MALONE GIVEN PARSONS LTD.
140 Renfrew Drive, Suite 201, Markham
Ontario, Canada L3R 6B3
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January 16, 2008

The Corporation of the Town of Markham
101 Town Centre Blvd,
Markham, ON,
L3R 9W3

Attention: Ms. Shiela Birrell
Town Clerk

Re: North Markham Landowners' Group
Comments on the Rouge River Watershed Plan – Final Draft 2007

Dear Ms. Birrell,

On behalf of the North Markham Landowners' Group (NMLG), I request that the enclosed letter be distributed to Council and Staff, and that the letter be placed on a future Council agenda and be officially received by the Town as the group's response to the Rouge River Watershed Plan – Final Draft 2007.

Representatives of the NMLG met separately with Town of Markham staff and TRCA to share our comments prior to finalizing the letter.

If I can be of further assistance, please contact me.

Sincerely,

Ted Nickerson

Enclosure: North Markham Landowners'Group response to TRCA
re: Rouge River Watershed Plan – Final Draft 2007 (20 copies)

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January 15, 2008

To Toronto and Region Conservation Authority
5 Shoreham Drive
Downsview, ON
M5N 1S4

Attention: Ms. Sonya Meek
Watershed Planning Manager
Ecology Division

Re: North Markham Landowners' Group
Comments on the Rouge River Watershed Plan - Final Draft 2007

Dear Ms. Meeks,

Malone Given Parsons Ltd. has been engaged by the North Markham Landowners' Group (NMLG) to provide land-use planning and project management. NMLG controls approximately 1081 hectares, which includes 29% of the developable land, in an area bounded by Woodbine Avenue on the west, Major Mackenzie Drive on the south, Ninth Line on the east, and the Town of Markham municipal boundary on the north. Malone Given Parson's drawing "Participating Landowners" illustrates the location of the lands controlled by NMLG.

NMLG acknowledges that environmental studies and the subsequent actions will be key to successful development. NMLG has engaged Mr. Tom Hilditch, *Savanta Inc.*, to provide ecological advice, and with Ms. Joanne Thompson, a hydrogeologist with *RJ Burnside*, to develop a study program for environmental data collection which NMLG plans to launch in the spring. In addition, Tom and Joanne have reviewed the RRWP Final Draft 2007 on behalf of NMLG and their comments appear as an attachment to this letter.

General Comments:
Based on our discussions with the Town of Markham and TRCA, I understand that the Rouge River Watershed Plan and the Implementation Guide are true guidelines, providing direction, highlighting areas requiring more study, suggestions on approaches etc. yet providing municipalities and the development industry flexibility to address site-specific conditions and to strike a balance among the growth, social, environment and market drivers. The RRWP has legislative authority within the Oak Ridges Moraine. Beyond the Moraine though, it is through the municipal official plan process that RRWP policies, recommendations etc. may, in whole or in part, be adopted and thus form the basis for conformity for development. This should be clearly conveyed in the RRWP.

NMLG needs to understand the rules that will shape decision-making in the watershed, and the

bases behind them. The RRWP is a critical component. However, TRCA has mentioned that other work is underway that would add policies, practices etc. to the RRWP. A full description of those other initiatives, indicating the interaction with the elements of RRWP, is required.

The plan suggests forming a Rouge River Watershed Plan Implementation Committee with representation from all key stakeholders. If established, I favour a committee with a balanced membership including the landowners to ensure an atmosphere that is conducive to collaboration.

The RRWP Implementation Guide – Executive Summary (Draft November 23, 2007) identifies a policy to secure the targeted TNHS lands in the "whitebelt" that do not have any legislative protection (estimated to be 700 acres). I ask that TRCA identify the specific lands they are suggesting be secured. As there is some uncertainty as to the amount of land that the RRWP seeks to acquire, I also request that TRCA confirm the land area.

NMLG calculates the protected natural coverage will be 34% when the Oak Ridges Moraine, the provincial Greenbelt, and lands that could be acquired under the Planning Act within the Markham Whitebelt are included. This exceeds the RRWP goal of 31% for protected natural coverage. I therefore need to understand the basis for acquiring lands beyond the goal i.e. the 700 acres.

