CORPORATION OF THE TOWNSHIP OF NORTH FRONTENAC

BY-LAW #53 - 04

BEING A By-law to establish minimum and desirable roadway service standards for the Corporation of the Township of North Frontenac road system

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WHEREAS Section 28(1) of The Municipal Act, R.S.O. 2001 provides that the Council of every municipality has jurisdiction over all highways and bridges within the municipality;

AND WHEREAS, Council deems it expedient and necessary to implement policy to identify certain minimum and desirable standards for roadway services on roads under the jurisdiction of the Corporation of the Township of North Frontenac based on the classification of the road;

NOW THEREFORE THE COUNCIL OF THE CORORATION OF THE TOWNSHIP OF NORTH FRONTENAC ENACTS AS FOLLOWS:

Section 1-Title

This By-law may be cited as the "Roadway Service Standards By-law"

Section 2 – Scope

This By-law shall apply to all roadways and bridges within the boundaries of the Township of North Frontenac. The service standards for roadways located in another municipality but maintained by the Township of North Frontenac shall be the standard as determined by the other municipality and agreed upon by the Township of North Frontenac, unless otherwise specified in this by-law.

Section 3 – Definitions

Standards require care in interpretation. There are many terms used which need to be specifically defined. Without the definition misunderstanding may result. All words defined herewith need to be understood in the context of the roadway service standard in which they are used.

AADT means Average Annual Daily Traffic, which 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 which are commonly found in a stabilized environment. Normally in ambient conditions there are no negative effects actively reducing the existing conditions (i.e. storm, excess traffic or construction effects are not in evidence.)

ASPECTS – in the context of these standards refers to specific elements of roadway service which are defined by these standards.

BARE – conditions refer to winter road conditions where all traveled lanes are effectively clear of snow build-up or general ice conditions which might impair the safe travel on the road below the travel speed under ambient conditions.

CENTRE BARE – conditions refer to winter road conditions where on wheel track of each of the traveled lanes is substantially clear of snow and ice conditions allowing the user to negotiate safer travel than if snow packed or general ice conditions prevail.

CONDITIONS – defines the state in which the subject matter is found. The standard indicates the condition being measured.

CLASS – in the context of these standards refers to the criteria for classifying roadways developed in the preamble to the standards.

CLEARANCE – is the zone measured horizontally and vertically from the center line of the road in which no obstructions should be permitted, except those which improve the safety of the roadway user. Exceptions may be defined in the standards.

CULVERT

CYCLE – is that time interval between inspections conducted for a specific purpose. Consideration can still be made for inspection cycle time adjustments at the discretion of the supervisor for mitigating circumstances which are of an uncommon, or unpredictable nature.

DAY – is a calendar day, measured to the end of the following day.

DESIRABLE – describes that level of service standard which the roadway authority has established as an objective for road department operations.

EARTH – refers to the road surface composed of native or naturally occurring selected soils which act as the surface and primary bearing layer of the road.

EFFECT – is the acting of an external influence on the condition of any aspect of the roadway.

EMERGENCY LAG TIME – applies to restoring primary traffic control devices to functional adequacy.

ENCROACHMENT – is an obstacle inside the clearance zone which may or may not be permitted by these standards.

HARDTOP – refers to the road surface, which is relatively hard in nature, by treatment with either a bonding agent or cement, which effectively prevents reshaping by conventional motor grader.

HORIZONTAL CLEARANCE – is an obstruction free zone measured from the center line of a road.

IMPROVED – condition refers to the condition being better than it was before, from the perspective of a typical user, all other effects being equal.

INSPECTION – is the activity performed by a person authorized and directed by the roadway authority to investigate and report on the relevant conditions of the roadway. Qualifications for inspector shall be determined by the roadway authority, and are relevant to the nature of the

inspection performed. General inspection has regard for raod surface and roadside standards. Winter inspection has regard for winter road surface standards.

LAG TIME – means the period of time any aspect of a roadway may be in a substandard condition. It is typically measured from when the condition occurs. In the case of continuing effects (i.e. storm) causing the condition, the lag time is measured from the end of that effect happening. Typically it is the time in which the department may deliver operational responses to improve the condition if necessary. Unless otherwise specifically qualified in the standard, the condition or effect is deemed to have been identified at time of inspection or when notice was given.

LANE – is that portion of the road designated for a single file of vehicles to travel over, in one direction. For roads where two way traffic is permitted, the lane width is half the road width unless delineated otherwise by pavement markings.

LOCALIZED – conditions, for the purpose of these standards, occur on short lengths of roadway specifically on bridges, intersections, curves and hills.

LOOSETOP – refers to a road surface that is of a granular manufactured product, which can be reasonable shaped by a motor grader, and includes road surfaces under reconstruction.

MAXIMUM – in the context of these standards refers to the lowest level of service set by the Roadway authority, which the roadway user can reasonably expect. In effect it is the minimum service.

NOTICE – of an effect or condition is deemed to have been given when received by an appropriate supervisor of the road authority.

