

Date Passed: July 18th, 2005

**PART 1 – LEVEL OF ROAD SERVICE POLICY**  
**Regulated Services**

**Level of Service-Roads & Bridges-Ontario Regulation 239/02-Minimum Maintenance Standards**

The minimum maintenance standards for the 14 services contained within Ontario Regulation 239/02 of the *Municipal Act* are to be used as the adopted level of service for the municipality. Level of service shall be per the service level to be provided for each class of road as established within the regulation. The table below defines road classifications as identified within the regulations.

**TABLE**  
**CLASSIFICATION OF HIGHWAYS**

Average Annual Daily Traffic (number of motor vehicles)		Posted or Statutory Speed Limit (kilometres per hour)					
		90	80	70	60	50	40
15,000 or more	1	1	1	2	2	2	2
12,000 – 14,999	1	1	1	2	2	3	3
10,000 – 11,999	1	1	2	2	3	3	3
8,000 – 9,999	1	1	2	3	3	3	3
6,000 – 7,999	1	2	2	3	3	3	3
5,000 – 5,999	1	2	2	3	3	3	3
4,000 – 4,999	1	2	3	3	3	3	4
3,000 – 3,999	1	2	3	3	3	4	4
2,000 – 2,999	1	2	3	3	4	4	4
1,000 – 1,999	1	3	3	3	4	4	5
500 – 999	1	3	4	4	4	4	5
200 – 499	1	3	4	4	5	5	5
50 – 199	1	3	4	5	5	5	5
0 -49	1	3	6	6	6	6	6

O. Reg. 239/02, s. 1, Table.

Level of Service for the 14 services defined within Ontario Regulation 239/02 are as follows:

1. **Patrolling**

**TABLE**  
**ROUTINE PATROLLING FREQUENCY**

<b>Class of Highway</b>	<b>Patrolling Frequency</b>
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

O.Reg. 239/02, s. 3, Table.

2. **Snow Accumulation**

**TABLE**  
**SNOW ACCUMULATION**

<b>Class of Highway</b>	<b>Depth</b>	<b>Time</b>
1	2.5 cm	4 hours
2	5 cm	6 hours
3	8 cm	12 hours
4	8 cm	16 hours
5	10 cm	24 hours

O.Reg. 239/02, s. 4, Table.

3. **Icy Roadways**

**TABLE**  
**ICY ROADWAYS**

<b>Class of Highway</b>	<b>Time</b>
1	3 hours
2	4 hours
3	8 hours
4	12 hours
5	16 hours

O.Reg. 239/02, s. 5, Table.

4. **Potholes**

**TABLE 1**  
**POTHOLES ON PAVED SURFACE OF ROADWAY**

Class of Highway	Surface Area	Depth	Time
1	600 cm <sup>2</sup>	8 cm	4 days
2	800 cm <sup>2</sup>	8 cm	4 days
3	1000 cm <sup>2</sup>	8 cm	7 days
4	1000 cm <sup>2</sup>	8 cm	14 days
5	1000 cm <sup>2</sup>	8 cm	30 days

O.Reg. 239/02, s. 6, Table 1.

**TABLE 2**  
**POTHOLES ON NON-PAVED SURFACE OF ROADWAY**

Class of Highway	Surface Area	Depth	Time
3	1500 cm <sup>2</sup>	8 cm	7 days
4	1500 cm <sup>2</sup>	10 cm	14 days
5	1500 cm <sup>2</sup>	12 cm	30 days

O.Reg. 239/02, s. 6, Table 2

**TABLE 3**  
**POTHOLES ON PAVED OR NON-PAVED SURFACE OF SHOULDER**

Class of Highway	Surface Area	Depth	Time
1	1500 cm <sup>2</sup>	8 cm	7 days
2	1500 cm <sup>2</sup>	8 cm	7 days
3	1500 cm <sup>2</sup>	8 cm	14 days
4	1500 cm <sup>2</sup>	10 cm	30 days
5	1500 cm <sup>2</sup>	12 cm	60 days

O.Reg. 239/02, s. 6, Table 3

5. **Shoulder Drop Offs**

**TABLE  
SHOULDER DROP-OFFS**

Class of Highway	Depth	Time
1	8 cm	4 days
2	8 cm	4 days
3	8 cm	7 days
4	8 cm	14 days
5	8 cm	30 days

O.Reg. 239/02, s. 7, Table.

6. **Cracks**

**TABLE  
CRACKS**

Class of Highway	Width	Depth	Time
1	5 cm	5 cm	30 days
2	5 cm	5 cm	30 days
3	5 cm	5 cm	60 days
4	5 cm	5 cm	180 days
5	5 cm	5 cm	180 days

O.Reg. 239/02, s. 8, Table.

7. **Debris**

If there is debris on a roadway, the level of service is to deploy resources, as soon as practicable after becoming aware of the fact, to remove the debris.

8. **Luminares**

**TABLE  
LUMINAIRES**

Class of Highway	Time
1	7 days
2	7 days
3	14 days
4	14 days
5	14 days

O.Reg. 239/02, s. 10, Table.

9. **Signs**

If any of the 14 signs listed in the regulation; they being Checkerboard, Curve, Do not enter, One Way, School Zone Speed Limit, Stop, Stop Ahead, Stop Ahead New, Traffic Signal Ahead New, Two-Way Traffic Ahead, Wrong Way, Yield, Yield Ahead, Yield Ahead New is illegible, improperly oriented or missing, the level of service is to deploy resources as soon as practicable after becoming aware of the fact to repair or replace the sign.

10. **Regulatory or Warning Signs**

**TABLE**  
**REGULATORY AND WARNING SIGNS**

Class of Highway	Time
1	7 days
2	14 days
3	21 days
4	30 days
5	30 days

O.Reg. 239/02, s. 12, Table.

11. **Traffic Control signal Systems**

If a traffic control signal system is defective in any way as described in the regulation, the level of service is to deploy resources as soon as practicable after becoming aware of the defect or replace the defective component of the traffic control signal system.

12. **Traffic Control Signal System Sub-Systems**

The level of service to inspect, test and maintain the traffic control signal sub-systems as identified in the regulations is every 12 months.

