



THE CITY OF WINNIPEG

BID OPPORTUNITY

BID OPPORTUNITY NO. 322-2008

**SUPPLY DELIVERY, AND INSTALLATION OF WAYFINDING KIOSKS, SIGNAGE
AND MAPS**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 SUPPLY DELIVERY, AND INSTALLATION OF WAYFINDING KIOSKS, SIGNAGE AND MAPS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, May 1, 2008.

B2.2 Bids 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 C3.1, the Bidder may view the Site without making an appointment.

B3.2 The Bidder is advised that the Site is to be viewed prior to submitting a Bid to familiarize the Bidder with the nature of the Work area, and Site access restrictions. Bidders shall note that existing trees are to be protected and proximity of trees to the construction area may limit the type of construction equipment utilized. The Bidder is made aware the City Naturalist and Forestry Branch will require financial compensation for trees or plant material damaged by the Contractor.

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.
- B5.2.3 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 Plant, 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 may 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 COMPONENTS

B7.1 The Bid shall consist of the following components:

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

B7.2 Further to B7.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B6.

B7.3 All components of the Bid shall be fully completed or provided, and submitted by the Bidder no later than the Submission Deadline, with all required entries made clearly and completely, to constitute a responsive Bid.

B7.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Bid Opportunity number and the Bidder's name and address.

B7.4.1 Samples or other components of the Bid 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.

B7.5 Bidders are advised not to include any information/literature except as requested in accordance with B7.1.

B7.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Bid Opportunity document, including the General Conditions, may result in the Bid being determined to be non-responsive.

B7.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.

B7.8 Bids 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 and the Contract, when awarded, shall be both joint and several.

B9. PRICES

- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.

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; and
 - (b) be financially capable of carrying out the terms of the Contract; and
 - (c) have all the necessary experience, capital, organization, and equipment to perform the Work in strict accordance with the terms and provisions of the Contract.
- B10.2 The Bidder and any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) be responsible and not be suspended, debarred or in default of any obligations 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>).
- B10.3 The Bidder and/or any proposed Subcontractor (for the portion of the Work proposed to be subcontracted to them) shall:
- (a) have successfully carried out work similar in nature, scope and value to the Work; and
 - (b) be fully capable of performing the Work required to be in strict accordance with the terms and provisions of the Contract; and

- (c) have a written workplace safety and health program if required pursuant to The Workplace Safety and Health Act (Manitoba);

B10.4 The Bidder shall 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.

B10.5 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 Bids 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 Following the submission deadline, the names of the Bidders and their Total Bid Prices (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 Contractor(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 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 C23.3, 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 will:

- (a) retain the Bid until after the Submission Deadline has elapsed;
- (b) open the Bid 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 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 or minor informalities or irregularities, 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 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 sum of the quantities multiplied by the unit prices for each item shown on Form B: Prices.

B14.4.1 If there is any discrepancy between the Total Bid Price written in figures, the Total Bid Price written in words and the sum of the quantities multiplied by the unit prices for each item, the sum of the quantities multiplied by the unit prices for each item 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 Subject to B15.2, 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.

- B15.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his Bid upon written request to the Contract Administrator.
- B15.4 Notwithstanding C4, the City will issue a Purchase Order to the Contractor in lieu of the execution of a Contract.
- B15.5 The Contract, as defined in C1.1, 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

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2006 12 15) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for Construction* 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>.
- C0.2 A reference in the Bid Opportunity to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for Construction*, these Supplemental Conditions are applicable to the Work of the Contract.

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of the fabrication, supply and installation of bases, maps, signage and sign posts as detailed on the attached drawings

D2.2 The major components of the Work are as follows:

- (a) Fabrication of kiosks and wall frames
- (b) Fabrication of Maps and signs
- (c) Installation of signs and kiosks

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Dean Spearman
Dean Spearman Landscape Architect
83 Lafayette Bay
Winnipeg, Manitoba R3T 3J9
Telephone No. (204) 261-4137
Facsimile No. (204) 261-4137

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 C23.2.2, 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 following address or facsimile number:

The City of Winnipeg
Chief Administrative Officer Secretariat
Attn: Chief Administrative Officer

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
Attn: City Solicitor
185 King Street, 3rd Floor
Winnipeg MB R3B 1J1
Facsimile No.: (204) 947-9155

SUBMISSIONS

D6. AUTHORITY TO CARRY ON BUSINESS

- D6.1 The Contractor shall 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, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D7. SAFE WORK PLAN

- D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in C4.1 for the return of the executed Contract.
- D7.2 The Safe Work Plan should be prepared and submitted in the format shown in the City's template which 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>.

D8. INSURANCE

- D8.1 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) inclusive, with The City of Winnipeg added as an additional insured, with a cross-liability clause, such liability policy to also contain contractual liability, unlicensed motor vehicle liability, non-owned automobile liability and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
 - (b) automobile liability insurance for owned automobiles used for or in connection with the Work in the amount of at least two million dollars (\$2,000,000.00) at all times during the performance of the Work and until the date of Total Performance;
- D8.2 Deductibles shall be borne by the Contractor.
- D8.3 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than seven (7) Calendar Days from notification of the award of Contract by Purchase Order.

D8.4 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.

D9. PERFORMANCE SECURITY

D9.1 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.

D9.1.1 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.

D9.2 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.

D10. SUBCONTRACTOR LIST

D10.1 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.

SCHEDULE OF WORK

D11. COMMENCEMENT

D11.1 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.

D11.2 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 D6;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the Safe Work Plan specified in D7;
 - (iv) evidence of the insurance specified in D8;
 - (v) the performance security specified in D9;
 - (vi) the Subcontractor list specified in D10; 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.

D11.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the Purchase Order.

