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The Regional Municipality of Durham
Information Report

From:	Commissioner of Works
Report:	#2025-INFO-55
Date:	June 27, 2025

Subject:

Sustainable Infrastructure Policy and Guidelines

Recommendation:

Receive for information

Report:

1. Purpose

1.1 The purpose of this report is to:

a. Provide an overview of the Sustainable Infrastructure Policy and Guidelines project and progress to date;

b. Outline the process and timing for implementation of the Policy and Guidelines; and,

c. Provide background information and explain the relationship to the Regional Municipality of Durham's (Region) Strategic Plan and other key policies.

2. Background

2.1 One of the most significant influences that the Regional Municipality of Durham (Region) has on its communities and residents is through the delivery of capital infrastructure projects. The Sustainable Infrastructure Policy and Guidelines are

meant to translate the Region's sustainability commitments into clear guidance for the design and construction of new capital projects and major renovations.

2.2 The Region has been proactive in aligning its capital infrastructure projects with sustainable practices and regulatory practices. The Sustainable Infrastructure Policy and Guideline is building upon this by providing a Durham-specific tool for Transportation, Water and Wastewater, and Waste Management projects and facilities to support operationalization of the Region's Strategic Plan and sustainability values and goals at the project level. The policy and guideline will only apply to new regional capital projects and significant retrofits, and is meant to define processes, procedures and performance outcomes. It is not meant to replace existing engineering practices or regulatory requirements.

2.3 The Sustainable Infrastructure Policy and Guidelines were developed to align where possible with industry best practices in sustainable design. The reference point selected was the Envision® framework. Envision was developed through collaboration between the Institute for Sustainable Infrastructure (ISI) and Harvard's Zofnass Program. ISI, founded by major engineering and public works organizations, sought a standardized framework for sustainable infrastructure, involving federal agencies, universities, consultants, and municipalities. The framework aims to improve infrastructure performance and resiliency across all sustainability dimensions.

2.4 The Envision framework provides for sustainability metrics across 64 criteria grouped into five categories:

- Quality of Life – Impact on communities and social well-being.
- Leadership – Commitment from owners, leaders, and builders.
- Resource Allocation – Management of renewable/non-renewable resources.
- Natural World – Ecosystem preservation and positive interactions.
- Climate and Risk – Reducing emissions and enhancing resilience.

2.5 The Envision framework provides project teams with guidance to promote lifecycle integration, stakeholder collaboration, and overall sustainable design. The ISI also offers credential training (Envision Sustainability Professional credential) and projects that meet the intent and requirements of the Envision

framework can obtain third-party certification in recognition of excellence in sustainable design.

3. Process and Timing

Policy Launch Date

3.1 The launch date for this policy is anticipated to be Q3 2025 in draft for the pilot application for Capital Project Delivery projects and the final formal launch will be in 2026 for all Works Department divisions.

Implementation Timeline

3.2 Phase 1 (Policy Development) and Phase 2 (Transportation Guidelines) of this project are complete. Draft documents were reviewed by senior staff covering a range of sustainability and strategic planning topics.

3.3 Phases 3 and 4 will be for water and wastewater as well as waste and other regional infrastructure not covered elsewhere, respectively. These guidelines are proposed to be complete by 2026. The Region received funding approval on May 6, 2025 from the Federation of Canadian Municipalities (FCM) Green Municipal Fund (GMF) grant application process to provide funding support for this scope of work in the amount of $197,080.

Annual Review and Update

3.4 An annual review will be conducted by Works Department project managers and senior leadership team to ensure alignment with best practices and strategic goals.

Policy Development Process

3.5 The process for the policy development involves several departments and multiple steps. The steps include:

a. Initial Policy and Guideline development for the Capital Project Delivery and Transportation and Field Services Divisions of the Works Department developed from Q2-Q4 2024.

b. Engagement of senior leadership and non-Works Department Advisors in objective setting in Q3-Q4 2024.

c. Local Area Municipality and Conservation Authority feedback to be undertaken in Q3 2025.

d. Pilot application on Capital Projects Delivery projects to begin in Q4 2025.

e. Updated Policy and Guidelines encompassing all Works Department divisions to be developed by the end of 2026.

f. Final Sustainable Infrastructure Policy and Guidelines for all Works divisions to be presented to Council following collection of data from pilot projects.

Sustainable Infrastructure Policy Objectives

3.6 The Policy establishes that Applicable Capital Projects will advance the sustainability and resilience of regional infrastructure assets, by addressing the following objectives in a fiscally responsible manner:

Environmental

a. Limit net harm to the environment, with an emphasis on avoidance and restoration.

b. Reduce greenhouse gas emissions, including embodied carbon.

c. Build infrastructure resilient to future climate conditions.