13. **Bridge Deck Spalls**

**TABLE**  
**BRIDGE DECK SPALLS**

Class of Highway	Surface Area	Depth	Time
1	600 cm <sup>2</sup>	8 cm	4 days
2	800 cm <sup>2</sup>	8 cm	4 days
3	1,000 cm <sup>2</sup>	8 cm	7 days
4	1,000 cm <sup>2</sup>	8 cm	7 days
5	1,000 cm <sup>2</sup>	8 cm	7 days

O.Reg. 239/02, s. 15, Table.

14. **Surface Discontinuities**

**TABLE**  
**SURFACE DISCONTINUITIES**

<u>Class of Highway</u>	<u>Height</u>	<u>Time</u>
1	5 cm	2 days
2	5 cm	2 days
3	5 cm	7 days
4	5 cm	21 days
5	5 cm	21 days

O.Reg. 239/02, s. 16, Table.

Further clarification on the above 14 services level of service should be referred to the Minimum Maintenance Standards For Municipal Highways within Ontario Regulation 239/02.

**PART 2 – LEVEL OF ROAD SERVICE POLICY**  
**Non-Regulatory Services**

**1. GRAVEL ROADS**

**Objectives**

- (a) to add granular A to loose top roads so that proper grading operations can maintain a smooth, safe riding surface free from defects.
- (b) to compensate for the loss of fines and subsequent loss of coarse aggregate due to traffic.
- (c) to repair roads where isolated surface failures, in an otherwise satisfactory road surface, which can be attributed to an inadequate base or sub-base, utility trench settlement, washouts, or frost heaves.

**Level of Service**

- (a) to grade and compact all gravel roads as required to meet above objectives.

**2. LOOSETOP DUST CONTROL**

**Objectives**

- (a) to retain the fine aggregate portion of the granular A mixture of the surface of the road, thereby reducing the amount of coarse aggregate lost due to the movement of traffic
- (b) to maintain low dust levels on loose top roads
- (c) to aid in the compaction when placing granular A

**Level of Service**

- (a) All loose top roads will receive at least one application of calcium chloride or an approval equivalent at the rate of 4 t/km (flaked equivalent).
- (b) Application of dust suppressants will normally commence the second week of May, weather conditions permitting, or prior. Dust suppressants to be used on added applications with proper weather factors taken into consideration.

**3. SAFETY DEVICES**

**Objective**

- a) to ensure the safety of the motorist utilizing the roadway

### Level of Service

- (a) Safety devices can be grouped into categories:
  - i) warning signs – advance notice of conditions on the roadway
  - ii) information signs – selection of route, off highway facilities, etc.
  - iii) other – guide rail, barrier, etc.
- (b) All safety devices shall be installed in accordance with the Manual of Uniform Traffic Control Devices and/or the appropriate OPSS standard.
- (c) All safety devices shall be inspected during normal road patrol operations and their conditions noted.

## 4. ROAD SURFACING POLICY

### Objective

- (a) To set a criteria for selecting desirable depth of base and a road surface type.

### Level of Service:

Traffic Volume		Surface Desirable Width	Surface Type Base (see Note)	
			<u>Minimum</u>	<u>Desirable</u>
0 – 50	AADT	6.0 m	.200 m granular	granular
50–200	AADT	6.5 m	.200 m granular	granular
200–500	AADT	6.5 m	.300 m granular	dst
500–1000	AADT	7.0 m	.300 m dst	dst
1000-2000	AADT	6.5 m	.300 m dst	HM.090 mm
2000 +		6.5 m	.450 m dst	HM.090-130mm

dst = double surface treatment

HM = hot mix asphalt

## 5. WINTER OPERATION - HARDTOP ROADS

### Objectives

- (a) During winter storm conditions, to maintain all hardtop roads in a centre bare condition except for subdivision roads.
- (b) After storm, to maintain all hardtop roads in a bare condition.



### **Level of Service**

- (a) Hardtop roads include all roads with either a hot mix asphalt surface or surface treatment.
- (b) During a storm, hardtop roads will be ploughed in both directions to remove snow accumulation and maintain the surface in a centre bare condition. De-icing agents will be applied before snow accumulates to 150 mm. on routes designated with speeds of 80km/hr.
- (c) Priority routes will be established based on traffic volumes, i.e., higher volume roads first.
- (d) When storms are continuous or of long duration, snow removal operations will be continued so as not to allow accumulation to exceed 150 mm.
- (e) Where weather and traffic causes localized road surface ice, the surface condition should be improved to a centre bare condition.
- (f) Where localized snow drifting occurs across more than half of the travelled lane width the conditions will be removed.
- (g) Winging back of wind-rowed snow to provide storage for subsequent snowfall will be completed as deemed safe and at the Public Works Manager's decision (e.g. blowing conditions)
- (h) All urban or subdivision roads to be ploughed and salted within 24 hours after the end of the storm.
- (i) Calls from police, fire and ambulance services for an emergency will be addressed on a case-by-case method.

### **Level of Service / Downtown Streets and Sidewalks / Cottam and Kingsville**

Snow removal will be:

- 1) after a snowfall event of 150 mm (6 inches) or greater
- 2) when the height of snow accumulation above the curb is greater than 375 mm (15 inches)
- 3) when there is no weather prediction of forthcoming mild weather that naturally melt the snow
- 4) when PW has completed all necessary winter maintenance on town roads

## **6. WINTER OPERATION – LOOSETOP ROADS**

### **Objective**

- (a) to maintain loose top roads in a centre bare condition.

### **Level of Service**

- (a) loose top roads include all roads with a granular riding surface
- (b) when storms, which are continuous or of long duration causing unsafe conditions, snow removal operations will continue if deemed necessary by the Public Works Manager
- (c) during the storm, loose top roads will be ploughed in both directions to remove snow accumulation, de-icing agents may be applied to loose top roads and/or the surface may be scarified or sanded to improve traction.
- (d) where weather and traffic causes localized road surface ice, the surface shall be scarified or sanded to improve traction
- (e) where localized snow drifting occurs across more than half of the travelled lane width, the conditions should be removed.
- (f) winging back of windrowed snow to provide storage for subsequent snowfall will be completed as is deemed necessary by the Public Works Manager.
- (g) calls from police, fire and ambulance services for an emergency will be addressed on a case-by-case method.

