

**Amendment to OPSS.MUNI 710 (Nov 2021) –  
Construction Specification for  
Pavement Markings**

**OPSS 710.01      CONSTRUCTION**

**OPSS 710.07.01      General**

Subsection 710.07.01 of OPSS.MUNI 710 is amended by the deleting the fourth paragraph in its entirety and replacing it with the following:

Where the pavement marking scheme is not shown in the Contract Drawings, the Contractor shall supply and place all pavement markings to the same size and location as the existing pavement markings. The Contractor shall be responsible to make appropriate sketches prior to construction so that the existing pavement markings can be fully reinstated.

Pavement marking shall be completed prior to opening roadway to traffic within 24 hours after paving operation finished.

**OPSS 710.07.02      Surface Preparation**

Subsection 710.07.02 of OPSS.MUNI 710 is amended by the addition of the following paragraph:

The Contractor shall provide a mechanical sweeper to clean the road surface prior to the application of pavement markings. Pavement marking shall only be performed by an experienced and qualified subcontractor. The work shall also include all required layout in conformance with the Manual of Uniform Traffic Control Devices for Ontario.

**OPSS 710.07.03      Pavement Marking Obliterating**

Subsection 710.07.03 of OPSS.MUNI 710 is amended by the deleting the entire paragraph and replacing it with the following:

Pavement marking shall be obliterated or removed using an approved water blasting method only.

**OPSS 710.07.05      Temporary Pavement Marking**

Subsection 710.07.05 of OPSS.MUNI 710 is amended by the addition of the following paragraph:

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Temporary markings shall include the removal of the markings to facilitate traffic control. Temporary markings that are to be covered with an asphalt layer do not require removal. Temporary markings shall be restored within 72 hours of detecting any failure of pieces to remain according to specifications.

#### **OPSS 710.07.06 Short Term Pavement Marking**

Subsection 710.07.06 of OPSS.MUNI 710 is deleted in its entirety and replaced with the following:

Short term pavement marking is required when an existing paved roadway, which is not to be reconstructed or resurfaced, requires pavement markings in different alignments and/or colours than the existing pavement marking.

As part of the work of pavement marking, the Contractor shall apply short term pavement markings for all affected markings, including centreline, lane lines, crosswalks and stop bars.

Short term pavement markings shall be applied according to MUTCD and as amended by Table 1 for Type C markings. The length of time before permanent markings are placed does not apply to this specification. The pavement markings shall stay in place as required. The Contractor shall inspect all short term pavement marking at the beginning and end of each week. The Contractor shall replace any failed pieces immediately.

Short term pavement markings shall not conflict with existing pavement markings. If required, the Contractor shall remove and replace the existing pavement markings as required.

Short term pavement markings placed on existing or on the final surface course shall be of the removable type.

#### **OPSS 710.07.08 Selection of Materials**

Subsection 710.07.08 of OPSS.MUNI 710 is deleted in its entirety and replaced with the following:

All permanent pavement markings shall be field reacted polymeric pavement marking material according to OPSS.MUNI 1714.

All temporary pavement markings shall be organic solvent based traffic paint according to OPSS.MUNI 1712.

All short term pavement markings shall be temporary preformed plastic pavement marking tape according to OPSS.MUNI 1715.

#### **OPSS 710.07.09.02 Organic Solvent Based Traffic Paint**

Clause 710.07.09.02 of OPSS.MUNI 710 is amended by the addition of the following paragraphs:

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A “centre liner” shall be used for the application of all temporary pavement markings to demarcate centre and through lanes. Hand paint machines may be used for all transverse pavement markings and symbols.

All temporary pavement markings, required for less than a three month duration, shall require only a single application. Temporary pavement markings required for longer periods shall require two separate applications.

**OPSS 710.07.09.05 Field Reacted Polymeric Pavement Marking Materials**

Clause 710.07.09.05 of OPSS.MUNI 710 is amended by the addition of the following paragraph to the end of the first paragraph:

Markings shall not be applied to any joints between the asphalt and any appurtenance. Markings shall not be applied to the surface of any utility frame and covers.

Clause 710.07.09.05 of OPSS.MUNI 710 is amended by the addition of the following paragraph to the end of the last paragraph:

The Contractor shall follow the manufacturer’s guidelines for application on non-bituminous surfaces, that is to say concrete surface. Concrete surfaces require a primer/sealer to ensure adequate bonding of the permanent pavement marking.