POLICIES – are decisions of a formal nature made by a road authority to enable, qualify and govern the mission of that authority. Policies are normally qualified as to scope and application. A policy should only be exempted or altered by the body which created it. Municipal policy is best established in the form of a by-law. Policy should not be confused with operational procedures of quality standards.

PRIMARY SAFETY DEVICES – have regard for the safety and traffic regulation of the roadway. They address matters referred to in the Highway Traffic Act, including traffic signals, flashers and regulatory signs.

OPERATIONS – are those activities which a road department perform to improve a condition or sustain a roadway standard. Operations are normally defined by guidelines, with discretion of the supervisor to choose various methods to achieve results cost effectively.

REGULATORY SIGNS – are those signs, which are so referred to in the Ontario Manual of Uniform Traffic control Devices.

REPAIR LAG TIME – applies to primary safety devices, traffic control devices and vehicle attenuation devices which, due to damage, are not providing the protection for which they were installed. Repair re-instates the existing system to functional service. Installation of temporary devices is deemed to constitute repair.

RESPONSE – describes that action taken by the roadway authority when informed of an effect or condition. Monitoring an effect or condition may constitute a response. A reasonable response takes into account the relevant standards.

RESTORATION LAG TIME – refers to time to restore primary safety devices, traffic control devices and vehicle attenuation devices where they have deteriorated below original effectiveness or have ceased to be in compliance with current standards.

RIGHT OF WAY – (ROW) describes the corridor of land reserved for roadway improvements and under the jurisdiction of the roadway authority. Certain rights of way infer a right of passage to the public. However, in the context of these standards, only rights of way with assumed public roadways are considered. Rights of way solely for non-vehicular traffic are not addressed in these standards.

ROAD – refers specifically to the traveled road surface on a roadway assumed by a roadway authority, but not including on-street parking or stopping zones.

ROADSIDE – refers to all the elements or conditions which make up the roadway authority, except for the road surface itself.

ROADWAY – in the context of these standards means any public assumed road right of way, intended for vehicular traffic. It refers not only to the traveled road surface, but to all services relevant to the road, within the right of way. Roadway = road + roadside

ROADWAY AUTHORITY – is the public agency accountable for the status and condition of the roadway. This refers to the Corporation of the Municipality and its designated officials or agents.

SAFETY – is a general term identifying the concept of mitigating bodily injury or death of persons, or direct damage (beyond wear and tear) to vehicles or contents. The obligation to safety in the contest of service standards requires that the user operates in a safe manner giving consideration to the relevant effects and conditions, the vehicle is in good condition, satisfies any load restrictions, and contents are properly secured.

SAFETY DEVICES – is a general term referring to all improvements which have traffic safety as their primary objective, including primary safety devices, traffic control devices and vehicle attenuation devices.

SECTION – refers to a portion of roadway with a distinct classification, and homogeneous character. A roadway section is commonly used for construction costing, inventory control in Maintenance Management Systems, Road Needs Studies, Pavement Management Studies, and Priority Planning and Budgeting.

SEASONAL – refers to the limited time of year where certain roadway service standards apply to the subject roadway (i.e. summer rods, ice roads). In the context of these standards, seasonal roads are classified as those not receiving winter services, unless otherwise defined.

SERVICE – can be defined in two contexts. In the larger context any government activity is a service. A roadway network is a service, as is a library, potable water supply, etc. When used in

the context of these standards, "service" refers more specifically to aspects of a roadway and their condition. Services are seen from the perspective of the user.

SERVICE LEVEL MATRIX – is the chart in the standard which specifically defines the service level according to class of roadway.

SERVICE LEVELS – are a range of values which qualify a particular service standard, by one or more parameters, across a range of roadway classifications. Service levels typically reflect a maximum, minimum or desirable.

SHOULDER – is that maintained surface immediately adjacent to the traveled surface of the road. The shoulder may be partially or fully hardtop, loosetop grassed, or earth. It is not considered a part of the road for these standards.

SHOULDER WIDTH – is measured from the edge of the actual outside traveled lane except that for loosetop road surfaces the measure is from the outside edge of the minimum lane width. Width is measured to the beginning edge of a rounding, where the surface ceases to be maintained for emergency or temporary vehicle use.

SNOWPACKED – conditions refer to winter road conditions where the traveled surface of the road is covered with a build up of snow and/or ice and allows the user to manage safe travel.

SPEED – refers to the average speed at which an average automobile can safely travel on a road of reasonable length, without the effects of traffic. This does not refer to design speed or legal speed unless specifically qualified. Posted speed is either legal or advisory.

STANDARDS – are quantified statements, defining the nature of a product or activity. Usually such standards are minimum or desirable, and in this context refer specifically to the roadway service standards adopted as policy, by a roadway authority.

STORM – conditions or effects are where natural or external effects are acting upon the roadway to reduce the condition as defined by one or more roadway service standards. It does not refer to weather conditions which do not impact on the infrastructure. Storm conditions could include wind, rising and moving water, precipitation, cold temperatures (below –15C), snowfall, freezing rain, hail, blowing snow, etc.