## **7. ROAD DRAINAGE**

### **Objectives**

- (a) to maintain the drainage system so as to control and remove surface water within the road allowance
- (b) to prevent erosion to the travelled road
- (c) to prevent damage to the road caused by excessive water saturating the base

### **General Level of Service**

- (a) ditching and/or ditching of all roads will normally be completed through the summer and fall each year as determined by the Public Works Manager
- (b) a uniform offset from the edge of the shoulder to the centreline of the ditch shall be maintained where possible
- (c) obstructions in the flow line of the ditch shall be removed as required, unless the obstruction falls into the category of roadside debris, then that policy shall govern.
- (d) ditches shall be constructed so as to direct surface run-off to a suitable outlet
- (e) ditch outlets that are subject to erosion will be treated with rip-rap stone or other non-eroding materials
- (f) it shall be the responsibility of the Public Works Department to provide roadside drainage for all municipal roads. All road water shall be contained and directed toward a sufficient

outlet where possible. Where not possible, the Public Works Manager shall provide or arrange for satisfactory containment of the road water with the abutting private owners

- (g) it shall be the responsibility of the Public Works Manager to determine the extent of roadside drainage required for the purpose of draining Town road property.
- (h) Where there is no existing roadside drain and the Public Works Manager deems it necessary this drain will be installed at the Town's expense.

## **8. ACCESS CULVERTS**

### **(a) Permanent Culvert Installation**

#### **(i) Municipal Road Drain**

##### **Level of Service**

All new access culverts required by a "Private Individual" or "Public Body" over a municipal roadside ditch or drain shall be the responsibility of the "Private Individual" or "Public Body" including 100% of the costs.

The Public Works Manager shall determine the type and extent of culvert required by the "Private Individual".

Any future maintenance required to the access culvert shall be cost shared by the "Private Individual" or "Public Body" at the following proportions:

- 2/3 to the Road Authority
- 1/3 to the Private Individual or Public Body

It shall be the responsibility of the Public Works Manager to determine the extent and type of maintenance required to the access culvert.

#### **(ii) Municipal Drainage Act Drain**

##### **Level of Service**

All new access culverts required by a "Private Individual" or "Public Body" over a roadside Drainage Act Municipal Drain shall be installed under the requirements of the Drainage Act, 1990, or as amended from time to time.

Any future maintenance required to the access culvert shall be cost shared as per the assessment schedule and proceed under the requirements of the Drainage Act, 1990 or as amended from time to time.

### **(b) Temporary Culvert Installation**

All requests for temporary access culvert required by a "Private Individual" or "Public Body" over a roadside ditch, drain or Drainage Act Municipal Drain shall be submitted in writing to the Director of Municipal Services/Drainage Superintendent.

The Drainage Superintendent shall determine the type and extent of culvert required by the "Private Individual" or "Public Body".

#### **a) Long Term**

Temporary culverts are to be installed for one construction season of no more than 10 months. An extension of more than 10 months may be granted upon receipt of a written request stating the reason for the extension.

Removal of the culvert is to proceed immediately after completion of its required use with full restoration to the satisfaction of the Drainage Superintendent. In the event the culvert is not removed in a timely manner, the Drainage Superintendent is to have the culvert removed. 100% of costs for installation and removal of the temporary culvert are to be paid by the "Private Individual" or "Public Body".

A permit fee of \$100 and a refundable indemnity fee of \$500 or, as amended from time to time, in the Fees By-law. The refund of the indemnity fee will be upon removal of the temporary culvert to the satisfaction of the Drainage Superintendent.

**b) Short Term**

The short term culvert will be installed immediately prior to the crane/construction equipment crossing the drain (typically same day) and will be removed immediately after the crane/construction equipment has crossed over the drain for the last time (typically same day). The culvert, to maintain flows, will be set in place and top graded to provide an overflow route until such time that the crane/construction equipment crosses the drain a final time. At that time the culvert will be removed and drain restored. The weather will be monitored daily for any rain events. Significant rain events will warrant the immediate removal of the short term culvert installation. The contractor will be in communication with the Municipal Services Department throughout the crane/construction equipment tracking process, identifying specifically when culverts are being installed and removed.

All costs associated with the short term culvert installation, removal and drain restoration, to the satisfaction of the Municipal Services Division, will be borne by the developer.

## **9. MAINTENANCE OF ROAD DRAIN**

### **Level of Service**

Maintenance of Municipal Road Drains shall be the responsibility of the Town's Road Department. In areas where Municipal Road Drains also drain or benefit abutting private property in addition to road property, (usually in areas where no municipal drain constructed under the Drainage Act exists) and maintenance is requested by the "Private Individual", then cost of maintenance shall be shared by the "Private Individual" and the Road Department in the following proportions:

- 2/3 – Road Department
- 1/3 – Private Individual or Public Body

The cost of improving or replacing any crossing drains under the road will be the responsibility of the Town.

It shall be the responsibility of the Public Works Manager to determine the extent and type of maintenance required budget, to determine the extent and type of maintenance required, budget permitting.

Any disagreement between the Public Works Manager and the "Private Individual" may be resolved by Council at a regularly scheduled Council meeting or their designate as instructed by the Road Chairman.

## **10. GRASS MOWING**

### **Objective**

- (a) to keep the roadside neat and attractive and help prevent the spread of weeds.

### **Level of Service**

- (a) normal grass cutting operations will commence no later than the 1st of June each year.
- (b) a minimum of two (2) mowings may be completed annually in the following manner:  
1st and 2nd mowing – all grass accessible from the shoulder when the height of the grass exceeds .3m

## **11. WEED SPRAYING**

### **Objectives**

- (a) to control the growth of weeds as directed by the *Weed Control Act* so as to prevent the spread of seeds to workable farm property.

### **Level of Service**

- (a) weed spraying of the entire roadside area will be completed once annually, application will be dependent on the type of weed to be controlled, chemical used and sensitive crop areas such as orchards, vineyards, and greenhouse operations.
- (b) notice shall be placed in a newspaper of local distribution, advising of the weed spray application as per regulations of the MOE.
- (c) spot spraying of problem weed areas, on town roadside property will be completed on an as required basis.

## **12. DEBRIS AND LITTER PICKUP**

### **Objectives**

- (a) completed in the spring of the year immediately before the start of grass mowing operations, then as required throughout the summer and fall, but at a minimum frequency of removing debris in the area of not more than once every two (2) months.