D12. SUBSTANTIAL PERFORMANCE

- D12.1 The Contractor shall achieve Substantial Performance within Forty (40) consecutive Working Days of the commencement of the Work as specified in D11.
- D12.2 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.
- D12.3 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.

D13. TOTAL PERFORMANCE

- D13.1 The Contractor shall achieve Total Performance within Fifty (50) consecutive Working Days of the commencement of the Work as specified in D11.
- D13.2 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.
- D13.3 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.

D14. LIQUIDATED DAMAGES

- D14.1 If the Contractor fails to achieve Substantial Performance in accordance with the Contract by the day fixed herein for Substantial Performance, the Contractor shall pay the City Five Hundred dollars (\$500.00) per Working Day for each and every Working Day following the day fixed herein for Substantial Performance during which such failure continues.
- D14.2 The amount specified for liquidated damages in D14.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Substantial Performance by the day fixed herein for same.
- D14.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

CONTROL OF WORK

D15. JOB MEETINGS

- D15.1 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.
- D15.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he deems it necessary.

D16. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D16.1 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

D17. PAYMENT

D17.1 Further to C12, effective January 1, 2007 the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

FORM H1: PERFORMANCE BOND
(See D9)

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. 322-2008

SUPPLY DELIVERY, AND INSTALLATION OF WAYFINDING KIOSKS, SIGNAGE AND MAPS

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 D9)

(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. 322-2008

SUPPLY DELIVERY, AND INSTALLATION OF WAYFINDING KIOSKS, SIGNAGE AND MAPS

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)

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

E1.1 These Specifications shall apply to the Work.

E1.2 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.

E1.2.1 *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>.

E1.2.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.

E1.2.3 Further to C2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.

E1.3 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
WF_T_01	Exterior Kiosk (Typical)
WF_T_02	Exterior Kiosk Dual Map (Typical)
WF_T_03	Interior Kiosk (Typical)
WF_T_04	Interior Kiosk Dual Map (Typical)
WF_T_05	Exterior Kiosk Foundation (Typical)
WF_T_06	Wall Map Single
WF_T_07	Wall Map Double
WF_T_08	W Logo
WF_K_S_1	Kiosk Sites Pages 1-26
WF_K_M_1	Kiosk Location Maps Pages 1-6
WF_K_MA_1	Typical Map Artwork Pages 1-2

E2. LOCATION

E2.1 The posts/kiosks and sign plates are to be supplied and installed according to the schedule below;

Kiosk ID	Map	W Part	Site	Location	Level	Type
WFK-1	Map W2a	Main Underground	Canwest Global Place	Exterior	Street	Double Wall Map
WFK-2	Circus Map S	Main Underground	Portage And Main Circus	Interior	Lower	One Sided Kiosk
WFK-3	Circus Map W	Main Underground	Portage And Main Circus	Interior	Lower	One Sided Kiosk
WFK-4	Circus Map N	Main Underground	Portage And Main Circus	Interior	Lower	One Sided Kiosk
WFK-5	Circus Map E	Main Underground	Portage And Main Circus	Interior	Lower	One Sided Kiosk

WFK-6	Map N1	Main Underground	Lombard Place	Interior	Street	Double Wall Map
WFK-7	Map N3	Main Underground	Lombard Place	Interior	Lower	Single Wall Map
WFK-8	Map S4	Main Underground	Winnipeg Square	Interior	Lower	Double Height Double Sided Kiosk
WFK-9	Map S4a	Main Underground	Winnipeg Square	Exterior	Street	Double Sided Kiosk
WFK-10	Map S5	Main Underground	Winnipeg Square	Interior	Lower	Double Height Double Sided Kiosk
WFK-11	Map S6	Main Underground	Winnipeg Square	Interior	Lower	Double Height Single Sided Kiosk
WFK-12	Map S7	Main Underground	Winnipeg Square	Interior	Lower	Double Height Double Sided Kiosk
WFK-13		Main Underground	Lombard Place	Exterior	Street	Double Sided Kiosk
WFK-14	Map G11	Graham Skywalk	Library	Interior	Upper	Double Sided Kiosk
WFK-15	Map G14b	Graham Skywalk	Library	Interior	Upper	Single Sided Wall Map
WFK-16	Map G-A	Graham Skywalk	CityPlace	Exterior	Street	Single Sided Kiosk
WFK-17	Map G-C	Graham Skywalk	CityPlace	Exterior	Street	Double Sided Kiosk
WFK-18	Map D	Portage Skywalk	Portage Place	Interior	Upper	Single Wall Map
WFK-19	Map P	Portage Skywalk	Portage Place	Interior	Main (1)	Single Wall Map
WFK-20	Map M	Portage Skywalk	Portage Place	Interior	Upper	Single Sided Kiosk
WFK-21	Map L	Portage Skywalk	Portage Place	Interior	Main (1)	Single Sided Kiosk
WFK-22	Map N & Map	Portage Skywalk	Portage Place	Exterior	Street	Double Sided Kiosk

WFK-23	Map & Map	Portage Skywalk	Portage Place	Exterior	Street	Double Sided Kiosk
WFK-24	Map O & Map Q	Portage Skywalk	Portage Place	Exterior	Street	Double Sided Kiosk
WFK-25	Need Photo	Portage Skywalk	Manitoba Hydro (Portage Sidewalk)	Exterior	Street	Double Sided Kiosk
WFK-26	Need Photo	Portage Skywalk	Manitoba Hydro (Graham Sidewalk)	Exterior	Street	Double Sided Kiosk

E3. SIGN PLATES

E3.1 Description

- E3.1.1 The Work covered under this Specification shall include all operations related to the supply, fabrication and delivery of sign boxes or sign plates (including Maps) for the wayfinder signage system.
- E3.1.2 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 the Work as hereinafter specified.
- E3.1.3 Where referred to in the Specifications, sign(s) shall mean sign box complete with sign message panel and sign back panel.

