



THE CITY OF WINNIPEG

TENDER

TENDER NO. 40-2022

**2022 POINT DOUGLAS WARD LOCAL STREET RENEWALS & NEW NW HYDRO
CORRIDOR AT PATHWAY**

TABLE OF CONTENTS

PART A - BID SUBMISSION

- Form A: Bid/Proposal
- Form B: Prices
- Form G1: Bid Bond and Agreement to Bond

PART B - BIDDING PROCEDURES

B1. Contract Title	1
B2. Submission Deadline	1
B3. Site Investigation	1
B4. Enquiries	1
B5. Confidentiality	1
B6. Addenda	2
B7. Substitutes	2
B8. Bid Components	3
B9. Bid	3
B10. Prices	4
B11. Disclosure	4
B12. Conflict of Interest and Good Faith	4
B13. Qualification	6
B14. Bid Security	7
B15. Opening of Bids and Release of Information	7
B16. Irrevocable Bid	8
B17. Withdrawal of Bids	8
B18. Evaluation of Bids	8
B19. Award of Contract	9

PART C - GENERAL CONDITIONS

C0. General Conditions	1
------------------------	---

PART D - SUPPLEMENTAL CONDITIONS

General

D1. General Conditions	1
D2. Form of Contract Documents	1
D3. Scope of Work	1
D4. Contract Administrator	3
D5. Contractor's Supervisor	3
D6. Notices	3
D8. Furnishing of Documents	4

Submissions

D9. Authority to Carry on Business	4
D10. Safe Work Plan	4
D11. Insurance	5
D12. Contract Security	5
D13. Subcontractor List	6
D14. Detailed Work Schedule	6
D15. Construction Method Statement for Large Diameter Watermains	6
D16. Requirements for Site Accessibility Plan	7

Schedule of Work

D17. Commencement	8
D18. Working Days	8
D19. Restricted Work Hours	9
D20. Work By Others	9
D21. Sequence of Work	9
D22. Critical Stages	10

D23. Substantial Performance	10
D24. Total Performance	10
D25. Liquidated Damages	11
D26. COVID-19 Schedule Delays	11
D27. Scheduled Maintenance	12
Control of Work	
D28. Job Meetings	12
D29. Prime Contractor – The Workplace Safety and Health Act (Manitoba)	12
D30. The Workplace Safety and Health Act (Manitoba) – Qualifications	12
Measurement and Payment	
D31. Payment	12
Warranty	
D32. Warranty	13
Dispute Resolution	
D33. Dispute Resolution	13
Third Party Agreements	
D34. Funding and/or Contribution Agreement Obligations	14
Form H1: Performance Bond	16
Form H2: Labour and Material Payment Bond	18
Form J: Subcontractor List	20

PART E - SPECIFICATIONS

General

E1. Applicable Specifications and Drawings	1
E2. Mobilization and Demobilization Payment	2
E3. Geotechnical Report	3
E4. Office Facilities	3
E5. Protection Of Existing Trees	3
E6. Traffic Control	4
E7. Traffic Management	5
E8. Refuse and Recycling Collection	7
E9. Pedestrian Safety	7
E10. Water Obtained From the City	7
E11. Surface Restorations	8
E12. Infrastructure Signs	8
E13. Supply and Installation of Pavement Repair Fabric	8
E14. Tree Removal	12
E15. Pruning of Existing Trees	12
E16. Bird Migratory Season	13
E17. Supply and Installation of Post Bollards	13
E18. Supply and Installation of Timber Fencing	14
E19. Operating Constraints For work in Close Proximity to Critical Water Infrastructure	15
E20. Working in Manitoba Hydro Right-of-Way	19
E21. Hydro-Excavation	19
E22. Soft Excavation to Expose Underground Utilities	20
E23. Work Near Overhead Manitoba Hydro Power Lines	20
E24. Site Furnishings	21
E25. Foundations - Site Furnishings	22
E26. Asphalt Rumble Strip	23
E27. Removal of Curb Inlets	23
E28. Concrete Curb and Gutter Removal	24
E29. Catch Basin Lead Removal	24
E30. Concrete Constituent Materials, Mix Design Requirements, and Hot and Cold Weather Concreting	24
E31. Removal of Wooden Fencing	25

Appendix 'A' - Geotechnical Report

Appendix 'B' – Safe Excavation and Safety Watch Guidelines

Appendix 'C' – Guidelines for Working Around Hydro Gas Mains

Appendix 'D' – Standard Details

Appendix 'E' – Concrete Constituent Materials, Mix Design Requirements, and Hot and Cold Weather Concreting

Appendix 'F' – Traffic Staging Drawings

PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 2022 Point Douglas Ward Local Street Renewals & New NW Hydro Corridor AT Pathway

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, May 5, 2022.

B2.2 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 D4.1.

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.

B4.6 Any enquiries concerning submitting through MERX should be addressed to:
MERX Customer Support
Phone: 1-800-964-6379
Email: merx@merx.com

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 MERX website at www.merx.com.
- B6.4 The Bidder is responsible for ensuring that he/she has received all addenda and is advised to check the MERX 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/Proposal. 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 D4.

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;
 - (c) Form G1: Bid Bond and Agreement to Bond.
- B8.2 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.
- B8.3 The Bid shall be submitted electronically through MERX at www.merx.com.
- B8.3.1 Bids will **only** be accepted electronically through MERX.
- B8.4 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).

B9. BID

- B9.1 The Bidder shall complete Form A: Bid/Proposal, making all required entries.
- B9.2 Paragraph 2 of Form A: Bid/Proposal 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/Proposal, 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/Proposal 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;
 - (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/Proposal should be entered 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.
- B10.2 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).
- B10.5 The Bidder shall enter the Total Bid Price from Form B: Prices into the Total Bid Price field in MERX.
- B10.5.1 Bidders are advised that the calculation indicated in B18.4 will prevail over the Total Bid Price entered in MERX.
- B10.6 Form B: Prices is organized into Parts: Part 1 of the Work and Part 2 of the Work. Bidders shall provide a total price for each Part and, on the summary sheet, a Total Bid Price consisting of the sum of prices for Part 1 and Part 2.
- 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 Further to C3.2, 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://www.winnipeg.ca/matmgt/Templates/files/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);
- (d) have completed the Accessible Customer Service online training required by the Accessibility for Manitobans Act (AMA) (see B13.5 and D7).

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 Further to B13.3(d), the Bidder acknowledges they and all Subcontractors have obtained training required by the Accessibility for Manitobans Act (AMA) available at <http://www.accessibilitymb.ca/training.html> for anyone that may have any interaction with the public on behalf of the City of Winnipeg.

B13.6 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.

B13.7 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 include in its Bid Submission bid security in the form of a digital 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 Form G1: Bid Bond and Agreement to Bond, available on The City of Winnipeg, Corporate Finance, Materials Management Division website at <https://www.winnipeg.ca/MatMgt/templates/files/eBidsecurity.pdf>.

B14.2 Bid security shall be submitted in a digital format meeting the following criteria:

- (a) The version submitted by the Bidder must have valid digital signatures and seals;
- (b) The version submitted by the Bidder must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
- (c) The version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
- (d) The verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
- (e) The results of the verification must provide a clear, immediate and printable indication of pass or fail regarding B14.2(a).

B14.3 Bonds failing the verification process will not be considered to be valid and the bid shall be determined to be non-responsive in accordance with B18.1(a).

B14.4 Bonds passing the verification process will be treated as original and authentic.

B14.4.1 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.

B14.5 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 formed with 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.

B14.6 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 not be opened publicly.

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 MERX website at www.merx.com.

B15.3 After award of Contract, the name(s) of the successful Bidder(s) and their Contract amount(s) will be available on the MERX website at www.merx.com.

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/Proposal.

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 formed 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/Proposal.

B17. WITHDRAWAL OF BIDS

B17.1 A Bidder may withdraw his/her Bid without penalty prior to the Submission Deadline.

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.

B18.2.1 Any bid with an apparent imbalance between the unit prices in Part 1 and Part 2 may be determined to be non-responsive and rejected by the Award Authority in its sole discretion, acting reasonably.

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 may determine the unit price by dividing the Amount (extended price) by the approximate quantity, for the purposes of evaluation and payment.

B18.4.2 Bidders are advised that the calculation indicated in B18.4 will prevail over the Total Bid Price entered in MERX.

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.
- B19.4 As noted in D3 and identified in Form B: Prices, the Work of Part 2 will be contingent upon the issuance of the signed "Enter to Construct" agreement by Manitoba Hydro. If Part 2 Work is not approved by Manitoba Hydro the City shall have the right to eliminate all or any portion of Part 2 Work in accordance with D2.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2020-01-31) 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. FORM OF CONTRACT DOCUMENTS

D2.1 Notwithstanding C4.1(c) and C4.4, the Contract Documents will be provided to the Contractor electronically and there will be no requirement for execution and return to the City by the Contractor. Accordingly, the provisions under C4.4(a) and C4.4(b) are no longer applicable.

D3. SCOPE OF WORK

D3.1 The Work to be done under the Contract shall consist of two parts:

- (a) Part 1 – Local Street Renewals
- (b) Part 2 – New North West Hydro Corridor Active Transportation Pathway.

Part 1 – Local Street Renewals

D3.2 Part 1 – Local Street Renewals shall consist of:

- (a) Concrete Pavement Rehabilitation
 - (i) Buller Street – Gilbert Avenue to Manitoba Avenue
 - (ii) Manitoba Avenue – Chudley Street to Keewatin Street
 - (iii) Tecumseh Street – Alexander Avenue to Pacific Avenue
- (b) Asphalt Pavement Rehabilitation
 - (i) Pacific Avenue – Sherbrook Street to Tecumseh Street

Part 2 – New North West Hydro Corridor Active Transportation Pathway

D3.3 Part 2 – New North West Hydro Corridor Active Transportation Pathway shall consist of:

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

D3.4 The City currently has not received issuance of the “Enter to Construct” agreement for Part 2 of the Work, but is anticipating receiving issuance from Manitoba Hydro by late May. Part 2 of the Work is contingent upon issuance of this agreement.