NMLG needs time to review the RRWP Implementation Guide – Draft December 3, 2007 which was received just yesterday. This review is especially important if the Guide is to form an integral part of the RRWP, and be available as a future reference by stakeholders.

One immediate concern area is *Figure 1-3: Potentially Significant Recharge Areas* (copy attached). It creates the impression that no development would be permitted in those areas shown in blue even though the hydrogeology studies do not support this interpretation nor did TRCA espouse such a position in our recent discussion.

Growth Management

Malone Given Parsons has reviewed the RRWP from a land use planning perspective and noted several areas where clarifications to or significant adjustments in the Final Draft should be considered.

York Region's process for population and job allocation is still underway, and I understand that intensification targets are not yet settled. The Region's work to date indicates the land in the Markham whitebelt will most likely be developed over the 2006-2031 period. The RRWP Final Draft is not consistent with the current York Region growth scenario.

Based on our review, I agree with York Region's conclusion that full build-out of the Markham Whitebelt lands will occur. I also support the Region's view that the associated development needs to reflect a mix of housing types (singles, semis, townhouses, apartments/condominiums) throughout the 2006-2031 period. However, the densities for development that were used in the modeling by TRCA appear to be considerably higher than would result with a balanced mix of

for lands in North Markham. The results of these studies when combined with an understanding of land use requirements can form the foundation to establish appropriate policies, targets, buffers etc.

The NMLG is interested in engaging in a constructive dialogue with the Town of Markham and TRCA regarding the RRWP Final Draft as it specifically relates to development in North Markham. The dimensions of such discussions would embrace:

- Growth Management: implementation policies, practices and measures achievable while meeting provincial growth targets; implication of the watershed plan in terms of servicing feasibility; and projected costs associated with the its implementation in North Markham.
- Groundwater, Terrestrial Habitat and Species Preservation: the data available to the watershed planning team as input to the ground water modeling and analyses performed; further discussion regarding the Small Streams initiative; practical opportunities for the development of overall benefits for potentially impacted species; discussion with the TRCA terrestrial ecology experts involved in the application of the model to clearly understand the outcome in North Markham; input to the crafting a mutually agreeable and efficient study program by NMLG.

The brief time between the Open House and the January 15, 2008 deadline for final written comments, particularly with a major holiday in between, has not permitted an opportunity for such additional dialogue with the Town and TRCA. We request an extension of the deadline so NMLG's environmental consultants can meet with their TRCA counterparts to discuss the RRWP at a detailed technical level.

I think it would benefit all parties if we took the time to engage more effectively in a review of the substantial works completed.

Sincerely,

Don Given

Attachments: Malone Given Parsons Ltd. Drawing "Participating Landowners"
Implementation Guide: Figure 1-3: Potentially Significant Recharge Areas
Savanta Inc. and *RJ Burnside* Commentary on Groundwater & Terrestrial Habitat

Cc North Markham Landowners' Group
Malone Given Parsons – Jim Kirk, Ted Nickerson
Savanta Inc. – Tom Hilditch
RJ Burnside – Joanne Thompson
Town of Markham – Jim Baird, Valerie Shuttleworth, Tim Lambe, Lilli Duoba
York Region – Bryon Tuckey, John Waller

NORTH MARKHAM LANDOWNERS GROUP

PARTICIPATING LANDOWNERS

LANDOWNER

1. ANGUS GLEN DEVELOPMENT LTD.
2. AZURIA GROUP
3. BROADWAY HOMES (REMINGTON)
4. FIELDGATE
5. FINLEY W MCLACHLAN PROPERTIES INC. - GLENDOWER PROPERTIES INC.
6. KERBEL GROUP
7. H & R DEVELOPMENT
8. ROMANDALE FARMS
9. EMERY INVESTMENTS
10. RUNNYMEDE DEVELOPMENT CORP. LTD.
11. TRINISON
12. TUNG KEE INVESTMENT LIMITED PARTNERSHIP

