

Asset Management Plan

Appendix B

Levels of Service

Township of Madawaska Valley

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Levels of Service

Levels of service provide a measuring stick to ensure that municipal infrastructure is maintained to a standard that protects the municipal investment and sustains or prolongs the life of bridges, roads, buildings, equipment and other infrastructure. By establishing a level of service, the municipality will be able to identify the condition of all infrastructure on an ongoing basis and undertake measures to repair, upgrade or better all municipal assets over their lifespan. The intent of establishing levels of service is also to ensure that regulatory requirements are met, notably, the minimum maintenance standards for municipal highways (Ontario Regulation 239/02).

The levels of service set out in the following pages provide a written series of procedures that will guide Council in making financial decisions designed to maintain all of the municipality's capital assets to the level appropriate for the municipality given its relative priorities, available financing and minimum legislated requirements. The service level standards are meant to ensure the delivery of a quality level of services and an appropriate measure of accountability to municipal taxpayers.

The levels of service are organized by the type of asset or infrastructure and a series of objectives to be achieved through adherence to specific standards or levels of service.

Roads – Minimum Overall System Adequacy Rating of 90%.

The Township's goal is to maintain, as a minimum, an overall system adequacy rating of 90%. Road Condition ratings are assigned in accordance with the MTO Inventory Condition Manual, 1991.

Vehicles – Utilization Meets or Exceeds Expected Service Life

Vehicles shall be maintained and operated to ensure they are available for use up to and beyond their expected service life. In other words, vehicles will be utilized over their related amortization period, as a minimum.

Buildings – Building Use Exceeds Expected Service Life

Building maintenance and upgrades shall be undertaken to ensure, as a minimum, the expected useful service life of the building is realized, with the goal of using the building beyond its useful service life.

Water and Wastewater - Meet All Applicable Regulations

Water and Wastewater investments shall be as required to ensure the long-term sustainability of the systems and ensure compliance with the Safe Drinking Water Act and other applicable legislation.

These performance targets will serve as the starting point for ongoing reviews and improvements to the plan. By monitoring the municipality's ability to achieve these targets through the implementation of its existing asset management plan, required

revisions to the plan (including any required revisions to the targets and levels of service themselves) will become apparent.

Section 1: Roads - Maintenance

Asset Type: Roadside Maintenance - Ditching
Category No. 1-1: Ditching
Effective Date: December 31, 2013

- Ditching:** {
- **Objectives**
 - To maintain the road drainage system so as to control and remove surface water within the road allowance.
 - To prevent erosion and and/or water ponding on the traveled surface of the road.
 - To prevent damage to the road caused by excessive water saturating the road base or sub-base.
 - To comply with Ontario Reg. 239/02.
- Ditching:** {
- **Level of Service**
 - Routine road patrols shall be conducted in accordance with Ontario Reg. 239/02, as a minimum.
 - Obstructions to the flow of water shall be removed on an as-needed basis.
 - The Municipality recognizes a free draining roadbed is critical to the long-term health of the roadbed and road surface. An annual ditching program will be maintained to ensure ditches remain free of debris, woody vegetation, and sediment and serve their intended function.
 - Ditches shall be constructed to direct surface runoff to a suitable outlet.

****OVERALL ROADS LOS TARGET: Maintain 90% System Adequacy ****

Asset Type: Roadside Maintenance - Brushing
Category No. 1-2: Brushing
Effective Date: December 31, 2013

Brushing:

- **Objectives**
- To maintain safe sightline distances
- To reduce or eliminate snow drifting conditions and reduce or eliminate road frosting by reducing road shading.
- To protect the road base structure by removing brush and trees rooting in the sub-base
- To comply with Ontario Reg. 239/02

Brushing:

- **Level of Service**
- Trees, brush and limbs on or overhanging the right-of-way will be removed where they present a traffic hazard.
- Brush growing in such a manner that restricts drainage or sight lines shall be removed. Priority will be given to brushing on curves, at intersections/entrances, and locations prone to wildlife crossing.
- Stumps will be removed or cut at the ground line.
- Permission shall be obtained from a property owner to enter onto private property to remove encroaching trees or limbs.
- An annual brushing program shall be maintained to provide safe sight lines, road base drainage, and road exposure to the sun.
- Brushing shall be a priority in those locations which are prone to road frosting due to shading.

