

**ONTARIO PROVINCIAL STANDARDS  
FOR  
ROADS AND PUBLIC WORKS**



**OPS USER GUIDE**

**June 28, 2016**

## Table of Contents

1.0	OPS Today .....	3
2.0	New OPS Mission Statement.....	5
3.0	OPS Mandate .....	6
4.0	Objectives of OPS.....	6
5.0	OPS Benefits to Users.....	6
6.0	Accessing Ontario Provincial Standards.....	7
7.0	OPS Advisory Board (AB) .....	7
8.0	Standards Management Committee (SMC).....	8
9.0	Specialty Committees (SC) .....	10
10.0	Responsibilities of Organizations, Chairs, Coordinators and Representatives.....	12
11.0	Filling Committee Vacancies and Meeting Attendance.....	15
12.0	Technical Documents.....	15
13.0	Procedure for OPS Standards Revision and Development.....	17
14.0	Modification of an Ontario Provincial Standard.....	20
15.0	Publishing of Ontario Provincial Standards .....	21
16.0	Interpretation .....	21
17.0	Sections in an OPS Specification.....	22
18.0	Appendices in the Ontario Provincial Standard Specification.....	25
	APPENDIX .....	24
# 1	Development and Approval of Annual Committee Work Plans.....	27
# 2	Holding Elections in the Ontario Provincial Standards for Roads and Public Works (OPS) Committees.....	28
# 3	Making a Sponsorship Submission for a New or Revised Standard to the Ontario Provincial Standards for Roads and Public Works (OPS) Organization.....	30
# 4	Deadlines for Publication or Cancellation of OPS.....	33
# 5	History of OPS Milestones.....	35
# 6	List of Cancelled OPS documents.....	36

### NOTE:

**This new OPS USER GUIDE replaces all other previous OPS documents as described in Appendix #6.**



# Ontario Provincial Standards for Roads and Public Works

## 1.0 OPS TODAY

### 1.1. Brief History

The discussions of creating a set of technical specifications and drawings, designed for Ontario as a whole, started among the municipal engineers and other linear infrastructure professionals in the 1970s. At the time, numerous different specifications and drawings existed in silos in several municipalities across Ontario, with nearly no harmony between one another. This was an unfavourable situation not only for the contractors and suppliers, but also the infrastructure owners. To counter this inefficiency, the Municipal Engineers Association (MEA) compiled a set of standards and drawings, called the “Yellow Book”, which lay the initial seed for Ontario Provincial Standards (OPS).

The goal of establishing province-wide standards was to harmonize the numerous specifications in use and to eliminate any duplication of effort and material. At the time, the Ministry of Transportation (MTO) funded the majority of road projects and was well aware of the issues related to not having a unified set of standards. Not only was combining the different versions of specifications and drawings an excellent solution to rid the system of redundancies and confusion, the cost savings that came along because of this move were also understood to be significant across the board – ultimately benefiting the taxpayer of Ontario.

The OPS came into existence in 1977 in response to a recommendation of the Municipal Project Liaison Committee Report, and work began in creating standardized set of specifications and drawings, mainly based on MEA’s Yellow Book. In a very short period of time the OPS started to improve the administration and cost-effectiveness of road building and other municipal services such as sewers and watermains. Today, the OPS is unique in providing free and sustainable construction and material standards to all of Ontario – a kind of service not found elsewhere in the world.

Many of the original OPSDs that were first published in January 1984 were based on the ministry’s Highway Engineering Standard Drawings for Roads-Barriers and Drainage.

## 1.2. Founders, Partners and Appreciation

### 1.2.1. Founders

The three main founding agencies came together to create the Ontario Provincial Standards body included the Ministry of Transportation (MTO), the Municipal Engineers Association (MEA) and the Ministry of the Environment and Climate Change (MOECC). The OPS were, and continue to be, financially upheld primarily by MTO.

### 1.2.2. Partners

The standard specifications and drawings of the OPS are primarily reviewed by representatives sitting on a number of technical committees. These representatives come from the following agencies:

- Municipal Engineers Association (MEA)
- Ministry of Transportation (MTO)
- Ontario Good Roads Association (OGRA)
- Ontario Road Builders Association (ORBA)
- Consulting Engineers Ontario (CEO)
- Ontario Sewer and Watermain Construction Association (OSWCA)
- City of Toronto
- Electrical Contractors Association, Ontario (ECAO)
- Electrical Safety Authority (ESA)
- International Municipal Signals Association (IMSA)
- Ministry of the Environment & Climate Change (MOECC)
- Ontario Water Works Association (OWWA)

Other supporting agencies that contribute expertise on an ad-hoc basis and are invited to committee meetings as required by the Chair, include:

- Canadian Institute of Steel Construction (CISC)
- Cement Association of Canada (CAC)
- Canadian Pre-stressed Concrete Institute (CPCI)
- Cement Association Canada (CAC)
- Centre for Advancement of Trenchless Technologies (CATT)
- Corrugated Polyethylene Pipe Association (CPPA)
- Corrugated Steel Pipe Institute (CSPI)
- Electrical Distributors Association (EDA)

- Heavy Construction Association of Toronto (HCAT)
- North American Association of Pipeline Inspectors (NAAPI)
- Ontario Clean Water Agency (OCWA)
- Ontario Public Buyers Association (OPBA)
- International Municipal Signals Association (IMSA)
- Ontario Concrete Pipe Association (OCPA)
- Ontario Public Works Association (OPWA)
- Ontario Hot Mix Producers Association (OHMPA)
- Ontario Stone Sand and Gravel Association
- Ready Mixed Concrete Association of Ontario (RMCAO)

### *1.2.3. Appreciation*

As appreciation of representatives, every member after five years receives an OPS pin and appreciation certificate. Following five years, once they retire or leave the committee, they receive a final appreciation certificate and acknowledgement from the Chair.

## **2.0 New OPS Mission Statement**

In 2013 the OPS Advisory Board directed that a review be undertaken of the OPS. A review committee formed in July, 2013 with representatives from MTO, MEA, OGRA, ORBA, CEO, Chair of the Standards Management Committee, Chair of the Products Management Committee and the OPS Manager.

The Committee conducted a thorough review of the mandate, policies and procedures and governance of the OPS. The Advisory Board has adopted several recommendations from the Review Committee's report. These recommendations were communicated to OPS members in the spring of 2015, many of which are included within this document.

