

21-2006 ADDENDUM 6

WEST END WATER POLLUTION CONTROL CENTRE BIOLOGICAL NUTRIENT REMOVAL UPGRADE

URGENT

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

ISSUED: July 6, 2006
BY: J. Eric Hutchison, P. Eng.
TELEPHONE NO. (204) 477-5381

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

Template Version: A20050301

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: 291-2006 Bid Submission with 291-2006 Addendum 2 - Bid Submission. The following is a summary of changes incorporated in the replacement Bid Submission:

Form B (R1): Add Item No.17
 Revise item 11 to 16 to include “(MRST included)”

PART D – SUPPLEMENTAL CONDITIONS

Revise: Clause D2.2 to read: The Work includes, but is not limited to, the construction, supply, installation, testing, commissioning of the following elements:

- (a) Construction of new structures for, and supply, installation, testing and commissioning of all associated process, mechanical, and electrical systems for:
 - (i) Two Dissolved Air Flotation (DAF) thickeners
 - (ii) Two polymer makeup systems
 - (iii) One ferric chloride storage and feed systems
 - (iv) Two primary sludge fermenters, complete with flat aluminium covers and attached common pump room
 - (v) One secondary clarifier, complete with mechanism and fibreglass dome cover
 - (vi) Odour control system, including a thermal oxidizer unit complete with supply and exhaust fans, ducting, controls, and all required accessories and appurtenances
- (b) Renovation of two existing aeration tanks to reconfigure as biological nutrient removal bioreactors, including construction of a new electrical room, new internal concrete walls, access hatches, and observation hatches
- (c) For the renovated bioreactors, supply, installation, testing, commissioning of:
 - (i) Mixers, pumps, piping, and other mechanical devices as specified herein and shown on the Drawings
- (d) For the renovated bioreactors, offloading, storage, installation, testing, commissioning of the fine-bubble aeration diffuser system (supplied by City)
- (e) Replacement of mechanisms of two existing secondary clarifiers with new mechanisms, requiring partial or complete dismantling and reinstallation of existing dome covers.

- (f) Upgrade, additions, and modifications to the electrical supply system and services as detailed in Division 16 Electrical Scope of Work.
- (g) Upgrades and modifications to the distributed control system (DCS) to control new systems.
- (h) Sitework and Site Utility Work associated with the new facilities and with the general Site.
- (i) Heating, Ventilation, and Air Conditioning (HVAC) systems.
- (j) Installation of shoring and/or other measures necessary for the protection of excavation, personnel and existing structures.
- (k) Installation and operation of a groundwater pumping system as specified.
- (l) All other auxiliary equipment, structures, and systems required to complete the Work.

Revise: D13.1 to read: The Contractor shall achieve Substantial Performance by July 15, 2008.

Revise: D14.1 to read: The Contractor shall achieve Total Performance by October 15, 2008.

Add: D20 PARTNERING

D20.1 Partnering will be implemented for this project.

D20.2 In order to effectively and efficiently accomplish the Work of this Contract, the City of Winnipeg, Water and Waste Department is encouraging the formation of a cohesive, mutually beneficial working relationship, a Partnering relationship, with the Contractor and his main Subcontractors. This working relationship will endeavour to draw on individual and corporate strengths, skills and knowledge to achieve a quality project to the mutual benefit of all participants. The objective of a Partnering relationship is to build cooperative relationships, avoid or minimize disputes, and actively pursue the attainment of common goals. Success will depend upon teamwork with open and effective communication while adhering to the highest professional standards.

D20.3 Participation in Partnering shall not in any way affect the application or legal obligation of the Contract.

D20.4 The Partnering Initiation Workshop is typically a one day session for a project of this magnitude, which would be held in conjunction with and immediately following the pre-construction meeting. The Partnering Initiation Workshop will be scheduled to coincide with the pre-construction meeting.

D20.5 The Partnering Initiation Workshop shall be carried out at no cost to the Contractor nor shall any payment be made for time and travel expenses incurred by the Contractor associated with participation in the Partnering Initiation Workshop. It shall be considered incidental to the Work included in this project.

D21. DEFINITION OF TRADES/JURISDICTION

D21.1 For convenience of reference only, the Specifications are separated into and identified by titled and numbered sections.

D21.2 In the case of a dispute, the Contractor shall decide which Subcontractor supplies and installs required materials or equipment. Extras will not be considered on the grounds of differences in interpretation of the Specifications as to which Subcontractor does what work.

