CONSTRUCTION SPECIFICATION FOR WATERPROOFING BRIDGE DECKS WITH HOT APPLIED ASPHALT MEMBRANE

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914.01 SCOPE

This specification covers the requirements for waterproofing of new and existing concrete bridge decks with hot applied asphalt membrane.

914.01.01 Specification Significance and Use

This specification has been developed for use in provincial- and municipal-oriented Contracts. The administration, testing, and payment policies, procedures, and practices reflected in this specification correspond to those used by many municipalities and the Ontario Ministry of Transportation.
Use of this specification or any other specification shall be according to the Contract Documents.

914.01.02 Appendices Significance and Use

Appendices are not for use in provincial contracts as they are developed for municipal use, and then, only when invoked by the Owner.

Appendices are developed for the Owner’s use only.

Inclusion of an appendix as part of the Contract Documents is solely at the discretion of the Owner. Appendices are not a mandatory part of this specification and only become part of the Contract Documents as the Owner invokes them.

Invoking a particular appendix does not obligate an Owner to use all available appendices. Only invoked appendices form part of the Contract Documents.

The decision to use any appendix is determined by an Owner after considering their contract requirements and their administrative, payment, and testing procedures, policies, and practices. Depending on these considerations, an Owner may not wish to invoke some or any of the available appendices.

914.02 REFERENCES

When the Contract Documents indicate that provincial-oriented specifications are to be used and there is a provincial-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.PROV, unless use of a municipal-oriented specification is specified in the Contract Documents. When there is not a corresponding provincial-oriented specification, the references below shall be considered to be to the OPSS listed, unless use of a municipal-oriented specification is specified in the Contract Documents.

When the Contract Documents indicate that municipal-oriented specifications are to be used and there is a municipal-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.MUNI, unless use of a provincial-oriented specification is specified in the Contract Documents. When there is not a corresponding municipal-oriented specification, the references below shall be considered to be the OPSS listed, unless use of a provincial-oriented specification is specified in the Contract Documents.

This specification refers to the following standards, specifications, or publications:

**Ontario Provincial Standards Specifications, Material**

- OPSS 1212 Hot-Poured Rubberized Asphalt Joint Sealing Compound
- OPSS 1213 Hot Applied Rubberized Asphalt Waterproofing Membrane
- OPSS 1215 Protection Board

**Ontario Ministry of Transportation Publications**

- MTO Field Guide, for the Acceptance of Hot Mix and Bridge Deck Waterproofing

**Canadian General Standards Board (CGSB)**

ASTM International
D 4285-83 (2006) Test Method for Indicating Oil or Water in Compressed Air

914.03 DEFINITIONS

For the purpose of this specification, the following definitions apply:

Deck means the upper concrete surface of a structure to which waterproofing membrane shall be applied.

Lot means a single bridge deck or part of a bridge deck with a surface area of 800 m² or less. Decks larger than 800 m² shall be divided into the least number of equal size lots of 800 m² or less. Decks split longitudinally for staged construction shall be treated as separate decks. The Contract Administrator shall determine the exact limits of each lot.

Mean means the arithmetic average of the test results for waterproofing membrane thickness within the lot.

Protection Board means a durable panel specifically designed to provide an interface protection barrier between the asphalt and the waterproofing membrane.

Random Location means a location determined by the Contract Administrator based on random numbers or, if protection boards are used, it means the exposed corner of a protection board closest to that location.

Standard Deviation means the square root of the value found by summing the squares of the difference between each test result and the mean of the test results divided by the number of test results minus one.

Sublot means the area within which membrane thickness is measured. There are 10 sublots within a lot calculated as length of lot ÷ 10 x lot width.

914.05 MATERIALS

914.05.01 Waterproofing Membrane

The waterproofing membrane shall be hot applied rubberized asphalt according to OPSS 1213 and shall be supplied to the job site in cakes in the manufacturer's sealed and labelled containers ready for melting and application.

914.05.02 Waterproofing Membrane Reinforcement

Waterproofing membrane reinforcement shall be spun bonded sheet structure composed of 100% continuous filament polyester fibres bonded together at their crossover points and shall be acceptable to the Owner. The membrane shall be supplied in minimum widths of 450 mm. The material shall be unaffected by the heat generated by the waterproofing membrane and the hot mix.