The 2013-14 OPS Review Committee also recognized that the former Mission Statement required revision. The OPS Review Committee conducted a hands-on session that produced the new Mission Statement, as follows:

***“Ontario Provincial Standards for Roads and Public Works (OPS) – The Foundation for Sustainable Infrastructure”.***

### **3.0 OPS Mandate**

The mandate of the OPS organization is to develop and maintain consistent and cost-effective methods to construction and improve municipal and provincial roads and public works in Ontario by providing a comprehensive set of Standards for use by road and public works owners, contractors, and consultants in Ontario.

### **4.0 Objectives of OPS**

- Develop and improve the administration, safety and environmental aspects, and cost effectiveness of the design and construction of roads, structures, sewers, watermains and electrical services.
- Review and update all standards with a goal of achieving a five (5) year renewal cycle to ensure they meet the needs of the users and are current with the technology, material, and methods employed by the engineering and construction industry.
- Publish updates to the standards.
- Promote the use of OPS on a province-wide basis.

### **5.0 OPS Benefits to Users**

Use of the Ontario Provincial Standards by the province or municipalities is not mandatory.

The standards in the OPS manuals are for use as pre-printed components of a construction contract. They are not prepared as design aids or as a manual of design procedures and they will not competently serve those purposes.

Each infrastructure owner (Owner) is responsible for determining implementation dates and directions for use of the Ontario Provincial Standards; therefore, manual holders are cautioned about immediately discarding superseded and cancelled standards. Standards are not immediately implemented in MTO. Each set of MTO Contract Documents lists the standards that apply to a particular Contract, and the MTO Contract Preparation System (CPS) lists the standards that have been implemented.

- Consistent and cost effective for Owners and Contractors.
- Easy to read and understand; Clear and concise.
- Reduces contract preparation time.

- Maximizes return on infrastructure investment.
- Quality standards list.
- Updated by practitioners and experts.

## **6.0 Accessing Ontario Provincial Standards**

The Ontario Provincial Standards are available online at no cost through the OPS website. The following information will be made available to the user:

- Current versions of the published standards
- Archives of the previously published standards
- Revision Information Sheets for current and previously published standards
- Indexes for each OPS volume

## **7.0 OPS Advisory Board (AB)**

7.1 The role of the AB is to:

- Perform strategic planning, and decide where to place emphasis on which goods and services OPS should produce, now and in the future, with due consideration of the decisions being made by the Provincial and Municipal governments, and changes in design and construction procedures for public works in Ontario.
- Set OPS policies.
- Manage activities of the OPS Standards Management Committee.
- Monitor membership and work plans of the OPS Standards Management Committee.
- Review and approve the organizational representation on OPS Committees.
- Review and approve the budgets of the OPS Standards Management Committee.
- Review and improve the delivery and approval mechanisms for the Ontario Provincial Standards, as required.

- Market and promote the use of Ontario Provincial Standards with Owners, Consultants, Contractors, other government ministries and agencies, and developers.
- Encourage input from all parts of founders, partners and supporting agencies on Ontario Provincial Standards.

## 7.2 AB Representatives

Oversight of the OPS organization is currently provided by the AB.

The following organizations sit on the Board:

Organization	Number of Seats	Voting Rights
Ministry of Transportation (MTO)	1	Yes
Municipal Engineers Association (MEA)	1	Yes
Ontario Provincial Standards (OPS)	1	Yes
Consulting Engineers of Ontario (CEO)	1	Yes
Ontario Good Roads Association (OGRA)	1	Yes
Ontario Road Builders Association (ORBA)	1	Yes
Ontario Sewer and Watermain Construction Association (OSWCA)	1	Yes
City of Toronto	1	Yes

The Chair of the Advisory Board shall rotate every two years between MEA and MTO.

The Chair of the SMC attends all Advisory Board meetings in a non-voting capacity.

The Head of the OPS Unit attends all advisory Board meeting in a non-voting capacity and acts a recording secretary.

## 7.3 AB Frequency of Meetings

The Board should, at a minimum, meet four (4) times per year at a location mutually agreed to.

## 8.0 Standards Management Committee (SMC)

8.1 The role of the OPS SMC is to:

- Under the general direction of the AB, the SMC is responsible for reviewing and approving municipal specifications and drawings as prepared by the OPS Specialty Committees. The Chair of the SMC shall attend all AB meetings and report on the activities of the committee.
- SMC may refer newly published OPSS.PROV specifications to an OPS Specialty Committee to determine whether a municipal specification (OPSS.MUNI) should be created or revised.

- The SMC will encourage increased usage of standard specifications to minimize the need for the use of contract special provisions.
- Formulate and recommend policy to the OPS AB and implement approved policy.
- Provide direction to and coordinate the activities of the OPS Specialty Committees.
- Promote knowledge, acceptance, and use of the OPS throughout the Province of Ontario.
- Liaise with interested organizations that use OPS and groups providing input or requesting revisions to the standards.
- Ensure standards meet the needs of users and are current with technology, materials, and construction practice.
- Address general issues related to the OPS.
- Comment on OPS activities in general.
- Review all OPS Specialty Committee minutes.

## 8.2 SMC Representatives

The AB should appoint all representatives to the SMC that shall serve on the committee for a minimum two (2) year term with eligibility for reappointment. As much as practicable, the AB shall stagger representative appointments to the SMC so that in any given year, only half of the SMC is replaced.

The following organizations or associations shall have representation on the SMC as noted below:

Organization	Number of Representatives	Voting Rights
Municipal Engineers Association (MEA)	3	Yes
Ministry of Transportation of Ontario (MTO)	1	Yes
Ontario Good Roads Association (OGRA)	1	Yes
Ontario Road Builders Association (ORBA)	1	Yes
Ontario Provincial Standards (OPS)	1	Yes

## 8.3 SMC Meeting Frequency

SMC should meet once a month or at other intervals as required by work

volume or at the call of the Chair.

## **9.0 Specialty Committees (SC)**

9.1 The role of the OPS Specialty Committees is to:

- Support the terms of reference of the OPS SMC.
- Provide technical expertise for development of construction and material specifications, and drawings within the specialty division with a focus on municipal (MUNI) standards and specifications.
- Develop and maintain a work plan covering standards review, revision and development; work on specifications should be concurrent with the addition or revision of related drawings.
- Recommend priorities for standards revision and development to SMC in March of each year.
- Review and revise existing standards.
- Develop and prepare new standards.
- Solicit input to prepare or revise any standards from other OPS SC, outside agencies, interest groups, and individuals and incorporate appropriate changes into the standards.
- Prepare standards along with a Publication Request form for submission to, and comment from, members of SCs, and review comments received.
- Review standards on a cyclical basis with a goal of having a renewal period within five years.
- Support the OPS SMC in the promotion, knowledge, acceptance, and use of OPS.
- Ensure standards meet the needs of users and are current with technology, materials, and construction practices.

