

THE CITY OF WINNIPEG

TENDER

TENDER NO. 656-2019

**NORTHWEST HYDRO CORRIDOR PATHWAY, NEW LOCAL SIDEWALKS, AND
ASSOCIATED WORKS**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 Northwest Hydro Corridor Pathway, New Local Sidewalks, and Associated Works

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, July 23, 2019.

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.

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 Tender, 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 Tender 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 Tender 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. CONFIDENTIALITY

B5.1 Information provided to a Bidder by the City or acquired by a Bidder by way of further enquiries or through investigation is confidential. Such information shall not be used or disclosed in any way without the prior written authorization of the Contract Administrator. The use and disclosure of the confidential information shall not apply to information which:

- (a) was known to the Bidder before receipt hereof; or
- (b) becomes publicly known other than through the Bidder; or
- (c) is disclosed pursuant to the requirements of a governmental authority or judicial order.

B5.2 The Bidder shall not make any statement of fact or opinion regarding any aspect of the Tender to the media or any member of the public without the prior written authorization of the Contract Administrator.

B6. ADDENDA

B6.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Tender, or clarifying the meaning or intent of any provision therein.

- B6.2 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.
- B6.3 Addenda will be available on the Bid Opportunities page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/bidopp.asp>
- B6.4 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the Materials Management Division website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- B6.5 The Bidder shall acknowledge receipt of each addendum in Paragraph 10 of Form A: Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.
- B6.6 Notwithstanding B4, enquiries related to an Addendum may be directed to the Contract Administrator indicated in D3.

B7. SUBSTITUTES

- B7.1 The Work is based on the Plant, Materials and methods specified in the Tender.
- B7.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B7.3 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.
- B7.4 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.
- B7.5 The Contract Administrator, after assessing the request for approval of a substitute, may in his/her 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.
- B7.6 The Contract Administrator will provide a response in writing, at least two (2) Business Days prior to the Submission Deadline, to the Bidder who requested approval of the substitute.
- B7.6.1 The Contract Administrator will issue an Addendum, disclosing the approved materials, equipment, methods and products to all potential Bidders. The Bidder requesting and obtaining the approval of a substitute shall be responsible for disseminating information regarding the approval to any person or persons he/she wishes to inform.

- B7.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.
- B7.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her 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 B18.
- B7.9 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.

B8. BID COMPONENTS

- B8.1 The Bid shall consist of the following components:
- (a) Form A: Bid;
 - (b) Form B: Prices, hard copy;
 - (c) Form G1: Bid Bond and Agreement to Bond.
- B8.2 Further to B8.1, the Bidder should include the written correspondence from the Contract Administrator approving a substitute in accordance with B7.
- B8.3 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.
- B8.4 The Bid shall be submitted enclosed and sealed in an envelope clearly marked with the Tender number and the Bidder's name and address.
- B8.4.1 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 Tender number, the Bidder's name and address, and an indication that the contents are part of the Bidder's Bid.
- B8.4.2 A hard copy of Form B: Prices must be submitted with the Bid. If there is any discrepancy between the Adobe PDF version of Form B: Prices and the Microsoft Excel version of Form B: Prices, the PDF version shall take precedence.
- B8.5 Bidders are advised not to include any information/literature except as requested in accordance with B8.1.
- B8.6 Bidders are advised that inclusion of terms and conditions inconsistent with the Tender document, including the General Conditions, will be evaluated in accordance with B18.1(a).
- B8.7 Bids submitted by facsimile transmission (fax) or internet electronic mail (e-mail) will not be accepted.
- B8.8 Bids shall be submitted to:
- The City of Winnipeg
Corporate Finance Department
Materials Management Division
185 King Street, Main Floor
Winnipeg MB R3B 1J1

B9. BID

- B9.1 The Bidder shall complete Form A: Bid, making all required entries.
- B9.2 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/her own name, his/her 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/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

B9.2.1 If a Bid is submitted jointly by two or more persons, each and all such persons shall identify themselves in accordance with B9.2.

B9.3 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.

B9.4 Paragraph 13 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/her 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 and the corporate seal, if the corporation has one, shall be affixed;
- (d) if the Bidder is carrying on business under a name other than his/her 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.

B9.4.1 The name and official capacity of all individuals signing Form A: Bid should be printed below such signatures.

B9.5 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.

B10. PRICES

B10.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.

B10.1.1 For the convenience of Bidders, and pursuant to B8.4.2 and B18.4.2, an electronic spreadsheet Form B: Prices in Microsoft Excel (.xls) format is available along with the Adobe PDF documents for this Tender on the Bid Opportunities page at the Materials Management Division website at <http://www.winnipeg.ca/matmgt/>

B10.2 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.

B10.3 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.

B10.4 Payments to Non-Resident Contractors are subject to Non-Resident Withholding Tax pursuant to the Income Tax Act (Canada).

B11. DISCLOSURE

B11.1 Various Persons provided information or services with respect to this Work. In the City's opinion, this relationship or association does not create a conflict of interest because of this full disclosure. Where applicable, additional material available as a result of contact with these Persons is listed below.

B11.2 The Persons are:

- (a) N/A

B12. CONFLICT OF INTEREST AND GOOD FAITH

B12.1 Bidders, by responding to this Tender, declare that no Conflict of Interest currently exists, or is reasonably expected to exist in the future.

B12.2 Conflict of Interest means any situation or circumstance where a Bidder or employee of the Bidder proposed for the Work has:

- (a) other commitments;
- (b) relationships;
- (c) financial interests; or
- (d) involvement in ongoing litigation;

that could or would be seen to:

- (i) exercise an improper influence over the objective, unbiased and impartial exercise of the independent judgment of the City with respect to the evaluation of Bids or award of the Contract; or
 - (ii) compromise, impair or be incompatible with the effective performance of a Bidder's obligations under the Contract;
- (e) has contractual or other obligations to the City that could or would be seen to have been compromised or impaired as a result of its participation in the Tender process or the Work; or
- (f) has knowledge of confidential information (other than confidential information disclosed by the City in the normal course of the Tender process) of strategic and/or material relevance to the Tender process or to the Work that is not available to other bidders and that could or would be seen to give that Bidder an unfair competitive advantage.

B12.3 In connection with its Bid, each entity identified in B12.2 shall:

- (a) avoid any perceived, potential or actual Conflict of Interest in relation to the procurement process and the Work;
- (b) upon discovering any perceived, potential or actual Conflict of Interest at any time during the Tender process, promptly disclose a detailed description of the Conflict of Interest to the City in a written statement to the Contract Administrator; and
- (c) provide the City with the proposed means to avoid or mitigate, to the greatest extent practicable, any perceived, potential or actual Conflict of Interest and shall submit any additional information to the City that the City considers necessary to properly assess the perceived, potential or actual Conflict of Interest.

B12.4 Without limiting B12.3, the City may, in its sole discretion, waive any and all perceived, potential or actual Conflicts of Interest. The City's waiver may be based upon such terms and conditions as the City, in its sole discretion, requires to satisfy itself that the Conflict of Interest has been appropriately avoided or mitigated, including requiring the Bidder to put into place such policies, procedures, measures and other safeguards as may be required by and be acceptable to the City, in its sole discretion, to avoid or mitigate the impact of such Conflict of Interest.

B12.5 Without limiting B12.3, and in addition to all contractual or other rights or rights at law or in equity or legislation that may be available to the City, the City may, in its sole discretion:

- (a) disqualify a Bidder that fails to disclose a perceived, potential or actual Conflict of Interest of the Bidder or any of its employees proposed for the Work;
- (b) require the removal or replacement of any employees proposed for the Work that has a perceived, actual or potential Conflict of Interest that the City, in its sole discretion, determines cannot be avoided or mitigated;
- (c) disqualify a Bidder or employees proposed for the Work that fails to comply with any requirements prescribed by the City pursuant to B12.4 to avoid or mitigate a Conflict of Interest; and

- (d) disqualify a Bidder if the Bidder, or one of its employees proposed for the Work, has a perceived, potential or actual Conflict of Interest that, in the City's sole discretion, cannot be avoided or mitigated, or otherwise resolved.

B12.6 The final determination of whether a perceived, potential or actual Conflict of Interest exists shall be made by the City, in its sole discretion.

B13. QUALIFICATION

B13.1 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.

B13.2 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 Division website at <https://winnipeg.ca/finance/findata/matmgt/listing/debar.pdf>

B13.3 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);

B13.4 Further to B13.3(c), the Bidder shall, within five (5) Business Days of a request by the Contract Administrator, provide proof satisfactory to the Contract Administrator that the Bidder/Subcontractor has a workplace safety and health program meeting the requirements of The Workplace Safety and Health Act (Manitoba), by providing:

- (a) Written confirmation of a safety and health certification meeting SAFE Work Manitoba's SAFE Work Certified Standard (e.g., COR™ and SECOR™) in the form of:
 - (i) a copy of their valid Manitoba COR certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Certificate of Recognition (COR) Program administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
 - (ii) a copy of their valid Manitoba SECOR™ certificate and Letter of Good Standing (or Manitoba equivalency) as issued under the Small Employer Certificate of Recognition Program (SECOR™) administered by the Construction Safety Association of Manitoba or by the Manitoba Heavy Construction Association's WORKSAFELY™ COR™ Program; or
- (b) a report or letter to that effect from an independent reviewer acceptable to the City. (A list of acceptable reviewers and the review template are available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/>).

B13.5 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.

B13.6 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.

B14. BID SECURITY

B14.1 The Bidder shall provide bid security in the form of a bid bond, in the amount of at least ten percent (10%) of the Total Bid Price, and agreement to bond of a company registered to conduct the business of a surety in Manitoba, in the form included in the Bid Submission (Form G1: Bid Bond and Agreement to Bond).

B14.1.1 If the Bidder submits alternative bids, the bid security shall be in the amount of the specified percentage of the highest Total Bid Price submitted.

B14.1.2 All signatures on bid securities shall be original.

B14.1.3 The Bidder shall sign the Bid Bond.

B14.1.4 The Surety shall sign and affix its corporate seal on the Bid Bond and the Agreement to Bond.

B14.2 The bid security of the successful Bidder and the next two lowest evaluated responsive and responsible Bidders will be released by the City when a Contract for the Work has been duly executed by the successful Bidder and the contract securities are furnished as provided herein. The bid securities of all other Bidders will be released when a Contract is awarded.

B14.3 The bid securities of all Bidders will be released by the City as soon as practicable following notification by the Contract Administrator to the Bidders that no award of Contract will be made pursuant to the Tender.

B15. OPENING OF BIDS AND RELEASE OF INFORMATION

B15.1 Bids will be opened publicly, after the Submission Deadline has elapsed, in the office of the Corporate Finance Department, Materials Management Division, or in such other office as may be designated by the Manager of Materials.

B15.1.1 Bidders or their representatives may attend.

B15.1.2 Bids determined by the Manager of Materials, or his/her designate, to not include the bid security specified in B14 will not be read out.

B15.2 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 Division website at <http://www.winnipeg.ca/matmgt/>

B15.3 After award of Contract, the name(s) of the successful Bidder(s), their address(es) 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 Division website at <http://www.winnipeg.ca/matmgt/>

B15.4 The Bidder is advised that any information contained in any Bid may be released if required by The Freedom of Information and Protection of Privacy Act (Manitoba), by other authorities having jurisdiction, or by law or by City policy or procedures (which may include access by members of City Council).

B15.4.1 To the extent permitted, the City shall treat as confidential information, those aspects of a Bid Submission identified by the Bidder as such in accordance with and by reference to Part 2, Section 17 or Section 18 or Section 26 of The Freedom of Information and Protection of Privacy Act (Manitoba), as amended.

B16. IRREVOCABLE BID

- B16.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid.
- B16.2 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 until a Contract for the Work has been duly executed and the contract securities have been furnished as herein provided, but any Bid shall be deemed to have lapsed unless accepted within the time period specified in Paragraph 11 of Form A: Bid.

B17. WITHDRAWAL OF BIDS

- B17.1 A Bidder may withdraw his/her Bid without penalty by giving written notice to the Manager of Materials at any time prior to the Submission Deadline.
- B17.1.1 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.
- B17.1.2 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 13 of Form A: Bid, and only such person, has authority to give notice of withdrawal.
- B17.1.3 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 13 of Form A: Bid; and
 - (c) if the notice has been given by any one of the persons specified in B17.1.3(b), declare the Bid withdrawn.
- B17.2 A Bidder who withdraws his/her Bid after the Submission Deadline but before his/her Bid has been released or has lapsed as provided for in B16.2 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, including the right to retain the Bidder's bid security.

B18. EVALUATION OF BIDS

- B18.1 Award of the Contract shall be based on the following bid evaluation criteria:
- (a) compliance by the Bidder with the requirements of the Tender, or acceptable deviation therefrom (pass/fail);
 - (b) qualifications of the Bidder and the Subcontractors, if any, pursuant to B13 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B7.
- B18.2 Further to B18.1(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.
- B18.3 Further to B18.1(b), the Award Authority shall reject any Bid submitted by a Bidder who does not demonstrate, in his/her Bid or in other information required to be submitted, that he/she is qualified.
- B18.4 Further to B18.1(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.

- B18.4.1 Further to B18.1(a), in the event that a unit price is not provided on Form B: Prices, the City will determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.
- B18.4.2 The electronic Form B: Prices and the formulas imbedded in that spreadsheet are only provided for the convenience of Bidders. The City makes no representations or warranties as to the correctness of the imbedded formulas. It is the Bidder's responsibility to ensure the extensions of the unit prices and the sum of Total Bid Price performed as a function of the formulas within the electronic Form B: Prices are correct.

B19. AWARD OF CONTRACT

- B19.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B19.2 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 qualified, and the Bids are determined to be responsive.
- B19.2.1 Without limiting the generality of B19.2, 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.
- B19.3 Where an award of Contract is made by the City, the award shall be made to the qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B18.
- B19.3.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of his/her Bid upon written request to the Contract Administrator.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2019-01-15) 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 Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Tender 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:

- (a) New Multi-use Pathway Construction
 - (i) Northwest Hydro Corridor Pathway – From Church Avenue to Jefferson Avenue
 - (ii) Northwest Hydro Corridor Pathway – From Jefferson Avenue to Leila Avenue

- (b) New Local Sidewalks Construction
 - (i) Wellington Crescent – Renfrew Street to Lindsay Street
 - (ii) Shamrock Drive, Newcroft Road, Cliffwood Drive

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

- (a) New Multi-use Pathway
 - (i) Stripping and stockpiling topsoil;
 - (ii) Removal of existing trees;
 - (iii) Placement of fill material;
 - (iv) Installation of 300mm corrugated steel culvert;
 - (v) Placement of geotextile fabric;
 - (vi) Supplying and Placing Crushed Sub-base Material;
 - (vii) Supplying and Placing Base course material;
 - (viii) Construction of 4.5m asphalt pathway;
 - (ix) New Sidewalk construction;
 - (x) Renewal of Sidewalk;
 - (xi) Construction of curb ramp;
 - (xii) Installation of detectable warning tile;
 - (xiii) Construction of grassed swale;
 - (xiv) Grading of boulevards and placement of topsoil;
 - (xv) Adjustment of existing manholes and appurtenances;
 - (xvi) Installation of post bollards;
 - (xvii) Installation of wooden protective fence; and
 - (xviii) Sodding and Seeding

- (b) New Local Sidewalks
 - (i) Excavation;
 - (ii) Placement of fill material;
 - (iii) Removal of existing trees;
 - (iv) Sub-Grade Compaction;
 - (v) Supplying and Placing Base Course;
 - (vi) Grading of Boulevards;
 - (vii) Construction of Concrete Pavement;
 - (viii) Sidewalk Removal;

- (ix) Construction of 100 mm Sidewalk;
- (x) Construction of Monolithic Curb and 100mm Sidewalk;
- (xi) Sidewalk Renewal;
- (xii) Curb Removal;
- (xiii) Construction of Barrier Curb;
- (xiv) Construction of Curb Ramp;
- (xv) Construction of Modified Barrier Curb;
- (xvi) Curb Renewal;
- (xvii) Construction of Asphalt Patches;
- (xviii) Installation of Detectable Warning Surface Tiles;
- (xix) Adjustment of Valve Boxes; and
- (xx) Sodding and Seeding

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is:

Richard Weibel, C.E.T

Technologist 3, Public Works, Engineering

Telephone No. 204 805-0104

Email Address rweibel@winnipeg.ca

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.

