

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 19, 2019

Item 2, Report No. 5, of the Finance, Administration and Audit Committee, which was adopted without amendment by the Council of the City of Vaughan on March 19, 2019.

2. POLICY: STRATEGIC ASSET MANAGEMENT

The Finance, Administration and Audit Committee recommends:

- 1) That the recommendation contained in the following report of the Interim Deputy City Manager, Public Works dated March 4, 2019, be approved; and**
- 2) That the presentation by the Director of Infrastructure Planning and Corporate Asset Management, the Manager of Corporate Asset Management and the Asset Management Specialist, and Communication C3, presentation material titled “Corporate Asset Management Policy”, be received.**

Recommendations

- 1. Council approve the attached Asset Management Policy.**

Item:



Finance, Administration and Audit Committee Report

DATE: Monday, March 04, 2019

WARD(S): ALL

TITLE: POLICY: STRATEGIC ASSET MANAGEMENT

FROM:

Zoran Postic, Interim Deputy City Manager, Public Works

ACTION: DECISION

Purpose

This report requests Council approval of a new legislative policy for the strategic management of physical infrastructure assets. This policy provides direction and further support for a consistent, coordinated and affordable approach to infrastructure asset management across City Departments and ensures compliance with O.Reg 588/17: Asset Management Planning for Municipal Infrastructure, issued by the Province.

Report Highlights

- New asset management policies embed the principles of sustainability and resilience in corporate decision-making about infrastructure to make the best use of available funds to deliver services
- Policies direct future Asset Management Plans to reflect community and stakeholder expectations for City services, while managing risk in a way that is affordable both today and tomorrow
- Communicating with citizens in terms they can understand helps increase engagement and supports Council with policy changes

Recommendations

1. Council approve the attached Asset Management Policy

Background

Infrastructure assets are built, owned, operated and maintained by the City

Assets are essential to provide the necessary services that contribute to the high quality of life enjoyed by City of Vaughan residents. It is imperative to ensure services are delivered in a safe, reliable and efficient manner, while sustaining a growing community.

The City is committed to sustainable asset management practices

The Policy provides a framework to ensure long-term asset sustainability and demonstrate fiscal stewardship for the City's growing and aging asset base. The policy as well outlines roles and responsibilities across the corporation, which are critical to successful implementation of the City's asset management programs.

Overall responsibility of asset management is shared across City departments to effectively and continuously assess, evaluate and improve asset management programs to deliver services balanced against considerations of costs and risks.

Over the last five years, the City has continued to grow its asset base and advance asset management programs to manage its assets. Examples of initiatives implemented through proactive asset management include assessing the condition of buildings like community centers, modeling the deterioration of buried pipes in the water distribution system, and evaluating the remaining life on playground equipment to better inform decisions about maintenance, rehabilitation, replacement and disposal.

Asset Management Planning for Municipal Infrastructure Regulation came into effect in January 2018

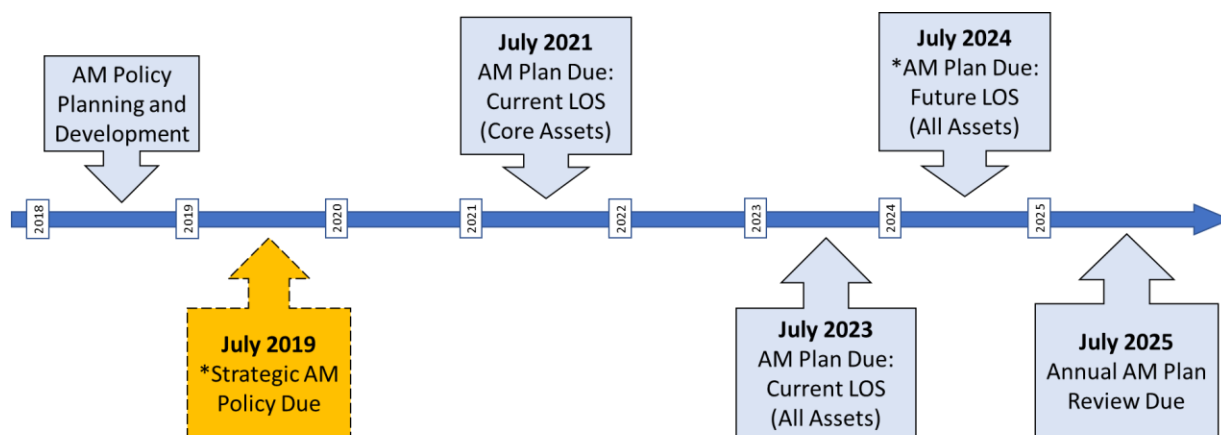
In May 2017, the Province issued the "Proposed Municipal Asset Management Planning Regulation" to implement best practices throughout the municipal sector. The Regulation is intended to provide certainty around future provincial asset management planning requirements and support resilience and sustainability as key aspects of municipal asset management planning. Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure came into effect in January 2018.

The first key action in the Regulation requires development and adoption of a strategic asset management policy by July 1, 2019

Along with the requirement for a strategic asset management policy, there is also the requirement to review and, if necessary, update the policy every five years. Several

legislated requirements are listed to be included within the policy, including a commitment to consider climate change risks and mitigation approaches and to provide opportunities for residents and interested parties to provide input into asset management planning. Asset Management Planning for Municipal Infrastructure Regulation requirements and timelines are shown below.

Regulation Timelines: Asset Management Planning for Municipal Infrastructure



[] CAM Efforts, Internal Resources

[] O.Reg 588/17: Asset Management Planning for Municipal Infrastructure Requirement

Core Assets = Water, Wastewater, Stormwater, Roads, Bridges, and Culverts

* Required every 5 years

Previous Reports/Authority

The previous staff report dated June 6, 2018 (Report No. 6, Item 12) can be accessed via the following Link:

<https://pub-vaughan.escribemeetings.com/filestream.ashx?DocumentId=4633>

Analysis and Options

The Policy is aligned with new legislation and advanced asset management practices

To develop this Policy such that it incorporates the legislated requirements outlined in the Regulation and integrates industry best practices, multiple workshops were held with senior decisionmakers in several portfolios (e.g. Finance, Policy Planning and Environmental Sustainability, Office of the Chief Information Officer, etc.), with key

stakeholders (e.g., City Manager, CFO, Policy Committee, etc.), and internal asset management specialists focusing on Sustainability, Risk, Growth, Levels of Service, and Integration.

To empower focused conversations around local and legislated requirements, the policy was divided into six components with the following content:

1. Administrative Requirements
 - strategic alignment
 - guiding principles
 - governance and continuous improvement
 - coordination at boundaries and public input
2. Critical Assets & Business Risks
 - potential risks and vulnerabilities
 - climate change
3. Land-use Planning
 - community planning
4. Infrastructure Financial Management
 - budgeting & financial planning
 - capitalization thresholds
5. Levels of Service
 - customer expectations
 - regulatory requirements
 - organizational objectives
 - performance measurement
6. Implementation and Communication Procedures
 - asset management planning inputs
 - asset management planning outputs

Policy priorities will coordinate the City's approach to asset management

While the City's requirements are broad, asset management can be generalized as a systematic process that guides the planning, acquisition, operation, maintenance, rehabilitation, replacement and disposal of physical infrastructure assets. These activities are aligned with the following four policy principles:

1. Citizen Focused: The City of Vaughan will have clearly defined levels of service and apply asset management practices to maintain the confidence of customers in how City assets are managed.
2. Service Focused: The City of Vaughan will consider all the assets in a service context and take into account their interrelationships as opposed to optimizing individual assets in isolation.
3. Risk-based: The City of Vaughan will manage the asset risk associated with attaining the agreed levels of service by focusing resources, expenditures, and priorities based upon risk assessments and the corresponding cost/benefit, recognizing that public safety is the priority.
4. Value-based Affordable: The City of Vaughan will choose practices, interventions, and operations that aim at reducing the lifecycle cost of asset ownership, while satisfying the agreed levels of service. Decisions are based on balancing service levels, risks, and costs.

To enable consistent, coordinated and affordable services that meet community expectations, the City's Asset Management Policy provides eight clear objectives for asset management, across all departments:

1. Provide infrastructure and services to sustain the City of Vaughan that:
 - support the quality of life, urban environment, and cultural fabric appropriate to the City of Vaughan;
 - facilitate the changes to infrastructure needed to cater for changing communities;
 - enhance the resilience of the City's infrastructure and communities.
2. Implement a life-cycle approach to the management of infrastructure assets where:
 - asset planning decisions are based on an evaluation of alternatives that consider the "whole of life" of an asset through acquisition, operation, maintenance, renewal, and disposal;
 - the asset management cycle considers the current and future environmental, economic, cultural, and social outcomes.
3. Ensure that service delivery needs are the primary driver for infrastructure asset management practices by:
 - establishing and monitoring levels of service for each asset class through the Asset Management Plan;
 - identifying and monitoring individual and network risks to assets and service levels for each asset class.

