RECOMMENDATION(S)

That the Strategic Asset Management Policy be approved.

EXECUTIVE SUMMARY

The purpose of this report is to provide City Council with an overview of the new municipal infrastructure asset management legislative regime in Ontario, an update on the City of Hamilton asset management initiatives, and the recommended new Strategic Asset Management Policy.

The purpose of the recommended Policy is to affirm the City’s approach to infrastructure asset management through clearly defined commitments and principles for decision-making (prescribed by legislation), and to align and integrate asset management into strategic planning processes.

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: There are no financial impacts associated with the proposed recommendation. When established and adhered to, the policy aids decision-makers in making sound and consistent municipal infrastructure decisions. The recommended
Policy does not bind the City to specific expenditures on prioritized assets/services – those are dynamic decisions - but instead sets a framework for consistent decision-making and planning, applicable to all those with authority to make asset management decisions.

It is reasonable to assume the ability to demonstrate the benefit of a project to the community through quantifiable metrics tied to legislative-based levels of service and costs will be a component of future provincial funding requests.

The policy being recommended in this report does not bind council to any level of service or budget. In future staff will return to committee to seek approval of the Asset Management Plan and it is through that process whereby Council will make specific commitments relative to service levels and by extension a range of budget commitments for each category of assets.

Staffing: No additional staffing is required as a result of the recommendations in this report.

Legal: Approval of the recommended Strategic Asset Management Policy allows the City of Hamilton to demonstrate conformance to Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure, under the Infrastructure for Jobs and Prosperity Act, 2015. This regulation requires that “Every municipality shall prepare its first strategic asset management policy by July 1, 2019”.

HISTORICAL BACKGROUND

The City of Hamilton delivers public services that are critical to its citizens and these services rely on well-planned and well-maintained infrastructure. There is increased pressure on the ability of the City to ensure the long-term sustainability of its infrastructure. This is the case in all Ontario municipalities, and while many municipalities have asset management plans, significant differences exist, thus the province introduced an asset management regulation in December 2017.

A presentation was delivered on January 16th, 2017 to inform the Public Works Committee of the expected legislative requirements discussed herein. An Information Report PW18085 followed to reiterate the pending requirements.

The Asset Management Planning for Municipal Infrastructure Regulation 588/17, under the Infrastructure for Jobs and Prosperity Act, prescribes requirements for an Asset Management Policy in Sections 3 and 4. It requires that all municipalities have a comprehensive asset management plan (AMP) in place by July 1, 2024 for all
infrastructure assets, to be phased in over 5 years, beginning with the preparation of a Strategic Asset Management Policy by July 1, 2019.

Key legislative deadlines for all Ontario municipalities are depicted below:

- **July 1, 2019** — Prepare and publish a strategic asset management policy.
- **July 1, 2021** — Develop enhanced AMPs that include the cost to maintain current service levels covering core infrastructure assets.
- **July 1, 2023** — Expand enhanced AMPs that include the cost to maintain current service levels covering all infrastructure assets.
- **July 1, 2024** — Expand AMPs to provide further details on all infrastructure assets, including proposed service levels and the revenue and expenditure plan to achieve the proposed service levels (if greater than current service levels).

The AMP is founded on the Policy framework, and is developed for the management of infrastructure assets with a view to operating, maintaining and renewing the assets which support the provision of services to the community while ensuring sound stewardship of public resources. The City of Hamilton Asset Management Plan was first established in 2014. No Asset Management Policy is in place at this time. Activities to update this AMP to the new legislated requirements are underway, while improving and enhancing the AMP to ensure it remains a robust system. The Regulation also mandates specific content of the AMP that is centered around developing a relationship between costs and service levels.

When done well, asset management planning is part of a strategic planning process that is integrated with budgeting processes and long-term financial planning. Good asset management planning helps municipalities make well-informed and evidence-based decisions about their infrastructure assets.

Asset Management is of the shared responsibility of engineering and financial experts to support enhanced infrastructure decision-making. The policy, and subsequent Asset Management Plan, should aim to eliminate or minimize silo effects in the exchange of information that typically exist within municipal administrations.
The recommended Strategic Asset Management Policy applies to core infrastructure assets only at this time, which includes assets in water treatment and distribution, wastewater collection and treatment, stormwater management, roads, bridges and culverts. At a later date, the Policy will be updated to include all infrastructure assets, such as facilities and fleet, before the legislated deadline of July 1, 2023.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

Approval of the recommended Strategic Asset Management Policy allows the City of Hamilton to demonstrate conformance to Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure, under the Infrastructure for Jobs and Prosperity Act, 2015. This regulation requires that “Every municipality shall prepare its first strategic asset management policy by July 1, 2019”.