914.05.03 Hot-Poured Rubberized Asphalt Joint Sealing Compound

The hot-poured rubberized joint sealing compound shall be according to OPSS 1212.

914.05.04 Protection Board

Protection board shall be according to OPSS 1215.
914.05.05 Tack Coat

The tack coat used in conjunction with the waterproofing membrane shall be primer cut back with an equal volume of gasoline type solvent or an acceptable alternative cut-back asphalt product. The primer shall be according to CAN/CGSB-37-GP-9MA.

914.06 EQUIPMENT

914.06.01 Heating and Mixing Kettle for Waterproofing Membrane and Hot-Poured Rubberized Asphalt Joint Sealing Compound

Approved heating and mixing kettles shall be used for the waterproofing membrane and the hot-poured rubberized asphalt joint sealing compound.

The kettles shall be of the double boiler oil heat transfer type with a built-in agitator and equipped with two functional permanently installed dial type thermometers with an accuracy of ± 2 °C to measure the temperature of the melted compound and the oil.

914.06.02 Thermometer

A separate calibrated thermometer with an accuracy of ± 2 °C to verify the material temperature shall be available on the job site.

914.06.03 Air Compressor

The compressor shall provide oil and water free compressed air. The compressed air shall be tested according to ASTM D 4285.

914.07 CONSTRUCTION

914.07.01 General

914.07.01.01 Bridge Deck Waterproofing

Bridge deck waterproofing shall consist of:

a) Deck surface preparation.

b) Application of the tack coat.

c) Application of the waterproofing membrane.

d) Application of the protection board used with the waterproofing membrane.

e) Repair of unacceptable or borderline lots due to waterproofing membrane thickness deficiency.

f) Handling and controlling of traffic.

g) Application of the waterproofing membrane reinforcement.

h) Forming and filling of grooves where there are no separate tender items for this work.
914.07.01.02 Traffic Restrictions

After abrasive blast cleaning operations have commenced, traffic shall not be allowed on the abrasive blast cleaned area until after the hot mix binder course has been placed and cooled to ambient temperature.

The traffic restrictions apply to all traffic other than the construction equipment directly associated with the waterproofing operations and the paving operations that follow.

914.07.01.03 Procedure

Waterproofing operations shall only be carried out when the air and concrete surface temperature are 5 °C or higher. The waterproofing operations shall be performed sequentially with no delay between operations other than delays that may be required by this specification.

Drainage holes through the deck shall not be plugged or covered by either waterproofing membrane or protection boards.

914.07.01.04 Notice of Commencement of Waterproofing Operations

At least 48 hours prior to the commencement of any waterproofing operations, the Contract Administrator shall be informed, in writing, of the date and time the Contractor intends to commence the work.

Waterproofing shall not commence until permission is given by the Contract Administrator.

914.07.01.05 Existing Asphalt Covered Decks

When an asphalt riding surface is to be stripped from the existing concrete structure deck, at least 7 Days prior to the commencement of the asphalt stripping operation, the Contract Administrator shall be informed, in writing, of the date and time the Contractor intends to commence the work.

914.07.01.06 Applicators

A firm certified to apply the waterproofing membrane by the manufacturer of the product shall carry out the application of the waterproofing membrane.

914.07.02 Deck Surface Preparation

914.07.02.01 Treatment of Grout Tubes on Deck Surfaces

The grout tubes shall be cut flush with the deck surface prior to sand blasting and shall be recut flush with the concrete surface if sandblasting results in the tube projecting from above the concrete. A 450 mm x 450 mm piece of membrane reinforcement, centred on the tube, shall be installed as specified herein.

914.07.02.02 New Concrete Bridge Decks and Concrete Deck Overlays

The surface of the concrete shall be completely treated by abrasive blast cleaning, or other such methods as the Contract Administrator may approve, to expose sound, laitance-free concrete. Curing compound used on the concrete surface shall be completely removed. All dirt and debris shall be removed from the bridge deck. Immediately prior to the application of the tack coat, the concrete surface shall be cleaned with a jet of oil-free compressed air to remove all dust and other foreign material.
914.07.02.03  Existing Deck Surface Preparation

All areas of the concrete deck that have a textured surface, not including sawcut grooves, shall be bush 
hammered, ground down, or scabbled to reduce the depth of texture to 2 mm or less prior to the abrasive 
blast cleaning operation for waterproofing.