E3.2 Materials

E3.2.1 General

- (a) All materials used for fabrication of sign boxes and sign plates shall be new, previously unused material.

E3.2.2 Sign Plates

- (a) Sign plates, shall consist of 080 sheet aluminum (0.080 in. or 2 mm thick), flat sheet tension levelled, sign grade aluminum alloys 5052-H38 or 6061-T6, conforming to the requirements of ASTM B 209M, "Specifications for Aluminum and Aluminum-Alloy Sheet and Plate." Tensioned levelling is a technique that gives aluminum sheets a superior flatness and resistance to tearing at connections.
- (b) Map/Sign art shall be lexan/vinyl sandwich, UV resistant inks adhered to base
- (i) Maps are to be printed 4 colour as per artwork to be supplied by City.

E3.2.3 Bolts and Screws

- (a) Bolts, nuts, washers, and machine screws shall be in accordance with ASTM A276 Type 316 stainless steel.

E3.2.4 Bonding Tape

- (a) Bonding tape for attaching the stiffener bars to the aluminum sheets shall be 3M very high bond (VHB) tape used in the fabrication of traffic sign panels

E3.2.5 Paint

- (a) The paint system for sign boxes shall consist of an epoxy primer and two coats of urethane topcoat. The paint finish colour shall be dark blue to match Pantone Matching System PMS 2738 or as otherwise specified on the drawings.

E3.2.6 Miscellaneous Metals

- (a) Miscellaneous materials incidental to this work shall be as approved by the Contract Administrator.

E3.3 Construction Methods

E3.3.1 General Requirements

- (a) Shop drawings showing fabrication details and dimensions of all the different types of sign plates, consisting of prints on 11" x 17" sheets, shall be submitted to the Contract Administrator at least fifteen (15) calendar days prior to start of fabrication.
- (b) The shape and dimensions of the signs shall be in accordance with the details shown on the Drawings. The dimensions of the sign panel shall be within $1.5 \pm$ mm of those specified and the finished sign panel shall be flat with a maximum allowable deflection of .005 (D) where (D) is the maximum dimension of the sign blank in any direction. The signs shall conform in quality and accuracy of detail to the dimensional and tolerance requirements of the specification. Where no tolerances are specified, the standard of workmanship shall be in accordance with normally accepted good practice.
- (c) All fabrication, including shearing, cutting, and drilling shall be completed before treating the metal and applying the face material. Cut all metal message panels to size and shape as per the dimensions for each sign. The panels shall be free of buckles, warp, dents, cockles, burrs, and defects resulting from fabrication. Edges of all substrate panel material shall be de-burred to provide a smooth finished edge. Each face of the panel shall be finished to be a plain surface and flat.
- (d) Aluminum stiffener bars shall be attached to the back side of sign message panels and plates using 3M VHB tape in accordance with the manufacturer's instructions.

E3.3.2 Sign Fabrication

- (a) The surface of the substrate material shall be appropriately prepared prior to the application of sheeting or painting. Such preparation shall include degreasing and etching to promote adhesion of reflective materials as hereinafter recommended or as may be recommended by the sheeting manufacturer. The metal shall be treated by using conversion coating or anodizing to finish the metal before painting or applying reflective sheeting. The finished sign message panel shall have a uniform, light-coloured appearance, without splotches or stains. If the finishing procedure produces an iridescent colour, the shade should be uniform. The metal shall be thoroughly cleaned before finishing. The cleaning process shall begin by cleaning with an etch-type alkaline cleaner or with a vapour degreaser, using a trichloroethylene or perchloroethylene solvent. The cleaner shall be used according to the manufacturer's specifications. After using an alkaline etching cleaner, the metal shall be treated with an acid solution or desmutting compound. The desmutting compound shall be used according to the manufacturer's specifications. The metal shall be finished with a chromate conversion coating or by anodizing with a chromic acid anodizing solution. The conversion-coating compound shall be used according to the manufacturer's specifications. The metal shall be carefully handled with a device or with clean cotton gloves between all cleaning and finishing operations and before applying the finish material. The metal shall never come in contact with greases, oils, dust, or other contaminants before applying the finish material.
- (b) Sign artwork shall be lexan/vinyl sandwich as per artwork supplied by the Owner.
- (c) Typeface lettering shall be Clearview Highway 2-W cut from sheeting of the type specified, Standard Traffic White, Standard Traffic Yellow, or Standard Traffic Black in colour as specified on the drawings for the signs. The Colour Specification Limits and

Reference Standards and a minimum Reflective Intensity Values shall be as specified above.

- (d) The City of Winnipeg Logo shall be in accordance with the specifications shown on the Drawings.

E3.4 Submission of Sign Plate

E3.4.1 The Contractor shall, within fifteen (15) calendar days of the request of the Contract Administrator, submit a sample map in accordance with this Specification.

E3.4.2 The sample shall be a full scale map consisting of a sign box, complete with lexan/vinyl artwork.

E3.4.3 The Contract Administrator will advise where the sample sign plate can be delivered. Provide two (2) working days notification of delivery.

E3.4.4 The Contractor shall demonstrate the assembly and mounting of the signs on the sample kiosk as part of the sample submission.

E3.5 Quality Control

E3.5.1 All workmanship and all materials furnished and supplied under this Specification are subject to close and systematic inspection by the Contract Administrator, including all operations from the selection and production of materials, through to final acceptance of the work. The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection 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.

E3.5.2 The Contractor shall be responsible for making a thorough inspection of materials to be supplied under this Specification. All material shall be free of surface imperfections and other defects.

E3.5.3 The Contractor shall, at his own expense, correct such work or replace such materials found to be defective under this Specification in an approved manner to the satisfaction of the Contract Administrator.