**OPSS 710.10 BASIS FOR PAYMENT**

- OPSS 710.10.01 Pavement Marking – Item**
- Pavement Marking Symbols – Item**
- Pavement Marking, Durable – Item**
- Pavement Marking Symbols, Durable – Item**
- Pavement Marking Temporary – Item**
- Pavement Marking Symbols, Temporary – Item**
- Pavement Marking Temporary Removable – Item**
- Pavement Marking Symbols, Temporary - Removeable – Item**
- Raised Pavement Markers, Temporary – Item**
- Pavement Marking Obliterating – Item**
















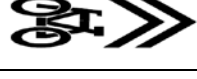







Subsection 710.10.01 of OPSS.MUNI 710 is amended by the addition of the following paragraphs:

All costs associated with temporary pavement marking and short term pavement marking shall include the permanent removal of the markings and any and all interim removals and replacements due to the failure of pieces to remain in according to specifications. Payment shall be considered incidental to the traffic control item. No separate payment shall be made.

Payment for permanent pavement marking, when paid under the lump sum item for various locations, shall be paid upon final completion of each project location and shall be paid as a percentage based on the value of that project over the total value of the contract. If revisions to the pavement markings are required, the item shall be prorated based on the equivalent 10 cm line. To determine symbol equivalent 10 cm line lengths, see Table 1 below.

Payment for permanent pavement marking, when paid under a unit price item, shall be paid upon final completion of each project location.

**Table 1: Symbol equivalent 10 cm line**

SYMBOL	DESCRIPTION	EQUIV. 10cm LINE	SYMBOL	DESCRIPTION	EQUIV. 10cm LINE
<b>ROAD SYMBOLS</b>			<b>BICYCLE SYMBOLS</b>		
	THROUGH LANE 3.5m x 0.75m	11.1		BICYCLE 2.0m x 1.0m	8.8
	TURN LANE 3.0m x 1.35m	15.0		LANE DIAMOND 3.5m x 1.0m	11.5
	TURN AND THROUGH LANE 4.9m x 1.6m	25.1		TURN ARROW 2.0m x 0.75m	5.5
	LEFT & RIGHT TURN 3.0m x 2.45m	25.0		THROUGH ARROW 2.0m x 0.5m	4.7
	ALL DIRECTION 4.9m x 2.5m	35.0		PEDESTRIAN 2.0m x 1.0m	7.0
	U TURN 4.35m x 3.7m	30.2		PXO 0.8m x 2.0m	5.8
	CATCH BASIN ARROW 0.2m x 0.38m	0.4		CHEVRON 1.8m x 1.0m	6.2
	HOV LANE 4.0m x 1.0m	13.1		SHARROW 3.6m x 1.0m	14.7
	PXO 2.5m x 6.0m	24.0		WAYFINDING SHARROW 3.6m x 1.0m	12.3
	SPEED HUMP ARROW 1.5m x 0.6m	4.5		20 CM BIKE DOTS SET OF 3	0.9
	RAILWAY CROSSING 36.2	36.2		SIGNAL DETECTOR 1.45m X .25m	8.9
	SLOW 2.4m x 1.9m	21.4			

SYMBOL	DESCRIPTION	EQUIV. 10cm LINE
<b>ROAD SYMBOLS</b>		
<b>SCHOOL</b>	SCHOOL 2.4m x 2.9m	32.5

SYMBOL	DESCRIPTION	EQUIV. 10cm LINE
<b>BICYCLE SYMBOLS</b>		

No extra charges of any kind shall be permitted or accepted.





**Note: The MUNI implemented in November 2021 replaces OPSS 710 COMMON, November 2010 with no technical content changes.**

## **CONSTRUCTION SPECIFICATION FOR PAVEMENT MARKING**

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### **TABLE OF CONTENTS**

<b>710.01</b>	<b>SCOPE</b>
<b>710.02</b>	<b>REFERENCES</b>
<b>710.03</b>	<b>DEFINITIONS</b>
<b>710.04</b>	<b>DESIGN AND SUBMISSION REQUIREMENTS</b>
<b>710.05</b>	<b>MATERIALS</b>
<b>710.06</b>	<b>EQUIPMENT</b>
<b>710.07</b>	<b>CONSTRUCTION</b>
<b>710.08</b>	<b>QUALITY ASSURANCE</b>
<b>710.09</b>	<b>MEASUREMENT FOR PAYMENT</b>
<b>710.10</b>	<b>BASIS OF PAYMENT</b>

### **APPENDICES**

<b>710-A</b>	<b>Commentary</b>
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<b>710.01</b>	<b>SCOPE</b>
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This specification covers the requirements for the application of pavement markings onto bituminous or concrete pavement.