Launched in 2012, the Municipal Infrastructure Strategy required municipalities requesting provincial infrastructure funding to prioritize needs by showing how projects fit within an Asset Management Plan (AMP). The province requires any municipality seeking provincial capital funding to prepare a detailed AMP and show how its proposed project fits within its plan. Although not yet confirmed, some discussion is occurring about the new, more prescribed AMP regulation being tied to future provincial funding eligibility. The province is communicating to the public that the new regulation aims to bring greater consistency to municipal Asset Management Plans, and it is hypothesized that once the regulated deadlines have been reached, funding approvals will require municipalities to demonstrate compliance with O.Reg.588/17.

“The Ontario Community Infrastructure Fund is tripling to $300 million per year by 2018/19 and focusing more on formula based funding. In addition, the federal government has made a renewed commitment to new infrastructure spending. Evidence-based planning is critical to ensuring these funds support the right investments at the right time.”

~Province of Ontario, ROMA Conference, January 2018

It is reasonable to assume the ability to demonstrate the benefit of a project to the community through quantifiable metrics tied to legislative-based levels of service and costs will be a component of future provincial funding requests.

RELEVANT CONSULTATION

A collaborative staff approach was used to create the recommended Policy so that it may become a key guidance document for infrastructure decisions. Discussions around culture in infrastructure planning and governance, scope, capitalization threshold, transparency, climate change, shared assets and commitments have been built into the
policy to ensure it is a functional and effective foundational document that guides those with asset management authorities.

On January 15th, 2019 a workshop was held with GM BluePlan as the consulting firm engaged to assist City staff in drafting the Asset Management Policy, and in coordination with Engineering Services Asset Management and Financial Services staff. This workshop was conducted in alignment with City culture, commitments and plans, and to provide a long term financial analysis of the infrastructure needs to provide the City with the processes required to understand the revenue requirements to fund the infrastructure expenditure needs. This firm’s staff provided input and guidance during the drafting of the new AMP regulation, through senior leadership positions and involvement in various federal, provincial and municipal associations and committees.

ANALYSIS AND RATIONALE FOR RECOMMENDATION(S)

Beyond compliance there are further benefits to the establishment of an Asset Management Policy and enhancement of the AMP for the City of Hamilton. Enhancements will provide opportunity to gain perspective on the current service levels being rendered to the community and identify the infrastructure needs to maintain current service levels or achieve proposed service levels. A sound policy along with an updated and robust AMP provides council and staff new tools and information to make better AM decisions, by offering:

- A clear depiction of ‘what a dollar buys’, especially related to present state of good repair, growth-related infrastructure or service improvements;
- A clear picture of projects that may be deferred due to a capital decision;
- A means towards major failure prevention, rather than reactive projects; and
- A shift towards rehabilitation and preventive maintenance, to help assets reach or exceed the expected asset life, rather than focusing on reconstruction.

Based on an approved Policy, the updated AMP will allow staff to continue with asset management initiatives, including updates to asset condition information, infrastructure lifecycle analysis, levels of service assessments, financial forecasting, and costs to achieve proposed target levels of service.

Similar initiatives in utilities and government observe ISO 55001, an international standard developed by ISO Committee with 31 participating organizations. This standard specifies the requirements for an integrated, effective management system for asset management. Ontario Regulation 588/17 does not mirror the ISO 55001 requirements; however some of the sound asset management concepts prescribed in the ISO standard have been incorporated into the proposed Policy in such areas as senior management involvement, commitment to continual improvement, consistency with other municipal strategic and planning documents, and communication with stakeholders and the public.
Under the regulation the recommended Policy should be updated at least every five years, or sooner should adjustments be required.

ALTERNATIVES FOR CONSIDERATION

The alternatives are limited in this process as the Province has regulated the development of a Strategic Asset Management Policy. Committee can review, amend, edit and update the Policy once approved.

Committee could decline to approve this recommendation and the City would continue with its current methods of asset management. There is no direct connection to Provincial Infrastructure funding yet, however it is expected that future applications will require the submission of our Policy.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement and Participation
Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.

Economic Prosperity and Growth
Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

Healthy and Safe Communities
Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

Clean and Green
Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

Built Environment and Infrastructure
Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Our People and Performance
Hamiltonians have a high level of trust and confidence in their City government.
APPENDICES AND SCHEDULES ATTACHED

Appendix "A" to Report PW19053 - Strategic Asset Management Policy

Appendix "B" to Report PW19053 - Ontario Regulation 588/17 made under the Infrastructure for Jobs and Prosperity Act, 2015; Asset Management Planning for Municipal Infrastructure
STRATEGIC ASSET MANAGEMENT POLICY
(in accordance with the Infrastructure for Jobs and Prosperity Act)

PURPOSE

Strategic municipal asset management involves the challenge of planning and investing in municipal infrastructure assets, while ensuring sound stewardship of public resources and delivering valued customer services.

The purpose of this Asset Management Policy is to affirm the City of Hamilton commitments in asset management through defined principles and processes, and to align and integrate asset management into strategic planning processes.

This policy will provide a foundation for a strategic Asset Management Plan (AMP). This will help identify and prioritize investments in existing and future infrastructure assets, as the City continues its efforts to maintain assets in a safe, efficient and effective manner, capable of supporting the quality of life desired in the community.

