



THE CITY OF WINNIPEG

TENDER

TENDER NO. 209-2026

SUPPLY & DELIVERY OF TRAFFIC SIGNALS STRAIGHT 15' POLE

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 SUPPLY & DELIVERY OF TRAFFIC SIGNALS STRAIGHT 15' POLE

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. 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. ENQUIRIES

B3.1 All enquiries shall be directed to the Contract Administrator identified in D5.1.

B3.2 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 promptly notify the Contract Administrator of the error, discrepancy or omission at least five (5) Business Days prior to the Submission Deadline.

B3.3 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.

B3.4 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.

B3.5 The Bidder shall not be entitled to rely on any response or interpretation received pursuant to B3 unless that response or interpretation is provided by the Contract Administrator in writing.

B3.6 Any enquiries concerning submitting through MERX should be addressed to:
MERX Customer Support
Phone: 1-800-964-6379
Email: merx@merx.com

B4. CONFIDENTIALITY

B4.1 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.

B4.2 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.

B5. ADDENDA

B5.1 The Contract Administrator may, at any time prior to the Submission deadline, issue addenda correcting errors, discrepancies or omissions in the Tender, or clarifying the meaning or intent of any provision therein.

- B5.2 The Contract Administrator will issue each addendum at least two (2) Business Days prior to the Submission Deadline, or provide at least two (2) Business Days by extending the Submission Deadline.
- B5.3 Addenda will be available on the MERX website at www.merx.com.
- B5.4 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.
- B5.5 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.
- B5.6 Notwithstanding B3, enquiries related to an Addendum may be directed to the Contract Administrator indicated in D5.

B6. SUBSTITUTES

- B6.1 The Work is based on the materials, equipment, methods and products specified in the Tender.
- B6.2 Substitutions shall not be allowed unless application has been made to and prior approval has been granted by the Contract Administrator in writing.
- B6.3 Requests for approval of a substitute will not be considered unless received in writing by the Contract Administrator at least ten (10) Business Days prior to the Submission Deadline.
- B6.4 The Bidder shall ensure that any and all requests for approval of a substitute:
- (a) provide sufficient information and details to enable the Contract Administrator to determine the acceptability of the material, equipment, method or product 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 Contract;
 - (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 Contract.
- B6.5 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.
- B6.6 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.
- B6.6.1 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.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base 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 B16.

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

B7. BID SUBMISSION

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

- (a) Form A: Bid/Proposal;
- (b) Form B: Price.

B7.2 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.

B7.3 The Bid shall be submitted electronically through MERX at www.merx.com.

B7.3.1 Bids will **only** be accepted electronically through MERX.

B7.4 Bidders are advised that inclusion of terms and conditions inconsistent with the Tender document, including the General Conditions, will be evaluated in accordance with B16.1(a).

B8. BID

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

B8.2 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.

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

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

B8.4 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.

- B8.4.1 The name and official capacity of all individuals signing Form A: Bid/Proposal should be entered below such signatures.
- B8.5 If a Bid is submitted jointly by two or more persons, the word "Bidder" shall mean each and all such persons, and the undertakings, covenants and obligations of such joint Bidders in the Bid and the Contract, when awarded, shall be both joint and several.
- B9. PRICES**
- B9.1 The Bidder shall state a price in Canadian funds for each item of the Work identified on Form B: Prices.
- B9.1.1 Prices on Form B: Prices shall include:
- (a) duty;
 - (b) freight and cartage;
 - (c) Provincial and Federal taxes [except the Goods and Services Tax (GST) and Manitoba Retail Sales Tax (MRST, also known as PST), which shall be extra where applicable] and all charges governmental or otherwise paid;
 - (d) profit and all compensation which shall be due to the Contractor for the Work and all risks and contingencies connected therewith.
- B9.2 The quantities listed on Form B: Prices are to be considered approximate only. The City will use said quantities for the purpose of comparing Bids.
- B9.3 The quantities for which payment will be made to the Contractor are to be determined by the Work actually performed and completed by the Contractor, to be measured as specified in the applicable Specifications.
- B9.4 The Bidder shall enter the Total Bid Price from Form B: Prices into the Total Bid Price field in MERX.
- B9.5 Bidders are advised that the calculation indicated in B16.4 will prevail over the Total Bid Price entered in MERX.
- B10. DISCLOSURE**
- B10.1 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.
- B10.2 The Persons are:
- (a) N/A
- B11. CONFLICT OF INTEREST AND GOOD FAITH**
- B11.1 Further to C3.2, Bidders, by responding to this Tender, declare that no Conflict of Interest currently exists, or is reasonably expected to exist in the future.
- B11.2 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.

B11.3 In connection with their Bid, each entity identified in B11.2 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.

B11.4 Without limiting B11.3, 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.

B11.5 Without limiting B11.3, 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 B11.4 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.

B11.6 The final determination of whether a perceived, potential or actual Conflict of Interest exists shall be made by the City, in their sole discretion.

B12. QUALIFICATION

B12.1 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, or if the Bidder

- does not carry on business in Manitoba, in the jurisdiction where the Bidder does carry on business; 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.
- B12.2 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>
- B12.3 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;
 - (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 B12.4 and D6);
 - (e) shall produce evidence that the plant has been fully approved by the CWB to the requirements of CSA W47.1 Division 2.1 for welding of steel structures;
 - (f) have demonstrated the ability to supply and deliver work(s) with Quality Control and Assurance Standards according to past contracted delivery requirements and time lines;
 - (g) have demonstrated the resources, facilities and capabilities to quickly and efficiently effect repairs or remediation to the satisfaction of contract administrators, or other customers, on issues with Work(s) on previous contract(s) to meet the specifications and requirements of the supplied Work, regardless of time of year or environmental conditions.
- B12.4 Further to B12.3(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.
- B12.5 The Bidder shall comply with the specifications stated in Section PART E - SPECIFICATIONS. The Bidder shall insure material supplied and processes shall meet the CSA, ASTM, ASME requirements stated in this Tender. The Bidder shall be able to supply all documentation referencing the CSA, ASTM specifications and standards.
- B12.6 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.
- B12.7 The Bidder shall supply within twenty-eight (28) Calendar Days of a request from the Contract Administrator samples and / or technical documentation specific to any item or assembly that would be included in the deliverables for inspection and testing.
- B12.7.1 The Bidder is responsible for all freight costs associated with the delivery and return of any requested sample(s) as described in B12.7.
- B12.8 The Bidder may be considered as non-responsive if requested information and / or sample as described in B12.5 and B12.7 is not received within the time frame specified.
- B12.9 Unsolicited samples will be returned at Bidder's expense.

- B12.10 The Bidder will be notified by the Contract Administrator whether the bid samples and / or technical documentation had any noted deficiencies.
- B12.11 The Bidder shall provide within fourteen (14) Calendar Days a re-worked bid sample and / or technical documentation addressing any previous deficiencies noted by the Contract Administrator
- B12.12 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.

B13. OPENING OF BIDS AND RELEASE OF INFORMATION

- B13.1 Bids will not be opened publicly.
- B13.2 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.
- B13.3 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.
- B13.4 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).
- B13.4.1 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.

B14. IRREVOCABLE BID

- B14.1 The Bid(s) submitted by the Bidder shall be irrevocable for the time period specified in Paragraph 11 of Form A: Bid/Proposal.
- B14.2 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.

B15. WITHDRAWAL OF BIDS

- B15.1 A Bidder may withdraw their Bid without penalty at any time prior to the Submission Deadline.

B16. EVALUATION OF BIDS

- B16.1 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 B12 (pass/fail);
 - (c) Total Bid Price;
 - (d) economic analysis of any approved alternative pursuant to B6.
- B16.2 Further to B16.1(a), the Award Authority may reject a Bid as being non-responsive if the Bid Submission is incomplete, obscure or conditional, or contains additions, deletions, alterations or

other irregularities. The Award Authority may reject all or any part of any Bid, or waive technical requirements or minor informalities or irregularities if the interests of the City so require.