## **13. TREES**

### **Objectives**

- (a) to enhance the appearance of public property by removing dead and/or hazardous trees and brush.
- (b) to maintain safe sight distances.
- (c) to ensure safety to the public by removing dead limbs and trees.

- (d) to reduce or eliminate drifting snow conditions.
- (e) to protect the road base structure by removing trees which may root in the road base.
- (f) to operate an annual tree planting programme.

#### **Level of Service**

- (a) during regular road patrol, the Public Works Manager shall note the condition of trees within the road allowance, and schedule removal of the tree in coordination with the Parks and Recreation Manager.
- (b) trees which are considered dangerous and present a hazard to vehicles and pedestrians shall be removed if the following conditions exist:
  - i) the tree must be seen as being dead, as evidenced by no leaf growth during normal in- leaf season
  - ii) the tree must be on the right-of-way
  - iii) the tree or limbs must have a significant likelihood of falling on the road.
- (c) it is desirable that a minimum horizontal distance from the edge of the travelled portion of the road to the trunk of the tree be maintained at 4.5 m. (15')
- (d) the planting of trees and shrubs on the road allowance within the horizontal clearance distance will not be permitted.
- (e) trees and shrubs on private property, which cause the drifting of snow or obstruct the vision of drivers on the road, the Town will enter into an agreement for their removal in accordance with Section 107 of the *Public Transportation Highway Improvement Act*.
- (f) the Public Works Manager is responsible for having any trees, brush and wood disposed of in the most cost effective way.
- (g) to employ the services of a qualified Arbourist when required to assist in determining the status of any tree.
- (h) the Parks and Recreation Manager will conduct an annual tree planting program every fall.

### **14. SIDEWALKS**

#### **Objectives**

- (a) to ensure the safe passage of pedestrians.

#### **Level of Service**

- (a) sidewalks shall be inspected annually and the following conditions noted: surface condition, proper drainage, heaved or sags in sidewalk, alignment and displacement of joints.
- (b) heaved sections, or areas where a sag creates a water ponding problem, the section will be noted during the annual inspection and the area repaired within the maximum time of responding of one (1) year considering budget restraint.

- (c) upon notification of a displacement of a joint greater than 50 mm., a repair consisting of ramping the displacement with cold mix asphalt may be completed within the maximum time responding of one (1) month, permanent repair will be subject to budget limitations.
- (d) sweeping of sidewalks and/or the removal of snow from sidewalks and the salting of sidewalks will be done by the Town.
- (e) Sidewalk Snow Clearing & Salting Program

That the level of service for sidewalk snow removal/salting operations response is defined as:

- (i) a minimum 2" snow accumulation or ice cover as a result of freezing rain occurrences.
- (ii) that all operations are completed within 48-hours of meeting the threshold criteria with consideration for overtime allowances on a case by case basis during normal work week operations.
- (iii) special consideration for the downtown cores, and designated use areas & facilities, for clearing operations to include all times of day and all days of the week to facilitate completion before normal business day commencement.

## **15. MAILBOX POSTS**

### **Objective**

- (a) to ensure the safety of motorists, in particular motorcyclists, by only allowing the use of break away posts for mailbox support.

### **Level of Service**

- (a) mailbox support posts located within the Town right-of-way will be made entirely of wood, having a maximum lateral dimension of 150 mm (6 inches) and minimum of 3 ½ inches.
- (b) property owners with a mailbox support post which does not meet the requirements of this policy shall be requested in writing to remove the post and supply a post which is satisfactory to the Town and this policy
- (c) mailboxes and support posts that are damaged by the Town's snow plough, and where it is clearly evident that the damage was incurred by the snow plow hitting the post or mailbox, will be replaced by the Public Works Department to a maximum of \$30.00 for the mailbox. The wood post will be supplied by Public Works. Any installation is to be done by the property owner.

## **16. SET-BACK REQUIREMENTS**

### **Level of Service**

- (a) Urban Road Allowances of 66 Foot

Setback minimum of ten feet (10') either side. This includes all fences, railway ties, boulders and other necessary structures for safety or utilities shall be the only items allowed to encroach within ten feet (10') of the travelled portion of the road.

(b) Greater than 66 Foot Road Allowance

Shall be kept to a similar ten foot (10') setback wherever possible, and aside from existing trees or utilities no addition of objects or structures shall be allowed.

Where existing structures or objects being on road allowances are deemed a safety hazard or a hindrance in the normal operation of the Public Works Department, a removal or relocation may be insisted upon by the Municipality.

(c) Rural

A setback, as stated for the Urban area with a minimum of fifteen feet (15') on sixty-six foot (66') road allowances where possible, and a minimum of ten feet (10') otherwise.

## **17. WORKS ON PRIVATE ROADS**

### **Level of Service**

No works will be performed on private roads by the Public Works Department.

## **18. BRIDGES AND CULVERTS**

### **Objectives**

- (a) to ensure safe vehicular and pedestrian passage at all times.
- (b) to protect the public investment in the structure.
- (c) to extend the useful lifespan of the structure.

### **Level of Service**

- (a) all bridge decks, abutments, bearing seats, etc. will be cleaned of gravel and debris in the spring of the year either manually or by flushing.
- (b) all bridges and culverts over 3.0 m in span will be visually inspected on an annual basis to prioritize repairs consisting of:
  - i) painting of exposed metal surfaces (by contract)
  - ii) bridge drains
  - iii) concrete repairs to abutments, deck, wingwalls, headwalls, ballast walls, curbs and sidewalks
  - iv) expansion joint or joint sealant
  - v) warning sign replacement
  - vi) bank erosion or slope protection materials in the area of the bridge
- (c) in the case of reportable accident, the responsible parties will pay all costs to repair the accident damage.

## **19. CATCH BASINS AND DITCH INLETS**

### **Objectives**

- (a) to maintain the catch basin and ditch inlet in safe condition for vehicle and pedestrian traffic.



- (b) to ensure the free flow of surface water to the storm sewer.

#### **Level of Service**

- (a) annually inspected and checked for the following:
  - i) catch basins and ditch inlets are clear of debris and sand
  - ii) concrete work is free of defects
  - iii) frames and grates are in place and are not broken or otherwise damaged
  - iv) brick work is not crumbled or broken
  - v) any depressions around the catch basin
- (b) all catch basins shall be cleaned of silt and debris as per maintenance schedule and budget restraint.