Prior to waterproofing, all concrete surfaces shall be treated in accordance with the New Concrete Bridge 
Decks and Concrete Deck Overlays clause.

914.07.02.04  Modification of Deck Joint Assemblies of Existing Bridge Decks

Modifications to the expansion joint assemblies involving welding or other means of attachment to 
existing armouring shall be carried out prior to waterproofing.

914.07.02.05  Modification of Deck Drains

Modification of deck drains shall be as specified. The modifications shall be made prior to waterproofing 
the deck.

914.07.03  Tack Coating

A tack coat shall be applied wherever waterproofing membrane is to be applied. The tack coat shall 
terminate in the chase or, where there is no chase, be extended up the face of the curbs, barrier walls, 
expansion joints, and deck drains to the level of the top of the proposed hot mix base course. The tack 
coat material shall be uniformly applied at the rate of 0.25 l/m² using equipment approved by the 
manufacturer of the tack coat material. The tack coat shall be applied when the concrete is surface dry 
and clean. Waterproofing equipment shall not be permitted upon the tack coat until it has fully cured.

Drying of the concrete surface shall not be expedited by use of a torch or any other means.

914.07.04  Application of Waterproofing Membrane

Cakes of asphalt waterproofing membrane shall be melted on the job site and shall be continuously 
agitated in the mechanically agitated heating and mixing kettle. The contents shall be continuously 
agitated until the material can be drawn free flowing and lump free from the mixing kettle at a temperature 
within the range recommended by the manufacturer.

Areas of the deck with sawcut grooves shall be filled with a scratch coat of waterproofing after the tack 
coat has cured. The waterproofing membrane shall be applied immediately after application of the scratch 
coat.

Waterproofing membrane shall not be applied until the tack coat has cured completely. The tack coat 
must also be free of any surface moisture and dirt, and it shall not be dried by torch or any other means. 
The waterproofing membrane shall be applied within the temperature range recommended by the 
manufacturer to form a uniform film having a thickness of 5 mm ± 1 mm. The application of the 
waterproofing membrane shall be continuous. If discontinuities cannot be avoided, the waterproofing 
membrane shall be lapped a minimum of 150 mm.

The waterproofing membrane shall terminate in the chase or, where there is no chase, be extended up 
the face of curbs, barrier or parapet walls, expansion joints, and deck drains to the level of the top of the 
proposed hot mix base course.
914.07.05 Membrane Reinforcement

The membrane reinforcement shall be placed directly over the waterproofing membrane and pressed in while it is still tacky. The membrane reinforcement shall terminate in the chase or, where there is no chase, be extended up the face of the curbs, barrier walls, expansion joints, and deck drains to the level of the top of the proposed hot mix base course. The membrane reinforcement shall then be covered with an additional layer of waterproofing membrane.

914.07.06 Application of Protection Board

Protection boards shall be laid on the waterproofing membrane while the surface is still tacky and shall be laid transverse to the centreline of the deck. Material shall not be applied to the waterproofing membrane surface to remove the tackiness prior to installation of the protection board. The protection boards shall be placed with all edges overlapping 12 mm ± 6 mm. The protection board edge shall be within 6 mm of all curbs, vertical faces of drains, and vertical faces of expansion joints. Protection boards shall be placed such that the joints lap in the direction of traffic flow and be staggered a minimum of 150 mm.

Binder course pavement shall be placed within 7 Days of waterproofing.

914.07.07 Form and Fill Grooves

Where hot mix asphaltic concrete is carried directly over expansion and fixed joints, and where indicated in the Contract Documents, a 20 mm wide and 20 mm deep rectangular groove shall be formed. This groove shall be made either by dry sawing or routing, with vertical sides, and be located directly over the joint for the full length of the joint.

Immediately prior to placing the hot-poured asphaltic sealing compound, the groove shall be dry and clean of any dust or debris using oil-free compressed air.

Cakes of joint sealing compound shall be melted on the job site and shall be continuously agitated in the mechanically agitated heating and mixing kettle. The contents shall be continuously agitated until the material can be drawn free flowing and lump free from the mixing kettle at a temperature within the range recommended by the manufacturer.

Joint sealing compound shall be poured using hand pouring pots, mechanical methods, or any other method that gives satisfactory results.

Shields shall be provided to prevent the compound from being spilled on the concrete curb, barrier or parapet walls, expansion joints, deck drains, and on the newly placed hot mix asphalt.