- B16.3 Further to B16.1(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.
- B16.4 Further to B16.1(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.
- B16.4.1 Further to B16.1(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.
- B16.4.2 Bidders are advised that the calculation indicated in B16.4 will prevail over the Total Bid Price entered in MERX.
- B16.5 This Contract will be awarded as a whole.

B17. AWARD OF CONTRACT

- B17.1 The City will give notice of the award of the Contract or will give notice that no award will be made.
- B17.2 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.
- B17.2.1 Without limiting the generality of B17.2, 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.
- B17.3 Where an award of Contract is made by the City, the award shall be made to the qualified Bidder submitting the lowest evaluated responsive Bid, in accordance with B16.
- B17.4 Further to Paragraph 7 of Form A: Bid/Proposal and C4, the City may issue a purchase order to the successful Bidder in lieu of the execution of a Contract.
- B17.4.1 The Contract Documents, as defined in C1.1(p), in their entirety shall be deemed to be incorporated in and to form a part of the purchase order notwithstanding that they are not necessarily attached to or accompany said purchase order.
- B17.5 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.

PART C - GENERAL CONDITIONS

C0. GENERAL CONDITIONS

- C0.1 The *General Conditions for the Supply of Goods* (Revision 2020-01-31) are applicable to the Work of the Contract.
- C0.1.1 The *General Conditions for the Supply of Goods* 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 Supply of Goods*.

PART D - SUPPLEMENTAL CONDITIONS

GENERAL

D1. GENERAL CONDITIONS

D1.1 In addition to the *General Conditions for the Supply of Goods*, 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 supply and delivery of traffic signals straight 15' pole for the period from date of award to March 31, 2027, with the option of four (4) mutually agreed upon one (1) year extensions.

D2.1.1 The City may negotiate the extension option with the Contractor within ninety (90) Calendar Days prior to the expiry date of the Contract. The City shall incur no liability to the Contractor as a result of such negotiations.

D2.1.2 Changes resulting from such negotiations shall become effective on April 1st of the respective year. Changes to the Contract shall not be implemented by the Contractor without written approval by the Contract Administrator.

D2.1.3 Bidders are advised that, in future, the City may be participating in collaborative procurement initiatives with other levels of government. Accordingly, extensions to this Contract may not be exercised.

D2.2 The Work shall be done on an "as required" basis during the term of the Contract.

D2.2.1 The type and quantity of Work to be performed under this Contract shall be as authorized from time to time by the Contract Administrator and/or Users.

D2.2.2 Subject to C7, the City shall have no obligation under the Contract to purchase any quantity of any item in excess of their actual operational requirements.

D2.3 Notwithstanding D2.1, in the event that operational changes result in substantial changes to the requirements for Work, the City reserves the right to alter the type or quantity of work performed under this Contract, or to terminate the Contract, upon thirty (30) Calendar Days written notice by the Contract Administrator. In such an event, no claim may be made for damages on the ground of loss of anticipated profit on Work.

D3. COOPERATIVE PURCHASE

D3.1 The Contractor is advised that this is a cooperative purchase.

D3.2 The Contract Administrator may, from time to time during the term of the Contract, approve other public sector organizations and utilities, including but not limited to municipalities, universities, schools and hospitals, to be participants in the cooperative purchase.

D3.3 The Contract Administrator will notify the Contractor of a potential participant and provide a list of the delivery locations and estimated quantities.

D3.4 If any location of the potential participant is more than ten (10) kilometers beyond the boundaries of the City of Winnipeg, the Contractor shall, within fifteen (15) Calendar Days of the written notice, notify the Contract Administrator of the amount of any additional delivery charge for the location.

D3.5 If any additional delivery charges are identified by the Contractor, the potential participant may accept or decline to participate in the cooperative purchase.

- D3.6 The Contractor shall enter into a contract with each participant under the same terms and conditions as this Contract except:
- (a) supply under the contract shall not commence until the expiry or lawful termination of any other contract(s) binding the participant for the same goods;
 - (b) a participant may specify a duration of contract shorter than the duration of this Contract;
 - (c) a participant may specify that only some items under this Contract and/or less than their total requirement for an item are to be supplied under their contract; and
 - (d) any additional delivery charge identified and accepted in accordance with D3.4 and D3.5 will apply.
- D3.7 Each participant will be responsible for the administration of their contract and the fulfilment of their obligations under their contract. The City shall not incur any liability arising from any such contract.
- D3.8 No participant shall have the right or authority to effect a change in the Contract, or of any other participant in this Contract.

D4. DEFINITIONS

- D4.1 When used in this Tender:
- (a) **"AASHTO"** means American Association of State Highway Transportation Officials;
 - (b) **"ASME"** means American Society of Mechanical Engineers;
 - (c) **"ASTM"** means American Society for Testing and Materials;
 - (d) **"CSA"** means Canadian Standards Association;
 - (e) **"CWB"** means Canadian Welding Bureau;
 - (f) **"ETL"** means Electrical Testing Laboratory, a Division of Intertek Group;
 - (g) **"ITE"** means Institute of Transportation Engineers;
 - (h) **"Supply Chain Disruption"** means an inability by the Contractor to obtain goods or services from third parties necessary to perform the Work of the Contract within the schedule specified therein, despite the Contractor making all reasonable commercial efforts to procure same. Contractors are advised that increased costs do not, in and of themselves, amount to a Supply Chain Disruption.

D5. CONTRACT ADMINISTRATOR

- D5.1 The Contract Administrator is:
- Vic Hucko
Asset Standards and Contract Specialist
Telephone No.: 204-986-4191
Email Address: vhucko@winnipeg.ca

D6. ACCESSIBLE CUSTOMER SERVICE REQUIREMENTS

- D6.1 The Accessibility for Manitobans Act (AMA) imposes obligations on The City of Winnipeg to provide accessible customer service to all persons in accordance with the Customer Service Standard Regulation ("CSSR") to ensure inclusive access and participation for all people who live, work or visit Winnipeg regardless of their abilities.
- D6.1.1 The Contractor agrees to comply with the accessible customer service obligations under the CSSR and further agrees that when providing the Goods or Services or otherwise acting on the City of Winnipeg's behalf, shall comply with all obligations under the AMA applicable to public sector bodies.
- D6.1.2 The accessible customer service obligations include, but are not limited to:

- (a) providing barrier-free access to goods and services;
- (b) providing reasonable accommodations;
- (c) reasonably accommodating assistive devices, support persons, and support animals;
- (d) providing accessibility features e.g. ramps, wide aisles, accessible washrooms, power doors and elevators;
- (e) inform the public when accessibility features are not available;
- (f) providing a mechanism or process for receiving and responding to public feedback on the accessibility of all goods and services; and
- (g) providing adequate training of staff and documentation of same.

D7. SUPPLIER CODE OF CONDUCT

- D7.1 The Contractor has reviewed and understands the City's Supplier Code of Conduct. This document is located at: <https://www.winnipeg.ca/media/4891>
- D7.2 The Contractor agrees to comply with the Supplier Code of Conduct as it may be amended or replaced from time to time. The Contractor is responsible for periodically checking the above link for updates to the Supplier Code of Conduct. Contract signature on Form A: Bid/Proposal from the Contractor signifies agreement to the Supplier Code of Conduct which comes into effect once the Contract starts.
- D7.3 If there is a conflict between the Contract and the Supplier Code of Conduct – the Contract will prevail.

