



ADDENDUM 3 BID OPPORTUNITY 792-2006

WINNIPEG WATER TREATMENT PROGRAM – CONSTRUCTION OF SODIUM HYPOCHLORITE AND CHEMICAL STORAGE BUILDINGS

URGENT

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

ISSUED: April 2, 2007
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**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 792-2006_Addendum_2-Bid_Submission with 792-2006_Addendum_3-Bid_Submission. Form G2(R1) has been replaced by Form G2(R2).

PART B – BIDDING PROCEDURES

Revise: B2.1 to read: The Submission Deadline is 12:00 noon Winnipeg time, April 18, 2007.

PART E – SPECIFICATIONS

Section 01210

Clarification: The estimated hypo generations for the 72 hour test will be 400,000L. The hypo flows generated from the 72 hour test will either be sent to the freeze thaw ponds (via the WTP residuals facility) or recycled through the plant process to keep things clean and disinfected.

Section 02450

Replace: Section 02450 with Section 02450(R1)

Section 02451

Revise: 3.5.7 to read: Re-strike already driven piles lifted from original set during driving of adjacent piles to confirm and assure set. Maximum allowable uplift of piles from original set is 3 mm. The Contractor should expect the influence of uplift from driving adjacent piles to be up to 9 m and that it may be necessary to re-strike piles more than once until minimum acceptable uplift of 3 mm is achieved.

Section 02530

Add: Section 02530

Section 02630

Add: Section 02630

Section 02631

Add: Section 02631

Section 02641

Replace: Section 02641 with Section 02641(R1)

Section 03100

Revise: 2.4.3 to read: Bio-degradable Void Form: moisture resistant treated paper faces, bio-degradable, structurally sufficient to support weight of reinforcement, wet concrete mix, and a construction live load of 2.4 kPa for a minimum 48 hours from completion of concrete placement. Top of void form shall be protected with sheet material in accordance with Manufacturer's and construction requirements.

Add: 2.4.4 Engineered Polystyrene Void Form: Product shall be engineered expanded polystyrene void form meeting the following requirements:

- .1 Shall accommodate soil swell of 200 mm; net uplift pressure (pressure from void form minus slab dead load) shall not exceed 2.5 kPa at maximum soil swell to the underside of slabs.
- .2 Shall be structurally sufficient to support weight of reinforcing steel, wet concrete mix, and a construction live load of 2.4 kPa for a minimum 48 hours from completion of concrete placement.
- .3 Contractor shall submit product information and engineering design bearing the seal of a Professional Engineer registered in the Province of Manitoba, and construction procedures, for review.
- .4 Top of void form shall be protected with sheet material in accordance with manufacturer's and construction requirements.
- .5 Acceptable product: GeoVoid by Plasti-Fab Ltd.

Add: 2.4.5 The Contractor may select either the bio-degradable void form and/or the engineered polystyrene void form. Contractor shall submit a void form plan for review at least one week prior to installation of any void form.

Revise: 3.2.2 to read: Protect bio-degradable void form wetting from fresh concrete and moisture from ground during initial setting period as per Manufacturer's instructions.

Revise: 3.2.3 to read: Install sheet material protection over top of bio-degradable void form.

Revise: 3.2.5 to read: Ensure collapse of bio-degradable void form after concrete has achieved design strength. Review proposed method and timing with Contract Administrator prior to concrete placement.

Add: 3.2.6 Place void form, 200 mm thick, beneath all pile caps, grade beams and structural slabs to cover the entire footprint of each building.

Revise: 3.3.1 to read: Beam stirrups: 50 mm unless noted otherwise; main beam steel: 50 mm plus stirrup size.

Section 05500

Revise: 1.1.2 to read: All metal fabrications to be hot dipped galvanized except stair stringers in containment areas or elements fabricated from stainless steel.

Section 05530

Revise: 1.1.2 to read: Design railings and balustrades complete with connections to requirements of the building code and other authorities having jurisdiction. Maximum deflection of L/360 of clear span.

Section 07400

Add: 2.1.11 Non-Combustible Insulation: Unfaced mineral fibreboard insulation, RXL-40 by Roxul Inc.

Section 09985

Revise: 1.2.3 to read: Each coating system is to have a proven minimum one (1) full year containment with exposure to the chemical in which it is intended to contain, with no detrimental effect on the coating system after spills of 72 hours duration.