PART E – SPECIFICATIONS

Clarification: Applicable to entire Mechanical Specifications and Drawings, fire extinguishers abbreviations “FE” is also called “FEX”

- Section 01010 Revise: Clause 1.1.2 to read: The Work includes, but is not limited to, the construction, supply, installation, testing, commissioning of the following elements:
- .1 Construction of new structures for, and supply, installation, testing and commissioning of all associated process, mechanical, and electrical systems for:
 - .1 Two (2) DAF thickeners
 - .2 Two (2) polymer makeup systems
 - .3 One (1) ferric chloride storage and feed systems
 - .4 Two (2) primary sludge fermenters, complete with flat aluminium covers and attached common pump room
 - .5 One (1) secondary clarifier, complete with mechanism and fibreglass dome cover
 - .6 Odour control system, including a thermal oxidizer unit complete with supply and exhaust fans, ducting, controls, and all required accessories and appurtenances
 - .2 Renovation of two (2) existing aeration tanks to reconfigure as biological nutrient removal bioreactors, including construction of a new electrical room, new internal concrete walls, access hatches, and observation hatches.
 - .3 For the renovated bioreactors, supply, installation, testing, commissioning of:
 - .1 Mixers, pumps, piping, and other mechanical devices as specified herein and shown on the Drawings.
 - .4 For the renovated bioreactors, offloading, storage, installation, testing, commissioning of the fine-bubble aeration diffuser system (supplied by City).
 - .5 Replacement of mechanisms of two existing secondary clarifiers with new mechanisms, requiring partial or complete dismantling and reinstallation of existing dome covers.
 - .6 Upgrade, additions, and modifications to the electrical supply system and services as detailed in Division 16 Electrical Scope of Work.
 - .7 Upgrades and modifications to the distributed control system (DCS) to control new systems.
 - .8 Sitework and Site Utility Work associated with the new facilities and with the general Site.
 - .9 Heating, Ventilation, and Air Conditioning (HVAC) systems.
 - .10 Installation of shoring and/or other measures necessary for the protection of excavation, personnel and existing structures.
 - .11 Installation and operation of a groundwater pumping system as specified.
 - .12 All other auxiliary equipment, structures, and systems required to complete the Work.

- Section 01400 Add: Clause 1.2.5 to read: It is not the responsibility of the testing agencies to supervise, instruct in current methods, or accept or reject part or parts of the Work, but only to inspect, test, and report conditions.

- Section 01500 Clarification: Clause 1.14.4 Temporary power provided from the Motor Control Centres will be paid for by the City.
- Section 01650 Add: Clause 1.1.2 to read: For general requirements for equipment supplied under the Aeration Supply Contract 602-2005, refer to Specification Section 11531.
- Section 01664 Revise: Clause 3.6.1 to read: Provide training during the equipment testing period for the following equipment and systems:
- .1 Dissolved Air Flotation Thickener System
 - .2 Ferric Chloride Storage System
 - .3 Ferric Chloride Feed System
 - .4 Polymer Systems
 - .5 Primary Sludge Pump Systems
 - .6 Fermenter Mechanism Systems
 - .7 Fermenter Sludge Pump Systems
 - .8 Fermenter Supernatant Pump Systems
 - .9 Bioreactor Recycle Pump Systems
 - .10 Bioreactor WAS Pump Systems
 - .11 Bioreactor Mixer Systems
 - .12 Secondary Clarifier Mechanism Systems
 - .13 RAS Pump Systems
 - .14 HVAC Systems
 - .15 Electrical Systems
 - .16 Control Systems
- Section 01670 Revise: Clause 1.1.1 to read: At the time of commissioning, the Contract Administrator shall advise the Contractor of the Commissioning requirements.
- Section 01670 Revise: Clause 1.8.1 to read: The City shall provide power, chemicals, and other ancillary services as necessary to operate the plant through the commissioning period. Provision of these services shall be limited to one 28 day period for each system. Additional time necessary for commissioning beyond the 28 day period, the Contractor shall be responsible for the cost of the power, chemicals and other ancillary services as necessary for the City to operate the plant.
- Section 02220 Revise: Clause 2.1.3.1 "Table CW 2030.1" to read "City of Winnipeg Standard Construction Specification Table CW 2030.1"
- Section 02220 Revise: Clause 2.1.3.3 "Table CW3110.2" to read "City of Winnipeg Standard Construction Specification Table CW 3110.2"
- Section 02220 Revise: Clause 2.1.3.4 "Table CW 2030.1" to read "City of Winnipeg Standard Construction Specification Table CW 2030.1"
- Section 02220 Revise: Clause 3.1.1.2 to read: Review and understand the Geotechnical Report.