Sufficient joint sealing compound shall be poured into the groove so that upon completion of the work the surface of the compound is flush with the surface of the pavement. If the compound subsides to a level below the surface of the pavement, a second pouring shall be done. When more than one pouring is required to fill the groove, succeeding pours shall be made immediately.

Damage to the joint sealing compound, such as stones embedded in the compound or that is caused by the Contractor’s operation, shall be repaired.

Traffic shall not be permitted over the joint sealing compound until the compound has cooled to ambient temperature.
914.07.08 Samples for Testing

914.07.08.01 Delivery of Samples

Samples of the waterproofing membrane, waterproofing membrane reinforcement, joint sealing compound, tack coat, and the protection board shall be delivered by the Contractor to:

Head, Concrete Section
Ontario Ministry of Transportation
Room 15, Building C
1201 Wilson Avenue
Downsview, Ontario, M3M 1J8

914.07.08.02 Membrane Quality

A 4-litre sample from each lot of waterproofing membrane shall be drawn by the Contractor from the heating and mixing kettle and placed in a container supplied by the Contract Administrator. The samples shall be delivered as stated in the Delivery of Samples clause.

The Contract Administrator shall determine the time of sampling as outlined in the Field Guide for the Acceptance of Hot Mix and Bridge Deck Waterproofing.

914.07.09 Management of Excess Material

Management of excess material shall be as specified in the Contract Documents.

914.08 QUALITY ASSURANCE

914.08.01 Testing of Samples Other than Waterproofing Membrane

The samples of the waterproofing membrane reinforcement, joint sealing compound, tack coat, and protection board delivered by the Contractor to the Owner shall be tested for conformance with the requirements in this specification.

914.08.02 Acceptance of Waterproofing Membrane Thickness

914.08.02.01 General

The Contract Administrator shall determine the acceptability of the waterproofing membrane thickness by determining the waterproofing membrane thickness on a lot-by-lot basis.

914.08.02.02 Testing of Membrane Thickness

The Contract Administrator shall obtain a test result from each sublot. Each test result shall consist of three measurements taken at the corners of an imaginary triangle centered about the random location. The sides of the imaginary triangle shall be approximately 0.1 m. The three measurements shall be averaged, rounded to the closest 1 mm, and reported as one test result. Measurements shall be made according to the Field Guide For the Acceptance of Hot Mix and Bridge Deck Waterproofing and shall be taken after the Contractor has completed each lot, including the placement of protection board.
914.08.02.03 Membrane Thickness Acceptance Determination

The decision to accept the waterproofing membrane thickness shall be based on the mean and standard deviation of each lot, as detailed in this clause.

a) Case 1 - Lot mean is less than 4.0 mm

If the lot mean is less than 4.0 mm, the entire lot is unacceptable. In such cases the Contractor shall repair the entire lot as outlined below.

b) Case 2 - Lot mean is greater than or equal to 4.0 mm and less than or equal to 6.0 mm

If the lot mean is greater than or equal to 4.0 mm and less than or equal to 6.0 mm, the mean and the standard deviation shall be rounded to the closest 0.1 mm and 0.05 mm respectively, and shall then be applied to Table 1 to determine if the lot is in the acceptable, borderline, or unacceptable range.

If the lot is within the borderline range of Table 1, the Contractor may repair the lot as outlined below, or request that the Owner accept the lot as is, with a payment adjustment as outlined in the Payment Adjustment Due to Membrane Thickness Deficiency clause.

If the lot is within the unacceptable range of Table 1, the Contractor shall repair the lot as outlined below.

c) Case 3 - Lot mean is greater than 6.0 mm

If the lot mean is greater than 6.0 mm, regardless of the standard deviation, the Contract Administrator shall review the conditions to which the bridge deck shall be exposed and then designate the deck as acceptable or unacceptable. When the lot is designated unacceptable, the Contractor shall repair the lot as outlined below.

914.08.02.04 Repair of Unacceptable or Borderline Lots

When the Contract Administrator identifies an unacceptable lot or the Contractor chooses to improve a borderline lot, the repairs deemed necessary by the Contractor to upgrade the lot shall be made. Any protection boards that are removed during the repairs shall be replaced with new ones. The Contract Administrator shall determine a new set of random locations and shall re-measure and re-evaluate the entire lot for acceptance when notified that the repairs have been completed.

