



Report to: Development Services Committee
20, 2007

Report Date: February

SUBJECT: Markham Erosion Restoration Implementation Plan
Class Environmental Assessment

PREPARED BY: Allan Arbuckle, Manager of Infrastructure and Capital
Works
Nehal Azmy, Senior Capital Engineer, ext. 2197

RECOMMENDATION:

THAT the report entitled “Markham Erosion Restoration Implementation Plan, Class Environmental Assessment,” dated February 20, 2007, be received;

AND THAT the recommended restoration implementation plan to address the erosion along Markham’s watercourses as detailed in the Environmental Study Report be endorsed;

AND THAT Engineering Department staff be authorized to file the Environmental Study for the 30 day public review commencing March 19, 2007;

AND THAT the guidelines to restore erosion sites within private property as set out in this report be endorsed;

AND THAT staff report back to Council as to the funding for remediation of erosion sites on private property on a site by site basis;

AND THAT staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

Not applicable

FINANCIAL CONSIDERATIONS:

The total future costs to undertake the restoration works of the top 30 priority sites identified in the Environmental Study Report is estimated as \$12.8 million. These costs will be further refined once the detailed design for the erosion restoration works are completed.

Funding included in the 2004 Development Charges by-law for the Town wide watercourses erosion restoration works for the ultimate number of erosion sites (more than 30), are \$44.6 million of which;

- \$11.0 million is developers’ responsibility through plan of subdivision/site plan.
- \$18.0 million, funded by Town wide development charges.
- \$15.6 million, funded by non growth sources (pre DCA Engineering reserve, tax rate)

In the draft 2007 Capital Budget and the 2006 carry over, \$1.7 million is allocated for the restoration of the top six erosion sites as outlined in this report.

1. Purpose Financial	2. Background	3. Discussion	4.
5. Others (Environmental, Accessibility, Engage 21st, Affected Units) Attachment(s)			6.

PURPOSE:

The purpose of this report is to seek Council’s endorsement of the recommended restoration implementation plan to address the erosion along Markham’s watercourses, and of the funding guidelines to restore erosion sites within private property.

BACKGROUND:

The Town is drained by nineteen watercourses, many of which are tributaries of the Rouge River as illustrated in Attachment A. Watercourses situated within older areas of Markham exhibit wide scale erosion problems which are typical responses to urbanization and the construction of artificial drainage systems. While erosion is a natural and necessary process that occurs in all watercourses, exacerbation of the erosion can lead to increased risks to public health and safety. The Town, through its Development Charges by-law, is collecting funds to remediate creek erosion resulting from development.

In 2005, the Town retained Aquafor Beech Limited to update the Erosion Restoration Implementation Plan study. The objective of the study was to identify areas of erosion concern within the Town and to develop an implementation plan to prioritize restoration of erosion sites. The focus of the study was to identify erosion sites, evaluate risk to public health and safety, to identify alternatives for restoration, to prioritize and prepare preliminary cost estimates. The study was carried under Master Plans of the Municipal Class Environmental Planning and Design Process and is subject to requirements under the Environmental Assessment Act.

On April 4, 2006 staff presented to Council the background and findings of the watercourse erosion restoration and implementation plans. The presentation was followed by a second report to Council on April 25, 2006 regarding implications and liability for the Town performing erosion remediation on private property. Council directed staff to report back on guidelines for treatment of erosion sites in private property, including funding.

Public Consultation

Public Consultation was initiated with regulatory agencies and a meeting was held at the Town of Markham, on 18 May 2006. The purpose of the meeting was to inform the public of the study and to solicit input with respect to priority restoration sites and erosion restoration alternatives.

A newspaper ad was placed in both the Markham Economist & Sun and the Thornhill Liberal. Notice of the meeting was also mailed to numerous interest groups and residents who would be directly affected by restoration works at the priority erosion site locations.

Participants were invited to review poster boards and to determine whether any erosion sites, that they were aware of, had been omitted. A formal presentation was then given to provide an overview of the study. The presentation was followed by a question and answer period and then followed by roundtable discussions amongst participants, facilitated by members of the study team.

Twenty-one residents attended the public meeting, many of whom participated in round table discussions and provided responses and comments. In response to the received public comments, the study team completed follow-up field inspections to erosion sites that may have been missed and which were identified by the public. These sites were then included with the sites identified during the initial field walks and subsequently included in the analyses.

Regulatory Agency Involvement

At the outset of the study, the Toronto and Region Conservation Authority (TRCA) was invited to participate and provide input into the direction of the study. Two meetings were held with representatives from the TRCA, the Town and our Consultant.

TRCA was in overall support of the study and provided input regarding the erosion prioritization and restoration approaches. Each component of the priority ranking scheme was examined and agreement was attained as to the items to be included in each category.

Copies of the draft Class EA report were provided to TRCA for review. Any further comments to be received from TRCA regarding the Class EA report shall be addressed as part of the EA process.

