



ADDENDUM 3 BID OPPORTUNITY 791-2006

WINNIPEG WATER TREATMENT PROGRAM – CONSTRUCTION OF WATER TREATMENT PLANT OVERFLOW AND SUPERNATANT LINE

URGENT

**PLEASE FORWARD THIS DOCUMENT TO
WHOEVER IS IN POSSESSION OF THE BID
OPPORTUNITY**

ISSUED: March 5, 2007
BY: Lawrence Recksiedler, C.E.T.
TELEPHONE NO. (204) 986-4246

**THIS ADDENDUM SHALL BE INCORPORATED
INTO THE BID OPPORTUNITY AND SHALL
FORM A PART OF THE CONTRACT
DOCUMENTS**

Template Version: A20050506

Please note the following and attached changes, corrections, additions, deletions, information and/or instructions in connection with the Bid Opportunity, and be governed accordingly. Failure to acknowledge receipt of this Addendum in Paragraph 10 of Form A: Bid may render your Bid non-responsive.

PART A – BID SUBMISSION

Replace: 791-2006_Addendum_2-Bid_Submission with 791-2006_Addendum_3-Bid_Submission. Form B: Prices has been replaced with 791-2006_Addendum_3-Form B(R1): Prices. The following changes to Form B: Prices have been made:

- Item No. A.5.a) has been deleted
- Item No. A.6.b) has been added
- Item No. A.9. has been revised
- Item No. A.10. has been added

PART D– SUPPLEMENTAL CONDITIONS

- | | | |
|--------|----------------|---|
| Revise | D16.1 to read: | The Contractor shall achieve critical stages of the Work in accordance with the following requirements: <ul style="list-style-type: none"> (a) November 16, 2007 – Completion of 750 Supernatant, 150 Sludge FM, and Valve Chamber 2. (b) December 7, 2007 - Completion of 2134 WTP Overflow from connection to existing 1524 overflow to one pipe section north of the 250 LDS connection. (c) October 12, 2007 - Construction of the 750 supernatant tie-in to the aqueduct and Valve Chamber 1. (d) September 21, 2007 - Construction of the siphon under the Cell 3 Raw Water Piping. |
| Add: | D19.1(c) | Critical stages as specified in D16.1 - two thousand, six hundred dollars (\$2,600.00). |
| Revise | D25.1 to read: | Aqueduct, Yard Piping and Reservoir Operations <ul style="list-style-type: none"> (a) Aqueducts, existing yard piping and reservoir shutdown periods are scheduled based on a number of factors including routine maintenance and repair work along the Aqueduct, water demand, weather, reservoir operation and other factors. The City shall endeavour to make the specified time periods available to the Contractor to schedule his work requiring removal of the Aqueduct, yard piping and reservoir from service, without limiting the City’s control over the operation of the regional water infrastructure to complete other work, maintain adequate water supply and storage of water and maintain the integrity of the infrastructure. The City shall reserve the right to cancel and/or delay these schedule dates at any time, due to any circumstances |

that could adversely affect the Aqueducts or water supply, including but not limited to high water demand, abnormal weather, failures of related water system components and/or security concerns.

- (b) A shutdown of the Shoal Lake Aqueduct will not be required during the excavation to expose the 750 supernatant tie-in to the aqueduct.
- (c) A shutdown of the Shoal Lake Aqueduct will be required during the excavation and construction of the 750 supernatant tie-in to the aqueduct. The shutdown is scheduled from October 1, 2007 to October 12, 2007 and includes a five (5) day curing time for the concrete encasement.
- (d) A shutdown of the Cell 3 Raw Water Pipeline will be required during construction of the siphon under the Cell 3 Raw Water Piping. A shutdown of the Cell 3 Raw Water piping is scheduled from September 10, 2007 to September 21, 2007 for construction of the siphon under the Cell 3 Raw Water piping.

Revise D25.2 to read: Coordination with Other Contractors

- (a) Raw Water Pump Station
 - (i) Backfill of the Raw Water Pump Station must be completed prior to the installation of the 750 supernatant line and the 150 sludge FM, backfill is scheduled for completion by June 12, 2007
- (b) DBPS Pump Installation
 - (i) The Contract for the DBPS Pumping Station Upgrade in the DBPS will be completed during the same general time frame as this Contract. The Contractor shall coordinate his work and cooperate to provide access for the DBPS Pump Installation Contractor to the DBPS.
- (c) New Aqueduct Bridge
 - (i) The construction of Valve Chamber 1 cannot commence until June 12, 2007 to permit the installation of the precast piling for the new bridge over the Shoal Lake Aqueduct and removal of the temporary bridge over the Shoal Lake Aqueduct.
- (d) Precast Roof Panels
 - (i) The construction of Valve Chamber 2 cannot commence until August 1, 2007 to permit the installation of the precast roof panels for the Raw Water Pump Station and the Water Treatment Plant electrical room.
 - (ii) The section of the overflow pipe east of the electrical duct bank cannot commence until April 21, 2008 to permit installation of the precast roof panels for the north west area of the Water Treatment Plant.