914.08.02.05 Retesting of Waterproofing Membrane Thickness

The Contractor may request retesting if any or all of the ten sublot test values are challenged. If this occurs, 10 new thickness measurements shall be taken within the lot by the Contract Administrator in the presence of the Contractor. The new test values shall then be used to determine acceptance. Acceptance shall be based on the criteria specified in the Membrane Thickness Acceptance Determination clause and shall be binding on both parties.

914.08.03 Acceptance of Waterproofing Membrane Quality

914.08.03.01 General

The Contract Administrator shall determine the acceptability of the waterproofing by determining the membrane quality on a lot-by-lot basis.
914.08.03.02 Sampling and Testing of Membrane Quality

The sample delivered by the Contractor to the Owner shall be split into two approximately equal parts: one part shall be tested immediately and the other shall be retained for possible retesting. If the tested part fails any of the specification requirements, the retained part shall be kept for 40 Days after the Contractor has been notified of the test results. If the Contractor requests retesting within this time period, the retained part shall be used for this purpose, otherwise it shall be discarded.

914.08.03.03 Membrane Quality Acceptance Determination

The decision to accept the quality of the hot applied waterproofing membrane shall be based on the results of tests performed according to OPSS 1213 and the following criteria.

Membrane quality shall be considered:

a) Acceptable, if all specification requirements for the lot are met; or

b) Borderline and subject to payment adjustment as outlined in the Payment Adjustment Due to Membrane Quality Deficiency clause, if the total number of adjustment points resulting from Table 2 are less than or equal to 25; or

c) Rejectable, if the total number of adjustment points are greater than 25 or if any individual test result falls within the unacceptable range.

914.08.03.04 Retesting for Quality

The Contractor may request, in writing, retesting of any sample, which results in price adjustment or rejection of a lot; however, the request shall be made within 30 Days of receiving notification of price adjustment or rejection of the lot. The results of the retest shall be used for acceptance determination and shall be binding on both parties. If the retesting results in either a price adjustment or rejection of the lot, the Contractor shall bear the cost of the retesting. If the retesting results in the material passing all test criteria, a retesting charge shall not be levied against the Contractor.

914.09 MEASUREMENT FOR PAYMENT

914.09.01 Actual Measurement

914.09.01.01 Bridge Deck Waterproofing

Measurement of bridge deck waterproofing shall be by area in square metres. Allowance shall not be made in the measurement for the turn-up at vertical faces, for any overlap, or for a second application of waterproofing membrane over the membrane reinforcement. Alternatively, bridge deck waterproofing may be a lump sum item.

914.09.01.02 Membrane Reinforcement

Measurement of membrane reinforcement shall be by length in metres. Allowance shall not be made in the measurement for the turn-up at vertical faces or for any overlap.

914.09.01.03 Form and Fill Grooves

Measurement of forming and filling grooves shall be by length in metres.
914.09.01.04 Modification of Deck Drains

For measurement purposes, a count shall be made of the number of deck drains modified, regardless of type and size.

914.09.01.05 Deck Surface Preparation

Measurement of deck surface preparation shall be by area in square metres.

914.09.02 Plan Quantity Measurement

When measurement is by Plan Quantity, such measurement shall be based on the units shown in the clauses under Actual Measurement.

914.10 BASIS OF PAYMENT

914.10.01 Bridge Deck Waterproofing - Item
Membrane Reinforcement - Item
Form and Fill Grooves - Item
Deck Surface Preparation - Item

Payment at the Contract price for the above tender items shall be full compensation for all labour, Equipment, and Material to do the work.

When the Contract does not contain separate tender items for the work required by this specification, payment at the Contract price for the tender item Bridge Deck Waterproofing shall be full compensation for all labour, Equipment and Material to do the work.

When repairs or remedial work to the concrete deck is required prior to abrasive blast cleaning and the work is not specified in the Contract Documents, payment for the cost of such work shall be administered as Extra Work.

Repairs to damaged grooves shall be made at the Contractor's expense at no extra cost to the Owner.

914.10.01.01 Payment Adjustment Due to Membrane Thickness Deficiency

When a lot is within the acceptable range, as shown in Table 1, a payment adjustment factor of 1.00 shall be applied to the Contract price for the lot.