E3.5.4 The Contract Administrator will reject reflective sheeting if the material fails to meet any one of the designated requirements, if the material meets the requirements but later fails during sign fabrication or in actual field use. Cracks, wrinkles, delamination, colour change, or abnormal loss of reflectivity constitute failure.

E3.5.5 The Contractor shall transfer to the Contract Administrator a performance warranty for the reflective sheeting used by the manufacturer, ensure that the warranties cover the full replacement cost, including material and labour, include in these warranties a provision that the warranty is subject to a transfer to the Contract Administrator, and submit a warranty from the manufacturer that states that the reflective sheeting – processed, applied to sign blank materials, and cleaned – meets the outdoor weathering photometric requirements of Canadian General Standards Board Specification 62-GP-11M.

E3.5.6 The Contractor shall submit to the Contract Administrator the manufacturer's certification with respect to the sign sheeting. The certification shall: state that the named product conforms to the specifications contained herein and that representative samples thereof have been sampled and tested as specified; either be accompanied with a certified copy of the test results, or certify that such test results are on file with the manufacturer and will be furnished to the Contract Administrator upon demand; give the name and address of the manufacturer and the testing agency and the date of the tests, and set forth the means of identification which will permit field determination of the product delivered to the project as being the product covered by the certification. The Contractor shall be responsible for any costs of certification or for any costs of the sampling and testing of products in connection therewith. The Contract Administrator reserves the right to require samples to be submitted in addition to the requirement referred to above, and to test products for compliance with

pertinent requirements irrespective of prior certification of the products by the manufacturer.

E4. STEEL POSTS AND KIOSKS, AND SIGN PLATE MOUNTS

E4.1 Description

- (a) The Work covered under this Specification shall include all operations related to the supply, fabrication and delivery of new steel posts and kiosks, and sign plate mounts.
- (b) 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 the Work as hereinafter specified.

E4.2 Materials

E4.2.1 General

- (a) All materials used for fabrication of structural steel posts shall be new, previously unused material.

E4.2.2 Structural Steel

- (a) All hollow structural sections (HSS) for the steel posts shall conform to the requirements of CAN/CSA-G40.20M, Grade 350 W, Class H or Class C. Round steel pipe material for sign brackets shall conform to ASTM A53, Gr. 241 MPa, welded and seamless steel pipe. All other structural steel shall be CSA Standard G40.21 M, Grade 300 W.
- (b) The Contractor is advised that copies of mill test certificates showing the chemical and physical properties of all structural steel to be supplied under this Specification must be submitted to the Contract Administrator at least seven (7) days prior to the scheduled commencement of fabrication. Fabrication shall not commence until directed in writing by the Contract Administrator.

E4.2.3 High-Strength Bolts, Nuts, Washers

- (a) High-strength bolts, nuts and washers for connecting the brackets to the posts shall be hot-dip galvanized Accurate Tension Torque Control Bolts, as supplied by Infasco, 700 Ouellette, Marieval, PQ, Canada J3M 1P6 (450) 658-8741, or equal as accepted by the Contract Administrator, and shall conform to the requirements of ASTM Specification A325, Type 1. Nuts shall be hot-dip galvanized and conform to the requirements of ASTM Specification A563, Grade C. Washers shall be hot-dip galvanized and conform to the requirements of ASTM Specification F436, Type 1.

E4.2.4 Other Bolts, Nuts, and Washers

- (a) All other bolts, nuts, washers and screws shall be in accordance with ASTM A276 Type 316 stainless steel.

E4.2.5 Hot-Dip Galvanizing

- (a) All hot-dip galvanizing shall be in accordance with CSA G164 for a minimum net retention of 600 g/m².

E4.2.6 Repair of Hot-Dip Galvanizing

- (a) Repair of hot-dip galvanizing shall be done with self-fluxing, low-temperature, zinc-based alloy rods in accordance with ASTM A780-80 for "Repair of Damaged Hot-Dip Galvanized Coatings." Approved products are Galvalloy as manufactured by Metalloy Products Company, P.O. Box No. 3093, Terminal Annex, Los Angeles, California, and Welco Gal-Viz Galvanizing Alloy, as manufactured by Thermocote Welco, Highway 161, York Road, Kings Mountain, North Carolina. Locally, both products are available from Welder Supplies Limited, 25 McPhillips Street, Winnipeg.

E4.2.7 Welding Consumables

- (a) Welding consumables for all processes shall be certified by the manufacturer to be complying with the requirements of CSA Standard W59-M1984 and the following Specifications:
- (i) Manual shielded metal arc welding (SMAW): All electrodes shall be basic-type electrodes conforming to CSA W48.1-M1991 or W48.3-M1982, classification E480XX, or imperial equivalent.
 - (ii) Gas metal arc welding (GMAW): All electrodes shall conform to CSA W48.4-M1980, classification ER480S-X, or imperial equivalent.
 - (iii) Flux cored arc welding (FCAW): All electrodes shall conform to CSA W48.5-M1982, classification E480XT-X or imperial equivalent. Electrodes shall be controlled by hydrogen (CH) designation.
 - (iv) Submerged arc welding (SAW): All electrodes shall conform to CSA W48.6-M1980, classification F480X-EXXX or imperial equivalent.
 - (v) Shielding gas shall be welding grade carbon-dioxide with a guaranteed dew point of -46°C.
 - (vi) All electrodes, wires, and fluxes used shall be of a classification requiring a minimum impact of 27 joules at -18°C.
 - (vii) The proposed welding procedures and welding consumable certificates shall be submitted to the Contract Administrator for his approval at least two (2) days prior to the scheduled commencement of any fabrication.

E4.2.8 Miscellaneous Materials

- (a) Miscellaneous material incidental to this work shall be as approved by the Contract Administrator.

