



**SNC • LAVALIN**

**Brun-Way Highways Operations Inc.**

1754 Route 640

Hanwell, New Brunswick, Canada, E3C 2B2

☎ 506.474.7750 📠 506.474.7752

**Letter of Acknowledgement**

Date: May 27, 2019

Brun-Way Highways Operations Inc.

Att: Shannon Briand

1754 Route 640

Hanwell, NB E3C 2B2

Dear Mrs. Briand,

**Contract for Provision of: RFP BHOI 504-2019-01**

1. We acknowledge receipt of your Request for Proposal package.
2. A) We have received all the documents listed in the Request for Proposal without damage and in usable condition.  
B) We have read the Request for Proposal and will tender in accordance with the specified requirements.

**Or**

3. We will not be submitting a quotation because:

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Contractors Name: \_\_\_\_\_

Yours Sincerely,





SNC • LAVALIN

# BRUN-WAY HIGHWAYS OPERATIONS INC.

Request for Proposal (“RFP”)

**RFP/Project No:** BHOI 504-2019-01

**Description:** Structure Deck Rehabilitation

**Location:**

Notre Dames de Lourdes WB, Saint Leonard, New Brunswick  
West River Road EB, Four Falls, New Brunswick



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## INSTRUCTIONS TO BIDDERS

### 1.0 GENERAL

1.1. The project consists of the supply of all labour, equipment and materials required to remove the existing asphalt pavement/waterproofing membrane; and to supply and install the new waterproofing membrane system and asphalt pavement for the following structures

1.1.1. Notre Dames de Lourdes WB structure deck (Structure N726) in the Saint Leonard area on Route 2.

1.1.2. West River Road EB structure deck (Structure W422) in the Four Falls area on Route 2.

A description of the work is outlined in [Schedule B](#).

1.2. A Bidder's pre-qualification signifies that it has met the minimum requirements of Brun-Way Highways Operations Inc. ("Brun-Way") and does not mean that it is on equal footing with other pre-qualified Bidders. Further, and notwithstanding a Bidder's pre-qualification, Brun-Way reserves the express right to consider such criteria, as described in paragraph 6.0 below, in accepting or rejecting any Proposal.

1.3. Brun-Way reserves the right to invite additional Bidders to respond to this RFP, in its sole discretion.

1.4. Only one of a contractor's related, associated, or affiliated companies or businesses shall be entitled to submit a Proposal for the Project.

1.5. Brun-Way is wholly-owned subsidiary of SNC Lavalin. Founded in 1911, SNC-Lavalin is one of the leading engineering and construction groups in the world and a major player in the ownership of infrastructure. From offices in over 50 countries, SNC-Lavalin's employees are proud to build what matters. Our teams provide EPC and EPCM services to clients in a variety of industry sectors, including oil and gas, mining and metallurgy, infrastructure and power. SNC-Lavalin can also combine these services with its financing and operations and maintenance capabilities to provide complete end-to-end project solutions.

One of Canada's largest operations and maintenance service providers, our team has a regional presence in France, the United States, Saudi Arabia, Qatar and Algeria. Our range of services includes the operations & maintenance of airports; roads, bridges, and rail systems; industrial facilities; defence & logistics support and integrated real estate solutions. We provide around-the-clock support for mission critical activities. Whether supplying facilities management services for banking, data and broadcast centres, or supporting Canada's military on land, water or in the air, we provide our clients with peace of mind while allowing them to operate efficiently and focus on their core operations.

[www.snclavalin.com](http://www.snclavalin.com)



**INSTRUCTIONS TO BIDDERS**

**2.0 RFP DOCUMENTS**

- 2.1. The RFP Documents consist of these Instructions to Bidders and all of the documents identified in the table of contents.
- 2.2. The drawings and specifications are the property of Brun-Way. If requested by Brun-Way, the drawings and specifications shall be returned to Brun-Way in good condition no later than seven (7) days after the RFP closing date described herein (the “RFP Closing”).
- 2.3. Each Bidder shall verify in its Proposal that it has received and reviewed all of the RFP Documents and shall assume responsibility for the RFP Documents received as being complete. Any missing RFP Documents shall be reported immediately to Brun-Way at the address set out herein.
- 2.4. The RFP Documents are made available only for the purpose of obtaining Proposals for the Project. Their use does not confer a licence or grant for any other purpose.

**3.0 QUESTIONS ARISING DURING BIDDING**

- 3.1. Bidders must familiarize themselves with the requirements of the RFP Documents before submitting their Proposals, and satisfy themselves as to their ability and the ability of their subcontractors and suppliers to meet the requirements for the timely progress and completion of the Project and to execute the work in full accordance with the RFP Documents.
- 3.2. Bidders finding discrepancies in, or omissions from, the RFP Documents, or having doubt as to the meaning or intent thereof, prior to the Proposal Closing, shall at once and no later than two (2) business days before the scheduled date of Proposal Closing, notify Brun-Way, who will arrange for written instruction, if necessary, in the form of an addendum, to be sent to all Bidders. All such addenda shall become part of the RFP Documents. Any oral responses or instructions which Bidders might receive from, or on behalf of Brun-Way, will neither bind Brun-Way, nor change, modify, amend or waive any of the requirements contained in the RFP Documents.
- 3.3. All matters and inquiries relating to the interpretation of the RFP Documents shall be directed to Brun-Way at the following address:

**Attention: Stephanie Clayton, P.Eng**

**Brun-Way Highways Operations Inc.  
1754 Route 640  
Hanwell, NB  
E3C 2B2**

**Phone**

**Number: (506) 474-7750**

**Mobile Number: (506) 461-8220**

**Email: Stephanie.Clayton@snclavalinom.com**

**Fax Number: (506) 474-7752**



**4.0 EXAMINATION OF SITE**

- 4.1. Before submitting a Proposal, Bidders may examine the Project site and surroundings and satisfy themselves as to the existing conditions and limitations of the Project site, the means of access to the site and the nature and quantity of work required. Arrangements can be made to meet with a Brun-Way representative on-site, if necessary. Bidder Representatives examining the Project Site must notify Brun-Way of their presence on site and must wear the appropriate PPE (hi-visibility vest, hard hat, safety boots, long sleeve shirts, safety glasses, and any additional specialized PPE).
- 4.2. No adjustments to the Project schedule or to the price of the Contract entered into with a successful Bidder will be made for difficulties encountered due to conditions, features or peculiarities of the Project site which exist and are known, reasonably discernible, or visible at the time of Proposal.

**5.0 PROPOSAL SUBMISSION**

- 5.1. Proposals shall consist of the following:
  - 5.1.1. The Bid Form provided herein, fully completed in ink or typewritten, with signatures, dated, sealed and witnessed as appropriate;
  - 5.1.2. A Bid Deposit in the form of a Certified Cheque in the amount of \$20,000 or a Bid Bond in the amount of \$20,000 signed, sealed and issued by a surety authorized to transact business in the province of New Brunswick. Brun-Way reserves the right to approve or reject any surety, in its reasonable discretion. The Bid Deposit shall remain valid and will be retained by Brun-Way until one week after the contract is awarded. At this time, the unsuccessful Bidders can make arrangements with Brun-Way to have their Bid Deposit returned to them. The successful Bidder's Bid Deposit will be returned to them once they have submitted the 50% Performance Bond and 50% Labour & Material Payment Bond. The Bid Deposit or Bid Bond shall be made out to Brun-Way Highways Operations Inc.;
  - 5.1.3. An Agreement to Bond, with respect to the Project requirements for a 50% Performance Bond and 50% Labour & Material Payment Bond, signed, sealed and issued by a surety authorized to transact business in the province of New Brunswick.
  - 5.1.4. The Documents listed under the "Pre-Selection" [Section 4.3](#) of the Health and Safety Program in Schedule B of this RFP.
  - 5.1.5. Preliminary schedule of construction sequences, equipment, and manpower.
  - 5.1.6. Product data sheets, installation guidelines and SDS sheets for proposed membrane system.
- 5.2. Proposals shall stipulate the unit prices in Canadian currency for the Project, including all the requirements of the RFP Documents, without qualifications.
- 5.3. No oral Proposals will be considered. Faxed or e-mailed Proposals will only be considered if the contract value is less than \$50, 000. For contract values greater than \$50,000 the Proposal shall be couriered or hand delivered. Couriered or hand delivered Proposals shall



**INSTRUCTIONS TO BIDDERS**

27/05/2019

be enclosed in sealed opaque envelopes, bearing the name of the Bidder, the Project name and the RFP/Project number, addressed and delivered to Brun-Way at:

**Attention:** **Shannon Briand**  
**Purchasing and Claims Coordinator**  
**Brun-Way Highways Operations Inc.**  
**1754 Rte. 640**  
**Hanwell, NB, E3C 2B2**

**By no later than:** **Wednesday, June 12<sup>th</sup>, 2019**  
**At:** **12:00 Noon, Atlantic Daylight Savings Time**

According to the time clock located in the office of Brun-Way where the Proposals are received ("Proposal Closing").