OAK RIDGES MORAINE CONSERVATION PLANNING AREA

PROVINCIAL GREENBELT PLAN - PROTECTED COUNTRYSIDE

ENVIRONMENTAL CONSTRAINTS

WATER COURSE

PARCEL

MUNICIPAL BOUNDARY

STUDY AREA

PROPOSED FINAL BUILT BOUNDARY

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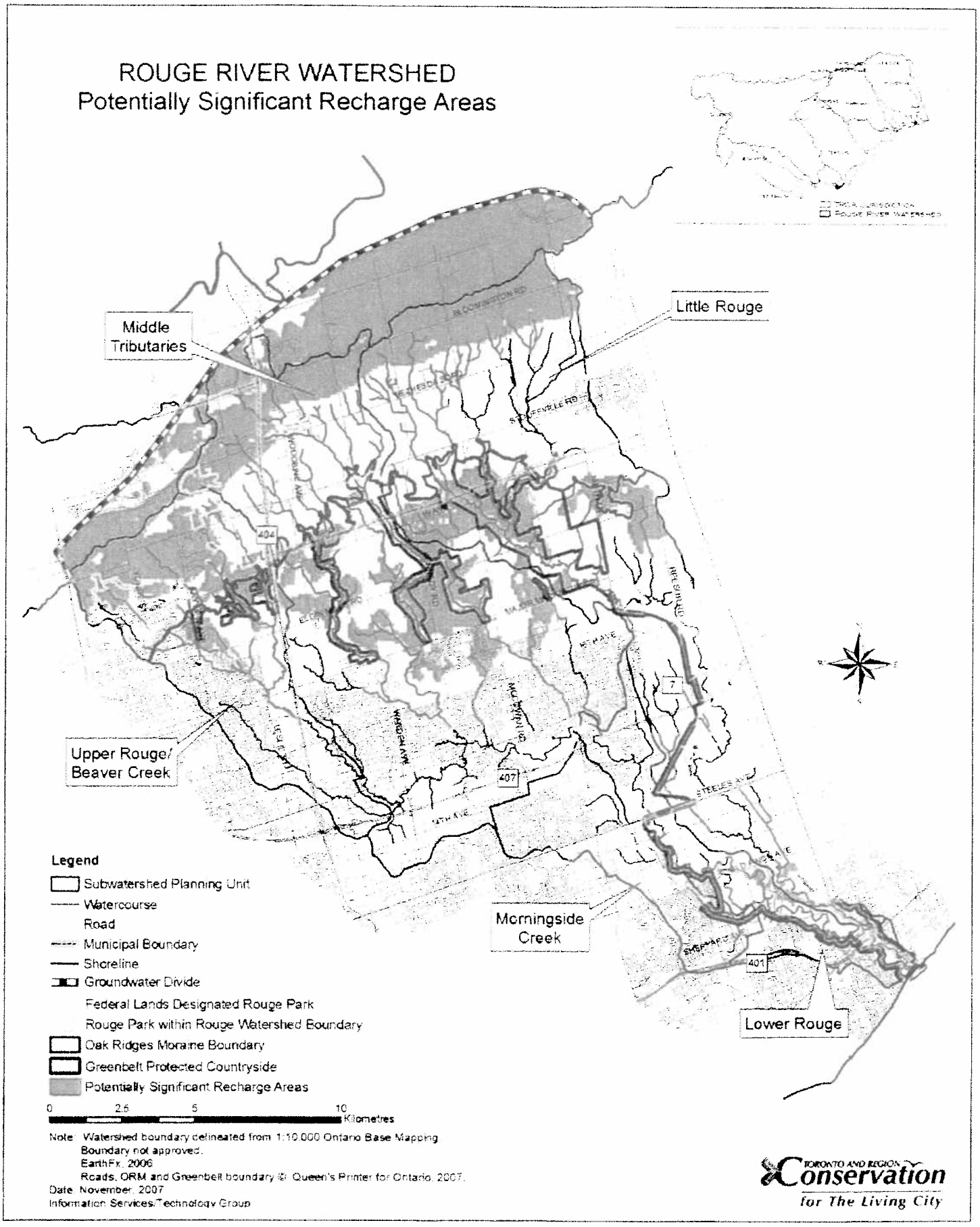
Figure 1-3 Potentially Significant Recharge Areas



