

COMMITTEE OF THE WHOLE - (WORKING SESSION) - JANUARY 24, 2006

INFRAGUIDE - THE NATIONAL GUIDE TO SUSTAINABLE MUNICIPAL INFRASTRUCTURE

Recommendation

The Commissioner of Engineering and Public Works recommends:

1. That the InfraGuide presentation by Staff be received; and
2. That the following resolution to endorse and adopt InfraGuide and the appropriate Best Practices developed under this protocol be adopted and forwarded to the Regional Municipality of York and The Federation of Canadian Municipalities;

WHEREAS the Corporation of the City of Vaughan spends \$60 million annually on the maintenance, rehabilitation and reconstruction of its water, storm, wastewater and road system infrastructure and;

WHEREAS the National Guide to Sustainable Municipal Infrastructure (InfraGuide) gathers and documents best practices that reflect proven approaches to build sustainable infrastructure for Canadians in those asset classes and;

WHEREAS the Federation of Canadian Municipalities has partnered with the National Research Council of Canada to develop InfraGuide with support from Government of Canada and;

WHEREAS application of such best practices will assist communities across Canada to realize the maximum return on every dollar invested in infrastructure while being mindful of the social and environmental implications of their decisions;

WHEREAS the Corporation of the City of Vaughan strives to be a leader in ensuring the quality of life of its citizens through appropriate short and long-term sustainable infrastructure investment decisions;

THEREFORE BE IT RESOLVED THAT the Corporation of the City of Vaughan is committed to the adoption and use of the appropriate best practices developed by InfraGuide and;

BE IT FURTHER RESOLVED THAT the Corporation of the City of Vaughan requests that the Regional Municipality of York and the Federation of Canadian Municipalities share this motion with their member Municipalities and the Federal and Provincial Governments to encourage ongoing commitment and support for InfraGuide.

Economic Impact

There is no marginal economic impact to the City of Vaughan as the necessary resources are allocated and approved annually as part of the Capital and Operating Budgets.

Purpose

To seek Council's endorsement of the national InfraGuide program.

Background - Analysis and Options

The 'National Guide to Sustainable Municipal Infrastructure' (InfraGuide) was created in 2001 when Infrastructure Canada, the Federation of Canadian Municipalities and the National Research Council came together with the Canadian Public Works Association to help solve the growing infrastructure deficit in Canada. Since then other organizations and municipal

governments have endorsed InfraGuide.

As Council is aware Engineering has been working with Finance in the development of a long range financial plan. Understanding the value and status of the municipal infrastructure that the City has is critical input into this long range financial plan. The national InfraGuide program and the best practices which have been developed will be very useful in supporting our work in this area.

InfraGuide gathers, documents and creates Best Practices (BPs) that support and encourage Canadian municipalities to use proven approaches to deliver sustainable civil infrastructure to their communities.

InfraGuide covers both the decision-making and investment planning areas as well as technical solutions to infrastructure construction, operation and maintenance. The scope of the documents set includes the areas of environmental protocols, potable water, storm and wastewater and municipal roads.

Leadership and direction is provided by a Governing Council composed of 22 members representing a broad regional mix and a combination of affiliation and expertise across the country. Council members include academics, consulting engineers, members of industry associations, local politicians, contractors, municipal staff, industry research staff and the general public. National working groups with expertise in the subject areas develop each specific best practice document under the technical committees' direction. Currently, over 300 volunteers are actively involved in the development of best practices through the working groups and technical committees. These volunteers include an impressive collection of technical expertise representing all regions and a range of community sizes across Canada.

Five technical committees have been established to develop best practices in the areas of:

- Decision Making and Investment Planning with 9 best practice publications
- Potable Water with 10 best practice publications
- Storm and Wastewater with 13 best practice publications
- Roads and Sidewalks with 11 best practice publications
- Environmental Protocols with 4 best practice publications
- Multi-Discipline with 2 best practice publications
- Transit with 2 best practice publications

The subject listing is illustrated under Attachment No. 1.

Best practice topics and priorities have been identified through extensive stakeholder discussions followed by national scans to identify current practices. A national peer/stakeholder review period is included in the development of each best practice prior to final publication.

In addition, InfraGuide has developed networks at local levels across the country by the establishment of service contracts with reputable organizations and individuals from each region to provide liaison in disseminating information and obtaining feedback from the local level on the InfraGuide products and activities as well as local infrastructure priorities.

The Federation of Canadian Municipalities (FCM) is leading this unique project in partnership with the National Research Council (NRC). By March 2005, at the completion of Phase I and II of this project, total expenditures will exceed 20 million dollars with 12.5 million provided through Infrastructure Canada program funding and the remainder through NRC and other in-kind contributions.

There are a number of best practices published and available for free distribution to Canadian

municipalities. They are available through the InfraGuide website found at the following internet address: www.infraguide.gc.ca. Other topics are currently at various stages of development.

