



# **Town of Aylmer Salt Management Plan**

**PUBLIC WORKS DEPARTMENT**  
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## 1.0 INTRODUCTION

### 1.1 Overview

The Town of Aylmer has approximately 48 kms of roads within the Corporation's jurisdiction. The Town is dedicated to providing a safe transportation system for all road users.

Snow and ice control is a key part in keeping our roads safe. Road salts (particularly sodium chloride) are the preferred de-icing/ anti-icing chemicals for maintaining winter roadway safety due to its cost, effectiveness, and ease of handling. The Town, like other road authorities, uses road salt to fulfill its obligations under the Municipal Act and to maintain safe roads for the travelling public during the winter.

In 2001, Environment Canada released an assessment report indicating that road salts are entering the environment in large amounts and posing a risk to plants, animals, birds, fish, lake and stream ecosystems and groundwater. The report recommended that salt be designated toxic under the Canadian Environment Protection Act (CEPA). Environment Canada has stated they will not ban road salts, but rather they will encourage users in developing a management strategy. *It must be noted that Health Canada stated that road salts are not harmful to humans.*

In recognition of the adverse effects that excessive use of roads salt can have on the environment, the Salt Management Plan will strive to minimize the amount of road salt entering the environment and research the use of alternatives to road salt in winter maintenance.

It is impossible to eliminate the use of road salts all together. The Town's objective is to fiscally manage road salt, research the alternatives and endeavour try to lower the use of salt without ever infringing on public safety.

### 1.2 Purpose of the Salt Management Plan (SMP)

The Salt Management Plan is intended to demonstrate the commitment of the road authority to reduce potential negative environmental effects by managing the Town's salt usage and to remain consistent with Environment Canada's stated objectives.

All modifications to winter maintenance activities will be carried out in a way that balances the use of road salts while maintaining safety for road users and complying with the requirements of the Provincial Minimum Maintenance Standards.

The Salt Management Plan is intended to be a living document to incorporate new approaches and technologies while meeting fiscal demands and keeping road safety as the first priority. The SMP will be reviewed annually in this context and updated every five years with endorsement from Aylmer Council.

### 1.3 Responsibility

It is the responsibility of the Town to ensure that the Salt Management Plan is developed, maintained, updated and implemented throughout the Town of Aylmer. The Town is also responsible to ensure winter maintenance personnel receive appropriate training.

It is the responsibility of all **Road Supervisors** involved in winter maintenance to ensure that the Salt Management Plan is maintained, and implemented throughout the Town of Aylmer.

It is the responsibility of the **Town of Aylmer that Winter Maintenance Equipment Operators and patrol persons** receive appropriate training, and that equipment is calibrated annually. All personnel are to ensure that they carry out their winter maintenance duties in accordance with the policies and procedures set out in the Salt Management Plan and the Code of Practice for the Environmental Management of Road Salts.

## 2.0 SALT MANAGEMENT POLICY

### 2.1 The Town of Aylmer Road Maintenance Policy

The Town of Aylmer currently uses the Municipal Act, 2001 Provincial O. Reg. 239/02- "Minimum Maintenance Standards for Municipal Highways"

It is the corporation's intent to take the actions necessary to manage road salts in a manner that protects the environment without compromising road safety

### 2.2 Implementation

To meet the objectives of the Town's Road Maintenance Policy the corporation will:

- Manage road salts in accordance with the *Code of Practice for the Environmental Management of Road Salts*.
- Keep employees and the public informed about the environmental practices related to road salts.
- Comply with applicable laws and regulations.
- Conduct regular management reviews and recommend improvements wherever feasible.
- Periodically review and analyze industry practices.
- Educate and train staff.
- Monitor and analyze operations.
- Revise policy and practices.

As practices and procedures to improve winter maintenance develop, the Town will make improvements to the Salt Management Plan striving to reduce the effects of road salt in our environment.

## **3.0 WINTER MAINTENANCE STANDARDS**

### **3.1 Introduction**

This chapter documents the Town of Aylmer's snow and ice control standards.

