



THE CITY OF WINNIPEG

TENDER

TENDER NO. 174-2026

SUPPLY AND DELIVERY OF HOTMIX ASPHALT – PAVING OPERATIONS

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PART B - BIDDING PROCEDURES

B1. CONTRACT TITLE

B1.1 SUPPLY AND DELIVERY OF HOTMIX ASPHALT – PAVING OPERATIONS

B2. SUBMISSION DEADLINE

B2.1 The Submission Deadline is 4:00 p.m. Winnipeg time, April 7, 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 five (5) 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: 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 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);
 - (d) have completed the Accessible Customer Service online training required by the Accessibility for Manitobans Act (AMA) (see B12.4 and D6); and
 - (e) have an asphalt plant that meets City of Winnipeg Specification CW 3410.
- 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 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.
- B12.6 The Bidder shall provide, on the request of the Contract Administrator, full access to any of the Bidder's equipment and facilities to confirm, to the Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.
- 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 the supply and delivery of hot mix asphalt for paving operations for the period from May 1, 2026 until November 10, 2026, with the option of two (2) 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 May 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) **"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:

Ryan Demianiw, C.E.T.
Street Preservation Coordinator
Telephone No.: 204- 470-7226^
Email Address:. rdemianiw@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.

D10. INSURANCE

D10.1 The Contractor shall provide and maintain the following insurance coverage:

- (a) commercial general liability insurance, in the amount of at least two million dollars (\$2,000,000.00) inclusive, with The City of Winnipeg added as an additional insured; such liability policy to also contain a cross-liability clause, non-owned automobile liability and products and completed operations cover, to remain in place at all times during the performance of the Work;
- (b) Automobile Liability Insurance covering all motor vehicles, owned and operated and used or to be used by the Contractor directly or indirectly in the performance of the Work. The Limit of Liability shall not be less than \$2,000,000 inclusive for loss or damage including personal injuries and death resulting from any one accident or occurrence.

D10.2 Deductibles shall be borne by the Contractor.

D10.3 All policies shall be taken out with insurers duly licensed to carry on business in the Province of Manitoba.

D10.4 The Contractor shall provide the Contract Administrator with a certificate(s) of insurance, in a form satisfactory to the City Solicitor, at least two (2) Business Days prior to the commencement of any Work but in no event later than the date specified in C4 for the return of the executed Contract Documents, as applicable.

D10.5 The Contractor shall not cancel, materially alter, or cause the policy to lapse without providing at least thirty (30) Calendar Days prior written notice to the Contract Administrator.

D11. SAFETY DATA SHEETS

D11.1 The Contractor shall provide the Contract Administrator with one (1) copy of Safety Data Sheets (SDS's) for each product to be supplied under the Contract at least two (2) Business Days prior to the commencement of Work but in no event later than the date specified in C4 for the return of the executed Contract.

D11.2 Throughout the term of the Contract, the Contractor shall provide the Contract Administrator with revisions or updates of the SDS's as soon as may be reasonably possible.

SCHEDULE OF WORK

D12. COMMENCEMENT

D12.1 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.

- D12.2 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 D9;
 - (ii) evidence of the workers compensation coverage specified in C6.17;
 - (iii) evidence of the insurance specified in D10;
 - (iv) the Safety Data Sheets specified in D11;
 - (v) the direct deposit application form specified in D25
 - (b) the Contractor has attended a meeting with the Contract Administrator, or the Contract Administrator has waived the requirement for a meeting.

D13. DELIVERY

- D13.1 Goods shall be delivered on an "as required" basis during the term of the Contract, f.o.b. destination, freight prepaid, to various locations within the City.
- D13.1.1 Daily requirements could vary from zero (0) to one thousand (1000) tonnes. The Contractor shall supply and deliver hot mix asphalt, to the City of Winnipeg at a rate of one hundred (100) tonnes per hour when requested by the Contract Administrator.
- (a) An average daily paving operation will typically order three hundred (300) to five hundred (500) tonnes.
 - (b) the City of Winnipeg will normally require between four (4) to eight (8) semi-trailer trucks for its daily paving operations. Where site conditions warrant, between two (2) to six (6) tandem axle dump trucks may be required.
- D13.1.2 The City of Winnipeg will advise the Contractor before 4:00 p.m. every Friday of the tentative daily requirements of hot mix asphalt, for the following week. Notwithstanding D13.1.1 these requirements could change subject to uncontrollable circumstances such as inclement weather and equipment breakdowns.
- D13.1.3 The City of Winnipeg will notify the Contractor before 3:00 p.m. each Business Day to provide the approximate requirements, including the number of trucks, tonnage, and start times for the following day.
- D13.2 Based on historical data approximately forty five percent (40%) of the asphalt is purchased for the north area and approximately thirty five percent (30%) is purchased for the east area with the balance of twenty percent (30%) for the south area of the City of Winnipeg.
- D13.3 The Contractor shall deliver materials shown on Form B: Prices, as follows:
- (a) **Hot Mix Asphalt Delivery Charge for North Area:** This is the area North of the Assiniboine River and West of the Red River.
 - (b) **Hot Mix Asphalt Delivery Charge for East Area:** This is the area East of the Red River.
 - (c) **Hot Mix Asphalt Delivery Charge for South Area:** This is the area South of the Assiniboine River and West of the Red River.
- D13.4 Goods shall be delivered between 6:00 a.m. and 8:00 p.m. on Calendar Days, including Statutory holidays.

D14. LIQUIDATED DAMAGES

- D14.1 If the Contractor fails to achieve delivery of the goods within the time specified in D13.1 Delivery the Contractor shall pay the City five hundred dollars (\$500.00) per Calendar Day for each and every Calendar Day until the goods have been delivered.
- D14.2 The amount specified for liquidated damages in D14.1 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.

D14.3 The City may reduce any payment to the Contractor by the amount of any liquidated damages assessed.

D15. SUPPLY CHAIN DISRUPTION SCHEDULE DELAYS

D15.1 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.

D15.2 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.

D15.3 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.

D15.4 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 D15.3. Failure to provide this notice will result in no additional time delays being considered by the City.

D15.5 The Work schedule, including the durations identified in D13 where applicable, will be adjusted to reflect delays accepted by the Contract Administrator.

D15.6 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.

D16. PLANT FACILITIES

D16.1 The Contractor's plant must be of sufficient size to supply hot mix asphalt, for the City of Winnipeg's orders at the rate of one hundred (100) tonnes per hour on demand.

D16.2 The Contractor must provide at no cost to the City of Winnipeg the following, at the plant location for the duration of the Contract:

- (a) telephone with appropriate personnel to receive communications from City staff during work hours. These communications must remain in operation until notified by City staff that sufficient material has been received to complete the day's Work.

D17. WAITING TIME

D17.1 Delivery of Items 1, 2 and 3 on Form B: Prices shall include twenty (20) minutes for unloading from the time of arrival at the job site. For each twenty (20) minute interval or portion thereof in excess of twenty (20) minutes, the Contractor will be paid waiting time at the unit price in Item 7 on Form B: Prices.

D17.2 Should the Contractor fail to insert a price for Waiting Time for Item 8 on Form B: Prices, it will be assumed that the Waiting Time has a unit rate of zero (0) and no additional payment will be applied.

D17.3 The Contractor shall submit a daily report of all waiting time incurred for each delivery truck. The report shall include, at a minimum:

- (a) the date of delivery;
- (b) the asphalt plant batch ticket number;
- (c) type of material;

- (d) purchase order number;
- (e) truck company name and truck unit number;
- (f) departure time from the asphalt plant;
- (g) arrival and departure time at job site; and
- (h) a breakdown itemizing the start and end of City-caused wait time and Contractor-caused wait time, in accordance with D17.4 and D17.5.

D17.3.1 The daily report shall be submitted to the Contract Administrator prior to 12:00 noon on the day following the delivery. The City may withhold payment for waiting time until adequate and complete reporting has been submitted.

D17.4 Waiting time shall be considered the responsibility of the City where delays are reasonably attributable to the City's operations. City-caused waiting time may occur under, but is not limited to, the following circumstances:

- (a) paving crews are transitioning between locations within the project limits;
- (b) the City is determining whether additional material is required at the end of a paving operation;
- (c) changes to the planned project location or sequence occur during the Work;
- (d) delays arise due to inclement weather affecting the City's ability to receive material.

D17.4.1 Waiting time identified as City-caused shall be recorded as such in the daily report submitted under D17.3.

D17.5 Waiting time shall be considered the responsibility of the Contractor where delays occur due to the Contractor's operations, equipment, or plant performance. Contractor-caused waiting time may occur under, but is not limited to, the following circumstances:

- (a) the Contractor's asphalt plant becomes inoperative due to breakdown or shutdown;
- (b) the Contractor is unable to load trucks at a rate sufficient to meet the City's scheduled paving operations or daily delivery requirements;
- (c) delays caused by inadequate staffing, equipment availability, or queue management at the plant;
- (d) any other operational issue within the Contractor's control that prevents timely loading or dispatch of trucks.

D17.5.1 Waiting time identified as Contractor-caused shall not be eligible for payment and shall be recorded accordingly in the daily report submitted under D17.3.

D18. WEEKEND SURCHARGES

D18.1 The City of Winnipeg may require hot mix asphalt on Saturday or Sunday for planned Weekend Work. In addition to the bid prices for the supply and delivery of hot mix asphalt, the Contractor will be paid a weekend surcharge for hot mix asphalt supplied on weekends. For each tonne of hot mix asphalt supplied and delivered on weekends, the Contractor will be paid a weekend surcharge at the unit bid price in Item 7 on Form B: Prices.

D19. NOTIFICATION OF PLANT BREAKDOWN

D19.1 The Contractor shall notify the Contract Administrator immediately whenever the Plant Facility becomes in-operative and shall provide an approximate time/date when the plant is expected to become operational.