Revise: 3.8 to read: Provide a five (5) year warranty against delamination of the coating and coating system, delamination of the coating and coating system from the substrate, defective coating and coating system application, and defects in the coating and coating system.

Section 11251

Revise: 2.1.11 to read: Each storage tank shall be designed and built to a 10:1 safety factor and be sealed by a Professional Engineer registered in the Province of Manitoba.

Revise: 2.1.12.3 to read: Supply and Install a 7mm neoprene spacer beneath each tank to minimize the risk of an object piercing the bottom of the tank.

Revise: 2.2.10 to read: Each storage tank shall be BPO post-cured and in accordance with the resin Manufacturer's recommendation.

Revise: 2.2.11 to read: Each storage tank shall be designed and built to a 10:1 safety factor and be sealed by a Professional Engineer registered in the Province of Manitoba.

Revise: 2.2.12.3 to read: Supply and Install a 7mm neoprene spacer beneath each tank to minimize the risk of an object piercing the bottom of the tank.

Revise: 2.2.13.7 to read: Top Manway: Top manway shall provide a minimum 600 mm tank opening, provide a port and bar type hinge, a grip handle, a drip lip and raised collar laminated into the tank top. The top manway shall include a Hypalon gasket. All steel bolts, nuts and washers shall be epoxy coated.

Revise: 2.2.13.8 to read: Side Manway: 750 mm diameter flanged tank access side manhole and cover, double reinforced with centre line 900 mm above tank bottom with Hypalon gaskets, epoxy coated, steel bolts, nuts and washers.

Revise: 2.4.1.3 to read: Each tank bottom to be double welded butt joints. The shell to bottom joints to be full penetration joints with reinforcing fillets. Shell horizontal and vertical joints to be full penetration welds. Tank roof shall be either a reinforced flat roof or domed suitable to meet the structural requirements of the tank and also to fit in the head space requirements as shown on the drawings.

Revise: 2.4.1.7 to read: Supply and Install 750 mm diameter flanged tank access side manhole and cover, with Viton gasket and stainless steel fasteners for each tank. Centre line of tank access 900 mm above tank bottom.

Revise: 2.4.1.8 to read: Supply and Install 600 mm diameter flanged access manhole and cover on tank top, with Viton gasket and stainless steel fasteners for each tank.

Add: 2.4.1.15 Supply and Install hold down lugs of similar metal to the tanks, complete with plate, anchor bolts, nuts, and washers for proper anchoring of the tank. Actual number of hold down lugs shall be calculated with the tank empty.

- Delete: 2.5.1.3
- Revise: 2.5.1.4 to read: Each tank bottom to be double welded butt joints. The shell to bottom joints to be full penetration joints with reinforcing fillets. Shell horizontal and vertical joints to be full penetration welds. Tank roof shall be either a reinforced flat roof or domed suitable to meet the structural requirements of the tank and also to fit in the head space requirements as shown on the drawings.
- Revise: 2.5.1.8 to read: Supply and Install 750 mm diameter flanged tank access side manhole and cover, with EPDM gasket and stainless steel fasteners for each tank. Centre line of tank access 900 mm above tank bottom.
- Revise: 2.5.1.9 to read: Supply and Install 600 mm diameter flanged access manhole and cover on tank top, with EPDM gasket and stainless steel fasteners for each tank.
- Add: 2.5.1.14 Supply and Install hold down lugs of similar metal to the tanks, complete with plate, anchor bolts, nuts, and washers for proper anchoring of the tank. Actual number of hold down lugs shall be calculated with the tank empty.
- Revise: 2.5.4 to read: The Contractor shall Supply and Install pressure and vacuum relief valves, mounted on the steel tanks as shown in the Drawings. The valve body shall be Supplied with 150 lb ANSI standard flanges. The valve shall be set to open at 20 kPa (3 psi) inside tank pressure or a 3 ounces vacuum.
- Revise: 3.1.2 to read: Supply and Install neoprene spacer beneath each FRP tank.

Section 11308

Replace: Section 11308 with Section 11308(R1)

Section 11316

Replace: Section 11316 with Section 11316(R1)

Section 15010

Revise: 1.17.4.64 to read: Unit Heaters - Electric – Chromalox, Ouellet, Q-Mark, Reznor.