The major activities related to winter maintenance are

- Salt and sand storage;
- Salt spreading;
- Blended sand spreading;
- Snow plowing; and
- Snow removal and disposal.

### **3.2 Maintenance Standards**

#### **Patrolling**

- 1) The minimum standard for the frequency of patrolling of highways to check for conditions described in this Regulation is set out in the Table to this section. O. Reg. 239/10, s. 3 (1); O. Reg. 366/18, s. 3 (2).
- 2) If it is determined by the municipality that the weather monitoring referred to in section 3.1 indicates that there is a substantial probability of snow accumulation on roadways, ice formation on roadways or icy roadways, the standard for patrolling highways is, in addition to that set out in subsection (1), to patrol highways that the municipality selects as representative of its highways, at intervals deemed necessary by the municipality, to check for such conditions. O. Reg. 47/13, s. 2; O. Reg. 366/18, s. 3 (2).
- 3)  

Patrolling a highway consists of observing the highway, either by driving on or by electronically monitoring the highway, and may be performed by persons responsible for patrolling highways or by persons responsible for or performing highway maintenance activities. O. Reg. 23/10, s. 3 (1).
- 4) This section does not apply in respect of the conditions described in section 10, subsections 11 (0.1) and 12 (1) and section 16.1, 16.2, 16.3 or 16.4. O. Reg. 23/10.

TABLE  
PATROLLING FREQUENCY

Class of Highway	Patrolling Frequency
1	3 times every 7 days
2	2 times every 7 days
3	once every 7 days
4	once every 14 days
5	once every 30 days

### **Snow Accumulation**

For the purpose of planning the winter plowing operations, the Town recognizes Ontario Regulation 239/02 Section 4.

#### **ONTARIO REGULATION 239/02-SECTION 4**

#### **Snow accumulation, roadways**

4. (1) Subject to section 4.1, the standard for addressing snow accumulation on roadways is,

(a) after becoming aware of the fact that the snow accumulation on a roadway is greater than the depth set out in the Table to this section, to deploy resources as soon as practicable to address the snow accumulation; and

(b) after the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the Table within the time set out in the Table,

(i) to provide a minimum lane width of the lesser of three metres for each lane or the actual lane width, or

(ii) on a Class 4 or Class 5 highway with two lanes, to provide a total width of at least five metres. O. Reg. 47/13, s. 4; O. Reg. 366/18, s. 5 (1).

(2) If the depth of snow accumulation on a roadway is less than or equal to the depth set out in the Table to this section, the roadway is deemed to be in a state of repair with respect to snow accumulation. O. Reg. 47/13, s. 4.

(3) For the purposes of this section, the depth of snow accumulation on a roadway and, if applicable, lane width under clause (1) (b), may be determined in accordance with subsection (4) by a municipal employee, agent or contractor, whose duties or responsibilities include one or more of the following:

1. Patrolling highways.
2. Performing highway maintenance activities.
3. Supervising staff who perform activities described in paragraph 1 or 2. O. Reg. 47/13, s. 4; O. Reg. 366/18, s. 5 (2).

- (4) The depth of snow accumulation on a roadway and lane width may be determined by,
- (a) performing an actual measurement;
  - (b) monitoring the weather; or
  - (c) performing a visual estimate. O. Reg. 47/13, s. 4; O. Reg. 366/18, s. 5 (3).
- (5) For the purposes of this section, addressing snow accumulation on a roadway includes,
- (a) plowing the roadway;
  - (b) salting the roadway;
  - (c) applying abrasive materials to the roadway;
  - (d) applying other chemical or organic agents to the roadway;
  - (e) any combination of the methods described in clauses (a) to (d). O. Reg. 366/18, s. 5 (4).
- (6) This section does not apply to that portion of the roadway,
- (a) designated for parking;
  - (b) consisting of a bicycle lane or other bicycle facility; or
  - (c) used by a municipality for snow storage. O. Reg. 366/18, s. 5 (4).