D3.4.1 Further to C7.1, if issuance of agreement is not received, the City shall have the right to eliminate all or any portion of Part 2, and the Contract Price will be reduced accordingly.

D3.4.2 Further to C7.5, C7.5.1, and C7.6, a reduction in the Contract Price pursuant to D3.4.1 shall not be considered in calculating the aggregate reduction in the Contract Price for purposes of C7.5.

D3.5 The major components of the Work are as follows:

Part 1 – Local Street Renewals

- (a) Concrete Pavement Rehabilitation
 - (i) Removal of existing asphalt;
 - (ii) Renewal of existing sidewalk as required;
 - (iii) Installation of detectable warning surface tiles;

- (iv) Removal of existing curb where required;
 - (v) Replacing existing catch basins where required;
 - (vi) Installing catch pits and drainage connection/sewer service pipes;
 - (vii) Full depth concrete repairs of existing slabs and joints;
 - (viii) Adjustment of existing pavement and boulevard structures;
 - (ix) Construction of new curb;
 - (x) Grading of boulevards and placement of topsoil;
 - (xi) Installation of pavement repair fabric;
 - (xii) Construction of asphalt overlay (average thickness 80mm);
 - (xiii) Sodding; and
 - (xiv) Reflective crack maintenance.
- (b) Asphalt Pavement Rehabilitation
- (i) Planing of existing asphalt as required;
 - (ii) Milling of existing curb as required;
 - (iii) Removal of existing curb and gutter as required;
 - (iv) Renewal of existing sidewalks as required;
 - (v) Renewal of existing 150mm reinforced sidewalk;
 - (vi) Installation of detectable warning surface tiles;
 - (vii) Replacing existing catch basins as required;
 - (viii) Installation of catch pits and drainage connection/sewer service pipes;
 - (ix) Adjustment of existing pavement and boulevard structures;
 - (x) Grading of boulevards and placement of topsoil;
 - (xi) Installation of pavement repair fabric;
 - (xii) Construction of asphalt overlay (average thickness 80mm);
 - (xiii) Sodding; and
 - (xiv) Reflective crack maintenance.

Part 2 – New North West Hydro Corridor Active Transportation Pathway

- (a) New Multi-Use Pathway
- (i) Supply and install protective timber fence;
 - (ii) Installation of protective snow fencing;
 - (iii) Stripping and stockpiling topsoil;
 - (iv) Excavation;
 - (v) Sub-grade compaction;
 - (vi) Removal of existing trees;
 - (vii) Installation of 300mm corrugated steel culvert;
 - (viii) Placement of geotextile fabric;
 - (ix) Supplying and Placing Crushed Sub-base Material;
 - (x) Supply and placing of Geogrid;
 - (xi) Supplying and Placing Base course material;
 - (xii) Placement of fill material;
 - (xiii) Placement of Pavement Repair Fabric;
 - (xiv) Supply and place 75mm Type 1A asphalt;
 - (xv) Installation of a rumble strip;
 - (xvi) New Sidewalk construction;
 - (xvii) Renewal of Sidewalk;
 - (xviii) Curb Removal;

- (xix) Construction of Barrier Curb;
- (xx) Construction of Curb Ramp;
- (xxi) Construction of Modified Barrier Curb;
- (xxii) Installation of detectable warning tile;
- (xxiii) Adjustment of existing manholes and appurtenances;
- (xxiv) Construction of grassed swale;
- (xxv) Grading of boulevards and placement of topsoil;
- (xxvi) Installation of post bollards;
- (xxvii) Installation of benches; and
- (xxviii) Sodding and Seeding.

D4. CONTRACT ADMINISTRATOR

D4.1 The Contract Administrator is:
Richard Weibel, C.E.T.
Project Coordinator, Public Works, Engineering
Telephone No. 204-986-4112
Email Address rweibel@winnipeg.ca

D4.2 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.

D5. CONTRACTOR'S SUPERVISOR

D5.1 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.

D5.2 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 D5.1 or an alternate can be contacted twenty-four (24) hours a day to respond to an emergency.

D6. NOTICES

D6.1 Except as provided for in C22.4, 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/Proposal.

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 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator identified in D4.

D6.3 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

D7. ACCESSIBLE CUSTOMER SERVICE REQUIREMENTS

- D7.1 The Accessibility for Manitobans Act (AMA) imposes obligations on The City of Winnipeg to provide accessible customer service to all persons in accordance with the Customer Service Standard Regulation ("CSSR") to ensure inclusive access and participation for all people who live, work or visit Winnipeg regardless of their abilities.
- D7.1.1 The Contractor agrees to comply with the accessible customer service obligations under the CSSR and further agrees that when providing the Goods or Services or otherwise acting on the City of Winnipeg's behalf, shall comply with all obligations under the AMA applicable to public sector bodies.
- D7.1.2 The accessible customer service obligations include, but are not limited to:
- (a) providing barrier-free access to goods and services;
 - (b) providing reasonable accommodations
 - (c) reasonably accommodating assistive devices, support persons, and support animals;
 - (d) providing accessibility features e.g. ramps, wide aisles, accessible washrooms, power doors and elevators
 - (e) inform the public when accessibility features are not available;
 - (f) providing a mechanism or process for receiving and responding to public feedback on the accessibility of all goods and services; and
 - (g) providing adequate training of staff and documentation of same.

D8. FURNISHING OF DOCUMENTS

- D8.1 Upon award of the Contract, the Contractor will be provided with 'issued for construction' Contract Documents electronically, including Drawings in PDF format only.

SUBMISSIONS

D9. AUTHORITY TO CARRY ON BUSINESS

- D9.1 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.

D10. SAFE WORK PLAN

- D10.1 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 Documents, if applicable.
- D10.2 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>
- D10.3 Notwithstanding B13.4 at any time during the term of the Contract, the City may, at its sole discretion and acting reasonably, require an updated COR Certificate or Annual Letter of good Standing. A Contractor, who fails to provide a satisfactory COR Certificate or Annual Letter of good Standing, will not be permitted to continue to perform any Work.

D11. INSURANCE

D11.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least five million dollars (\$5,000,000.00) inclusive, with The City of Winnipeg and Manitoba Hydro shall be 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 \$5,000,000 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.

D11.2 Deductibles shall be borne by the Contractor.

D11.3 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 Documents, as applicable.

D11.4 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.

D12. CONTRACT SECURITY

D12.1 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.

D12.1.1 Where the contract security is a performance bond, it may be submitted in hard copy or digital format. If submitted in digital format the contract security must meet the following criteria:

- (a) the version submitted by the Contractor must have valid digital signatures and seals;
- (b) the version submitted by the Contractor must be verifiable by the City with respect to the totality and wholeness of the bond form, including: the content; all digital signatures and digital seals; with the surety company, or an approved verification service provider of the surety company.
- (c) the version submitted must be viewable, printable and storable in standard electronic file formats compatible with the City, and in a single file. Allowable formats include pdf.
- (d) the verification may be conducted by the City immediately or at any time during the life of the bond and at the discretion of the City with no requirement for passwords or fees.
- (e) the results of the verification must provide a clear, immediate and printable indication of pass or fail regarding D12.1(b).

- D12.1.2 Digital bonds failing the verification process will not be considered to be valid and may be determined to be an event of default in accordance with C18.1. If a digital bond fails the verification process, the Contractor may provide a replacement bond (in hard copy or digital format) within seven (7) Calendar Days of the City's request or within such greater period of time as the City in its discretion, exercised reasonably, allows.
- D12.1.3 Digital bonds passing the verification process will be treated as original and authentic.
- D12.2 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 an award letter 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 Documents, if applicable.
- D12.3 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 D12.1(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.

D13. SUBCONTRACTOR LIST

- D13.1 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 Documents, if applicable.

D14. DETAILED WORK SCHEDULE

- D14.1 The Contractor shall provide the Contract Administrator with a detailed work schedule 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 the General Conditions for the return of the executed Contract Documents, as applicable.
- D14.2 If, prior to submitting the Detailed Work Schedule, the Contractor does not receive notification pursuant to **D17.3** that all or some portion of Part 2 of the Work may be commenced, he/she shall complete the Detailed Work Schedule for only Part 1 of the Work assuming that, if all of Part 2 is eliminated, the time periods stipulated in D23 for Substantial Performance of the Work and in D24 for Total Performance of the Work will be reduced by twenty-five (25) Working Days
- D14.3 If, after submitting the Detailed Work Schedule, the Contractor receives notification that all or any portion of Part 2 of the Work may be commenced, he/she shall submit a revised Detailed Work Schedule no later than two (2) Business Days from receipt of the notification.
- D14.4 The detailed work schedule shall consist of the following:
- (a) a Gantt chart for the Work, acceptable to the Contract Administrator.
- D14.5 Further to D14.4(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.

D15. CONSTRUCTION METHOD STATEMENT FOR LARGE DIAMETER WATERMAINS

- D15.1 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 E19.

D15.2 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 Pacific Avenue from Sherbrook Street to Tecumseh Street. For further information refer to E19.

D16. REQUIREMENTS FOR SITE ACCESSIBILITY PLAN

D16.1 The Contractor shall provide the Contract Administrator with an Accessibility 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 Documents, if applicable.

