



THE CITY OF WINNIPEG

TENDER

TENDER NO. 889-2020

SUPPLY AND DELIVERY OF TRAFFIC SIGNALS CABLE

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 SUPPLY AND DELIVERY OF TRAFFIC SIGNALS CABLE

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, February 16, 2021.

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

B3. 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 he/she has received all addenda and is advised to check the MERX website for addenda regularly and shortly before the Submission Deadline, as may be amended by addendum.
- 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 fourteen (14) 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 his/her sole discretion grant approval for the use of a substitute as an “approved equal” or as an “approved alternative”, or may refuse to grant approval of the substitute.
- 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 he/she wishes to inform.
- B6.7 If the Contract Administrator approves a substitute as an “approved equal”, any Bidder may use the approved equal in place of the specified item.

B6.8 If the Contract Administrator approves a substitute as an “approved alternative”, any Bidder bidding that approved alternative may base his/her Total Bid Price upon the specified item but may also indicate an alternative price based upon the approved alternative. Such alternatives will be evaluated in accordance with 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: Prices.

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 his/her own name, his/her name shall be inserted;
- (b) if the Bidder is a partnership, the full name of the partnership shall be inserted;
- (c) if the Bidder is a corporation, the full name of the corporation shall be inserted;
- (d) if the Bidder is carrying on business under a name other than his/her own, the business name and the name of every partner or corporation who is the owner of such business name shall be inserted.

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 his/her own name, it shall be signed by the Bidder;
- (b) if the Bidder is a partnership, it shall be signed by the partner or partners who have authority to sign for the partnership;
- (c) if the Bidder is a corporation, it shall be signed by its duly authorized officer or officers;
- (d) if the Bidder is carrying on business under a name other than his/her own, it shall be signed by the registered owner of the business name, or by the registered owner's authorized officials if the owner is a partnership or a corporation.

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.

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 its participation in the Tender process or the Work; or
- (f) has knowledge of confidential information (other than confidential information disclosed by the City in the normal course of the Tender process) of strategic and/or material relevance to the Tender process or to the Work that is not available to other bidders and that could or would be seen to give that Bidder an unfair competitive advantage.

B11.3 In connection with its 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 its sole discretion, waive any and all perceived, potential or actual Conflicts of Interest. The City's waiver may be based upon such terms and conditions as the City, in its sole discretion, requires to satisfy itself that the Conflict of Interest has been appropriately avoided or mitigated, including requiring the Bidder to put into place such policies, procedures, measures and other safeguards as may be required by and be acceptable to the City, in its sole discretion, to avoid or mitigate the impact of such Conflict of Interest.

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 its sole discretion:

- (a) disqualify a Bidder that fails to disclose a perceived, potential or actual Conflict of Interest of the Bidder or any of its employees proposed for the Work;
- (b) require the removal or replacement of any employees proposed for the Work that has a perceived, actual or potential Conflict of Interest that the City, in its sole discretion, determines cannot be avoided or mitigated;
- (c) disqualify a Bidder or employees proposed for the Work that fails to comply with any requirements prescribed by the City pursuant to B11.4 to avoid or mitigate a Conflict of Interest; and
- (d) disqualify a Bidder if the Bidder, or one of its employees proposed for the Work, has a perceived, potential or actual Conflict of Interest that, in the City's sole discretion, cannot be avoided or mitigated, or otherwise resolved.

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

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, Materials Management 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; and
 - (c) have a written workplace safety and health program, if required, pursuant to The Workplace Safety and Health Act (Manitoba);
 - (d) have demonstrated the ability to supply and deliver work(s) with quality control and assurance standards according to past contracted delivery and timelines; and
 - (e) have demonstrated the resources, facilities, and capabilities to quickly and efficiently effect repairs or remediation to the satisfaction of the Contract Administrator on issues with Work on previous contracts to meet the specifications and requirements of the supplied Work, regardless of time of year or environmental conditions.
- B12.4 The Bidder shall submit, within three (3) Business Days of a request by the Contract Administrator, proof satisfactory to the Contract Administrator of the qualifications of the Bidder and of any proposed Subcontractor.
- B12.5 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.
- B12.6 The Bidder shall supply within fourteen (14) Calendar Days of a request from the Contract Administrator samples of the cable jacket and ripcord assembly and / or technical documentation specific to any item or assembly that would be included in the deliverables for inspection and testing.
- B12.6.1 The Bidder is responsible for all freight costs associated with the delivery and return of any requested sample(s) as described in B12.6.
- B12.7 The Bidder may be considered as non-responsive if requested information and / or sample as described in B12.4 and B12.6 is not received within the time frame specified.
- B12.8 Unsolicited samples will be returned at Bidder's expense.
- B12.9 The Bidder will be notified by the Contract Administrator whether the bid samples and / or technical documentation had any noted deficiencies.
- B12.10 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.
- 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 his/her 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 his/her Bid or in other information required to be submitted, that he/she is 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 its own forces;
 - (d) only one Bid is received; or
 - (e) in the judgment of the Award Authority, the interests of the City would best be served by not awarding a Contract.
- 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.

