



THE CITY OF WINNIPEG

TENDER

TENDER NO. 203-2026

**2026 LOCAL STREET RENEWAL PROGRAM 26-R-03 - CRESCENT DRIVE AND
VARIOUS OTHER LOCATIONS**

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 2026 Local Street Renewal Program 26-R-03 - Crescent Drive and Various Other Locations

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 12:00 noon Winnipeg time, April 8, 2026.

B2.2 The Contract Administrator or the Manager of Purchasing may extend the Submission Deadline by issuing an addendum at any time prior to the time and date specified in B2.1.

B3. SITE INVESTIGATION

B3.1 Further to C3.1, the Bidder may view the Site without making an appointment.

B3.2 The Bidder is advised that there are underground appurtenances including, but not limited to, high-pressure natural gas, telecommunication conduits, and sewer pipes in the areas of work and that locations should be confirmed in the field. The Bidder is also advised that special attention shall be paid to existing driveway surface types and that adjustments and replacement of existing paving stones and stamped concrete may be required.

B3.3 The Bidder is responsible for inspecting the Site, the nature of the Work to be done and all conditions that might affect their Bid or their performance of the Work, and shall assume all risk for conditions existing or arising in the course of the Work which have been or could have been determined through such inspection.

Stamped concrete is present at the following addresses: 75, 99, and 115 Waterbury Dr.

B4. ENQUIRIES

B4.1 All enquiries shall be directed to the Contract Administrator identified in D3.1.

B4.2 If the Bidder finds errors, discrepancies or omissions in the Tender, or is unsure of the meaning or intent of any provision therein, the Bidder shall notify the Contract Administrator of the error, discrepancy or omission, or request a clarification as to the meaning or intent of the provision at least five (5) Business Days prior to the Submission Deadline.

B4.3 Responses to enquiries which, in the sole judgment of the Contract Administrator, require a correction to or a clarification of the Tender will be provided by the Contract Administrator to all Bidders by issuing an addendum.

B4.4 Responses to enquiries which, in the sole judgment of the Contract Administrator, do not require a correction to or a clarification of the Tender will be provided by the Contract Administrator only to the Bidder who made the enquiry.

B4.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B4 unless that response or interpretation is provided by the Contract Administrator in writing.

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 they have 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 D3.

B7. SUBSTITUTES

B7.1 The Work is based on the plant, materials and methods specified in the Tender.

B7.2 Substitutions shall not be allowed unless an 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 their 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 they wish 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 their 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 their own name, their 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 their 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 their 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 their duly authorized officer or officers;
 - (d) if the Bidder is carrying on business under a name other than their 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.
- B10.1.1 Prices stated on Form B: Prices shall not include any costs which may be incurred by the Contractor with respect to any applicable funding agreement obligations as outlined in C24. Any such costs shall be determined in accordance with C24.
- 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, Part 2, Part 3 and Part 4 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 all parts and the mobilization/demobilization.

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

B11.3 Additional Material:

(a) N/A

B12. CONFLICT OF INTEREST AND GOOD FAITH

B12.1 Further to C3.3, 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 their 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 their 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 their 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 their 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 their 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 their sole discretion:
- (a) disqualify a Bidder that fails to disclose a perceived, potential or actual Conflict of Interest of the Bidder or any of their 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 their 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 their 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 their 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, Purchasing 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); and
 - (d) have completed the Accessible Customer Service online training required by the Accessibility for Manitobans Act (AMA) (see B13.5 and C6.19).
- 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 at https://www.winnipeg.ca/matmgt/Safety/safety_consultant.stm.
- B13.5 Further to B13.3(d), the Bidder acknowledges that they and all Subcontractors have obtained training required by the Accessibility for Manitobans Act (AMA) available at <https://accessibilitymb.ca/resources-events-and-training/online-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 their 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 at: <https://www.winnipeg.ca/media/4929/>.
- 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 their 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 their 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 their Bid or in other information required to be submitted, that they are 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 Where MRST is shown on Form B as a separate line item, if that Line item is not completed, the MRST shall be considered to be included in the Total Bid Price.
- B18.4.3 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 their 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 The Work of this Contract is contingent upon Council approval of sufficient funding in the 2026 Capital Budget. If the Capital Budget approved by Council does not include sufficient funding for the Work, the City will have no obligation to award a Contract.
- B19.4 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.
- B19.4.1 Following the award of contract, a Bidder will be provided with information related to the evaluation of their Bid upon written request to the Contract Administrator.
- B19.5 As noted in D2 and identified in Form B: Prices, the Work of Part 4 will be contingent upon Manitoba Hydro approving funding for the Work. If sufficient funding for Part 4 Work is not approved by Manitoba Hydro, the City shall have the right to eliminate all or any portion of Part 4 Work in accordance with D2.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for Construction* (Revision 2025-11-01) 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, Purchasing Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Tender to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for Construction*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

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

D2. SCOPE OF WORK

D2.1 The Work to be done under the Contract shall consist of four parts:

- (a) Part 1 – City Funded Work
- (b) Part 2 – Transit Improvements
- (c) Part 3 – Water and Waste Work
- (d) Part 4 – Manitoba Hydro Funded Work

Part 1 – City Funded Work

D2.2 Part 1 – City Funded Work shall consist of:

- (a) Asphalt Reconstruction
 - (i) Crowson Bay from Dowker Avenue to Dowker Avenue
 - (ii) Kenneth Street from Dowker Ave to End
 - (iii) Parker Avenue from 1223 Parker Avenue to Wynne Street
- (b) Asphalt Rehabilitation
 - (i) Crescent Drive from Pembina Highway to Crescent Drive Park Entrance
 - (ii) Boston Avenue from Hudson Street to Pembina Highway
- (c) Major Rehabilitation
 - (i) Waterbury Drive from Lindenwood Drive East to Lindenwood Drive East
- (d) Thin Bituminous Overlay
 - (i) Lindenwood Drive East Frontage Roads from Lindenwood Drive West to Farmingdale Boulevard
 - (ii) Lindenwood Drive West Frontage Roads from McGillivray to Lindenwood Drive East
- (e) Underground Works
- (f) Catch Basin / Catch Pit Renewals
 - (i) Various Locations on the streets identified above

Part 2 – Transit Improvements

D2.3 Part 2 – Transit Improvements shall consist of:

- (a) Transit / Bike Lane Improvements
 - (i) Crescent Drive from Pembina Highway to alley east of Pembina Highway
- (b) Transit Improvements
 - (i) Crescent Drive from Pembina Highway to South Drive

Part 3 – Water and Waste Work

D2.4 Part 3 – Water and Waste Work shall consist of:

- (a) Land Drainage Sewer Extension
 - (i) Crowson Bay
- (b) Land Drainage Sewer Installation

- (i) Kenneth Street
- (c) Water Main Renewal
 - (i) Parker Avenue
- (d) Sewer repairs
 - (i) Crowson Bay
 - (ii) Parker Avenue

Part 4 – Manitoba Hydro Funded Work

D2.5 Part 4 – Manitoba Hydro Funded Work shall consist of:

- (a) Street Lighting Installation and Associated Works
 - (i) Crescent Drive
 - (ii) Crowson Bay
 - (iii) Kenneth Street
 - (iv) Parker Avenue
 - (v) Waterbury Drive

D2.6 The major components of the Work are as follows:

- (a) Pavement Reconstruction (Parker Avenue, Crowson Bay, Kenneth Street)
 - (i) Complete required sewer repair (Parker Avenue, Crowson Bay)
 - (ii) Installation of new catch basins and sewer service pipe
 - (iii) Removal of existing asphalt pavement
 - (iv) Planing of existing asphalt pavement as required
 - (v) Removal of curbs and private approaches
 - (vi) Excavation to sub-grade
 - (vii) Subgrade compaction
 - (viii) Installation of sub-drains
 - (ix) Insulating watermains and water services
 - (x) Placement of geotextile fabric
 - (xi) Placement of geogrid
 - (xii) Installation of water service insulation
 - (xiii) Installation of sub-base and base course materials
 - (xiv) Construction of 150 mm barrier curb for asphalt pavements – utilizing slip-form paving equipment (SD-200A) (Crowson and Kenneth)
 - (xv) Construction of 150 mm concrete pavement (reinforced) on private approaches (or as shown on the Drawings) complete with monolithic 40 mm lip curb (SD-202F)
 - (xvi) Construction of 150mm barrier curb and reversed gutter for asphalt pavement – utilizing slip-form paving equipment (SD-200B) (Parker)
 - (xvii) Construction of modified barrier curb for asphalt pavements (SD-203C)
 - (xviii) Renewal of modified barrier curb for asphalt pavements (SD-203B)
 - (xix) Construction of curb ramp for asphalt pavements (SD-229FA)
 - (xx) Renewal of sidewalk slabs
 - (xxi) Boulevard restoration and sod
 - (xxii) Placement of asphalt pavement (Type MS2, 60 mm thickness)
 - (xxiii) Placement of asphalt pavement (Type MS1, 60 mm thickness)
 - (xxiv) Adjustment of existing catch basins, manholes and appurtenances
 - (xxv) Reflective crack maintenance
- (b) Pavement Rehabilitation (Crescent Drive, Boston Avenue)
 - (i) Complete required sewer repair

- (ii) Installation of new catch basins and sewer service pipe
 - (iii) Removal of existing Curb and Gutter (Boston Ave)
 - (iv) Asphalt and Pavement Repair
 - (v) Construction of 100 mm reveal barrier curb for asphalt pavements – utilizing slip-form paving equipment (SD-200A) (Boston Ave)
 - (vi) Installation of 40mm Lip Curb for asphalt pavement (Boston Ave and Waterbury Dr.)
 - (vii) Renewal of existing sidewalk slabs
 - (viii) Renewal of existing sidewalks c/w detectable warning tiles as required
 - (ix) Adjustment of existing catch basins, manholes and appurtenances
- (c) Pavement Major Rehabilitation (Waterbury Drive)
- (i) Renewal of miscellaneous pavement slabs (150mm reinforced concrete pavement)
 - (ii) Renewal of existing sidewalk slabs
 - (iii) Removal of existing Mountable Curb (removal by planing)
 - (iv) Installation of 100mm Barrier Curb utilizing slip-form paving equipment (SD-205)
 - (v) Installation of 40mm Lip Curb utilizing slip-form paving equipment (SD-202B)
 - (vi) Construction of new asphalt overlay
 - (vii) Renewal of existing sidewalks c/w detectable warning tiles as required
 - (viii) Adjustment of existing catch basins, manholes and appurtenances
- (d) Thin Bituminous Overlay (Lindenwood Dr E Frontages 371 to 419; Lindenwood Dr E Frontages 364 to 412; Lindenwood Dr E Frontages 348 to 308; Lindenwood Dr E Frontages 751 to 787; Lindenwood Dr E Frontages 795 to 839)
- (i) Renewal of miscellaneous pavement slabs (200mm reinforced concrete pavement)
 - (ii) Renewal of existing sidewalk slabs
 - (iii) Renewal of existing Barrier Curb (125mm reveal)
 - (iv) Renewal of existing Mountable Curb (50mm reveal)
 - (v) Renewal of existing Curb Ramp (8-12mm reveal)
 - (vi) Adjustment of existing catch basins, manholes and appurtenances
 - (vii) Construction of new asphalt overlay
- (e) Water and Waste Work:
- (i) Repair of sewer as required
 - (ii) Inspection of sewer repairs
 - (iii) Replacement of manhole benching as required
 - (iv) Replacement of existing concrete risers as required
 - (v) Patching of existing manholes as required
 - (vi) Installation of Land Drainage Sewer
 - (vii) Watermain renewal
- (f) Streetlights Renewal and Associated Work (Crescent Drive, Crowson Bay, Kenneth Street, Parker Avenue, Waterbury Drive)
- (i) Removal of street light poles and bases
 - (ii) Installation of 50 mm conduit by boring method complete with cable insertion
 - (iii) Installation of pole, davit arm and precast concrete base including luminaire and appurtenances.
 - (iv) Installation of one10' ground rod at every 3rd streetlight.
 - (v) Install lower 3 m of Cable Guard, ground lug, cable up pole, and first 3 m section of ground rod per Standard CD 315-5.
 - (vi) Install fused disconnect for temporary feed and maintain during construction.
 - (vii) Installation and connection of externally-mounted relay and PEC per Standards CD 315-12 and CD 315-13.

- (viii) Terminate 2/C #12 copper conductor to street light cables per Standard CD310-4, CD310-9 or CD310-10.
- (ix) Installation of overhead span of #6 duplex between new or existing streetlight poles and connect luminaire to provide temporary Overhead Feed.
- (x) Removal of overhead span of #6 duplex between new or existing streetlight poles to remove temporary Overhead Feed.
- (xi) Expose underground cable entrance of existing streetlight pole and install new streetlight cable.

D3. CONTRACT ADMINISTRATOR

D3.1 The Contract Administrator is Tetra Tech, represented by:

Jeff Crang, P.Eng., PTOE
Senior Transportation Engineer
Telephone No. (431) 554-5718
Email Address jeff.crang@tetrattech.com

D3.2 At the pre-construction meeting, the Contract Administrator will identify additional personnel representing the Contract Administrator and their respective roles and responsibilities for the Work.

D4. CONTRACTOR'S SUPERVISOR

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

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

D5. FURNISHING OF DOCUMENTS

D5.1 Upon award of the Contract, the Contractor will be provided with 'issued for construction' Contract Documents electronically, including Drawings in PDF format only.

SUBMISSIONS

D6. AUTHORITY TO CARRY ON BUSINESS

D6.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

D7. SAFE WORK PLAN

D7.1 The Contractor shall provide the Contract Administrator with a Safe Work Plan at least five (5) Business Days prior to the commencement of any Work on the Site.

D7.2 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, Purchasing Division website at <http://www.winnipeg.ca/matmgt/safety/default.stm>

D7.3 Notwithstanding B13.4 at any time during the term of the Contract, the City may, at their 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.

D8. INSURANCE

D8.1 The Contractor shall provide and maintain the 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 added as an additional insured, with a cross-liability clause, contractual liability, unlicensed motor vehicle liability (contractor's equipment), non-owned automobile liability, sudden and accidental pollution liability coverage, no exclusions and products and completed operations endorsement, to remain in place at all times during the performance of the Work and throughout the Warranty period.
- (b) 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) All risks Installation Floater carrying adequate limits to cover all₇ supplies and/or materials intended to enter into and form part of any installation.
- (d) All risks property insurance for all Contractors equipment and tools to be used in the connection of the work.

D8.2 Deductibles shall be borne by the Contractor.

D8.3 All policies shall be taken out with insurers licensed to carry on business in the Province of Manitoba.

D8.4 The Contractor shall provide:

- (a) The certificate of insurance, in a form satisfactory to the Supervisor of Insurance, to:
The City of Winnipeg
Risk Management
Insurance Section
185 King Street, 3rd Floor
Winnipeg, MB R3B 1J1
- (b) The Contract Administrator with a copy of the certificate of insurance.
At least two (2) Business Days of notification of the award of the Contract prior to the commencement of any Work on the Site.

D8.5 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 Supervisor of Insurance.

D9. CONTRACT SECURITY

D9.1 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 amount of fifty percent (50%) of the Contract Price; and
- (b) labour and material payment bond of a company registered to conduct the business of a surety in Manitoba, in an amount equal to fifty percent (50%) of the Contract Price.

D9.1.1 Bonds are available at:

- (a) Performance Bond <https://www.winnipeg.ca/media/4928/>
 - (i) Performance Bond – Schedule A - Form of Notice <https://www.winnipeg.ca/media/4831/>
 - (ii) Performance Bond – Schedule B – Surety's Acknowledgement <https://www.winnipeg.ca/media/4832/>
 - (iii) Performance Bond – Schedule C – Surety's Position <https://www.winnipeg.ca/media/4833/>

- (b) Labour & Material Payment Bond <https://www.winnipeg.ca//media/4930/>
 - (i) L&M Bond – Schedule A – Notice of Claim
<https://www.winnipeg.ca/media/4834/>
 - (ii) L&M Bond – Schedule B – Acknowledgement of a Notice
<https://www.winnipeg.ca/media/4835/>
 - (iii) L&M Bond – Schedule C – Surety's Position
<https://www.winnipeg.ca/media/4836/>

- D9.1.2 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 D9.1(b).

- D9.1.3 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 their discretion, exercised reasonably, allows.

- D9.1.4 Digital bonds passing the verification process will be treated as original and authentic.

D9.2 The Contractor shall provide:

- (a) The required Contract Security to:
The City of Winnipeg
Legal Services Department
185 King Street, 3rd Floor
Winnipeg, MB R3B 1J1

- (b) The Contract Administrator with copies of the required Contract Security.

Within seven (7) Calendar Days of notification of the award of the Contract and prior to the commencement of any Work on the Site.

D9.3 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 D9.1(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.

D10. SUBCONTRACTOR LIST

- D10.1 The Contractor shall provide the Contract Administrator with a complete list of the Subcontractors whom the Contractor proposes to engage (Form J: Subcontractor List) at or prior to a pre-construction meeting, or at least two (2) Business Days prior to the commencement of any Work on the Site.

D11. DETAILED WORK SCHEDULE

- D11.1 The Contractor shall provide the Contract Administrator with a detailed work schedule at least two (2) Business Days prior to the commencement of any Work on the Site.
- D11.2 If, prior to submitting the Detailed Work Schedule, the Contractor does not receive notification pursuant to D13.4 that all or some portion of Part 4 of the Work may be commenced, they shall complete Form L: Detailed Work Schedule for only Part 1, 2 and 3 of the Work assuming that, if all of Part 4 is eliminated, the time periods stipulated in D19 for Substantial Performance of the Work and in D20 for Total Performance of the Work will be reduced by two (2) Working Days.
- D11.3 If, after submitting the Detailed Work Schedule, the Contractor receives notification that all or any portion of Part 4 of the Work may be commenced, they shall submit a revised Detailed Work Schedule no later than two (2) Business Days from receipt of the notification.
- D11.4 The detailed work schedule shall consist of the following:
- (a) a Gantt chart for the Work based on the C.P.M. schedule and all acceptable to the Contract Administrator.
- D11.5 Further to D11.4(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.