D16.2 The Accessibility Plan shall demonstrate how the Contractor will accommodate the safe passage of pedestrians and cyclists in accordance with the Manual of Temporary Traffic Control, the Contract Drawings, Staging Plans, and Streets By-Law No. 1481/77 at all times for the duration of the Construction. Unless noted in the Contract, the Accessibility Plan must include a written plan for the following:

- (a) How the Contractor will maintain at least one crossing in each direction for each intersection (one north/south crosswalk and one east/west crosswalk).
- (b) How the Contractor will maintain access to bus stops within the site.
- (c) How the Contractor will maintain access to pedestrian corridors and half signals.
- (d) How the Contractor will maintain cycling facilities.
- (e) How the Contractor will maintain access to residents and businesses unless otherwise noted in the Contract.
- (f) Any required detour signage at adjacent crossings to facilitate sidewalk or active transportation pathway closures.

D16.3 The Accessibility Plan may also include figures, sketches, or drawings to demonstrate the proposed plan.

D16.4 The Accessibility Plan shall include written details on how the Contractor intends to review, maintain, and document all items related to the Accessibility Plan on-site during Construction, including, but not limited to:

- (a) Signage
- (b) Temporary Ramping
- (c) Transit Stops
- (d) Detour Signage

D16.5 At minimum, the Contractor shall review the site conditions on a daily basis to ensure that all features related to the Accessibility Plan are in place. The site review is intended to correct deficiencies as a result of unforeseen events such as wind, traffic, or the general public. Deficiencies that are direct result of the Contractors actions must be corrected immediately.

D16.6 Any changes to the Accessibility Plan must be approved by the Contract Administrator.

D16.7 Upon request from the Contract Administrator, the Contractor shall provide records demonstrating that the site has been maintained.

D16.8 Deficiencies as a direct result of actions by the Contractor that are not immediately corrected and/or failure to produce records that demonstrate that the site was maintained in compliance with the Accessibility Plan may result in a pay adjustment via the monthly Progress Payment. The rate of pay adjustment will be as per the following schedule:

- (a) First Offence – A warning will be issued and documented in the weekly or bi-weekly site meeting.
- (b) Second Offence – A field instruction to immediately correct the site will be issued by the Contract Administrator.

- (c) Third and subsequent Offences – A pay reduction will be issued in the amount of \$250.00 per instance and per day.

SCHEDULE OF WORK

D17. COMMENCEMENT

- D17.1 The Contractor shall not commence any Work until he/she is in receipt of an award letter from the Award Authority authorizing the commencement of the Work.
- D17.2 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 D9;
 - (ii) evidence of the workers compensation coverage specified in C6.15;
 - (iii) the twenty-four (24) hour emergency response phone number specified in D5.2.
 - (iv) the Safe Work Plan specified in D10;
 - (v) evidence of the insurance specified in D11;
 - (vi) the contract security specified in D12;
 - (vii) the subcontractor list specified in D13;
 - (viii) the detailed work schedule specified in D14;
 - (ix) the direct deposit application form specified in D31;
 - (x) the Construction Method Statement for Large Diameter Water Mains specified in D15; and
 - (xi) the Requirements for Site Accessibility Plan specified in D16.
 - (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.
- D17.3 The Contractor shall not commence Part 2 of the Work as described in D3 and identified in Form B: Prices, unless, he/she has received notification from the Contract Administrator that the City has received the signed “Enter to Construct” agreement by Manitoba Hydro.
- D17.4 The Contractor shall commence the Work on the Site within seven (7) Working Days of receipt of the award letter.
- D17.5 The City intends to award this Contract by June 24, 2022.

D18. WORKING DAYS

- D18.1 Further to C1.1(tt);
- D18.1.1 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.
- D18.1.2 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.
- D18.1.3 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.
- D18.1.4 Saturdays and Sundays will be considered a Working Day if the Contractor is working at least seven (7) hours on Site and the Contract Administrator deems that the Contract Administrator’s staff is also required on Site.

D19. RESTRICTED WORK HOURS

D19.1 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.

D19.2 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.

D20. WORK BY OTHERS

D20.1 Further to C6.25, the Contractor's attention is directed to the fact that other Contractors, the personnel of Utilities and the staff of the City may be working within the project limit, approach roadway, adjacent roadways or right-of-way. The activities of these agencies may coincide with the Contractors execution of work and it will be the Contractor's responsibility to cooperate to the fullest extent with other personnel working in the area, and such cooperation is an obligation of the Contractor under the terms of Contract.

D20.2 Work by others on or near the Site will include but not necessarily be limited to:

- (a) City of Winnipeg Geomatics Branch – Various work on survey monuments;
- (b) City of Winnipeg Traffic Signals Branch – Various intersections along NW Hydro Corridor;
- (c) Manitoba Hydro – New Pathway lighting on NW Hydro Corridor, General work and maintenance within the NW Hydro Corridor;
- (d) Bell MTS – manhole adjustments in pavement, pedestal relocations;
- (e) City of Winnipeg Water and Waste Department – emergency repairs and maintenance and verifying operation of Water and Waste infrastructure; and
- (f) City of Winnipeg Traffic Services – New traffic signage and line painting.

D20.3 Further to D20.1 the Contractor shall cooperate and coordinate all activities with all parties performing required Work by Others. The Contractor must include and accommodate Work by Others identified in D20.2 or additional parties, in their construction schedule as per D14 and accommodate the necessary area on Site required for the Work by Others to complete the Work.

D21. SEQUENCE OF WORK

D21.1 Further to C6.1, the sequence of work shall comply with the following:

D21.1.1 Providing that the Work on each street 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) streets under construction at any one time. Completion of a street means that all of the necessary concrete, asphalt including approaches and landscaping Work is completed to the satisfaction of the Contract Administrator.

D21.1.2 Where the Contractor utilizes two (2) or more crews that work independently on the same major component of the Work as identified in D3, the Contract Administrator may approve an increase to the maximum number of streets under construction at any time.

D21.1.3 Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of asphaltic concrete overlays as identified in Part 1 – Local Street Renewals, including scratch courses.

D21.1.4 Planning of asphalt pavement on Pacific Avenue is to occur immediately prior to asphaltting operations.

- D21.1.5 Installation of the protective timber fencing and snow fencing is to be completed prior to construction of the New North West Hydro Corridor AT Pathway.
- D21.1.6 All Works related to topsoil, seed and sod shall not commence within two (2) weeks of completion of asphaltting on NW Hydro Corridor AT Pathway or as directed by the Contract Administrator.
- D21.1.7 Immediately following the completion of the asphaltic concrete works the Contractor shall clean up the Site and remove all plant, surplus material, waste and debris, other than that left by the City or other Contractors.

D22. CRITICAL STAGES

- D22.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- (a) Manitoba Avenue – Chudley Street to Keewatin Street
 - (i) The Contractor shall not commence the Work on the Site before June 30, 2022 and shall complete all Work on Site as outlined in D3 no later than September 6, 2022, as directed by the Contract Administrator.
 - (b) Tecumseh Street – Alexander Avenue to Pacific Avenue
 - (i) The Contractor shall not commence the Work on the Site before June 30, 2022 and shall complete all Work on Site as outlined in D3 no later than September 6, 2022, as directed by the Contract Administrator.
 - (c) Pacific Avenue – Sherbrook Street to Tecumseh Street
 - (i) The Contractor shall not commence the Work on the Site before June 30, 2022 and shall complete all Work on Site as outlined in D3 no later than September 6, 2022, as directed by the Contract Administrator.
- D22.2 When the Contractor considers the Work associated with D22.1 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.
- D22.3 The date on which the D22.1 Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of D22.1 has been achieved.

D23. SUBSTANTIAL PERFORMANCE

- D23.1 The Contractor shall achieve Substantial Performance within Seventy (70) consecutive Working Days of the commencement of the Work as specified in D17.
- D23.2 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.
- D23.3 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.

D24. TOTAL PERFORMANCE

- D24.1 The Contractor shall achieve Total Performance within Seventy-Five (75) consecutive Working Days of the commencement of the Work as specified in D17.

D24.2 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.

D24.3 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.

D25. LIQUIDATED DAMAGES

D25.1 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) Critical Stage - Manitoba Avenue - Chudley Street to Keewatin Street – Four-Thousand dollars (\$4000.00)
- (b) Critical Stage - Tecumseh Street – Alexander Avenue to Pacific Avenue – Four-Thousand dollars (\$4000.00)
- (c) Critical Stage - Pacific Avenue – Sherbrook Street to Tecumseh Street – Four-Thousand dollars (\$4000.00)
- (d) Substantial Performance – Four-Thousand dollars (\$4000.00)
- (e) Total Performance – One-Thousand dollars (\$1000.00)

D25.2 The amounts specified for liquidated damages in D25.1 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.

D25.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D26. COVID-19 SCHEDULE DELAYS

D26.1 The City acknowledges that the schedule for this Contract may be impacted by the COVID-19 pandemic. Commencement and progress of the Work shall be performed by the Contractor with due consideration to the health and safety of workers and the public, directives from health authorities and various levels of government and in close consultation with the Contract Administrator.

D26.2 If the Contractor is delayed in the performance of the Work by reason of the COVID-19 pandemic, the Work schedule may be adjusted by a period of time equal to the time lost due to such delay and costs related to such delay will be determined as identified herein.

D26.3 A minimum of seven (7) Calendar Days prior to the commencement of Work, the Contractor shall declare whether COVID-19 will affect the start date. The Contractor shall provide sufficient evidence that the delay is directly related to COVID-19, including but not limited to evidence related to availability of staff, availability of Material or work by others.