When a lot is within the borderline range, as shown in Table 1, and the Contractor requests that the Owner accept the lot as is, the Contract price for the item Bridge Deck Waterproofing shall be multiplied by the payment adjustment factor specified in Table 1 to determine the adjusted Contract price for the lot.

914.10.01.02 Payment Adjustment Due to Membrane Quality Deficiency

Quality Payment Adjustment Factors are calculated as follows:

a) If the sample meets all test criteria outlined in Table 2, the Contract Administrator shall assign a quality adjustment factor of 1.00.

b) If the sample fails one or more test criteria, the adjustment points outlined in Table 2 for each failed criteria shall be totalled. The Contract Administrator shall assign a quality adjustment factor which shall be 100 minus the total of all the adjustment points and the results divided by 100.
c) If the sample fails one or more test criteria, the adjustment points outlined in Table 2 for each failed criteria shall be totalled, and, if the total number of points exceed 25, the Owner shall not pay the Contractor for the lot regardless of the adjustment factor for thickness.

d) If an individual test result is inside the rejection value range, the Owner shall not pay the Contractor for the lot regardless of the adjustment factor for thickness.

914.10.01.03 Calculation for Total Adjustment Payment

The total adjusted payment for the lot shall be based on the thickness and on the quality for the waterproofing membrane, and it is calculated as follows: The Contract price for the lot shall be multiplied by the thickness adjustment factor and the results shall then be multiplied by the quality adjustment factor.

914.10.02 Modification of Deck Drains - Item

Payment at the Contract price for the above tender item shall be full compensation for all labour, Equipment, and Material to do the work.
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Table 1 continued on next page.
**TABLE 1 (Cont’d)**

Acceptance Determination and Payment Adjustment Factors Membrane Thickness

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<th>Lot</th>
<th>Mean</th>
<th>Lot Standard Deviation</th>
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</table>

Notes:

A. Cells containing the Payment Adjustment Factors form the borderline range.

B. "Acc" means acceptable. All cells above cells containing Payment Adjustment Factors form the acceptable range.

C. "Una" means unacceptable. All cells below cells containing Payment Adjustment Factors form the unacceptable range.
### TABLE 2
**Acceptance Determination and Payment Adjustment Factors Membrane Quality**

<table>
<thead>
<tr>
<th>Test</th>
<th>Specification Limits</th>
<th>Adjustment Points</th>
<th>Rejection Value</th>
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</thead>
<tbody>
<tr>
<td>Cone Penetration at 25 °C</td>
<td>Max. 110</td>
<td>0.4 per 1</td>
<td>&gt; 130</td>
</tr>
<tr>
<td>Cone Penetration at 50 °C</td>
<td>Max. 160</td>
<td>0.4 per 1</td>
<td>&gt; 180</td>
</tr>
<tr>
<td>Flow at 60 °C</td>
<td>Max. 3 mm</td>
<td>0.5 per 1</td>
<td>&gt; 5</td>
</tr>
<tr>
<td>Low Temperature Flexibility at -25 °C</td>
<td>Pass</td>
<td>5.0 for Failure</td>
<td>--</td>
</tr>
<tr>
<td>Toughness</td>
<td>Min. 5.5</td>
<td>0.5 per 0.1</td>
<td>&lt; 4.0</td>
</tr>
<tr>
<td>Toughness/Peak Load</td>
<td>Min. 0.040</td>
<td>0.5 per 0.001</td>
<td>&lt; 0.030</td>
</tr>
</tbody>
</table>
Designers should specify the following in the Contract Documents:

- Location of any 20 mm wide and 20 mm deep rectangular groove required in the asphaltic concrete. (914.07.07)

OPSS 914 contains information that is not used by municipalities in their Contracts. To ensure completeness of the municipal Contract Documents, the designer should invoke Appendix 914-B. The appendix contains information that modifies OPSS 914 so it can be used by a municipality in its Contracts.

The designer should ensure that the General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

Related Ontario Provincial Standard Drawings

No information provided here.
Supplemental Requirements for Using OPSS 914 in Municipal Contracts

OPSS 914, Waterproofing Bridge Decks with Hot Applied Asphalt Membrane, is amended as follows:

914.07.08.01 Delivery of Samples

Clause 914.07.08.01 is deleted in its entirety and replaced by the following:

Samples of the waterproofing membrane, waterproofing membrane reinforcement, joint sealing compound, tack coat, and the protection board shall be delivered to the Contract Administrator.