

**THE CORPORATION OF THE TOWNSHIP OF TUDOR AND CASHEL**

**BY-LAW NO. 2013-06**

**BEING** a By-law to establish a Roadway Level of Service Policy for winter maintenance on assumed roads in the municipal roads system.

**AND WHEREAS** the Council of The Corporation of the Township of Tudor and Cashel wishes to provide a Standard Level of Service to its residents that will not fall below the minimum maintenance standards.

**AND WHEREAS** these standards are to be carried out to ensure the safety of the public, effective maintenance of the roadways and to enforce the use of management practices and the by-laws of the municipality.

**AND WHEREAS** Section 8. (1) of the *Municipal Act, 2001, c. 25*, as amended allows municipal powers to be interpreted broadly so as to confer broad authority on municipalities, enable them to govern their affairs as they consider appropriate; and enhance their ability to respond to municipal issue.

**NOW THEREFORE**, the Council of The Corporation of the Township of Tudor and Cashel **ENACTS AS FOLLOWS:**

1. The Roadway Level of Service Policy for winter maintenance on assumed roads in the municipal road system and Appendices attached hereto are hereby approved for use by the Roads Department staff.
2. This By-law shall come into force and take effect upon the passing thereof and that all former by-law governing such allowances are hereby repealed.

PASSED THIS 05<sup>TH</sup> DAY OF FEBRUARY, 2013.

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REEVE: WANDA DONALDSON

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CLERK: BERNICE CROCKER

# The Corporation of the Township of Tudor and Cashel

## Roadway Level of Service Policy

### For Winter Maintenance on

### Assumed Roads In the Municipal Roads System

#### **POLICY STATEMENT AND RATIONALE:**

The Corporation of the Township of Tudor and Cashel's Roads Department is required to provide a Standard Level of Service to its residents that **will not** fall below the minimum maintenance standards provided through the Council of the Municipality.

These standards are to be carried out to ensure the safety of the public, effective maintenance of the roadways, and to **enforce the use of management practices and the by-laws of the Municipality.**

#### **SCOPE:**

This policy shall apply to all roads assumed for winter maintenance as public roads by the Corporation of the Township of Tudor and Cashel.

#### **GOALS & OBJECTIVES:**

The Township of Tudor and Cashel Roads Department staff will strive to provide safe and passable winter road conditions for vehicular traffic as set out in this service policy established by the Council of the municipality with the resources and budget available.

The goal will be to achieve the levels of service defined in this policy at least 80% of the time.

The objective of winter maintenance operations is to provide a system of snow removal (plowing) and sand application that will reduce the hazards of icy road conditions to motorists, reduce economic losses to the community and industry caused by workers not being able to get to their jobs; to work with fire and police officials in emergencies; and to maintain safe and passable school bus routes.

All plow and sanding routes are to be designed so that the maximum-time to complete a route under normal conditions will be no more than eight hours.

The required levels of service are to be attained with a single day crew shift.

**At no time shall the level of service provided be allowed to fall below the minimum standard provided for in the *Municipal Act SO 2001 c.25 and O Reg 239/02* made thereunder.**

#### **DEFINITIONS:**

**AADT** – Average annual daily traffic is a technical measurement of traffic volume on a road in both directions. Conversion factors, which vary depending on time of year and week, extrapolate daily traffic counts into AADT.

**Ambient conditions** – are conditions that are commonly found in a stabilized environment. Normally in ambient conditions there are no negative effects actively reducing the existing conditions. i.e. a storm

**As soon as practicable** – means without undue delay.

**Bare and dry conditions** – most of road surface is dry

**Bare and wet conditions** – most of the road surface is moist

**Drifting snow** – Ground drifting caused by winds which may affect surface conditions on the highway, such as sticking snow or may reduce visibility.

**Electronic Surveillance** – means the monitoring and recording of road and weather conditions using GPS information supplemented with local weather forecasts.