D26.4 For any delay related to COVID-19 and identified after Work has commenced, the Contractor shall within seven (7) Calendar Days of becoming aware of the anticipated delay declare the additional delay and shall provide sufficient evidence as indicated in D26.3. Failure to provide this notice will result in no additional time delays being considered by the City.

D26.5 The Work schedule, including the durations identified in D19 to D24 where applicable, will be adjusted to reflect delays accepted by the Contract Administrator. No additional payment will be made for adjustment of schedules except where seasonal work, not previously identified in the Contract, is carried over to the following construction season.

D26.6 Where Work not previously identified is being carried over solely as a result of delays related to COVID-19, as confirmed by the Contract Administrator, the cost of temporary works to maintain the Work in a safe manner until Work recommences, will be considered by the Contract Administrator. Where the Work is carried over only partially due to COVID-19, a partial consideration of the cost of temporary works will be considered by the Contract Administrator.

D26.7 Any time or cost implications as a result of COVID-19 and in accordance with the above, as confirmed by the Contract Administrator, shall be documented in accordance with C7.

D27. SCHEDULED MAINTENANCE

D27.1 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-R10;
- (b) Seeded Area Maintenance as specified in CW 3520-R7; and
- (c) Reflective Crack Maintenance as specified in CW 3250-R7.

D27.2 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

D28. JOB MEETINGS

D28.1 Regular weekly job meetings will be held at the Site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, 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.

D28.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever he/she deems it necessary.

D29. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

D29.1 Further to C6.26, the Contractor shall be the Prime Contractor and shall serve as, and have the duties of the Prime Contractor in accordance with The Workplace Safety and Health Act (Manitoba).

D30. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

D30.1 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

D31. PAYMENT

D31.1 Further to C12, the City shall make payments to the Contractor by direct deposit to the Contractor's banking institution, and by no other means. Payments will not be made until

the Contractor has made satisfactory direct deposit arrangements with the City. Direct deposit application forms are at https://winnipeg.ca/finance/files/Direct_Deposit_Form.pdf.

WARRANTY

D32. WARRANTY

- D32.1 Notwithstanding C13.2, the warranty period shall begin on the date of Total Performance and shall expire one (1) years thereafter for all work identified in D3.2, and two (2) years thereafter for all work identified in D3.3, unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.
- D32.2 Notwithstanding C13.2, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Total Performance if a portion of the Work cannot be completed because of unseasonable weather or other conditions reasonably beyond the control of the Contractor but that portion does not prevent the balance of the Work from being put to its intended use.
- D32.2.1 In such case, the date specified by the Contract Administrator for the warranty period to begin shall be substituted for the date specified in C13.2 for the warranty period to begin.

DISPUTE RESOLUTION

D33. DISPUTE RESOLUTION

- D33.1 The entire text of C21.4 is deleted, and amended to read: "Intentionally Deleted"
- D33.2 The entire text of C21.5 is deleted, and amended to read:
- (a) If Legal Services has determined that the Disputed Matter may proceed in the Appeal Process, the Contractor must, within ten (10) Business Days of the date of the Legal Services Response Letter, submit his written Appeal Form, in the manner and format set out on the City's Materials Management Website, to the Chief Administrative Officer, and to the Contract Administrator. The Contractor may not raise any other disputes other than the Disputed Matter in his Appeal Form.
- D33.3 Further to C21, prior to the Contract Administrator's issuance of a Final Determination, the following informal dispute resolution process shall be followed where the Contractor disagrees with any opinion, determination, or decision of the Contract Administrator ("Dispute"):
- (a) In the event of a Dispute, attempts shall be made by the Contract Administrator and the Contractor's equivalent representative to resolve Disputes within the normal course of project dealings between the Contract Administrator and the Contractor's equivalent representative.
 - (b) Disputes which in the reasonable opinion of the Contract Administrator or the Contractor's equivalent representative cannot be resolved within the normal course of project dealings as described above shall be referred to a without prejudice escalating negotiation process consisting of, at a minimum, the position levels as shown below and the equivalent Contractor representative levels:
 - (i) The Contract Administrator;
 - (ii) Supervisory level between the Contract Administrator and applicable Department Head;
 - (iii) Department Head.
- D33.3.1 Names and positions of Contractor representatives equivalent to the above City position levels shall be determined by the Contractor and communicated to the City at the pre-commencement or kick off meeting.

- D33.3.2 As these negotiations are not an adjudicative hearing, neither party may have legal counsel present during the negotiations.
- D33.3.3 Both the City and the Contractor agree to make all reasonable efforts to conduct the above escalating negotiation process within twenty (20) Business Days, unless both parties agree, in writing, to extend that period of time.
- D33.3.4 If the Dispute is not resolved to the City and Contractor's mutual satisfaction after discussions have occurred at the final escalated level as described above, or the time period set out in D33.3.3, as extended if applicable, has elapsed, the Contract Administrator will issue a Final Determination as defined in C1.1(v), at which point the parties will be governed by the Dispute Resolution process set out in C21.

THIRD PARTY AGREEMENTS

D34. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS

- D34.1 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.
- D34.2 For the purposes of D34:
- (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.
- D34.3 Indemnification By Contractor
- D34.3.1 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.
- D34.3.2 The Contractor agrees that in no event will Canada or Manitoba, their respective officers, servants, employees or agents be held liable for any damages in contract, tort (including negligence) or otherwise, for:
- (a) any injury to any person, including, but not limited to, death, economic loss or infringement of rights;
 - (b) any damage to or loss or destruction of property of any person; or
 - (c) any obligation of any person, including, but not limited to, any obligation arising from a loan, capital lease or other long term obligation;
- in relation to this Contract or the Work.
- D34.4 Records Retention and Audits
- D34.4.1 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.

D34.4.2 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 D34.4.1 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.

D34.5 Other Obligations

D34.5.1 The Contractor consents to the City providing a copy of the Contract Documents to the Government of Manitoba and/or the Government of Canada upon request from either entity.

D34.5.2 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.

D34.5.3 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.

D34.5.4 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.

D34.5.5 The Contractor represents and warrants that no current or former public servant or public office holder, to whom the Value and Ethics Code for the Public Sector, the Policy on Conflict of Interest and Post Employment, or the Conflict of Interest Act applies, shall derive direct benefit from this Contract, including any employment, payments, or gifts, unless the provision or receipt of such benefits is in compliance with such codes and the legislation.

D34.5.6 The Contractor represents and warrants that no member of the House of Commons or of the Senate of Canada or of the Legislative Assembly of Manitoba is a shareholder, director or officer of the Contractor or of a Subcontractor, and that no such member is entitled to any benefits arising from this Contract or from a contract with the Contractor or a Subcontractor concerning the Work.

FORM H1: PERFORMANCE BOND
(See D12)

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. 40-2022

2022 Point Douglas Ward Local Street Renewals & New NW Hydro Corridor AT Pathway 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 D12)

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. 40-2022

2022 Point Douglas Ward Local Street Renewals & New NW Hydro Corridor AT Pathway

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
 - (i) 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;

- (ii) 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;
 - (iii) 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)

FORM J: SUBCONTRACTOR LIST
(See D13)

2022 Point Douglas Ward Local Street Renewals & New NW Hydro Corridor AT Pathway

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
SUPPLY OF MATERIALS		
Surface Works:		
Sub base material		
Base course material		
Imported fill material		
Geotextile fabric / Geogrid		
Detectable warning surface tile		
Concrete		
Pavement repair fabric		
Asphalt		
Topsoil and sod		
Grass Seed		
Post bollards		
Protective timber fence		
Joint Sealant		
Underground Works:		
Pre-cast concrete Catch Pit/Catch Basin		
Catch Pit/Catch Basin/Manhole Frames, Covers and Boxes		
Drainage Connection Pipes/Sewer Service Pipes		
Watermain Valve/Service Boxes		
Corrugated Steel Culvert		
INSTALLATION AND PLACEMENT		
Surface Works:		
Sub base material		
Base course material		
Imported fill material		

FORM J: SUBCONTRACTOR LIST
 (See D13)

2022 Point Douglas Ward Local Street Renewals & New NW Hydro Corridor AT Pathway

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
Geotextile fabric / Geogrid		
Detectable warning surface tile		
Concrete		
Pavement repair fabric		
Asphalt		
Topsoil and sod		
Grass Seed		
Post bollards		
Protective fence		
Joint Sealant		
Underground Works:		
Pre-cast concrete Catch Pit/Catch Basin		
Catch Pit/Catch Basin/Manhole Frames, Covers and Boxes		
Drainage Connection Pipes/Sewer Service Pipes		
Watermain Valve/Service Boxes		
Corrugated Steel Culvert		

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	
SE-22-78	BULLER STREET 1+00 TO 2+10	A1
SE-22-79	BULLER STREET 2+10 TO 2+86	A1
SE-22-80	MANITOBA AVENUE 1+00 TO 2+10	A1
SE-22-81	MANITOBA AVENUE 2+10 TO 3+20	A1
SE-22-82	MANITOBA AVENUE 3+20 TO 4+28	A1
SE-22-83	TECUMSEH STREET 1+00 TO 1+90	A1
SE-22-84	PACIFIC AVENUE 1+90 TO 3+00	A1
SE-22-85	PACIFIC AVENUE 3+00 TO 4+10	A1
SE-22-86	PACIFIC AVENUE 4+10 TO 5+20	A1
SE-22-87	PACIFIC AVENUE 5+20 TO 6+27	A1
5515081-C-01	NORTHWEST HYDRO CORRIDOR PATHWAY 1+534 TO 1+845	A1
5515081-C-02	NORTHWEST HYDRO CORRIDOR PATHWAY 1+845 TO 2+210	A1
5515081-C-03	NORTHWEST HYDRO CORRIDOR PATHWAY 2+210 TO 2+570	A1
5515081-C-04	NORTHWEST HYDRO CORRIDOR PATHWAY 2+570 TO 2+918	A1
5515081-C-05	NORTHWEST HYDRO CORRIDOR PATHWAY 2+918 TO 3+280	A1
5515081-C-06	NORTHWEST HYDRO CORRIDOR PATHWAY 3+280 TO 3+645	A1
5515081-C-07	NORTHWEST HYDRO CORRIDOR PATHWAY 3+645 TO 4+001	A1
5515081-C-08	NORTHWEST HYDRO CORRIDOR PATHWAY CURVE TABLE	A1

E2. MOBILIZATION AND DEMOBILIZATION PAYMENT

DESCRIPTION

- E2.1 This Specification shall cover all operations relating to the mobilization and demobilization of the Contractor to the project location(s).
- E2.2 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.
- E2.3 The inclusion of a payment item for the Work under this Specification shall not release or reduce the responsibilities of the Contractor under any other specification in this Contract.