4. Provide a sustainable funding model that provides assets aligned with the City's long-term plans and community needs with a:
 - funding model for all asset related services extending at least 10 years into the future that addresses the need for funds, considers renewal peaks and troughs, and identifies how the funds will be sourced for current and projected growth both in terms of population and jobs, as provided for in the Official Plan.
5. Develop and implement best value asset management practices that are environmentally sustainable and:
 - encourage a flexible and scenario-based approach through systems and plans to allow for innovative use of assets, particularly in environmental and resiliency initiatives;
 - acknowledge climate change adaptation and environmental protection are fundamental to sustainable asset management planning practices;
 - reduce resource use and promote resilience by utilizing clean technology products, services, and processes wherever possible; and
 - incorporate local, regional, provincial, federal, and international sustainability criteria including climate resilient codes and standards into greenfield development, intensification, infrastructure projects and procurement.
6. Provide reliable asset and infrastructure data through supported digital platforms demonstrated by:
 - open sourced for community use, where appropriate, such as with an asset management plan;
 - implementation of sound data governance and data quality management;
 - access to systems and information by mobile technology wherever possible.
7. Implement an integrated decision support system that:
 - provides systems and knowledge necessary to achieve priority policy outcomes;
 - proactively interrogates and models data to support informed decisions;
 - minimizes the risk of corporate knowledge and data loss;
 - manages information as efficiently as possible through the appropriate use of software, hardware and communication tools; and
 - reduces data duplication.
8. Ensure compliance with legislative requirements by:
 - aligning with infrastructure planning principles from the Infrastructure for Jobs and Prosperity Act, 2015; and

- having clear policies, processes and information to ensure that long-term organizational objectives and legislative requirements are met.

Asset management planning processes are a flexible implementation tool and illustrates how interdepartmental relationships will facilitate an affordable multi-disciplinary approach to service excellence

To deliver defined levels of service, a degree of coordination is required among stakeholders. Asset management planning processes were developed to evaluate service area requirements and citizen expectations, develop effective investment policies to strengthen leadership and governance, and continuously improve the City's asset management plans. Steps are organized logically so staff can easily locate their practice of interest. Following this planning process will ensure that asset management planning is undertaken in a consistent manner across the organization.

Citizen input plays an important role in developing and evaluating appropriate levels of service

Input from resident citizens, businesses, and customers will be key in developing level of service targets. This input will be balanced with other considerations, including the costs and risks associated with providing a defined level of service. The City's Pavement Condition Index for road surfaces is an example of a level of service.

Furthermore, ongoing and transparent feedback loops are part of the City's asset management planning process because they improve the immediate delivery of value and support the City's commitment to ensure community engagement. Feedback from those who rely on these services will help identify any gaps between what is expected and what is planned.

Adoption of the updated Corporate Asset Management Policy will complete the first step required under the Regulation

The Regulation requires development and adoption of a strategic asset management policy by July 1, 2019. By adopting this policy, Council will satisfy the first step required by the Regulation.

Additionally, this will inform further developments of the City's Asset Management Plans, while providing guidance and consistency for service areas in preparation to meet subsequent steps in the Regulation.

Similar to the City, other municipalities who have instituted asset management policies to guide the way their assets are managed include York Region, Region of Peel, City of Guelph, Region of Waterloo and City of Brampton.

Financial Impact

The Asset Management Policy supports a sustainable fiscal position

Continued implementation of the City's Asset Management Policy is essential to effectively manage infrastructure investments needs to sustain existing asset and build new ones well into the future. The City must balance infrastructure investment plans with the maintenance and rehabilitation costs of existing infrastructure in a fiscally responsible manner. Council has further supported this focus with contributions to reserves and full cost recovery pricing for a significant portion of the City's asset base.

Broader Regional Impacts/Considerations

Some of the key objectives in the City's Asset Management Policy include providing defined levels of service and engaging with residents and business owners to provide input into asset management planning. Services delivered to local municipalities include water, wastewater, waste management, transportation, facility, traffic, forestry, horticulture and other municipal services.

As partners in service delivery, residents and businesses will benefit from the City's Asset Management Policy. For example, an affordable strategy to deliver services in a safe, reliable, and efficient manner benefits each Ward and its constituents.

As required by the Asset Management Regulation, additional feedback will be gathered from stakeholders at neighbouring municipalities, including the Region of York and jointly-owned municipal bodies, where the City's infrastructure assets connect or are interrelated. This will coordinate planning for asset management and assist in the continued development of levels of service balanced against the cost and risk to maintain these services. Continuous improvement of the City's asset management practices also highlights the importance of collaborating with neighbouring municipalities to support fiscal responsibility and legislated requirements.

Conclusion

The Asset Management Policy aligns with Asset Management Regulation and continues to ensure responsible and sustainable service delivery

Legislated requirements have been incorporated in the City's Asset Management Policy to align with the Asset Management Planning for Municipal Infrastructure Regulation.

The Asset Management Policy reinforces a consistent, coordinated and affordable approach to the City's asset management practices by providing clear objectives and processes that show the interdepartmental relationships between stakeholders.

Approval of the Asset Management Policy will assist all departments to not only minimize lifecycle costs while maintaining acceptable levels of service, but also link infrastructure investment decisions to service outcomes. As a result, this policy will integrate decision-making, ensuring accountability and transparency. This will demonstrate the long-term consideration of decisions, and ensure appropriate service levels are achieved, affordably.

For more information, please contact: Vince Musacchio, Director of Infrastructure Planning and Corporate Asset Management ext. 8311

Attachments

1. 03.C.03 Asset Management Administrative Umbrella
2. 03.C.04 Asset Management Critical Assets
3. 03.C.05 Asset Management Financial Requirements
4. 03.C.06 Asset Management Land Use Planning
5. 03.C.07 Asset Management Levels of Service

Prepared by

Michael Wright, Asset Management Specialist, Corporate Asset Management, ext. 8499

CORPORATE POLICY**POLICY TITLE: ASSET MANAGEMENT: ADMINISTRATIVE UMBRELLA****POLICY NO.: 03.C.03**

Section:	Administration & Legal		
Effective Date:	June 1, 2018	Date of Last Review:	Click or tap to enter a date.
Approval Authority: Council	Policy Owner: DCM, Public Works		

POLICY STATEMENT

The purpose of the Asset Management Policy is to ensure that the City has comprehensive information, knowledge, and understanding about the long-term affordability and fiduciary obligations related to public infrastructure decisions to ensure a healthy environment, vibrant communities and economic vitality for current and future generations.

This is achieved by ensuring systems and processes are in place to enable people to determine the most effective and efficient options for delivering infrastructure related services while controlling exposure to risk and loss.

The Asset Management Policy also provides the framework that together with the Term of Council Priorities and Service Excellence Strategic Plan enables the asset management strategy and specific asset management plans to be produced.

PURPOSE

This policy ensures Asset Management is an essential capability that cascades across and throughout the City of Vaughan. Done effectively, asset management will encourage engagement, partnership, and dialogue in support of a safe community with sustainable growth in alignment with the many initiatives underway in our organization, for current and future generations.

This alignment is necessary to properly consider whether the level of service provided by our existing and planned assets is affordable, congruent and supports our vision.

POLICY TITLE: ASSET MANAGEMENT: ADMINISTRATIVE REQUIREMENTS

POLICY NO.: 03.C.03

SCOPE

The City of Vaughan's Council and senior management will review this policy and incorporate it into the asset management planning approach that fosters the integration of municipal documents and practices.

This policy requires the commitment of key stakeholders within the municipality's organizational structure to ensure the City is validating and refining corporate, service and asset management objectives based on the evolving needs of our community. To achieve this high-level outcome and promote fairness in the development of consensus, the following responsibilities are included in the scope of this policy:

1. Council

- 1.1. Approve by resolution the Asset Management Plan and its updates every five years.
- 1.2. Conduct annual reviews of the Asset Management Plan implementation progress on or before July 1 of every year; that includes:
 - 1.2.1. Progress on ongoing efforts to implement the asset management plans.
 - 1.2.2. Consideration of asset management policies.
 - 1.2.3. Any factors affecting the ability of the municipality to implement its asset management plans.
 - 1.2.4. Consultation with department leads.
 - 1.2.5. A strategy to address these factors including the adoption of appropriate practices.
- 1.3. Support ongoing efforts to continuously improve and implement the City's Asset Management Plans.

2. City Manager

- 2.1. Maintain compliance with asset management policies and provincial asset management regulations.

3. Internal Departments

- 3.1. Oversee asset management planning activities within their service area and in support of others.

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POLICY NO.: 03.C.03

3.2. Continue to integrate findings from asset management activities and plans into long-term financial planning and budgeting processes.