- 5.4. Any Proposals received after the Proposal Closing will be rejected.
- 5.5. Proposals submitted prior to Proposal Closing may be modified or withdrawn by the Bidder at any time prior to Proposal Closing, by written notice to Brun-Way, delivered personally or by courier to the above noted address, and subject to the conditions set forth below:
- 5.6. Amendments or other replacements of bids are permissible up to the closing date and time identified in the bid request instructions, only by submission of a new bid in its entirety. The replacement bid shall be clearly marked as superseding any previously submitted bid response, and must bear the same signature of the authorized representative of the bidder who executed and sealed the original proposal.
- 5.7. To withdraw a Proposal, prior to Proposal Closing, Brun-Way must receive from the Bidder a letter to this effect, bearing the same signature of the authorized representative of the Bidder who executed the original Proposal. No other method of Proposal withdrawal shall be considered. Withdrawn bids received in a sealed envelope shall be returned unopened to the withdrawing bidder.
- 5.8. Bidders may not make modifications to their Proposals, or withdraw their Proposal, after Proposal Closing.
- 5.9. Proposals shall be irrevocable and subject to acceptance by Brun-Way, until award of the contract or the anticipated start date of the project, whichever comes first.

**6.0 ACCEPTANCE OR REJECTION OF PROPOSALS**

- 6.1. Brun-Way will reject as informal, irregular, invalid, or non-compliant, any Proposal that contains obvious errors, alterations or erasures, or is incomplete, unbalanced, conditional, illegible or obscure.
- 6.2. Proposals will be opened in private by Brun-Way, and Brun-Way will not reveal the Proposal results or the relative rankings of bidders.
- 6.3. The submission of Proposals does not obligate Brun-Way to accept any Proposal or to proceed further with the Project.
- 6.4. Brun-Way may, at its sole discretion, elect not to accept any and all Proposals for any reason. Alternatively, Brun-Way reserves the right to cancel this Request for Proposals if the prices submitted exceed Brun-Way's budget, or should Brun-Way not receive any



## **INSTRUCTIONS TO BIDDERS**

27/05/2019

satisfactory Proposals, or if an insufficient number of Proposals are submitted, or where unforeseen circumstances arise after Proposal Closing, or for any other reason.

- 6.5. Brun-Way reserves the right, in its sole discretion, to reject any or all Proposals without notice or reasons including, without limitation, the lowest Proposal, and to accept the Proposal that, in Brun-Way's sole discretion, is deemed most advantageous, notwithstanding any custom, usage or agreement in the industry or trade, or any other policy or practice. The successful Proposal, if any, will be selected based on any number of criteria that Brun-Way, in its sole discretion, considers relevant, including, without limitation, any combination of price, scheduling, experience, proposed sub-trades, qualifications and related experience, compatibility of the Bidder based on its reputation and past work experience with Brun-Way, proposed personnel, health and safety and quality control programs of the Bidder, and any other factor that Brun-Way deems relevant.

Brun-Way reserves the right to disqualify a bidder from the bid process who has been identified as a high financial risk.

- 6.6. Brun-Way reserves the right to negotiate any aspect of a Proponent's Proposal or an Agreement or both, including, without limitation, with respect to proposed pricing or services prior to awarding an Agreement to a successful Proponent.
- 6.7. Brun-Way reserves the right to conduct negotiations with one or more preferred Proponents.
- 6.8. Brun-Way will not be required to inform the Bidders of the relative weight to be given to any particular evaluation criterion or to provide reasons to any Bidder with respect to any exercise by Brun-Way of its discretion when accepting or rejecting Proposals.

## **7.0 BIDDERS OBLIGATIONS**

- 7.1. By submitting Proposals, Bidders acknowledge that they have read and accept and agree to be bound by all of the terms, conditions and stipulations set out herein (including those found in schedules C, D, E and F) and further acknowledge and agree that Brun-Way, the Project Owner and their representatives and agents will have no liability or obligation to any Bidder whose Proposal is not accepted and expressly waive any rights they may have to any claim against Brun-Way, the Project Owner and their representatives and agents relating, in any way, to this Invitation for Proposals.
- 7.2. The Bidders shall be responsible for all costs related to the preparation of their Proposals and participation in the RFP process. Under no circumstances shall Brun-Way, the Project Owner or their representatives or agents be liable, in contract, tort, restitution or any other legal theory, to any Bidder for any claim, action, loss, damage, costs or liability whatsoever arising from the preparation of a Proposal, any act or omission by Brun-Way, including the rejection or evaluation of any or all of the Proposals, any negotiations in respect to the Proposals, or the selection of any Bidder.
- 7.3. Without limiting the generality of the foregoing, Brun-Way, the Project Owner and their representatives and agents shall not be liable to any Bidder for any claim, action, cost, loss, damage or liability whatsoever arising from or related to any information or advice or any errors or omissions that may be contained in the RFP Documents, or any data, materials or documents disclosed or provided to a Bidder pursuant to this Invitation for Proposals, or otherwise.

## **8.0 TAXES**

- 8.1. The Bidders shall include all taxes in their Proposal price.





**9.0 AWARD**

- 9.1. Brun-Way will issue notification of award to the successful Bidder of Brun-Way's acceptance of the Proposal only after the appropriate levels of authority authorize the Proposal.
- 9.2. Within five (5) business days from the date of the successful Bidder's receipt of the notification of award, the successful Bidder shall deliver to Brun-Way at the above-noted address.
  - 9.2.1. A completed "Supplier Compliance Package" ([accessible by this link](#), to be completed by successful bidders not already in compliance) including, but not limited to: a valid Workplace Safety and Insurance Board Certificate of Clearance, or equivalent certificate, in accordance with applicable construction health and safety legislation; Certificates of Insurance evidencing coverage for all required insurance policies applicable to the work; Code of Business Conduct; Declaration of Professional Licenses and Permits and the Supplier Trade Code Checklist.
- 9.3. Once the successful Bidder has become an approved "Supplier" a Purchase Order will be issued. The Proposal will be deemed accepted and the contract awarded, in accordance with the terms and conditions of the existing Term Contract, on the Bidder's return of the duly signed Purchase Order. Brun-Way will contact all Bidders upon issue of the successful Bidder's Purchase Order, to notify them on the status of their bid.
- 9.4. Within five (5) business days from the date of the successful Bidder's receipt of the Purchase Order, the successful Bidder shall deliver to Brun-Way at the above noted address:
  - 9.4.1. A 50% Performance Bond and 50% Labour and Material Bond issued by the surety which issued the Bid Deposit;
  - 9.4.2. A detailed schedule indicating construction sequences, manpower, and equipment required to complete the work in accordance with the construction schedule prescribed by Brun-Way;
  - 9.4.3. A Job Hazard Analysis for the work submitted on Form 6831.2.2, see Health and Safety Program;
  - 9.4.4. Signed copy of the Purchase Order.
- 9.5. Brun-Way shall be entitled, in its sole discretion, to vary or extend any of the time limits in this part.
- 9.6. If the successful Bidder upon receipt of the Purchase Order fails to deliver the documents identified in paragraph 9.4 above, within the time prescribed, the successful Bidder's Bid Deposit shall be forfeited to Brun-Way and, in addition, the successful Bidder shall indemnify and save harmless Brun-Way from all loss, damage, cost, charge and expense which Brun-Way may suffer or be put to by reason of the successful Bidder's default, including, without limitation, the difference between the bid price of the successful Bidder and any greater sum which Brun-Way may expend or incur by reason of such default.
- 9.7. STATUTORY DECLARATIONS: Requests for payment (either for lump sum amounts or for Progress Payments and/or Holdback) must be accompanied by a duly signed Statutory Declaration (to be provided to the successful bidder).



**10.0 COMMENCEMENT OF THE WORK**

- 10.1. Submission of a Proposal constitutes a Bidder's agreement to commence the Project work promptly and to execute the Project work without interruption until completion in accordance with the terms and conditions of the existing Term Contract and construction schedule prescribed by Brun-Way, upon Brun-Way's acceptance of Proposal.
- 10.2. Bidders are required to ensure, before submitting Proposals, that an adequate supply of materials, equipment and labour are available for the Project work until completion.
- 10.3. The successful Bidder shall upon receipt of the Purchase Order, proceed with the procurement of component materials and equipment, to avoid any delays to the Project.
- 10.4. Prior to the commencement of the work, all submissions required by the Contract Documents shall be forwarded for review to Brun-Way.