SCOPE OF WORK

- E2.4 Further to C12 of the General Conditions, where Mobilization and Demobilization is included as a bid item, it shall consist of the following, as applicable:
- (a) Mobilization shall include, but not be limited to:
 - (i) All activities and associated costs for transportation of the Contractor's personnel, equipment, and operating supplies to the site, and/or sites, and/or between sites;
 - (ii) Establishment of offices, buildings, other necessary general facilities and equipment parking/staging areas for the Contractor's operations at the site or sites;
 - (iii) Premiums paid for performance and payment bonds including coinsurance and reinsurance agreements as applicable;
 - (iv) General cleanup and housekeeping needed maintain a neat and orderly project site(s);
 - (v) Other job related items.
 - (b) Demobilization shall include, but not be limited to:
 - (i) All activities and costs for transportation of personnel, equipment, and supplies not used in the project from the site, and/or sites, and/or between sites;
 - (ii) Disassembly, removal, and site cleanup and restoration of offices, buildings, and other facilities assembled on the site and/or sites;
 - (iii) Repair of access roads, temporary haul roads, and equipment parking areas leaving the project site in the same or better condition than at the start of the project;
 - (iv) General cleanup and housekeeping needed to restore a neat and orderly project site.
- E2.5 Access to the site, equipment parking, and staging areas are limited to that shown on the drawings or as approved by the Contract Administrator.

MEASUREMENT AND PAYMENT

- E2.6 The lump-sum price for the Mobilization and Demobilization bid item shall not exceed five percent (5.00%) of the total bid price for the Contract.
- E2.6.1 Further to B10, B18, C12 and E2.6, should the lump sum price exceed 5% of the Total Bid Price the lump sum price will be reduced to 5% of the Total Bid Price, the Total Bid Price will be determined using the reduced lump sum price and payment will be based on the reduced lump sum price.
- E2.7 Payment for Mobilization:
- (a) 60% of the lump-sum price will be paid to the contractor for Mobilization on the first Progress Estimate for the Contract.
- E2.8 Payment for Demobilization:

- (a) The remaining 40% of the lump-sum price will be paid upon:
 - (i) Restoration of the site and/or sites to the satisfaction of the Contract Administrator; and
 - (ii) Distribution of the Declaration of Total Performance.

E2.9 Pay Reduction for Accessibility Plan

- (a) The Demobilization payment will be reduced by the number of pay adjustments incurred in accordance with D16 and as determined by the Contract Administrator.

E2.10 Mobilization and Demobilization will be paid only once (to a maximum of 100%), regardless of the number of times the Contractor mobilizes to the site and/or sites.

E3. GEOTECHNICAL REPORT

E3.1 Further to C3.1, the geotechnical report is provided to aid the Contractor's evaluation of the pavement structure and/or existing soil conditions. The geotechnical report is contained in Appendix 'A'.

E4. OFFICE FACILITIES

E4.1 The Contractor shall supply office facilities meeting the following requirements:

- (a) The field office shall be for the exclusive use of the Contract Administrator.
- (b) The building shall be conveniently located near the site of the Work.
- (c) The building shall have a minimum floor area of 25 square metres, a height of 2.4m with two windows for cross ventilation and a door entrance with a suitable lock.
- (d) The building shall be suitable for all weather use. It shall be equipped with an electric heater and air conditioner so that the room temperature can be maintained between either 16-18°C or 24-25°C.
- (e) The building shall be adequately lighted with fluorescent fixtures and have a minimum of three wall outlets.
- (f) The building shall be furnished with one desk, one drafting table, table 3m x 1.2m, one stool and a minimum of 8 chairs [(one, two) desk, one drafting table, table 3m X 1.2m, one stool, one four drawer legal size filing cabinet, and a minimum of (5,6,8,12,15) chairs].
- (g) A portable toilet shall be located near the field office building. The toilet shall have a locking door and be for the exclusive use of the Contract Administrator and other personnel from the City.
- (h) The field office building and the portable toilet shall be cleaned on a weekly basis immediately prior to each site meeting. The Contract Administrator may request additional cleaning when he/she deems it necessary.

E4.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.

E4.3 The office facilities will be provided from the date of the commencement of the Work to the date of Substantial Performance.

E5. PROTECTION OF EXISTING TREES

E5.1 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.

E5.2 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.

E5.3 No separate measurement or payment will be made for the protection of trees.

E5.4 Except as required in clause E5.1(c) and E5.1(e), Elm trees shall not be pruned at any time between April 1 and July 31.

E6. TRAFFIC CONTROL

E6.1 Further to clauses 3.6, 3.7 and 3.8 of CW 1130:

- (a) 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.
- (b) 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, the Contract Drawings, Staging Plans and Traffic Management Plans 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.
- (c) In addition, the Contractor shall be responsible for removing, placing and maintaining all regulatory signing including but not limited to:
 - (i) Parking restrictions;
 - (ii) Stopping restrictions;
 - (iii) Turn restrictions;
 - (iv) Diamond lane removal;
 - (v) Full or directional closures on a Regional Street;
 - (vi) Traffic routed across a median;
 - (vii) 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.
- (d) The Contractor shall remove and stockpile any regulatory signage not required during construction such as, but not limited to, parking restrictions, turn restrictions and loading restrictions.

- E6.2 Further to E6.1(c), the Contractor shall make arrangement with the Contract Administrator to supply regulatory signs as required.
- E6.3 Upon request from the Contract Administrator, the Contractor shall provide records demonstrating that the site has been maintained.
- E6.4 Further to E6.1(c) and E6.1(d) the Contractor shall make arrangements with the Traffic Services Branch of the City of Winnipeg to reinstall the permanent regulatory signs after the Contract Work is complete. The Contractor shall make arrangements to drop off the stockpiled materials to Traffic Services at 495 Archibald Street.
- E6.5 Any changes to the approved Traffic Management Plan must be submitted to the Contract Administrator a minimum of five (5) Working Days prior to the required change for approval.
- E6.6 If the Contract Administrator determines that the Contractor is not performing Traffic Control in accordance with this specification, Traffic Services may be engaged to perform the Traffic Control. In this event the Contractor shall bear costs charged to the project by the Traffic Services Branch of the City of Winnipeg in connection with the required Works.

E7. TRAFFIC MANAGEMENT

E7.1 Further to clause 3.7 of CW 1130:

E7.1.1 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 and Atlantic Avenue, 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
 - (iii) One temporary approach off of North West corner of Lansdowne Avenue back lane, to be approved by the Contract Administrator. All pavement, curb and boulevard shall be restored to original condition.
- (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 E19.
- E7.1.2 The contractor is responsible for submitting and obtaining approval for all Residential and Regional lane closures requests through the Traffic Management Branch.
- E7.1.3 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.
- E7.1.4 The Contractor shall schedule construction activities to meet the following:
- (a) Buller Street, Pacific Avenue and Tecumseh Street:
 - (i) At least one lane for local access traffic shall be maintained along this street during construction. At least one intersection on adjacent bays shall be open at a time
 - (ii) Intersecting local streets and private approach access shall be maintained at all times unless joint/slab repairs or planing/paving operations require temporary closure. Temporary closures are to be staggered such that consecutive intersections are not closed at the same time.
 - (iii) Pedestrian access on one side of street to be maintained at all times.
 - (b) Manitoba Avenue:
 - (i) At least one lane for local access traffic shall be maintained along this street during construction. At least one intersection on adjacent bays shall be open at a time
 - (ii) Intersecting local streets and private approach access shall be maintained at all times unless joint/slab repairs or planing/paving operations require temporary closure. Temporary closures are to be staggered such that consecutive intersections are not closed at the same time.
 - (iii) Pedestrian access on one side of street to be maintained at all times.
 - (iv) The Contractor shall be permitted to close slab-at-a-time repairs of the roadway provided there is at least 70 metres between repair areas and each repair area is no longer than 70 metres;
- E7.1.5 Flag persons may be necessary to maintain the flow of traffic during certain work operations.
- E7.1.6 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.
- E7.1.7 Pedestrian access at intersecting sidewalks and pathways must be maintained at all times.
- E7.1.8 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.
- E7.1.9 Ambulance/emergency vehicle access must be maintained at all times.

E8. REFUSE AND RECYCLING COLLECTION

E8.1 While access to refuse and/or recycling collection vehicles is restricted, on collection day(s) the Contractor shall move all of the affected property owners refuse and/or recycling materials to a nearby common area, prior to an established time, in accordance with E8.2 to permit the normal collection vehicles to collect the materials. Immediately following recycling collection the Contractor shall return recycling receptacles to the addresses marked on the receptacles.

E8.2 Collection Schedule:

Buller Street – Manitoba Avenue to Gilbert Avenue.

