



Town of Kingsville
Winter Operational Plan
(Salt Management Plan)

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1 **DEFINITIONS**

- 1.1. **“Municipality”** and/or **“Town”** refers to The Corporation of the Town of Kingsville;
- 1.2. **“Winter Event Response”** means a series of winter control activities, such as plowing, salting, or the application of other materials, in response to a winter event;
- 1.3. **“Winter Event”** means a weather condition affecting transportation infrastructure (roads, sidewalks, and bicycle lanes) such as snowfall, wind-blown snow, sleet, freezing rain, frost or ice, to which a Winter Event Response is required;
- 1.4. **“Average Daily Traffic”** is the volume of vehicles counted over a given period, which is greater than one day but less than one year;
- 1.5. **“De-icing”** means the application of solids, liquids, pretreated material to the road surface after the on-set of the Winter Event;
- 1.6. **“Highway”** includes a common and public highway, street, avenue, parkway, or any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.
- 1.7. **“Paved Road”** is a road with an asphalt surface, concrete surface, composite pavement, over paver stone.
- 1.8. A **“Tar and Chip Road”** is a road with bituminous surface treatment comprised of one or two applications of asphalt emulsion and stone chips over a gravel road;
- 1.9. **“Unpaved Road”** is a road with a gravel, stone or other loose travelling surface.
- 1.10. **“Continuous Response”** means deployment of the staff, fleet, and equipment required to plow/salt/sand the entire road network.
- 1.11. **“Spot Response”** means either a partial deployment of Town staff, fleet, and equipment to plow/salt/sand the road network and/or a full deployment to only part of the system.
- 1.12. **“Unmaintained”** describes a Highway which is open to the public but does not receive any Winter Event Response to a Winter Event;
- 1.13. **“Salt Vulnerable Areas”** areas delineated around municipal drinking water sources as defined by the *Clean Water Act, 2006*.

2 PURPOSE

This Winter Operational Plan (WOP) sets out a policy and procedural framework for ensuring that the Town continuously improves on the effective delivery of winter maintenance services and the management of road salt used in winter maintenance operations, as outlined in Environment Canada's Code of Practice for the Environmental Management of Road Salts.

The plan is meant to be dynamic to allow the municipality to evaluate and phase in any changes, new approaches, and technologies in winter maintenance activities in a fiscally sound manner. At the same time, any modifications to municipal winter maintenance activities must ensure that roadway safety is not compromised.

The Winter Maintenance Levels of Service Policy and the associated Winter Operational Plan meets or exceeds the provisions specified in Ontario Regulation 336/18: Minimum Maintenance Standards for Municipal Highways filed May 3, 2018, under Municipal Act, 2001, c. 25 for snow and ice accumulation on roads, sidewalks, and other transportation facilities.

As specified in the Code of Practice for the Environmental Management of Road Salts, the WOP is endorsed by The Corporation of the Town of Kingsville Council as part of the Winter Maintenance Levels of Service Policy.

3 OBJECTIVE

The Town is committed to improving winter maintenance operations while continuing to ensure public safety. The Municipality will optimize the use of winter maintenance materials containing chlorides on all municipal roads, sidewalks, and parking lots while striving to minimize negative impacts on the environment. In so far as reasonably practicable, Kingsville operations staff will strive to provide safe winter road conditions for vehicular and pedestrian traffic as set out in the level of service policies and within the resources established by Council.

4 POLICY STATEMENT

The Town will provide efficient and cost-effective winter maintenance to ensure, insofar as reasonably practicable, the safety of users of the municipal transportation network in keeping with applicable provincial legislation and accepted standards while striving to minimize adverse impacts to the environment. These commitments will be met by:

- Adhering to the procedures contained within the Winter Operational Plan;
- Reviewing and upgrading the Winter Operational Plan on an annual basis to incorporate new technologies and new developments;
- Committing to ongoing winter maintenance staff training and education;

- Monitoring on an annual basis the present conditions of the winter maintenance program and the effectiveness of the Winter Operational Plan; and
- Controlling the use of road salt in an environmentally responsible manner and minimizing the adverse effects on the environment caused by the handling, storing, and applying salt.

