

ANNEX G HIGHWAY SUPPLEMENTARY CONDITIONS

This Annex G consists of Part A – MTO General Conditions, Part B – Addenda and Part C – Special Conditions.

The Part A – MTO General Conditions, Part B – Addenda and Part C – Special Conditions shall be read in conjunction with the Project Agreement (including Schedule 40 – Highway Work).

Any capitalized terms used in this Annex G but not defined herein shall have the meanings ascribed to them in the Project Agreement. In addition, any reference to the following terms in this Annex G shall be deemed a reference to the corresponding term in the Project Agreement set out below:

Term in Annex G	Term in Project Agreement
“Change Order”	“Variation Confirmation”
“construction schedule”	“Highway Construction Schedule”
“Contract”	“Schedule 40 – Highway Work” or “Project Agreement” as the context requires
“Contract Administrator”	“Consultant”
“Contract Bid Price”; “Contract price”	“Highway Milestone Payment”
“Contract Completion”	“Highway Final Completion”
“Contract Completion Certificate”	“Highway Final Completion Certificate”
“Contract Drawings”; “Contract Plans”	“Highway Drawings”
“Contract Time”	“Highway Contract Time”
“Contractor”; “General Contractor”	“Project Co”
“Ministry” or “Owner”	the “City” or, if the context requires, the “City as authorized by MTO”
“Substantial Performance”	“Substantial Completion of the Highway Work”
“Work”	“Highway Work”

For greater certainty, the Part B – Addenda and Part C – Special Conditions shall apply, and are hereby incorporated, into Annex G to Schedule 40 to the Project Agreement with the following amendments and modifications:

1. All references to Part C – Special Conditions shall be interpreted as “Part C – Special Conditions as amended by Part B – Addenda” and as further amended by the following amendments and modifications.
2. Any pages prior to the table of contents referring to tender are deleted.
3. If a Special Condition in Part C – Special Conditions specifically refers to amending a General Condition in Part A – MTO General Conditions that has been deleted or marked “Reserved”, then such Special Condition shall be deemed to be deleted from Part C– Special Conditions.
4. With respect to any sections titled “Measurement for Payment”:

- a. Any references to “Measurement for payment...”, or wording of similar intent is replaced with “Measurement for quantity reporting...”; and
 - b. the title of the section is renamed “Measurement for Quantity Reporting and Quality Control”.
5. With respect to any sections titled “Basis of Payment” or “Bases for Payment”, any references to:
- “Payment at the Contract Price or bid price for the above tender item shall be full compensation for” or wording of similar intent,
- are deleted and substituted with:
- “The Highway Milestone Payment shall be full compensation for ...”.
6. Any references to “payment being made based on unit price”, “tender price”, “lump sum tender”, “bid price”, “interim payments” or “in a progress payment basis” are not applicable.
 7. All quantity values appearing in the Quantity Sheet Book are for information purposes only and the City assumes no risk for such quantity values. For clarity, the quantity values referred above are those numbers appearing to the right of the double vertical line appearing in sheets numbered 1 to 570 contained in the Quantity Sheet Book 1 of 1, GWP 4320-06-00, Eastern Region, May 17, 2012, listed in Annex A to Schedule 40 – Highway Work.
 8. Any references to “referee testing” are not applicable.
 9. The special provision entitled “Section C – Special Provisions – Liquidated Damages” is deleted in it’s entirety. Any references to “liquidated damages” are not applicable.
 10. In respect of the Tender Item List, the columns titled “Quantity”, “Unit” and “Total” are deleted. The requirement for the Contractor to submit the “Tender Item List” with its bid is deleted.
 11. The Sections starting with “Instructions to Bidders” on or about Page 23 up to and including “Part 2 – Disclosure – Conflict of Interest” on or about Page 31 are deleted.
 12. The full page that begins with the heading “SIGNED STATEMENT BY BIDDER THAT THE BID IS PREPARED AND SUBMITTED WITHOUT COLLUSION OR DECEIT” is deleted.
 13. The Special Provision under the heading “OPERATIONAL CONSTRAINT – Large Diameter watermains over 300mm” that begins with the words “e) Obtain additional insurance coverage” is deleted and substituted with “e) Intentionally Deleted”.
 14. The Special Provision under the heading “NOTICE TO CONTRACTOR - Additional Indemnification and Insurance Requirements” is deleted.
 15. Under the heading “OPERATIONAL CONSTRAINT (STRUCTURAL) - Standby Equipment”, the following two sentences are deleted:
- “Payment for standby equipment shall be deemed included with the Contract unit price for the items requiring use of this equipment.”, and

“Payment for standby equipment shall be deemed included with the Contract unit price for the items requiring use of this equipment.”

16. Under the heading “Lane and Ramp Closures – General”, the words “(paid duty)” are added immediately following the words “Ontario Provincial Police”.
17. In section “**313.07.06.03 Placing Hot Mix Asphalt Before Winter Shutdown**”, item b) which begins with “Payment”, the words “at the contract prices for the work” are deleted.
18. Under the heading “OTHER CONTRACTORS WITHIN OR ADJACENT TO THE LIMITS OF THE CONTRACT”, the following paragraphs are deleted:

“Ottawa Light Rail Transit Project

a. Location of Work

Crossing under Highway 417 from north to south approximately 150m east of Nicholas Street Bridge; adjacent to and to the south of Highway 417 from Vanier Parkway/ Riverside Drive to approximately 400 m west of St. Laurent Boulevard; crossing under Highway 417 from south to north approximately 400m west of St. Laurent Boulevard and then adjacent to and to the north of Highway 417 and OR 174 to the east limits of the contract.

b. Contact Person

Infrastructure Ontario
Physical Resources Service
Telephone: (613) 562-5800 ext. xxxx

c. Schedule

Anticipated start January 1, 2013 with anticipated completion September 2018.”

19. Under the heading “TRAFFIC CONTROL SIGNING – Item No. 86”, in the paragraph that begins with the words “The Contractor shall be responsible for contacting...”, the word “Ministry” is deleted and substituted with “Contractor”.
20. Under the heading “CONCRETE IN DECK - Item No. 308, 340, 378, 412, 427, 522”, in Section 904.07 - CONSTRUCTION, the last sentence in both paragraphs that begin with the words “The Contractor shall ensure that the temporary structures and facilities...” is deleted.
21. Under the heading “MAINTENANCE AND WARRANTY FOR LANDSCAPE PLANTING - Item No. 154”:
 - a. Section 7 is revised by deleting the reference to the “contract price for this item being 20% of the total Tender Price”. The paragraph that follows the reference is also deleted. The “Highway Post Substantial Completion Maintenance Payment” is the amount referred to under Section 34.1(f) of the Project Agreement and the full and final compensation to Project Co in respect of this provision is included in the payment as calculated and adjusted under Section 34.1(f) of the Project Agreement.

- b. Section 8 is revised by deleting all references to “Default” and the GC. Any payment in respect of this Section may be adjusted by the Consultant as part of the calculation of the Net Highway Maintenance Adjustment. Further, the words “or fails to perform the warranty and maintenance work in accordance with the Contract” are hereby added to the paragraph. For greater certainty, the added phrase constitutes a basis on which the Consultant may adjust the payment under Section 34.1(f) of the Project Agreement as part of the calculation of the Net Highway Maintenance Adjustment.
22. Under the heading “MAINTENANCE AND WARRANTY FOR ADVANCED TRAFFIC MANAGEMENT SYSTEM WORK - Item no. 277”:
- a. In Section 4.1.3, the reference to an “invoice period” is deleted. The provision shall be read to include the requirement for Project Co to submit logs every three months during the maintenance and warranty period.
- b. In Section 7.3 - Repairs and Spare Parts, the last paragraph of the provision is deleted.
- c. In Section 10 – Basis of Payment; delete the following paragraphs: paragraph 2 and paragraphs thereafter up to and including the paragraph immediately preceding the section entitled “**10.1 Non-Performance**”, and replace with the following:
- “The Highway Post Substantial Completion Maintenance Payment shall include full compensation for all labour, Equipment, Materials and services required to provide Maintenance and Warranty during Phase II.
- As a condition to making the Highway Post Substantial Completion Maintenance Payment, the subsystem shall be fully operational and performing in accordance with Contract Specifications and all spare system components taken from the Owner’s inventory by the Contractor to carry out Routine Maintenance and Emergency Repairs have been replaced in good working condition.”
- d. In Section 10.1 – Non-Performance, the sentence immediately following the table is deleted and replaced with the following paragraphs:
- “The above penalties, when confirmed justified by the Contract Administrator, shall be deducted from the Highway Post Substantial Completion Maintenance Payment.
- In the event the Contractor does not remedy the non-performance within 5 days of notification of non-performance, the Owner will deduct from the Highway Post Substantial Completion Maintenance Payment any additional costs the Owner incurs as a result of the Contractor’s non-performance.
- The Owner reserves the right to cancel the Maintenance and Warranty agreement with the Contractor at anytime during the Contract without monetary compensation or notice.”
- e. Section 10.2 – Default is deleted in its entirety.

23. Under the heading "SYSTEM INTEGRATION TESTING FOR ADVANCED TRAFFIC MANAGEMENT SYSTEM WORK - Item No. 280" (Special Provision No. 681F19M): In section "10 BASIS OF PAYMENT", all paragraphs and tables after the second paragraph are deleted.
24. The entire paragraph, including heading, under the heading "H. General Condition" on or about Page 46 which begins with "OPSS.Prov 100, MTO General Conditions of Contract, April 2010" is deleted.
25. Under the heading "PROTECTION OF PUBLIC TRAFFIC" (Special Provision No. 100F08M), the following paragraphs are deleted:

" Penalty for Early Closing

On each occasion when the Contractor closes lanes to traffic earlier than the specified times, the Contract Administrator will assess the Contractor an initial penalty of \$ 1,000.00.

Thereafter, a further penalty of \$ 100.00 per minute will be assessed against the Contractor for every minute outside the permitted closure window that the traffic lanes are not open to traffic. The Contract Administrator will be the sole judge of the length of time of the delay.

Penalty for Late Opening

On each occasion when the Contractor fails to reopen the traffic lanes by the specified time, the Contract Administrator will assess the Contractor an initial penalty of \$ 10,000.00.

If traffic lanes are not open within 15 minutes of the specified time, a further penalty of \$ 1,000.00 will be assessed against the Contractor.

Thereafter, a further penalty of \$ 100.00 per minute will be assessed against the Contractor for every minute that the traffic lanes are not open to traffic. The Contract Administrator will be the sole judge of the length of time of the delay. "

" Basis of Payment

Section 706.10 of OPSS 706 is amended in that payment for all costs associated with the number of lane closures and the number of days of speed control activities stipulated above is deemed to be included in the Traffic Control Signing item and no additional payment will be made.

Any additional OPP-assisted lane closures and speed control activities that result from the Contractor's chosen sequence and/or method of operation are deemed to be included in the Traffic Control Signing item and no additional payment will be made.

If a third party stipulates that additional OPP-assisted lane closures or speed control activities are required, the Owner will compensate the Contractor for the cost of the OPP services as extra work. "

26. Under the heading “706.10.04 Temporary Advance Information Signs (TC-64’s) – Item”, the following paragraph is deleted:
- “ On each occasion when the Contractor fails to install the Temporary Advance Information Signs (TC-64's) in accordance with the above requirements, or fails to remove the TC-64 signs within two hours of re-opening of the affected roadway, the Ministry will assess a penalty of \$2,000.00. A further penalty of \$2,000.00 per calendar day, or part thereof, with no maximum penalty, shall be assessed until such time as the Temporary Advance Information Sign (TC-64) is removed. “
27. Under the heading “CONTAMINATED EARTH EXCAVATION - Item No. 5”:
- The word “Contingency” is deleted from the heading “Contingency - Groundwater and Other Free Liquids”; and
 - The following sentence under the subheading “Basis of Payment” on or about page 171 is deleted: “ Work required as a result of any "contingencies" as specified shall be paid as Extra Work in accordance with Section GC3.11 of the General Conditions of Contract. “
28. In Part C of this Annex G to Schedule 40, where payment “incentives”, “disincentives” and “penalties” or quality assurance “payment adjustments” are specified, the corresponding payments or payment deductions shall be made by way of an increase or decrease, as the case may be, on a one time basis, on or before the Highway Milestone Payment Date, to the Highway Milestone Payment (the “Net Highway Payment Adjustment”). Project Co and the City acknowledge that the Net Highway Payment Adjustment shall not constitute a Variation in the Scope of the Highway Work. The Net Highway Payment Adjustment shall, as determined by the Consultant, be equal to the net amount of all incentives, disincentives, quality assurance material payment adjustments and penalties determined in accordance with Part C of this Annex G to Schedule 40 of the Project Agreement including but not limited to the following provisions:
- A. Ontario Provincial Standard Specifications, including the associated referenced General Special Provisions and Item Specific Special Provisions: 308,313,314,904,930,1010; and
- B. Special Provision:
- Notice to Contractor – Incentive / Disincentive for Opening Highway 417
 - Operational Constraint – Large Diameter Watermains over 300mm
 - Incentive for Supply of Canadian Steel
 - Protection of Existing System – Special Provision No. 168S20 – Accidental Damage to Existing ATMS Plant – Contractor Payments to Owner for Damages

For greater certainty, the Net Highway Payment Adjustment shall not include the Net Highway Maintenance Adjustment. The Net Highway Maintenance Adjustment shall, as determined by the Consultant, be equal to the net amount of any deductions and penalties set out in Part C of this Annex G to Schedule 40 as described in Item No. 277 – Maintenance and Warranty for Advanced Traffic Management System Work and in Item No. 154 –

Maintenance and Warranty for Landscape Planting in Part C of this Annex G - Highway Supplementary Conditions and as otherwise related to the maintenance and warranty of the ATMS and landscaping, without duplication to the items otherwise included in the Net Highway Payment Adjustment. In the event that the Consultant determines that Project Co's obligations in respect of Item No. 154 – Maintenance and Warranty for Landscape Planting have not been fully performed in accordance with the terms of the Project Agreement, including this Annex G to Schedule 40 – Highway Work, the Net Highway Maintenance Adjustment shall also include the amount of \$50,000 as a deduction against the payment under Section 34.1(f) of the Project Agreement.