Collection Day(s): **Wednesday**
Collection Time: **7:00 am**
Common Collection Area: **Back lane collection**

Manitoba Avenue – Keewatin Street to Chudley Street.

Collection Day(s): **Wednesday**
Collection Time: **7:00 am**
Common Collection Area: **Back lane collection**

Pacific Avenue – Tecumseh Street to Sherbrook Street.

Collection Day(s): **Thursday**
Collection Time: **7:00 am**
Common Collection Area: **Front street and back lane collection**

Tecumseh Street – Alexander Avenue to Pacific Avenue.

Collection Day(s): **Thursday**
Collection Time: **7:00 am**
Common Collection Area: **Front street collection.**

E8.3 No measurement or payment will be made for the work associated with this specification.

E9. PEDESTRIAN SAFETY

E9.1 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.

E10. WATER OBTAINED FROM THE CITY

E10.1 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.

E11. SURFACE RESTORATIONS

E11.1 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.

E12. INFRASTRUCTURE SIGNS

E12.1 The Contractor shall obtain infrastructure signs from the Traffic Services Sign Shop at 421 Osborne Street. The Contractor shall mount each sign securely to a rigid backing material approved by the Contract Administrator. The Contractor shall fasten each sign to a suitable support and erect and maintain one sign at each street as directed by the Contract Administrator. When the Contract Administrator considers the Work on the street complete, the Contractor shall remove and dispose of the signs and supports. No measurement for payment will be made for performing all operations herein described and all other items incidental to the work described

E13. SUPPLY AND INSTALLATION OF PAVEMENT REPAIR FABRIC

DESCRIPTION

E13.1 General

E13.1.1 This specification covers the supply and installation of pavement repair fabrics for reinforcement of asphalt layers, distribution of loads, and reducing reflective cracking distresses.

E13.2 Definitions

E13.2.1 Pavement Repair Fabric composed of fiberglass strands coated with an elastomeric polymer and formed into a grid structure.

E13.2.2 Minimum Average Roll Value (MARV) is Property value calculated as typical minus two standard deviations. It shall yield a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed the value reported.

E13.2.3 Apertures are the open spaces formed between the interconnected network of longitudinal and transverse ribs of a fabric.

E13.2.4 Type A Pavement Repair Fabric is composed of fiberglass strands coated with an elastomeric polymer and formed into a grid structure. It will be used for either localized repair reinforcement (i.e. at joints and cracks) or full width asphalt reinforcement to minimize both thermal and stress related reflective cracking.

E13.2.5 Type B Pavement Repair Fabric is high strength fabric in the cross-machine direction and will be used for localized repair reinforcement (i.e. at joints and cracks) where severe cracking conditions and heavy loadings are expected.

E13.3 Referenced Standard Construction Specifications

E13.3.1 CW 3110 – Sub-Grade, Sub-Base and Base Course Construction

E13.3.2 CW 3410 – Asphaltic Concrete Pavement Works

E13.3.3 Approved Products for Surface Works

MATERIALS

E13.4 Approved Products

E13.4.1 Use only those materials listed as Approved Products for Surface Works. The Approved Products are available at the City of Winnipeg, Corporate Finance, Material Management Internet site at:

https://www.winnipeg.ca/finance/findata/matmgt/std_const_spec/current/Docs/Approved_Products_Surface_Works.pdf .

E13.5 Material Identification

E13.5.1 Pavement Repair Fabric shall be labelled in accordance with ASTM D4873/D4873M, and must clearly show the manufacturer name, product style number and roll number. Products without proper identification or labelling, mislabelling, or misrepresentation of materials shall be rejected.

E13.6 Storage and Handling

E13.6.1 Pavement Repair Fabric rolls shall be elevated off the ground and adequately covered to protect them from site construction damage, precipitation, any contamination of dirt or dust and any other deleterious materials.

E13.6.2 Pavement Repair Fabric rolls shall be protected from extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical properties of the fabric.

E13.6.3 Store and handle the Pavement Repair Fabric in accordance with the manufacturer's recommendations. Manufacturer's data sheets shall include preparation instructions and recommendations as well as storage and handling requirements and recommendations.

E13.7 Certification

E13.7.1 The Contractor shall provide Manufacturer's Mill Certificate and MARV Roll Data to the Contract Administrator prior to installation. The Certification shall state that the Pavement Repair Fabric meets MARV requirements as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer. The Pavement Repair Fabric shall be annually tested by an accredited third-party testing facility.

E13.7.2 The Contractor shall provide a letter to the Contract Administrator stating the product name, manufacturer, style number, and other pertinent information to fully describe the Pavement Repair Fabric.

E13.7.3 All testing and data shall be in accordance with approved ASTM standards. Data reported in accordance with other standards will not be accepted.

E13.8 Pavement Repair Fabric Properties

E13.8.1 Pavement Repair Fabric shall consist of a high strength, fiberglass grid custom knitted and coated with an elastomeric polymer and self-adhesive glue with square or rectangular opening configurations.

E13.8.2 The axis with the least strength will be taken as the ultimate strength of the fabric for any given property.

E13.8.3 Type A Pavement Repair Fabric shall meet the requirements in Table CW 3140.1.

Table CW 3140.1 – Type A Pavement Repair Fabric Property Requirements

Physical Property	Machine Direction	Cross-Machine Direction	Test Method
Tensile Strength, Minimum	100 kN/m	100 kN/m	ASTM D 6637
Tensile Strength @ 2% Strain, Minimum	80 kN/m	80 kN/m	ASTM D 6637
Secant Stiffness EA at 2% Strain	4,000 kN/m	4,000 kN/m	ASTM D 6637
Elongation at Break, Maximum	3%		ASTM D 6637
Coating Softening Point, Minimum	150 °C		ASTM D 36
Coating Melting Point, Minimum	350 °C		ASTM D 276
Glass Melting Point, Minimum	820 °C		ASTM D 338
Mass/Unit Area, Minimum	420 g/m ²		ASTM D 5261

E13.8.4 Type B Pavement Repair Fabric shall meet the requirements in Table CW 3140.2.

Table CW 3140.2 – Type B Pavement Repair Fabric Property Requirements

Physical Property	Machine Direction	Cross-Machine Direction	Test Method
Tensile Strength, Minimum	100 kN/m	200 kN/m	ASTM D 6637
Tensile Strength @ 2% Strain, Minimum	80 kN/m	160 kN/m	ASTM D 6637
Secant Stiffness EA at 2% Strain	4,000 kN/m	8,000 kN/m	ASTM D 6637
Elongation at Break, Maximum	3%		ASTM D 6637
Coating Softening Point, Minimum	150 °C		ASTM D 36
Coating Melting Point, Minimum	350 °C		ASTM D 276
Glass Melting Point, Minimum	820 °C		ASTM D 338
Mass/Unit Area, Minimum	420 g/m ²		ASTM D 5261

E13.8.5 All physical property requirements are Minimum Average Roll Values (MARV) determined in accordance with ASTM 4759. Values not labelled as MARV will not be accepted.

E13.8.6 Aperture sizes shall be as follows:

- (i) Between 10 mm and 14 mm for pavement repair fabric immediately below or within Type 1A asphalt layer.
- (ii) Between 19 mm and 25.4 mm for pavement repair fabric immediately below or within Type III asphalt layer.

E13.8.7 If the fabric has a rectangular aperture size, the smaller dimension shall be used to establish the suitable Pavement Repair Fabric.

CONSTRUCTION METHODS

E13.9 Pavement Repair Fabric shall not be placed when weather conditions, in the opinion of the Contract Administrator, are not suitable for installation including heavy rainfall, extreme cold or frost conditions, or extreme heat.

E13.10 Make all repairs as required prior to placement of Pavement Repair Fabric. Seal cracks and fill holes using a method that provides a proper level surface. Receiving surface shall be smooth, with the existing cracks pretreated.

- E13.11 Surfaces shall be mechanically cleaned by sweeping and vacuuming and be free of oil, vegetation, sand, dirt, water, gravel, and other contaminants prior to placement of Pavement Repair Fabric.
- E13.12 Pavement Repair Fabric placement should not be undertaken if rain is likely to fall prior to covering the fabric with an asphalt mat overlay. Pavement Repair Fabric that is placed and will not adhere due to moisture shall be removed and replaced at the Contractor's expense.
- E13.13 Pavement Repair Fabric shall be laid out by mechanical means or by hand using sufficient pressure to eliminate ripples. Remove any ripples by pulling the fabric tight. Cutting of the fabric may be permitted on tight radii to prevent ripples.
- E13.14 Transverse joints shall be overlapped 75 mm or as recommended by the manufacturer, whichever is greater. Longitudinal joints shall be overlapped 37.5 mm or as recommended by the manufacturer, whichever is greater.
- E13.15 Prior to the asphalt topping placement, the fabric shall be inspected by the Contract Administrator for damage during installation. Damaged fabric shall be removed and replaced at the Contractor's expense.
- E13.16 Activate self-adhesive glue by rolling with a rubber coated drum roller or a pneumatic tire roller. In no instance shall steel-wheeled or vibratory rollers be used. Rolling shall continue until the adhesive is activated and the fabric is bonded to the leveling course.
- E13.17 Roller tires shall be kept clean to the satisfaction of the Contract Administrator.
- E13.18 If bonding of the fabric is not readily achieved, it shall be removed and replaced at the Contractor's expense.
- E13.19 Pavement Repair Fabric shall be laid and rolled over ironworks (e.g., manhole covers). Once the fabric has been rolled, those portions covering the ironworks shall be removed by cutting the fabric with a utility knife or other methods approved by the Contract Administrator.
- E13.20 Protect the Pavement Repair Fabric until placement of the finished asphalt topping.
- E13.21 Where a tack coat or emulsified asphalt is specified, the approved tack coat/emulsion and dose should be used as recommended by the manufacturer in conjunction with the Pavement Repair Fabric. Tack coat or emulsified asphalts shall not be diluted. Unless otherwise recommended by the manufacturer, apply tack coat or emulsified asphalt at the rate of 0.35 liters per square meter of surface area.
- E13.22 Where tack coat or emulsified asphalt is placed prior to the fabric, it must fully cure prior to placement of the fabric. Where tack coat or emulsified asphalt is placed after the fabric, it must fully cure prior to construction traffic, including paving, travelling on the surface.
- E13.23 Prevent spattering of tack coat or emulsified asphalt when placed adjacent to curbs, gutters, structures and other adjacent surfaces. Clean any surfaces where it has been contaminated by the tack coat or emulsified asphalt.
- E13.24 Leveling course or overlay layer shall be a minimum thickness of 40 mm. Place and compact asphalt over the Pavement Repair Fabric in accordance with CW 3410.

