



**THE CORPORATION OF THE CITY OF WINDSOR  
OFFICE OF THE CITY SOLICITOR**

**ALEX VUCINIC**

**Manager of Purchasing**

**Elaine Castellan**

**Purchasing Supervisor**

**(519) 255-6272**

**TELEPHONE NUMBER**

**ADDENDUM NO. 4  
TENDER NO. 166-18  
DIESEL & MCC UPGRADES AT LOU ROMANO WATER RECLAMATION PLANT**

**November 1, 2018**

This addendum amends and forms part of the Tender Documents. The bidder shall insert the addendum behind the cover page of the Tender Documents.

**QUESTIONS/ANSWERS:**

**Question #1:**

In regards to note 3 on drawing E6, "DISCONNECT AND REMOVE ALL MINERAL INSULATED CABLES ASSOCIATED WITH THE REMOVAL OF MCC SECTIONS 23-28 IN PHASES IN PHASES 1-3. ALL REMAINING ACTIVE FEEDER CABLES TO BE REPLACED WITH WIRING IN CONDUIT OR TECK CABLES." Please confirm that sections MCC sections 29-38 are not included in this note.

**Answer:** Revise Note 3 on Drawing E6, "DISCONNECT AND REMOVE ALL MINERAL INSULATED CABLES ASSOCIATED WITH THE REMOVAL OF MCC SECTIONS **23-38** IN PHASES 1-3. ALL REMAINING ACTIVE FEEDER CABLES TO BE REPLACED WITH WIRING IN CONDUIT OR TECK CABLES."

**Question #2:**

In regards to note 3 on drawing E6, "DISCONNECT AND REMOVE ALL MINERAL INSULATED CABLES ASSOCIATED WITH THE REMOVAL OF MCC SECTIONS 23-28 IN PHASES IN PHASES 1-3. ALL REMAINING ACTIVE FEEDER CABLES TO BE REPLACED WITH WIRING IN CONDUIT OR TECK CABLES." Please confirm that the mineral insulated cables are removed and disconnected only, no replacement is required.

**Answer:** Mineral insulated cables that are no longer required, shall be disconnected and removed in their entirety – no replacement required. Mineral insulated cables that are disconnected and are required to be reconnected shall be replaced with conduit of teck. Removal of any mineral insulated cables is not part of Cash Allowance.

**Question #3:**

In regards to note 3 on drawing E6, "DISCONNECT AND REMOVE ALL MINERAL INSULATED CABLES ASSOCIATED WITH THE REMOVAL OF MCC SECTIONS 23-28 IN PHASES IN PHASES 1-3. ALL REMAINING ACTIVE FEEDER CABLES TO BE REPLACED WITH WIRING IN CONDUIT OR TECK CABLES." Which of the feeders in sections 23-38 are mineral insulated?

**Answer:** Could not be determined without extensive exploration. Mineral insulated cables that are disconnected and are required to be reconnected shall be replaced with conduit of teck. Each

replacement shall be reviewed with the engineer on a case by case basis. Only the replacement of mineral insulated cables is part of Cash Allowance.

**Question #4:**

In regards to note 3 on drawing E6, “DISCONNECT AND REMOVE ALL MINERAL INSULATED CABLES ASSOCIATED WITH THE REMOVAL OF MCC SECTIONS 23-28 IN PHASES IN PHASES 1-3. ALL REMAINING ACTIVE FEEDER CABLES TO BE REPLACED WITH WIRING IN CONDUIT OR TECK CABLES.” Please clarify if all feeders that are not mineral insulated need to be replaced with new.

**Answer:** Mineral insulated cables that are disconnected and are required to be reconnected shall be replaced with conduit of teck. Each replacement shall be reviewed with the engineer on a case by case basis. Replacement of mineral insulated cables is part of Cash Allowance.

**Question #5:**

In regards to drawing E7 it appears that all of the feeders are new, please confirm. If not, please provide a legend to distinguish which feeders are new and which feeders will be reused.

**Answer:** The only new feeders shown on drawing E7 are the bus ducts, which are noted as new and the cables (cable sizes shown) associated with the generators.

**Question #6:**

In regards to drawing E8 it appears that all of the feeders are new, please confirm. If not, please provide a legend to distinguish which feeders are new and which feeders will be reused.