D8. UNFAIR LABOUR PRACTICES

- D8.1 Further to C3.2, the Contractor declares that in bidding for the Work and in entering into this Contract, the Contractor and any proposed Subcontractor(s) conduct their respective business in accordance with established international codes embodied in United Nations Universal Declaration of Human Rights (UDHR) <https://www.un.org/en/about-us/universal-declaration-of-human-rights> International Labour Organization (ILO) [https://www.ilo.org/global/lang--en/index.htm](https://www.ilo.org/global/lang-en/index.htm) conventions as ratified by Canada.
- D8.2 The City of Winnipeg is committed and requires its Contractors and their Subcontractors, to be committed to upholding and promoting international human and labour rights, including fundamental principles and rights at work covered by ILO eight (8) fundamental conventions and the United Nations Universal Declaration of Human Rights which includes child and forced labour.
- D8.3 Upon request from the Contract Administrator, the Contractor shall provide disclosure of the sources (by company and country) of the raw materials used in the Work and a description of the manufacturing environment or processes (labour unions, minimum wages, safety, etc.).
- D8.4 Failure to provide the evidence required under D8.3, may be determined to be an event of default in accordance with C16.
- D8.5 In the event that the City, in its sole discretion, determines the Contractor to have violated the requirements of this section, it will be considered a fundamental breach of the Contract and the Contractor shall pay to the City a sum specified by the Contract Administrator in writing ("Unfair Labour Practice Penalty"). Such a violation shall also be considered an Event of Default, and shall entitle the City to pursue all other remedies it is entitled to in connection with same pursuant to the Contract.
- D8.5.1 The Unfair Labour Practice Penalty shall be such a sum as determined appropriate by the City, having due regard to the gravity of the Contractor's violation of the above requirements, any cost of obtaining replacement goods/ services or rectification of the

breach, and the impact upon the City's reputation in the eyes of the public as a result of same.

D8.5.2 The Contractor shall pay the Unfair Labour Practice Penalty to the City within thirty (30) Calendar Days of receiving a demand for same in accordance with D8.5. The City may also hold back the amount of the Unfair Labour Practice Penalty from payment for any amount it owes the Contractor.

D8.5.3 The obligations and rights conveyed by this clause survive the expiry or termination of this Contract, and may be exercised by the City following the performance of the Work, should the City determine, that a violation by the Contractor of the above clauses has occurred following same. In no instance shall the Unfair Labour Practice Penalty exceed the total of twice the Contract value.

SUBMISSIONS

D9. AUTHORITY TO CARRY ON BUSINESS

D9.1 The Contractor shall be in good standing under The Corporations Act (Manitoba), or properly registered under The Business Names Registration Act (Manitoba), or otherwise properly registered, licensed or permitted by law to carry on business in Manitoba, or if the Contractor does not carry on business in Manitoba, in the jurisdiction where the Contractor does carry on business, throughout the term of the Contract, and shall provide the Contract Administrator with evidence thereof upon request.

SCHEDULE OF WORK

D10. COMMENCEMENT

D10.1 The Contractor shall not commence any Work until they are in receipt of a notice of award from the City authorizing the commencement of the Work.

D10.2 Within twenty-eight (28) Calendar Days of the date recorded on the notice of award from the City, the Contractor shall send to the Contract Administrator the required documents and samples as noted below:

- (a) sealed shop drawings for all manufactured components as noted in E7;
- (b) welding procedures for all welded components;
- (c) photocopies of CWB of CSA 47.1-03 certifications of fabricators that will be responsible for manufacturing the steel poles;
- (d) all details of the independent inspector listed in E18; and
- (e) any requested pre-production samples and / or documentation (please note process and timeline in E6).

D10.3 If required, within seven (7) Calendar Days, the Contractor must re-address all deficiencies and / or requests noted by Contract Administrator for details listed in D10.2.

D10.4 Within thirty (30) Calendar Days of the date recorded on the purchase order from the City, the Contractor must provide to the Contract Administrator copies of mill test certificates for all steel utilized.

D10.4.1 Lower grade steel shall not be acceptable (despite favourable published mill test results).

D10.5 Within twenty-one (21) Calendar Days of the Contract Administrator advising the Contractor that the original mill certificates are unacceptable, the Contractor must re-submit new mill test certificates for all steel utilized.

D10.6 The Contractor shall not commence any Work until:

- (a) the Contract Administrator has confirmed receipt and approval of:
 - (i) evidence of authority to carry on business specified in D9;
 - (ii) evidence of the workers compensation coverage specified in C6.17;
 - (iii) the direct deposit application form specified in D17;
 - (iv) all details listed in D10.2; and
 - (v) evidence that the plant has been fully approved by the CWB to the requirements of CSA W47.1 Division 2.1 for welding of steel structures as per B12.3(e).
- (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.
- (c) a purchase order has been received from The City of Winnipeg personnel noting quantity of material required and delivery instructions.
- (d) the Contract Administrator has received and approved cut sheets and/or shop drawings for all manufactured components.

D11. DELIVERY

D11.1 Goods shall be delivered on an "as required" basis during the term of the Contract, f.o.b. destination, freight prepaid, to:

Public Works Stores
1277 Pacific Ave
Winnipeg, MB R3E 1G7

- D11.1.1 Goods shall be delivered within one hundred twenty (120) Calendar Days of the placing of an order.
- D11.2 Initial start-up delivery shall be one hundred twenty (120) Calendar Days from the date of award.
- D11.3 After the initial start-up delivery stated in D11.2, Goods shall be delivered in accordance with D11.1.1.
- D11.4 The Contractor shall confirm each delivery with the Contract Administrator or their designate, at least two (2) Business Days before delivery.
- D11.4.1 Failure to provide that pre-notification may result in the inability to offload goods on arrival. Offloading delays as a result of the failure of the Contractor providing pre-notification may extend the delivery time frame and may result in Liquidated Damages being assessed for every Calendar Day beyond the delivery period specified in D11.1.1
- D11.5 Goods shall be delivered between 8:30 a.m. and 2:30 p.m. on Business Days.
- D11.6 A bill of lading shall be prepared by the Contractor and clearly identify all components being delivered.
- D11.7 Cap plates and bolts shall be installed hand-tight to applicable components prior to delivery.
- D11.7.1 All covers shall be installed and complete in every respect. All access panel fasteners shall be installed hand-tight prior to delivery.
- D11.8 For ease of unloading, similar-sized structures shall be arranged as bundles. Each bundle shall consist of layers of structures, with each layer having not more than four (4) structures wide (horizontally) and each bundle not having more than three (3) layers of structures high (vertically). No bundle shall consist of more than 12 structures.
- D11.8.1 Structure styles shall not be mixed when bundled.
- D11.9 Weight limit on item bundles: maximum 4,000 lbs. / 2 Tonnes.

- D11.10 Wood blocking with dimensions of not less than 3" x 3" must be placed and secured between different bundles of items.
- D11.11 The bundles of components shall be placed and positioned on timber blocking during loading and secured with nylon ropes during transportation. Use of steel banding directly against hot-dip galvanized surfaces shall not be permitted.
- D11.12 Maximum Loaded Height shall be not more than 8' / 2.5 metres above flatbed deck or 14' / 4.25 metres above grade (when delivered on high-bed deck).
- D11.13 City Stores personnel shall off-load goods at the delivery location. Bundled items moved by City personnel shall be unloaded by forklift unit.
- (a) If the goods cannot be unloaded by a 4,000 lb / 2 Tonne capacity forklift, the Contractor shall supply all necessary equipment and personnel to offload the goods as directed. The Contractor may need to arrange alternate means to lift and move items on delivery. This may involve the use of nylon ropes, canvas straps or other approved methods. Use of steel chains and steel hooks directly in contact with hot-dip galvanized surfaces shall not be permitted.
- D11.14 Goods shall be inspected by the Contract Administrator or designated representative upon receipt.

D12. LIQUIDATED DAMAGES

- D12.1 If the Contractor fails to achieve delivery of the goods within the time specified in D11.1.1 Delivery the Contractor shall pay the City six hundred dollars (\$600.00) per Business Day for each and every Business Day until the goods have been delivered.
- D12.2 The amount specified for liquidated damages in D12.1 is based on a genuine pre-estimate of the City's damages in the event that the Contractor does not achieve Delivery by the day fixed herein for same.
- D12.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D13. SUPPLY CHAIN DISRUPTION SCHEDULE DELAYS

- D13.1 The City acknowledges that the schedule for this Contract may be impacted by Supply Chain Disruption. Commencement and progress of the Work shall be performed by the Contractor with due consideration to the delivery requirements and schedule identified in the Contract, in close consultation with the Contract Administrator.
- D13.2 If the Contractor is delayed in the performance of the Work by reason of Supply Chain Disruption, the Work schedule may be adjusted by a period of time equal to the time lost due to such delay and costs related to such delay will be determined as identified herein.
- D13.3 A minimum of seven (7) Calendar Days prior to the commencement of Work, the Contractor shall declare whether a Supply Chain Disruption will affect the start date. The Contractor shall provide sufficient evidence that the delay is directly related to a Supply Chain Disruption, including but not limited to evidence related to ordering of material or goods, production and/or manufacturing schedules or availability of staff as appropriate.
- D13.4 For any delay related to Supply Chain Disruption and identified after Work has commenced, the Contractor shall within seven (7) Calendar Days of becoming aware of the anticipated delay declare the additional delay and shall provide sufficient evidence as indicated in D13.3. Failure to provide this notice will result in no additional time delays being considered by the City.
- D13.5 The Work schedule, including the durations identified in D11 where applicable, will be adjusted to reflect delays accepted by the Contract Administrator.