- Section 02300 Add: Clause 1.2 References:
- .1 The following specifications of the City Standard Construction Specifications – latest edition are applicable to the Work:
 - .1 CW 3170- R3 Earthwork and Grading.
 - .2 Measurement and payment clauses in the above specifications are not applicable to the Contract.
 - .3 Division 2 General Requirements of the City Standard Construction Specification are not applicable to the Work.
- Section 02300 Revise: Clause 2.1.1 “Specification CW 3170-R3” to read “City of Winnipeg Standard Construction Specification CW 3170-R3”
- Section 02300 Revise: Clause 3.2.1 “Specification CW 3170-R3” to read “City of Winnipeg Standard Construction Specification CW 3170-R3”
- Section 02521 Revise: Clause 1.4.1 “Clause 1.2” to read “Clause 1.3”
- Section 02521 Revise: Clause 1.5.1 to read: Drillers reports for wells previously drilled at this site are available from the Province of Manitoba. Stratigraphy in the area consists of approximately 9.4 m of clay underlain by approximately 0.5 m of till. The bedrock surface was encountered at a depth of approximately 10.4 m below natural grade. The bedrock consists of fractured limestone and dolomite with fractures distributed throughout the profile to the depth of investigation of 24.1 m. It should be assumed that the new wells installed under this contract will need to be drilled to a maximum depth of 30 m. The actual depth of drilling may be less and will be as directed by the Contract Administrator who will supervise all well construction operations.
- Section 02521 Revise: Clause 2.1.1 “Provide cap for sealing well when not in use” to read “Provide lockable cap and lock for sealing the well when not in use”
- Section 02521 Revise: Clause 3.6.1 to read: The Contractor shall maintain the groundwater depressurization system on a 24 hour per day basis for the duration of the construction period requiring lowered groundwater levels. This will include the provision of a full time operator 24 hours per day who will be capable of repairing the system or otherwise taking actions to ensure that lowered groundwater levels are maintained at all times. Damages to the construction site or the equipment and materials at the site due to the failure of the system will be the responsibility of the Contractor. The Contract Administrator will direct the Contractor on the duration of the operation of the system and the Contractor will be paid for the operation of the complete groundwater depressurization system at the rate included in Form B (R1): Prices. The supply, installation and decommissioning of the groundwater depressurization system shall be included in the lump sum bid for Item No. 1 of Form B (R1): Prices.
- Section 02521 Revise: Clause 3.6.2 to read: The Contractor shall monitor water levels during system operation and provide the information to the Contract Administrator on a daily basis. The Contract Administrator will advise the Contractor as to the required pumping rates.
- Section 02731 Revise: Clause 2.1.2 “with CW 3110-R7” to read “with City of Winnipeg Standard Construction Specification CW 3110-R7”
- Section 02731 Revise: Clause 2.1.3 “with CW 3610-R3” to read “with City of Winnipeg Standard Construction Specification CW 3610-R3”
- Section 02731 Revise: Clause 2.1.4 “with CW 3510-R8” to read “with City of Winnipeg Standard Construction Specification CW 3510-R8”