D12. REQUIREMENTS FOR SITE ACCESSIBILITY PLAN

- D12.1 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.
- D12.2 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.
- D12.3 The Accessibility Plan may also include figures, sketches, or drawings to demonstrate the proposed plan.
- D12.4 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
- D12.5 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.

- D12.6 Any changes to the Accessibility Plan must be approved by the Contract Administrator.
- D12.7 Upon request from the Contract Administrator, the Contractor shall provide records demonstrating that the site has been maintained.
- D12.8 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

D13. COMMENCEMENT

- D13.1 The Contractor shall not commence any Work until they are in receipt of an award letter from the Award Authority authorizing the commencement of the Work.
- D13.2 The Contractor shall not commence any Work on the Site until:
- (a) The Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D6;
 - (ii) evidence of the workers compensation coverage specified in C6.17;
 - (iii) the twenty-four (24) hour emergency response phone number specified in D4.2.
 - (iv) the Safe Work Plan specified in D7;
 - (v) evidence of the insurance specified in D8;
 - (vi) evidence of the contract security specified in D9;
 - (vii) the subcontractor list specified in D10;
 - (viii) the detailed work schedule specified in D11;
 - (ix) the Requirements for Site Accessibility Plan specified in D12; and
 - (x) the direct deposit application form specified in C12.20.
 - (b) The Contractor has attended a pre-construction meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a pre-construction meeting.
- D13.3 The Contractor shall not commence the Work on the Site before May 19, 2026, and shall commence the Work on Site no later than May 25, 2026, as directed by the Contract Administrator and weather permitting.
- D13.4 The Contractor shall not commence Part 4 of the Work as described in D2 and identified in Form B: Prices, unless prior to May 31, 2026, they have received notification from the Contract Administrator that the City has received notice of sufficient funding from the Province.
- D13.5 The City intends to award this Contract by May 8, 2026.
- D13.5.1 If the actual date of award is later than the intended date, the dates specified for Critical Stages, Substantial Performance, and Total Performance will be adjusted by the difference between the aforementioned intended and actual dates.

D14. WORKING DAYS

D14.1 Further to C1.1(tt);

D14.1.1 The Contract Administrator will determine daily if a Working Day has elapsed and will record their 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 they agree with the Contract Administrator's determination of the Working Days assessed for the report period.

D14.1.2 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.

D14.1.3 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.

D15. RESTRICTED WORK HOURS

D15.1 Further to 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.

D16. WORK BY OTHERS

D16.1 Further to C6.26, 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.

D16.2 Work by others on or near the Site will include but not necessarily be limited to:

- (a) Winnipeg Transit – operation of regular bus routes (Crescent Dr.)
- (b) Manitoba Hydro - Street lighting renewal is required by the Contractor on Crowson Bay, Kenneth St., and Waterbury Dr. Manitoba Hydro will be renewing four streetlights on Crescent Drive and four street lights on Parker Ave. Hydro will be performing the following tasks:
 - (i) Supply and inspection of new street lighting hardware, de-energizing existing streetlights and re-energizing the new street light plant once approved by Manitoba Hydro; and
 - (ii) Relocation of existing street light poles, bases and cabling as required
- (c) Bell/MTS – adjustment of manhole frames and covers
- (d) City of Winnipeg Traffic Services – temporary removal of two-hour parking restriction, restoration of permanent signage and pavement marking.
- (e) Manitoba Hydro Gas – rock wrapping and/or lowering for gas crossings where required. As well, there may be a 60.3 mm gas line relocation on Parker Ave. The Contractor is responsible for coordinating this work with Manitoba Hydro Gas. Gas services will be lowered or relocated horizontally if required in roadwork reconstruction locations. This work shall be coordinated immediately after excavation has taken place. It shall form part of the Contractor's schedule and will not be considered a delay to the work.
- (f) Manitoba Hydro Distribution – street lighting cables, bases and poles removal, replacement and repair, and safety watch as required.
- (g) City of Winnipeg Geomatics Branch – the Contractor is to acquire locates from the Geomatics Branch. If any permanent geomatics infrastructure is required to be disturbed during construction activities, the Contractor is to notify the Contract Administrator for documentation.
- (h) City of Winnipeg Traffic Signals Branch – installation/modification of traffic signal plant at the intersection of Crescent Dr. and Pembina Highway.

- (i) City of Winnipeg Water & Waste Department – possible investigation of services, operating watermain valves, emergency repairs to Water and Waste Department infrastructure.

D16.3 Further to D16.1 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 D16.2 or additional parties, in their construction schedule as per D11 and accommodate the necessary area on Site required for the Work by Others to complete the Work.

D17. SEQUENCE OF WORK

D17.1.1 Further to C6.1, each street shall be staged as follows:

D17.1.2 Boston Avenue

- (a) **Stage I** – Westbound rehabilitation (Hudson St. to Pembina Hwy)
- (b) **Stage II** – Eastbound rehabilitation (Hudson St. to Pembina Hwy)
- (c) **Stage III** – Westbound and Eastbound asphalt paving (Hudson St. to Pembina Hwy)

D17.1.3 Crescent Drive (includes landscaping and asphalt paving at each stage)

- (a) **Stage I** – Lane-at-a-time rehabilitation (East of Kebir Place to South Dr. intersection)
- (b) **Stage II** – Lane-at-a-time rehabilitation (Pembina Hwy to West of Nesbitt Bay intersection)
- (c) **Stage III** – Lane-at-a-time rehabilitation (East of South Dr. intersection to Crescent Drive Park entrance)
- (d) **Stage IV** – Lane-at-a-time rehabilitation (East of Nesbitt Bay intersection to East of Kebir Place intersection)

D17.1.4 Crowson Bay

- (a) **Stage I** – Underground Works installation (CBs and LDS extension)
- (b) **Stage II** – West Half of bay reconstruction (including bottom lift of asphalt)
- (c) **Stage III** – East Half of bay reconstruction (including bottom lift of asphalt)
- (d) **Stage IV** – Entire Bay placement of top lift of asphalt (lane-at-a time)

D17.1.5 Kenneth Street

- (a) **Stage I** – Underground Works installation (CBs and LDS installation)
- (b) **Stage II** – Street reconstruction

D17.1.6 Parker Avenue

- (a) **Stage I** – Watermain installation (Rockman St. to Wynne St.)
- (b) **Stage II** – Street reconstruction (1139 Parker Avenue to East Limit) including landscaping and asphalt paving.
- (c) **Stage III** – Street reconstruction (West Limit to 1139 Parker Avenue) including landscaping and asphalt paving.

D17.1.7 Waterbury Drive

- (a) **Stage I** – Southbound Lane rehabilitation
- (b) **Stage II** – Northbound Lane rehabilitation
- (c) **Stage III** – Asphalt paving (lane-at-a-time, lower lift both lanes first)

D17.1.8 Lindenwood Drive West and Lindenwood Drive East

- (a) **No staging required**

D17.1.9 Work on each street shall proceed in accordance with the construction staging plan outlined above, unless otherwise approved by the Contract Administrator.

- D17.1.10 Work on **Crescent Drive** shall not commence until after June 21, 2026 due to the Manitoba Marathon utilizing this street.
- D17.1.11 Work on **Kenneth Street** and **Crowson Bay** shall not commence until July 2, 2026 and be totally performed by August 28, 2026.
- D17.1.12 Immediately following the completion of the asphaltic concrete works and landscaping, 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.
- D17.1.13 Placing the topsoil and finished grading of all boulevard and median areas shall be completed prior to commencing construction of asphaltic concrete overlays, including scratch courses.
- D17.1.14 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.
- D17.1.15 Where the Contractor utilizes two (2) or more crews that work independently on the same major component of the Work as identified in D2, the Contract Administrator may approve an increase to the maximum number of streets under construction at any time.

D18. CRITICAL STAGES

- D18.1 The Contractor shall achieve critical stages of the Work in accordance with the following requirements:
- (a) **Critical Stage 1** – Work on Crowson Bay shall be totally performed by August 28, 2026.
 - (b) **Critical Stage 2** – Work on Kenneth Street shall be totally performed by August 28, 2026.
- D18.2 When the Contractor considers the Work associated with Critical Stage 1 and 2 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.
- D18.3 The date on which the Critical Stage 1 and 2 Work has been accepted by the Contract Administrator as being completed to the requirements of the Contract is the date on which completion of Critical Stage 1 and 2 has been achieved.

D19. SUBSTANTIAL PERFORMANCE

- D19.1 The Contractor shall achieve Substantial Performance within eighty-five (85) consecutive Working Days of the commencement of the Work as specified in D13.
- D19.2 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.
- D19.3 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.

D20. TOTAL PERFORMANCE

- D20.1 The Contractor shall achieve Total Performance within ninety (90) consecutive Working Days of the commencement of the Work as specified in D13.

- D20.2 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.
- D20.3 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.

D21. LIQUIDATED DAMAGES

- D21.1 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 ^ for each and every ^ following the days fixed herein for same during which such failure continues:
- (a) Critical Stage (per stage) – four thousand dollars (\$4,000.00);
 - (b) Substantial Performance – four thousand dollars (\$4,000.00);
 - (c) Total Performance – two thousand dollars (\$2,000.00).
- D21.2 The amounts specified for liquidated damages in D21.1 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.
- D21.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D22. SCHEDULED MAINTENANCE

- D22.1 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) Reflective Crack Maintenance as specified in CW 3250-R7
- D22.2 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

D23. JOB MEETINGS

- D23.1 Regular weekly job meetings will be held on site. These meetings shall be attended by a minimum of one representative of the Contract Administrator, one representative of the City and one representative of the Contractor. Each representative shall be a responsible person capable of expressing the position of the Contract Administrator, City and the Contractor respectively on any matter discussed at the meeting including the Work schedule and the need to make any revisions to the Work schedule. The progress of the Work will be reviewed at each of these meetings.
- D23.2 The Contract Administrator reserves the right to cancel any job meeting or call additional job meetings whenever they deem it necessary.

D24. PRIME CONTRACTOR – THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA)

- D24.1 Further to C6.27, 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).

D25. THE WORKPLACE SAFETY AND HEALTH ACT (MANITOBA) – QUALIFICATIONS

D25.1 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 their sole discretion and acting reasonably, require updated proof of compliance, as set out in B13.4.

PAYMENT

D26. FUEL PRICE ADJUSTMENT

D26.1 The Contract is subject to a fuel price adjustment which will be calculated monthly based on eligible Work completed utilizing the following mathematical formulas;

- (a) where the price of fuel has increased - $((CFI/BFI)-1.15) \times Q \times FF$; and
- (b) where the price of fuel has decreased - $((CFI/BFI)-0.85) \times Q \times FF$; where
 - (i) BFI = base fuel index
 - (ii) CFI = current fuel index
 - (iii) FF = fuel factor
 - (iv) Q = monetary value of Work applied in the calculation.

D26.1.1 Eligible Work will be determined in accordance with D26.5.

D26.1.2 The base fuel index (BFI) will be the retail price of fuel identified on the Submission Deadline based on latest published "Monthly average retail prices for gasoline and fuel by geography" for Winnipeg, published by [Statistics Canada, Table 18-10-0001-01](#). The BFI is a blended rate based on 15% regular unleaded gasoline at self-service filling stations and 85% diesel fuel at self-service filling stations.

D26.1.3 The current fuel index (CFI) based on the above blended rate will be determined for each monthly progress estimate and applied on the following progress estimate as a change order once rates are published by Statistics Canada.

D26.1.4 A Fuel Factor (FF) rate of the monetary value of all eligible Work completed that month based on the Contract unit prices will be used to calculate the assumed apportioned cost of fuel.

D26.2 Fuel cost adjustments may result in additional payment to the Contractor or credit to the City within the Contract by way of a monthly change order.

D26.3 The fuel escalation or de-escalation adjustment will not be applied if the CFI is within $\pm 15\%$ of the BFI.

D26.4 Fuel escalation adjustments will not be considered beyond the Substantial Performance/Critical Stages except where those dates/Working Days are adjusted by change order. Fuel de-escalation adjustments will apply for Work that extends beyond the dates/Working Days specified for Substantial Performance/Critical Stages.

D26.5 The Fuel Factor (FF) rates will be set as follows:

- (a) The Fuel Factor rate shall be set at 2.7% of the monetary value of all Work based on unit prices except for the portions of the Contract identified below;

WARRANTY

D27. WARRANTY

D27.1 Notwithstanding C13.2, the warranty period shall begin on the date of Substantial Performance and shall expire one (1) years thereafter for pavement rehabilitations and thin bituminous overlays (including Water and Waste works on the applicable streets and streetlighting), and transit improvements, and two (2) years thereafter for asphalt reconstruction works (including Water and Waste works on the applicable

streets and streetlighting), unless extended pursuant to C13.2.1 or C13.2.2, in which case it shall expire when provided for thereunder.

- D27.1 Notwithstanding C13.2 or D27.1, the Contract Administrator may permit the warranty period for a portion or portions of the Work to begin prior to the date of Substantial Performance if:
- (a) 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.
- D27.1.1 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.

INDEMNITY

D28. INDEMNITY

- D28.1 Indemnity shall be as stated in C17.

FORM J: SUBCONTRACTOR LIST
(See D10)

2026 LOCAL STREET RENEWAL PROGRAM 26-R-03 – CRESCENT DR, BOSTON AV, CROWSON BY,
KENNETH ST, PARKER AV, WATERBURY DR AND VARIOUS OTHER LOCATIONS

<u>Portion of the Work</u>	<u>Name</u>	<u>Address</u>
Supply of Materials:		
Concrete		
Asphalt		
Base course		
Catch basins and catch pits		
Frames and covers		
Pipes and fittings		
Geotextile / Geogrid		
Topsoil and sod		
Installation/Placement:		
Concrete		
Asphalt		
Base course		
Catch basins and catch pits		
Topsoil and sod		

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 their 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, Purchasing 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	A1
C001	Asphalt Rehabilitation Crescent Drive (Pembina Hwy to Sta 0+140)	A1
C002	Asphalt Rehabilitation Crescent Drive (Sta 0+140 to Sta 0+290)	A1
C003	Asphalt Rehabilitation Crescent Drive (Sta 0+290 to Sta 0+440)	A1
C004	Asphalt Rehabilitation Crescent Drive (Sta 0+440 to Sta 0+590)	A1
C005	Asphalt Rehabilitation Crescent Drive (Sta 0+590 to Sta 0+730)	A1
C006	Asphalt Rehabilitation Crescent Drive (Sta 0+730 to Sta 0+870)	A1
C007	Asphalt Rehabilitation Crescent Drive (Sta 0+870 to Crescent Park)	A1
C008	Asphalt Rehabilitation Boston Avenue (Hudson St to Sta 1+150)	A1
C009	Asphalt Rehabilitation Boston Avenue (Sta 1+150 to Pembina Hwy)	A1
C010	Asphalt Reconstruction Crowson Bay (Dowker Ave to Sta 0+130)	A1
C011	Asphalt Reconstruction Crowson Bay (Sta 0+130 to Sta 0+200)	A1
C012	Asphalt Reconstruction Crowson Bay (Sta 0+200 to Dowker Ave)	A1
C013	Asphalt Reconstruction Kenneth Street (Dowker Ave to Sta 1+088)	A1
C014	Asphalt Reconstruction Parker Avenue (West Limit to Sta 0+150)	A1
C015	Asphalt Reconstruction Parker Avenue (Sta 0+150 to Sta 0+300)	A1
C016	Asphalt Reconstruction Parker Avenue (Sta 0+300 to Sta 0+455)	A1
C017	Asphalt Reconstruction Parker Avenue (Sta 0+455 to Wynne St)	A1
C018	Major Rehabilitation Waterbury Drive (Lindenwood Dr E to Sta 0+250)	A1
C019	Major Rehabilitation Waterbury Drive (Sta 0+250 to Sta 0+400)	A1
C020	Major Rehabilitation Waterbury Drive (Sta 0+400 to Sta 0+550)	A1
C021	Major Rehabilitation Waterbury Drive (Sta 0+550 to Sta 0+690)	A1
C022	Major Rehabilitation Waterbury Drive (Sta 0+690 to Lindenwood Dr E)	A1
C023	Thin Bituminous Overlay Lindenwood Dr. E (#371/419, #348/308, #364/412) and Lindenwood Dr. W Frontage (#751/787, #795/839)	A1
C024	Standard Details Sheet 1 of 2	A1
C025	Standard Details Sheet 2 of 2	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;
 - (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 D12 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 20 square metres, 2.4 metres height, with a minimum of two windows for cross-ventilation and a door entrance with a secure lock.
- (d) The building shall be suitable for all weather use. It shall be equipped with an ^ 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 LED fixtures and a minimum of three electrical duplex outlets.
- (f) The building shall be furnished with suitable desk and minimum eight 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 they deem it necessary.
- (i) Converted seacan will not be acceptable.

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.

E4.4 On a one time basis, where directed by the Contract Administrator, the Contractor shall relocate the office facilities to a location more convenient for the remaining Work.

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 their designate.