Where applicable, the Net Highway Payment Adjustment shall also be determined in accordance with the following “NOTICE TO CONTRACTOR – Material Payment Adjustments based on Quality Assurance Testing” Special Provision:

NOTICE TO CONTRACTOR – Material Payment Adjustments based on Quality Assurance Testing

Special Provision

Notwithstanding Paragraph 5 above, for the sole purpose of calculating Concrete, Granular, Asphalt, PGAC, and Pipe Sewer payment adjustments based on Owner Quality Assurance Testing specified in the Contract, the terms “Price”, “Item Price”, “Tender Price”, “Tender Lump Sum Price”, “Contract Price” or wording of similar intent within the applicable calculations shall be deemed to mean the following for each specific material payment adjustment:

Material	Price
Concrete materials	- \$1000.00 per cubic meter *
Granular materials	- \$21.00 per Tonne
HMA materials	- \$12.00 per Square Meter
Pipe Sewer	- \$700.00 per meter

* Tender Lump Sum Price and Tender Quantity are required in the calculation of concrete Air Void System payment reduction. The Contract Administrator shall calculate the Tender Quantity in cubic meters for each applicable tender item and multiply that by \$1000.00 to determine the Tender Lump Sum Price.

- 29. The following maintenance requirements entitled “NOTICE TO CONTRACTOR – Queensway Maintenance Requirements” are deemed to be included in Part C– Special Conditions:

NOTICE TO CONTRACTOR – Queensway Maintenance Requirements**Special Provision****1) SCOPE**

The contractor shall ensure that Maintenance is carried out within the limit of the contract as identified elsewhere, in accordance with the requirements of this special provision until the Highway Warranty period begins.

In addition to the requirements of GC 7.08 Maintaining Roadways and Detours, responsibility for maintenance in the area affected by the ATMS Requirements – interim completion date shall be transferred between the contractor and the City when the ATMS Requirements – interim completion date is achieved.

MTO shall only be responsible for snow, ice and frost control on the travelled lanes. The contractor shall be responsible for any snow removal in the construction work zone, behind temporary barriers or other devices that has been placed by the snow, ice and frost control measures.

All work to meet the requirements of this special provision shall be part of the lump sum bid price.

2) DEFENITIONS

For the purposes of this special provision the following terms shall have the following meanings:

Activity: means a single maintenance operation intended to address a deficiency in the highway system.

Central Dispatch: means the MTO radio room or Ottawa Compass Traffic Operation Centre used to receive and provide information over a two-way radio system.

Defect(s): means any deficient condition on the Highway identified in the maintenance requirements.

Detect, Detected or Detection: means observed, should have been observed or has been informed.

Hazard (s) or Hazardous: means a condition or Defect within the Highway causing an unsafe condition to the public or workers.

Hazardous Substance: means, but is not limited to, any solid, liquid, gas or other substance or emission which is a contaminant, pollutant, dangerous substance, liquid waste, industrial waste, hazardous material or hazardous substance which is or becomes regulated by Environmental Laws or occupational health and safety law or which is classified as hazardous or toxic under Environmental Laws.

Highway: means a common and public highway any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.

Immediate or Immediately: means the initiation of an Activity as soon as possible after Detection or being Made Aware and no later than 1 hours from the time of Detection or being Made Aware. If more than one Activity requires Immediate action at the same time, the Contractor shall complete the Work giving priority to the highest degree of Hazard.

Made Aware: means when the Contractor has been advised by any party or upon Detection.

Maintenance: means the activities performed to maintain the Highway in a safe and passable condition, to prolong the life of the asset, and other activities prescribed in the maintenance requirements.

Outcome Target: means a performance requirement with a measurable goal that is to be met within a specified time.

3) MAINTENANCE REQUIREMENTS

All conditions that are considered, or causing, a Hazard shall be addressed Immediately by the Contractor upon Detection or being Made Aware.

All of the Maintenance Requirements set out a minimum standard and the Contractor shall, at all times, demonstrate the standard of care of a reasonable Contractor in like circumstances and exercising good business practices.

All work required within this special provision shall be completed in accordance with all Laws and Regulations and any documents listed in the Reference section of each Maintenance Requirement.

When the Maintenance Requirement identifies a time limit to complete an Activity, the time begins when the Contractor Detects, or should have Detected, or was Made Aware of the situation. These are maximum permissible time allotments. However if the Defect is or may be causing or could cause safety or health Hazards, the work shall be completed Immediately or as soon as possible to maximize the safety of the public.

The Outcome Targets specified apply to all Highway and City of Ottawa roads within the limits of the limits of the Contract.

Maintenance standards may change over time due to reasons which may include changes in; technology, industry standards, standards of the Ministry and other highway authorities, generally accepted methods of highway maintenance, and legislation.

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This Maintenance Requirement identifies the responsibilities and the obligations for Incident Response within the contract area.

1006.02 DEFINITIONS

The following definitions are specific to this Performance Requirement.

Debris Control means the physical removal from the travelled lanes and shoulders and the subsequent disposal of objectionable items such as damaged ministry inventory, roadside garbage (e.g. batteries, tires, containers, etc.), dead animals, unlawful signs, fallen trees, loose brush and rocks on the driving surface and shoulders.

Incident or Incidents means, but is not limited to events such as traffic accidents, emergency situations, spills (Hazardous and non-Hazardous), flooding, water ponding, highway deficiencies, Debris Control, tree removal, etc

Incident Site means the location within the contract area where an Incident has occurred and response is required.

Priority Basis means completing the work in order of importance with respect to the public's safety.

Safe Passage of Vehicle Traffic means that the road structure is free of Hazards.

1006.03 CONTRACTOR RESPONSIBILITY AND OBLIGATIONS**1006.03.01 General**

The Contractor is to respond to Incidents and provide assistance to the police and other regulatory agencies in protecting the safety of motorists and highway users. This includes response on short notice for Incidents.

When the contractor is Made Aware of an Incident on a Highway, the Contractor shall be responsible for proceeding to the Incident Site to secure the site and/or provide assistance as required. The Contractor shall take all action required to keep the travelling public, adjacent landowner and staff safe. This could include, but is not limited to, providing any or all of the following:

The main objectives at the site of the Incident are:

1. To provide traffic control in accordance with the OTM Book 7 and Ministry of Labour orders and assist in restoring traffic movement as quickly as possible.
2. To protect the safety of motorists, highway users, adjacent landowners and staff at Incident scenes.
3. To provide for the containment of any spillage on the highway in conjunction and co-operation with regulatory agencies, the police and appropriate municipal and provincial authorities. The Contractor shall Notify the Ministry of Environment (MOE) and the affected Municipality in case of a spill.
4. To provide measures to secure, protect, or isolate damaged Ministry infrastructure as requested or required and to restore the roadway to a safe condition.

Temporary repairs to highway infrastructure from accidents, natural disasters and acts of vandalism including but not restricted to the following:

- guiderail protection
 - drainage protection
 - protection of damaged electrical facilities
 - damaged signs that require repair to facilitate the safe movement of traffic
5. Provide Debris Control from the highway driving lanes and shoulders. The Contractor is responsible for managing and disposing of the removed debris in accordance with all statutes and regulations governing such activities.

1006.03.02 Restoring the Site for Safe Passage of the Public

The Contractor shall be responsible for making permanent or temporary repairs as required to restore traffic to all lanes ensuring that all components within the Highway will accommodate the Safe Passage of Vehicle Traffic.

1006.03.03 Response Time

Response time to all Incidents shall be (1) one hour or less. This means a maximum of (1) one hours from the time the Contractor is Made Aware of the Incident until an appropriate complement of human resources, material, and equipment are on site. .

The Contractor shall be available twenty-four (24) hours a day, seven (7) days a week and shall respond with sufficient equipment to provide lane closures and services as required.

1006.03.04 Communications

The Contractor shall notify MTO Central Dispatch when they arrive at each Incident site.

1006.04 OUTCOME TARGETS

The Contractor shall ensure that the work performed under this Performance Requirement, meets or exceeds the Outcome Targets specified in this Performance Requirement.

Feature	Outcome Target
Incident Response	
Response Time	<ul style="list-style-type: none"> • Response to all Incidents in one hours or less
Communications	
Notice to MTO Central Dispatch upon arrival at all Incidents	<ul style="list-style-type: none"> • Notification of MTO Central Dispatch immediately upon arrival at the Incident Site and relay any operations or information that may impact Emergency Services response times 100% of the time.

TABLE OF CONTENTS**MAINTENANCE REQUIREMENT 2001 – PAVEMENT MAINTENANCE****2001.01 SCOPE****2001.02 DEFINITIONS****2001.03 CONTRACTOR RESPONSIBILITIES AND OBLIGATIONS****2001.04 OUTCOME TARGETS****2001.01 SCOPE**

This performance requirement covers the responsibilities and obligations of the Contractor for the maintenance of roadway surfaces and shoulders to ensure the safety of the travelling public and efficient use of public assets and resources.

2001.02 DEFINITIONS

The following definitions are specific to this Performance Requirement.

Asphalt Pavement means a road surface made of a mixture of heated asphalt cement, and aggregate, commonly referred to as “hot mix”.

Broken Up Areas means sections of the surface treated roadway that are severely cracked or have lost the surface treated component exposing gravel surfaces.

Curb and Gutter means a border and channel typically made of concrete at the edge of a street or road for carrying off surface water.

Deterioration means a physical breakdown of the pavement and/or pavement foundation.

Distortion means deviations of the pavement surface from its original profile. These Defects usually take the shape of a bump or depression and are noticeable in a moving vehicle.

Ditches means a ditch is an open drainage facility constructed to carry water to an outlet.

Fully Paved Shoulders means an area is hard surfaced, usually with asphalt, adjacent to the through or auxiliary lane

Joint Failure means an excessive breakdown of the concrete adjacent to the joint, which may include upward buckling of the concrete slab.

Partially Paved Shoulder means a minimum width of 0.5metres closest to the adjacent through or auxiliary lane is hard surfaced, usually with asphalt and the remaining shoulder surface is gravel.

Pothole means dents or holes in the roadway surface

Preventable Condition means a detected or observed condition which the Contractor should reasonably have expected or was Made Aware

Rippling and Shoving means a regular wavy or “washboard” effect running across the pavement, or an unevenness of the pavement due to movement of the surface mat.

Scaling/Ravelling means a progressive deterioration of the concrete pavement surface and the loss of pavement material or fine aggregates from the pavement.

Sub-Grade means compacted layers of granular placed to form the pavement foundation

Water Ponding means the collection of water on the travelled portion of the Highway.

Wheel Track Rutting means dishing of the pavement surface developed in the wheel tracks.

2001.03 CONTRACTOR RESPONSIBILITY AND OBLIGATIONS

2001.03.01 General

The Contractor is solely responsible for the inspection and maintenance of the roadway surfaces and shoulders including, but not limited to, the features identified in this Maintenance Requirements.

2001.04 OUTCOME TARGETS

The Contractor shall ensure that the work performed under this Maintenance Requirement, meets or exceeds the Outcome Targets specified in this Maintenance Requirement.

Feature	Outcome Target
Pavement Surfaces	
Debris	<ul style="list-style-type: none"> • Accumulation of Gravel on paved driving surfaces and intersection aprons is removed upon Detection or being Made Aware • Accumulation of winter sand from paved driving surfaces, fully paved shoulders including medians, intersection aprons, curb & gutter, paved traffic islands, commuter parking lots and commercial vehicle inspection stations shall be removed by May 31st of every year

Feature	Outcome Target
Potholes	There is no: <ul style="list-style-type: none"> • No single Pothole that is deeper than 7.5 cm and greater than 0.04 m² • No more than three (3) Potholes greater than 0.04 m² within an area of 20 m² on Asphalt Pavement or Concrete Pavement • No single Pothole that is deeper than 4.0 cm and greater than 0.04 m² on Surface Treatment • No more than five (5) Potholes greater than 0.04 m² within an area of 20 m² on Surface Treatment • No more than 10 Potholes greater than 0.04 m² per lane km
Broken Up Areas	<ul style="list-style-type: none"> • There is no Broken Up Area larger than 5 m²
Joint Failure	<ul style="list-style-type: none"> • All concrete joint failures exceeding a differential of 5 cm are signed
Distortion	<ul style="list-style-type: none"> • All bumps or depressions with a differential of 5 cm or more over a 3-metre length are signed
Pavement Edge Surface Loss	<ul style="list-style-type: none"> • There is no pavement edge surface loss which extends more than 15 cm inward from the edge of pavement
Shoulders	
Washouts	<ul style="list-style-type: none"> • There is no washout of 15.0 cm or deeper and measuring an area greater than 1.0 m² • there is no washout of 15.0 cm or deeper and measuring an area greater than 0.5 m² within 1.0 m of the travelled portion of the roadway
Debris	<ul style="list-style-type: none"> • Debris greater than 0.010 m³ is removed Immediately upon Detection or being Made Aware • There is a maximum of 5 pieces of debris measuring more than 0.001m³ and less than 0.010m³ over a distance of 1 km
Drainage	<ul style="list-style-type: none"> • There is no preventable condition that impedes the shoulder drainage to function as designed
Drop Off	<ul style="list-style-type: none"> • There is no Drop-off exceeding 7.5 cm in depth.
Ruts	<ul style="list-style-type: none"> • There are no ruts deeper than 10.0 cm
General	
Dead Animals	<ul style="list-style-type: none"> • Dead animals are removed and disposed of as Detected

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2003.05	OUTCOME TARGETS

2003.01 SCOPE

This performance requirement covers the responsibilities and obligations for the retracing and reinstatement of pavement markings including but not limited to, centre line markings, lane line markings, edge line markings and pavement marking symbols.

2003.02 REFERENCES

This work requires the mandatory use of the following documents:

Ontario Traffic Manual

OTM Book 11, Pavement, Hazard and Delineation Markings.

Canadian General Standards Board:

CGSB-1-GP-12C-1983 - Standard Paint Colours

American Society for Testing and Materials:

- ASTM D 2205-85 - Traffic Paints
- ASTM D 2244-85 - Calculation of Colour Differences from Instrumentally Measured Colour Coordinates
- ASTM D 3960-87 - Determining Volatile Organic Content (VOC) of Paints and Related Coatings
- ASTM D 6359-99 - Minimum Retroreflectance of Newly Applied Pavement Marking Using Portable Hand-Operated Instruments
- ASTM E 1347 - Colour and Colour Difference Measurement by Tristimulus
- ASTM E 1710 - Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer.