SAVANTA BURNSIDE

January 9, 2008

Malone Given Parsons Ltd.
140 Renfrew Drive, Suite 201
Markham Ontario L3R 6B3
Canada

Attention: Mr. Ted Nickerson, P. Eng., Project Manager

Dear Ted:

Reference: North Markham Landowners' Group
Comments on the Final Draft Rouge River Watershed Plan

Savanta Inc. (Savanta) and R.J. Burnside and Associates Limited (R.J. Burnside) were contracted by the North Markham Landowners' Group to summarize and review the draft Rouge Park Watershed Plan (RRWP), in respect of the groundwater, terrestrial and aquatic ecology components, below.

Founded in 2006 by Tom Hilditch, a 25 year environmental professional, Savanta is an environmental consulting firm that provides specialized services in development approvals and environmental assessment, environmental sustainability, environmental restoration & enhancement and environmental leadership & communications.

R. J. Burnside has a 35-year track record of providing notable consulting and engineering services to clients in numerous fields including water resource management, and infrastructure assessment and development.

GENERAL COMMENTS

The Rouge Watershed Task Force and the TRCA are to be congratulated for the substantial work that has gone into the Final draft Rouge Watershed Plan and the series of supporting documents placed upon the TRCA's website for review in association with the Watershed Plan.

GROUNDWATER COMPONENT (R.J. Burnside)

We are interested in better understanding the level of data available to the watershed planning team as input to the ground water modeling and analyses performed. We suggest a technical discussion amongst our groundwater specialist and those specialists involved in this work to best address our comments and questions.

Generally, we agree with the conclusions in the Watershed Plan that groundwater effects should not be a determining factor for implementation of the Terrestrial Natural Heritage Strategy nor should it be in the identification of the Natural Heritage System more generally. As the study points out, ground water information will be more useful in terms of the community design and servicing.

The Protection of Ground Water Recharge and Discharge.

One of the key strategies outlined in the report for addressing water issues is to protect "recharge and discharge areas". That broad statement is complicated by the fact that all land areas are either recharge or discharge areas and they are not necessarily identified by specific surface features. As such, recharge and discharge areas do not constitute development constraints or opportunities in themselves.

More important is the development of a sound understanding of these conditions that is required as they relate to the interrelationships amongst groundwater, surface water and ecological characteristics. For example, from a regional perspective, what systems are sustaining the wetland features and functions and which areas will be more dependent upon local versus regional water sources. At a broad level, this understanding should begin to be initiated through the watershed planning process.

We concur that the form, design and stormwater management of all new development should consider the groundwater recharge and discharge conditions and functions, with a goal to maintain the water balance where feasible through various stormwater management techniques. But from a hydrogeological perspective, with the relatively limited available data and models, it is only appropriate to identify "potentially sensitive areas" and "special study areas" at this stage; limiting or restricting land uses based on the available information is unwarranted. Policies should recognize the need for water balance considerations and require appropriate studies early in the planning process.

There is uncertainty around the degree to which infiltration will be affected by development on the Peel Plain.

The regional modeling does highlight that significant groundwater recharge likely comes from outside the Rouge Watershed. This is a reasonable conclusion based on the available information. Groundwater flow often does not follow the same divides as surface water flows – this is one of the key challenges of developing management strategies on a watershed basis. It is also reasonable to assume that urbanization has the potential to reduce recharge, however, at this point it is not clear that the predicted

changes in recharge would lower groundwater levels in aquifers, reduce discharge to streams or lead to shortages of groundwater for well water supplies.

As noted above, regional scale groundwater flow modeling was used to assess the potential effects of various future land use and management scenarios on aquifer water levels, groundwater recharge rates and groundwater discharge areas.