The AB upon receiving recommendations from the SMC may, at its discretion, establish OPS Speciality Committees. The OPS Specialty Committees are hereby currently established:

**Drainage Committee:** Responsible for standards related to drainage such as: sewer and culvert pipes; drainage structures (e.g., maintenance holes); jacking and boring; tunnelling; rip-rap; and gabions. Some standards overlap with some of the responsibilities of the OPS Watermains Committee.

**Electrical Committee:** Responsible for standards related to electrical work such as: electrical chambers, ducts, cables, grounding, luminaires, poles, traffic signals, vehicle detection, power supply equipment, and removal of electrical equipment.

**Environmental Committee:** Responsible for standards relating to the environment such as: management of excess materials, waterbody and fisheries protection, tree protection, planting, topsoil, sodding, seed and cover, temporary erosion and sediment control measures.

**General Conditions Committee:** Responsible for reviewing and revising the OPS General Conditions of Contract and overseeing standardization of Forms of Agreement, format and content of information to tenderers, and form of tender-related and pertinent documents.

**Grading Committee:** Responsible for standards related to grading such as: earth and rock excavation, removal of boulders, embankments over swamp, borrow material, granular sealant, dust suppressants, compaction, removals, Utility location, entrances, and geotextiles.

**Pavement Committee:** Responsible for standards related to pavement such as: granular base and sub-base, surface treatment, asphalt, concrete and composite pavements, subdrains, sidewalk, curb and gutter, and weighing of materials.

**Structures Committee:** Responsible for standards related to structures such as: concrete structures, earth retaining structures, structural steel, pre-stressed concrete, structure rehabilitation, sign support structures, temporary modular bridges, anchorage systems for foundations, structural wood systems, and precast concrete box culverts.

**Traffic Safety Committee:** Responsible for standards related to traffic safety such as: attenuators, delineation, pavement markings, roadside barriers, noise barriers, end treatments, crash cushions, arrestors, anti-glare screens, traffic control signing, fencing, and winter salting and sanding.

**Watermains Committee:** Responsible for standards related to watermains and forcemains such as: site preparation and restoration, excavation, backfill, and compaction for all pipelines and maintenance holes, catch basins, ditch inlets, and valve chambers; cathodic protection, dewatering; thrust blocks; support systems; water services; and hydrants. Some standards overlap with some of the responsibilities of the

Drainage Committee.

## 9.2 SC Representatives

The Head, OPS Administration shall recommend to the Board the composition of each of the above OPS SCs and the representatives or organizations that have a seat on the committees. The representatives shall serve on the committee for a minimum term of two (2) years with eligibility for reappointment. The OPS SC at their first meeting of the new term shall select a Chair from among its representatives.

## 9.3 SC Frequency of Meetings

Specialty Committees should meet once a month or at other intervals as required by work volume or at the call of the Chair.

## **10.0 Responsibilities of Organizations, Chairs, Coordinators and Representatives**

### 10.1 Organizations – Responsibilities:

- Ensure active participation on committees
- Assign new representatives to committees as required
- Facilitate two way communication between OPS committees and the organization
- Develop and institute recognition and appreciation measures

### 10.2 Chairs – Responsibilities:

- Develop meeting agendas and call meetings.
- Ensure the proper, relevant conduct of meetings, and encourage and promote the efficient operation of the OPS Committee.
- Approve requests for guest attendance at OPS Committee meetings.
- Ensure that inquiries to the OPS Committees are dealt with in a timely manner.

- Develop the annual perpetual work plan identifying MUNI specifications and OPS drawings which should be reviewed by the committee based on the goal of having a five year renewal cycle, including a review of any newly published PROVs.
- Advise Head, OPS Administration of any vacancies on committees.
- Ensure a balanced perspective from all representatives on the committee.
- Review membership of the OPS Committee when it is apparent that a representative does not attend meetings on a regular basis. Advise Head OPS for action.
- SMC Chair to attend the OPS AB meetings as a non-voting representative and report on SMC.
- SC Chairs to develop and submit work plans to the Head, OPS Administration.
- In the absence of the chair, the vice-chair shall fulfil the duties of the chair.
- SMC and SC Chairs oversee the elections for the chair and vice-chair for the upcoming 2-year term. Only MEA members may act as Chairs for SMC and SCs.

#### 10.3 Coordinators- Responsibilities:

- Organize meetings for the OPS Committee.
- Prepare and distribute meeting notices, materials to be reviewed and agendas prior to meetings.
- Record decisions and relevant comments, and prepare and distribute minutes of meetings.
- Table those parts/items of the minutes of other OPS committees that require action by the SMC.
- Provide advice on standards formatting issues and administrative matters.
- Provide current information on a timely basis.

- Liaise and communicate decisions to the Coordinators of the other Specialty Committees as guided or directed by the committee.
- SMC coordinator to organize the biennial OPS Specialty Committee Chairs meeting: prepare and distribute meeting notices and agenda record decisions and relevant comments, and prepare and distribute minutes.
- Receive and respond to correspondence directed to the OPS Committee.
- Report to the Head, OPS Administration for the purpose of fulfilling day to day operational duties.

#### 10.4 Representatives - Responsibilities:

- Represent the interests of municipalities and the organization that appointed and approved their membership on the OPS Committee.
- Attend scheduled meetings and review material provided prior to the meeting.
- Fulfil the terms of reference through active participation at the meeting.
- Ministry representatives will focus on knowledge transfer and information related to ongoing work within MTO on ministry Specifications (PROVs) and special provisions providing technical expertise, rationale and background on MTO specification development.
- Identify potential new and/or revisions to specifications, which may be addressed by the committee.
- Perform tasks assigned by the Chair.
- Vice-chair to act as Chair when specifically requested on an as-needed basis.

#### 10.4 OPS Administration

- The OPS Administration unit of the MTO is responsible for the day to day administration of the policies, procedures and publishing of standards in April and November of each year.

- The unit consists of the Head, two Co-ordinators and a third co-ordinator whose time is divided between OPS and OGRA.

## **11.0 Filling Committee Vacancies and Meeting Attendance**

### 11.1 Process for filling a committee membership vacancy:

1. Once a committee Chair knows of a vacancy he/she is to contact the Head, OPS Administration to advise of the need to fill that specific vacancy.
2. Head, OPS Administration contacts the organizations leadership to request a proposed candidate be selected.
3. Organization leadership then responds to Head, OPS Administration with the proposed candidate.
4. Then the Head, OPS Administration will advise the candidate and the committee Chair/Coordinator of this decision.
5. Coordinator should then provide the new member with a welcoming email to the committee as a full voting/participating member with information regarding meeting logistics etc.