E4.3 Construction Methods

E4.3.1 General Requirements

- (a) Shop drawings, showing fabrication details and dimensions of all the different types of steel posts, consisting of prints on 11" x 17" sheets, shall be submitted to the Contract Administrator at least fifteen (15) days prior to start of fabrication.
- (b) Each post, kiosk, or sign plate mount shall be provided with a "raised" structure identification number with a welding electrode in accordance with the details shown on the Drawings. The identification number shall be placed before hot-dip galvanizing.
- (c) Holes in the base plates shall be as shown on the Drawings.
- (d) Steel may be cut to size by sawing, shearing, flame cutting, or machining.
- (e) Prior to fabrication, the dimensional limitations on the size and shape imposed by the galvanizing facilities shall be determined for hot-dip galvanizing.

E4.3.2 Fabrication

- (a) All fabrication shall be carried out in accordance with this Specification and the Contract Drawings, as well as AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals - 2001 - 4th Edition, plus all subsequent revisions.
- (b) The punching of identification marks on the members will not be allowed.
- (c) Any damage to members during fabrication shall be drawn to the attention of the Contract Administrator in order that the Contract Administrator may approve remedial measures.
- (d) Dimensions and fabrication details that control the field matching of parts shall receive very careful attention in order to avoid field adjustment.
- (e) All portions of the work shall be neatly finished. Shearing, cutting, clipping, and machining shall be done neatly and accurately. Finished members shall be true to line, free from twists, bends, sharp corners, and edges.

- (f) Cut edges shall be true and smooth and free from excessive burrs or ragged breaks. Edges of flame cut edges shall be ground to a radius of 2 mm. Re-entrant cuts shall be filleted to a radius of not less than 19 mm. Special attention shall be given to the cutting of cover plates or flange plates. Welds at cover plates shall be ground smooth prior to hot-dip galvanizing. Sheared edges of plates more than 16 mm in thickness shall be planed to a depth of 6 mm. All holes shall be provided by drilling with twist drills not burning. All holes shall be free of burrs and rough edges. Holes shall be pre-drilled prior to hot-dip galvanizing.

E4.3.3 Welding

- (a) Welding of steel posts shall be in accordance with CSA W59, "Welded Steel Construction."
- (b) All longitudinal welds and butt welds shall be ground smooth and flush with the adjacent surface prior to hot-dip galvanizing.

E4.3.4 Surface Preparation and Cleaning

- (a) Surface preparation and cleaning of materials prior to hot-dip galvanizing shall be in accordance with CSA G164 and SSPC Specification SP:10, "Near White Metal Blast Cleaning," unless otherwise specified herein. The Contractor shall ensure that all exterior surfaces of the posts and brackets are blast cleaned prior to pickling to achieve the minimum zinc coating mass of 600 g/m². All welding and provision of holes is to be completed prior to surface preparation and cleaning, except where shown on the Drawings.
- (b) Surface preparation and cleaning of materials prior to powdercoating shall be as per the powdercoating manufacturers recommendations.
- (c) The sandblasting and cleaning of posts shall be done in the shop. After the posts and brackets have been sandblasted and cleaned, the Contract Administrator will carry out a visual inspection of the blast-cleaned items in the shop before they are shipped to the galvanizing plant.

E4.3.5 Hot-Dip Galvanizing

- (a) Steel Posts, kiosks and sign plate mounts intended for exterior use shall be finished by hot dip galvanizing.
- (b) The hot-dip galvanizing plant shall be a Regular Member of the American Galvanizers Association, Inc. and certified to CSA G164.
- (c) All outside surfaces of the posts and brackets shall be hot-dip galvanized in accordance with the requirements of this Specification.
- (d) Adequate venting and drainage holes shall be provided in enclosed sections for hot-dip galvanizing. The galvanizing facility shall be consulted regarding the size and location of these holes. Such holes shall be provided by drilling not burning.
- (e) The galvanizing coating on outside surfaces of the posts shall be generally smooth and free of blisters, lumpiness and runs. In particular, the outside surfaces of the bottom 3.0 m of the posts shall have a smooth finish equal to the finish on hot-dipped galvanized handrails.
- (f) In addition to the provision of corrosion protection by the galvanized coating, the aesthetic appearance of the posts after hot-dip galvanizing will also be a criteria in the acceptance or rejection of the galvanized coating. The galvanized coating on the entire post shall have a uniform "silver" colour and lustre. Galvanizing with parts of the post having dull grey coating or streaks or mottled appearance will not be acceptable. If the galvanizing is rejected for aesthetic reasons, the Contractor shall rectify the appearance by applying spray-on molten zinc metallizing with 85/15 zinc/aluminum alloy. The metallizing shall be carried out in the shop before the post is delivered.
- (g) Minor defects in the galvanizing coating shall be repaired in accordance with E5.2.6 of this Specification. The Contract Administrator shall be consulted before repairs are

made. Use of cold applied spray-on galvanizing will not be permitted and will be cause for rejection.

- (h) Other defects and contaminants in the galvanizing coating, such as heavy dross protrusions, flux inclusions and ash inclusions shall be grounds for rejection of the galvanizing coating system.
- (i) The Contractor shall verify the thickness of galvanized coatings as directed by the Contract Administrator.
- (j) The steel items shall be stored on timber blocking after hot-dip galvanizing.

E4.3.6 Powdercoating

- (b) Steel Posts, kiosks and sign plate mounts intended for interior use shall be finished by Powdercoating.
- (c) Surface preparation and powdercoating application shall be as per powdercoat manufacturers recommendations.
- (d) Colour shall be Pantone Matching System PMS 2738 or as otherwise specified on the drawings.

E4.4 Submission of Sample kiosk

E4.4.1 The Contractor shall, within fifteen (15) Calendar days of the request of the Contract Administrator, submit a sample of kiosk in accordance with this Specification.

E4.4.2 The sample kiosk shall be for Structure WFK-23. The Contract Administrator will advise where the sample kiosk can be delivered. Provide at least two (2) working days notice prior to delivering sample.

