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**16<sup>TH</sup> AVENUE TRUNK SEWER, PHASE 2**  
**FUND ALLOCATION FOR ENVIRONMENTAL IMPROVEMENTS**  
**TOWN OF MARKHAM PROJECT 74030**

**The Transportation and Works Committee recommends the adoption of the recommendations contained in the following report, May 29, 2008, from the Commissioner of Environmental Services:**

**1. RECOMMENDATIONS**

It is recommended that:

1. Regional staff be authorized to negotiate the terms of agreements with the Rouge Park Alliance, Toronto and Region Conservation Authority, Town of Markham and Ontario Streams for delivery of environmental improvements, to which the Region will contribute \$2,039,773 over the next five years using the principles and terms set out in this report.
2. The Commissioner of Environmental Services be authorized to execute formal agreements with the Rouge Park Alliance, Toronto and Region Conservation Authority, Town of Markham and Ontario Streams, subject to review by the Legal Services Branch.

**2. PURPOSE**

The purpose of this report is to present the status of the 16<sup>th</sup> Avenue environmental improvements initiative and request authorization to negotiate the terms of, and enter into, agreements with the Rouge Park Alliance, Toronto and Region Conservation Authority, Town of Markham and Ontario Streams to deliver these improvement projects.

**3. BACKGROUND**

**The Region is completing environmental improvements related to the 16<sup>th</sup> Avenue Trunk Sewer project to comply with Minister's Conditions and deliver on commitments to the Community Liaison Committee**

On October 1, 2004, the Minister of the Environment imposed a number of conditions on the 16<sup>th</sup> Avenue Trunk Sewer Project, Phase 2. One of those conditions requires the Region to "prepare, to the satisfaction of the Director, Central Regional Office, Ministry

of the Environment an aquatic habitat improvement plan for a selected reach of each stream into which water is discharged for this proposed project, which will result in a net improvement to the environment.” In addition, this environmental improvement initiative also addresses the Region’s commitment to the Community Liaison Committee that “the health of the Rouge River watershed will be better after the project than it was before.”

Early in 2007, the Region met with the Ministry of the Environment (MOE) to discuss an appropriate approach to undertaking an environmental improvement initiative for the 16<sup>th</sup> Avenue Trunk Sewer Project. The MOE agreed with the Region on the necessity to engage relevant stakeholders. Shortly thereafter the Region assembled a stakeholder working group comprised of members from the TRCA, Town of Markham, Rouge Park Alliance, Ontario Streams, Friends of the Rouge and local residents from the 16<sup>th</sup> Avenue Community Liaison Committee. The mandate of the stakeholder working group was to propose and select environmental improvement opportunities that would improve the natural system around 16<sup>th</sup> Avenue and leave a positive legacy to ensure the quality of the Rouge River Watershed is left in a better condition than it was prior to construction.

### **Aquifer is recovering more quickly than expected**

Since construction dewatering was completed last year, the Thornecliffe aquifer has been recovering more quickly than expected. Current estimates suggest that full recovery may be achieved as early as December 31, 2008.

On June 1, 2008 the old Town of Markham well Spring Creek became artesian again, resuming its role as a cold-water source to Robinson Creek. The well stopped flowing in the winter of 2001/2002 when the water table was lowered to facilitate trunk sewer construction along 9<sup>th</sup> Line and 16<sup>th</sup> Avenue.

## **4. ANALYSIS AND OPTIONS**

### **Selection of environmental improvements made by Region in consultation with stakeholder working group**

Throughout 2007 and early 2008 the stakeholder working group set a series of guiding principles and objectives for the initiative (*see Attachment 1*). In all, 61 potential environmental improvement projects were identified by the stakeholder working group. Potential projects were identified based on their ability to:

- Meet the Minister of the Environment’s requirement to “prepare and implement an aquatic habitat improvement plan”.
- Increase stream base flow.
- Improve runoff quality and quantity control.

- Enhance aquatic health/fish habitat (i.e., for brook trout and redbside dace).
- Provide riparian cover.
- Identify and protect recharge areas and discharge areas.

Following project identification, the 16<sup>th</sup> Avenue project team developed a detailed evaluation matrix. Each project was evaluated on its benefit to natural environment (50%), strategic approach (30%), partnership opportunities (10%) and risk (10%). The top 18 projects were recommended for implementation and are outlined in Table 1. An aerial photograph indicating the proposed project sites is included (*see Attachment 2*).

**Table 1**  
16<sup>th</sup> Avenue Environmental Improvements - Summary of Top 18 Projects

| Project Proponent           | Description                                                                                             | Cost to Region     | Total Value of Improvements |
|-----------------------------|---------------------------------------------------------------------------------------------------------|--------------------|-----------------------------|
| Rouge Park                  | Reforestation, wetland creation, plantings, conversion of agricultural lands into natural habitat cover | \$571,200          | \$571,200                   |
| TRCA                        | Forest plantings, wetland project                                                                       | \$88,000           | \$870,500                   |
|                             | Wetland creation, reforestation, riparian plantings                                                     | \$262,600          |                             |
|                             | Wetland creation, reforestation, riparian plantings                                                     | \$344,400          |                             |
|                             | Forest plantings, riparian plantings                                                                    | \$79,000           |                             |
|                             | Wetland creation, riparian plantings                                                                    | \$43,000           |                             |
|                             | Tertiary treatment, reforestation                                                                       | \$28,500           |                             |
|                             | Wetland Creation                                                                                        | \$25,000           |                             |
| Ontario Streams             | Creek assessment, bank stabilization, riparian plantings, in stream habitat creation                    | \$57,240           | \$105,573                   |
|                             | Creek assessment, other work                                                                            | \$48,333           |                             |
| Town of Markham             | Retrofit pond with large forebay and long outlet channel, plantings                                     | \$212,500          | \$492,500                   |
|                             | Implementation of thermal cooling structures to ponds                                                   | \$95,000           |                             |
|                             | Analyze wetland function, remove sediment                                                               | \$185,000          |                             |
| Community Liaison Committee | Wetland creation, plantings                                                                             | \$25,000           | No Agreement (see below)    |
| <b>TOTAL</b>                |                                                                                                         | <b>\$2,064,773</b> | <b>\$2,039,773</b>          |