The Head, OPS Administration provides a vacancy table to SMC and AB for each meeting.

### 11.2 Meeting Attendance:

- No alternates are allowed for ~~standing~~ committee representatives unless authorized prior by the organization lead ie MTO, MEA, ORBA, CEO etc.
- All guests attending committee meetings must be pre-approved by the Chair.
- Ad-hoc contributing partners are only to attend committee meetings at the request of the Chair

## **12.0 Technical Documents**

### 12.1 OPS Specifications and Drawings

The OPS specifications are currently broken down into three main categories: COMMON, PROV, or MUNI.

COMMON specifications are the originally created Provincial Standard to which MTO and the municipal users completely agreed on all the terms and conditions laid out in the respective specification.

COMMONs will be phased out through the five year review cycle. Once a COMMON is reviewed it will be split into a PROV and a MUNI. It shall not be returned to a COMMON. No new COMMONs will be created.

The PROV or Provincial specifications are intended for MTO use.

The MUNI or Municipal specifications are intended for Municipal ~~Engineers Association~~ use.

All of the OPS specifications and drawings are published in an eight-volume arrangement in electronic PDF format on the OPS website for public use and are administered by the OPS Administration unit.

The volumes are currently laid out in the following manner, until such time that the COMMON Specifications are phased out:

- COMMON Specifications:
  - OPS Volume 1 General and Construction Specifications
  - OPS Volume 2 Material Specifications
  
- Drawings:
  - OPS Volume 3 Drawings for Roads, Barriers, Drainage, Sanitary Sewers, Watermains, and Structures
  - OPS Volume 4 Drawings for Electrical Work
  
- PROV (Provincial/MTO) Specifications and Drawings:
  - OPS Volume 5 MTO General Conditions of Contract and General and Construction Specifications
  - OPS Volume 6 Material Specifications
  
- MUNI (Municipal) Specifications and Drawings:
  - OPS Volume 7 OPS General Conditions of Contract and General and Construction Specifications
  - OPS Volume 8 Material Specifications

## 13.0 Procedure for OPS Standards Revision and Development

### 13.1 Background

Standards are not static documents. They must be constantly updated to reflect current industry practices. The Ontario Provincial Standards for Roads and Public Works process contains a mechanism for revising existing standards and creating new ones, and relies heavily upon the participation of the users.

There are several ways to initiate the review of a standard:

- By MTO or MEA
- Based on a Specialty Committee's cyclical review schedule (annual work plan)
- Issues identified by OPS users

### 13.2 Review Procedure

The process begins with the identification that a current standard does not suit contract needs without changes to the terminology or the addition of several special provisions. Whether an existing specification or drawing is revised or a new one is created, it must be written in proper OPS format.

All draft specifications or drawings requested for review are to be submitted to the Head, OPS Administration. The first part of the OPS review is completed by the Head to decide which stream the document should flow through. Depending on the stream, the Coordinator reviews the submission to ensure that the proper OPS format and style have been followed; the readability of the specification flows without any conflicts or ambiguity; and the spelling, grammar, and punctuation are correct. During and after this review, the developer may be contacted by the Coordinator to discuss issues or to get a better understanding of what is being stated.

For PROVs the Coordinator will work with the appropriate MTO functional office to revise the draft specification for internal MTO review prior to approval and publishing. Once the PROV is published a copy is sent by the Head to the appropriate Specialty Committee and SMC Chairs for information purposes only.

The MTO will develop an annual work plan for the revision of PROVs.

The Specialty Committees annually monitor the revision cycle for COMMONs and MUNIs. They produce a work plan to govern the activities of the Committee and provide the members with a preview of standards to be worked on by the Committee so that they may begin to collect information and comments in preparation for the review.

For MUNIs, the Coordinator may work with the developer to revise the draft specification prior to review by the Specialty Committee and approval by the SMC.

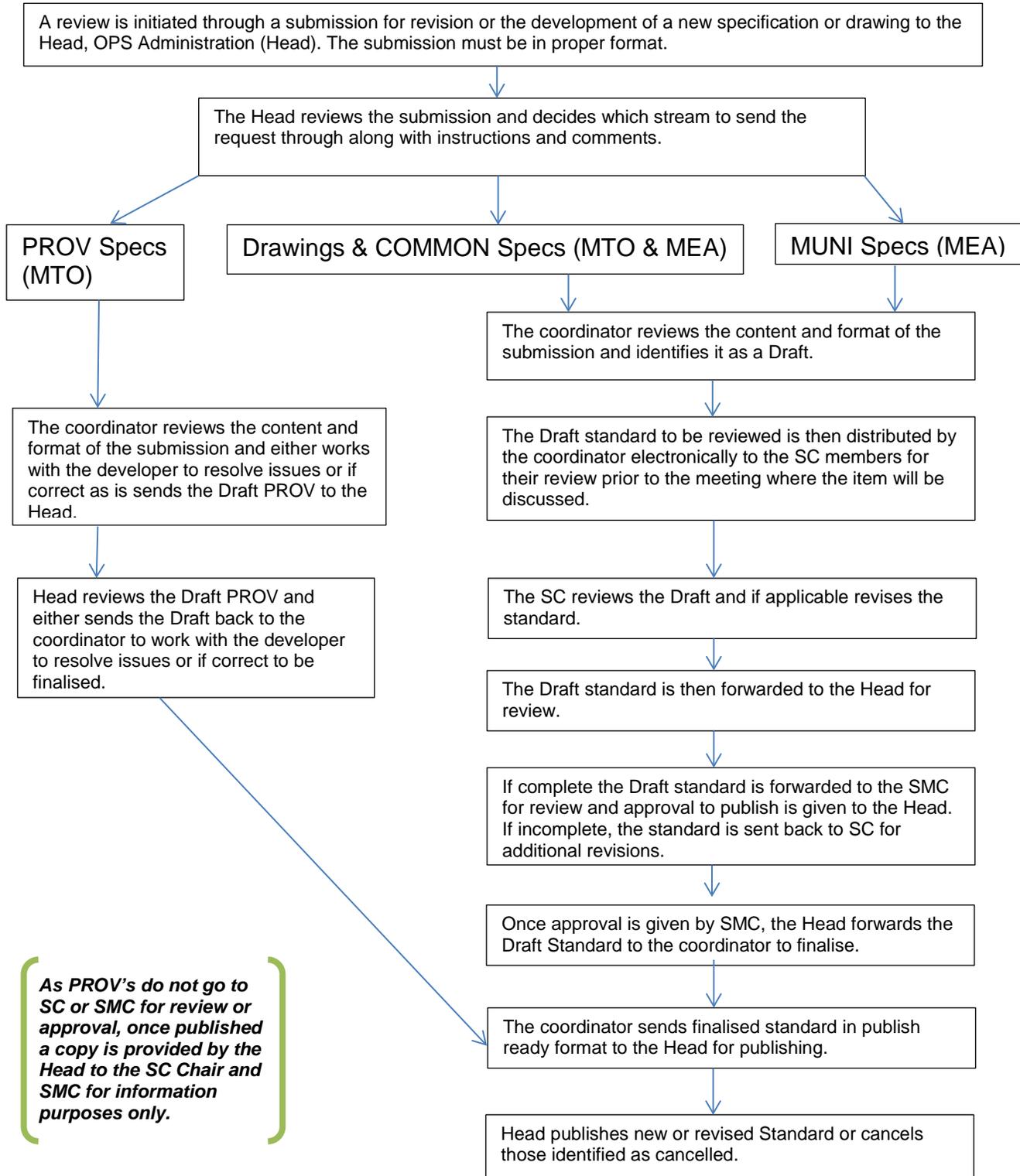
As COMMONs are phased out through the review cycle, each is reviewed and split either into a PROV and/or a MUNI to suit the needs of either the MTO or MEA respectively. **Eventually COMMONs will no longer exist.**