E4.4.3 The Contractor shall demonstrate the assembly of the sample sign box/plate and mounting on the appropriate sample post as part of the sample submission.

E4.5 Quality Control

E4.5.1 General

- (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 work. The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection 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.
- (b) The Contractor shall be responsible for making a thorough inspection of materials to be supplied under this Contract. All material shall be free of surface imperfections and other defects.

E4.5.2 Testing

- (a) In addition to the Contractor's own quality control testing of all materials, welding procedures and steel fabrication will be inspected by the Contract Administrator to ascertain compliance with the Specifications and Drawings.
- (b) The Contract Administrator will hire and pay for a testing agency certified by the Canadian Welding Bureau to carry out the following inspection:
 - (i) Magnetic particle inspection and testing of a random 25% of base plate welds.
 - (ii) Surface preparation prior to hot-dip galvanizing.
 - (iii) Inspection of finish and zinc coating thickness of hot-dip galvanized steel items.
- (c) The Contract Administrator shall have access to all of the fabricator's normal quality control records for this Contract, specified herein.

- (d) Welds that are found by any of the inspection methods to be inadequate and unsatisfactory shall be repaired in accordance with CSA W59 and then retested. The cost of the repairs and the cost of the retest shall be paid for by the Contractor.
- (e) No repair shall be made until agreed to in writing by the Contract Administrator.

E4.5.3 Unacceptable Work

- (a) Any Work found to be unacceptable shall be corrected in accordance with CSA W59.
- (b) No repair shall be made until agreed to by the Contract Administrator.

E5. CONCRETE FOUNDATIONS

E5.1 Description

- E5.1.1 The Work covered under this Item shall include all concreting operations related to construction of cast-in-place concrete foundations in accordance with this Specification and as shown on the Drawings.
- E5.1.2 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.

E5.2 Materials

E5.2.1 General

- E5.2.2 The Contractor shall be responsible for the supply, safe storage, and handling of all materials set forth in this Specification.

E5.2.3 Handling and Storage of Materials.

- E5.2.4 All Materials shall be handled and stored in a careful and workmanlike manner, to the satisfaction of the Contractor Administrator. Storage of materials shall be in accordance with CSA Standard CAN3-A23.1, "Storage of Material," except as otherwise specified herein.

E5.2.5 Testing and Approval

- E5.2.6 All materials supplied under this Specification shall be subject to inspection and testing by the Contract Administrator or by the Testing Laboratory designated by the Contract Administrator. There shall be no charge to the City for any materials taken by the Contract Administrator for testing purposes. All materials shall conform to CSA Standard CAN3-A23.1. All testing of materials shall conform to CSA Standard CAN3-23.2.

E5.2.7 Cement

- E5.2.8 Cement shall be Type HS, high sulphate-resistant hydraulic cement, conforming to the requirements of CSA A3001-03.

E5.2.9 Supplementary Cementing Materials

- E5.2.10 Use of pozzolans, fly ash, or silica fume will not be permitted for use in structural concrete supplied under this Specification.

E5.2.11 Water

- E5.2.12 Water used for mixing concrete shall be clean and free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances. It shall be equal to potable water in physical and chemical properties.

E5.2.13 Aggregate

- E5.2.14 The Contractor shall furnish in writing to the Contract Administrator, the location of the sources where aggregate will be obtained, in order that same may be inspected and tentatively approved by the Contract Administrator. Changes in the source of aggregate

supply during the course of the Contract will not be permitted without notification in writing to and the expressed approval of the Contract Administrator.

(a) Fine Aggregate

Fine aggregate shall consist of sand having clean, hard, strong, durable, uncoated grains; free from injurious amounts of dust, soft or flaking particles, shale, alkali, organic matter, loam, or other deleterious substances.

Fine aggregate shall be well-graded throughout and shall conform to the following grading requirements:

Gradation of Fine Aggregates	
Canadian Metric Sieve Size	Percent of Total Dry Weight Passing Each Sieve
10,000	100%
5,000	95% - 100%
2,500	80% - 100%
1,250	50% - 90%
630	25% - 65%
315	10% - 35%
160	2% - 10%
80	0% - 3%

(b) Coarse Aggregate (40 mm Nominal)

Coarse aggregate shall conform to the requirements of CAN3-A23.1, Section 5, Aggregates. Coarse aggregate shall be clean and free from alkali, organic, or other deleterious matter, shall have an absorption not exceeding 3 percent, and shall conform to the following gradation requirements:

Gradation of Fine Aggregates	
Canadian Metric Sieve Size	Percent of Total Dry Weight Passing Each Sieve
56,000	100%
40,000	95% - 100%
20,000	30% - 70%
10,000	10% - 0%
5,000	0% - 5%

E5.2.15 Admixtures

E5.2.16 No admixtures other than air-entraining agent shall be used without the written authorization of the Contract Administrator, unless otherwise specified in these Specifications. It shall be the Contractor's responsibility to ensure that any admixture is compatible with other constituent materials.

E5.2.17 Reinforcing Steel

E5.2.18 Reinforcing steel shall be deemed to include all reinforcing bars, tie-bars, and dowels.