Strategic Asset Management enables the City to purposefully plan for community sustainability and resilience by:

• Proactively managing assets throughout their life cycle to deliver services sustainably to the community now and into the future,
• Prioritizing infrastructure decisions that balance costs, risks and services,
• Delivering services more efficiently and effectively,
• Ensuring long-term affordability of services,
• Reducing deficits and debt, and
• Attracting business and investment.

This Asset Management Policy conforms to prescribed requirements from Ontario Regulation 588/17 (O.Reg.588/17), as amended.

POLICY STATEMENT

Pursuant to O.Reg. 588/17, The City of Hamilton makes the following commitments regarding Asset Management Planning:

1. The City is committed to offering opportunities for municipal residents and other interested parties to provide input into asset management planning.

2. The City is committed to coordinating asset management planning for infrastructure assets interrelated with neighbouring
3. As part of its asset management planning for municipal infrastructure, the City is committed to considering climate change. This includes the following:
   a. Identifying the vulnerabilities of the City's existing and proposed infrastructure assets caused by climate change, and subsequent potential costs;
   b. Considering the means to address those vulnerabilities, related to operations, levels of service and lifecycle activities;
   c. Considering adaptation opportunities that may be undertaken to manage the vulnerabilities,
   d. Considering mitigation approaches to limit the magnitude or rate of long-term climate change (such as greenhouse gas emission reduction objectives), and
   e. Considering disaster planning and contingency funding.

**SCOPE**

The scope of this policy applies to Core Municipal Infrastructure Assets owned by the City of Hamilton, as defined in O.Reg. 588/17, and as listed in Appendix 1.

Core Municipal Infrastructure includes assets in the road right-of-way, bridges, culverts, drinking water treatment & distribution, wastewater treatment & collection, and storm water systems.

**PRINCIPLES**

The City will consider the following principles in decisions to invest, design, construct, acquire, operate, maintain, renew, replace or decommission infrastructure assets.

Community Focus

Infrastructure planning and investment should:

1. Promote economic competitiveness, productivity, job creation and training opportunities.
2. Promote accessibility for persons with disabilities.
3. Promote community benefits, being the supplementary social and economic benefits arising from an infrastructure project that are intended to improve the community well-being (creating jobs, improving public space, for example).
<table>
<thead>
<tr>
<th>Policy</th>
<th>Content Updated: 2019-28-05</th>
<th>Approved:</th>
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</thead>
<tbody>
<tr>
<td>Strategic Asset Management</td>
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<table>
<thead>
<tr>
<th>Prioritization</th>
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<tbody>
<tr>
<td>Infrastructure planning and investment should:</td>
</tr>
<tr>
<td>6. Clearly identify and respect defined infrastructure priorities. A clearly defined hierarchy for infrastructure priorities is a critical foundation for an effective asset management plan, as priorities should inform investment decisions. Priorities will be further described in the AMP.</td>
</tr>
<tr>
<td>7. Ensure the City continues to provide public services in the road right-of-way, bridges, culverts, drinking water treatment &amp; distribution, wastewater treatment &amp; collection, and storm water systems at defined levels of service.</td>
</tr>
<tr>
<td>8. Take a long-term view in making asset decisions, especially considering the municipal life cycle of infrastructure assets from acquisition to disposal.</td>
</tr>
<tr>
<td>9. Factor information with implications for infrastructure planning into infrastructure investment decisions.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Health, Safety and the Environment</th>
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</thead>
<tbody>
<tr>
<td>Infrastructure planning and investment should:</td>
</tr>
<tr>
<td>10. Ensure health &amp; safety of workers involved in the construction and maintenance of assets is protected.</td>
</tr>
<tr>
<td>11. Ensure infrastructure is designed to be resilient to the effects of climate change.</td>
</tr>
<tr>
<td>12. Minimize the impact of infrastructure on the environment.</td>
</tr>
<tr>
<td>13. Respect and help maintain ecological and bio-diversity.</td>
</tr>
<tr>
<td>14. Endeavour to make use of acceptable recycled materials.</td>
</tr>
</tbody>
</table>
Transparency

Infrastructure planning and investment should:
15. Be made on information that is evidence based, and, subject to any restrictions or prohibitions, on the basis of information that is either publicly available or is made available to the public.

16. In cases where the City becomes aware of information that has implications for City infrastructure planning, this should be shared with relevant public agencies that may be affected.

Coordination

Infrastructure planning and investment should:
17. Align with all relevant City of Hamilton financial plans prepared in accordance with relevant financial budgeting legislation.

18. Be mindful of and align with the other City policies, Strategic Plan, and other plans and strategies in effect. A description of connected plans is provided in further detail in the Asset Management Plan.

DEFINITIONS

(As defined in O.Reg.588/17)

Asset

A resource with economic value that a municipality controls with the expectation that it will provide a future benefit. An asset is specifically defined as property, equipment, vehicles, tools or other resources with a purchase value at or above the Capital Asset Threshold.

Asset Management (AM)

The coordinated activity of an organization to realize value from assets.