OPTIONS/ DISCUSSION:

The Recommended Restoration Implementation Plan

The recommended restoration implementation plan detailed in the Class EA report identifies the top thirty prioritized erosion sites as shown in (Attachment C). Details of each site location, priority type, required action, recommended rehabilitation alternative, class environmental schedule, required approvals, benefits, habitat sensitivity class and costs pertaining to each priority erosion sites have been tabulated and are presented in (Attachment D).

Funding Sources

The erosion sites that have been identified for priority restoration are situated on lands which are owned by various groups including private landowners, the Town of Markham, Region of York, Ontario Hydro and the Toronto and Region Conservation Authority. As such, discussions pertaining to funding for the restoration works should be held with all affected parties. Accordingly, implementation is subject to funding from various stakeholders.

Guidelines to Restore Erosion Sites within Private Property

Erosion sites on private property are categorized as follows:

- a) Erosion problems within private property which are the results of altered flow regimes due to upstream development. Funding for addressing erosion exacerbated by development was included in the Development Charges and should be funded by such.
- b) Erosion that is not related to urbanization but is a result of natural process of river behavior. Funding for restoration works should be the responsibility of residents/TRCA.
- c) Erosion of private property due to the alteration to watercourse by property owner and upstream development. Cost sharing with property owners on a site by site basis should be negotiated.

General steps identified in the Class EA report in dealing with private land owners are as follows:

- a) Landowner Contact;

- Discussion with landowner to explain what the problem is, and why restorative measures are required.
- b) Permission to enter.
- c) Funding resolution.
- d) Agreement to undertake work on private property which will include;
 - The Town is not admitting any liability.
 - The property owner will indemnify the Town.
 - The Town does not guarantee the effectiveness of the work to prevent additional erosion.
 - The need for a permanent easement (in cases where public infrastructure is at risk on private property) and/or a temporary easement for construction access.
- e) Construction of proposed works.
- f) Inspection of final works including obtaining signoff on the items listed under the construction contract.

Future Activities

Pending Council's endorsement of the Environmental Study Report (ESR) for the Markham Erosion Restoration Implementation Plan, the ESR will be filed for the 30 day review period commencing on March 19th, 2007. Notices of the Study completion will be placed in the local newspaper and mailed to all area landowners directly affected by restoration works at the priority erosion sites locations and reviewing agencies. During this review period, any person who objects to the proposed project may request the Ministry of the Environment to issue a "Part II Order" requiring the Town to complete an individual Environmental Assessment for the project. The Town would normally deal with any "Part II Order" request through negotiation with the person placing the request and/or applying to the Ministry to have the request denied. If no "Part II Order" requests are received, the Engineering Department will finalize the detailed design and construction of the priority sites for restoration.

As part of any class environmental assessment, the Municipal Environmental Report should be reviewed on a 5 year basis to ensure consistency with new policies and to update priorities. The field inventory shall be completed at least every 5 years to determine whether there are any new erosion sites that pose a risk to public health and safety or whether previously identified sites should receive greater priority for restoration.

Design/Construction

In April 25, 2006 Engineering staff were authorized by Council to commence the design on the erosion sites in municipal property and on sites in private property that pose safety issues and/or risk to municipal infrastructure. Following Council's approval, Dillon Consulting and Cole Engineering were retained by the Town to proceed with the detailed design of the top six priority erosion restoration sites as shown in Attachment B.

The detailed design is to be completed by July/August 2007, with the construction contract to be tendered in August. Construction could then commence late 2007. Staff are recommending that the construction contract not be tendered until required approvals/easements are obtained, agreements with private property owners are executed including cost sharing. The exact construction schedule will be dependent on TRCA/DFO conditions.

FINANCIAL TEMPLATE:

Costs included in the 2007 capital budget for the design and construction of the six erosion sites restoration is approximately \$1.7 million. If the tendered cost of the six

sites exceeds \$1.7 million, then the number of restoration sites may have to be reduced or Council approval for additional funds will be required.

ENVIRONMENTAL CONSIDERATIONS:

The study purpose is to develop an Adaptive Environmental Management Plan which protects the public safety while concurrently improving channel stability and the biological integrity of Markham watercourses within the physical, ecological, social and economic constraints associated with the urban settings of the creeks and rivers.

ACCESSIBILITY CONSIDERATIONS:

Not applicable

ENGAGE 21ST CONSIDERATIONS:

Not applicable

BUSINESS UNITS CONSULTED AND AFFECTED:

The Finance, Legal, Operations and Asset Management Departments have reviewed this report and their comments have been incorporated.

RECOMMENDED BY:

Alan Brown, C.E.T.
Director of Engineering

Jim Baird, M.C.I.P., R.P.P.
Commissioner, Development Services

ATTACHMENTS:

Attachment A - Study Area
Attachment B- Top six priority erosion restoration sites
Attachment C - Thirty Priority Erosion Sites
Attachment D- Recommended Implementation Plan