D19.2 Upon receiving notification of a plant breakdown, the City may decide to shut down its paving operations **on the day of the plant breakdown** or may choose to arrange, at the Contractor's expense, to supply and deliver hot mix asphalt, from an alternate supplier. Should the City choose to arrange for an alternate supplier, the Contractor must provide a delivery service from

the chosen alternate source of supply at the same rate it would normally charge for delivery from their plant facility.

D19.3 Should the City require hot mix asphalt on the day after the plant breakdown and/or any days prior to the plant becoming operational again, the Contractor shall arrange, at his expense, for an alternate supply and delivery of hot mix asphalt, to meet the City's requirements until his plant becomes fully operational. The City will pay the Contractor, his bid price for the hot mix asphalt, under this arrangement.

D19.4 Should the Contractor not be able to secure an alternate supplier on the day following the breakdown, the City of Winnipeg will attempt to secure an alternate supplier. If the City of Winnipeg makes arrangements for an alternate supplier, the Contractor shall reimburse the City of Winnipeg for the difference in price between the Contractor's bid price and the price paid by the City for any hot mix asphalt.

D20. REJECTED LOADS

D20.1 It is the responsibility of the Contractor to dispose of any material not meeting relevant specifications and rejected by the City of Winnipeg.

D20.2 No payments will be made for rejected loads.

D21. SURPLUS ASPHALT

D21.1 In the event that any material ordered by the City of Winnipeg is not used, (i.e. paver breakdown, surplus material at end of job, etc.) the City of Winnipeg will make payment for the supply and delivery and applicable waiting time plus any weekend surcharge, but it shall be the responsibility of the Contractor to transport and dispose of such asphalt at no cost to the City of Winnipeg.

D22. ORDERS

D22.1 The Contractor shall provide a local Winnipeg telephone number or a toll-free telephone number at which orders for delivery may be placed.

D23. RECORDS

D23.1 The Contractor shall keep detailed records of the goods supplied under the Contract.

D23.2 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);
- (d) description and quantity of goods supplied;
- (e) purchase order; and
- (f) Summary of Asphalt Usage and Wait times as seen in table below.

D23.2.1 The Contractor shall provide the Contract Administrator with a copy of the records on the first Monday of every week.

MEASUREMENT AND PAYMENT

D24. INVOICES

D24.1 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.

D25. PAYMENT

D25.1 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.

D26. PAYMENT SCHEDULE

D26.1 Further to C10, payment shall be in Canadian funds net thirty (30) Calendar Days after receipt and approval of the Contractor's invoice.

WARRANTY

D27. WARRANTY

D27.1 Warranty is as stated in C11.

DISPUTE RESOLUTION

D28. DISPUTE RESOLUTION

D28.1 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 D28.

D28.2 The entire text of C19.4 is deleted, and amended to read: "Intentionally Deleted"

D28.3 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.

D28.4 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.
- D28.4.1 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.
- D28.4.2 As these negotiations are not an adjudicative hearing, neither party may have legal counsel present during the negotiations.
- D28.4.3 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.
- D28.4.4 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 D28.4.3, 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

D29. FUNDING AND/OR CONTRIBUTION AGREEMENT OBLIGATIONS

- D29.1 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.
- D29.2 Further to D29.1, in the event that the obligations in D29 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.
- D29.3 For the purposes of D29:
 - (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.
- D29.4 Modified Insurance Requirements
 - D29.4.1 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.
 - D29.4.2 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.

- D29.4.3 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.
- D29.4.4 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.
- D29.4.5 All policies must be taken out with insurers licensed to carry on business in the Province of Manitoba.
- D29.5 Indemnification By Contractor
- D29.5.1 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.
- D29.5.2 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.
- D29.6 Records Retention and Audits
- D29.6.1 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.
- D29.6.2 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 D29.6.1 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.
- D29.7 Other Obligations

- D29.7.1 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.
- D29.7.2 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.
- D29.7.3 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.
- D29.7.4 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.
- D29.7.5 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.
- D29.7.6 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.

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>Specification No.</u> | <u>Specification Title</u> |
|--------------------------|------------------------------------------------------------|
| CW 3410 Appendix A | Asphaltic Concrete Pavement Work Special Provision 2026 |

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 hot mix asphalt in accordance with the requirements hereinafter specified.

E2.2 Item No. 1 – Hot Mix Asphalt shall be MS1 (see E4; Special Provisions 2026)

E2.3 Item No. 2 – Hot Mix Asphalt shall be MS3 (see E4; Special Provisions 2026)

E2.4 Item No. 3 – Hot Mix Asphalt shall be SP1 (see E4; Special Provisions 2026)

E3. APPROVED PRODUCTS

E3.1 Applicable Specification.

E3.2 These Specifications shall apply to the Work.

E3.3 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.

E3.3.1 *The City of Winnipeg Standard Construction Specifications* is available on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division website at <http://www.winnipeg.ca/matmgt/Spec/Default.stm>

E3.3.2 The version in effect three (3) Business Days before the Submission Deadline shall apply.

E3.3.3 Further to C2.4(d), Specifications included in the Tender shall govern over The City of Winnipeg Standard Construction Specifications.

E3.4 The Contractor shall provide the Contract Administrator with the mix design statements for these items described on Form B: Prices and in accordance with **Asphalt Pavement Works Special Provision 2026 as seen in Appendix A** prior to the supply of material to the City within fifteen (15) Working Days after notification.

E3.5 The following are sections of CW 3410 that are applicable to the Work:

- (i) General Conditions;
- (ii) Description;
- (iii) Materials;
- (iv) Design Requirements for Asphaltic Concrete Paving Mix;
- (v) Supply of Asphaltic Concrete Paving Mix;

- (vi) Equipment; and
- (vii) Quality Control.

E3.6 The Contractor shall remove and replace at his cost any supplied asphalt material that has been placed and been found, to not meet the material properties of the Specification.

E4. SPECIAL PROVISION 2026

E4.1 The following are sections of Appendix A that are applicable to the Work:

- (a) Description;
- (b) Materials;
- (c) Design Requirements for Asphaltic Concrete Paving Mix;
- (d) Supply of Materials;
- (e) Equipment;
- (f) Construction Methods
- (g) Quality Assurance
- (h) Measurement and Payment.

Appendix A

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|
|  Winnipeg PUBLIC WORKS DEPARTMENT • SERVICE DES TRAVAUX PUBLICS Engineering Division • Division de l'ingénierie | | Special Provision 2026 |
| | | DIVISION 4 |
| Special Provision | ASPHALT PAVEMENT WORKS | |

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1. DESCRIPTION

1.1 General

- 1.1.1 This specification covers the requirements for the materials, equipment, and processes for proportioning and mixing hot mix asphalt (HMA) including warm mix asphalt (WMA), recycled mixes, and mixes for miscellaneous work in accordance with the Marshall and Superpave methods.
- 1.1.2 This Specification covers the preparation of hot/warm-mixed, hot/warm-laid, asphalt paving mixes for, and all placing operations relating to, the construction of asphalt pavements, overlays and other related pavement works.
- 1.1.3 The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all work as hereinafter specified.

1.2 Definitions

- 1.2.1 Hot Mix Asphalt (HMA) means hot mixed, hot laid asphalt. The terms are used interchangeably. HMA may include recycled or specialty mixes.
- 1.2.2 Warm Mix Asphalt (WMA) means warm mixed, warm laid asphalt produced using technologies that allow for the mixing, handling, and compaction of the asphalt concrete mixture at a temperature typically lower than conventional hot mix asphalt.
- 1.2.3 Lift means the compacted thickness of asphalt material laid in a single application.
- 1.2.4 Base Course means the layer of material between the sub-base and the pavement wearing surface.
- 1.2.5 SP1 means dense-graded asphalt mix using Superpave mix design for surface course. SP1 is intended for the reconstruction of expressways, major arterials, and minor arterials, industrial/commercial collectors, residential major collectors, as well as the paving of bridge decks. SP1 can also be used for asphalt overlay of expressways, major arterials, and minor arterials, where specified in the Contract Documents.
- 1.2.6 SP2 means dense-graded asphalt mix using Superpave mix design for intermediate and bottom lifts. SP2 is intended for the reconstruction of high traffic volume streets, including expressways, major arterials, minor arterials, industrial/commercial collectors as well as the paving of bridge decks.

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- 1.2.7 MS1 means dense-graded asphalt mix using Marshall mix design for surface course. MS1 is intended for the reconstruction of intermediate and low volume streets including residential minor collectors, residential local, public lanes, asphalt pathways and associated approaches. MS1 is also intended for asphalt overlay of all street classifications and the reconstruction or asphalt overlay of all approaches except where otherwise specified in the Contract Documents.
- 1.2.8 MS2 means dense-graded asphalt mix using Marshall mix design for intermediate and bottom lifts. MS2 is intended for intermediate and low volume streets including residential major or minor collectors, residential local, public lanes, asphalt pathways and associated approaches.
- 1.2.9 MS3 means a fine-graded asphalt mix using Marshall mix design intended for thin asphalt overlays and specialized surfaces such as basketball courts, tennis courts, driveways, sidewalks, boulevards, and other narrow or constrained paving areas.
- 1.2.10 Reclaimed asphalt pavement (RAP) means the processed HMA or WMA material that is recovered by partial or full depth removal.
- 1.2.11 Deleterious Material means soft or friable material that would decay or disintegrate from weathering including ironstone, porcelain, vegetation, organic material, wood, glass, alkali, plastic, metal, reinforcing steel, building rubble, brick, shale, mica, coal, clay lumps, and loam or other deleterious substances.
- 1.2.12 Job-Mix Formula (JMF) means the percentage passing on each designated sieve of the total mass of aggregate and the amount of asphalt cement as a percentage by mass of the mixture that are based on specified mix design procedures, and when mixed results in a paving mixture in accordance with this specification.
- 1.2.13 Mix Design means the design of the proportions of aggregates, asphalt cement, and additives that when uniformly mixed results in an acceptable asphalt mix in accordance with the specified method.
- 1.2.14 Performance Graded Asphalt Cement (PGAC) means an asphalt binder that is asphalt-based cement produced from petroleum residue, either with or without the addition of non-particulate modifiers, in accordance with AASHTO M320.
- 1.2.15 Superpave means the method for specifying material components and asphalt mix design using the Superpave Gyratory Compactor (SGC).