To bring these policies to life, the City recognizes residents, businesses and institutions, based in Vaughan, as stakeholders. Accordingly, neighbouring municipal bodies, provincial agencies and regulated utilities are partners in service delivery. To support effective decision-making, the City's asset management strategy and framework will strengthen ongoing engagement programs with these parties, using comprehensive data by:

3.2.1. providing opportunities for residents and other stakeholders served by the municipality to provide input in asset management planning.

3.2.2. coordinating asset management planning with other infrastructure asset-owning agencies, such as municipal bodies and regulated utilities.

3.2.3. documenting changes to asset management roles and responsibilities to support evolving requirements, as needed.

LEGISLATIVE REQUIREMENTS

The policy must include:

3.(1)1. Any of the municipality's goals, policies or plans that are supported by its asset management plan.

3.(1)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.

3.(1)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.

3.(1)10. The persons responsible for the municipalities asset management planning, including the executive lead.

3.(1)11. An explanation of the municipal Council's involvement in the municipality's asset management planning.

3.(1)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.

POLICY TITLE: ASSET MANAGEMENT: ADMINISTRATIVE REQUIREMENTS

POLICY NO.: 03.C.03

Asset Management Plans must be:

7.(1) Reviewed and updated at least five years after the year in which the plan is completed under section 6 of the regulation and at least every five years thereafter.

8.(a) Endorsed by the executive team lead of the municipality.

8.(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 of the regulation.

9.(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).

DEFINITIONS

The following definitions are provided in accordance with the International Infrastructure Management Manual.

1. **Asset Management (AM):** Systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effect lifecycle management of assets.
2. **Asset Management Framework:** Overarching AM hierarchy including the AM Policy, Objectives, Strategy, and the AM Plan.
3. **Asset Management Objectives:** Specific outcomes required from the implementation of the AM Framework.
4. **Asset Management Plan (AM Plan):** Long-term plans that outline the asset activities and programs for each service area and resources applied to provide a defined level of service in the most cost-effective way.

POLICY TITLE: ASSET MANAGEMENT: ADMINISTRATIVE REQUIREMENTS

POLICY NO.: 03.C.03

- 5. Asset Management Policy:** Document that broadly outlines the principles and mandated requirements for undertaking AM across the organization in a systematic and coordinated way, consistent with the organizations strategic plan. It provides the framework for the AM Strategy and AM Plan.
- 6. Asset Management Strategy:** High level long-term approach to AM including AM action plans and objectives for managing the assets.
- 7. Asset Management Team:** The team appointed by an organization to review and monitor the corporate AM improvement program and ensure the development of integrated AM information systems, processes, and plans consistent with organizational goals and objectives.
- 8. Condition:** Physical state of an asset.
- 9. Condition Grade:** Measure of the physical integrity of an asset or component.
- 10. Current Replacement Cost:** Cost incurred to acquire a new modern equivalent asset (not second hand) on the reporting date.
- 11. Deferred Maintenance:** Shortfall in maintenance work required to maintain the service potential of an asset.
- 12. Depreciation (Amortization):** Systematic allocation of the depreciable amount of an asset over its useful life.
- 13. Depreciated Replacement Cost (DRC):** Replacement cost of an asset less accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.
- 14. Deterioration Rate:** Rate at which an asset approaches failure (end of life).
- 15. Finance Personnel:** Internal or external partners who may design, compose, evaluate, advise, report, manage, direct or supervise activities in or for the portfolio of the Chief Financial Officer & City Treasurer.
- 16. Long-Term:** 5, 10, 20 or 30 years.
- 17. Modern Equivalent Assets:** Assets that replace what is in existence with the most cost-effective asset providing an equivalent level of service.
- 18. Rehabilitation:** Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally, involves repairing the asset to deliver its original level of service without significant upgrade.

POLICY TITLE: ASSET MANAGEMENT: ADMINISTRATIVE REQUIREMENTS

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19. Remaining Useful Life: Time remaining until an asset ceases to provide the required service level or economic usefulness.

20. Renewal: Works to replace existing assets with assets of equivalent capacity or performance capability.

21. Residual Value: Estimated amount currently obtained from disposal of the asset, after deducting cost of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

22. Service Area: Collaborative partners, typically own infrastructure assets or manage operations and maintenance.

23. Useful Life: Period over which an asset or component is expected to be available for use; or the number of production or similar units expected to be obtained from the asset or component by the organization.

24. Valuation: Assessed asset value which may depend on the purpose for which the valuation is required, i.e., replacement value for determining maintenance levels, market value for lifecycle costing and optimized deprival value for tariff setting.

POLICY

1. Strategic Alignment

Asset management planning will not occur in isolation from other municipal goals, plans and policies. Rather, an integrated approach will be followed to successively develop practical asset management plans that align with the City's overarching accountabilities and aspirations.

The elements of our asset management planning approach keep us mindful of the goals described in our Strategic Plan, respect our borrowing policy, and leverage our community plan, our master plans, and our financial plans.

This approach will integrate a variety of municipal documents, including and not limited to:

1.1. Governance & Continuous Improvement

1.1.1. Council is entrusted with the responsibility of overseeing, on behalf of citizens, a large range of services provided through a diverse portfolio of assets. Council, having stewardship responsibility, is the final decision maker on all matters related to asset management in the municipality.

1.1.2. Within asset management planning, Council is responsible for:

1.1.2.1. Approving by resolution the City's asset management plans and updates every five years.

1.1.2.2. Conducting annual reviews of management plan implementation progress on or before July 1 of every year.

1.1.2.3. Supporting ongoing efforts to improve and implement the City's asset management plans.

1.1.3. The asset management steering committee is ultimately responsible for asset management planning across the municipality and maintaining compliance with minimum regulation requirements. Department leads are responsible for asset management planning activities that fall within their service area and in support of others.

1.1.4. Council Reports regarding the annual asset management reviews will be the basis of the City's approach for continually improving its methods and adopting appropriate practices, at the organizational level. The annual review will be completed in consultation with the asset management steering committee and will include:

1.1.4.1. Monitoring progress on ongoing efforts to implement the asset management plan.

1.1.4.2. Considering the asset management policy and principles.

1.1.4.3. A review of any factors affecting the ability of the City to implement its asset management plan.

1.1.4.4. Consulting with department leads.

1.1.4.5. Developing a strategy to address these factors including the adoption of appropriate practices.

2. Coordination at Boundaries and Public Input

The efficient delivery of services to various stakeholders is a top priority of the City. The ultimate goal is to efficiently provide its various stakeholders with the services they need within the bounds of regulatory requirements, the built environment and the natural environment.

In order to achieve this goal, it is necessary for the City to understand the needs of current stakeholders, consider the needs of future generations and incorporate these

perspectives into asset management plans. The City recognizes these parties as an integral part of the asset management approach.

Accordingly, the City will:

- 2.1. Provide opportunities for residents and other stakeholders, served by the municipality, to provide input in asset management planning.
- 2.2. Coordinate asset management planning with other infrastructure asset-owning agencies, such as municipal bodies and regulated utilities.
- 2.3. Document changes to asset management roles and responsibilities to support evolving requirements, as needed.

3. Policy Principles

3.1. Citizen Focused:

The City of Vaughan will have clearly defined levels of service and apply asset management practices to maintain the confidence of customers in how City assets are managed.

3.2. Service Focused:

The City of Vaughan will consider all the assets in a service context and take into account their interrelationships as opposed to optimizing individual assets in isolation.

3.3. Risk-based:

The City of Vaughan will manage the asset risk associated with attaining the agreed levels of service by focusing resources, expenditures, and priorities based upon risk assessments and the corresponding cost/benefit, recognizing that public safety is the priority.

5.4. Value-based Affordable:

The City of Vaughan will choose practices, interventions, and operations that aim at reducing the lifecycle cost of asset ownership, while satisfying the agreed levels of service. Decisions are based on balancing service levels, risks, and costs.

