



**City of Kingston  
Rural Advisory Committee  
Information Report Number RAC-16-005**

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**To:** Chair and Members of the Rural Advisory Committee  
**From:** Jim Keech, President and CEO, Utilities Kingston  
**Resource Staff:** Damon Wells, Director, Public Works  
**Date of Meeting:** February 29, 2016  
**Subject:** Rural Winter Roads Maintenance

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**Executive Summary:**

At the May 11, 2015 Rural Advisory Committee meeting, the following initiative within the committee work plan was proposed and subsequently approved.

- Review winter control and road repairs in the rural area. Reports to Rural Advisory Committee twice per year.

**Recommendation:**

This report is to provide requested information only.

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**Authorizing Signatures:**

ORIGINAL SIGNED BY PRESIDENT & CEO, UTILITIES KINGSTON

**Jim Keech, President and CEO,  
Utilities Kingston**

ORIGINAL SIGNED BY CHIEF ADMINISTRATIVE OFFICER

**Gerard Hunt, Chief Administrative Officer**

**Consultation with the following Commissioners:**

Cynthia Beach, Corporate & Strategic Initiatives	Not required
Lanie Hurdle, Community Services	Not required
Denis Leger, Transportation, Facilities & Emergency Services	Not required
Jim Keech, President and CEO, Utilities Kingston	Not required

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**Options/Discussion:**Rural Winter Roads Maintenance

For the Public Works Department, Rural Winter Roads Maintenance consists of two basic general operation types:

- Roads Winter Control
- Winter Road Repairs and Maintenance

Exhibit 'A' – Rural Winter Roads Maintenance, provides general information for both of those two operations.

Roads Winter Control

Rural roads winter control follows the same operational process as applied to all City of Kingston municipal roads and streets.

Twenty four hours per day, seven days per week, Public Works and/or contracted staff are available to respond to winter control weather events. Winter Road Patrols of representative rural roads are carried out both on a regular basis and additionally as needed.

Rural roads are classified under the same classification system as the balance of the City's roads and streets, and are provided the same level of service according to those classifications.

For the purpose of winter control operations, the City's Rural roads are captured in ten (10) Snow Plow Routes, that cover the entire Countryside electoral district and half or more of the Pittsburgh electoral district. Of these ten routes, three (3) are actioned by Public Works departmental staff and six (6) are actioned by Contracted Services staff.

Along with plowing, sanding and salting operations, Public Works has been expanding the use of winter control liquids for both anti-icing and pre-wetting operations. These operations help reduce the amount of road salts applied to municipal roads and streets, and support the provision of better winter road and street conditions.

Winter Road Repairs and Maintenance

Winter road maintenance and repair operations, although limited by winter weather conditions, are carried out to the extent possible when winter control operations are not required or fully underway.

Pot hole repairs are carried out year round as a necessary road repair activity. While the most critical period for pot holes is typically the months of March and April, depending on winter weather conditions, the occurrence of pot holes can also be very prevalent in winter months. Pot hole repair operations are carried out whenever staff are available and not required for winter control operations.

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Through this winter season, Public Works staff have developed roadside brushing operational practices, and initiated same. Winter months are ideal for this roadside vegetation control operation and again, are carried out whenever staff are available and not required for winter control operations.

Other normal road repair and maintenance operations are typically very limited during winter months, unless circumstances require some action be taken.

**Existing Policy/By Law:**

Winter Control Plan

**Notice Provisions:**

Not applicable.

**Accessibility Considerations:**

Not applicable.

**Financial Considerations:**

Not applicable.

**Contacts:**

Damon Wells, Director, Public Works, 613-546-4291, Extension 2313

**Other City of Kingston Staff Consulted**

Troy Stubinski, Manager, Public Works

Bill Linnen, Manager, Public Works

**Exhibits Attached:**

Exhibit 'A' - Rural Winter Roads Maintenance Presentation

Exhibit 'A'