QUALITY ASSURANCE TESTING

- E13.25 The Contract Administrator shall test the adhesion for pavement repair fabric in field during construction is as follows:
- E13.25.1 Place approximately 1 m² of fabric on a prepared surface that is representative of the project conditions.
- E13.25.2 Activate self-adhesive glue by rolling with a rubber-tired roller or by applying adequate pressure to fully activate the pressure-sensitive adhesive.

- E13.25.3 Use a calibrated spring balance by inserting the hook of the balance under the centre of the fabric and pulling upward until the fabric starts to pull away from the surface.
- E13.25.4 A 9 kg pull is required without pulling the grid free or creating ripples in the fabric.
- E13.26 The minimum frequency shall be one test, then test every 2000 square meters.

MEASUREMENT AND PAYMENT

- E13.27 Supply and installation of Pavement Repair Fabric will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Supply and Install Pavement Repair Fabric". The area to be paid for will be the total number of square metres of Pavement Repair Fabric, supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.
- E13.28 Only material placed within the designated limits will be included in the payment for "Supply and Install Pavement Repair Fabric".
- E13.29 No measurement or payment will be made for Pavement Repair Fabric removed and replaced due to improper installation or damaged materials.
- E13.30 No measurement or payment will be made for transverse and longitudinal overlap.

E14. TREE REMOVAL

DESCRIPTON

- E14.1 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

- E14.2 As per CW 3010.

MEASUREMENT AND PAYMENT

- E14.3 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.

E15. PRUNING OF EXISTING TREES

DESCRIPTION

- E15.1 Provide all labour, materials, methods, equipment and accessories for pruning of existing trees within the limit of Work.

QUALITY ASSURANCE

- E15.2 Pruning shall be provided by a person with a Manitoba Arborists Certificate with demonstrable experience sourcing and Work.
- E15.3 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

- E15.4 Prune horizontal and vertical within the limits of construction to ensure construction equipment can be operated without interfering with trees to remain.
- E15.5 Prune as required to remove dead, broken or damaged limbs.

- E15.6 Prune back to healthy growth while maintaining balanced crown shape.
- E15.7 Employ clean sharp tools.
- E15.8 Make cuts smooth and flush with outer edge of branch collar near the main stem or branch.
- E15.9 Cuts must be smooth and sloping to prevent accumulation of water on cut.
- E15.10 Do not leave little stumps (“horns”) on trunks or main branches.
- E15.11 Prune according to accepted horticultural practices as outline in “The Pruning Manual”, Publication No. 1505-1977 by Agriculture Canada.

MEASUREMENT AND PAYMENT

- E15.12 No payment shall be made for pruning of existing trees. Pruning of existing trees shall be considered incidental to the Work.

E16. BIRD MIGRATORY SEASON

- E16.1 In addition to the provisions outlined in E11, 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.

E17. SUPPLY AND INSTALLATION OF POST BOLLARDS

DESCRIPTION

- E17.1 Provide all labour, materials, methods, equipment and accessories for the supply and installation of post bollards.

REFERENCES

- E17.2 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.
- E17.3 Referenced Standard Details: SCD-105B Post Bollard. See Appendix ‘C’

MATERIALS

- E17.4 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

- E17.5 Review and confirm post bollard locations and orientation with Contract Administrator prior to installation.
- E17.6 Install Post Bollards to specifications detailed in SCD-105B Post Bollard.
- E17.7 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
- E17.8 Set post vertical and backfill with limestone in lifts and tamp thoroughly each lift. Ensure posts are plumb
- E17.9 Construct all work as indicated on the Drawings using adequate fastening methods to ensure solid durable finished work suitable for the purpose intended.
- E17.10 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.
- E17.11 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

- E17.12 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.

E18. SUPPLY AND INSTALLATION OF TIMBER FENCING

DESCRIPTION

- E18.1 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.
- E18.2 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

- E18.3 Referenced Standard Details: SCD-105F (Modified Detail) See Appendix 'D'

MATERIALS

- E18.4 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.
- E18.5 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

- E18.6 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.

- E18.7 All work is to be located and installed in accordance with the Drawings.
- E18.8 Contractor shall confirm proposed location of fencing with Contract Administrator prior to fabrication.
- E18.9 Contractor to verify underground utility locations prior construction and report any discrepancies to the Contract Administrator immediately.
- E18.10 All wood cuts shall be sanded to remove any burrs.
- E18.11 Treat surfaces of material with wood preservative before installation.
- E18.12 Apply preservative by dipping, or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak into lumber.
- E18.13 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.
- E18.14 Treat material as follows :
 - (a) Ends of all fence posts that have been cut.
 - (b) Ends of wood rails that have been cut.
- E18.15 Do all fastening neatly, evenly, and thoroughly. Lag bolts shall be countersunk so as not to protrude above the face of the wood surface.
- E18.16 Install all members true to line, levels, and elevations. Set plumb and space uniformly.
- E18.17 Build work square, true and accurate to required height, length, and depth with joints closely fitted and properly secured.
- E18.18 Use timbers of the longest possible length to minimize joints..

MEASUREMENT AND PAYMENT

- E18.19 Supply and installation of Timber Fencing will be measured on a length basis and paid for at the Contract Unit Price per metre for "Supply and 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.

E19. OPERATING CONSTRAINTS FOR WORK IN CLOSE PROXIMITY TO CRITICAL WATER INFRASTRUCTURE

- E19.1 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.
- E19.2 The following shall be considered critical pipelines and water infrastructure for this project:
 - E19.2.1 Pacific Avenue Aqueduct
 - E19.2.2 North West Hydro Corridor Active Transportation Pathway Feeder mains
- E19.3 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.

E19.4 Submittals

E19.4.1 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.

E19.4.2 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.

E19.4.3 Incomplete or partial submissions will not be reviewed and will be returned to the Contractor for re-submission.

E19.4.4 Allow five (5) Business Days for review by the Contract Administrator.

E19.5 Feeder Main Operational Limitations

E19.5.1 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.

E19.5.2 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.

E19.5.3 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.

E19.6 Pre-Work, Planning and General Execution

E19.6.1 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.

E19.6.2 Contact the City of Winnipeg Water and Waste Department, Construction Services Coordinator prior to construction.

E19.6.3 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

E19.6.4 Visually delineate all critical infrastructure identified herein on Site by use of paint, staking/flagging, construction fencing, snow fencing, or other suitable methods.

E19.6.5 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.

E19.6.6 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.

E19.6.7 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.

E19.6.8 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).

E19.6.9 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.

E19.6.10 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.

E19.7 Demolition, Excavation and Shoring

- E19.7.1 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.
- E19.7.2 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.
- E19.7.3 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.
- E19.7.4 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.
- E19.7.5 Excavations within 3 m of the outside edge of a feeder main (hydrovac holes for confirming trenchless installations excluded) and which extend below the invert of the feeder main shall utilize shoring methods that precludes the movement of native in-situ soils (i.e., a tight shoring system).
- E19.7.6 Pre-bore all piles to below the invert of critical infrastructure within 5 m (horizontally) of the pipeline's outside edge.
- E19.7.7 Offset pile driving equipment a minimum of 3 m (horizontally) from the centerline of the pipeline during piling operations.

E19.8 Underground Construction and Trenchless Pipe Installation

- E19.8.1 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.
- E19.8.2 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.
- E19.8.3 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.
- E19.8.4 No trenchless methods involving soil displacement (plugs) shall be permitted in the vicinity of the feeder main.
- E19.8.5 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.
- E19.8.6 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.

E19.9 Subgrade Construction

- E19.9.1 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.

- E19.9.2 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.
- E19.9.3 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.
- E19.9.4 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.
- E19.9.5 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.
- E19.9.6 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.
- E19.10 Subbase and Base Course Construction
- E19.10.1 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.
- E19.10.2 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.
- E19.11 Paving
- E19.11.1 When constructing asphalt pavements only non-vibratory compaction should be used within 3 m (horizontal) of the center of critical pipelines.

E20. WORKING IN MANITOBA HYDRO RIGHT-OF-WAY

- E20.1 Coordinate with Manitoba Hydro for underground locates and safety watches as required.
- E20.2 Refer to Appendix B – Safe Excavation & Safety Watch Guidelines
- E20.3 Refer to Appendix C – Guidelines for Working Around Hydro Gas Mains

E21. HYDRO-EXCAVATION

DESCRIPTION

- E21.1 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

- E21.2 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.

E21.3 Spray head shall be equipped with a rotating type nozzle in order to provide a wider path of cut.

CONSTRUCTION METHODS

E21.4 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.

E21.5 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

E21.6 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.

E22. SOFT EXCAVATION TO EXPOSE UNDERGROUND UTILITIES

DESCRIPTION

E22.1 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.