- Section 02731 Revise: Clause 3.2.1 “with CW 3110 R7” to read “with City of Winnipeg Standard Construction Specification CW 3110 R7”
- Section 02731 Revise: Clause 3.2.2 “with CW-3010 R4” to read “with City of Winnipeg Standard Construction Specification CW 3010 R4”
- Section 02731 Revise: Clause 3.2.3 “with CW-3110 R4” to read “with City of Winnipeg Standard Construction Specification CW 3110 R4”
- Section 02731 Revise: Clause 3.3.1 “with CW-3110 R4” to read “with City of Winnipeg Standard Construction Specification CW 3110 R4”
- Section 02731 Revise: Clause 3.4.1 “with CW-3610-R3” to read “with City of Winnipeg Standard Construction Specification CW 3610 R3”
- Section 02731 Revise: Clause 3.5.1 “with CW 3510-R8” to read “with City of Winnipeg Standard Construction Specification CW 3510 R8”
- Section 02731 Revise: Clause 3.6.1 “with CW-3110 R4” to read “with City of Winnipeg Standard Construction Specification CW 3110 R4”
- Section 02752 Revise: Clause 2.1.2 “with CW 3110-R7” to read “with City of Winnipeg Standard Construction Specification CW 3110 R7”
- Section 02752 Revise: Clause 2.1.3 “with CW 3310-R9” to read “with City of Winnipeg Standard Construction Specification CW 3310 R9”
- Section 02752 Revise: Clause 2.1.4 “with CW 3230-R4 and CW 3310-R9” to read “with City of Winnipeg Standard Construction Specification CW 3230 R4 and CW 3310 R9”
- Section 02752 Revise: Clause 3.2.1 “with CW 3110-R7” to read “with City of Winnipeg Standard Construction Specification CW 3110 R7”
- Section 02752 Revise: Clause 3.2.2 “with CW 3010-R4” to read “with City of Winnipeg Standard Construction Specification CW 3010-R4”
- Section 02752 Revise: Clause 3.2.3 “with CW 3240-R5” to read “with City of Winnipeg Standard Construction Specification CW 3240-R5”
- Section 02752 Revise: Clause 3.2.4 “with CW 3110-R4” to read “with City of Winnipeg Standard Construction Specification CW 3110-R4”
- Section 02752 Revise: Clause 3.3.1 “with CW 3110-R4” to read “with City of Winnipeg Standard Construction Specification CW 3110 R4”
- Section 02752 Revise: Clause 3.4.1 “with CW 3610-R3” to read “with City of Winnipeg Standard Construction Specification CW 3610-R3”
- Section 02752 Revise: Clause 3.5.1 “with CW 3230-R4” to read “with City of Winnipeg Standard Construction Specification CW 3230-R4”
- Section 02752 Revise: Clause 3.6.1 “with CW 3310-R9” to read “with City of Winnipeg Standard Construction Specification CW 3310-R9”
- Section 02848 Revise: Clause 2.1.2 “with CW 3310-R10” to read “with City of Winnipeg Standard Construction Specification CW 3310-R10”

- Section 03100 Revise: Clause 2.4.3.2 to read: Below structural slabs of the Fermenter 1, Fermenter 2 and Clarifier 3; Geo Void expanded polystyrene as manufactured by Plasti-Fab. Expanded polystyrene void form shall be sized to be structurally sufficient to support the weight of the wet concrete mix and construction loads until initial set under slabs. Minimum thickness to be 150 mm as indicated on the Drawings.
- Section 03100 Add: Clause 2.4.3.3 to read: Infill above concrete pipe encasement at Fermenter 1 and Fermenter 2 as indicated in the Drawings; Geo Span expanded polystyrene as manufactured by Plasti-Fab. Expanded polystyrene shall be sized to be structurally sufficient to support the weight of the wet concrete mix and construction loads until initial set of supporting slabs above.
- Section 03300 Add: Clause 3.16.10 to read: Bioreactors 1 and 2 are not required to be tested for watertightness in accordance with item .2 above. All wall penetrations through the existing Bioreactors 1 and 2 tank walls will be visually reviewed by the Contract Administrator and shall be water tight. Any excavation within a wall penetration area shall be left open until the Contract Administrator is satisfied that the wall penetration is water tight.
- Section 05500 Revise: Clause 2.1.4: "762/914 mm offset mast" to read "457/610 offset mast"
- Section 05500 Revise: Clause 2.1.4.1: "model number PNUH3036" to read "model number PNUH1824"
- Section 05500 Revise: Clause 2.1.6.1 to read: Coordinate location of davit with Contract Administrator prior to construction.
- Section 07525 Revise: Clause 1.8.1 to read: Provide warranty in accordance with General Conditions GC13, but for a period of five (5) years.
- Section 07900 Revise: Clause 1.4.1 to read: Provide warranty in accordance with General Conditions GC13, but for a period of three (3) years.
- Section 08700 Revise: Clause 2.4.1 to read: Door locks: Use construction cylinders (by hardware supplier) to allow for a grand master key system to match existing system by Medeco to be installed at a later date. Upon completion of the works and on handover to the City, have the lock cylinder on all doors changed by N.H. Brown Locksmith Ltd., 164 Fort Street, Winnipeg, MB R3C 1C9, Telephone 942-4747. The City of Winnipeg has a key system hierarchy that is provided exclusively by "Medeco" Lock which is supplied by N.H. Brown Locksmith Ltd.
- Section 09985 Revise: Clause 2.4.1 to read: Liquid side of cast-in-place concrete for waste water retaining structures as indicated on the Drawings - Formula 20.
- Section 09985 Revise: Clause 2.4.2 to read: On liquid side of new cast-in-place concrete sump pits - Formula 20.
- Section 09985 Revise: Clause 2.4.3 to read: Liquid side of cast-in-place concrete for secondary containment areas as indicated on the Drawings - Formula 25.
- Section 11050 Revise: Clause 2.12.1 "Provide insulation in accordance with Section 11059 and Section 02513" to read "Provide insulation in accordance with Section 11059"
- Section 11050 Revise: Clause 3.12.1 "Process Piping Code B31.3 procedures for testing pressure piping and CAN/CGA B105 for buried digester gas piping" to read "Process Piping Code B31.3 procedures for testing pressure piping."
- Section 11055 Clarification: Clause 1.2.1: Commodity ELW is equivalent to Commodity FW
- Section 11055 Revise: Clause 2.1.1 Coatings: All "Paint-E1" to read "Paint – Refer to Section 11900"