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, Materials Management Division website at http://www.winnipeg.ca/matmgt/gen_cond.stm
- C0.2 A reference in the Tender to a section, clause or subclause with the prefix “**C**” designates a section, clause or subclause in the *General Conditions for 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

The Work to be done under the Contract shall consist of supply and delivery of traffic signals cable for the period from April 1, 2021 until March 31, 2022, 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 Proponent within ninety (90) Calendar Days prior to the expiry date of the Contract. The City shall incur no liability to the Proponent 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 its actual operational requirements.

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) kilometres 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 its total requirement for an item are to be supplied under its contract; and
- (d) any additional delivery charge identified and accepted in accordance with clause D3.4 and D3.5 will apply.

D3.7 Each participant will be responsible for the administration of its contract and the fulfilment of its obligations under its 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) "**ANSI**" means American National Standards Institute;
- (b) "**ASTM**" means American Society for Testing and Materials;
- (c) "**AWG**" means American wire gauge;
- (d) "**CSA**" means Canadian Standards Association;
- (e) "**IMSA**" means International Municipal Signal Association.

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. NOTICES

D6.1 Except as provided for in C20.4, all notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the Contractor shall be sent to the address or facsimile number identified by the Contractor in Paragraph 2 of Form A: Bid/Proposal.

D6.2 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications to the City, except as expressly otherwise required in, D6.3 or elsewhere in the Contract, shall be sent to the attention of the Contract Administrator identified in D5.

D6.3 All notices, requests, nominations, proposals, consents, approvals, statements, authorizations, documents or other communications required to be submitted or returned to the City Solicitor shall be sent to the following facsimile number:

The City of Winnipeg
Legal Services Department
Attn: Director of Legal Services
Facsimile No.: 204 947-9155.

SUBMISSIONS

D7. AUTHORITY TO CARRY ON BUSINESS

D7.1 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

D8. COMMENCEMENT

- D8.1 The Contractor shall not commence any Work until he/she is in receipt of a notice of award from the City authorizing the commencement of the Work.
- D8.2 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 D7;
 - (ii) evidence of the workers compensation coverage specified in C6.17;
 - (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.
 - (c) the Contractor has supplied within twenty-one (21) Calendar Days of a request from the Contract Administrator, a sample of the finished and tested cable. The sample being at least two (2) meters in length, containing at least two (2) sequential meter markings. No cable shall be delivered to the City until the sample length of cable has been examined and inspected with no comments or concerns brought forth by the City. The cost to provide the sample shall be borne solely by the Contractor.
 - (d) a Purchase Order has been received from the City of Winnipeg Public Works Stores personnel noting the quantity of material required.

D9. DELIVERY

- D9.1 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 Avenue
Winnipeg, MB

- D9.1.1 Goods shall be delivered within one hundred (100) Calendar Days of the placing of an order.
- D9.2 The Contractor shall confirm each delivery with the Contract Administrator or his/her designate, at least two (2) Business Days before delivery.
- D9.3 Goods shall be delivered between 8:00 a.m. and 2:30 p.m. on Business Days.
- D9.4 The Contractor shall off-load goods as directed at the delivery location.

D10. LIQUIDATED DAMAGES

- D10.1 If the Contractor fails to achieve delivery of the goods within the time specified in D9.1 Delivery the Contractor shall pay the City six hundred sixty dollars (\$660) per Calendar Day for each and every Calendar Day until the goods have been delivered.
- D10.2 The amount specified for liquidated damages in D10.1 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.