D13.6 Any time or cost implications as a result of Supply Chain Disruption and in accordance with the above, as confirmed by the Contract Administrator, shall be documented in accordance with C7.

D14. ORDERS

D14.1 The Contractor shall provide a local Winnipeg telephone number or a toll-free telephone number at which orders for delivery may be placed.

D14.2 It is anticipated that the City will place one (1) order for the quantities stated on Form B Prices.

D15. RECORDS

D15.1 The Contractor shall keep detailed records of the goods supplied under the Contract.

D15.2 The Contractor shall record, as a minimum, for each item listed on Form B: Prices:

- (a) user name(s) and addresses;
- (b) order date(s);
- (c) delivery date(s); and
- (d) description and quantity of goods supplied.

D15.3 The Contractor shall provide the Contract Administrator with a copy of the records for each quarter year within fifteen (15) Calendar Days of a request of the Contract Administrator.

MEASUREMENT AND PAYMENT

D16. INVOICES

D16.1 Further to C10, the Contractor:

- (a) shall submit invoices for Work performed in accordance with the instruction on the City's website at: <https://www.winnipeg.ca/finance/corporate-accounts-payable.stm>; and
- (b) should copy the Contract Administrator on submission of its invoice.

D17. PAYMENT

D17.1 Further to C10, the City shall make payments to the Contractor by direct deposit to the Contractor's banking institution, and by no other means. Payments will not be made until the Contractor has made satisfactory direct deposit arrangements with the City. Direct deposit application forms are at https://legacy.winnipeg.ca/finance/files/Direct_Deposit_Form.pdf.

WARRANTY

D18. WARRANTY

D18.1 Warranty is as stated in C11.

DISPUTE RESOLUTION

D19. DISPUTE RESOLUTION

D19.1 If the Contractor disagrees with any opinion, determination, or decision of the Contract Administrator, the Contractor shall act in accordance with the Contract Administrator's opinion, determination, or decision unless and until same is modified by the process followed by the parties pursuant to D19.

D19.2 The entire text of C19.4 is deleted, and amended to read: "Intentionally Deleted"

- D19.3 The entire text of C19.5 is deleted, and amended to read:
- (a) If Legal Services has determined that the Disputed Matter may proceed in the Appeal Process, the Contractor must, within ten (10) Business Days of the date of the Legal Services Response Letter, submit their written Appeal Form, in the manner and format set out on the City's Purchasing Division Website, to the Chief Administrative Officer, and to the Contract Administrator. The Contractor may not raise any other disputes other than the Disputed Matter in their Appeal Form.
- D19.4 Further to C19, prior to the Contract Administrator's issuance of a Final Determination, the following informal dispute resolution process shall be followed where the Contractor disagrees with any opinion, determination, or decision of the Contract Administrator ("Dispute"):
- (a) In the event of a Dispute, attempts shall be made by the Contract Administrator and the Contractor's equivalent representative to resolve Disputes within the normal course of project dealings between the Contract Administrator and the Contractor's equivalent representative.
 - (b) Disputes which in the reasonable opinion of the Contract Administrator or the Contractor's equivalent representative cannot be resolved within the normal course of project dealings as described above shall be referred to a without prejudice escalating negotiation process consisting of, at a minimum, the position levels as shown below and the equivalent Contractor representative levels:
 - (i) The Contract Administrator;
 - (ii) Supervisory level between the Contract Administrator and applicable Department Head;
 - (iii) Department Head.
- D19.4.1 Names and positions of Contractor representatives equivalent to the above City position levels shall be determined by the Contractor and communicated to the City at the pre-commencement or kick off meeting.
- D19.4.2 As these negotiations are not an adjudicative hearing, neither party may have legal counsel present during the negotiations.
- D19.4.3 Both the City and the Contractor agree to make all reasonable efforts to conduct the above escalating negotiation process within twenty (20) Business Days, unless both parties agree, in writing, to extend that period of time.
- D19.4.4 If the Dispute is not resolved to the City and Contractor's mutual satisfaction after discussions have occurred at the final escalated level as described above, or the time period set out in D19.4.3, as extended if applicable, has elapsed, the Contract Administrator will issue a Final Determination as defined in C1.1(v), at which point the parties will be governed by the Dispute Resolution process set out in C19.

THIRD PARTY AGREEMENTS

D20. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS

- D20.1 In the event that funding for the Work of the Contract is provided to the City of Winnipeg by the Government of Manitoba and/or the Government of Canada, the following terms and conditions shall apply, as required by the applicable funding agreements.
- D20.2 Further to D20.1, in the event that the obligations in D20 apply, actual costs legitimately incurred by the Contractor as a direct result of these obligations ("Funding Costs") shall be determined by the actual cost to the Contractor and not by the valuation method(s) outlined in C7.4. In all other respects Funding Costs will be processed in accordance with Changes in Work under C7.
- D20.3 For the purposes of D20:
- (a) "**Government of Canada**" includes the authorized officials, auditors, and representatives of the Government of Canada; and

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

D20.4 Modified Insurance Requirements

- D20.4.1 Where applicable, the Contractor will be required to provide wrap-up liability insurance in an amount of no less than two million dollars (\$2,000,000) inclusive per occurrence. Such policy will be written in the joint names of the City, Contractor, Consultants and all subcontractors and subconsultants and include twelve (12) months completed operations. The Government of Manitoba and their Ministers, officers, employees, and agents shall be added as additional insureds.
- D20.4.2 If applicable the Contractor will be required to provide builders' risk insurance (including boiler and machinery insurance, as applicable) providing all risks coverage at full replacement cost, or such lower level of insurance that the City may identify on a case-by-case basis, such as an installation floater.
- D20.4.3 The Contractor shall obtain and maintain third party liability insurance with minimum coverage of two million dollars (\$2,000,000.00) per occurrence on all licensed vehicles operated at the Site. In the event that this requirement conflicts with another licensed vehicle insurance requirement in this Contract, then the requirement that provides the higher level of insurance shall apply.
- D20.4.4 Insurers shall provide satisfactory Certificates of Insurance to the Government of Manitoba prior to commencement of Work as written evidence of the insurance required. The Certificates of Insurance must provide for a minimum of thirty (30) days' prior written notice to the Government of Manitoba in case of insurance cancellation.
- D20.4.5 All policies must be taken out with insurers licensed to carry on business in the Province of Manitoba.

D20.5 Indemnification By Contractor

- D20.5.1 In addition to the indemnity obligations outlined in C15 of the General Conditions for Goods, the Contractor agrees to indemnify and save harmless the Government of Canada and the Government of Manitoba and each of their respective Ministers, officers, servants, employees, and agents from and against all claims and demands, losses, costs, damages, actions, suit or other proceedings brought or pursued in any manner in respect of any matter caused by the Contractor or arising from this Contract or the Work, or from the goods or services provided or required to be provided by the Contractor, except those resulting from the negligence of any of the Government of Canada's or the Government of Manitoba's Ministers, officers, servants, employees, or agents, as the case may be.
- D20.5.2 The Contractor agrees that in no event will Canada or Manitoba, their respective officers, servants, employees or agents be held liable for any damages in contract, tort (including negligence) or otherwise, for:
- (a) any injury to any person, including, but not limited to, death, economic loss or infringement of rights;
 - (b) any damage to or loss or destruction of property of any person; or
 - (c) any obligation of any person, including, but not limited to, any obligation arising from a loan, capital lease or other long term obligation;

in relation to this Contract or the Work.