- Section 11100 Delete: Clause 2.3.4
- Section 11105 Revise: BF01, Valve Description, Body/Valve Ends, "Lugged (Note 2)" to read "Flanged"
- Section 11105 Delete: BF01, Notes 2.
- Section 11105 Revise: BF02, Valve Description, Body/Valve Ends, "Lug Wafer (Note 2)" to read "Flanged"
- Section 11105 Delete: BF02, Notes 2.
- Section 11105 Revise: BF07, Valve Description, Body/Valve Ends, "Wafer" to read "Flanged"
- Section 11105 Revise: BF08 TYPICAL SERVICE to read: RAS, ML
- Section 11205 Revise: Clause 2.14.1 to read: Provide maintenance materials and spare parts in accordance with Division 1.
- Delete: Section 11206 PROCESS MOTORS GREATER THAN 150 kW
- Section 11207 Revise: Clause 2.2 to read:
.1 Motors to be the standard product of the submersible pump or mixer manufacturer
.1 Flygt
.2 KSB
.3 ABS
- Section 11306 Revise: Clause 2.13.1 "13901" to read "11901"
- Section 11315 Revise: Clause 2.2 to read:
.1 Acceptable manufacturers:
.1 Micropump
.2 Tuthill
.3 Liquiflo
.4 Pulsafeeder (Isochem)
- Section 11315 Delete: Clause 2.7.8.2
- Section 11315 Revise: Clause 2.7.8.3 to read: Shafts: 316 Stainless Steel
- Section 11315 Revise: Clause 2.10.3 "three lines" to read "four lines"
- Section 11320B Revise: Driver: Motor Size "2.24 kW" to read "3.75 kW"
- Section 11320D Revise: "Waste Activated Sludge Pump" to read "DAF Subnatant Pump"
- Section 11320D Revise: Driver: Maximum Motor Speed "1200 RPM" to read "1800 RPM"
- Section 11320D Revise: Driver: Motor Size "5 kW" to read "7.5 kW"
- Add: Section 11321 – Horizontal Screw Impeller Pumps
Clarification: This is an alternative option for the RAS pumps; 11304 is still applicable for RAS pumps as well.