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

E5.4 Except as required in 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 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 supplying, removing, placing and maintaining all regulatory signing including but not limited to:
 - (i) Parking restrictions;
 - (i) Notwithstanding the general parking restrictions required on the streets under construction, the contractor shall be responsible for implementing parking restrictions at various locations on Nesbitt Bay and Kebir Place as indicated by the Contractor Administrator.
 - (ii) Stopping restrictions;
 - (iii) Turn restrictions;
 - (iv) 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 Upon request from the Contract Administrator, the Contractor shall provide records demonstrating that the site has been maintained.
- E6.3 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.
- E6.4 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.
- E6.5 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 The Contractor shall submit a customized Traffic Management Plan for each street and stage (as indicated in D18). Although a traffic management plan within the City of Winnipeg's Manual on Temporary Traffic Control can be used as a reference each street under each stage shall be illustrated. This includes all traffic control devices necessary to safely accommodate vehicular, bicycle and pedestrian traffic within the vicinity of construction. The Traffic Management drawings shall be produced in a professional manner that is to scale showing the placement of traffic control devices accurately with dimensions between devices illustrated on an aerial photo. These drawings shall be submitted to the Contractor Administrator for review ten (10) days prior to the commencement of construction for any single street.
- E7.2 Further to 3.7 of CW 1130:
- E7.2.1 The Contractor shall develop traffic management plans to meet the following:
- (a) Boston Avenue – Stage I: Eastbound vehicular traffic shall be maintained on Boston Ave. at all times. Pedestrian traffic shall be accommodated on the south sidewalk. Stage II: Westbound traffic shall be maintained at all times on Boston Ave. Pedestrian traffic shall be accommodated on the north sidewalk. Access to residential approaches and Syndicate Avenue approaches shall be maintained at all times during Stage I and Stage II other than when rehabilitating an approach. During asphalt paving, Boston Ave. can be closed to traffic.
 - (b) Crescent Drive – Stage I: Eastbound traffic (including but not limited to buses and cyclists) shall be maintained on Crescent Dr. Westbound traffic (including buses) shall be detoured to Kebir Place beginning at South Dr and ending at Crescent Dr. Pedestrian traffic shall be accommodated within the section of Crescent Dr. under construction. Stage II: Westbound traffic (including but not limited to buses and cyclists) shall be maintained on Crescent Dr. Eastbound traffic (including buses) shall be detoured to Nesbitt Bay beginning at Pembina Highway and ending at Crescent Dr. Pedestrian traffic shall be accommodated within the section of Crescent Dr. on either the north sidewalk or south sidewalk. Stage III: Eastbound traffic (including but not limited to buses and cyclists) shall be maintained on Crescent Dr. Pedestrian traffic shall be accommodated within the section of Crescent Dr. under construction. Stage IV: Westbound traffic (including but not limited to buses and cyclists) shall be maintained on Crescent Dr. Pedestrian traffic shall be accommodated within the section of Crescent Dr. on either the north sidewalk or south sidewalk. Access to residential and business approaches shall be maintained at all times during all stages other than when rehabilitating the approach.
 - (c) Crowson Bay – Stage I: Bi-directional vehicular traffic shall be maintained on Crowson Bay Ave. at all times other than when a CB lead is to be installed. Pedestrian traffic shall be accommodated. Stage II: West half of bay closed to traffic. East half of bay shall have bi-directional traffic maintained at all times. Pedestrian traffic shall be accommodated within the Work Area. Stage III: East half of bay closed to traffic. West

half of bay shall have bi-directional traffic maintained at all times. Pedestrian traffic shall be accommodated within the Work Area. Stage IV: during asphalt paving, Crowson Bay can be closed to traffic.

- (d) Kenneth Street – Stage I: Bi-directional vehicular traffic shall be maintained on Kenneth St. at all times other than when a CB lead is to be installed. Pedestrian traffic shall be accommodated. Stage II: Street closed to traffic. Pedestrian traffic shall be accommodated within the Work Area.
- (e) Parker Avenue – Stage I: Westbound vehicular traffic shall be maintained on Parker Ave. at all times other than when a water service is to be installed. Pedestrian traffic shall be accommodated. Stage II: Maintain access to Heatherdale Ave. via Daniel Street and Derek St. Parker Ave to be closed to eastbound and westbound traffic between 1139 Parker and Wynne St. Pedestrian traffic shall be accommodated within the Work Area. Stage III: Maintain access to Heatherdale Ave. via Rockman Street and Wynne St. Parker Ave to be closed to eastbound and westbound traffic between 1139 Parker Ave. and 1223 Parker Ave. Pedestrian traffic shall be accommodated within the Work Area.
- (f) Waterbury Drive – Stage I: Northbound vehicular traffic shall be maintained at all times on Waterbury Dr. Pedestrian traffic shall be accommodated. Stage II: Southbound traffic shall be maintained at all times on Waterbury Dr. Pedestrian traffic shall be accommodated. Access to residential approaches, and Hollington Road approaches shall be maintained at all times during Stage I and Stage II other than when rehabilitating an approach. For Hollington Road if one approach is closed for rehabilitation the other approach shall be maintained. During asphalt paving, Waterbury Dr. can be closed to traffic.

E7.2.2 Lane closures on intersecting regional streets shall be reviewed with the Contract Administrator prior to submission of the lane closure request.

E7.2.3 Should the Contractor be unable to maintain an existing access to a residence or business, they 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.

E7.2.4 Pedestrian and 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:

Crescent Drive

Collection Day(s): **Wednesday**

Collection Time: **7:00 AM**

Stage 1: All Crescent Dr carts (between Kebir Pl and South Dr) need to be placed on the centre line of the street when the south side of Crescent Dr. is under construction and placed on the south gutter of the street when the north side of Crescent Dr. is under construction. Place bins from 6 and 12 Dove Bay on the opposite side of the street for collection.

Common Collection Area:

Stage 2: All Crescent Dr carts (between Pembina Hwy and Nesbitt Bay) need to be placed on the north gutter of the street when the south side of Crescent Dr. is under construction and placed on the centre line of the street when the north side of Crescent Dr. is under construction. If Riviera Cres is not accessible at both ends of the lane all Riviera Cres. carts must be brought to 990 Riviera Cres.

Stage 3. All Crescent Dr carts (between South Dr and South Drive Park Entrance) need to be placed on the centre line of the street when the south side of Crescent Dr. is under construction and placed on the south gutter of the street when the north side of Crescent Dr. is under construction

Stage 4: All Crescent Dr carts within the construction zone to be moved to Nesbitt intersection. All Kebir Pl carts (between 871 Kebir and the Crescent intersection) are to be moved to 871 Kebir Pl.

Note: if any of the above is not feasible from the construction or City of Winnipeg Solid Waste management perspective then the carts shall be moved to the intersection as directed by the Contract Administrator.

Boston Avenue

Collection Day(s): **Wednesday**

Collection Time: **7:00 AM**

Common Collection Area: **Back Lane**

Crowson Bay

Collection Day(s): **Wednesday**

Collection Time: **7:00 AM**

Common Collection Area: **Stage 1 Front Street**

Stage 2, 3 and 4 All carts need to be brought to both ends of Bay

Kenneth Street

Collection Day(s): **Wednesday**

Collection Time: **7:00 AM**

Common Collection Area: **Stage 1 and 2 All carts need to be brought to Dowker Ave intersection**

Parker Avenue

Collection Day(s): **Wednesday**

Collection Time: **7:00 AM**

Common Collection Area: **Back Lane**

Waterbury Drive

Collection Day(s): **Monday**

Collection Time: **9:00 AM**

Common Collection Area: **Contractor to bring cart to accessible side of Waterbury Dr.**

Lindenwood Drive E

Collection Day(s): **Monday**

Collection Time: **9:00 AM**

Common Collection Area: **Contractor to bring carts to accessible side of the street**

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

E9. PEDESTRIAN SAFETY

E9.1 During the project, at all street locations, a temporary snow fence shall be installed around all shafts. The Contractor shall be responsible for maintaining the snow fence in a proper working condition. No measurement for payment shall be made for this work.

E10. WATER OBTAINED FROM THE CITY

E10.1 Further to 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 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 495 Archibald 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. PARTIAL DEPTH AND FULL DEPTH ASPHALT PAVEMENT REPAIR

DESCRIPTION

E13.1 General

E13.1.1 This specification covers the construction of both partial depth asphalt pavement repair and full depth pavement repair in preparation for asphalt overlays on Crescent Drive and Boston Avenue.

E13.1.2 Referenced Standard Construction Specifications

- (a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.
- (b) CW 3130 – Supply and Installation of Geotextile Fabrics.
- (c) CW 3135 - Supply and Installation of Geogrid
- (d) CW 3140 – Supply and Installation of Pavement Repair Fabric Type A.
- (e) Appendix 'J' – Special Provision for Asphalt Pavement Works Materials

E13.2 Use only materials listed as Approved Products for Surface Works. The Approved Products are available in Adobe Acrobat (.pdf) format at the City of Winnipeg, Corporate Finance, Material Management Internet site at:
https://legacy.winnipeg.ca/finance/findata/matmgt/std_const_spec/current/Docs/Approved_Product_Surface_Works.pdf

E13.3 Base Course Material

E13.3.1 Granular A Base Course material will have a maximum aggregate size of 25 millimetres and be supplied in accordance with CW 3110.

E13.4 Separation/Filtration Geotextile Fabric

E13.4.1 Separation/Filtration Geotextile Fabric for use shall be non-woven in accordance with Section 2.5 of Specification CW 3130.

E13.5 Geogrid

E13.5.1 Geogrid approved for use shall be in accordance with Section 2.5 of Specification CW 3135.

E13.6 Asphalt Material

E13.6.1 Asphalt material shall be in accordance with Appendix 'J' - Special Provision for Asphalt Pavement Works and shall replace the City of Winnipeg Standard Construction Specification CW 3410 – Asphaltic Concrete Pavement Works.

E13.7 Pavement Repair Fabric

E13.7.1 Type A Pavement Repair Fabric shall be used and meet the requirements of CW 3140.

CONSTRUCTION METHODS

E13.8 Full Depth Asphalt Pavement Repair

E13.8.1 Remove by first neatly saw-cutting the existing asphalt pavement at locations as shown on the Drawings or as directed by the Contract Administrator in accordance with Section 3.1 of Specification CW 3110.

E13.8.2 Excavate to a depth of 250 millimetres, or as directed by the Contract Administrator, below the top of the existing pavement in accordance with Section 3.2 of Specification CW 3110.

E13.8.3 Compact existing sub-grade to a minimum of 95% Standard Proctor Density in accordance with Section 3.3 of Specification CW 3110.

- E13.8.4 Supply and install separation/filtration geotextile fabric and geogrid in accordance with Specification CW 3130 and CW 3135 respectively.
- E13.8.5 Place and compact base course material in accordance with Section 3.6 of Specification CW 3110 to a compacted depth of 150 millimetres. Compact to a minimum of 100% Standard Proctor Maximum Dry Density in accordance with Section 3.6 of Specification CW 3110.
- E13.8.6 Place and compact MS2 asphalt material in two 45 millimetre compacted depth layers, matching the top of the existing milled asphalt pavement on the second lift. Each layer must be levelled and accepted by the Contract Administrator before the succeeding layer may be placed.
- E13.8.7 Additional excavation and placement of base course material beyond the identified pavement structure will be completed and paid for in accordance with CW 3110 as directed by the Contract Administrator.
- E13.8.8 Pavement Repair Fabric shall be placed on the asphalt pavement repair just prior to the length of the final lift of asphalt. The fabric shall extend 150 mm beyond the perimeter of the repair.
- E13.9 Partial Depth Asphalt Pavement Repair
- E13.9.1 Mill 50 millimetres of existing asphalt pavement at locations as shown on the Drawings or as directed by the Contract Administrator in accordance with Section 3.1 of Specification CW 3450.
- E13.9.2 Place and compact MS2 asphalt material in one 50-millimetre compacted depth layer, matching the top of the existing milled asphalt pavement.
- E13.9.3 Pavement Repair Fabric shall be placed on the asphalt pavement repair just prior to the length of the final lift of asphalt. The fabric shall extend 150 mm beyond the perimeter of the repair.

MEASUREMENT AND PAYMENT

- E13.10 Partial Depth Asphalt Pavement Repair
- E13.10.1 Partial Depth Asphalt Pavement Repair will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Partial Depth Asphalt Pavement Repair". The area to be paid for will be the total number of square metres of pavement repair in accordance with this specification, accepted and measured by the Contract Administrator. All equipment, labour, materials as detailed in this specification are considered incidental to the payment for Partial Depth Asphalt Pavement Repair. No separate payment for the equipment, labour or material will be made.
- E13.11 Full Depth Asphalt Pavement Repair
- E13.11.1 Full Depth Asphalt Pavement Repair will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Full Depth Asphalt Pavement Repair". The area to be paid for will be the total number of square metres of pavement repair in accordance with this specification, accepted and measured by the Contract Administrator. All equipment, labour, materials as detailed in this specification are considered incidental to the payment for Full Depth Asphalt Pavement Repair. No separate payment for the equipment, labour or material will be made.

E14. CONSTRUCTION OF BARRIER CURB / LIP CURB FOR ASPHALT PAVEMENT

DESCRIPTION

- E14.1 General
- E14.1.1 This specification covers the construction of barrier and/or lip curb in preparation for asphalt overlay on Boston Avenue. This includes the repair of the pavement in front of the

curb and to concrete repair of the private approach behind the curb. The removal of existing curb is not included in this specification.

E14.1.2 Referenced Standard Construction Specifications

- (a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction.
- (b) CW 3130 – Supply and Installation of Geotextile Fabrics.
- (c) CW 3135 - Supply and Installation of Geogrid
- (d) CW 3140 – Supply and Installation of Pavement Repair Fabric Type A.
- (e) Appendix 'J' – Special Provision for Asphalt Pavement Works Materials

MATERIALS

E14.2 Use only materials listed as Approved Products for Surface Works. The Approved Products are available in Adobe Acrobat (.pdf) format at the City of Winnipeg, Corporate Finance, Material Management Internet site at:

https://legacy.winnipeg.ca/finance/findata/matmgt/std_const_spec/current/Docs/Approved_Product_Surface_Works.pdf

E14.3 Separation/Filtration Geotextile Fabric

E14.3.1 Separation/Filtration Geotextile Fabric for use shall be non-woven in accordance with Section 2.5 of Specification CW 3130.

E14.4 Geogrid

E14.4.1 Geogrid approved for use shall be in accordance with Section 2.5 of Specification CW 3135.

E14.5 Base Course Material

E14.5.1 Base course material will have a maximum aggregate size of 25 millimetres and be supplied in accordance with CW 3110.

E14.6 Asphalt Material

E14.6.1 Asphalt material shall be in accordance with Appendix 'J' - Special Provision for Asphalt Pavement Works and shall replace the City of Winnipeg Standard Construction Specification CW 3410 – Asphaltic Concrete Pavement Works.

E14.7 Pavement Repair Fabric

E14.7.1 Type A Pavement Repair Fabric shall be used and meet the requirements of CW 3140.

CONSTRUCTION METHODS

E14.8 General

E14.8.1 Prior to removing existing curbs at private approaches all concrete approaches shall be saw cut full depth to the limit provided by the Contract Administrator. This work shall be considered incidental to this specification.

E14.9 SD-200A Curb Installation

E14.9.1 Remove by first neatly saw-cutting existing asphalt pavement at locations as shown on the Drawings or as directed by the Contract Administrator in accordance with Section 3.1 of Specification CW 3110.

E14.9.2 Excavate to a depth of 250 millimetres, or as directed by the Contract Administrator, below the top of the existing pavement in accordance with Section 3.2 of Specification CW 3110.

E14.9.3 Compact existing sub-grade to a minimum of 95% Standard Proctor Density in accordance with Section 3.3 of Specification CW 3110.

- E14.9.4 Supply and install separation/filtration geotextile fabric and geogrid in accordance with Specification CW 3130 and CW 3135 respectively.
- E14.9.5 Place and compact base course material in accordance with Section 3.6 of Specification CW 3110 to a compacted depth of 150 millimetres. Compact to a minimum of 100% Standard Proctor Maximum Dry Density in accordance with Section 3.6 of Specification CW 3110.
- E14.10 Construct Barrier Curb for asphalt Pavement (100mm reveal ht) in accordance with Standard Detail Drawing SD-200A. Install 20M tie-bars into base material, 2-10M longitudinal deformed bars for reinforcement and 2-19.1mm dowels at transverse joint as directed by Contract Administrator.
- E14.11 Place concrete utilizing slip-form paving equipment for SD-200A in accordance with Specification CW 3310 unless otherwise directed by the Contract Administrator.
- E14.12 Place and compact 50mm sub-base material as backfill behind barrier curb for asphalt pavement within excavated area approximately 150mm deep or as directed by the Contract Administrator. Place and compact suitable site material as backfill behind barrier curb to allow for 100mm of topsoil and sod below top of barrier curb. Care must be taken so as to not disturb the new barrier curb for asphalt pavement during placing and compaction of 50mm sub-base material and suitable site material.
- E14.13 In front of curb place and compact MS2 asphalt material in two 45 millimetre compacted depth layers, matching the top of the existing milled asphalt pavement on the second lift. Each layer must be levelled and accepted by the Contract Administrator before the succeeding layer may be placed.
- E14.13.1 Pavement Repair Fabric shall be placed on the asphalt pavement repair just prior to the length of the final lift of asphalt. The fabric shall extend 150 mm beyond the perimeter of the repair.
- E14.14 Additional excavation and placement of base course material beyond the identified pavement structure will be completed and paid for in accordance with CW 3110 as directed by the Contract Administrator.
- E14.15 SD-202D Curb Installation
- E14.15.1 Remove existing asphalt pavement at locations as shown on the Drawings or as directed by the Contract Administrator in accordance with Section 3.1 of Specification CW 3110.
- E14.15.2 Excavate to a depth of 250 millimetres, or as directed by the Contract Administrator, below the top of the existing pavement in accordance with Section 3.2 of Specification CW 3110.
- E14.15.3 Compact existing sub-grade to a minimum of 95% Standard Proctor Density in accordance with Section 3.3 of Specification CW 3110.
- E14.15.4 Supply and install separation/filtration geotextile fabric and geogrid in accordance with Specification CW 3130 and CW 3135 respectively.
- E14.15.5 Place and compact base course material in accordance with Section 3.6 of Specification CW 3110 to a compacted depth of 150 millimetres. Compact to a minimum of 100% Standard Proctor Maximum Dry Density in accordance with Section 3.6 of Specification CW 3110.
- E14.16 Construct Lip Curb for asphalt Pavement (40mm reveal ht) in accordance with Standard Detail Drawing SD-202D. Install 20M vertical tie bar with 10M longitudinal deformed bar for reinforcement as directed by the Contract Administrator.
- E14.17 In front of curb place and compact MS2 asphalt material in two 45 millimetre compacted depth layers, matching the top of the existing milled asphalt pavement on the second lift. Each layer must be levelled and accepted by the Contract Administrator before the succeeding layer may be placed.