United States Federal Standard:

U.S. FED-STD-595B - Colours Used in Government
Dec. 15, 1989 Procurement

International Commission on Illumination:

CIE 1976 - L^* , a^* , b^* Uniform Colour Space and Colour Difference Equation.

2003.03 DEFINITIONS

The following definitions are specific to this Performance Requirement.

Chromaticity – means the colour of the line by reference to Commission Internationale de l’Eclairage (CIE) chromaticity diagram to define the area within which the colour must fall, as measured in accordance with ASTM E-1347.

Durability – means the percentage of marking remaining on the roadway, as assessed in accordance with the MTO Durability Classification Guidelines.

Information Management – means the management of submissions, meetings and notices as specified in this performance requirement.

Luminance – means the luminous flux in a light ray, emanating from a surface or falling on a surface, in a given direction, per unit of projected area of the surface viewed from that direction, per unit of solid angle (reflective light), as measured in accordance with ASTM E-1347.

mcd/m²lx – means a unit of measurement for retroreflectivity (milicandelas per square metre per lux).

Pavement Marking Material – means a material formulated for application onto bituminous or concrete pavement in order to delineate vehicle operating limits.

Pavement Markings – means directional dividing lines, lane lines, edge lines, transitional and continuity lines, interchange ramps and channelization lines, barrier lines, intersection markings, reserved facility markings, parking markings and including words, letters and symbols on pavements, used to delineate vehicle operating limits on highways conforming to the size and shape, as specified in OTM Book 11.

Pavement Marking Symbols – means words, letters and symbols on pavements, used to delineate vehicle operating limits on highways conforming to the size and shape, as specified in OTM Book 11.

Reinstatement of Pavement Markings – means the application of same type of pavement markings and in the same location as the previous existing markings on a resurfaced section of highway, including centre lines, edge of pavement lines, lane and turn lane lines and Pavement Marking Symbols, including stop bars, crosswalks, school crossings, railway crossings and arrows.

Retracing of Pavement Markings – means the routine recoating of existing markings, including centre lines, edge of pavement lines, lane and turn lane lines and Pavement Marking Symbols, including stop bars, crosswalks, school crossings, railway crossings, OPP Aircraft Markers and arrows on existing pavement.

Retroreflectivity means the property of a material or device in which, when directionally irradiated, the reflected rays are preferentially returned in direction close to the opposite of the direction of the incident rays, this property being maintained over wide variations in the direction of the incident rays.

Traffic Paint means refers to a water-borne or organic solvent based paint specifically formulated for use as a pavement marking to delineate vehicle operating limits on concrete and bituminous pavements.

2003.04 CONTRACTOR RESPONSIBILITIES AND OBLIGATIONS

2003.04.01 General

The Contractor is responsible to meet all performance requirements for Pavement Markings and Pavement Marking Symbols in this schedule.

The Contractor shall be responsible for ensuring that all retraced pavement markings are compatible with existing pavement markings.

2003.04.02 Retroreflectivity Requirements

The Contractor shall be responsible for ensuring that the retroreflectivity of the Pavement Markings and Pavement Marking Symbols meet the minimum requirements identified in Table 1-Minimum Reflectivity Requirements ($\text{mcd}/\text{m}^2\text{lx}$). Minimum reflectivity requirements will be measured on any 1 km length of Pavement Markings and on any one Pavement Marking Symbol. No 100 metre segment shall be less than 100 $\text{mcd}/\text{m}^2\text{lx}$ for white Pavement Markings, and 75 $\text{mcd}/\text{m}^2\text{lx}$ for yellow Pavement Markings.

Table 1- Minimum Reflectivity Requirements ($\text{mcd}/\text{m}^2\text{lx}$)

Marking	Type	= or >90 km/hr	80 km/hr	80 km/hr	80 km/hr
			(2 lane Roadways with Centreline only)		(Full width Surface Treated Roadways)
White	Edge	175	-	150	-
	Skips	175	-	150	-
	Symbols	100	100	100	100
Yellow	Centreline	150	150	125	100
	Edge	125	-	100	-

2003.04.03 Durability Requirements

The Contractor shall be responsible for ensuring that the durability of the Pavement Markings and Pavement Marking Symbols meet the minimum requirements identified in section 2003.06 Outcome Targets.

2003.04.04 Visibility Requirements

The Contractor shall be responsible for ensuring that the visibility of the Pavement Markings and Pavement Marking Symbols meet the minimum requirements identified in Visibility Table 2003-1.

Based on the posted speed limit in kilometres per hour (vehicle speed) a minimum preview distance of 3.65 seconds is required. Based on this time, the following minimum preview distance in meters (m), listed in the pavement marking visibility **Table 2003-1** shall be required:

Visibility Table 2003-1

Vehicle Speed (km/hr)	Preview Distance (m)
60	61
70	71
80	81
90	91
100	101

Note:

- No visual assessments shall be undertaken during any type of inclement weather.
- No visual assessments shall be undertaken after applications of sand salt or de-icing materials have been applied to the roadway until a duration period of 72 hours (3days) have elapsed after the last application of these materials.

2003.04.05 Colour Testing Requirements

The Contractor shall be responsible for ensuring that the Chromacity meets the requirements identified in section 2003.11 of this Performance Requirement at all times.

The colour shall be measured with a portable Minolta Colorimeter or equivalent in accordance with ASTM E1347. The instrument shall be set to read x, y, and Y coordinates with 45 degree/0 degree bidirectional geometry, observer angle of 2 degree and Illuminant C.

2003.04.06 Daytime Luminance Factor

The Contractor shall be responsible for ensuring that the Daytime Luminance Factor meets the minimum requirements in section 2003.05 Outcome Targets.

The luminance (daytime reflectance) shall be measured with a portable Minolta Colorimeter or equivalent in accordance with ASTM E1347. The instrument shall be set to read x, y, and Y

coordinates with 45 degree/0 degree bidirectional geometry, observer angle of 2 degree and Illuminant C.

2003.04.07 Submission Requirements

2003.04.07.01 Material Safety Data Sheets

The Contractor shall identify the selected pavement marking material(s) and provide Material Safety Data Sheets (MSDS) and Product Data Sheets to the City in advance of application.

2003.04.07.02 Annual Pavement Marking Application Report

The Contractor shall maintain a Pavement Marking Daily Work Log and/or Durable Marking Daily Work Log and submit it to the City bi-weekly.

2003.05 OUTCOME TARGETS

The Contractor shall ensure that the work performed under this Maintenance Requirement, meets or exceeds the Outcome Targets specified in this Maintenance Requirement.

Feature	Outcome Target
Retroreflectivity	<ul style="list-style-type: none"> • No Pavement Markings less than reflectivity readings identified in Table 1- Minimum Reflectivity Requirements (mcd/m²lx) averaged over any 1 km segment at any time • No 100 metre segment shall be less than 100 mcd/m²lx for white markings, and 75 mcd/m²lx for yellow (excluding full width surface treated roadways) • No Pavement Marking Symbol less than reflectivity readings identified in Table 1- Minimum Reflectivity Requirements (mcd/m²lx) averaged on any one Symbol at any time
Durability	<ul style="list-style-type: none"> • No more than 25% material loss on any 100 m segment of Pavement Markings at any time • No more than 25% material loss on any Pavement Marking Symbol at any time
Visibility	<ul style="list-style-type: none"> • Visibility readings meeting the requirements of Table 2003-1 on all Pavement Markings and Pavement Marking Symbols on all highways at all times.
Colour	<ul style="list-style-type: none"> • Chromacity meets the requirements of the Chromaticity Coordinates in section 2003.11 of this Performance Requirement at all times
Daytime Luminance Factor	<ul style="list-style-type: none"> • Daytime Luminance Factor meets a minimum of 45% for white and 25% for yellow as measured by ASTM E-1347 at all times

Feature	Outcome Target
Submission and Documentation	<ul style="list-style-type: none">• The required documents specified in Section 2003.04.08 are Accurate, Timely and Complete 100% of the time
Appearance	<ul style="list-style-type: none">• All lines straight and true at all times• Severe tracking and splatter corrected within 5 days after Detection or being Made Aware.• OTM Book 11 complied with 100% of the time

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This Maintenance Requirement covers the obligations and responsibilities of the Contractor for the maintenance of Roadside Features including, but not limited to: Cable Guide Rail; Steel Beam Guide Rail; Box Beam Guide Rail; Concrete Barrier (Temporary and Permanent); Energy Absorbing Systems; Anti-Glare Screen; Box Culverts(of less than 3 metres) & Pipe Culverts; Curb and Gutter; Drainage; Ditches; Catch basins and Ditch Inlets; Maintenance Access Points; Fences; Highway Signs; Sound Barriers; Snow Protection Barriers; Roadside Vegetation Management; Sewers; Sidewalks.

4001.02 REFERENCES

This contract requirement includes the mandatory use of the following documents for the performance of the work:

- Ontario Traffic Manual
- Concrete Barrier Repair and Rehabilitation Maintenance Manual (Draft)
- King's Highway Guide Signing Policy Manual
- Sign Support Inspection Guidelines
- Sign Support Manual
- Traffic Counting Station Layout MTOD's

4001.03 DEFINITIONS

The following definitions are specific to this Performance Requirement.

Accurate means the information provided is a true representation of an actual situation, accomplishment or occurrence.

Barrier Systems means the physical barriers set along the road, including cable guide rail, steel beam guide rail, concrete barrier temporary and permanent, safety items such as energy-attenuating systems and crash cushions, box beam, anti glare screen, which are intended to provide additional protection to motorists when vehicles leave the roadway, protecting vehicle occupants from a more severe hazard, thereby reducing the degree of injury and damage.

Catch Basin means a drainage structure that collects storm water surface runoff and transports it into a culvert or storm sewer system. They may be located in a paved area or an unpaved drainage ditch.

Concrete Barrier, Temporary and Permanent means pre-cast and cast-in-place concrete barrier walls in the median and edge of pavement; commonly installed in highway medians to separate traffic.

Complete means that all required and relevant information has been provided.

Culvert means a drainage structure designed to allow the passage of surface water, livestock or pedestrians under a roadway, railway or roadside entrance. For the purposes of these Performance Requirements, culverts are less than 3 metre span and may be a Concrete Culvert, Corrugated Steel Culvert (CSP), Timber Culvert or Plastic Culvert.

Curb and Gutter means a border and channel typically made of concrete at the edge of a street or road for the transportation of surface water.

Defects means any damage, such as debris, holes, vandalism, fallen trees or other condition that may pose a threat to wildlife or would prevent the proper function of any ministry owned Farm, Ungulate and Reptile Fence or Ungulate Fence Escape.

Drainage Features means the features that function to control or convey storm-water runoff. Drainage features may include, but are not limited to the following: curb and gutter, culverts with spans less than 3m, ditches and ditch inlets, drainage channels, swales, catch basins and manholes and sewers.

Energy Absorbing System means Energy Absorbing Systems (EAS's) are either: cylinders filled with energy absorbing materials, or; mechanical devices with or without energy absorbing cartridges. EAS's are installed at designated locations to improve motorist safety and protect Ministry property. The principle behind EAS's is to prevent vehicles from coming into contact with fixed obstacles/structures or being redirected into traffic by safely stopping them in a relatively short distance. Energy Absorbing Terminals are generally attached to concrete barrier, steel beam guide rail, or other fixed objects

Information Sign means are essential for directing motorists; identifying intersecting routes; identifying geographical locations and distances; and directing motorists to towns, cities, and other important destinations.

Maintenance Access Point means a maintenance access point is a structure having an opening to provide access to underground services, in this case, storm water flow.

Overhead Sign Support Structure means a permanent structure with a foundation, used to support an over-head sign over a roadway.

Qualified Person means a person with knowledge of sign support maintenance practices and the ability to identify sign support defects gained through a minimum of (3) three years experience relating to inspection of Highway sign supports.

Regulatory Sign means a sign that informs highway users of traffic laws or regulations and indicates the legal requirements that would otherwise not be apparent. Examples are Stop, Speed Limit.

Roadside means the area between the outside edge of the shoulder rounding and the right-of-way limits and features within the Roadway that do not form an integral part of the driving surface, such as drainage features and guiderails.

Roadside Assets means includes, but are not limited to: ditches, curb and gutter, culverts with a span less than 3m, manholes, catch basins and ditch inlets, sewers, check dams, water management ponds, cable guide rail, steel beam guide rail, concrete barrier temporary and permanent, safety items, noise barrier, box beam, anti glare screen, security fences, farm fences, regulatory, warning and information signs, sidewalks, trails, vegetation, slopes and rock faces.

Roadway means the driving surfaces of the highway, including the travelled lanes, shoulders and shoulder rounding.

Roadway Assets means assets that form an integral part of the driving surface, i.e. pavement, pavement markings, pavement markers, gravel driving surfaces, gravel shoulders, shoulder rounding, partially paved shoulders and fully paved shoulders.

Safety Items means devices that operate as impact attenuators which bring vehicles to a safe stop, or by redirecting, preventing errant vehicles from impacting fixed object hazards by gradually decelerating the vehicle away from the hazard. Safety items may include, but not limited to the following: eccentric loaders, crash cushions, extruders, energy attenuators, energy absorbing systems, and Connecticut Impact Attenuation Systems.

Standard means mandatory requirement of the Contract

Timely means that all required information is provided within the prescribed or Reasonable time frame

Tree Trimming means tree branches or shrubs that obscure Regulatory Signs or impede traffic.

Warning Sign means a sign that indicates conditions on or adjacent to a highway or street are actually or potentially hazardous to traffic operations. e.g. Curve Sign

4001.04 CONTRACTOR RESPONSIBILITIES AND OBLIGATIONS**4001.04.01 General**

The Contractor is responsible for the inspection and maintenance of the roadside features including, but not limited to the features identified in this Performance Requirement.

4001.04.02 Signs

Should the Contractor identify a condition or situation that would warrant a sign that is not currently prescribed in the OTM, the Contractor shall have the proposed sign design and sign installation approved by the Ministry prior to the installation.

All approved Temporary Condition and Specialty signs shall comply with the requirements of the Ontario Traffic Manual (OTM). The Contractor shall be required to supply and install all other Temporary Condition and Specialty Signs that are not supplied by the Ministry.