Once a draft standard is approved for publication the Coordinator finalises the document and sends that to the Head. The standard, along with other standards being published, is added to the OPS/MTO website containing the OPS library of standards.

The MTO functional offices and Specialty Committees/SMC are encouraged to collaborate and share experience and ideas in revising or creating new specifications.

**Refer to flow chart on page 19**

## OPS SPECIFICATION OR DRAWING REVIEW PROCESS



## **14.0 Modification of an Ontario Provincial Standard**

If an OPS standard is modified, then it is no longer a standard. Standards should be used as published as much as possible to avoid cost increases, mistakes, and omissions.

### **14.1 Specifications**

Ontario Provincial Standard Specifications are not to be modified in any way.

If an Owner determines that an OPS specification as published does not meet their needs, then a special provision should be written to delete, add, or replace information. The special provision shall be included in the Contract Documents.

The special provision should state how the OPS specification is modified and for what particular contract it is being modified. The following are some suggested phrases to modify an OPS specification using a special provision:

Subsection 310.05.01 of OPSS 310, [version date], is amended by the addition of the following:

OPSS 421, [version date], is amended by the addition of the following information:

Subsection 410.07.01 of OPSS 410, [version date], is deleted in its entirety and replaced with the following:

Subsection 410.07.13 of OPSS 410, [version date], is deleted in its entirety.

### **14.2 Drawings**

Ontario Provincial Standard Drawings are not to be modified.

If an Owner however determines that an OPS Drawing as published does not meet their needs then they have the right to modify it. If a drawing does require any modifications, then the drawing shall be marked "MODIFIED" in the space provided in the bottom right corner of the drawing along with the date of modification and the contract to which the drawing applies. The modified drawing number should have an "M" prefix added, for example, "M206.010". When the drawing is modified, the name of the qualified person responsible for the modification should be added to the drawing.

In this instance, all references to Ontario Provincial Standards, the logo and the OPSD title, should be removed from the drawing and the drawing identified as a drawing belonging to the Owner, not OPS.

## 15.0 Publishing of Ontario Provincial Standards

The OPS unit shall publish its standards, barring any unforeseen circumstances, as follows:

- November 30th
  - New, cancelled or revised standards
  
- April 30th
  - To correct errors in recently published standards and to publish new, cancelled or revised standards that are time sensitive; and OPSS 127, Schedule of Rental Rates for Construction Equipment

Refer to Appendix #4 for Deadlines.

## 16.0 Interpretation

The following terms apply to the Ontario Provincial Standards:

**. . . shall be according to . . .** This phrase indicates that work, products, or materials are to meet the requirements of another standard or publication. For consistency, as specifications and drawings are being revised or when new standards are being developed, this phrase shall replace or be used rather than phrases such as *shall be in conformity*, *shall be in conformance with*, or *shall be in accordance with*.

**shall, may, should, and will** *Shall* is used to convey a mandatory obligation. *May* is used to convey there is a choice. *Should* is used to convey a recommendation that is not a mandatory obligation. While a common usage of *will* for most people, but not all people, would indicate a mandatory obligation, *shall* is used in the Ontario Provincial Standards. *Will* may still be found in some of the older Ontario Provincial Standards and, in such cases, it is to convey a mandatory obligation. For consistency and to remove all potential speculation of the meaning of *will*, as specifications and drawings are being revised or when new standards are being developed *will* is being replaced.

**. . . as specified in the Contract Documents** This phrase is used to indicate to the Contractor that the Owner has requirements supplemental to the standard that can be found in other parts of the Contract Documents. Some older specifications use the phrases *specified in the Contract* or *as specified*. For consistency and to remove all potential speculation of the meaning of these phrases, as specifications are being revised or when new standards are being developed they are being replaced by *as specified in the Contract Documents*. Due to space concerns, the phrase *as specified* will be used on the OPS drawings to mean *as specified in the Contract Documents*.

**Contract Administrator:** Term used when referring to the Owner’s representative.

**Day, Working Day, and Business Day:** These terms are defined in the General Conditions of Contract. The term *Day* is used rather than *calendar day*. *Working Day* is used when describing the timing of an operation is to be completed based on the controlling operation of the contract. *Business Day* is used when describing the timing based on Monday to Friday.

## **17.0 SECTIONS IN AN OPS SPECIFICATION**

These explanations of the sections found in OPS specifications are written in general terms. They identify the section most likely to contain the information outlined for each section description below. Some information may be found in sections other than indicated here, but generally, these are the descriptions of the intended information of each section.

### **Table of Contents**

Each specification has a table of contents that lists all of the sections that may be found in an OPS Specification. If a specific section is not used, the section number and title will be shown along with the words “Not Used.” The Table of Contents also shows which appendices are attached to the specification.

### **Section 1 Scope**

Explains in brief and concise terms the purpose and extent of the specification. This section also describes the significance and use of the specification and the appendices attached to the specification.

