



THE CORPORATION OF THE CITY OF NIAGARA FALLS

REQUEST FOR TENDER – SERVICES

RFT21-2021

**SUPPLY OF MATERIALS AND SERVICES FOR
PAVEMENT MARKINGS USING TRUCK MOUNTED AND SMALL MACHINES
(ON-STREET, MUNICIPAL PARKING LOTS, & CITY OWNED LANDS)
FOR A THREE (3) YEAR PERIOD MAY 1, 2021 TO APRIL 31, 2024
WITH 1 + 1 OPTION YEARS**

SPECIFICATIONS

1. SCOPE OF WORK

The work intended to be carried out under this contract shall include supplying of all labour, equipment and materials necessary for all pavement marking for truck mounted and small machine applications. The work shall consist of the application for city roads, municipal parking lots, and selected city owned properties. The work shall consist of the application of all on-street pavement marking, including but not limited to: centre lines short tails, lane lines, edge lines, bicycle lane edge lines, left/right turn lane lines, parking stalls, stop bars, crosswalks, turn arrows. The work shall also consist of the application for municipal parking lots and selected City owned lands, including but not limited to: parking stalls, drive aisles, accessible parking stalls, electric vehicle charging stalls. arrows, as required by the Corporation for the duration of the contract. The full scope and quantity of work shall be determined by the Director or their designate.

It is intended that pavement markings on all roads shall be applied once during the year. A second application will be determined by the Director where deemed necessary. The first application shall be at the beginning of the term of the contract and the second beginning mid-September or as specified by the Director. In addition to the general pavement marking, the Contractor shall be required to layout, pre-mark and paint, any such roads as may be constructed, reconstructed and resurfaced during the calendar year in which the contract is in force at the same price as initially bid.

It should be noted that the supply of all paint, reflective glass beads, etc. for use is the sole responsibility of the Contractor. However, this does not in any way lessen the Director's right to reject the use of any material which, in their opinion, is of inferior quality and would in any way contribute to an end product below acceptable standards.

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2. MATERIAL - PAINT

The type of paint to be used shall be one of these approved by the Ministry of Transportation of Ontario.

Material specifications for Organic Solvent Based Traffic Paint shall be in accordance to OPSS 1712. Material specifications for Water-Borne Traffic Paint shall be in accordance to OPSS 1716.

Starting September 12, 2012, a partial seasonal use commenced, permitting only the use of traffic marking coatings containing 150 g/l of VOCs or less. The full seasonal restriction commenced May 1, 2013 through to October 15, 2013 and thereafter annually. Bidders are to identify paint specifications on the Form of Tender in compliance with the Environment Canada – Volatile Organic Compound (VOC) Concentration Limits for Architectural Coatings Regulations. Bidders may be requested to provide proof of materials used by way of testing, invoicing receipts or alternate methods as requested by the Contract Administrator.

NOTE: CONTRACTOR IS ELIGIBLE TO SUBMIT A SEPARATE BID FOR EACH TYPE OF PAINT

MATERIAL - BEADS

The type of beads to be used shall be approved by the Ministry of Transportation and shall be in accordance to OPSS 1750.

Application of Paint and Glass Beads

All pavement markings shall be applied in accordance with the Ontario Traffic Manual (OTM Book 7 and Book 11) unless directed otherwise by the Director or their designate. Application must conform to OPSS 710.

The paint shall be applied at a rate resulting 230 +/- 25 microns dry thickness. Organic Solvent Based Traffic Paint shall be applied when the pavement surface temperature is 5 degrees Celsius and above. Water-Borne Traffic Paint shall be applied when the pavement surface temperature is 10 degrees Celsius and above. The paint temperature shall be between 40 -70 degrees Celsius. **No paint thinners are to be used.**

Rate of Application for Overlay Glass Beads per litre of Traffic Paint.

% volume solids of	Glass beads
Traffic Paint	Required in kg.
40-56	0.7
57-70	0.8

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3. EQUIPMENT

Truck Mounted Application Equipment

The minimum number of vehicles required for the operation shall be a self-propelled pavement marking unit, and one sign truck to act as a safety warning truck. There shall at all times be a truck behind the line striping machine during the pavement marking operation.