The groundwater flow model is a regional scale model, and as correctly noted in the report, the resolution of the model is limited. With respect to groundwater recharge, the modeling shows remarkably low changes to infiltration for various scenarios. For example, the average infiltration was estimated at 125 mm for the 2002 land use, 116 mm at Official Plan build out, 116 mm with enhanced natural cover, 115 mm at full build out, and 128 mm with sustainable community measures. Specific to the Middle Tributaries and Little Rouge Areas for North Markham, the predicted changes to the annual infiltration between the Official Plan buildout and full buildout scenarios are only 3 mm and 1 mm respectively. As the report correctly points out, the model output is not exact as the input data are simplified, estimated or assumed and sometimes come from other jurisdictions. This raises a concern about whether such small changes to infiltration within the watershed can be reasonably predicted. It is also noted that the predicted changes in aquifer water levels are within the overall accuracy and sensitivity of the model.

The modeling report outlines many of the modeling limitations. We note also that natural systems are complex, as are the effects of anthropogenic influences that are difficult to consider for the models. For example, effects of bringing lake-based water supplies and sewer leakage are not considered and the effectiveness and performance of constructed infiltration facilities, particularly over the long term, are not known. Because of these limitations, the groundwater model is an interesting and useful tool, but it is not necessarily a "realistic depiction of the magnitude, scale and distribution of change" (page 4.3-54) that will occur as a result of future land use changes.

It is therefore necessary to caution against specific land use planning decisions at this stage based on the regional groundwater modeling scenarios.

This again points to the need for site-specific analysis of the hydrogeological conditions and determination of protection strategies. The need for monitoring and site-specific assessment of impacts, performance assessment of infiltration measures and the development of adaptive management strategies is clearly documented in the report. Blanket statements around goals such as the protection of discharge and recharge need to consistently recognize that this may be unnecessary or unfeasible in some situations in areas of the Peel Plain.

Innovative Water Supply and Management Solutions Will Be Beneficial To Explore.

The mechanisms to protect and enhance infiltration presented in the RRWP include protection and expansion of natural cover, careful development site design and stormwater management including lot level controls. We agree that such mechanisms need to be considered and further explored. As pointed out in the RRWP, innovative

technologies may be needed for infiltration and stormwater management, and as, such, engineering and community design standards should allow adequate flexibility to meet these infiltration and stormwater management objectives. In some situations, these measures will not be technically feasible nor practical for implementation in intensively urbanizing areas.

Additional Terrestrial Habitat Conservation Does Not Significantly Benefit Recharge.

In developing areas, the RRWP also recommends to set aside key recharge areas for inclusion in a terrestrial natural heritage system designed to provide multiple benefits, including water balance maintenance and restoration. It is noted, however, that the modeling of the implementation of the terrestrial natural heritage system did not show significant direct improvements to the hydrogeological system, and it cannot be concluded that a benefit will result.

High Priority Local Recharge Areas.

The RRWP identifies several specific high priority local recharge areas for protection within the watershed (including Robinson Creek in the North Markham area). These areas were identified based on the regional groundwater flow modeling and use of what is called a 'particle-tracking' analysis to identify the "groundwater recharge sources for coldwater reaches" (Figure 3-9). Based on this information, recommendations are presented to protect or enhance these "key recharge and discharge areas".

The supporting groundwater modeling report clearly outlines the model limitations; the use of particle tracking to identify specific land areas for protection at this stage is unwarranted. It is more appropriate to use this method to identify potential areas of interest for further study (as opposed to making specific land use decisions).

AQUATIC ECOLOGY COMPONENT (Savanta)

Fisheries Management Plan

The Ontario Ministry of Natural Resources, Fisheries and Oceans Canada, Toronto and Region Conservation Authority and Rouge Park are currently developing a Fisheries Management Plan for the Rouge River.

The Rouge River Fisheries Management Plan, the Markham Small Streams initiative and the Watershed Plan are all coming together in roughly the same time period. Whereas the Fisheries Management Plan provides specific strategies for each of ten fish management zones, which directly affect North Markham (see Figure 3-8 in section 3.3.1), the watershed plan intends to provide guidance to protect and improve aquatic ecosystems at a broader level. We would appreciate some further discussion in the RRWP about how the Small Streams initiative will interact with these other reports.