4. Policy Objectives

4.1. Interdepartmental relationships provide infrastructure and services to sustain the City of Vaughan and:

- 4.1.1. Support the quality of life, urban environment, and cultural fabric appropriate to the City of Vaughan;

- 4.1.2. Facilitate the changes to infrastructure to cater for changing neighbourhoods and communities for current and future needs; and,
- 4.1.3. Enhance the resilience of the City's infrastructure, neighbourhoods and communities and aim to continually lower environmental impacts.
- 4.2. Implement a life-cycle approach to the management of infrastructure assets where:
 - 4.2.1. Asset planning decisions are based on an evaluation of alternatives that consider the "whole of life" of an asset through acquisition, construction, operation, maintenance, renewal/replacement, and disposal; and,
 - 4.2.2. The asset management cycle considers the current and future environmental, economic, cultural, and social outcomes.
- 4.3. Ensure that service delivery needs are the primary driver for infrastructure asset management practices by:
 - 4.3.1. Establishing and monitoring levels of service for each asset class through the Asset Management Plan; and,
 - 4.3.2. Identifying and monitoring individual and network risks to assets and service levels for each asset class.
- 4.4. Provide a sustainable funding model that provides assets aligned with the City's long-term plans and community needs with a:
 - 4.4.1. Funding model for all asset related services extending at least 10 years into the future that addresses the need for funds, considers renewal peaks and troughs, and identifies how the funds will be sourced for current and projected growth both in terms of population and jobs, as provided for in the Official Plan.
- 4.5. Develop and implement best value asset management practices that are environmentally sustainable and:
 - 4.5.1. Encourage a flexible and scenario-based approach through systems and plans to allow for innovative use of assets, particularly in environmental and resiliency initiatives;
 - 4.5.2. Acknowledge climate change adaptation and environmental protection are fundamental to sustainable asset management planning practices;

- 4.5.3. Reduce resource use and promote resilience by utilizing clean technology products, services, and processes wherever possible; and,
- 4.5.4. Incorporate local, regional, provincial, federal, and international sustainability criteria including climate resilient codes and standards into greenfield development, intensification, infrastructure projects and procurement.
- 4.6. Provide reliable asset and infrastructure data through supported digital platforms demonstrated by:
 - 4.6.1. Open sourced for community use, where appropriate, such as with an asset management plan;
 - 4.6.2. Implementation of sound data governance and data quality management; and,
 - 4.6.3. Access to systems and information by mobile technology wherever possible.
- 4.7. Implement an integrated decision support system that:
 - 4.7.1. Provides systems and knowledge necessary to achieve policy outcomes;
 - 4.7.2. Proactively interrogates and models data to support informed decisions;
 - 4.7.3. Minimizes the risk of corporate knowledge and data loss;
 - 4.7.4. Manages information as efficiently as possible through the appropriate use of software, hardware and communication tools; and,
 - 4.7.5. Reduces data duplication.
- 4.8. Ensure compliance with legislative requirements by:
 - 4.8.1. Aligning with infrastructure planning principles from the Infrastructure for Jobs and Prosperity Act, 2015; and,
 - 4.8.2. Having clear policies, processes and information to ensure that organizational objectives and legislative requirements are met.

POLICY TITLE: ASSET MANAGEMENT: ADMINISTRATIVE REQUIREMENTS

POLICY NO.: 03.C.03

ADMINISTRATION			
<i>Administered by the Office of the City Clerk.</i>			
Review Schedule:	Other (specify) As required by legislation.	Next Review Date:	Click or tap to enter a date.
Related Policy(ies):	03.C.04 – Asset Management: Critical Assets Business Risks 03.C.05 – Asset Management: Financial Requirements 03.C.06 – Asset Management: Land Use Planning 03.C.07 – Asset Management: Levels of Service		
Related By-Law(s):			
Procedural Document:	PRC.06 – Asset Management: Implementation Procedures and Communication		
Revision History			
Date:	Description:		
Click or tap to enter a date.			
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CORPORATE POLICY

POLICY TITLE: ASSET MANAGEMENT: CRITICAL ASSETS AND BUSINESS RISKS

POLICY NO.: 03.C.04

Section:	Administration & Legal		
Effective Date:	June 1, 2018	Date of Last Review:	Click or tap to enter a date.
Approval Authority: Council	Policy Owner: DCM, Public Works		

POLICY STATEMENT

The City commits to the development of infrastructure risk management processes that will make the best use of resources to define risk objectives, scope and strategies, including the definition of “unacceptable” risks.

PURPOSE

The purpose of this policy is to define the City’s intent to balance the scope of risk management activities and the effort expended on risk reduction, proportional to the assessed likelihood and consequence of an identified risk event.

Infrastructure risk management processes will identify asset criticality, assess organizational risks related to business planning, management, service delivery, and physical asset failure, and prioritize investments based on risk profiles.

SCOPE

Critical assets and infrastructure risks will be identified through a multi-disciplinary approach for each asset class. The cost of actions necessary to manage and mitigate infrastructure risks will be balanced against the required levels of service and performance delivery through operations and maintenance schedules, disaster response plans, contingency funding, and capital investments.

LEGISLATIVE REQUIREMENTS

Climate change will be considered as part of the City’s risk management approach, embedded in local asset management planning methods.

POLICY TITLE: ASSET MANAGEMENT: CRITICAL ASSETS AND BUSINESS RISKS

POLICY NO.: 03.C.04

The approach to climate change will balance the potential cost of vulnerabilities to climate change impacts and other risks with the cost of reducing these vulnerabilities. The City's asset management plans will encompass this sustainable approach climate change mitigation and adaptation.

The City's contribution to climate change through greenhouse gas emissions will be mitigated in accordance with its financial capacity, stakeholder support and the reduction strategy outlined in the Municipal Energy Plan.

The text below was adopted from Ontario Regulation 588/17 and is compliant. The City must develop and finalize a policy to include:

3.(1)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.

DEFINITIONS

The following definitions are provided in accordance with the International Infrastructure Management Manual.

- 1. Asset Management (AM):** Systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effect lifecycle management of assets.
- 2. Asset Management Framework:** Overarching AM hierarchy including the AM Policy, Objectives, Strategy, and the AM Plan.

POLICY TITLE: ASSET MANAGEMENT: CRITICAL ASSETS AND BUSINESS RISKS

POLICY NO.: 03.C.04

3. **Asset Management Objectives:** Specific outcomes required from the implementation of the AM Framework.
4. **Asset Management Plan (AM Plan):** Long-term plans that outline the asset activities and programs for each service area and resources applied to provide a defined level of service in the most cost-effective way.
5. **Asset Management Policy:** Document that broadly outlines the principles and mandated requirements for undertaking AM across the organization in a systematic and coordinated way, consistent with the organizations strategic plan. It provides the framework for the AM Strategy and AM Plan.
6. **Asset Management Strategy:** High level long-term approach to AM including AM action plans and objectives for managing the assets.
7. **Asset Management Team:** The team appointed by an organization to review and monitor the corporate AM improvement program and ensure the development of integrated AM information systems, processes, and plans consistent with organizational goals and objectives.
8. **Condition:** Physical state of an asset.
9. **Condition Grade:** Measure of the physical integrity of an asset or component.
10. **Current Replacement Cost:** Cost incurred to acquire a new modern equivalent asset (not second hand) on the reporting date.
11. **Deferred Maintenance:** Shortfall in maintenance work required to maintain the service potential of an asset.
12. **Depreciation (amortization):** Systematic allocation of the depreciable amount of an asset over its useful life.
13. **Depreciated Replacement Cost (DRC):** Replacement cost of an asset less accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.
14. **Deterioration Rate:** Rate at which an asset approaches failure (end of life).
15. **Finance Personnel:** Internal or external partners who may design, compose, evaluate, advise, report, manage, direct or supervise activities in or for the portfolio of the Chief Financial Officer & City Treasurer.
16. **Long-Term:** 5, 10, 20 or 30 years.

POLICY TITLE: ASSET MANAGEMENT: CRITICAL ASSETS AND BUSINESS RISKS

POLICY NO.: 03.C.04

17. Modern Equivalent Assets: Assets that replace what is in existence with the most cost-effective asset providing an equivalent level of service.

18. Rehabilitation: Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally, involves repairing the asset to deliver its original level of service without significant upgrade.

19. Remaining Useful Life: Time remaining until an asset ceases to provide the required service level or economic usefulness.

20. Renewal: Works to replace existing assets with assets of equivalent capacity or performance capability.

21. Residual Value: Estimated amount currently obtained from disposal of the asset, after deducting cost of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

22. Service Area: Collaborative partners, typically own infrastructure assets or manage operations and maintenance.

23. Useful Life: Period over which an asset or component is expected to be available for use; or the number of production or similar units expected to be obtained from the asset or component by the organization.

24. Valuation: Assessed asset value which may depend on the purpose for which the valuation is required, i.e., replacement value for determining maintenance levels, market value for lifecycle costing and optimized deprival value for tariff setting.

POLICY

1. Policy Principles

1.1. Citizen Focused:

The City of Vaughan will have clearly defined levels of service and apply asset management practices to maintain the confidence of customers in how City assets are managed.

1.2. Service Focused:

The City of Vaughan will consider all the assets in a service context and take into account their interrelationships as opposed to optimizing individual assets in isolation.

POLICY TITLE: ASSET MANAGEMENT: CRITICAL ASSETS AND BUSINESS RISKS

POLICY NO.: 03.C.04

1.3. Risk-based

The City of Vaughan will manage the asset risk associated with attaining the agreed levels of service by focusing resources, expenditures, and priorities based upon risk assessments and the corresponding cost/benefit, recognizing that public safety is the priority.

1.4. Value-based Affordable

The City of Vaughan will choose practices, interventions, and operations that aim at reducing the lifecycle cost of asset ownership, while satisfying the agreed levels of service. Decisions are based on balancing service levels, risks, and costs.

