



**THE CITY OF WINNIPEG**

# **BID OPPORTUNITY**

**BID OPPORTUNITY NO. 172-2007**

**REPLACEMENT OF CONCRETE RAMP/ SNOW MELT SYSTEM  
DISTRICT 5 POLICE STATION - 227 PROVENCHER BLVD.**

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## **PART B - BIDDING PROCEDURES**

### **B1. PROJECT TITLE**

- B1.1 REPLACEMENT OF CONCRETE RAMP/ SNOW MELT SYSTEM  
DISTRICT 5 POLICE STATION - 227 PROVENCHER BLVD.

### **B2. SUBMISSION DEADLINE**

- B2.1 The Submission Deadline is 12:00 noon Winnipeg time, April 5, 2007.
- B2.2 Bid Submissions determined by the Manager of Materials to have been received later than the Submission Deadline will not be accepted and will be returned upon request.
- B2.3 The Contract Administrator or the Manager of Materials may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

### **B3. SITE INVESTIGATION**

- B3.1 Further to GC:3.1, the Contract Administrator or an authorized representative will be available at the Site from 10:00 a.m. to 12:00 noon on March 29, 2007 to provide Bidders access to the Site.
- B3.2 The Bidder shall not be entitled to rely on any information or interpretation received at the Site investigation unless that information or interpretation is the Bidder's direct observation, or is provided by the Contract Administrator in writing.

### **B4. ENQUIRIES**

- B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.
- B4.2 If the Bidder finds errors, discrepancies or omissions in the Bid Opportunity, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.
- B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator to all Bidders by issuing an addendum.
- B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Bid Opportunity will be provided by the Contract Administrator only to the Bidder who made the enquiry.
- B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

### **B5. ADDENDA**

- B5.1 The Contract Administrator may, at any time prior to the Submission Deadline, issue addenda correcting errors, discrepancies or omissions in the Bid Opportunity, or clarifying the meaning or intent of any provision therein.
- B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.

- B5.2.1 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.
- B5.2.2 The Bidder is responsible for ensuring that he has received all addenda and is advised to check the Materials Management Branch internet site for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B5.3 The Bidder shall acknowledge receipt of each addendum in Paragraph 8 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

## **B6. SUBSTITUTES**

- B6.1 The Work is based on the Plans, Materials and methods specified in the Bid Opportunity.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least five (5) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the Plant, Material or method as either an approved equal or alternative;
  - (b) identify any and all changes required in the applicable Work, and all changes to any other Work, which would become necessary to accommodate the substitute;
  - (c) identify any anticipated cost or time savings that may be associated with the substitute;
  - (d) certify that, in the case of a request for approval as an approved equal, the substitute will fully perform the functions called for by the general design, be of equal or superior substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance;
  - (e) certify that, in the case of a request for approval as an approved alternative, the substitute will adequately perform the functions called for by the general design, be similar in substance to that specified, is suited to the same use and capable of performing the same function as that specified and can be incorporated into the Work, strictly in accordance with the proposed work schedule and the dates specified in the Supplemental Conditions for Substantial Performance and Total Performance.
- B6.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his sole discretion grant approval for the use of a substitute as an "approved equal" or as an "approved alternative", or may refuse to grant approval of the substitute.
- B6.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, only to the Bidder who requested approval of the substitute.
- B6.6.1 The Bidder requesting and obtaining the approval of a substitute shall be entirely responsible for disseminating information regarding the approval to any person or persons he wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an "approved equal", any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative shall base his Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with B14.

B6.9 No later claim by the Contractor for an addition to the Total Bid Price because of any other changes in the Work necessitated by the use of an approved equal or an approved alternative will be considered.

## **B7. BID SUBMISSION**

B7.1 The Bid Submission consists of the following components:

- (a) Form A: Bid;
- (b) Form B: Prices.

B7.2 The Bid Submission shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.2.1 Samples or other components of the Bid Submission which cannot reasonably be enclosed in the envelope may be packaged separately, but shall be clearly marked with the Bid Opportunity number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid Submission.

B7.3 Bid Submissions submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.4 Bid Submissions shall be submitted to:

The City of Winnipeg  
Corporate Finance Department  
Materials Management Branch  
185 King Street, Main Floor  
Winnipeg MB R3B 1J1

## **B8. BID**

B8.1 The Bidder shall complete Form A: Bid, making all required entries.

B8.2 Paragraph 2 of Form A: Bid shall be completed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, his name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B8.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B8.2.

B8.3 In Paragraph 3 of Form A: Bid, the Bidder shall identify a contact person who is authorized to represent the Bidder for purposes of the Bid.

B8.4 Paragraph 10 of Form A: Bid shall be signed in accordance with the following requirements:

- (a) if the Bidder is a sole proprietor carrying on business in his own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
- (d) if the Bidder is carrying on business under a name other than his own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

B8.4.1 The name and official capacity of all individuals signing Form A: Bid shall be printed below such signatures.

B8.4.2 All signatures shall be original.

B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid Submission and the Contract, when awarded, shall be both joint and several.

## **B9. PRICES**

B9.1 The Bidder shall state the lump sum price in Canadian funds for the Work on Form B: Prices.

## **B10. QUALIFICATION**

B10.1 The Bidder shall:

- (a) undertake to be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
- (b) be responsible and not be suspended, debarred or in default of any obligation to the City;
- (c) be financially capable of carrying out the terms of the Contract;
- (d) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract;
- (e) have successfully carried out work, similar in nature, scope and value to the Work;
- (f) employ only Subcontractors who:
  - (i) are responsible and not suspended, debarred or in default of any obligation to the City (a list of suspended or debarred individuals and companies is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>); and
  - (ii) have successfully carried out work similar in nature, scope and value to the portion of the Work proposed to be subcontracted to them, and are fully capable of performing the Work required to be done in accordance with the terms of the Contract;
- (g) have a written workplace safety and health program in accordance with The Workplace Safety and Health Act (Manitoba);

B10.2 The Bidder shall be prepared to submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.

B10.3 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.

## **B11. OPENING OF BIDS AND RELEASE OF INFORMATION**

B11.1 Bid Submissions will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Branch, or in such other office as may be designated by the Manager of Materials.