D3.3 Bids Submissions must be submitted to the address in B8.

D4. CONTRACTOR'S SUPERVISOR

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

D4.2 At least two (2) business days prior to the commencement of any Work on the site, the Contractor shall provide the Contract Administrator with a phone number where the supervisor identified in D4.1 or an alternate can be contacted twenty-four (24) hours a day to respond to an emergency.

D5. OWNERSHIP OF INFORMATION, CONFIDENTIALITY AND NON DISCLOSURE

D5.1 The Contract, all deliverables produced or developed, and information provided to or acquired by the Contractor are the property of the City and shall not be appropriated for the Contractors own use, or for the use of any third party.

D5.2 The Contractor shall not make any public announcements or press releases regarding the Contract, without the prior written authorization of the Contract Administrator.

D5.3 The following shall be confidential and shall not be disclosed by the Contractor to the media or any member of the public without the prior written authorization of the Contract Administrator;

- (a) information provided to the Contractor by the City or acquired by the Contractor during the course of the Work;
- (b) the Contract, all deliverables produced or developed; and
- (c) any statement of fact or opinion regarding any aspect of the Contract.

D5.4 A Contractor who violates any provision of D5 may be determined to be in breach of Contract.

D6. NOTICES

- D6.1 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.
- D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in D6.3 D6.4 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator identified in D3.
- D6.3 Notwithstanding C21, all notices of appeal to the Chief Administrative Officer shall be sent to the attention of the Chief Financial Officer at the following:
- The City of Winnipeg
Attn: Chief Financial Officer
Office of the Chief Administrative Officer
Susan A. Thompson Building
2nd Floor, 510 Main Street
Winnipeg MB R3B 1B9
- D6.4 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 facsimile number:
- The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204-947-9155
- D6.5 Bids Submissions must not be submitted to this facsimile number. Bids must be submitted in accordance with B8.**

D7. FURNISHING OF DOCUMENTS

- D7.1 Upon award of the Contract, the Contractor will be provided with five (5) complete sets of the Tender. If the Contractor requires additional sets of the Tender, they will be supplied to him/her at cost.

SUBMISSIONS

D8. AUTHORITY TO CARRY ON BUSINESS

- D8.1 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.

D9. SAFE WORK PLAN

- D9.1 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.
- D9.2 The Safe Work Plan shall 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 Division website at <http://www.winnipeg.ca/matmgt/safety/default.stm>

D10. INSURANCE

D10.1 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, broad form property damage cover and products and completed operations, to remain in place at all times during the performance of the Work and throughout the warranty period;
- (b) if applicable, Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence;
- (c) an all risks Installation Floater carrying adequate limits to cover all machinery, equipment, supplies and/or materials intended to enter into and form part of any installation.

D10.2 Deductibles shall be borne by the Contractor.

D10.3 The Contractor shall provide the City Solicitor 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 the date specified in the C4.1 for the return of the executed Contract.

D10.4 The Contractor shall not cancel, materially alter, or cause each policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D11. CONTRACT SECURITY

D11.1 The Contractor shall provide and maintain the performance bond and the labour and material payment bond 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; and
- (b) a labour and material payment bond of a company registered to conduct the business of a surety in Manitoba, in the form attached to these Supplemental Conditions (Form H2: Labour and Material Payment Bond), in an amount equal to fifty percent (50%) of the Contract Price.

D11.2 The Contractor shall provide the City Solicitor with the required performance and labour and material payment bonds within seven (7) Calendar Days of notification of the award of the Contract by way of letter of intent and 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.

D11.3 The Contractor shall, as soon as practicable after entering into a contract with a Subcontractor:

- (a) give the Subcontractor written notice of the existence of the labour and material payment bond in D11.1(b); and
- (b) post a notice of the bond and/or a copy of that bond in a conspicuous location at the Site of the Work.

D12. SUBCONTRACTOR LIST

D12.1 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 or prior to a pre-construction meeting, or at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the C4.1 for the return of the executed Contract.

D13. DETAILED WORK SCHEDULE

- D13.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site but in no event later than the date specified in the General Conditions for the return of the executed Contract.
- D13.2 The detailed work schedule shall consist of the following:
- (a) a Gantt chart for the Work acceptable to the Contract Administrator.
- D13.3 Further to D13.2(a), the Gantt chart shall show the time on a weekly basis, required to carry out the Work of each trade, or specification division. The time shall be on the horizontal axis, and the type of trade shall be on the vertical axis.
- D13.4 The Contractor shall provide an updated Gantt chart upon request by the Contract Administrator. Updated Gantt chart to be supplied prior to the following job meeting.

D14. CONSTRUCTION METHOD STATEMENT FOR LARGE DIAMETER WATERMAIN

- D14.1 The Contractor shall provide the Contract Administrator with a construction method statement and it shall be approved by the Water and Waste department prior to any work commencing on Northwest Hydro Corridor Pathway from Church Avenue to Leila Avenue. For further information refer to E16.

SCHEDULE OF WORK

D15. COMMENCEMENT

- D15.1 The Contractor shall not commence any Work until he/she is in receipt of a letter of intent from the Award Authority authorizing the commencement of the Work.
- D15.2 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 D8;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
 - (iv) the Safe Work Plan specified in D9;
 - (v) evidence of the insurance specified in D10;
 - (vi) the contract security specified in D11;
 - (vii) the subcontractor list specified in D12;
 - (viii) the detailed work schedule specified in D13, and;
 - (ix) the Construction Method Statement for Large Diameter Water Mains specified in D14.
 - (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.
- D15.3 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the letter of intent.

D16. WORKING DAYS

- D16.1 Further to C1.1(II);
- D16.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record his/her assessment. On a weekly basis the Contract Administrator will provide the Contractor with a record of the Working Days assessed for the preceding week. The

Contractor shall sign each report signifying that he/she agrees with the Contract Administrator's determination of the Working Days assessed for the report period.

D16.1.2 Work done to restore the Site to a condition suitable for Work, shall not be considered "work" as defined in the definition of a Working Day.

D16.1.3 When the Work includes two or more major types of Work that can be performed under different atmospheric conditions, the Contract Administrator shall consider all major types of Work in determining whether the Contractor was able to work in assessing Working Days.

D17. RESTRICTED WORK HOURS

D17.1 Further to clause 3.10 of CW 1130, the Contractor shall require written permission forty-eight (48) hours in advance from the Contract Administrator for any work to be performed between 2000 hours and 0700 hours, or on Saturdays, Sundays, Statutory Holidays and or Civic Holidays.

D17.2 The following work hour restrictions shall also apply:

- (a) The Contractor shall not be allowed to occupy a Traffic Lane on the Priority 1 Streets during Peak Traffic hours between 07:00 – 09:00 and 15:00 – 18:00 Monday through Friday.

D18. WORK BY OTHERS

D18.1 Work by others on or near the Site will include but not necessarily be limited to:

- (a) Manitoba Hydro- Manitoba Hydro will be installing pathway lighting and may be performing routine maintenance on existing transmission towers. The Contractor is expected to cooperate with Manitoba Hydro to facilitate construction.
- (b) City of Winnipeg Signals – The City of Winnipeg will be installing pedestrian flashing corridor at the Jefferson Ave crossing and half bike signals at the Inkster Avenue crossing. The Contractor is expected to cooperate with the City to facilitate construction.
- (c) Canada Post – Canada Post will be relocation existing mailboxes on Church Avenue. The Contractor is expected to coordinate with Canada Post to facilitate construction.
- (d) Manitoba Hydro - The relocation of Lamp Standards on Wellington Crescent.
- (e) Canadian Pacific Railway – New sidewalk around the Railway tracks on Wellington Crescent.
- (f) City of Winnipeg Geomatics Branch – Various work on survey monuments.

D19. SEQUENCE OF WORK

D19.1 Further to C6.1, the sequence of work shall be as follows:

D19.1.1 The Work on the Northwest Hydro Corridor Pathway shall be divided into 2 Stages, and subdivided into major items of work.

D19.1.2 Northwest Hydro Corridor Pathway from Church Avenue to Leila Avenue

- (a) **Stage 1** – Northwest Hydro Corridor Pathway from Leila Avenue to Jefferson Avenue
 - (i) Stripping and stockpiling topsoil;
 - (ii) Removal of existing trees;
 - (iii) Placement of fill material;
 - (iv) Installation of 300mm corrugated steel culvert;
 - (v) Placement of geotextile fabric;
 - (vi) Placement of sub base and base course material;
 - (vii) Construction of 4.5m asphalt pathway;

- (viii) Sidewalk construction and renewal;
- (ix) Construction of curb ramp;
- (x) Installation of detectable warning tile;
- (xi) Construction of grassed swale;
- (xii) Grading of boulevards and placement of topsoil;
- (xiii) Adjustment of existing manholes and appurtenances;
- (xiv) Installation of post bollards;
- (xv) Installation of wooden protective fence
- (xvi) Sodding and Seeding.

(b) **Stage 2** – Northwest Hydro Corridor Pathway from Jefferson Avenue to Church Avenue

- (xvii) Stripping and stockpiling topsoil;
- (xviii) Removal of existing trees;
- (xix) Placement of fill material;
- (xx) Installation of 300mm corrugated steel culvert;
- (xxi) Placement of geotextile fabric;
- (xxii) Placement of sub base and base course material;
- (xxiii) Construction of 4.5m asphalt pathway;
- (xxiv) Sidewalk construction and renewal;
- (xxv) Construction of curb ramp;
- (xxvi) Installation of detectable warning tile;
- (xxvii) Construction of grassed swale;
- (xxviii) Grading of boulevards and placement of topsoil;
- (xxix) Adjustment of existing manholes and appurtenances
- (xxx) Sodding and Seeding.

D19.1.3 Providing that the Work on each location is completed in a similar order to the order that the Work was commenced in, the Contractor will be permitted to have a maximum of three (3) locations under construction at any one time. Completion of work at any one location means that all of the necessary concrete, asphalt including approaches and landscaping Work is completed to the satisfaction of the Contract Administrator.

D19.1.4 Where the Contractor utilizes two (2) or more crews that work independently on the same major component of the Work as identified in D2, the Contract Administrator may approve an increase to the maximum number of locations under construction at any time.

D19.1.5 Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of asphaltic concrete overlays, including scratch courses.

D20. CRITICAL STAGES

D20.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:

- (a) Stage 1 - Northwest Hydro Corridor Pathway from Leila Avenue to Jefferson
 - (i) The Contractor must reach Substantial completion of Stage 1 within twenty five (25) consecutive Working Days of the commencement of the Work as specified in D15.

D20.2 When the Contractor considers the Work associated with D20.1 to be completed, the Contractor shall arrange, attend and assist in the inspection of the Work with the Contract Administrator for purposes of verifying Completion. 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 re-inspected.

D20.3 The date on which the Stage 1 Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of Stage 1 has been achieved.

D21. SUBSTANTIAL PERFORMANCE

D21.1 The Contractor shall achieve Substantial Performance within Fifty (50) consecutive Working Days of the commencement of the Work as specified in D15.

D21.2 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 re-inspected.

D21.3 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.

D22. TOTAL PERFORMANCE

D22.1 The Contractor shall achieve Total Performance within fifty five (55) consecutive Working Days of the commencement of the Work as specified in D15.

D22.2 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 re-inspected.

D22.3 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.

D23. LIQUIDATED DAMAGES

D23.1 If the Contractor fails to achieve Critical Stages, Substantial Performance or Total Performance in accordance with the Contract by the days fixed herein for same, the Contractor shall pay the City the following amounts per Working Day for each and every Working Day following the days fixed herein for same during which such failure continues:

- (a) Stage 1 - Northwest Hydro Corridor Pathway from Leila Avenue to Jefferson – One thousand five hundred dollars (\$1500.00);
- (b) Substantial Performance – Three thousand dollars (\$3000.00);
- (c) Total Performance – One thousand five hundred dollars (\$1500.00).

D23.2 The amounts specified for liquidated damages in D23.1 are based on a genuine pre-estimate of the City's losses in the event that the Contractor does not achieve critical stages, Substantial Performance or Total Performance by the days fixed herein for same.

D23.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D24. SCHEDULED MAINTENANCE

D24.1 The Contractor shall perform the following scheduled maintenance in the manner and within the time periods required by the Specifications:

- (a) Sod maintenance as specified in CW 3510;
- (b) Seeded Area maintenance as specified in CW 3520;

(c) Asphalt crack maintenance as specified in CW 3250.

D24.2 Determination of Substantial Performance and Total Performance shall be exclusive of scheduled maintenance identified herein. All scheduled maintenance shall be completed prior to the expiration of the warranty period. Where the scheduled maintenance cannot be completed during the warranty period, the warranty period shall be extended for such period of time as it takes the Contractor to complete the scheduled maintenance.

CONTROL OF WORK

D25. JOB MEETINGS

D25.1 Regular weekly job meetings will be held on Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, 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.

D25.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D26. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D26.1 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).

D27. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

D27.1 Further to B13.4, the Contractor/Subcontractor must, throughout the term of the Contract, have a Workplace Safety and Health Program meeting the requirements of The Workplace Safety and Health Act (Manitoba). At any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require updated proof of compliance, as set out in B13.4.

MEASUREMENT AND PAYMENT

D28. PAYMENT

D28.1 Further to C12, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

WARRANTY

D29. WARRANTY

D29.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire two (2) years thereafter unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

THIRD PARTY AGREEMENTS

D30. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS

D30.1 Funding for the Work of the Contract is being provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada and accordingly, as required by the applicable funding agreements, the following terms and conditions shall apply.

D30.2 For the purposes of D30:

- (a) **“Government of Canada”** includes the authorized officials, auditors, and representatives of the Government of Canada; and
- (b) **“Government of Manitoba”** includes the authorized officials, auditors, and representatives of the Government of Manitoba.

D30.3 Indemnification By Contractor

D30.3.1 In addition to the indemnity obligations outlined in C17 of the General Conditions for Construction, the Contractor agrees to indemnify and save harmless the Government of Canada and the Government of Manitoba and each of their respective Ministers, officers, servants, employees, and agents from and against all claims and demands, losses, costs, damages, actions, suit or other proceedings brought or pursued in any manner in respect of any matter caused by the Contractor or arising from this Contract or the Work, or from the goods or services provided or required to be provided by the Contractor, except those resulting from the negligence of any of the Government of Canada’s or the Government of Manitoba’s Ministers, officers, servants, employees, or agents, as the case may be.

D30.4 Records Retention and Audits

D30.4.1 The Contractor shall maintain and preserve accurate and complete records in respect of this Contract and the Work, including all accounting records, financial documents, copies of contracts with other parties and other records relating to this Contract and the Work during the term of the Contract and for at least six (6) years after Total Performance. Those records bearing original signatures or professional seals or stamps must be preserved in paper form; other records may be retained in electronic form.

D30.4.2 In addition to the record keeping and inspection obligations outlined in C6 of the General Conditions for Construction, the Contractor shall keep available for inspection and audit at all reasonable times while this Contract is in effect and until at least six (6) years after Total Performance, all records, documents, and contracts referred to in D30.4.1 for inspection, copying and audit by the City of Winnipeg, the Government of Manitoba and/or the Government of Canada and their respective representatives and auditors, and to produce them on demand; to provide reasonable facilities for such inspections, copying and audits, to provide copies of and extracts from such records, documents, or contracts upon request by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada and their respective representatives and auditors, and to promptly provide such other information and explanations as may be reasonably requested by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada from time-to-time.

D30.5 Other Obligations

D30.5.1 The Contractor consents to the City providing a copy of the Contract to the Government of Manitoba and/or the Government of Canada upon request from either entity.

D30.5.2 If the Lobbyists Registration Act (Manitoba) applies to the Contractor, the Contractor represents and warrants that it has filed a return and is registered and in full compliance with the obligations of that Act, and covenants that it will continue to comply for the duration of this Contract.