### **20. CURB AND GUTTER**

#### **Objective**

- (a) to ensure surface water flows are carried to a catch basin or outlet.

#### **Level of Service**

- (a) annually inspected and checked for:
  - i) accumulation of sand or debris (especially in the area of catch basins)
  - ii) spalling, broken concrete, stepping and noticeable bumps/depressions.
- (b) curb and gutter shall be cleaned by mechanical or other methods, once annually.
- (c) repairs noted in (i) b) shall be prioritized and scheduled for repairs as budget permits.

### **21. ROADSIDE ACCESS CONTROL**

#### **Objectives**

- (a) to ensure the safety of the travelling public.
- (b) protect the operating integrity of the road system.
- (c) minimize the impact of development on the highway system.
- (d) reduce future maintenance and road reconstruction problems.

#### **Level of Service - Application of Policy**

This policy shall apply to any new entrance requests made by a property owner, or the changing of the use of an existing entrance, or the relocation of an existing entrance.

#### **Types of Entrances**

##### **A. Residential or General Farming Entrance**

A residential / general farming entrance is a private entrance to a property containing no more than five residential units or less than three acres of greenhouses.

##### **B. Commercial / Industrial / Intensive Agricultural Entrance**

A commercial / industrial and intensive agricultural entrance is an entrance to a property zones commercial, industrial, multi-residential (greater than five residential units), or agricultural property containing three or more acres of greenhouses and/or processing and packaging facility for agricultural purposes.

### **General Policy**

- (a) a lot fronting on a municipal road shall be permitted one entrance. Additional auxiliary entrances may be considered for non-residential properties where access to the property is not practical due to physical constraints. A corner lot may on approval of the Public Works Manager have two entrances.
- (b) in accordance with provincial standards, a residential/general farm entrance should have a minimum width of five meters. Wider entrances may be considered in certain situations to accommodate special farm equipment or trucks (See OPSD Specifications 1 & 2). Commercial or industrial entrances will require visibility in all directions of at least:

<u>Speed Limit</u>	<u>Distance</u>
50 km	120 m
60 km	140 m
80 km	180 m

- (c) the Town will not be responsible for the maintenance of entrances, entrance culverts, headwalls or any item ancillary to the entrance. This will include all residential farm, field and commercial entrances except as outlined below:
  - i) when the Town deems it necessary to re grade or re-establish a roadside ditch and existing entrances culverts are obstructed by dirt and debris, the culvert will be flushed by the Town at the Town's expense.
  - ii) culverts which do not fit the design or flow line of a re-graded ditch, will be removed and reset at the correct elevation and the entrance restored with owner to pay material costs and the Town to supply labour and machinery
  - iii) during re- grading operation should a culvert be found that has deteriorated to the point where it is unfit to replace in the entrance, the Town will provide a new culvert and the entrance will be re-established by means of 2/3 cost to the Town and 1/3 cost to the owner.
  - iv) approved entrances which did not require a culvert prior to ditch re-grading or re-establishment but will require a culvert after ditch re-grading or reestablishment, the Town will supply a suitably sized culvert of sufficient length to provide a maximum 20- foot wide entrance
  - v) entrances, which are established without the approval of the Town and causing an obstruction to the roadside ditch, will be removed at the owner's expense and will not be re-established until the owner supplies and places at his/her expense a properly sized culvert.
- (d) the property owner is responsible for the maintenance of the paved or gravelled portion of the entrance to the curb or edge of the pavement.
- (e) minimum of three inches depth of asphalt mix and 12" granular base is recommended for all driveway entrances.

### **Industrial Intensive Agriculture Entrance Policy**

- (a) hot mix paving is not required for entrances on municipal rural roads having a posted speed of 50 km. or less for the above property uses.
- (b) all entrances for the above property uses shall conform to the design standards outlined in Specifications 3, 4 and 5 that reflect the use of the entrance.

## **SALT MANAGEMENT PLAN**

### **PURPOSE**

This Salt Management Plan (SMP) sets out a policy and procedural framework for ensuring that The Corporation of the Town of Kingsville 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 SMP 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.

As specified in the Code of Practice for the Environmental Management of Road Salts, the SMP is endorsed by The Corporation of the Town of Kingsville Council.

### **OBJECTIVE**

The Corporation of the Town of Kingsville is committed to improving winter maintenance operations while continuing to ensure public safety. The Corporation of the Town of Kingsville will optimize the use of winter maintenance materials containing chlorides on all municipal roads while striving to minimize negative impacts to the environment. The Corporation of the Town of Kingsville Public Works 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.

### **POLICY STATEMENT**

The Corporation of the Town of Kingsville will provide efficient and effective winter maintenance to ensure the safety of users of the municipal road 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 Salt Management Plan;
- reviewing and upgrading the Salt Management Plan on an annual basis to incorporate new technologies and new developments;
- committing to ongoing winter maintenance staff training and education; and
- monitoring on an annual basis, the present conditions of the winter maintenance program, as well as the effectiveness of the Salt Management Plan.

## Current Winter Maintenance Program

### 1.1.0 The System Maintained

The major activities related to winter maintenance are:

- snow ploughing
- salt sand spreading
- salt and sand storage
- snow removal
- snow storage
- sidewalk ploughing and de-icing

The Corporation of the Town of Kingsville is responsible for winter maintenance on:

Paved roads	85	2 lane km (centre line)
Surface treated roads	133	2 lane km (centre line)
Unpaved roads	25	2 lane km (centre line)
Sidewalks	30	km
Paths and Trails	0	km

**Total** **273**

The Corporation of the Town of Kingsville roads have been classified (Class 1, 2, 3, 4, 5) per Reg. 239/02 which is based on the posted/regulated speed and annual average daily traffic (AADT) in order that Level of Service and/or Minimum Maintenance Standards can be set for each classification of road. See LOS below.

The road system is made up of the following roads. The table shows lane kilometres.