SUBSTANDARD – refers to a condition which is outside the defined standard. Normally a substandard condition requires a response, unless otherwise considered in the standard.

SUPERVISOR – refers to a manager in a road department who is accountable for the deployment of operations which impact on the condition of roadway services.

SURFACE – is the exposed top of the traveled road and includes adjacent surfaces for turning or stopping, but not parking on shoulders.

SYSTEM – refers to a collection of roadways, typically of various classifications, owned by a single road authority.

TRAFFIC CONTROL DEVICES – have regard for the advising and routing of traffic including non-regulatory signs, pavement markings and hazard markers.

USER – refers to any person traveling on or over the roadway, including vehicle operators, passengers and pedestrians.

VEHICLE ATTENUATION DEVICES – guide and attenuate errant vehicles and their occupants to reduce damage and personal injury.

VERTICAL CLEARANCE – is an obstruction free zone measured from any point on the surface of the road and above the projection of the horizontal clearance width.

WINTER – is that season when cold weather effects on road conditions can be reasonably expected. This season can be specifically defined by the road authority.

Section 4- Underlying Principles – Public Interest

There are several significant underlying principles upon which roadway policies should be built. These principles find their way into statute law, by-laws and common practice. Roadway policies and specific decisions must be founded on these principles. Where an issue presents a conflict in these principles, the wisdom of council must qualify the "public interest". After these principles are reconciled, professional, technical assessment can establish the priority.

4-1 It is in the "public interest" for the municipality to sustain a publicly accessible road system.

4-2 It is realistic for such a road system to be limited and controlled as to scope, purpose and condition.

4-3 It is important that such a system be administered with policies giving consideration to the stakeholders, including the user, and the taxpayer.

4-4 It is recognized that the cost for such a road system should accrue to those benefiting from it.

4-5 It is understood that priorities for limited road services will be based on essential safety, legal requirements, defined minimum standards, cost effectiveness and local preferences.

4-6 The administration and delivery of regulated improvements and services will be done with respect and dispatch, within reasonably defined limits.

4-7 Policies used to guide the development and sustainment of that system should be defined and accessible, and change to such policies will not be made without due process.

4-8 This policy is intended to be used as a minimally acceptable condition/standard for all municipally maintained roads within North Frontenac

5. ENACTMENT

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF NORTH FRONTENAC ENACTS AS FOLLOWS

5-1 That the classification of North Frontenac Roads be as set out in Schedules A(i), A(ii) & A(iii) attached hereto and forming part of this by-law.

5-2 That the standards described under ROAD SURFACE: GENERAL (1.1 to 1.10); ROAD SURFACE: WINTER (2.1 to 2.6) and ROADSIDE (3.1 to 3.5), as outlined on Schedule "B" attached hereto and forming part of this by-law, be adopted as the minimum and desirable standards for roadway services on roads under the jurisdiction of the Corporation of the Township of North Frontenac.

5-3 That all activities of the North Frontenac Township Roads Department be directed to provide the desired roadway services as herein described where care is taken first to assure that the minimum standards are maintained, and second that such services are efficiently and effectively rendered.

5-4 That neither the Corporation of the Township of North Frontenac nor its officials make any promise or assurance that roadway services will be in excess of the minimum standards set out on Schedule "B".

5-5 That these standards and definitions of terminology be made available to the ratepayers and users of the Township Road System on the understanding that where exception is taken to the standards stated herein, or interpretation of same, such concern will be referred to the Council for further consideration.

5-6 That where situations arise or applications be made which fall outside the scope of these standards, the Road Committee and the Road Superintendent or his designate shall respond as he/she may deem to be appropriate, with respect to budgetary constraints and reasonable practice.

5-7 That budgets and Council priorities shall be set on the basis of provision of roadway services to desirable standards, and where fiscal constraints are applied such desirable standards shall be redefined.

5-8 That this By-law and the standards herein contained shall come into force and effect from and after its passing.

READ A FIRST AND SECOND TIME, THIS 9th DAY OF December, 2004

READ A THIRD TIME AND FINALLY PASSED, THIS 13th DAY OF January, 2005.