Asset Management Plan (AMP)

A plan to be developed for the management of infrastructure assets, in compliance with the Strategic Asset Management Plan from O.Reg.588/17, that combines multi-disciplinary management techniques (including technical and financial) over the life cycle of the asset in the most cost effective manner to provide a specific level of service. The management of infrastructure assets includes investment, design, construction, acquisition, operation, maintenance, renewal, replacement and decommissioning of these assets.

Capital Asset Threshold

The threshold at or above which a resource is considered an asset, the value of a municipal infrastructure asset at or above which a municipality will capitalize the value of it and below which it will
### Policy

**Strategic Asset Management**

Content Updated: 2019-28-05

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### Core Municipal Infrastructure Asset

expense the value of it. For the City of Hamilton, the capital asset threshold is defined in the Capital Asset Policy. However, items below the defined threshold may be included into the Asset Management Plan, based on risk, under the authority of the relevant department Director.

Includes any municipal infrastructure asset that is a:

- water asset that relates to the collection, production, treatment, storage, supply or distribution of drinking water,
- wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater,
- stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater,
- road, or
- bridge or culvert.

The City of Hamilton defines a ‘road’ asset as assets within the road right-of-way owned by the City, not including water, storm or sanitary.

### O. Reg. 588/17

Under the Infrastructure for Jobs and Prosperity Act, 2015, principles are set out by the provincial government to regulate asset management planning for municipalities. On December 27, 2017, O. Reg. 588/17 was released which regulates asset management planning for municipal infrastructure.

### Public

Residents and businesses in the City of Hamilton, stakeholders, or other interested parties.

### RESPONSIBILITIES

**Council and Committees of Council** (herein called "Council")

Responsible for approving the Asset Management Policy, Asset Management Plan, and approving budgetary decisions.

Overall authority for policy approvals, and budgetary decisions as defined in the Municipal Act.

Council has the authority to make asset management decisions related to investment, design, construction, acquisition, operation, maintenance, renewal, replacement and decommissioning of infrastructure assets.
### City Manager

Overall executive lead responsible for establishing and endorsing the Asset Management Policy and the Asset Management Plan.

Authority to execute or delegate the duties defined above, and the authority to make asset management decisions related to investment, design, construction, acquisition, operation, maintenance, renewal, replacement and decommissioning of infrastructure assets.

### Senior Leadership Team

Responsible for ensuring the Asset Management Policy is relevant, suitable, adequate, reviewed and updated as required.

Responsible for communicating land-use or master plans, forecasts, policies and other planning or financial commitments related to municipal infrastructure assets.

Also responsible for coordinating with the General Managers to align asset management planning with budgets, land-use or master plans, forecasts, policies and other planning or financial commitments.

Authority to carry out these responsibilities.

### General Manager

**Public Works**

Responsible for, and assigned the authority for, making asset recommendations related to assigned portfolios, in adherence with this policy.

Authority to make asset management decisions related to investment, design, construction, acquisition, operation, maintenance, renewal, replacement and decommissioning of infrastructure assets.

### General Manager

**Finance & Corporate Services**

Responsible for communicating financial plans, forecasts and other financial commitments related to municipal infrastructure assets to the Senior Leadership Team.

### OTHER PROVISIONS

**Plans, Budgets and Forecasts**

This Policy and future AMP are only effective when fully aligned with City budgeting and forecasting activities. A process will be developed within the AMP to coordinate asset management decisions when developing municipal capital and operating budgets, and long-term forecasting related to infrastructure assets.
This will include special consideration to align to the City of Hamilton Water Service Area Financial Plan, Development Charge Bylaw and Master Plans.

Continual Improvement

Asset management planning will be continually improved by considering emerging practices and principles in asset management planning.

Opportunities for improvement will be also be determined through monitoring asset performance, and outcomes of asset decisions. Of particular importance are asset-related emergency situations, when seeking means to improve the City's asset management practices.

Land-Use Planning Framework

A process will be developed and captured in the AMP to align asset management planning with land-use planning, including the City of Hamilton Official Plan, Development Charge By-Laws and other related master plans as they may be applicable.

Risk Management

Climate change introduces risk and vulnerabilities for core municipal infrastructure assets. In order to fulfill climate change commitments in this Policy and stay aware of these risks and vulnerabilities, the Risk Assessment process will be developed through the AMP.

Also, as noted in Definitions, items below the capital asset threshold may be included in the scope of asset management planning. That is, occasionally an item's value may be less than the defined capital asset threshold, but it has a functional value that introduces risk should the item's inventory, availability, condition or forecast not be considered and planned for. In that case, this item may be added using the Risk Assessment process that will be developed.

Infrastructure priorities are inherently identified by consideration of risk. This process will be formalized as the AMP is developed, along with an overview of the risks associated with the strategy (i.e. ways the plan could fail to generate the expected service levels) and any actions that will be taken in response.

Stakeholder Consultation

Stakeholder involvement is a commitment in this Policy, and an important factor of a successful and relevant AMP. It is imperative that opportunities to provide input are consistently offered to residents and interested parties.

