



**CONSTRUCTION SPECIFICATION
FOR TEMPORARY TRAFFIC CONTROL DEVICES**

TABLE OF CONTENTS

706.01	SCOPE
706.02	REFERENCES
706.03	DEFINITIONS
706.04	DESIGN AND SUBMISSION REQUIREMENTS
706.05	MATERIALS
706.06	EQUIPMENT - Not Used
706.07	CONSTRUCTION
706.08	QUALITY ASSURANCE - Not Used
706.09	MEASUREMENT FOR PAYMENT
706.10	BASIS OF PAYMENT

APPENDICES

706-A	Commentary
--------------	-------------------

706.01	SCOPE
---------------	--------------

This specification covers the requirements for the use of temporary traffic control devices during construction.

706.01.01 Specification Significance and Use

This specification is written as a municipal-oriented specification. Municipal-oriented specifications are developed to reflect the administration, testing, and payment policies, procedures, and practices of many municipalities in Ontario.

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

706.01.02 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.

706.02 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, Construction

OPSS 703 Permanent Small Signs and Support Systems

Ontario Provincial Standard Specifications, Material

OPSS 2001 Signs

Ontario Ministry of Transportation Publications

Ontario Traffic Manual (OTM):
Book 7 – Temporary Conditions

Designated Sources for Materials (DSM)

706.03 DEFINITIONS

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

Temporary Traffic Control Signs means all traffic control signs and associated devices identified in OTM Book 7, including vehicles and sign trailers required to support signs and equipment to supply sign lighting; but excludes highway number markers.

Small Sign means as defined in OPSS 703.

706.04 DESIGN AND SUBMISSION REQUIREMENTS

706.04.01 Submission Requirements

A copy of the traffic control plan shall be submitted to the Contract Administrator at the pre-construction meeting.

706.05 MATERIALS

706.05.01 Retroreflective Sheeting

Retroreflective sheeting shall be according to OPSS 2001.

706.05.02 Automated Flagger Assistance Devices

Automated flagger assistance devices (AFAD) shall be according to OTM Book 7.

706.05.03 Temporary Traffic Control Signs

Temporary traffic control signs shall be according to OTM Book 7.

706.05.04 Portable Variable Message Signs

Portable variable message signs (PVMS) shall be supplied from a source named on the MTO DSM.

706.05.04.01 Modem

Modem requirements for PVMS shall be as specified in the Contract Documents.

706.07 CONSTRUCTION

706.07.01 Temporary Traffic Control Signs

706.07.01.01 General

The work of temporary traffic control signs shall include:

- a) Installation and relocation according to OTM Book 7.
- b) Temporarily relocating, modifying as required, and reinstalling existing small signs.
- c) Installing and removing contract information signs.
- d) Installing and removing Speed Fines Doubled (TC-90) signs.

Messaging for all temporary traffic control signs shall be according to OTM Book 7.

When a Contract is in a designated bilingual area, bilingual temporary traffic control signs shall be installed. If a bilingual temporary traffic control sign is not available, then the French temporary traffic control sign shall be installed. A French Construction Zone Begins sign (Rb-90AF) and a French Construction Zone Ends sign (Rb-90BF) shall be installed next to the corresponding English Rb-90A and Rb-90B signs. All other French temporary traffic control signs shall be installed 150 m downstream from the English sign.

Temporary traffic control signs shall be installed before work affecting traffic begins, remain operational throughout the duration of the operation requiring signs and be removed upon completion of the operation.

Prior to seasonal shutdown, temporary traffic control signs shall be reviewed and signs that are not required during the seasonal shutdown period shall be removed. At the end of the seasonal shutdown period, the removed signs shall be reinstalled as required.

The condition of the temporary traffic control signs shall meet the quality replacement guidelines specified in OTM Book 7 for the duration of the Work. Signs that do not meet the guidelines shall be removed and replaced.

706.07.01.02 Existing Small Signs

Any existing small signs, excluding Tourism-Oriented Directional Signing and Logo Sign Program signs, removed to accommodate construction shall be kept operational by placement on a temporary support. Temporarily relocated existing small signs shall be kept at the same height, offset, and approximate location from traffic as before relocation. All existing small signs shall be reinstalled, at or as close as possible to the original location, according to OPSS 703 upon completion of the Work.

Temporary modifications to existing small signs shall be according to OTM Book 7.

706.07.01.03 Contract Information Signs

Contract information signs shall be installed according to OTM Book 7 and removed upon completion of the Work. Contract information signs shall be either a TC-81 sign or an Owner supplied contract information sign.

Owner supplied contract information signs shall be picked up at the location specified in the Contract Documents. The Contractor shall arrange for the pickup of the signs. At Contract completion, Owner supplied contract information signs shall be returned to the Owner at a location specified by the Contract Administrator.

706.07.02 Road Closing/Restriction Notice Sign (TC-64)

Road closing/restriction notice (TC-64) signs shall be installed and relocated at locations specified in the Contract Documents. Timing requirements for TC-64 signs shall be as specified in OTM Book 7.

The Contract Administrator shall be notified when the Contractor's operations results in changes to the TC-64 sign message details (i.e., dates, times, etc.).

706.07.03 Automated Flagger Assistance Devices

AFAD shall be installed, relocated, and removed at locations as specified in the Contract Documents.

If the closure extends across an entrance or side road, a traffic control person shall also be present to direct traffic with a stop/slow paddle according to OTM Book 7.