Section 15200-00S

Replace: Section 15200-00S_Piping Schedule with 15200-00S_Piping Schedule(R1)

Section 15202-02

Replace: Section 15202-02_Manual Valve Schedule with 15202-02_Manual Valve Schedule(R1)

Section 15710

- Revise: 2.1.2 to read: Heat exchangers to be package skid mounted, supplied complete with:
- Add: 2.1.2.1 Primary Pump - Closed coupled type, single stage, single suction Vertical In-Line Centrifugal pumping unit. The casing shall be radially split to allow removal of the rotating element without disturbing the pipe connections. The casing shall be made of cast iron with equal size suction and discharge flanges and equipped with separate tapped flush line and pressure gauge connections. Pump impeller shall be bronze, fully enclosed type, and shall be dynamically balanced. A bronze shaft sleeve, extending the full length of the mechanical seal area shall be provided. The mechanical seal shall be single spring inside type with carbon against O-ring mounted Ni-Resist faces. EPDM elastomer with stainless steel spring and hardware shall be provided. Seal vent line shall be factory installed and shall be piped from the seal area to the pump suction connection. The driving motor shall be industry standard, vertical solid shaft, and squirrel cage induction type with ODP enclosure.

- Add: 2.1.2.2 3-Way Control Valve - Bronze with female NPT threaded connections for sizes up to 2" and flanged connections for 2½" and 3. The mixing valve shall be ANSI rated to withstand the pressures and temperatures encountered. The valve shall have metal to metal seat, stainless steel stem, and replaceable cartridge-type EPDM packing for easy service. The valve shall be electronically actuated and shall supply constant total flow through the heat exchanger. The valve – with linear or equal percentage flow characteristics – shall be spring loaded to fail closed in case of power outage.
- Add: 2.1.2.3 Control Panel - Single enclosure NEMA 1 control panel, wired to the pumps and the 3-way valve actuator, shall be provided. Panel shall have the main disconnect interlocked with the door, a locking door handle provided with two keys, fuses for the pump motor and starters with 3-leg overload protection. Control circuit shall include fused primary and secondary control transformers with 24 and 120 volt secondary, H-O-A switch for the primary pump and ON/OFF switch for the circulating pump. Control Panel shall be UL & CSA listed. Refer to section 15940 for required BAS outputs.
- Add: 2.1.2.4 Secondary Circulating Pump – To be supplied with Domestic Hot Water Heat Exchanger - Circulating Pump, designed for quiet operation. 115 volt, single phase, 60 Hertz, 1800 rpm drip-proof mounted motor. Circulator shall be an All-bronze construction, three-piece design. The shaft shall have oil-lubricated bronze sleeve bearing. Pump to be equipped with a watertight, mechanical seal and be suitable for 225°F and 175 psi.
- Revise: 2.1.3 to read: Performance: Refer to Section 15999 – List of Schedules.
- Add: 2.1.4 Acceptable Manufacturers: S.A. Armstrong, Alfa Laval, ITT

Section 15720

- Revise: 2.2.8.6 to read: HVAC Controls Contractor to supply and install a dedicated solid state controller complete with a control actuator that will effectively modulate the face and bypass damper to achieve the following:
1. Accurate supply air temperature control
 2. Summer/Winter operation changeover
 3. Exhaust air side frost control

Section 15760

- Add: 2.5.8.3 Q-Mark
- Add: 2.5.8.4 Reznor
- Delete: 2.6

Section 15902

- Revise: 2.3.2.1.1 to read: Supply and install to each local control panel, including those supplied with the AHU's and MAU's a local BAS controller, to provide performance and functionality as described in section 15930 and 15940.

Section 15990

- Add: Section 15990

DRAWINGS

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

<u>Consultant Drawing No.</u>	<u>City Drawing No.</u>	<u>Drawing Name/Title</u>
WJ-P0007	1-0601J-A-P0007-001-00D	PROCESS - BULK SODIUM HYPOCHLORITE CONTAINMENT - PROCESS AND INSTRUMENTATION DIAGRAM
WS-E0401	1-0601S-A-E0401-001-00D	ELECTRICAL - CABLE TRAY DETAILS
WS-S0420	1-0601S-A-S0420-001-00D	STRUCTURAL - SKYWAY BRIDGE SUPPORT DETAILS