**Answer:** All cables leaving MCC to field device are to be considered new. Conductor size to be based on over current device rating.

**Question #7:**

In regards to drawing E9 it appears that all of the feeders are new, please confirm. If not, please provide a legend to distinguish which feeders are new and which feeders will be reused.

**Answer:** All cables leaving MCC to field device are to be considered new. Conductor size to be based on over current device rating.

**Question #8:**

The exhaust fan schedule appears to be different than the fans shown in the specification. Can you please clarify?

**Answer:** Refer to Mechanical Specifications – Section 23 34 25-R1- Packaged Roof and Wall Exhausters (attached). Section 23 34 25 has been replaced with the attached revised specification Section 23 34 25-R1.

**Question #9:**

The louvre specifications calls for acoustic louvres while the schedule shows drainable. Can you please clarify which is correct?

**Answer:** Refer to Mechanical Specifications – Section 23 37 20- Louvres, Intakes and Vents

- a) Revised - Item 2.1 to read “DRAINABLE LOUVRES – ALUMINUM”
- b) Revised Item 2.1.3 to read “Blade: Drainable type, stormproof pattern with centre watershed in blade, reinforcing bosses.”

- c) Deleted - Item 2.1.4
- d) Deleted - Item 2.1.10

**Question #10:**

Can we use aluminum for the insect and bird screens on the intake louvres?

**Answer:** Refer to Mechanical Drawings M103 –SECTIONS AND DETAILS.

- a) Revised – Insect screen as shown in Section 2 from SS to Aluminum.
- b) Revised – Bird screen as shown in Section 2 from SS to Aluminum.

**APPROVED EQUIVALENT**

**Refer to Mechanical Specifications – Section 23 51 00- Breeching, Chimneys and Stacks.**

Added – Ampco as an acceptable manufacturer under Item 2.1.1.1.2.

**Refer to Mechanical Drawings M105 –SCHEDULES.**

Added – Aerovent as an acceptable manufacturer to Exhaust Fan Schedule.

Added – Alumavent as an acceptable manufacturer to Damper Schedule.

**REVISED AND ATTACHED:**

Section 23 34 25-R1 – Packaged Roof and Wall Exhausters (7 pages)

Except for the contents of this addendum, all other terms and conditions of this tender remain the same.

***END OF ADDENDUM NO. 4***

Yours truly,

**THE CORPORATION OF THE CITY OF WINDSOR**

*Elaine Castellan*

Elaine Castellan  
Purchasing Supervisor

EC/jm

---

**ADDENDUM NO. 4  
TENDER NO. 166-18  
DIESEL & MCC UPGRADES AT LOU ROMANO WATER RECLAMATION PLANT**

**November 1, 2018**

---

I hereby acknowledge receipt of Addendum No. 4 to the Tender No. 166-18 (11 pages).

The information contained therein is hereby noted and account of same will be taken in our tender cost.

This information was received on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (Printed)

\_\_\_\_\_  
Company Name

**\*NOTE: You are required to acknowledge this addendum with your TENDER submission.**

**PLEASE FAX BACK TO (519) 255-9891 OR E-MAIL @ [purchasing@citywindsor.ca](mailto:purchasing@citywindsor.ca) SIGNED  
ACKNOWLEDGEMENT SHEET ASAP**

**Attn: Purchasing Department**

## **PART 1 GENERAL**

### **1.1 REFERENCES**

- .1 American National Standards Institute/Air Movement and Control Association (ANSI/AMCA):
  - .1 ANSI/AMCA Standard 99-[2010], Standards Handbook.
  - .2 ANSI/AMCA Standard 210-[2007]/(ANSI/ASHRAE 51-07), Laboratory Methods of Testing Fans for Aerodynamic Performance Rating.
  - .3 ANSI/AMCA Standard 300-[2008], Reverberant Room Method for Sound Testing of Fans.
  - .4 ANSI/AMCA Standard 301-[1990], Methods for Calculating Fan Sound Ratings from Laboratory Test Data.

### **1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures for Shop Drawings, Product Data and Samples.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for roof and wall exhausters and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
  - .1 Submit drawings for all fans.
  - .2 Include:
    - .1 Fan performance curves showing specified point of operation.
    - .2 Sound rating data.