E22.2 These underground utilities include, but are not limited to, Manitoba Hydro cables, MTS cables, CPR, existing sewers, and existing watermains.

MATERIALS

E22.3 Backfill Material

E22.4 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

E22.5 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.

E22.6 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

E22.7 Soft excavation to expose underground utilities will be considered incidental to the Work. No measurement and payment will be made within this section.

E23. WORK NEAR OVERHEAD MANITOBA HYDRO POWER LINES

E23.1 Description

- E23.1.1 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.
- E23.1.2 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.
- E23.2 Construction Methods
- E23.2.1 General
- (a) Further to CW1120, the Contractor is advised that there is a Manitoba Hydro overhead power line for the entire length of the Site that will affect construction works. These overhead cables must remain live at all times.
- E23.2.2 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 \$82.00 per hour for a person with a bucket truck to blanket the cables and observe the work during weekdays could be \$164.00 per hour and \$243.00 per hour on weekends. Three hours minimum after normal working hours.
- E23.2.3 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.

E24. SITE FURNISHINGS

- E24.1 Description
- E24.1.1 This specification shall cover the pick-up and installation of benches.
- E24.1.2 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 other things necessary for and incidental to satisfactory performance and completion of all Work as shown on the drawings as specified herein.
- E24.2 Materials
- E24.2.1 All materials supplied under this specification shall be of a type approved by the Contract Administrator, and subject to inspection and testing by the Contract Administrator.
- (a) Backed Bench – Tache Style Composite Bench with Arms – galvanized, as per SCD-121A, Product # 52501067GLV, or substitute in accordance with **B7**.
- E24.3 Construction Methods
- E24.3.1 All Work is to be located and installed in accordance with the drawings, and associated SCDs using approved non-rusting, vandal resistant fasteners to ensure solid, durable, finished work suitable for the purpose intended. Fasteners and assembly hardware shall be incidental to the Work;

- E24.3.2 All furnishings and fixtures to be installed plumb and true to correct elevations and location, as directed by the Contract Administrator. The Contractor shall confirm proposed locations of all site furnishings with Contract Administrator prior to installation;
- E24.3.3 All furnishings and fixtures to be carefully handled so that no parts will be bent, broken or otherwise damaged. Hammering is prohibited.
- E24.3.4 Concrete foundations shall be as per Drawings and **E25**.
- E24.4 Method of Measurement and Basis of Payment
- E24.4.1 Method of Measurement shall be as follows:
- (a) Site Furniture will be measured on a per item basis for the following items for:
 - (i) "Pick up and Install benches" on Form B: Prices.
 - (b) No separate Measurement shall be made for concrete foundations as these items are incidental to the Work herein.
- E24.4.2 Basis of Payment shall be as follows:
- (a) Site Furniture will be paid for at the Contract Unit Prices. The amount to be paid for shall be the total number of units, as indicated on Form B: Prices. This price shall be full payment for supplying all labour, equipment and materials, and performing all operations herein described and all other items incidental to the Work and as accepted by the Contract Administrator.
 - (b) No separate Payment shall be made for concrete foundations as these items are incidental to the Work herein.

E25. FOUNDATIONS - SITE FURNISHINGS

E25.4 General Description

- E25.4.1 All site furnishings are to be set in concrete footings or piles to ensure stability and prevent frost heaving as per SCD-121. The current Standard Construction Specifications of the City of Winnipeg, CW 2160 –latest revision - Concrete to be used in Underground Works, is to be utilized in the installation of the concrete works for all below ground components.
- E25.4.2 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 other things necessary for and incidental to satisfactory performance and completion of all Work as shown on the drawings as specified herein.

E25.5 Materials

- E25.5.1 The specific concrete requirements shall be:
- (a) Sulphate resistant, Type 50 Cement;
 - (b) 28 day compressive strength of 30 Mpa;
 - (c) maximum aggregate size of 20 mm, nominal;
 - (d) slump 80 +/- 20 mm;
 - (e) maximum water/cement ratio 0.49.

E25.6 Installation

- E25.6.1 All posts and supports shall be centred in the concrete footing such that there is a complete collar of concrete around each post and support. Where posts are not perfectly centred there should be a minimum of 51 mm (2") concrete at any point around the post.

E25.7 Method of Measurement and Basis of Payment

- E25.7.1 Method of Measurement shall be as follows:

- (a) Foundations shall be incidental to the Measurement of Site Furnishings in **E24** and as shown on Form B: Prices.

E25.7.2 Basis of Payment shall be as follows:

- (a) No separate payment shall be made for Site Furnishings foundations.

E26. ASPHALT RUMBLE STRIP

DESCRIPTION

E26.4 General

E26.4.1 The Contractor shall construct a milled in rumble strip along the sidewalk/bike paths as shown on the drawings or as determined by the contract administrator.

EQUIPMENT/CONSTRUCTION METHOD

E26.5 General

E26.5.1 The Contractor shall provide all equipment and labour necessary for the construction of the rumble strips.

E26.5.2 Rumble strip constructed outside of the tolerances shown on the Plans, or exhibiting any defects will be rejected and the Contractor shall be responsible for repairing such work.

E26.5.3 The milling machine used shall either be equipped with an integral sweeping device mounted directly behind the cutter, or a separate sweeping operation shall be conducted as construction of the rumble strips progresses. The Contractor shall pick up and dispose of all debris created from the milling operation.

MEASUREMENT AND PAYMENT

E26.6 General

E26.6.1 Installation of rumble strips shall be measured on a length basis and paid for at the Contract Unit Price for "Asphalt Rumble Strip". The length to be paid for will be the total number of meters of rumble strips constructed in accordance with this specification, accepted and measured by the Contract Administrator.

E27. REMOVAL OF CURB INLETS

DESCRIPTION

E27.1 General

E27.1.1 This specification covers the removal of any curb inlet frames and related connection pipe between curb inlet and existing catch basin or catch pit.

E27.1.2 The removal of curb inlets shall be included with concrete curb removal/renewal and/or pavement removal.

E27.2 Referenced Standard Construction Specifications

- (a) CW 3110 – Pavement Removal
- (b) CW 3240 – Concrete Curb Renewal

MEASUREMENT AND PAYMENT

E27.3 There will be no payment for this work. All work is to be incidental to CW 3110 - Concrete Curb Renewal and/or CW 3240 - Pavement Removal.

E28. CONCRETE CURB AND GUTTER REMOVAL

DESCRIPTION

E28.1 General

E28.1.1 This specification covers the Concrete Curb and Gutter Removal specific to the North side of Pacific Avenue from Tecumseh Street to Sherbrook Street.

E28.2 Referenced Standard Construction Specifications

(a) CW 3240 – Renewal of Existing Curbs

CONSTRUCTION METHODS

E28.3 Concrete Curb and Gutter Removal

E28.3.1 Remove curb and gutter sections at locations as shown on the Drawings or as directed by the Contract Administrator.

E28.3.2 Saw-cut existing curb and gutter sections full-depth at the designated removal limits.

E28.3.3 Remove existing asphalt material immediately in front of the curb that is required for installation when the asphalt overlay is not identified to be removed.

E28.3.4 Removal methods shall be by means of saw-cutting and mechanical removal.

E28.3.5 Ensure the removal methods do not chip or damage pavement and curb to remain

E28.3.6 Resaw-cut damaged or chipped curbs beyond the removal limits.

E28.3.7 Remove damaged curb reinforcing as directed by the Contract Administrator

E28.3.8 Dispose of removed curb, curb and gutter sections and splash strips in accordance with Section 3.4 of CW 1130.

MEASUREMENT AND PAYMENT

E28.4 Concrete Curb and Gutter Removal

E28.4.1 Concrete curb and gutter removal will be measured on a length basis and paid for at the Contract Unit Price per metre for “Concrete Curb and Gutter Removal”. The length to be paid for will be the total number of metres of concrete curb removed in accordance with this specification, accepted and measured by the Contract Administrator

E28.4.2 Removal of existing asphalt material immediately in front of the curb that is required for installation will be incidental to “Concrete Curb and Gutter Removal” when the asphalt overlay is not identified to be removed.

E29. CATCH BASIN LEAD REMOVAL

E29.1 Removal of existing catch basin lead will be incidental to installation of new catch basin lead and will not be paid for as a separate item.

E30. CONCRETE CONSTITUENT MATERIALS, MIX DESIGN REQUIREMENTS, AND HOT AND COLD WEATHER CONCRETING

E30.1 This Specification covers Portland cement concrete constituent materials and design requirements for the preparation of Portland Cement Concrete for all concreting operations relating to the construction of pavements, curbs, gutters, private approaches, bull-noses, median slabs, median, safety median and boulevard splash strips, sidewalk and other related concrete works and is contained in Appendix ‘E’.

E30.2 This Specification also covers hot and cold weather concreting.

E31. REMOVAL OF WOODEN FENCING

DESCRIPTION

E31.1 This Specification covers the removal of wooden fencing.

CONSTRUCTION METHODS

E31.2 Remove and salvage or dispose of wooden fencing as per the drawings and as directed by the Contract Administrator.

E31.3 All existing fence posts which are removed shall have the holes backfilled with compacted sand to 150mm below finish grade. Fill balance of the hole with topsoil and seed/sod as specified. Backfilling and compaction of backfill in post holes shall be considered incidental to the removal of the fence

MEASUREMENT AND PAYMENT

E31.4 Removal of Wooden Fencing will be measured and paid on a length basis and paid for at the Contract Unit Price per metre for "Removal of Wooden Fencing". The length to be paid for will be the total number of metres wooden fence removed in accordance with this specification, accepted and measured by the Contract Administrator