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

<u>Consultant Drawing No.</u>	<u>City Drawing No.</u>	<u>Drawing Title</u>
WJ-B0121	1-0601J-A-B0121-001-01D	ARCHITECTURAL - REFLECTED CEILING PLANS
WJ-B0125	1-0601J-A-B0125-001-01D	ARCHITECTURAL - STAIRS AND PLATFORM LAYOUT
WJ-B0130	1-0601J-A-B0130-001-01D	ARCHITECTURAL - ROOF PLAN
WJ-B0201	1-0601J-A-B0201-001-01D	ARCHITECTURAL - BUILDING SECTION
WJ-B0302	1-0601J-A-B0302-001-01D	ARCHITECTURAL - BUILDING ELEVATIONS AND DETAILS
WJ-B0401	1-0601J-A-B0401-001-02D	ARCHITECTURAL - DETAILS
WJ-B0402	1-0601J-A-B0402-001-01D	ARCHITECTURAL - WALL SECTION DETAILS
WJ-B0403	1-0601J-A-B0403-001-02D	ARCHITECTURAL - BUILDING LINK DETAILED PLAN & SECTIONS
WJ-B0501	1-0601J-A-B0501-001-02D	ARCHITECTURAL - SCHEDULES AND CODE ANALYSIS
WJ-F0105	1-0601J-B-F0105-001-01D	STRUCTURAL – SODIUM HYPOCHLORITE BUILDING - PILING PLAN
WJ-M0402	1-0601J-A-M0402-001-02D	PROCESS MECHANICAL - SODIUM HYPOCHLORITE BUILDING - DETAILS
WJ-S0201	1-0601J-A-S0201-001-01D	STRUCTURAL - SODIUM HYPOCHLORITE BUILDING - SECTIONS AND DETAILS
WJ-S0202	1-0601J-A-S0202-001-01D	STRUCTURAL - SODIUM HYPOCHLORITE BUILDING - SECTION AND DETAILS
WJ-S0203	1-0601J-A-S0203-001-01D	STRUCTURAL - SODIUM HYPOCHLORITE BUILDING - SECTIONS
WJ-S0402	1-0601J-A-S0402-001-01D	STRUCTURAL - SKYWAY BRIDGE DETAILS
WJ-S0453	1-0601J-A-S0453-001-01D	STRUCTURAL - SODIUM HYPOCHLORITE BUILDING - STANDARD DETAILS
WJ-S0505	1-0601J-D-S0505-001-01D	STRUCTURAL - SODIUM HYPOCHLORITE BUILDING - PILING SCHEDULE AND DETAILS
WS-B0110	1-0601S-A-B0110-001-01D	ARCHITECTURAL - MAIN FLOOR PLAN
WS-B0115	1-0601S-A-B0115-001-01D	ARCHITECTURAL - SECOND FLOOR PLAN
WS-B0120	1-0601S-A-B0120-001-01D	ARCHITECTURAL - CATWALK LEVEL
WS-B0121	1-0601S-A-B0121-001-01D	ARCHITECTURAL - MAIN FLOOR REFLECTED CEILING PLAN
WS-B0122	1-0601S-A-B0122-001-01D	ARCHITECTURAL - SECOND FLOOR REFLECTED CEILING PLAN
WS-B0204	1-0601S-A-B0204-001-01D	ARCHITECTURAL - WALL SECTIONS
WS-B0401	1-0601S-A-B0401-001-02D	ARCHITECTURAL - DETAILS
WS-B0402	1-0601S-A-B0402-001-01D	ARCHITECTURAL - DETAILS
WS-B0403	1-0601S-A-B0403-001-02D	ARCHITECTURAL - SKYWAY BRIDGE DETAILED PLAN & SECTIONS
WS-B0405	1-0601S-A-B0405-001-01D	ARCHITECTURAL - WASHROOM DETAILS & DOOR JAMB/HEAD DETAILS
WS-B0501	1-0601S-A-B0501-001-02D	ARCHITECTURAL - SCHEDULES AND CODE ANALYSIS
WS-C0001	1-0601S-A-C0001-001-01D	CIVIL - GRADING PLAN AND DETAILS
WS-C0002	1-0601S-A-C0002-001-01D	CIVIL - RAILWAY CONSTRUCTION - HORIZONTAL GEOMETRY
WS-C0003	1-0601S-A-C0003-001-01D	CIVIL - RAILWAY CONSTRUCTION - PLAN & PROFILE
WS-C0004	1-0601S-A-C0004-001-01D	CIVIL - RAILWAY CONSTRUCTION - PLAN & PROFILE
WS-E0001	1-0601S-A-E0001-001-01D	ELECTRICAL - DUCT BANK LOCATION - PLAN AND PROFILE
WS-E0113	1-0601S-A-E0113-001-02D	ELECTRICAL - MAIN FLOOR LIFE SAFETY