2. Policy Objectives

2.1. Interdepartmental relationships provide infrastructure and services to sustain the City of Vaughan and:

2.1.1. Support the quality of life, urban environment, and cultural fabric appropriate to the City of Vaughan;

2.1.2. Facilitate the changes to infrastructure to cater for changing neighbourhoods and communities for current and future needs;

2.1.3. Enhance the resilience of the City's infrastructure, neighbourhoods and communities and aim to continually lower environmental impacts.

2.2. Implement a life-cycle approach to the management of infrastructure assets where:

2.2.1. Asset planning decisions are based on an evaluation of alternatives that consider the "whole of life" of an asset through acquisition, construction, operation, maintenance, renewal/replacement, and disposal;

2.2.2. The asset management cycle considers the current and future environmental, economic, cultural, and social outcomes.

2.3. Ensure that service delivery needs are the primary driver for infrastructure asset management practices by:

2.3.1. Establishing and monitoring levels of service for each asset class through the Asset Management Plan;

2.3.2. Identifying and monitoring individual and network risks to assets and service levels for each asset class.

POLICY TITLE: ASSET MANAGEMENT: CRITICAL ASSETS AND BUSINESS RISKS

POLICY NO.: 03.C.04

2.4. Provide a sustainable funding model that provides assets aligned with the City's long-term plans and community needs with a:

2.4.1. Funding model for all asset related services extending at least 10 years into the future that addresses the need for funds, considers renewal peaks and troughs, and identifies how the funds will be sourced for current and projected growth both in terms of population and jobs, as provided for in the Official Plan.

2.5. Develop and implement best value asset management practices that are environmentally sustainable and:

2.5.1. Encourage a flexible and scenario-based approach through systems and plans to allow for innovative use of assets, particularly in environmental and resiliency initiatives;

2.5.2. Acknowledge climate change adaptation and environmental protection are fundamental to sustainable asset management planning practices;

2.5.3. Reduce resource use and promote resilience by utilizing clean technology products, services, and processes wherever possible; and

2.5.4. Incorporate local, regional, provincial, federal, and international sustainability criteria including climate resilient codes and standards into greenfield development, intensification, infrastructure projects and procurement.

2.6. Provide reliable asset and infrastructure data through supported digital platforms demonstrated by:

2.6.1. Open sourced for community use, where appropriate, such as with an asset management plan;

2.6.2. Implementation of sound data governance and data quality management;

2.6.3. Access to systems and information by mobile technology wherever possible.

2.7. Implement an integrated decision support system that:

2.7.1. provides systems and knowledge necessary to achieve policy outcomes;

2.7.2. Proactively interrogates and models data to support informed decisions;

POLICY TITLE: ASSET MANAGEMENT: CRITICAL ASSETS AND BUSINESS RISKS

POLICY NO.: 03.C.04

2.7.3. Minimizes the risk of corporate knowledge and data loss;

2.7.4. Manages information as efficiently as possible through the appropriate use of software, hardware and communication tools; and

2.7.5. Reduces data duplication.

2.8. Ensure compliance with legislative requirements by:

2.8.1. Aligning with infrastructure planning principles from the Infrastructure for Jobs and Prosperity Act, 2015; and

2.8.2. Having clear policies, processes and information to ensure that organizational objectives and legislative requirements are met.

ADMINISTRATION

Administered by the Office of the City Clerk.

Review Schedule:	Other (specify) As required by legislation.	Next Review Date:	Click or tap to enter a date.
Related Policy(ies):	03.C.03 – Asset Management: Administrative Umbrella 03.C.05 – Asset Management: Financial Requirements 03.C.06 – Asset Management: Land Use Planning 03.C.07 – Asset Management: Levels of Service		
Related By-Law(s):			
Procedural Document:	PRC.06 – Asset Management: Implementation Procedures and Communication		

Revision History

Date:	Description:
Click or tap to enter a date.	
Click or tap to enter a date.	
Click or tap to enter a date.	

CORPORATE POLICY**POLICY TITLE: ASSET MANAGEMENT: FINANCIAL REQUIREMENTS****POLICY NO.: 03.C.05**

Section:	Administration & Legal		
Effective Date:	June 1, 2018	Date of Last Review:	Click or tap to enter a date.
Approval Authority: Council	Policy Owner: DCM, Public Works		

POLICY STATEMENT

Asset management requires financial processes to accurately value assets and give priority to asset renewal expenditure over proposals to construct new assets. Effective reporting of infrastructure financial management is achieved by the City's asset management plan.

The service rendered by an infrastructure asset will determine if it is included in an asset management plan – if an asset requires deliberate management by the municipality for its role in service delivery, then it will be included in an asset management plan.

The threshold used to determine which assets are to be included is therefore a guideline for the application of Council-endorsed principles in professional judgment. This qualitative focused approach is unlike the criteria to be capitalized in any tangible capital asset methodologies.

PURPOSE

This policy aligns the business model of asset management with the City's financial planning, financial reporting, cost management, Treasury and taxation functions.

To achieve this outcome, the City will integrate findings from the asset management plans into its long-term financial planning and budgeting processes.

Sound financial analysis will be encompassed in asset management planning in order for the asset management plan to be a sought-after guide for employees in budgeting and financial planning.

POLICY TITLE: ASSET MANAGEMENT: FINANCIAL REQUIREMENTS

POLICY NO.: 03.C.05

The financial strategy included in each asset management plan will be completed by a multi-disciplinary team that will include representatives from Finance and the concerned service area.

Once developed, the asset management plan will be referenced by service area personnel in preparation of their budget submission in order to help with the following:

1. Identify all potential revenues and costs (including operating, maintenance, replacement and decommission) associated with forthcoming infrastructure asset decisions.
2. Evaluate the validity and need of each significant new capital asset, including considering the impact on future operating costs.
3. Incorporate new revenue tools and alternative funding strategies where possible. The department level budget submission prepared by each service area will be evaluated by the budget committee in preparation of the municipality's annual budget.

SCOPE

This component of the Asset Management Policy applies to all assets whose role in service delivery requires deliberate management by the City.

The service-focus intent of this policy differentiates its requirements for identifying assets from the capitalization thresholds, which are developed for the purposes of financial reporting.

For this reason, the capitalization threshold developed for financial reporting will not be the guide in selecting the assets covered by asset management planning processes.

The asset management plans and progress made on the plans will be considered annually in the creation of the City's capital budgets, operating budgets and long-term financial plans.

Service area personnel will reference the asset management plan through a multi-disciplinary approach for their area in order to:

1. Look up forecasted spending needs identified in the plan.
2. Verify progress made on the plan to identify potential gaps.
3. Prioritize spending needs, across the gap identified in the plan and recent developments, for the years to be budgeted for.

POLICY TITLE: ASSET MANAGEMENT: FINANCIAL REQUIREMENTS

POLICY NO.: 03.C.05

The budgets prepared by each service area will be processed in accordance with the broader municipal budgeting process and prioritized in accordance with documented corporate budgeting practices that include continuously improving asset management planning processes.

Finance personnel will be involved in asset management planning to facilitate the bridge between:

4. The financial strategy developed in the asset management plan(s).
5. The budget submissions of each service area.
6. The overall budgeting process they ultimately oversee.

LEGISLATIVE REQUIREMENTS

The financial analysis used for the water and wastewater asset management plans will align with existing financial plans related to water and wastewater assets. The analysis completed in each tangential document will reference the most up-to-date information from the same datasets, will be based on common methods and will improve upon one another.

Finance personnel, water services personnel, and wastewater services personnel will work together to align the financial strategy developed in the asset management plan with the financial plans related to the water and wastewater assets. Alignment will be achieved through a multi-disciplinary approach, including the use of common analytical methods and data sources.

The City must develop and finalize a policy to include:

- 3.(1)8. An explanation of the capitalization thresholds used to determine which assets are to be included in the municipality's asset management plan and how the thresholds compare to those in the municipality's tangible capital asset policy, if it has one.
- 3.(1)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.(1)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.

Asset management plans must include:

6.(1)2. An explanation of why the proposed levels of service are appropriate for the municipality, based on an assessment of the following:

- iv. The municipality's ability to afford the proposed levels of service.

6.(1)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

- 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.

DEFINITIONS

The following definitions are provided in accordance with the International Infrastructure Management Manual.

1. **Asset Management (AM):** Systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effect lifecycle management of assets.
2. **Asset Management Framework:** Overarching AM hierarchy including the AM Policy, Objectives, Strategy, and the AM Plan.
3. **Asset Management Objectives:** Specific outcomes required from the implementation of the AM Framework.
4. **Asset Management Plan (AM Plan):** Long-term plans that outline the asset activities and programs for each service area and resources applied to provide a defined level of service in the most cost-effective way.
5. **Asset Management Policy:** Document that broadly outlines the principles and mandated requirements for undertaking AM across the organization in a systematic and coordinated way, consistent with the organizations strategic plan. It provides the framework for the AM Strategy and AM Plan.
6. **Asset Management Strategy:** High level long-term approach to AM including AM action plans and objectives for managing the assets.