Consultation and communication processes are in place, and will be described in the AMP.
<table>
<thead>
<tr>
<th>Policy</th>
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<tr>
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</table>

**Availability and Update**

This policy is posted on the City website and provided to anyone who requests it. It is reviewed and updated as required, no more than 5 years from the last revision date posted.
### APPENDIX 1

Assets included in scope:

<table>
<thead>
<tr>
<th>Asset Category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinking water distribution</td>
<td>Pumps, Motors, Starters, Gates, Transmission Mains, Distribution Mains, Water Valves, Water Quality Analyzers, Chemical Supply Systems, SCADA, Storage Reservoirs &amp; Elevated Tanks, Generators, MCCs, Transformers, VFDs</td>
</tr>
<tr>
<td>Drinking water treatment</td>
<td>Pumps, Motors, Starters, Gates, Trash Screens, Mixers, Valves, Filters, UV Units, Tanks (Settling &amp; Storage), Chemical Supply Systems, SCADA, Generators, MCCs, Transformers, VFDs</td>
</tr>
<tr>
<td>Sanitary wastewater collection</td>
<td>Maintenance Access Chambers, Pumps, Motors, Starters, Gates, Force Mains, Sewer Pipes, Weirs, SCADA, CSO Tanks, Generators, MCCs, Transformers, VFDs</td>
</tr>
<tr>
<td>Sanitary wastewater treatment</td>
<td>Pumps, Motors, Starters, Bar Screens, Chemical Supply Systems, Tanks, Flights, Chains, Blowers, Filter Presses, Centrifuges, Mixers, Filters, SCADA, Generators, MCCs, Transformers, VFDs</td>
</tr>
<tr>
<td>Roads (including right-of-way)</td>
<td>All road elements that comprise a municipal highway, including surface asphalts or other treatments, base materials, curbs, walks and shoulders, boulevards, control systems, street lighting, signs, for all road classes or highway</td>
</tr>
<tr>
<td>Bridges</td>
<td>Structures which provide a roadway or walkway for the passage of vehicles, pedestrians or cyclists across an obstruction, gap or facility, including precast concrete cross culverts, steel road bridges</td>
</tr>
<tr>
<td>Culverts</td>
<td>Large diameter corrugated steel culvert</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td>Storm water system</td>
<td>Pumps, Motors, Starters, Flood Gates, Storm Sewer Pipes, Catch Basins, Storm Ponds, Tanks, SCADA, Generators, MCCs, Transformers, VFDs</td>
</tr>
</tbody>
</table>
ONTARIO REGULATION 588/17
made under the
INFRASTRUCTURE FOR JOBS AND PROSPERITY ACT, 2015

Made: December 13, 2017
Filed: December 27, 2017
Published on e-Laws: December 27, 2017
Printed in The Ontario Gazette: January 13, 2018

ASSET MANAGEMENT PLANNING FOR MUNICIPAL INFRASTRUCTURE

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1. Definitions
2. Application
3. Strategic asset management policy
4. Update of asset management policy
5. Asset management plans, current levels of service
6. Asset management plans, proposed levels of service
7. Update of asset management plans
8. Endorsement and approval required
9. Annual review of asset management planning progress
10. Public availability

Table 1 Water assets
Table 2 Wastewater assets
Table 3 Stormwater management assets
Table 4 Roads
Table 5 Bridges and culverts

11. Commencement

INTERPRETATION AND APPLICATION

Definitions

1. (1) In this Regulation,

“asset category” means a category of municipal infrastructure assets that is,

(a) an aggregate of assets described in each of clauses (a) to (e) of the definition of core municipal infrastructure asset, or
(b) composed of any other aggregate of municipal infrastructure assets that provide the same type of service; ("catégorie de biens")

“core municipal infrastructure asset” means any municipal infrastructure asset that is a,

(a) water asset that relates to the collection, production, treatment, storage, supply or distribution of water,
(b) wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater,
(c) stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater,
(d) road, or
(e) bridge or culvert; ("bien d’infrastructure municipale essentiel")

“ecological functions” has the same meaning as in Ontario Regulation 140/02 (Oak Ridges Moraine Conservation Plan) made under the Oak Ridges Moraine Conservation Act, 2001; ("fonctions écologiques")
"green infrastructure asset" means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces and green roofs; ("bien d'infrastructure verte")

"hydrological functions" has the same meaning as in Ontario Regulation 140/02; ("fonctions hydrologiques")

"joint municipal water board" means a joint board established in accordance with a transfer order made under the Municipal Water and Sewage Transfer Act, 1997; ("conseil mixte de gestion municipale des eaux")

"lifecycle activities" means activities undertaken with respect to a municipal infrastructure asset over its service life, including constructing, maintaining, renewing, operating and decommissioning, and all engineering and design work associated with those activities; ("activités relatives au cycle de vie")

"municipal infrastructure asset" means an infrastructure asset, including a green infrastructure asset, directly owned by a municipality or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board; ("bien d’infrastructure municipale")