The ERIE (Ecological, Recreational and Infrastructure Enhancements) process being utilised to select environmental improvement projects on the Southeast Collector project is similar to the 16<sup>th</sup> Avenue environmental improvements initiative. However, the ERIE initiative is broader as it includes Recreational and Infrastructure opportunities

**Agreements will include scope of services and outline terms for funding**

In all cases, except for the wetland creation and plantings proposed by the Community Liaison Committee, which the Region will be completing this fall, the individual project proponents are in a position to deliver the proposed improvements more efficiently than the Region. Therefore, an agreement outlining the terms under which the Region will fund these projects needs to be in place. The following principles will be adopted in all of the agreements:

- A scope of services will be explicitly outlined in each agreement. The scope of services will not be permitted to change without the prior consent of the Region.
- The scope of services shall be carried out by the personnel of the proponent or under the direction of the proponent. The project manager identified by the proponent shall not change without the prior consent of the Region.
- The proponent will prepare and provide the Region with progress reports describing tasks undertaken to date and since the last progress report, funding spent to date and since the last progress report, and any remaining tasks to deliver the project. The proponent will also identify any potential issues that may affect completion of the project within the timing and budget identified.
- Draws on funding will only be permitted in phases. Payment for future phases will not be made available until the proponent has demonstrated that it has completed the deliverables of the previous phase to the satisfaction of the Region.
- The Region will be permitted to terminate agreements if services and deliverables are not to the Region's satisfaction.
- Proponents will recognize that funding for these projects has been provided in partnership with the Region and as part of the 16<sup>th</sup> Avenue environmental improvement initiative. Proponents will allow the Region to publicise the funding commitment, partnership with the proponent and project details. Proponents will provide the Region with a corporate logo to include in any such materials.

In addition to the 18 projects noted in Table 1, the Region has also completed plantings along Bruce Creek within both the Angus Glen and York Downs golf courses. These plantings will help improve water quality and fish habitat. Furthermore, the Region is proceeding with environmental improvements at its PD6 pumping station located on the

northeast corner of McCowan Road and 16<sup>th</sup> Avenue and at the Unionville Alliance Church further west along 16<sup>th</sup> Avenue. Although opportunities for improvements in Eckardt Creek were not identified in the top 18 projects, these improvements are necessary to meet the Minister's conditions.

## 5. FINANCIAL IMPLICATIONS

### **Region's contribution to the environmental improvement initiative is 64% of the total project cost**

The Region's contribution comprises the majority of the total project cost as these initiatives have been made possible through the 16<sup>th</sup> Avenue Environmental Improvement Initiative. A comparison between the Region's contribution and the total project cost is listed below. Costs for the environmental improvement initiative have been budgeted for and are included in the total project cost estimates.

**Table 2**  
Region's Contribution to Environmental Improvements

| <b>Project Proponent</b> | <b>Total Project Cost</b> | <b>Cost to Region</b> | <b>Percentage of Total Contributed by the Region</b> |
|--------------------------|---------------------------|-----------------------|------------------------------------------------------|
| Rouge Park               | \$1,428,000               | \$571,200             | 40%                                                  |
| TRCA                     | \$870,500                 | \$870,500             | 100%                                                 |
| Ontario Streams          | \$105,573                 | \$105,573             | 100%                                                 |
| Town of Markham          | \$780,000                 | \$492,500             | 63%                                                  |
| <b>TOTAL</b>             | <b>\$3,184,073</b>        | <b>\$2,039,773</b>    | <b>64%</b>                                           |

## 6. LOCAL MUNICIPAL IMPACT

The 16<sup>th</sup> Avenue Trunk Sewer was necessary to accommodate near-term growth in Markham, Richmond Hill and Vaughan. The 16<sup>th</sup> Avenue Trunk sewer is also a key component of the overall YDSS system and therefore benefits all communities that rely on the YDSS.

The 16<sup>th</sup> Avenue environmental improvement initiative was developed in accordance with Council's commitment to the environment, specifically the Sustainability Strategy and the Greening Strategy. Completion of environmental improvements and the

successful closeout of the well mitigation program will play a vital role in leaving a positive project legacy in the Rouge watershed.

## **7. CONCLUSION**

To comply with requirements set out by the Minister of the Environment in October 2004, authorization is required for Regional staff to negotiate terms of agreements with the Rouge Park Alliance, Toronto and Region Conservation Authority, Town of Markham and Ontario Streams in this unique partnership opportunity to improve the natural environment in the Rouge River watershed.

For more information on this report, contact Bala Araniyasundaran, extension 5131, Director, Capital Delivery of the Water and Wastewater Branch in the Environmental Services Department.

The Senior Management Group has reviewed this report.

*(The attachments referred to in this clause were included in the agenda for the June 11, 2008 Committee meeting.)*