#### **710.01.01 Specification Significance and Use**

This specification has been developed for use in municipal-oriented Contracts. The administration, testing, and payment policies, procedures, and practices reflected in this specification correspond to those used by many municipalities in Ontario.

Use of this specification or any other specification shall be according to the Contract Documents.

## **710.01.02 Appendices Significance and Use**

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

Appendices are developed for the Owner's use only.

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

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

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

## **710.02 REFERENCES**

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

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

### **Ontario Provincial Standard Specifications, Material**

OPSS 1712	Organic Solvent Based Traffic Paint
OPSS 1713	Thermoplastic Pavement Marking Materials
OPSS 1714	Field Reacted, Polymeric Pavement Marking Materials
OPSS 1715	Preformed Plastic Pavement Marking Tape
OPSS 1716	Water-Borne Traffic Paint
OPSS 1750	Traffic Paint ReflectORIZING Glass Beads

### **Ontario Ministry of Transportation Publications**

Manual of Uniform Traffic Control Devices for Ontario, MUTCD



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

**Durable Pavement Markings** mean pavement markings produced by either thermoplastics, field reacted polymer, or a preformed plastic tape of durable type.

**Field Reacted Polymeric Pavement Marking Material** means a pavement marking material consisting of two separate components, a polymerizable component and a curing agent or a polymerization catalyst. These two components are designed to be mixed at the site at recommended proportions and applied during the pot life of the mixture.

**Hot Applied Thermoplastic Pavement Marking Material** means a thermoplastic material that is specifically formulated for hot spray or screed application.

**Organic Solvent Based Traffic Paint** means a traffic paint whose components are carried in an organic solvent system and will form a solid paint film on evaporation of the solvent after application.

**Pavement Markings** mean markings on pavements used to delineate vehicle operating limits on highways and streets according to the size and shape, as specified in the MUTCD.

**Permanent Pavement Markings** mean pavement markings placed other than temporary pavement markings or short term pavement markings.

**Preformed Plastic Pavement Marking Tape** means plastic material specifically designed and preformed into pliable rolls or ribbons of various lengths and widths or into symbols.

**Premarking** means the indicating marks required to identify the position of pavement markings.

**Reflectorization** means a material, treatment, or process to enable incident light to be returned in high proportions in the general direction of the light source.

**Short Term Pavement Markings** mean the markings placed prior to the placement of permanent pavement markings on any milled, levelling, binder or top course pavements where existing lane widths, arrangements, and alignments are maintained.

**Temporary Pavement Markings** mean pavement markings placed on temporary roadway surfaces or alignments during construction.

**Temporary Pavement Marking Material** means pavement marking materials designed to maintain a service life of a minimum of three months.

**Temporary Pavement Markings – Removable** mean pavement markings using materials designed to be removed after use.

**Temporary Raised Pavement Markers** mean raised reflective devices.

**Traffic Paint** means a paint specifically formulated for use as a pavement marking.

**Water-Borne Traffic Paint** means a traffic paint whose components are carried in water either as an emulsion or a dispersion and will form a solid paint film on deposition and evaporation of water and volatiles after application.

## **710.04 DESIGN AND SUBMISSION REQUIREMENTS**

### **710.04.01 General**

One-litre samples of solvent based and/or water-borne paint; 500 g samples of thermoplastics; 500 g sample of field reacted polymeric materials with an adequate amount of catalyst or curing agent; one metre section of preformed pavement marking tape and a 200 g sample of reflectorizing glass beads to be used on the Contract shall be supplied to the Owner one month prior to use, prepaid, by the Contractor.

If any sample fails to conform to the specification requirements, none of the batch from which the sample was taken shall be used. New batches shall be obtained at no additional cost to the Owner and the new batches shall be tested until an acceptable batch is obtained.