- E14.17.1 Pavement Repair Fabric shall be placed on the asphalt pavement repair just prior to the length of the final lift of asphalt. The fabric shall extend 150 mm beyond the perimeter of the repair.
- E14.18 Additional excavation and placement of base course material beyond the identified pavement structure will be completed in accordance with CW 3110 as directed by the Contractor Administrator.
- E14.19 SD-202F Curb Installation
- E14.19.1 Remove existing asphalt pavement at locations as shown on the Drawings or as directed by the Contract Administrator in accordance with Section 3.1 of Specification CW 3110.
- E14.19.2 Excavate to a depth of 250 millimetres, or as directed by the Contract Administrator, below the top of the existing pavement in accordance with Section 3.2 of Specification CW 3110.
- E14.19.3 Compact existing sub-grade to a minimum of 95% Standard Proctor Density in accordance with Section 3.3 of Specification CW 3110.
- E14.19.4 Supply and install separation/filtration geotextile fabric and geogrid in accordance with Specification CW 3130 and CW 3135 respectively.
- E14.19.5 Place and compact base course material in accordance with Section 3.6 of Specification CW 3110 to a compacted depth of 150 millimetres. Compact to a minimum of 100% Standard Proctor Maximum Dry Density in accordance with Section 3.6 of Specification CW 3110.
- E14.20 Install 450 long 15M deformed tie bars into existing concrete approaches at 600 spacing. Construct Lip Curb for Asphalt Pavement (40mm reveal ht) in accordance with Standard Detail Drawing SD-202F as directed by the Contract Administrator. The integral curb shall extend 450 into the private approach.
- E14.21 In front of curb place and compact MS2 asphalt material in two 45 millimetre compacted depth layers, matching the top of the existing milled asphalt pavement on the second lift. Each layer must be levelled and accepted by the Contract Administrator before the succeeding layer may be placed.
- E14.21.1 Pavement Repair Fabric shall be placed on the asphalt pavement repair just prior to the length of the final lift of asphalt. The fabric shall extend 150 mm beyond the perimeter of the repair.
- E14.22 Additional excavation and placement of base course material beyond the identified pavement structure will be completed in accordance with CW 3110 as directed by the Contractor Administrator.

MEASUREMENT AND PAYMENT

- E14.23 SD-200A Curb installation
- E14.23.1 SD-200A Curb installation will be measured on a length basis and paid for at the Contract Unit Price per metre for "Concrete Barrier Curb for Asphalt Pavement (100 mm reveal ht)". The area to be paid for will be the total number of metres of SD-200 A installed in accordance with this specification, accepted and measured by the Contract Administrator. All equipment, labour, materials as detailed in this specification are considered incidental to the payment for Concrete Barrier Curb for Asphalt Pavement (100 mm reveal ht). No separate payment for the equipment, labour or material will be made.
- E14.24 SD-202D Curb installation
- E14.24.1 SD-202D Curb installation will be measured on a length basis and paid for at the Contract Unit Price per metre of "Construction of Type 2 Concrete Lip Curb for Asphalt Pavement (40 mm reveal ht)". The length to be paid for shall be the total number of meters supplied and installed in accordance with this Specification, accepted and measured by the Contract

Administrator. All equipment, labour, materials as detailed in this specification are considered incidental to the payment for Construction of Type 2 Concrete Lip Curb for Asphalt Pavement (40 mm reveal ht). No separate payment for the equipment, labour or material will be made.

E14.25 SD-202F Curb installation

E14.25.1 SD-202F Curb installation will be measured on a length basis and paid for at the Contract Unit Price per metre of "Construction of Type 2 Concrete Integral Lip Curb for Asphalt Pavement (40 mm reveal ht)". The length to be paid for shall be the total number of meters supplied and installed in accordance with this Specification, accepted and measured by the Contract Administrator. All equipment, labour, and materials as detailed in this specification are considered incidental to the payment Construction of Type 2 Concrete Integral Lip Curb for Asphalt Pavement (40 mm reveal ht). No separate payment for the equipment, labour or material will be made.

E15. PLANING OF MOUNTABLE CURB

DESCRIPTION

E15.1 This specification covers the planing of mountable curb on Waterbury Drive.

E15.2 Referenced Standard Construction Specifications

CW 1130 – Site Requirements

CW 3240 – Renewal of Existing Curbs

CW 3450 – Planing of Pavement

CONSTRUCTION METHODS

E15.3 Removal

E15.3.1 Remove existing concrete mountable curb by planing methods at the locations shown on the Drawings or as directed by the Contract Administrator.

E15.3.2 Plane to within 5 millimetres of the top of the existing pavement or as directed by the Contract Administrator.

E15.3.3 Ensure the existing pavement surface is not damaged by the planing operation.

E15.3.4 Saw-cut existing curbs within 150 millimetres of the designated limits and remove by hand methods to the satisfaction of the Contract Administrator.

E15.3.5 Utilize planing equipment in accordance with CW3450.

E15.3.6 Planing equipment will be self-propelled and capable of planing to a pre-determined depth.

E15.3.7 Mechanically sweep planed surface.

E15.3.8 Remove loose or broken pavement remaining upon completion of the planing operations.

E15.3.9 Dispose of planing material in accordance with Section 3.4 of CW 1130.

MEASUREMENT AND PAYMENT

E15.4 Planing of mountable curb will be measured on a length basis and paid for at the Contract Unit Price per metre. The length to be paid for will be the total number of metres of concrete curb removed in accordance with CW 3240 – Renewal of Existing Curbs, accepted and measured by the Contract Administrator.

E16. NEW STANDARD DETAILS AND DRAWING DETAILS

DESCRIPTION

- E16.1 Further to CW 3110, CW3120, CW3130, CW3230, CW 3235, CW3240, CW 3310, CW 3325, CW 3330 and CW 3335 this specification covers the use of updated and new standard details and Drawing details.
- E16.2 The following Referenced Standard Details are provided in Appendix 'B' and on Sheet 12 of the Drawings:
- (a) SD-200 – Curb and Gutter
 - (b) SD-200A – Barrier Curb for Asphalt Pavements
 - (c) SD-200B – Barrier Curb and Reverse Gutter for Asphalt Pavements
 - (d) SD-202D – 40 mm Lip Curb for Asphalt Pavements
 - (e) SD-202F – 40 mm Lip Curb with Integral Approach for Asphalt Pavements
 - (f) SD-203C – Modified Barrier Curb for Asphalt Pavement
 - (g) SD-203D – Modified Barrier Curb with Reversed Gutter for Asphalt Pavement
 - (h) SD-220E – Barrier Curb and Gutter Inlet Isolation Detail for New Asphalt Pavements
 - (i) SD-221 - Curb Inlet with Catch Basin in Pavement
 - (j) SD-222- Curb Inlet with Catch Basin in Boulevard
 - (k) SD-228A – Concrete Sidewalk
 - (l) SD-228D – Sidewalk Expansion Joints
 - (m) SD-229F – Curb Ramp for Asphalt Pavement
 - (n) SD-235 – Residential Approach – Concrete
 - (o) SD-240A – Interlocking Paving Stone Detail for Residential Approaches
 - (p) SD-240B – Interlocking Paving Stones on Lean Concrete Base (Non Driving Surface)
 - (q) SD-245 – Subdrain Installation Detail
 - (r) SI-17 – Typical Speed Humps and Speed Tables Details

MATERIALS

- E16.3 Use only those materials listed as Approved Products for Surface Works. The Approved Products are available in Adobe Acrobat (.pdf) format at the City of Winnipeg, Corporate Finance, Material Management Internet site at:
https://legacy.winnipeg.ca/finance/findata/matmqt/std_const_spec/current/Docs/Approved Product Surface Works.pdf

CONSTRUCTION METHODS

- E16.4 Construct Curb and Gutter, Barrier Curb for Asphalt Pavements, Barrier Curb and Reversed Gutter for Asphalt Pavement, 40 mm Lip Curb for Asphalt Pavement, 40 mm Lip Curb with Integral Approach for Asphalt Pavements, Modified Barrier Curb for Asphalt Pavements, Modified Barrier Curb with Reversed Gutter for Asphalt Pavement, and Curb Ramp for Asphalt Pavements in accordance with E23.
- E16.5 Construct Barrier Curb and Gutter Inlet Isolations Detail for New Asphalt Pavements in accordance with SD-220E.
- E16.6 Construct Concrete Sidewalk in accordance with SD-228A.
- E16.7 Construct Sidewalk Expansion Joints in accordance with SD-228D.
- E16.8 Construct Concrete Residential Approaches in accordance with SD-235.

- E16.9 Construct Interlocking Paving Stone Detail for Residential Approaches in accordance with SD-240A
- E16.10 Construct Interlocking Paving Stones on Lean Concrete Base in accordance with SD-240B
- E16.11 Construct Subdrains in accordance with SD-245.
- E16.12 Construct Typical Speed Humps and Speed Tables in accordance with the Drawings and SI-17.

MEASUREMENT AND PAYMENT

- E16.13 For SD-200 Curb and Gutter, SD-200A Barrier Curb for Asphalt Pavements SD-200B Barrier Curb and Reversed Gutter for Asphalt Pavement, SD-202D 40 mm Lip Curb for Asphalt Pavement, SD-202F 40 mm Lip Curb with Integral Approach for Asphalt Pavements, SD-203C Modified Barrier Curb for Asphalt Pavements, SD-203D Modified Barrier Curb with Reversed Gutter for Asphalt Pavement and SD-229FA Curb Ramp for Asphalt Pavements, payment will be made in accordance with E23 Construction of Curbs for Asphalt Pavements. **Note: SD-200A, SD-202D, and SD-202F on Boston Avenue only will be paid in accordance with E14 Construction of Barrier Curb/Lip Curb for Asphalt Pavement.**
- E16.14 For SD-220E Barrier Curb and Gutter Inlet Isolations for Asphalt Pavement will not be paid directly but considered incidental to items "Catch Pits", "Catchbasins", or "Adjustment of Catchbasin Frames" as applicable.
- E16.15 For SD-228A Concrete Sidewalk, payment will be made in accordance with "100 mm Type 5 Concrete Sidewalk". Base course material will be considered incidental to the work.
- E16.16 SD-228AA Sidewalk Expansion Joints, payment will be made in accordance with E30 Sidewalk Expansion Joints.
- E16.17 SD-235 Residential Approach – Concrete, payment will be made in accordance with item "Construction of 150 mm Type 4 Concrete Pavement for Early Opening 72 Hour (Reinforced)". Excavation shall be considered incidental to the work within private approach. Granular base will be paid in accordance with item "Base Course Material – Granular C Limestone".
- E16.18 For SD-240A Interlocking Paving Stone Detail for Residential Approaches, payment will be made in accordance with item "Interlocking Paving Stones". Granular base will be paid in accordance with item "Base Course Material – Granular C Limestone". Bedding sand will be considered incidental to the Work.
- E16.19 For SD-240B Interlocking Paving Stones on Lean Concrete Base Detail, payment will be made in accordance with item "Interlocking Paving Stones". Lean Concrete will be considered incidental to Interlocking Paving Stones.
- E16.20 For SD-245 Subdrain Installation Detail, payment will be made in accordance with item "Installation of Subdrains".

E17. PARTIAL DEPTH PATCHING OF EXISTING JOINTS

DESCRIPTION

- E17.1 General
 - E17.1.1 This specification covers the Partial Depth Patching of existing concrete pavement joints.
- E17.2 Referenced Standard Construction Specifications
 - (a) CW 3230 – Full-Depth Patching of Existing Slabs and Joints
 - (b) Appendix 'J' Special Provision for Asphalt Pavement Works

MATERIALS

E17.3 Asphalt Materials

E17.3.1 Asphalt material will be Type 1A supplied in accordance with Sections 5 and 6 of CW 3410.

E17.4 Tack Coat

E17.4.1 Tack Coat will be undiluted SS-1 emulsified asphalt.

CONSTRUCTION METHODS

E17.5 Planing of Joints

E17.5.1 Plane existing joints designated by the Contract Administrator to a minimum depth of 50 mm and a maximum of depth 90 mm to remove ravelled or deteriorated concrete. Width of joint to be planed will vary with depth.

E17.5.2 Should the depth of joint deterioration exceed the maximum indicated, as determined by the Contract Administrator, the entire joint shall be renewed and paid for in accordance with CW 3230 as a full depth joint repair. Planing completed shall be paid for in accordance with Section E17.7 of this specification.

E17.5.3 Dispose of material in accordance with Section 3.4 of CW 1130.

E17.6 Placement of Asphalt Material

E17.6.1 Prior to placement of asphalt material, the planed joint shall be swept or blow clean of any loose material.

E17.6.2 Apply Tack Coat uniformly on the entire surface of the planed joint. The application rate shall not exceed 0.23 litres per square metre. The planed joint shall be dry prior to applying the tack coat.

E17.6.3 Place and compact asphalt material in accordance with Section 9.3 of CW 3410 to the satisfaction of the Contract Administrator. The finished elevation of the patch shall be flush with surrounding pavement surface.

E17.6.4 Compact the asphalt material to an average 95% of the 75 blow Marshall Density of the paving mixture with no individual test being less than 90 %.

E17.6.5 Ensure that no traffic is allowed to travel over the patched area until the asphalt has cooled to atmospheric temperature.

MEASUREMENT AND PAYMENT

E17.7 Partial Depth Planing of Existing Joints

E17.7.1 Partial Depth Planing of Existing Joints will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Partial Depth Planing of Existing Joints". The area to be paid for will be the total number of square metres of joints planed in accordance with this specification, accepted and measured by the Contract Administrator.

E17.8 Asphalt Patching of Partial Depth Joints

E17.9 Asphalt Patching of Partial Depth Joints will be measured on an area basis and paid for at the Contract Unit Price per square metre for "Asphalt Patching of Partial Depth Joints". The area to be paid for will be the total number of square metres of joints patched in accordance with this specification, accepted, and measured by the Contract Administrator.

E18. PORTLAND CEMENT CONCRETE SIDEWALK WITH BLOCK OUTS FOR INDICATOR SURFACES

DESCRIPTION

E18.1 This specification shall supplement CW 3325-R5 "Portland Cement Concrete Sidewalks".

CONSTRUCTION METHODS

E18.2 Add the following to section 9:

E18.2.1 As shown on the drawings and as directed by the Contract Administrator, construct sidewalk with block outs and/or monolithic curb and sidewalk with block outs, to allow for the installation of indicator surfaces.

E18.2.2 Verify dimensions of paving stones (indicator surface) prior to construction of the block-outs. Gaps between paving stones and concrete pavement shall not exceed five (5) millimetres.

E18.2.3 Concrete curbs for monolithic curb and sidewalk with block outs shall be constructed in accordance with CW 3240.

MEASUREMENT AND PAYMENT

E18.3 Add the following to section 12:

E18.3.1 Construction of concrete sidewalks with block outs for indicator surfaces will be measured on surface area basis. The surface area to be paid for shall be the number of square metres constructed in accordance with this specification and accepted by the Contract Administrator, as computed by measurements made by the Contract Administrator.

BASIS OF PAYMENT

E18.4 Add the following to section 13:

E18.4.1 Construction of concrete sidewalks with block outs for indicator surfaces will be paid for at the Contract Unit Price per square meter for the "Items of Work" listed here below, measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this specification.

E18.4.2 Items of Work:

- (a) 100 mm Sidewalk with Block Outs
- (b) 150 mm Sidewalk with Block Outs
- (c) Monolithic Curb and 100 mm Sidewalk with Block Outs*
- (d) Monolithic Curb and 150 mm Sidewalk with Block Outs*

* - reveal height and type

E18.4.3 Concrete thickness greater than the specified sidewalk thickness as a result of shaping the base material to accommodate the block outs is incidental to the listed Items of Work.

E19. PAVING STONES FOR INDICATOR SURFACES

DESCRIPTION

E19.1 This specification shall supplement CW 3330-R5 "Installation of Interlocking Paving Stones"

MATERIALS

E19.2 Add the following to section 5:

E19.3 Paving Stones for indicator surfaces shall be as shown on the drawings.

E19.3.1 Paving Stones for indicator surfaces shall be:

Barkman Concrete paving stones -
Charcoal Holland Paver (60mm X 210 mm X 210 mm)
<https://www.barkmanconcrete.com/>

CONSTRUCTION METHODS

E19.4 Add the following to section 9.2 "Preparation of Sub-grade, Sub-base and Sand-base" :

Preparation of Sand-Base for Paving Stones in Sidewalk Block Outs.

E19.4.1 Place a 15mm layer of bedding sand in the blocked out sidewalk areas.

E19.4.2 The bedding sand shall be spread and levelled so that the paving stones when installed are 5 mm higher than the finished grade.

E19.4.3 No more sand shall be spread than can be covered in with paving stone on the same day.

E19.4.4 The bedding sand shall not be compacted or disturbed prior to laying the paving stones.

E19.5 Add the following to Section 9.3 "Installation of Paving Stones":

E19.5.1 For indicator surface paving stones, commence installation of paving stones against the long edge of the block out to obtain the straightest possible course of installation.

E19.5.2 Installation of Indicator Strip Paving Stones in Blockouts and in paving band square.

(a) Pavers shall be cut with sawn only to obtain true even undamaged edges. Chipped pavers are unacceptable.

MEASUREMENT AND PAYMENT

E19.6 Add the following to Section 12:

E19.7 Supply and Installation of Paving Stones for Indicator Surfaces

E19.7.1 Paving stones for indicator surfaces will be measured on surface area basis. The surface area to be paid for shall be the number of square metres constructed in accordance with this specification and accepted by the Contract Administrator, as computed by measurements made by the Contract Administrator.

BASIS OF PAYMENT

E19.8 Add the following to section 13:

E19.8.1 The supply and installation of paving stones for indicator surfaces will be paid for at the Contract Unit Price per square meter for "Interlocking Paving Stones", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this specification.

E19.8.2 Concrete thickness greater than the specified sidewalk thickness as a result of shaping the base material to accommodate the block outs is incidental to the listed Items of Work.