Economical

d. Proactively plan for long-term asset management & operations and minimize long-term operating costs.

e. Consider cost and benefits over the asset life cycle.

f. Support a circular economy, with an emphasis on waste avoidance.

Social

g. Ensure consultation with equity-deserving groups as part of broader public consultation.

h. Seek equitable benefits and long-term value for residents.

i. Build respectful relationships with Indigenous communities.

Governance

a. Procure services and materials with sustainability in mind.

b. Establish inclusive, collaborative and transparent processes.

c. Record, monitor and revisit sustainability processes for continuous improvement.

3.7 The Policy further establishes that:

a. The Region will maintain membership with the Institute for Sustainable Infrastructure and designate an ISI Administrator.

b. The Region will implement and maintain sustainability and resilience training for staff engaged in capital project delivery.

c. A small subset of Capital Projects may seek, where financially feasible, a minimum Silver Verification from the Institute for Sustainable Infrastructure.

d. Capital project budgeting at each stage of the planning and delivery process will allow for costs associated with facilitation of integrated design processes, conducting technical studies, innovation, and compiling of verification documentation (as required).

4. Administration of the Policy and Guidelines

4.1 The development of the Sustainable Infrastructure Policy and Guidelines is a significant and progressive undertaking. Engagement conducted with peer municipalities that have implemented similar policies and guidelines to date indicated that successful implementation is dependent on continued endorsement from senior leaders and organizational support.

Roles and Responsibilities

a. Works Department Commissioner: Accountable for implementation and reporting and approval of future amendments to the Policy and Guidelines.

b. Works Department Directors: Oversee effective implementation and engage collaborators.

c. Non-Works Department Advisors: Support implementation, reporting, and monitoring.

d. Sustainable Infrastructure Team (SIT): Manages compliance, training, and documentation.

e. Project Managers: Oversee project compliance and documentation.

f. Project Teams: Implement the Policy and Guidelines.

Operational Procedures and Reporting

g. Sustainable Infrastructure Policy: An approved Policy that establishes the overall objectives, thresholds for applicable projects, requirements for simplified and comprehensive guidelines, and other administrative considerations.

h. Sustainable infrastructure Checklist: Each project will be required to use a standardized checklist to track compliance with the guidelines at each capital project development stage. This will be developed as part of the project and include reporting on the implementation status for each guideline.

i. Sustainable Infrastructure Document Repository: A centralized repository will be used to store all compliance documentation, including checklists, assessments, and plans, ensuring transparency and accountability.

j. Monitoring and Reporting Process: Ensures adherence to procedures and quality of project delivery. Includes Performance Indicators such as:

- Embodied Carbon Totals: Measure the total embodied carbon emissions for projects and track reductions over time. A tool will be developed as part of this project for use by staff and consultants.
- Potable Water Consumption Reduction: Monitor the reduction in potable water consumption achieved through sustainable practices.
- Waste Diversion Totals: Track the amount of waste diverted from landfills.
- Restored Natural Heritage Areas: Measure the total net area of restored or created natural heritage and habitat areas.

- Sustainable Procurement Achievements: Track the percentage of the total project budget spent on sustainable procurement.

k. Allow for feedback mechanisms including:

- Staff and Consultant Feedback: Solicit feedback from staff and consultants during the pilot phase and ongoing implementation to identify areas for improvement.

- Training and Orientation: Regular training sessions and peer-to-peer learning opportunities will help ensure staff are well-equipped to implement the guidelines effectively.

- Annual Review: Conduct annual reviews of the policy and guidelines to ensure they remain aligned with best practices and strategic goals, seeking input from Non-Works Advisors.

l. Complete Third-Party Verification on select projects:

- Certification: A small subset of projects will pursue third-party verification, providing an independent assessment of sustainability performance.

m. Conduct Ongoing Reporting and Monitoring:

- Regular Reporting: Region Project Managers will report on compliance and performance indicators at each project stage including Master Planning, Project Definition, Design and Construction. This data will be compiled and integrated into existing compliance reporting processes.

- Impact Performance Indicators: Reporting will focus on a few key indicators (e.g. carbon reduction, water savings) to demonstrate the tangible benefits of the policy and guidelines.

5. Training Considerations

5.1 The Region will implement a structured training program for its employees, ensuring consultant support for pilot implementation of the Guidelines. These training sessions will be scheduled as needed, allowing for a systematic and sequential approach in educating different groups of employees over time.

Additionally, a standardized orientation training session will be developed and recorded, enabling staff to access the material on demand, facilitating a more flexible learning experience. To foster ongoing knowledge exchange, continuous peer-to-peer learning opportunities will be encouraged, such as presentations where teams can share insights and lessons learned from completed projects.