**Heavy snow** – More than 8 cm of loose snow covering the driving surface on a class 4 road. Traffic encounters problems when meeting or passing.

**Ice Covered** – All wheels of a passenger vehicle are on ice and the entire driving surface is covered with ice.

**Icy or slippery sections** - A minor situation identified due to intermittent rain, frost, sticking snow or ice patches (including light pavement frost).

**LOS** – means a Council approved Level of Service policy.

**Loose snow** – Less than 8 cm of loose snow covers the driving surface that may cause some driving difficulties.

**Maintenance Class**- means a class 4, 5 or 6 road designated as such by posted speed and traffic volume in accordance with Ontario regulation 239/02 as amended from time to time.

**MMS** – means Ontario Regulation 239/02, Minimum Maintenance Standards for Municipal Highways.

**Partially snow covered** – Two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on loose snow.

**Partially snow packed** – Two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on snow bonded to the road.

**Partially Ice covered** – Two wheels of the passenger vehicle are on bare surface and the other wheels are likely to be on ice.

**Patroller** – means a person who is either a dedicated winter patroller or a person whose duties include winter patrolling.

**Pavement Frost** – Buildup of frost that reduces braking power of vehicles.

**Road Conditions** – means the condition of the pavement surface during and after a winter event. (See Appendix 1 attached)

**Seasonal** – refers to the limited time of the year where certain roadway service standards apply to the subject roadway. In the context of these standards seasonal roads are classified as those not receiving winter services, unless otherwise defined.

**Slush** – A buildup of slush on the driving surface as a result of moderate or heavy snow fall when pavement temperatures are at or near the freezing point creating driving conditions that may cause an unsuspecting driver to lose control of a vehicle.

**Snow accumulation** – means the natural accumulation of new fallen snow or windblown snow that covers more than half a lane width of roadway.

**Snow covered** – All wheels of a passenger vehicle are on the loose snow.

**Snow packed** – This condition exists mainly on gravel roads where the entire driving surface is covered with packed snow. Note: All wheels of passenger vehicle are on the snow bonded to the road.

**Snowdrifts** – Small snow dunes exist on the driving surface at intermittent intervals. Snowdrifts develop when one or more lanes have drifting snow accumulated.

**Swirling snow** – A condition created by traffic in loose snow that reduces visibility.

**Visibility Conditions** – means the condition of driver's lines of vision during and after a winter event. (See Appendix 4 attached)

**Wet/freezing** - Highway is wet subject to freezing as temperatures drop.

**Winter Event** – means a weather condition affecting roads such as snowfall, wind-blown snow, sleet, freezing rain, frost or ice, to which a winter event response is required.

**Winter event response**- means a series of winter control activities performed in response to a winter event.

**Winter patrol** – means the field observation of weather and road conditions.

**Winter season** – means the season when the municipality normally performs winter highway maintenance as identified in a winter operation plan.

## **Levels of Service**

Surfaces shall be maintained as bare as possible through the continued use of all assigned men, equipment and materials suited to the conditions.

The roads department has three routes for plowing set out in Appendix 1 of this policy. **Note:** The roads are not in order of plowing.

No plowing or sanding will take place between the hours of 9:00 p.m. and 4:30 a.m. unless there is danger of roads being blocked by snow accumulation.

Snow plowing shall occur with accumulations of 7.5 centimeters in depth.

Steep hills will have priority for sanding of gravel surfaces.

## **Safe Operations**

Crews will not be dispatched or allowed to continue servicing where, in the opinion of the Road Superintendent, it is unsafe to do so eg: severe blizzard conditions where visibility is below that needed for safe operations. **Note:** The Roads Superintendent will advise the Madoc and Bancroft O.P.P. detachments, Emergency Services, School Boards and the local radio stations of the unsafe conditions.

Crews shall not be allowed to continue to work for more than 12 continuous hours without at least 8 hours of rest break with the exception of an emergency.