****OVERALL ROADS LOS TARGET: Maintain 90% System Adequacy ****

Asset Type: Loose Top - Grading
Category No. 1-3: Grading Loose Top
Effective Date: December 31, 2013

Loose Top Surfaces:

- **Objectives**
- To provide a smooth, safe riding surface.
- To protect the investment in the road.
- To comply with Ontario Reg. 239/02

Loose Top Surfaces:

- **Level of Service**
- All gravel surfaces will be graded at least once annually, as required, and more frequently on higher traffic volume roads as needed.
- Gravel will be added to resurface gravel roads when there is a general loss of surface material, as required.
- Grading and gravelling will be undertaken prior to any dust control.
- Potholes will be repaired in accordance with Ontario Reg. 239/02.

****OVERALL ROADS LOS TARGET: Maintain 90% System Adequacy ****

Section 2 – Roads - Resurfacing

Asset Type: Road Surface
Category No. 2-1: Road Resurfacing
Effective Date: December 31, 2013

Bituminous Surfaces:

- **Objectives**

- To provide a smooth, safe riding surface.
- To protect the investment in the road surface and minimize life cycle cost of the road network while maximizing asset value.
- To comply with Ontario Reg. 239/02

Bituminous Surfaces:

- **Level of Service**

- The Municipality adopts a preservation management approach to road infrastructure management.
- The Township shall strive to maintain a minimum individual road surface condition rating of **5 out of 10**, as defined in the **MTO Inventory Manual for Municipal Roads, February 1991**. Road surfaces less than a rating of 5 will be programmed for resurfacing or reconstruction, as the case may be, as finances permit.
- Gravel roads with AADT > 50 shall be considered for resurfacing every 5 years, as required.
- Surface Treated roads shall be considered for resurfacing every 8 years, as required.
- Hot Mix Asphalt roads shall be considered for resurfacing every 20 years, as required.
- Road resurfacing priorities shall be based on road condition, traffic volumes and related underground infrastructure replacement requirements.
- Road surfaces shall be maintained in accordance with Ontario Reg. 239/02.

**** OVERALL ROADS LOS TARGET: Maintain 90% System Adequacy ****

Section 3: Roads - Repairs

Asset Type: Road Base Repairs (Hard Top)
Category No. 3-1: Road Base Repairs (Hard Top)
Effective Date: December 31, 2013

Road Base Repairs:

- **Objectives**

- To provide a free draining road base suitable to carry the expected traffic volumes and loads for the class of road.
- To support the road surface and prevent premature deterioration of the surface.
- To protect the investment in the road.
- To comply with Ontario Reg. 239/02

Road Base Repairs:

- **Level of Service**

- Upon reconstruction of a road, the road base will be improved to the level required to support the expected traffic loading over the life of the overlying hard top surface.
- Frequent or extensive areas of pavement deterioration or distress shall be investigated to confirm the root cause.
- Localized areas of deterioration or distress will be repaired where feasible, by municipal forces.
- Road sections exhibiting severe deterioration or distress along more than 15% of its length i.e. a structural adequacy score of less than **12/20 as per the MTO Inventory Manual for Municipal Roads, February 1991**, shall be programmed for reconstruction, as finances permit.

**** OVERALL ROADS LOS TARGET: Maintain 90% System Adequacy ****

Asset Type: Road Base Repairs – Loose Top
Category No. 3-2: Road Base Repairs (Loose Top)
Effective Date: September 30, 2013

Road Base Repairs:

- **Objectives**
- To provide a free draining road base suitable to carry the expected traffic volumes and loads for the class of road.
- To protect the investment in the road.
- To comply with Ontario Reg. 239/02

Road Base Repairs:

- **Level of Service**
- Frequent or extensive areas of deterioration or distress shall be investigated to confirm the root cause.
- Localized areas of deterioration or distress will be repaired where feasible, by municipal forces.
- Road sections exhibiting severe deterioration or distress along more than 15% of its length i.e. a structural adequacy score of less than 12/20 as per the MTO Inventory Manual for Municipal Roads, February 1991, shall be programmed for reconstruction, as finances permit.
- Areas subject to the percolating of mud and water shall be repaired.