PART E – SPECIFICATIONS

Section 02511

Add: 2.1.4 Tracer Wire

- .1 Tracer Wire shall be continuous 14 AWG solid copper wire with PVC insulation minimum 0.89 mm thick.

Section 02511A

Add: 2.1.10 Tracer Wire

- .1 Tracer Wire shall be continuous 14 AWG solid copper wire with PVC insulation minimum 0.89 mm thick.

Section 02630

- Add: 1.2.4.4 ASTM D1785, Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120.
- Add: 1.2.4.5 ASTM D2467, Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedules 80.
- Add: 1.2.4.6 ASTM D2564, Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.
- Add: 1.2.4.7 ASTM D2855, Standard Specification for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
- Add: 1.2.5.3 CSA B137 Series, Thermoplastic Pressure Piping Compendium.
- Add: 1.2.5.3.1 CSA B137.3 Rigid Polyvinyl Chloride (PVC) Pipe for Pressure Applications.
- Revise: 1.3.5 to read: Submit Shop Drawings (stamped with the seal of a Professional Engineer) for direct design of reinforced concrete pipe in accordance with Section 01300 – Submittals summarizing all structural analysis and pipe wall design for each unique design section, at least two (2) weeks prior to beginning Work.
- Add: 1.3.9 Submit shoring and excavation plans of the 2134 Plant Overflow pipe crossing of the electrical duct bank at station 1+179.82, in accordance to Section 01300.
- Add: 1.3.10 2134 millimetre cast-in-place bends consisting of bevelled pipe and a concrete collar or a formed concrete bend will be permitted in lieu of precast bends. Design of cast-in-place bends shall be the responsibility of the Contractor, and shall be designed to be equivalent in strength to the pipeline. Submit details of proposed bends in accordance with Section 01300.
- Add: 2.1.2.3 Schedule 80 PVC distribution piping: to ASTM D1785 and CSA-B137.3.
- Add: 2.1.2.4 Schedule 80 PVC fittings: to ASTM D2467 and CSA-B137.3.
- Add: 2.1.2.5 Welding glue: to ASTM D2564: solvent based.
- Revise: 2.1.3 to read: Reinforced concrete pipe shall be designed by direct design methods in accordance with the ASCE Standard Practice for Concrete Pipe Design (SIDD). The following minimum design requirements shall apply:
- Revise: 3.1.5 to read: Advise Contract Administrator if unsuitable foundation or trench wall conditions are encountered. Replace unsuitable material with Type II granular material compacted to Class II standards.
- Add: 3.1.6 Supply and install excavation shoring adjacent the electrical duct bank. Shoring shall be installed underneath the duct bank such that the maximum span of unsupported duct bank is 6.0 metres at all times during the shoring installation process. Shoring shall be installed tight to the bottom of the duct bank. Once the shoring is in place underneath the duct bank, any void underneath the duct bank and behind the shoring shall be backfilled with sand. The shoring shall extend a sufficient distance from the edge of the duct bank to ensure trench excavation will not undermine the duct bank. The Contractor shall utilize trench shoring, trench excavation shields or other methods to prevent disturbance of the duct line where pipe installations parallel the duct bank.
- Add: 3.1.7 The Contractor is advised that the ground along the WTP Overflow route has been previously excavated to an elevation of approximately 230.8 metres under the centreline of the pipe, approximately from station 1+130 to 1+170, and tapering up to the pipe invert at approximate stations 1+105 and 1+180. Backfill in this area has been completed by others to an approximate elevation of 234.0 metres in the Fall of 2006, and will be backfilled by others to an elevation of 236.0 metres in the Spring of 2007. All backfill in this area is stockpiled excavated material from the site, generally classed as a silty clay, placed and compacted in lifts generally to 95 percent SPMDD.