The Contractor shall be responsible for the installation of snowplow markers, delineator markers, median markers, Barrier System markers, hazard markers and reflectorized guide rail strips. These signs/markers will also be supplied by the Ministry and ordered through the Contract Administrator.

When replacement is required due to damage, deterioration and/or missing sign supports, the Contractor shall replace all non-standard signs supports with supports meeting current standards.

For repairs to ground-mounted extruded aluminium signs with steel columns, or timbers the Contractor will supply all materials for the sign support structure except the sign. This also includes an annual inspection completed by August 1st of every year.

4001.04.03 Inspection and Reporting RequirementsEngineer-Designed Sign Structures

The Contractor will be responsible to inspect annually all Engineer-Designed Structures such as overhead steel column/truss, cantilever and bridge mounted sign supports. The annual inspection shall be completed by a professional engineer and document any deficiencies requiring attention. The inspection shall be completed by August 1st of every year. The inspection report shall include recommendations and shall be provided to the City. The Ministry will provide the standard inspection template forms, upon request.

4001.05 CONTRACT SPECIFIC REQUIREMENTS**4001.05.01 Designated Areas for Enhanced Grass Mowing and Litter pick-up on Hwy 417 Ottawa Queensway**

The Contractor will be responsible to maintain all grassy areas visible to traveling public, including ramps and interchanges at not more than 15 centimeters for the Ottawa Queensway from the Nicholas Avenue interchange (inclusive) to the Hwy 417/174 split (inclusive) For the period between April 15th – November 15th of each year, the

Contractor will be responsible to remove all litter from the same grassy areas. All litter shall be removed upon Detection or being Made Aware.

Note: The National Capital Commission is responsible for mowing roadside vegetation and removal of litter from the grassy areas along Hwy 417 from the Hwy 417/Ottawa Rd 174 easterly to the Ramsayville Rd / Russell Rd overpass.

4001.05.02 City of Ottawa Graffiti

The Contractor shall abide by the City of Ottawa Graffiti By-Law requirements at all times.

4001.05.03 Snow Protection Barrier

The Contractor shall inspect all snow protection barriers and report any damages to the Contract Administrator. Damage caused by the Contractors operations will be repaired as part of the lump sum work.

4001.06 OUTCOME TARGETS

The Contractor shall ensure that the work performed under this Performance Requirement, meets or exceeds the Outcome Targets specified in this Performance Requirement.

Feature	Outcome Target
Barriers and Energy Absorbing Systems	
Steel Beam Guide Rail	<ul style="list-style-type: none"> • No more than two consecutive posts that are missing, broken, excessively split or cracked or generally unsound. • No more than 10% of the posts in the system (terminal to terminal) missing, broken, excessively split or cracked or generally unsound. • No dented, bent, twisted or rusted rails or channels that are affecting the integrity and effectiveness of the system • Any broken post repaired within 30 days upon Detection or being Made Aware • When ground is not frozen all damaged Attenuation Systems which compromise the integrity and effectiveness of the system are repaired or replaced within 7 days upon Detection or being Made Aware • All damaged Attenuation Systems which compromise the integrity and effectiveness of the system are temporarily repaired within 24 hours upon Detection or being Made Aware.

Feature	Outcome Target
Temporary Concrete Barriers	<ul style="list-style-type: none"> Any two adjacent sections of temporary/modular barriers are not misaligned by more than 7.5 cm or longitudinally separated by greater than 2.5cm. All temporary repairs are removed and are permanently repaired between April 1 and October 1 of each year Any “break out” area is secured within 24 hours of occurrence.
Concrete Barriers	<ul style="list-style-type: none"> All temporary repairs are removed and are permanently repaired between April 1 and October 1 of each year Any “break out” area is secured within 24 hours of occurrence.
Energy Absorbing Systems	<ul style="list-style-type: none"> All damaged Energy Absorbing Systems which compromise the integrity and effectiveness of the system are repaired or replaced within 7 days upon Detection or being Made Aware All Energy Absorbing Systems which have shifted or moved out of original position are realigned within 7 days upon Detection or being Made Aware All systems that contain moving parts are cleaned by June 1st every year
Anti Glare Screens	<ul style="list-style-type: none"> All damaged or missing anti-glare screens are repaired or replaced within 14 days upon Detection or being Made Aware.
Snow Protection Barriers	<ul style="list-style-type: none"> All damaged snow protection barriers are to be reported to the CA within 7 days upon Detection or being Made Aware.
Signs	
Regulatory Signs	<ul style="list-style-type: none"> Missing, damaged, illegible, obscured, twisted or deflected Regulatory signs replaced/repared Immediately upon Detection or being Made Aware.
Warning Signs	<ul style="list-style-type: none"> Missing, damaged, illegible, obscured, reduced reflectivity, faded, twisted or deflected warning signs are Addressed within 7 days upon Detection or being Made Aware Missing, damaged, illegible, obscured, reduced reflectivity, faded, twisted or deflected delineators are Addressed within 30 days upon Detection or being Made Aware
Information Signs	<ul style="list-style-type: none"> Missing, damaged, illegible, obscured, reduced reflectivity, faded, twisted or deflected information signs are Addressed within 30 days upon Detection or being Made Aware
Sign Hardware	<ul style="list-style-type: none"> No missing/broken/loose/cracked/bent fasteners and brackets
Sign Posts	<ul style="list-style-type: none"> No more than 3 twisted, cracked, out of plumb, bent, unsound posts or posts not solid in the ground within a 5 linear kilometer area of the Highway.

Feature	Outcome Target
Sign Supports	<ul style="list-style-type: none"> All debris against the structure is removed upon Detection or being Made Aware Annual inspection reports completed for all structures and submitted to the ministry by August 1st of every year.
Unauthorized Signs	<ul style="list-style-type: none"> All unauthorized signs removed as Detected.
Curb and Gutter	
Obstructions	<ul style="list-style-type: none"> All obstructions impeding proper drainage are removed.
Gaps/Separation	<ul style="list-style-type: none"> Gaps between curb and gutter and pavement surface not to exceed 5 cm
Erosion	<ul style="list-style-type: none"> Erosion damage to the shoulder and embankment behind the curb where water may flow over the curb is repaired as Detected
Drainage Systems	
Catch Basins and Maintenance Access Points	<ul style="list-style-type: none"> All missing catch basins and maintenance access – frames or grates are replaced Immediately All damaged catch basins and maintenance access – frames or grates are repaired or replaced within 7 days upon Detection or being Made Aware Sumps not filled to capacity
Erosion Damage	<ul style="list-style-type: none"> All erosion damage is repaired and all obstructions to proper functioning of the drainage system are removed by October 1 of every year.
Sub Drains	<ul style="list-style-type: none"> All obstructions impeding water flow are removed within 30 days of Detection or being Made Aware. No crushed or buried pipe ends No missing and damaged rodent/wildlife screens
Culverts	
Debris	<ul style="list-style-type: none"> All debris causing blockage in culverts is removed Immediately. All debris restricting water flow through culverts is removed when Detected
Washout/Erosion	<ul style="list-style-type: none"> Washouts of culvert backfill and erosion damage under or around the culverts are repaired within 30 days upon Detection or being Made Aware
Components	<ul style="list-style-type: none"> No damaged or missing bars, screens or grids installed for the prevention of entry by animals or unauthorized personnel
Ditches	
Erosion/Slope Protection	<ul style="list-style-type: none"> Eroded or damaged ditch slopes, linings, back slopes and slope protection are repaired within 60 days of Detection or being Made Aware
Inlets/Outlets	<ul style="list-style-type: none"> Erosion of ditch inlets/outlets is repaired within 60 days of Detection or being Made Aware Obstructions that may reduce flow capacity are removed upon Detection or being Made Aware

Feature	Outcome Target
Obstructions	<ul style="list-style-type: none"> All non-planned obstructions that stop, reroute, or reduce the free flow of water; or may cause flooding are addressed immediately
Vegetation Control	
Grass Mowing	<ul style="list-style-type: none"> All grassy areas visible to traveling public, including ramps and interchanges at not more than 15 centimeters for the Ottawa Queensway from the Nicholas Avenue interchange (inclusive) to the Hwy 417/174 split (inclusive) For the period between April 15th – November 15th of each year, the Contractor will be responsible to remove all litter from the same grassy areas. All litter shall be removed upon Detection or being Made Aware.
Ground Cover	<ul style="list-style-type: none"> Removed or destroyed ground cover causing a negative environmental impact or impacting the infrastructure restored within 30 days upon Detection or being Made Aware
Concrete/Asphalt Joints	<ul style="list-style-type: none"> Vegetation between curb and asphalt joints in curb and gutter and between asphalt shoulders and a concrete barrier is eradicated during the months of July and August every year.
Fences and Other Barriers	
Fences	<ul style="list-style-type: none"> Damaged or missing security or farm fence allowing access to the highway is repaired (temporarily if necessary) Immediately.
Security Fence	<ul style="list-style-type: none"> No damaged or missing security fence not permanently repaired
General	
Graffiti	<ul style="list-style-type: none"> All graffiti visible by the public is removed by soda blasting within 28 days upon Detection or being Made Aware All offensive graffiti is removed Immediately upon Detection or being Made Aware. Meets the City of Ottawa Graffiti By-Law 100% of the time
Litter Control	<ul style="list-style-type: none"> All litter within the Roadside measuring more than 0.015m³ removed upon Detection or being Made Aware. All litter in Designated Areas as per section 4001.05 to be removed upon Detection or being Made Aware.

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This Maintenance Requirement covers the responsibilities and obligations for Electrical Maintenance Operations and Services for Highway Lighting, and High Mast Lighting and other electrical systems as specified in this Performance Requirement.

5001.02 DEFINITIONS

The following definitions are specific to this Performance Requirement.

Accurate means the information provided is a true representation of an actual situation, accomplishment or occurrence

Complete means that all required and relevant information has been provided

Critical Failure means any failure related to the System Components, which causes the improper operation of, or the failure System Components such that they are operating under substantial Degraded Performance; or the failure of any System Component that adversely affects the Electrical System or impacts on the public safety.

Degraded Performance means the operation of any Electrical System or subsystem with less than 100% performance of the operational System Components.

Distribution Assembly means low voltage equipment within an enclosure with switching and control devices used to provide a source of power for electrical systems.

Electrical System means the system encompassed by all Contract items for Electrical Work in the Contract.

Electrical Work means any work associated with the installation, modification or removal of electrical equipment including work required for all auxiliary concrete, mechanical, metallic or associated non-electrical components or equipment.

Electrician Apprentice means a person registered in the Electrician apprenticeship training program administered by the Ministry of Training, Colleges and Universities.

Electrician means a person in possession of a certificate of qualification for the trade of Electrician, Construction and Maintenance issued by the Ministry of Training, Colleges and Universities.

High Voltage Specialist means a person who is a competent worker (as defined by the OHSA), knowledgeable and experienced in the special work to be performed and has successfully completed approved courses as related to the testing of high voltage equipment/transformers by either E.U.S.A or the manufacturer's of the specific testing equipment used.

Highway Lighting System means a system of luminaries, poles, sign luminaires, underpass illumination, navigation lighting, cables, power supply equipment, control system and all associated materials required to provide illumination on a Highway or associated appurtenances.

Luminaire means a complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps and to connect the lamps to the power supply.

Minor Maintenance means inspection and checking of items, elementary testing, and cleaning, lubricating and minor repairs. This may require the use of an aerial device.

Major Maintenance means overhauling, testing and replacement of components, which may require a scheduled power outage, and includes work done under Minor Maintenance.

Non-Routine Maintenance means activity required to repair unexpected failure of equipment components. It requires Immediate action and takes precedence over routine maintenance activities for the duration of the required action.

Permanent Repair means the component is fully functioning to its original intention and service life.

Response means a maximum of two hours from the time the Contractor is Made Aware of the situation until the appropriate qualified staff and an appropriate amount of material and equipment are on site.

Routine Maintenance means preventative maintenance carried out on equipment at specified intervals and includes, but is not limited to checking, testing, cleaning, tightening, lubricating, etc. of equipment as well as minor repairs (generally with hand tools and with materials at hand). The purpose of Routine Maintenance is to ensure that problems are solved before failures occur. Minor Maintenance problems that cannot be corrected "on the spot" shall be logged and scheduled for further follow-up. Routine Maintenance includes Minor and Major Maintenance.

System Components means all hardware and software components, devices, parts and materials included in the Electrical System.

Temporary Repairs means Work that is done to serve a specific temporary function and removed upon completion of the temporary usage required for this contract and shall comply with Ontario Regulation 626 of the Ontario Highway Traffic Act

Timely means that all required information is provided within the prescribed or Reasonable timeframe

Temporary Repair means a short term measure to regain some functionality for the least possible duration until a Permanent Repair can be made.

5001.03 REFERENCES

This contract requirement includes the mandatory use of the following documents for the performance of the work:

- Ontario Electrical Safety Code including all appending bulletins issued by the Electrical Safety Authority of Ontario.
- CSA, Standards pertinent to the Electrical Work.
- Roadside Safety Manual
- Designated Sources Materials (DSM)

5001.04 CONTRACTOR RESPONSIBILITIES AND OBLIGATIONS

The Contractor shall be responsible to provide all electrical maintenance and services. These activities shall be performed in accordance to the requirements of the Contract. The Contractor shall identify, document and take the appropriate action necessary to correct all defects whether by Routine Maintenance or Non-Routine Maintenance.

5001.04.01 The Ontario Electrical Safety Code

The Ontario Electrical Safety Code identifies that all work performed on traffic signals and roadway lighting systems must be inspected by the Electrical Safety Authority (ESA). The Contractor or sub-contractor performing the Electrical Work shall enter into an annual inspection agreement with the ESA by completing the “Contractor Application for the Inspection of Electrical Maintenance Work Performed on Roadway Electrical Systems”. This application and additional information can be found on the Electrical Safety Authority’s website at www.esainspection.net. The costs associated with this agreement and the follow up inspections as requested by ESA will be the responsibility of the Contractor. The Contractor shall be required to keep Copies of all ESA inspection reports on file throughout the duration of the Contract and shall make them available to the Owner.