E20. SUPPLY AND INSTALL WATERMAIN AND WATER SERVICE INSULATION

DESCRIPTION

E20.1 Notwithstanding 3.12 of CW 2110, this specification covers the supply and installation of insulation in roadway excavations over watermains and water services.

E20.2 Referenced Standard Construction Specifications

- (a) CW 2030 – Excavation Bedding and Backfill
- (b) CW 3110 – Sub –grade, Sub-base and Base Course Construction

E20.3 Referenced Standard Details

- (a) SD-018 - Watermain and Water Service Insulation

MATERIALS

E20.4 Acceptable insulation is:

- (a) Extruded Polystyrene rigid foam insulation – Type 4, 4” in thickness.
DOW - Roofmate or Highload 40
Owen’s Corning - Foamular 350 or Foamular 400.
2” X 48” X 96”, 2” X 24” X 96”, 4” X 24” X 96”

E20.5 Sand Bedding:

- (a) In accordance with CW 2030

CONSTRUCTION METHODS

E20.6 Prior to the installation of any sub-base material or geotextile material, locate all existing water services. Further to SD-018, where directed by the Contract Administrator, excavate the sub-grade to allow the top of the insulation to be installed flush with the surrounding sub-grade. Install the insulation on a level surface centered over the located watermain or water service for the full width of the roadway excavation. Install sand bedding if required to level the surface. Stockpile and dispose of excavated material in accordance with CW 3110.

E20.7 Thickness of insulation is 100 mm (4”). If using 50 mm (2”) panels 2 layers are required. Total width of insulation to be as directed by the Contract Administrator. Place sufficient full width panels to meet or exceed the specified width.

E20.8 Place insulation panels adjacent to each other over the specified area with no gaps between panels and less than 15mm of elevation difference along the adjoined edges. Where 2” thick panels are being used, offset the top layer to prevent the panel joints from aligning with the joints in the lower layer.

E20.9 Use full panels of insulation where possible. Where necessary cut insulation panels to obtain coverage to specified lengths. Insulation pieces shall be a minimum of dimension of 300 mm in width or length.

E20.10 Take appropriate measures to ensure panels are not displaced when installing geotextiles and during backfilling operations.

MEASUREMENT AND PAYMENT

E20.11 Watermain and Water Service Insulation shall be measured on an area basis and paid for at the Contract Unit Price per square metre of “Watermain and Water Service Insulation”. The area to be paid for shall be the total square meters of watermain and water service insulation supplied and installed in accordance with this specification, accepted and measured by the Contract Administrator.

- (a) Excavation of the roadway subgrade in accordance with E20.6 will not be measured for payment and will be included in the payment for “Watermain and Water Service Insulation”.

E21. MIX DESIGN PROPORTION

E21.1 General

- E21.1.1 Further to CW 3310-R18, this Specification covers the mix proportion for all concrete types related to, the construction of Portland Cement Concrete pavements, curbs, gutters, private approaches, bull-noses, median slabs, medians, safety medians and boulevard splash strips, sidewalks and other related concrete works.
- E21.2 Referenced Standard Construction Specifications
- (a) CW 3310 – Portland Cement Concrete Pavement Works
- E21.3 Mix Design
- E21.3.1 Further to CW 3310-R18 Table CW 3310.5, the minimum cementitious contents shall be as follows:
- (a) Type 1 - 380 kg/m³
- (b) Type 2 - 360 kg/m³
- (c) Type 3 - 380 kg/m³
- (d) Type 4 - 380 kg/m³
- (e) Type 5 - 340 kg/m³
- (f) Type 6 - 360 kg/m³
- E21.4 Requirements
- E21.4.1 The Mix Design Statements for all the concrete shall be submitted to the City of Winnipeg, Research and Standards Engineer for approval.
- E21.5 Quality Assurance
- E21.5.1 The Contract Administrator shall ensure the frequency and number of quality assurance tests in accordance with CW 3310.

E22. SOFT EXCAVATION TO EXPOSE UNDERGROUND UTILITIES

DESCRIPTION

- E22.1 This Specification covers the soft excavation (hydro-excavation) to expose underground utilities to determine the depth of underground utilities and whether they will interfere with installation of proposed Works on site.
- E22.2 These underground utilities include, but are not limited to, Manitoba Hydro cables, Manitoba Hydro gas pipes, BellMTS cables and ducts, existing sewers and existing watermains.

MATERIALS

- E22.3 Backfill material for backfill of shafts after hydro-excavation has been completed shall consist of bedding sand in accordance with Specification CW 2030.

CONSTRUCTION METHODS

- E22.4 The Contractor shall arrange for all required utility locations, safety watches and other required notifications.
- E22.5 The Contractor shall provide the Contract Administrator with a minimum of 24 hours advanced notice prior to conducting utility exposures.
- E22.6 At least 5 business days prior to commencement of any construction Works adjacent to underground utilities, the Contractor shall hydro-excavate or hand excavate to expose underground utilities, in accordance with CW 1120 Clause 3.3. Once exposed, the Contract Administrator shall be asked to determine the elevations and determine if a conflict exists.

- E22.7 Once the elevation of the top of pipe, cable or duct has been determined the resulting excavation shall be backfilled with bedding sand to the elevation of existing ground.

MEASUREMENT AND PAYMENT

- E22.8 Soft excavation to expose underground utilities will be considered incidental to the Work. No measurement and payment will be made.

E23. CONSTRUCTION OF CURBS FOR ASPHALT PAVEMENT

DESCRIPTION

- E23.1 This Specification covers the construction of Curb and Gutter, Barrier Curb, Barrier Curb Reversed Gutter for Asphalt Pavement, Lip Curb with Integral Approach for Asphalt Pavement, Modified Barrier Curb, Modified Barrier Curb with Reversed Gutter for Asphalt Pavement and Curb Ramp for Asphalt Pavement.

GENERAL

- E23.2 The City of Winnipeg Standard Construction Specifications shall be referenced. Standard Details (SDs) as described within the Specifications shall be replaced with the SDs and/or drawings included within Appendix 'B'.

CONSTRUCTION METHODS

- E23.3 Further to CW 3310 and CW 3240, the contractor shall construct the Barrier Curb for Asphalt Pavement as per Standard Detail Drawing SD-200A.
- E23.4 Construction of Curb and Gutter for Asphalt Pavement – Standard Detail Drawing SD-200.
- E23.5 Construction of Barrier Curb for Asphalt Pavement – Standard Detail Drawing SD-200A.
- (a) Place and compact 50mm sub-base material for roadway in accordance with the Standard Detail Drawing SD-200A and Specification CW 3110.
 - (b) Supply and install 20M tie-bars into sub-base material as shown on the Standard Detail Drawing SD-200A.
 - (c) Drill holes into the sub-base at a maximum depth of 150mm, with a drilling diameter of 2mm greater than the diameter of the tie bar.
 - (d) Supply and install 2-10M longitudinal deformed bars for reinforcement as shown on the Standard Detail Drawing SD-200A.
 - (e) Supply and install 2-19.1mm dowels at transverse joints every 6.0 meters as shown on the Standard Detail Drawing SD-200A. All dowels shall be thoroughly lubricated with asphaltic cut-back.
 - (f) Provide a minimum of 40mm cover between reinforcing steel and the finished concrete surface.
 - (g) Transverse joints will be saw cut every 3.0 meters. Transverse joints are to be saw cut to a maximum depth of 25mm, so as to not saw cut into the 10M longitudinal deformed bars and 19.1mm dowels.
- E23.6 Construct Lip Curb for Asphalt Pavement (40mm reveal ht) at private approaches in accordance with Standard Detail Drawing SD-202F.
- E23.7 Construct Barrier Curb and Reverse Gutter in accordance with Standard Detail Drawing SD-200B.
- E23.8 Construct Modified Barrier Curb for Asphalt Pavement (150mm reveal ht) in accordance with Standard Detail Drawing SD-203C. Install 20M tie-bars into sub-base material, 2-10M longitudinal deformed bars for reinforcement and 2-19.1mm dowels at transverse joint.

- E23.9 Construct Modified Barrier Curb with Reversed Gutter for Asphalt Pavement (150mm reveal ht) in accordance with Standard Detail Drawing SD-203D.
- E23.10 Construct Curb Ramp for Asphalt Pavement (8-12mm reveal ht) at sidewalk ends in accordance with Standard Detail Drawing SD-229F.
- E23.11 Place concrete utilizing slip-form paving equipment in accordance with Specification CW 3310 unless otherwise directed by the Contract Administrator.
- E23.12 Place and compact 50mm sub-base material as backfill behind barrier curb for asphalt pavement within excavated area approximately 150mm deep or as directed by the Contract Administrator. Place and compact suitable site material as backfill behind barrier curb to allow for 100mm of topsoil and sod below top of barrier curb. Care must be taken so as to not disturb the new barrier curb for asphalt pavement during placing and compaction of 50mm sub-base material and suitable site material.

MEASUREMENT AND PAYMENT

- E23.13 Construction of Curb and Gutter or Asphalt Pavement shall be measured on a length basis and paid for at the Contract Unit Price per metre for the "Items of Work" listed here below. The length to be paid for shall be the total number of meters supplied and installed in accordance with this Specification, accepted and measured by the Contract Administrator.
- E23.14 Construction of Barrier Curb for Asphalt Pavement shall be measured on a length basis and paid for at the Contract Unit Price per metre for the "Items of Work" listed here below. The length to be paid for shall be the total number of meters supplied and installed in accordance with this Specification, accepted and measured by the Contract Administrator.

Items of Work:

- (a) "Construction of Type 2 Concrete Barrier Curb for Asphalt Pavement (150 mm reveal ht), Slip Form Paving"
- (b) "Construction of Type 2 Concrete Barrier Curb for Asphalt Pavement (100 mm reveal ht), Slip Form Paving"
- E23.15 Barrier Curb and Reversed Gutter for Asphalt Pavement shall be measured on a length basis and paid for at the Contract Unit Price per metre for the "Items of Work" listed here below. The length to be paid for shall be the total number of meters supplied and installed in accordance with this Specification, accepted and measured by the Contract Administrator.
- E23.16 Construction of Lip Curb for Asphalt Pavement shall be measured on a length basis and paid for at the Contract Unit Price per metre of "Construction of Type 2 Concrete Lip Curb for Asphalt Pavement (40 mm reveal ht)". The length to be paid for shall be the total number of meters supplied and installed in accordance with this Specification, accepted and measured by the Contract Administrator.
- E23.17 Construction of Modified Barrier Curb for Asphalt Pavement shall be measured on a length basis and paid for at the Contract Unit Price per metre of "Construction of Type 2 Concrete Curb Ramp for Asphalt Pavement (150mm reveal ht)". The length to be paid for shall be the total number of meters supplied and installed in accordance with this Specification, accepted and measured by the Contract Administrator
- E23.18 Construction of Curb Ramp for Asphalt Pavement shall be measured on a length basis and paid for at the Contract Unit Price per metre of "Construction of Type 2 Concrete Curb Ramp for Asphalt Pavement (8-12mm reveal ht)". The length to be paid for shall be the total number of meters supplied and installed in accordance with this Specification, accepted and measured by the Contract Administrator
- E23.19 The supply and installation of 20M tie-bars, 10M longitudinal deformed bars and 19.1mm dowels is incidental to "Construction of Barrier Curb for Asphalt Pavement", and "Construction of Modified Barrier Curb for Asphalt Pavement"

- E23.20 The supply and installation of 20M tie-bars is incidental to “Construction of Lip Curb for Asphalt Pavement”, and “Construction of Curb Ramp for Asphalt Pavement.”
- E23.21 Supply and placement of 50mm sub-base material for backfill to be paid for as per payment item “50 mm Granular B Recycle Concrete” **except on Boston Avenue as noted in E14 Construction of Barrier Curb/Lip Curb for Asphalt Pavement.**
- E23.22 Supply and placement of suitable site material for backfill behind new curbs shall be considered incidental to the Construction of Curbs.

E24. ASPHALT PAVEMENT WORKS – SPECIAL PROVISION

- E24.1 Appendix ‘J’ – Special Provision for Asphalt Pavement Works shall replace the City of Winnipeg Standard Construction Specification CW 3410 – Asphaltic Concrete Pavement Works for the Tender.

E25. HAULING AND PLACEMENT OF 50MM GRANULAR B RECYCLED CONCRETE AGGREGATE

DESCRIPTION

- E25.1 General
- E25.2 This Specification covers the hauling from a designated supplier and installation of 50 mm Granular B Recycled Concrete Aggregate.

- E25.3 Referenced Standard Construction Specifications:
(a) CW 3110 – Sub-Grade, Sub-Base and Base Course Construction

MATERIALS

- E25.4 Materials will be provided to the Contractor in accordance with Tender 103-2025. Tender 103-2025. Contact information and address to be determined upon award of contract.

HAULING OF MATERIAL

- E25.5 The Contractor shall obtain the 50 mm Granular B Recycled Concrete Aggregate from a stockpile location within the limits of the City of Winnipeg.
- E25.6 The Customer will place orders before 4:00 p.m. for each Business Day for the expected supply requirements for the following Business Day.
- E25.7 The material will be available for pick up between the following hours:
(a) 0700 to 1800 from Monday to Friday
(b) 0700 to 1400 on Saturday
- E25.8 Further to E25.7, material will not be available for pick up on general holidays in Manitoba.
- E25.9 Requests for pick-up outside of these hours must be made a minimum of (4) four Business Days in advance to the Contract Administrator.
- E25.10 The Contractor will be provided use of the scale at the pick-up site to facilitate tare and gross vehicles weights. A printed ticket will be provided for each load.
- E25.11 The supplier shall load the material into the Contractors truck/truck trailer and shall facilitate unloading when a truck has been overloaded.

CONSTRUCTION METHODS

- E25.12 Construction methods will be in accordance with CW 3110.

QUALITY ASSURANCE TESTING

- E25.13 Quality Assurance Testing for physical properties as per CW 3110 will not be required. Field Density Testing will be required as per CW 3110.

MEASUREMENT AND PAYMENT

- E25.14 The hauling, placing and compaction of sub-base material will be measured on a weight basis and paid for at the Contract Unit Price per tonne for the "Hauling and Placing Sub-base Material" listed here below. The weight to be paid for will be the total number of tonnes of sub-base material supplied, placed and compacted in accordance with this Specification, accepted and measured by the Contract Administrator.
- E25.15 Items of Work:
(a) 50 mm Granular B Recycled Concrete
- E25.16 The weight to be paid for will be the total number of tonnes of sub-base material as measured on a certified weight scale.
- E25.17 Only material placed within the limits of excavation will be included in the payment for the "Items of Work listed for sub-base material".
- E25.18 No measurement or payment will be made for materials rejected by the Contract Administrator.

E26. STAMPED CONCRETE APPROACH

DESCRIPTION

- E26.1 This specification shall cover the renewal of the approaches at 75, 99, and 115 Waterbury Drive as specified on the Contract drawings. This specification supplements CW 3310 and CW 3325.
- The contractor shall match the existing colour and the stamped pattern of the concrete as approved by the Contract Administrator

QUALITY ASSURANCE

- E26.2 Conduct all work in accordance with City of Winnipeg Standard Construction methods, Specifications and Standard Details.

METHODOLOGY

- E26.3 The Contractor shall discuss individual requirements for private approaches renewal reconstruction with the Contract Administrator. In general, when utilizing existing private approach materials, the Contractor shall match the reconfigured private approaches to the existing construction materials to provide a uniform appearance as much as possible.
- E26.4 If the existing construction materials cannot be matched, the Contractor shall advise the Contract Administrator and jointly develop an alternate solution acceptable to all parties, including the homeowner and the City.

MEASUREMENT AND PAYMENT

- E26.5 Renewal/reconstruction of Stamped and Concrete Approaches shall be measured on a square meter basis and will be paid for at the Contract Unit Price for "Construction of 150 mm Type 4 Concrete Pavement (Reinforced) - Stamped and Coloured Concrete Approach". The price shall be payment in full for supplying all materials and for completing all operations herein described and all other items incidental to the work included in this Specification, accepted and measured by the Contract Administrator.

E27. PRUNING AND REMOVAL OF EXISTING TREES AND SHRUBS

DESCRIPTION

- E27.1 Provide all labour, materials, methods, equipment and accessories for pruning of existing trees and shrubs within the limit of Work.
- E27.2 Provide all labour, materials, methods, equipment and accessories for removal of existing trees (< 150 mm caliper) within the limit of Work.

QUALITY ASSURANCE

- E27.3 Pruning or removal of trees shall be provided by a person with a Manitoba Arborists Certificate with demonstrable experience sourcing and Work.
- E27.4 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

- E27.5 The Contractor shall prune back all trees and shrubs as directed by the Contract Administrator such that the sidewalk is clear, signs are unobstructed, and sidewalk has a 2.5 metre height clearance.
- E27.6 Prune horizontal and vertical within the limits of construction to ensure construction equipment can be operated without interfering with trees and shrubs to remain. The Contractor shall be aware of all locations in the Work area where overhead utility lines may be a factor in the required tree pruning Work.
- E27.7 Prune as required to remove dead, broken or damaged limbs.
- E27.8 Prune back to healthy growth while maintaining balanced crown shape.
- E27.9 Employ clean sharp tools.
- E27.10 Make cuts smooth and flush with outer edge of branch collar near the main stem or branch.
- E27.11 Cuts must be smooth and sloped to prevent accumulation of water on cut.
- E27.12 Do not leave little stumps ("horns") on trunks or main branches.
- E27.13 Remove all pruned branches off-site
- E27.14 Prune according to accepted horticultural practices as outlined in "The Pruning Manual", Publication No. 1505-1977 by Agriculture Canada.
- E27.15 American Elm Trees are not to be pruned between April 1 and August 1, and Siberian Elm Trees between April 1 and July 1 of any year under provisions of The Dutch Elm Disease Act.

REMOVAL METHODOLOGY

- E27.16 The Contractor shall remove trees (< 150 mm caliper) as indicated on the drawings. There is one tree on Crowson Bay and five trees on Crescent Drive.
- E27.17 Remove the trees and roots below and haul off-site.