D30.5.3 The Contractor shall comply with all applicable legislation and standards, whether federal, provincial, or municipal, including (without limitation) labour, environmental, and human rights laws, in the course of providing the Work.

D30.5.4 The Contractor shall properly account for the Work provided under this Contract and payment received in this respect, prepared in accordance with generally accepted accounting principles in effect in Canada, including those principles and standards approved or recommended from time-to-time by the Chartered Professional Accountants of Canada or the Public Sector Accounting Board, as applicable, applied on a consistent basis.

FORM H1: PERFORMANCE BOND
(See D11)

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 for

TENDER NO. 656-2019

Northwest Hydro Corridor Pathway, New Local Sidewalks, and Associated Works
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 as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

FORM H2: LABOUR AND MATERIAL PAYMENT BOND
(See D11)

KNOW ALL MEN BY THESE PRESENTS THAT

his/its heirs, executors, administrators, successors or assigns (hereinafter called the "Principal"), and

his/its heirs, executors, administrators, successors or assigns (hereinafter called the "Surety"), are held and firmly bound unto **THE CITY OF WINNIPEG** (hereinafter called the "Obligee"), for the use and benefit of claimants as herein below defined, in the amount of

_____ dollars (\$_____)

of lawful money of Canada, for the payment whereof we, the Principal and the Surety jointly and severally bind ourselves firmly by these presents.

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

TENDER NO. 656-2019

Northwest Hydro Corridor Pathway, New Local Sidewalks, and Associated Works

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 promptly make payment to all claimants as hereinafter defined, for all labour, service and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void, otherwise it shall remain in full force and effect subject, however, to the following conditions:

- (a) A claimant is defined as one having a direct contract with the Principal for labour, service and material, or any of them, used or reasonably required for use in the performance of the contract, labour, service and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment (but excluding rent of equipment where the rent pursuant to an agreement is to be applied towards the purchase price thereof) directly applicable to the Contract;
- (b) The above-named Principal and Surety hereby jointly and severally agree with the Obligee that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work, labour or service was done or performed, or materials were furnished by such claimant, may sue on this bond, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon;
- (c) No suit or action shall be commenced hereunder by any claimant
 - (ii) unless claimant shall have given written notice to the Principal and the Surety above-named, within one hundred and twenty (120) days after such claimant did or performed the last of the work, labour or service, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work, labour or service was done or performed. Such notice shall be served by mailing the same by registered mail to the Principal, and Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the Province of Manitoba;
 - (iii) after the expiration of one (1) year following the date on which Principal ceased work

- on said Contract; including work performed under the guarantees provided in the Contract;
- (iv) other than in a court of competent jurisdiction in the Province of Manitoba.
 - (d) The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.
 - (e) The Surety shall not be liable for a greater sum than the specified penalty of this bond.

The Principal and Surety hereby agree that The Guarantors' Liability Act (Manitoba) shall apply to this Bond.

IN TESTIMONY WHEREOF, the Principal has hereunto set its hand affixed its seal, and the Surety has caused these presents to be sealed and with its corporate seal duly attested by the authorized signature of its signing authority this

_____ day of _____, 20____.

SIGNED AND SEALED
in the presence of:

(Witness as to Principal if no seal)

(Name of Principal)

Per: _____ (Seal)

Per: _____

(Name of Surety)

By: _____ (Seal)
(Attorney-in-Fact)

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 Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>
- 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 Tender shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.3 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B7. In every instance where a brand name or design specification is used, the City will also consider approved equals and/or approved alternatives in accordance with B7.
- E1.4 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>	<u>Drawing (Original) Sheet Size</u>
	Cover Sheet – New Local Sidewalks	A1
SE-19-55	Wellington Crescent Sidewalk – STA 1+00 TO 2+40	A1
SE-19-56	Wellington Crescent Sidewalk – STA 2+40 TO 3+50	A1
SE-19-57	Shamrock Drive Sidewalk – STA 1+00 TO 3+60	A1
SE-19-58	Shamrock Drive Sidewalk – STA 3+60 TO 5+60	A1
5515081-C-00	Cover Sheet – Northwest Hydro Corridor Pathway	A1
5515081-C-01	STA. 1+534.66 TO STA. 1+845	A1
5515081-C-02	STA. 1+845 TO STA. 2+210	A1
5515081-C-03	STA. 2+210 TO STA. 2+570	A1
5515081-C-04	STA. 2+570 TO STA 2+918.33	A1
5515081-C-05	STA 2+941.4 TO STA. 3+280	A1
5515081-C-06	STA. 3+280 TO STA. 3+645	A1
5515081-C-07	STA. 3+645 TO STA. 4+001.8	A1
5515081-C-08	CURVE TABLE	A1

E2. TRAFFIC CONTROL

- E2.1 Further to clauses 3.6, 3.7 and 3.8 of CW 1130:
- Where directed by the Contract Administrator, the Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions such as manholes and planing drop-offs to the satisfaction of the Contract Administrator. Payment shall be in accordance with CW3410.
 - In accordance with the Manual of Temporary Traffic Control on City Streets (MTTC), the Contractor (“Construction Agency” in the manual) shall be responsible for placing, maintaining and removing the appropriate temporary traffic control devices as specified by the MTTC or by the Traffic Management Branch of the City of Winnipeg Public Works

Department. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by their own forces or subcontractor.

- E2.2 Notwithstanding E2.1, in accordance with the MTTC, the Contract Administrator shall make arrangements with the **Traffic Services Branch of the City of Winnipeg** to place, maintain, and remove all **regulatory signs** and traffic control devices authorized and/or required by the Traffic Management Branch in the following situations:
- (a) Parking restrictions,
 - (b) Stopping restrictions,
 - (c) Turn restrictions,
 - (d) Diamond lane removal,
 - (e) Full or directional closures on a Regional Street,
 - (f) Traffic routed across a median,
 - (g) Full or directional closure of a non-regional street where there is a requirement for regulatory signs (turn restrictions, bus stop relocations, etc.) to implement the closure.
 - (h) Approved Designated Construction Zones with a temporary posted speed limit reduction. Traffic Services will be responsible for placing all of the advance signs and 'Construction Ends' (TC-4) signs. The Contractor is still responsible for all other temporary traffic control including but not limited to barricades, barrels and tall cones.
- E2.2.1 An exception to E2.2 is the 'KEEP RIGHT/KEEP LEFT' sign (RB-25 / RB-25L) which shall be supplied, installed, and maintained by the Contractor at their own expense.
- E2.2.2 Further to E2.2, where the Contract Administrator has determined that the services of the Traffic Services Branch are required, the City shall bear the costs associated with the placement of temporary traffic control devices by the Traffic Services Branch of the City of Winnipeg in connection with the works undertaken by the Contractor.

E3. TRAFFIC MANAGEMENT

- E3.1 Further to clause 3.7 of CW 1130:
- E3.1.1 Wellington Crescent from Renfrew Street to Lindsay Street
- (a) The Contractor shall be permitted close East bound traffic, as long as West bound traffic is maintained at all times. The Contractor will divert East bound traffic South, using the appropriate temporary traffic control devices in accordance with the Manual of Temporary Traffic Control.
 - (b) The Contractor shall be permitted close West bound traffic, as long as East bound traffic is maintained at all times. The Contractor will divert West bound traffic South, using the appropriate temporary traffic control devices in accordance with the Manual of Temporary Traffic Control.
 - (c) Traffic in one direction must be maintained at all times.
- E3.1.2 Northwest Hydro Corridor Pathway from Church Avenue to Leila Avenue.
- (a) Church Avenue to Machray Avenue - Construction access will be limited to the following locations:
 - (i) New Pathway at Church Avenue
 - (ii) New Pathway at Machray Avenue
 - (b) Machray Avenue to Huron Avenue - Construction access will be limited to the following locations:
 - (i) New Pathway at Machray Avenue
 - (ii) New Pathway at Huron Avenue
 - (c) Huron Avenue to Inkster Boulevard - Construction access will be limited to the following locations:

- (i) New Pathway at Huron Avenue
 - (ii) New Pathway at Inkster Boulevard
 - (iii) One temporary approach off of Duke Street, to be approved by the Contract Administrator. All pavement, curb and boulevard shall be restored to original condition.
- (d) Inkster Boulevard to Mapleglen Drive - Construction access will be limited to the following locations:
- (i) New Pathway at Inkster Boulevard
 - (ii) New Pathway at Mapleglen Drive
- (e) Mapleglen Drive to Jefferson Avenue - Construction access will be limited to the following locations:
- (i) New Pathway at Mapleglen Drive
 - (ii) New Pathway at Jefferson Avenue
 - (iii) No construction vehicles shall use the parking lot adjacent to the new path at 950 Jefferson Avenue, for access or staging.
- (f) Jefferson Avenue to Leila Avenue - Construction access will be limited to the following locations:
- (i) New Pathway at Jefferson Avenue
 - (ii) New Pathway at Leila Avenue
 - (iii) One temporary approach off of North East corner of Beauty Avenue, to be approved by the Contract Administrator. All pavement, curb and boulevard shall be restored to original condition.
 - (iv) New Pathway at Simkin Drive.
- (g) Inkster Boulevard to Leila Avenue - Under no condition shall construction vehicles be allowed to cross the 600 Feeder main. Any work East of the 600 feeder main shall be accessed from Watson Street and Kingsbury Avenue. See E16.
- E3.1.3 Single lane closures on intersecting and/or adjoining Regional Streets shall only be permitted during non-peak periods when required for construction activities when approved by the Traffic Management Branch. Storage/parking of materials, equipment or vehicles is not permitted on Regional Streets at any time unless approved by the Contract Administrator, in consultation with the Traffic Management Branch.
- E3.1.4 Flag persons may be necessary to maintain the flow of traffic during certain work operations.
- E3.1.5 Should the Contractor be unable to maintain pedestrian or vehicular access to a residence or business, he/she shall review the planned disruption with the business or residence and the Contract Administrator, and take reasonable measures to minimize the impact. The Contractor shall provide a minimum of 24 hours notification to the affected residence or business and the Contract Administrator, prior to disruption of access.
- E3.1.6 Pedestrian access at intersecting sidewalks and pathways must be maintained at all times.
- E3.1.7 Any required Residential Street lane closures and/or back alley closures shall be reviewed with the Contract Administrator. The Contractor shall provide a minimum of 24 hours notification to the Contract Administrator prior to closures.
- E3.1.8 Ambulance/emergency vehicle access must be maintained at all times.

E4. PEDESTRIAN SAFETY

- E4.1 During the project, a temporary snow fence shall be installed along the construction areas adjacent to Frank Whyte Park, Dobrinsky Park, and all intersecting sidewalk/pathways. The Contractor shall be responsible for maintaining the snow fence in a proper working condition. The Contractor must also use proper signage, barricades and temporary fencing, as required, to protect and keep pedestrians safely away from all construction areas and open excavations to

the satisfaction of the Contract Administrator. No measurement for payment shall be made for this work.

E5. WATER OBTAINED FROM THE CITY

E5.1 Further to clause 3.7 of CW 1120, the Contractor shall pay for all costs, including sewer charges, associated with obtaining water from the City in accordance with the Waterworks and Sewer By-laws.

E6. TRUCK WEIGHT LIMITS

E6.1 The City shall not pay for any portion of material which results in the vehicle exceeding the maximum gross vehicle weight allowed under The City of Winnipeg Traffic By-Law, unless such vehicle is operating under special permit.

E7. VERIFICATION OF WEIGHTS

E7.1 All material which is paid for on a weight basis shall be weighed on a scale certified by Consumer & Corporate Affairs, Canada.

E7.1.1 The tare weight and net weight may either be hand written or machine printed. All weights, scales and procedures shall be subject to inspection and verification by the Contract Administrator. Such inspection and verification may include, but shall not be limited to:

- (a) Checking Contractor's scale for Consumer & Corporate Affairs certification seals;
- (b) Observing weighing procedures;
- (c) Random checking of either gross or tare weights by having such trucks or truck/trailer(s) combinations as the Contract Administrator shall select weighed at the nearest available certified scale; and
- (d) Checking tare weights shown on delivery tickets against a current tare.

E7.2 The Contractor shall ensure that each truck or truck/trailer(s) combination delivering material which is paid for on a weight basis carries a tare not more than one (1) month old.

E7.2.1 The tare shall be obtained by weighing the truck or truck/trailer(s) combination on a certified scale and shall show:

- (a) Upon which scale the truck or truck/trailer(s) combination was weighed;
- (b) The mechanically printed tare weight;
- (c) The license number(s) of the truck and trailer(s); and
- (d) The time and date of weighing.

E7.3 No charge shall be made to the City for and delays or loss of production caused by such inspection and verification

E8. SURFACE RESTORATIONS

E8.1 Further to clause 3.3 of CW 1130, when Total Performance is not achieved in the year the Contract is commenced, the Contractor shall temporarily repair any Work commenced and not completed to the satisfaction of the Contract Administrator. The Contractor shall maintain the temporary repairs in a safe condition as determined by the Contract Administrator until permanent repairs are completed. The Contractor shall bear all costs associated with temporary repairs and their maintenance.

E9. SALT TOLERANT GRASS SEEDING

DESCRIPTION

- E9.1 Further to CW 3520 and CW3540, this specification shall cover sub-grade preparation and the supply and placement of Salt Tolerant Grass Seed.

MATERIALS

- E9.2 Salt Tolerant Grass Seed

- E9.2.1 Salt Tolerant Grass Seed for regional and collector boulevards, medians and interchange areas shall be a mixture composed of:

- (a) Seventy percent (70%) Fults or Nuttals Alkaligrass (*Puccinellia* spp.), twenty percent (20%) Audubon or Aberdeen Creeping Red Fescue and ten percent (10%) Perennial Ryegrass.

EQUIPMENT

- E9.3 Scarification equipment shall be suitable for the area being scarified, shall be capable of scarifying the sub-grade to the specified depth and shall be accepted by the Contract Administrator. For confined areas a toothed bucket may be acceptable. For larger areas tilling equipment may be required.

CONSTRUCTION METHODS

- E9.4 Preparation of Existing Grade

- E9.4.1 Prior to placing topsoil, in areas to be seeded greater in width than 600mm, prepare the existing sub-grade by scarifying to a minimum depth of 75mm and to a maximum depth of 100mm to the satisfaction of the Contract Administrator.

- E9.4.2 Scarification shall consist of breaking up and loosening the sub-grade. No scarification shall occur within the edge of a tree canopy (or drip line).

- E9.5 Salt Tolerant Grass Seeding

- E9.5.1 Salt Tolerant Grass Seed shall be sown at a rate of 2.2 kilograms per 100 square meters.

MEASUREMENT AND PAYMENT

- E9.6 Supply, placement and maintenance of Salt Tolerant Grass Seed will be paid for at the Contract Unit Price per square metre for "Salt Tolerant Grass Seeding", measured as specified herein, which price shall be payment in full for supplying all materials and for completing all operations herein described and all other items incidental to the work included in this Specification. Payment for Salt Tolerant Grass Seeding shall be in accordance with the following:

- (a) Sixty five (65%) percent of quantity following supply and placement.
(b) Remaining thirty five (35%) percent of quantity following termination of the Maintenance Period.

E10. PROTECTION OF EXISTING TREES

- E10.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:

- (a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
(b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
(c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the

excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.

- (d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- (e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.

E10.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his/her designate.

E10.3 No separate measurement or payment will be made for the protection of trees.

E10.4 Except as required in clause E10.1(c) and E10.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

E11. TREE REMOVAL

DESCRIPTION

E11.1 The Contractor is to note that the tree removal is to include the removal of the tree as shown on the drawings, as well as the root masses associated with the tree.

CONSTRUCTION METHODS

E11.2 As per CW 3010.

MEASUREMENT AND PAYMENT

E11.3 Tree removal will be paid for at the Contract Unit Price per each for "Tree Removal", measured on a per unit basis, which price shall be payment in full for completing all operations herein described and all other items incidental to the work included in this Specification, measured and accepted by the Contract Administrator.