The City of Vaughan currently owns and operates extensive civil infrastructure covered in the scope of InfraGuide. InfraGuide is a unique opportunity for all infrastructure providers to share information on a national basis that enables infrastructure to be delivered more cost effectively while respecting the social and environmental needs of the community.

Broad support for this initiative has been demonstrated across Canada through the extensive volunteer involvement of national associations, academics, contractors, consultants and practitioners and endorsement to date by 85 municipalities and 34 organizations (Attachment No.2).

The InfraGuide's process provides a unique opportunity for the City of Vaughan to continue to learn, from and share with other Canadian communities. Formal recognition of (national) best practices by the City of Vaughan will provide a nationally endorsed framework within which local infrastructure decisions can be made that will support long-term sustainable civil infrastructure for the City.

The video presentation is meant to be an introduction to InfraGuide and primer for Council and Senior Management in understanding the methodology and approach used in various Engineering and Public Works undertakings.

The Engineering and Public Works Department uses the Best Practices as a framework for our departmental and section business plans. This will become more evident within the Infrastructure Management Services Section through current and future projects directly aligned with Vaughan Vision 2007's Corporate Objectives such as:

- Historical Infrastructure Records Management System (HIRMS)
- Pavement Management System
- Municipal Structures Inventory and Assessment
- Piped Infrastructure Dataset Digitizing/Mapping and Data Capture

The adoption of nationally recognized best practices supports cost effective decision making that respect the social, economic and environmental constraints and needs of the City of Vaughan. Through endorsement by resolution of InfraGuide's Best Practices, Council and Staff are demonstrating leadership in service delivery excellence.

Relationship to Vaughan Vision 2007

This report is consistent with the priorities previously set by Council and the necessary resources have been allocated and approved.

Service Delivery Excellence

We are able to develop and establish service level standards that are sustainable and provide effective and efficient delivery of service.

Manage our Resources

The City has a significant investment in infrastructure that requires a process and a plan to ensure that its repair and eventual replacement is properly managed.

Corporate Leadership

We are able to strengthen relationships with other government authorities and agencies.

Communications and Public Relations

Through endorsement of the InfraGuide Best Practices, we strengthen Corporate Image and identity.

Conclusion

There is no cost to the City of Vaughan in the adoption of the National Guide to Sustainable Municipal Infrastructure (InfraGuide). Through endorsement of InfraGuide's Best Practices, the City of Vaughan is demonstrating leadership in service delivery excellence. This guide and the associated practices supports and is consistent with the work that is involved in developing the City's long range financial plan and other corporate policies and initiatives.

Attachments

1. List of InfraGuide Best Practices Published Documents.
2. List of Municipalities and Organizations that have officially endorsed InfraGuide at their Council or Board Meeting.

Report prepared by:

Denny S. Boskovski C.E.T., Infrastructure Management Systems Supervisor, ext. 3105

Respectfully submitted,

Bill Robinson, P. Eng.
Commissioner of Engineering and Public Works

Gary Carroll, P. Eng.
Director of Engineering Services

DSB/mc

Attachment No. 1

List of InfraGuide Best Practices Published Documents:

Decision Making and Investment Planning

1. Planning and Defining Municipal Infrastructure Needs
2. Developing Indicators and Benchmarks
3. Developing Levels of Service
4. Alternative Funding Mechanisms
5. Coordinating Infrastructure Works
6. Investment Parameters for Municipal Infrastructure
7. Managing Infrastructure Assets
8. Dedicated Funding
9. Public Consultation for Infrastructure Renewal

Potable Water

1. Deterioration and Inspection of Water Distribution Systems
2. Water Use and Loss in the Water Distribution System
3. Selection of Technologies for the Rehabilitation or Replacement of a Water Distribution System
4. Water Quality in Distribution Systems
5. Establishing a Metering Plan to Account for Water Use and Loss
6. Developing a Water Distribution System Renewal Plan
7. Speed and Quality of Linear System Repairs
8. Monitoring Water Quality in the Distribution System
9. Small Systems Operation and Maintenance Practices
10. Methodology for Setting up Cross-Connections Programs

Storm and Wastewater

1. Selection of Technologies for Sewer Rehabilitation and Replacement
2. Inflow/Infiltration Control/Reduction for Wastewater Collection Systems
3. Source and On-Site Controls for Municipal Drainage Systems
4. Wastewater Source Control
5. Wastewater Treatment Plant Optimization
6. Biosolids Management Programs
7. Solids Inventory Control for Wastewater Treatment Plant Optimization
8. Assessment and Evaluation of Storm and Wastewater Collection Systems
9. Optimization of Lagoon Operations
10. Communication and Public Consultation for Biosolids Management
11. Stormwater Management Planning
12. Quality Management for Biosolids Programs
13. Conveyance and End-of-Pipe Measures for Stormwater Control