	Paved		Surface Treated		Unpaved	
	Rural	Urban	Rural	Urban	Rural	Urban
Class 1						
Class 2						
Class 3	0	11	45	0	0	0
Class 4	3	20	220	0	36	0
Class 5	0	117	0	1	0	0
Class 6	0	19	0	0	14	0
<b>Total</b>	<b>3</b>	<b>167</b>	<b>265</b>	<b>1</b>	<b>50</b>	<b>0</b>

#### 1.1.1 Level of Service Policy

The Level of Service policy for The Corporation of the Town of Kingsville adopted by Council on July 18th, 2005 meets or exceeds the Minimum Maintenance Standards (MMS) specified in the Ontario Regulation 239/02, *Municipal Act, 2001*, for snow accumulation and icy roads. Winter maintenance season commences "November 15<sup>th</sup>" and is completed "March 15<sup>th</sup>".

Practice for the Environmental Management of Road Salts, under the *Canadian Environmental Protection Act, 1999* recommends that the Salt Management Plan follows the Transportation Association of Canada, *Syntheses of Best Practices for Road Salt Management*.

### 1.1.2 Winter Patrol

The Corporation of the Town of Kingsville does not carry out winter patrol on a 24/7 basis. Each operator is responsible for observing winter road conditions on his/her beat. The Public Works Manager coordinates the overall response for winter maintenance and is responsible for callout of the operators to a winter storm event.

### 1.1.3 Staffing and Hours of Work

The Corporation of the Town of Kingsville adheres to the hours of work as set out in the *Highway Traffic Act*, Reg.4/93. When the driver has completed his 13 hours driving time in his/her 15 hour on-duty time, he/she then is sent home for the 8 hour off-duty period before driving the next shift. If there is no ongoing winter event a regular 8 hour shift will remain in use.

### 1.1.4 Winter Materials Used Annually

Material	2004/2005	**5 Year Average
<b>Solids</b>		
Rock Salt (NaCl)	2,427 tonnes	2,200 tonnes
Sand (sand/salt mix)*	100 tonnes	80 tonnes
<b>Liquids</b>		
Salt Brine (NaCl)	48,640 litres	48,640 litres
Calcium Chloride (CaCl <sub>2</sub> )	N/A	N/A
Magnesium Chloride (MgCl <sub>2</sub> )	N/A	N/A
Proprietary Product 1	N/A	N/A
Proprietary Product 2	N/A	N/A
Pre-treated material***	N/A	N/A
Pre-treated sand	N/A	N/A
Pre-treated Salt	N/A	N/A

\* Percentage of salt in sand/salt mix by weight 5% (industry standard 2 to 5 %).

\*\*\* Percentage pre-treat material use 63 litres/tonne or 138 kg/tonne. If you do not use a product, show N/A for Not Applicable.

### 1.1.5 Application Rates

Solids Highway Class	Spreading Rates per 2 lane km	
	Salt	Sand
Class 1		
Class 2		
Class 3	170	
Class 4	150 – 170	
Class 5	140 – 170	
Class 6	140 - 170	

Note: MTO Maintenance Manual MBP-703 suggests 130 to 170 kg salt for paved roads and 570 kg sand per 2 lane kilometer.

Liquids – Pre-wetting	Spreading Rates per 2 lane km		
	Temperature		
	0 to -5C	-5 to -10C	-10 to -18C
Frost	50		
Light Snow	70		
Heavy Snow	130		
Freezing Rain	130		

Note: MTO Maintenance Manual MBP-705 suggests a range of application rates in litres/2lane km.

#### 1.1.6 Equipment - Winter Maintenance Fleet

An inventory of municipal equipment *and contract equipment* used for winter maintenance is found in **Appendix 1**.

#### 1.1.7 Yard Facilities

The municipality has one patrol yard from which it operates its winter maintenance. A list of the facilities with storage and drainage used for winter maintenance is found in **Appendix 2**.

#### 1.1.8 Snow Removal and Disposal

Currently, municipal staff removes and hauls snow to one site (see accompanying table) when the resultant accumulation of piled snow impedes traffic within the business districts or residential areas of The Corporation of the Town of Kingsville.

In the spring, litter and debris are collected for disposal from all snow disposal sites.

#### 1.1.9 Weather Monitoring

The Corporation of the Town of Kingsville supplements road patrol information to determine an effective winter storm response and allocation of resources with observations from municipal staff, communication with staff of adjacent municipalities and MTO contractors. Staff monitors websites, such as Environment Canada's, for weather forecasting and radar. The local O.P.P. will also communicate to the Public Works Manager their observations while on patrol.

#### 1.2.0 Communications

All winter maintenance vehicles are equipped with two way communications (radios, cell, etc.) and municipal staff are responsible for reporting changing winter weather and/or road conditions. The municipal Town Hall and Public Works Garage located at 2021 Division Road North, Kingsville, Ontario facility serves as the main hub for in/outgoing calls from staff, emergency services and the general public.

External communication with the general public ranges from media press releases to information posted on The Corporation of the Town of Kingsville the web site regarding winter maintenance services and salt management practices to response to individual inquiries.

Note: There are many ways for a municipality and its staff to receive notice that a winter storm event has commenced. In order to meet the requirements for Minimum Maintenance Standards, response is required (upon receipt by a member of staff, council or the public). After becoming aware of the fact, the person receiving notice shall inform the public works supervisor (and/or patroller) immediately.

### **1.2.1 Training**

The Corporation of the Town of Kingsville currently provides some staff training for winter maintenance personnel; however, there is no formal on-going annual winter training program in place. Staff attends the local Road Supervisors' Association meetings to discuss such issues as new equipment, material trends in winter maintenance, regulatory changes and common issues relating to winter storm management.

Prior to the winter season, staff meet to discuss the strategy for winter maintenance, to go over the spreading/plough responsibilities and review the safety issues. In the spring following the winter season, staff typically meet to discuss the successes and failures of the past winter maintenance campaign and to provide input and suggestions for improvement.

The Public Works Manager attends the annual Snow and Ice Colloquium to share experiences and information on new technologies and materials.

### **1.2.2 Record Keeping**

The municipality retains records for the purchase of salt and sand for use in winter maintenance. Each employee documents in his daily timesheet the Route covered and work done, i.e., salting, ploughing, sanding.

### **Looking to the Future**

The current winter maintenance policies and practices form the baseline or benchmark upon which improvements can be made to manage the use of road salt more effectively and in turn its impact on the environment.