"municipality" has the same meaning as in the Municipal Act, 2001; ("municipalité")

"operating costs" means the aggregate of costs, including energy costs, of operating a municipal infrastructure asset over its service life; ("frais d’exploitation")

"service life" means the total period during which a municipal infrastructure asset is in use or is available to be used; ("durée de vie")

"significant operating costs" means, where the operating costs with respect to all municipal infrastructure assets within an asset category are in excess of a threshold amount set by the municipality, the total amount of those operating costs. ("frais d'exploitation importants")

(2) In Tables 1 and 2,

"connection-days" means the number of properties connected to a municipal system that are affected by a service issue, multiplied by the number of days on which those properties are affected by the service issue. ("jours-branchements")

(3) In Table 4,

"arterial roads" means Class 1 and Class 2 highways as determined under the Table to section 1 of Ontario Regulation 239/02 (Minimum Maintenance Standards for Municipal Highways) made under the Municipal Act, 2001; ("artères")

"collector roads" means Class 3 and Class 4 highways as determined under the Table to section 1 of Ontario Regulation 239/02; ("routes collectrices")

"lane-kilometre" means a kilometre-long segment of roadway that is a single lane in width; ("kilomètre de voie")

"local roads" means Class 5 and Class 6 highways as determined under the Table to section 1 of Ontario Regulation 239/02. ("routes locales")

(4) In Table 5,


"structural culvert" has the meaning set out for "culvert (structural)" in the Ontario Structure Inspection Manual. ("ponceau structurel")

Application

2. For the purposes of section 6 of the Act, every municipality is prescribed as a broader public sector entity to which that section applies.

Strategic Asset Management Policies

3. (1) Every municipality shall prepare a strategic asset management policy that includes the following:

1. Any of the municipality’s goals, policies or plans that are supported by its asset management plan.

2. The process by which the asset management plan is to be considered in the development of the municipality’s budget or of any long-term financial plans of the municipality that take into account municipal infrastructure assets.
3. The municipality’s approach to continuous improvement and adoption of appropriate practices regarding asset management planning.

4. The principles to be followed by the municipality in its asset management planning, which must include the principles set out in section 3 of the Act.

5. The municipality’s commitment to consider, as part of its asset management planning,
   i. the actions that may be required to address the vulnerabilities that may be caused by climate change to the municipality’s infrastructure assets, in respect of such matters as,
      A. operations, such as increased maintenance schedules,
      B. levels of service, and
      C. lifecycle management,
   ii. the anticipated costs that could arise from the vulnerabilities described in subparagraph i,
   iii. adaptation opportunities that may be undertaken to manage the vulnerabilities described in subparagraph i,
   iv. mitigation approaches to climate change, such as greenhouse gas emission reduction goals and targets, and
   v. disaster planning and contingency funding.

6. A process to ensure that the municipality’s asset management planning is aligned with any of the following financial plans:
   i. Financial plans related to the municipality’s water assets including any financial plans prepared under the Safe Drinking Water Act, 2002.
   ii. Financial plans related to the municipality’s wastewater assets.

7. A process to ensure that the municipality’s asset management planning is aligned with Ontario’s land-use planning framework, including any relevant policy statements issued under subsection 3 (1) of the Planning Act, any provincial plans as defined in the Planning Act and the municipality’s official plan.

8. An explanation of the capitalization thresholds used to determine which assets are to be included in the municipality’s tangible capital asset policy, if it has one.

9. The municipality’s commitment to coordinate planning for asset management, where municipal infrastructure assets connect or are interrelated with those of its upper-tier municipality, neighbouring municipalities or jointly-owned municipal bodies.

10. The persons responsible for the municipality’s asset management planning, including the executive lead.

11. An explanation of the municipal council’s involvement in the municipality’s asset management planning.

12. The municipality’s commitment to provide opportunities for municipal residents and other interested parties to provide input into the municipality’s asset management planning.

(2) For the purposes of this section, “capitalization threshold” is the value of a municipal infrastructure asset at or above which a municipality will capitalize the value of it and below which it will expense the value of it. (“seuil de capitalisation”)

Update of asset management policy

4. Every municipality shall prepare its first strategic asset management policy by July 1, 2019 and shall review and, if necessary, update it at least every five years.

**ASSET MANAGEMENT PLANS**

Asset management plans, current levels of service

5. (1) Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets by July 1, 2021, and in respect of all of its other municipal infrastructure assets by July 1, 2023.

(2) A municipality’s asset management plan must include the following:

1. For each asset category, the current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan:
i. With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.

ii. With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.

2. The current performance of each asset category, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency, and based on data from at most two calendar years prior to the year in which all information required under this section is included in the asset management plan.

3. For each asset category,
   i. a summary of the assets in the category,
   ii. the replacement cost of the assets in the category,
   iii. the average age of the assets in the category, determined by assessing the average age of the components of the assets,
   iv. the information available on the condition of the assets in the category, and
   v. a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate.