_____ _____

Mayor Clerk

Schedule A(i)

CLASSIFICATION OF MUNICIPAL ROADWAYS

Primarily the character is established by the nature of the traffic. Traffic is defined by broad ranges of total vehicular traffic load, the commercial traffic load, or number of continuous lanes. Secondarily, the classification relates to the demands of the adjacent land use environment. This secondary character is defined by three board groups, URBAN, SEMI-URBAN and RURAL. For the purposes of road classification in North Frontenac Township, our roads fall into the classifications of:

SUMMER ROADS	M1
AADT (Average Annual Daily Traffic) ROADS 1-49 LOCATED WITHIN A HAMLET	M2
AADT ROADS 1-49	M3 & M4
AADT ROAD 50-399	M5

M-1 ROADS

Ward 1

Black Road
Browns Bay Road
Delyea Road
Don Anna Road
Gull Lake Road
Head Road (starting at Shabomeka Lake Road)
Marble Lake Road
Mississagagon Lake Road
Nowell Road
Oak Road
Perry Road
Shabomeka Lake Road
Spencer Road
Thompson Road
Veley Road
Wellman Road
Whites Road
Wintergreen Road

Ward 2

Austris Road
Beach Road
Brule Lake Road
Crotch Lake Access Road
East Bay Road
Greer Road
Grindstone Lake Road

Hills Lake Road
James Road
Martin Road
Mosque Lake Road
Mountain Road
North Road
North Shore Road
Quackenbush Road
River Road(2)
Russ Brown Road
Schonauer Road
Schooner Road
Smith Road
Struthadam Road(2)
Swauger Lake Road
Twin Oaks Road

Ward 3

Arcol Road
Chatham Road
Cruise Road
Folger Road
Gemmill Road
Lothlorien Road
MacDonald Road
Morrow Road
Ragged Chutes Road
Shiner Road
South Bush Road
St. Pierres Road
Struthadam Road (3)
Wilbur Road

M-2 ROADS

Note: For the purposes of determining the area of the below mentioned roads, the limits of the hamlets shall be as indicated on Schedules A1, A2, A3 *Land Use and Transportation Plan,* of the Official Plan for the Township of North Frontenac

Ward 1

Harlowe Road (within the Hamlet of Harlowe)
Jewel Road
Little Pond Road
Road 506 (within the Hamlet of Myers Cave)

Ward 2

Ardoch Road (within the Hamlet of Ardoch)
Ardoch Road (within the Hamlet of Coxvale)
Road 506 (within the Hamlet of Fernleigh)
Road 506 (within the Hamlet of Plevna)
Road 509 (within the Hamlet of Plevna)
South Road (within the Hamlet of Fernleigh)

Ward 3

Canonto Road (within the Hamlet of Canonto)
Elphin-Maberly Road (within the Hamlet of Snow Road Station)
Road 509 (within the Hamlet of Mississippi)
Road 509 (within the Hamlet of Ompah)
Road 509 (within the Hamlet of Snow Road Station)

M-3 ROADS

Ward 1

Kashwakamak Lake Road
North Mazinaw Heights Road
Snider Road
Skootamatta Lake Road
South Mazinaw Heights Road

Ward 2

Buckshot Lake Road
Matawatchen Road
Sand Lake Road

Ward 3

Gulley Road
Lake Road
Lodge Road
Mountain Chutes Road
River Road(3)
Robertsville Road

M-4 ROADS

Ward 1

Head Road (from Hwy. 41 to Shabomeka Lake Road)
Henderson Road
Myers Cave Road

Ward 2

Lookout Hill Road
South Road

Ward 3

Canonto Road
Elphin-Maberly Road
South Lavant Road

M5 ROADS

Ward 1

Harlowe Road
Road 506(1)

Ward 2

Ardoch Road (2)
Road 506(2)
Road 509(2)

Ward 3

Ardoch Road(3)
Road 509(3)

Roads of North Frontenac by Ward

Ward 1

Black Road	M1
Browns Bay Road	M1
Delyea Road	M1
Don Anna Road	M1
Gull Lake Road	M1
Harlowe Road	M5 & M2
Head Road	M1 & M4
Henderson Road	M4
Jewel Road	M2
Kashwakamak Lake Road	M3
Little Pond Road	M2
Marble Lake Road	M1
Mississagagon Lake Road	M1
Myers Cave Road	M4
North Mazinaw Heights Road	M3
Nowell Road	M1
Oak Road	M1
Perry Road	M1
Road 506(1)	M5 & M2
Shabomeka Lake Road	M1
Skootamatta Lake Road	M3
Snider Road	M3
South Mazinaw Heights Road	M3
Spencer Road	M1
Thompson Road	M1
Veley Road	M1
Wellman Road	M1
Whites Road	M1
Wintergreen Road	M1

Ward 2

Ardoch Road (2)	M5 & M2
Austris Road	M1
Beach Road	M1
Brule Lake Road	M1
Buckshot Lake Road	M3
Crotch Lake Access Road	M1
East Bay Road	M1
Greer Road	M1
Grindstone Lake Road	M1
Hills Lake Road	M1
James Road	M1
Lookout Hill Road	M4
Martin Road	M1

Matawatchen Road	M3
Mosque Lake Road	M1
Mountain Road	M1
North Road	M1
North Shore Road	M1
Quackenbush Road	M1
River Road	M1
Road 506(2)	M5 & M2
Road 509(2)	M5 & M2
Russ Brown Road	M1
Sand Lake Road	M3
Schonauer Road	M1
Schooner Road	M1
Smith Road	M1
South Road	M4 & M2
Struthadam Road(2)	M1
Swauger Lake Road	M1
Twin Oaks Road	M1

