



## 1003-2010 ADDENDUM 1

### CONCRETE CULVERT EXTENSION – LOT 16 DRAIN AT KENASTON BLVD. AND BISHOP GRANDIN BLVD.

#### **URGENT**

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

ISSUED: January 19, 2011  
BY: Kevin Amy  
TELEPHONE NO. (204) 488-5743

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

Template Version: A20070419

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**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.**

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#### **PART A – BID SUBMISSION**

Replace: 1003-2010 Bid Submission with 1003-2010 Addendum 1 - Bid Submission. The following is a summary of changes incorporated in the replacement Bid Submission:

- Form B(R1):
- Revise Item No. 7 Description of “Structural Concrete” to “Supply and Place Stainless Steel”.
  - Revise Item No. 8 Description of “Heating and Hoarding” to “Structural Concrete”.
  - Revise Item No. 9 Description of “Backfill Above Elevation 226.655” to “Cold Weather Concreting”.
  - Revise Item No. 10 Description of “Backfill Below Elevation 226.655” to “Backfill Above Elevation 226.655”.
  - Revise Item No. 11 Description of “Random Stone Riprap and Geotextile” to “Backfill Below Elevation 226.655”.
  - Revise Item No. 12 Description of “Chain Link Fencing” to “Random Stone Riprap and Geotextile”.
  - Revise Item No. 13 Description of “Supply and Install Erosion Control Blanket” to “Chain Link Fencing”.
  - Revise Item No. 14 Description of “Silt Fence Barrier” to “Supply and Install Erosion Control Blanket”.
  - Add Item No. 15 Description of “Silt Fence Barrier”.
  - Add Item No. 16 Description of “Place Precast Concrete Barriers”.
  - Add Item No. 17 Description of “Salvaging Existing Barrier Rail”.
  - Add Item No. 18 Description of “Drain Pipe”.

Page numbering on some forms may be changed as a result.

## **PART B - BIDDING PROCEDURES**

Revise: B2.1 to read: The Submission Deadline is 12:00 noon Winnipeg time, January 25, 2011.

## **PART D - SUPPLEMENTAL CONDITIONS**

Replace: D13 through D20 Inclusive with:

### **SCHEDULE OF WORK**

#### **D13. COMMENCEMENT**

- D13.1 The Contractor shall not commence any Work until he is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.
- D13.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence of authority to carry on business specified in D7;
    - (ii) evidence of the workers compensation coverage specified in C6.15;
    - (iii) the Safe Work Plan specified in D8;
    - (iv) evidence of the insurance specified in D9;
    - (v) the performance security specified in D10;
    - (vi) the Subcontractor list specified in D11;
    - (vii) the detailed work schedule specified in D12; and
  - (b) the Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D13.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.
- D13.4 The City intends to award this Contract by February 04, 2011
- D13.4.1 If the actual date of award is later than the intended date, the dates specified for Commencement, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

#### **D14. CRITICAL STAGES**

- D14.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- D14.1.1 The Critical Stage Completion Date is March 15, 2011.
- D14.1.2 The Work to be completed is provided below.
- (a) Installation of Stage I Cofferdams
  - (b) Stage I excavation for the existing culvert demolition and proposed culvert construction
  - (c) Demolition of existing culvert as noted on the Drawings
  - (d) Construction of the proposed culvert and headwalls
  - (e) Completion of all backfill and riprap placement for Stage I.
  - (f) Removal of Stage I Cofferdams

**D15. SUBSTANTIAL PERFORMANCE**

- D15.1 The Contractor shall achieve Substantial Performance by July 29, 2011.
- D15.2 When the Contractor considers the Work to be substantially performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Substantial Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D15.3 The date on which the Work has been certified by the Contract Administrator as being substantially performed to the requirements of the Contract through the issue of a certificate of Substantial Performance is the date on which Substantial Performance has been achieved.