## **710.05 MATERIALS**

### **710.05.01 Classification**

Pavement markings are classified into the following types based on performance requirements:

- a) Traffic Paint
- b) Pavement Marking - Durable
- c) Pavement Marking - Temporary
- d) Pavement Marking - Temporary - Removable

### **710.05.02 Organic Solvent Based Traffic**

Organic solvent based traffic paint shall be according to OPSS 1712.

### **710.05.03 Thermoplastic Pavement Marking Materials**

Thermoplastic pavement marking materials shall be according to OPSS 1713.

### **710.05.04 Field Reacted Polymeric Pavement Marking Materials**

Field reacted polymeric pavement marking materials shall be according to OPSS 1714.

### **710.05.05 Preformed Plastic Pavement Marking Tape**

Preformed plastic pavement marking tape shall be according to OPSS 1715.

### **710.05.06 Water-Borne Traffic Paint**

Water-borne traffic paint shall be according to OPSS 1716.

### **710.05.07 Special Considerations**

Materials not conforming to the no-tracking time requirements of the applicable specification, may be used when approved by the Owner.

**710.06 EQUIPMENT**

**710.06.01 General**

The equipment to be used for application or installation of pavement markings shall be as recommended by the manufacturer of the respective pavement marking material.

**710.06.02 Spray Equipment**

**710.06.02.01 General**

Spray equipment shall be used for application of solvent based traffic paint, water-borne traffic paint, thermoplastics, and field reacted polymeric material recommended for spray application.

Spray equipment shall be fabricated from materials that will not contaminate the traffic paint and other pavement marking materials.

The spray equipment shall provide a uniform stripe to the required width and thickness, with sharp edges without excessive splatter or overspray. The equipment shall have the capability to provide pavement markings according to the MUTCD. The equipment shall be provided with glass bead dispenser to apply overlay glass beads at the recommended rate.

**710.06.02.02 Thermoplastic Pavement Markings**

Equipment to be used for the application of thermoplastic material shall be capable of mixing, maintaining, and applying the material at the recommended temperature.

**710.06.03 Other Methods of Application**

Field reacted polymeric materials and thermoplastics shall be applied using a screed applicator.

Preformed plastic tape shall be installed according to the manufacturer's recommendations.

**710.07 CONSTRUCTION**

**710.07.01 General**

As part of the work, the Contractor shall supply pavement marking and symbols according to the applicable shapes and sizes as specified in the MUTCD.

The Contractor shall apply the pavement marking and symbols according to the Contract Drawings, when provided, MUTCD and the manufacturer's recommendations.

The work of pavement marking includes: providing samples of materials for testing for conformity to the appropriate material specification, surface preparation, pavement marking obliterating, premarking, application of temporary, short term, and permanent pavement markings.

Where the pavement marking scheme is not shown in the Contract Drawings, it shall be according to the MUTCD or be provided by the Owner.

#### **710.07.02 Surface Preparation**

The pavement surface must be clean and dry. Contaminants such as dirt, loose asphalt particles, and oily residue shall be removed prior to application of pavement marking.

#### **710.07.03 Pavement Marking Obliterating**

Durable markings and traffic paint shall be obliterated or removed using the method specified in the Contract Documents at the locations specified.

#### **710.07.04 Premarking**

The Contractor shall provide the necessary measurements required to establish the position of all pavement markings.

#### **710.07.05 Temporary Pavement Marking**

Temporary markings shall include surface preparation, premarking, and placement of temporary markings.

Temporary pavement marking shall be placed on temporary road surfaces prior to the opening to the general public according to the MUTCD or as specified in the Contract Documents.

#### **710.07.06 Short Term Pavement Marking**

Short term pavement marking is required when a paved roadway is to be opened to the general public prior to the application of permanent pavement markings.

As part of the work of pavement marking, the Contractor shall apply short term pavement markings for the centreline and lane lines.

Short term pavement markings shall be applied according to the MUTCD and as amended by Table 1.

Short term pavement markings shall not conflict with permanent pavement markings.

Short term pavement markings placed on final surface course shall be of the removable type.

A temporary raised pavement marker may be used in place of one 0.3 m line.

#### **710.07.07 Permanent Pavement Marking**

Permanent pavement marking includes surface preparation, premarking, short term pavement marking, removal of short term pavement markings, and placement of permanent pavement markings.