### **1.3 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

## **PART 2 PRODUCTS**

### **2.1 SYSTEM DESCRIPTION**

- .1 Performance Requirements:
  - .1 Catalogued or published ratings for manufactured items: obtained from tests carried out by manufacturer or those ordered by manufacturer from independent testing agency signifying adherence to codes and standards in force. Provide confirmation of testing.
  - .2 Capacity: as indicated on schedule.
- .2 Statically and dynamically balanced. Constructed to ANSI/AMCA Standard 99.
- .3 Sound ratings: comply with ANSI/AMCA Standard 301, tested to ANSI/AMCA Standard 300.
- .4 Performance ratings: based on tests performed in accordance with ANSI/AMCA Standard 210.

### **2.2 SIDE WALL MOUNTED CENTRIFUGAL EXHAUST FANS (EF-1 thru 4)**

- .1 General Description:
  - .1 Discharge air directly away from the mounting surface.
  - .2 Sidewall mounted applications.
  - .3 Performance capabilities up to 12,500 cubic feet per minute (cfm) and static pressure to 2.75 inches of water gauge.
  - .4 Maximum continuous operating temperature 400 Fahrenheit (204.4 Celsius).
  - .5 Each fan shall bear a permanently affixed manufacture's engraved metal nameplate containing the model number and individual serial number.
- .2 Wheel:
  - .1 Material type: aluminum
  - .2 Non-overloading, backward inclined centrifugal
  - .3 Statically and dynamically balanced in accordance to AMCA Standard 204-05
  - .4 The wheel cone and fan inlet will be matched and shall have precise running tolerances for maximum performance and operating efficiency.
- .3 Motors
  - .1 Motor enclosures: Open driproof

- .2 Motors are permanently lubricated, heavy duty ball bearing type to match with the fan load and furnished at the specific voltage and phase.
- .3 Mounted on vibration isolators, out of the airstream
- .4 For motor cooling there shall be fresh air drawn into the motor compartment through an area free of discharge contaminants.
- .5 Accessible for maintenance.
- .4 Shafts and Bearings
  - .1 Fan Shaft shall be ground and polished solid steel with an anti corrosive coating.
  - .2 Permanently sealed bearings or pillow block ball bearings.
  - .3 Bearings shall be selected for a minimum L10 life in excess of 100,000 hours (equivalent to L50 average life of 500,000 hours), at maximum cataloged operating speed.
  - .4 Bearing are 100 percent factory tested.
  - .5 Fan Shaft first critical speed is at least 25 percent over maximum operating speed.
- .5 Housing
  - .1 Constructed of heavy gauge aluminum includes exterior housing, windband, and motor compartment housing. Galvanized material is not acceptable.
  - .2 Housing shall have a rigid internal support structure.
  - .3 Windband to be one piece uniquely spun aluminum construction and maintain original material thickness throughout the housing.
  - .4 Windband to include a integral rolled bead for strength.
  - .5 Drive frame assemblies shall be constructed of heavy gauge steel and mounted on vibration isolators.
  - .6 Breather tube shall be 10 square inches in size for fresh air motor cooling, and designed to allow wiring to be run through it..
  - .7 Leak resistant.
  - .8 Steel mounting plate and integral venturi attached to windband.
- .6 Motor Cover
  - .1 Constructed of Aluminum
- .7 Vibration Isolation
  - .1 Sized to match weight of each fan
- .8 Disconnect Switches:
  - .1 NEMA rated: 3R.

- .2 Positive electrical shut-off.
- .3 Wired from fan motor to junction box.
- .9 Drive Assembly:
  - .1 Belts, pulleys, and keys oversized for a minimum of 150 percent of driven horsepower.
  - .2 Belts: Static free and oil resistant.
  - .3 Pulleys: Cast type, keyed, and securely attached to wheel and motor shafts.
- .10 Mounting Plate:
  - .1 Attached and sealed to the wall prior to installation of unit
- .11 Options/Accessories:
  - .1 Birdscreen: Aluminum