D10.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D11. COVID-19 SCHEDULE DELAYS

D11.1 The City acknowledges that the schedule for this Contract may be impacted by the COVID-19 pandemic. Commencement and progress of the Work shall be performed by the Contractor with due consideration to the health and safety of workers and the public, directives from health authorities and various levels of government and in close consultation with the Contract Administrator.

D11.2 If the Contractor is delayed in the performance of the Work by reason of the COVID-19 pandemic, the Work schedule may be adjusted by a period of time equal to the time lost due to such delay and costs related to such delay will be determined as identified herein.

D11.3 A minimum of seven (7) Calendar Days prior to the commencement of Work, the Contractor shall declare whether COVID-19 will affect the start date. The Contractor shall provide sufficient evidence that the delay is directly related to COVID-19, including but not limited to evidence related to availability of staff, availability of Material or work by others.

D11.4 For any delay related to COVID-19 and identified after Work has commenced, the Contractor shall within seven (7) Calendar Days of becoming aware of the anticipated delay declare the additional delay and shall provide sufficient evidence as indicated in D11.3. Failure to provide this notice will result in no additional time delays being considered by the City.

D11.5 The Work schedule, including the durations identified in D9 where applicable, will be adjusted to reflect delays accepted by the Contract Administrator.

D11.6 Any time or cost implications as a result of COVID-19 and in accordance with the above, as confirmed by the Contract Administrator, shall be documented in accordance with C7.

D12. ORDERS

D12.1 The Contractor shall provide a local Winnipeg telephone number or a toll-free telephone number at which orders for delivery may be placed.

D12.2 The minimum order placed for any item style will be one reel as described in E3.2.

D13. RECORDS

D13.1 The Contractor shall keep detailed records of the goods supplied under the Contract.

D13.2 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.

D13.3 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

D14. INVOICES

D14.1 Further to C10, the Contractor shall submit an invoice for each order delivered to:
The City of Winnipeg

Corporate Finance - Accounts Payable
4th Floor, Administration Building, 510 Main Street
Winnipeg MB R3B 1B9

Facsimile No.: 204-949-0864

Send Invoices to CityWpgAP-INVOICES@winnipeg.ca

Send Invoice Inquiries to CityWpgAP-INQUIRIES@winnipeg.ca

D14.2 Invoices must clearly indicate, as a minimum:

- (a) the City's purchase order number;
- (b) date of delivery;
- (c) delivery address;
- (d) type and quantity of goods delivered;
- (e) the amount payable with GST, MRST, and any applicable environmental handling charges/fees identified and shown as separate amounts; and
- (f) the Contractor's GST registration number.

D14.3 The City will bear no responsibility for delays in approval of invoices which are improperly submitted.

D15. PAYMENT

D15.1 Further to C10, the City may at its option pay the Contractor by direct deposit to the Contractor's banking institution.

D16. PAYMENT SCHEDULE

D16.1 Further to C10, payment shall be in Canadian funds net thirty (30) Calendar Days after receipt and approval of the Contractor's invoice.

WARRANTY

D17. WARRANTY

D17.1 Warranty is as stated in C11.

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS AND DRAWINGS

E1.1 These Specifications shall apply to the Work.

E1.2 The following are applicable to the Work:

<u>Drawing No.</u>	<u>Drawing Name/Title</u>
ST-127	Specifications for Traffic Signal Cable Geometry for 22 and 38 Conductor Cables

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 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 cable in accordance with the requirements hereinafter specified.

E2.2 The materials used as specified for fabrication shall be new and free of splices or damage.

E2.3 Item No. 1 – Seven (7) Conductor Traffic Signal Cable shall be as per Specification E4.

E2.4 Item No. 2 – Twenty-two (22) Conductor Traffic Signal Cable shall be as per Specification E5.

E2.5 Item No. 3 – Thirty-eight (38) Conductor Traffic Signal Cable shall be as per Specification E5.

E2.6 Item No. 4 – Six (6) Paired Conductors Traffic Signal Cable shall be as per details in Specification E6.

E2.7 Item No. 5 – Traffic Signal Service Cable (3 Cond. 8Ga.) shall be as per details in Specification E7.

E2.8 Item No. 6 – Traffic Signal Service Cable (3 Cond. 4Ga.) shall be as per details in Specification E8.

E2.9 Item No. 7 – Cable Reel Deposit shall be as per details in Specification E3.3.