When permanent pavement markings cannot be placed prior to the opening to traffic, Freeways, Major, and Minor Roadways must have short term pavement markings according to Division C of the MUTCD and as amended by Table 1.

Permanent pavement markings must be in place and maintained prior to any winter shut down.

**TABLE 1**  
**Short Term Pavement Markings**

<b>Type of Marking Note 1</b>	<b>Type of Roadway</b>	<b>Length of Lines Min.</b>	<b>Length of Gaps Max.</b>	<b>Length of Time Before Permanent Markings are Placed Max.</b>
A	Freeway - six Lanes or Greater, Three Lanes per Direction	3 m Note 2	9 m Note 2	15 Working Days
B	Freeway - Four Lanes, Two Lanes per Direction	0.3 m	15 m	15 Working Days
C	Major Roadways- Six Lanes or Greater, Three Lanes per Direction	3 m Note 2	6 m Note 2	15 Working Days
D	Major Roadways - Four Lanes, or Less	0.3 m	15 m	15 Working Days
E	Minor Roadways	0.3 m	15 m	20 Working Days

Notes: 1. Type of marking as specified elsewhere in the Contract.  
2. Same as MUTCD.

**710.07.08 Selection of Materials**

When the item Pavement Marking, or Pavement Marking Symbols, is called for, the Contractor is restricted to traffic paint.

When the item Pavement Marking, Durable, or Pavement Marking Symbols, Durable is called for, the Contractor's choice of material is restricted to:

- a) Durable preformed plastic tape.
- b) Field reacted polymeric pavement marking material.
- c) Thermoplastic pavement marking material.

When the item Pavement Marking, Temporary, or Pavement Marking Symbols, Temporary, is called for the Contractor may choose from all marking materials.

When the item Pavement Marking, Temporary Removable, or Pavement Marking Symbols, Temporary - Removable is called for, the Contractor's choice of material is restricted to temporary preformed, removable pavement marking tape.

Selection of pavement marking material for use on a particular type of pavement surface shall according to the manufacturer's recommendations.

**710.07.09 Application**

**710.07.09.01 General**

All pavement markings shall be accurately spaced and present a clean-cut, uniform appearance during either the day or night.

The application of pavement marking materials shall be according to the following requirements and the manufacturer's recommendations.

**710.07.09.02 Organic Solvent Based Traffic Paint**

Paint shall be applied when the pavement surface temperature is 5 °C and above, unless otherwise approved in writing by the Owner.

Paint shall be applied at a rate which results in a uniform thickness of 230 microns ± 25 microns dry film. Reflectorizing glass beads according to OPSS 1750, shall be applied uniformly at a rate as shown below, immediately after paint application to ensure embedment of the glass beads.

Overlay glass beads shall not be applied on to black paint which is used for obliterating previous markings.

Rate of Application for Overlay Glass Beads per litre of Traffic Paint	
% Volume Solids of Traffic Paint	Glass Beads Required in kg
40-56	0.7
57-70	0.8

The paint temperature shall be between 40 and 70 °C when applied to the pavement.

**710.07.09.03 Water-Borne Traffic Paint**

Paint shall be applied as specified in clause 710.07.09.02 except that the pavement surface temperature shall be 10 °C and above.

**710.07.09.04 Thermoplastic Pavement Marking Material**

The material shall be applied when the pavement surface temperature is 5 °C and above. The maximum relative humidity shall be 70%. At pavement surface temperatures below 5 °C, the pavement shall be preheated immediately prior to material application.

Thermoplastics shall be applied at a rate which results in a uniform thickness of 1.90 mm ± 0.40 mm, measured dry. Markings shall not be applied over pavement joints.

Reflectorizing glass beads according to OPSS 1750, with the exception of the requirements for silicone coating shall be applied uniformly at a rate of 1.5 kg ± 0.10 kg per 10 m<sup>2</sup> of marking immediately after marking material applications and before the material hardens.

**710.07.09.05 Field Reacted Polymeric Pavement Marking Materials**

Field reacted polymeric pavement marking materials which are recommended for screed application shall be applied at a rate which results in a uniform thickness of 1.90 mm ± 0.40 mm, measured dry. Markings shall not be applied over pavement joints.