## **2.1.0 Continuous Improvement Practices and Strategies**

The Corporation of the Town of Kingsville has prepared a multi-year work plan to improve the management of road salt and its' winter maintenance policies, practices and procedures.

### **2.1.1 Level of Services Policy**

Revisit the current level of service policy, to ensure it meets or exceeds Ontario Regulation 239/02, and customer expectations and sets out the condition of the road surface at the end of the storm and the timeframe within which the specified condition will be achieved. Level of Service policy may also address timing of application to ensure that salt is applied when optimal benefit will be achieved.

### **2.1.2 Equipment Upgrading**

It is intended that the winter maintenance fleet (both municipally owned and contract unit) be capable of delivering appropriate levels of de-icing materials within a full range of climatic conditions.

- As the spreader fleet is due for replacement within the municipality's vehicle replacement program, the new spreader units are to be equipped with pre-wetting equipment and GPS for vehicle location and data transfer, upgraded by 2010.

### **2.1.3 Equipment Calibration**

- Properly calibrated equipment is one of the keys to the effective placement of de-icer material on municipal roads.
- Prior to the 2010 winter season and each year thereafter, all spreaders will be calibrated and, during the winter season the equipment will be checked and recalibrated once mid season and each time there has been work on the vehicle hydraulics system.

- Comparisons for application rates will be developed during the winter season and will be compared across the industry.

#### **2.1.4 Equipment Washing**

It is intended to reduce the amount of chlorides, oil, grease and grit that is discharged back into the environment.

- Before the 2010 winter season oil/water separators will be installed at (all) patrol yard(s) in order that all vehicle washing can be accomplished inside to minimize discharge directly to the environment.
- During the 2010 winter season all vehicles are to be washed indoors.
- By 2010 a retention area will be constructed to collect all salt laden wash water for treatment before release to the receiving body of water.

#### **2.1.7 Material Delivery and Handling**

In the fall season, salt and sand is delivered and stockpiled on the loading pad. Within 24 hours, winter sand is mixed with salt and all material conveyed to indoor storage.

- For the 2005 winter season reduce the percentage salt in the sand salt mix to just enough to prevent the mixture from freezing (2 to 5%) dependent on the moisture content of the sand.
- Ensure all deliveries of sand and salt are covered while in transport, on the ground, and schedule deliveries in good weather.
- Ensure the loading pad is swept clean following the transfer of the material to indoor storage.
- For the material that is pre-treated with liquid, ensure that the liquid materials are transferred without spillage to the mixer or carefully mixed without seepage on the loading pad.
- In the interim – salt storage will consist of a paved storage pad and tarping of the salt pile until a salt storage facility is constructed in 2005.
- The outside summer storage of salt sweetened sand will be discontinued immediately.

#### **2.1.8 Record of Material Usage**

Good record keeping includes the retention of accurate records on the amount of material used on each route by each vehicle and for each storm event.

- Implement a material tracking system, which records usage on each route, by each truck for each storm event.
- Compare material usage to benchmarked usage.
- With accurate records and comparisons, adjust amount of materials used for varying weather and pavement conditions.
- The material tracking system should be able to be used to rationalize the amount of materials used with the amount ordered and the residual amount at the end of season.
- For equipment with electronic spreader controls, download the information regularly and analyse it to compare the amounts of materials used with those recorded in the material tracking system.
- Implement a record of patrols performed.
- Implement a record of responses made to the winter storm events.



### **2.1.9 Weather and Pavement Temperature Forecasting**

In order to ensure that the right material in the right amount is applied to the road at the right time, timely and accurate weather and pavement temperature forecasting is essential. Accurate pavement temperature forecasting is a tool to reduce the amount of salt used during a storm event, for when to apply the first round, the frequency of each round and if the final round is really needed.

- Explore opportunities in your geographic area to get accurate weather forecasting that is reported to your patrol yard by email and/or fax with 4 or 6 hour updates 24/7 for the winter season.

### **2.1.8 Storm Response**

To assist patrol staff in decision making for winter maintenance, develop a set of guidelines for response to winter storm events that includes but is not limited to combinations of precipitation, air and pavement temperatures, time of day and traffic volume.

- Type of storm event, i.e., Alberta Clipper, Colorado Low, etc.
- Air and/or pavement temperature during event.
- At end or after the storm event; temperature rising, temperature falling
- Time of day; effect of heat gain during daylight hours.
- Time of day; traffic volumes assist in breaking the bond of snow/ice with the Pavement.
- Wind direction.
- Drifting conditions; do nothing and let the wind blow the snow across the road.
- Frost penetration in the road base contributing to pavement temperature.

### **2.1.9 Winter Patrol**

Winter Patrol is used to monitor road conditions and to react quickly to changing weather and road conditions. It is necessary to establish Council approved winter patrol policy that is developed in conjunction with the annual level of service policy review.

- Patrol coverage as Council directs for the winter season

### **2.2.0 Training**

All staff involved in winter maintenance; operators, patrollers, and supervisors need ongoing training, and need to share their skills and experience with the other municipal staff. Training should be refreshed annually before the upcoming winter season.

- Operators should be trained on the equipment that they are assigned to operate and allowed sufficient time to reacquaint themselves with controls and how they operate.
- Operators need refresher training on basic weather forecasting and tools used to determine pavement temperature.
- Operators need training on the chemicals and the use of those chemicals for de-icing and anti-icing; and when to use what chemical and when it is most effective.
- Supervisors and Patrollers need training on basic weather and pavement temperature forecasting, RWIS, and all other tools available to them to mount a response to a winter storm event.

- Managers and Supervisors should attend workshops, such as the Snow and Ice Colloquium, to learn the latest information about new technologies and techniques being used in other jurisdictions, and their experiences with various products and materials.
- All workers need training in the health and safety requirements for use of equipment and materials.

### **2.2.2 Technological Review**

Existing and new technology should be continuously monitored to determine their applicability in current policy and procedures with a view to altering them for continuous improvement in response to winter storm events.