5 **WINTER MAINTENANCE PROGRAM OVERVIEW**

To achieve the set level of service and enable the safe use of roads, sidewalks, and other transportation infrastructure, the Public Works Department undertakes the following as part of its winter maintenance program:

6.1. Major Winter Maintenance Activities

- snow plowing
- salt and sand application
- salt and sand storage
- snow removal
- snow storage
- sidewalk plowing and de-icing

6.2. Local Infrastructure

Transportation Infrastructure	Total Kilometers
Paved Roads	172
Tar and Chip Roads	267
Gravel Roads	31
Sidewalks	54

6.3. Highway Classification

The highways under the jurisdiction of the Town have been classified (Class 3, 4, 5, 6) based on the Classification of Highways table in O. Reg. 366/18, and Kingsville's road network is made up of the following:

Maintenance Class	Lane Kilometers
3	58
4	286
5	112
6	14

6.4. Winter Maintenance Season

The winter maintenance season commences on November 15th each year and is completed April 15th of the following year. However, the season is flexible, and on an as-needed basis, the Town performs winter maintenance outside of the specified dates.

6 OPERATIONS

In the months, weeks, and days prior to the start of the winter maintenance season, Public Works undertakes various tasks to prepare for the upcoming winter season. This includes:

7.1. Preparation for Winter Maintenance Season

- Plan and conduct a mandatory training session for staff and contract operators where all policies, procedures, schedules, reporting procedures for callout, route maps, equipment training and safety precautions will be discussed. Any issues identified during the meeting shall be resolved prior to the winter maintenance season;
- Train winter patrollers or staff whose duties also include patrolling the representative roads between winter events on their responsibilities during a winter event, record keeping requirements, callout procedures, and the de-icing chemicals to be applied to address various road and weather conditions;
- Inspect equipment to ensure proper working order. Schedule and complete equipment repairs and calibrate material application equipment. Have all fleet oiled sprayed, and apply any other anti-corrosion liquids before the first Winter Event;
- Arrange for the delivery of materials (salt and sand) and begin filling storage facilities;
- Confirm that markers for edge of pavement, guiderails, catchbasins, and any other hazards, are in place. Any missing markers will be replaced prior to the winter season;
- Complete the annual tree trimming and remove overhanging branches that could damage the fleet or prevent adequate removal of snow curb-to-curb; and
- Allow operators (staff and contract) time to familiarize themselves with any new equipment, material application rates, material application equipment, and their route (driving the route and noting obstacles along the route).

7.2. Operations Centre

The Town provides winter maintenance services from its primary yard located at 2021 Division Road N. It is equipped with a covered storage facility for salt. Indoor space is provided for all Town-owned snowplows, salting/sanding equipment, and heavy machinery. Outdoor storage of abrasive materials takes place on a paved surface. Other facilities used to coordinate a Winter Event Response include:

- The Town's arena located at 1741 Jasperson Lane is used for coordinating snow and ice removal in municipal and facility parking lots;
- A snow storage and disposal site is located on Kratz Side Road in the municipal parking lot; and
- The sidewalk tractors are strategically placed within the Municipality for optimal Winter Event Response times. Sites include Lakeside Park, Ridgeview Park, and Town Hall.

7.3. Winter Maintenance Fleet and Equipment

All Winter Event Response activities are completed internally using the following:

Primary Equipment:

Unit	Manufacturer	Route	Plow Equipment		Spreading Equipment	Other
			Plow	Wing		
12-01	International Tandem	4	Highway	Yes	Schmitt	AVL & Material On/Off tracking
12-03	International Tandem	3	Highway	Yes	Force America	AVL with Application Rate
13-03	International Tandem	2	Highway	Yes	Force America	AVL with Application Rate
14-05	International Single Axial	Spare	Articulating	No	Boss	AVL & Material On/Off
15-01	International Tandem	1	Highway	Yes	Force America	AVL with Application Rate
17-04	Ford F550	Lots	Articulating	No	Boss	AVL & Material On/Off
17-05	Freightliner Single Axial	6	Articulating	Yes	Force America	AVL with Application Rate
18-07	International Single Axial	5	Articulating	Yes	Force America	AVL with Application Rate

Secondary Equipment:

Unit	Manufacturer	Function
10-04	Case 521E Front Loader	Loads trucks with salt/abrasives
11-03	Ford F550 with Salter	Distributes salt/abrasives to sidewalk tractors
12-04	Kioti CK 20s	Sidewalk tractor with AVL, salter, and plow
13-01	Kioti CK 20SH	Sidewalk tractor with AVL, salter, and plow
13-02	Kioti CK 20s	Sidewalk tractor with AVL, salter, and plow
13-04	Ford F-150	Road Patroller with AVL and road temp. sensor
13-06	Trackless MT6	Sidewalk tractor with AVL, salter, and plow
20-04	Chevy Silverado	Road Patroller with AVL and road temp. sensor

7.4. Weather Monitoring

From October 1 to April 30, the minimum standard is to monitor the current weather and short term (24-72 hours) and long term (7-day) forecast once every shift or four times per calendar day, whichever is more frequent.