**D16. TOTAL PERFORMANCE**

- D16.1 The Contractor shall achieve Total Performance by August 5, 2011.
- D16.2 When the Contractor or the Contract Administrator considers the Work to be totally performed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Total Performance. Any defects or deficiencies in the Work noted during that inspection shall be remedied by the Contractor at the earliest possible instance and the Contract Administrator notified so that the Work can be reinspected.
- D16.3 The date on which the Work has been certified by the Contract Administrator as being totally performed to the requirements of the Contract through the issue of a certificate of Total Performance is the date on which Total Performance has been achieved.

**D17. LIQUIDATED DAMAGES**

- D17.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Calendar Day for each and every Calendar Day following the days fixed herein for same during which such failure continues:
- (a) Critical Stage Completion of Culvert Construction – two thousand dollars (\$2000);
  - (b) Substantial Performance – one thousand dollars (\$1000);
  - (c) Total Performance – five hundred dollars (\$500).
- D17.2 The amounts specified for liquidated damages in D16.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.
- D17.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

**D18. JOB MEETINGS**

- D18.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, the City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D18.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

**D19. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

D19.1 Further to C6.24, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

**MEASUREMENT AND PAYMENT**

**D20. PAYMENT**

D20.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

**WARRANTY**

**D21. WARRANTY**

D21.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

**PART E - SPECIFICATIONS**

Revise: E1.2 to read: The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
C375-11-01	Cover Sheet & Drawing Index
C375-11-02	Site Plan – Existing
C375-11-03	Stage I Site Plan – Demolition & Excavation
C375-11-04	Stage II Site Site Plan – Demolition & Excavation
C375-11-05	Site Plan – Completion of Culvert and Retaining Wall
C375-11-06	Site Plan – Completion of Future Roads
C375-11-07	Excavation & Earthwork Details
C375-11-08	Concrete Plan & Elevations
C375-11-09	Concrete Sections & Details
C375-11-10	Reinforcing Details – Sheet 1 of 3
C375-11-11	Reinforcing Details – Sheet 2 of 3
C375-11-12	Reinforcing Details – Sheet 3 of 3
C375-11-13	Reinforcing Bill of Material
C375-11-14	Wingwall Extension – Concrete & Reinforcing Section & Details

Revise: E5.2 to read: Further to clause 3.10 of CW 1130, the Contractor shall show that he has the approval of all applicable authorities in regard to said night work and to the anticipated/actual construction noise levels. In particular, such work shall conform with the Neighbourhood Liveability By-Law No. 1/2008. Also, the Contractor, at his own cost, incidental to these Works, shall supply sufficient lighting to enable all night work to be done in a safe and efficient manner, satisfactory to the Contract Administrator.

Replace: E8 with the following:

**E8. CREEK FLOW MAINTENANCE**

E8.1 Description

- E8.1.1 This Specification shall cover the maintaining of flows through the existing culvert for the duration of the construction Works.
- E8.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all works as hereinafter specified.
- E8.2 Materials
- E8.2.1 The Contractor shall be responsible for the supply, safe storage and handling of all materials as set forth in this Specification. All materials shall be handled in a careful and workmanlike manner, to the satisfaction of the Contract Administrator.
- E8.3 Construction Methods
- E8.3.1 In general, the Work shall include, but not necessarily be limited to:
- (a) Design of the creek flow maintenance methods. The preparation and submission for review and approval by the Contract Administrator of a Water Management Plan comprised of detailed drawings and/or description of the maintenance methods.
  - (b) Maintenance of creek flows for the duration of construction of the culvert extension. The Water Management Plan is to be designed such that it can pass 0.3 cubic metres per second of water from the inlet of the culvert to the Lot 16 Drain. This requirement is to encompass work between the start of construction and the Critical Stages date as the culvert is to be complete and fully operational by the Critical Stages date.
  - (c) Removal of materials and/or equipment needed to maintain creek flows, at the end of their use.
  - (d) Confinement of suspended matter in the creek water generated at the Site through excavation, etc. to the area of the Site. This may require the construction of a downstream cofferdam and floating turbidity barrier through the creek to confine that suspended matter.
- E8.3.2 The Contractor's Water Management Plan shall be designed to meet the following additional conditions and requirements:
- (a) All cofferdams shall be designed by a Professional Engineer registered in the Province of Manitoba
  - (b) Cofferdams, if used, shall be constructed of non-erodible material such as sandbags, sheet piles or the like.
  - (c) Between the dates of March 30 and June 15, fish shall be afforded full access through the Site via a naturally flowing channel. In this time period, no construction activity impacting upon the culvert or drain affecting fish mobility or habitat will be permitted.
  - (d) Detailed design drawings and design calculations shall be submitted to the Contract Administrator for review at least five (5) business days prior to the start of construction of the shoring. The Bidders are advised that the drawings are for the Contract Administrator's review, information, and records only. The submission of the detailed drawings to the Contract Administrator shall in no way relieve the Contractor of the full responsibility for the design and proper functioning of the cofferdams.
  - (e) For Stage I, cofferdams shall be provided at the upstream and downstream limits of the site to allow excavation in the watercourse under dry conditions. Cofferdams shall be as watertight as is necessary for the proper performance of the work that must be done inside them. The cofferdams shall be designed and constructed to meet the requirements of the Contractor's Water Management Plan, particularly with respect to maintaining stream flow through or around the site. The elevations of the cofferdams shall be determined by the Contractor. The water elevation of Lot 16 Drain on July 8, 2009 and January 18, 2011 is 229.1 based on site surveys. These elevations are not requirements for the cofferdams but rather are provided as information only for the design of the cofferdams.
  - (f) For Stage II, a cofferdam shall be provided around the retaining wall works to allow construction to be completed under dry conditions. Cofferdams shall be as watertight as is necessary for the proper performance of the work that must be done inside them. The cofferdams shall be designed and constructed to meet the requirements of the Contractor's Water Management Plan, particularly with respect to the water elevation the cofferdam is designed to accommodate. The elevations of the cofferdams shall be determined by the Contractor. The water elevation of Lot 16 Drain during the

1997 flood event was recorded as 230.7. The Lot 16 Drain water elevation due the May 2010 rainstorm event was 230.5 one day after the event and 230.25 3 days after the event. These elevation are not requirements for the cofferdam but rather are provided as information only for the design of the cofferdams. No in water work is permitted between the dates as stated in the Regulatory approvals and submittals. If a cofferdam is installed during after March 15, 2011 the Contractor is to prepare an environmental management plan outlining the construction process and environmental mitigation measures to be implemented.

- (g) The cofferdam requirements and construction staging and sequencing as outlined in Stages I and II are not mandatory. The Contractor may prepare and submit alternate cofferdam and construction staging and sequencing plans to the Contract Administrator for review and approval. The Contractor's alternate plans must meet the requirements of this specification including the Critical Stage, Substantial Performance, Total Performance and Regulatory requirements. If the Contractor's alternate plan is not accepted by the Contract Administrator the Contractor shall meet the original requirements for cofferdams and construction staging and sequencing as outlined in the Specification and on the Drawings.
- (h) Sheetpiling shall be driven to a depth below the bottom of the excavation to preclude the possibility of a blow-up from the bottom of the excavation.
- (i) Cofferdams shall not be removed until construction of the culvert and backfilling operations have been completed to an extent where unimpeded stream flow can be re-established. Backfill required around the permanent Work shall be supplied and placed in accordance with the Specifications for The Contractor shall construct shoring in accordance with the detailed design drawings. Variations from the drawings will not be permitted, unless such variations are approved by the designer and the Contract Administrator is provided with the revised drawings.

#### E8.4 Measurement and Payment

E8.4.1 The maintenance of creek flows will not be measured. This item of work will be paid for at the Contract Lump Sum Price for "Creek Flow Maintenance" performed in accordance with this Specification and accepted by the Contract Administrator.

Add: E9.3.3 (e) The shoring design shall meet all regulatory requirements including those of Manitoba Workplace Health and Safety.

Revise: E9.3.5 to read: Preparation of the Interface Between the Existing Culvert and the Proposed Extension

- (a) The existing concrete surface remaining upon removal of the required concrete as shown on the Drawings shall have a minimum amplitude of 6mm achieved through mechanical means.
- (b) The existing concrete surface is to be sandblasted to remove any laitence or loose concrete.
- (c) A bonding agent shall be applied to the existing concrete surface prior to the casting the proposed concrete.
- (d) The existing reinforcing steel remaining shall be sand blasted in accordance with SSPC-SP 6/NACE NO.3.