- Add: Section 11321A – Detailed Pump Specification
Clarification: This is an alternate option for the RAS pumps; 11304A is still applicable for RAS pumps as well.
- Section 11322A Revise: “Primary Clarifier Pump Room Flood Pump” to read “Emergency Sump Pump”
- Section 11322A Revise: “PXXX-P” to read “P270-P”
- Section 11340 Revise: Clause 2.3.3 “Condition 1:” to read “Condition 2:”
- Section 11340 Revise: Clause 2.16.1 to read: Factory prime in accordance with Section 11901.
- Section 11395 Revise: Clause 1.1.1 to read: This section specifies the supply, installation, testing, and commissioning of eight (8) horizontally mounted submersible propeller mixers and all associated appurtenances in two bioreactors.
- Section 11395 Revise: Clause 3.2.2 to read: Ensure that each mixer is installed and aligned, as required to provide satisfactory service.
- Section 11395 Revise: Clause 3.3.7 to read: Fulfill the requirements for successful testing of the equipment as documented by Form 104, included in Section 01670.
- Section 11471 Revise: Clause 2.13.1 to read: Factory prime in accordance with Section 11901.
- Section 11521 Revise: Clause 2.14.7 to read: Provide one safety davit and a minimum 1200 wide removable section of guardrail for man access along the walkway portion of the bridge mechanism. Provide additional removable section of guardrail for ease of man hoist installation into davit. Minimum design davit live load 22.3 kN applied in any direction. Confirm location of removable sections of guardrail with Contract Administrator prior to construction.
- Section 11525 Revise: Clause 2.10.5 to read: Provide one safety davit and a minimum 1200 wide removable section of guardrail for man access along the walkway portion of the bridge mechanism. Provide additional removable section of guardrail for ease of man hoist installation into davit. Minimum design davit live load 22.3 kN applied in any direction.
- Section 11714 Revise: Clause 1.1.1 to read: This Section specifies the supply, installation, testing, and commissioning of two rectangular DAF thickeners (T111-DAF and T121-DAF), each complete with tank, recirculation pump, saturation vessel, air compressor with associated control panel and air receiver, air control panel and accessories, pressurized flow piping and fittings including back pressure control device, flow control, flow monitoring, sludge skimming system, drive, float trough, cover, and other necessary accessories as specified.
- Section 11714 Add Clause 2.17 Tank Covers
- .1 Equip each thickener with a flat cover to prevent the escape of odorous and noxious gases into the building from the DAF tanks and TWSS float holding tanks. The space under the covers will be at a slight negative pressure, due to extraction of the air.
 - .2 Covers to be FRP or aluminum and to comply with the relevant industry standards.
 - .3 Design the covers to allow access to the key components of the DAF equipment that are located below the cover.
 - .4 Drives located beneath the covers to be zoned appropriately.
 - .5 Provide each cover complete with a connection for a 150 mm ventilation duct.

- .6 Provide a list of items of equipment beneath the cover that will require inspection, maintenance or removal. Provide details of access and cover removal to facilitate the inspection, maintenance and handling of the items.
- .7 Indicate the design loadings for the covers.
- .8 Identify rating of lifting devices required.

Section 11714 Delete:	Clause 2.3.8
Section 11714 Delete:	Clause 2.3.10
Section 11714 Delete:	Clause 2.6.2
Section 11714 Revise:	Clause 2.8.4 "polyethylene" to read "polymeric"
Section 11714 Revise:	Clause 2.8.5 "304L stainless steel" to read "304 stainless steel"
Section 11714 Revise:	Clause 2.12.2 "zero speed" to read "overtorque"
Section 11714 Revise:	Clause 2.12.5 "cast iron" to read "polymeric"
Section 11714 Revise:	Clause 2.13.3.6.5 to read: A 600 mm long armoured sight gauge visible from the air control panel and fitted with gauge valves in addition to a side cleanout and bottom drain with ball valve.
Section 11714 Revise:	Clause 2.13.4.4 to read: The solenoid control valve shall be wired such that it is normally closed except when the recirculation pump is operating. Solenoid valve shall be rated for 120V, 60Hz, 1 phase.
Section 11824 Revise:	Clause 1.2.9 to read: Stainless steel pipe used for structural members including support legs shall conform to the requirements of ASTM A312.
Section 11824 Revise:	Clause 1.3.1 to read: Provide shop drawings in accordance with 01300 and 11005. Include the following:
Section 11824 Revise:	Clause 1.3.2 to read: Provide O&M data in accordance with 01300. Include the following:
Section 11824 Revise:	Clause 2.1.2 to read: The thermal oxidizer is to be used for foul air treatment. Ambient room air will be used as the combustion air source.
Section 11824 Revise:	Clause 2.1.4 "600°C" to read "500°C"
Section 11824 Revise:	Clause 2.1.8 to read: Minimum retention time to achieve 99.5 percent removal of hydrogen sulphide at 700°C within the thermal oxidizer, prior to entering the stack.
Section 11824 Revise:	Clause 2.3.2 "Fabricate the combustion chamber of 316 stainless steel" to read "Fabricate the combustion chamber and all structural components of 316 stainless steel"
Section 11824 Revise:	Clause 2.3.4 "The door shall be hinged with quick opening, tight sealing hold-downs. A limit switch shall be provided on the door to prevent operation of the oxidizer while the door is open" to read "The door shall be quick opening with tight sealing hold-downs."
Section 11824 Add:	Clause 2.3.5 Provide an easily accessible sample port on the foul air line prior to entering the thermal oxidizer and a second port immediately after the thermal oxidizer on the exhaust stack. Ports to be constructed of temperature resistant and corrosion resistant materials.