<u>Consultant Drawing No.</u>	<u>City Drawing No.</u>	<u>Drawing Title</u>
WS-E0121	1-0601S-A-E0121-001-01D	ELECTRICAL - SECOND FLOOR LIGHTING PLAN
WS-E0123	1-0601S-A-E0123-001-02D	ELECTRICAL - SECOND FLOOR LIFE SAFETY
WS-E0506	1-0601S-A-E0506-001-02D	ELECTRICAL - SCHEDULES
WS-F0100	1-0601S-B-F0100-001-01D	STRUCTURAL - FOUNDATION PLAN - PARTIAL PILE LAYOUT
WS-S0001	1-0601S-A-S0001-001-01D	STRUCTURAL - GENERAL NOTES
WS-S0100	1-0601S-A-S0100-001-01D	STRUCTURAL - FOUNDATION FRAMING PLAN (LOWER LEVEL)
WS-S0110	1-0601S-A-S0110-001-02D	STRUCTURAL - MAIN FLOOR FRAMING PLAN
WS-S0120	1-0601S-A-S0120-001-01D	STRUCTURAL - SECOND FLOOR PLAN - MASONRY WALL LAYOUT
WS-S0125	1-0601S-A-S0125-001-02D	STRUCTURAL - CATWALK FRAMING PLAN
WS-S0126	1-0601S-A-S0126-001-02D	STRUCTURAL - PARTIAL CATWALK STAIRS AND PLATFORMS PLAN
WS-S0127	1-0601S-A-S0127-001-01D	STRUCTURAL - PARTIAL CATWALK STAIRS AND PLATFORMS PLAN
WS-S0140	1-0601S-A-S0140-001-01D	STRUCTURAL - ROOF PLAN - STEEL FRAMING (PARTIAL)
WS-S0201	1-0601S-A-S0201-001-02D	STRUCTURAL - BUILDING SECTIONS
WS-S0202	1-0601S-A-S0202-001-02D	STRUCTURAL - BUILDING SECTIONS
WS-S0203	1-0601S-A-S0203-001-01D	STRUCTURAL - BUILDING SECTIONS
WS-S0303	1-0601S-A-S0303-001-02D	STRUCTURAL - NORTH & SOUTH ELEVATIONS
WS-S0401	1-0601S-A-S0401-001-01D	STRUCTURAL - BUILDING SECTIONS AND DETAILS
WS-S0405	1-0601S-A-S0405-001-01D	STRUCTURAL - STANDARD DETAILS
WS-S0407	1-0601S-A-S0407-001-01D	STRUCTURAL - BUILDING SECTIONS AND DETAILS
WS-S0408	1-0601S-A-S0408-001-01D	STRUCTURAL - BUILDING SECTIONS AND DETAILS
WS-S0410	1-0601S-A-S0410-001-02D	STRUCTURAL - BUILDING SECTIONS AND DETAILS
WS-S0421	1-0601S-A-S0421-001-02D	STRUCTURAL - MAIN FLOOR STAIR SECTIONS AND DETAILS
WS-S0422	1-0601S-A-S0422-001-02D	STRUCTURAL - MAIN FLOOR STAIR SECTIONS AND DETAILS
WS-S0424	1-0601S-A-S0424-001-02D	STRUCTURAL - CATWALK STAIRS AND PLATFORMS DETAILS
WS-S0425	1-0601S-A-S0425-001-02D	STRUCTURAL - CATWALK STAIRS AND PLATFORM DETAILS
WS-S0426	1-0601S-A-S0426-001-01D	STRUCTURAL - CATWALK STAIRS AND PLATFORMS DETAILS
WS-S0427	1-0601S-A-S0427-001-01D	STRUCTURAL - PARTIAL CATWALK STAIRS AND PLATFORMS PLAN
WS-S0501	1-0601S-A-S0501-001-01D	STRUCTURAL - SCHEDULES
WS-S0502	1-0601S-B-S0502-001-01D	STRUCTURAL - PILE SCHEDULES