Replace: E10 with the following:

#### **E10. SUPPLYING AND PLACING REINFORCING STEEL**

##### E10.1 Description

E10.1.1 This Specification shall cover the supply, fabrication and placement of plain reinforcing steel and stainless steel reinforcing bars.

- E10.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all works as hereinafter specified.
- E10.2 Materials
- E10.2.1 General
- (a) The Contractor shall be responsible for the supply, safe storage and handling of all materials as set forth in this Specification.
  - (b) All materials shall be handled and stored in a careful and workmanlike manner, to the satisfaction of the Contract Administrator. Storage of materials shall be in accordance with the latest edition of CSA Standard CAN3-A23.1, Storage of Materials, except as otherwise specified herein.
- E10.2.2 Plain Reinforcing Steel
- (a) All plain reinforcing steel shall conform to the requirements of CSA Standard G30.18, Grade 400W, Billet-Steel Bars for concrete reinforcement. If, in the opinion of the Contract Administrator, any reinforcing steel provided for the concrete works exhibits flaws in manufacture or fabrication, such material shall be immediately removed from the Site and replaced with acceptable reinforcing steel.
  - (b) All reinforcing steel shall be straight and free from paint, oil, mill-scale, and injurious defects. Surface seams or surface irregularities will not be cause for rejection, provided that the minimum dimensions, cross section area, and tensile properties of a hand wire-brushed specimen are not less than the requirements of CSA Standard G30.18.
- E10.2.3 Stainless Steel Reinforcing
- (a) Stainless steel reinforcing shall be deemed to include all dowels and fabricated stainless steel sleeves.
  - (b) Stainless steel reinforcing bars to ASTM A955M, 300 Series, Grade 420, Type 2205 Duplex or Type 316 LN.
  - (c) Stainless steel plates for sleeves to ASTM A167, Type 308 or equivalent as per section B6.
  - (d) The stainless steel reinforcement shall be mechanically or chemically descaled prior to fabrication, leaving a totally passive stainless steel finish free of millscale, slag or oxidation.
- E10.2.4 Bar Accessories
- (a) Bar accessories shall be of a type approved by the Contract Administrator. They shall be made from a non-rusting material, and shall not stain, blemish, or spall the concreted surface for the life of the concrete.
  - (b) Bar accessories shall include bar chairs, spacers, clips, wire ties, wire (18 gauge minimum), or other similar devices that may be approved by the Contract Administrator. Bar accessories for stainless steel reinforcing bars shall be of the types suitable for stainless steel reinforcing and acceptable to the Contract Administrator. The supplying and installation of bar accessories shall be deemed to be incidental to the supplying and placing of reinforcing steel.
- E10.2.5 Reinforcing Steel Shop Drawings
- (a) Shop drawings are not required.
- E10.3 Construction Methods
- E10.3.1 Fabrication of Reinforcing Steel
- (a) Reinforcing steel shall be fabricated in accordance with CSA Standard S6 to the lengths and shapes as shown on the Drawings.
- E10.3.2 Placing of Reinforcing Steel
- (a) Reinforcing steel shall be placed accurately in the positions shown on the Drawings and shall be retained in such positions by means of a sufficient number of bar accessories to that the bars shall not be moved out of alignment during or after the depositing of concrete. The Contract Administrator's decision in this matter shall be final.

- (b) Reinforcing steel shall be free of all foreign material in order to ensure a positive bond between the concrete and steel. The Contractor shall also remove any dry concrete, which may have been deposited on the steel from previous concrete placement, before additional concrete may be placed. Intersecting bars shall be tied positively at each intersection.
- (c) Splices in reinforcing steel shall be made only where indicated on the Drawings. Prior approval of the Contract Administrator shall be obtained where other splices are to be made. Welded splices shall conform to CSA Standard W186, and are subject to prior written approval of the Contract Administrator.
- (d) Reinforcing steel shall not be straightened or re-bent in a manner that will injure the metal. Bars with bends not shown on the Drawings shall not be used. Heating of reinforcing steel will not be permitted without the prior approval of the Contract Administrator. A minimum of twenty-four (24) hours advance notice shall be given to the Contract Administrator prior to placing of any concrete to allow for inspection of the reinforcement.