E3. GENERAL REQUIREMENTS

E3.1 Cable Markings

E3.1.1 The following information shall be applied every one (1) meter or less to each shipping length of cable by means of indent printing:

- (a) name of the manufacturer
- (b) "WPG YYYY" (YY = Year and MM = Month of manufacture)
- (c) IMSA Specification number
- (d) voltage rating of the cable
- (e) cable identification code:
 - (i) for Seven (7) Conductor Traffic Signal Cable: "7C"
 - (ii) for Twenty-two (22) Conductor Traffic Signal Cable: "22C"
 - (iii) for Thirty-eight (38) Conductor Traffic Signal Cable: "38C"

- (iv) for Six (6) Paired Conductors Traffic Signal Cable: "6P"
- (v) for Traffic Signal Service Cable (3 Cond. 8Ga.): "S8"
- (vi) Traffic Signal Service Cable (3 Cond. 4Ga.): "S4"
- (f) "#### METERS" (#### = Length remaining in meters, note space between "####" and "METERS")
 - (i) In most cases, each shipping length of cable will bear a "zero" mark at the inner end of the cable on the reel, with incrementing meter mark values throughout the length of the cable. Exceptions may be permitted to allow "non-zero" markings at the inner end of the reel, should defective sections of cable have to be removed as a consequence of failing the voltage rating tests on the finished cable.

E3.1.2 All markings shall have a font minimum height of five (5) millimeters, and a bolded font.

E3.1.3 If the markings are incorrectly labelled or positioned, the cable will be returned to the Contractor for immediate remediation (maximum two [2] week turnaround from the date of notification). All costs for the cable marking repair including transportation and repair work shall be borne by the Contractor.

E3.2 Reel Packaging and Markings

E3.2.1 Reels shall be substantially constructed and in good condition with wood free of existing rot. Broken flanges or torn arbour holes are not acceptable. The diameter of the reel drum shall be sufficient to prevent damage to the cables shipped on it. Reels shall have a maximum diameter of 48 inches and minimum diameter of 40 inches.

E3.2.2 The width of each reel shall be 34 inches maximum and 28 inches minimum.

E3.2.3 Each reel shall contain a continuous length of cable. The maximum length of cable per reel shall be as follows:

- (a) for Seven (7) Conductor Traffic Signal Cable maximum length per reel 1700 meters;
- (b) for Twenty-two (22) Conductor Traffic Signal Cable maximum length per reel 750 meters;
- (c) for Thirty-eight (38) Conductor Traffic Signal Cable maximum length per reel 450 meters;
- (d) for Six (6) Paired Conductors Traffic Signal Cable maximum length per reel 2100 meters;
- (e) for Traffic Signal Service Cable (3 Cond. 8Ga.) maximum length per reel 750 meters;
- (f) for Traffic Signal Service Cable (3 Cond. 4Ga.) maximum length per reel 480 meters.

E3.2.4 The cable shall be secured on the reel to prevent inadvertent unspooling prior to delivery.

E3.2.5 Each spool of cable shall be suitably protected. Each end of the cable shall be available for testing and visual inspection of the meter markings, and shall be properly sealed against moisture and protected against injury. The innermost cable end (normally bearing the "zero" mark) shall protrude no more than 0.5 meter through the side of the reel.

E3.2.6 Reels shall be capable of being supported by a two (2) inch diameter shaft inserted in holes centered within the circular reel flanges. Steel arbour hole plates shall be provided on all reels and securely bolted. Steel hubs or flanges without the bolted arbour hole plates are not acceptable.

E3.2.7 Each reel shall be plainly and permanently marked with a full description of the cable, giving the type and length of the cable on the reel, the number and size of the conductors in the cable, voltage rating, date of manufacture, name of Contractor, and name of manufacturer if different from Contractor. The marking shall be securely affixed on the outer side of the reel where the innermost cable end protrudes; the marking may be securely affixed on both sides of the reel. Each reel shall also bear a unique reel number. All required markings shall be 24 point minimum font size and independent of environmental storage effects (rain, snow, UV, etc.) remain legible for a period of not less than three years following delivery.