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1.2.16 Effective Asphalt Cement is the portion of asphalt binder in hot and warm asphalt mixes that remains effective (available) to coat aggregate particles and provide binding after subtracting the asphalt absorbed into the aggregate.

1.2.17 Joint means a vertical contact between a new asphalt pavement course and any existing asphalt pavement or any rigid object that exists at the time the HMA is laid.

1.2.18 Prime Coat means application of emulsified asphalt cement on a granular surface.

1.2.19 Tack Coat means application of emulsified asphalt cement on existing asphalt or portland cement concrete pavement prior to overlay, or between layers of new bituminous pavement.

1.2.20 Prime coat has cured when water has totally separated from the emulsified asphalt. Prime coat is required to fully set and not remain tacky before placing asphalt.

1.2.21 Tack coat break is when water has separated enough from the emulsified asphalt to show a color change from brown to black and remain tacky. Tack coat is not required to fully cure; however, asphalt placement shall not proceed until the emulsion has broken and sufficient bond can be achieved without pickup or tracking.

1.2.22 Segregation means a condition of the pavement characterized by areas with comparatively coarser texture than that of the surrounding pavement.

1.2.23 Lot means a specific quantity of material, approximately 150 tonnes or less, from a single source and produced by the same process within a single operational day. Actual size of Lot may vary based on scaled quantities delivered to the road.

2. MATERIALS

2.1 Handling and Storage of Materials

2.1.1 All asphalt constituent materials shall be stored in a manner that will prevent contamination or deterioration. Access to the storage facilities shall be provided for inspection by the Contract Administrator.

2.1.2 All fabricated and incidental materials, such as anti-stripping, prime coat, tack coat, etc., shall be stored in accordance with the manufacturer's instructions.

2.1.3 The Contract Administrator shall approve all materials before any construction is undertaken. If, in the opinion of the Contract Administrator, such materials, in whole or in part, do not conform to this Specification or are found to be defective in manufacture or have become damaged in transit, storage or handling operations, then such material

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shall be rejected by the Contract Administrator and replaced by the Contractor at his own expense. There shall be no charge to the City for any materials taken for testing purposes.

2.2 Aggregate

2.2.1 Aggregate shall consist of crushed stone or gravel or a combination of these materials conforming to the requirements of this Specification.

2.2.1.1 Each of the fine- and coarse-fractions of the combined aggregate shall meet all the requirements of this Specification and shall be handled and weighed separately to maintain uniformity. The supplier shall provide the City of Winnipeg, Research and Standards Engineer with test data demonstrating that the material will produce asphalt mixes of acceptable quality that meet all the requirements of this Specification.

2.2.1.2 Aggregates shall be hard and durable fragments with a maximum of 2% deleterious materials in both coarse and fine aggregates in accordance with ASTM Standard C142, Standard Test Method for Clay Lumps and Friable Particles in Aggregate and ASTM C123/C123M - Standard Test Method for Lightweight Particles in Aggregate by Washing as well as visual inspection of aggregates to identify deleterious materials.

2.2.1.3 The combined aggregate gradation and physical properties shall comply with the requirements in Table CW 3410.1.



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TABLE CW 3410.1 - Combined Aggregate Gradation and Physical Properties Limits

| Sieve Size, mm | Test Method | SP1 | SP2 | MS 1 | MS 2 | MS 3 | |
|---------------------------------------------------|-------------------------------------------|------------------------------------------------|------------|------------|------------|-----------|-----|
| | | Percent of Total Dry Weight Passing Each Sieve | | | | | |
| 19.0 | | -- | 100% | -- | 100% | -- | |
| 16.0 | | 100% | 90% - 100% | 100% | 90% - 100% | -- | |
| 12.5 | | 90% - 100% | 70% - 90% | 90% - 100% | 75% - 95% | -- | |
| 9.5 | ASTMC 136 or ASTM D5444 (Note 1) | 75% - 90% | 60% - 80% | 75% - 90% | 70% - 90% | 100% | |
| 4.75 | | 48% - 70% | 40% - 62% | 48% - 70% | 55% - 70% | 90% - 95% | |
| 2.36 | | 28% - 58% | 23% - 50% | 28% - 58% | 35% - 55% | 74% - 80% | |
| 1.18 | | 19% - 40% | 15% - 35% | 19% - 40% | 28% - 46% | 55% - 64% | |
| 0.60 | | 13% - 30% | 10% - 22% | 13% - 30% | 17% - 32% | 35% - 46% | |
| 0.15 | | 4% - 15% | 4% - 14% | 4% - 15% | 4% - 12% | 11% - 30% | |
| 0.075 | | 2% - 8% | 2% - 8% | 2% - 8% | 3% - 10% | 5% - 11% | |
| Fine Aggregate Angularity, %min (Note 2) | | ASTM C1252 – Method A | 45% | 45% | 40% | 40% | 40% |
| Clay Content (Sand Equivalency), %min (Note 3) | | ASTM D2419 | 45% | 45% | 45% | 40% | 40% |
| Crush Count, %min (2 Fractured Faces) (Note 4) | | ASTM D5821 | 95% | 80% | 80% | 80% | 80% |
| Flat and Elongated Particles, % Max | ASTM D4791 | 6% | 10% | -- | -- | -- | |
| Absorption, %max | ASTM C127 | 2% | 2% | 2% | 2% | 2% | |
| Abrasion, %max (Note 4) | ASTM C131 | 35% | 35% | 35% | 35% | 35% | |
| Micro-Deval, %max (Note 4) | ASTM D6928 | 15% | 15% | 15% | 17% | 15% | |
| Soundness (Note 5) | ASTM C88 | Note 3 | Note 3 | Note 3 | -- | -- | |
| Lightweight Particles Content, %max (Note 6) | ASTM C123 | 3% | 5% | 3% | 5% | 3% | |


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- Note 1: ASTM C136 shall be used for determining the particle size distribution of fine and coarse virgin aggregates while ASTM D5444 shall be used for determining the particle size distribution of extracted aggregates from bituminous mixtures.
- Note 2: Test criteria shall apply for fine aggregates passing 4.75mm sieve. Test results shall be based on combined aggregates prior to the addition of RAP. Fine Aggregate Angularity (FAA) of 43% is acceptable, provided the mix complies with all other specified requirements.
- Note 3: Test results shall be conducted on the combined aggregate mix before the addition of Reclaimed Asphalt Pavement (RAP).
- Note 4: Test criteria shall apply for coarse aggregates retained on 4.75 mm sieve.
- Note 5: Soundness - Coarse aggregate when subjected to five cycles of the soundness test shall have a weighted loss of not more than twelve (12) percent when sodium sulphate is used or not more than eighteen (18) percent when magnesium sulphate is used in accordance with ASTM Standard C88, Test for Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate.
- Note 6: The lightweight particle content is the percentage of lightweight particles by weight of all particles retained on 4.75mm sieve.

2.2.1.4 Quarried limestone and dolomite shall not be acceptable as asphalt aggregate materials for **Superpave mixes** and MS1 surface lifts.

2.3 Asphalt Cement

- 2.3.1 Asphalt cement shall be performance graded asphalt cement in accordance with AASHTO M 320 unless otherwise specified in the Contract Documents.
- 2.3.1.1 Use only those materials listed as Approved Products for Surface Works. The Approved Products are available in Adobe Acrobat (.pdf) format at the City of Winnipeg, Corporate Finance, Material Management Internet site at:
<https://legacy.winnipeg.ca/matmgt/spec/default.stm>
- 2.3.2 The PGAC shall be homogeneous, free of water and any contamination, and shall not foam when heated to the temperatures specified by the manufacturer for the safe handling and use of the product. It shall be shipped, used, and always handled in accordance with the manufacturer's specifications.
- 2.3.3 All PGAC shall be in accordance with AASHTO M 320 when tested using the methods designated in AASHTO R29, Test Procedure for Grading an Unknown Asphalt Binder and continuous grading temperatures and reported continuous grading temperatures rounded to the nearest 0.1 °C.
- 2.3.4 Grades shall be tested at a temperature of 58 °C to determine the average percent recovery at 3.2 kPa ($R_{3.2}$) in accordance with the requirements of AASHTO T350 Multiple Stress Creep Recovery (MSCR) Test using a Dynamic Shear Rheometer. The minimum MSCR Elastic Recovery shall be 25%.

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2.3.5 The PGAC performance grading test result requirements shall be

- Equal to or above XX* and equal to or below -YY*; or
- ≤ 0.5 °C below XX and ≤ 0.5 °C above -YY

Where *XX is the specified high temperature performance grade and design maximum pavement temperature and -YY is the specified low temperature performance grade and design minimum pavement temperature.

2.3.6 The PGAC shall comply with the performance grading requirements in Table CW 3410.2.

Table CW 3410.2: Minimum Categories for PGAC

| Asphalt Type | | Specified Standard Grade* |
|--------------|-----|---------------------------|
| Top lift | SP1 | PG 64-34P |
| | MS1 | PG 58-34 |
| | MS3 | PG 58-34 |
| Other lifts | SP2 | PG 58-34P |
| | MS2 | PG 58-34 |

2.4 Mineral Filler

2.4.1 Mineral filler, when required, shall consist of finely divided mineral matter such as rock dust, slag dust, hydrated lime, hydraulic cement, fly ash, loess or other suitable mineral matter, and shall conform to the requirements of ASTM Standard D242, Standard Specification for Mineral Filler for Bituminous Paving Mixtures. Mineral filler shall be free from organic matter and shall be non-plastic when tested in accordance with ASTM D2974 Standard Test Methods for Determining the Water (Moisture) Content, Ash Content, and Organic Material of Peat and Other Organic Soils

2.5 Incidental Materials

2.5.1 Prime Coat

2.5.1.1 Prime coat shall consist of an emulsified asphalt. Method of application shall conform to the manufacturer's recommendations.