D20.6 Records Retention and Audits

- D20.6.1 The Contractor shall maintain and preserve accurate and complete records in respect of this Contract and the Work, including all accounting records, financial documents, copies of contracts with other parties and other records relating to this Contract and the Work during the term of the Contract and for at least six (6) years after Total Performance. Those

records bearing original signatures or professional seals or stamps must be preserved in paper form; other records may be retained in electronic form.

D20.6.2 In addition to the record keeping and inspection obligations outlined in C6 of the General Conditions for Goods, the Contractor shall keep available for inspection and audit at all reasonable times while this Contract is in effect and until at least six (6) years after Total Performance, all records, documents, and contracts referred to in D20.6.1 for inspection, copying and audit by the City of Winnipeg, the Government of Manitoba and/or the Government of Canada and their respective representatives and auditors, and to produce them on demand; to provide reasonable facilities for such inspections, copying and audits, to provide copies of and extracts from such records, documents, or contracts upon request by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada and their respective representatives and auditors, and to promptly provide such other information and explanations as may be reasonably requested by the City of Winnipeg, the Government of Manitoba, and/or the Government of Canada from time-to-time.

D20.7 Other Obligations

D20.7.1 The Contractor consents to the City providing a copy of the Contract Documents to the Government of Manitoba and/or the Government of Canada upon request from either entity.

D20.7.2 If the Lobbyists Registration Act (Manitoba) applies to the Contractor, the Contractor represents and warrants that it has filed a return and is registered and in full compliance with the obligations of that Act, and covenants that it will continue to comply for the duration of this Contract.

D20.7.3 The Contractor shall comply with all applicable legislation and standards, whether federal, provincial, or municipal, including (without limitation) labour, environmental, and human rights laws, in the course of providing the Work.

D20.7.4 The Contractor shall properly account for the Work provided under this Contract and payment received in this respect, prepared in accordance with generally accepted accounting principles in effect in Canada, including those principles and standards approved or recommended from time-to-time by the Chartered Professional Accountants of Canada or the Public Sector Accounting Board, as applicable, applied on a consistent basis.

D20.7.5 The Contractor represents and warrants that no current or former public servant or public office holder, to whom the Value and Ethics Code for the Public Sector, the Policy on Conflict of Interest and Post Employment, or the Conflict of Interest Act applies, shall derive direct benefit from this Contract, including any employment, payments, or gifts, unless the provision or receipt of such benefits is in compliance with such codes and the legislation.

D20.7.6 The Contractor represents and warrants that no member of the House of Commons or of the Senate of Canada or of the Legislative Assembly of Manitoba is a shareholder, director or officer of the Contractor or of a Subcontractor, and that no such member is entitled to any benefits arising from this Contract or from a contract with the Contractor or a Subcontractor concerning the Work.

ADJUSTMENTS FOR CHANGES IN LAWS, TAXES, OR TARIFFS

D21. ADJUSTMENTS FOR CHANGES IN LAWS, TAXES, OR TARIFFS

D21.1 Further to C10.4 and subject to C6.13, the Contract Price shall be adjusted if any change in a law or tax imposed under the Excise Act, the Excise Tax Act, the Customs Act, the Customs Tariff, The Mining Tax Act (Manitoba), or The Retail Sales Tax Act (Manitoba), by an act of the Congress of the United States of America, or by Executive Order by the President of the United States under the International Emergency Economic Powers Act of the United States of America or similar legislation:

- (a) occurs after the Submission Deadline;
- (b) applies to Material; and
- (c) affects the cost of that Material to the Contractor.

D21.2 Further to C10.5, if a change referred to in C10.4 occurs, the Contract Price shall be increased or decreased by an amount equal to the amount that is established, by an examination of the relevant records of the Contractor, to be the increase or decrease in the cost incurred that is directly attributable to that change, and which the Contractor has proven to the Contract Administrator represents the minimum amount of increase necessary in order to obtain necessary Material or Plant. For the avoidance of doubt, the Contractor shall be required to provide satisfactory proof that it has investigated alternative options for obtaining equivalent Material or Plant and reducing or eliminating the increase in Contract Price, up to and including entering into purchase agreements with vendors located in other jurisdictions, in order for Contractor to be able to avail itself of the increase in Contract Price permitted under this clause.

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

E1.1 These Specifications shall apply to the Work.

E1.2 **Steel shall not be acceptable unless the mill test certificate states the grade to be 50 ksi minimum yields. Lower grade steel shall not be acceptable (despite favourable published mill test yield results) and pole shafts fabricated without steel certification shall be rejected.**

E1.3 The following are applicable to the Work:

<u>Specification No.</u>	<u>Specification Title</u>
	AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals 2009
ASME B18.2.2	Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series)
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A143	Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement
ASTM A325	Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 KSI Minimum Tensile Strength
ASTM B209	Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM F436	Standard Specification for Hardened Steel Washers
ASTM A563	Standard Specification for Carbon and Alloy Steel Nuts
ASTM F593	Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F2329	Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, And Special Threaded Fasteners
ASTM A780	Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
CSA G40.21M	General Requirements for Rolled or Welded Structural Quality Steel/ Structural Quality Steel
CSA W47	Certification of Companies for Fusion Welding of Steel
CSA W48	Filler Metals and Allied Materials for Metal Arc Welding
CSA W59	Welded Steel Construction (Metal Arc Welding)

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
S-SD-01-R4	Cover Sheet
S-SD-02-R3	Base Load Tables and Attachment Data
S-SD-03-R2	Attachment Configurations for Straight Poles – 10', 15' & 18'
S-SD-15-R4	4.572 m (15') Straight Pole
S-SD-17-R2	Access Panel Details
ST-164-R1	Cover For The 38 Circuit Wiring Access Panel
TS-IMP1-R0	Traffic Signal Impact Test Setup

E1.4 Bidders are reminded that requests for approval of substitutes as an approved equal or an approved alternative shall be made in accordance with B6. 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 B6.

E2. GOODS

E2.1 The Contractor shall supply and deliver traffic signals straight 15' pole in accordance with the requirements hereinafter specified.

E2.2 Item No. 1 – Straight 15' Pole shall be as per the following:

E2.2.1 One (1) Straight 15' Pole – Structure Type Code S15, including all associated hardware and sections stated in this Tender and Drawings S-SD-15, S-SD-17.

E2.2.2 One (1) access panel cover shall be supplied and installed on pole access panel. Access panel cover can either be metallic as per drawing ST-164 or non-metallic as per drawing S-SD-17 and E24.

(a) Metallic access panel cover, Drawing ST-164, delete Note 2 and 3. Gasket material not required.

(b) Non-metallic access cover, Drawing S-SD-17, delete Note 3. Drawing notes stating the non-metal access panel cover as being supplied by others shall be superseded by this notation and must be supplied by the successful bidder. The non-metal access panel cover shall be securely affixed to the access panel by the specified fasteners when delivered.

E3. GENERAL

E3.1 Description

E3.1.1 The Work covered under this document shall be understood to include all operations related to the supply, fabrication, and delivery of new steel traffic signal support structures and associated components including non-metal access panel covers.

E3.1.2 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all things necessary for and incidental to the satisfactory performance and completion of the Work as hereinafter specified.

E4. CERTIFIED DETAILED DRAWINGS

E4.1 The City supplied Drawings include a material list and all dimensions and tolerances applicable to all critical dimensions. On the drawings, details are included for every element of the traffic signal structure.

E5. EQUIPMENT

E5.1 All equipment used by the Contractor shall be of a type approved by the Contract Administrator and shall be kept in good working order.

E6. PRE-PRODUCTION SAMPLE ITEM REQUIREMENT

E6.1 Within the period specified in E6.4, the Contract Administrator may require one (1) pre-production 'sample unit' of any item (or part of item) that has been bid for detailed inspection and testing prior to delivery of order.