Roads and Sidewalks

1. Timely Preventive Maintenance for Municipal Roads
2. Construction of Utility Boxes in Pavements
3. Restoration and Repair of Utility Boxes in Pavements
4. Guidelines for Sealing and Filing Cracks in Asphalt Concrete Pavements
5. Rut Mitigation Techniques at Intersections
6. Priority Planning and Budgeting Process for Pavement Maintenance and Rehabilitation
7. Road Drainage, Design Alternatives, and Maintenance
8. Sidewalk Design, Construction, and Maintenance
9. Preservation of Bituminous Pavement Using Thin Surface Restoration Techniques
10. Dust Control for Unpaved Roads
11. Reuse and Recycling of Road Construction and Maintenance Materials

Environmental Protocols

1. Strategic Commitment to the Environment by Municipal Corporations
2. Accounting for Environmental and Social Outcomes in Decision Making
3. Demand Management
4. Environmental Assessment

Multi-discipline

1. Best Practices for Utility-Based Data (water, stormwater and wastewater)
2. An Integrated Approach to Assessment and Evaluation of Municipal Road, Sewer and Water Networks

Transit

1. Transit Primer
2. Strategies for Implementing Transit Priorities

Attachment No. 2

Municipalities and Organizations have officially endorsed InfraGuide at their Council or board meeting.

| <u>Municipalities</u> | |
|---|-------------------------------------|
| Cape Breton Regional Municipality | Resort Municipality of Whistler |
| City of Brandon | Rural Municipality of Gimli |
| City of Brantford | Saddle Hills County |
| City of Burlington | Strathcona County |
| City of Cambridge | The Regional Municipality of Halton |
| City of Charlottetown | The Regrouping Mamit Innuat |
| City of Coquitlam | Town of Altona |
| City of Corner Brook | Town of Amherst |
| City of Cornwall | Town of Arnprior |
| City of Edmonton | Town of Canmore |
| City of Fredericton | Town of Deer Lake |
| City of Gatineau | Town of Faro |
| City of Guelph | Town of Gander |
| City of Humboldt | Town of Goderich |
| City of Kamloops | Town of Grand Falls- Windsor |
| City of Kingston | Town of Grimsby |
| City of London | Town of Happy Valley - Goose Bay |
| City of Melfort | Town of Kapuskasing |
| City of Moncton | Town of Kindersley |
| City of Mount Pearl | Town of Markham |
| City of Nanaimo | Town of Marystown |
| City of North Battleford | Town of Midland |
| City of North Vancouver | Town of Milk River |
| City of Ottawa | Town of Morinville |
| City of Port Moody | Town of New Glasgow |
| City of Prince Albert | Town of Oakville |
| City of Regina | Town of Orangeville |
| City of Richmond, BC | Town of Richmond Hill |
| City of Saskatoon | Town of Riverview |
| City of Sault Ste. Marie | Town of Smithers |
| City of St. Albert | Town of Swan River |
| City of Summerside | Town of Tecumseh |
| City of Thorold | Town of Whitby |
| City of Vancouver | Town of Windsor |
| City of Whitehorse | Town of Wolfville |
| City of Yellowknife | Township of Langley |
| City of Yorkton | Township of Springwater |
| County of Elgin | Village of Sayward |
| District of Sicamous | Village of Teslin |
| Haldimand County | Ville de Laval |
| Halifax Regional Municipality | |
| Municipality of Annapolis County | |
| Municipality of Grand Bank | |
| Municipality of Martinville | |
| Municipality of the District of Lunenburg | |

| Organizations | Private Sector |
|--|--------------------------|
| Federation of Canadian Municipalities | Harfan Technologies Inc. |
| Ontario Good Roads Association | |
| Halifax Regional Water Commission | |
| Canadian Society for Civil Engineering | |
| Ontario Water Works Association (OWWA) | |
| Canadian Water and Wastewater Association (CWWA) | |
| Canadian Public Works Association | |
| Regional Public Works Commissioners of Ontario | |
| Atlantic Canada Water Works Association | |
| Regional Engineers Advisory Committee | |
| Municipal Public Works Association of Nova Scotia | |
| Municipal Engineers Association | |
| Road Builders Association of New Brunswick | |
| The Great Lakes and St. Lawrence Chapter, North American Society for Trenchless Technologies | |
| Association of Professional Engineers of Nova Scotia | |
| Joint Committee on Contract Documents | |
| Federation of Prince Edward Island Municipalities | |
| Consulting Engineers of Northwest Territories | |
| Consulting Engineers of Nova Scotia | |
| Consulting Engineers of Saskatchewan | |
| Interlocking Concrete Pavement Institute | |
| Union of Nova Scotia Municipalities | |
| Canadian Concrete Pipe Association | |
| Local Government Management Association of British Columbia | |
| Ontario Concrete Pipe Association | |
| Association of Professional Engineers & Geoscientists of New Brunswick | |
| Nova Scotia Road Builders Association | |
| Newfoundland & Labrador Road Builders | |
| Atlantic Mayor's Congress | |
| Cities of New Brunswick Association | |
| Association of Consulting Engineers of Canada | |
| Ontario Professional Planners Institute | |
| Newfoundland and Labrador Association of Municipal Administrators | |
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