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

<https://legacy.winnipeg.ca/matmgt/spec/default.stm>

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2.5.2 Tack Coat

2.5.2.1 Tack coat shall consist of emulsified asphalt. Method of application shall conform to the manufacturer's recommendations.

2.5.2.2 Use only those materials listed as Approved Products for Surface Works. The Approved Products are available in Adobe Acrobat (.pdf) format at the City of Winnipeg, Corporate Finance, Material Management Internet site at:
<https://legacy.winnipeg.ca/matmgt/spec/default.stm>

2.5.3 Reclaimed Asphalt Pavement (RAP)

2.5.3.1 Reclaimed asphalt pavement shall consist of sound durable particles produced by crushing and screening.

2.5.3.2 RAP is not permitted in Superpave mixes.

2.5.3.3 Up to 10% by mass of RAP is permitted in MS1 where used as a surface course.

2.5.3.4 Up to 15% by mass of RAP is permitted in MS1 and MS2 where used in lifts other than surface course.

2.5.3.5 RAP shall be blended during production of the asphalt and the mix produced shall consist of a uniform blend of all materials.

2.5.3.6 All physical requirements and combined aggregate gradation limits shall meet the requirements of Table CW 3410.1.


2.5.4 Recycled Asphalt Shingles (RAS)

2.5.4.1 RAS shall be blended during production of the asphalt and the mix produced shall consist of a uniform blend of all materials.

2.5.4.2 RAS shall consist of sound durable particles produced from recovered organic asphalt, shingles, asphalt caps and asphalt rolled roofing. Fiberglass shingles are not permitted.

2.5.4.3 RAS material can be incorporated to a maximum 3% by weight of the total mix into MS1, MS2, and SP2 where used in lifts other than surface course.

2.5.4.4 RAS particles shall be a maximum size of 10mm and shall otherwise meet the gradation requirements in Table CW 3410.1.

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2.5.4.5 RAS shall be free of chemical contaminants. Deleterious substances shall be a maximum of 3% of RAS by weight. Deleterious substances include fiberglass shingles, metal, glass, rubber, nails, soil, brick, tars and asbestos.

3. DESIGN REQUIREMENTS FOR ASPHALT PAVING MIX

3.1 Testing Laboratories

3.1.1 The City of Winnipeg, Research and Standards Engineer will maintain a list of approved Testing Laboratories. To obtain approval, Testing Laboratories must submit the following information to the Research and Standards Engineer annually prior to April 1st:

3.1.1.1 Valid Category "B" Asphalt laboratory certification or higher by Canadian Council of Independent Laboratories (CCIL);

3.1.1.2 A complete list of the certified testing; and,

3.1.1.3 List of the field personnel and their qualifications.

3.2 Asphalt Suppliers

3.2.1 Asphalt suppliers must submit the following information to the Research and Standards Engineer three weeks prior to paving:

3.2.1.1 Asphalt suppliers Approval Guidelines and Application is available at the City of Winnipeg, Corporate Finance, Material Management Division website at;

<https://legacy.winnipeg.ca/matmgmt/spec/default.stm>

3.2.1.2 Names of suppliers and sources for all materials and admixtures;

3.2.1.3 Asphalt mix designs. The mix design shall be completed by an approved laboratory with CCIL Type "A" certification based on the asphalt type;

3.2.1.4 Copies of valid scale calibration reports for the asphalt batch plant;

3.2.1.5 Test data for aggregates (in accordance with Clause 2.2);

3.2.1.6 Sieve analysis test reports for the individual aggregates and the combined aggregate gradations to be used in the asphalt. The sieve analysis test reports shall be representative of the material to be used during asphalt production;

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3.2.1.7 Test data for asphalt cement (in accordance with Clause 2.3) and the following items shall be submitted:

3.2.1.7.1 The PGAC supplier and location that the product shall be supplied from;

3.2.1.7.2 All documentation from the PGAC supplier confirming the grade of PGAC;

3.2.1.7.3 Applicable mixing and compaction temperatures for the product;

3.2.1.7.4 The minimum temperature of the mix immediately after spreading as recommended by the PGAC supplier; and,

3.2.1.7.5 Documentation of construction, storage, and handling requirements, including the material safety data sheet, recompaction temperature, and mix discharge temperature.

3.2.1.8 Performance data from trial batches prior to construction to demonstrate the asphalt mix will achieve the performance criteria in Table CW 3410.4 and Table CW 3410.5. Three (3) separate sets of test results from a trial batch will be required for approval of the corrected mix design statement;

3.2.1.9 Quality control program for all materials, including a proposed sampling and testing plan in accordance with Clause 3.4;

3.2.1.10 The supplier shall hold a valid development license issued in accordance with the Manitoba Environment Act for the operation of the Bituminous Mix plant. The plant shall be located and operated in accordance with the terms and conditions of the license; and,

3.2.1.11 The supplier shall control dust at the plant site in accordance with health, safety and environmental requirements.

3.2.2 The City of Winnipeg, Research and Standards Engineer will conduct inspections at least once a year during production. Samples of materials may be taken and tested.

3.2.3 Testing for qualification or acceptance purposes shall be done in accordance with this Specification and applicable test procedures and standard practices. There shall be no charge for any materials taken for testing purposes.

3.2.4 Changes in the source of any asphalt constituent materials will not be permitted without approval of the City of Winnipeg, Research and Standards Engineer. For new sources, all materials shall be tested.

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- 3.2.5 Once approved, all asphalt shall be supplied in accordance with the approved Mix Design Statement. No changes in the asphalt mix designs will be permitted without written permission from the City of Winnipeg, Research and Standards Engineer.
- 3.2.6 Any change in the constituent materials of the asphalt shall require a new asphalt mix design.
- 3.2.7 No asphalt supply or placement shall proceed until the asphalt cement submittal, mix design and Job Mix Formula are approved.

3.3 Asphalt Mix Design and Job Mix Formula

- 3.3.1 The Mix Design for all asphalt types shall be submitted to the City of Winnipeg, Research and Standards Engineer for approval. The mix shall be proportioned to produce asphalt in accordance with the requirements of Table CW 3410.3 or Table CW 3410.4.

Table CW 3410.3: Marshall Mix Requirements

| Mix Properties | MS1 | MS2 | MS3 |
|---------------------------------------|--------------|--------------|--------------|
| Asphalt Cement, % total sample weight | 5.3% to 6.5% | 5.0% to 6.0% | 5.5% to 6.5% |
| Effective Asphalt Cement, %min | 4.8% | 4.5% | 4.8% |
| Voids in Mineral Aggregate, %min | 14% | 13% | 16% |
| Voids Filled with Asphalt (%) | 67% to 78% | 67% to 75% | 67% to 78% |
| Air Voids | 3.0% to 5.0% | 3.0% to 5.0% | 3.0% to 5.0% |
| Marshall Stability, kN at 60°C | 8 min. | 8 min. | 5 min. |
| Flow Index, units of 250 µm | 8.0 to 14.0 | 8.0 to 16.0 | 8.0 to 16.0 |

Note: The mix shall be designed using 75 blows per side of the test specimen with manual compaction hammer or a mechanical equivalent device.


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Table CW 3410.4: Superpave Mix Requirements

| Mix Properties | | | SP1 | SP2 |
|--------------------------------------------------------|----------------------|--------------------------------------|-----------|-----------|
| % of Theoretical Maximum Specific Gravity | | Mix Gyratory Compaction Requirements | | |
| | N _{initial} | 8 | ≤ 89.0 | ≤ 90.5 |
| | N _{design} | 100 | 96.0 | 96.0 |
| | N _{max} | 160 | ≤ 98.0 | ≤ 98.0 |
| Voids in Mineral Aggregate, %min | | | 14 | 13 |
| Voids Filled with Asphalt, % | | | 67 – 75 | 65 – 75 |
| Air Voids, % | | | 3.8 – 4.2 | 3.8 – 4.2 |
| Dust to Binder Ratio | | | 0.6 – 1.2 | 0.6 – 1.2 |
| Minimum Tensile Strength Ratio (TSR), % (AASHTO T283)* | | | 80% | 70% |
| Asphalt Cement, %min total sample weight | | | 4.8% | 4.6% |
| Effective Asphalt Cement, %min | | | 4.5% | 4.3% |

* If the specified TSR is not met, an approved anti-stripping additive shall be incorporated into the mix at a rate recommended by the anti-strip manufacturer and approved by the City of Winnipeg, Research and Standards Engineer.

- 3.3.2 If the deviation between QA results and JMF exceeds those identified in Table CW 3410.5, the asphalt supplier shall submit new Mix Design(s) to the City of Winnipeg, Research and Standards Engineer for approval.

Table CW 3410.5: Maximum Deviation from JMF

| Mix Properties | Maximum Deviation Between the QA Results and JMF, % |
|-----------------------------------------------------------|-----------------------------------------------------|
| Asphalt Cement | ± 0.3 |
| Effective Asphalt Cement | ± 0.3 |
| RAP | ± 5 |
| Passing 16.0 mm, 12.5 mm, 9.5 mm sieves | 5.0 |
| Passing 4.75 mm, 2.36 mm, 1.18 mm, 0.6 mm, 0.15 mm sieves | 3.0 |
| Passing 0.075 mm sieve | 1.0 |

- 3.3.3 The mix design shall be valid for a maximum of twelve (12) months from when the mix design was developed. To extend use of the mix design beyond the initial twelve (12) months, a minimum of one test of each property listed in Section 3 shall be submitted to the City of Winnipeg, Research and Standards Engineer for approval. A full mix design shall be submitted every three years.