TABLE  
SNOW ACCUMULATION - ROADWAYS

Class of Highway	Depth	Time
1	2.5m	4 hours
2	5 cm	6 hours
3	8 cm	12 hours
4	8cm	16 hours
5	10 cm	24 hours

#### **Snow accumulation on roadways, significant weather event**

**4.1 (1)** If a municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on roadways until the declaration of the end of the significant weather event is,

- (a) to monitor the weather in accordance with section 3.1; and
  - (b) if deemed practicable by the municipality, to deploy resources to address snow accumulation on roadways, starting from the time that the municipality deems appropriate to do so. O. Reg. 366/18, s. 7.
- (2) If the municipality complies with subsection (1), all roadways within the municipality are deemed to be in a state of repair with respect to snow accumulation until the applicable time in the Table to section 4 expires following the declaration of the end of the significant weather event by the municipality. O.

Reg. 366/18, s. 7.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

(a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and

(b) address snow accumulation on roadways in accordance with section 4. O. Reg. 366/18, s. 7.

### **Snow accumulation, bicycle lanes**

**4.2** (1) Subject to section 4.3, the standard for addressing snow accumulation on bicycle lanes is,

(a) after becoming aware of the fact that the snow accumulation on a bicycle lane is greater than the depth set out in the Table to this section, to deploy resources as soon as practicable to address the snow accumulation; and

(b) after the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the Table to this section to provide a minimum bicycle lane width of the lesser of 1 metre or the actual bicycle lane width. O. Reg. 366/18, s. 7.

(2) If the depth of snow accumulation on a bicycle lane is less than or equal to the depth set out in the Table to this section, the bicycle lane is deemed to be in a state of repair in respect of snow accumulation. O. Reg. 366/18, s. 7.

(3) For the purposes of this section, the depth of snow accumulation on a bicycle lane and, if applicable, lane width under clause (1) (b), may be determined in the same manner as set out in subsection 4 (4) and by the persons mentioned in subsection 4 (3), with necessary modifications. O. Reg. 366/18, s. 7.

(4) For the purposes of this section, addressing snow accumulation on a bicycle lane includes,

(a) plowing the bicycle lane;

(b) salting the bicycle lane;

(c) applying abrasive materials to the bicycle lane;

(d) applying other chemical or organic agents to the bicycle lane;

(e) sweeping the bicycle lane; or

(f) any combination of the methods described in clauses (a) to (e). O. Reg. 366/18, s. 7.

TABLE  
SNOW ACCUMULATION – BICYCLE LANES

Class of Highway	Depth	Time
1	2.5m	8 hours
2	5 cm	12 hours
3	8 cm	24 hours
4	8cm	24 hours
5	10 cm	24 hours

**Snow accumulation on bicycle lanes, significant weather event**

**4.3 (1)** If a municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on bicycle lanes until the declaration of the end of the significant weather event is,

- (a) to monitor the weather in accordance with section 3.1; and
- (b) if deemed practicable by the municipality, to deploy resources to address snow accumulation on bicycle lanes, starting from the time that the municipality deems appropriate to do so. O. Reg. 366/18, s. 7.

(2) If the municipality complies with subsection (1), all bicycle lanes within the municipality are deemed to be in a state of repair with respect to snow accumulation until the applicable time in the Table to section 4.2 expires following the declaration of the end of the significant weather event by the municipality. O. Reg. 366/18, s. 7.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

- (a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and
- (b) address snow accumulation on bicycle lanes in accordance with section 4.2. O. Reg. 366/18, s. 7.

**Ice formation on roadways and icy roadways**

For the purpose of planning the winter spreading operations, the Town recognizes Ontario Regulation 239/02, Section 5.

ONTARIO REGULATION 239/02- SECTION 5

### Ice formation on roadways and icy roadways

**5. (1)** The standard for the prevention of ice formation on roadways is doing the following in the 24-hour period preceding an alleged formation of ice on a roadway:

1. Monitor the weather in accordance with section 3.1.
2. Patrol in accordance with section 3.
3. If the municipality determines, as a result of its activities under paragraph 1 or 2, that there is a substantial probability of ice forming on a roadway, treat the roadway, if practicable, to prevent ice formation within the time set out in Table 1 to this section, starting from the time that the municipality determines is the appropriate time to deploy resources for that purpose. O. Reg. 366/18, s. 8.