E6.1.1 The Contract Administrator may request an 'un-finished pre-production sample unit' for inspection.

E6.2 Any pre-production sample unit described in E6.1 is to be considered separately from any other sample provided during the bid process.

E6.3 The Contractor is responsible for paying all transportation charges for all sample unit(s).

Sample Unit Supply Period

E6.4 The Contractor shall supply any requested pre-production sample unit within twenty-eight (28) Calendar Days following the notification by the Contract Administrator. Failure to supply the sample unit within the prescribed period may result in cancellation of the order.

E6.4.1 By mutual agreement, the initial sample unit supply period may be changed.

E6.5 The Contractor shall notify the Contract Administrator of any deviations in the sample unit from the requirements of the contract.

E6.6 The condition state of the pre-production sample unit shall be based on meeting the essential requirements of this specification and other specifications as noted in E1.3. All items supplied thereafter shall perform equal to or better than the approved pre-production sample unit.

E6.7 The Contract Administrator will inspect the sample unit. Upon completion of the inspection, one of the following condition states will apply:

- (a) Approved as submitted;
- (b) Approved Subject to Changes, or
- (c) Rejected.

E6.8 For each sample unit that receives the condition state of Approved as submitted, the Contractor shall supply similar item(s) in fulfillment of each order that will be expected to perform similarly to the sample unit that was approved.

E6.9 For each sample unit that receives the condition state of Approved Subject to Changes, the Contractor is required to promptly make all changes that the Contract Administrator has requested which are consistent with the Tender. Following notification of condition state of that sample unit, the Contractor shall re-submit the re-worked sample unit within fourteen (14) Calendar Days to the Contract Administrator for re-inspection and approval unless otherwise directed by the Contract Administrator. When re-submitting the sample unit, the Contractor shall notify the Contract Administrator in writing of any and all changes other than those requested by the Contract Administrator.

(a) By mutual agreement, the re-worked sample unit supply period may be changed.

E6.10 For each sample unit that receives the condition state of Rejected, the Contract Administrator may instruct the Contractor to re-submit another pre-production sample unit for inspection (as mentioned in E6.7) within seven (7) Calendar Days.

(a) By mutual agreement, the Rejected sample unit supply period may be changed.

E6.11 The Contractor shall not supply additional sample unit(s) until that sample unit under review has been approved in writing by the Contract Administrator.

- E6.12 Contractors shall have only one (1) opportunity to re-submit a sample unit for approval.
- (a) For all samples re-submitted, either a Condition state of 'Approved as submitted' or "Rejected' will be applied.
- E6.13 Should any re-submitted sample unit receive the condition state of 'Rejected', it shall be understood that the Contractor has failed to demonstrate necessary experience and equipment to perform the Work in strict accordance with the terms and provisions of the Contract, and the City may consider or canceling the award of Contract.
- E6.14 The Contract Administrator remains the sole authority to allow the Contractor to provide a second re-submission of re-worked pre-production samples.
- E6.15 If requested and supplied unfinished, the sample unit will be returned to the Contractor at the Contractors expense.
- E6.16 If the condition of the finished sample unit is Approved as submitted, that sample unit shall be deemed to be the first delivered under the Contract and payment will be made accordingly.
- E6.16.1 If the finished sample unit either Approved Subject to changes or Rejected, the sample unit will be returned to the Contractor, and no payment will be made. Return is at the expense of the Contractor.

E7. SHOP DRAWINGS

- E7.1 Within fourteen (14) Calendar Days of the date recorded on the notice of award from the City the Contractor shall submit preliminary shop drawings for review and comment/markups.
- (a) The Contractor shall note the comments and/or markups and re-submit the drawings for approval.
- E7.2 Shop Drawings shall accurately reflect materials, dimensions and tolerances as shown on City-supplied Certified Detailed Drawings.
- E7.3 Approval of shop drawings by the Contract Administrator will be for general agreement only and in no case will the Contractor be relieved of the responsibility for completeness or adequacy of fabrication materials and procedures.
- E7.4 No fabrication shall commence until shop drawings have been reviewed and approved by the Contract Administrator and returned to the Contractor. All costs resulting from any changes or due to failure to have shop drawings so reviewed shall be borne by the Contractor.
- E7.5 Shop drawings shall indicate the total weight and center of gravity of each component for lifting and rigging purposes.
- E7.6 As stated in D10.2(a), the Contractor shall submit to the Contract Administrator, shop drawings sealed by a Professional Engineer, registered or licensed to practice in the Province of Manitoba, in triplicate for approval prior to any fabrication. Shop drawings shall be complete and shall include all information such as material specifications, weld sizes, bills of material, welding procedures, design criteria, etc.

E8. CONSTRUCTION METHODS

- E8.1 Sufficient reinforced access panels and wiring holes shall be provided for wiring of the structures as shown on the Drawings.

E9. MATERIALS

- E9.1 The Contractor shall be responsible for the supply, safe storage, and handling of all materials set forth in this Specification.
- E9.2 All materials used for fabrication of traffic signal support structures shall be new, previously unused material.

- E9.3 The Contractor shall be responsible for making a thorough inspection of materials to be supplied under this Contract. All material shall be free of surface imperfections and other defects.

Handling and Storage of Materials

- E9.4 All materials shall be handled in a careful and workmanship-like manner, to the satisfaction of the Contract Administrator.

E9.4.1 Structural Steel

- (a) Structural steel for all components of the traffic signal support structures shall be in accordance with CSA Standard G40.21 M (latest edition).
- (b) The grade supplied shall be in accordance with the grades shown on the drawings and based on mill specification certificates approved by the Contract Administrator.
- (c) For purposes of hot-dip galvanizing, the silicon content in the steel shall be controlled as follows:
 - (i) For monotubular steel shafts, to within 0 to 0.03%, or from 0.15 to 0.22%.
 - (ii) For base plates and other miscellaneous steel, below 0.30%.
- (d) Steel shall not be acceptable unless the mill test certificate states the grade to be in accordance with the grades stated on the Drawings. Lower grade steel shall not be acceptable (despite favourable published mill test results). Items fabricated without steel certification shall be rejected.
- (e) All costs resulting from any changes or due to failure to have submissions reviewed shall be borne by the Contractor.

E9.4.2 Welding Consumables

- (a) The selection, supply, storage and maintenance of electrodes and fluxes for all processes shall be according to CSA W59 requirements (latest edition) and CSA W48 (latest edition). Only controlled hydrogen designation electrodes and low hydrogen wire consumables shall be used for the SMAW and flux-cored arc welding processes, respectively.

E9.4.3 Miscellaneous Materials

- (a) Miscellaneous material incidental to this Work shall be as approved by the Contract Administrator.
- (b) Miscellaneous fasteners shall be in accordance with the type and dimensions shown on the drawings.

E10. FABRICATION

- E10.1 All fabrication shall be carried out in accordance with this Specification and the Contract drawings, as well as AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries, and Traffic Signals - 2009 - 5th Edition, plus all subsequent revisions.
- E10.2 The punching of identification marks on the members shall not be allowed.
- E10.3 Any damage to members during fabrication shall be drawn to the attention of the Contract Administrator in order that the Contract Administrator may approve remedial measures.
- E10.4 Dimensions and fabrication details that control the field matching of parts shall receive careful attention.
- E10.5 All portions of the Work shall be neatly finished. Shearing, cutting, clipping, and machining shall be done neatly and accurately. Finished members shall be true to line, free from twists, bends, sharp corners, and edges.
- E10.6 Cut edges shall be true and smooth and free from excessive burrs or ragged breaks. Re-entrant cuts shall be avoided wherever possible. If used, they shall be filleted by drilling prior to cutting.

E10.7 All holes shall be free of burrs and rough edges for inner and outer faces.

E11. COMPONENTS

E11.1 Access Panel Cover Fasteners

E11.1.1 Hex Bolts for securing the access panel covers shall be in accordance with ASTM F593 Type 316 stainless steel, fully threaded.

E11.1.2 The Tamper Proof Cup Washer shall be in aluminum in accordance with ASTM B209 Grade 3003-H14.