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3.4 Plant Quality Control

- 3.4.1 The asphalt supplier shall be responsible for quality control of the plant to ensure all materials meet the approved mix designs. This information shall be submitted monthly and will be monitored by the City of Winnipeg, Research and Standards Engineer. Failure to submit the quality control results shall be cause for immediate suspension of the asphalt supplier.
- 3.4.2 Quality Control testing shall be conducted by a laboratory certified in accordance with the requirements of Clause 3.1 and approved by the City of Winnipeg, Research and Standards Engineer.
- 3.4.3 The quality control program shall include all testing in accordance with Sections 2 and 3 of this Specification. A minimum of one test for aggregate gradation and asphalt materials shall be provided monthly during production.
- 3.4.4 Testing of any asphalt constituent materials may be undertaken by a testing laboratory designated by the City of Winnipeg, Research and Standards Engineer. The asphalt supplier shall be equipped with suitable means or a device for obtaining a representative sample of the asphalt cement. Any material which fails to comply with the requirements of this specification will be rejected. Material that has been rejected must be removed immediately by the asphalt supplier.


4. **SUPPLY OF MATERIALS**

4.1 General

- 4.1.1 All asphalt suppliers shall be approved by the City of Winnipeg, Research and Standards Engineer. A list of approved asphalt suppliers is available at the City of Winnipeg, Corporate Finance, Material Management Division website at:
<https://legacy.winnipeg.ca/matmgt/spec/default.stm>
- 4.1.2 Unless otherwise specified, only use of stationary asphalt mixing plants will be permitted.

4.2 Aggregate

- 4.2.1 The different sizes of aggregate used shall be kept separate and adequate provision shall be made to keep them from becoming mixed or otherwise contaminated.
- 4.2.2 Where blending of materials from one or more sources and/or sizes, each material shall be placed in separate stockpiles.

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4.2.3 Separate aggregate feeds capable of delivering a uniform flow of material to the dryer shall be provided for each separate stockpile of aggregate, RAP, supplementary material and VMA additive used to produce the asphalt mix.

4.2.4 The aggregates shall be dried at a minimum temperature of 135°C before mixing with the asphalt.

4.3 Asphalt Cement


4.3.1 The asphalt cement shall be heated in a storage tank to a temperature that falls within the mixing temperature range recommended by the asphalt cement manufacturer. The mixing temperature shall be based on the temperature-viscosity curve for the asphalt cement and shall be sufficient to produce a uniform and homogeneous mixture in which all particles of the aggregate are thoroughly and uniformly coated. All information related to the asphalt cement shall be made available to the Contract Administrator upon request.

4.3.2 The asphalt cement shall be heated at the plant to a maximum temperature of 160°C before mixing with the aggregates. In no case shall the temperature of the asphalt and aggregates differ by more than 15°C when placed in the mixing drum.

4.4 Transportation of Asphalt Paving Mix

4.4.1 The mixture shall be transported from the plant to the site in trucks with metal bottoms previously cleaned of all foreign materials. If required, truck boxes shall be lightly coated with a uniform application of a non-petroleum-based asphalt release agent. The release agent shall conform to the Manufacturer's specifications and approved by the Contract Administrator. Excess lubricants shall be removed before trucks are loaded with asphalt. Release agents that adversely affect the quality or performance of the asphalt mix shall not be used.

4.4.2 The trucks shall be suitably insulated, as required. Each vehicle shall be equipped with a tarpaulin or other suitable covering material of sufficient size to overhang the truck box on three sides when the vehicle is fully loaded. Such tarpaulins shall be on the truck at all times and shall be used to cover the mixture completely as directed by the Contract Administrator.

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5. EQUIPMENT

5.1 General

5.1.1 All equipment shall be of a type approved by the Contract Administrator. The equipment shall be in good working condition for the duration of the Contract.

5.2 Prime/Tack Coat Distributors

5.2.1 For main lane paving, prime/tack coat shall be applied using self-propelled or tow-along pressure distributors capable of applying the product at the specified rate and in a continuous and uniform manner both longitudinally and transversely for the full lane width.

5.2.2 The distributors shall be equipped with a volume metering system of sufficient sensitivity to measure the quantity of tack/prime coat. The metering system shall be calibrated annually and all the certifications shall be made available to the Contract Administrator upon request. The distributors shall contain a thermometer for measuring the temperature of the tank contents.

5.2.3 All nozzles shall be set in the spray bar such that the nozzle slots make an angle between 15° to 30° with the longitudinal axis of the spray bar. Clogged nozzles shall be removed and cleaned with solvent before being used.


5.2.4 The use of a hand-held pressure applicator is acceptable only for prime/tack coating of small or irregularly shaped areas such as cuts, approaches, etc.

5.3 Mechanical Pavers

5.3.1 Asphalt pavers shall be self-propelled and capable of laying a consistent lift which is true to the specified geometrics, cross-section and alignment. Pavers shall be equipped with hoppers and distributing screws capable of placing the hot mix evenly in front of the screeds.

5.3.2 Asphalt pavers shall be equipped with automatic longitudinal and transverse grade and slope controls which are capable of being operated from either side of the paver. The longitudinal grade control shall be readily adjustable for lift thickness in small increments without the necessity of stopping the paver.

5.3.3 The use of any paver that is experiencing difficulty in achieving a consistent and smooth lift in conformance with this Specification shall be discontinued until the Contractor demonstrates suitable corrective measures.

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5.4 Rollers

- 5.4.1 A rolling pattern shall be established and submitted by the Contractor to the Contract Administrator for approval before paving. The Contract Administrator shall approve any deviation from the rolling pattern during construction.
- 5.4.2 The Contract Administrator shall be provided with the mass of the rollers and may require they be weighed.
- 5.4.3 Rollers shall be classified into categories in accordance with Table CW 3410.6.

Table CW 3410.6: Roller Classifications


| Type | Description | Classification | Minimum Mass, tonnes |
|---------|-----------------------------------------------------------------------------------|----------------|----------------------|
| Class S | Self-propelled steel-drum roller | S1 | 7 |
| | | S2 | 9 |
| Class R | Self-propelled pneumatic-tired rollers Or Self-propelled combination roller | R1 | 8 |
| | | R2 | 15 |
| Class V | Self-propelled vibratory roller | V1 | 4 |
| | | V2 | 5.2 |
| | | V3 | 5.8 |

- 5.4.4 Rollers shall be equipped with an automatic device that prevents the drum from vibrating unless the roller is moving and shall automatically halt vibration before coming to a stop. Frequency of vibration shall not be less than 2200 per minute. Vibration should not be used where there is potential to damage services and structures, or cause nuisance complaints as directed by the Contract Administrator.

6. CONSTRUCTION METHODS

6.1 General

- 6.1.1 All construction methods shall conform to this Specification, except as otherwise approved by the Contract Administrator.

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6.2 Preparation of Base Course for Asphalt Pavement

6.2.1 General

6.2.1.1 Placing of the asphalt mixture shall not commence until the construction of the sub-grade, sub-base and Base Course has been completed in accordance with the requirements of Specification CW 3110, and the installation of pavement and boulevard structures and appurtenances has been completed to the satisfaction of the Contract Administrator.

6.2.1.2 Where Base Course has raveled, the loose material shall be removed or recompact to a uniform surface.

6.2.2 Prime Coat


6.2.2.1 Application of prime coat shall consist of flushing the final accepted Base Course layer with diluted emulsified asphalt. Use an equal volume of water to dilute the emulsified asphalt unless otherwise specified by the Contract Administrator. Surfaces to be prime coated shall be free of standing water and contamination, such as mud, loose aggregate, or debris.

6.2.2.2 The application rate of undiluted prime shall be between 0.5 to 1.0 L/m² and shall be approved by the Contract Administrator.

6.2.2.3 Prime coat shall be placed with sufficient time to **cure** prior to paving. Asphalt mix shall not be placed on prime coated areas until the prime coat is fully **cured** for a minimum of eight (8) hours and until prime coat cannot be tracked by foot traffic and tires. Paving and construction equipment shall not be permitted onto the prime coat until it has fully **cured** and set. Traffic shall not be permitted on the prime coat.

6.2.2.4 Prime coat shall be visually uniform. Prime coat shall be reapplied to areas of insufficient or non-uniform coverage. A hand spray can be used to apply prime coat to areas missed or inaccessible by the distributor. When prime coating is performed using hand spray, the visual appearance of such areas shall be consistent with the adjacent areas.

6.2.2.5 Prime coat shall not be applied when the weather is foggy or rainy or when the ambient temperature is less than 0°C. If the ambient temperature is less than 0°C as forecast by the nearest official meteorological office, the product used for prime coat shall be approved by the Contract Administrator.


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- 6.2.2.6 Before applying the prime coat, the surface shall be flushed with water to create optimal conditions for adhesion, absorption control, and overall effectiveness of the prime coat and shall be approved by the Contract Administrator.
- 6.2.2.7 After curing, if any excess primer remains on the surface, the Contractor shall apply an approved sand where necessary to blot up the excess prime. The sand cover, where used, shall consist of clean, granular, mineral material approved by the Contract Administrator, all of which shall pass a 4.75 mm sieve. Only sufficient sand shall be spread to blot up excess prime and such areas shall be broomed to remove the excess sand prior to paving.
- 6.2.2.8 Prime coat shall be inspected and approved by the Contract Administrator before any asphalt is placed. Otherwise the asphalt shall be rejected by the Contract Administrator and shall be removed by the Contractor at his own expense.
- 6.2.2.9 When traffic flow must be maintained, prime coat shall be applied to one direction of the roadway at a time. No prime coat shall be applied to the other direction of the roadway until the first direction has cured to accommodate vehicular traffic.