B11.1.1 Bidders or their representatives may attend.

B11.2 After the public opening, the names of the Bidders and their Total Bid Prices as read out (unevaluated, and pending review and verification of conformance with requirements) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B11.3 After award of Contract, the name(s) of the successful Bidder(s) and the Contract Amount(s) will be available on the Closed Bid Opportunities (or Public/Posted Opening & Award Results) page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

B11.4 The Bidder is advised that any information contained in any Bid Submission may be released if required by City policy or procedures, by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law.

## **B12. IRREVOCABLE BID**

B12.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 9 of Form A: Bid.

B12.2 The acceptance by the City of any Bid shall not release the Bids of the next two lowest evaluated responsive Bidders and these Bidders shall be bound by their Bids on such Work for the time period specified in Paragraph 9 of Form A: Bid.

## **B13. WITHDRAWAL OF BIDS**

B13.1 A Bidder may withdraw his Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.

B13.1.1 Notwithstanding GC:23.3, the time and date of receipt of any notice withdrawing a Bid shall be the time and date of receipt as determined by the Manager of Materials.

B13.1.2 The City will assume that any one of the contact persons named in Paragraph 3 of Form A: Bid or the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid, and only such person, has authority to give notice of withdrawal.

B13.1.3 If a Bidder gives notice of withdrawal prior to the Submission Deadline, the Manager of Materials shall:

- (a) retain the Bid Submission until after the Submission Deadline has elapsed;
- (b) open the Bid Submission to identify the contact person named in Paragraph 3 of Form A: Bid and the Bidder's authorized representatives named in Paragraph 10 of Form A: Bid; and
- (c) if the notice has been given by any one of the persons specified in B13.1.3(b), declare the Bid withdrawn.

B13.2 A Bidder who withdraws his Bid after the Submission Deadline but before his Bid has been released or has lapsed as provided for in B12.2 shall be liable for such damages as are imposed upon the Bidder by law and subject to such sanctions as the Chief Administrative



Officer considers appropriate in the circumstances. The City, in such event, shall be entitled to all rights and remedies available to it at law.

#### **B14. EVALUATION OF BIDS**

B14.1 Award of the Contract shall be based on the following bid evaluation criteria:

- (a) compliance by the Bidder with the requirements of the Bid Opportunity (pass/fail);
- (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B10 (pass/fail);
- (c) Total Bid Price;
- (d) economic analysis of any approved alternative pursuant to B6.

B14.2 Further to B14.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements if the interests of the City so require.

B14.3 Further to B14.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his Bid Submission or in other information required to be submitted, that he is responsible and qualified.

B14.4 Further to B14.1(c), the Total Bid Price shall be the lump sum price shown on Form B: Prices.

B14.4.1 If there is any discrepancy between the lump sum price written in figures and the lump sum price written in words, the price written in words shall take precedence.

#### **B15. AWARD OF CONTRACT**

B15.1 The City will give notice of the award of the Contract or will give notice that no award will be made.

B15.2 The City will have no obligation to award a Contract to a Bidder, even though one or all of the Bidders are determined to be responsible and qualified, and the Bids are determined to be responsive.

B15.2.1 Without limiting the generality of B15.2, the City will have no obligation to award a Contract where:

- (a) the prices exceed the available City funds for the Work;
- (b) the prices are materially in excess of the prices received for similar work in the past;
- (c) the prices are materially in excess of the City's cost to perform the Work, or a significant portion thereof, with its own forces;
- (d) only one Bid is received; or
- (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.

B15.3 Where an award of Contract is made by the City, the award shall be made to the responsible and qualified Bidder submitting the lowest evaluated responsive Bid.

B15.4 Notwithstanding GC:4, the City will issue a Purchase Order to the successful Bidder in lieu of the execution of a Contract.

B15.5 The Contract, as defined in GC:1.1, in its entirety shall be deemed to be incorporated in and to form a part of the Purchase Order notwithstanding that it is not necessarily attached to or accompany said Purchase Order.

## **PART C - GENERAL CONDITIONS**

### **C1. GENERAL CONDITIONS**

C1.1 The *General Conditions for Construction Contracts* (Revision 2000 11 09) are applicable to the Work of the Contract.

C1.1.1 The *General Conditions for Construction Contracts* are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

## **PART D - SUPPLEMENTAL CONDITIONS**

### **GENERAL**

#### **D1. GENERAL CONDITIONS**

- D1.1 In addition to the *General Conditions for Construction Contracts*, these Supplemental Conditions are applicable to the Work of the Contract.
- D1.2 The General Conditions are amended by striking out "The City of Winnipeg Act" wherever it appears in the General Conditions and substituting "The City of Winnipeg Charter".
- D1.3 The General Conditions are amended by striking out "Tender Package" wherever it appears in the General Conditions and substituting "Bid Opportunity".
- D1.4 The General Conditions are amended by striking out "Tender Submission" wherever it appears in the General Conditions and substituting "Bid Submission".
- D1.5 The General Conditions are amended by deleting GC:6.16 and GC:6.17. The City of Winnipeg is now within the jurisdiction of the Manitoba Ombudsman pursuant to The Ombudsman Act.

#### **D2. SCOPE OF WORK**

- D2.1 The Work to be done under the Contract shall consist of the renewal of the existing concrete topping/snow melt system at garage entrance ramp.
- D2.2 The major components of the Work are as follows:
- (a) Remove existing reinforced concrete topping c/w all Entran II rubber hosing.
  - (b) Install and connect new Entran Onix hose to new header system.
  - (c) Provide new 5" reinforced concrete topping.

#### **D3. CONTRACT ADMINISTRATOR**

- D3.1 The Contract Administrator is:
- Andy Urbanowicz  
Project Officer  
3<sup>rd</sup> Floor – 65 Garry St.  
Winnipeg, MB. R3C 4K4  
Telephone No. (204) 986 - 2311  
Facsimile No. (204) 947 - 2284
- D3.2 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

#### **D4. CONTRACTOR'S SUPERVISOR**

- D4.1 At the pre-construction meeting, the Contractor shall identify his designated supervisor and any additional personnel representing the Contractor and their respective roles and responsibilities for the Work.

