To: Chair and Members
   Economic Development and Planning Committee

WARD(S) AFFECTED:
   WARDs 6, 9, and 11

COMMITTEE DATE: March 23, 2010

SUBJECT/REPORT NO:
   Ontario Realty Corporation Class EA Environmental Study Report for Trinity East (Eramosa Karst) (PED07236(b) / PW07112(b) (Wards 6, 9, and 11)

SUBMITTED BY:
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   Planning and Economic Development Department

   Gerry Davis
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PREPARED BY:
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SIGNATURE:

RECOMMENDATION:

That Public Works Department and Planning and Economic Development Department staff be directed to request the Minister of the Environment to make an order for the Ontario Realty Corporation’s project to comply with Part II of the Environmental Assessment Act, which addresses individual environmental assessments for the ORC Lands located east of the Eramosa Karst feeder creeks in the City of Hamilton, as per Report PED07236(b) / PW07112(b).
EXECUTIVE SUMMARY

The Ontario Realty Corporation (ORC), on behalf of the Ministry of Energy and Infrastructure, has completed a Planning and Class Environmental Assessment (EA) Study regarding the possible disposition of provincially-owned land located on the north side of Rymal Road East, the west side of Second Road West, south of Highland Road, and east of the Eramosa Karst Conservation Area, in the City of Hamilton (former City of Stoney Creek) (refer to Appendix “A”). The primary focus of the project was to conduct detailed technical and environmental studies to inform potential future land use applications under the Planning Act and ORC’s disposition of these lands. The project was assessed as a Category C Class EA in accordance with the requirements of the Ministry of Energy and Infrastructure’s Class EA process. An Environmental Study Report (ESR) was recently completed by the ORC, and has now formally been made public for a 60-day public review period from January 26 to March 29, 2010.

Any person may request that the Minister of the Environment make an order for the project to comply with Part II of the Environmental Assessment Act (referred to as a Part II Order), which addresses individual environmental assessment. However, requests must be received by the Ministry by March 29, 2010; otherwise the project will proceed as outlined in the ESR.

Based on Planning, Public Works, and the Hamilton Conservation Authority staffs’ review of the ESR, the principle of development of the lands east of the Eramosa Karst Conservation Area has not been established. The ESR is not complete as baseline studies and additional monitoring studies have not been completed. In the absence of this baseline data and monitoring information, City and Conservation Authority staff are not satisfied that the principle of development has been established, or that development will not negatively impact on the adjacent Eramosa Karst feeder creeks to the west.

Accordingly, it is recommended that a request to the Minister of the Environment be made requesting the Ontario Realty Corporation’s project to comply with Part II of the Environmental Assessment Act for the ORC Lands located east of the Eramosa Karst feeder creeks.

Alternatives for Consideration - See Page 9.

FINANCIAL / STAFFING / LEGAL IMPLICATIONS (for Recommendation(s) only)

Financial and Staffing: The request for a Part II order can be undertaken by existing staff.
Legal: Undertakings by public bodies such as the Ontario Realty Corporation or the Ministry of Energy and Infrastructure (MEI) are subject to Ontario's Environmental Assessment Act. The Act allows for the approval of Class Environmental Assessments, and the ORC has the option of following the planning process set out in the Class Environmental Assessment Process for the Ministry of Energy and Infrastructure for Realty Activities Other Than Electricity Projects (approved April 28, 2004 and amended September 11, 2008). The ORC has followed the Category C methodology for the Trinity East (Eramosa Karst) proposed property transaction. The focus of the MEI Class EA is on realty activities and public works projects undertaken by the Ministry. Similar to the Municipal Class EA, if MEI/ORC follows the planning process for an undertaking set out in the MEI Class EA, it is not required to apply for additional approval under the Environmental Assessment (EA) Act.

If a person or party (including a municipality) has outstanding concerns related to an undertaking following the MEI Class EA, the concern should be brought to the attention of the proponent (ORC/MEI) as early as possible in the Class EA process. Staff has brought City of Hamilton concerns to the attention of the ORC. If a concern cannot be resolved through discussion with the proponent, the person or party may request, in writing, that the proponent voluntarily elevate the undertaking to a higher category EA. If the proponent declines and the person or party wishes to pursue the concerns, they may write to the Minister of the Environment to request a Part II Order under the EA Act. If a Part II Order is granted, then the proponent would have to follow an individual EA before the undertaking could commence. A Part II Order Request must be submitted during the public review period. In response to a Part II Order Request, the Minister may deny the request (the denial may include conditions), refer the matter to mediation, or allow the Part II Order. The ORC has filed the Environmental Study Report on public record for a 60-day public review period from January 26, 2010 to March 29, 2010. A Part II Order Request must be made to the Minister by March 29, 2010.

HISTORICAL BACKGROUND (Chronology of events)

2003:

- Eramosa Karst Earth Science Area of Natural and Scientific Interest (ANSI) Report prepared, which identified the extent of core, karst, buffer, and feeder creek areas within the ANSI. Refer to Appendix “A.”

2004:

- The City initiated the Rymal Road Planning Area (ROPA 9) Class Environmental Assessment Master Plan to address Transportation infrastructure improvements required to support the ROPA 9 developments. One of the recommendations was to
provide a collector road through the lands east of the Karst to provide additional road capacity and road network connectivity.