E12. PRUNING OF EXISTING TREES

DESCRIPTION

E12.1 Provide all labour, materials, methods, equipment and accessories for pruning of existing trees within the limit of Work.

QUALITY ASSURANCE

E12.2 Pruning shall be provided by a person with a Manitoba Arborists Certificate with demonstrable experience sourcing and Work.

E12.3 Contact the City of Winnipeg Forestry Branch at 204-986-2004 to arrange an on site meeting to review trees to be pruned. Meeting to include the Contract Administrator.

PRUNING METHODOLOGY

E12.4 Prune horizontal and vertical within the limits of construction to ensure construction equipment can be operated without interfering with trees to remain.

E12.5 Prune as required to remove dead, broken or damaged limbs.

- E12.6 Prune back to healthy growth while maintaining balanced crown shape.
- E12.7 Employ clean sharp tools.
- E12.8 Make cuts smooth and flush with outer edge of branch collar near the main stem or branch.
- E12.9 Cuts must be smooth and sloping to prevent accumulation of water on cut.
- E12.10 Do not leave little stumps ("horns") on trunks or main branches.
- E12.11 Prune according to accepted horticultural practices as outline in "The Pruning Manual", Publication No. 1505-1977 by Agriculture Canada.

MEASUREMENT AND PAYMENT

- E12.12 No payment shall be made for pruning of existing trees. Pruning of existing trees shall be considered incidental to the Work.

E13. BIRD MIGRATORY SEASON

- E13.1 In addition to the provisions outlined in E13, the Contractor shall provide mitigation measures to protect migratory birds. The contractor shall be prohibited to perform any tree removal operation during the general nesting periods of migratory birds without approval from the City Urban Forestry Branch. The general nesting period in open field habitat is predicted to occur between **April 15 and September 30** at any year. The City reserves the right to impose any legal actions and momentary fines for works that are not in accordance to the requirements of this specification.

E14. SUPPLY AND INSTALLATION OF POST BOLLARDS

DESCRIPTION

- E14.1 Provide all labour, materials, methods, equipment and accessories for the supply and installation of post bollards.

REFERENCES

- E14.2 Canadian Standards Association (CSA International)
 - (a) CSA O141 Softwood Lumber.
 - (b) CSA O80, Wood Preservation.
 - (c) CSA O80.20, fire-retardant treatment of lumber by pressure processes.
- E14.3 Referenced Standard Details: SCD-105B Post Bollard. See Appendix 'C'

MATERIALS

- E14.4 Post Bollard
 - (a) Pressure treated timber c/w sloped top to City of Winnipeg detail SCD-105B.
 - (b) Material to be rough pressure treated wood, Alkaline Copper Quaternary (ACQ), moisture content 19% or less in accordance with following standards: CAN/CSA-O141; NLGA Standard Grading Rules for Canadian Lumber; Forest Stewardship Council (FSC) certified.
 - (c) Preservative for above ground use: to CSA-O80 Series, ACQ-C treatment, clear finish. Minimum net retention: 4.0 kg/m³.
 - (d) Preservative for ground contact: to CSA-O80 Series, ACQ-C treatment, clear finish. Minimum net retention: 6.4 kg/m³.

CONSTRUCTION METHODS

- E14.5 Review and confirm post bollard locations and orientation with Contract Administrator prior to installation.
- E14.6 Install Post Bollards to specifications detailed in SCD-105B Post Bollard.
- E14.7 The grade of the post must be averaged over irregularities in the grade at the site in order to ensure a smooth and uniform grade
- E14.8 Set post vertical and backfill with limestone in lifts and tamp thoroughly each lift. Ensure posts are plumb
- E14.9 Construct all work as indicated on the Drawings using adequate fastening methods to ensure solid durable finished work suitable for the purpose intended.
- E14.10 Re-treat pressure treated wood surfaces exposed by cutting, trimming or boring with liberal brush application of clear preservative and fire retardant before installation. Ensure that damaged areas such as abrasions, nail and spike holes, area thoroughly saturated with field treatment solutions as per CSA-O80 and CSA-O80.20.
- E14.11 Handle and use treated and stained wood in a manner which will avoid damage or field fabrication causing alteration in original treatment.

MEASUREMENT AND PAYMENT

- E14.12 Post Bollards will be measured on a unit basis and paid for at the Contract Unit Price per unit as "Supply and Installation of Post Bollard" in accordance with this specification and accepted by the Contract Administrator.

E15. INSTALLATION OF TIMBER FENCING

DESCRIPTION

- E15.1 This specification shall cover the supply and installation of the Timber Fence as shown on the drawings and SCD-105F (Modified Detail) and specified herein.
- E15.2 The Work to be done by the Contractor under this Section 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.

REFERENCES

- E15.3 Referenced Standard Details: SCD-105F (Modified Detail) See Appendix 'C'

MATERIALS

- E15.4 Pressure Treated Timbers, Dimension Lumber: To CSA 080, ACQ-C treatment, Green colour, NLGA no. 2 and better. Pine. All wood to be free of defects, any warped, checked or bent materials will be rejected.
- E15.5 Hardware: to CAD/CSA-G164, for exterior work and acceptable for ACQ treated lumber. All hardware to be hot dipped galvanized, size and type to suit application.

CONSTRUCTION METHODS

- E15.6 Handling and use of treated timber
 - (a) Handle and use treated material in a manner that will avoid damage or field fabrication causing alteration in original treatment.
 - (b) Treat in field, cuts and damages to surface of treated material with an appropriate, clear preservative as described in CSA 080. Ensure that damaged areas such as abrasions nail and spike holes, are thoroughly saturated with field treatment solutions as per CSA 080.

- E15.7 All work is to be located and installed in accordance with the Drawings.
- E15.8 Contractor shall confirm proposed location of fencing with Contract Administrator prior to fabrication.
- E15.9 Contractor to verify underground utility locations prior construction and report any discrepancies to the Contract Administrator immediately.
- E15.10 All wood cuts shall be sanded to remove any burrs.
- E15.11 Treat surfaces of material with wood preservative before installation.
- E15.12 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak into lumber.
- E15.13 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.
- E15.14 Treat material as follows :
- (a) Ends of all fence posts that have been cut.
 - (b) Ends of wood rails that have been cut.
- E15.15 Do all fastening neatly, evenly, and thoroughly. Lag bolts shall be countersunk so as not to protrude above the face of the wood surface.
- E15.16 Install all members true to line, levels, and elevations. Set plumb and space uniformly.
- E15.17 Build work square, true and accurate to required height, length, and depth with joints closely fitted and properly secured.
- E15.18 Use timbers of the longest possible length to minimize joints..

MEASUREMENT AND PAYMENT

- E15.19 Supply and installation of Timber Fencing will be measured on a length basis and paid for at the Contract Unit Price per metre for "Installation of Timber Fencing". The length to be paid for will be the total number of metres of Timber Fencing supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

E16. WORKING IN CLOSE PROXIMITY TO FEEDER MAINS

- E16.1 This Section details operating constraints for all work to be carried out in close proximity to the City feeder mains and other critical water infrastructure. Close proximity shall be deemed to be any construction activity within a 5 m horizontal offset from the centreline of the feeder main, within 5 m of valve chambers and other appurtenances, and any other infrastructure identified below.
- E16.2 General Considerations for Work in Close Proximity to Critical Water Infrastructure:
- (a) feeder mains are a critical component of the City of Winnipeg Regional Water Supply System and work in close proximity to feeder mains shall be undertaken with an abundance of caution. Feeder mains cannot typically be taken out of service for extended periods to facilitate construction and inadvertent damage caused to the pipe would likely have catastrophic consequences;
 - (b) work around feeder mains shall be planned and implemented to minimize the time period that work is carried out in close proximity to the pipe and to ensure that the pipeline is not subjected to excessive construction related loads, including excessive vibrations and/or concentrated or asymmetrical lateral loads during backfill placement;
 - (c) large diameter pressure pipe generally has limited ability to withstand increased earth and live loading. Therefore, every precaution must be undertaken to ensure that applied loading during all phases of construction is within accepted loading parameters. PCCP

typically fails in a non-ductile mode and has the potential to cause extensive consequential damage to infrastructure if failure should occur; and,

- (d) construction in close proximity to critical infrastructure shall not commence until both the equipment and construction method statements have been submitted, reviewed, and accepted by the Contract Administrator.

E16.3 Submittals

- E16.3.1 Submit proposed construction equipment specifications to the Contract Administrator for review a minimum of five (5) Business Days prior to construction. The equipment submission shall include:
 - (a) Equipment operating and payload weights;
 - (b) Equipment dimensions, including: wheel or track base, track length or axle spacing,
 - (c) Load distributions in the intended operating configuration.

- E16.3.2 Submit a construction method statement to the Contract Administrator a minimum of five (5) Business Days prior to construction. The construction method statement shall contain the following minimum information:
 - (a) proposed construction plan including excavation locations, haul routes, excavation equipment locations, and loading positions;
 - (b) excavation plans, including shoring designs, for excavations occurring in close proximity to feeder mains (within 5 m horizontal of the pipe's centerline) where the excavation to be extended below the top of the feeder mains embedment zone (150 mm above the pipe);
 - (c) trenchless construction methodology for feeder main crossings, including: installation methods, means of grade control, means of confirming clear separation between the new LDS and existing feeder main; and,
 - (d) any other pertinent information required to accurately describe the construction activities in close proximity to the feeder main and permit the Contract Administrator to review the proposed construction plans.

- E16.3.3 Incomplete or partial submissions will not be reviewed and will be returned to the Contractor for re-submission.

- E16.3.4 Allow five (5) Business Days for review by the Contract Administrator.

E16.4 Feeder Main Operational Limitations

- E16.4.1 Feeder main shutdowns are scheduled based on a number of factors including water demand, weather, reservoir operation, routine maintenance and repair work within the regional distribution system, and other factors. The City shall endeavour to make requested time periods available to the Contractor to schedule his/her work requiring removal of the feeder main from service, without limiting the City's control over the operation of the feeder main to complete other work, maintain adequate water supply and storage of water and maintain the integrity of the infrastructure. The City shall reserve the right to cancel and/or delay these schedule dates at any time, due to any circumstances that could adversely affect the feeder main or water supply including, but not limited to, high water demand, abnormal weather, failures of related water system components, and/or security concerns.

E16.4.2 Scheduling Restrictions:

- (a) Temporary feeder main shutdowns shall be limited to off-peak demand seasons (September 15 to May 15) and low demand hours including evening or other low demand periods.

- E16.4.3 The Contractor shall provide Notice to the Contract Administrator in writing, a minimum of fifteen (15) Business Days prior to requiring the shutdown. The City will endeavour to schedule the shutdown as requested.

E16.5 Pre-Work, Planning and General Execution

- E16.5.1 No work shall commence in close proximity to feeder mains, chambers, and critical infrastructure until the equipment specifications and construction method statement have been submitted and accepted, and feeder main locations have been clearly delineated in the field. Work over feeder mains shall only be carried out with equipment that has been reviewed and quantified in terms of its loading implications on the pipe.
- E16.5.2 Contact the City of Winnipeg Water and Waste Department, Construction Services Coordinator prior to construction.
- E16.5.3 Locate feeder mains and confirm their position horizontally and vertically at the proposed the following locations prior to undertaking work in close proximity to the identified feeder mains. Note exact locations to be identified in the field
- E16.5.4 Visually delineate all critical infrastructure identified herein on Site by use of paint, staking/flagging, construction fencing, snow fencing, or other suitable methods.
- E16.5.5 Only utilize construction practices and procedures that do not impart excessive vibratory loads on feeder mains and chambers or that would cause settlement of the subgrade below feeder mains and critical pipelines.
- E16.5.6 Where the existing road structure must be removed, crossing of critical infrastructure shall be prohibited from the time the existing roadway structure is removed until the completion of granular base construction. At all times prior to completion of final paving; reduce equipment speeds to levels that minimize the effects of impact loading to the critical infrastructure.
- E16.5.7 Only equipment and construction practices stipulated in the accepted construction method statement and the supplemental requirements noted herein may be utilized in close proximity to feeder mains, chambers, and other critical infrastructure identified herein.
- E16.5.8 Construction operations should be staged in such a manner as to limit multiple construction loads at one time, (e.g., offset crossings sufficiently from each other, rollers should remain a sufficient distance behind spreaders to limit loads. A reasonable offset distance is 3 m between loads).
- E16.5.9 Granular material, construction material, soil, and/or other material shall not be stockpiled on the pipelines or within 5 m of any feeder main, valve chamber, or other critical infrastructure identified herein.
- E16.5.10 The Contractor shall ensure that all crew members understand and observe the requirements of working near feeder mains, valve chambers, and critical infrastructure. Prior to commencement of on-Site work, the Contractor shall jointly conduct an orientation meeting with the Contract Administer, all superintendents, foreman, and heavy equipment operators to make all workers on the Site fully cognizant of the limitations of altered loading on, the ramifications of inadvertent damage to, and the constraints associated with work in close proximity to feeder mains and critical pipelines. New personnel introduced after commencement of the Project need to be formally orientated as outlined herein. It is recommended that restrictions associated with the crossing, consistent with the Contractor's submitted method statement be posted on Site and near the crossing.

E16.6 Demolition, Excavation and Shoring

- E16.6.1 Use of pneumatic concrete breakers within 3 m of a feeder main, valve chamber, or critical pipeline is prohibited. Pavement shall be full depth sawcut and carefully removed. Use of hand held jackhammers for pavement removal will be allowed.
- E16.6.2 Offset excavation equipment a minimum of 3 m from the centerline of critical pipelines when undertaking excavations where there is less than 2.4 m of earth cover over the pipeline.
- E16.6.3 Utilize only smooth edged excavation buckets, soft excavation, or hand excavation techniques where there is less than 1.5 m of earth cover over the pipeline. Where there is

less than 1.0 m of soil cover above the pipeline, provide full time supervision and complete the excavation utilizing hand excavation or soft excavation methods.

E16.6.4 Equipment should not be allowed to operate while positioned directly over a feeder main or critical pipeline except where permitted herein, outlined in the reviewed and accepted construction method statement.

E16.6.5 Excavations within 3 m of the outside edge of a feeder main (hydrovac holes for confirming trenchless installations excluded) and which extend below the top of the feeder main shall utilize shoring methods that precludes the movement of native in-situ soils (i.e., a tight shoring system).

E16.6.6 Pre-bore all piles to below the invert of critical infrastructure within 5 m (horizontally) of the pipeline's outside edge.

E16.6.7 Offset pile driving equipment a minimum of 3 m (horizontally) from the centerline of the pipeline during piling operations.

E16.7 Underground Construction and Trenchless Pipe Installation

E16.7.1 Install pipes to the grades shown on the Drawings. A minimum clear separation distance (outside to outside of pipe wall) of 500 mm shall be maintained between crossing pipes and the feeder mains.

E16.7.2 The Contractor shall locate feeder mains and confirm their position horizontally and vertically prior to commencing with any trenchless pipe installations to ensure proper clearances are maintained. Under NO circumstances should blind coring proceed across feeder mains.

E16.7.3 The Contractor shall visually confirm the location and alignment of the drill rods or jacking pipe (horizontally and vertically) prior to proceeding with the trenchless installation beneath the feeder main. It is recommended that the new pipe alignment be confirmed within 2 m of the outside of the feeder main pipe but no closer than 0.5 m from the outside edge of the pipe.

E16.7.4 No trenchless methods involving soil displacement (plugs) shall be permitted in the vicinity of the feeder main.

E16.7.5 Pressure grouting or approved alternative methods shall be used to fill voids caused by the installation or if the bored hole diameter is greater than the outside diameter of the pipe by more than 25 mm.

E16.7.6 Where excavation is required within the feeder main's embedment zone, the Contractor shall take steps to ensure the granular embedment material surrounding the feeder main remains stable during the work and the feeder main outside of the excavation is not undermined.

E16.8 Subgrade Construction

E16.8.1 Subgrade and backfill compaction within 3 m (horizontal) of a critical pipeline or valve chamber shall be limited to non-vibratory methods only. Small walk behind vibratory packers will be permitted.