The paint and glass beads shall be applied with a self-propelled lane line marking machine. The unit shall be capable of producing top quality marking with true edges free from waviness or variations. The unit shall have an electronic skip line mechanism capable of applying either three, six or nine metre skips between lines and shall be capable of spraying at the full force required as soon as it is turned on and to remain at constant pressure to produce a uniform shade, free of variation. The unit shall also be capable of switching from one colour paint to another colour paint without any discolouration within one metre. The pressurized application of the reflectorized glass beads shall take place simultaneously with the paint application.

The unit must travel at all times in the appropriate direction of travel on the road while applying pavement markings.

The sign truck shall be equipped with a lighting system. The minimum lights required in addition to the standard headlights and tail lights, shall be a 360 degree rotating flasher light mounted on the roof of the truck cab and standard four way flashers. The truck shall also be equipped with a warning sign which shall be mounted in such a manner as to be visible to traffic approaching from the back.

Grinding Equipment

The grinder shall be a portable unit capable of grinding a line at a minimum of 10cm in width.

Small Machines Application Equipment

Hand or Manual Powered Application Equipment

The unit used to perform this portion of the contract shall meet or exceed the following specifications:

- a) Be portable, fully self-contained and stand on a minimum of three (3) tires.
- b) Be capable of producing top quality marking with true edges free from waviness or variations from 76mm to 150 mm wide.
- c) Be capable of simultaneous application of “drop-on” reflective glass beads (hand gun excluded).

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- d) Have a minimum paint capacity of twenty-three (23) litres and a minimum bead capacity of 22.5 kilograms.
- e) Paint application by means of a pneumatic system through spray gun nozzle similar to that on truck mounted equipment.
- f) Have had gun attachment with a minimum of three (3) metres of hose(s).
- g) Grinder shall be portable unit capable of grinding a line at minimum of 10cm width.

4. PERSONNEL

When carrying out the **truck mounted operation**, there shall be a driver and a paint operator on the centre liner and a driver and cone man on the truck which follows making a minimum crew of four individuals. **A minimum of one crew is required to perform the centre line pavement marking operations.**

When carrying out **small machines operations**, a crew must consist of a minimum of two persons. Two crews must be available at all times to work simultaneously.

The above crew personnel requirement may not decrease but may be increased as directed by the Director or his designate. All members of the crew must wear safety vests at all times and all appropriate safety equipment conforming to Ontario Traffic Manual, Book 7. All new layout and painting of existing areas shall conform to the latest issue of the Ontario Traffic Manual, Book 11 (Pavement, Hazard and Delineation Markings) and/or as directed by the Director.

5. PRE-MARKING

All labour, materials and equipment necessary for the layout and application of pre-marking in shall be supplied by the contractor. Pre-marking shall be from the time work actually commences to the time the work is finished as determined by the Director. Travelling time to and from the work site shall not be considered pre-marking. The pre-marking crew, provided by the contractor shall consist of at least two (2) persons, or more as needed based on the work to be carried out. All members of the crew must wear safety vests at all times. All new layout and painting of existing areas shall conform to the latest issue of the Ontario Traffic Manual, Book 11 (Pavement, Hazard and Delineation Markings) and/or as directed by the Director.

6. CENTRE LINE MACHINE PAINTING

- a) **Directional Dividing Lines including those at Stop Bar Locations (Tails)** (Retro - reflective) Depending on whether or not passing is permitted, a directional dividing line may consist of either a:
 - single solid, yellow line - single broken, yellow line - double solid, yellow line
 - single solid, yellow paired with a single, broken yellow line

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Solid lines shall be 10 cm in width, while broken lines consist of a 3m line segment followed by a 6m gap. The spacing between double solid lines, and single solid paired with a single broken yellow line is 10 cm. The length of a directional dividing line varies on road length and may be as short as 30m in the form of a tail extending from an intersection.

b) Lane Lines including Left/Right Turn Lanes (Retro-reflective)

Lane lines where lane changes are permitted, must be a broken white line approximately 10 cm. wide, composed of 3 m. segments separated by 6 m. gaps.