6.3 Preparation of Asphalt or Portland Cement Concrete Pavement for Asphalt Overlay

6.3.1 Asphalt Surface Pavement

- 6.3.1.1 A layer of the existing asphalt surface course shall be removed to such depth as is specified on the Drawings or as directed by the Contract Administrator. This work will be done and paid for in accordance with Specification CW 3450.
- 6.3.1.2 If the entire existing asphalt overlay is removed to the existing portland cement concrete pavement, the preparation of the existing Portland cement concrete pavement for asphalt overlay shall be in accordance with Section 6.4 of this Specification.
- 6.3.1.3 If the surface remaining after the removal of the specified layer of asphalt surface course is asphalt, the Contractor shall proceed to fill any remaining holes and depressions with asphalt paving mixture and compact these areas with a steel wheel roller before paving. The asphalt surface upon which the asphalt overlay is to be placed shall be approved by the Contract Administrator prior to placing asphalt.
- 6.3.1.4 At the locations designated on the Drawings and at any other locations designated by the Contract Administrator, the Contractor shall adjust existing structures and appurtenances, reconstruct sections of curb, seal all cracks and do other repair works as required. The adjustment of existing structures and appurtenances shall be done and paid for in accordance with Specification CW 3210, and the curb renewal, crack

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sealing and other repair works shall be done and paid for in accordance with Specifications CW 3230, CW 3240, and CW 3250.

6.3.2 Portland Cement Concrete Pavement Surface

6.3.2.1 At the locations designated on the Drawings and at any other locations designated by the Contract Administrator, the Contractor shall adjust existing structures and appurtenances, reconstruct sections of concrete pavement, reconstruct sections of curb, seal all joints and cracks and do other repair works as required. The adjustment of existing structures and appurtenances shall be done and paid for in accordance with Specification CW 3210, and the pavement reconstruction, curb renewal, joint and crack sealing and other repair works shall be done and paid for in accordance with Specifications CW 3230, CW 3240, and CW 3250.

6.3.3 Tack Coat

6.3.3.1 Application of tack coat shall consist of flushing the final accepted surface with undiluted emulsified asphalt. Surfaces to be tack coated shall be free of standing water and contamination, such as mud, loose aggregate, or debris.


6.3.3.2 Tack coat shall be applied following the application rate in accordance with Table CW 3410.7, unless otherwise specified by the Contract Administrator.

Table CW 3410.7: Application Rate for Tack Coat

| Surface Type | Application Rate, L/m ² | Max Allowable Tolerance, L/m ² |
|---------------------------------------------------------------------|---------------------------------------|----------------------------------------------|
| New Asphaltic pavement | 0.25 | 0.03 |
| Old Asphaltic pavement, Portland Cement Concrete, Milled Surface | 0.35 | 0.05 |

6.3.3.3 Tack coat shall be placed with sufficient time to **break** prior to paving. Asphalt mix shall not be placed on tack coated areas until the tack coat is **broken** for a minimum of three (3) hours or until tack coat cannot be **entirely** tracked by foot traffic and tires. If trackless tack is used, the **breaking** time can be reduced in accordance with the manufacturer's specifications unless otherwise specified by the Contract Administrator. Paving and construction equipment shall not be permitted onto the tack coat until it has **broken**. Traffic shall not be permitted on the tack coat.

6.3.3.4 Tack coat shall be visually uniform. Areas of insufficient or non-uniform tack coat coverage shall be re-sprayed. Hand spray can be used to apply tack material to areas missed or inaccessible by the distributor including curb areas attached to the asphalt.

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When tack coating is performed using hand spray, the visual appearance of such areas shall be consistent with the adjacent areas of machine applied material.

6.3.3.5 Tack coat shall not be applied when the weather is foggy or rainy or when the ambient temperature is less than 5°C. If the ambient temperature is less than 5°C as forecast by the nearest official meteorological office, the product used for tack coat shall be approved by the Contract Administrator.

6.3.3.6 Tack coat shall be inspected and approved by the Contract Administrator before any asphalt is placed. Otherwise the asphalt shall be rejected by the Contract Administrator and shall be removed by the Contractor at his own expense.

6.4 Placing Asphalt Paving Mixture

6.4.1 General

6.4.1.1 The Contract Administrator shall approve the surface upon which new asphalt is to be placed before paving operations may begin.


6.4.1.2 The mixture shall be delivered to the job and placed at a temperature that allows for proper compaction, taking into consideration the weather conditions, the temperature of the surface on which the mixture is to be placed, and the thickness of the lift. In no case shall the asphalt mixture be placed at a temperature lower than the values specified in Table CW 3410.8.

Table CW 3410.8: Limits for Asphalt Mixes Temperatures

| Asphalt Type | Temperature for Asphalt before Placing, °C | | Minimum Temperature During Rolling, °C |
|--------------|--------------------------------------------|---------|----------------------------------------|
| | Minimum | Maximum | |
| HMA | 125 | 160 | 90 |
| WMA | 115 | 155 | 80 |

6.4.1.3 Unless otherwise permitted by the Contract Administrator, the mixture shall be spread by means of a mechanical self-powered paver capable of spreading the mixture true to the line, grade and crown required.

6.4.1.4 Pavers shall be equipped with hoppers and distributing screws of the reversing type to place the mixture evenly in front of adjustable screeds. The mixture shall be dumped in the centre of the hoppers and care exercised to avoid overloading and slopping over of the mixture upon the base.

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- 6.4.1.5 When laying the mixture, pavers shall operate so as to provide as continuous an operation as possible at a speed of between three meters and six meters per minute. They shall be equipped with a quick and efficient steering device and shall have forward and reverse travelling speeds of not less than 25 meters per minute.
- 6.4.1.6 Pavers shall be capable of spreading the mixture, without segregation, in thicknesses as specified on the Drawings or approved by the Contract Administrator. Placement widths shall vary from a minimum of 1.5 meters to a maximum of 4.5 meters unless approved by the Contract Administrator. They shall be equipped with blending or joint levelling devices for smoothing and adjusting all longitudinal joints between strips or courses of the same thickness. Pavers shall be equipped with screeds.
- 6.4.1.7 The term screed includes any strike-off device operated at workable temperature without tearing, shoving or gouging the finished surface.
- 6.4.1.8 The minimum and maximum thickness of a compacted lift for reconstruction shall be in accordance with Table CW 3410.9, unless otherwise specified by the Contract Administrator.


Table CW 3410.9: Lift Thicknesses

| Mix Type | Thickness, mm | |
|----------|---------------|---------|
| | Minimum | Maximum |
| MS1 | 35 | 55 |
| MS2 | 50 | 75 |
| MS3 | 25 | 40 |
| SP1 | 35 | 55 |
| SP2 | 50 | 75 |

- 6.4.1.9 No construction traffic shall travel on the finished surface until the surface has cooled to a temperature of 60°C or less.

6.4.2 Main Line Paving

- 6.4.2.1 Main line paving shall include the placement of bottom and top lifts for asphalt pavements and overlays utilizing mechanical pavers with automatic grade control for:
 - 6.4.2.1.1 All through and parallel turning lanes greater than 15.0 meters in length;
 - 6.4.2.1.2 Other lanes greater than 15.0 metres in length; and,
 - 6.4.2.1.3 Intersections through which the main line continues.

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6.4.2.2 Main line paving with mechanical pavers shall utilize automatic grade control, except for:

6.4.2.2.1 Intersections through which the main line continues and where traffic must be maintained; and,

6.4.2.2.2 The side of the paver adjacent active traffic.

6.4.2.3 Hand placement shall be minimized. Hand placed asphalt shall be spread and compacted to match the finished grade to the satisfaction of the Contract Administrator.

6.4.3 Tie-Ins and Approaches

6.4.3.1 Tie-ins and approaches shall include the placement of leveling and surface courses for pavements and overlays for all areas other than main line paving lanes. This includes intersecting side streets to the main road under construction except as noted in Section 6.4.2 of this specification, intersection turnouts, right turn cut-offs, median openings, and private approaches. Tie-ins include miscellaneous asphalt for temporary ramping, sidewalk in-fill and isolations.

6.4.3.2 Tie-ins and approaches shall utilize mechanical pavers where possible with or without automatic grade control, or hand methods as approved by the Contract Administrator.

6.4.3.3 Hand placement shall be minimized. Hand placed asphalt materials shall be spread and compacted to match the finished grade to the satisfaction of the Contract Administrator.

6.4.4 Weather Limitations

6.4.4.1 Asphalt shall be laid upon a surface which is dry, clean and free from standing water, and only when weather conditions are suitable in accordance with Table CW 3410.10.

Table CW 3410.10: Minimum Placement Temperature for Asphalt

| Asphalt Type | Location | Lift Thickness, mm | Temperature*, C° | |
|--------------|---------------------|--------------------|------------------------|------------------------|
| | | | Wind Speed, km/hr > 10 | Wind Speed, km/hr ≤ 10 |
| HMA | Top Lift | < 50 | 10°C | 6°C |
| | | ≥ 50 | 8°C | 6°C |
| | Other than top lift | > 50 | 2°C | 2°C |
| WMA | Top Lift | < 50 | 4°C | 0°C |
| | | ≥ 50 | 2°C | 0°C |

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| | Other than top lift | > 50 | 0°C | -2°C |
|--|---------------------|------|-----|------|

*Temperature shall be based on the nearest official meteorological office. The Contract Administrator may confirm the temperature by measuring the temperature in the shade and 150 mm above the surface.

- 6.4.4.2 Asphalt shall be placed on unfrozen material, free of water, snow, and ice. Frozen material will be identified by measuring the surface temperature using infrared thermometers or similar devices. If the surface temperature is less than or equal to 0°C, the material will be considered frozen. The Contractor shall use suitable heating methods to maintain the surface temperature above 0°C. Salt shall not be used to thaw ice, snow, or frost.
- 6.4.4.3 Paving shall not be permitted while there is frost within 750 mm of the surface upon which the asphalt is to be placed. Asphalt shall only be laid under conditions that the Contract Administrator determines to be conducive to obtaining the specified results.
- 6.4.4.4 Notwithstanding the above, when weather conditions are unfavourable, or are likely to become unfavourable, paving operations shall be suspended.