Target Fish Species

Aquatic surveys were conducted as input to the RRWP between 2001-2005 for fish, benthic and invertebrate organisms. Two fish species were identified that are target species for the Rouge River Watershed: redside dace (provincially threatened) and brook trout. Target species are those that are the most sensitive to change.

A principal concern with the aquatic system as it relates to the future growth in North Markham is the feasibility of retaining viable populations of these target species, while at the same time achieving the growth targets being established by the Province, Region and Town for these areas. The concern is exacerbated by technical information that suggests that the impervious levels identified by the TRCA in the scenario would significantly exceed the thresholds described in the literature as required to sustain redside dace. The draft Recovery Strategy for the redside dace in Ontario (2005) outlines the following:

Several studies have shown that the quality of streams and their biota can be negatively affected when impervious cover (e.g., roads, houses, parking lots) exceeds 10% of a stream's catchment area (see Environment Canada 2004). Environment Canada (2004) recommends maintaining urbanizing watersheds at less than 10% imperviousness to maintain stream-water quality and quantity, and to preserve aquatic species density and biodiversity. Parish (2004) found that redside dace preferred stream channels that are not heavily influenced by urban drainage (0-27% urban drainage area).

Redside Dace Discussion Required

The North Markham Landowners' Group would appreciate some clarification regarding how best, these two sensitive target species could practically be maintained given the ongoing understanding of the effects of urbanization. Included in that clarification should be some discussion around other potential contributing factors that might continue to negatively affect the target fish species, such as baitfish harvest and stocking.

The North Markham Landowners are interested in discussing opportunities at an early stage for the development of overall benefits to these species in a practically feasible manner. We recognize that the TRCA has gained significant expertise in redside dace ecology and are looking forward to some more detailed discussions.

TERRESTRIAL ECOLOGY COMPONENT (Savanta)

The RRWP calls for the restoration and creation of significant amounts of terrestrial habitat in order to serve multiple objectives (i.e. ecological, social objectives). More specifically, the plan requires:

1) An increase in natural cover from 8,016 ha to 10,354 ha, (a 7% increase over existing conditions) to achieve at least 31% natural cover in the watershed; and

2) Improved distribution of "good" quality habitat across the subwatersheds.

Over the past couple of years, various groups including BILD (formerly UDI) have commented extensively upon the development and implementation of the TRCA Terrestrial Natural Heritage System Strategy (TNHSS). It relies upon a model developed by TRCA to discern what system of terrestrial habitat would best achieve ecological objectives within their jurisdiction. The model is an interesting and useful tool that should serve to provide guidance to the establishment of a terrestrial natural heritage system. Similar to comments offered regarding the groundwater modeling, care should be taken not to use this model to delineate definitive and immovable targets and boundaries.

As noted in the RRWP, this component affords the opportunity to meet multiple objectives (i.e. a mix of ecological and social benefits). The interpretation of how this is best met and implemented will benefit from additional stakeholder discussion. It will be beneficial to engage with the North Markham Landowners Group early now and again through the implementation period of the Watershed Plan to optimize the potential results associated with this component of the system. The Watershed Plan suggests an immediate initiation of a conservation program for these lands that might be under threat of development. Such work will require some early discussion, especially given that the majority of lands subject to this component are in private ownership. We expect that this component of the Plan will be the subject of particular interest as the recommended system conflicts directly with lands that might otherwise be available to meet provincial growth targets.

We request a meeting with the TRCA terrestrial ecology experts involved in the application of the model to clearly understand the outcome in North Markham. The better informed the North Markham Landowners' Group is around this component of the Plan, the greater the opportunity for ongoing positive and collaborative discussions. We would, for example, like to explore options around how the 31% terrestrial natural cover target is met in the urbanizing and future urbanizing areas of north Markham, in relationship with the ongoing and potential natural heritage system development on extensive public lands in East Markham and beyond.