5001.04.02 Canadian Standards Association (CSA)

When required for the purposes of the Electrical Work all Electrical Components shall meet with CSA requirements. Provincial, Federal and local laws and by-laws pertaining to the Work, as well as by the latest issue of CSA Standards pertinent to the Work shall govern all Work. In the event of conflict of regulations, the strictest regulation shall apply.

5001.04.03 Non-Routine Maintenance

The Contractor shall be available 24 hours a day, 7 days a week for the duration of the Contract. Non-routine Maintenance shall be required whenever there is a Critical Failure of any System Component of the Electrical System or whenever vehicular accidents, weather or other factors caused damage to System Components. Critical failures of Traffic Signals, Flashing Beacons, and Illumination are identified in Table 5001 below.

The Contractor shall respond to Non-Routine Maintenance calls within 2 hours of being Made Aware or upon Detection.

The Contractor shall complete the Traffic Signal Callout Report for all Critical Failures to Traffic Signals and submit to the Contract Administrator within 3 Days after the call.

The Contractor shall notify Central Dispatch upon being Made Aware of Non-Routine Maintenance calls. The Contractor shall notify Central Dispatch upon arriving and leaving the site.

The Contractor shall respond to non-routine calls for communications and power outages to RWIS and PDCS within 24 hours after Detection or being Made Aware of a problem.

The Contractor shall respond to non routine calls for communications and power outages to PVMS within 2 hours after Detection or being Made Aware of a problem

Table 5001 – Critical Failures in Electrical Systems

Reported Problem	Traffic Signals	Illumination	Flashing Beacons
Aerial Span Wire Down	N/A	X	N/A
Pole Knocked Down or Hit	N/A	X	N/A
Power Supply Knocked Down	N/A	X	N/A
Power Supply Failure	N/A	X	N/A
Navigation Light Out	N/A	X	N/A
Overhead equipment unfastened or hanging over roadway	N/A	X	N/A
Emergency Cable Locates	N/A	X	N/A
Faulty Photo Control Circuit	N/A	X	N/A
Unbalance, unlatched or partially unlatched high mast lighting ring	N/A	X	N/A

5001.04.04 Highway Lighting

The Contractor shall perform routine inspections of Highway Lighting Systems to identify defects and perform Minor and Major Maintenance activities required to maintain the system in good repair. All inspections and work performed shall be recorded on the Highway Lighting Inspection Report.

Routine Maintenance activities on all Highway Lighting Systems within the contract shall include:

- Inspecting, checking, elementary testing, cleaning, lubricating and performing minor repairs on all Highway Lighting System Components including luminaires, lighting brackets, wiring, poles, frangible and safety bases, pads and footings, lowering and raising devices, sub-stations, distribution assemblies, cabinets and power supplies within the contract a minimum of once per year.
- Overhauling, testing and replacement of faulty components on all Highway Lighting System Components including luminaires, lighting brackets, wiring, grounding, poles, pole bases, frangible and safety bases, pads and footings, lowering and raising devices, sub-stations, distribution assemblies, cabinets and power supplies within the Contract in Years 2016, 2020 and 2024 of this contract. Luminaires that are replaced shall be replaced with the same type, including the exact same photometric distribution.
- Replace all bulbs on conventional, high mast, underpass and facility lighting on a 4-year cycle in Years 2016, 2020 and 2024 of this contract. Bulbs shall be replaced with the same type, including the exact same photometric distribution.
- Replace all bulbs on navigational lighting on a 2-year cycle in Years 2013, 2015, 2017, 2019, 2021 and 2023 of this contract. Bulbs shall be replaced with the same type, including the exact same photometric distribution.

5001.04.05 High Mast Lighting

Electrical Work on high mast lighting systems shall be performed by Electricians who have a certificate of training from the manufacturer of the high mast lighting raising and lowering equipment. The training certificate shall be dated and signed by officers of the manufacturer and shall indicate the dates on which the training was held. The training certificates shall be less than 5 years old.

The training certificate shall state that the manufacturer certifies that the individual has successfully completed an in-depth training course in the following areas:

- Assembly of the pole sections
- Assembly of the raising and lowering equipment
- Operation of the raising and lowering equipment
- Installation of high mast poles and lighting equipment
- Levelling of the luminaire ring assembly

- Inspection of high mast poles and lighting equipment
- Maintenance and repair techniques for sectional steel high mast lighting equipment
- Safety procedures

The Contractor shall perform routine inspections of High Mast Lighting Systems to identify defects and perform Minor and Major Maintenance activities required to maintain the system in good repair. All inspections and work performed shall be recorded on the High Mast Lighting Inspection Report.

Routine Maintenance activities on all High Mast Lighting Systems within the contract shall include:

- Inspecting, checking, elementary testing, cleaning, lubricating and performing minor repairs on all Non-Latching High Mast Lighting System Components including luminaires, lighting supports, wiring, poles, lowering and raising devices, pads and footings, lowering and raising devices, sub-stations, distribution assemblies, cabinets and power supplies within the contract a minimum of once every 6 months.
- Overhauling, testing and replacement of faulty components on all Non-Latching High Mast Lighting System Components including luminaires, lighting supports, wiring, poles, lowering and raising devices, pads and footings, lowering and raising devices, sub-stations, distribution assemblies, cabinets and power supplies within the contract.
- Inspecting, checking, elementary testing, cleaning, lubricating and performing minor repairs on all Top-Latching High Mast Lighting System Components including luminaires, lighting supports, wiring, poles, lowering and raising devices, pads and footings, lowering and raising devices, sub-stations, distribution assemblies, cabinets and power supplies within the contract a minimum of once every 2 years.
- Overhauling, testing and replacement of faulty components on all Top-Latching High Mast Lighting System Components including luminaires, lighting supports, wiring, poles, lowering and raising devices, pads and footings, lowering and raising devices, sub-stations, distribution assemblies, cabinets and power supplies within the contract. Luminaires that are replaced shall be replaced with the same type, including the exact same photometric distribution.
- Replace all bulbs on high mast lighting on a 4-year cycle of this contract. Bulbs shall be replaced with the same type, including the exact same photometric distribution.

In addition to Routine Maintenance activities, the following shall be required for all high mast lighting systems within the contract:

- The Contractor shall ensure top-latching raising and lowering systems are inspected, operationally tested, and maintained at least once every 2 years.
- The Contractor shall ensure non-latching raising and lowering systems are inspected, operationally tested, and maintained at least once every 6 months.

- The ministry may conduct its own inspections of high mast lighting poles and other lighting poles. The Contractor shall coordinate its routine maintenance work, including traffic control, with the ministry in order to allow the ministry to perform its inspection work concurrent with the Contractor's routine maintenance work. The Contractor shall take all necessary measures to facilitate and accommodate the ministry inspectors' access to the poles when the Contractor is performing routine maintenance work.

5001.04.06 Power Supply

The Contractor shall perform routine inspections of Electrical Systems power supply to identify defects and perform Minor and Major Maintenance activities required to maintain the system in good repair. All inspections and work performed shall be recorded on the Power Supply Inspection Report.

5001.04.07 Electrical Power Supply for other Facilities

The Contractor is advised that some power supplies provide power to both Highway Lighting Systems and Advanced Traffic Management Systems and other electrical facilities. Maintenance on the highway lighting systems shall be performed without de-energizing the other system.

5001.04.08 Cable Locates

A Qualified Person performing cable locate services must have successfully completed the Electrical Utilities Safety Association Cable Locating Course or the manufacturer course for their specific Cable Locating Device. The Contractor shall be responsible for locating cables at Flashing Beacons, Permanent Data Collection Stations (PDCS), Highway Illumination, Traffic Signals and High Mast Lighting within the Contract. The Contractor will complete the non emergency/routine/scheduled cable locates at the earliest possible opportunity and within 5 days.

All requests for cable locates will be through the Contractor. The Contractor will provide a copy of the completed field locate document to the Contract Administrator within 48 hours of the completion of the cable locate. All field updates of the drawings will be the responsibility of the Contractor.

The Contractor will be provided by the Owner with phone number overlays with the Contractor's phone number to replace the existing number on buried cable signs. It is the Contractor's responsibility to install the overlays during the first routine maintenance cycle.

5001.04.09 Information Management Requirements

The Contractor shall complete maintenance documents including, but not limited to Maintenance and Inspection Reports. These detailed records of all maintenance activities shall be kept for the duration of this Contract. If the Contractor proposes not to use the documents as supplied, the Contractor's forms must be submitted to the Owner for Approval before they can be used. All time of day references in all documentation shall be in the 24-Hour clock format. All entries in logbooks shall be signed and dated.

The Contractor shall enter the time the Contractor was Made Aware and the time of arrival of the Contractor on site. In addition the Contractor shall enter the time the repair was completed and the component became fully operational. This Information shall be recorded in a Non-Routine Maintenance logbook. These records shall be made available to the Owner for inspection upon request.

5001.04.10 Routine Maintenance and Inspection Reports

Maintenance and Inspection Reports shall be completed for all activities and shall, at a minimum, contain the following information:

- Date, time and origin of report
- Location of deficiency
- Date and time of arrival at the site
- Weather conditions at the site
- Defects as observed
- Steps taken to rectify the defects
- Inspection reports shall include status of the following functions:
 - operational status
 - status of all protection equipment – mov's, surge protectors, breakers
 - conditions and status of all hardware, poles, luminaries, etc.
- Status of all protection equipment – mov's, surge protectors, breakers, etc.
- Conditions and status of all hardware, poles, luminaries, etc.
- Any additional or follow-up work that may be required and the relative urgency of the follow-up work required and temporary repairs made.
- Note of any police officer's name and badge number and complete a damage report detailing material and repairs required.
- All reports must contain full details of work performed.
- Date and time repairs were completed

If a collision occurs while the Contractor is on site then the Contractor shall record the time, date and description of the collision.

The Contractor shall complete and make available to the Ministry all routine maintenance and inspection reports within 14 days after completion of the work.

5001.05 OUTCOME TARGETS

The Contractor shall ensure that the work performed under this Performance Requirement, meets or exceeds the Outcome Targets specified in this Performance Requirement.

Feature	Outcome Targets
Highway Lighting	<ul style="list-style-type: none"> • Response to all Critical Failures within 2 hours of Detection or Being Made Aware. • Permanent or Temporary Repairs completed before leaving the site • Permanent repairs completed within 10 days. • For continuous lighting, no more than 30% of the luminaires per any kilometre of highway not functioning, and no more than 2 consecutive luminaires not functioning. • For partial lighting, no more than 30% of the luminaires connected to a power supply not functioning, and any luminaire not functioning for more than 7 days of being Made Aware or upon Detection.
High Mast Lighting	<ul style="list-style-type: none"> • Response to all Critical Failures within 2 hours of Detection or Being Made Aware. • Permanent or Temporary Repairs completed before leaving the site • Permanent repairs completed within 10 days • No more than 25% of the luminaires per high mast lighting pole not functioning
Cable Locates	<ul style="list-style-type: none"> • Response to cable locates within 5 days • Field locate document provided to Contract Administrator within 48 hours upon completion of the locate
Maintenance and Inspection reports	<ul style="list-style-type: none"> • 100% of all required information is Complete, Timely and Accurate
Qualified Person	<ul style="list-style-type: none"> • A Qualified Person performing any work under this Performance Requirement 100% of the time
Central Dispatch	<ul style="list-style-type: none"> • Notifying Central Dispatch on all non-routine calls

PART A - MTO GENERAL CONDITIONS**SECTION GC 1.0 - INTERPRETATION****GC 1.01 Captions**

- .01 The captions appearing in these MTO General Conditions have been inserted as a matter of convenience and for ease of reference only and in no way define, limit, or enlarge the scope or meaning of these General Conditions or any provision hereof.
- .02 In the event of a conflict of a reference to the number and caption of a subsection, clause, or paragraph, reference shall be made to the caption.

GC 1.02 Abbreviations

- .01 The abbreviations listed on the left below are commonly found in the Contract Documents and represent the organizations and phrases listed on the right:

AASHTO	-	American Association of State Highway Transportation Officials
ANSI	-	American National Standards Institute
ASTM	-	ASTM International - formerly American Society for Testing and Materials
AWG	-	American Wire Gauge
AWWA	-	American Water Works Association
CESA	-	Canadian Engineering Standards Association
CGSB	-	Canadian General Standards Board
CSA	-	CSA Standards - formerly Canadian Standards Association
CWB	-	Canadian Welding Bureau
CVOR	-	Commercial Vehicle Operator's Registration
DSM	-	Designated Sources for Materials
GC	-	MTO General Conditions
MOE	-	Ministry of the Environment (Ontario)
MTO	-	Ontario Ministry of Transportation
MTC	-	Ministry of Transportation and Communications, now MTO
MUTCD	-	Manual of Uniform Traffic Control Devices, published by MTO
OPS	-	Ontario Provincial Standards
OPSS	-	Ontario Provincial Standard Specification
OPSD	-	Ontario Provincial Standard Drawing
OTM	-	Ontario Traffic Manual
PEO	-	Professional Engineers Ontario
SAE	-	Society of Automotive Engineers
SSPC	-	Structural Steel Painting Council
TRA	-	The Road Authority
UL	-	Underwriters Laboratories
ULC	-	Underwriters Laboratories Canada

GC 1.03 [Reserved]**GC 1.04 Ontario Provincial Standards**

- .01 Regardless of the publishing date on OPSSs and OPSDs contained in the OPS manuals and on a MTO website, the Standards applicable to this Contract are listed in the schedule of Provisions, Plans, Standard Drawings, Specifications and MTO General Conditions.
- .02 When an OPSS contains an appendix, the appendix is deleted in its entirety and is not invoked unless specified elsewhere in the Contract Documents. When an appendix is invoked, the information contained in the appendix shall form part of the specification.

GC 1.05 Ontario Traffic Manual

.01 All references in the Contract Documents to the MUTCD, including all Parts and Divisions thereof, or MTO Traffic Control Manual for Roadway Work Operations, or Traffic Control Manual for Roadway Operations Field Edition are hereby deleted and replaced by the following books of the Ontario Traffic Manual:

- Book 1 - Introduction to the Ontario Traffic Manual;
- Book 1A - Illustrated Sign and Signal Display Index;
- Book 1B - Sign Design Principles;
- Book 1C - Positive Guidance Toolkit;
- Book 5 - Regulatory Signs;
- Book 6 - Warning Signs;
- Book 7 - Temporary Conditions (and Temporary Conditions Field Edition);
- Book 11 - Pavement, Hazard and Delineation Markings;
- Book 12 - Traffic Signals.