- 7. Asset Management Team:** The team appointed by an organization to review and monitor the corporate AM improvement program and ensure the development of integrated AM information systems, processes, and plans consistent with organizational goals and objectives.
- 8. Condition:** Physical state of an asset.
- 9. Condition Grade:** Measure of the physical integrity of an asset or component.
- 10. Current Replacement Cost:** Cost incurred to acquire a new modern equivalent asset (not second hand) on the reporting date.
- 11. Deferred Maintenance:** Shortfall in maintenance work required to maintain the service potential of an asset.
- 12. Depreciation (Amortization):** Systematic allocation of the depreciable amount of an asset over its useful life.
- 13. Depreciated Replacement Cost (DRC):** Replacement cost of an asset less accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.
- 14. Deterioration Rate:** Rate at which an asset approaches failure (end of life).
- 15. Finance Personnel:** Internal or external partners who may design, compose, evaluate, advise, report, manage, direct or supervise activities in or for the portfolio of the Chief Financial Officer & City Treasurer.
- 16. Long-Term:** 5, 10, 20 or 30 years.
- 17. Modern Equivalent Assets:** Assets that replace what is in existence with the most cost-effective asset providing an equivalent level of service.
- 18. Rehabilitation:** Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally, involves repairing the asset to deliver its original level of service without significant upgrade.
- 19. Remaining Useful Life:** Time remaining until an asset ceases to provide the required service level or economic usefulness.
- 20. Renewal:** Works to replace existing assets with assets of equivalent capacity or performance capability.

POLICY TITLE: ASSET MANAGEMENT: FINANCIAL REQUIREMENTS

POLICY NO.: 03.C.05

21. Residual Value: Estimated amount currently obtained from disposal of the asset, after deducting cost of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.

22. Service Area: Collaborative partners, typically own infrastructure assets or manage operations and maintenance.

23. Useful Life: Period over which an asset or component is expected to be available for use; or the number of production or similar units expected to be obtained from the asset or component by the organization.

24. Valuation: Assessed asset value which may depend on the purpose for which the valuation is required, i.e., replacement value for determining maintenance levels, market value for lifecycle costing and optimized deprival value for tariff setting.

POLICY

1. Policy Principles: Strategic Asset Management

1.1. Citizen Focused:

The City of Vaughan will have clearly defined levels of service and apply asset management practices to maintain the confidence of customers in how City assets are managed.

1.2. Service Focused:

The City of Vaughan will consider all the assets in a service context and take into account their interrelationships as opposed to optimizing individual assets in isolation.

1.3. Risk-based

The City of Vaughan will manage the asset risk associated with attaining the agreed levels of service by focusing resources, expenditures, and priorities based upon risk assessments and the corresponding cost/benefit, recognizing that public safety is the priority.

1.4. Value-based Affordable

The City of Vaughan will choose practices, interventions, and operations that aim at reducing the lifecycle cost of asset ownership, while satisfying the agreed levels of service. Decisions are based on balancing service levels, risks, and costs.

2. Policy Goals: Strategic Asset Management

2.1. Provide infrastructure and services to sustain the City of Vaughan that:

- 2.1.1. Support the quality of life, urban environment, and cultural fabric appropriate to the City of Vaughan;
- 2.1.2. Facilitate the changes to infrastructure needed to cater for changing communities; and,
- 2.1.3. Enhance the resilience of the City's infrastructure and communities.
- 2.2. Implement a life-cycle approach to the management of infrastructure assets where:
 - 2.2.1. Asset planning decisions are based on an evaluation of alternatives that consider the "whole of life" of an asset through acquisition, operation, maintenance, renewal, and disposal;
 - 2.2.2. The asset management cycle considers the current and future environmental, economic, cultural, and social outcomes.
- 2.3. Ensure that service delivery needs are the primary driver for infrastructure asset management practices by:
 - 2.3.1. Establishing and monitoring levels of service for each asset class through the Asset Management Plan;
 - 2.3.2. Identifying and monitoring individual and network risks to assets and service levels for each asset class.
- 2.4. Provide a sustainable funding model that provides assets aligned with the City's long-term plans and community needs with a:
 - 2.4.1. Funded model for all asset related services extending at least 10 years into the future that addresses the need for funds, considers renewal peaks and troughs, and identifies how the funds will be sourced.
- 2.5. Develop and implement best value environmentally sustainable asset management practices that:
 - 2.5.1. Encourage a flexible and scenario-based approach through systems and plans to allow for innovative use of assets, particularly in environmental initiatives;
 - 2.5.2. Acknowledge climate change adaptation, environmental protection and enhancement protocols are fundamental to sustainable asset management planning;

- 2.5.3. Minimize energy and water use, waste generation, and air quality impacts through our own initiatives and by working with stakeholders;
- 2.5.4. Utilize low energy products, infrastructure materials and methods wherever possible; and,
- 2.5.5. Incorporate sustainability criteria into infrastructure projects and procurement.
- 2.6. Provide reliable asset and infrastructure data through supported digital platforms demonstrated by:
 - 2.6.1. Open sourced for community use, where appropriate, such as with an asset management plan;
 - 2.6.2. Implementation of sound data governance and data quality management;
 - 2.6.3. Access to systems and information by mobile technology wherever possible.
- 2.7. Implement an integrated decision support system that:
 - 2.7.1. Provides systems and knowledge necessary to achieve policy outcomes;
 - 2.7.2. Proactively interrogates and models data to support informed decisions;
 - 2.7.3. Minimizes the risk of corporate knowledge and data loss;
 - 2.7.4. Manages information as efficiently as possible through the appropriate use of software, hardware and communication tools; and,
 - 2.7.5. Reduces data duplication.
- 2.8. Ensure compliance with legislative requirements by:
 - 2.8.1. Aligning with infrastructure planning principles from the Infrastructure for Jobs and Prosperity Act, 2015; and,
 - 2.8.2. Having clear policies, processes and information to ensure that organizational objectives and legislative requirements are met.

POLICY TITLE: ASSET MANAGEMENT: FINANCIAL REQUIREMENTS

POLICY NO.: 03.C.05

ADMINISTRATION			
<i>Administered by the Office of the City Clerk.</i>			
Review Schedule:	Other (specify) As required by legislation.	Next Review Date:	Click or tap to enter a date.
Related Policy(ies):	04.C.03 – Asset Management: Administrative Umbrella 03.C.04 – Asset Management: Critical Assets Business Risks 03.C.06 – Asset Management: Land Use Planning 03.C.07 – Asset Management: Levels of Service		
Related By-Law(s):			
Procedural Document:	PRC.06 – Asset Management: Implementation Procedures and Communication		
Revision History			
Date:	Description:		
Click or tap to enter a date.			
Click or tap to enter a date.			
Click or tap to enter a date.			

CITY OF VAUGHAN

CORPORATE POLICY

POLICY TITLE: ASSET MANAGEMENT: LAND USE PLANNING

POLICY NO.: 03.C.06

Section:	Administration & Legal		
Effective Date:	June 1, 2018	Date of Last Review:	Click or tap to enter a date.
Approval Authority: Council	Policy Owner: DCM, Public Works		

POLICY STATEMENT

The combination of an infrastructure lifecycle approach and financial sustainability principles will be a key driver to inform the programming, design and selection of greenfield development and/or intensification that requires new assets, existing asset enhancements, renewal, replacement and/or disposal to take place.

PURPOSE

The purpose of this policy is to direct parties involved in the development of the asset management plans to reference the principles, concepts and direction established through the policy and development planning process as well as the methods, assumptions, and data used in its development.

The aim of cross-referencing these policies and plans is to ensure that greenfield development and intensification is affordable and supports clean growth. This will support transparency regarding costs and long-term implications of growth management decisions.

In alignment with the City's levels of service and Ontario's land use planning framework, an understanding of existing and planned asset needs will ensure that greenfield development and intensification is financially sustainable for current and future residents and businesses.

SCOPE

Asset management planning processes will endeavor to understand, coordinate and implement the linkages between major policy initiatives defined by the City's Growth

Management Strategy, which includes the City's Official Plan, supporting master plans and associated studies.