E3.3 Reel Deposit

- E3.3.1 The Contractor shall include, if applicable, reel deposit charges on Form B: Prices. If deposit item unit price is not stated on Form B: Prices, it will be understood that there are no reel deposit charges that apply.
- E3.3.2 The Contractor shall pay all transportation charges both ways (delivery and return) on all reels in accordance with D9. The reels will be used by the City of Winnipeg. When the reel is emptied, the Contract Administrator will inform the Contractor for return instructions.
- E3.3.3 The quantity of reels stated in Form B: Prices is based on the approximate quantity of cable order divided by the maximum amount of cable per reel as per E3.2.3.

E4. SEVEN (7) CONDUCTOR TRAFFIC SIGNAL CABLE

E4.1 General

- E4.1.1 This specification covers the supply and delivery of seven (7) conductor polyethylene insulated, polyvinyl chloride jacketed traffic signal cable, rated 600 volts, for use in underground conduit or as aerial cable supported by a messenger as traffic signal cable.
- E4.1.2 Seven (7) Conductor Traffic Signal Cable shall be supplied and delivered as per IMSA Specification 19-1 (latest edition) and associated specifications in addition to this Specification.
- E4.1.3 In cases of discrepancy between this Specification and IMSA Specification 19-1 (latest edition), this Specification shall govern.

E4.2 Conductors

- E4.2.1 Seven (7) #14 AWG solid conductors shall be supplied.

E4.3 Conductor Color Coding

- E4.3.1 Standard color coding for cables shall be in accordance with the City of Winnipeg Traffic Signals Color Code Table E4.3.1. Base colors shall be obtained by the use of colored insulation.

Table E4.3.1
City of Winnipeg Traffic Signals Color Code
Conductor Color and Sequence for Seven (7) Conductor Cable

Conductor No.	Base Color	Tracer Color
1	Black	
2	White	
3	Red	
4	Green	
5	Orange	
6	Blue	
7	Light Brown	

NOTE: Conductor color and sequence varies from IMSA Specification 19-1 (latest edition) Table 5.1. Lower conductor numbers represent the inner most conductors in the core.

E4.4 Conductor Assembly

- E4.4.1 The outer layer shall be left hand lay and as per IMSA Specification 19-1 (latest edition).

E4.5 Identification

- E4.5.1 The outer surface of the jacket shall be identified by intent printing as per E3.1.

E4.6 Packing and Marking for Shipment

- E4.6.1 Reel packaging and marking shall be as per E3.2.

E4.7 Ripcord

- E4.7.1 Overtop of the moisture-resistant taped conductor assembly shall be supplied a continuous length of polyester or aramid cord, known as the “ripcord”. The purpose of the ripcord is to assist in the skinning and removal of the jacket material. The ripcord shall be laid longitudinally along the entire length of the taped core assembly, immediately underneath the jacket material. The ripcord may be moulded into the inner surface of the outer jacket material. The ripcord shall be constructed of **braided strands**, the total diameter of which shall be no larger than 20 mils (0.508 mm), and must be sufficiently strong to sever the jacket material without breaking.
- E4.7.2 The Contract Administrator will advise the Contractor which of the available ripcords will need to be incorporated into the manufacture of this item.
- E4.8 Sampling, Inspection and Acceptance
- E4.8.1 In addition to IMSA Specification 19-1, the manufacturer may be required to supply the City’s Contract Administrator, in advance of the delivery of the required quantity of cable, a sample of the finished and tested cable, the sample being at least two (2) meters in length, containing at least two (2) sequential meter markings. No cable shall be delivered to the City until the sample length of cable has been examined and inspected with no comments or concerns brought forth by the City. The cost to provide the sample shall be borne solely by the Contractor.

E5. TWENTY-TWO (22) & THIRTY-EIGHT (38) CONDUCTOR TRAFFIC SIGNAL CABLE

E5.1 General

- E5.1.1 This specification covers the supply and delivery of both twenty-two (22) conductor and thirty-eight (38) conductor polyethylene insulated, polyvinyl chloride jacketed traffic signal cable, rated 600 volts, for use in underground conduit or as aerial cable supported by a messenger as traffic signal cable.
- E5.1.2 Twenty-Two (22) & Thirty-Eight (38) Conductor Traffic Signal Cable shall be supplied and delivered as per IMSA Specification 19-1 (latest edition) and associated specifications in addition to this Specification.
- E5.1.3 In cases of discrepancy between this Specification and IMSA Specification 19-1 (latest edition), this Specification shall govern.