MEASUREMENT AND PAYMENT

- E27.18 Pruning of existing trees will be measured on a unit basis, pruning of existing shrubs will be measured on a linear metre basis, parallel to the sidewalk, for the total length of shrubs pruned. Payment will be at the Contract Unit Price for the Items of Work below. Price shall be payment in full for supplying materials, tools and for performing the Work specified herein.

E27.19 Items of Work:

- (a) Pruning of Existing Trees (each)
- (b) Pruning of Existing Shrubs (l.m)

E28. SIDEWALK EXPANSION JOINTS

DESCRIPTION

E28.1 Further to CW 3325 - R5, CW 3235-R9 and CW 3310-R19, this specification covers the supply and installation of expansion joints to be constructed within concrete sidewalk.

E28.2 Referenced Standard Details
SD-228AA Sidewalk Expansion Joints (Appendix 'B')

MATERIALS

E28.3 Use only those materials listed as Approved Products for Surface Works. The Approved Products are available in Adobe Acrobat (.pdf) format at the City of Winnipeg, Corporate Finance, Material Management Internet site at:
[https://legacy.winnipeg.ca/finance/findata/matmgt/std_const_spec/current/Docs/Approved Product_Surface_Works.pdf](https://legacy.winnipeg.ca/finance/findata/matmgt/std_const_spec/current/Docs/Approved_Product_Surface_Works.pdf)

E28.4 Expansion Joint Filler
(a) Sidewalk expansion joints shall be closed-cell expansion joint filler.

E28.5 Reinforcing Steel
(a) 300mm long 10M dowels. Dowel bars shall be plain round bars of grade 300 or better in accordance with CSA G40.21. Epoxy coating shall meet the requirements of ASTM Standard A934/A934M, Standard Specification for Epoxy-Coated Prefabricated Steel Reinforcing Bars.
(b) The dowels shall be placed half depth of the sidewalk and aligned parallel to the centreline and surface of the slab with a maximum allowable tolerance of ± 5 mm. The dowels shall be positioned sufficiently rigid so the dowels are held in alignment within the specified tolerance, both horizontally and vertically, until the concrete placing and setting cycle is complete.
(c) All areas of the dowel bar with damaged epoxy coating shall be cleaned and painted to the satisfaction of the Contract Administrator.
(d) All dowels shall be thoroughly coated with a thin uniform coating of bond breaker or lubricant such as oil, grease, or synthetic materials to prevent bonding with the concrete for the length of the dowel. The bond breaker coating shall be smooth and free of voids.

CONSTRUCTION METHODS

E28.6 Install sidewalk expansion joints as detailed in SD-228AA Sidewalk Expansion Joints and as indicated on the Drawings. At minimum, expansion joints shall be installed on each side of a driveway and at a 15 m spacing throughout all renewed sidewalks.

E28.7 Expansion joints shall be constructed and installed as indicated in the Contract Documents or directed by the Contract Administrator.

E28.8 The fiber joint filler shall extend the full width and depth of the sidewalk. Any excess material shall be trimmed to match the surface of the concrete.

E28.9 Dowels shall be placed at 0.45m O/C spacing. Three dowels shall be installed at each expansion joint no closer than 0.15m from edge of concrete. If dowels are displaced during concrete placing operations, concrete placement shall cease and shall not resume until the displaced dowels have been reset to the true design position.

- E28.10 Once dowels are in position, they shall be inspected and approved by the Contract Administrator before any concrete is placed. Otherwise the concrete will be rejected by the Contract Administrator and shall be removed by the Contractor at his own expense.
- E28.11 Expansion joints shall be installed every 15 meters when constructing new or renewing existing sidewalk. If sidewalk is constructed during cold weather concreting period, expansion joints shall be installed every 12 meters. Expansion joints shall not be installed when renewing less than 15m of sidewalk.
- E28.12 Where the Drawings call for a new slab to be tied into an existing slab along a transverse joint, the Contractor shall construct an expansion joint and install dowels into the existing slab in accordance with Clause 6.3.2., CW 3310. Following installation of dowels, the ends of the dowels that extend into the new area shall be completely coated with a thin uniform coating of approved bond breaker or lubricant.
- E28.13 When replacing heaved panels in an existing sidewalk, expansion joints shall be installed on both ends of the replaced panels.
- E28.14 Expansion joints shall not be installed when constructing monolithic curb and sidewalk.
- E28.15 Expansion joints shall be installed when installing separate concrete splash strip.

MEASUREMENT AND PAYMENT

- E28.16 No measurement or payment shall be made for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

E29. WATER SERVICE REPLACEMENT

DESCRIPTION

- E29.1 Provide all labour, materials, methods, equipment and accessories for installation of new water service lines and connections to the existing watermain and existing service line.

CONSTRUCTION METHODS

- E29.2 The Contractor shall:
- (a) install new water service lines from the existing corporation stop to the designated curb stop location.
 - (b) connect the new water service lines to the existing corporation stops.
 - (c) replace the existing curb stops and curb stop boxes for all service replacements.

MEASUREMENT AND PAYMENT

- E29.3 Water service replacement will be measured on a linear basis and paid for at the Contract Unit Price for "Water Service Replacement." The length to be paid for shall be the total linear meters of new water service line installed and accepted by the Contract Administrator.
- E29.4 Replacement of existing curb stops will measured on a unit basis and paid for at the Contract Unit Price for "Curb Stops - Replace Existing." The number to be paid for shall be the total number of curb stops replaced in accordance with this Specification, accepted and measured by the Contract Administrator.
- E29.5 Replacement of existing curb stop boxes will be measured on a unit basis and paid for at the Contract Unit Price for "Curb Stop Boxes - Replace Existing." The number to be paid for shall be the total number of curb stop boxes replaced in accordance with this Specification, accepted and measured by the Contract Administrator.

E29.6 Connection to the existing watermain is considered incidental to the water service replacement and will not be paid separately.

E30. WORKING AROUND MANITOBA HYDRO POLES

DESCRIPTION

E30.1 When excavating for the road within three (3.0) m of a Manitoba Hydro wood pole, a Safety Watch will be required. The Contractor shall provide a digger truck capable of holding the pole in place while excavation and granular subbase backfill is completed back to original grade.

- (a) The digger truck to be provided by the Contractor shall be to the satisfaction of the Contract Administrator and Manitoba Hydro Safety Watch personnel; and
- (b) Manitoba Hydro has provided guidance for allowable excavations around existing poles.

CONSTRUCTION METHODS

E30.2 The pole rigging sling to be provided by the Contractor shall be to the satisfaction of the Contract Administrator and Manitoba Hydro Safety Watch personnel.

E30.3 The sling is to be wrapped around the pole and connected it to the winch line of the digger truck. The sling is to be situated just above the halfway mark of the pole between ground level and the top of the pole. The reason for this is to allow the operator to have control of the pole in the event that the pole breaks (due to rot or cracks).

E30.4 Manitoba Hydro Safety Watch personnel will assist the Contractor in attaching and detaching the pole sling.

MEASUREMENT AND PAYMENT

E30.5 The Work described in this Specification will be considered incidental to "Excavation" and no measurement or payment will be made.

E31. WORKING IN CLOSE PROXIMITY TO GAS INFRASTRUCTURE

DESCRIPTION

E31.1 While working in close proximity to gas infrastructure, all procedures and precautions outlined in the Appendix 'D' – Safe Excavation & Safety Watch Guideline manual must be adhered to. Ensure that all locates and clearances are current and have been received and understood prior to construction.

MEASUREMENT AND PAYMENT

E31.2 Hydro excavation to locate and verify gas infrastructure as typically required by Manitoba Hydro will be considered incidental to the Work.

E31.3 Any costs associated performing Safety Watches will be considered incidental to the Work.

E32. MANHOLE INSPECTIONS

DESCRIPTION

E32.1 This specification covers the inspection of both new and repaired manholes completed under this contract. Inspections are to be conducted in accordance with the existing specification CW 2145 for all manholes that are worked on.

CONSTRUCTION METHODS

E32.2 The Contractor shall ensure that a thorough inspection is conducted to capture the entire new structure of each manhole. The inspection shall also encompass the repaired areas.

MEASUREMENT AND PAYMENT

- E32.3 Manhole inspection will be measured on a unit basis and paid for at the Contract Unit Price for "Manhole Inspections" The number of units to be paid for will be the total number of manholes inspected in accordance with this specification, accepted and measured by the Contract Administrator.
- E32.4 Payment will not be made until the required report submissions are accepted by the Contract Administrator.
- E32.5 Payment will not be made for inspections re-performed where the Contract Administrator has determined the requirements of the specification have not been satisfied.

E33. CONCRETE CURB AND REVERSED GUTTER FOR ASPHALT PAVEMENT

DESCRIPTION

- E33.1 This specification covers the supply and installation of concrete curb and reversed gutter for asphalt pavement.

CONSTRUCTION METHODS

- E33.2 At locations on the drawings and as directed by the Contract Administrator, construct concrete curb and reversed gutter pavement on Parker Avenue.
- E33.3 Concrete curb and reversed gutter pavement shall be constructed in accordance with this specification, CW3310 and the details in Appendix 'B'.

MEASUREMENT AND PAYMENT

- E33.4 Construction of concrete curb and reversed gutter will be measured on a length basis. The length to be paid for shall be the number of linear metres constructed in accordance with this specification and accepted by the Contract Administrator, as computed by measurements made by the Contract Administrator.

BASIS OF PAYMENT

- E33.5 Construction of concrete curb and reversed gutter curbs will be paid for at the Contract Unit Price per linear meter for the "Items of Work" listed here below, measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this specification.
- E33.5.1 Items of Work:
- (a) Construction of Type 2 Concrete Curb and Reversed Gutter (150mm reveal ht, Barrier, Integral, 450mm width, 150mm Plain Concrete Pavement)
 - (b) Construction of Type 2 Concrete Curb and Reversed Gutter (150mm reveal ht, Modified Barrier, Integral, 450mm width, 150mm Plain Concrete Pavement)
- E33.5.2 Concrete curb height greater than the specified height as a result of shaping the base material is incidental to the listed Items of Work.

E34. CONSTRUCTION OF ASPHALT SPEED TABLES

DESCRIPTION

- E34.1 This specification covers the construction of asphalt speed tables on Crescent Drive.
- E34.2 Referenced Standard Construction Specifications CW 3410 – Asphaltic Concrete Pavement Works.

CONSTRUCTION METHODS

- E34.3 Where asphalt speed tables are to be constructed on existing asphalt pavements, plane the existing asphalt pavement to create a 50 mm header around the perimeter of the proposed speed hump. All other asphalt pavement located under the speed hump shall be scarified.
- E34.4 Apply tack coat to existing asphalt and concrete pavements prior to construction of the speed hump.
- E34.5 Place and compact MS1 asphalt pavement for speed tables in accordance with the details on the drawings and CW 3410.

MEASUREMENT AND PAYMENT

- E34.6 Construction of asphalt speed tables will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Construction of Asphalt Speed Tables". The number to be paid for will be the total number of speed humps constructed in accordance with this specification, measured and accepted by the Contract Administrator.

E35. CONSTRUCTION OF MONOLITHIC CURB AND CONCRETE SIDEWALKS

DESCRIPTION

- E35.1 This specification shall supplement CW 3325-R5 "Portland Cement Concrete Sidewalks".

MEASUREMENT AND PAYMENT

- E35.2 Add the following to Section 12:
- E35.2.1 Construction of monolithic curb and concrete sidewalks will be measured on surface area basis. The surface area to be paid for shall be the number of square metres constructed in accordance with this specification and accepted by the Contract Administrator, as computed by measurements made by the Contract Administrator.

BASIS OF PAYMENT

- E35.3 Add the following to Section 13:
- E35.3.1 Construction of monolithic curb and concrete sidewalks will be paid for at the Contract Unit Price per square meter for the "Items of Work" listed here below, measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the work included in this specification.
- E35.3.2 Items of Work:
- (a) Construction of Monolithic Type 1 Curb and Sidewalk
 - (b) Construction of Monolithic Type 2 Curb and Sidewalk
 - (c) Type 2 Concrete Monolithic Curb and Sidewalk
- E35.3.3 Concrete thickness greater than the specified sidewalk thickness as a result of shaping the base material is incidental to the listed Items of Work.
- E35.3.4 Construction of 180 mm reveal height modified barrier curb and 8-12 mm reveal height monolithic curb ramp is incidental to the construction of the above Items of Work.

E36. INSTALLATION OF STREET LIGHTING AND ASSOCIATED WORKS

DEFINITIONS

E36.1 LIMITS OF APPROACH means the shortest distance that is permissible between live high voltage (>750 volts) conductors or apparatus and any part of a worker's body, material or tools being handled, or equipment operated.

MANITOBA HYDRO CENTRAL STORES means Manitoba Hydro's Waverley Service and Reclaim Centre - 1840 Chevrier Blvd - Winnipeg, Manitoba

OVERHEAD FEED means an electrical supply via an overhead conductor connected between streetlight standards. Typically strung between standards on a temporary basis.

OVERHEAD SOURCE means an electrical supply from Manitoba Hydro's system. (Typically, an overhead conductor from a wooden distribution pole or a DIP/RISER located on a wooden distribution pole.)

RECLAIM material means existing material that has been removed from Manitoba Hydro's system and to be returned to Manitoba Hydro.

SCRAP material means existing material that has been removed from Manitoba Hydro's system and to be recycled/disposed of by the Contractor.

SURPLUS material means new material that has been requisitioned by the Contractor and not incorporated into the work at the end of the Contract.

WORK CLEARANCE means an ELECTRICAL AND/OR NATURAL GAS FACILITIES LOCATE form (see SAMPLE ONLY included as Appendix D) issued by each of Manitoba Hydro's Customer Service Centre (CSC) affected to permit work to commence (Permit to work).

DESCRIPTION

E36.2 The work shall consist of the supply of all supervision, labour, materials (except as indicated under MATERIAL SUPPLIED BY MANITOBA HYDRO below) insurance, tools, backfill and equipment (and their maintenance), transportation, fuel, oil, meals and lodging, mobilization and de-mobilization, and warranty of workmanship as required to install and remove temporary Overhead Feeds, remove existing street light poles as required, install new street light poles and associated underground cables/conduits, all in accordance with the requirements specified in the tender documents.

WORK LOCATIONS

E36.3 The proposed street light installation and removals are shown on construction drawings and are as follows:

- (a) Crowson Bay
- (b) Kenneth Street
- (c) Waterbury Drive

COORDINATION OF WORK

E36.4 The Contractor shall provide a minimum of ten (10) working days notice to Manitoba Hydro prior to the start of construction. The work shall be conducted and coordinated with Manitoba Hydro in a manner to ensure street lighting is maintained at all times for the duration of the work. The construction drawings provide the Proposed Sequence of Construction.

E36.5 The Contractor shall obtain Work Clearance from Manitoba Hydro's Customer Service Centre(s) (CSC) affected prior to the work commencing. No additional compensation shall be paid to the Contractor for delays obtaining Work Clearance for any reason.

- E36.6 Manitoba Hydro's CSC will provide the Limits of Approach applicable to the Contractor on the Work Clearance form.

ORIENTATION

- E36.7 Prior to the commencement of the proposed work, the Contractor's crew foremen, electricians, and other key personnel shall attend one (1) day of orientation provided by Manitoba Hydro for various operations such as cable handling, cable splicing/termination, installation of street light poles, concrete bases, luminaires and various other construction standards and procedures. The Contractor will be responsible for all costs associated with personnel salaries, travel, sustenance and overheads, etc., during training.

PRE-CONSTRUCTION MEETING

- E36.8 Prior to the commencement of the work, the Contractor shall attend a pre-construction meeting with Manitoba Hydro. The agenda for this meeting shall include but not be limited to the following:
- (a) Reference the Contractor's Safe work Procedures;
 - (b) Prime Contractor;
 - (c) materials;
 - (d) sequence of construction;
 - (e) communication plan;
 - (f) any training requirements & qualifications;
 - (g) Drawing and Project review;
 - (h) a review of the Contractor's proposed work schedule; and
 - (i) any and all other topics of clarification that the Contractor and the Contract Administrator may wish to discuss.

- E36.9 The Contractor's cost to attend this pre-construction meeting shall be incorporated into the unit prices for the work.

QUALIFICATIONS AND CERTIFICATION

- E36.10 The Contractor's Crew Foreman, installers and other key Contractor's Personnel shall possess the necessary certification, licensing, training, experience and familiarity with safety rules, procedures and hazards relating to the work. Journeyman Power Line Technician (PLT), Journeyman Lineman, Journeyman Cableman or Journeyman Electricians shall be required to perform portions of this work.
- E36.11 Journeyman Power Line Technician (PLT), Journeyman Cableman and Journeyman Lineman are also required to possess a "Limited Specialized Trade Licence – 'M-P' Licence – Power Line" issued by the Province of Manitoba.
- E36.12 Office of the Fire Commissioner Bulletin OFC 18 – 002 dated May 23, 2018 regarding Electrician Licenses discusses the requirements for a "Limited Specialized Trade Licence – 'M-P' Licence – Power Line".

For more information contact:

Office of the Fire Commissioner
500-401 York Avenue Winnipeg, Manitoba R3C 0P8
Tel. 204-945-3373
Fax 204-948-2089
Toll Free: 1-800-282-8069
firecomm@gov.mb.ca

- E36.13 Licensed Journeyman Electricians or Journeyman PLT or Journeyman Cableman or Journeyman Lineman ARE REQUIRED for all cable handling operations included but not limited to: disconnecting cables in the handhole, installation and removal of temporary overhead feeds, installation and connection of ground rods, streetlight cable splices, termination of streetlight cables in handholds and at luminaires. The Contractor shall employ sufficient qualified personnel on its crews to conform to the Electrician’s Licensing Act. The Contractor shall be prepared to provide proof of licences to Manitoba Hydro upon request.
- E36.14 The Contractor shall assess the hazards associated with the work and have documented Safe work Procedures to perform the work. It is the Contractor’s responsibility to train employees on these procedures. The Contractor shall be prepared to provide proof of training to Manitoba Hydro upon request.