E16.8.2 Subgrade, sub-base and base course construction shall be kept in a rut free condition at all times. Construction equipment is prohibited from crossing pipelines if the grade is insufficient to support the equipment without rutting.

E16.8.3 Subgrade conditions should be inspected by personnel with competent geotechnical experience (e.g., ability to adequately visually classify soils and competency of subgrade, subbase, and base course materials). In the event of encountering unsuitable subgrade materials above the feeder main, proposed design revisions shall be submitted to this office for review to obtain approval from the Water and Waste Department relative to any change in conditions.

E16.8.4 Fill material shall not be dumped directly on pipelines but shall be stockpiled outside the limits noted in these recommendations and shall be carefully bladed in-place.

- E16.8.5 Only use compaction equipment approved by the Contract Administrator to compact fill materials above critical pipelines. Compaction of fill materials shall be completed using static methods only, no vibratory compaction will be allowed within the limits noted in these recommendations.
- E16.8.6 Construction operations shall be staged to minimize the time period between excavation to subgrade and placement of granular subbase materials. Should bare subgrade be left overnight, measures shall be implemented to protect the subgrade against inadvertent travel over it and to minimize the impact of wet weather.
- E16.9 Subbase and Base Course Construction
- E16.9.1 Subbase or base course materials shall not be dumped directly on pipelines but shall be stockpiled outside limits noted in these recommendations and shall be carefully bladed in-place.
- E16.9.2 Subbase compaction within 3 m horizontal of the centreline of a critical pipeline shall be either carried out by static methods (without vibration) or with smaller approved equipment such as hand held plate packers or smaller roller equipment.
- E16.10 Paving
- E16.10.1 When constructing asphalt pavements only non-vibratory compaction should be used within 3 m (horizontal) of the center of critical pipelines.

E17. WORKING IN MANITOBA HYDRO RIGHT-OF-WAY

- E17.1 Coordinate with Manitoba Hydro for underground locates and safety watches as required.
- E17.2 Refer to Appendix A – Safe Excavation & Safety Watch Guidelines
- E17.3 Refer to Appendix B – Guidelines for Working Around Hydro Gas Mains

E18. HYDRO-EXCAVATION

DESCRIPTION

- E18.1 This specification shall cover the removal of earthen material immediately adjacent to underground utilities infrastructure by means of high pressure water spray, and the recovery of excavated material by vacuum type means or equivalent method as approved by the Contract Administrator.

EQUIPMENT

- E18.2 Hydro-Excavation equipment shall be capable of maintaining a minimum working pressure of 10,000 psi, at a rate of flow of 10 to 12 gallons per minute. The unit should be adjustable, so as to provide adequate pressure to remove earthen material identified by the Contract Administrator.
- E18.3 Spray head shall be equipped with a rotating type nozzle in order to provide a wider path of cut.

CONSTRUCTION METHODS

- E18.4 Hydro-Removal of Earthen Material
- (a) Earthen material adjacent to utility entity shall be sprayed with high pressure water so as to remove all such material identified by the Contract Administrator.
- E18.5 Recovery of Excavated Material
- (a) The recovery of excavated material shall be done using a vacuum type method, or other type method as approved by the Contract Administrator.
- (b) The recovery of material shall follow immediately behind the excavation, to avoid excavated areas from filling with excavated material.

- (c) The use of mechanical sweepers will not be allowed.
- (d) Dispose of material in accordance with Section 3.4 of CW 1130-R2.

MEASUREMENT AND PAYMENT

- E18.6 Hydro-Excavation will be measured on a time basis and paid for at the Contract Unit Price per hour for "Hydro-Excavation". The hours are to be paid for will be the total number of hours of hydro-excavation in accordance with this specification, accepted and recorded by the Contract Administrator.

E19. SOFT EXCAVATION TO EXPOSE UNDERGROUND UTILITIES

DESCRIPTION

- E19.1 This specification covers the soft excavation to expose underground utilities to determine the depth of the underground utility and whether it will interfere with the installation of proposed Works on site.
- E19.2 These underground utilities include, but are not limited to, Manitoba Hydro cables, MTS cables, CPR, existing sewers, and existing watermains.

MATERIALS

- E19.3 Backfill Material
- E19.4 Backfill material for backfill of shafts after hydro-excavation has been completed shall consist of sand as per City of Winnipeg Standard Construction Specification CW 2030.

CONSTRUCTION METHODS

- E19.5 Prior to commencement of any construction works adjacent to underground utilities, the Contractor shall use soft digging or hand excavation to expose the underground utilities.
- E19.6 Once the elevation of the top of the pipe or duct has been determined the resulting excavation shall be backfilled with bedding sand to the elevation of the existing ground.

MEASUREMENT AND PAYMENT

- E19.7 Soft excavation to expose underground utilities will be considered incidental to the Work. No measurement and payment will be made within this section.

E20. WORK NEAR OVERHEAD MANITOBA HYDRO POWER LINES

E20.1 Description

- E20.1.1 This Specification shall cover all operations relating to the supply of labour, equipment, tools, and material necessary for working near the Manitoba Hydro power lines.
- E20.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of all works as hereinafter specified.

E20.2 Construction Methods

E20.2.1 General

- (a) Further to CW1120, the Contractor is advised that there is a Manitoba Hydro overhead power line near the south side of the bridge site that will affect construction works. The power line is 12kv. The power is in the cables located across the top of the cross-beam at the top of each post, approximately 12m off the ground. These overhead cables must remain live at all times. Cables which are lower down the pole,

approximately 5m or 8m off the ground, includes MTS fibre, ground wire and other cables that are not energized.

E20.2.2 Safety Watch

- (a) The Contractor is advised that, without a Manitoba Hydro Safety Watch on site requiring placement of a rubber blanket over the energized cable, you are not allowed to have equipment or non- Manitoba Hydro workers any closer than 3.0 meters of the nearest energized cable. The Contractor's equipment operating slowly and controlled and workers may come as close as 1.0 meters to the non-energized cables, without a Safety Watch.
- (b) With a Manitoba Hydro Safety Watch in place, Manitoba Hydro will allow slow and controlled operation of equipment and non-Manitoba Hydro workers to come as close as 1.0 meters to these energized cables.
- (c) Currents costs for Manitoba Hydro to provide a Safety Watch are \$77.00 per hour for a person with a bucket truck to blanket the cables and observe the work during weekdays could be \$153.00 per hour and \$256.00 per hour on weekends. Three hours minimum after normal working hours.

E20.2.3 Measurement and Payment

- (a) Costs associated with Manitoba Hydro to provide a Safety Watch shall be borne by the Contractor. This Work will not be measured or separately paid for. This Work will be considered incidental to the Contract.

E21. RELOCATE TRAIL BOLLARDS

DESCRIPTION

E21.1 General

- E21.1.1 This specification shall cover removal existing Trail Bollards the installation of the Trail Bollards.
- E21.1.2 Referenced Standard Details: SCD-105D Trail Bollard. See Appendix 'C'.

EXECUTION

E21.2 General

- E21.2.1 Remove and salvage existing Trail Bollards identified by the Contract Administrator. Backfill remaining holes to the elevation of existing grade using acceptable fill material as approved by the Contract Administrator
- E21.2.2 A 300mm diameter hole shall be augured into the ground to a depth of 1100mm. Backfill post hole with approximately a 100mm depth of granular base material. Position the post and hold accurately in place in the center of the hole and place 20mm of granular base material in 100mm lifts, watering and tamping each lift. Mound granular base 50-75mm above finish grade.
- E21.2.3 The grade of the post must be averaged over irregularities in the grade at the site in order to ensure a smooth and uniform grade.

MEASUREMENT AND PAYMENT

E21.3 General

- E21.3.1 Removal and Installation of Trail Bollards shall be paid for at the Contract Unit Price for "Relocate Trail Bollards", measurement will be measured on a unit basis. The unit price will include all operations herein described and all other items incidental to the work included in the specification.

E22. WORK WITHIN THE CANADIAN PACIFIC RAILWAY RIGHT OF WAY

E22.1 Description

E22.1.1 This specification shall cover working with in Canadian Pacific Railway right of way.

E22.2 General

E22.2.1 A Canadian Pacific Railway Flag person must be present while any work is being done within 7.62m of Canadian Pacific Railway tracks.

E22.2.2 For any work done within the Canadian Pacific Railway right of way, the Contractor must give Seventy two (72) hours' notice to the Contract Administrator. A minimum of Seventy two (72) hours is needed to schedule a Canadian Pacific Railway Flag person.

E23. PATCHING OF EXISTING PAVEMENT

DESCRIPTION

E23.1 General

E23.1.1 This specification covers patching of existing concrete pavement in preparation for an asphalt overlay.

E23.1.2 Referenced Standard Construction Specifications

- (a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.
- (b) CW 3130 – Supply and Installation of Geotextile Fabrics.
- (c) CW 3410 – Asphaltic Concrete Pavement Works.

MATERIALS

E23.2 Crushed Sub-Base Material

E23.2.1 Crushed Sub-base material will have a maximum aggregate size of 50 millimetre and be supplied in accordance with Section 2.1 of CW 3110.

E23.3 Geotextile Fabric

E23.3.1 Geotextile fabric will be supplied in accordance with Section 2 of CW 3130.

E23.4 Asphalt Material

E23.4.1 Asphalt material will be Type 1A and will be supplied in accordance with Sections 5 and 6 of CW 3410.

CONSTRUCTION METHODS

E23.5 General

E23.5.1 Remove existing concrete pavement to a minimum width of 1.5 metres at locations as shown on the Drawings or as directed by the Contract Administrator in accordance with Section 3.1 of Specification CW 3110.

E23.5.2 Excavate to a depth of 350 millimetres below the top of the existing pavement.

E23.5.3 Compact existing sub-grade to a minimum of 95% Standard Proctor Density.

E23.5.4 Place separation/reinforcement geotextile fabric in accordance with Specification CW 3130.

E23.5.5 Place and compact crushed sub-base material in accordance with CW 3110 to a 300 millimetres compacted depth. Compact to a minimum of 100% Standard Proctor Density.

- E23.5.6 Place and compact asphalt material to a 50 millimetres compacted depth matching the top of the existing concrete pavement. Compact to an average of 95% percent of the 75 Blow Marshall Density of the paving mixture with no individual test being less than 90% percent.
- E23.5.7 Each layer must be levelled and accepted by the Contract Administrator before the succeeding layer may be placed.
- E23.5.8 Additional excavation and placement of sub-base material beyond the identified pavement structure will be completed in accordance with CW 3110 as directed by the Contract Administrator.

MEASUREMENT AND PAYMENT

- E23.6 Pavement Patching
 - E23.6.1 Pavement patching will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Pavement Patching". The area to be paid for will be the total number of square metres of pavement patched in accordance with this specification, accepted and measured by the Contract Administrator.

APPENDIX 'A'

SAFE EXCAVATION AND SAFETY WATCH GUIDELINES



Safe Excavation & Safety Watch Guidelines



For your **SAFETY**

Click Before
YouDig**MB.com**

Or call 1-800-940-3447

 **Manitoba
Hydro**

RELEASE OF NATURAL GAS

In the event of any damage to a natural gas pipeline (regardless of whether it is steel, plastic or aluminum) or to its protective pipe coating or tracer wire, however minor, call Manitoba Hydro immediately 204-480-5900 or 1-888-624-9376. In most cases there is no charge for minor repairs.

In case of damage causing a release of natural gas:

- Call 911 and Manitoba Hydro immediately.
- Clear people from the vicinity and prevent people from approaching the area of the leak.
- Shut off all vehicles and equipment. Remove or extinguish all sources of ignition. **DO NOT** smoke or allow open flame in the presence of natural gas.
- If a gas line has been punctured, do not remove the tool or equipment that punctured the line. This could result in a larger gas leak and pose a greater hazard.
- **DO NOT** attempt to backfill over a leaking natural gas line or attempt to stop the leak; it is safest to allow the gas to vent into the atmosphere.

Before you start to dig, contact ClickBeforeYouDigMB.com to request to have underground lines located. Manitoba Hydro will be notified and will contact you within three business days to advise of the date we will locate our electric and natural gas lines.

- Once the lines are marked we will provide you with a Facilities Locate form with specific instructions. You must obtain this form prior to excavation.
- If work has not started within 14 calendar days after the locate was provided by Manitoba Hydro, you must contact us to have the lines re-marked and receive an updated Facilities Locate form.
- Contractors must ensure that everyone on the worksite is aware of the presence of all gas and electric facilities and ensure that the Facilities Locate form is kept at the excavation site until the excavation and backfill are complete.
- The location markings must be maintained and kept visible by the person or contractor doing the excavation. Be careful that site operators do not remove the line location markings.

In addition to contacting ClickBeforeYouDigMB.com be sure to contact any other underground services that may be in the area.

This guideline applies to the crossing of Manitoba Hydro electrical conductors and natural gas pipelines only. When Manitoba Hydro fibre optic cables are present contractors will be referred by the Manitoba Hydro Facilities Locator to the Manitoba Hydro communications department for more information.

Manitoba Hydro only locates facilities that it owns and has no knowledge of or responsibility for privately owned facilities. Electric conductors or gas pipes installed past the meter are owned privately by the property owner, and at times are installed below ground before entering the building. Outbuildings that are heated or have electric power, wells, septic systems, pumps, pools and hot tubs are examples where privately owned buried facilities may exist.

This booklet has been prepared by Manitoba Hydro for Manitoba Hydro staff, contractors and homeowners involved with excavation and is available at hydro.mb.ca. Information on excavation and safety watch is included to inform excavators about basic requirements for excavation in the vicinity of buried electric power lines and gas pipelines. Unless otherwise indicated, gas pipelines and underground power cables will be called "lines".

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WHY YOU SHOULD PLAN AHEAD

By contacting utilities before you dig, you prevent damage and save the costs of unnecessary repairs. Most important, the call will help prevent the loss of life, injury, environmental pollution, equipment damage, product losses and service outages.

It is YOUR responsibility to contact all owners of buried underground services.

PLANNING LARGE PROJECTS

Determining the location of existing Manitoba Hydro Underground Structures within the work area should be one of the first priorities of any work. Knowing the location of all utilities infrastructure allows the third party to plan work proactively, mitigating the need for costly design changes or delays during construction.

Gas

Manitoba Hydro requests that drawings be submitted for review for all projects involving ground disturbance. Drawings shall be submitted to: gasdesign@hydro.mb.ca.

Drawings will be reviewed by Manitoba Hydro at no cost and a letter providing details of any work restrictions, specific requirements or costs will be provided to the contractor.

Drawings should be submitted a minimum of 4 weeks before the start of any excavation work. Drawings shall include the details of the proposed work and include any gas or electrical line in the work area.

Electric

Contact Manitoba Hydro in Winnipeg at (204) 480-5900 or outside Winnipeg at 1-888-MBHYDRO (1-888-624-9376)

You will be referred to the local district office for further instruction.

REGULATIONS

There are several federal and provincial agencies overseeing the operation of and around natural gas pipelines and electric cables. The following regulations and safe practice guides specify requirements for both the contractor and the utility:

- Manitoba Gas Pipeline Act, Regulation 140/92 – Provides the legal definition of an excavation and outlines Excavator and Utility responsibilities.
- National Energy Board Pipeline Crossing Regulations:
Part I SOR/88-528;
Part II SOR/88-529
- Manitoba Workplace Safety and Health Act and Regulation M.R. 217/2006 including Part 26, Excavations and Tunnels - Describes legal responsibilities in regards to excavating safely.
- Guideline for Excavation Work, Manitoba Workplace Safety & Health Division.
- CSA Z247 Damage Prevention Standard.

DEFINITIONS

Daylighting – A term used to describe the uncovering and exposing of underground utilities to daylight without the use of mechanical excavation.

Excavation – includes digging, boring, pushing, ploughing, trenching, grading, post installation and breaking and displacement of soil or other material below the existing level of the ground that will disturb more than the top 150 mm (6 inches) of the ground.

High Pressure gas line – A natural gas line that operates in excess of 700 KPa (100psi).