## **Patrols**

The Roads Superintendent or his designate will be responsible for ensuring that equipment and staff are activated to carry out the necessary winter maintenance work at all times.

Following the winter snow removal routes allows each driver to record and verify the conditions of each individual road within the township. The winter patrol records are shown in Appendix 2 of this document.

**Note: All records are to be approved by the Road Superintendent upon return to the Roads garage.**

Any issues noted on the patrol records are to be addressed within a 48 hour time period.

If the plow trucks are not activated within a five day period of time, the road superintendent or his designate will patrol on the morning of the sixth day.

### **Snow Plowing**

The policy for snow plowing is to deploy resources as soon as practicable to clear snow accumulations after becoming aware that the snow accumulation is greater than the depth set out in the table below and to ensure that the accumulation of snow is maintained at a level less than or equal to the maximum depth indicated within the time allowed for in the policy for the duration of the storm.

Table 1 – Snow Accumulation and Surface Condition Level of Service

Road Class	Maximum Depth	Time for Removal	Condition Objective	Time
4	7.5 centimetres	12 hours	Snow packed	24 hours
5	9.5 centimetres	20 hours	Snow packed	24 hours
6	9.5 centimetres	20 hours	Snow packed	24 hours

**Note: The Municipality is requesting the Public’s cooperation with adherence to “no parking” along roadways or in snow plowing turnarounds. This interferes with snow removal. Failure to comply with this request may result in the vehicle being towed at the owner’s expense.**

### **Sanding and Salting**

The objective will be to deploy resources “as soon as practicable”, after becoming aware that the road is icy and the safe operating speed has dropped below the threshold indicated in the table 2. The response will be to treat the road way or sections thereof with abrasives (salt and sand mixture) to provide traction within the timeframes indicated in Table 2 below.

Table 2 – Icy Roads Response Level of Service

Road Class	Minimum Standards Time to treat Icy Roads	Surface Condition Desirable Lag Time	Surface Condition Ambient Speed %
4	6 hours	8hours	80%
5	12 hours	10 hours	80%
6	12 hours	10 hours	80%

### **Winging Back Of Snow Banks**

At various times during a winter season it may be necessary to wing back snow banks in order to reduce the height of the banks so that driver visibility is not impaired and/or provide space to store additional snow.

### Winter Patrolling Level of Service – Routine conditions

Routine patrolling during daylight hours of the winter months shall be specified in the table below. Routine patrolling will not occur on weekends during the winter months. Routine patrolling will take place during normal operating hours Monday to Friday within working hours. Routine patrolling may be achieved by driving the roadways.

#### Routine Patrolling Response Level of Service

Class	Ambient Condition Minimum Standard
4	Once every 6 days
5	Not applicable
6	Once every 14 days

### Winter Patrolling Level of Service – Storm conditions

Winter patrolling during storm conditions will be executed on three representative sample roads to ascertain conditions and will provide the information required by the Roads Superintendent to mobilize the operators. Patrolling of a representative sample of the road system shall be deemed to be sufficient to identify problem areas.

Class	Cycle
4	Once every 3 days
5	Once every 7 days
6	Once every 7 days

#### Sample Roads:

- a) **Weslemkoon Lake Road** from Hwy 62 to Roads Garage at # 593
- b) **Weslemkoon Lake Road** to Pineview Ridge Road
- c) **West Road** from Hwy 62 to Old Hastings Road

#### Snow Emergencies

At some time during a winter season it may be necessary to declare a “snow emergency” within the Township of Tudor and Cashel. The Road Superintendent and the Council of the Corporation of the Township of Tudor and Cashel in unison will declare a “snow emergency”. In this instance, staff may work beyond the times outlined in *Ontario Regulation 555/06 Hours of Service*.

**Note: There must be three Council Members approval whenever possible.**

#### Review Period

This document will be reviewed on a yearly basis.