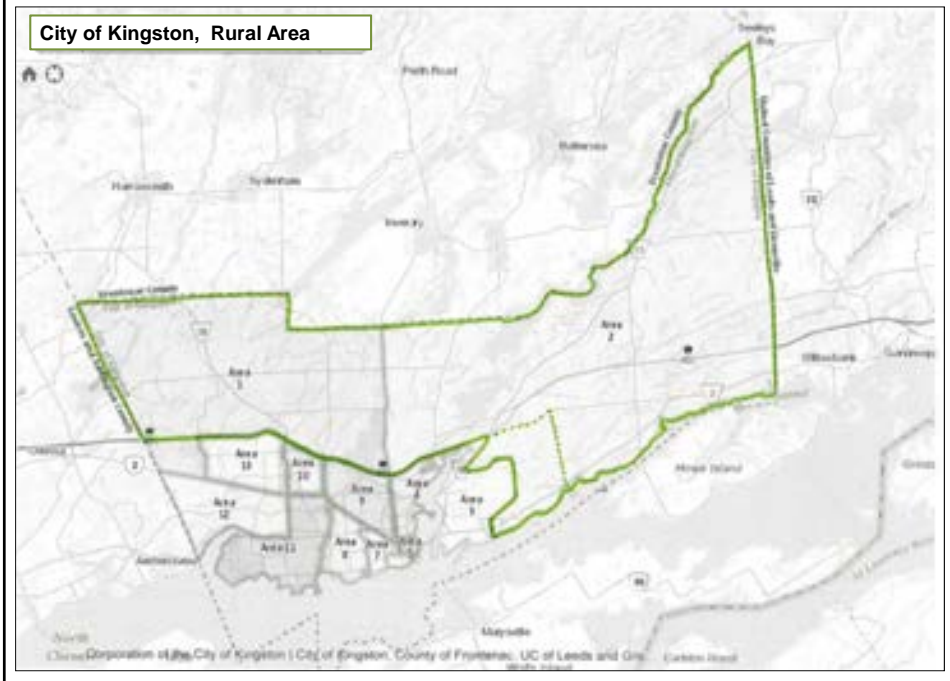
# Rural Winter Roads Maintenance



**Rural Advisory Committee**

Monday, 29 February, 2016

City of Kingston, Rural Area



**Rural Winter Roads Maintenance**

**Winter Maintenance**



- Roads Winter Control
  - Winter Road Patrols
  - Plowing or Clearing
  - Sanding and/or Salting
  - Winging Back Banks

- Winter Road Repairs & Maintenance
  - Roadside Brushing
  - Pot Holes

**Rural Winter Roads Maintenance**

Public Works staff  
'Winter Maintenance'  
Hours of Work



- **HOURS OF WORK**
- Two regular shifts for Public Works staff, are employed from Monday to Friday:
- Night Shift
- Regular, 12:00 midnight - 8:00 a.m.
- Over Time, ( 8:00 p.m. - 12:00 a.m., as may be required during storm events )
- Day Shift
- Regular, 8:00 a.m. - 4:00 p.m.
- Over Time, ( 4:00 p.m. - 8:00 p.m., as may be required during storm events )
- *These shifts will continue through Saturdays and Sundays, as winter events may dictate.*
- *This provides for 24 hour operational coverage, 7 days per week, during or after storm events, and maintains "on duty hours" at 12 hours or less in a given 24 hour period.*
- Monday to Friday, between 4:00 p.m. - 12:00 midnight, two PW's staff member, will provide patrol coverage, to keep the Duty Supervisor informed of weather and roadway conditions.
- Weekend coverage will be provided by two road patrol shifts, with two PW's staff on each shift, to keep the Duty Supervisor informed of weather and roadway conditions, as follows:
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- 1), Day Shift
- 8:00 am – 8:00 pm Friday
- 8:00 am – 8:00 pm Saturday
- 8:00 am – 8:00 pm Sunday
- 2), Night Shift
- 8:00 pm Friday – 8:00 am Saturday
- 8:00 pm Saturday – 8:00 am Sunday
- 8:00 pm Sunday – 8:00 am Monday



**Rural Winter Roads  
Maintenance**

- **CLASS**      **DESCRIPTION**
- Class 1      **Arterial and Collector** roads with Average Annual Daily Traffic (AADT) > 5000, Business Improvement Area and Major Rural roads.
- Class 2      **Collector roads** and Transit routes.
- Class 3      Local **Residential**, Commercial and **Minor Hard Surfaced Rural roads**.
- Class 4      Gravel Rural roads.