**** OVERALL ROADS LOS TARGET: Maintain 90% System Adequacy ****

Section 4: Roads - Capital Improvements

Asset Type: Roads Capital Improvements (Reconstruction or Upgrades)
Category No. 4-1 Capital Improvements
Effective Date: December 31, 2013

Capital Improvements for Roads:

- **Objectives**
- To maintain the municipal road network in a safe and functional condition.
- To support land accessibility and economic development.
- To comply with Ontario Reg. 239/02

Capital Improvements for Roads:

- **Level of Service**
- A roads needs assessment will be prepared by a qualified professional at least every 5 years.
- Roads with the highest traffic volumes will receive priority for capital improvements. The Municipality shall endeavor to maintain a road and road surface consistent with the volume of traffic carried by the road, as follows:
AADT 0 to 199 - Gravel
AADT 200 to 399 - Low Class Bituminous (Surface Treated)
AADT 400+ - High Class Bituminous (Hot Mix Asphalt)
- Roads shall not be reconstructed strictly due to surface width or type deficiencies provided there is no history of safety or operational concerns.
- Road replacement or upgrading shall only be undertaken once the full service life of the existing road has been realized, as finances permit, and provided there is no history of safety or operational concerns.
- Consideration shall be given to the age and condition of underground services associated with a road and coordinated with road reconstruction, where feasible.
- Upon reconstruction of a road, the road base will be improved to the level required to support the expected traffic loading over the life of the overlying hard top surface.
- Consideration shall be given to HCB adjacent to drainage infrastructure, e.g. curb and gutter, and in semi-urban/urban areas, regardless of AADT.
- Consideration for loading, during development or in the future, will be considered when determining pavement surface type.

**** OVERALL ROADS LOS TARGET: Maintain 90% System Adequacy ****

Section 5 – Municipal Vehicles

Asset Type: Public Works, Fire, Recreation and Other Municipal Vehicles
Category No. 5-1: Municipal Vehicles
Effective Date: December 31, 2013

Municipal Vehicles:

• Objectives

- To maintain and prolong the lifespan of all municipal vehicles.
- To ensure the readiness of municipal vehicles for their intended use including emergency use.
- To comply with Provincial legislation for the licensing and operation of vehicles.

Municipal Vehicles:

• Level of Service

- All vehicles will be maintained in accordance with the applicable vehicle maintenance manual issued by the dealership or manufacturer, as a minimum.
- The appropriate department head shall organize for regularly scheduled maintenance (i.e. oil changes, fluids, tire pressure etc.)
- Drivers and operators shall report any equipment problems to their supervisor or mechanic.
- Major refits or equipment modifications shall be carried out in the off-season except for emergency repairs
- Operational records or logs shall be kept on vehicle usage.
- All vehicles shall be fueled and left in a "ready-to-go" state after each shift or emergency operation.
- All vehicles shall be maintained in a clean condition and washed on a regular basis to remove dirt or road salt.
- The residual lifespan of a vehicle shall be evaluated annually and a report shall be submitted to the clerk.
- All vehicles shall be operated in accordance with the relevant provincial legislation.

**** OVERALL Vehicles LOS TARGET: Utilization Exceeds Useful Service Life ****

Section 6 – Municipal Buildings and Equipment

Asset Type: Municipal Buildings
Category No. 6-1: Municipal Buildings
Effective Date: December 31, 2013

Municipal Buildings:

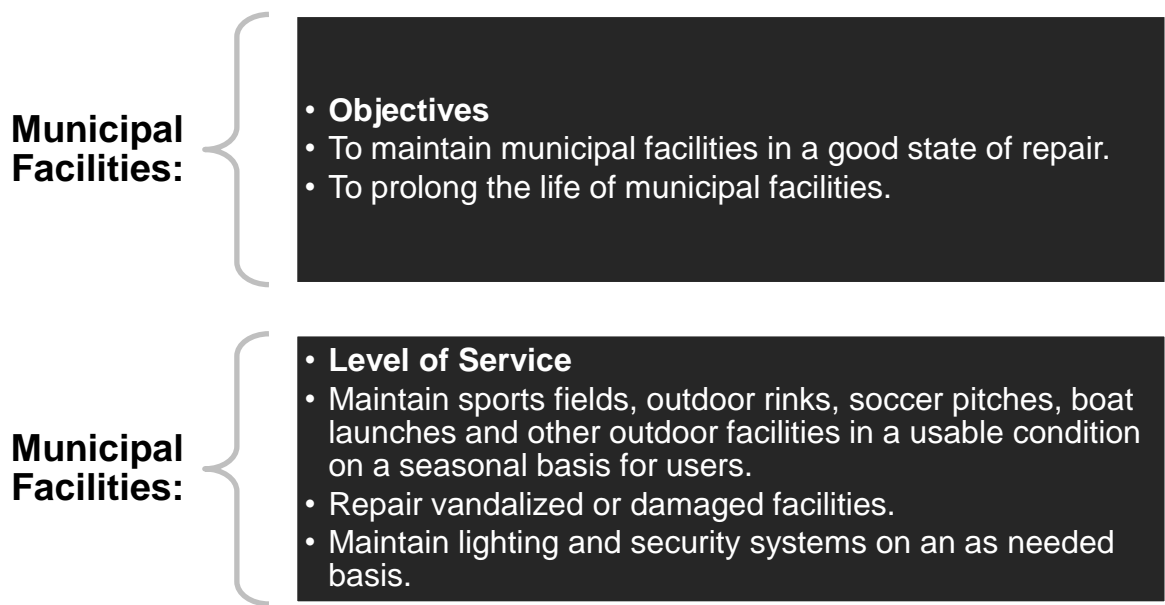
- **Objectives**
- To maintain municipal buildings in a good state of repair.
- To ensure the useful service life of municipal buildings is obtained.

Municipal Buildings:

- **Level of Service**
- Review and document the condition of buildings at least once every two years to identify the need for upgrades or betterments to energy conservation, building systems, foundations, accessibility standards and exterior weatherproofing (i.e. doors and windows, roofing, cladding).
- Carry out repairs immediately for incidental damage caused by fire, water, infestation or mould).
- Schedule annual maintenance/repairs of HVAC systems, septic tanks and water supply systems.
- Maintain smoke, carbon dioxide and security alarm systems.
- Inspect structural integrity of buildings on 10 year cycle.

**** OVERALL BUILDINGS/FACILITIES LOS TARGET:
Building Use Exceeds Expected Service Life ****

Asset Type: Municipal Facilities
Category No. 6-2 Municipal Facilities
Effective Date: December 31, 2013



**** OVERALL BUILDINGS/FACILITIES LOS TARGET:
Building Use Exceeds Expected Service Life ****

Section 7 – Water & Wastewater Systems

Asset Type: Water & Wastewater Systems
Category No. 7-1 Wastewater System
Effective Date: December 31, 2013

Wastewater System:

- **Objectives**

- To ensure continuous and effective wastewater servicing in accordance and compliance with applicable acts, regulations and supporting documents thereby minimizing the risk of sewage backups including basement flooding and sewage releases including raw sewage overflows and non-compliant effluent discharges from the wastewater lagoons.
- To ensure that at all times in which it is in service, the wastewater treatment system is operated in accordance with requirements under the Ontario Water Resources Act, Safe Drinking Water Act and the regulations and supporting documents thereunder including system specific treatment, monitoring, sampling, testing and monitoring requirements identified under all applicable Environmental Compliance Approvals for the system.
- To ensure that the wastewater collection and treatment system is maintained in a fit state of repair to ensure the continuous operation of the system in compliance with Safe Drinking Water Act, Environmental Protection Act, Ontario Water Resources Act and the regulations thereunder, minimize inflow or infiltration to the system and to prolong the life of and otherwise protect public investment in the wastewater collection, pumping and treatment infrastructure.
- To ensure that the wastewater system is operated by operating authorities and/or individuals having the necessary training, expertise and qualifications required under regulations governing the system and the approvals and permits issued for the system.