Materials shall be applied when the pavement surface temperature is 5 °C and above. The maximum surface temperature shall be 35 °C. The maximum relative humidity shall be 70%.

Reflectorizing glass beads according to OPSS 1750, with the exception of the requirement for silicone coating, shall be applied uniformly at a rate of 1.5 kg ± 0.10 kg per 10 m<sup>2</sup> of marking, immediately before the material hardens.

Field reacted polymeric pavement marking materials recommended for spray application shall be applied at a uniform thickness of 0.30 mm ± 0.15 mm, unless otherwise approved in writing by the Owner.

#### **710.07.09.06 Preformed Plastic Tape**

The tape shall be applied when the pavement surface temperature is 21 °C and above. The maximum relative humidity shall be 70%.

Joints of marking tape shall be butt joints without overlaps. Preformed markings shall not be applied over pavement joints.

#### **710.07.09.07 Pavement Marking, Temporary Removable**

Temporary removable pavement markings shall be applied according to the manufacturer's recommendation and shall be removed as specified. Removed material shall be disposed of outside the right-of-way.

#### **710.07.09.08 Raised Pavement Markers, Temporary**

The Contractor shall supply and install temporary raised pavement markers according to the Owner's requirements and the manufacturer's recommendations. Markers used shall be capable of remaining in place for a period of one to six months as specified in the Contract Documents. Temporary raised pavement markers shall be removed as specified in the Contract Documents. Removed material shall be disposed of outside the right-of-way.

### **710.08 QUALITY ASSURANCE**

#### **710.08.01 General**

Random sampling may be carried out by the Owner during material application to assess line quality.

#### **710.08.02 Line Quality**

Line width, thickness, the nature of the edges, and uniformity in appearance will be assessed by the Owner. The dry film thickness will be measured by a paint inspection gauge or a coating thickness gauge.

Glass bead distribution will be inspected for evenness in distribution, degree of embedment, and retroreflectance.

#### **710.08.03 Measurement of Temperature and Humidity**

The testing of ambient and surface temperature will be by thermometer, and surface thermometer, respectively. Humidity will be measured using recording hygrometer.

**710.09 MEASUREMENT FOR PAYMENT**

**710.09.01 Actual Measurement**

- 710.09.01.01 Pavement Marking**
- Pavement Marking, Durable**
- Pavement Marking, Temporary**
- Pavement Marking, Temporary - Removable**
- Pavement Marking Obliterating**

Measurement of pavement marking shall be by the horizontal length in metres of 10 cm wide line excluding gaps. Wider lines are measured in 10 cm equivalents.

Each symbol to be obliterated shall be approximately equated in area to a 10 cm wide line.

- 710.09.01.02 Pavement Marking Symbols**
- Pavement Marking Symbols, Durable**
- Pavement Marking Symbols, Temporary**
- Pavement Marking Symbols, Temporary - Removable**
- Raised Pavement Markers, Temporary**

For measurement purposes, a count shall be made of the number of pavement marking symbols and raised pavement markers.

**710.09.02 Plan Quantity Measurement**

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

**710.10 BASIS OF PAYMENT**

- 710.10.01 Pavement Marking - Item**
- Pavement Marking Symbols - Item**
- Pavement Marking, Durable - Item**
- Pavement Marking Symbols, Durable - Item**
- Pavement Marking, Temporary - Item**
- Pavement Marking Symbols, Temporary - Item**
- Pavement Marking, Temporary Removable - Item**
- Pavement Marking Symbols, Temporary - Removable - Item**
- Raised Pavement Markers, Temporary - Item**
- Pavement Marking Obliterating - Item**

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



**Appendix 710-A, November 2021  
FOR USE WHILE DESIGNING MUNICIPAL CONTRACTS**

**Note:** This is a non-mandatory Commentary Appendix intended to provide information to a designer, during the design stage of a contract, on the use of the OPS specification in a municipal contract. This appendix does not form part of the standard specification. Actions and considerations discussed in this appendix are for information purposes only and do not supersede an Owner's design decisions and methodology.

**Designer Action/Considerations**

The designer should specify the following in the Contract Documents:

- Method and locations of markings and paint obliteration and removal. (710.07.03)
- Temporary pavement marking requirements. (710.07.05)
- Type of markings. (710.07.07)

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

**Related Ontario Provincial Standard Drawings**

No information provided here.