#### E10.4 Quality Control

##### E10.4.1 Inspection

- (a) All workmanship and all materials furnished and supplied under this Specification are subject to close and systematic inspection and testing by the Contract Administrator including all operations; from the selection and production of materials, through to final acceptance of the specified Work. The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection or approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or works that are not in accordance with the requirements of this Specification.

##### E10.4.2 Access

- (a) The Contract Administrator shall be afforded full access for the inspection and quality control testing of reinforcing steel; both at the Site of Work and at any plant used for fabrication of the reinforcing steel, to determine whether the reinforcing steel is being supplied in accordance with this Specification.

##### E10.4.3 Quality Testing

- (a) Quality control testing will be used to determine the acceptability of the reinforcing steel supplied by the Contractor.
- (b) The Contractor shall provide, without charge, the samples of reinforcing steel required for quality control tests and provide such assistance and use of tools and construction equipment, as is required.

#### E10.5 Measurement and Payment

E10.5.1 Supplying and placing plain reinforcing steel will be measured on a mass basis. The mass to be paid for shall be the total number of kilograms of reinforcing steel installed in accordance with this Specification, acceptable to the Contract Administrator, as computed from the approved reinforcing layout shown on the Drawings, excluding the mass of bar accessories. This item of work will be paid at the Contract Unit Price per kilogram for the "Supply and Place Reinforcing Steel" performed in accordance with this Specification and accepted by the Contract Administrator.

E10.5.2 Supplying and placing stainless steel reinforcing steel and stainless steel sleeves will be measured on a mass basis. The mass to be paid for shall be the total number of kilograms of reinforcing steel installed in accordance with this Specification, acceptable to the Contract Administrator, as computed from the approved reinforcing layout shown on the Drawings, excluding the mass of bar accessories. This item of work will be paid at the Contract Unit Price per kilogram for the "Supply and Place Stainless Steel" performed in accordance with this Specification and accepted by the Contract Administrator.

#### Add: E11.6.2 Cold Weather Concreting

- (a) Cold Weather Concreting will not be measured. This item of work will be paid for at the Contract Lump Sum Price for "Cold Weather Concreting", performed in accordance with this Specification and accepted by the Contract Administrator.



Revise: E12.2.8 to read: Working Base

- (a) Working base shall be concrete meeting the requirements of CSA A 23.1 latest edition, for S-2 class of exposure, except as follows:
  - (i) 20 MPa at 28 days

Replace: E16 with the following:

## **E16. PRE-CAST CONCRETE TRAFFIC BARRIERS**

### **E16.1 Description**

E16.1.1 This Specification covers the pick-up, installation, maintenance, and return of pre-cast concrete traffic barriers as indicated on the Drawings.

### **E16.2 Materials**

E16.2.1 Precast Concrete Traffic Barriers will be available for use by the Contractor at the City of Winnipeg Bridge Yard.

### **E16.3 Construction Methods**

E16.3.1 The Contractor shall arrange to pick up, load, deliver and unload them to the Site from the City of Winnipeg Bridge Yard at 849 Ravelstone Avenue West and pick-up, load, deliver and unload them to the City of Winnipeg Bridge Yard at 849 Ravelstone Avenue West from the Site by contacting Mike Terleski at 794-8510.

E16.3.2 The Contract is to supply all necessary equipment for loading, unloading, placing, maintenance and all items related thereto that are not identified under a separate item of work at both the City Yard and the Site.

E16.3.3 Placement of the barriers on Site is subject

E16.3.4 The Contractor shall be responsible for maintenance of the barriers during construction.

E16.3.5 The Contractor shall be responsible for loading the precast units from the City Yard, hauling, unloading, placing, as well as storing of the precast concrete barriers once they have been received. The Contractor shall supply all necessary equipment and materials for loading, hauling, unloading and storing of the barriers.