Ward 3

Arcol Road	M1
Ardoch Road(3)	M5
Canonto Road	M4 & M2
Chatham Road	M1
Cruise Road	M1
Donaldson Road	M1
Elphin-Maberly Road	M4 & M2
Folger Road	M1
Gemmill Road	M1
Gulley Road	M3
Lake Road	M3
Lodge Road	M3
Lothlorien Road	M1
MacDonald Road	M1
Morrow Road	M1
Mountain Chutes Road	M3
Ragged Chutes Road	M1
River Road	M3
Road 509(3)	M5 & M2
Robertsville Road	M3
Shiner Road	M1
South Bush Road	M1
South Lavant Road	M4
St. Pierres Road	M1
Struthadam Road (3)	M1
Wilbur Road	M1

Alpha List of North Frontenac Roads

Arcol Road	M1
Ardoch Road (2)	M5 & M2
Ardoch Road(3)	M5
Austris Road	M1
Beach Road	M1
Black Road	M1
Browns Bay Road	M1
Brule Lake Road	M1
Buckshot Lake Road	M3
Canonto Road	M4 & M2
Chatham Road	M1
Crotch Lake Access Road	M1
Cruise Road	M1
Delyea Road	M1
Don Anna Road	M1
Donaldson Road	M1
East Bay Road	M1
Elphin-Maberly Road	M4 & M2
Folger Road	M1
Gemmill Road	M1
Greer Road	M1
Grindstone Lake Road	M1
Gull Lake Road	M1
Gulley Road	M3
Harlowe Road	M5 & M2
Head Road	M1 & M4
Henderson Road	M4
Hills Lake Road	M1
James Road	M1
Jewel Road	M2
Kashwakamak Lake Road	M3
Lake Road	M3
Little Pond Road	M2
Lodge Road	M3
Lookout Hill Road	M4
Lothlorien Road	M1
MacDonald Road	M1
Marble Lake Road	M1
Martin Road	M1
Matawatchen Road	M3
Mississagagon Lake Road	M1
Morrow Road	M1
Mosque Lake Road	M1
Mountain Chutes Road	M3

Mountain Road	M1
Myers Cave Road	M4
North Mazinaw Heights Road	M3
North Road	M1
North Shore Road	M1
Nowell Road	M1
Oak Road	M1
Perry Road	M1
Quackenbush Road	M1
Ragged Chutes Road	M1
River Road	M1
River Road	M3
Road 506(1)	M5 & M2
Road 506(2)	M5 & M2
Road 509(2)	M5 & M2
Road 509(3)	M5 & M2
Robertsville Road	M3
Russ Brown Road	M1
Sand Lake Road	M3
Schonauer Road	M1
Schooner Road	M1
Shabomeka Lake Road	M1
Shiner Road	M1
Skootamatta Lake Road	M3
Smith Road	M1
Snider Road	M3
South Bush Road	M1
South Lavant Road	M4
South Mazinaw Heights Road	M3
South Road	M4 & M2
Spencer Road	M1
St. Pierres Road	M1
Struthadam Road (3)	M1
Struthadam Road(2)	M1
Swauger Lake Road	M1
Thompson Road	M1
Twin Oaks Road	M1
Veley Road	M1
Wellman Road	M1
Whites Road	M1
Wilbur Road	M1
Wintergreen Road	M1

ROADWAY SERVICE STANDARDS

ROAD SURFACE: GENERAL

1.1 Ride Condition

This measurement is based on a Riding Condition Rating (RCR) measurement described by MTO and summarized as follows:

9-10	Excellent	Very Smooth Ride
7-8	Good	Smooth, but with a few bumps
5-6	Fair	Still comfortable but with bumps
3-4	Poor	Uncomfortable with frequent bumps
0-2	Very Poor	Uncomfortable, constant bumps

This standard is not applicable to loosetop roads.

Table 1-1 — RIDE CONDITION

CLASS	MINIMUM	DESIRABLE
M1	n/a	6
M2	n/a	6
M3	n/a	6
M4	3	6
M5	3	7

1.2 Travel Speed

Speed levels have regard for reasonable average travel speeds on a road as impacted by road roughness and geometry alone. Speed reductions due to weather, snow, ice, traffic, foreign material and roadside environment are not considered.

Certain circumstances may justify the legal maximum speed to be regulated in a zone at less than the desirable speed shown. In such specific cases, the desirable speed is the posted speed.

Table 1-2 — TRAVEL SPEED

CLASS	MINIMUM SPEED	DESIRABLE SPEED
M1-5	25 kph	n/a

1.3 Bumps

Local surface deformations include potholes, utility trench settlements, washboards, rutting, pavement edge drop-off, washouts, frost heaves, settlement, etc. Where the measured depth is in excess it should be restored to at least maximum depth within the lag time. Maximum depth is the deviation in cm measured vertically from a 1m long straight edge placed parallel to traffic flow, or perpendicular in the case of wheel track rutting and pavement edge.
Where it is unreasonable to restore the condition within the lag time, such conditions should be posted within the lag time.