Where lane changes are not permitted, a lane line must be a solid white line approximately 10 cm. wide.

Taper at turning lanes shall consist of 3 m. segments separated by 3 m. gaps.

c) Edge Lines/ Bicycle Lanes (Retro-reflective)

Markings shall consist of a solid white line. At intersection approaches, for a minimum distance of 15 m., 1 m. skip lines shall be applied along with 1 m. spacing.

7. HAND MACHINE LAYOUT

a) Crosswalks (Retro-reflective)

Crosswalks shall consist of two (2) solid white lines 10 cm. to 20 cm. wide extending entirely across the pavement spaced in accordance with the Ontario Traffic Manual Book 11. The downstream edge of the crosswalk should be inset at least 60cm from the projected nearside curb line of the cross street.

b) Stop Bars (Retro-reflective)

A solid white line 60 cm. in width placed transversely extending from the right hand curb or pavement edge to the directional dividing line. Where this is no pedestrian crosswalk, the stop bar must be located between 1.25 m. – 3 m. upstream of the projected edge of the intersecting road, unless otherwise dictated by sight obstruction. All intersections where a crosswalk is located, the separation between the crosswalk line and the stop bar must be 1 m., except where special circumstances dictate otherwise.

c) Crosshatching (Retro-reflective)

This is to be done where channelizing or delineation is necessary. The lines shall be 30 - 45 cm. in width on a 45° angle to the traffic and spaced at 4.5 metre intervals or as directed by the Director.

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d) Directional Arrows (Retro-reflective)

These are located at various locations and the size and shape shall be in accordance with Figure 53 in the Ontario Traffic Manual, Book 11 (Pavement, Hazard and Delineation Markings).

e) Parking Stalls (On-Street – On- Individual and Pay & Display)

The length of on-street pay and display pay parking area markings shall be dependent on the number of vehicles to occupy the space. Pay and display pavement markings shall be delineated with opening and closing pavement markings. These areas are to be coordinated with the Field Services Supervisor.

On Street Parking meter stalls shall be 5.5 – 6.0 m. in length and 2.0 - 2.5 m. in width with a crossover area of 2.0 - 2.5 m. in length after every second stall. Any new stalls shall be laid out by the director and subsequently painted by the Contractor. Paint quantities used for on street parking shall be identified separately from other small machine markings. On street parking meter stalls will be painted during the first paint applications.

f) Taxi Parking Stalls (On-Street)

The length of on-street parking stalls be dependent on the number of vehicles to occupy the space. The width shall be 2.0 - 2.5 m. in width with cross hatching in a diagonal pattern from the travel lane to the curb every 1 m.

g) Handicap Parking Stalls (On-Street)

Handicap parking stalls shall be 6.0 m. in length and 3.9 m. in width. Any new stalls shall be laid out by the Director and subsequently painted by the Contractor. The number and location of handicap parking stalls shall be identified separately from other small machine markings. The stalls shall be painted upon request at various times throughout the contract. The Contractor shall be responsible for painting the stalls in accordance with the latest issue of the Ontario Traffic Manual , Book 11 (Pavement , Hazard and Delineation Markings) and/or Ontarians with Disabilities Act and/or as directed by the Director.

h) School Crossing (Retro-reflective)

Urban school crossings shall consist of four (4) lines 10 cm. to 20 cm. wide extending entirely across the pavement spaced in accordance with the Ontario Traffic Manual, Book 11 (Pavement, Hazard and Delineation Markings) and /or as directed by the Director.

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- i) **Bicycle Lanes – Symbol** (Retro-reflective)
Bicycle Lane shall consist of markings consistent with the Ontario Traffic Manual, Book 11 (Pavement, Hazard and Delineation Markings) and in conformance with the Region of Niagara Bicycle Marking

- j) **Radius Lines** (Retro-reflective)
Radius lines are used to guide vehicles through an intersection where the legs are offset skewed or have a complex configuration, or where more than one lane for turning movements exist. Radius lines should be condensed broken white lines 20 cm. wide, composed of 1 m. segments with 1 m. gaps.