### **Section 2 References**

A list of all standards and publications referenced in the body of the specification is given in this section. The year of issue for these documents is a requirement for this section except for the OPS Specifications, as it is assumed that all users have an up-to-date set of OPS Specifications. Year of issue for the documents is only shown in this section and not in the body of the specification.

### **Section 3 Definitions**

Where it is felt definitions are required and are different from the Canadian Oxford dictionary definitions, they are included in this section. The definitions apply specifically to the specification in which they are given.

## **Section 4 Design and Submission Requirements**

This section is generally divided into two subsections: Design Requirements and Submission Requirements.

### **Design Requirements**

This subsection explains the design information required by the Contractor for the design of temporary or permanent works. In the Material Specifications, it gives the design criteria for the material/product.

### **Submission Requirements**

This subsection explains any submissions that are required (e.g., notices, test results, and working drawings) before the Contractor can commence work on the applicable construction operation. In the case of working drawings, they may show the design of temporary works such as false work. Information such as, which working drawings are to be submitted, how many copies are required, and whether a Professional Engineer's seal and signature are required may be part of this section.

## **Section 5 Materials**

This section details the necessary quality requirements of the material to be used in the work and will refer to OPS material specifications or material standards published by other agencies (e.g., CSA). Sometimes, storage and handling requirements for materials are specified.

## **Section 6 Equipment**

This section details only the mandatory requirements of the equipment to be used in the work. The intention is to minimize the detailing of equipment, thereby providing the Contractor with the necessary encouragement to use the latest equipment and technology available.

The Ontario Provincial Standards are not written to prescribe equipment unless a particular piece of equipment is necessary to complete work that is specialized in nature as long as it fulfills the requirements of the specification. The onus is on the Contractor to complete the work as described in the specification.

## **Section 7 Construction (construction specifications) or Production (material specifications)**

This section details the necessary requirements for the construction or production phases of the work and may include tolerances. It may also include the quality control that the Contractor or manufacturer is required to perform.

## **Section 8 Quality Assurance**

This section details those quality assurance requirements that may affect the Contractor's bid. Sampling and testing requirements are shown where they affect the Contractor's work. An indication of time required for testing is included where the Contractor's operations are affected. Specified are those tests on which the quality of the work will be accepted. In OPS specifications, Quality Assurance is assumed to be an Owner responsibility.

## **Section 9 Measurement For Payment (construction specifications) or Owner Purchase of Material (material specifications)**

### **Construction Specifications**

This section details units of measurement and such further details as slope or horizontal measurement. This section is divided into two subsections: "Actual Measurement" (i.e., field measurement), and "Plan Quantity Measurement" (i.e., pay quantity as shown in the contract).

### **Material Specifications**

The material specifications may be used by the Owners themselves to purchase material for supply to a Contractor or for maintenance purposes. This section standardizes the basis on which the products are purchased in these situations.

## **Section 10 Basis of Payment**

This section exists in the construction specifications only. It details the basis of payment. All payment statements or statements affecting payment should appear in this section. The phrase "... to do the work" means the work described in the specification, including references to other documents.

**Note:** Section 10 no longer exists in the format of the material specifications. The section was titled "Designated Sources Requirements" in the material specifications. The OPS Standards Management Committee decided to have this section removed from the material specifications as they are revised. Older material specifications may still contain this section but it will be deleted during the next review of the specification.

## 18.0 Appendices in the Ontario Provincial Standard Specification

All of the OPS Specifications (OPSS) published since 2000 have at least one appendix attached to them. As the older OPSSs are reviewed, appendices will be added to them. Before an appendix becomes part of the Contract Documents, the Owner/designer must invoke it by reference in the Contract Documents. Appendices are attached to the OPSSs for ease of access to the Owner and are written for use by the Owner. Appendices are not automatically part of the OPSS or the Contract Documents. This is the default condition. Each Owner is responsible for determining which appendices will be used in their Contracts.

There are three types of appendices in OPSSs:

**Commentary** - this type of appendix provides designers with information on the use of a specification in a Contract. A commentary is required for all construction and material specifications. Owners may have their own Contract preparation documentation that supersedes this type of appendix. Commentary appendices are notes to designers so will never be invoked in a Contract—they are only information to the designer.

**Additional Information** - this type of appendix includes information that can be used as supplementary information to the specification or supplementary requirements to modify a specification. They are written in mandatory language to allow Owners to invoke the additional information option in a Contract without revising the appendix. The additional information is data that was not included in the specification as it does not represent standard practice in most jurisdictions but some Owners may wish to apply it to their Contracts. Over time, this additional information may become part of the specification as it becomes more widely used and accepted. Examples of additional information are referee testing, retesting procedures, and gradation tables.

**End-Result Specification (ERS)** - this type of appendix provides ERS information written in mandatory language to allow Owners to invoke the ERS option in their Contracts by reference in the Contract Documents. The entire appendix must be invoked to make the specification end-result oriented.

# **APPENDIX**

## **Other OPS Procedures**

<b>#</b>	<b>Title</b>	<b>Page</b>
1	Development and Approval of Annual Committee Work Plans	27
2	Holding Elections in the OPS Committees	28
3	Making a Sponsorship Submission for a New or Revised Standard to OPS	30
4	Deadlines for Publication or Cancellation of OPS	33
5	History of OPS Milestones	35
6	List of Cancelled OPS Documents	36

### **NOTE:**

**This new OPS USER GUIDE replaces all other previous OPS documents.**

## **# 1            Development and Approval of Annual Committee Work Plans**

### **BACKGROUND**

The OPS Standards Management Committee, and Specialty Committees are required to develop work plans that coincide with the fiscal year of the Ministry of Transportation (MTO) (i.e., April 1 to March 31). The Ontario Provincial Standards for Roads and Public Works organization uses the same fiscal year as MTO due to financial considerations.

### **GUIDING PRINCIPLES**

Work plans are to indicate projects or standard reviews started in:

- a) The year for which the work plan applies.
- b) A previous year that will be completed in the year for which the work plan applies.
- c) A previous year that will be completed in the year of a future work plan.

### **PROCEDURE**

1. OPS Specialty Committee work plans are to be finalized and given to the Head, OPS Administration (Head) by mid-January. Work plans are presented to the SMC at their January meeting for review and approval at their February meeting.
2. OPS Standards Management Committee work plans are to be finalized and given to the Head two weeks before the spring OPS Advisory Board (Board) meeting. Work plans are presented to the Board for review and approval at their spring meeting (usually April).
3. All committee work plans from the previous fiscal year are to be finalized and given to the Head along with the new work plan for presentation to the next senior committee for review.