E16.3.6 Precast concrete barrier shall be installed at location shown on the Drawings. The barriers shall be properly aligned, seated firmly to the sub-surface and pinned together to the satisfaction of the Contract Administrator.

### **E16.4 Measurement and Payment**

E16.4.1 Placing Pre-Cast Concrete Traffic Barriers will be measured by each unit placed onsite and subsequently returned to the City Yard. The total number to be measured shall be the total number of Pre-Cast Concrete Traffic Barriers placed and returned in accordance with this Specification, acceptable to the Contract Administrator, as computed from the Drawings. This item of work will be paid for at the Contract Unit Price each for "Place Pre-Cast Concrete Traffic Barriers" performed in accordance with this Specification and accepted by the Contract Administrator.

E16.4.2 Payment for the pre-cast concrete traffic barriers will be 50% of the unit price for each unit being installed and maintained to the satisfaction for the duration of construction as accepted by the Contract Administrator and 50% of the unit price for each unit returned to the yard as accepted by the Contract Administrator.

Add: E18.6 (a) As the original submission and approvals were based on the total completion of the project by March 31. For any work completed after the Critical Date, the requirements as stated in the DFO submission and Letter of Advice are still applicable to the work but the statement, this is not anticipated to be an issue as construction should be completed during the winter months, is to disregarded, as all items would be directly applicable to the Work.

- Revise: E18.13 to read: (a) Noise-generating activities shall be limited to the hours indicated in clause 3.10 of CW 1130, unless otherwise accepted in advance by the Contract Administrator.
- (b) The Contractor shall be responsible for scheduling Work to avoid potential noise problems and/or employ noise reduction measures to reduce noise to acceptable limits. The Contractor shall also demonstrate to the Contract Administrator that Works to be performed during the night-time period, on Sundays, and/or Holidays shall not exceed the approved limit.

Add: E19

## **E19. REMOVAL AND SALVAGE OF ALUMINUM BALANCED BARRIER**

### **E19.1 Description**

- E19.1.1 Further to CW 3650 this specification covers the removal and salvage of the existing aluminum balanced barrier on Kenaston Blvd./Bishop Grandin Blvd northbound at the existing culvert location.
- E19.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified.

### **E19.2 Material**

#### **E19.2.1 General**

- (a) The Contractor shall be responsible for the supply, safe storage, and handling of all materials set forth in this Specification.

#### **E19.2.2 Handling and Storage of Materials**

- (a) All material shall be handled and stored in a careful and workmanlike manner, in accordance with Section 5.2 of CW 3650, to the satisfaction of the Contract Administrator.
- (b) Any damaged or missing material or components resulting from handling and storage operations shall be replaced at the Contractor's expense, to the satisfaction of the Contract Administrator.
- (c) All aluminum balanced barrier rail and posts are to be stored on wood blocking and shall not be stored directly on the ground. The barrier components to be salvaged and returned to the City shall be transported on wood blocking and shall be secured to prevent movement which may cause damage during transportation.
- (d) The contractor shall provide equipment at the City Bridge Yard for unloading and placement of the material at the location directed by City personnel.

#### **E19.2.3 Granular Backfill Material**

- (a) Granular backfill material shall conform to the requirements of Section 5.5 of CW 3650. Crushed limestone base course is not allowed for use.

#### **E19.2.4 Miscellaneous Materials**

- (a) The Contractor shall supply all miscellaneous materials, as approved by the Contract Administrator, to ensure the salvaging of the aluminum balanced barrier.

### **E19.3 Construction Methods**

#### **E19.3.1 Removal of Aluminum Balance Barrier**

- (a) Further to Section 9.6 of CW 3650, removal of the barrier railing components shall be undertaken in careful and workmanlike manner. Material damaged through negligent operations shall be replaced by the Contractor at his expense.
- (b) A minimum of 48 hours prior to commencement of dismantling operations, the Contractor shall spray all the existing cap screws with an anti-seize compound to the satisfaction of the Contract Administrator.

- (c) All cap screws shall be initially loosed with a hand wrench to limit the number of broken cap screws in clamp bars and splice bars. Once loosened, the bolts may be removed with an impact wrench unless otherwise directed by the Contract Administrator.