E5.2 Conductors

- E5.2.1 For Twenty-Two (22) Conductor Traffic Signal Cable, two (2) #10 AWG stranded conductors and twenty (20) #14 AWG solid conductors shall be supplied.
- E5.2.2 For Thirty-Eight (38) Conductor Traffic Signal Cable, two (2) #10 AWG stranded conductors and thirty-six (36) #14 AWG solid conductors shall be supplied.

E5.3 Conductor Color Coding

- E5.3.1 Standard color coding for cables shall be in accordance with the City of Winnipeg Traffic Signals Color Code Table E5.3.1. Base colors shall be obtained by the use of colored insulation.

**Table E5.3.1
City of Winnipeg Traffic Signals Color Code
Twenty-Two (22) Conductor Cable & Thirty-Eight (38) Conductor Cable**

Conductor No. ²	Base Color	Tracer Color	Size	Style	22 Conductor ¹	38 Conductor ¹
1	Green	Black	10 ga.	Stranded	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	White	--	10 ga.	Stranded	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Red	--	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Red	Orange	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	Red	Green	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

6	Orange	Red	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	Orange	--	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	Orange	Green	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9	Brown	Red	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10	Brown	Orange	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11	Brown	Green	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
12	Blue	Red	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13	Blue	Orange	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
14	Blue	Green	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
15	Black	--	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16	Black	White	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
17	Yellow	--	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
18	Yellow	White	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
19	Violet	--	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
20	Violet	White	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
21	Slate ³	--	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
22	Slate ³	White	14 ga.	Solid	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
23	Black	Red	14 ga.	Solid	--	<input checked="" type="checkbox"/>
24	Black	Orange	14 ga.	Solid	--	<input checked="" type="checkbox"/>
25	Black	Green	14 ga.	Solid	--	<input checked="" type="checkbox"/>
26	Yellow	Red	14 ga.	Solid	--	<input checked="" type="checkbox"/>
27	Yellow	Orange	14 ga.	Solid	--	<input checked="" type="checkbox"/>
28	Yellow	Green	14 ga.	Solid	--	<input checked="" type="checkbox"/>
29	Violet	Red	14 ga.	Solid	--	<input checked="" type="checkbox"/>
30	Violet	Orange	14 ga.	Solid	--	<input checked="" type="checkbox"/>
31	Violet	Green	14 ga.	Solid	--	<input checked="" type="checkbox"/>
32	Slate ³	Red	14 ga.	Solid	--	<input checked="" type="checkbox"/>
33	Slate ³	Orange	14 ga.	Solid	--	<input checked="" type="checkbox"/>
34	Slate ³	Green	14 ga.	Solid	--	<input checked="" type="checkbox"/>
35	Brown	Red ⁴	14 ga.	Solid	--	<input checked="" type="checkbox"/>
36	Brown	Orange ⁴	14 ga.	Solid	--	<input checked="" type="checkbox"/>
37	Brown	Green ⁴	14 ga.	Solid	--	<input checked="" type="checkbox"/>
38	Brown	--	14 ga.	Solid	--	<input checked="" type="checkbox"/>

NOTE: Conductor color and sequence varies from IMSA Specification 19-1 (latest edition) Table 5.1.

¹ See Drawing ST-127 for conductor assembly

² Lower conductor numbers represent the inner most conductors in the core.

³ Grey may be substituted for slate.

⁴ Two (2) tracers on conductor

E5.4 Conductor Assembly

E5.4.1 The outer layer shall be left hand lay and as per IMSA Specification 19-1 (latest edition).

E5.5 Identification

E5.5.1 The outer surface of the jacket shall be identified by intent printing as per E3.1.

E5.6 Packing and Marking for Shipment

E5.6.1 Reel packaging and marking shall be as per E3.2.

E5.7 Ripcord

E5.7.1 Overtop of the moisture-resistant taped conductor assembly shall be supplied a continuous length of polyester or aramid cord, known as the "rip cord". The purpose of the rip cord is to assist in the skinning and removal of the jacket material. The rip cord shall be laid

longitudinally along the entire length of the taped core assembly, immediately underneath the jacket material. The ripcord may be moulded into the inner surface of the outer jacket material. The ripcord shall be constructed of **braided strands**, the total diameter of which shall be no larger than 20 mils (0.508 mm), and must be sufficiently strong to sever the jacket material without breaking.