#### **D5. NOTICES**

- D5.1 Except as provided for in GC:23.2.2, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor

shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid.

D5.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D5.3, D5.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator at the address or facsimile number identified in D3.1.

D5.3 All notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following address or facsimile number:

The City of Winnipeg  
Chief Administrative Officer Secretariat  
Administration Building, 3rd Floor  
510 Main Street  
Winnipeg MB R3B 1B9  
Facsimile No.: (204) 949-1174

D5.4 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following address or facsimile number:

The City of Winnipeg  
Corporate Services Department  
Legal Services Division  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1  
Facsimile No.: (204) 947-9155

## **SUBMISSIONS**

### **D6. INSURANCE**

D6.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) all inclusive, with The City of Winnipeg being added as an additional insured, with a cross-liability clause, such liability policy to also contain a contractual liability, an unlicensed motor vehicle liability and a products and completed operations endorsement to remain in place at all times during the performance of the Work and throughout the warranty period;

D6.2 Deductibles shall be borne by the Contractor.

D6.3 The Contractor shall provide the City Solicitor with a certificate of insurance of each policy, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

D6.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least fifteen (15) Calendar Days prior written notice to the Contract Administrator.

### **D7. PERFORMANCE SECURITY**

D7.1 If the Contract Price exceeds twenty-five thousand dollars (\$25,000.00), the Contractor shall provide and maintain performance security until the expiration of the warranty period in the form of:

- (a) a performance bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H1: Performance Bond), in the amount of fifty percent (50%) of the Contract Price; or
- (b) an irrevocable standby letter of credit issued by a bank or other financial institution registered to conduct business in Manitoba and drawn on a branch located in Winnipeg, in the form attached to these Supplemental Conditions (Form H2: Irrevocable Standby Letter of Credit), in the amount of fifty percent (50%) of the Contract Price; or
- (c) a certified cheque or draft payable to "The City of Winnipeg", drawn on a bank or other financial institution registered to conduct business in Manitoba, in the amount of fifty percent (50%) of the Contract Price.

D7.1.1 Where the performance security is in the form of a certified cheque or draft, it will be deposited by the City. The City will not pay any interest on certified cheques or drafts furnished as performance security.

D7.2 The Contractor shall provide the City Solicitor with the required performance security within seven (7) Calendar Days of notification of the award of the Contract by way of Purchase Order and prior to the commencement of any Work on the Site.

#### **D8. SUBCONTRACTOR LIST**

D8.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than seven (7) Calendar Days from notification of the award of Contract.

#### **D9. SECURITY CLEARANCE**

D9.1 The City will conduct a Level Two Security Clearance Check, for any individual proposed to perform Work under the Contract at Winnipeg Police Service facilities.

D9.2 The Contractor shall provide the Contract Administrator with a list of individuals proposed to perform Work under the Contract at Winnipeg Police Service facilities:

- (a) within five (5) Business Days of the Award of Contract; or
- (b) in the case of additional or replacement individuals during the term of the Contract, at least thirty (30) Calendar Days before each individual is proposed to commence Work at Winnipeg Police Service facilities.

D9.3 Each individual or Contractor proposed to perform Work under the Contract at Winnipeg Police Service facilities shall provide:

- (a) A list of names (including maiden names), addresses, dates of birth and telephone numbers of all immediate family members including stepbrothers, stepsisters, half-brothers and half-sisters, and their spouses, common-law spouses, boyfriends, girlfriends and their family members. The list should be typed in the following format:

John James SMITH	Dob: 45 Aug 24 (father)
123 Anywhere Street	555-5555
Winnipeg, Manitoba	

- (b) A list of names, addresses, dates of birth and telephone numbers of four closest friends. Include information indicating when, where and how they met. The list should be typed in the following format:

Joseph James SMITH	Dob: 46 Aug 4 (best friend)
789 Anywhere Street	555-5555
Winnipeg, Manitoba	
When they met:	

Where they met:

How they met:

- (c) The name, title or position, and telephone number of the immediate supervisor.
  - (d) A list of every past address, including the dates of residence, the names of any persons with whom the residence was shared and the reason for moving.
  - (e) Identification - driver's license (with photo), birth certificate or social insurance number (SIN).
    - (a) Photocopies of the identification must be legible, signed as true copies and witnessed by the contact person stated on Paragraph 3 Form A: Bid.
  - (f) A completed Form P-608: Security Clearance Check authorization form.
    - (a) Signature of Witness shall be signed by the contact person stated on Paragraph 3 Form A: Bid.
  - (g) A cheque made payable to the City of Winnipeg in the amount of One hundred and eighty dollars (\$180.00).
- D9.4 Each individual shall submit the required information, form and payment to the Winnipeg Police Service Division 30 Clerk at Main Floor, 151 Princess Street:
- (a) within five (5) Business Days of the Award of Contract; or
  - (b) in the case of an additional or replacement individual during the term of the Contract, at least thirty (30) Calendar Days before the individual is proposed to commence Work at Winnipeg Police Service facilities.
- D9.5 Any individual for whom a satisfactory Level Two Security Clearance is not obtained will not be permitted to perform any Work within Winnipeg Police Service facilities.
- D9.6 Any satisfactory Security Clearance obtained thereby will be deemed valid for two (2) years from the date of clearance, subject to a repeated Security Clearance Check as hereinafter specified.
- (a) Each individual doing Work in a Winnipeg Police Service Facility shall provide identification upon entry to verify they have received a Level Two security clearance.
- D9.7 Notwithstanding the foregoing, at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require a further Security Clearance Check. Any individual who fails to obtain a satisfactory Security Clearance Check as a result of a repeated Security Clearance Check will not be permitted to continue to perform Work under the Contract at Winnipeg Police Service Facilities.
- D9.8 Application for appeal can be made in writing to:  
Winnipeg Police Service  
Division 30  
Service Security  
Attn: Service Security Officer  
151 Princess Street  
Winnipeg, Manitoba  
R3B 1L1
- (a) The information will be reviewed at no cost to the Contractor.