1. Those responsible for managing services related to greenfield development and/or intensification will:
 - 1.1. Be consulted in City of Vaughan land use planning and infrastructure decisions;
 - 1.2. Provide input to the analysis of future servicing costs; and,
 - 1.3. Provide input to the financial viability of development as it pertains to the service they manage.
2. The City's asset management plans will reflect how communities, neighbourhoods and growth areas are projected to change and the related asset impacts. To achieve this, the following framework for policy-making will provide a flexible assessment, planning and evaluation tool for strengthening the governance of affordable and clean growth:
 - 2.1. The asset management plan, in alignment with the growth management strategy, promotes clear communications adapted for public understanding. Quality improvements and resilience will be achieved by integrating risk management and infrastructure lifecycle costs with a flexible scenario-based approach for current and future levels of service, particularly in assessing the feasibility and impact of official plan amendments, innovations and environmental initiatives.
 - 2.2. Council directs the City's organizational design and allocates authority to transparent and accountable processes that ensure healthy and safe growth that is financially and environmentally sustainable, to allow for the development of complete communities.
 - 2.3. Best value asset management practices inform land use planning and infrastructure planning decisions.
 - 2.4. Feedback from asset management information informs design decisions, especially for unique infrastructure solutions.
 - 2.5. An Official Plan review or an Official Plan amendment incorporates asset management practices, is initiated by the City and comprehensively applies the policies and schedules of the Provincial Growth Plan for the Greater Golden Horseshoe, as amended from time to time.

POLICY TITLE: ASSET MANAGEMENT: LAND USE PLANNING

POLICY NO.: 03.C.06

LEGISLATIVE REQUIREMENTS

The City must develop and finalize a policy to include:

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

DEFINITIONS

The following definitions are provided in accordance with the International Infrastructure Management Manual.

1. Affordable: As defined in the City of Vaughan Official Plan;

“a. In the case of ownership housing, least expensive of:

i. housing for which the purchase price results in annual accommodation costs which do not exceed 30 percent of gross annual household income for low- and moderate-income households; or

ii. housing for which the purchase price is at least 10 percent below the average purchase price of a resale unit in the regional market area;

b. In the case of rental housing, the least expensive of:

i. a unit for which the rent does not exceed 30 percent of gross annual household income for low- and moderate-income households; or,

ii. a unit for which the rent is at or below the average market rent of a unit in the regional market area.

For the purposes of this definition, “low- and moderate-income households” means, in the case of ownership housing, households with incomes in the lowest 60% of the income distribution for the regional market area, or in the case of rental housing, households with incomes in the lowest 60% of the income distribution for renter households for the regional market area”.

2. Asset Management (AM): Systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effect lifecycle management of assets.

3. Asset Management Framework: Overarching AM hierarchy including the AM Policy, Objectives, Strategy, and the AM Plan.

POLICY TITLE: ASSET MANAGEMENT: LAND USE PLANNING

POLICY NO.: 03.C.06

- 4. Asset Management Objectives:** Specific outcomes required from the implementation of the AM Framework.
- 5. Asset Management Plan (AM Plan):** Long-term plans that outline the asset activities and programs for each service area and resources applied to provide a defined level of service in the most cost-effective way.
- 6. Asset Management Policy:** Document that broadly outlines the principles and mandated requirements for undertaking AM across the organization in a systematic and coordinated way, consistent with the organizations strategic plan. It provides the framework for the AM Strategy and AM Plan.
- 7. Asset Management Strategy:** High level long-term approach to AM including AM action plans and objectives for managing the assets.
- 8. Asset Management Team:** The team appointed by an organization to review and monitor the corporate AM improvement program and ensure the development of integrated AM information systems, processes, and plans consistent with organizational goals and objectives.
- 9. Clean Growth:** As defined by the Vancouver Declaration on Clean Growth and Climate Change on March 3, 2016.
- 10. Clean Technology:** General term used to describe products, processes or services that reduce waste and require as few non-renewable resources as possible.
- 11. Climate Change Adaptation:** Systematic approach to planning the adaptation of communities and infrastructure based on a risk-management process to ensure they will be robust to a changing climate.
- 12. Climate Resilience Codes:** Range of codes, standards and rating schemes to ensure that new building stock will be robust to a changing climate.
- 13. Complete Communities:** As defined by the City of Vaughan Official Plan; “Communities that meet people’s needs for daily living through an entire lifetime by providing convenient access to an appropriate mix of jobs, local services, a full range of housing, and community infrastructure including affordable housing, schools, recreation and open space for their residents. Convenient access to public transportation and options for safe, non-motorized travel is also provided”.
- 14. Condition:** Physical state of an asset.
- 15. Condition Grade:** Measure of the physical integrity of an asset or component.

16. Current Replacement Cost: Cost incurred to acquire a new modern equivalent asset (not second hand) on the reporting date.

17. Deferred Maintenance: Shortfall in maintenance work required to maintain the service potential of an asset.

18. Depreciation (amortization): Systematic allocation of the depreciable amount of an asset over its useful life

19. Depreciated Replacement Cost (DRC): Replacement cost of an asset less accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.

20. Deterioration Rate: Rate at which an asset approaches failure (end of life).

21. Development: As defined by the City of Vaughan Official Plan; “When applicable to the Oak Ridges Moraine Conservation Area:

The creation of a new lot, a change in land use, or the construction of buildings and structures, any of which require approval under the Planning Act, the Environmental Assessment Act, or the Drainage Act, but does not include:

a. The construction of facilities for transportation, Infrastructure and Utilities uses, as described in subsection 3.4.10 of this Plan, by a public body; or

b. For greater certainty:

i. the reconstruction, repair or maintenance of a drain approved under the Drainage Act and in existence on November 15, 2001; or,

ii. The carrying out of agricultural practices on land that was being used for agricultural uses on November 15, 2001.

When applicable to the Greenbelt Plan Area:

The creation of a new lot, a change in land use, or the construction of buildings and structures, any of which require approval under the Planning Act, or that are subject to the Environmental Assessment Act, but does not include:

a. The construction of facilities for transportation, Infrastructure and Utilities used by a public body;

b. activities or works under the Drainage Act; or,

- c. The carrying out of agricultural practices on land that was being used for agricultural uses on the date the Plan came into effect.

When applicable to lands outside of the Oak Ridges Moraine Conservation Plan and Greenbelt Plan:

The creation of a new lot, a change in land use, or the construction of buildings and structures, requiring approval under the Planning Act, but does not include:

- a. Activities that create or maintain infrastructure authorized under an environmental assessment, Planning Act, or Condominium Act process; or,
- b. Works subject to the Drainage Act.

22. Finance Personnel: Internal or external partners who may design, compose, evaluate, advise, report, manage, direct or supervise activities in or for the portfolio of the Chief Financial Officer & City Treasurer.

23. Greenfield: As defined by the City of Vaughan Official Plan; “Lands designated for urban use in an Official Plan, but not yet developed for such uses”.

24. Input: Provide balanced and objective information to help deepen a shared understanding of views, issues, alternatives, and/or solutions.

25. Intensification: As defined by the City of Vaughan Official Plan; “The development of a property, site or area at a higher density than currently exists through:

- a. redevelopment, including reuse of brownfield sites;
- b. the development of vacant and/or underutilized lots within previously developed areas;
- c. infill development; and,
- d. the expansion or conversion of existing buildings.

26. Long-Term: 5, 10, 20 or 30 years.

27. Modern Equivalent Assets: Assets that replace what is in existence with the most cost-effective asset providing an equivalent level of service.

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- 28. Rehabilitation:** Works to rebuild or replace parts or components of an asset, to restore it to a required functional condition and extend its life, which may incorporate some modification. Generally, involves repairing the asset to deliver its original level of service without significant upgrade.
- 29. Remaining Useful Life:** Time remaining until an asset ceases to provide the required service level or economic usefulness.
- 30. Renewal:** Works to replace existing assets with assets of equivalent capacity or performance capability.
- 31. Residual Value:** Estimated amount currently obtained from disposal of the asset, after deducting cost of disposal, if the asset were already of the age and in the condition expected at the end of its useful life.
- 32. Resilience:** For the built environment, resilience refers to the capacity of the built environment to retain or recover its structure, functions and amenity after experiencing shocks.
- 33. Service Area:** Collaborative partners, typically own infrastructure assets or manage operations and maintenance.
- 34. Sustainability:** As defined by Green Directions; “In Vaughan, sustainability means we make decisions and take actions that ensure a healthy environment, vibrant communities and economic vitality for current and future generations”.
- 35. Useful Life:** Period over which an asset or component is expected to be available for use; or the number of production or similar units expected to be obtained from the asset or component by the organization.
- 36. Valuation:** Assessed asset value which may depend on the purpose for which the valuation is required, i.e., replacement value for determining maintenance levels, market value for lifecycle costing and optimized deprival value for tariff setting.

POLICY

1. Policy Principles

1.1. Citizen Focused:

The City of Vaughan will have clearly defined levels of service and apply asset management practices to maintain the confidence of customers in how City assets are managed.

1.2. Service Focused:

The City of Vaughan will consider all the assets in a service context and take into account their interrelationships as opposed to optimizing individual assets in isolation.

1.3. Risk-based:

The City of Vaughan will manage the asset risk associated with attaining the agreed levels of service by focusing resources, expenditures, and priorities based upon risk assessments and the corresponding cost/benefit, recognizing that public safety is the priority.