Hydrovac – A truck or trailer that injects pressurized water from an onboard reservoir tank into the ground through a handheld wand. As the soil cover is liquefied, the resulting slurry is simultaneously extracted by a powerful vacuum and stored in an onboard debris tank for later disposal.

Large diameter pipeline – A natural gas pipeline that is 168.3 mm (6 inches) in diameter or larger, regardless of operating pressure.

Safety Watcher – A person designated by Manitoba Hydro to ensure that workers are not put at risk as a result of special hazards on the work site.

Sonde - A transmitter behind the bore head which registers angle, rotation, direction and temperature data.

Tolerance Zone – The space in which a line or facility is located, and in which special care is to be taken.

White lining – Designating the route and/or work area of the excavation using white paint, stakes and/or flags to outline the work area prior to the locator arriving on the site.

EXCAVATOR PRE-MARKING

Pre-marking your proposed work site allows excavators to accurately communicate to Manitoba Hydro's facility locators where the excavation is to occur. This may be accomplished either electronically or by white lining.

For excavator pre-marking, contact ClickBeforeYouDigMB.com or call 1-800-940-3447 to communicate where the excavation is to occur and:

- Attach a sketch or map that clearly identifies the excavation area via email or
- Pre-mark the excavation area by white lining

In either scenario you will be issued a reference number and notified of the day the locator will be on site.

When a project is too large for or not conducive to pre-marking, face-to-face meetings between Manitoba Hydro's facility locator and the excavators will be arranged at the proposed work site.

White Line

The excavator designates the route and/or area of the excavation using white paint, stakes and/or flags to outline the work area prior to the locator arriving on the site.

White paint, white stakes or white flags with the excavator's company identifier on them are permissible methods of marking.

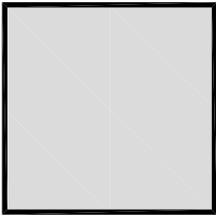
When using stakes or flags to mark the excavation work area, do not drive them into the ground deeper than 150 mm (6 inches). Any activity which disturbs more than 150 mm (6 inches) must have the facilities located.

Guidelines for excavation marking

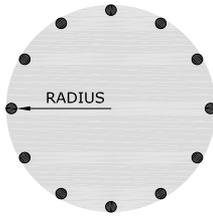
The following marking illustrations are examples of how excavators may choose to mark their area of proposed excavation. The use of white marking products (e.g. paint, flags, stakes, or a combination of these) may be used to identify the excavation site.

Mark in white paint the proposed area of excavation through the use of a continuous line, dots marking the radius or arcs, dashes marking the four corners of the project, or dashes outlining the excavation project. The recommended size of each dash is approximately 150 – 300 mm (6-12 inches) in length and 20 mm (3/4 inch) in width with interval spacing approximately 1 – 5 metres (3-16 feet) apart. The maximum separation of excavation marks is to be reduced to a length that can be reasonably seen by the operator's locators when the terrain or excavation site conditions warrant it. Dots of approximately 20 mm (3/4 inch) diameter are typically used to define arcs or radii and may be placed at closer intervals in lieu of dashes.

SINGLE POINT EXCAVATION MARKINGS

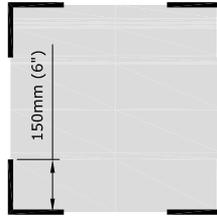


FULL LINE

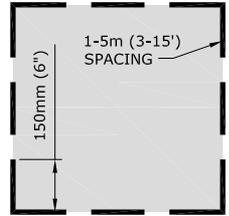


STAKE IN CENTRE WITH
COMPANY NAME & RADIUS
OF CIRCLE

RADIUS OR ARC



FOUR CORNERS



DASH LINE

If an excavation is contained within a 5 metre (16 feet) maximum radius then it can be marked with a single white stake at the centre of the excavation. The stake must clearly state the company identifier and the radius of the excavation in black lettering. This information must be conveyed to Manitoba Hydro.

After the area is Pre-Marked

On the appointed date, the locator will identify the Manitoba Hydro facilities that are located in the designated work area. They will document it using a sketch or map attached to the Electric and/or Natural Gas Facilities Locate Form.

When the locator has completed locating the facilities, they will advise the excavator and indicate whether there is a conflict. The locate request sheet will be available and must be on site prior to excavating.

The Manitoba Gas Pipeline Act, Regulation 140/92 and the Workplace Safety and Health Act, regulations M.R.217/2006, part 26.6 require that a valid utility locate form be on the work site at all times until the project is complete.

If an excavation takes place without a current locate form on site, the locate is not valid. The excavator could face consequences which may include fines and/or sanctions by Manitoba Workplace Safety and Health and Manitoba Hydro.

APWA UNIFORM COLOUR CODE

Underground utility marking

	WHITE – Proposed Excavation
	PINK – Temporary Survey Markings
	RED – Electric Power Lines, Cables, Conduit and Lighting Cables
	YELLOW – Gas, Oil, Petroleum, or Gaseous Materials
	ORANGE – Communication, Alarm or Signal Lines, Cables or Conduit
	BLUE – Potable Water
	PURPLE – Reclaimed Water, Irrigation and Slurry Lines
	GREEN – Sewer and Drain Lines

GUIDELINES FOR EXCAVATION NEAR ELECTRICAL AND NATURAL GAS LINES

Hand Digging to Expose Lines

Mechanical excavation cannot be used within 1 metre (39 inches) of an electrical or gas line until the line is physically exposed by hand. Hand exposing means exposing a buried facility, whose location has been marked by Manitoba Hydro, using non-powered tools such as a Spade or shovel (hand augers are not acceptable). A water pressure/vacuum system (hydrovac) is an acceptable alternative.

There are several things to remember when hand exposing:

- No one should ever jump on or use their entire body weight on a shovel when digging.
- Use a prying (rather than striking) motion to loosen hard dirt.
- Never probe for the facility using a sharp pointed tool such as a pick axe or pointed bar.
- Dig on an angle if possible, such that any contact with the facility is a glancing blow rather than a direct hit.

Once the line is visible, mechanical excavation equipment can be used in accordance with the guidelines for mechanical excavation.

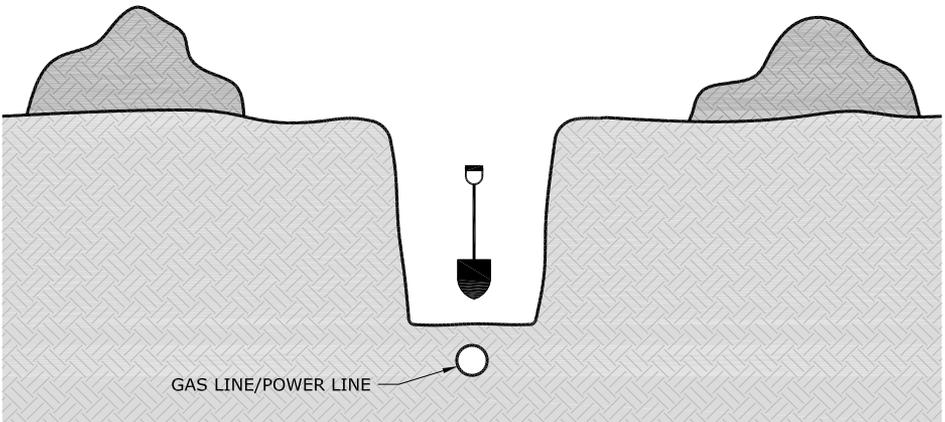
Water Pressure/Vacuum System (Hydrovac)

An alternative to exposing cables by hand digging is to use a water pressure/vacuum system capable of exposing Manitoba Hydro facilities without damage.

Only oscillating head type nozzles are to be used for the water wand. When excavating within 1 metre of a marked line the maximum setting of 38°C (100°F) water temperature and 10,342 Kpa (1,500 psi) must not be exceeded. The end of the vacuum tube shall be neoprene or equivalent. Expose the buried line by using a sweeping motion only, perpendicular to the locate markings, until the line is sighted. **IMPORTANT: After sighting, the line shall not be contacted by spray or vacuum to avoid damage to wraps and coatings.**

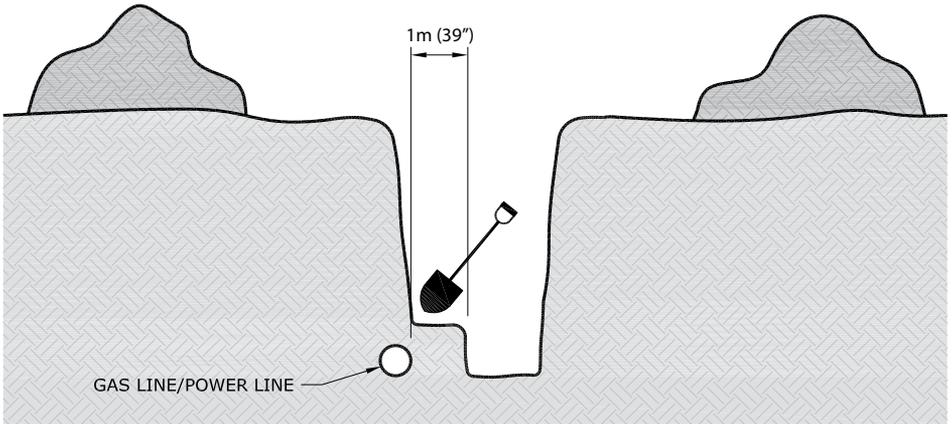
Some acceptable excavation methods:

a) Dig Vertically



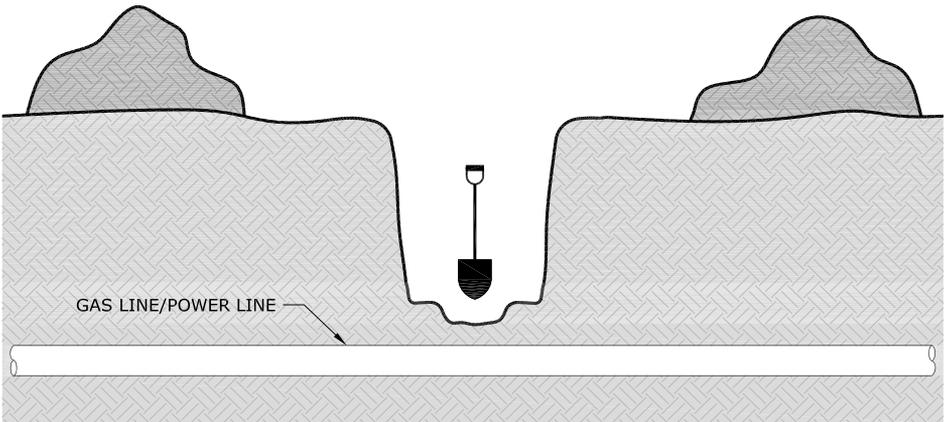
Dig a hole with a shovel directly above the line location until the line is exposed. Take care not to damage the line or coating. Mechanical excavation equipment **MUST NOT** be used to widen or deepen the hole before exposing the line.

b) Dig Laterally



Dig a trench or bell hole 1 metre (39 inches) from the line location, parallel to the line, then hand dig laterally to expose the line.

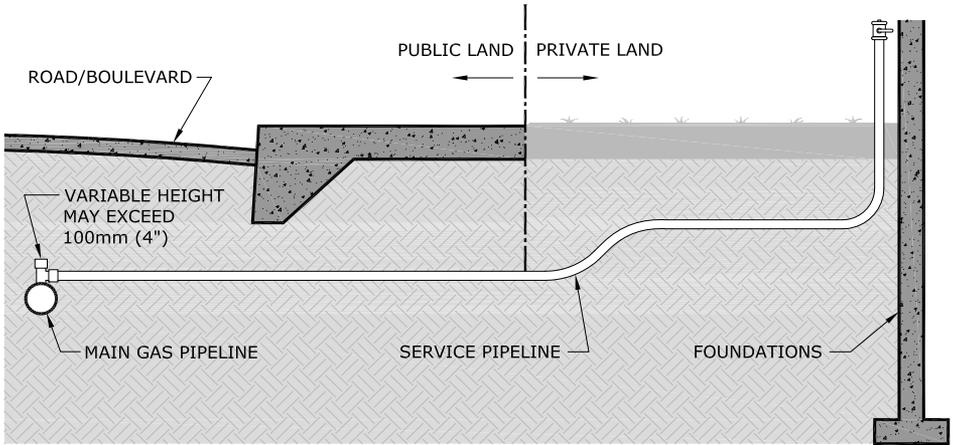
c) Dig Trench and excavate



Dig a trench by hand across the full width of the excavation (perpendicular to or “across from” the line). If the line is not uncovered, mechanically excavate to one half the depth of the trench. Repeat this process until the line is exposed.

Typical Gas Service Installation

(example only does not represent all installations)

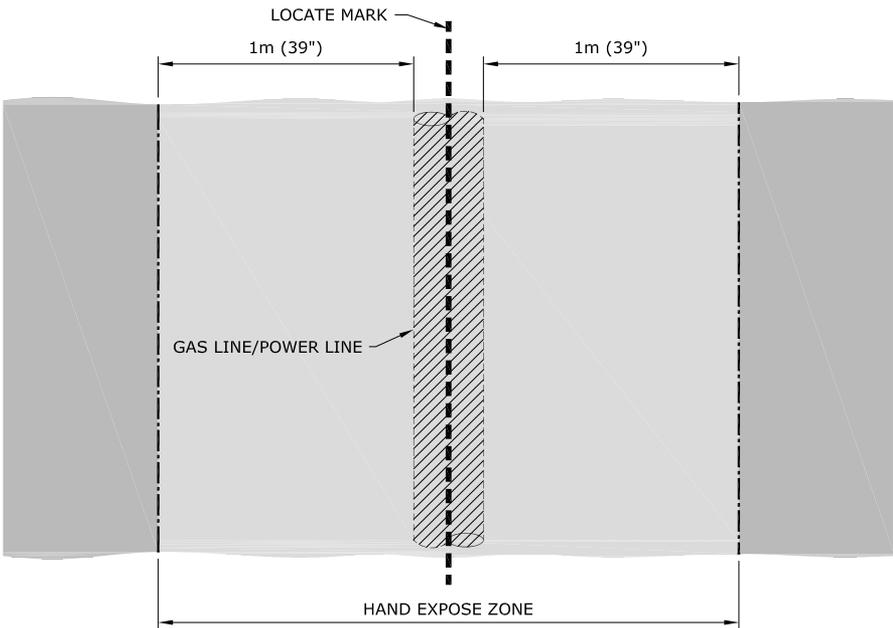


Fittings such as active or abandoned service tees may be present on gas pipelines, exercise care when excavating.

General Approach

- When the line is not visible, mechanical excavation shall not be used within 1 metre (39 inches) of an electrical or gas line.
- When the line is visible, mechanical excavation can be used to within 450 mm (18 inches) for natural gas lines and 600 mm (24 inches) for electrical lines.
- When soil conditions permit, a smooth edge bucket is preferred when excavating near gas and electrical lines.
- An observer (excavator staff) located near the line must maintain communication and control of the operator at all times by the use of hand signals and verbal communication. The observer is responsible for maintaining the minimum distance from the pipe. If at any point the observer or operator is unclear of the location or orientation of the line, no digging shall occur until this is confirmed and agreed upon by all on the worksite.

Before line is exposed



Crossing Lines

- When crossing a line, the line is to be exposed for the width of the excavation.
- After the line is daylighted, and provided there is space for excavator access, it is recommended that excavation near the line be performed parallel to the line.