6.5 Joints

6.5.1 General

- 6.5.1.1 Joints shall be smooth, well bonded and tightly sealed. Joints shall conform smoothly and accurately to adjacent pavement surfaces such that when tested with a 3-metre straight edge placed across the joint the distance between the straight edge and the surface of the pavement shall not exceed 5 mm at any point.
- 6.5.1.2 When matching a compacted joint, the depth of the uncompacted lift shall be set to allow for compaction. The paver screed shall overlap the adjoining lift by no more than 25 mm.
- 6.5.1.3 On straight sections the joint line shall not deviate from a straight line by more than 75 mm at any point. On curved or tapered sections, the joint shall be shaped so as to be as smooth as possible. Jagged, stepped or wandering edges shall be reshaped to a smooth line, to the satisfaction of the Contract Administrator, before the adjacent lift is laid.

6.5.2 Location of Joints

- 6.5.2.1 The location of joints shall be subject to the approval of the Contract Administrator and shall conform to the following requirements:

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6.5.2.1.1 Longitudinal joints shall not be located within 150 mm of a longitudinal joint in any underlying pavement structure.

6.5.2.1.2 Transverse joints shall not be located within two (2) meters of any other transverse joint in the same paving course or within one (1) meter of a transverse joint in any underlying pavement structure.

6.5.2.2 Longitudinal cold joints are to be avoided wherever possible. Transverse joints shall be established with sufficient frequency to allow the full width of the paving course to be placed in a single shift. No paving lane shall progress more than 500 m beyond the end of an adjacent paving lane in the same course without the prior approval of the Contract Administrator.

6.5.3 Preparation of Joints


6.5.3.1 Hot Joints

6.5.3.1.1 Hot joints shall be considered to be those longitudinal joints between adjacent mats in which the previously laid lift retains sufficient heat, above 90 °C for HMA and 75 °C for WMA, to facilitate good bonding and sealing of the joint. The edge of the previously laid lift shall be inspected prior to laying the new mat. Any areas not conforming to line and grade or having a rounded-off top corner shall be cut out to the full depth of the lift to a minimum width of 100 mm and replaced with fresh material and compacted when laying the new mat.

6.5.3.2 Cold Joints

6.5.3.2.1 Cold joints shall be considered to be those longitudinal and transverse joints where the existing adjacent pavement lift is at or below 90 °C. Transverse joints shall be cut back to a straight line for the full depth and width of the mat. The transverse joint shall be cut back to a location such that the pavement immediately before the joint, where checked with a 3-metre straight edge, exhibits no tapering or rounding.

6.5.3.2.2 Longitudinal edges of existing mats shall be inspected before laying the new mat. Any areas not conforming to line and grade shall be cut out full depth to a minimum width of 150 mm and replaced with fresh material and compacted when laying the new mat. Any areas with a rounded corner shall be removed to the full depth of the lift to form a vertical face with a vertical face.

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6.5.3.2.3 Joints against existing asphalt pavements shall be prepared by saw cutting, cold planing or other method(s) approved by the Contract Administrator, such that the face of the existing pavement is vertical with a square corner.

6.5.3.2.4 All contact surfaces of cold joints shall be painted with a uniform coat of tack before the new asphalt is placed against them.

6.5.4 Construction of Joints

6.5.4.1 Fresh asphalt shall not be placed against the existing lift until the joint preparation has been completed in accordance with 6.5.3 and is approved by the Contract Administrator.

6.5.4.2 For asphalt reconstructions, longitudinal joints shall be prepared in accordance with Section 6.5.3.2 unless the Contractor maintains joint temperatures that meet the requirements of Clause 6.5.3.1.1 at the time the adjacent mat is placed. Acceptable methods to maintain hot joint conditions include, but are not limited to, echelon paving, staggered paving operations, or the use of infrared joint heating equipment, subject to approval of the Contract Administrator.


6.5.4.3 For pavements with an asphalt overlay on residential local streets and public lanes, or where otherwise specified by the Contract Administrator, cutting of longitudinal joints is not required where paving is completed as a continuous operation within the same day. Where paving is completed on separate days, longitudinal joints shall be cut unless pavement repair fabric is used, subject to approval of the Contract Administrator.

6.5.4.4 The fresh lift shall be laid to an elevation such that, when compacted, it will conform accurately to the grade of the existing pavement. Wherever practicable, this shall be done using mechanical pavers.

6.5.4.5 Joints shall always be rolled before the remainder of the mat. Wherever practicable the joint shall be rolled with the roller travelling parallel to the joint and with a minimum of seventy-five (75%) percent of the width of the main roller(s) supported on the existing mat.

6.6 Asphalt Patching

6.6.1 Remove and replace existing asphalt pavements adjacent to proposed or renewed sidewalks and concrete approaches for grade adjustment to ensure drainage and rideability are maintained. Areas to be considered as asphalt patches shall be less than

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1.5 meters in width. The locations requiring asphalt patching shall be shown on the Drawings or as directed by the Contract Administrator.

6.6.2 The Contractor shall saw cut the asphalt pavement full-depth along the limits designated. The asphalt pavement shall be removed and disposed of in accordance with CW 3110. Upon removal of asphalt, the existing base materials shall be levelled and compacted. The asphalt shall match the thickness of the existing pavement. The material shall be placed and compacted by acceptable methods in accordance with Clause 6.7 of this specification to the satisfaction of the Contract Administrator.

6.6.3 All costs incurred for asphalt removal, compaction of existing base materials and placement of Base Course and asphalt materials shall be included in the unit price for "Construction of Asphalt Patches"

6.7 Compaction of Asphalt Paving Mixture

6.7.1 General

6.7.1.1 A rolling pattern shall be established by the Contractor and approved by the Contract Administrator. The Contract Administrator shall approve any deviation from the rolling pattern.

6.7.1.2 The minimum number of rollers is identified in Table CW 3410.11.


Table CW 3410.11: Maximum Rates Per Paver and Roller Sequence

| Asphalt Placement, tonnes/hr | Minimum Roller Combinations per Paver Breakdown + Intermediate + Finish* |
|------------------------------|-----------------------------------------------------------------------------|
| ≤ 100 | S2 + R1 + S1 V1 + R1 + S1 |
| > 100 | S2 + 2 x R1 + S1 S2 + R2 + S1 V2 + 2 x R1 + S1 V2 + R2 + S1 |

*No vibration shall be used when paving bridge decks. If Class V rollers are used, they shall be in static mode. The V3 roller can be used as a substitute for the V2 roller.

6.7.1.3 The operating speed of rollers shall not exceed 5 km/hr and shall be slow enough to avoid undue displacement of the asphalt. Rollers shall operate with the drive wheel forward in the direction of paving.

6.7.1.4 Any displacement occurring as a result of reversing the direction of the roller or any other cause shall be corrected. Rolling shall proceed continuously until all roller marks

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are eliminated and no further compression is possible. To prevent adhesion of the mixture to the roller, the wheels shall be kept properly moistened with water, limewater, or an approved detergent. Excess moisture will not be permitted.

6.7.2 Rolling procedures

6.7.2.1 Compaction of the paving mixture shall consist of three (3) separate rolling operations as follows:


- 6.7.2.1.1 Breakdown rolling: Rolling shall start longitudinally at the sides and proceed toward the centre of the pavement overlapping on successive passes by at least 150 mm. Breakdown rolling shall consist of at least two complete coverages by the roller. Delays in rolling freshly placed asphalt shall not be permitted.
- 6.7.2.1.2 Intermediate rolling shall immediately follow breakdown rolling. Passes shall be arranged to ensure overlapping successive tire paths. The rolling operation shall prevent pick-up of the mixture on the tires.
- 6.7.2.1.3 Final rolling shall be undertaken while the paving mixture is still warm enough to eliminate roller marks. Where the width permits, the asphalt shall be rolled diagonally in two directions, the second diagonal rolling crossing the first rolling direction. Final rolling shall start longitudinally at the high edge and proceed towards the lower edge of the mat. Final rolling shall be continue until there is no evidence of consolidation.

6.8 Compaction of Irregular Areas

- 6.8.1 Along curbs, manholes and similar structures and at all places not accessible to rollers, compaction shall be performed by plate compactors to the satisfaction of the Contract Administrator. All joints around these structures shall be effectively sealed.
- 6.8.2 The asphalt may be heated to a maximum temperature of 120°C to facilitate the compaction where approved by the Contract Administrator.

6.9 Requirements After Final Rolling

- 6.9.1 After final rolling the surface of each lift shall be smooth and true to the established crown and grade. Any low or defective spots shall be remedied by milling to a minimum depth of 40 mm or as directed by the Contract Administrator, and replacing it with a fresh mixture.

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6.9.2 The corrected area shall have a smooth transition to the surrounding pavement without negatively affecting any adjacent sections, impairing the functionality and the service life of the area.

6.10 Filling of Core Holes

6.10.1 Where cores are collected, the Contractor shall patch each core hole immediately with an approved cold asphalt product.

6.10.2 The patch shall be finished flush with the surface. Immediately before filling, the surface of each hole shall be thoroughly cleaned to ensure a proper bond. After filling each hole, all excess material shall be removed from the surface.

6.10.3 Where HMA or WMA are not available, use only those materials listed as Approved Products for Surface Works. The Approved Products are available in Adobe Acrobat (.pdf) format at the City of Winnipeg, Corporate Finance, Material Management Internet site at:
<https://legacy.winnipeg.ca/matmgt/spec/default.stm>

6.11 Surface Tolerance

6.11.1 The surface of the asphalt pavement shall be checked with a 3-metre straight edge and be within ± 5 mm from the surrounding area. Areas that do not meet these tolerances shall be corrected to the satisfaction of the Contract Administrator.

6.11.2 Where the posted speed limit is greater than 60 km/hr, the Contract Documents shall identify smoothness requirements for longitudinal profile of the pavement surface. The smoothness requirements shall be approved by the City of Winnipeg, Research and Standards Engineer.