**Rural Winter Roads  
Maintenance**

**LEVELS OF SERVICE - ROADWAYS**

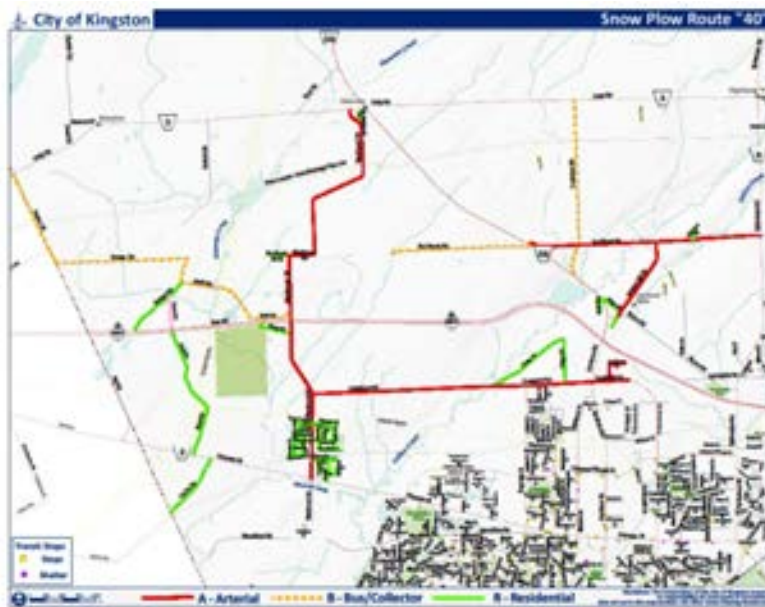
- Table provides ‘levels of service’ targets.
- Conditions dictate work required.
- Meeting objectives dependent on nature & duration of the storm, and post storm weather conditions.
- “ ≤ ” means “less than or equal to”
- Indicates activity can start before accumulation reaches defining depth,
- but at latest start when accumulation has reached the defining depth.

Kingston Roadway Classifications	Class 1 Arterials	Class 2 Bus / Collectors	Class 3 Residentials	Class 4
<b>Objective:</b>	Essentially Bare	Essentially Center Bare	Essentially Center Bare	Safe and Passable
<b>Operation:</b>				
<b>Salting/Sanding:</b>				
Time to meet objective, ASAP after becoming aware of condition	3 hours	4 hours	12 hours	16 hours
Begin when snow accumulation is;	≤ 2 cm	≤ 3 cm	≤ 4 cm	n/a
follow-up salting/sanding	as required	as required	as required	n/a
theoretical circuit	3 hours	4 hours	6 hours	n/a
<b>Plowing:</b>				
Begin when snow accumulation is;	≤ 2.5 cm	≤ 6 cm	≤ 8 cm	≤ 10 cm
Time to meet objective, ASAP <b>after precipitation has ended</b> , normally within;	4 hours	6 hours	16 hours	24 hours



### Rural Winter Roads Maintenance

- Rural Plow Routes;
- '40' - Westbrook / Creekford
- '41' - Highway 38
- & '42' - Sydenham Rd
- Are covered with In-House Resources.





## Rural Winter Roads Maintenance

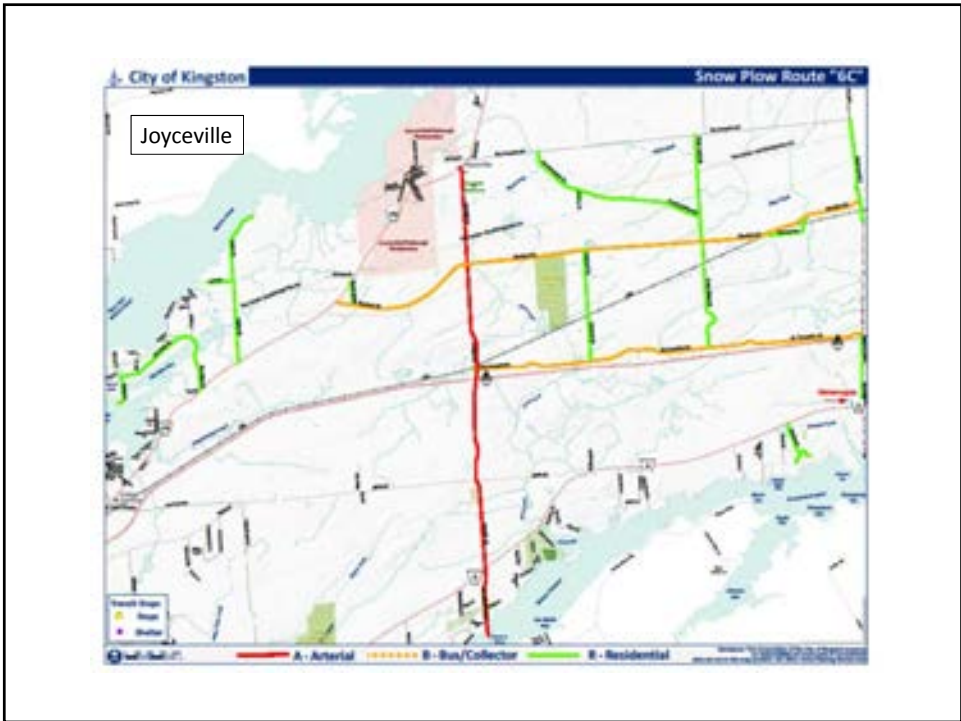
### Roadway Plowing & Salting/Sanding Contracted Services