.02 Any reference in the Contract Documents to OTM shall be deemed to be the Ontario Traffic Manual Books 1, 1A, 1B, 1C, 5, 6, 7, 11, and 12.

.03 Project Co shall comply with the applicable requirements of the above OTM books.

GC 1.06 [Reserved]**GC 1.07 Definitions**

For the purpose of this Annex G, the following definitions apply:

Aggregate means gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, or rock other than metallic ores, slag, and clinkers.

Base means a layer of Material of specified type and thickness placed immediately below the Pavement, driving surface, finished grade, curb with gutter, or sidewalk.

Commercial Motor Vehicle means as defined under Section 16 of the *Highway Traffic Act*, R.S.O. 1990, and c.H.8, as amended.

Construction Signs means all traffic control devices and signs, including vehicles, trailers, and the like that are provided to support signs, and equipment to supply sign lighting, but excludes Contract identification signs and Highway number markers, all as may be described in the OTM.

Constructor means, for the purposes of, and within the meaning of the *Occupational Health and Safety Act*, R.S.O. 1980, c. 321 and amendments thereto, Project Co who executes this Contract.

CVOR Abstract means a level 1 Commercial Vehicle Operator's Registration (CVOR) abstract obtained from MTO.

CVOR Certificate means a Commercial Vehicle Operator's Registration certificate issued under the Highway Traffic Act, R.S.O. 1990, c.H.8, as amended.

CVOR Holder means a person or company to whom a CVOR Certificate was issued that has not been cancelled nor currently under suspension.

Daily Work Records means daily records for any part of the Work detailing the work in question, names, and categories of workers and hours worked or on standby; types and quantities of Equipment and number of hours in use and/or on standby; and description and quantities of Material used.

Day means a calendar day.

Earth Grade means the earth surface, whether in cut or fill, as prepared for the Base or Subbase.

Engineer means a professional engineer licensed by the Professional Engineers Ontario to practice in the Province of Ontario.

Environmental Incident means an event such as a spill, discharge, emission, release, or escape of a material, pollutant, contaminant, deleterious substance, or dangerous good as defined in the legislation referenced in paragraph GC 7.13.02.01.

Equipment means all machinery and equipment used for preparing, fabricating, conveying, or erecting the Work and normally referred to as construction machinery and equipment.

Grade means the required elevation of work.

Inspector means any person, partnership, or corporation appointed by the Consultant to participate in the inspection of the Work and the Material to be used in the Work.

Material means material, machinery, equipment, and fixtures forming part of the Work.

Pavement means a wearing course or courses placed on the Roadway and consisting of asphaltic concrete, hydraulic cement concrete, or other bituminous surfaces.

Plan Quantity means that quantity as computed from within the boundary lines of the Work as shown in the Contract Documents.

Profile Grade means the required elevation of the surface of the Base.

Quantity Sheet Form means the form as defined in GC 8.01.01.

Record Drawings mean marked-up Contract Drawings prepared by Project Co that show all differences, design changes, and deviations from the original Contract Drawings.

Records mean any books, payrolls, accounts, or other information that relate to the Work or Claims arising there from.

Regional Contracts Office means the Contracts Office in the MTO Region administering the Contract.

Release from Warranty Certificate means the certificate prepared by the City releasing Project Co from all warranty obligations at the end of the last expiring warranty period.

Roadway means that part of the Highway designed or intended for use by vehicular traffic and includes the shoulders.

Shoulder means that portion of the Roadway between the edge of the travelled lane and the top inside edge of the ditch or fill slope.

Special Provision means special direction within the Contract Documents containing requirements peculiar to the Work.

Standard means, when used alone, the generic term for Standard Specifications and Standard Drawings.

Standard Specification or Standard Drawing means a standard practice required and stipulated by the City for performance of the Work.

Subbase means a layer of material of specified type and thickness between the Subgrade and the Base.

Subgrade means the Earth Grade or Rock Grade.

Substructure means all of that part of a structure, including backwalls, wingwalls, and wing protection railings, below:

- a) The bearings of single and continuous span bridges.
- b) Skewbacks of arches and tops of footings of rigid frame bridges.

Superstructure means all that part of a structure, excluding backwalls, wingwalls, and wing protection railings, above:

- a) The bearing seat of single and continuous span bridges.
- b) Skewbacks of arches and tops of footings of rigid frame bridges.

Surety means the person, partnership, or corporation, other than Project Co, executing a bond provided by Project Co.

Utility means a facility maintained by a municipality, public utility authority, or regulated authority and includes sanitary sewer, storm sewer, water, electric, gas, steam, data, telephone, and cable television services.

Working Area means all the land and all the easements owned or acquired by the City for the construction of the Work.

Working Drawings or Working Plans means any drawings or plans prepared by Project Co for the execution of the Work and may, without limiting the generality thereof, include falsework and formwork plans, roadway protection plans, shop drawings, shop plans, or erection diagrams.

GC 1.08 [Reserved]

GC 1.09 Interpretation of Certain Words in Annex G

- .01 The words "acceptable," "approval," "authorized," "considered necessary," "directed," "required," "satisfactory," or words of like import shall mean approval of, directed, required, considered necessary, or authorized by and acceptable or satisfactory to the Consultant unless the context clearly indicates otherwise.
- .02 The words "Ministry of Transportation," "ministry," and the abbreviations "MTO" and "MTC" shall mean the Ontario Ministry of Transportation.

GC 1.10 [Reserved]

SECTION GC 2.0 - CONTRACT DOCUMENTS

GC 2.01 [Reserved]

GC 2.02 [Reserved]

SECTION GC 3.0 - ADMINISTRATION OF THE CONTRACT

GC 3.01 Consultant's Authority

- .01 The Consultant shall be the City's representative during construction and until the issuance of the Release from Warranty Certificate. All instructions to Project Co including instructions from the City shall

be issued by the Consultant. The Consultant shall have the authority to act on behalf of the City only to the extent provided in the Contract Documents.

- .02 [Reserved].
- .03 The Consultant may inspect the Work for its conformity with the Contract Drawings and Standard Specifications and all Drawings, and to record the necessary data to make an assessment of the value of the work completed in the case of a lump sum price Contract.
- .04 The Consultant shall approve the amounts owing to Project Co under this Contract.
- .05 The Consultant shall, with reasonable promptness, review and take appropriate action upon Project Co's submissions such as Working Drawings, product data, and samples according to the Contract Documents. Unless specified otherwise, the Consultant shall respond to submissions requiring approval according to the Contract as soon as possible but not longer than 5 Business Days excluding any requests for extensions of Contract Time.
- .06 The Consultant shall investigate all allegations of a change in the character of the Work made by Project Co and issue appropriate instructions.
- .07 The Consultant shall be, in the first instance, the interpreter of the Contract Documents and the judge of the performance there under by both parties to the Contract. Interpretations and decisions of the Consultant shall be consistent with the intent of the Contract Documents.
- .08 The Consultant shall have the authority to reject work or Material which does not conform to the Contract Documents.
- .09 Defective work, whether the result of poor workmanship, use of defective Material, or damage through carelessness or other act or omission of Project Co and whether incorporated in the Work or not, that has been rejected by the Consultant as failing to conform to the Contract Documents shall be removed promptly from the Work by Project Co and replaced or re-executed promptly according to the Contract Documents at no additional cost to the City.
- .10 Any part of the Work destroyed or damaged by such removals, replacements, or re-executions shall promptly be made good at no additional cost to the City.
- .11 If, in the opinion of the Consultant, it is not expedient to correct defective work or work not performed according to the Contract Documents, the City may deduct from monies otherwise due to Project Co the difference in value between the work as performed and that specified in the Contract Documents, the amount of which shall be determined in the first instance by the Consultant.
- .12 Notwithstanding any inspections made by the Consultant or the issuance of any certificates or the making of any payment by the City, the failure of the Consultant to reject any defective work or Material shall not constitute acceptance of defective work or Material.
- .13 The Consultant shall have the authority to temporarily suspend the Work for such reasonable time as may be necessary to facilitate the checking of any portion of Project Co's construction layout or the inspection of any portion of the Work. There shall not be any extra compensation for this suspension of work.

GC 3.02 Working Drawings

- .01 Project Co shall arrange for the preparation of clearly identified and dated Working Drawings as specified in the Contract Documents.

- .02 Project Co shall submit Working Drawings to the Consultant with reasonable promptness and in orderly sequence so as to not cause delay in the Work. If either Project Co or the Consultant so requests, they shall jointly prepare a schedule fixing the dates for submission and return of Working Drawings. At the time of submission, Project Co shall notify the Consultant in writing of any deviations from the Contract requirements that exist in the Working Drawings.
- .03 Project Co shall make any changes in Working Drawings that the Consultant may require consistent with the Contract Documents and resubmit, unless otherwise directed by the Consultant. When resubmitting, Project Co shall notify the Consultant in writing of any revisions other than those requested by the Consultant.
- .04 Project Co shall keep one set of the Working Drawings at the site at all times.

GC 3.03 [Reserved]

GC 3.04 [Reserved]

GC 3.05 Working Area

- .01 Project Co's sheds, site offices, toilets, other temporary structures, and storage areas for Material and Equipment shall be grouped in a compact manner and maintained in a neat and orderly condition at all times.
- .02 Project Co shall confine his construction operations to the Working Area so as not to interfere with public use. Should Project Co require more space than that shown on the Contract Drawings, Project Co shall obtain such space at no additional cost to the City.
- .03 Project Co shall not enter upon or occupy any private property for any purpose, unless Project Co has received prior written permission from the property owner.

GC 3.06 [Reserved]

GC 3.07 [Reserved]

GC 3.08 [Reserved]

GC 3.09 [Reserved]

GC 3.10 [Reserved]

GC 3.11 [Reserved]

GC 3.12 [Reserved]

GC 3.13 Use and Occupancy of the Work Prior to Substantial Performance

- .01 Where it is not contemplated elsewhere in the Contract Documents, the City may use or occupy the Work or any part thereof prior to Substantial Performance, provided that at least 30 Days written notice has been given to Project Co.
- .02 The use or occupancy of the Work or any part thereof by the City prior to Substantial Performance shall not constitute an acceptance of the Work or parts so occupied. In addition, the use or occupancy of the Work shall not relieve Project Co or Project Co's Surety from any liability that has arisen, or may arise, from the performance of the Work according to the Contract Documents. The City shall be responsible for any damage that occurs because of the City's use or occupancy.

GC 3.14	[Reserved]
GC 3.14.01	[Reserved]
GC 3.14.02	[Reserved]
GC 3.14.03	[Reserved]
GC 3.14.04	[Reserved]
GC 3.14.05	Daily Work Records

- .01 After Project Co issues a request for information in accordance with Section 11.18(a) of Schedule 40 to the Project Agreement, notifying the Consultant of a Highway Design Issue, Project Co shall immediately:
- Begin to keep Daily Work Records relating to the request for information as the Work is performed, as set out in subsection GC 8.03.02 Daily Work Records.
 - Limit such Daily Work Records to the work directly impacted by the request for information.
 - Keep separate Daily Work Records for each individual request for information.
- .02 The keeping of Daily Work Records by Project Co and any process to review or comment on those records shall not be construed to be the City's acceptance of any claim for additional payment to which the Daily Work Records may relate.

GC 3.14.06 **[Reserved]**

SECTION GC 4.0 - CITY'S RIGHTS AND RESPONSIBILITIES

GC 4.01 Working Area

- .01 The City shall acquire all property rights which are deemed necessary by the City for the construction of the Work, including temporary working easements, and shall indicate the full extent of the Working Area on the Contract Drawings.

GC 4.02 Management of Excess Materials

- .01 The City shall identify in the Contract Documents the materials to be moved within or removed from the Working Area, and any characteristics of those materials which shall necessitate special materials management and disposition.
- .02 The City shall be responsible for any additional costs of removing, management and disposition of any material not identified in the Contract Documents, or where conditions exist that could not have been reasonably foreseen at the time of tendering.

GC 4.03 Construction Affecting Railway Property

- .01 When construction affects railway property, the City shall pay the costs of all flagging and other traffic control measures required and provided by the railway company within the Working Area.

SECTION GC 5.0 - MATERIAL**GC 5.01 Supply of Material**

- .01 All Material necessary for the proper completion of the Work, except that listed as being supplied by the City, shall be supplied by Project Co.

GC 5.02 Quality of Material

- .01 All Material provided by Project Co shall be new, unless otherwise specified in the Contract.
- .02 Material shall be supplied from sources identified in the MTO DSM available on TRA website <http://www.roadauthority.com> that is current at the time of supply of the product. If there are revisions to the DSM, these shall be posted on TRA website on the first Business Day of the months of February, April, June, August, October, and December. Material for which there is no category in the DSM shall be supplied according to the Contract Documents. Material which is not specified shall be of a quality best suited to the purpose required and the use of such Material shall be subject to the approval of the Consultant.
- Sources in the DSM have demonstrated their ability to produce material according to specified material specifications. However, the MTO does not warrant that these sources shall produce acceptable or sufficient Material for any contract. Project Co shall make such independent investigation and examination as Project Co deems necessary, to satisfy Project Co as to the quality and quantity of the Material available from these sources, and to ensure that all Material supplied by them satisfies the requirements of the Contract Documents.
- .03 As specified in the Contract Documents or as requested by the Consultant, Project Co shall make available for inspection or testing a sample of any Material to be provided by Project Co.
- .04 Project Co shall obtain for the Consultant the right to enter upon the premises of the Material manufacturer or supplier to carry out such inspection, sampling, and testing as specified in the Contract Documents or as requested by the Consultant.
- .05 Project Co shall complete and submit, on MTO Standard Form PH-A-106, List of Materials from Designated Sources, to the Consultant indicating where Project Co intends to obtain the designated source materials for the Contract. Project Co shall notify the Consultant of the sources of supply of all Material sufficiently in advance of the Material shipping dates to enable the Consultant to perform the required inspection, sampling, and testing.
- .06 The City shall not be responsible for any delays to Project Co's operations where Project Co fails to give sufficient advance notice to the Consultant to enable the Consultant to carry out the required inspection, sampling, and testing before the scheduled shipping dates.
- .07 Where the Standards require Project Co to supply a Material designated by a trade or other name, the tender shall be based only upon supply of the Material so designated, which shall be regarded as the standard of quality required by the Standard.
- .08 Prior to the commencement of Work Project Co shall provide to the Consultant a list of those products controlled under the Workplace Hazardous Material Information System (WHMIS) that Project Co expects to use on the Contract. Related Material Safety Data Sheets shall accompany the submission. All containers used in the application of products controlled under WHMIS shall be labelled. Project Co shall notify the Consultant of changes to the list in writing and provide relevant Material Safety Data Sheets.
- .09 When a Material or Material source is deleted from the DSM list of pre-qualified Materials or Material sources after the tender opening date, the City shall be responsible for the extra costs of Material supply

only, unless the Material production or Material source is controlled by Project Co or Subcontractor. If the type of Material or Material source is pre-qualified after the date of tender opening, permission to use the Materials or Material sources shall not be given until an agreement has been reached on the estimated value of the cost savings to the City.