(2) If the municipality meets the standard set out in subsection (1) and, despite such compliance, ice forms on a roadway, the roadway is deemed to be in a state of repair until the applicable time set out in Table 2 to this section expires after the municipality becomes aware of the fact that the roadway is icy. O. Reg. 366/18, s. 8.

(3) Subject to section 5.1, the standard for treating icy roadways is to treat the icy roadway within the time set out in Table 2 to this section, and an icy roadway is deemed to be in a state of repair until the applicable time set out in Table 2 to this section expires after the municipality becomes aware of the fact that a roadway is icy. O. Reg. 366/18, s. 8.

(4) For the purposes of this section, treating a roadway means applying material to the roadway, including but not limited to, salt, sand or any combination of salt and sand. O. Reg. 366/18, s. 8.

(5) For greater certainty, this section applies in respect of ice formation on bicycle lanes on a roadway, but does not apply to other types of bicycle facilities. O. Reg. 366/18, s. 8.

TABLE  
ICY FORMATION PREVENTION

Class of Highway	Time
1	6 hours
2	8 hours
3	16 hours
4	24 hours
5	24 hours

TABLE  
TREATMENT OF ICY ROADWAYS

Class of Highway	Time
1	3 hours
2	4 hours
3	8 hours
4	12 hours
5	16 hours

### **Icy roadways, significant weather event**

**5.1** (1) If a municipality declares a significant weather event relating to ice, the standard for treating icy roadways until the declaration of the end of the significant weather event is,

(a) to monitor the weather in accordance with section 3.1; and

(b) if deemed practicable by the municipality, to deploy resources to treat icy roadways, starting from the time that the municipality deems appropriate to do so. O. Reg. 366/18, s. 8.

(2) If the municipality complies with subsection (1), all roadways within the municipality are deemed to be in a state of repair with respect to any ice which forms or may be present until the applicable time in Table 2 to section 5 expires after the declaration of the end of the significant weather event by the municipality. O. Reg. 366/18, s. 8.

(3) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

(a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and

(b) treat icy roadways in accordance with section 5. O. Reg. 366/18, s. 8.

## **4.0 SALT MANAGEMENT GOALS AND OBJECTIVES**

### **4.1 Best Practices**

The Canadian Code of Practice for the Environmental Management of Road Salts and the TAC Syntheses of Best Practices has identified Best Management Practices for the handling, storage, and use of road salts. Code of Practice objectives have been defined in the following categories: Annual Reports, Salt Management Plans, Salt Storage, Salt Application, Snow Disposal, Training and Salt Vulnerable Areas.

## **4.2 Annual Reports**

The Town of Aylmer is responsible to report their salt use and management over the previous winter season to the County of Elgin annually and by May 1<sup>st</sup> each calendar year. This information is reported to Environment Canada annually through the County of Elgin.

## **4.3 Salt Management Plans**

The Town of Aylmer is responsible for developing a Salt Management Plan that satisfies the objectives of the Canadian Code of Practice for the Environmental Management of Road Salts. This plan is updated and approved by Aylmer Council once every 5 years.

## **4.4 Salt Storage Sites**

The objective for salt storage sites is the prevention or control of releases from existing and new sites. In pursuing this objective, the following practices should be considered:

- Coverage of salt piles and blended salt-sand piles
- Handling practices that avoid controlled releases
- Wash water collection and treatment
- Training of personnel, and
- Monitoring the effectiveness of the facility

The Town of Aylmer stores salt materials under cover and on impermeable surfaces and continually cleans up any spilled materials as good housekeeping practices. The Town of Aylmer currently has indoor salt and outdoor sand storage. The Town currently removes snow from specific areas within its jurisdiction and disposes of it at an existing snow disposal site.

Town of Aylmer Public Works Department at 32 Chipchase Court, retains 80 tonnes of salt storage.