## **SCHEDULE OF WORK**

### **D10. COMMENCEMENT**

- D10.1 The Contractor shall not commence any Work until he is in receipt of a Purchase Order from the Award Authority authorizing the commencement of the Work.
- D10.2 The Contractor shall not commence any Work on the Site until:
- (a) the Contract Administrator has confirmed receipt and approval of:
    - (i) evidence that the Contractor is in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba;
    - (ii) evidence of the workers compensation coverage specified in GC:6.14;
    - (iii) evidence of the insurance specified in D6;
    - (iv) the performance security specified in D7;
    - (v) the Subcontractor list specified in D8; and
    - (vi) the security clearances specified in D9.
  - (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.
- D10.3 The Contractor shall commence the Work on the Site by June 4, 2007.

### **D11. TOTAL PERFORMANCE**

- D11.1 The Contractor shall achieve Total Performance within sixty (60) consecutive Working Days of the commencement of the Work as specified in D10.
- D11.2 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.
- D11.3 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.

### **D12. LIQUIDATED DAMAGES**

- D12.1 If the Contractor fails to achieve Total Performance in accordance with the Contract by the day fixed herein for Total Performance, the Contractor shall pay the City two hundred dollars (\$200.00) per Calendar Day for each and every Calendar Day following the day fixed herein for Total Performance during which such failure continues.
- D12.2 The amount specified for liquidated damages in D12.1 is based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve Total Performance by the day fixed herein for same.
- D12.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

## **CONTROL OF WORK**

### **D13. JOB MEETINGS**

- D13.1 Regular bi-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.
- D13.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

### **D14. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)**

- D14.1 Further to GC:6.26, 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).

## **WARRANTY**

### **D15. WARRANTY**

- D15.1 Notwithstanding GC:13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) year thereafter, except where longer warranty periods are specified in the respective Specification sections, unless extended pursuant to GC:13.2.1 or GC:13.2.2, in which case it shall expire when provided for thereunder.
- D15.1.1 For the purpose of Performance Security, the warranty period shall be one (1) year.
- D15.2 Notwithstanding GC:13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.
- D15.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in GC:13.2 for the warranty period to begin.



**FORM H1: PERFORMANCE BOND**  
(See D7)

KNOW ALL MEN BY THESE PRESENTS THAT

\_\_\_\_\_ ,  
(hereinafter called the "Principal"), and

\_\_\_\_\_ ,  
(hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), in the sum of

\_\_\_\_\_ dollars (\$\_\_\_\_\_)

of lawful money of Canada to be paid to the Obligee, or its successors or assigns, for the payment of which sum the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has entered into a written contract with the Obligee dated the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for:

BID OPPORTUNITY NO. 172-2007

REPLACEMENT OF CONCRETE RAMP/ SNOW MELT SYSTEM  
DISTRICT 5 POLICE STATION - 227 PROVENCHER BLVD.

which is by reference made part hereof and is hereinafter referred to as the "Contract".

NOW THEREFORE the condition of the above obligation is such that if the Principal shall:

- (a) carry out and perform the Contract and every part thereof in the manner and within the times set forth in the Contract and in accordance with the terms and conditions specified in the Contract;
- (b) perform the Work in a good, proper, workmanlike manner;
- (c) make all the payments whether to the Obligee or to others as therein provided;
- (d) in every other respect comply with the conditions and perform the covenants contained in the Contract; and
- (e) indemnify and save harmless the Obligee against and from all loss, costs, damages, claims, and demands of every description as set forth in the Contract, and from all penalties, assessments, claims, actions for loss, damages or compensation whether arising under "The Workers Compensation Act", or any other Act or otherwise arising out of or in any way connected with the performance or non-performance of the Contract or any part thereof during the term of the Contract and the warranty period provided for therein;

THEN THIS OBLIGATION SHALL BE VOID, but otherwise shall remain in full force and effect. The Surety shall not, however, be liable for a greater sum than the sum specified above.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable as Principal, and that nothing of any kind or matter whatsoever that will not discharge the Principal shall operate as a discharge or release of liability of the Surety, any law or usage relating to the liability of Sureties to the contrary notwithstanding.

IN WITNESS WHEREOF the Principal and Surety have signed and sealed this bond the

\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**SIGNED AND SEALED**  
in the presence of:

\_\_\_\_\_  
(Witness)

\_\_\_\_\_  
(Name of Principal)

Per: \_\_\_\_\_ (Seal)

Per: \_\_\_\_\_

\_\_\_\_\_  
(Name of Surety)

By: \_\_\_\_\_ (Seal)  
(Attorney-in-Fact)

**FORM H2: IRREVOCABLE STANDBY LETTER OF CREDIT  
(PERFORMANCE SECURITY)**  
(See D7)

\_\_\_\_\_  
(Date)

The City of Winnipeg  
Corporate Services Department  
Legal Services Division  
185 King Street, 3rd Floor  
Winnipeg MB R3B 1J1

RE: PERFORMANCE SECURITY - BID OPPORTUNITY NO. 172-2007

REPLACEMENT OF CONCRETE RAMP/ SNOW MELT SYSTEM  
DISTRICT 5 POLICE STATION - 227 PROVENCHER BLVD.

Pursuant to the request of and for the account of our customer,

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

WE HEREBY ESTABLISH in your favour our irrevocable Standby Letter of Credit for a sum not exceeding in the aggregate

\_\_\_\_\_ Canadian dollars.

This Standby Letter of Credit may be drawn on by you at any time and from time to time upon written demand for payment made upon us by you. It is understood that we are obligated under this Standby Letter of Credit for the payment of monies only and we hereby agree that we shall honour your demand for payment without inquiring whether you have a right as between yourself and our customer to make such demand and without recognizing any claim of our customer or objection by the customer to payment by us.

The amount of this Standby Letter of Credit may be reduced from time to time only by amounts drawn upon it by you or by formal notice in writing given to us by you if you desire such reduction or are willing that it be made.

Partial drawings are permitted.

We engage with you that all demands for payment made within the terms and currency of this Standby Letter of Credit will be duly honoured if presented to us at:

\_\_\_\_\_  
(Address)

and we confirm and hereby undertake to ensure that all demands for payment will be duly honoured by us.