GC 5.03 Rejected Material

- .01 Rejected Material shall be removed from the Working Area expeditiously after the notification to that effect from the Consultant. Where Project Co fails to comply with such notice, the Consultant may cause the rejected Material to be removed from the site and disposed of in what the Consultant considers to be the most appropriate manner, and Project Co shall pay the costs of disposal and the appropriate overhead charges.

GC 5.04 City Supplied Material**GC 5.04.01 Ordering of Excess Material**

- .01 Where Material is supplied by the City and where this Material is ordered by Project Co in excess of the amount specified to complete the Work, such excess Material shall become the property of Project Co on completion of the Work and shall be charged to Project Co at cost plus 10% for administration.

GC 5.04.02 Care of Material

- .01 Project Co shall, in advance of receipt of shipments of Material supplied by the City, provide adequate and proper storage facilities acceptable to the Consultant; and, on the receipt of such Material, promptly place it in storage except where it is to be incorporated forthwith into the Work.
- .02 Project Co shall be responsible for acceptance of Material supplied by the City, at the specified delivery point and for its safe handling and storage. If such Material is damaged while under the control of Project Co, it shall be replaced or repaired by Project Co at no expense to the City, and to the satisfaction of the Consultant. If such Material is rejected by the Consultant for reasons which are not the fault of Project Co, it shall remain in the care and at the risk of Project Co until its disposition has been determined by the Consultant.
- .03 Where Material supplied by the City arrives at the delivery point in a damaged condition or where there are discrepancies between the quantities received and the quantities shown on the bills of lading, Project Co shall immediately report such damage or discrepancies to the Consultant who shall arrange for an immediate inspection of the shipment and provide Project Co with a written release from responsibility for such damage or deficiencies. Where damage or deficiencies are not so reported, it shall be assumed that the shipment arrived in good order and any damage or deficiencies reported thereafter shall be made good by Project Co at no extra cost to the City.
- .04 The full amount of Material supplied by the City in each shipment shall be accounted for by Project Co and such Material shall be at the risk of Project Co after taking delivery. Such Material shall not be used by Project Co for purposes other than the Work under the Contract.
- .05 Empty reels, crates, containers, and other types of packaging from Material supplied by the City shall become the property of Project Co when they are no longer required for their original purpose and shall be disposed of by Project Co, unless otherwise specified in the Contract Documents.
- .06 Project Co shall provide the Consultant, immediately upon receipt of each shipment, copies of bills of lading, or such other documentation the Consultant may require to substantiate and reconcile the quantities of Material received.
- .07 Where Material supplied by the City is ordered and stockpiled prior to the award of the Contract, Project Co shall, at no extra cost to the City, immediately upon commencement of operations, check the

Material, report any damage or deficiencies to the Consultant, and take charge of the Material at the stockpile site. Where damage or deficiencies are not so recorded by Project Co, it shall be assumed that the stockpile was in good order when Project Co took charge of it and any damage or deficiencies reported thereafter shall be made good by Project Co at no extra cost to the City.

SECTION GC 6.0 – [RESERVED]

SECTION GC 7.0 - PROJECT CO'S RESPONSIBILITIES AND CONTROL OF THE WORK

GC 7.01 General

GC 7.01.01 [Reserved]

GC 7.01.02 Commencement of Work

.01 Project Co shall not commence the Work nor deliver anything to the Working Area until Project Co has received written permission from the City and the Consultant.

GC 7.01.03 [Reserved]

GC 7.01.04 [Reserved]

GC 7.01.05 Project Co's Representatives

.01 Project Co shall have an authorized representative on the Highway Site while any work is being performed, to act for or on Project Co's behalf. Prior to commencement of the Work, Project Co shall notify the Consultant of the names, addresses, positions, and telephone numbers of Project Co's representatives who can be contacted at any time to deal with matters relating to the Contract.

.02 Project Co shall designate a person to be responsible for traffic control and highway work zone safety. The designated person shall be a competent worker who is qualified because of:

- a) Knowledge, training, and experience to perform the duties;
- b) Is familiar with Book 7 of the OTM; and
- c) Has knowledge of all potential or actual danger to workers and motorists.

Prior to the commencement of the Work, Project Co shall notify the Consultant of the name, address, position, and telephone number of the designated person. The designated person may have other responsibilities, including other construction sites, and need not be present in the Working Area at all times.

.03 Project Co shall maintain a daily, hard bound diary of the signs in use for temporary and long term traffic control. The diary shall be submitted with the final payment documents. For the duration of the Work and within 24 hours of a request by the Consultant, Project Co shall provide the Consultant full access to the diary. The following information shall be included in the diary:

- a) A schematic of the location of each existing sign by station, offset, and height above pavement.
- b) A schematic of the placement and re-location of all construction signs by station, offset, and height above pavement.

- c) Traffic accidents, including time of inspection, location of incident, and photographs.
- d) Time and date of daily sign inspections.

GC 7.01.06 [Reserved]**GC 7.01.07 [Reserved]****GC 7.01.08 [Reserved]****GC 7.01.09 Utilities**

- .01 Project Co shall arrange with the appropriate Utility authorities for the stake out of all underground Utilities and service connections that may be affected by the Work. Project Co shall be responsible for any damage done to the underground Utilities by Project Co's forces during construction. Project Co shall also be responsible for any damage done to the service connections. Project Co shall attend such meetings with the Consultant and the Utility authorities as may be required by the Consultant to ensure coordination of activities among Project Co and the Utility authorities for each Utility affected by the Contract.
- .02 In the case of damage to, or interference with any Utilities, pole lines, pipe lines, conduits, farm tiles, or other public or privately owned works or property, Project Co shall immediately notify the City and the Consultant of the location and details of such damage or interference.

GC 7.01.10 Public Ceremony

- .01 Only the City shall be permitted to make the first public announcements or hold the first public ceremonies about the award or acceptance of the Contract, project milestones, and Contract Completion. Project Co shall not hold any public ceremony or make any public announcements about the above matters prior to the City doing so, without first obtaining the prior written approval of the City. Project Co shall refer all media inquiries regarding such initial announcement and ceremonies to the City.

In the above paragraph "project milestones" means any significant event in the completion of the Work, which includes the completion of a major component of the Work; the opening or closing of lanes, ramps, and structures; and any Work associated with incentives and disincentives described in the Contract.

GC 7.02 Layout

- .01 Prior to commencement of construction, the Consultant and Project Co shall locate on site those property bars and benchmarks that are necessary to delineate the Work Area and to lay out the Work, as shown on the Contract Drawings.
- .02 Project Co shall be responsible for the preservation of all property bars while the Work is in progress, except those property bars that require removal to facilitate the Work. Any property bars disturbed, damaged, or removed by Project Co's operations shall be replaced under the supervision of an Ontario Land Surveyor, at no cost to the City.
- .03 Project Co shall provide qualified personnel to layout and establish all lines and grades necessary for construction. Project Co shall notify the Consultant of any layout work carried out.
- .04 Project Co shall assume full responsibility for alignments, elevations, and dimensions of each and all parts of the Work.

- .05 All stakes, marks, and reference points provided by the Consultant shall be carefully preserved by Project Co. In the case of their destruction or removal, such stakes, marks, and reference points shall be replaced by Project Co at no cost to the City.
- .06 [Reserved]
- .07 Certification shall be required for the layout of the following components of the work:
- a) Bridges;
 - b) Retaining walls;
 - c) Culverts having a span of 5m or more;
 - d) Tunnelling, excluding augered tunnels;
 - e) Sewers of 2m diameter or more.
- For each of the identified components above, Project Co shall provide to the Consultant, on MTO Standard Form PH-CC-811, Certification of the Component, over the seal and signature of either an Engineer or an Ontario Land Surveyor, the following:
- a) Certification of the final pile location before proceeding with footings.
 - b) Certification that the footings have been constructed to the designated lines and grades before proceeding with any work above the footings.
 - c) Final elevations of bridge seats and certification of span dimensions before proceeding with any work on the superstructure of each bridge.
 - d) Actual profiles on the beams before proceeding with any work on the deck of each bridge.
 - e) Certification of the final screed rail elevations before proceeding with the deck placement.
 - f) Certification that each of the identified components of the Work has been constructed to the designated lines and grades before the Contract Completion Certificate.
- .08 Project Co shall supply the City with all as-constructed horizontal and vertical data related to the layout of the Work before the Contract Completion Certificate.
- .09 Project Co shall advise the Consultant of the intended layout schedule at the weekly meeting by identifying the survey activities planned for the following week, including any miscellaneous surveying items.
- .10 For the grading layout, stakes 25 mm x 50 mm x 600 mm, minimum, shall be installed left and right of centreline at or near the right-of-way limits and in the areas where additional staking is required, (e.g., intersections, bridges, and on horizontal and vertical curves). Staking intervals shall be as specified in Table 7.02-1 and Table 7.02-2. The only data to be shown on these stakes shall be profile grade, off-set distance from centreline, and station location. Project Co shall erect butterfly rods or batter boards at grade stake locations.
- .11 Project Co shall provide a complete set of off-set stakes with finished grade and stations for the following components of the Work:
- a) Drainage Items

Sewers, road culverts, entrance culverts, manholes, and similar items.

b) Pavement Items

Concrete base, concrete pavement, stabilized base, asphalt, Pavement, and similar items. Fine grading stakes shall be used for this work when Pavement items form part of grading or granular work.

c) Miscellaneous Items

Sidewalk, curb and gutter, slope paving, structures, fencing, noise barrier, lighting, guide rail barrier, rip-rap, and similar items as required by the City.

- .12 For fine grading layout, including paving, fine grading stakes 25 mm x 50 mm x 600 mm in size shall be installed left and right of the control line at or near the Subgrade Shoulder break. These stakes shall be installed at an interval of 30 m or less where the Consultant deems appropriate, on horizontal and vertical curves, widening of intersections, and similar locations. The only data to be shown on these stakes shall be Profile Grade, elevation, off-set distance from the control line, and station.
- .13 For resurfacing layout, offset stakes shall be installed left or right of the control line and at or near the edge of Shoulder at an interval of 50 m or less. The only data to be shown on the stake shall consist of the final Pavement elevation, off-set distance from the control line, and station.

GC 7.03 [Reserved]

GC 7.04 Excess Loading of Motor Vehicles

- .01 Where a vehicle is hauling Material, in whole or in part upon a Highway, and where motor vehicle registration is required for such vehicle, Project Co shall not cause or permit such vehicle to be loaded beyond the legal limit specified in the Highway Traffic Act, whether such vehicle is registered in the name of Project Co or otherwise, except where there are designated areas within the Working Area where overloading is permitted. Project Co shall bear the onus of weighing disputed loads.
- .02 Vehicles hauling Materials shall be accompanied by a MTO Standard Form SR-E-121, Record of Allowable Gross Weight certificate, on. The legal limit shall be the vehicle's registered gross weight or the allowable gross weight, whichever is less. Project Co shall ensure that a copy of the Record of Allowable Gross Weight form is left with the weigh person for City use.

GC 7.05 Use of Construction Equipment and Unlicensed Vehicles

- .01 Unlicensed vehicles and construction equipment, with the exception of rock trucks, shall not travel, work, or stop within 4 m of a lane carrying traffic, except where construction operations necessitates the Working Area be less than 4 m from the traffic in which case, Project Co shall erect delineators along the edge of the travelled lane, according to paragraph GC 7.08.01.
- .02 The use of unlicensed rock trucks on facilities open to public traffic shall be permitted only when hauling rock material within the construction zone and subject to the following:
- a) For unlicensed rock trucks that are less than 3.2 m wide and equipped with foot operated brakes, headlights, and front and rear turn signals, flagging is required at entrance and exit points to warn public traffic.
 - b) For all other unlicensed rock trucks, flagging is required at entrance and exit points and either pilot vehicles or flagging is required along the route to warn public traffic and control movement.

GC 7.06 Carrier Safety Compliance**GC 7.06.01 Project Co Operation of a Commercial Motor Vehicle**

.01 Where Project Co is a Commercial Vehicle Operator's Registration (CVOR) Holder who intends to operate a Commercial Motor Vehicle in the performance of the Contract or in the haulage of Materials to, on, or from the Working Area, Project Co shall provide to the City a copy of Project Co's CVOR Abstract as follows:

- a) The first CVOR Abstract shall be provided to the City before Project Co operates a Commercial Motor Vehicle in the performance of the Contract or in the haulage of Materials to, on, or from the Working Area, and
- b) CVOR Abstracts shall be submitted to the City:
 - i. Annually in October.
 - ii. Periodically upon request anytime during the period of the Contract.

The search date recorded on any CVOR Abstract shall not exceed 30 Days from the date that it is provided to the Consultant.

.02 If at any time Project Co holds an unsatisfactory or conditional CVOR rating, Project Co shall advise the Consultant within 72 hours:

- a) Project Co's Commercial Motor Vehicles shall not operate in the performance of the Contract or in the haulage of materials to or from the Working Area while Project Co holds an unsatisfactory CVOR rating.
- b) The Consultant may permit Project Co with a Conditional CVOR rating to operate its vehicles in the performance of the Contract or in the haulage of materials to or from the Working Area, subject to the following performance criteria:
 - i. Within 10 Days of having a Conditional CVOR Rating, Project Co produces an approved plan confirming that drivers and vehicles safety programs are in place to ensure compliance with the safety rating requirement, the Highway Traffic Act and National Safety Code; and
 - ii. Achieve a satisfactory, satisfactory unaudited, or excellent safety rating under the MTO Carrier Safety Rating Program and have a violation rate of under 70% within 12 months of the date the plan is submitted to the City, or show improvement in the Carrier's Safety Performance over the term of the Contract by reducing the Carrier's pointable accidents, pointable convictions and out of service inspections.