We would also find it helpful to understand the general intention of the report in statements such as:

Subwatersheds to undergo restoration include:

- "Improvements in Carleton, Berczy and Bruce Creek through substantial

reforestation

- Maintain conditions (natural cover) at Robinson Creek, Mt. Joy, Lower Main Rouge, Morningside Creek, and the river mouth estuary"

We would also find it useful to understand where field data have been collected in the north Markham area. A the Landowners are embarking upon the beginning of a data collection phase, it would be useful to ensure that data collected are complementary with existing data collected by TRCA.

Community Building Implications and Opportunities

The Plan notes that within the headwaters and middle reaches of the Main Rouge River and its tributaries there are many small streams that contribute to the vitality of the Rouge River system. Identifying, protecting and enhancing these small streams is noted in the Plan as being "...a major challenge in the planning of future urban settlement expansions". We agree that there will be some challenges around the determination of which features merit conservation, however, we do also see that these features can be a source of significant opportunities for net ecological gains.

The Plan also suggests that new greenfield development should be phased in small increments that will reduce the extent of overall soil disturbance in the watershed during the construction phase while other water budget management approaches (e.g. increased natural cover, lot level stormwater management) are established to buffer the effects of future urban growth. This phased approach will also allow monitoring and evaluation of the performance of new technologies, as well as the watershed's response, such that continuous improvements can be incorporated in future applications. Flexibility will be required to adjust management strategies promptly if necessary, as they may not meet the timelines set out by the growth plan.

Sustainable Development and the Need to Integrate Economics and Social Aspects with The Environment

The Plan and the supporting documents do provide substantial information and ideas around societal shifts and innovative ideas and technologies to establish more livable communities. The economics of these initiatives is a gap that has not been addressed to the extent required to ensure a fulsome dialogue around effective implementation.

The North Markham Landowners Group are interested in having some further dialogue appear in the Plan and in a meeting around:

- The practicality of implementation measures that can be achieved while meeting provincial growth targets; and

- The implications of the plan in terms of servicing feasibility in North Markham;

- Projected costs associated with the implementation of the Plan to the North Markham community or more generally for the Plan.

The economic discussion (including discussions around fairness and equity, key components of sustainability) would be helpful in working towards ensuring that the natural heritage system that is proposed and eventually implemented optimizes the investment of public and private resources. This discussion will obviously want to include a information around the value of ecosystem services, an area that has been the subject of much investigation and consideration by the TRCA.

This topic also relates to the Plan's suggestions around implementation. The plan suggests that a Rouge River Watershed Plan Implementation Committee be formed with representation from all key stakeholders in the watershed. It is suggested that the Committee should:

(1) Report to the TRCA and the Rouge Park Alliance;

(2) be given a terms of reference, mandate and duration of term;

(3) Report regularly on progress with the implementation of the Rouge River Watershed Plan.

The role of the private landowners and BILD is important to redefine in this moment as we contemplate some fundamental shifts in the manner in which communities are planned. To-date the role of the Building Industry and land Development Association and private members and landowners has been quite limited and overwhelmed by individuals and groups with assets subject to discussion but with significant interests in the use of private assets to achieve common goals. It is a reasonable time to re-frame how various stakeholders should be involved moving forwards and which organizations are best suited to an implementation role. The local municipalities for example, those charged with the planning process and individuals and companies with investments in those lands need to take a more dominant role in implementation. We look forward to further dialogue in this matter.

3.0 OVERALL RECOMMENDATIONS

The extensive materials available would benefit from some additional dialogue with the TRCA and others. R.J. Burnside and Savanta request that another 3 month period be set aside for North Markham (and others) to engage more effectively in a review of the substantial works completed in the development of the RRWP. A 7-week period is insufficient to expect the variety of stakeholders to digest and comment on these materials.

Yours truly,

Savanta Inc.

Tom Hilditch
President, Savanta

R.J. Burnside and Associates Ltd.

Joanne Thompson
Senior Hydrogeologist, R.J. Burnside