**11.0 SUPPLEMENTS TO BID FORMS**

11.1. UNIT PRICES

- 11.1.1. Unit prices are prices for **specific measurable units** of material and labour.
- 11.1.2. Unit prices must include the cost of all labour, material, equipment, mark-ups, overheads, direct and indirect supervision and profit (excluding Harmonized Sales Tax) in force at the time of Proposal and shall represent the net cost to Brun-Way.

11.2. BIDDERS PROPOSED ALTERNATIVES

- 11.2.1. The Bidders are invited to submit alternatives. Such alternatives must include the cost of all labour, material, equipment, mark-ups, overheads, direct and indirect supervision and profit in force at the time of Proposal and shall represent the net cost to Brun-Way.
- 11.2.2. Alternatives can be proposed on paper attached to the Bid Form document, giving a brief description and stating the net difference (extra/credit) in the Proposal amount for each substitution and the impact on schedule and on the lifecycle performance of the work.
- 11.2.3. Proposed alternatives must include material or product names and complete specifications. Proposal price must include all specified equipment and materials.

**12.0 INTERFERENCE WITH EXISTING OPERATIONS**

- 12.1. The normal operations of the Project site must be maintained at all times. All precautions and every care must be taken to ensure that interference or disruptions are minimized.



# **SCHEDULE A – BID FORM**

May 27, 2019



**PROJECT NO: BHOI 504-2019-01**

**Structure Deck Rehabilitation**  
Notre Dame de Lourdes WB – Structure N726  
West River Road EB – Structure W422

**Bid Closing Date: Wednesday, June 12, 2019 Bid Closing Time: 12:00 Noon**

Company Name:			
Street Address:			
City/Town:			
Province:			
Postal Code:			
Telephone:		Fax:	
Name of Main Contact:			
Cell number:		Email:	

**BRUN-WAY HIGHWAYS OPERATIONS INC. (hereinafter refer to as BRUN-WAY)**

Sir/Madam:

I/We agree to supply all necessary labour, materials, plant, equipment and services for the execution and completion of the above noted Project in accordance with the RFP Documents for the contract sum of \$ \_\_\_\_\_ Dollars including all applicable taxes (**HST Excluded**), custom duties and excise taxes with respect to the Contract unless stated otherwise in Supplementary General Conditions.

The following amount for the Harmonized Sales Tax (applicable HST) is in addition to the above contract sum. \$ \_\_\_\_\_

I/We have received and allowed for Addenda numbered as follows: \_\_\_\_\_ in preparing my/our Bid.

Enclosed is our Bid Deposit in the amount of \$20,000 made payable to BRUN-WAY HIGHWAYS OPERATIONS INC. Also enclosed is our Agreement to Bond for 50% Performance Bond and 50% Labour and Material Bond.

I/We understand that the price(s) submitted in this Bid is/are irrevocable and open for acceptance by Brun-Way, irrespective of the acceptance of any other Bid, until award of the contract or no later than the anticipated start date of the project, whichever comes first.

I/We have carefully examined all the RFP Documents, have had the opportunity to visit the Project site and register with the BRUN-WAY Representative conducting the Site visit, and have a clear and comprehensive knowledge of the Work required under this Contract and of all the working conditions.

I/We are skilled in the performance of the Work required by this Bid, are able to perform the Work in accordance with the RFP Documents, and are in a position to commence the Work immediately upon receipt of the BRUN-WAY Purchase Order and to carry it through to a prompt and satisfactory conclusion.

I/We hereby certify that this Bid is in full compliance with all tax statutes and that, in particular, all returns required to be filed under all federal and provincial tax statues have been filed and all tax due and payable under those statues have been paid or satisfactory arrangements for their payment have been made and maintained.



I/We also submit below the breakdown of the Stipulated Proposal Price:

<b>Company Name:</b>	
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Location	ITEM (Unit bid to be either typewritten, printed or written in ink in words)	MEASURE- MENT	ESTIMATED QUANTITY	UNIT PRICE (in figures)	TOTAL (in figures)
Notre Dames de Lourdes WB	1. Removal of existing asphalt and waterproofing membrane	Sq. Meter	840	\$	\$
	2. Supply and install of new waterproofing membrane system	Sq. Meter	840	\$	\$
	3. Supply and install Type "D" asphalt	Tonnes	125	\$	\$
	4. Traffic control	Lump Sum			\$
West River Road EB	5. Removal of existing asphalt and waterproofing membrane	Sq. Meter	730	\$	\$
	6. Supply and install of new waterproofing membrane system	Sq. Meter	730	\$	\$
	7. Supply and install Type "D" asphalt	Tonnes	110	\$	\$
	8. Traffic control	Lump Sum			\$
ESTIMATED CONTRACT PRICE				\$	(In figures)
Applicable HST				\$	(In figures)
TOTAL ESTIMATED CONTRACT PRICE (including HST)				\$	(In figures)

By selecting this checkbox the bidder agrees to comply with all of Brun-Way Highways Operations Inc. Terms and Conditions per the Supplier Compliance Package and the Health and Safety requirements as per the Health and Safety Program.



<b>Company Name:</b>	
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I/We also submit below the names of our proposed Subcontractors upon which my/our Bid is based, as follows:

	TRADE	COMPANY
1.	_____	_____
2.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____

I/We hereby confirm and declare that this Bid is made by me/us without any connection, knowledge, comparison of figures or arrangements with any other person who might submit a Bid for the same work, and is in all respects fair and without collusion or fraud.

I/We hereby confirm and declare that if Brun-Way accepts this Bid and awards us the Contract for the Project and I/we should fail to deliver the WSIB, or equivalent Certificate, Certificates of Insurance, and other documents identified in paragraph 9.2 of in Brun-Way's Instructions to Bidders, our Bid Deposit shall be forfeited to Brun-Way and/we shall also indemnify and save harmless Brun-Way from all loss, damage, cost, charge and expense which Brun-Way may suffer or be put to by reason of our default herein.



<b>Company Name:</b>	
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Conflict of Interest Declaration

I/We hereby confirm that there is not nor was there any actual or perceived conflict of interest in submitting this Bid or performing the Work required by the Contract.

[or if applicable, strike out the above and include the following:]

The following is a list of situations, each of which may be a conflict of interest, or appears as potentially a conflict of interest in my/our company submitting this Bid or the contractual obligations of the Contractor, under the Agreement:

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Name of Contractor

Signature of Company Official

Title

Signature of Witness

Title

Date



**SCHEDULE B – DESCRIPTION OF  
SERVICES AND SPECIFICATIONS**  
May 27, 2019





**1.0 SCOPE OF WORK**

- 1.1. The project consists of the supply of all labour, equipment and materials required to remove and replace the asphalt and waterproofing membrane system on the Notre Dames de Lourdes WB and West River Road EB structure decks.
- 1.2. The Notre Dames de Lourdes deck is approximately 54 meters in length and 15.6 meters wide. The West River Road EB deck is approximately 58.5 meters in length and 12.4 meters wide.
- 1.3. Approved methods of deck preparation are shot blasting, sand blasting and wet sand blasting. Any other method must be submitted and approved by Brun-way prior to the Contractor starting.
- 1.4. The Contractor is not allowed to use cold milling for the removal of the existing asphalt pavement. The existing asphalt and waterproofing membrane must be scraped from the concrete deck. No other method is permitted without prior permission from Brun-Way.
- 1.5. The waterproofing membrane shall be one of the following thermofusible / torch applied systems and must meet the requirements of TCHP Co. Item 351 - Waterproofing:
  - Soprema Antirock;
  - Armourbridge; or
  - Equivalent product. Contractor must submit the product for approval to Brun-way with this RFP submission.
- 1.6. Type “D” mix asphalt shall be placed on the deck after the waterproofing system installation – in accordance with TCHP Co. Item 261 – Asphalt Concrete Pavement. There will be no liquid adjustment paid for the asphalt mix used.
- 1.7. The Contractor must submit the mix design for the work to Brun-Way a minimum of seven (7) days prior to commencement of the work for approval. The mix design shall include the minimum and maximum mixing temperatures.
- 1.8. Each work area must be cleaned – as per the Engineer’s satisfaction and in accordance with OMR 405 Facility cleaning. Debris that presents a potential hazard to the public must be removed immediately. Upon completion the work area must be cleaned and returned to its original state.
- 1.9. Any damages to the Facility shall be repaired by the Contractor to the satisfaction of Brun-Way.
- 1.10. All waste materials become the property of the Contractor. The Contractor is responsible for the removal, transport and disposal of all existing waste materials from the work site.
- 1.11. Work cannot commence prior to July 8, 2019 without prior written approval from Brun-Way.
- 1.12. Following award a detailed schedule of activities, equipment, and manpower shall be submitted to Brun-Way and updated on a regular basis or as the schedule changes.