- E5.2.19 All reinforcing steel shall conform to the requirements of CSA Standard G30.12, Grade 400 MPa, Billet-Steel Bars for Concrete Reinforcement. All reinforcing steel shall be new deformed billet steel bars.
- E5.2.20 Anchor Bolts, Nuts, and Washers
- E5.2.21 Anchor bolts, nuts, and washers shall be in accordance with CSA Standard G40.21 Grade 300 W, and shall be hot-dip galvanized full length in accordance with CSA G164 for a minimum net retention of 600 g/m², for the entire length of the anchor bolts. The top 300 mm shall be threaded. The anchor bolts shall be 25 mm (1 inch) nominal diameter with 8 UNC threads. Anchor bolt supply and installation will be incidental to construction of concrete pile foundation and no separate payment will be made.
- E5.2.22 Nut Covers
- E5.2.23 The bolts shall be capped with a 1 inch plastic Nut Cover, grey in colour to match Pantone Colour System PMS 429C, as manufactured by Nova Pole International, 203, 26229 Township Road, Spruce Grove, Alberta. Attention: Sandra Atkins, Distributor.
- E5.2.24 Anchor Bolt Template
- E5.2.25 Anchor bolt template to be supplied by the Contractor shall be in accordance with the City of Winnipeg Standard Drawing ST-117. It will be incidental to construction of new concrete foundations and no separate payment will be made.
- E5.2.26 Miscellaneous Materials
- E5.2.27 Miscellaneous materials shall be of the type specified on the drawings or approved by the Contract Administrator.
- E5.3 Concrete Mix Design
- E5.3.1 Proportioning of fine aggregate, coarse aggregate, cement, water, and air entraining agent shall be such as yield concrete having the required strength and workability as following:
- (i) Minimum Compressive Strength at 28 days = 35MPa
 - (ii) Maximum Water/Cement Ratio = 0.45
 - (iii) Minimum Cement Content = 340 kg/m³
 - (iv) Slump = 80 mm – 30 mm
 - (v) Aggregate: 20 mm nominal
 - (vi) Air Content: 5.0 to 8.0 percent
 - (vii) Cement – Type HS, high sulphate-resistant.
- E5.4 Equipment
- E5.4.1 All equipment shall be of a type approved by the contract Administrator and shall be kept in good working order.
- E5.5 Construction Methods
- E5.5.1 Location and Alignment of Foundations
- (a) Foundations shall be placed in the positions shown on the drawings and as directed by the Contract Administrator in the field.
 - (b) Contractor shall satisfy the Contract Administrator, by way of examination at each Site jointly by the Contractor and Contract Administrator (or designate), that the specific Site chosen for the location of the pile is acceptable from a perspective of pedestrian visibility and from a perspective of proximity to existing structures and utilities. Subject to such examination, the location of each specific Site so agreed upon shall be marked by a means such as spray painting.
 - (c) The deviation of the axis of any finished pile shall not differ by more than 1 percent from the perpendicular to the road/path way.

E5.5.2 Buried Utilities

- (a) The Contractor shall exercise extreme caution when constructing the foundations in the vicinity of existing buried utilities. **The Contractor shall be responsible for obtaining the exact location of the buried utilities from the appropriate Utility Authority prior to installing the foundations.**
- (b) The Contractor shall be responsible for all costs that may be incurred for repair/rectification of any damage caused to the existing buried utilities as a result of the Contractor's operations in constructing cast-in-place concrete foundations, as determined by the Contract Administrator.

E5.5.3 Adjacent Property and Site Restoration

- (a) When sidewalk or median slab must be removed in preparation for excavation, the Contractor shall saw-cut the slab surface to a minimum depth of 100 mm at both ends of the designated section, carefully break down the designated concrete slab and remove all loose concrete. Care shall be taken to ensure that the saw-edges are not chipped or broken and that existing tie-bars and dowel rods encountered during this work are not damaged.
- (b) The restoration of existing concrete sidewalks/medians and curbs, as well as boulevard median, interlocking paving stone, or sodding will be incidental to the construction of cast-in place concrete foundations, and no separate payment will be made. Granular material for backfilling shall conform to Specification CW 3110, Clause 5.5, "Base Course Material ," except crushed limestone shall not be used.

E5.5.4 Excavation

- (a) Upon reaching the required depth, the bottom of the hole shall be cleaned out to the required dimensions and elevations as shown on the Drawings or as directed by the Contract Administrator in the field.
- (b) All excavated material from the piles shall be promptly hauled from the Site to an approved disposal area as located by the Contractor.
- (c) Upon completion of the cleaning out of the bottom of the hole to the satisfaction of the Contract Administrator, the reinforcement and anchor bolts shall be set in place and the concrete poured immediately. Under no circumstances shall a hole be left to stand open after excavation has been completed.

E5.5.5 Placing Reinforcing Steel

- (a) Reinforcement shall be:
 - (i) Placed in accordance with the details shown on the Drawings,
 - (ii) rigidly fastened together, and
 - (iii) lowered into the borehole intact before concrete is placed.
- (b) Spacers shall be utilized to properly locate the reinforcing steel cage in the borehole.

E5.5.6 Placing Anchor Bolts

- (a) The Contractor shall fabricate a top steel ring form and steel anchor bolt template for the piles shown on the Drawings. The top steel ring form shall be used for all pile bases. The anchor bolts shall be aligned with the anchor bolt template. Extreme care shall be used in this operation. Placement of anchor bolts without the top steel ring form and steel template will not be permitted.
- (b) The threaded portion of the anchor bolts shall be coated with oil, before the concrete is poured, to minimize the fouling of threads splattered by concrete residue. The portion of anchor bolts projecting from the pile shall be fully threaded.

E5.5.7 Forms

- (a) The top 600 mm of the piles below the top steel form shall be formed with tubular forms (Sonotube).

- (b) The forms shall be sufficiently rigid to prevent lateral or vertical distortions from the loading environment to which they shall be subjected. Forms shall be set to the design grades, lines, and dimensions, as shown on the drawing.

E5.5.8 Placing Concrete

- (a) Care shall be taken to ensure that anchor bolts are vertically aligned and properly positioned prior to placement of concrete.
- (b) Concrete shall not have a free fall of more than 2.0 m and shall be placed so that the aggregates will not separate or segregate. The concrete shall be vibrated throughout the entire length of the pile.
- (c) Concrete shall be placed to the elevations as shown on the Drawings. The top surface of the pile shall be finished smooth and even with a hand float.