E5.7.2 The Contract Administrator will advise the Contractor which of the available ripcords will need to be incorporated into the manufacture of this item.

E5.8 Sampling, Inspection and Acceptance

E5.8.1 In addition to IMSA Specification 19-1, the manufacturer may be required to supply the City's Contract Administrator, in advance of the delivery of the required quantity of cable, a sample of the finished and tested cable, the sample being at least two (2) meters in length, containing at least two (2) sequential meter markings. No cable shall be delivered to the City until the sample length of cable has been examined and inspected with no comments or concerns brought forth by the City. The cost to provide the sample shall be borne solely by the Contractor.

E6. SIX (6) PAIRED CONDUCTORS TRAFFIC SIGNAL CABLE

E6.1 General

E6.1.1 This specification covers the supply and delivery of six (6) pair polyethylene insulated, polyvinyl chloride jacketed traffic signal cable with copper electrical shielding, rated 300 volts, for use in underground conduit, as aerial cable supported by a messenger, or as traffic communications and data acquisition cable suitable for limited power use.

E6.1.2 Six (6) Paired Conductors Traffic Signal Cable shall be supplied and delivered as per IMSA Specification 39-2 (latest edition) and associated specifications in addition to this Specification.

E6.1.3 In cases of discrepancy between this Specification and IMSA Specification 39-2 (latest edition), this Specification shall govern.

E6.2 Conductors

E6.2.1 Twelve (12) #19 AWG solid and uncoated conductors shall be supplied twisted to form six (6) individual conductor pairs.

E6.3 Identification of Pairs

E6.3.1 The colors to be used for a six (6) pair sequence together with the pair numbers are shown in Table E6.3.1.

**Table E6.3.1
City of Winnipeg Traffic Signals Color Code
Six (6) Paired Conductors Cable**

Pair No.	Wire Color	Mate Color
1	Blue	Blue with White Tracer
2	Orange	Orange with White Tracer
3	Green	Green with White Tracer
4	Brown	Brown with White Tracer
5	Slate	Slate with White Tracer
6	Red	Red with White Tracer

NOTE: Conductor color and sequence varies from IMSA Specification 39-2 (latest edition) Table 5.2.

E6.4 Core Assembly

E6.4.1 Unidirectional lay may be used.

E6.5 Identification

E6.5.1 The outer surface of the jacket shall be identified by intent printing as per E3.1.

E6.6 Packing and Marking for Shipment

E6.6.1 Reel packaging and marking shall be as per E3.2.

E6.7 Ripcord

E6.7.1 Overtop of the moisture-resistant taped conductor assembly shall be supplied a continuous length of polyester or aramid cord, known as the “rip cord”. The purpose of the ripcord is to assist in the skinning and removal of the jacket material. The ripcord shall be laid longitudinally along the entire length of the taped core assembly, immediately underneath the jacket material. The ripcord may be moulded into the inner surface of the outer jacket material. The ripcord shall be constructed of **braided strands**, the total diameter of which shall be no larger than 20 mils (0.508 mm), and must be sufficiently strong to sever the jacket material without breaking.

E6.7.2 The Contract Administrator will advise the Contractor which of the available ripcords will need to be incorporated into the manufacture of this item.

E6.8 Sampling, Inspection and Acceptance

E6.8.1 In addition to IMSA Specification 39-2, the manufacturer may be required to supply the City’s Contract Administrator, in advance of the delivery of the required quantity of cable, a sample of the finished and tested cable, the sample being at least two (2) meters in length, containing at least two (2) sequential meter markings. No cable shall be delivered to the City until the sample length of cable has been examined and inspected with no comments or concerns brought forth by the City. The cost to provide the sample shall be borne solely by the Contractor.

E7. TRAFFIC SIGNAL SERVICE CABLE (3 COND. 8GA.)

E7.1 General

E7.1.1 This specification covers the supply and delivery of three (3) conductor polyethylene insulated, with a single bare copper grounding wire, polyvinyl chloride jacketed traffic signal service cable, rated 600 volts, for use in underground conduit or as aerial cable supported by a messenger as traffic signal power service cable.

E7.1.2 Traffic Signal Service Cable (3 Cond. 8Ga.) shall be supplied and delivered as per IMSA Specification 19-1 (latest edition) and associated specifications in addition to this Specification.