**2.0 TRAFFIC MANAGEMENT**

- 2.1. The Contractor will supply all appropriate traffic control devices (cones, barrels, signs, barricades, stands, arrow boards, TMA, traffic lights, pavement markings, F-shaped barrier etc.) necessary to complete the work.



- 2.2. The Contractor is responsible for installing / dismantling / managing all traffic control devices – including the traffic control lights, necessary to perform the work throughout the duration of the project. The traffic measures in place will be in accordance with the 2015 edition of the New Brunswick Department of Transportation’s Work Area Traffic Control Manual (WATCM) revised in 2015 – specifically Figure 7-7. Violations to the WATCM, could result in a financial penalty totalling \$30,000 per occurrence to the Contractor.
- 2.3. The Contractor is permitted to work only during daylight hours. This includes the time it takes to set up and dismantle the traffic control devices.
- 2.4. Any Traffic Control Persons (TCP’s) required throughout the Project and associated signage, will be supplied by the Contractor at their cost.
- 2.5. Any additional equipment (i.e trail vehicle) required to complete the work according to the specifications, or for safety reasons according to WATCM, shall be supplied by the Contractor.
- 2.6. The Contractor is responsible for removal of existing markings and for supply and placement of temporary markings in accordance with WATCM during the work. The contractor may also be required to remove temporary markings placed during construction required to direct traffic. Brun-Way will be responsible for pre-marking and line painting once the contract is complete.

**3.0 PENALTY**

- 3.1. The Project must be completed by August 30, 2019. There will be a \$2,000.00 per day penalty for any portion of the project not completed by this date.
  - 3.1.1. Time lost due to weather conditions has been accounted for and will not be considered grounds for an extension to the Completion Date.

**4.0 HEALTH & SAFETY**

- 4.1. The Contractor shall follow the requirements in Schedule D “Health and Safety Program”.
- 4.2. The Contractor will be considered a LEVEL 3 Classification as described in Schedule D “Health and Safety Program”.
- 4.3. Specific Safety Requirements
  - 4.3.1. All contractors employees and sub contractors on site must attend a mandatory training session prior to the start of the work which will take approximately 1 hour. It will be the responsibility of the contractor to ensure that all employees receive this training from a SNC Lavalin representative.
  - 4.3.2. Minimum PPE requirements are CSA Hard Hat, high viz safety vest, CSA approved steel toe boots (min 6" height), Long sleeve shirts for all personnel onsite, and safety glasses. Gloves shall be carried at all times; no manual handling may take place without use of gloves. Hearing protection shall be carried, and used as required.
  - 4.3.3. All knives shall be self retracting



4.3.4. Any lifting over 10 kg per individual requires a risk assessment be complete and no individual shall lift greater than 20 kg.

4.3.5. Stretching is recommended at the start of each workday.

4.3.6. The successful bidder must complete a Job Hazard Analysis for all activities using the SNC-Lavalin form and methodology prior to starting any work.

4.3.7. The successful bidder must use the Step Back Risk Evaluation method while completing the project.

4.3.8. On site personnel need to complete Work Area Traffic Control Manual (WATCM) training (a provincial requirement). The WATCM Awareness Training can be accessed by the following link:

[http://www.fbnDataNet.ca/NB\\_DOT/eLearning\\_II/registration.php](http://www.fbnDataNet.ca/NB_DOT/eLearning_II/registration.php)

You will need to provide your name, address and an email address. The WATCM Awareness Training module takes approximately 15 minutes to complete. Upon successful completion of the training a certificate can be printed which will need to be sent to us. It will be the responsibility of the Contractor to ensure all on site staff have completed this training.

4.3.9. The successful bidder must adhere to all requirements outlined in the Health and Safety program, including all post award document submissions

4.4. Health and Safety Submittals which **must** be submitted with Bid Proposal:

4.4.1. A copy of the Contractor's Occupational Health and Safety Management System.

4.4.2. List of all the specific sections of the Health and Safety Management System that apply to the scope of work.

4.4.3. Completed Health and Safety Pre-Selection form, see Health and Safety Program. This form will be used to evaluate the Contractors safety program.

4.4.4. Details of key personnel and their safety responsibilities and training.

4.4.5. Health and Safety record and industry performance materials.

4.4.5.1. Experience Rating Assessment (ERA) from WorksafeNB for the past three (3) years.

4.4.5.2. Annual safety data as described for the past three (3) years.

- Total hours worked
- Number of fatalities
- Number of lost time incidents
- Number of days lost
- Number of modified work incidents
- Number of medical aids
- Number of high potential incidents where the possibility of fatality or recordable injury could have occurred.

4.4.6. Summary of any penalties levied by the Government / Regulator against the Contractor within the past three (3) years.

4.4.7. Contractor summary reports of any work place fatality and / or incidents which resulted in significant property and / or environmental damage.



4.4.8. Notification of any pending administrative actions against the Contractor by the Regulator.

4.4.9. Certificate of Recognition (COR) issued under the Certificate of Recognition Program by the New Brunswick Construction Safety Association (NBCSA), or approved alternative. Certification must be maintained “In Good Standing” by the Contractor until completion of all Work.

**5.0 CONTRACT DOCUMENTS**

5.1. Holdback of 10% to be invoiced 60 days after final completion.

5.2. Description of Services and Specifications – RFP / Project No. BHOI 504-2019-01.

5.3. The Description of Services and Specifications shall be read in conjunction with the Construction Specifications for Trans-Canada Highway Project Co. and Brun-Way Highways Operations Inc. In interpreting the contract in the event of discrepancies or conflicts between the Description of Services and Specifications and the Construction Specifications, the Description of Services and Specifications shall govern.

5.4. List of product specifications:

5.4.1. TCHP Co. Item 351 – Waterproofing

5.4.1.1. TCHP co. Item 351-1 Deck at Barrier Wall Curb Waterproofing Details

5.4.2. TCHP Co. Item 261 – Asphalt Concrete Pavement

5.4.3. OMR Item 405 – Facility Cleaning

**6.0 PARTICULAR SPECIFICATIONS**

When reading TCHP Co. Specifications – references to “Developer” shall be read as “Contractor” and references to “Subsidiary” shall be read as “Brunway”.

**7.0 PROJECT MANAGER**

All inquiries pertaining to the work specified in this contract shall be referred to:

Stephanie Clayton, P.Eng  
Brun-Way Highways Operations Inc.  
1754 Route 640  
Hanwell, NB  
E3C 2B2

Office: (506) 474 - 7750  
Mobile: (506) 461 – 8220  
E-mail: [Stephanie.Clayton@sncclavalinom.com](mailto:Stephanie.Clayton@sncclavalinom.com)



# **SCHEDULE C – QUALITY ASSURANCE PROGRAM**

May 27, 2019

Schedule C can be found at the following link:

[Schedule C - Quality Assurance Program](#)



# **SCHEDULE D – HEALTH AND SAFETY PROGRAM**

May 27, 2019

Schedule D can be found at the following link:

[Schedule D – Health and Safety Program](#)



# **SCHEDULE E – ENVIRONMENTAL PROGRAM**

May 27, 2019

Schedule E can be found at the following link:

[Schedule E - Environmental Program](#)



# **SCHEDULE F – SUPPLIER COMPLIANCE PACKAGE**

May 27, 2019

Schedule F can be found at the following link:

[Schedule F - Supplier Compliance Package \(On-Site Services\)](#)





# **SCHEDULE G – PRODUCT SPECIFICATIONS**

May 27, 2019

351.1 DESCRIPTION

- .1 This Item consists of the supply and installation of waterproofing systems on Structures.

351.2 MATERIALS

- .1 All materials shall be supplied by the Developer.
  - .1 The waterproofing system "A" shall be a manufactured waterproofing membrane system consisting of a primer, a membrane and a mastic and shall be used on the decks of Structures.
  - .2 The waterproofing system "B" shall be a manufactured waterproofing membrane system consisting of a primer, a membrane, a mastic and a protection board and shall be used on the ballastwalls of Structures and on concrete box Culverts.
    - .1 Protection board shall be Vibraflex Type 70 and/or IKO 1/8" Protecto Board, or equivalent, and having a maximum absorption of 3%.
  - .3 The waterproofing systems listed in Table 351-1 are approved.