All demands for payment shall specifically state that they are drawn under this Standby Letter of Credit.

Subject to the condition hereinafter set forth, this Standby Letter of Credit will expire on

\_\_\_\_\_  
(Date)

It is a condition of this Standby Letter of Credit that it shall be deemed to be automatically extended from year to year without amendment from the present or any future expiry date, unless at least 30 days prior to the present or any future expiry date, we notify you in writing that we elect not to consider this Standby Letter of Credit to be renewable for any additional period.

This Standby Letter of Credit may not be revoked or amended without your prior written approval.

This credit is subject to the Uniform Customs and Practice for Documentary Credit (1993 Revision), International Chamber of Commerce Publication Number 500.

\_\_\_\_\_  
(Name of bank or financial institution)

Per: \_\_\_\_\_  
(Authorized Signing Officer)

Per: \_\_\_\_\_  
(Authorized Signing Officer)





**WINNIPEG POLICE SERVICE  
SECURITY CLEARANCE CHECK  
SERVICES – DIVISION 30**

**NAME OF EMPLOYER &  
BUSINESS ADDRESS:**

NATURE OF WORK BEING DONE FOR WINNIPEG POLICE SERVICE:  
RENEWAL OF CONCRETE RAMP/SNOW MELT SYSTEM

**WARNING: ANY FALSE OR INCOMPLETE INFORMATION MAY RESULT IN REJECTION OF THIS APPLICATION**

**EMPLOYEE INFORMATION**

LAST NAME: \_\_\_\_\_ GIVEN NAMES: \_\_\_\_\_

BIRTH NAME OR OTHER NAME(S) USED: \_\_\_\_\_  
*(if different from above)*

MALE  FEMALE

DATE OF BIRTH: \_\_\_\_\_  
                                Y    M    D

BIRTH PLACE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ PROVINCE: \_\_\_\_\_

POSTAL CODE: \_\_\_\_\_ RESIDENTIAL PHONE: \_\_\_\_\_

**AUTHORIZATION**

I, \_\_\_\_\_ hereby authorize any employer or other person, to whom a duplicate or photocopy of this document is provided, to furnish any information, opinions, reports, records or copies which may be requested by the Winnipeg Police Service, in connection with the undersigned's application for a security check as a person contracted or associated with the Winnipeg Police Service.

I consent to the collection, use, disclosure, transmittal and examination of all information compiled by the Winnipeg Police Service. I agree to waive any right of action against any person or institution providing information or opinions in compliance with this authorization.

\_\_\_\_\_  
Signature of Witness

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date

**WINNIPEG POLICE SERVICE - FOR OFFICE USE ONLY**

**RESULT OF CHECK:**

\_\_\_\_\_ NO POLICE RECORD OF CRIMINAL CONVICTIONS WAS ASSOCIATED TO ANY SUBJECT WITH THE SAME NAME AND DATE OF BIRTH.

\_\_\_\_\_ AN OUTSTANDING CRIMINAL CHARGE AWAITING COURT DISPOSITION WAS ASSOCIATED TO A SUBJECT WITH THE SAME NAME AND DATE OF BIRTH.

\_\_\_\_\_ A POLICE RECORD OF CRIMINAL CONVICTIONS WAS ASSOCIATED TO A SUBJECT WITH THE SAME NAME AND DATE OF BIRTH.

PROCESSED BY: \_\_\_\_\_  
                                Clerk                                  WPS#

\_\_\_\_\_  
Date

## PART E - SPECIFICATIONS

### GENERAL

#### E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.

E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Branch internet site at <http://www.winnipeg.ca/matmgt>.

E1.1.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.

E1.1.3 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.

E1.2 The following Drawings are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
C1	Plan View, Sections and Details
E1	Partial Floor Plan, Section, Electrical Specifications
M1	Plan View, Section, Detail, Piping Schematic & Plumbing Specifications

**PART 1 GENERAL PROVISIONS**

**1.1 Work Included**

- .1 Supply and install all labour and materials, plant and equipment necessary to complete all Work as shown on the drawings and/or specified herein and will include demolition, concrete work, electrical and mechanical applications.
- .2 Perform all cutting and patching required to meet existing conditions.

**1.2 Other Trades**

- .1 Specifications shall be read by all trades to acquaint them with the nature of the work required. Failure to do so will not relieve them of any responsibilities for cooperation in coordinating the Work and preventing delay and for the supply and installation of materials required for this Work.

**1.3 Cooperation**

- .1 The Contractor shall cooperate with the City and arrange access so that the Work, storage of materials, use of accesses, etc. will permit the functions of existing buildings and/or grounds to continue with minimum interference.

**1.4 Cutting and Patching**

- .1 Each trade shall do all necessary cutting and patching required for his work. Existing adjacent surfaces shall be accurately matched. Cutting through any structural member shall only be done with the prior approval of the Contract Administrator.

**1.5 Submittals**

**.1 Shop Drawings**

- .1 The Contractor shall submit for approval, at least five (5) sets of detailed Shop Drawings for all Work for which drawings are required.
- .2 Approval of Shop Drawings shall be general. It shall not relieve the Contractor of responsibility for accuracy of Shop Drawings, nor for proper fitting, construction of Work, or Work required by Contract and not indicated on Shop Prints. Shop Prints approval shall not be construed as approving departure from Contract's requirements.

**1.6 Schedule of Work**

- .1 A work schedule is to be submitted to the Contract Administrator within ten (10) calendar days from receipt of the letter of intent for the Work.

**1.7 Quality Control**

**.1 Inspecting and Testing Material**

- .1 The City reserves the right to inspect and test all materials at its own expense and to reject any materials which are not in accordance with the requirements of the specifications. The Contractor shall furnish at his own expense such specimens and samples of materials as may be required for testing.



- .2 The Contractor shall allow the City to test any equipment, and shall provide power, fuel or material required for these standard performance tests on the equipment.