## **# 2 Holding Elections in the Ontario Provincial Standards for Roads and Public Works (OPS) Committees**

### **Background**

The OPS Committee Chair shall complete the responsibilities of the position as outlined elsewhere. The OPS Committee Vice-chair is responsible to assume the chair's responsibilities in the Chair's absence.

Term of office for the chair and vice-chair is two years.

### **Guiding Principles**

Elections in the Ontario Provincial Standards for Roads and Public Works (OPS) organization shall be held every odd numbered year or when the position of chair or vice-chair is vacated during the term of office.

The chairs and vice-chairs are elected by all voting members of an OPS Committee.

When the election is held at the end of a two-year term, the election shall be for both the chair and vice-chair. Only MEA members may act as Chairs of SMC and SCs.

When an OPS Committee member is a chair or vice-chair and resigns from the committee, the position is not transferred to the person's replacement. An election shall be held to fill the vacated position.

Elections for a new term of office are held in January of each odd numbered year. The term of office begins April 1st following the election and ends on March 31st at the conclusion of the two-year term. Commencement and conclusion of the term for the Board chair and vice-chair occur at the Board's spring meeting (normally in April) of each odd numbered year.

The Chair of the AB shall be either a Ministry of Transportation or Municipal Engineers Association representative. Whichever organization is the Chair, the Vice-chair shall be the other OPS owner. For the positions of Chair and Vice-chair of the AB, elections are not required at the end of a two year term. The positions of Chair and Vice-chair of the AB shall automatically rotate every two years between the MTO and MEA representatives.

## Procedure

1. Committee Chairs shall include an item to hold elections on the OPS Committee's January meeting agenda (spring meeting agenda for the Board) when the need for an election is required due to the end of a two-year term.
2. When a position has been vacated during the term of office, an item for the election shall be added to the agenda of the next OPS Committee meeting following the resignation of the person from the position. The person elected shall fill the position for the remainder of the original two-year term.
3. Chairs are responsible for facilitating the election. Separate elections are to be held for each position as follows:
  - a) The Chair requests nominations for the position of chair.
  - b) When nominations are completed, the Chair shall ask each nominee if he/she will accept the nomination.
  - c) If there is more than one nomination, nominees shall leave the room until the election is completed.
  - d) In turn, the Chair shall ask for a show of hands for each nominee. Election to a position shall be by a majority show of hands.
  - e) When there is only one nominee agreeing to stand for election, the Chair shall acclaim the person to the position.
  - f) The procedure is then repeated for the position of Vice-chair.
4. Results of the election shall be recorded in the minutes.

### # 3 **Making a Sponsorship Submission for a New or Revised Standard to the Ontario Provincial Standards for Roads and Public Works (OPS) Organization**

#### **Background**

A Sponsorship Submission is a request made to the OPS organization for a revision of an existing standard, or development of a new standard by a body not normally part of the current OPS community.

#### **Guiding Principles**

Members participate on OPS Committees to represent the interests of the OPS founder, partner or supporting organization that appointed them to the OPS Committee; not themselves or their individual office, municipality, or company.

The procedure for making a Sponsorship Submission to the OPS shall be applied for all applicable new or revised standards.

Standardization will only be considered by OPS when:

- The new or revised standard is sponsored by the Ontario Ministry of Transportation or an Ontario municipality, including for a new service or technical solution developed by a company or proponent and/or
- A service or technical solution incorporated into the new or revised standard has been successfully used on multiple Ontario projects and/or
- The effectiveness of a service or technical solution incorporated into the new or revised standard has been demonstrated for a minimum period of 5 years or as deemed appropriate as determined by the OPS Committee.

**A proprietary service or technical solution will generally not be incorporated into OPS standards, except when standardization can be generic without specific reference to proprietary products.**

All Sponsorship Submissions for the inclusion of a new or revised standard in the OPS shall be made to the Head, OPS Administration at the following address:

Ontario Provincial Standards  
Ontario Ministry of Transportation  
Garden City Tower, 2nd Floor North  
301 St. Paul Street  
St. Catharines, ON L2R 7R4

## **Sponsorship Submissions:**

1. Only the Ministry of Transportation or an Ontario municipality can be a sponsor. As part of the Sponsorship Submission, the sponsor shall provide the following information:
  - a) Clear benefits of the new or revised standard to the Owner, for example, cost, safety, and durability. The standard must be recognized by ANSI, ASME, ASTM, AASHTO, CSA, NSF, UL or others.
  - b) There must be a verifiable history in the Province of Ontario by OPS users. For each instance contact names, email and telephone numbers are required. The submitter shall identify the location, the roadway classification and traffic pattern, and the length of time the standard has been used.
  - c) Letters of reference, including reference name, email, and telephone number, from other users should provide endorsement while identifying where the standard has or is currently being used.
  - d) The Submission shall be signed by a Professional Engineer licensed by the Professional Engineers' Association of Ontario to practice in the Province of Ontario, and the Engineer shall have overseeing responsibilities for the infrastructure that the new or revised standard is being used in. OPS may contact these individuals for comments and their experience with the use of the new or revised standard.

If the submitter has any concerns or questions in regard to the above requirements or the submission process, they should contact the Head OPS Administration for further clarification.

2. The Head shall review the Submission to ensure it is complete and then forward it to the SMC for review.
3. The SMC shall forward Submissions, along with any comments they may have, to the appropriate SC for their review to determine whether the inclusion of the standard in the OPS would be of benefit.
4. During the SCs review of the Submission, the sponsor of the standard may be requested to provide additional information to the SC.
5. The SC upon completion of the review shall make a recommendation to SMC.

6. If SMC has made a decision to include the standard in the OPS, the following shall then apply:
  - a) The sponsor shall develop and supply a draft specification to the SC for their review. The specification does not need to be in exact OPS format, but it must contain the appropriate sections as found in other current OPS specifications.
  - b) When a standard drawing is being developed, the manufacturer or service provider shall develop and supply draft standard drawings produced in AutoCAD according to MTO's Integrated Engineering Standards (IES) for CAD to the Committee for their review.

If the Sponsorship submitter has any concerns or questions in regard to the above requirements for a draft specification or a draft drawing, they should contact Head OPS Administration for further clarification.

## **# 4 Deadlines for the Publication or Cancellation of OPS**

### **Background**

The OPS Standards Management Committee reviewed the need to set deadlines for the OPS specialty committees (Committee) to submit their standards to the SMC for permission to publish or cancel. SMC members at the time felt that deadlines may prompt committees to work on standards to meet the deadlines rather than submit standards throughout the entire year.

