED. COMPLETE CONSTRUCTION OF THE SURGE TOWER CONCRETE WORK INCLUDING STRUCTURAL BENCHING OF THE EXISTING 1200 DIAMETER PIPE AS SHOWN ON THE DRAWINGS.
12. AFTER THE CONCRETE FOR THE SURGE TOWER WALLS HAS REACHED ITS 28 DAY DESIGN STRENGTH, UNDERTAKE WATER TIGHTNESS TESTING TO ELEVATION 247.200. REPAIR ANY DEFECTS AND REPEAT WATER TIGHTNESS TEST UNTIL ALL WATER TIGHTNESS REQUIREMENTS ARE MET. ALL WATER TIGHTNESS TESTING MUST BE COMPLETED AT AMBIENT AIR TEMPERATURES OF PLUS 5 DEGREES C OR ABOVE.
13. COMPLETE BELOW GRADE WATERPROOFING AND INSULATION AND INSTALL THE ARCHITECTURAL ENVELOPE AND ALL MECHANICAL AND ELECTRICAL COMPONENTS. REMOVE SHORING AND BACKFILL TO FINISHED GRADE ELEVATIONS.
14. THE CONTRACTOR SHALL COVER AND WRAP THE EXISTING 1200 mm OUTLET PIPE WHERE IT HAS BEEN EXPOSED WITH TWO LAYERS OF INSULATED TARPS WHEN THE AMBIENT AIR TEMPERATURE IS EXPECTED TO FALL BELOW 2 DEGREES C.
15. AFTER OBTAINING AUTHORIZATION FROM THE CONTRACT ADMINISTRATOR TO PROCEED, REMOVE TEMPORARY BRACING, DEMOLISH THOSE PORTIONS OF THE EXISTING 1200 mm DIAMETER PIPE DESIGNATED FOR REMOVAL.
16. DISINFECT THE SURGE TOWER CONSTRUCTION AND EXISTING 1200 mm OUTLET PIPE FROM THE DRV 305 VALVE TO THE PVI OF THE VERTICAL BEND AND ANY OTHER PARTS OF THE EXISTING PIPING AFFECTED BY THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS PRIOR TO TURNOVER TO THE CITY.
17. ALL SHORING AND TEMPORARY PIPE SUPPORTS SHALL BE REMOVED UNLESS PERMITTED OTHERWISE BY THE CONSTRUCTION ADMINISTRATOR.

* SHOULD BIDDERS WISH TO PROPOSE AN ALTERNATIVE SHORING SYSTEM TO THE ABOVE THEY SHOULD SUBMIT LAYOUT, STRUCTURAL DETAILS, GEOTECHNICAL DESIGN ASSUMPTIONS AND ANY REVISIONS TO THE CONSTRUCTION SEQUENCE IN ACCORDANCE WITH CLAUSE B6.

APEGM
Certificate of Authorization
Earth Tech Canada Inc.
No. 730 Expiry: April 30, 2007

B.M. ELEV.

NO.	REVISIONS	DATE	BY
01	37-2006 ADDENDUM 1	06/05/24	NS
00	ISSUED FOR TENDER	06/05/03	KK

CH2MHILL
Frederickson Cooper ARCHITECTS
EarthTech A Tyco International Ltd. Company

DESIGNED BY	FK	CHECKED BY	GGP
DRAWN BY	GGP / KK	APPROVED BY	AHL
SCALE:	AS NOTED	RELEASED FOR CONSTRUCTION BY:	R. SOROKOWSKI
DATE	2006/02/08	DATE	2006/05/03

ENGINEER'S SEAL
ORIGINAL SIGNED BY
F.A. KEMP
2006/05/03

CONSULTANT DRAWING NO.
WY-S0453

Winnipeg
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

WATER TREATMENT PLANT
YARD PIPING AND VALVE CHAMBERS
SURGE TOWER CONSTRUCTION

STRUCTURAL
OUTFALL PIPE SUPPORT SHORING SECTIONS

CITY FILE NUMBER
SHEET OF
CITY DRAWING NUMBER
1-0601Y-A-S0453-001-01D