Where Project Co fails to achieve the performance criteria outlined above, the Consultant may require Project Co to subcontract all work requiring a CVOR Certificate and Project Co's bidding privileges on future work with the City may be affected.

Provisions GC 7.06.01.02, b), i and ii, are in addition to any carrier interventions or sanctions imposed through the MTO CVOR program.

GC 7.06.02 Subcontractor and Other Operation of a Commercial Motor Vehicle

.01 Prior to any CVOR Holder operating a Commercial Motor Vehicle in the performance of the Contract or in the haulage of material to, on, or from the Working Area, Project Co shall examine the CVOR Abstract of every CVOR Holder with whom Project Co intends to subcontract, directly or indirectly, to operate a Commercial Motor Vehicle in the performance of the Contract or in the haulage of materials

to, on, or from the Working Area. Project Co shall provide the Consultant with the CVOR Holder's name and CVOR Certificate number of all Subcontractors.

The search date of any CVOR Level 1 Abstract shall not exceed 30 Days from the date that it is provided to Project Co.

Project Co shall retain copies of all CVOR Abstracts for examination by the City, upon request.

- .02 The CVOR Holder shall not hold a dormant or inactive CVOR certificate at any time during the period of the Contract.

Project Co shall, at all times throughout the duration of the Contract, ensure that no CVOR Holder with an unsatisfactory CVOR rating works, directly or indirectly, for Project Co in the operation of a Commercial Motor Vehicle in the performance of the Contract or in the haulage of materials to, on, or from the Working Area. Project Co shall require Subcontractors, in turn, to require compliance with this subsection from any Person with whom they contract.

If a CVOR Holder holds an unsatisfactory CVOR rating at any time during the period of the Contract, Project Co shall inform the Consultant, in writing, within 72 hours of becoming aware, having exercised all due diligence, of such CVOR Holder having an unsatisfactory CVOR rating.

Project Co Administrator may permit a Subcontractor with a conditional CVOR rating to operate their vehicles subject to the following:

- a) Within 10 Days of having a conditional CVOR record, the Subcontractor produce an approved plan confirming that drivers and vehicles safety programs are in place to ensure compliance with the safety rating requirement, the Highway Traffic Act and National Safety Code; and
- b) Achieve a satisfactory, satisfactory unaudited, or excellent safety rating under the ministry's Carrier Safety Rating Program and have a violation rate of under 70% within 12 months of the date the plan is submitted to the City, or show improvement in the Carrier's Safety Performance over the term of the contract by reducing the Carrier's pointable accidents, pointable convictions, and out of service inspections.

Where a Subcontractor fails to achieve the performance criteria above Project Co shall within 1 month replace the Subcontractor or CVOR Holder and Project Co's bidding privileges on future work with the City may be affected.

Provisions GC 7.06.02.02, a), and GC 7.06.02.02, b), are in addition to any carrier interventions or sanctions imposed through the MTO CVOR program.

GC 7.07 Condition of the Working Area

- .01 Project Co shall maintain the Working Area in a tidy condition and free from the accumulation of debris, other than that caused by the City or others.
- .02 During night work, Project Co shall ensure that the worksite is adequately illuminated to the Consultant's satisfaction for work operations and inspections and the advance warning to traffic.
- .03 Project Co shall take such steps as may be necessary to control dust resulting from Project Co's operations or by public traffic, where it is Project Co's responsibility to maintain a road through the Work, such that it does not:
 - a) Affect traffic;
 - b) Enter surface waters; or

- c) Escape beyond the right-of-way to cause a nuisance to residents, businesses, or Utilities.

GC 7.08 Maintaining Roadways and Detours

- .01 Where an existing Roadway is affected by construction, it shall be kept open to traffic, and Project Co shall, except as otherwise provided in section GC 7.08, Maintaining Roadways and Detours, be responsible for providing and maintaining a road through the Work for the duration of the Work, whether along an existing Highway, including the road under construction, or on detours within or adjacent to the Highway according to the OTMs. The minimum Maintenance requirements are outlined in Notice to Contractor – Queensway Maintenance Requirements.
- .02 Project Co shall not be required to maintain a Roadway through the Working Area before Project Co has commenced the Work. Responsibility for maintenance shall be transferred between Project Co and the City at the commencement of the Work and the start of the Highway Warranty period. A minimum of 10 Business Days prior to an anticipated transfer date of responsibility for maintenance, the Consultant, Project Co and a representative of the City's maintenance contractor shall perform a pre-turnover field inspection. The pre-turnover field inspection shall identify deficiencies within the right-of-way and the anticipated timeframe for correction. The Consultant shall be the sole judge or whether or not the noted deficiencies require correction prior to or after the turnover date. Provided that Project Co was given advance written notice of the pre-turnover inspection date, Project Co shall not delay commencement of the Work or the assumption of responsibility for maintenance because of the existence of deficiencies. A Turnover Agreement Form PH-CC-771, prepared by the Consultant, which identifies the date and time that responsibility for maintenance shall be transferred between parties shall be executed by both the Consultant and Project Co prior to the actual turnover date. Where work under the Contract is discontinued for any extended period, Project Co shall, when directed by the Consultant, open and place the roadway and detours in a passable, safe and satisfactory condition for public travel. Project Co shall not be required to apply deicing chemicals or abrasives or carry out snow-plowing on a public road.
- .03 [Reserved].
- .04 [Reserved].
- .05 Project Co shall bear the cost of maintaining, in a satisfactory condition for public traffic, a Roadway through the Working Area. Project Co shall bring any defects to the attention of the Consultant as soon as they are identified. Such defects include potholes, distortions, pavement edge loss, washouts, drop-offs, and soft or wet areas. The Highway Milestone Payment shall include all compensation for labour, Equipment, and Materials to address such defects.
- .06 Compliance with the foregoing provisions shall in no way relieve Project Co of obligations under section GC 6.01, Protection of Work, Persons, and Property, dealing with Project Co's responsibility for losses and damage.
- .07 Project Co shall ensure that earth, mud, aggregate, and other construction debris are not tracked onto the Roadway by construction vehicles.

GC 7.09 Access to Properties Adjoining the Work and Interruption of Utility Services

- .01 At all times, Project Co shall provide the following to properties adjoining the Working Area at no additional cost to the City:
- a) Pedestrian and vehicular access; and
 - b) Continuity of Utility services.

.02 At all times, Project Co shall provide access to fire hydrants and water and gas valves located in the Work Area at no additional cost to the City.

.03 Where any interruptions in the supply of Utility services are required and are authorized by the Consultant, Project Co shall give the affected property owners notice according to section GC 7.13, Notices by Project Co, and shall arrange such interruptions so as to create a minimum of interference to affected property owners.

GC 7.10 [Reserved]

GC 7.11 [Reserved]

GC 7.12 [Reserved]

GC 7.13 [Reserved]

GC 7.13.01 [Reserved]

GC 7.13.02 Environmental Incident Management Under Legislation Protecting the Environment and Natural Resources

.01 Project Co shall be in strict compliance with the requirements of the following legislation regarding Environmental Incidents under the control of Project Co or that are a result of Project Co's operations:

- a) Environmental Protection Act, RSO 1990
- b) Fisheries Act, RSC 1985
- c) Gasoline Handling Act, RSO 1990
- d) Ontario Pesticides Act, RSO 1990
- e) Ontario Water Resources Act, RSO 1990
- f) Transportation of Dangerous Goods Act, RSC 1992

.02 The requirements of the legislation listed in paragraph of GC 7.13.02.01 include but are not restricted to:

- a) Immediate containment of the material, pollutant, contaminant, deleterious substance, or dangerous good;
- b) Immediate notification of the Environmental Incident to the proper authority; and
- c) Cleanup and restoration of the environment to preconditions.

.03 Project Co shall possess a plan demonstrating that Environmental Incidents shall be managed to satisfy the requirements of paragraphs GC 7.13.02.01 and GC 7.13.02.02.

.04 Project Co shall also be responsible for informing the Consultant forthwith of:

- a) An Environmental Incident when it occurs; and
- b) Any actions taken or intended to be taken by Project Co regarding the Environmental Incident.

.05 Within 48 hours of an Environmental Incident, Project Co shall provide to the Consultant, on MTO Standard Form PH-CC-818, Environmental Incident Notification Form, details of such incident.

- .06 Project Co shall indemnify and save the City harmless from any additional expense that the City may incur to have the Work performed as a result of Project Co's failure to comply with the requirements of the legislation listed in paragraph GC 7.13.02.01.

GC 7.14 Obstructions

- .01 Except as otherwise noted in these MTO General Conditions and the Project Agreement, Project Co assumes all the risks and responsibilities arising out of any obstruction encountered in the performance of the Work and any traffic conditions, including traffic conditions on any Highway or road giving access to the Working Area caused by such obstructions, and Project Co shall not make any claim against the City for any loss, damage, or expense occasioned thereby.
- .02 [Reserved]
- .03 During the course of the Contract, it is Project Co's responsibility to consult with Utility companies or other appropriate jurisdictions for further information in regard to the exact location of these Utilities, to exercise the necessary care in construction operations, and to take such other precautions as are necessary to safeguard the Utilities from damage.

GC 7.15 [Reserved]

GC 7.16 [Reserved]

GC 7.17 Record Drawings

- .01 Project Co shall provide 3 hard copies and 1 digital file, in PDF format, of Record Drawings prior to Contract Completion.
- .02 Record Drawings shall show all differences, design changes, and deviations from the original Contract Drawings in red with references to Project Co's survey and quality control inspection records beside each entry.

SECTION GC 8.0 – MEASUREMENT**GC 8.01 Quantity Sheets**

- .01 Project Co shall measure and record all work done and Material supplied on a form and in a level of detail similar to the form and level of detail evident in the Quantity Sheets Book included in the Contract Documents (the "Quantity Sheet Form").
- .02 The method of measurement for reporting of quantities shall be as set out in the specifications, section titled: Measurement for Quantity Reporting and Quality Control.
- .03 Within 10 Business Days following the end of each calendar month from Financial Close until the Highway Final Completion Date, Project Co shall submit an updated Quantity Sheet Form to the Consultant for review. Within 5 Business Days of receiving any comments on the submitted Quantity Sheet Form from the Consultant, Project Co shall prepare and resubmit an updated Quantity Sheet Form based on the Consultant's comments.

- .04 Notwithstanding any other provision in the Project Agreement, before Substantial Completion of the Highway Work can be achieved, Project Co must provide a Quantity Sheet Form with final actual quantities of work completed and Material supplied.

GC 8.02 [Reserved]

GC 8.03 [Reserved]

GC 8.03.01 [Reserved]

GC 8.03.02 **Daily Work Records**

- .01 The Daily Work Records reporting the labour and Equipment employed and the Material used shall be prepared by Project Co's representative. The Daily Work Records shall be signed each Day by both Project Co's representative and the Consultant. The Consultant will note disagreements on the Daily Work Record prior to signing and return a copy to Project Co.
- .02 Daily Work Records shall report the labour and Equipment employed, both working time and downtime, and the Material used on MTO Standard Form PH-CC-754 Daily Work Record. Daily Work Records shall include a brief description of the work being carried out and location of such work.
- .03 For each Day that a Daily Work Record is required under these provisions, Project Co shall deliver daily to the Consultant's representative at the working area a Project Co signed copy of the Daily Work Record.
- .04 Project Co's failure to keep or deliver Daily Work Records or to keep complete Daily Work Records may limit Project Co's ability to recover its costs.

GC 8.04 [Reserved]

GC 8.05 **Records**

- .01 Project Co shall maintain and keep accurate Records relating to the Work, Variations, and claims arising there from in sufficient detail to support the total cost of the Work, Variations, and claims. Project Co shall preserve all such original Records until 12 months after the Release from Warranty Certificate is issued or until all claims have been settled, whichever is longer. Project Co shall require that Subcontractors preserve all original Records pertaining to the Work, Changes in the Work, and Claims arising there from for a similar period of time.
- .02 If, in the opinion of the Consultant, Daily Work Records are required, Project Co shall complete such Daily Work Records for the Work or such specific part of the Work requested.

**Table 7.02-1
Layout Intervals and Measurement Accuracy
For Construction Survey - Layout**

Activity	Interval m	Measurement Accuracy mm	Remarks
Layout - Rock - Earth	10 25	-	With the exception of plus sections, layout is normally at the same interval as the cross-sections/grade calculations. This may be varied when extreme changes in horizontal and vertical alignment are encountered.
Maximum for setting structure footing grades	10	-	
Set structure grades	-	1	
Adjustment to slope stake distances to allow for grubbing losses	-	300	
Set grades for earth grading	-	10	
Set grades for granular	-	5	
Layout stake offset for curb and gutter	-	-	2 m but may be varied to suit conditions
Stake layout for curb and gutter	10	-	May be necessary to reduce for very sharp curves
Set curb and gutter grades	-	1	
Staking maximum for layout of a radius, intersections	3	-	
Layout stake offset for concrete pavement	-	-	2 m offset
Set concrete pavement grades	-	1	

**Table 7.02-2
Layout Intervals and Measurement Accuracy
For Construction Survey – Cross-Sections**

Activity	Interval m	Measurement Accuracy mm	Remarks
Backsight and foresight readings	-	1	
Maximum allowable error between adjacent Bench Marks	-	5	
Intermediate road readings			
- earth cut	25		
- rock cut	10		
- rock cut with overburden	10		
- muskeg excavation	25	10	
- fills with stripping, sub-excavation, or ditching	25		
- transition from cut to fill	25		
- fills	25		
- earth or rock fills	25		
- borrow pits	25		
Maximum transverse interval for cross-section elevations			
- earth	25	-	
- rock	10		
- borrow	25		
Measure offset distances	-	100	

PART B – ADDENDA

Attach Addenda

PART C – SPECIAL CONDITIONS

Attach MTO Special Conditions