- Section 11824 Revise: Clause 2.4.1 "blower wheel to provide combustion air" to read "blower to provide ambient combustion air"
- Section 11824 Revise: Clause 2.4.4 "and shall be mounted to the structural steel base grid" to read "and shall be mounted to the structural stainless steel base grid"
- Section 11824 Revise: Clause 2.5.1 to read: Provide independently driven 316 stainless steel damper and ambient air damper to provide positive isolation from the process and a source of ambient air during the purge and start-up cycles. The valves shall automatically switch when the "oxidizer run" permissive has been satisfied. The ambient air damper shall modulate to control the combustion chamber temperature during high load, and to provide a source of oxygen for combustion. Ball valves to be utilized for sizes smaller or equal to 51 mm.
- Section 11824 Revise: Clause 2.5.4 to read: Provide a flame rod or UV flame sensor for continuous flame supervision. Provide a burner sight glass to allow for the viewing of the oxidized flame during operation.
- Section 11824 Add: Clause 2.6.7 Provide a rain cap and bird screen if required.
- Section 11824 Revise: Clause 2.8.1.3 to read: UV flame sensor or flame rod assembly
- Section 11824 Add: Clause 2.8.1.7 Spark ignition assembly
- Section 11851 Revise Clause 2.9 to read:
- .1 Outputs from the system will be monitored by the DCS.
 - .2 Provide a Prolix 4021 module Serial Port with Ethernet Interface to transmit all analysis results for each parameter and output control command signals. The format for transmission is Modbus TCP/IP for transmission to the plant DCS. The Contractor is required to configure this protocol. This format shall follow the technical parameters of the equipment already being installed and currently used at the WEWPCC. The Contractor shall coordinate the Ethernet Interface configuration with the City personnel.
 - .3 Equip the analyzer with an operator interface unit and display screen to display operating status, analysis results, operational commands, and other information required to operate and control the system.
 - .4 Provide a NEMA 4X control panel.
 - .5 In addition to PLC, provide a memory map of all process control and monitoring data for incorporation the packaged unit into the DCS.
- Section 16811 Replace: Motor Schedule (R1)
- Section 16815 Revise: Clause 2.1.8.13 to read "Longlead (motor feeder) filter package, as required for these installations. Supplier is responsible to determine where this will be required, and must indicate as to the requirement or non-requirement of longlead filter package components. The Contractor is responsible for carrying all such costs in their bid price.
- Section 16815 Revise: Clause 1.4.2.6 "The contractor shall allow in his bid a lump some of \$80,000 to cover the cost of additional filtering equipment, if the additional filtering is required." to read "Additional work will be as authorized by the Contract Administrator in accordance with GC:7 Changes in Work."
- Section 16820 Add: Clause 2.5.1.3 MCC 1H and 2H
- .1 Main horizontal bus bars: 800A

.2 Branch vertical bus bars: 600A

Section 16820 Add: Clause 2.5.1.4 MCC 1S and 2S

.1 Main horizontal bus bars: 800A

.2 Branch vertical bus bars: 400A

Section 16820 Add: Clause 2.5.1.5 MCC 1T and 2T

.1 Main horizontal bus bars: 1200A

.2 Branch vertical bus bars: 600A

Section 16820 Replace: MCC Schedule (R1)

Section 17700 Replace: Instrument Index (R2)