## **1.8 Construction Facilities and Temporary Controls**

### **.1 Site Protection**

- .1 The Contractor shall provide adequate protection to prevent any damage to existing structures, furnishings, finishes, etc. during construction. Temporary ramps, barricades, hoardings as required shall be provided to the approval of the Contract Administrator.
- .2 The Contractor shall exercise care in the operations relative to the Site. Any unnecessary destruction of the Site will not be permitted. The Contractor shall exercise care in the movement of equipment and materials especially during wet weather.
- .3 The Contractor shall be held responsible for the repair of damages to the Site, roads, etc. in the surrounding area of the immediate Site.

### **.2 Temporary Services**

- .1 Without limiting the generality of Clause 6.3 of the General Conditions, the Contractor shall include costs for temporary services required for the construction operations as follows:
  - .1 Water, power, sanitary facilities, telephone.
  - .2 Heating as may be necessary.

## **1.9 Contract Closeout**

### **.1 As-Built Drawings**

- .1 At the conclusion of the job, the Contractor shall provide the Contract Administrator with 2 sets of record drawings as "As-Built" Drawings and specifications bearing notations of all changes and variations from the originals.
- .2 The accuracy of these drawings shall be the responsibility of the Contractor, who shall bear all expenses of corrections thereto. Final payment shall not be made until this requirement has been fulfilled.

### **.2 Instruction Manuals**

- .1 The Contractor shall provide the Contract Administrator with four (4) copies of all manuals showing:
  - .1 Service Instruction – including a list of spare parts and replacement parts and the names and addresses of all suppliers.
  - .2 Maintenance Instructions
  - .3 Installation Instructions

- .4        Operating Instructions
- .5        Electric Schematics
- .2        Detailed electrical and electronic circuit diagrams (wiring and schematic) showing all wiring connections; all electrical component values; all component parts manufacturers; and servicing procedure for all electrical and electronic equipment utilized to the approval of the City. Purchase of the equipment is contingent on the provision of the above information.

**PART 1 GENERAL**

**1.1 Work included**

- .1 Drain Glycol System and disconnect existing heating hose at the supply and return manifolds.
- .2 Demolish existing reinforced concrete topping, including rubber heating hose.

**PART 2 EXECUTION**

**2.1 Removal of Concrete**

- .1 The Contractor shall furnish all labour, plant, materials, equipment and services necessary for and reasonably incidental to complete demolition of the reinforced concrete topping, including disconnection and removal of all existing heating hose, as shown on the drawings.
- .2 Due to vibration and noise, all jack hammering shall be kept to a minimum or shall be carried out in the evenings after 4:00p.m.
- .3 Demolition shall be completed in stages so that no less than two (2) overhead doors remain accessible at all times.
- .4 During demolition operations, a suitable hoarding shall be provided to protect the public from dust and concrete chips.
- .5 Demolition operations shall be conducted with the minimum interference with streets, sidewalks, etc. no salvage material shall be placed or stored in streets, sidewalks, etc. within or surrounding the Site.
- .6 Care shall be taken to remove concrete around existing floor drains so as not to damage existing piping or portion of drain to be left in 8" concrete slab below topping.
- .7 During concrete demolition, overhead doors shall be kept closed to minimize dust and protective measures shall be taken to prevent damage to overhead doors and adjacent structures.

**2.2 Protective Barricades**

- .1 The Contractor shall provide and erect all protective barricades as required for concrete demolition.
- .2 The Contractor shall also provide additional temporary barricades or rope off temporary demolition zones in the street as may be necessary for any dangerous demolition operation, in order to keep the public clear. Such temporary barricades shall be removed as soon as possible in order to prevent unnecessary interruption of traffic, etc. The Contractor shall be entirely responsible for maintaining all protective barricades, including gates, walks, lights, etc. in good condition for the entire period of the demolition.

**PART 1 GENERAL**

**1.1 Work included**

- .1 Supply and install all reinforcing steel as shown on the drawings for concrete slabs and toppings.

**1.2 Related Work (specified elsewhere)**

- .1 General Provisions Section 01000
- .2 Cast in Place Concrete Section 03300

**1.3 Reference Standards**

- .1 CSA A23 Standards for concrete and reinforced concrete.
- .2 CSA W186 Welding of Reinforcing.

**1.4 Shop Drawings**

- .1 Submit shop drawings in accordance with Section 01000.

**PART 2 PRODUCTS**

**2.1 Materials**

- .1 Reinforcing steel shall be deemed to include all reinforcing bars, tie bars, dowel bars and bar mat reinforcement, including all bar accessories.
- .2 All reinforcing steel shall be supplied according to the type and dimensions as shown on the Contract Drawings or the Standard Details.
- .3 All reinforcing steel shall conform to the requirement of CSA Standard G30.12, 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.
  - .1 Bar Mat Reinforcement shall be Grade 300 bars with all bar intersections welded by an electric resistance spot welder. Welding shall be done in such a manner that the minimum requirements for tensile strength and yield point of the reinforcing steel shall be met when a specimen is tested across points of weld.
  - .2 Deformed Reinforcing Bars and Tie Bars shall be Grade 300 deformed bars.
  - .3 Dowel bars shall be Grade 300 plain bars.
  - .4 Bar accessories shall be of a type approved by the Contract Administrator.

- .4 All reinforcing steel shall be straight and free from paint, oil, mill scale and injurious defects. Rust, surface seams, or surface irregularities will not be cause for rejection provided that the minimum dimensions, cross sectional area and tensile properties of a hand wire-brushed specimen are not less than the requirements of CSA Standard G30.12M.

### **PART 3 EXECUTION**

#### **3.1 Placing Reinforcement**

- .1 The bars shall be placed in the exact position and with the spacing shown or required and shall be securely fastened in place at intersections to prevent displacement during the placing of concrete. The bars shall be fastened with annealed wire or other approved devices. Bar supports and spaces shall be set at approved intervals in all beams and slabs to keep the reinforcement in the required position.
- .2 All steel reinforcement shall be delivered free from rust other than that which may have accumulated during transit to the Work. Bars having a rust scale, or other material that may reduce the bond shall be thoroughly cleaned before placing concrete. After delivery at the Site, bars shall be stored on racks and protected from the weather.
- .3 Steel reinforcement bars shall be cut and bent cold in the shop and delivered at the Site ready for placing in position.
- .4 Completely detailed placing drawings and schedules shall be submitted to the Contract Administrator for approval. No material shall be ordered until the Contract Administrator has approved said drawings and schedules.