4. For each asset category, the lifecycle activities that would need to be undertaken to maintain the current levels of service as described in paragraph 1 for each of the 10 years following the year for which the current levels of service under paragraph 1 are determined and the costs of providing those activities based on an assessment of the following:
   i. The full lifecycle of the assets.
   ii. The options for which lifecycle activities could potentially be undertaken to maintain the current levels of service.
   iii. The risks associated with the options referred to in subparagraph ii.
   iv. The lifecycle activities referred to in subparagraph ii that can be undertaken for the lowest cost to maintain the current levels of service.

5. For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, the following:
   i. A description of assumptions regarding future changes in population or economic activity.
   ii. How the assumptions referred to in subparagraph i relate to the information required by paragraph 4.

6. For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census, the following:
   i. With respect to municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are set out in Schedule 3 or 7 to the 2017 Growth Plan, those forecasts.
   ii. With respect to lower-tier municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are not set out in Schedule 7 to the 2017 Growth Plan, the portion of the forecasts allocated to the lower-tier municipality in the official plan of the upper-tier municipality of which it is a part.
   iii. With respect to upper-tier municipalities or single-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the municipality that are set out in its official plan.
   iv. With respect to lower-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the lower-tier municipality that are set out in the official plan of the upper-tier municipality of which it is a part.
   v. If, with respect to any municipality referred to in subparagraph iii or iv, the population and employment forecasts for the municipality cannot be determined as set out in those subparagraphs, a description of assumptions regarding future changes in population or economic activity.
   vi. For each of the 10 years following the year for which the current levels of service under paragraph 1 are determined, the estimated capital expenditures and significant operating costs related to the lifecycle activities required to maintain the current levels of service in order to accommodate projected increases in demand caused
by growth, including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets.

(3) Every asset management plan must indicate how all background information and reports upon which the information required by paragraph 3 of subsection (2) is based will be made available to the public.

(4) In this section,

"2017 Growth Plan" means the Growth Plan for the Greater Golden Horseshoe, 2017 that was approved under subsection 7 (6) of the Places to Grow Act, 2005 on May 16, 2017 and came into effect on July 1, 2017; ("Plan de croissance de 2017")

"Greater Golden Horseshoe growth plan area" means the area designated by section 2 of Ontario Regulation 416/05 (Growth Plan Areas) made under the Places to Grow Act, 2005. ("zone de croissance planifiée de la région élargie du Golden Horseshoe")

Asset management plans, proposed levels of service

6. (1) Subject to subsection (2), by July 1, 2024, every asset management plan prepared under section 5 must include the following additional information:

1. For each asset category, the levels of service that the municipality proposes to provide for each of the 10 years following the year in which all information required under section 5 and this section is included in the asset management plan, determined in accordance with the following qualitative descriptions and technical metrics:
   i. With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.
   ii. With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.

2. An explanation of why the proposed levels of service under paragraph 1 are appropriate for the municipality, based on an assessment of the following:
   i. The options for the proposed levels of service and the risks associated with those options to the long term sustainability of the municipality.
   ii. How the proposed levels of service differ from the current levels of service set out under paragraph 1 of subsection 5 (2).
   iii. Whether the proposed levels of service are achievable.
   iv. The municipality’s ability to afford the proposed levels of service.

3. The proposed performance of each asset category for each year of the 10-year period referred to in paragraph 1, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency.

4. A lifecycle management and financial strategy that sets out the following information with respect to the assets in each asset category for the 10-year period referred to in paragraph 1:
   i. An identification of the lifecycle activities that would need to be undertaken to provide the proposed levels of service described in paragraph 1, based on an assessment of the following:
      A. The full lifecycle of the assets.
      B. The options for which lifecycle activities could potentially be undertaken to achieve the proposed levels of service.
      C. The risks associated with the options referred to in sub-subparagraph B.
      D. The lifecycle activities referred to in sub-subparagraph B that can be undertaken for the lowest cost to achieve the proposed levels of service.
   ii. An estimate of the annual costs for each of the 10 years of undertaking the lifecycle activities identified in subparagraph i, separated into capital expenditures and significant operating costs.
   iii. An identification of the annual funding projected to be available to undertake lifecycle activities and an explanation of the options examined by the municipality to maximize the funding projected to be available.
   iv. If, based on the funding projected to be available, the municipality identifies a funding shortfall for the lifecycle activities identified in subparagraph i,
A. an identification of the lifecycle activities, whether set out in subparagraph i or otherwise, that the municipality will undertake, and

B. if applicable, an explanation of how the municipality will manage the risks associated with not undertaking any of the lifecycle activities identified in subparagraph i.

5. For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, a discussion of how the assumptions regarding future changes in population and economic activity, set out in subparagraph 5 i of subsection 5 (2), informed the preparation of the lifecycle management and financial strategy referred to in paragraph 4 of this subsection.