REFERENCED STANDARD CONSTRUCTION SPECIFICATIONS

- E36.15 In addition to these Specifications, the work to be performed by the Contractor relative to the installation and/or replacement of street lighting poles, concrete bases and associated cabling shall be in accordance with the following:
- (a) Manitoba Hydro 66kV and Below Standards;
 - (b) CSA C22.3 No. 7 (latest edition);
 - (c) Canadian Electrical Code (CEC) Part 1 (latest edition); and
 - (d) Any other applicable codes
 - (e) (collectively, the “Standards”)
- E36.16 Revisions and updates to the Manitoba Hydro 66kV and Below Standards are issued periodically and the latest issued version of the Standard will apply. For the convenience of the Contractor for bidding purposes, excerpts of the Manitoba Hydro 66kV and Below Standards have been included as Appendix A.
- E36.17 In some cases, Municipal, Provincial or Federal laws or this Technical Specification may be more stringent than the CSA Standards. Whenever conflict exists, the Contractor shall comply with the most stringent requirements applicable at the place of the work.

TOOLS, EQUIPMENT AND MATERIALS

- E36.18 The Contractor shall be required to provide all tools and equipment required for performing the specified tasks. Equipment shall be in good operating condition, shall be properly maintained using original equipment manufacturer replacement parts and shall be provided with letters of testing/inspection from the manufacturer when requested. Where the equipment is provided as a kit with multiple parts and tools, the kit shall be complete with all parts required to perform the designed task. Contractor fabricated tools or equipment will not be accepted for use.
- E36.19 The Contractor shall obtain the following specific Electrical Equipment including but not limited to:
- (a) Compression tool or tools and associated dies to perform compressions to a maximum size of 1/0 Al (MD-6 compression tools shall not be used).
 - (b) Approved compression tools are:

Manufacture	Type	Model No.	Range
Burndy	In-line, battery	PATMD68-14V	350 Kcmil AL
Cembre	In-line, battery	B54Y (06V081E)	4/0 AWG AL
Burndy	Pistol, battery	BUR PAT60018V	350 Kcmil AL

- E36.20 Dies shall be of the type shown in Standard CD210-21 and CD 210-24 only, must have identical markings, and compression tool die must match die number stamped on connector.
- (a) Modiewark Model #4444 or Fluke 1AC-II Volt Alert potential Indicator
 - (b) Voltage meter – Fluke model #T3C
 - (c) Insulated wire cutters – used for cutting cable ends square.

E36.21 Alternative equipment manufacturers may be considered upon request by the Contractor and shall be approved for use by Manitoba Hydro prior to use.

E36.22 Manitoba Hydro may reject any tools or equipment that do not appear to be in good condition or fail to successfully provide the required function.

MATERIAL SUPPLIED BY MANITOBA HYDRO

E36.23 Manitoba Hydro shall supply all street light poles, concrete bases, breakaway bases, luminaires, street light arms, ground rods, compression sleeves, grommets, nuts, electrical cables, conduits, relays, cable guards, Gel-caps and all other materials noted in the Standards. The Contractor shall sign receipts indicating the location on which the materials are to be used. The material shall be picked up by the contractor from the following locations:

E36.24 Manitoba Hydro Central Stores (contact personnel will be provided to the successful contractor).

E36.25 Materials requested will be supplied to the Contractor by Manitoba Hydro upon presentation of Manitoba Hydro's Stores Material Order Form. The Contractor shall assume all responsibilities for the loading, unloading, transportation, proper handling, secure storage and working of the materials and shall make replacements at its own expense in case any material is damaged, stolen or lost due to improper handling, storage or poor workmanship.

E36.26 The Contractor shall, at the time of materials release, check and confirm the quantity of materials. Shortages, discrepancies, or damages to materials shall be immediately reported in writing to Manitoba Hydro.

E36.27 After commencing performance of the work, the Contractor shall continually monitor all material required for the timely completion of the work and shall report additional material requirements to Manitoba Hydro a minimum of 72 hours prior to materials being required to perform the work. No additional compensation shall be paid as a result of delays due to material shortages where additional material requirements were not reported a minimum of 72 hours prior to being required for the work on an active project.

MATERIAL SUPPLIED BY CONTRACTOR

E36.28 The Contractor shall be responsible to furnish gravel, sand, $\frac{3}{4}$ " down limestone, $\frac{1}{4}$ " down limestone, protective hose (i.e. typically 2" fire hose), duct seal and pit-run material for backfilling around street light poles and around cables as per the Standards. The cost of furnishing the above listed materials shall be incorporated into the unit prices for the work.

SURPLUS, RECLAIM AND SCRAP MATERIAL

E36.29 Upon completion of the work, the Contractor shall, at its own expense, deliver to Manitoba Hydro Central Stores, all Surplus materials furnished by Manitoba Hydro and not used in the work, regardless of the location of said material at that time.

E36.30 In addition, the Contractor shall, at its own expense, deliver to Manitoba Hydro Central Stores all Reclaim materials from the work specifically HPS luminaires. Manitoba Hydro shall be responsible for the proper disposal of Reclaim HPS luminaires. The HPS bulb shall remain installed and unbroken in the Reclaim luminaire. The Contractor shall handle the Reclaim luminaires with care and shall avoid breaking the bulb or refractor.

- E36.31 Manitoba Hydro's preference is to recycle as much Scrap Material as practicable. The Contractor is responsible to remove the Scrap Material, transport to the recycler or Manitoba Hydro approved disposal site, pay for any disposal fees and may retain any recycling value.

DE-ENERGIZATION AND LOCKOUT

- E36.32 **Manitoba Hydro** - Where a standard is supplied from an Overhead Source, Manitoba Hydro's staff shall be responsible to disconnect and isolate the street light standard or standards between the standard and Overhead Source. Some street light standards may be temporarily fed from an Overhead Source. This Overhead Source shall be disconnected and removed by Manitoba Hydro staff prior to commencing with the work. The streetlight circuits will not be Locked Out by Manitoba Hydro.
- E36.33 **The Contractor** - The Contractor shall assess the hazards associated with the work and employ its own Safe Work Procedure for the work to be performed. The Contractor's Safe Work Procedure shall include provisions that the street light circuits will not be Locked Out by Manitoba Hydro. The Contractor's Safe Work Procedure shall achieve Lock Out or techniques equivalent to Lock Out.
- E36.34 The Contractor shall complete a job planning form (an example is included as Appendix E) on a daily basis before any work commences and provide Manitoba Hydro with copies of the job plans if requested.

TEMPORARY OVERHEAD FEEDS

- E36.35 Manitoba Hydro in consultation with the Contractor will determine if temporary lighting will be provided by the existing street lights or from the new street lights.
- E36.36 When using the existing poles for temporary lighting, Manitoba Hydro shall remove an Overhead Source in accordance with DE-ENERGIZATION AND LOCKOUT section above, prior to the Contractor installing a #4 duplex overhead conductor between the existing poles. The #4 duplex overhead conductor will normally be attached to the tenon of the davit arm near the luminaire with a pre-form grip. Older poles may require a spool insulator be attached to the pole using a pre-form grip to support the #4 duplex overhead conductor. A short length of 2C/#12 copper conductor is connected to the terminals of the luminaire brought out and connected to the #4 duplex overhead conductor. The final span to the Overhead Source shall be installed by Manitoba Hydro.
- E36.37 When using the new poles for temporary lighting, the Contractor shall install the new bases, poles and #4 duplex overhead conductor. The #4 duplex overhead conductor will be attached to the tenon of the davit arm near the luminaire with a pre-form grip. A short length of 2C/#12 copper conductor is connected to the terminals of the luminaire brought out and connected to the #4 duplex overhead conductor. The final span to the Overhead Source shall be installed by Manitoba Hydro.
- E36.38 All material used to provide the temporary overhead feed shall be returned to Manitoba Hydro. Care shall be taken to coil and tag Reclaim conductor for reuse. If used, insulators shall be handled carefully to prevent breakage.

SAFE EXCAVATION

- E36.39 The work shall be performed in accordance with the requirements of Manitoba Hydro's Safe Excavation and Safety Watch Guidelines (latest revision) included as Appendix B and Manitoba Workplace Safety and Health Regulation 217 latest revision.

SAFE HANDLING

- E36.40 The Contractor shall apply handling techniques in accordance with Manitoba Workplace Health and Safety Regulation 217 (latest revision).

ELECTRIC CABLES AND CONDUITS

- (a) The Contractor shall use diligent care and proper equipment in handling of all cables, so as not to injure the jacket and avoid gouging, kinking, scratching or abrading the cables. If any material is damaged to any extent, the Contractor shall repair the damages at its own expense, in a manner approved by Manitoba Hydro or will be charged the full cost of the damaged items.
- (b) Cable reels shall not be dropped and must be handled and placed/stored in an upright position at all times and shall not be laid flat for any purpose or reason. Cable reels shall be adequately supported on hard surface to prevent the reel from sinking into the ground that can cause undue stress on the cables. Cable reels should be inspected for damages prior to use. If a cable reel is found to be defective, such defect shall be reported immediately to Manitoba Hydro.
- (c) The Contractor shall place all material and string the cables in such a manner as to cause the least interference with normal use of the land, street or roadway. All material shall be unloaded in a manner to preserve its condition, prevent loss and/or theft and permit easy access for Manitoba Hydro's inspection.
- (d) The Contractor shall provide Manitoba Hydro's inspector sufficient opportunity, in the sole discretion of Manitoba Hydro, to inspect the work.

PRECAST CONCRETE BASES

- E36.41 The Contractor shall handle, store, transport and unload the precast concrete bases in a manner to prevent damage to the threaded bolts and conduit casing.
- E36.42 Precast Concrete Bases are extremely heavy. Approximate weight of pre-cast concrete bases are found in the Standards. The Contractor shall only use equipment rated for such weight.

STREET LIGHT POLES AND ARMS

- E36.43 The Contractor shall handle, store, transport, and provide proper load securement for the poles and arms in a manner to prevent damage.

LUMINAIRES

- E36.44 The Contractor shall handle, store, transport and unload the luminaires in their original packaging and in a manner to prevent damage.

SMALL MATERIAL

- E36.45 Photo electric cells, shorting caps, shims, nut covers and associated supplies shall be kept in a suitable warehouse provided by the Contractor at its own expense. Photo electric cells shall be transported and stored in such a manner as to prevent breakage.

CARE OF MATERIALS

- E36.46 The Contractor shall assume all responsibilities of all the materials and shall replace, at its own expense, any materials damaged, stolen or lost due to improper handling or poor workmanship.

WIRE AND CABLE REEL STORAGE

- E36.47 Cable reels shall be stored with the flanges upright and resting on a hard surface. At temporary storage sites where the soil may be soft, preservative-treated plywood sheets may be used to keep the flanges from sinking into the ground.
- E36.48 If cable reels must be pancaked or stored on their side in vertical racks, do not lift the reel by the top flange. Spacers (two 2 X 4s placed wide side up) should be placed under the bottom flange and between the reels in order to create a space to insert the forks and lift the reels without damaging the cable.

REEL HANDLING

- E36.49 When off-loading reels from a truck, reels shall be lowered using a hydraulic gate, hoist or forklift truck. When a reel is rolled from one point to another, care must be taken to see that the reel does not straddle objects such as rocks, pipes, curbs or wooden blocks which could damage the cable or protective covering. A reel should always be rolled on hard surfaces to avoid sinkage and in the opposite direction to the cable wraps to ensure that the reel is rolled in such a direction as to tighten the cable on the reel.
- E36.50 When using a hoist, install a mandrel through the reel arbour hole and attach a sling. Use a spreader bar approximately 6 inches longer than the overall reel width placed between the sling ends just above the reel flanges. This will prevent bending of the reel flanges and damage to the cable.
- E36.51 If a forklift is used to move a reel, the reel is to be approached from the flange side. Position the forks such that the reel is lifted by both reel flanges. The lift forks shall not contact the cable.
- E36.52 Returnable reels shall be returned promptly to Manitoba Hydro Central Stores and in no case later than three (3) days after the completion of the work unless otherwise mutually agreed between the Contractor and Manitoba Hydro.

PRESSURIZED WATER/VACUUM EXCAVATION

- E36.53 Pressurized water/vacuum excavation (PW/VE) shall be used to daylight all buried utilities and structures where excavation by other mechanical means would be expected to provide a physical risk to that utility or structure.
- E36.54 The work shall be performed in accordance with the requirements of Manitoba Hydro's Safe Excavation and Safety Watch Guidelines (latest revision) included as Appendix B.

REMOVAL STREET LIGHT POLE FROM EXISTING BASE

- E36.55 This shall include all work required to remove a street light pole from an existing base as set forth in this Technical Specification. The pole may be on an existing precast concrete base, steel power installed screw base or poured in place concrete base.
- E36.56 The Contractor shall furnish all labour, supplies and materials (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary for the removal of the street light pole from the existing base. Care shall be taken to preserve the luminaire. The luminaire shall be reinstalled on the new street light pole or returned to Manitoba Hydro's stores as instructed by the Manitoba Hydro.
- E36.57 The Contractor shall be responsible to transport all Surplus and Reclaim materials to Manitoba Hydro Central Stores and transport and dispose of all Scrap material as set forth in this Specification.

REMOVAL OF BASE AND DIRECT BURIED STREET LIGHT POLE

- E36.58 This shall include all excavation, whether by auger, pressurized water/vacuum excavation, by hand, or by other methods which may be necessary to remove a base or direct buried street light pole. The base may be poured in place concrete, steel power installed or precast concrete.
- E36.59 The Contractor shall be responsible to transport all Surplus and Reclaim materials to Manitoba Hydro Central Stores and transport and dispose of all Scrap material as set forth in this Specification.
- E36.60 The Contractor is responsible to supply all backfill material as specified in the Standards and carry out all backfill, compacting and leveling of all excavations and voids for removed bases and direct buried street light poles so as to be ready for top soil and seed or sod or as directed by Manitoba Hydro.

INSTALLATION OF FOUNDATION - CONCRETE BASE

- E36.61 This shall include all excavation, whether by auger, pressurized water/vacuum excavation, by hand, or by other methods which may be necessary to replace or install a concrete base as set forth in this Specification.
- E36.62 The Contractor shall furnish all labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary to install a new or replace a concrete base. Excavation for the precast concrete base shall be to a diameter and depth specified in Standard CD 300-6. All excess material is to be removed by the Contractor.
- E36.63 The concrete base shall be set on a bed of $\frac{3}{4}$ " down limestone. The concrete base backfill material shall be compacted in lifts no more than 150 mm. Backfill material shall be $\frac{3}{4}$ " down limestone. Compacting of backfill material shall be done using a hydraulic tamper. Alternative tamping methods shall be approved by Manitoba Hydro. Underground cables entering the concrete base shall be protected by a length of protective hose supplied by the Contractor and a layer of sand surrounding the cables to protect it from the limestone. The concrete base shall be installed level in all 4 directions. Final grade must be established prior to installing the concrete bases.
- E36.64 The completed backfill shall be at least equal in compaction to undisturbed soil, as required by the Municipal authorities or elsewhere in this Specification. The Contractor shall level all excavations.
- E36.65 Should settlement occur in the excavation and cause a depression in the surface, the Contractor shall repair the surface. Placing of additional backfill material due to settlement shall be at the Contractor's expense.
- E36.66 The concrete base shall be oriented in the proper direction to allow the easy entrance of the underground cables into the plastic pipe preinstalled in the concrete base. Care shall be taken to prevent damage to the insulation or jacket of the conductors. The cable shall be left long enough to extend one (1) metre beyond the top of the hand hole.

BASE MOUNTED STREET LIGHT POLES

- E36.67 This shall include all work required to install the street light pole on the concrete base as set forth in this Specification.
- E36.68 The Contractor shall furnish all labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary for the installation of the pole (straight shaft or davit) on the concrete base.
- E36.69 Unless otherwise specified on the construction drawings, the Contractor shall orient the poles so that the hand hole is on the left side of the pole when viewed from the road. A worker should be able to see oncoming traffic when working in the hand hole.
- E36.70 The Contractor shall level the street light pole in all 4 directions. Leveling shims may be used.
- E36.71 Tightening of bolts shall be performed in a manner that brings the surfaces up evenly. All nuts shall be tightened and torqued in accordance with Standard CD 300-9. The Contractor shall install the nut covers included with the pole.
- E36.72 Unless otherwise specified, excess underground cable and 2C-12 wire shall be left inside the hand hole with the hand hole cover loosely installed.
- E36.73 Existing street light poles may have street signs attached. The Contractor shall remove the signs from the existing pole and temporarily reattach the signs to the new pole. The Contractor shall notify Manitoba Hydro of the location where the signs have been removed.

LUMINAIRES AND ASSOCIATED WIRING

E36.74 The Contractor shall furnish labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary to install the luminaire and associated wiring. Unless otherwise specified, the luminaire shall be installed with a tilt of zero (0) degrees. The Contractor shall install a length of 2 conductor No. 12 gauge (2C-12) wire from the terminals of the luminaire, through the arm (if applicable), down the pole to the hand hole. One (1) metre of 2C-12 wire shall be left at the hand hole. Impact equipment (air or electric) shall not be used to tighten luminaire mounting bolts. The Contractor shall be liable for damage due to over tightening.

E36.75 The Contractor shall verify the luminaire voltage matches the source voltage as shown on the construction drawings. If luminaire voltage does not match the source voltage, the Contractor shall re-wire the luminaire in accordance with the wiring diagram provided.

NOTE: Not applicable for LED luminaires.

E36.76 As specified on the construction drawings, the luminaire will require either a photo electric cell (PEC) or shorting cap installed. When installing the PEC the eye shall be oriented north. The Contractor shall also install the appropriate wattage bulb in the luminaire.

NOTE: Bulb installation not applicable for LED luminaires.

BREAK AWAY BASES

E36.77 Break away bases shall be installed in accordance with Standard CD 300-10. The height of the concrete base above grade shall not exceed 50mm. The surface of the concrete base shall be flat and level. A reaction plate shall be installed between the concrete base and the break-away base.