DRAWINGS

Replace: Drawing FA1-01-R0 with Drawing FA1-01-R1

Drawing FA1-02-R0 with Drawing FA1-02-R1

Drawing FE1-02-R1 with Drawing FE1-02-R2

Drawing FP1-03-R0 with Drawing FP1-03-R1

Drawing FP1-04-R1 with Drawing FP1-04-R2

Drawing FP1-05-R1 with Drawing FP1-05-R2

Drawing FM1-01-R1 with Drawing FM1-01-R2

Drawing FM4-01-R1 with Drawing FM4-01-R2

Drawing FS2.01-R0 with Drawing FS2-01-R1

Drawing FS2.02-R0 with Drawing FS2-01-R1

Drawing FS2-03-R0 with Drawing FS2-03-R1

Drawing FS2-07-R0 with Drawing FS2-07-R1

Drawing FS3.01-R0 with Drawing FS3-01-R1

Drawing HE1-01-R2 with Drawing HE1-01-R3

Drawing HE2-01-R2 with Drawing HE2-01-R3

Drawing HM0-01-R1 with Drawing HM0-01-R2

Drawing HM2-02-R3 with Drawing HM2-02-R4

Drawing LC1-01-R1 with Drawing LC1-01-R2

Drawing LC2-01-R1 with Drawing LC2-01-R2

Drawing LE2-01-R0 with Drawing LE2-01-R1

Drawing LI3-02-R0 with Drawing LI3-02-R1

Drawing LI3-03-R0 with Drawing LI3-03-R1
Drawing LI3-05-R0 with Drawing LI3-05-R1
Drawing LI4-02-R1 with Drawing LI4-02-R2
Drawing LI4-03-R1 with Drawing LI4-03-R2
Drawing LM2-01-R0 with Drawing LM2-01-R1
Drawing LM3-02-R0 with Drawing LM3-02-R1
Drawing LM4-03-R1 with Drawing LM4-03-R2
Drawing LM4-06-R1 with Drawing LM4-06-R2
Drawing LM4-09-R1 with Drawing LM4-09-R2
Drawing LP1-01-R0 with Drawing LP1-01-R1
Drawing LP2-03-R0 with Drawing LP2-03-R1
Drawing LP2-05-R0 with Drawing LP2-05-R1
Drawing LS1-03-R1 with Drawing LS1-03-R2
Drawing PM1-01-R1 with Drawing PM1-01-R2
Drawing PP1-01-R1 with Drawing PP1-01-R2
Drawing PP1-02-R1 with Drawing PP1-02-R2
Drawing SA1-02-R0 with Drawing SA1-02-R1
Drawing SA5-01-R0 with Drawing SA5-01-R1
Drawing SA5-02-R1 with Drawing SA5-02-R2
Drawing SA5-03-R0 with Drawing SA5-03-R1
Drawing SA6-01-R1 with Drawing SA6-01-R2
Drawing SA6-02-R0 with Drawing SA6-02-R1
Drawing SA9-01-R0 with Drawing SA9-01-R1
Drawing SE2-03-R1 with Drawing SE2-03-R2
Drawing SM0-01-R0 with Drawing SM0-01-R1
Drawing SM1-01-R2 with Drawing SM1-01-R3
Drawing SM1-02-R1 with Drawing SM1-02-R2
Drawing SM3-01-R0 with Drawing SM3-01-R1
Drawing SM5-02-R1 with Drawing SM5-02-R2
Drawing SP1-02-R1 with Drawing SP1-02-R2
Drawing SP1-03-R1 with Drawing SP1-03-R2
Drawing SP1-06-R1 with Drawing SP1-06-R2

Drawing SP1-07-R1 with Drawing SP1-07-R2

Drawing SP2-03-R1 with Drawing SP2-03-R2

Drawing SP2-04-R0 with Drawing SP2-04-R1

Drawing SP2-06-R0 with Drawing SP2-06-R1

Drawing SP2-08-R0 with Drawing SP2-08-R1

Drawing SS2-01-R1 with Drawing SS2-01-R2

Drawing SS2-02-R2 with Drawing SS2-02-R3

Drawing SS3-06-R1 with Drawing SS3-06-R2

Drawing SS8-01-R0 with Drawing SS8-01-R1

Drawing SS8-02-R0 with Drawing SS8-02-R1

Drawing TA1-01-R3 with Drawing TA1-01-R4

Drawing TA1-02-R2 with Drawing TA1-02-R3

Drawing TA4-01-R0 with Drawing TA4-01-R1

Drawing TE1-01-R0 with Drawing TE1-01-R1

Drawing TE2-01-R1 with Drawing TE2-01-R2

Drawing TM3-01-R0 with Drawing TM3-01-R1

Drawing TM4-01-R1 with Drawing TM4-01-R2

Drawing TM4-02-R1 with Drawing TM4-02-R2

Drawing TM4-03-R0 with Drawing TM4-03-R1

Drawing TM4-04-R1 with Drawing TM4-04-R2

Drawing TS2-02-R1 with Drawing TS2-02-R2

Drawing TS2-03-R1 with Drawing TS2-03-R2

Drawing TS3-01-R1 with Drawing TS3-01-R2

Drawing TS5-06-R1 with Drawing TS5-06-R2