6. For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census,
   i. the estimated capital expenditures and significant operating costs to achieve the proposed levels of service as described in paragraph 1 in order to accommodate projected increases in demand caused by population and employment growth, as set out in the forecasts or assumptions referred to in paragraph 6 of subsection 5 (2), including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets,
   ii. the funding projected to be available, by source, as a result of increased population and economic activity, and
   iii. an overview of the risks associated with implementation of the asset management plan and any actions that would be proposed in response to those risks.

7. An explanation of any other key assumptions underlying the plan that have not previously been explained.

(2) With respect to an asset management plan prepared under section 5 on or before July 1, 2021, if the additional information required under this section is not included before July 1, 2023, the municipality shall, before including the additional information, update the current levels of service set out under paragraph 1 of subsection 5 (2) and the current performance measures set out under paragraph 2 of subsection 5 (2) based on data from the two most recent calendar years.

Update of asset management plans

7. (1) Every municipality shall review and update its asset management plan at least five years after the year in which the plan is completed under section 6 and at least every five years thereafter.

(2) The updated asset management plan must comply with the requirements set out under paragraphs 1, 2 and 3 and subparagraphs 5 i and 6 i, ii, iii, iv and v of subsection 5 (2), subsection 5 (3) and paragraphs 1 to 7 of subsection 6 (1).

Endorsement and approval required

8. Every asset management plan prepared under section 5 or 6, or updated under section 7, must be,
   (a) endorsed by the executive lead of the municipality; and
   (b) approved by a resolution passed by the municipal council.

Annual review of asset management planning progress

9. (1) Every municipal council shall conduct an annual review of its asset management progress on or before July 1 in each year, starting the year after the municipality’s asset management plan is completed under section 6.

(2) The annual review must address,
   (a) the municipality’s progress in implementing its asset management plan;
   (b) any factors impeding the municipality’s ability to implement its asset management plan; and
   (c) a strategy to address the factors described in clause (b).

Public availability

10. Every municipality shall post its current strategic asset management policy and asset management plan on a website that is available to the public, and shall provide a copy of the policy and plan to any person who requests it.

   TABLE 1
   WATER ASSETS

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service attribute</td>
<td>Community levels of service (qualitative descriptions)</td>
<td>Technical levels of service (technical metrics)</td>
</tr>
<tr>
<td>Scope</td>
<td>1. Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system.</td>
<td>1. Percentage of properties connected to the municipal water system.</td>
</tr>
<tr>
<td></td>
<td>2. Percentage of properties where fire flow is</td>
<td>2. Percentage of properties where fire flow is</td>
</tr>
<tr>
<td></td>
<td>Description, which may include maps, of the user groups or areas of the municipality that have fire flow.</td>
<td>available.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
| Reliability | Description of boil water advisories and service interruptions. | 1. The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.  
2. The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system. |

**TABLE 2**  
WASTEWATER ASSETS

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service attribute</td>
<td>Community levels of service (qualitative descriptions)</td>
<td>Technical levels of service (technical metrics)</td>
</tr>
<tr>
<td>Scope</td>
<td>Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.</td>
<td>Percentage of properties connected to the municipal wastewater system.</td>
</tr>
</tbody>
</table>
| Reliability | 1. Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes.  
2. Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches.  
3. Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes.  
4. Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in paragraph 3.  
5. Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system. | 1. The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.  
2. The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.  
3. The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system. |

**TABLE 3**  
STORMWATER MANAGEMENT ASSETS

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service attribute</td>
<td>Community levels of service (qualitative descriptions)</td>
<td>Technical levels of service (technical metrics)</td>
</tr>
</tbody>
</table>
| Scope | Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system. | 1. Percentage of properties in municipality resilient to a 100-year storm.  
2. Percentage of the municipal stormwater management system resilient to a 5-year storm. |

**TABLE 4**  
ROADS

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service attribute</td>
<td>Community levels of service (qualitative descriptions)</td>
<td>Technical levels of service (technical metrics)</td>
</tr>
<tr>
<td>Scope</td>
<td>Description, which may include maps, of the road network in the municipality and its level of connectivity.</td>
<td>Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.</td>
</tr>
</tbody>
</table>
| Quality | Description or images that illustrate the different levels of road class pavement condition. | 1. For paved roads in the municipality, the average pavement condition index value.  
2. For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor). |
TABLE 5
BRIDGES AND CULVERTS

<table>
<thead>
<tr>
<th>Column 1 Service attribute</th>
<th>Column 2 Community levels of service (qualitative descriptions)</th>
<th>Column 3 Technical levels of service (technical metrics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).</td>
<td>Percentage of bridges in the municipality with loading or dimensional restrictions.</td>
</tr>
</tbody>
</table>
| Quality                     | 1. Description or images of the condition of bridges and how this would affect use of the bridges.  
2. Description or images of the condition of culverts and how this would affect use of the culverts. | 1. For bridges in the municipality, the average bridge condition index value.  
2. For structural culverts in the municipality, the average bridge condition index value. |                                                                                                                                                                                                                                                     |

COMMENCEMENT

11. This Regulation comes into force on the later of January 1, 2018 and the day it is filed.