6.12 Opening to Traffic

6.12.1 In no case shall traffic or construction equipment be allowed on the asphalt pavement until completion of quality assurance testing by the Contract Administrator and until the completed pavement has cooled to atmospheric temperature or to such other temperature, as may be approved by the Contract Administrator, that will ensure no deformation of the pavement surface under traffic loading.

6.12.2 The Contract Administrator's decision as to when the pavement will be opened to traffic shall be final. Prior to opening to traffic, the pavement shall be clean and free of aggregates or other deleterious materials on the surface.

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7. QUALITY ASSURANCE

7.1 General

- 7.1.1 Tests used for purposes of assessing compliance with this specification or for acceptance of any products shall be conducted by a certified laboratory approved by the City of Winnipeg, Research and Standards Engineer.
- 7.1.2 Field sampling and testing of asphalt shall be performed by a certified person.
- 7.1.3 The Contract Administrator shall be allowed access to all sampling locations and reserves the right to request quality assurance sample(s) at any time.
- 7.1.4 Samples shall be protected during transportation from any exposure to adverse conditions.
- 7.1.5 If any sample shows distinct evidence of improper sampling, handling, or testing, the test shall be disregarded and a new sample shall be collected.
- 7.1.6 Testing in addition to the requirements of this Specification shall be as directed by the Contract Administrator.


7.2 Testing Frequency

- 7.2.1 Asphalt shall be sampled for acceptance in accordance with Table CW 3410.12.

Table CW 3410.12: Frequency of Sampling and Testing of Asphalt

| Asphalt Type | Quantity (tonnes) | Minimum Frequency |
|---------------------|--------------------------|--------------------------|
| MS1, MS2 | < 150 | 2 tests/day |
| | 150 - 300 | 3 tests/day |
| | > 300 | 2 test/150 tonnes |
| MS3 | ≤ 50 | 1 test/day |
| | 50 - 100 | 2 tests/day |
| | > 100 | 2 test/100 tonnes |
| SP1, SP2 | -- | 2 tests/150 tonnes |

- 7.2.2 Additional testing shall be as directed by the Contract Administrator.
- 7.2.3 Copies of all test results shall be sent to the City of Winnipeg, Research and Standards Engineer and to the Contract Administrator.

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7.2.4 Copies of asphalt plant scale tickets shall be provided to the Contract Administrator.

7.3 Acceptance Criteria

7.3.1 The Contractor shall reimburse the City for any additional costs the City incurs as a result of failed tests.

7.3.2 Where the work is not funded or administered by the City of Winnipeg or their representative, the party approved by the City of Winnipeg to execute the work will be responsible for making pay adjustments to the City of Winnipeg.

7.3.3 All corrective actions shall be performed at the Contractor's expense.

7.3.4 Acceptance of asphalt shall be based on the following:

7.3.4.1 Visual Inspection:

7.3.4.1.1 The Contract Administrator may reject visually defective asphalt areas based on, but not limited to the following defects: flushing, bleeding, segregation, fat spot, surface damage, and surface contamination. Such defective areas shall be removed and replaced at the Contractor's expense.


7.3.4.2 Bituminous Mix Properties:

7.3.4.2.1 Air Voids: If the measured air voids fall outside the limits specified in Clause 3.3 of this Specification, the Contract Administrator shall apply a payment adjustment in accordance with Table CW 3410.13 against the entire Lot represented by the failed test(s).

TABLE CW 3410.13 – Payment Adjustment for Air Voids

| Asphalt Type | Average of the Failed Tests | Percent of Price Reduction % |
|------------------------------|------------------------------------|--------------------------------------------|
| MS1, MS2, MS3 SP1, SP2 | ≤ 0.5% | 0.0 |
| | 0.5% to 1% | 0.0* |
| | > 1% | Remove and replace at Contractor's expense |

*Paving shall be suspended until necessary adjustments are made and approved by the Contract Administrator.

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- 7.3.4.2.2 Voids in Mineral Aggregate (VMA): If the measured voids in mineral aggregate falls outside the limits specified in Clause 3.3 of this Specification, the Contract Administrator shall apply a payment adjustment in accordance with Table CW 3410.14 against the entire Lot represented by the failed test(s).

TABLE CW 3410.14 – Payment Adjustment for Voids in Mineral Aggregate

| Average of the Failed Tests | Percent of Price Reduction % |
|-----------------------------|--------------------------------------------|
| ≤ 0.5% | 0.0 |
| 0.5% to 1% | 0.0* |
| 1% to 2% | |
| > 2% | Remove and replace at Contractor's expense |

*Paving shall be suspended until necessary adjustments are made and approved by the Contract Administrator.

- 7.3.4.2.3 Asphalt Cement Content: If the measured asphalt cement content falls outside the limits specified in Clause 3.3 of this Specification or if it exceeds the allowable deviation for the JMF specified in Table CW 3410.5, the Contract Administrator shall apply a payment adjustment in accordance with Table CW 3410.15 against the entire Lot represented by the failed test(s).

TABLE CW 3410.15 – Payment Adjustment for Asphalt Cement Content


| Average of the Failed Tests | Percent of Price Reduction % |
|-----------------------------|--------------------------------------------|
| ≤ 0.15% | 0.0 |
| 0.15% to 0.5% | 0.0* |
| > 0.5% | Remove and replace at Contractor's expense |

*Paving shall be suspended until necessary adjustments are made and approved by the Contract Administrator.

- 7.3.4.2.4 Gradation: If the gradation falls outside the limits specified in Table CW 3410.1 or if it exceeds the allowable deviation for the JMF specified in Table CW 3410.5, the Contract Administrator shall apply a payment adjustment in accordance with Table CW 3410.16 against the entire Lot represented by the failed test(s).

TABLE CW 3410.16 – Payment Adjustment for Gradation

| Percent Passing Outside the JMF for Each Sieve | Percent of Price Reduction % |
|------------------------------------------------|------------------------------|
|------------------------------------------------|------------------------------|

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|----------------------|-----------------------------------|-------|-----------------------------------------------|
| 19, 16, 12.5, 9.5 | 4.75, 2.36, 1.18, 0.6, 0.15 | 0.075 | |
| <2 | <1 | - | 0.0 |
| 2-4 | 1-2 | <1 | 0.0* |
| > 4 | > 2 | ≥ 1 | Remove and replace at Contractor's expense |

*Paving shall be suspended until necessary adjustments are made and approved by the Contract Administrator.

7.3.4.3 Density:

7.3.4.3.1 Density testing shall be conducted at least once every 150 m². The Contract Administrator shall ensure that the density tests cover the full width of the construction area.

7.3.4.3.2 An area is deemed unacceptable if the compaction does not meet all of the following:

7.3.4.3.2.1 The average density results shall be between 93% and 95% of the theoretical maximum density; and,

7.3.4.3.2.2 No individual location shall be less than 90% or higher than 98% of the theoretical maximum density.

7.3.4.3.3 Nuclear density test gauge results shall be used to assess in-place density. When density test results do not meet the minimum percent density specified herein, a coring and testing program can be undertaken to verify density percentage of the mix by Core Density Testing. If core density results confirm the Nuclear density results, the Contractor shall reimburse the City for any additional costs associated with coring, transmittal of cores, filling of cores and testing the City incurs as a result of failed tests.

7.3.4.3.4 The Contract Administrator shall apply a payment adjustment in accordance with Table CW 3410.17 against the entire lot represented by the failed test(s).

TABLE CW 3410.17 – Payment Adjustment for Density

| Average of the Density Tests | Percent of Price Reduction % |
|------------------------------|------------------------------|
|------------------------------|------------------------------|

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|----------------|--------------------------------------------|
| > 98% | Remove and replace at Contractor's expense |
| 97.9% to 97.1% | 0%* |
| 97% to 93% | 0% |
| 92.9% to 90% | 0%* |
| < 90% | Remove and replace at Contractor's expense |

*Paving shall be suspended until necessary adjustments are made and approved by the Contract Administrator.

7.3.4.4 Segregation and Surface Defects

7.3.4.4.1 Surface defects include but are not limited to: gouges, slippage, cracking, tearing, pocketing, blistering, shoving, wash boarding, surface depressions or surface defects shall be repaired to the satisfaction of the Contract Administrator.

7.3.4.5 Asphalt Thickness:

7.3.4.5.1 A Lot is deemed unacceptable if the asphalt thickness does not meet all of the following:

7.3.4.5.1.1 The average thickness is less than the required thickness; and,


7.3.4.5.1.2 No individual thickness shall be less than 90% of the required thickness.

7.3.4.5.2 The Contract Administrator shall apply a payment adjustment in accordance with Table CW 3410.19 against the entire Lot represented by the insufficient thickness.

TABLE CW 3410.19 – Payment Adjustment for Pavement Thickness

| Average Thickness | Percent of Price Reduction % |
|------------------------------------------------------------------------|--------------------------------------------|
| Less than specified thickness but more than 90% of specified thickness | 0.0* |
| Less than 90% of specified thickness | Remove and replace at Contractor's expense |

*Paving shall be suspended until necessary adjustments are made and approved by the Contract Administrator.

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8. MEASUREMENT AND PAYMENT

8.1 Construction of Asphalt Pavement

8.1.1 Construction of asphalt pavement will be measured and paid for at the Contract Unit Price per tonne for the "Items of Work" listed here below, measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the work included in this Specification.

Items of Work:

- i. Construction of Main line Paving (*)
- ii. Construction of Tie-ins and Approaches (*)

* Specify either MS1, MS2, MS3, SP1, or SP2

8.1.2 The weight to be paid for shall be the total number of tonnes placed and compacted in accordance with this Specification and accepted by the Contract Administrator, as measured on a certified weigh scale.

8.2 Construction of Asphalt Patches

8.2.1 Construction of asphalt patches will be measured and paid for at the Contract Unit Price per square meter for "Construction of Asphalt Patches", measured as specified herein, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the work included in this Specification.