**Table 351-1**  
**Approved Waterproofing Membranes**

Waterproofing System	Manufacturer	Product
A	Protecto Wrap Company	Jiffy Seal M-400A(R)
	Royston Laboratories	Royston Bridge Membrane 10A Easy Pave
	Royston Laboratories	Rosphalt 50
	Soprema Inc.	Antirock 5000
	Sporema Inc.	Antirock
	IKO Industries Ltd.	Armourbridge
B	Protecto Wrap Company	Jiffy Seal 140/160
	W.R. Grace & Co. of Canada	Bituthene 4000
	Soprema Inc.	Colphene 3000
	Royston Laboratories	HP Membrane

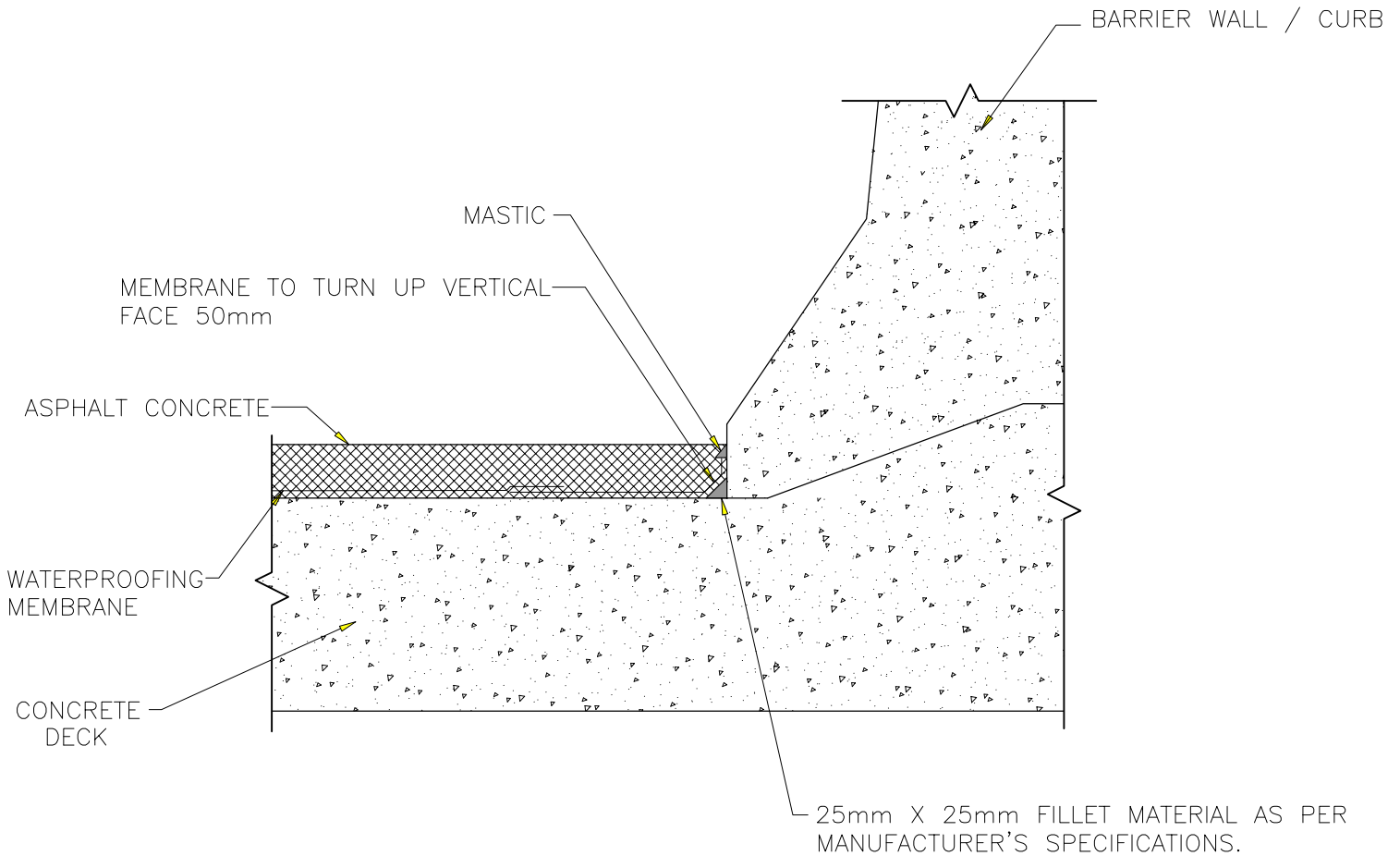
351.3 DOCUMENTATION

- .1 The Developer shall obtain and retain, 7 Days in advance of the commencement of the Work, details of the proposed type of waterproofing system including as follows:
  - .1 The manufacturer's recommended procedures for installation and instructions for handling the waterproofing system and its components.

351.3.1 .2 The manufacturer's specified minimum temperature for asphalt concrete prior to placement on the waterproofing system.

351.4 CONSTRUCTION

- .1 All concrete surfaces shall be dry and free of foreign materials prior to priming.
  - .1 Any primed surfaces left overnight shall be re-primed prior to membrane application.
- .2 The Developer shall prepare the area and install the waterproofing system in accordance with the manufacturer's installation specifications and instructions.
- .3 For all waterproofing applications the following shall apply:
  - .1 The membrane shall be protected, when required, with the specified protection board, adhered to the waterproofed surface.
  - .2 Any protection board which is to be left exposed for more than 48 hours shall be protected from sunlight exposure in accordance with the manufacturer's instructions.
  - .3 All exposed edge terminations shall receive a trowelled bead of mastic.
- .4 For Bridge decks, the edge details shall be constructed as shown on Standard Drawing 351-1.
- .5 For ballast walls the membrane shall be applied in vertical strips starting at the mid-depth of the downward angle of the ballast wall angle.
  - .1 The membrane shall cover the entire back face of the ballast wall with a minimum 150 mm overlapping onto the approach slab and wingwalls.
  - .2 The details for installation are shown on Standard Drawing 351-2.
- .6 For concrete box Culverts, the following conditions shall apply:
  - .1 The membrane shall be applied in strips perpendicular to the long axis of the Culvert.
  - .2 The membrane shall cover the entire top surface of the Culvert and the upper 450 mm of the sides.
  - .3 The protection board shall be applied over the top of the waterproofing system, on both the top and sides and adhered to the membrane by placing gobs of the mastic at 600 mm centres between the two surfaces.
  - .4 The protection boards shall be butted tightly and shall be orientated vertically when coverage of the sides is specified and in all cases shall completely cover the applied waterproofing system.
- .7 The Developer shall pave a Bridge deck within 3 Days of the installation of the deck slab waterproofing.



SECTION THROUGH DECK AT BARRIER WALL / CURB  
SHOWING WATERPROOFING SYSTEM

NOTES:

- OVERLAP MEMBRANE IN PRINCIPLE DIRECTION OF WATER FLOW AND IN DIRECTION OF ASPHALT CONCRETE PLACEMENT
- FOR NORMAL CROWN – INSTALL STARTER STRIP FIRST.  
FOR SUPERELEVATION – INSTALL STARTER STRIP ON HIGH SIDE LAST

Deck At Barrier Wall / Curb Waterproofing Details

261.1 DESCRIPTION

.1 GENERAL

- .1 This Item consists of supplying crushed aggregates, blending sand, anti-stripping agent, asphalt cement, production, loading, hauling, placing and compaction of hot mix asphalt concrete for Pavement construction.
- .2 It shall be the Developer's responsibility to provide an acceptable product as specified. In order to achieve this, the Developer shall implement and maintain a quality control system that will provide assurance that all components, as well as end result products, conform to the requirements of the Contract Documents. This is without regard to whether the products are manufactured by the Developer or purchased from suppliers or Subcontractors.
- .3 The Operator has the option to use warm mix asphalt concrete (WMA) in lieu of hot mix asphalt concrete.

.2 DEFINITIONS

.1 Design Mix Formula (DMF)

- .1 DMF - the laboratory determination of the precise proportions of asphalt cement and aggregates to be blended together to meet the specified properties for the asphalt mix.

.2 Job Mix Formula (JMF)

- .1 JMF - the establishment of the single definite percentage for each sieve fraction of aggregate and the asphalt cement content that will produce the desired mix properties under field conditions.

.3 Asphalt Content

- .1 "Design Asphalt Content" means the asphalt cement content established by the DMF.
- .2 "Approved Asphalt Content" means the asphalt cement content determined by the JMF.
- .3 "Actual Asphalt Content" means the amount of asphalt cement in the mix as determined by ASTM D2172 or AASHTO TP53-95 (modified).

.4 Warm Mix Asphalt Concrete (WMA)

- .1 WMA is warm mixed, warm laid asphalt concrete produced using technologies that provide coating, workability and compaction at lower temperatures than required for hot mix asphalt.

261.2 MATERIALS

.1 MATERIAL PROPERTIES

.1 Asphalt Cement

- .1 Asphalt cement shall be supplied by the Developer.