To determine an effective Winter Event Response and allocate the appropriate resources, the Town supplements road patrol information with weather information from various sources, which include:

- Customized weather forecasts which are updated four times/day (between October 1 and April 30) from a Value Added Meteorological Service;
- Weather forecasts populated by the Towns Operations Maintenance Software during road patrols;
- Information supplied by Road Weather Information System stations along MTO Highways.
- Observations by municipal staff and the OPP; and
- Temperature monitors mounted on the road patrol vehicles.

7.5. Winter Road Patrol

During the winter maintenance season, the Town carries out winter road patrol on a route comprising a representative set of roads according to requirements specified in Ontario Regulation 336/18: Minimum Maintenance Standards for Municipal Highways. The current winter road patrol route is outlined in Appendix A.

If the Town determines that weather forecasts indicate a substantial probability of snow or ice accumulation on roadways, additional patrolling will be conducted at necessary intervals to check for such conditions.

The purpose of the patrol is to monitor and record weather and road conditions and mobilize winter maintenance operators and equipment if a Winter Event Response is required. The route of representative roads may be modified depending on the type and severity of the Winter Event or the direction from which the storm approaches.

7.6. Staffing and Hours of Work

The Town adheres to *O. Reg. 555/06 Hours of Service under Highway Traffic Act, R.S.O. 1990*. After a driver has accumulated 13 hours of driving time in a 15-hour shift, they must be sent home for an eight-hour off-duty period before beginning their next shift.

If there is no ongoing Winter Event, a regular 8-hour shift will remain in use. At all times, the Town will adhere to the provisions in the IBEW collective agreement.

7.7. Winter Control Routes

The following is a breakdown of the Towns winter maintenance routes (Appendix B):

- Two (2) urban and four (4) rural road routes
- One (1) primary sidewalk route
- Four (4) secondary sidewalk routes
- Twelve (12) facility and municipal parking lots

7.8. Material Application Rates

All Town snowplows are equipped with electronic spreader control systems. Each vehicle is calibrated at the beginning of the season. The following application rates are currently used for rock salt, depending on pavement conditions, weather conditions, forecasted weather, and other factors:

Road Class	Application Rate (kg/Km)
Class 3	170
Class 4	150-170
Class 5/6	120-150

7.9. Record of Material Usage

The Code of Practice for the Environmental Management of Road Salts requires the Town to track and report salt usage and winter maintenance activities to Environment Canada annually. Data from federal, provincial, municipal, and private organizations are compiled, analyzed, and compared to national targets for a winter period. This information is used to assist organizations in prioritizing their ongoing efforts to manage road salts.

7.10. Winter Parking

According to *By-law 21-2005 Being a By-law to Regulate Traffic on Highways in The Town of Kingsville*, the Director of Infrastructure and Engineering, or their designate may declare an on-street parking ban for periods of 72 hours during a winter event. These parking restrictions are enforced by the OPP or By-law Enforcement Officers and can result in a fine of \$35.00.

Winter parking restrictions must be communicated to the public four (4) hours before they take effect. Property owners with insufficient driveway or garage space can use any of the free municipal parking lots for overnight parking during a winter event.

7.11. End of Season

After the winter season expires, the Town undertakes the tasks outlined below to decommission winter operations:

- Remove edge-of-pavement markers and place them into storage;

- Inspect the condition of the salt storage area;
- Decommission and oil spray all Town winter fleet;
- Place plows and related accessory equipment into storage for the season; and
- Complete restoration of boulevards damaged by winter maintenance activities.

7 TRAINING

The Town provides winter operations training for all staff involved in delivering winter services. Training is to be completed annually internally and by certified external agencies with professional and experienced instructors. Training should include the following:

Internal

- Equipment operation and controls
- Road patrol routes and snow route optimization
- Basic weather and pavement temperature forecasting
- Material application rates, storage, and monitoring
- Levels of service, policies, practices, and procedures
- Health and safety

External

- Defensive driving techniques
- Equipment circle checks and pre-trip inspections
- Heavy equipment operation and testing
- Minimum Maintenance Standards and associated regulations
- Standard winter maintenance training and workshops
- Health and Safety

8 RECORD KEEPING AND COMMUNICATIONS

9.1. Record Keeping

Full and accurate completion of the documents listed below provides the municipality with a defense against liability from actions arising concerning levels of care on roads, sidewalks, and other Town-owned assets:

Equipment Operators

- Pre-trip inspection sheets
- Timesheets with drive times

- Material usage (amount of material loaded onto truck per shift)

Patrollers (documented using Operations Maintenance Software).