SMC members decided to outline a review process and let the Committees continue to set their own work timetable.

### **Guiding Principles**

#### **General**

Standards are to be reviewed by the Head before being reviewed by the SMC.

During the month of April and November, the OPS Unit will prepare the standards and associated documents in their final format for publishing.

#### **Standards Developed or Reviewed**

Committees, MTO or MEA are to spread out their submissions for permission to publish or cancel over the entire year.

Committees, MTO or MEA shall give the Head and SMC adequate time to review standards. There is no guarantee all standards will be published in the year they are submitted for review. There are several factors affecting the review of submissions, for example, the workload and priorities of the Head and SMC and a lack of lead-time to allow for a thorough review. Standards that have been received by the Head after July 31 stand a high likelihood of not being published in November of that year.

The last meeting the SMC will sign off on a standard will be the October SMC meeting, thereby giving their permission to publish or cancel the standard. Standards that have not been approved by the end of the October meeting will not be published or cancelled until November of the following year.

Committee standards will be published or cancelled on the OPS/MTO website that houses the standards at the end of April and November. Standards will be sent at the same time to Publications Ontario for sale at the beginning of May and December.

In summary, the following schedule applies to the standards developed and reviewed by the OPS specialty committees:

**End of December and July** – Specifications or drawings received after this time stand a high likelihood of not being published in the subsequent April or November. This does not mean that the SMC will not receive these specifications or drawings after December or July, it only means that they stand a greater chance of not being published in April or November than those received before the end of December or July.

**February and September SMC Meeting** - Specifications and drawings for which MTO or MEA are seeking permission to publish or cancel in the subsequent April or November must be distributed to the SMC members by these meetings.

**March and October SMC Meeting** - These are the last meetings for giving permission to publish or cancel standards in the subsequent April or November. Head OPS reviews SMC comments before permission is given to publish or cancel a specification or drawing.

**April 30th and November 30th** - Electronic versions of the approved Ontario Provincial Standard Specifications or Drawings are formally published and copies are sent to Publications Ontario for sale.

## # 5 History of OPS Milestones

### OPS Milestones

1977	Ontario Provincial Standards for Road and Municipal Services initiated as the result of a recommendation in the Municipal Project Liaison Committee Report
1977 to 1984	The Joint Committee and four subcommittees developed the OPS specifications and drawings
1984	OPS first published
1984	Nine specialty committees formed
1984-04	Ministry of Transportation adopts OPS
1985-02	Ministry of the Environment adopts OPS
1985-09	OPS Electrical Drawing Manual published
1990	Toronto adopts OPS
1990	OPS General Conditions of Contract published
1992-09	MTO adopts OPS General Conditions of Contract
1992-10	OPS User's Guide published
1994	Ontario Clean Water Agency joins the OPS system as a contributor
1994	Management study carried out by private consultant on the OPS organization
1994-11	Ministry of Natural Resources joins the OPS system as a contributor
1995-Summer	Ronen Publishing House becomes the official publisher for MTO including OPS
1996 to 1997	Management study carried out by MTO on OPS Section
1996-05	OPS Advisory Board formed
1996-12	OPS Products Management Committee formed
1997-01	Joint Committee renamed OPS Standards Management Committee
1997-10	Official name changed to Ontario Provincial Standards for Roads and Public Works
1998-10	Heavy Construction Association of Toronto joins OPS system as contributor
1999-02	Product Information Management Agreement signed between OGRA and MTO
2000-06	Electrical Safety Authority joins the OPS system as a contributor
2000-07	City of Toronto joins the OPS system as a partner
2000-09	Official OPS website online <a href="http://www.ops.on.ca">www.ops.on.ca</a>
2003-09	OPWA joins the OPS system as a contributor
2005-09	Ronen Publishing House contract expires leading to a new method of publishing and distributing the Ontario Provincial Standards: <ul style="list-style-type: none"><li>• Ontario Provincial Standards available free of charge on the MTO website</li><li>• Hard-copy and CD versions available from Publications Ontario</li></ul>
2005-11	OPS Advisory Board sanctions OIBC Committee as an OPS specialty committee
2006-01	OIBC released
2006-01	Redesigned OPS website goes live
2006-11	Revised OPS review process accepted by MTO and MEA
2007-04	First provincial- and municipal-oriented specifications published
2008-11	Custodianship of OIBC is transferred to OGRA
2010-11	Reallocation of Divisions and Relocation (Renumbering) of Specifications in OPS Volumes
2013-14	OPS Review conducted
2016	OPS Review Recommendations Implemented, new OPS User Guide published

## #6 List of Cancelled OPS Documents

~~OPS Information Handout 2010~~ – cancelled and replaced by new OPS User Guide 2016  
~~OPS User Notes 2010~~ – cancelled and replaced by new OPS User Guide 2016

~~POL/001 – Financial Resources~~ - contents removed from new OPS User Guide 2016

~~POL/002 – Order of Precedence~~ - contents removed from new OPS User Guide 2016

~~POL/003 – Modifying Ontario Provincial Standards~~ - content included in main body

~~POL/004 – Publishing of the OPS for Roads & Works (OPS)~~ -content included in main body

~~POL/005 – Committee Membership Recruitment~~ -content included in main body

~~POL/006 – Conflict of Interest~~ - contents removed from new OPS User Guide 2016

~~POL/007 – OPS Website Links to External Organization Websites~~ -content included in main body

~~PRO/001 – Development and Approval of Annual Committee Work Plans~~ - appendix # 1

~~PRO/002 – Holding Elections in the OPS Committees~~ - appendix # 2

~~PRO/003 – Making a Sponsorship Submission for a New or Revised Standard to the Ontario Provincial Standards for Roads and Public Works (OPS) Organization~~ - appendix # 3

~~PRO/004 – Ontario Provincial Standards Review Process~~ – content included in main body

~~PRO/005 – Developing and Revising OPS by OPS Subcommittee~~ – content included in main body

~~PRO/006 – Soliciting Comments on Revised and New OPS~~ - contents removed from new OPS User Guide 2016

~~PRO/007 – Including Appendices in OPS~~ -contents removed from new OPS User Guide 2016

~~PRO/008 – Deadlines for Publication or Cancellation of OPS~~ - appendix # 4

~~PRO/009 – Voting in OPS Committees including an Appeal Process~~ -contents removed from new OPS User Guide 2016

~~PRO/010 – Including End Result Specs in OPS~~ - contents removed from new OPS User Guide 2016