Appendix 1

**Route # 1**

Road Name	# of kms	Comments
Weslemkoon Lake Road	15.0 kms	From Hammond Rd to Weslemkoon Lake
Hammond Rd	1.2 kms	
Gunter Lake Rd	2.6 kms	
Egan Creek Rd	6.3 kms	
East Rd	1.0 kms	
St. Ola Rd	1.7 kms	
Trumble Rd	1.0 kms	
Boundary Rd	0.5 kms	
South Steenburg Lake Rd	0.4 kms	
Dump Rd	0.5 kms	
Sutton Rd	2.3 kms	
Phillips Rd	1.2 kms	
Smith Rd	0.5 kms	
Old Gilmour Rd	0.5 kms	
Beaver Creek Lane	0.2 kms	

**Route #2**

Road Name	# of kms	Comments
Weslemkoon Lake Road	14.0 kms	From hwy 62 to Hammond Road
Pineview Ridge Road	3.6 kms	Back to Weslemkoon Lake Road
North Jordan Lake Road	0.5 kms	
South Jordan Lake Road	0.3 kms	
Cleveland Road	8.3 kms	To Wolfe Lake Road
Wolfe Lake Road	4.2 kms	All the way to Hwy 62 – 1 km is in Tudor and Cashel Twp, 3.2 kms are in Madoc Twp
Butler Ln	0.1 kms	
Stoney Settlement Road	3.0 kms	

**Note: Wolfe Lake Rd East to the lake is not plowed.**

**Route # 3**

Road Name	# of kms	Comments
Centre Millbridge Rd	2.0 kms	
West Rd	2.0 kms	
Old Hastings Rd South	3.5 kms	
Old Hastings Rd North	9.9 kms	
Glanmire Lake Rd	1.7 kms	
Felbers Rd	3.6 kms	
Davidson Rd	2.4 kms	
Reilly Ln	0.2 kms	
Cooney Rd	0.4 kms	



## Appendix 2

### WINTER MAINTENANCE LOG ROUTE #1

Truck #1

Time left yard:

Operator:

Time back to yard:

Number of loads of sand:

<b>Weather</b>	<b>Date:</b>	<b>Accident/Damage</b>														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Clear</td><td>Time</td></tr> <tr><td>Partly Cloudy</td><td>Time</td></tr> <tr><td>Overcast</td><td>Time</td></tr> <tr><td>Rain</td><td>Time</td></tr> <tr><td>Snow</td><td>Time</td></tr> <tr><td>Freezing Rain</td><td>Time</td></tr> <tr><td>Fog</td><td>Time</td></tr> </table>	Clear	Time	Partly Cloudy	Time	Overcast	Time	Rain	Time	Snow	Time	Freezing Rain	Time	Fog	Time	<b>Patrolled By:</b> <hr/> <b>Hours of Work:</b> <b>Start shift:</b> _____  <b>Finish shift:</b> _____	<b>Police Response Yes/No</b> <b>OPP report#</b> _____  <b>Location:</b> _____  <b>Description:</b> _____ <hr/> <hr/>
Clear	Time															
Partly Cloudy	Time															
Overcast	Time															
Rain	Time															
Snow	Time															
Freezing Rain	Time															
Fog	Time															
<b>Visibility:</b> Good Fair Poor <b>Time:</b> <b>Wind:</b> Light Moderate Strong <b>Direction:</b>	<b>Approved By:</b> <hr/>	Time is to be recorded on a 24 hour clock.														

ROAD	PLOW	FULL SAND	SPOT SAND	SEVERE STORM
Weslemkoon Lake Rd.				
Hammond Rd.				
Gunter Lake Rd.				
Egan Creek Rd.				
East Rd.				
St. Ola Rd.				
Trumble Rd.				
Boundary Rd.				
Dump Rd.				
Sutton Rd.				
Phillips Rd.				
S. Steenburg Lake Rd.				
Smith Rd.				
Old Gilmour Rd.				
Beaver Creek Ln				

If any conditions that need to be addressed are noticed during route please enter in space below.