- Add: 3.1.8 All backfill under the electrical duct line above pipe springline shall be Type II backfill compacted to Class II Standards.
- Add: 3.1.9 Where final backfill cover over the pipe is less than the typical safe minimum backfill cover over the pipe before crossing with heavy equipment, (typically 1 metre or as recommended by the pipe manufacturer), the Contractor shall limit the size of compaction equipment and construction methods to preclude damage to the pipe during compaction of backfill.
- Add: 3.2.6 Dewatering and recharging the Cell 3 outlet pipe shall be completed by City forces prior to and following installation of the siphon piping and will be coordinated by the Contract Administrator.
- Add: 3.3.3 Piping shall not be installed by jacking methods under the electrical duct bank.
- Add: 3.6 Three Edge Bearing Test
- .1 The Contract Administrator will randomly select one pipe from the pipe supplied for the sewer installation for a three-edge bearing test in accordance with ASTM C 497. Deliver selected pipe to supplier and perform testing to ultimate failure in presence of Contract Administrator. The test is not intended to be a proof of design test.
- Add: 3.7 Temporary Relocation of Chlorine Solution Line
- .1 The chlorine solution line carries a highly concentrated chlorine and water solution. Prior to relocation, the solution line shall be thoroughly flushed with non-chlorinated water until all chlorine solution is expelled from the pipeline. Dewatering and flushing of the chlorine solution line shall be completed by City forces and will be coordinated by the Contract Administrator.
- .2 The Contractor shall temporarily relocate the chlorine solution line to the east to allow construction of the siphon under the Cell 3 outlet piping. Upon completion of the siphon the chlorine solution line shall be relocated along its original alignment.
- .3 Prepare trenches to piping manufacturer's recommendations and approval of Contract Administrator. Bedding to be smooth and level and provide continuous and uniform support.
- .4 Install piping in accordance with PVC manufacturer's recommendations. Joints shall be solvent weld throughout. Threaded joints not permitted. Make joints in accordance with ASTM D2855, and to manufacturer's recommendations, using both primer and solvent welding cement.
- .5 Following each relocation, the chlorine solution line shall be pressure tested with water using existing pumping equipment within the Deacon Booster Pumping Station. The joints shall be left uncovered until pressure tests are completed and system inspected and approved by the Contract Administrator.
- Revise 4.1.1 to read: Supply and installation of 2134 sewer in a trench shall be in accordance with CW 2130. Cost for relocation of existing catch basins, catch basin leads, removal of existing 1524 sewer piping, coring and connection of 100 drain, provision of temporary access road, restoration of existing gravel roadway, provision of temporary support for crossing utilities and installation and removal of shoring adjacent to the electrical duct bank shall be included in the price for supply and installation of 2134 sewer.
- Add: 4.5 Temporary Relocation of the Chlorine Solution Line
- .1 Relocation of the chlorine solution line shall be measured for payment on a lump sum basis and shall be paid for at the Contract Unit Price for "Temporary Relocation of Chlorine Solution Line." The price shall be payment for the relocation of the chlorine solution line to accommodate construction of the siphon under the Cell 3 outlet and for relocation of the solution along its original alignment following construction of the siphon.

Section 05500

- Add: 1.3.2.3 Submit Shop Drawings for shoring and excavation plan around Aqueduct. Shoring and excavation plan shall be designed and stamped by a Professional Engineer experienced in shoring design and licensed to practice in the Province of Manitoba.
- Revise: 3.4.2 to read: Remove the saddle connection and couplings to facilitate cutting the Aqueduct opening. Once the Aqueduct has been dewatered for the shutdown, anchor the coupon to be cored from the inside of the Aqueduct, core the opening from the outside of the Aqueduct. The method of coring shall be subject to the approval of the Contract Administrator.
- Revise: 3.4.3 to read: Locate existing Aqueduct reinforcing utilizing non-destructive reinforcement location equipment. Drill bolt holes in saddle so as to avoid reinforcing bars in Aqueduct using electric hammer drill (pneumatic drill not permitted). Prepare the surface of the Aqueduct and install the saddle and grout gaskets. Pressure test the annular space between the saddle connection and the Aqueduct exterior wall using the grout injection ports to 15 psi. Inject annular space with approved epoxy resin.

DRAWINGS

The following Drawing has been added and forms part of this Addendum:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
1-0601Y-C-C0203-001-00D	Civil – 2134Ø Siphon – Miscellaneous Sections and Details

The following Drawings have been revised and form part of this Addendum:

<u>Drawing No.</u>	<u>Drawing Title</u>
1-0601Y-C-C0190-001-01D	Civil –Water Treatment Plant Overflow Piping – General Plan
1-0601Y-C-C0200-001-01D	Civil – W.T.P. Overflow Piping – Plan & Profile – Existing 1500Ø Overflow Conn to Match Line Sta 1+100.00
1-0601Y-C-C0201-001-01D	Civil – W.T.P. Overflow Piping – Plan & Profile – Match Line Sta 1+100.00 to Water Treatment Plant
1-0601Y-C-C0215-001-01D	Civil – Potable Water Supply – Deacon Booster Pump Station to 1+22