- Winter patrol record
- Dispatch or call out record
- Patrollers log book
- Weather conditions

Operations Supervisors and Managers

- Weather reports from three sources (Accuweather, RWIS, Patrols)
- Winter Control Report or Supervisors Checklist (Standard Form)
- Incident/Collision reports
- Total materials used per shift
- Equipment calibration records

Original copies of documents are to be retained regardless of their appearance. Writing must be legible for others to read and written in ink. If a document requires correction, then a line is to be placed through the incorrect information without making it illegible, and writing must continue on the original document. Records will be completed daily and forwarded to administration staff for retention.

9.2. Communication Tools

All winter maintenance vehicles are equipped with two-way communication devices (radios, cell, etc.) and staff are responsible for reporting changing winter weather and/or road conditions. Extreme adverse road conditions and incidents in the field should immediately be reported to the road patroller or operations supervisor.

9.3. Communicating Significant Weather Events

A “Significant Weather Event” is defined as an approaching or occurring weather hazard with the potential to pose a significant danger to users of the highways within a municipality. This declaration suspends the standard timelines required for municipalities to meet their winter maintenance objectives until the municipality declares the significant weather event has ended.

A declaration intends to notify the public that due to the current weather conditions, caution is to be exercised when traveling on the Town’s streets and sidewalks and that it may take longer than usual to restore them to the normal condition. Information will be communicated to the public on the Town’s website, social media pages, and any other means deemed appropriate. The Town will issue the following media releases:

Start

The Town of Kingsville had declared a Significant Weather Event concerning existing or potential hazardous weather conditions until further notice. This means:

- All roads and sidewalks maintained by the Town are considered to be in a “state of repair.”
- Drivers and pedestrians should use an appropriate level of caution when traveling during this event and avoid unnecessary travel if possible.
- Crews continue to work diligently to ensure public safety, but maintaining roadways and sidewalks may take longer than normal.
- The Town will provide updates as changes occur and when the Significant Weather Event has ended.

End

The Significant Weather Event affecting the Town of Kingsville has ended. Please continue to use caution, as conditions could vary across the municipality. Please visit <https://www.kingsville.ca/en/our-community/snow-removal.aspx> for additional information regarding winter maintenance activities

9 ENVIRONMENTALLY SENSITIVE AREAS

It is necessary to understand the impacts of municipal winter maintenance policies and practices on environmentally and agriculturally sensitive areas. This includes:

- Monitoring ground water and recharge areas and limiting salt usage in these areas;
- Identifying wetlands, streams and valleys, environmentally sensitive areas, ponds, lakes, reservoirs, woodlands, fish, wild life, plant habitat, threatened and endangered species, flood plains and hazard lands, and areas of natural scientific interest;
- Liaising with the local potable water supply agencies; and
- Seeking guidance and providing information to federal/provincial ministries and or agencies.

10 PLAN IMPROVEMENTS

The current winter maintenance policies, practices and procedures form the baseline or

benchmark upon which improvements can be made to improve winter operations and/or the use and management of road salt. Future improvements that the Town plans to undertake are listed in the table below.

Description	Implementation
Sidewalk route optimization	Continuous
Road route optimization	Annual
Weather monitoring methods	Annual
Material storage and handling	Annual
Customer satisfaction	Continuous
Roads Levels of Service Policy	Annual

11 PLAN MONITORING AND UPDATING

An annual review of the salt management plan by management and staff will occur at the end of each winter season. As a result of this review, the plan will be updated to include any changes in department policy, strategies and new techniques or equipment to be used in the upcoming winter season.

Performance measures will be used to determine whether the objectives of the WOP and/or winter maintenance policies, practices, and procedures are being met. Year over year performance will be monitored using the following metrics:

12.1. Severity of the Winter Season

- Total annual cm of snow accumulation
- Total number of days with measurable snowfall
- Total number of days with freezing rain
- Total number of Spot Response events
- Total number of Continuous Response events
- Total number of Significant Weather Events

12.2. Monitoring Salt Usage

- Tonnes of salt purchased.
- Total salt loaded into trucks in the yard.
- Discharge rates in the trucks.

11.3. Customer Satisfaction

- Total number of complaints tracked through KingsvilleWorks.
- Comparing Winter Event Response to minimum standards and service policies.

11 REVIEW/REVISION

No.	Revision Details (incl. provision #)	Revision By	Date
1.			
2.			
3.			

Questions about the Winter Operational Plan can be referred to Infrastructure and Engineering.