### **2.3 CENTRIFUGAL INLINE FANS (EF-5)**

- .1 General Description:
  - .1 Base fan performance at standard conditions (density 0.075 Lb/ft<sup>3</sup>)
  - .2 Performance capabilities up to 28,000 cubic feet per minute (cfm) and static pressure to 4 inches of water gauge
  - .3 Normal operating temperature up to 180 Fahrenheit (82.2 Celsius)
  - .4 Applications include: intake, exhaust, return, or make-up air systems
  - .5 Each fan shall bear a permanently affixed manufacture's engraved metal nameplate containing the model number and individual serial number
- .2 Wheel:
  - .1 Non- Non-overloading, backward inclined centrifugal wheel
  - .2 Constructed of aluminum
  - .3 Statically and dynamically balanced in accordance to AMCA Standard 204-05
  - .4 The wheel cone and fan inlet will be matched and shall have precise running tolerances for maximum performance and operating efficiency
  - .5 Single thickness blades are securely riveted or welded to a heavy gauge back plate and wheel cone.
- .3 Motors
  - .1 Motor enclosures: Open driproof
  - .2 Motors are permanently lubricated, heavy duty ball bearing type to match with the fan load and furnished at the specific voltage and phase.



- .4 Shafts and Bearings
  - .1 Fan Shaft shall be ground and polished solid steel with an anti corrosive coating.
  - .2 Permanently sealed bearings or pillow block ball bearings.
  - .3 Bearings shall be selected for a minimum L10 life in excess of 100,00 hours (equivalent to L50 average life of 500,000 hours), at maximum cataloged operating speed.
  - .4 Bearing are 100 percent factory tested.
  - .5 Fan Shaft first critical speed is at least 25 percent over maximum operating speed.
- .5 Housing
  - .1 Square design constructed of heavy gauge galvanized steel and shall include square duct mounting collars
  - .2 Housing and bearing supports shall be constructed of heavy gauge bolted and welded steel construction to prevent vibration and to rigidly support the shaft and bearing assembly.
  - .3 Housing supports shall be constructed of structural steel with formed flanges
  - .4 Drive frame is welded steel which supports the shaft and bearings and reinforcement for the housing
  - .5 Pivoting motor plate with adjusting screws to make belt tensioning operations
- .6 Motor Cover
  - .1 Constructed of Aluminum
- .7 Vibration Isolation
  - .1 Sized to match weight of each fan
- .8 Disconnect Switches:
  - .1 NEMA rated: 1
  - .2 Positive electrical shut-off.
  - .3 Wired from fan motor to junction box installed within motor compartment
- .9 Drive Assembly:
  - .1 Belts, pulleys, and keys oversized for a minimum of 150 percent of driven horsepower.
  - .2 Belts: Static free and oil resistant.
  - .3 Pulleys: Cast type, keyed, and securely attached to wheel and motor shafts.

- .4 Motor pulleys are adjustable for final system balancing
- .5 Readily accessible for maintenance
- .10 Drive Assembly
  - .1 Belts, pulleys, and keys oversized for a minimum of 150 percent of driven horsepower
  - .2 Belts: Static free and oil resistant
  - .3 Pulleys: Cast type, keyed, and securely attached to wheel and motor shafts
  - .4 Motor pulleys are adjustable for final system balancing
  - .5 Readily accessible for maintenance
- .11 Duct Collars:
  - .1 Square design to provide a large discharge area
  - .2 Inlet and discharge collars provide easy duct connection
- .12 Options/Accessories:
  - .1 Motor Cover
  - .2 Isolation: Spring Hangers
  - .3 Backdraft Damper

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for roof and wall exhausters installation in accordance with manufacturer's written instructions:
  - .1 Visually inspect substrate.
  - .2 Inform Consultant of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied.

### **3.2 INSTALLATION**

- .1 Install in accordance with manufacturer's instructions in locations indicated on the drawings.

### **3.3 ANCHOR BOLTS AND TEMPLATES**

- .1 Size anchor bolts to withstand seismic acceleration and velocity forces.

### **3.4 ADJUSTING**

- .1 Adjust exhaust fans to function properly.
- .2 Adjust Belt Tension.
- .3 Lubricate bearings.
- .4 Adjust drive for final system balancing.
- .5 Check wheel overlap.

### **3.5 CLEANING**

- .1 Progress Cleaning:
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

---

**END OF SECTION**

---