E11.2 Miscellaneous Materials

E11.2.1 Miscellaneous material incidental to this Work shall be as approved by the Contract Administrator.

E12. WELDING

E12.1 Welding of steel structures shall be in accordance with CSA W59, "Welded Steel Construction."

E12.2 All seams shall be continuously welded and free from any slag, splatter and excess weld material. Longitudinal welds shall be a minimum of 60% penetration, except where noted on the drawings, which shall be 100% penetration. All circumferential groove welds shall be 100% penetration with an internal backup strip provided.

E12.3 Welds joining monotubular column elements to base plates shall be unequal leg welds, with the long leg of the weld along the column. The termination of the longer weld leg shall contact the shaft's surface at approximately a 30° angle.

E12.4 All welds shall be ground smooth and flush with the adjacent surface prior to hot-dip galvanizing. Care shall be taken to ensure that excess weld material does not hamper functionality of structure.

E12.5 Each signal support structure shall be provided with a raised structure identification number with a welding electrode (as noted in E16).

E13. SURFACE PREPARATION AND CLEANING

E13.1 The Contractor shall ensure that all exterior surfaces are suitably prepared to achieve the minimum zinc coating mass of 610 g/m². All welding and provision of holes is to be completed prior to surface preparation and cleaning, except where shown on the Drawings.

E13.1.1 Sandblasting and cleaning of signal structures is the preferred method of preparing surfaces for hot-dip galvanizing.

E14. HOT-DIP GALVANIZING

E14.1 All exterior surfaces of the structures shall be hot-dip galvanized in accordance with the requirements of this Specification.

E14.2 The hot-dip galvanizing plant shall be a Regular Member of the American Galvanizers Association, Inc.

E14.3 Hot-dip galvanizing of structural steel shall be in accordance with ASTM A123 (latest edition) for a minimum net retention of 610 g/m².

E14.4 The contractor shall safeguard against embrittlement of the fabricated steel in accordance with ASTM A143 (latest edition) "Standard Practice for Safeguarding against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement".

E14.5 Adequate venting and drainage holes shall be provided in enclosed sections for hot-dip galvanizing. The galvanizing facilities shall be consulted regarding the size and location of

these holes. Holes shall be provided by drilling not burning. The location and size of all venting and drainage holes shall be shown on the Contractor's shop drawings. All venting and drainage holes for hot-dip galvanizing shall be plugged with non-corroding tapered plugs after the galvanizing process.

- E14.6 Prior to fabrication, the dimensional limitations on the size and shape imposed by the galvanizing facilities shall be determined for hot-dip galvanizing the signal structures.
- E14.7 The galvanizing coating on outside surfaces of signal structures shall be generally smooth and free of blisters, lumpiness and runs. In particular, the outside surfaces of the bottom 2.5 m of the vertical support members shall have a smooth finish equal to the finish on hot-dipped galvanized handrails.
- E14.8 After hot dip galvanizing, all sharp edges and shards of galvanizing material on the exterior of shafts shall be removed. The same standard of care shall apply to all accessible interior surfaces including any mating or mounting surfaces, access panel openings and locations where fasteners are attached.
- E14.9 In addition to the provision of corrosion protection by the galvanized coating, the aesthetic appearance of the structure after hot-dip galvanizing shall be a criterion in the acceptance or rejection of the galvanized coating. The galvanized coating on the entire structure shall have a uniform "silver" colour and lustre. Galvanizing with parts of the structure having dull grey coating or streaks or mottled appearance shall not be acceptable.
- E14.9.1 If the galvanizing is rejected for aesthetic reasons, the Contractor shall rectify the appearance by applying spray-on molten zinc metallizing with 85/15 zinc/aluminum alloy. The metallizing shall be carried out in the shop before the structure is delivered.
- E14.10 The Contractor shall verify the thickness of galvanized coatings as directed by the Contract Administrator and have these readings available for review.
- E14.11 All threaded components shall be re-threaded after the structures have been hot-dip galvanized.
- E14.12 The structures shall be stored on timber blocking after hot-dip galvanizing.
- E14.13 Hot-dip galvanized structures in storage shall be arranged in such a way to allow adequate venting of the bundle and minimize the presence of moisture in contact with the structures.

E15. HOT-DIP GALVANIZING DEFECT REPAIR

- E15.1 In the event that repairs to the galvanizing coating are required, repair materials and practices shall be supplied and performed in accordance with ASTM A780 (latest edition) "Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings".
- E15.2 Other defects and contaminants in the galvanizing coating, such as heavy dross protrusions, flux inclusions and ash inclusions shall be grounds for rejection of the galvanizing coating system.

E16. STRUCTURE IDENTIFICATION AND LABELS

- E16.1 Each signal support structure shall be provided with a raised structure identification number with a welding electrode as per E12.5 and E16.3 or an engraved nameplate as per E16.4. The signal support structure identification number shall be placed before hot-dip galvanizing.
- E16.2 The format of the raised structure identification shall conform to the following format XX – YR – ST – ### where:
- E16.2.1 XX shall be the abbreviation or logo of the Contractor's firm.
- E16.2.2 YR shall be the last two (2) digits of the year of manufacture.
- E16.2.3 ST shall be the structure type code as indicated on the Drawings (see S-SD-01 Cover Sheet).

- E16.2.4 ### shall be a unique item number starting with "001" and proceeding consecutively for each additional component of that type during the year of manufacture.
- E16.3 For welding electrode method each character of the raised structure identification number shall be approximately 25 mm wide by 40mm tall, with a 10 mm space between each character. The weld profile shall be a smooth half round bead approximately 2 mm tall by 3 mm wide.
- E16.4 For engraved nameplate method:
- (a) The name plate shall be welded to the shaft prior to galvanizing. Use of rivets or screws is **NOT** acceptable for securing the nameplate.
 - (b) Nameplate shall be 100 mm x 50 mm with the format XX – YR – ST - ###.
 - (c) The ID shall be legible after galvanizing.

E17. QUALITY CONTROL

- E17.1 All workmanship and all materials furnished and supplied under this Specification are subject to close and systematic inspection and testing by the Contract Administrator, including all operations from the selection and production of materials, reviews of inspection reports, through to final acceptance of the Work. The Contractor shall be wholly responsible for the control of all operations incidental thereto notwithstanding any inspection approval that may have been previously given. The Contract Administrator reserves the right to reject any materials or Works that are not in accordance with the requirements of this Specification.

E18. QUALITY ASSURANCE

- E18.1 In addition to the Contractor's own Quality Control testing, all materials, welding procedures and steel fabrication including hot-dip galvanizing shall be inspected and tested for compliance with the Specifications and Drawings.
- E18.2 The Contractor shall hire an independent testing agency certified by the Canadian Welding Bureau to carry out shop fabrication inspection and testing of the coating system before the structures are approved ready for installation.
- E18.3 The Contractor shall immediately provide to the Contract Administrator contact information of the hired independent testing agency. That information shall include:
- E18.3.1 Agency name and street address
 - E18.3.2 Copy of Agency's CWB Certification
 - E18.3.3 Contact person's name and job title
 - E18.3.4 Email address
 - E18.3.5 Daytime telephone number
 - E18.3.6 Fax number
 - E18.3.7 Inspector's name
 - E18.3.8 Inspector's Certifications
 - E18.3.9 Date that the first inspection occurred
- E18.4 The hired inspector shall have access to all of the fabricator's normal quality control records for this Contract, specified herein.

E19. INSPECTION AND TESTING REPORTS

- E19.1 Within one hundred twenty (120) Calendar Days of the date recorded on the purchase order, the Contractor's inspector shall prepare and submit dated reports to the Contract administrator detailing inspections, tests conducted and results. Inspections and testing requirements are

detailed in E19.2. Full-colour, high-resolution photographic images showing units in various stages of fabrication should be included in these reports.