E5.5.9 Protection of Newly Placed Concrete

- (ii) Newly laid concrete threatened with damage by rain, snow, fog, or mist shall be protected with a tarpaulin or other approved means.

E5.5.10 Curing Concrete

- (a) The top of the freshly poured concrete shall be covered and kept moist by means of wet polyester blankets immediately following finishing operations and shall be maintained at above 10 degrees Celsius for at least seven (7) consecutive days thereafter.
- (b) After the finishing is completed, the surface shall be promptly covered with a minimum of a single layer of clean, damp polyester blanket.
- (c) Concrete shall be protected from the harmful effects of sunshine, drying winds, surface dripping or running water, vibration, and mechanical shock. Concrete shall be protected from freezing until at least twenty-four hours after the end of the curing period.
- (d) Changes in temperature of the concrete shall be uniform and gradual and shall not exceed 3 degrees in one hour or 20 degrees in twenty-four hours.

E5.5.11 Form Removal

- (a) Forms if required, shall not be removed for a period of at least 24 hours after the concrete has been placed. Removal of forms shall be done in a manner to avoid damage to, or spalling of, the concrete.
- (b) The minimum strength of concrete in place for safe removal of forms shall be 20 MPA.
- (c) Field-cured test specimens, representative of the in-place concrete being stripped, will be tested to verify the concrete strength.

E5.5.12 Patching of Formed Surfaces

- (a) Immediately after forms around top of pile has been removed, but before any repairing or surface finishing is started, the concrete surface shall be inspected by the Contract Administrator. Any repair of surface finishing started before this inspection may be rejected and required to be removed.
- (b) All formed concrete surfaces shall have bolts, ties, struts, and all other timber or metal parts not specifically required for construction purposes cut back fifty (50) mm from the surface before patching.
- (c) Minor surface defects caused by honeycomb, air pockets greater than 5 mm in diameter, and voids left by strutting, and tie holes shall be repaired by removing the defective concrete to sound concrete, dampening the areas to be patched and then applying patching mortar. A slurry grout consisting of water and cement, shall be well-brushed onto the area to be patched. When the slurry grout begins to lose the water sheen, the patching mortar shall be applied. It shall be struck-off slightly higher than the surface and left for one hour before final finishing to permit initial shrinkage of the patching mortar and it shall be touched up until it is satisfactory to the Contract Administrator. The patch shall be cured as specified in this Specification, and the final colour shall match the surrounding concrete.

E5.5.13 Cold Weather Concreting

- (iii) Protection of concrete shall be considered incidental to its placement. The temperature of the concrete shall be maintained at or above 10 degrees for a minimum of three (3) days or until the concrete has reached a minimum compressive strength of 20 MPa, by whatever means are necessary. Concrete damaged as a result of inadequate protection against weather conditions shall be removed and replaced by the Contractor at his own expense. Also, concrete allowed to freeze prior to the three (3) days will not be accepted for payment.

E5.6 Quality Control

E5.6.1 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 Work. The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection or approval they 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.

E5.6.2 The Contractor shall be responsible for making a thorough inspection of materials to be supplied under the Contract. All material shall be free of surface imperfections and other defects.

E5.7 Measurement and Payment

E5.7.1 Construction of Concrete Foundations

- (ii) Construction of concrete foundations including supply and installation of anchor bolts will not be measured and paid for separately. They will be considered as part of the complete installation of the signage, sign plates, and kiosks.

E6. SUPPLY AND INSTALLATION OF SIGNS AND KIOSKS

E6.1 The Contractor will be responsible for supply and installation of signs/kiosks

E6.2 Delivery and Erection

E6.2.1 The Contractor shall notify the Contract Administrator at least two (2) working days in advance of the anticipated delivery to the Site and erection of the posts/signs.

E6.2.2 The posts/kiosks shall be lifted and secured with nylon ropes or other approved methods. Use of steel chains and steel hooks against hot-dip galvanized surfaces and painted surfaces will not be permitted. All posts/kiosks and brackets shall be wrapped in cardboard during transportation to the Site to protect the coated finish.

E6.2.3 The Contractor shall ensure that the anchoring nuts of the anchor bolts are tightened according to the "turn-of-nut" method of the AASHTO Code.

E6.2.4 The Poles/kiosks are to be supplied by the City of Winnipeg.

E6.2.5 Each pole/kiosk is identified with a specific engraved Structure Number, (ex. WF092), which corresponds to a specific Site location as specified in E2.3 Location

E6.3 Field-Applied Touch-up Galvanizing

E6.3.1 Any areas of damaged galvanizing on the posts shall receive field-applied touch-up galvanizing.

E6.3.2 Surfaces to receive touch-up galvanizing shall be cleaned using a wire brush, a light grinding action, or mild blasting to remove loose scale, rust, paint, grease, dirt, or other contaminants. Preheat the surface to 315 degrees celsius and wire brush the surface during preheating. Rub the cleaned preheated areas with the repair stick to deposit an evenly distributed layer of zinc alloy. Spread the alloy with a wire brush, spatula, or similar tool. Field-applied galvanizing shall be blended into existing galvanizing of surrounding surfaces and shall be buffed and polished if required to match the surrounding surfaces.

Care shall be taken to not overhead surfaces beyond 400 degrees celsius and to not apply direct flame to the alloy rods.

E6.4 Method of Measurement

The supply and installation of foundations and installation of posts/kiosks and sign plates shall be measured on a unit basis. The number of posts/kiosks to be paid for shall be the total number of posts/kiosks that are installed in accordance with this Specification and accepted by the Contract Administrator.

E6.5 Basis of Payment

- (a) The supply and installation of posts/kiosks shall be paid for at the Contract Unit Price per unit measured as specified herein, which price shall be payment in full for supplying all materials and performing all operation herein described including all other items incidental to the Work included in this Specification.