261.2.1.1 .2 The asphalt cement to be used in the Work shall meet the requirements found in AASHTO MP1-98 Table 1

.2 Coarse Aggregate

- .1 Coarse aggregate shall be supplied by the Developer.
- .2 Coarse aggregate shall consist of crushed quarried rock or gravel, composed of hard, sound, durable particles free from shale, clay and decomposed schist and other soft or disintegrated pieces.
- .3 Coarse aggregate shall be the portion retained on the 4.75 mm sieve, when tested in accordance with ASTM C136, and shall meet the physical requirements of Table 261-1.
- .4 If the coarse aggregate is produced from pit run gravel the following shall apply;
  - .1 The Developer shall crush pit run gravel which is retained on a 31.5mm sieve.
    - .1 The pit run gravel retained for crushing shall be allowed a maximum of 10% passing the 31.5mm sieve based on a washed sieve analysis.

.3 Fine Aggregate

- .1 Fine aggregate shall be supplied by the Developer.
- .2 Fine aggregate shall be prepared by crushing rock or gravel or screening a manufactured sand. It shall consist of hard, sound, durable particles free from clay, loam or other deleterious substances.
- .3 Fine aggregate shall be the portion passing the 4.75 mm sieve, when tested in accordance with ASTM C117 and C136, and shall meet the physical requirements of Table 261-1.
- .4 If the fine aggregate is produced from pit run gravel, the following shall apply.
  - .1 Material passing the 4.75 mm sieve, may be used as fine aggregate.
  - .2 The Developer shall crush pit run gravel which is retained on the 6.3 mm sieve.
    - .1 The pit run gravel retained for crushing will be permitted a maximum of 5% passing the 6.3 mm sieve, based on a washed sieve analysis.

.4 Reclaimed Asphalt Concrete

- .1 If the Developer uses reclaimed asphalt concrete, the following shall apply:
  - .1 Reclaimed asphalt concrete shall be obtained by the Developer.

TABLE 261-1  
Asphalt Concrete Mix Requirements

Sieve Size		Type B/HRB	Type C	Type D/WMD /HRD
ASTM Designation		% (by mass) Passing Each Sieve		
Coarse Aggregate	25.0 mm	100	-	-
	19.0 mm	84-98	-	-
	16.0 mm	72-90	100	-
	12.5 mm	60-83	88-98	100
	9.5 mm	51-75	68-90	76-98
Fine Aggregate	6.3 mm	41-66	54-77	60-84
	4.75 mm	34-60	46-69	52-70
	2.36 mm	22-50	28-58	36-65
	1.18 mm	12-42	20-50	25-55
	600 µm	6-32	13-40	16-44
	300 µm	3-20	7-27	8-26
	150 µm	2-8	3-10	4-12
	75 µm	2-6	2-7	2-7

Physical Requirements For Asphalt Concrete			
Air Voids %	3.5-4.5	3.5-4.5	3.5-4.5
VMA % (min)	13	14	15
Voids Filled with Asphalt %	65-75	65-75	65-77
TSR (Average of Conditioned and Freeze/Thaw TSR values) (min) ASTM D 4867	80.0	80.0	80.0
Dust to Binder Ratio	0.6-1.2	0.6-1.2	0.6-1.2
Number of Gyration	N initial = 8, N design = 100, N max = 160		

Physical Requirements For Coarse Aggregate			
Freeze/Thaw % (max) - DOT method	14	12	12
Micro Deval % (max) – MTO LS-618	18	15	15
Petrographic No.(max) – MTO LS-609	230	180	180
Flat & Elongated Particle % (max @4:1) – DOT Method	20	15	15
Crushed Particles (min % by wt., one face)	95	95	95
	(min % by wt., two face) – DOT Method	80	80
Absorption %(max) – ASTM C 127	2.00	1.75	1.75

Physical Requirements For Fine Aggregate			
Micro-Deval % (max) – MTO LS-619	20	16	16
Uncompacted Void Content % (min) – AASHTO TP33	45	45	45

- 261.2.1.4.1 .2 Reclaimed asphalt concrete shall be free of contamination and processed in such a manner that all particles pass the 50 mm sieve, when tested in accordance with ASTM C 117 and/or C 136, immediately prior to the introduction into the cold feed at the plant.
- .5 Blending Sand
- .1 Blending sand shall be supplied by the Developer.
- .2 Blending sand shall be used to obtain acceptable physical mix properties as outlined in Table 261-1.
- .3 The maximum mass of blending sand to be used in the total mix shall not exceed 10% of the total mass.
- .4 Blending of aggregates shall not be permitted except for the following reasons:
- .1 To meet the grading requirements; or
- .2 To increase the percentage of crushed particles
- .6 Anti-stripping Admixtures
- .1 Anti-stripping admixtures shall be supplied by the Developer.
- .2 Hydrated lime shall meet the requirements of ASTM C 207.
- .7 Sulphide Bearing Rock
- .1 Aggregates made from quarried rock shall have a total sulphur content (S%) of less than 0.3%, or a neutralization potential (NP) at least three times the acid-generating potential (AP), as represented by the neutralization potential ratio (NPR), where  $NPR = NP/AP \geq 3$ .
- .2 The NPR shall be determined by the "Modified Sobec" procedure (acid-base accounting), based on total sulphur.
- .3 Notwithstanding 261.2.1.7.2, the NPR may be based on sulphide sulphur in the case of material from weathered stockpiles predating 2002 provided the sampling plan set out in 201.2.2.3.2.1, 201.2.2.3.2.2 and 201.2.2.3.2.3 is followed.
- .8 Warm Mix Asphalt Concrete
- .1 All material required for production of WMA shall be supplied by the Operator.
- .2 The asphalt binder grade prior to combining with the WMA additive shall be PG 58-28.
- .3 The Operator shall ensure the mixing plant can produce the WMA mix in accordance with the suppliers' instructions for the use of their materials.
- .4 The Operator shall obtain from the suppliers all information required for the proper preparation, handling, storage and use of their materials.



.5 The following Warm Mix Technologies have been approved for use:

- Evotherm 3G
- Evotherm DAT
- Advera
- Gencor Ultraform GX
- Astec Double Barrel Green Foaming
- Sonne Warmmix
- Cecabase RT
- Meeker Foaming System
- Al-Mix Foaming System
- Rediset LQ
- Cecabase RT 2N1

261.2.2 COMPOSITION OF ASPHALT CONCRETE MIX

.1 Mix Design

- .1 Responsibility for Design Mix Formula: Preparation of the asphalt DMF is the responsibility of the Developer. The Developer shall use professional engineering services and a qualified testing laboratory, to assess the aggregate materials proposed for use and to carry out the design of the asphalt mix.
- .2 Requirements for Design Mix Formula: The asphalt mix design shall follow AASHTO PP28-02 *Standard Practice for Superpave Volumetric Design for Hot-Mix Asphalt (HMA)*, AASHTO PP2-00 *Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)* and AASHTO TP4-00 *Standard Method for preparing and Determining the Density of Hot-Mix Asphalt (HMA) Specimens by means of Superpave Gyrotory Compactor.*

.2 Mix Adjustments During Production

- .1 The Developer shall produce an asphalt concrete mix to the mix control tolerances and ranges as shown in Table 261-1A.

**TABLE 261-1A  
Physical Requirements for Asphalt Concrete Mix**

Test Property	B		HRB		C		D/WMD/HRD	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
% Air Voids	3.0	5.0	2.5	5.0	3.0	5.0	3.0	5.0
% Voids in mineral aggregate (VMA)	13.0		13.0		14.0		15.0	
% Voids filled with asphalt (VFA)	65.0	75.0	65.0	75.0	65.0	75.0	65.0	77.0

- .2 If testing results indicate that the asphalt concrete mix is outside the physical requirement listed in Table 261-1A, the Developer shall take corrective action.

261.3 QUALITY CONTROL TESTING

.1 General

- .1 The Developer shall perform quality control tests in accordance with the requirements in Table 261-2 and 261-3.