- E19.2 Inspection and testing reports shall include results from:
 - E19.2.1 Visual inspection of 100% of welds.
 - E19.2.2 Magnetic particle testing of a random 10% of seam welds.
 - E19.2.3 Magnetic particle testing of a random 25% of base plate welds.
 - E19.2.4 Visual inspection of 100% of all surface preparation prior to shipping for hot-dip galvanizing.
 - E19.2.5 Visual inspection of 100% of all hot-dip galvanizing and coating thickness prior to shipping.
- E19.3 Within forty-five (45) Calendar Days of agency hire date, the independent testing agency shall inspect, test and prepare an interim report on all materials, welding procedures and steel fabrication processes including hot-dip galvanizing, noting compliance or non-compliance with these specifications and drawings.
- E19.4 Copies of inspection and test reports (by all inspectors) shall be prepared as described in E21.

E20. INSPECTION REPORT DETAILS

- E20.1 At time of order delivery, the independent testing agency shall deliver to the Contract Administrator all completed inspection reports which includes the following information and features:
 - E20.1.1 Summary of inspection dates
 - E20.1.2 Description of items inspected
 - E20.1.3 Scope of inspections
 - E20.1.4 Specifications governing inspection
 - E20.1.5 Description of test methods
 - E20.1.6 Summary of inspection results
 - E20.1.7 Photographs representative of inspection findings
- E20.2 All completed inspection reports shall be signed and sealed by a Level III Canadian Welding Bureau Certified Welding Inspector.
- E20.3 The date on any inspection report shall be no later than the date when each order was successfully delivered to the City.
- E20.4 All copies of inspection reports shall be prepared as described in E21.

E21. REPORT FORMATS

- E21.1 All inspection reports shall be available in PDF format.
- E21.2 Inspection reports shall be sent to the Contract Administrator's email account as email message attachments. Please note that there is a 15 megabyte email message size limit (including attachments). If necessary, the inspection report may need to be sent using multiple email messages.
 - E21.2.1 Alternatively, reports may be stored on a file storage server that an internet-connected workstation would be able to access. The reporting agency would need to provide login details via email message to the Contract Administrator to allow access to these stored files. Copies of stored file reports would be retrieved and placed on the City's computer network. All inspection reports and related files on the file storage service shall remain accessible for a minimum of 90 Calendar Days following each order delivery.

E22. UNACCEPTABLE WORK

- E22.1 Welds that are found by any of the inspection and testing methods to be inadequate and unsatisfactory shall be repaired in accordance with CSA W59 and then retested. The cost of the repairs and the cost of the retest shall be paid for by the Contractor.
- E22.2 Defects in hot-dip galvanizing shall be rectified as directed by the Contract Administrator in accordance with E15.1.
- E22.3 No repair shall be made until agreed to by the Contract Administrator.

E23. TESTING

- E23.1 Notwithstanding the Contractor's own quality control testing of all materials, the Contract Administrator may arrange for inspection of welding procedures and steel fabrication to ascertain compliance with the Specifications and Drawings.
- E23.2 A testing agency may be engaged to work with the Contract Administrator to carry out shop inspections and fabrication testing of the work throughout the manufacturing process. The Contractor shall cooperate fully with the testing firm. The firm shall have access to all the Contractor's normal quality control records associated with this Contract.
- E23.3 Testing may include radiographic inspection and magnetic particle inspection, as determined by the Contract Administrator. Weld inspection shall be carried out in accordance with the requirements of CSA W59-03. Welds found by any of the inspection methods to be inadequate and unsatisfactory shall be repaired in accordance with CSA W59-03 and then retested. The cost of the repairs and the cost of the retest shall be paid for by the Contractor. No repair shall be made until agreed to by the Contract Administrator.

E24. NON-METAL ACCESS PANEL COVER

- E24.1 The "non-metal" type access panel cover shall be strong, durable, ultraviolet stabilized, tamper proof and not subject to breakage or deformation under temperatures ranging from -50° C to $+50^{\circ}$ C.
- E24.2 The intended function of the access panel cover is to:
- (a) Prevent access to the interior of the access panel when secured with the supplied hex head bolts.
 - (b) Prevent/limit the ingress of water, snow, or items.
 - (c) Withstand acts of vandalism caused by impact or prying.
 - (d) Provide a service lifetime similar to the pole.
 - (e) Maintain integrity and intended function of the cover when bolts tightly fasten the access panel cover to the pole.
- E24.3 The Contractor shall install the access panel covers prior to final delivery
- E24.4 The access panel cover material shall be a homogenous colour throughout. The cover material colour shall be similar to the galvanized pole. Painted covers are not acceptable.

Access Panel Cover Label and Details

- E24.5 A label identifying the manufacturer and year of manufacture shall be permanently formed or etched into the inside face of the access panel cover with a minimum 10 mm character height. The format is as follows:
- E24.5.1 XX – YR where XX shall be the abbreviation or logo of the Contractor's firm, followed by a dash, followed by YR which shall be the last two (2) digits of the year of manufacture
- E24.5.2 No other logos or wordings shall be permitted on the exterior faces of the cover.

- E24.6 The access panel cover shall have a smooth and continuous circumferential perimeter flange. When mounted, the flange shall overlap the outside edge of the access panel ring sufficiently to prevent driven snow or rain entry into the access panel. The flange shall be located no greater than $\frac{1}{4}$ " (6 mm) from the outside edge of the access panel ring. The flange depth shall be a minimum of $\frac{3}{4}$ " (19 mm) on the left and right sides (greater is preferred) and $\frac{7}{16}$ " (11 mm) on the top and bottom (greater is preferred).
- E24.6.1 Flat access panel covers will be rejected.
- E24.7 The access panel cover shall have a smooth and continuous internally extruded ring. The ring shall be located between $\frac{1}{8}$ " (3 mm) and $\frac{1}{4}$ " (6 mm) from the inside of the clear opening of the pole's access panel ring. The width and depth of the internal ring extrusion shall be sufficient as to provide rigidity to the cover and not interfere with the mounting of the access cover. The ring shall have a maximum $\frac{5}{8}$ " (16 mm) width and a maximum depth of $\frac{3}{8}$ " (10 mm) and not less than $\frac{1}{4}$ " (6 mm) depth.
- E24.8 Any additional extrusions into the pole access opening shall be limited to $\frac{3}{8}$ " (10 mm). Extrusions exterior to the plane of the access panel's opening shall be limited to $\frac{3}{4}$ " (19 mm) and shall be functional.
- E24.9 The cover shall bear down onto the access panel ring and lay flush against the entire perimeter of the access panel ring when the cover is attached;
- E24.10 The access panel cover shall be fabricated of material with a minimum thickness of $\frac{1}{8}$ " (3 mm).
- E24.11 All edges on the access panel cover shall be smooth.
- E24.12 The cover shall be secured to the access panel by two (2) $\frac{3}{8}$ " (10 mm) diameter by 2.5 inches (63.5 mm) long, fully threaded hexagonal head Type 316 stainless steel bolts (hex head bolts, $\frac{9}{16}$ " across flats), each complete with tamper proof cup washer. The tamper proof cup washer shall have an internal diameter of $1\frac{3}{16}$ ".
- E24.13 The two holes in the cover for the mounting bolts shall be circular, $\frac{1}{2}$ " (13 mm) diameter and centered over the upper and lower bracket mounting holes both vertically and horizontally as shown in the Drawings.
- E24.14 The Contractor shall install the access panel covers prior to order delivery
- E24.15 A sample of the proposed alternate cover shall be provided to the Contract Administrator for inspection and testing prior to approval in accordance with B6 and E24.

Access Panel Cover Impact Testing

The impact test represents a potential act of vandalism.

- E24.16 The access panel cover will be cold soaked for 4 hours at -30°C prior to testing.
- E24.17 The impact test (as shown on 647-2016 Drawing TS-IMP1) involves elevating to a horizontal position a pendulum consisting of a 10 lb weight mounted on one end of 6' arm, and releasing the pendulum to rotate through a 90° arc to its lowest vertical resting point to impact the centre of the access panel cover face which is affixed to the access panel opening on the signal pole using the supplied hex bolts (as illustrated in Drawings). After being struck one time, the access panel cover will be examined for deformation or cracking. The access panel cover will be found unacceptable if cracking appears, or deformation occurs that affects the required functionality as per E24.1 and E24.2.