1.4. Value-based Affordable:

The City of Vaughan will choose practices, interventions, and operations that aim at reducing the lifecycle cost of asset ownership, while satisfying the agreed levels of service. Decisions are based on balancing service levels, risks, and costs.

2. Policy Objectives

2.1. Interdepartmental relationships provide infrastructure and services to sustain the City of Vaughan and:

2.1.1. Support the quality of life, urban environment, and cultural fabric appropriate to the City of Vaughan;

2.1.2. Facilitate the changes to infrastructure to cater for changing neighbourhoods and communities for current and future needs; and,

2.1.3. Enhance the resilience of the City's infrastructure, neighbourhoods and communities and aim to continually lower environmental impacts.

2.2. Implement a life-cycle approach to the management of infrastructure assets where:

2.2.1. Asset planning decisions are based on an evaluation of alternatives that consider the "whole of life" of an asset through acquisition, construction, operation, maintenance, renewal/replacement, and disposal; and,

2.2.2. The asset management cycle considers the current and future environmental, economic, cultural, and social outcomes.

2.3. Ensure that service delivery needs are the primary driver for infrastructure asset management practices by:

- 2.3.1. Establishing and monitoring levels of service for each asset class through the Asset Management Plan; and,
- 2.3.2. Identifying and monitoring individual and network risks to assets and service levels for each asset class.
- 2.4. Provide a sustainable funding model that provides assets aligned with the City's long-term plans and community needs with a:
 - 2.4.1. Funding model for all asset related services extending at least 10 years into the future that addresses the need for funds, considers renewal peaks and troughs, and identifies how the funds will be sourced for current and projected growth both in terms of population and jobs, as provided for in the Official Plan.
- 2.5. Develop and implement best value asset management practices that are environmentally sustainable and:
 - 2.5.1. Encourage a flexible and scenario-based approach through systems and plans to allow for innovative use of assets, particularly in environmental and resiliency initiatives;
 - 2.5.2. Acknowledge climate change adaptation and environmental protection are fundamental to sustainable asset management planning practices;
 - 2.5.3. Reduce resource use and promote resilience by utilizing clean technology products, services, and processes wherever possible; and
 - 2.5.4. Incorporate local, regional, provincial, federal, and international sustainability criteria including climate resilient codes and standards into greenfield development, intensification, infrastructure projects and procurement.
- 2.6. Provide reliable asset and infrastructure data through supported digital platforms demonstrated by:
 - 2.6.1. Open sourced for community use, where appropriate, such as with an asset management plan;
 - 2.6.2. Implementation of sound data governance and data quality management; and,
 - 2.6.3. Access to systems and information by mobile technology wherever possible.

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2.7. Implement an integrated decision support system that:

- 2.7.1. Provides systems and knowledge necessary to achieve policy outcomes;
- 2.7.2. Proactively interrogates and models data to support informed decisions;
- 2.7.3. Minimizes the risk of corporate knowledge and data loss;
- 2.7.4. Manages information as efficiently as possible through the appropriate use of software, hardware and communication tools; and,
- 2.7.5. Reduces data duplication.

2.8. Ensure compliance with legislative requirements by:

- 2.8.1. Aligning with infrastructure planning principles from the Infrastructure for Jobs and Prosperity Act, 2015; and,
- 2.8.2. Having clear policies, processes and information to ensure that organizational objectives and legislative requirements are met.

ADMINISTRATION

Administered by the Office of the City Clerk.

Review Schedule:	SELECTSELECT If other, specify here	Next Review Date:	Click or tap to enter a date.
Related Policy(ies):	03.C.03 – Asset Management: Administrative Umbrella 03.C.04 – Asset Management: Critical Assets Business Risks 03.C.05 – Asset Management: Financial Requirements 03.C.07 – Asset Management: Levels of Service		
Related By-Law(s):			
Procedural Document:	PRC.06 – Asset Management: Implementation Procedures and Communication		

Revision History

Date:	Description:
Click or tap to enter a date.	
Click or tap to enter a date.	

POLICY TITLE: ASSET MANAGEMENT: LAND USE PLANNING

POLICY NO.: 03.C.06

Click or tap to
enter a date.

DRAFT

CORPORATE POLICY

POLICY TITLE: ASSET MANAGEMENT: LEVELS OF SERVICE

POLICY NO.: 03.C.07

Section:	Administration & Legal		
Effective Date:	June 1, 2018	Date of Last Review:	Click or tap to enter a date.
Approval Authority: Council	Policy Owner: DCM, Public Works		

POLICY STATEMENT

Levels of service and performance measurements will be an integral part of the City's approach to performance management, and long-term affordability. Levels of service will link corporate goals and program objectives with legislative requirements and the public's expectations.

Levels of service will be documented in the City's Asset Management Plans and will be written in plain language such that citizens, businesses and all end users can understand and relate to them.

PURPOSE

The purpose of this policy is to provide direction for staff to identify, analyze, maintain and document citizen expectations, regulatory requirements and organizational objectives. Describing what the City intends to deliver is a cornerstone of asset management and ensures infrastructure assets are providing services as intended. This safeguards long-term affordability, while enabling effective planning, implementation, and evaluation.

SCOPE

This component of the Asset Management Policy applies to a wide range of stakeholders in the areas of engineering, finance, operations, information systems, management, contract and supplier management, human resources and organizational development.

Levels of service attributes will include, but are not limited to, availability, quality, reliability, responsiveness, sustainability, suitability, accessibility, and cost. Where

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applicable, attributes will incorporate measures of energy usage and operating efficiency.

To determine the most effective and efficient options for delivering infrastructure related services while controlling exposure to risk and loss, the City will develop performance measurements for each asset category. The current performance of each asset category will be documented in the City's Asset Management Plans, based on data from at most two calendar years prior to the year in which the Asset Management Plan is approved.

LEGISLATIVE REQUIREMENTS

The policy must include:

3.(1)5. The municipality's commitment to consider, as part of its asset management planning,
B. Levels of service.

3.(1)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.

3.(1)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.

3.(1)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.

5.(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.

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.

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DEFINITIONS

The following definitions are provided in accordance with the International Infrastructure Management Manual.

1. **Asset Management (AM):** Systematic and coordinated activities and practices of an organization to optimally and sustainably deliver on its objectives through the cost-effect lifecycle management of assets.
2. **Asset Management Framework:** Overarching AM hierarchy including the AM Policy, Objectives, Strategy, and the AM Plan.
3. **Asset Management Objectives:** Specific outcomes required from the implementation of the AM Framework.
4. **Asset Management Plan (AM Plan):** Long-term plans that outline the asset activities and programs for each service area and resources applied to provide a defined level of service in the most cost-effective way.
5. **Asset Management Policy:** Document that broadly outlines the principles and mandated requirements for undertaking AM across the organization in a systematic and coordinated way, consistent with the organizations strategic plan. It provides the framework for the AM Strategy and AM Plan.
6. **Asset Management Strategy:** High level long-term approach to AM including AM action plans and objectives for managing the assets.
7. **Asset Management Team:** The team appointed by an organization to review and monitor the corporate AM improvement program and ensure the development of integrated AM information systems, processes, and plans consistent with organizational goals and objectives.
8. **Condition:** Physical state of an asset.
9. **Condition Grade:** Measure of the physical integrity of an asset or component.
10. **Current Replacement Cost:** Cost incurred to acquire a new modern equivalent asset (not second hand) on the reporting date.
11. **Deferred Maintenance:** Shortfall in maintenance work required to maintain the service potential of an asset.
12. **Depreciation (amortization):** Systematic allocation of the depreciable amount of an asset over its useful life.

- 13. Deterioration Rate:** Rate at which an asset approaches failure (end of life).
- 14. Depreciated Replacement Cost (DRC):** Replacement cost of an asset less accumulated depreciation calculated on the basis of such cost to reflect the already consumed or expired future economic benefits of the asset.
- 15. Finance Personnel:** Internal or external partners who may design, compose, evaluate, advise, report, manage, direct or supervise activities in or for the portfolio of the Chief Financial Officer & City Treasurer.
- 16. Long-Term:** 5, 10, 20 or 30 years.
- 17. Modern Equivalent Assets:** Assets that replace what is in existence with the most cost-effective asset providing an equivalent level of service.
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ADMINISTRATION

Administered by the Office of the City Clerk.

Review Schedule:	Other (specify) As required by legislation.	Next Review Date:	Click or tap to enter a date.
Related Policy(ies):	03.C.03 – Asset Management: Administrative Umbrella 03.C.04 – Asset Management: Critical Assets Business Risks 03.C.05 – Asset Management: Financial Requirements 03.A.06 – Asset Management: Land Use Planning		
Related By-Law(s):			

POLICY TITLE: ASSET MANAGEMENT: LEVELS OF SERVICE

POLICY NO.: 03.C.07

Procedural Document:	PRC.06 – Asset Management: Implementation Procedures and Communication
Revision History	
Date:	Description:
Click or tap to enter a date.	
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