5.2 To ensure that sustainability objectives are effectively integrated into capital projects, the Region will engage external consultants and contractors who possess the necessary qualifications and expertise in this field. These professionals will play a critical role in assisting the Region with project execution while adhering to sustainability standards.

5.3 A Sustainable Infrastructure Team (SIT) will be established to manage training needs. This team will oversee various aspects of training, ensuring that employees receive the necessary guidance to apply sustainability principles effectively in their roles. Additionally, SIT will be responsible for identifying relevant credentialing opportunities for staff, such as Envision Sustainability Professional (ENV SP) training, and coordinating the necessary steps to facilitate participation in these programs.

6. Benefits

Organizational Benefits

a. Improved Project Management: Clear guidelines and procedures will enhance project planning, design, and construction processes.

b. Clearer, Centralized Record Keeping for Projects: Ensures efficient and organized documentation.

c. Capacity Building: Training and development programs will build staff capacity and expertise in sustainable infrastructure practices.

d. Enhanced Reputation: Enhancing the Region's reputation as a forward-thinking and responsible community.

Environmental Benefits

e. Reduction in Greenhouse Gas Emissions: By prioritizing low-carbon materials and construction practices, the Region can significantly reduce its corporate carbon footprint. This includes performing a quantitative GHG

assessment as part of the Transportation Master Plan and assessing the relative GHG impacts from modal shift potential and journey time improvements and weighing alternatives against other evaluation criteria.

f. Enhanced Climate Resilience: Infrastructure designed to withstand future climate conditions will be more resilient to extreme weather events and climate change impacts.

g. Improved Air and Water Quality: Through sustainable practices such as green infrastructure and low-impact development.

h. Biodiversity and Habitat Preservation: Projects will aim to avoid and restore natural habitats, supporting local biodiversity.

i. Embodied Carbon Assessment: Completing an embodied carbon assessment for all capital projects and identifying potential material selection or design strategies to achieve lower embodied carbon emissions.

Economic Benefits

j. Cost Savings Over Lifecycle: Considering costs over the asset life cycle can lead to long-term savings through reduced maintenance and operational costs. This includes supporting cost-effective infrastructure development through lifecycle cost analysis and sustainable procurement practices.

Social Benefits

k. Enhanced Public Health and Safety: Infrastructure that promotes active transportation and reduces environmental hazards will contribute to healthier, safer communities.

l. Equitable Benefits for Residents: Projects will seek to provide long-term value and equitable benefits for all residents, including marginalized communities.

m. Community Engagement: Inclusive and transparent processes will foster stronger relationships with the community and stakeholders.

Strategic Alignment

n. Support for Regional Strategic Goals: The Policy aligns with the Region's strategic plan, including goals for environmental sustainability, connected communities, and resilient economies.

o. Demonstrating Compliance with or Exceeding Regulatory Requirements: Ensures that infrastructure projects meet or exceed regulatory requirements, reducing the risk of non-compliance.

7. Costs

7.1 The costs of mainstreaming the Sustainable Infrastructure Policy and Guidelines into Regional capital projects is anticipated to be nominal, accounting for:

- Capital Costs – additional capital elements aimed at addressing risks or promoting sustainable performance. A pilot application of the Policy and Guidelines will better inform these impacts.
- Certification Costs – fixed costs charged by ISI.
- Resources – training and administration for tracking and reporting.

8. Relationship to Strategic Plan

8.1 This report integrates the relevant pathways under each of the five strategic priorities outlined in the Durham Region Strategic Plan. By doing so, we ensure a holistic approach to our sustainable infrastructure policy and guidelines.

a. Environmental Sustainability and Climate Action: Aligns with goals to reduce GHG emissions, improve air quality, promote energy conservation, and enhance climate resilience.

b. Connected and Vibrant Communities: Supports infrastructure that fosters community connectivity and vibrancy.

c. Healthy People, Caring Communities: Promotes infrastructure that contributes to public health and well-being.

d. Resilient Local Economies: Encourages sustainable economic growth through resilient infrastructure.

e. Strong Relationships: Builds partnerships with Indigenous Rights holders and other key collaborators.

9. Conclusion

9.1 The proposed Sustainable Infrastructure Policy and Guidelines provide a comprehensive framework for enhancing the sustainability of Regional infrastructure. They will enable us to trial and collect data on our approach to projects, allowing us to track sustainability outcomes in capital projects. They will also enhance the Region's competitiveness for funding from senior levels of government (e.g. Federation of Canadian Municipalities).

9.2 For inquiries, please contact:

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Respectfully submitted,

Original signed by:

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