Table 1-3 — BUMPS

CLASS	MAXIMUM DEPTH	MAXIMUM LAG TIME	DESIRABLE DEPTH	DESIRABLE LAG TIME
M1	10cm	1 month	8 cm	2 weeks
M2	6 cm	2 weeks	6 cm	2 weeks
M3	8 cm	2 weeks	8 cm	2 weeks
M4	8 cm	1 month	8 cm	2 weeks
M5	8 cm	2 weeks	6 cm	1 week

1.4 Flooding

A flood condition exists where water, flowing or standing, covers more than half a lane width. Where floods exceed the maximum depth, a response is required. Flood conditions on Class M-5 roadways should have warnings posted. Where the roadway is not closed, it should be monitored at reasonable intervals during the flood.

For class M 1-5 the maximum lag time for responding is 12 hours.

Table 1-4 — FLOODING

CLASS	MAXIMUM DEPTH	ESTIMATED MAXIMUM FREQUENCY	DESIRABLE DEPTH	DESIRABLE FREQUENCY
M1	20 cm	1 month	10 cm	2 years
M2	10 cm	1 year	5 cm	25 years
M3	20 cm	1 month	10 cm	2 years
M4	15 cm	6 months	10 cm	5 years
M5	10 cm	1 year	5 cm	25 years

1.5 Road Debris

Where debris occurs on the road surface, but does not prevent the flow of traffic, yet impacts on reasonable safety or vehicle damage, the condition should be removed within the maximum lag time. This does not address the need to respond in an appropriate and timely manner to emergency situations which impact on road surface conditions. Where debris prevents the flow of traffic on class M l-5 roads, the maximum lag time for responding is 12 hours. Traffic is deemed to be prevented on class M 1-5 roads if all lanes are blocked.

Table 1-5 — ROAD DEBRIS

CLASS	MAXIMUM LAG TIME	DESIRABLE LAG TIME
M1	1 year	1 month
M2	1 year	1 month
M3	1 year	1 month
M4	1 year	1 month
M5	1 year	1 month

1.6 Dust

Where dust caused by traffic on a loosetop road surface impacts on reasonable vehicle safety, relative to the ambient condition of the road, that condition should not occur for more than the

maximum lag time per year. This standard does not consider where the condition occurs over a distance of less than 100 m. This standard does not apply to shoulders. Dust abatement to address other criteria such as field crops, and air quality are not addressed in this standard.

Table 1-6 — DUST

CLASS	MAXIMUM LAG TIME	DESIRABLE LAG TIME
M1	n/a	6 months
M2	n/a	6 months
M3	n/a	6 months
M4	n/a	6 months
M5	n/a	1 month

1.7 **Surface Type**

The surface type is an indicator to the user of the stability and predictability of the traveled surface of the road. For roadways under reconstruction the minimum condition is loosetop. Where such condition is in effect less than 1 week for class M-5 roadways the minimum condition is earth. Lag time expiring within the period from November to May inclusive is deemed to expire July 1 of the following year.

Table 1-7 SURFACE TYPE

CLASS	LAG TIME	MINIMUM CONDITION	DESIRABLE CONDITION
M-1	n/a	Earth	Loosetop
M-2	n/a	Earth	Loosetop
M-3	n/a	Earth	Loosetop
M-4	n/a	Earth	Loosetop
M-5	1-3 years	Loosetop	Hardtop

1.8 General Inspection

There is an obligation on the roadway authority to know the condition of its roadways. All roadways should undergo inspection on a routing basis by an inspector, reporting to a supervisor of the road authority and keeping appropriate records of the conditions found. Such routine should have regard for the maximum cycle time. Cycle time is relevant to both ambient and storm conditions. Where notice of an alleged condition is given to the supervisor, such condition shall be deemed to exist from time of notice. The supervisor may direct an inspection to be done, in which case the report from that inspection will prevail. The condition may be deemed to be acceptable condition, by the supervisor having regard for the standard in question. This standard does not consider winter related conditions. Inspection of signs and culverts shall be included.

Table 1-8 General Inspection

	AMBIENT CONDITIONS		STORM CONDITIONS	
CLASS	MAXIMUM CYCLE	DESIRABLE	MAXIMUM CYCLE	DESIRABLE
M-1	Annual	4 Weeks	n/a	n/a
M-2	6 months	4 Weeks	2 Weeks	1 Week
M-3	6 months	4 Weeks	2 Weeks	1 Week
M-4	6 months	4 Weeks	2 Weeks	1 Week
M-5	6 months	4 Weeks	2 Weeks	1 Week

ROAD SURFACE: WINTER

2.1 Ambient Speed

Where accumulated snow and/or ice on the traveled surface impedes the ability of vehicles to travel, the minimum ambient travel speed should be restored within the lag time. Lag time is that period of time measured between end of the storm condition and the road surface sustaining the ambient speed.