**TABLE 261-2**  
**Test Methods Used To Determine Aggregate Characteristics**

<b>Tests</b>	<b>Standard</b>
Sampling	ASTM D 75
Sieve Analysis	ASTM C 117, C 136
Soundness (NaSO <sub>4</sub> )	ASTM C 88
Micro Deval	MTO LS – 618
Petrographic No.	MTO LS – 609
Flat & Elongated Particle	MTO LS – 608
Percent Fracture	MTO LS – 617
Unconfined Freeze/Thaw	MTO LS – 614
Absorption	ASTM C 127

**Table 261-3**  
**Quality Control Testing Requirements**

<b>Series</b>	<b>Test</b>	<b>Standard</b>
<b>A</b>	<b>Aggregate Production</b> 1. Sampling 2. Sieve Analysis (Crushed) 3. Sieve Analysis (Blending Sand) 4. Percent Fracture (Coarse) 5. Flat & Elongated Particle (Coarse)	ASTM D 75 ASTM C 136 & C 117 ASTM C 136 & C 117 MTO LS – 617 MTO LS – 608
	<b>Samples</b> 1. Asphalt Cement 2. Tack	Refinery Certification ASTM D 140
<b>B</b>	<b>Hot Bin (Batch Plants)</b> 1. Sampling 2. Sieve Analysis	ASTM C 136 & C 117
<b>C</b>	<b>Plant Inspection</b>	
	<b>Mix Testing</b> 1. Mix Asphalt Content  2. Mix Moisture Content 3. Field Formed Superpave Briquettes	ASTM D 2172 or AASHTO TP53-95 (modified) or ASTM D 4125 ASTM D 2172 AASHTO TP4-00
<b>D</b>	<b>Other Related Tests</b> 1. Extracted Aggregate Sieve Analysis 2. Bulk Relative Density 3. Void Calculations, Cores or Formed Specimens 4. Temperatures (plant and road) 5. Percent Compaction, Asphalt Concrete Pavement (coring or nuclear density) 6. Random Test Site Locations 7. Correction Factors, Nuclear Moisture-Density Measurement	ASTM D5444  ASTM D 2726 ASTM D 3203  ASTM D 5361(coring) ASTM D 2950(nuclear)  ASTM D 3665 ASTM D 2950

261.4 CONSTRUCTION

.1 PLACEMENT

.1 Mixing, Weather and Temperature Conditions

- .1 Mixing temperature for all types of plants shall be such that the temperature of the mixture when discharged from the mixer unit shall be controlled within  $\pm 5^{\circ}\text{C}$  of the temperature requirement of the JMF and conforming to the supplier's recommendations.
- .2 The Developer shall not place asphalt concrete when weather conditions of fog or rain prevail nor when the pavement surface shows signs of any moisture.
- .3 Aggregate Base shall be free of standing water prior to the placement of asphalt concrete.
- .4 The mixing temperature of WMA mix(es) shall be as recommended by the WMA additive supplier, subject to the following requirements:
  - .1 The maximum mixing temperature of the WMA mix shall be  $130^{\circ}\text{C}$ .
  - .2 For WMA, mixing temperature for all types of plants shall be such that the temperature of the mixture when discharged from the mixer unit shall be controlled within  $\pm 10^{\circ}\text{C}$  of the temperature requirement of the DMF and conforming to the supplier's recommendations.

.2 Placing Asphalt Mix

- .1 All prepared surfaces shall be cleaned of loose or foreign material prior to placing of the asphalt mix.
  - .1 Milled and aged asphalt concrete surfaces shall be treated with bituminous tack coat.
- .2 Contact edges of existing mats and contact faces of curbs, gutters, manholes, sidewalks and bridge structures shall be coated with a thin film of tack before placing the asphalt mix.
- .3 The alignment and grade along the outside edges of the asphalt concrete layers shall be regular without any sags and/or kinks.
- .4 Lanes shall be completed to approximately the same location at the end of the day's paving.
- .5 No traffic shall be permitted on newly placed asphalt concrete until finish rolling is complete, and the finished mat has been permitted to cool to  $60^{\circ}\text{C}$ .
  - .1 Water required to lower the mat temperature shall be supplied by the Developer.
- .6 Fuel spills from Equipment shall be immediately addressed by the Developer.

- .7 The cross slope of the asphalt concrete surface shall be within  $\pm 0.5\%$  ( $\pm 15$  mm when measured over 3.0 m, perpendicular to the centreline) of the design cross slope.

261.4.1 .3 Joints

.1 General

- .1 Joints shall be constructed to ensure thorough and continuous bond and to provide a smooth riding surface.
- .2 Dirt or other foreign and loose material shall be removed from the faces against which joints are to be made.

.2 Transverse Construction Joint

- .1 A transverse construction joint shall be constructed at the end of each Day's work and at other times when paving is halted for a period of time which will permit the asphalt concrete to cool below 118°C.
  - .1 For WMA, a transverse construction joint shall be constructed at the end of each Day's work and at other times when paving is halted for a period of time which will permit the asphalt concrete to cool as recommended by the WMA additive supplier.
- .2 Where the asphalt concrete surface and/or base course has been terminated due to the conditions noted in the preceding clause, the mat shall be tapered at 50:1 minimum, if traffic is permitted.
- .3 When paving resumes, tapers from surface courses previously laid shall be cut back to full mat thickness to expose fresh, straight vertical surfaces, free from broken or loose material and tacked.

.3 Transverse Key Joint

- .1 A transverse key joint shall be constructed as per Standard Drawing 261-1 where the new pavement terminates against an existing pavement.
- .2 If a key is cut in advance of paving the joint area, the Developer shall construct a smooth taper at the joint area to a slope of 25:1 minimum, as shown in Standard Drawing 261-1.

.4 Longitudinal Construction Joints

- .1 The following requirements shall apply when constructing longitudinal construction joints.
  - .1 Widths of succeeding individual courses shall be offset by 100-200 mm.
  - .2 The Developer using a one paver operation between May 15<sup>th</sup> and September 15<sup>th</sup> may leave an exposed longitudinal joint for up to one-half of the day's production without an application of tack coat. Before May 15<sup>th</sup> and after September 15<sup>th</sup> the Developer shall be required to tack the longitudinal joint.

- .3 All longitudinal construction joints left exposed overnight or which are exposed to moisture from rain and all curb, manhole, culvert or other abutting structures shall receive an application of tack coat.
- .4 Longitudinal construction joints shall not be permitted between the edges of driving lanes in the final lift of asphalt concrete.
- .5 Longitudinal construction joints shall be constructed to ensure that maximum compression under rolling is achieved.
- .6 On surface courses, the method of making joints shall be such that excess material is not scattered on the surface of the freshly laid mat and all excess material shall be carefully removed.

261.4.1 .4 Compaction of Mix

- .1 Ninety (90) percent of the Developer's compaction results based on a 2400t lot size shall be a minimum of 92.5% of the theoretical maximum relative density. In no instances shall the theoretical maximum relative density be below 89.5%. Compaction results shall be achieved without any damage to the Facility or adjacent property.
  - .1 The minimum temperature of the WMA mix prior to initial compaction shall be as specified by the WMA additive supplier.

.5 Temporary Traffic Markings

- .1 The Developer shall place, on a daily basis, temporary markings on all newly constructed or milled pavement to be exposed to traffic.
- .2 The Developer shall supply the temporary traffic marking strip material or pavement markers.
- .3 All temporary marking strips must be a minimum of 2.0 m long and applied lengthways to the road surface.
- .4 Spacing shall be 50 m center to center on tangents and 25 m center to center on both horizontal and vertical curves.

.6 Additional Requirements for Bridge Deck Paving

- .1 Asphalt Concrete surface mixes, specifically designed for bridge deck paving, shall be used to overlay the waterproofing system on bridge decks.
  - .1 The thickness shall be indicated on the Developer's Design Documents.
- .2 The Developer shall be responsible for all damage to the waterproofing membrane resulting from any aspect of the paving operation.
  - .1 Should the membrane become damaged, paving operations shall be immediately stopped and repairs made before paving recommences.

- 261.4.1.6
- .3 The Developer shall follow the waterproofing manufacturer's recommendation and/or procedures for overlaying of asphalt concrete for the deck waterproofing system.
  - .4 Where protection board is used with the deck waterproofing system, the protection board shall be sprayed with SS-1 emulsion diluted 50% with water at the rate of 0.2 to 0.3 litre per m<sup>2</sup> prior to placing hot asphalt concrete.
  - .5 Expansion joints shall be protected from damage from equipment passing over them.
    - .1 The placing of the asphalt concrete at expansion joints shall be completed as indicated on Standard Drawing 261-2.
  - .6 A steel-drum tandem or 3-drum roller weighing at least 9 tonnes and exerting a contact pressure on compression roll of at least 4.5 kg/mm of drum width shall be the breakdown roller required for bridge deck paving and no vibratory rollers shall be permitted.
  - .7 The breakdown roller shall be required to run off the deck to stop and turn.
  - .8 After breakdown rolling, the mat shall be rolled with a pneumatic tired roller, taking care not to displace the mat when stopping or turning. The mat shall be finish rolled to remove any marks.

261.5 QUALITY ASSURANCE TESTING

.1 ASPHALT CEMENT

- .1 Asphalt cement samples shall be obtained and packaged as follows:
  - .1 Samples shall be a minimum size of one litre for every 5,000t of asphalt mix production and shall be taken from the Developer's storage tank in accordance with ASTM D 140.
  - .2 If a sample test result falls outside of the material requirements, the Developer shall suspend the asphalt mix production until the asphalt cement supplier's quality control tests indicate compliance.