**PART 1 GENERAL**

**1.1 Work Included**

- .1 Concrete Work including all concrete and grouts.
- .2 Waterproofing of base slab.
- .3 Accessories – control joints, inserts, floor drains.
- .4 Coordinate and cooperate with other trades. Install imbedded items, sleeves, anchors, miscellaneous metal.
- .5 Asphalt patching at sidewalk.

**1.2 Related Work (specified elsewhere)**

- .1 Rubber Heating Tube and Header                      Section 15703

**1.3 Reference Standards**

- .1 CSA A23 Standards for Concrete-Reinforced Concrete.

**1.4 Guarantee**

- .1 All concrete floors shall be guaranteed against dusting, disintegration or any other defects coming within the Contractor's control for a period of (twelve) 12 months after final acceptance.

**PART 2 PRODUCTS**

**2.1 Materials**

- .1 Cement to CSA A5
- .2 Water and aggregates to CSA A23
- .3 All concrete materials shall be in accordance with City of Winnipeg Standard Construction Specifications.
- .4 Self -adhering waterproof membrane over base slab: Bituthene P-3000 primer, Bituthene 3000 Membrane, Bituthene EM 3000 mastic caulking or Elastocol 600 primer, Colphene Black Membrane, Sopramastic 200 Mastic caulking or approved equal in accordance with B6.
- .5 Floor drains shall be Zurn 1352-6 – top section only. Drain section shall be custom fabricated to fit existing bottom section which is to remain embedded in 8" base slab.

**2.2 Concrete Mix**

- .1 Except where specified otherwise, use concrete mix designed for Type 1 concrete pavement.
- .2 Slump: (early opening) 70 +/- 20mm.

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**PART 3 EXECUTION**

**3.1 Formwork**

- .1 Deviation of all cast-in-place concrete shall not be greater than 6mm in 3500mm in vertical and horizontal line. Deviation from a plane surface for grade beams and floors of 4mm in 3000mm is permitted. Variation in cross-section dimension shall be less than 3mm for 150mm members and 6mm for members thicker than 150mm.
- .2 Extreme care shall be exercised at all times in the removal of forms to the end that the concrete is not chipped, jarred, or damaged in any way.

**3.2 Concrete**

- .1 Prior to placing concrete- existing slab surface shall be cleaned and waterproof membrane shall be applied in accordance with manufacturer's recommendations.
- .2 Before placing concrete, all equipment for transporting the concrete shall be cleaned of hardened concrete and foreign materials. All debris and ice shall be removed from the places to be occupied by the concrete. All forms shall be soaked with water, except in freezing weather. Chemicals shall not be used to remove ice from the hardened concrete or the forms.
- .3 Concrete shall be handled from the mixer to the place of final deposit as rapidly as practicable, by methods which will prevent the separation or loss of the ingredients. Concrete shall be deposited in the forms, as nearly as practicable, in its final position to avoid re-handling or flowing. Under no circumstances shall concrete that has partially hardened be deposited.
- .4 When concreting is once started, it shall be carried on as a continuous operation until the placing of the section is completed.
- .5 Concrete shall be thoroughly compacted by puddling with suitable tools, during placing operations. It shall be thoroughly worked around the reinforcement, imbedded fixtures, and into the corners of the forms.
- .6 Maintain air pressure in heating/tubing system at 60 psi during concrete pour to prevent damage/deformation of the tubing.
- .7 Embed all miscellaneous metal components, floor drains, etc. in new concrete. Floor drains to be set 1" to 1 ½ " below slab to create positive flow to the drain.
- .8 Concrete in walls and tie beams shall be compacted by internal and external mechanical vibrations. Concrete slabs and beams shall be compacted by internal vibrations. Internal vibrators shall operate at a speed of not less than 5,000 vibrations per minute and shall be applied at the point of deposit and in the area of freshly poured concrete.
- .9 Pouring concrete during rain will not be permitted. The concrete surfaces shall be protected from rain until the initial set occurs. No concrete to be placed over frozen ground or fill.
- .10 All exposed concrete surfaces shall be covered and protected for proper concrete curing. Slabs shall be well watered and covered with burlap or polyethylene for a minimum of four 4) days.

- .11 As soon as forms are stripped, all exposed concrete surfaces shall be carefully inspected, mortar projections removed and projecting forming devices removed at least 15mm below surface and patched. Honeycomb areas shall be chipped out to sound concrete, area thoroughly wetted and patched with mortar. The patch should be kept wet for five (5) days to reduce shrinkage. If honeycombing is excessive, the Contract Administrator may reject the member in question and it shall be replaced by the Contractor.
- .12 Concrete shall be poured in alternate slabs with ½" expansion joints. Provide Volclay Waterstop to prevent water penetration to main base slab as shown on drawings.

### **3.3 Cold Weather Protection**

- .1 The concrete shall reach the forms at a temperature of not less than 20° C and not more than 38°C. effective means shall be provided for maintaining the temperature of the concrete at all surfaces at not less than 20°C for three (3) days or not less than 10°C for five (5) days after placing.
- .2 Concrete shall be kept above freezing for seven (7) days and shall be kept from alternate freezing and thawing for at least fourteen (14) days after placement.
- .3 At the end of the specified protection period, the temperature of the concrete shall be reduced gradually at a rate not exceeding 10°C per day until the outside air temperature has been reached.
- .4 The Contractor must keep a record of the temperatures inside the enclosure and the outside air temperature. The record shall include the temperatures at several critical points in the enclosure.
- .5 CSA combustion type heaters may be used but shall be so constructed and so placed that their combustion gases will not come in contact with surfaces of the concrete. Adequate fire extinguisher and constant attendance shall be maintained to ensure a safe and continuous heating operation. Heaters must be so placed as to prevent local overheating. No direct fire heating units will be accepted. Before any concrete is placed, the enclosure shall be heated for at least twenty-four (24) hours and all surfaces coming in contact with the concrete must be at least 5°C.