Table 2-1 Ambient Speed

CLASS	MAXIMUM LAG TIME	DESIRABLE LAG TIME	AMBIENT SPEED
M-1	n/a	n/a	n/a
M-2	12 working days	12 hours	
M-3	3 working days	12 hours	
M-4	3 working days	12 hours	Snow packed
M-5	2 working day	12 hours	Snow packed

2.2 Exposure

This standard indicates the general road surface exposure during ambient conditions in winter. Where snow and ice may tend to remain on a road after storm conditions, maintenance operations should be directed in such a manner as to efficiently produce surface exposure to meet minimum conditions by the maximum lag time. The ability to efficiently deliver a surface condition depends on traffic patterns, weather conditions, and maintenance operations. For this reason no maximum time or condition is set to arrive at the surface exposure during the storm condition.

Table 2-2 SURFACE EXPOSURE

CLASS	MAXIMUM LAG TIME	DESIRED LAG TIME	MINIMUM CONDITION	DESIRABLE CONDITION
M-1	n/a	n/a	n/a	n/a
M-2	2 working days	12 hours	Snow packed	Centre bare
M-3	3 working days	24 hours	Snow packed	Snow packed
M-4	2 working days	12 hours	Snow packed	Snow packed
M-5	1 working day	12 hours	Snow packed	Centre bare

2.3 Snowfall Accumulation

The maximum condition is the average depth to which new fallen or general wind blown snow is allowed to accumulate on the road surface. Continuing storm effects can be considered to be occurring when the operations cannot respond within the lag time. Where maximum conditions are exceeded during continuing storm effects, priority for service should be established first by higher class then exceeded lag time. For class M-2 to M-5 roadways, where the maximum condition occurs after 3 p.m. and prior to 6 a.m., the lag time begins at 6 a.m.

Table 2-3 SNOWFALL ACCUMULATION

CLASS	MAXIMUM LAG TIME	DESIRED LAG TIME	MAXIMUM CONDITION
M-1	n/a	n/a	n/a
M-2	1 day	12 hours	15 cm
M-3	2 days	12 hours	20 cm
M-4	2 days	12 hours	20 cm
M-5	1 day	12 hours	15 cm

2.4 Localized Ice

During ambient conditions the effects of weather and traffic causes localized road surface ice leading to reduced safety. Where such localized surface condition requires significant change in vehicle operation, relative to the general conditions on that road, a response is warranted. This standard does not apply to general conditions. Posting of the potential or existence orf such a localized condition is at the discretion of the road authority. The surface condition should be improved within the maximum lag time. For class M-2 to M-5 roadways, where the condition occurs between 3 p.m. and 6 a.m. the lag time begins at 6 a.m.

Table 2-4 LOCALIZED ICE

CLASS	MAXIMUM LAG TIME	DESIRED LAG TIME	MAXIMUM CONDITION
M-1	n/a	n/a	n/a
M-2	2 working days	18 hours	Improved
M-3	3 working days	18 hours	Improved
M-4	3 working days	18 hours	Improved
M-5	2 working days	12 hours	Improved

2.5 Localized Snow

During ambient winter conditions, localized snow drifting may occur over the road surface. Where such drifts occur to the maximum condition (depth) measured across more than half a traveled land in a localized area, the condition should be removed within the lag time. Posting of the potential effects or conditions is at the discretion of the road authority. Otherwise the surface condition should be responded to within the maximum lag time. For class M-4 & M-5 roadways, where the condition occurs within 15 hours previous to 6 a.m., the lag time begins at 6 a.m.

Table 2-5 LOCALIZED SNOW

CLASS	MAXIMUM LAG TIME	DESIRED LAG TIME	MAXIMUM CONDITION
M-1	n/a	n/a	n/a
M-2	2 working days	18 hours	Improved
M-3	3 working days	18 hours	Improved
M-4	3 working days	18 hours	Improved
M-5	2 working days	12 hours	Improved

2.6 Winter Inspection

There is an obligation on the road authority to know the condition of its roads during the winter season, both during ambient and storm conditions. All roadways should undergo winter inspection on a routing basis by an inspector, reporting to a supervisor, and keeping appropriate records of the conditions observed. Such inspections should have regard for the maximum cycle time. Cycle time is relevant to both ambient and storm conditions. Where notice of an alleged condition is given to the supervisor, such condition shall be deemed to exist from the time of notice. The supervisor may direct an inspection to be done, in which case the report from that inspection will prevail. The condition may be deemed to be an acceptable condition by the supervisor having regard for the standard in question.