E19.3.2 Inspection and Preparation of Barrier Posts

- (a) After the barrier posts are removed, all posts shall be thoroughly cleaned to the satisfaction of the Contract Administrator.

E19.3.3 Salvaging of Existing Guardrail

- (a) Further to Section 9.6 of CW 3650, all salvaged material shall be delivered to the City Bridge Yard located at 849 Ravelston Avenue. Contact Mike Terleski, C.E.T. at 794-8510 to arrange a suitable time and date for delivery.
- (b) Further to Section 5.2 of CW 3650, the salvage material shall be properly placed in the bridge yard at location determined by City personnel in a manner accepted by the City.
- (c) Prior to delivery, splice bars and clamp bars are to be removed from the aluminum barrier rail.
- (d) Broken cap screws shall be removed from splice bars and clamp bars and the holes re-tapped prior to delivery. Alternately, the Contractor may supply new material or have the material value, as determined by the Contract Administrator, deducted from a Contract progress payment.

E19.4 Measurement and Payment

- E19.4.1 Removal Salvage and Reinstallation of aluminum balanced barrier will be measured and paid for in accordance with City of Winnipeg Standard Construction Specification CW3650.

Add: E20

**E20. DRAINAGE PIPE**

E20.1 Description

- E20.1.1 This Specification shall cover the supply and installation of the drain behind the headwall and retaining wall.
- E20.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified.

E20.2 Materials

E20.2.1 General

- (a) The Contractor shall be responsible for the supply, safe storage and handling of all material set for thin this Specification. All materials supplied under this Specification shall be subject to eh inspection and acceptance by the Contact Administrator.

E20.2.2 Drain Pipes, Fitting and Accessories

- (a) Drain pipes, fittings, and other accessories and appurtenances for the drain pipe shall conform be IPEX System 15 PVC-DWV or approved equivalent in accordance with section B6.

E20.2.3 Filter Fabric

- (a) Filter fabric shall be Mirafi P600X Woven by Dominion Textile Inc. or Typar Style 3607 by Dupont Company or approved equivalent in accordance with section B6.

E20.3 Equipment

- E20.3.1 All equipment shall be of a type acceptable to the Contract Administrator and shall be kept in good working order.

E20.4 Construction Methods

- E20.4.1 The drain pipe shall be laid to the line and grade shown on the Drawings or as directed by the Contract Administrator with separate sections securely jointed in accordance with the manufacturers requirements.

E20.5 Measurement and Payment

- E20.5.1 Supplying and placing drain pipe will be measured per lineal metre. The length to be measured shall be the total number of metres of drain pipe supplied and placed in accordance with this Specification, acceptable to the Contract Administrator, as computed from field measurements. This item of work will be paid for at the Contract Unit Price per metre for "Drain Pipe" performed in accordance with this Specification and accepted by the Contract Administrator.
- E20.5.2 Administrator and 50% of the unit price for each unit returned to the yard as accepted by the Contract Administrator.

**DRAWINGS**

- Replace: 1003-2010 \_Drawing\_C375-11-01\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-01\_R1  
1003-2010 \_Drawing\_C375-11-02\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-02\_R1  
1003-2010 \_Drawing\_C375-11-03\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-03\_R1  
1003-2010 \_Drawing\_C375-11-04\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-05\_R1  
1003-2010 \_Drawing\_C375-11-05\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-06\_R1  
1003-2010 \_Drawing\_C375-11-06\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-07\_R1  
1003-2010 \_Drawing\_C375-11-07\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-08\_R1  
1003-2010 \_Drawing\_C375-11-08\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-09\_R1  
1003-2010 \_Drawing\_C375-11-09\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-10\_R1  
1003-2010 \_Drawing\_C375-11-10\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-11\_R1  
1003-2010 \_Drawing\_C375-11-11\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-12\_R1  
1003-2010 \_Drawing\_C375-11-12\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-13\_R1  
1003-2010 \_Drawing\_C375-11-13\_R0 with 1003-2010 \_Addendum\_1 Drawing\_ C375-11-14\_R1
- Add: 1003-2010 \_Drawing\_C375-11-04\_R0