E7.1.3 In cases of discrepancy between this Specification and IMSA Specification 19-1 (latest edition), this Specification shall govern.

E7.2 Conductors

E7.2.1 Three (3) #8 AWG stranded insulated conductors and one (1) #6 AWG stranded bare copper conductor shall be supplied.

E7.3 Conductor Color Coding

E7.3.1 Standard color coding for cables shall be in accordance with the City of Winnipeg Traffic Signals Color Code Table E7.3.1. Base colors shall be obtained by the use of colored insulation.

**Table E7.3.1
City of Winnipeg Traffic Signals Color Code
Traffic Signals Service Cable (3 Cond. 8Ga.)**

Conductor No.	Wire Color	Size
1	Black	#8 AWG, Stranded
2	White	#8 AWG, Stranded
3	Red	#8 AWG, Stranded
4	“Bare Copper”	#6 AWG, Stranded

NOTE: Conductor color and sequence varies from IMSA Specification 19-1 (latest edition) Table 5.1.

E7.4 Conductor Assembly

E7.4.1 The outer layer shall be left hand lay and as per IMSA Specification 19-1 (latest edition).

E7.5 Identification

E7.5.1 The outer surface of the jacket shall be identified by intent printing as per E3.1.

E7.6 Packing and Marking for Shipment

E7.6.1 Reel packaging and marking shall be as per E3.2.

E7.7 Sampling, Inspection and Acceptance

E7.7.1 In addition to IMSA Specification 19-1, the manufacturer shall be required to supply the City's Contract Administrator, in advance of the delivery of the required quantity of cable, a sample of the finished and tested cable, the sample being at least two (2) meters in length, containing at least two (2) sequential meter markings. No cable shall be delivered to the City until the sample length of cable has been examined and inspected with no comments or concerns brought forth by the City. The cost to provide the sample shall be borne solely by the Contractor.

E8. TRAFFIC SIGNAL SERVICE CABLE (3 COND. 4GA.)

E8.1 General

E8.1.1 This specification covers the supply and delivery of three (3) conductor polyethylene insulated, with a single bare copper grounding wire, polyvinyl chloride jacketed traffic signal service cable, rated 600 volts, for use in underground conduit or as aerial cable supported by a messenger as traffic signal power service cable.

E8.1.2 Traffic Signal Service Cable (3 Cond. 4Ga.) shall be supplied and delivered as per IMSA Specification 19-1 (latest edition) and associated specifications in addition to this Specification.

E8.1.3 In cases of discrepancy between this Specification and IMSA Specification 19-1 (latest edition), this Specification shall govern.

E8.2 Conductors

E8.2.1 Three (3) #4 AWG stranded insulated conductors and one (1) #6 AWG stranded bare copper conductor shall be supplied.

E8.3 Conductor Color Coding

E8.3.1 Standard color coding for cables shall be in accordance with the City of Winnipeg Traffic Signals Color Code Table E8.3.1. Base colors shall be obtained by the use of colored insulation.

**Table E8.3.1
City of Winnipeg Traffic Signals Color Code
Traffic Signals Service Cable (3 Cond. 4Ga.)**

Conductor No.	Wire Color	Size
1	Black	#4 AWG, Stranded
2	White	#4 AWG, Stranded
3	Red	#4 AWG, Stranded
4	"Bare Copper"	#6 AWG, Stranded

NOTE: Conductor color and sequence varies from IMSA Specification 19-1 (latest edition) Table 5.1.

E8.4 Conductor Assembly

E8.4.1 The outer layer shall be left hand lay and as per IMSA Specification 19-1 (latest edition).

E8.5 Identification

E8.5.1 The outer surface of the jacket shall be identified by intent printing as per E3.1.

E8.6 Packing and Marking for Shipment

E8.6.1 Reel packaging and marking shall be as per E3.2.

E8.7 Sampling, Inspection and Acceptance

E8.7.1 In addition to IMSA Specification 19-1, the manufacturer shall be required to supply the City's Contract Administrator, in advance of the delivery of the required quantity of cable, a sample of the finished and tested cable, the sample being at least two (2) meters in length, containing at least two (2) sequential meter markings. No cable shall be delivered to the City until the sample length of cable has been examined and inspected with no comments or concerns brought forth by the City. The cost to provide the sample shall be borne solely by the Contractor.