**** OVERALL WATER/WASTEWATER LOS TARGET:
Meet All Applicable Regulations ****

**Wastewater
System:**

- **Level of Service**
- Detailed review (by qualified professional) of the wastewater collection using CCTV video inspections - Every five (5) years or as otherwise dictated by past inspections. Video inspections to include prioritization of rehabilitation, repairs or replacement requirements.
- Visual review (by operations staff) of the wastewater collection system to identify potential build-ups, back-ups and leaks and to evaluate the need for rehabilitation or further evaluation by qualified professionals – Annually or as otherwise dictated.
- Sewer flushing or cleaning as needed to minimize the potential for back-ups or blockages.
- Repair leaking, obstructed, collapsed or otherwise broken sewers including service connections as soon as possible following identification to minimize potential for inflow to the wastewater collection system and/or spills from the wastewater collection system.
- Equipment inspection, cleaning, monitoring, maintenance and calibration in accordance with requirements and recommendations under the Environmental Compliance Approval, Wastewater System – Operations and Maintenance Manual, Equipment Manufacturers – Operations and Maintenance Manuals, Operating Authorities – Operating Plans and Procedures.
- Where redundant (standby) equipment is provided, the repair or replacement of damaged or inoperable equipment should be made as soon as possible to restore system redundancy.
- Repairs to equipment for pumping or treatment processes or systems, where redundant or standby equipment is not available, should be made immediately to ensure required system capacities and the legislated level of treatment is provided.

**** OVERALL WATER/WASTEWATER LOS TARGET:
Meet All Applicable Regulations ****

Asset Type: Water & Wastewater Systems
Category No. 7-2 Water System
Effective Date: December 31, 2013

Water System:

- **Objectives**
- To ensure a continuous supply of safe and aesthetically acceptable potable water at an adequate and stable pressure in accordance and compliance with applicable acts, regulations and supporting documents including but not limited to the following:
 - Safe Drinking Water Act (2002)
 - Ontario Regulation 128/04 – Certification of Drinking Water System Operators and Water Quality Analysts
 - Ontario Regulation 169/03 – Ontario Drinking Water Quality Standards
 - Ontario Regulation 170/03 – Drinking Water Systems
 - Ontario Regulation 248/03 – Drinking Water Testing Services
 - Ontario Regulation 453/07 – Financial Plans
 - Procedure for Disinfection of Drinking Water in Ontario
- To ensure that at all times in which it is in service, the drinking water system is operated in accordance with requirements under the Safe Drinking Water Act and the regulations and supporting documents thereunder including system specific treatment, monitoring, sampling, testing and monitoring requirements identified under the Municipal Drinking Water Licence, Drinking Water Works Permit and Permit To Take Water.
- To ensure that the drinking water system is maintained in a fit state of repair to ensure the continuous operation of the system in compliance with Safe Drinking Water Act and the regulations thereunder and to prolong the life of and otherwise protect public investment in the water supply and distribution infrastructure.
- To ensure that the drinking water system is operated by operating authorities and/or individuals having the necessary training, expertise and qualifications required under regulations governing the system and the licences and permits issued for the system.

**** OVERALL WATER/WASTEWATER LOS TARGET:
Meet All Applicable Regulations ****

Water System:

- Distribution system (watermain) flushing – Annually or as dictated by sediment build-up and water quality issues.
- Hydrant and valve inspection and testing – Annually or as dictated by suspected problems.
- Repair or replace damaged or inoperable equipment including hydrants, watermain valves and curb stops as soon as possible following identification.
- Repair leaking or broken watermains including service connections as soon as possible following identification.
- Visual review (by operations staff) of water storage standpipe and exterior accessories to ensure security and evaluate need for rehabilitation or further evaluation by qualified professionals – Twice annually or as dictated.
- Detailed review (by qualified professional) of interior and exterior of water storage standpipe including assessment of protective coating/lining systems and tank access system - Every five (5) years or as otherwise dictated
- Repair or replace storage standpipe accessories necessary to ensure safe access, system security and/or system operation, as soon as possible following identification.
- Repair, rehabilitate or replace standpipe coatings to ensure acceptable water quality and for the protection of the steel tank to preserve the structural integrity of the standpipe.
- Equipment inspection, cleaning, monitoring, maintenance and calibration in accordance with requirements and recommendations under the DWWP, Water System – Operations and Maintenance Manual, Equipment Manufacturers – Operations and Maintenance Manuals, Operating Authorities – Operating Plans and Procedures.
- Where redundant/standby equipment is provided, repair or replacement of damaged or inoperable equipment should be made as soon as possible to restore redundancy.
- Repairs to equipment for treatment processes or systems, where redundant or standby equipment is not available, should be made immediately to ensure required system capacities and the legislated level of treatment.

**** OVERALL WATER/WASTEWATER LOS TARGET:
Meet All Applicable Regulations ****