Table 2-6 WINTER INSPECTION

	AMBIENT CONDITIONS		STORM CONDITIONS	
CLASS	MAXIMUM CYCLE	DESIRABLE CYCLE	MAXIMUM CYCLE	DESIRABLE CYCLE
M-1	n/a	n/a	n/a	n/a
M-2	3 Weeks	1 Week	2 Days	1 Day
M-3	3 Weeks	1 Week	2 Days	1 Day
M-4	3 Weeks	1 Week	2 Days	1 Day
M-5	3 Weeks	1 Week	2 Days	1 Day

ROADSIDE

3.1 Clearances

Vertical and horizontal clearances recognize setback of obstacles that may cause damage when struck, or may impair visibility related to safety. Such obstacles may be localized or general in nature. Non-woody vegetation may encroach the clearance zone to maximum conditions. Curb faces less than 30 cm high, safety devices, regulatory signs and entrances are not considered to be encroachments for the purpose of this standard. Maximum grass encroachment is .5m. Desirable vertical clearance for all municipal roads is 6m.

Table 3-1 CLEARANCES

CLASS	MINIMUM VERTICAL	DESIRABLE VERTICAL	MINIMUM HORIZONTAL	DESIRABLE HORIZONTAL
M1-4	4 m	1 m	n/a	4.5 m
M-5	4.5 m	.5 m	5 m	5.5 m

3.2 Roadside Debris

This standard has regard for un-naturally occurring, visible from the road, with the roadway, significant objects in the roadside. When these objects represent a safety concern to vehicles or pedestrians they represent a substandard condition and should be responded to in the maximum lag time. Accumulation of such objects may also cause blockage of drains leading to road flooding. Litter pick-up and landscaping of the roadside for other objectives are not addressed in this standard.

Table 3-2 DEBRIS

CLASS	MAXMIMU LAG TIME	DESIRABLE LAG TIME
M1-4	1 year	2 months
M-5	1 year	1 month

3.3 Shoulders

This standard has regard for the width of the shoulder of a roadway. This area serves several functions related to the vehicles using the road, primarily for the stopping or parking of vehicles. The cross fall is usually not more than 6%. Where a curb or gutter separates the road from the shoulder, the cross fall may be reversed to a maximum of 3%, and the shoulder width standard applies. This standard does not have regard for the merits of a shoulder for structural purposes. Shoulders may be reduced to narrower than the minimum for short distances to account for localized encroachments or for attenuation devices. Shoulders may be of grass, gravel or hardtop surfaces.

Table 3-3 SHOULDERS

CLASS	MINIMUM WIDTH	DESIRABLE WIDTH
M 1-4	n/a	n/a
M-5	n/a	.5 m

3.4 Regulatory Signs and Culverts

The lag time for the repair or replacement of regulatory signs and/or culverts shall begin from the date repair or replacement requirement is noted as a result of general inspection or from the date of notification to the Public Works Manager

Table 3-4 (i) CULVERTS

CLASS	MAXIMUM LAG TIME	DESIRABLE LAG TIME
M-1	6 months	1 month
M-2	3 months	2 weeks
M-3	6 months	1 month
M-4	6 months	1 month
M-5	3 months	2 weeks

Table 3-4(ii) REGULATORY SIGNS

CLASS	MAXIMUM LAG TIME	DESIRABLE LAG TIME
M-1	6 months	1 month
M-2	1 months	2 weeks
M-3	1 months	1 month
M-4	1 months	1 month
M-5	1 months	2 weeks

THE CORPORATION OF THE TOWNSHIP OF NORTH FRONTENAC

BY-LAW #119 - 09

Being a By-law to amend By-law #53–04 respecting Roadway Service Standards and to amend By-law #7–2003 respecting the Naming and/or Renaming of Public Highways and Private Lanes.

WHEREAS Ladyslipper Road and Gutheinz Road were inadvertently omitted in By-law #53-04;

AND WHEREAS Gutheinz Road was inadvertently named Gutheinz Lane in By-law #7-2003;

NOW THEREFORE the Council of the Corporation of the Township of North Frontenac deems it expedient to amend By-laws #53-04 and #7-2003 as follows:

a) By-law #53-04 – Schedule "A(i)" Classification of Municipal Roadways – by adding Ladyslipper Road under Ward 1 Roads, M-1 Classification and Gutheinz Road under Ward ll Roads, M-1 Classification;

b) By-law #53-04 – Schedule "A(ii)" Roads of North Frontenac by Ward – by adding Ladyslipper Road under Ward 1 Roads, M-1 Classification and Gutheinz Road under Ward ll Roads, M-1 Classification; and

c) By-law #53-04 – Schedule "A(iii)" Alphabetical List of North Frontenac Roads - by adding Ladyslipper Road to the alphabetical list after Kashwakamak Lake Road and before Little Pond Road and classified as a M1 Road; and further by adding Gutheinz Road to the alphabetical list after Gulley Road and before Harlowe Road and classified as a M1 Road;

d) By-law #7-2003 – Schedule "B" Alphabetical List of the Names and Renamed assumed roads, unassumed roads and private lanes within the municipality – by amending Gutheinz Lane Ward 2 to Gutheinz Road Ward 2;

THAT this by-law shall come into full force and effect on or after the passing hereof and that By-laws No. 53-04 and 7-2003 are hereby amended.

READ a first and second time this 17th day of December, 2009.

READ a third time and finally passed this 17th day of December, 2009.

_____ _____

MAYOR CLERK