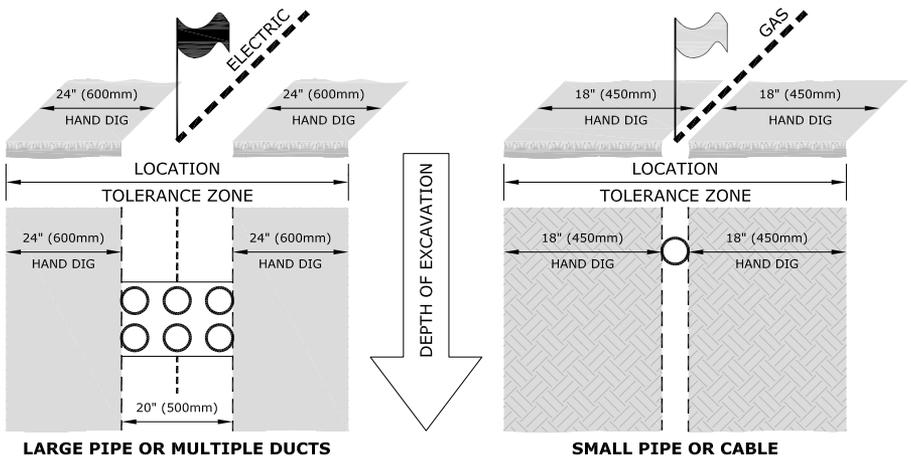
Working Parallel to Lines

- When working parallel to a line it is not necessary to expose the full length of the line to reduce the acceptable mechanical excavation separation. A series of daylight holes along the line is acceptable. The distance between daylight holes will be a maximum of 10 metres (33 feet) or as required to define the location of the line. Daylight holes must be large enough to expose the full width of the line or lines.
- After daylighting and previewing of the line, marks shall be placed a minimum of 450 mm (18 inches) from the outside of the line at each daylight hole for gas and 600 mm (24 inches)

for electrical lines. This tolerance zone should be marked along the entire length of the work area to ensure that the operator maintains proper alignment with the line. With the line daylighted and the tolerance zone marked, it is acceptable to use mechanical excavation on the outside of the marked line of the tolerance zone.

- If at any point the line becomes obscured, it shall be remarked immediately. The observer is responsible for maintaining the minimum distance from the pipe by confirming the machine's distance and alignment with the line. The operator will orient his machine parallel to the line so their bucket remains more than 450 mm (18 inches) away for gas and 600 mm (24 inches) away for electric lines. They must preview the work prior to entering their machine and prior to any trenching.

Once line is exposed



Hard Surface Removal

- Mechanical equipment can be used to remove the asphalt or concrete road/sidewalk surface and should only be used to the depth of that surface.
- Avoid starting the pavement break directly over the marked facility.
- Start a few feet away from the marks and attempt to “peel off” the pavement or break it into small chunks for removal.

Line Exposed

When a length of line is exposed consult the utility for proper handling procedures. The line may need to be supported to prevent settling or sagging.

No Relocation

The line shall not be moved or relocated. No operation or work shall be done that would put stress on the line.

Inspect for Damage

Electric Power Lines – If you suspect a power cable has been damaged, contact Manitoba Hydro to inspect the cable. Do not contact the cable as it may be energized.

Gas Pipelines – Thoroughly clean (with water only) and inspect the exposed gas line for damage to the pipe, yellow plastic pipe covering or tracer wire (used on plastic pipe). If damage is found, notify Manitoba Hydro. They will repair minor damage to the pipe coating or tracer wire at no charge.

Report Contact or Damage – Any contact with or damage to any line or underground cable must be reported immediately to Manitoba Hydro.

Backfilling

To prevent settling or stress, the contractor is required to place clean fill under the power or gas line and compact the fill. The backfill material must be free of rocks, sharp objects or other material that could damage the line.

If the backfill material is frozen, it should be free of large frozen lumps of soil. The backfill material must be gradually placed, not dumped, on the line. Alternatively, the line may be hand padded with 300 mm (12 inches) of screened sand or soft fill before backfilling.

If mechanical protection is required, or if the backfill contains rocks, the cable or pipeline must be enclosed in a 150 mm (6 inches) envelope of screened sand.

Access

Manitoba Hydro utility personnel shall have access to the excavation to inspect the underground line at any time during construction.

Project Closeout

When the excavation project has been completed all flags and stakes used to mark gas and electric lines shall be removed from the site.

SAFETY WATCH

Safety Watch is a program where an employee qualified by Manitoba Hydro observes the excavation work in progress and determines actions to be taken by the contractor to prevent injury, property damage or damage to Manitoba Hydro facilities.

Safety Watch personnel work with the excavator to check that:

- the excavation is done safely;
- rules and procedures related to the excavation are followed;
- the plant is located accurately;
- all documentation is accurate and complete;
- Hydrovac guidelines are followed.

Safety Watch personnel shall be recognized as an authority on site with the ability to shut the job down.

When is a Safety Watch required?

Any excavation within 3 metres (10 feet) of a cable or pipeline may require a Safety Watch. The need for a safety watch will be assessed and identified on the facilities locate form. The decision to provide a Safety Watch will be based on the excavation proposed, the type of cable or pipeline, and the proximity of the excavation to the cable or pipeline.

Why is a Safety Watch done?

Safety Watch service is provided to ensure the safety of customers and their contractors when working in close proximity to either energized electrical or pressurized gas lines. In addition, this protects the integrity of the utility lines minimizing the chance of an outage.

NOTE: Typically, Safety Watch personnel are not provided for low voltage conductors (under 750 volts) or distribution pressure gas mains and services under 168.3 mm (6 inches) diameter. However, Manitoba Hydro staff may assess the situation and choose to provide Safety Watch personnel where conditions warrant.

Who pays for a Safety Watch?

Generally, Safety Watch service is provided at no cost to the homeowner for minor projects. For larger projects, the contractor may be charged at a cost shared rate. Contact the local district office for further information.

How to arrange for a Safety Watch.

When an underground line is located in response to a “Click Before You Dig” call, the Manitoba Hydro employee will indicate whether a Safety Watch is required. Call Manitoba Hydro to arrange for a Safety Watch appointment a minimum of three business days before any excavation is to occur.

DIRECTIONAL BORING – CONTRACTOR GUIDELINES

As with all ground disturbance activity, the excavator must first obtain a facilities locate from Manitoba Hydro.

The distance measured to Manitoba Hydro electrical conductor or gas pipeline must always be measured from the **outside** diameter or wall of the Manitoba Hydro facility to the outside diameter of the back reamer. The same measuring methodology must be used when paralleling Manitoba Hydro facilities.

When boring within the tolerance zone of a high pressure or large diameter gas pipeline or any critical distribution gas pipeline or electrical conductor, as identified by Manitoba Hydro's Facilities Locate personnel, qualified natural gas or electric Safety Watch personnel are required.

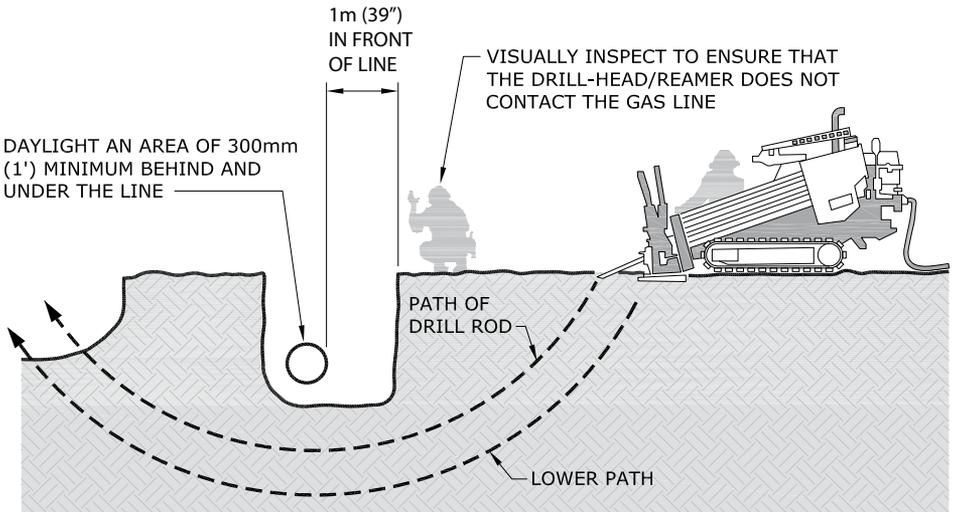
Electrical Conductors and Gas Pipelines

Prior to directional boring across Manitoba Hydro gas and electrical lines, the buried depth must be confirmed. Acceptable practice to verify line depth is to:

- Expose the line by hand digging, or
- Expose the line by water pressure/vacuum excavation; or
- Locate on the side wall of a trench that has been excavated 1 metre (39 inches) on either side of the surface locates; or
- Use reference measurements that are known to be accurate, for example: electrical duct lines.

The drill head and/or back reamer should at all times maintain a minimum of 1 metre (39 inches) clearance from all Manitoba Hydro lines.

Where underground facility congestion does not effectively allow a 1 metre (39 inches) clearance/separation from Manitoba Hydro lines, the contractor may consult with Manitoba Hydro Engineering for site specific direction. Any deviations in clearances/separations must be provided in writing and must be present on-site when the work is being performed.



Observation Hole Required When Crossing Any Manitoba Hydro Facility

The accuracy of the drill head location and depth must be visually verified 1 metre (39 inches) prior to crossing Manitoba Hydro facilities. An observation or discovery hole is required.

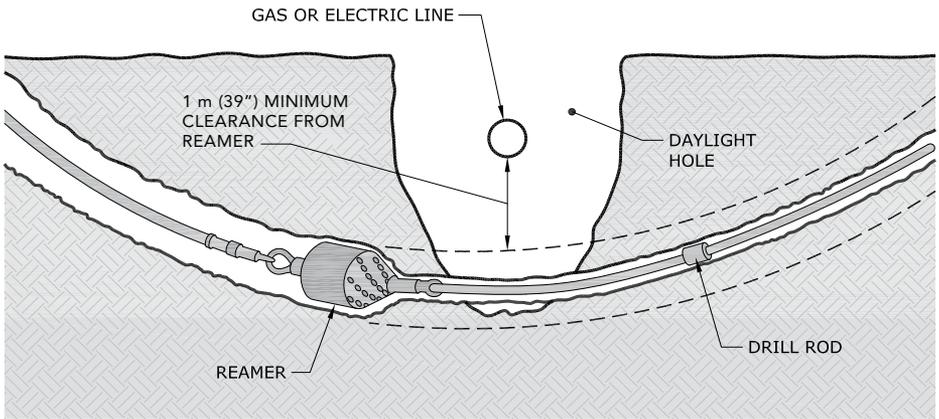
Acceptable practice for opening up the observation hole is using water pressure/vacuum or hand digging.

When boring head and/or back reamers path is crossing above a natural gas pipeline or electrical conductor the boring head and/or back reamer must be visually observed crossing the facility.

When the boring head and/or backreamer's path is crossing below a gas pipeline or electrical conductor an observer must verify that the bore head and/or reamer does not enter the observation hole within 1 metre of the line.

The minimum dimensions of the observation/discovery hole MUST BE:

- 1 metre (39 inches) in front of the gas pipeline or electrical conductor on the near side of the bore path;
- 300 mm (12 inches) on the far side of the bore path;
- 300 mm (12 inches) on each side of the bore path;
- 300 mm (12 inches) below natural gas pipeline or electrical conductor.



Drilling Parallel to Manitoba Hydro Facilities

Paralleling Electrical Conductors & Natural Gas Pipelines

There must be 1 metre (39 inches) of separation between the outside diameter of the back reamer assembly and the outside diameter of any Manitoba Hydro electrical conductors or natural gas pipelines.

NOTE: When drilling within 1 metre (39 inches) horizontally, the drill must be kept at a depth either deeper or shallower than the existing electrical conductor or natural gas pipeline to maintain 1 metre (39 inches) separation when measured diagonally.

If 1 metre (39 inches) horizontal separation cannot be maintained, the electrical conductor or natural gas pipeline adjacent to the bore path must be exposed. When it is not possible to de-energize electrical conductors, a Safety Hold-Off must be in place and qualified Safety Watch personnel must be on site.

When suspected of drilling within 1 metre (39 inches) of any gas or electrical lines determined by the boring head (sonde) position readings and the proximity to the locate marks, the location of the conductor or pipeline shall be verified; the electrical conductor or natural gas pipeline adjacent to the bore path must be hand exposed or exposed by water pressure/vacuum excavation as determined by Manitoba Hydro. The frequency of exposures depends on the consistency of the alignment of the existing facility.

Manitoba Hydro facilities must be exposed a minimum of once every 10 metres (33 feet), to confirm alignment. Where there is an alignment change indicated by the locator marks, the Manitoba Hydro facility shall be visually confirmed at each alignment deviation.

UNPLANNED CONTACT WITH ELECTRIC OR NATURAL GAS LINES

This guideline applies to people who come in contact with or simply expose a buried utility line while excavating.

Anyone who comes in contact with buried utility lines should contact the utility owner immediately. Although there may be no apparent external damage, the impact of striking a line can cause internal structural damage that can only be determined and repaired by qualified utility personnel. Generally, we do not charge for this inspection and coating repair.

Abrasions

Even if contact does not cause the utility line to stop working, a nick or cut to the outer, protective sheath of the utility line can allow ground water, laden with salts and other caustic substances, to corrode the line. Abrasions may compromise the sidewall strength of a plastic, steel or aluminum gas line.

Aerial

Cables suspended along utility poles can easily be damaged if struck by a vehicle or a mechanical implement like a hydraulic lift. Cable clamps and other attachments can be pulled apart and component housings may hide damage to the electronic equipment inside.

Stop Work

If any equipment is snared in the utility lines, it should be left in place. Trying to extract, flex or manipulate the line can compound the damage. Operations at the site shall stop immediately. Operators should stay in the equipment unless it is not safe (as in the case of a fire) and all others should be kept clear of the equipment as it may have become energized. If you must leave the equipment, jump clear with both feet together so you are not in contact with the equipment and the ground at the same time. Continue to hop or shuffle with your feet close together until you are a safe distance away.

Call It In

The person involved in the incident should call Manitoba Hydro immediately and report the location of the hit. The exact address, or street intersection, along with what type of contact occurred, will help the utility respond in an appropriate manner.

Click  **Before**
YouDigMB.com[®]

Or call 1-800-940-3447

In addition to contacting
ClickBeforeYouDigMB.com
be sure to contact other
underground services in the area.

For more information visit
hydro.mb.ca

APPENDIX 'B'

GUIDELINES FOR WORKING AROUND HYDRO GAS MAINS

Guidelines for Working around Hydro Gas Mains

1. 323.9mm High Pressure Natural Gas Main — Intersection Pacific Ave and Lily Street. (C02):

- Several proposed works are in the vicinity of an existing 323.9 mm high pressure natural gas main. A Manitoba Hydro High Pressure Safety Watch is required for all construction activities within 3.0 in of the high pressure natural gas main.
- Contact “Call before you dig” 2 weeks prior to any work commencing within 3.0 m of the high pressure natural gas main to arrange for a Manitoba Hydro High Pressure Safety Watch at ClickBeforeYouDigMB.com or Call 1-800-940-3447.
- Prior to construction at this location, please expose the main by hand or hydro-excavation in order to confirm elevation of the pipe.
- A minimum 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 323.9mm gas mains. Vibratory compaction cannot be used over or within 3 in of a high pressure main.
- If equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a minimum of 1.0 meter on either side at each crossing location.
- When working with less than minimum cover, a minimum 300mm of granular material shall be bladed into place with tracked equipment offset from the pipeline. Then static compaction equipment would be allowed and built up in layers until minimum cover is achieved.
- A smooth edged bucket shall be used for any excavations within 3.0m of a high pressure main.
- » Subbase material shall be bladed into place as opposed to being end dumped over the 323.9mm gas main in areas with less than the minimum cover.
- Caution must be used to ensure the integrity of the pipeline coating. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.
- The contractor and all site supervisory personnel and equipment operators shall be informed of the risks associated with working adjacent to and over this pipeline by the Resident Inspector. New site personnel during construction shall be orientated as to the significance and constraints associated with working over and around a high pressure natural gas main.

2. 219.1mm Distribution Pressure Natural Gas Main (Sheets 1, 3, and 4):

- Several proposed works are in the vicinity of an existing 219.1mm distribution pressure natural gas main. A Manitoba Hydro High Pressure Safety Watch may be required if any excavations are within 1.0 in of the 219.1mm natural gas main.
- Contact “Click before you dig” 2 weeks prior to any work commencing within 1.0 m of the 219.1mm distribution pressure natural gas main to arrange for a Manitoba Hydro Safety Watch at ClickBeforeYouDigMB.com or Call 1-800-940-3447, if required.
- A minimum 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 219.1mm gas mains. Vibratory compaction cannot be used over or within 1 in of a main.
- If equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a

minimum of 1.0 meter on either side at each crossing location.