- **Rural Plow Routes, 1C, 2C, 3C, 5C, 6C & 7C**
- Routes in Kingston East, along with two routes north of Highway 401 and west of the Cataraqui River, are covered through contracted plowing and salting/sanding services.
- The outsourcing of these winter control routes is necessary, because the City of Kingston does not have enough in house personnel or equipment, to provide the required consistent level of winter control service, across the entire City of Kingston.
- The Plowing & Salting/Sanding contractor;
  - is under direction of Public Works Supervisors,
  - initiates operations upon being called out by the Supervisors.
  - is required to carry out operations as directed
  - is required to meet level of service standards and follow the procedures as defined in the Winter Control Plan.
- For the 2015-2016 Winter Season, these contracted services, operate out of the newly constructed Kingston East Sand/Salt Storage facility.





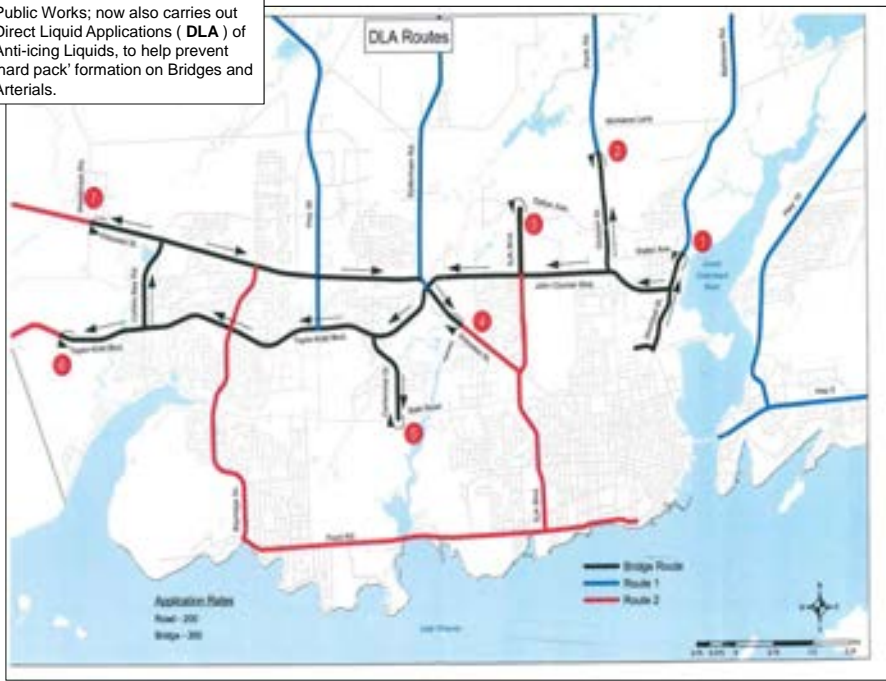




**DLA / Anti-icing Application  
'Before an Expected Event'**



Public Works; now also carries out Direct Liquid Applications ( DLA ) of Anti-icing Liquids, to help prevent 'hard pack' formation on Bridges and Arterials.



## Anti-icing



Same Road  
Different Treatments



Traditional Treatment



DLA Treatment

Rural Winter Roads  
Maintenance

Pot Hole Repairs

- Pot Hole repairs, on-going year round activity
- Between winter events, daily assignments
- Winter repairs, utilize 'hot box', to keep cold patch workable





## Rural Winter Roads Maintenance

### Roadside Brushing

- Typically winter and early spring operations
- More suitable conditions
- Staffing resource availability, between winter events



## Rural Winter Roads Maintenance



Questions ?