- Pre-wetting.
- Direct liquid application or anti-icing.
- Impact of different liquids on the equipment used for application.
- GPS for vehicle locating and data transfer.
- Electronic spreader controls with capability for solids, liquids, and data transfer via GPS.
- New spreader equipment with liquid capabilities.
- Material storage with inside loading.
- Environment protection at snow dumps to prevent discharge of debris and chemicals directly into a watercourse with the melt water.
- Controlled run-off from loading pads at salt storage facilities.
- Use of RWIS for localized weather and pavement temperature forecasting.
- Use of infrared thermometers for measuring pavement temperature.
- Use of pavement temperature as a tool in determining when and what material is to be used.

### **2.2.3 Environmentally Sensitive Areas**

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

- Monitor ground water and recharge areas.
- Identify wetlands, streams and valleys, environmentally sensitive areas, pond, lakes, reservoirs, woodlands, fish, wild life, plant habitat, threatened and endangered species, flood plains and hazard lands, and areas of natural and scientific interest.
- Liaise with the local potable water supply agencies within your jurisdiction.
- Seek guidance from federal/provincial ministries and/or agencies.

### **2.2.3 Communication Strategy**

The Corporation of the Town of Kingsville communication strategy is to effectively communicate its' winter maintenance program to the public, in addition to municipal staff.

- Before November 15th of each calendar year, prepare and distribute a winter maintenance guideline to the general public to ensure public awareness of the program that is being delivered.
- Remind the public that road salt is not toxic to humans, but is harmful to the environment.
- Prepare an internal handbook for employees that communicates the Council approved winter maintenance policies and procedures and other important information such as,

contact list, operator and patroller shift assignments, strategies for dealing with the media, school boards and the public, etc.

- Establish a municipal website or if one already exists, provide winter maintenance information on the municipal website, and update regularly.

### **3.1.0 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.

### **4.1.0 Performance Measures**

Performance measures should be used to determine whether the objectives of the salt management plan have been met. Achievement, year over year, will be measured against the benchmark year described as "Current Winter Maintenance Program" in this salt management plan. Some of the indicators should include:

Monitoring the 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 continuous winter event responses.
- Total number of spot winter event response.
- Total number of winter event hours.

Monitoring the salt used:

- Tonnes of salt purchased annually.
- % of applications where discharge rates exceeded.
- % of total trucks loaded in the yard where a spill occurred.
- Total tonnes of salt applied annually per system km.

Ensuring customer satisfaction:

- % of winter event responses that meet or exceed the level of service policy.
- Total number of complaints received regarding winter operations.
- % of complaints that resulted in a response.

Measuring the success of the plan:

- % of the goals set out in the plan that were met.

## **Appendix- Definitions**

*Anti-icing* means the application of liquid de-icers directly to the road surface in advance of a winter event.

*De-icing* means the application of solids, liquids, pre-treated material to the road surface after the on-set of the winter event.

*Paved Road* is a road with an asphalt surface, concrete surface, composite pavement, or Portland cement.

*Pre-treat* means the application of liquids (calcium chloride, sodium chloride, etc) to the sand pile or salt pile as the sand or salt is loaded into the storage facility.

*Pre-wetting* means the application of liquids (calcium chloride, sodium chloride, etc) at the spinner of the truck just prior to application to the road surface.

*Surface Treated Road* is road with bituminous surface treatment comprised of one or two applications of asphalt emulsion and stone chips over a gravel road.

*Unpaved Roads* is a road with a gravel, stone or other loose traveling surface.

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

*Winter Event Response* is a series of winter control activities performed in response to a winter event.

- *Continuous Winter Event Response* is a response to a winter event with full deployment of manpower and equipment that plough/salt/sand the entire system.
- *Spot Winter Event Response* is a response to a winter event with only a part deployment of manpower and equipment or with full deployment to only part of the system.

*Winter Event Response Hours* are the total number of person-hours per year (ploughing, salting/sanding, winging back, etc.) to respond to winter events.

# **APPENDIX 1** **Equipment - Winter Maintenance Fleet**

Winter Maintenance Fleet -- Town of Kingsville																				
Equipment By Unit Number	Patrol	Truck			Winter Equipment						New Technologies						Loader	Loader Weigh Bucket	Grader	Side walk Equip
	Winter Pick Up	Tandem	Tri-Axle	Single Axle	Plough	Wing	Combination Unit	Spreader	Spinner Single Dual	Electronic Controller	Calibration	Pre-wet Equip	Anti-icing Equip	Anti-icing unit capacity	Infrared Thermometers					
Patrol Yard #1 - 2021 Division Road North																				
00-01		Y					Y		S	Y	Y	Y								
01-01				Y			Y		S	Y	Y	Y								
#3		Y					Y		S											
88-1				Y	Y				S											
88-2				Y	Y				S											
03				Y	Y				Y											
770					✓	✓												✓		
720					✓	✓												✓		
344																✓				
99-01	✓																			
03-01	✓																			

For each patrol yard, list all the equipment including hired or contracted units by unit number and indicate "Y" for YES in the appropriate box for the equipment making up that unit. If not applicable, then leave box blank. \*See Example in the table above.  
 Spinner: S = Single, D = Double Spinner. Anti-icing Unit Capacity: Indicate in litres.

## APPENDIX 2

### Yard Facilities

Winter Maintenance Facilities – Town of Kingsville, 2021 Division Road North															
Location	Site Drainage				Material Storage										
	Washing On-site	Washing Inside	Oil/Grit Separator	Discharge Drainage	Sand	Salt	Liquids	Structure Type	Structure Floor Paved	Salt Sand Loading Outside	Door Over-hang	Lighting	Mechanical Ventilation	Paved Loading Area	Liquid Containment
Patrol Yard #1		Y	Y		Y	Y	Y		Y		N	Y		Y	

#### Snow Removal and Disposal

Snow Disposal Sites – Town of Kingsville, Jasperson Road Parking Lot								
Location	Surface		Drainage/Run Off		Surrounding Land Use			
	Paved	Unpaved	Controlled	Uncontrolled	West	East	North	South
Site #1		Y		Y	Road	Rec.	Res.	Ag

**Note:** Provide information on pollution to any neighbourhood wells caused by road salts.

**APPENDIX 3**  
**Continuous Improvement Practices and Strategies**

Salt Management Plan- The Corporation of the Town of Kingsville										
Continuous Improvement Options	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
<i>Level Of Service Policy</i>	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
<i>Electronic Spreader Controls Purchase</i>			Y		Y		Y			
<i>New Dome</i>		Y								