.2 SMOOTHNESS

- .1 Subject to subsection .4, the smoothness of the final lift of newly placed asphalt concrete pavement shall be checked by the Operator with a Class 1 inertial laser profiler in the same year in which the asphalt concrete pavement is placed.
  - .1 This equipment will be installed and operated in accordance with ASTM E 950 *Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference*.
- .2 Smoothness shall be measured according to the International Roughness Index (IRI) which is a statistical measurement used to determine the amount of roughness in a measured longitudinal profile. IRI shall be measured in mm/m and reported to two (2) decimal places.

- 261.5.2 .3 The final lift of asphalt concrete pavement shall not exceed an IRI reading of 2.28 mm/m per 100 m section on the mainline lanes and 2.8 mm/m per 100 m section on all ramps.
- .1 Whether or not the 100 m IRI requirement has been met, localized roughness >3.0 mm/m for each 10 m segment shall be repaired per 261.5.4. This requirement is not applicable to interchange ramps.
- .4 In cases where the Operator places Asphalt Concrete on a section of highway up to 500 m in length the Operator shall only be required to carry out the requirements of subsection .1 upon a written request by the Subsidiary.
- .5 Exclusions
- .1 The 10 metre segments at both ends of a section of newly placed asphalt concrete pavement shall be excluded from smoothness calculations. Bridges, underpass and overpass structures located within any 10 metre segment, including the 10 metre segments immediately before and after the structure shall be excluded from smoothness calculations.
- .2 Areas requiring hand work such as tapers, intersections, gore areas, and aprons shall be excluded from smoothness calculations.
- .3 Individual 10-metre segments exhibiting roughness, which can be directly attributed to physical features of the roadway including iron works or curb/gutter match-ins, shall be excluded from smoothness calculations.

261.5 .3 SURFACE DEFECTS

- .1 The finished surface of any pavement course shall have a uniform texture and be free of visible signs of defects as per item 261.5.3.3.
- .2 Any obvious defects shall be repaired.
- .3 Such defects shall include but not necessarily be limited to the following:
- .1 For interchange ramps only, individual bumps and dips that exceed 13mm in the vertical direction as measured by the Class 1 inertial laser profiler;
- .1 This value is in excess of the 5mm blanking band;
- .2 This value is based on the outer-wheel path;
- .2 Segregated areas;
- .3 Areas of excess or insufficient asphalt cement;
- .4 Roller marks;
- .5 Cracking or tearing;
- .6 Improper matching of longitudinal and transverse joints;



- .7 Tire marks;
- .8 Sampling locations not properly reinstated;
- .9 Improperly constructed patches;
- .10 Improper cross slope;
- .11 Fuel spills on the mat.

261.5 .4 REPAIRS

.1 General

- .1 All work not meeting the requirements shall be repaired, remedied, overlaid, or removed and replaced by the Developer.

.2 Removal and Replacement

- .1 The full thickness of the appropriate lift of the pavement not meeting the requirements shall be removed by cold milling.
- .2 All joints shall be tack-coated.
- .3 The asphalt concrete mix used to replace pavement shall meet the same requirements as that removed.
- .4 Repaired areas shall be retested. Those failing to meet requirements will be rejected and shall require further repair.

.3 Overlaying

- .1 The asphalt concrete mix used to overlay pavement shall meet the same requirements as that overlaid.
- .2 The overlay shall extend the full width of the underlying pavement surface and have a finished compacted thickness of not less than 50 mm for a base course and 40 mm for a surface course.
- .3 A key shall be constructed at each end of the overlaid section as per Standard Drawing 261-1.
- .4 Repaired areas shall be retested by the Developer.
  - .1 Those failing will be rejected and a second overlay will not be permitted.
  - .2 The Developer shall then effect repairs by removal and placement.
  - .3 Removal depth shall be sufficient to remove the full thickness of the overlay lift and the original unsatisfactory surface lift.
  - .4 If an acceptable grade and cross-section cannot be achieved the Developer shall repair by removal and replacement.
  - .5 If an overlay results in the need for additional shouldering material or adjustments to guide posts and guide rail, the Work shall be carried out, by the Developer, in accordance with Items 204, 510 and 512.

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## ROADSIDE STANDARD

### 405 FACILITY CLEANING - LITTER CONTROL (Revised – OMCR054 – 15 July 2008)

#### 405.1 OBJECTIVES

The objectives of this Standard are to achieve a Facility that:

- a) Is reasonably free of litter and debris that may cause damage to vehicles or injury to motorists;
- b) Has a well-groomed and orderly appearance; and
- c) Is reasonably free of litter and debris that may hinder other maintenance activities.

#### 405.2 END RESULT SPECIFICATIONS

##### 405.2.1 General Specifications

The Operator shall ensure that the Facility is kept reasonably free of undesirable objects. Undesirable objects found on the Facility which create obstructions at catch basins, manholes and/or ditch inlets, hinder other Facility maintenance activities or create an unsightly appearance for motorists shall be disposed of in accordance with applicable Laws and Regulations.

##### 405.2.2 Detailed Specifications and Operational Performance Measures

The Operator shall monitor the Facility for the presence of undesirable or hazardous objects and undertake their removal in accordance with the following specifications:

- (a) All removal operations shall be recorded within the CPAP.
- (b) Where an “Adopt-a-Highway” agreement is in place the removal of litter shall be delegated to the adopt a highway contractor, for the period of time specified in the agreement. There will be a three-week tolerance for action by the highway adopter but if action is not taken the Operator shall provide the regular maintenance associated with this specification.
- (c) Objects typically found within the Facility requiring removal include:
  - (i) litter and debris;
  - (ii) dead animals;
  - (iii) vehicle parts such as hubcaps, licence plates, mud flaps or materials lost from commercial or public or private vehicles due to improperly secured loads;
  - (iv) debris resulting from vehicle accidents;

- (v) cardboard boxes;
  - (vi) tire parts;
  - (vii) unlawful signs, damaged and/or fallen road signs; and
  - (viii) rocks, within the OMR Traffic Zone, protruding 150 mm or larger than 150 mm in the smallest dimension
- (d) At no time shall litter and/or debris which has collected within the Facility hinder, interfere with or disrupt the execution of other maintenance activities taking place on the Facility, such as mowing, ditching, etc.
- (e) The Operator recognizes that accumulated litter and other debris within the Facility becomes more evident during the end of the winter season and that higher levels of monitoring and collection are required during this time of year. In disposing of litter and debris, the Operator shall consider re-cycling alternatives.
- (f) The Operator shall dispose of all collected litter and debris in accordance with all applicable Laws and Regulations.
- (g) The Operator shall undertake all traffic control required in the course of undertaking Facility cleaning and litter control in accordance with OMR Standard 802, Highway Traffic Control.

The following detailed specifications and OPMs detail the limits that shall trigger either routine or periodic maintenance to address the requirements for cleaning and litter control.

CONDITION		
<b>Objects on the Facility</b>	<b>SPECIFICATION</b>	Non-naturally occurring objects observed from the road surface shoulder are to be removed on a regular basis, and at least once per month from April to October, inclusive except where rocks are adjacent to rock cuts, and such rocks are to be removed on a regular basis and at least once per month from May to October inclusive.
	<b>OPM</b>	<p><b>MTC</b> – Managed with nil presence desirable.</p> <p><b>MRT</b> - On a regular basis and at least once per month from April to October, inclusive. However rocks adjacent to rock cuts are to be removed on a regular basis and at least once per month from May to October inclusive.</p>
<b>Localized Litter Problems</b>	<b>SPECIFICATION</b>	Additional removal operations shall be completed within five (5) days of discovery of localized litter problems. Removal of litter shall be immediate at any time litter or debris presents a potential hazard to the public.
	<b>OPM</b>	<p><b>MTC</b> - Managed with nil presence desirable.</p> <p><b>MRT</b> - Within five (5) days of discovery.</p>

**Comment [A2]:** Added pursuant to the conditions of OMCR054, effective date 15 Jul 08.

**Comment [A3]:** Added pursuant to the conditions of OMCR054, effective date 15 Jul 08.

<b>Graffiti</b>	<b>SPECIFICATION</b>	Steps shall be immediately taken by the Operator to remove or cover graffiti visible to Facility users. Graffiti shall be removed or covered within twenty (20) days of observation except during winter months, where the graffiti shall be removed or covered no later than May 31.
	<b>OPM</b>	<p><b>MTC</b> - Managed with nil presence desirable.</p> <p><b>MRT</b> - Removed or covered within twenty (20) days of observation except during winter months, where the graffiti shall be removed or covered no later than May 31.</p>