E36.78 The Contractor shall torque the couplers in accordance with Standard CD 300-10. Impact tools shall not be used to tighten or torque couplers or nuts associated with a break away base.

SPLICING/CONNECTING CABLES

E36.79 The electric cable shall be spliced/terminated as per Standards CD 215-12, CD 215-13, CD 310-1, CD 310-4, CD 310-9 and CD 310-10 with the exception that the Contractor will use a GELCAP-SL-2/0 splice kit (See Appendix C). Termination in the hand hole may include the installation of an inline fuse holder.

E36.80 The Contractor shall furnish all labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary to splice/terminate the street light conductor(s).

EXCAVATION

E36.81 The Contractor shall furnish all labour, supplies and material (except as indicated in the Section "MATERIAL SUPPLIED BY MANITOBA HYDRO") necessary for the completion and maintenance of grade and line of the street light cables and conduit including water control if found to be necessary. The trench shall be graded to conform to the street light cables and conduit so that the street light cables and conduit rest firmly on a smooth surface throughout its length. All stones or other objects which, in the opinion of Manitoba Hydro might damage the street light cable jacket and conduit shall be removed. Where the presence of rock or other condition prevent a satisfactory bed for the cables, 150 mm of well-tamped, clean soil or ¼" down crushed limestone shall be placed in the bottom of the trench. In this case, the spoil bank from trenching operations shall not be allowed to fall into the trench or mix with the soil to be used in backfilling the trench. Loose debris or foreign matter and the spoil bank shall be placed so as not to hinder drainage, damage property, or obstruct traffic.

E36.82 Trenches shall be dug to such a depth that will provide a minimum cover of 600 mm from final grade in sodded areas and 1000 mm in roadways in accordance with Standard CD 305-1.

LAYING CABLES

- E36.83 Cables are to be lowered in the trench in an orderly fashion so as to maintain a consistent path and straight alignment. All cables shall be lowered in a continuous run (NO SPLICING) and in accordance with the construction drawings; and shall maintain the necessary separation, where required. All cables shall be of continuous runs and capped and sealed if they are not being installed in the pole at that time. Cables shall not be dragged over paved surfaces.
- E36.84 Once a cable is cut its ends must be sealed immediately with an approved and appropriately sized, heat shrink or cold shrink sealing cap to prevent moisture ingress unless the cable is being installed in the pole at that time.
- E36.85 During the removal of the cable, the reels shall be placed on jacks, stands or trailers with a bar through the arbour holes which will allow the reel to be turned easily, and the cable to be paid out. Cables can be paid out from the bottom or the top of the reel. Cable in coils shall be handled in a similar manner. This can be achieved by supporting the coil in a vertical plane and rotating it by hand as the cable is carefully uncoiled. The cable shall never be pulled over the flange of a reel, or pulled off the side of a coil, since this will introduce a twist in the cable.
- E36.86 During installation, under no circumstance is the cable to be subjected to a bending radius tighter than that detailed in the Standards.
- E36.87 Where specified in the Standards or on the construction drawings, the Contractor shall install the street light cable in a conduit.

INSTALLING CONDUIT AND CABLE BY BORING (HORIZONTAL DIRECTIONAL DRILLING)

- E36.88 The Contractor shall dig the approaches and openings necessary to install boring equipment, and the boring equipment used shall be of such a nature as to minimize the opening size required. The boring equipment shall produce a straight hole without unnecessary dips or bends. The bore hole shall be only slightly larger than the outside diameter of the conduits or cables to minimize possible settlement. Cables and conduits shall be pulled in with pulling eyes or using a kellum grip in a manner so as to guard against damage.
- E36.89 During construction as the drill bit crosses each existing facility a lookout shall be assigned by the Contractor to visually confirm the drill bit is maintaining a minimum 300 mm clearance from the existing facility all in accordance with Manitoba Hydro Safe Excavation and Safety Watch Guidelines (latest revision) included as Appendix B. Maximum pulling tensions on any streetlight cable shall be limited to 2.9 kN/0.65 kips.
- E36.90 Drilling fluids and associated waste materials shall be disposed of in a manner that minimizes environmental effects.
- E36.91 The Contractor shall properly compact the backfill material and will be responsible for placing additional material should settlement occur for the duration of the warranty period.

BURIED UTILITY CROSSINGS

- E36.92 All buried obstructions are not necessarily shown on the reference drawings and the locations of those indicated are approximate only.
- E36.93 The Contractor shall determine the location of all buried obstructions and shall notify the appropriate authorities and obtain all necessary permits prior to excavation, trenching and directional drilling near or across such obstructions. All buried obstructions where the new buried cable route crosses other utilities including but not limited to gas, water, sewer, telephone and electric lines shall be exposed as per each utilities guidelines by the Contractor, including the use of Pressurized Water/Vacuum Equipment (PW/VE) where necessary. Should any damage occur to such lines during the course of the work, the Contractor shall be responsible for the damage and the costs of repairs to buried obstructions caused by its operations and shall fully indemnify the City of Winnipeg and Manitoba Hydro from and against all claims arising out of such damage. Manitoba Hydro Safe Excavation and Safety Watch

Guidelines (latest revision) included as Appendix B shall be followed when crossing natural gas pipelines and electrical cables by the directional boring method.

- E36.94 The PW/VE technique, used to expose underground plant in certain conditions, must be performed in accordance with each utility's requirements, including but not limited to Manitoba Hydro, Manitoba Telecom Services, Shaw Cable, etc. PW/VE costs that the Contractor will incur during the work must be factored into the Contractor's bid prices. The Contractor shall not be entitled to extra compensation for the use of PW/VE on the work.
- E36.95 The Contractor shall be responsible to supply all backfill material and carry out all backfill, compacting and leveling of all excavations so as to be ready for topsoil and seed or sod or as directed by Manitoba Hydro.

BENDING CABLES/CONDUITS AND INSTALLATION INTO STANDARDS

- E36.96 It is desired to reduce to a minimum the required number of bends and to lay the cables/conduits to conform to the contour of the ground and maintain a normal covering. This shall be accomplished by cutting the trench slightly deeper in approaches to road crossings and drainage ditches. It is intended that the Contractor shall eliminate unnecessary bending by operating the trenching machine at various depths rather than by finishing grading the trench by hand whenever practical.
- E36.97 Sharp bends of the cables/conduits shall be avoided at all times. All bends shall meet the requirements set out in this Specification. If excessive bending was exerted on any cable, the cable shall be replaced at the Contractor's cost. During installation, under no circumstance is the cable to be subjected to a bending radius tighter than that detailed in the Standards. At street light poles the Contractor shall install the ends of the cables into the plastic pipe preinstalled in the concrete base. Care shall be taken to prevent damage to the insulation or jacket of the conductors. Underground cables entering the concrete base shall be protected by a length of protective hose supplied by the Contractor and by a layer of sand surrounding the cables to protect it from the limestone. The cable shall be left long enough to extend one (1) metre beyond the hand hole. The street light cable in the trench shall be installed in conduit for mechanical protection and the ends sealed with duct seal supplied by the Contractor. Care shall be taken to prevent damaging the cable where it exits the conduit. The conduit shall only be installed into the concrete base if conduit sizes make it practicable.
- E36.98 Unless otherwise directed, excess underground cable and 2C-12 wire shall be left inside the hand hole with the hand hole cover loosely installed.

BACKFILL

- E36.99 All backfilling material within 300 mm of the cables/conduits shall be clean, free of sod, vegetation, organic material, stones or other debris, and of a consistency as to not create significant voids or air spaces around the cables/conduits. Other backfilling material shall be free of stones greater than 150 mm on their maximum dimension. Where cinders or very acid soil are encountered or where gravel or incompressible fill is required by Municipal authorities, ¼" down crushed limestone shall be placed all around the cables for a depth of at least 300 mm. The completed backfill shall be at least equal in compaction to undisturbed soil or as directed by Manitoba Hydro. Backfill material is to be placed and compacted in lifts not exceeding 300 mm. All excess material is to be removed by the Contractor.
- E36.100 Tamping or flushing methods must be used where necessary to give the required compaction. Where tamping is used, hand tampers shall be used to at least 300 mm above the cable before machine tamping may be used. The Contractor shall level all excavations so as to be ready for topsoil and seed or sod or as directed by the Manitoba Hydro. Should settlement occur in the excavation and cause a depression in the surface, the Contractor shall repair the surface to the satisfaction of the Manitoba Hydro at the Contractor's cost.
- E36.101 Excavations remaining where poles have been removed shall be backfilled with spoil, pit run gravel or ¾" down limestone and compacted in lifts of 150mm as directed by Manitoba Hydro. The top 300 mm of the excavation shall be backfilled with topsoil.

E36.102 Excavations remaining where utility crossings have been exposed shall be backfilled with sand or clean spoil and compacted in lifts of 150mm. The top 300 mm of the excavation shall be backfilled with topsoil.

E36.103 Backfill of all excavations shall be in accordance with City of Winnipeg Standard Construction Specification CW 2030 (latest revision), to the satisfaction of the authority having jurisdiction and Manitoba Hydro.

DEFECTIVE WORK & WARRANTY

E36.104 If any portion of the work fails to comply with the requirements of this Specification, fails within the Warranty period, or if the final tests prove or indicate the existence of any fault or defect in the work, or any part thereof, Manitoba Hydro may forthwith re-execute or make good the faulty or defective work or alter the same to make it comply with requirements of the Specification at the Contractor's expense. Manitoba Hydro shall give the Contractor notice together with particulars of such failure, fault or defect, Manitoba Hydro's cost to re-execute or make good the faulty or defective work and the Cost shall be deducted from the Contract.

E36.105 At the completion of the work for each location, Manitoba Hydro shall prepare and issue a Network Commissioning Report, a sample of which is included as Appendix F, to the Contractor. The Network Commissioning Report shall be dated indicating the commencement of the Warranty period for the work performed at the location.

AS-BUILT DRAWING

E36.106 The Contractor shall provide an as-built drawing or mark-up drawing to Manitoba Hydro which accurately displays the "as-built" location of the buried street light cables, conduits and street light davits. Any changes of these items shall be clearly dimensioned to property line, and/or the original proposed location.

E36.107 Additional information to be included on the drawing, at each davit location: luminaire manufacturer, manufacturing date, wattage and serial number, along with the corresponding serial number of the davit upon which it is installed. As-built drawing submissions shall include the date the drawing was completed, name of the drafter and drawing reviewer.

E36.108 As-Built drawing submission package shall be received by Manitoba Hydro for review and acceptance prior to final energization of any newly installed infrastructure.

MEASUREMENT AND PAYMENT

E36.109 Removal of 25' to 35' street light pole and precast, poured in place concrete, steel power installed base or direct buried including davit arm, luminaire and appurtenances

- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Removal of 25' to 35' street light pole and precast, poured in place concrete, steel power installed base or direct buried including davit arm, luminaire and appurtenances". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including removal of the pole, base, luminaire, appurtenances, use of pressurized water/vacuum excavation, transportation of Reclaim, Surplus and Scrap material, payment of associated disposal fees and all other items incidental to the work included in the Specification.

E36.110 Removal of 45' street light pole and precast, poured in place concrete, steel power installed base or direct buried including davit arm, luminaire and appurtenances

- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Removal of 45' street light pole and precast, poured in place concrete, steel power installed base or direct buried including davit arm, luminaire and appurtenances". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including removal of the pole, base, luminaire, appurtenances, use of

pressurized water/vacuum excavation, transportation of Reclaim, Surplus and Scrap material, payment of associated disposal fees and all other items incidental to the work included in the Specification.

E36.111 Installation of Conduit and #4 AL C/N or 1/0 AL Triplex Streetlight Cable in Conduit by Open Trench Method

- (a) This pay item will be measured on a linear metre basis and paid for at the Contract Unit Price per linear metre for "Installation of Conduit and #4 AL C/N or 1/0 AL Triplex streetlight cable in Conduit by open trench method." The number of meters to be paid for at the Contract Unit Price shall be measured and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the conduit, pulling cable into the conduit, backfilling the trench, buried utility crossings, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.

E36.112 Installation of 50 mm Conduit by Boring Method complete with Cable Insertion (#4 AL C/N or 1/0 AL Triplex)

- (a) This pay item will be measured on a linear metre basis and paid for at the Contract Unit Price per linear metre for "Installation of 50 mm conduit or conduits by boring method complete with cable insertion (#4 AL C/N or 1/0 AL Triplex)." The number of meters to be paid for at the Contract Unit Price shall be measured and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of 50mm conduit or conduits by boring method, inserting the #4 AL C/N or 1/0 AL Triplex streetlight cable into the conduit(s), buried utility crossings, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.

E36.113 Installation of cable (#4 AL C/N or 1/0 AL Triplex) by boring method.

- (a) This pay item will be measured on a linear metre basis and paid for at the Contract Unit Price per linear metre for "Installation of cable(s) (#4 AL C/N or 1/0 AL Triplex) by boring method." The number of meters to be paid for at the Contract Unit Price shall be measured and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the cable or cables by boring method, buried utility crossings, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.

E36.114 Installation of 25'/35' Pole, Davit Arm and Precast Concrete Base Including Luminaire and Appurtenances

- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation of 25'/35' pole, davit arm and precast concrete base including luminaire and appurtenances." The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the pole, davit arm, base, luminaire, appurtenances, placing the cable(s) into the base, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.

E36.115 Installation of 45' Pole, Davit Arm and Precast Concrete Base Including Luminaire and Appurtenances

- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation of 45' pole, davit arm and precast concrete base including luminaire and appurtenances." The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the pole, davit arm, base, luminaire, appurtenances, placing the cable(s) into the base, use of pressurized water/vacuum excavation and all other items incidental to the work included in the Specification.

- E36.116 Installation of One (1) 10' Ground Rod at Every Third Street Light, at the End of a Street Light Circuit or Anywhere Else as Shown on the Design Drawings. Trench #4 Ground Wire up to 1 m From Rod Location to New Street Light and Connect (Hammerlock) to Top of Ground Rod
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation of one (1) 10' ground rod at every third street light, at the end of a street light circuit or anywhere else as shown on the design drawings. Trench #4 ground wire up to 1 m from rod location to new street light and connect (hammerlock) to top of the ground rod." The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including install one (1) 10'ground rod, trench the #4 ground wire to the new streetlight pole, connect (hammerlock) ground wire to rod and all other items incidental to the work included in the Specification.
- E36.117 Installation of Lower 3 m of Cable Guard, Ground Lug, Cable Up Pole, and First 3 M Section of Ground Rod Per Standard CD 315-5
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Install/lower 3 m of Cable Guard, ground lug, cable up pole, and first 3 m section of ground rod per Standard CD 315-5". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installing the lower section of cable guard, ground lug, ground rod, coiling cable(s) up the pole and all other items incidental to the work included in the Specification.
- E36.118 Installation and Connection of Externally-Mounted Relay and PEC Per Standards CD 315-12 and CD 315-13
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation and connection of externally-mounted relay and PEC per Standards CD 315-12 and CD 315-13".The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including mounting the relay, PEC, wiring as per the schematic and all other items incidental to the work included in the Specification.
- E36.119 Termination of 2/C #12 Copper Conductor to Street Light Cables Per Standard CD310-4, CD310-9 or CD310-10
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Terminate 2/C #12 copper conductor to street light cables per Standard CD310-4, CD310-9 or CD310-10".The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including connection of the 2/C # 12 copper conductor to the #4 C/N or 1/0 Al Triplex cable(s) using a GELCAP-SL-2/0 splice kit and all other items incidental to the work included in the Specification.
- E36.120 Splicing #4 AL C/N or 2 Single Conductor Street Light Cables
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Splicing #4 Al C/N or 2 single conductor street light cables". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including splicing the #4 AL C/N or 2 single conductor cables in accordance with Standard CD 215-12 and CD 215-13 and all other items incidental to the work included in the Specification.
- E36.121 Splicing 1/0 AL Triplex Cable or 3 Single Conductor Street Light Cables
- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Splicing 1/0 AL triplex cable or 3 single conductor street light cables". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including splicing the 1/0 Al triplex cable or set of 3 single conductor cables in accordance

with Standard CD 215-12 and CD 215-13 and all other items incidental to the work included in the Specification.

E36.122 Installation of Break-Away Base and Reaction Plate on Base-Mounted Poles up to 35'

- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Installation of break-away base and reaction plate on base mounted poles up to 35'". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including installation of the reaction plate, break-away base and all other items incidental to the work included in the Specification.

E36.123 Installation of Overhead Span of #4 Duplex Between New or Existing Streetlight Poles and Connect Luminaire to Provide Temporary Overhead Feed

- (a) This pay item will be measured on per span basis and paid for at the Contract Unit Price per span for "Installation of Overhead Span of #4 duplex Between New or Existing Streetlight Poles and Connect Luminaire to Provide Temporary Overhead Feed". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including attachment of the #4 duplex overhead conductor using a perform grip (c/w spool insulator(s) to davit arm if necessary), sagging conductor, connection of luminaire using 2C#12 copper conductor and all other items incidental to the work included in the Specification.

E36.124 Removal of Overhead Span of #4 Duplex Between New or Existing Streetlight Poles to Remove Temporary Overhead Feed

- (a) This pay item will be measured on a per span basis and paid for at the Contract Unit Price per span for "Removal of Overhead Span of #4 duplex Between New or Existing Streetlight Poles to Remove Temporary Overhead Feed". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by the Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including removal of the #4 duplex overhead conductor, spool insulator(s) and all other items incidental to the work included in the Specification.

E36.125 Expose Underground Cable Entrance of Existing Streetlight Pole and Install New Streetlight Cable(s).

- (a) This pay item will be measured on a unit basis and paid for at the Contract Unit Price per unit for "Expose Underground Cable Entrance of Existing Streetlight Pole and Install New Streetlight Cable(s)". The number of units to be paid for at the Contract Unit Price shall be verified and accepted by Manitoba Hydro. The Price shall be payment in full for performing all operations herein described including excavation and exposure of the underground cable entrance by any means necessary including use of pressurized water/vacuum excavation, installation of the new streetlight cables(s), backfill, compaction and all other items incidental to the work included in the Specification.