### **3.4 Concrete Finishing**

- .1 Unless otherwise shown, all concrete surfaces shall receive an ordinary finish. Normally, after forms are removed, concrete fins and projections are to be removed, all form ties filled and all defects repaired. Ramp shall receive a course broom finish.
- .2 Floors are to be mechanical trowel finish with a disc power floating machine to produce a smooth level surface, with all voids filled. When the floor has hardened sufficiently, so that excess fine will not be brought to the surface, the floor shall be trowelled with a steel trowel to a smooth surface.
- .3 A rotating steel mechanical trowel may be used for this operation if the surface has been checked with a straight edge. After the surface has hardened sufficiently to ring under a trowel, it shall again be trowelled with a steel trowel to achieve a dense surface free from blemishes. Any mechanical trowelling or dry cement will not be permitted for this last operation.



- .4 All finished floor surfaces shall conform to the required grade when checked with a straight edge and shall not vary more than 4mm in 3000mm.

### 3.5 Control Joints

- .1 Provide full depth X 13mm thick impregnated fibreboard control joint in floor slabs where indicated on drawings. The material to be kept 13mm down, then sealed with a 2-part urethane sealant.

### 3.6 Field Quality Control

- .1 A set of field specimens shall be prepared for approximately each day's run of concrete, or more often if required by the Contract Administrator. Generally the number of sets or cylinders required shall be as follows:

<u>Size of Pour</u>	<u>Minimum of Tests</u>
76m <sup>3</sup> or less	1 set per 38m <sup>3</sup>
76m <sup>3</sup> to 760m <sup>3</sup>	1 set per 153m <sup>3</sup>

A set shall consist of four specimens from the same batch of concrete as it goes into the Work. Two of the specimens shall be tested at seven (7) days and the remaining two at twenty- eight (28) days. The specimens shall be cylinders 150mm in diameter and 300mm in length.

The concrete test specimens shall be transported by the Contractor, at his own expense, not earlier than twenty four (24) hours or later than four (4) days after they are made to the National Testing Laboratories, Winnipeg. The cost of laboratory tests shall be paid by the City.

- .2 The following strengths shall be met:
- .1 The average of all tests representing each class of concrete shall exceed the specified strength.
  - .2 No three consecutive tests shall fall below the specified strength.
  - .3 No strength test shall fall below eighty percent (80%) of the specified strength.
- .3 If the concrete tests fail to meet the strength requirements, the Contract Administrator may:
- .1 Change the basic concrete mix for the remainder of the Work.
  - .2 Require additional curing for the portions under strength.
  - .3 Have cores drilled and test the cores.
  - .4 Have the concrete under strength removed.

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**PART 1 GENERAL**

**1.1 Work Included**

- .1 Remove and replace copper manifold and piping complete with nipples as shown on attached drawings.
- .2 Supply manifold supports and necessary clamps.
- .3 Supply and install new heat hose for ramp. Supply and install all necessary hold down ties and clamps.
- .4 Pressurize manifold and heat tube assembly during concrete pour and provide on-site supervision during concrete operations.

**1.2 Related Work (specified elsewhere)**

- .1 Cast-In-Place Concrete Section 03300
- .2 Electrical Drawing E1

**PART 2 PRODUCTS**

**2.1 Materials**

- .1 Headers or manifolds shall be two inch inside diameter (2" I.D) Type L copper tube for supply and return, complete with fittings and insulation as shown on drawings. Manifolds are available from heat hose supplier in custom tubular sections. Provide mini ball valves on supply and return manifolds for each loop.
- .2 All soldering shall be 95/5 silver solder.
- .3 Barbs shall be Onix Barbs to match Onix heat hose.
- .4 Heat hose shall be Watts Radiant Onix ½ inch and 3/8 inch inside diameter with burst pressure at ambient of 800psi and 600psi at 180°F. Hose shall be spaced as shown on drawings (unless otherwise noted). Hose shall carry manufacturer's 25 year warranty for snow melt system. Hose shall withstand glycol and surface deterioration from salt and petroleum when embedded in concrete. Hose design consists of specification braided aramid reinforcing and flexible EPDM outer jacket. Substitute hose must be submitted for approval in accordance with B6.
- .5 Provide stainless steel clamps, supports, clamps, rubber manifold seats and air bleed valving at high side of ramp.
- .6 Manifold and Onix are licensed products used for snow melting and sold locally by Mar-Win Agencies Ltd. In Winnipeg. 204-775-8194.
- .7 Armaflex insulation shall be placed around each heat hose where it enters the concrete slab, see drawings.

- .8 High side of ramp shall have an auto air vent at each piping high point. The vents shall be brought out flush to the outside of the retaining wall at existing access cover plate.

**PART 3 EXECUTION**

**3.1 Header/Manifold**

- .1 Onix Barbs shall be located on custom copper manifolds to match existing hose locations.
- .2 All field soldering of the manifold shall be with silver solder.
- .3 Provide auto air vent at high side of manifolds.
- .4 Provide hold down clamps and rubber saddles to enable manifold to move due to temperature changes.
- .5 Manifolds shall be provided of sufficient length to project 12 inches past the concrete wall.
- .6 Manifolds shall be capped for pressurizing during concrete operations.
- .7 Insulate supply and return manifolds and copper tubing with ½" thick Armaflex insulation.

**3.2 Installation of Heat Hose**

- .1 The heat tube shall be secured to the reinforcing with plastic ties and at a spacing that will not permit the hose to move during concrete placement. Once all hoses are secured to the main reinforcing a top layer of welded wire mesh is to be used to provide top protection. The mesh shall be tied through to the main reinforcing.
- .2 The heat hose shall be secured to the Onix hose barbs as recommended by the manufacturer.
- .3 Manifolds and copper tubing shall be pressurized with air to 60 psi minimum during concrete pouring and pressure maintained for at least 24 hours.
- .4 Representative from heat hose supplier shall be on hand during the concrete pours. Concrete for each section shall be poured in one continuous pour.
- .5 Install Armaflex insulation around each tube from four to six inches longer at each barb to allow for future movements and adjustments.