- When working with less than minimum cover, a minimum 300 mm of granular material shall be bladed into place with tracked equipment offset from the pipeline. Then static compaction equipment would be allowed and built up in layers until minimum cover is achieved.
- A smooth edged bucket shall be used for any excavations within 1.0 m of a large diameter distribution pressure main.
- Subbase material shall be bladed into place as opposed to being end dumped over the 219.1mm gas main in areas with less than the minimum cover.
- Caution must be used to ensure the integrity of the pipeline coating. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.

3. Insufficient Cover

- Absolutely no work including concrete cutting or pavement breaking may occur over the line (regardless of size) until depth of cover is determined and a safety watch is on site.

4. Catch Basin Installation

Proposed excavations for the removal and installation of catch basins within 1.0 meters a gas main will require exposure to be completed by hand or hydro excavation. Caution must be used when working in the vicinity of the natural gas mains at these locations.

5. Sidewalk Renewals

- Excavations shall be limited to removal of the existing concrete sidewalk. All further excavations within 1.0 meter of any natural gas main or service must be completed by hand or soft dig methods.

6. Asphalt Overlays and Road Reconstruction

- When excavations for concrete works are required within 1.0 meters of any natural gas main, the main must be exposed by hand or soft dig methods to verify the main elevation at intervals to be determined by the site inspector.
- Should a main be exposed to sub-base, the main requires rock wrap and may also require lowering.

7. Service Relocations

- This project may impact services. Services that are to be exposed in the subgrade must be rock wrapped and lowered during construction or replaced prior to construction. Manitoba Hydro will not be able to complete rock wrapping or lowering of any services unless the lowering is minimal (i.e. < 100-150 mm or < 4-6").
- Manitoba Hydro is currently performing lowerings and rock wrapping free of charge to City Of Winnipeg works.
- Under normal circumstances, the amount of time required to mobilize for this work is approximately 2-3 weeks.
- Please contact Shane Heiner at 204-360-5568 for any work required on site.

8. General:

- Please note that all construction operations within the vicinity of natural gas pipelines are to take place in a manner so as not to damage or cause detriment to the integrity of the natural gas pipeline. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling. All natural gas pipelines and service lines

must be properly located and marked by Manitoba Hydro personnel. This can be arranged by visiting ClickBeforeYouDigMB.com or call 1-800-940-3447. Construction operations are not to commence unless these conditions are adhered to.

- All excavations within 1.0 meter of any natural gas main must be completed by hand or Hydro-excavation.
- A minimum vertical separation of 300 mm from gas mains and 100 mm from gas service lines must be maintained between any Manitoba Hydro facility and any new installations.
- A minimum 600 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 60.3 mm gas mains. Vibratory compaction cannot be used over or within 1 of a main.
- A minimum 450 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the gas service lines. Vibratory compaction cannot be used over or within 1 m of a service.
- If equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a minimum of 1.0 meter on either side at each crossing location.
- Caution must be used to ensure the integrity of the pipeline coating. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.

Manitoba Hydro believes that there should be no problem with this work however; Manitoba Hydro makes no representations or warranties in that regard.

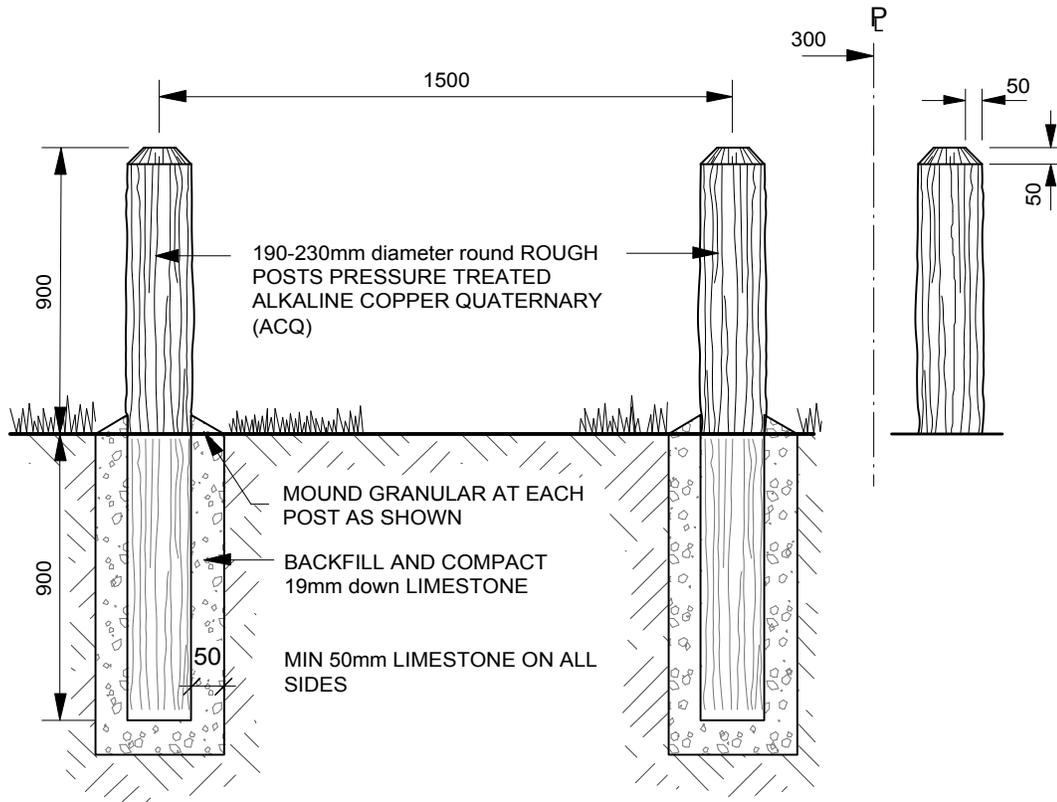
APPENDIX 'C'
STANDARD DETAILS

Drawing Title:

POST BOLLARD

Drawing No:

SCD-105B



NOTE :

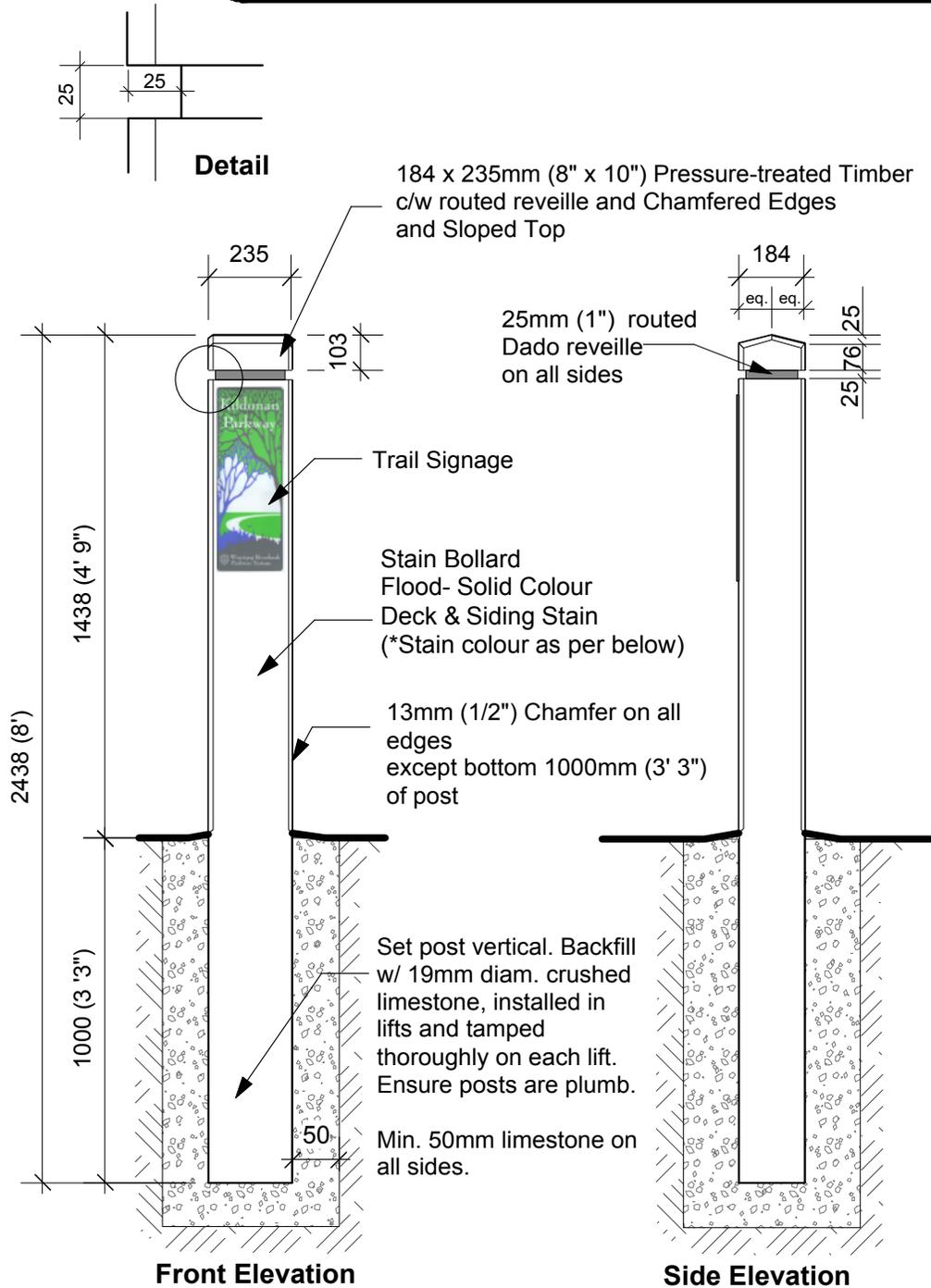
- ALL POSTS THOROUGHLY TAMPED AND GRANULAR MOUNDED AT EACH POST FOR FUTURE SETTLING AND DRAINAGE AWAY FROM POST. SURPLUS EARTH TO BE LEGALLY DISPOSED OF.
- FENCE POSTS ARE TO FOLLOW THE NATURAL CONTOUR OF THE LAND EXCEPT FOR SMALL UNDULATIONS WHICH WOULD TEND TO REDUCE THE AESTHETIC APPEARANCE OF THE FINISHED PROJECT.

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED

REVISION: 3
DATE: July 12, 2013
SCALE: N.T.S.
DRAWN BY: SP

The City of Winnipeg
Planning, Property and Development Department
Planning and Land Use Division
Unit 15 - 30 Fort Street, Winnipeg, MB, R3C 4X5





***Stain: Flood brand Solid Colour Deck & Siding Stain**

Parkway Bollard: Colour No. 303 Slate Blue.

Community Trail Bollard: Colour No. 428 Pebblestone Clay

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED

REVISION: 2
DATE: December 20, 2012
SCALE: N.T.S
DRAWN BY:

The City of Winnipeg
Planning, Property and Development Department
Planning and Land Use Division
Unit 15 - 30 Fort Street, Winnipeg, MB, R3C 4X5

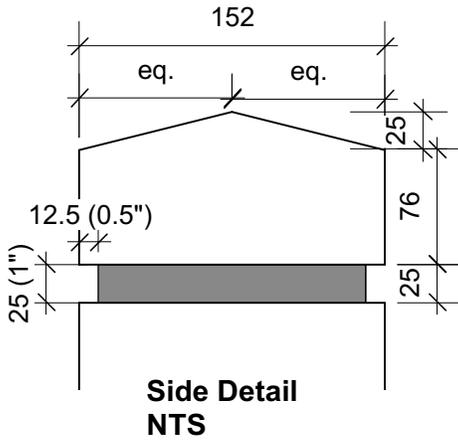


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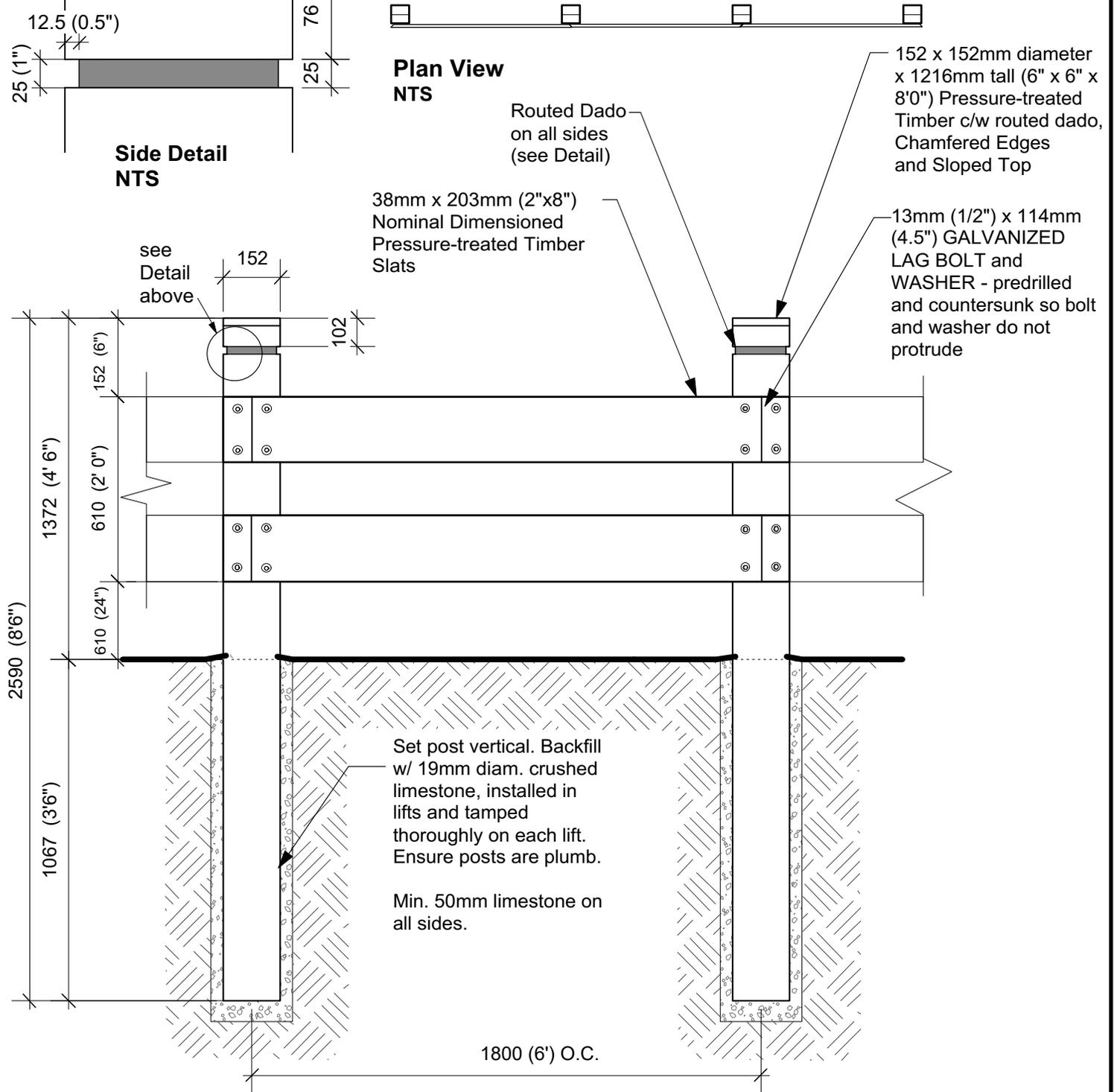
POST AND WOOD FENCING Heavy Duty

Drawing No:

SCD-105F (Modified Detail)



Plan View NTS



DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED

DATE: June, 2019
SCALE: N.T.S

The City of Winnipeg
Planning, Property and Development Department
Planning and Land Use Division
Unit 15 - 30 Fort Street, Winnipeg, MB, R3C 4X5