## **4.5 Salt Application**

The objective for salt application is the reduction of the negative impacts of road salts by delivering the right amount of road salts in the right place at the right time. In pursuing this objective, consideration should be given to using the most recent advancements in the application of winter maintenance anti-icing and de-icing materials, winter maintenance equipment and road weather information and other decision support systems. As well, the training of personnel and the monitoring of the effectiveness of road salt application techniques should be considered.

The Town of Aylmer utilizes ground spreading controls and has automated vehicle location systems on their entire fleet dedicated to winter control. The Town of Aylmer does not pre-wet salt or use pre-treated salt; sodium chloride is used.

#### 4.6 Snow Disposal

The objective for snow disposal is the control of releases from existing and new sites. In pursuing this objective, the following practices should be considered:

- Location and construction of the sites considering operational and environmental factors
- Drainage management
- Training of personnel
- Monitoring of the effectiveness of the facility

The Town of Aylmer uses the parking lots of Steen Park and Optimist Park as snow disposal sites. Best efforts are made to keep the snow as far away from Catfish Creek as possible. This is done by first using the parking lot at Steen Park until it reaches capacity. Following this, the northern half of the Optimist Park parking lot is used maintaining a maximum distance back from the creek bank.

#### 4.7 Training

Annual winter maintenance training is provided to Town of Aylmer employees to ensure staff are informed of their responsibilities and updates to the Salt Management Plan.

#### 4.8 Equipment

The Town of Aylmer's current list of equipment is as follows:

<u>No.</u>	<u>Year</u>	<u>Make</u>	<u>Type</u>	<u>Snow Control Equipment</u>	<u>Accessory Equipment</u>
18	2019	Freightliner	5-ton single axle	Plow/sander	Manual sander
22	2010	Peterbilt	5-ton single axel	Plow/sander	Manual sander
23	2016	International	3-ton single axle	Plow	
9	2022	Ford	1 ton	Plow	
16	1989	John Deere	Tractor	Snow blower	
10	2005	Trackless	Sidewalk tractor	Plow/sander and blower	Manual Sander
20	2016	Case	Tractor/backhoe	Plow	

The Town of Aylmer has the following Electronics:

- Truck-mounted infra-red thermometers
- Two-way radio systems
- Cellular phones

- Answering service for after hours calls
- Pagers for standby personnel

#### **4.9 Weather Forecasting**

The Town of Aylmer uses the Environment Canada website to monitor weather conditions.

#### **4.10 Communications**

##### **4.10.1 Internal Communications**

All employees are equipped with two-way radios for internal communication. Road Supervisors are equipped with two-way radios as well as cellphones.

##### **4.10.2 External Communications**

The main system in place for informing the public and/or responding to general inquiries related to road maintenance is through the Town's website [www.aylmer.ca](http://www.aylmer.ca) and social media platforms. The Salt Management Plan is available to the public on the Town website.

#### **4.11 Record Keeping**

The Town keeps operator logs, surface condition reports, and tracks solid material purchases and usage.

#### **4.12 Salt Vulnerable Areas**

A "salt vulnerable area" means an area particularly sensitive to road salts where additional salt management measures may be necessary to mitigate the environmental effects of road salts in that area. Additional salt management measures in identified salt vulnerable areas include:

- Using technologies that further optimize the use of road salts
- Using environmentally, technically and economically feasible alternatives to road salts
- Increasing monitoring and measuring of chlorides and/or their impacts
- Locating patrol yards and snow disposal sites outside vulnerable areas
- Considering location and protection of vulnerable areas in the design of new roads and/or upgrading of existing roads.

The Town of Aylmer works with agencies such as the Conservation Authorities, Ministry of Natural Resources, and the Ministry of the Environment to identify vulnerable areas and to develop strategies to reduce salt impacts to salt vulnerable areas. Currently, there are no identified salt vulnerable areas in Aylmer.

## **5.0 CONCLUSION**

The Town of Aylmer is dedicated to maintaining the Town roads for the safety of the public in accordance with provincial regulations. Winter control activities utilizing road salt is necessary to achieve this goal. The Town of Aylmer recognizes that excessive use of road salt can have environmental impacts.