Notes:

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**WINTER MAINTENANCE LOG ROUTE #2**

Truck #2

Time left yard:

Time back to yard:

Number of loads of sand:

Operator:

Weather		Date:	Accident/Damage
Clear	Time	Patrolled By: _____  Hours of Work: Start shift: _____  Finish shift: _____	Police Response Yes/No OPP report# _____
Partly Cloudy	Time		Location: _____
Overcast	Time		Description: _____
Rain	Time		_____
Snow	Time		_____
Freezing Rain	Time		
Fog	Time		
Visibility: Good Fair Poor Time: Wind: Light Moderate Strong Direction:		Approved By: _____	Time is to be recorded on a 24 hour clock.

ROAD	PLOW	FULL SAND	SPOT SAND	SEVERE STORM
Weslemkoon Lake Rd.				
Pineview Ridge Rd.				
North Jordon Lake Rd.				
South Jordon Lake Rd.				
Cleveland Rd.				
Wolfe Lake Rd.				
Butler Lane				
Stoney Settlement Rd.				

If any conditions that need to be addressed are noticed during route please enter in space below.

Notes:

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**WINTER MAINTENANCE LOG ROUTE #3**

Truck #3

Time left yard:

Time back to yard:

Number of loads of sand:

Operator:

Weather		Date:	Accident/Damage
Clear	Time	Patrolled By: _____  Hours of Work: Start shift: _____  Finish shift: _____	Police Response Yes/No OPP report# _____
Partly Cloudy	Time		Location: _____
Overcast	Time		Description: _____
Rain	Time		_____
Snow	Time		_____
Freezing Rain	Time		
Fog	Time		
Visibility: Good Fair Poor Time: Wind: Light Moderate Strong Direction:		Approved By: _____	Time is to be recorded on a 24 hour clock.

ROAD	PLOW	FULL SAND	SPOT SAND	SEVERE STORM
Centre Millbridge Rd.				
West Rd.				
Old Hastings Road North				
Old Hastings Road South				
Glanmire Lake Rd.				
Felber Rd.				
Davidson Rd.				
Reily Ln.				
Cooney Rd.				

If any conditions that need to be addressed are noticed during route please enter in space below.

Notes:

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### Appendix 3

## Inventory of Resources available for Winter Operation

### Available Resources:

**Staff:** 4 full time employees

### Buildings:

**Buildings Table**

Location	Description	Sand & Salt
593 Weslemkoon Lake Road	Garage	Located on Premises
8368 Old Hastings Road	Garage	Located on Premises

**Equipment Table**

Equipment Type	Plow Type	Wing Yes/No	Spreading Equipment
2013 Tandem 8 Ton	Viking 1-way	Yes	Sander Box and 2-way spreader
2008 Tandem 8 Ton	Viking 1-way	Yes	Sander Box and 2-way spreader
1996 Tandem 8 Ton	Viking 1-way	Yes	Sander Box and 2-way spreader

**Current Road System Table**

Maintenance Class	Lane kms
Class 4	26.6 kms
Class 5	N/A
Class 6A	64.96 kms

**Bridge Table**

Bridge Name	Location	Total span Length	Roadway width
Wolfe Lake	Wolfe Lake Rd	10.2 m	5.8m
Millbridge	Old Hastings Rd	10.4 m	6.3m
Glanmire	Old Hastings Rd	41.4 m	5.5 m
Sutton Road	Sutton Rd	19.0 m	7.7m

## Appendix 4

### Visibility Conditions

Snowfall, mist rising from a watercourse, fog and blowing snow can reduce visibility. Visibility reducing elements influence the weather conditions.

<b>Terminology</b>	<b>Explanation</b>
Good	You can see more than 500 to 800 metres
Reduced	You can see less than 500 metres
Poor	You can see less than 200 metres. Under this condition highway maintenance equipment will not begin work on the road until visibility improves. Equipment already on the road may be removed if visibility continues to deteriorate to 100 metres or less.
Foggy	Usually poor visibility