706.07.04 Portable Variable Message Sign

Installation, including the construction of a temporary base; relocation; and messaging on the PVMS shall be as specified in the Contract Documents. The exact location of the PVMS shall be proposed by the Contractor and shall meet the following criteria:

- a) Maximizes visibility for motorists without impacting safety in accordance with the Owner's clear zone requirements.
- b) Installed on a level surface with adequate bearing capacity to support the weight of the PVMS and temporary base materials.

The Contract Administrator shall approve the location of the PVMS prior to it being deployed. The Contractor Administrator shall be notified at least 2 Business Days in advance regarding the delivery, relocation, and removal of PVMS within the construction work zone.

Modem installation, testing, and decommissioning for the PVMS shall be as specified in the Contract Documents.

The PVMS control box shall be secured from entry by unauthorized personnel. There shall be security measures or devices in place to prevent message tampering of the sign.

All PVMS and any temporary base shall be removed upon completion of the Work.

706.07.04.01 Maintenance of Portable Variable Message Sign

Maintenance shall be performed for the continuous operation of the PVMS, as required, throughout the duration of the Contract. Daily inspection of the PVMS shall be conducted to ensure that the PVMS meets the following maintenance requirements:

- a) PVMS sign face is aimed with the sign sight tube to the centre of the approach roadway approximately 200 m upstream of the sign to ensure maximum visibility.
- b) Solar panels are tilted and rotated to face south.
- c) All pixels and LEDs in the sign face remain operational.
- d) Sign is elevated to its maximum height with the locking pin in place; sign face is to be regularly cleaned from dirt, road salt, or debris that may obstruct the visibility of the sign.
- e) Batteries are replaced as needed to ensure that battery levels are maintained per the supplier's operational requirements.
- f) Modems and other remote communications equipment remain operational.

Immediate repairs shall be required whenever there is a failure or cessation of the operation of any components of the PVMS. The Contract Administrator shall be notified immediately each time repair work is performed on a PVMS.

706.07.05 Seasonal Shutdown

During seasonal shutdown, the Owner shall take responsibility for the maintenance, including replacement, of construction signs unless otherwise specified.

Responsibility for the maintenance of construction signs during seasonal shutdown shall not be assumed by the Owner until the signing has been inspected, sign installation deviations from OTM Book 7 corrected and signing approved in writing by the Owner.

Construction signs placed, replaced or repaired by the Owner during seasonal shutdown shall become the property of the Contractor.

Upon resumption of operations, the Contractor shall review and provide written acceptance of the signing; deviations from OTM Book 7 shall be noted and these shall be corrected by the Owner. Once deviations are repaired, the Contractor shall resume responsibility as specified herein.

706.07.06 Management of Excess Materials

Management of excess materials shall be according to the Contract Documents.

706.09 MEASUREMENT FOR PAYMENT

706.09.01 Actual Measurement

706.09.01.01 Automated Flagger Assistance Devices

For measurement purposes, a count shall be made of the number of AFAD installed.

706.09.01.02 Automated Flagger Assistance Devices, Relocation

For measurement purposes, a count shall be made of the number of AFAD relocated.

AFAD that are temporarily surplus for intermediate stages, but will be required later shall be paid as one relocation for the combined moves into and out of the site storage, including any off-site storage required due to space restrictions.

706.09.01.03 Portable Variable Message Sign (Temporary)

For measurement purposes, a count shall be made of the number of PVMS installed.

706.09.01.04 Portable Variable Message Sign, Relocation

For measurement purposes, a count shall be made of the number of PVMS relocated.

PVMS that are temporarily surplus for intermediate stages, but will be required later shall be paid as one relocation for the combined moves into and out of the site storage, including any off-site storage required due to space restrictions.

706.09.01.05 Road Closing/Restriction Notice Signs (TC-64)

For measurement purposes, a count shall be made of the number of TC-64 signs installed.

706.09.02 Plan Quantity Measurement

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

706.10 BASIS OF PAYMENT

**706.10.01 Automated Flagger Assistance Devices - Item
Automated Flagger Assistance Devices, Relocation - Item
Portable Variable Message Sign (Temporary) - Item
Portable Variable Message Sign, Relocation - Item**

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

706.10.02 Temporary Traffic Control Signs - Item

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

For progress payment, 50% of the Contract price shall be paid upon the supply and installation of the complete initial traffic control plan. The balance will be prorated over the balance of the Contract Time.

Reinstallation of temporary traffic control signs after seasonal shutdown shall be at no additional cost to the Owner.

706.10.03 Road Closing/Restriction Notice Signs (TC-64) - Item

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

Changes to the TC-64 sign message details (i.e., dates, times, etc.) required as a result of the Contractor's operations shall be completed at no additional cost to the Owner.

Progress payments shall be made as follows: 60% of the unit price per sign upon installation;
20% of the unit price per sign upon relocation;
20% of the unit price per sign upon removal.

If no relocation is required: 60% of the unit price per sign upon installation;
40% of the unit price per sign upon removal.

706.10.04 Removals and Replacements

The removal and replacement of defective workmanship or materials shall be at no additional cost to the Owner.

**Appendix 706-A, April 2018
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:

- Modern requirements for PVMS. (706.05.04.01)
- The location of Owner supplied contract information signs to be picked up and returned. (706.07.01.03)
- Locations and relocations of road closing/restriction notice (TC-64) signs. (706.07.02)
- Locations, relocations, and removal locations of AFAD. (706.07.03)
- Requirements for the installation, including the construction of a temporary base; relocation; and messaging on the PVMS. (706.07.04)
- Requirements for modem installation, testing, and decommissioning for the PVMS. (706.07.04)

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.