2006:

- Karst Core Area, Core Area buffer and identified feeder creeks (73 hectares) deeded to the Hamilton Conservation Authority for the creation of the Eramosa Karst Conservation Area.

- Planning Division initiates Secondary Planning process for the Trinity Neighbourhood, including land east and west of the Eramosa Karst Conservation Area.

2007:

- ORC initiates a Class Environmental Assessment to examine options that could enhance the value of the Trinity East lands prior to their disposition, while ensuring that the environmental integrity of the lands and surrounding area is maintained, taking into account relevant government policies.

- Secondary Plan review and City’s Environmental Assessment Study for an internal collector road within the Trinity East area placed on hold pursuant to Council direction (Report PED07236/PW07112). City requests completion of technical studies by ORC to allow staff to determine whether future development (including the construction and operation of a new road) would negatively impact the integrity of the core karst features.

- Council sent a formal letter to Premier’s office requesting transfer of remaining Karst lands.

- Hamilton Conservation Authority approved the resolution. “That the Hamilton Region Conservation Authority believes that additional areas of the Eramosa Karst should be preserved and protected based on its rarity and on the expert opinions . . . .”

2008:

- Council approves motion directing staff to “consider the options available for the future use of the feeder areas of the eramosa karst area, including its use as open space and the planning applications needed, and report back to Council.

- Technical studies prepared on behalf of the ORC submitted to City and the Hamilton Conservation Authority for review.
2009:

- A letter from the Mayor’s office sent to the Minister of Energy and Infrastructure requesting serious consideration be given to ensuring the preservation of these lands through their incorporation into the Eramosa Karst Conservation Area.

- Hamilton Conservation Authority undertakes a peer review of the studies completed for the ORC (refer to correspondence dated June 9, 2009, attached as Appendix “B”). Results of this peer review by Karst expert Marcus Buck indicate the need for the following additional studies before a determination can be made regarding the impact of development on the core karst features:
  1. Stream Flow Monitoring - for one full year.
  2. Spring Discharge Monitoring - for two years.
  3. Precipitation Monitoring - for one summer.
  4. Surface Water Quality Monitoring - for one year.
  5. Groundwater Quality Monitoring - ORC to develop a comprehensive groundwater quality monitoring program, to the satisfaction of the HCA.
  7. Downstream Flooding Assessment - tied to Stream Monitoring in 1 above - for one full year of monitoring and then assessment.
  8. Fluvial Geomorphology Study - period of time unknown at this time.

- In response to HCA peer review, ORC consultants agree to undertake all of the additional monitoring, studies, and assessments, with the exception of the comprehensive groundwater monitoring program and the fluvial geomorphology study, which they believe can be addressed at the time of detailed stormwater management design.

January 2010:

- ORC notification of completion of the EA and release of the Environmental Study Report (ESR) pursuant to the MEI’s Class EA process.

- March 3, 2010, the Hamilton Conservation Authority Board approves the following staff recommendation:
“THAT the Hamilton Conservation Authority Board of Directors request that the Minister of the Environment make an order for the Ontario Realty Corporation to comply with Part II of the Environmental Assessment Act, which addresses individual environmental assessment for the ORC Lands adjacent to the Eramosa Karst.”

POLICY IMPLICATIONS

The request for a Part II Order has no impact on the land use policies applicable to the subject lands. However, the current recommendations of the ESR would support future amendments to the City of Stoney Creek Official Plan and the City’s New Urban Hamilton Official Plan to implement the future development of these lands for urban purposes.

New Urban Hamilton Official Plan

The new Urban Official Plan was approved by Hamilton City Council on June 29, 2009, and is presently awaiting Ministerial approval. Lands in Trinity East are designated as follows in this Plan:

- Schedule “B” - Natural Heritage System - “Core Area” for most of Trinity East; “Linkage” for the northerly portion; and a “Stream” for a portion through the centre;
- Schedule “B-7” - Detailed Natural Heritage Features - Local Natural Area, Earth Science ANSI for most of Trinity East; and,
- Schedule “B-8” - Detailed Natural Heritage Features - Key Hydrologic Feature Streams for two stream features.

Most of Trinity East is identified as “Core Area” and corresponds to the undeveloped limits of the ANSI. Permitted uses include forest and wildlife management, conservation, and similar uses. New development in Core Areas and adjacent lands is not permitted within an ANSI unless it is demonstrated there will be no negative impacts on natural features and functions. An Environmental Impact Statement would have to be submitted, to the satisfaction of the City, to ensure there are no impacts.

The northern part of Trinity East is a “Linkage”. Such linkages are intended to connect core areas, to allow for movement of animals and plants, maintain ecological health, and preserve habitat. Further assessment and mapping of linkages is intended. Part of Trinity East includes a designated “Stream”, and a small area next to Second Road West, south of Fairhaven, is noted as a natural heritage feature.
Trinity East is, therefore, designated in the Official Plan as part of the natural heritage system. Further study and review is needed by the City to assess these features, and to determine the potential impacts of any proposed development. An amendment to the new Urban Official Plan would be required to implement the proposed recommendations of the ESR Report; however, the new Urban Official Plan provides a rationale for the designation of these lands to “Open Space” in the Stoney Creek Official Plan.

**RELEVANT CONSULTATION**

Planning staff has consulted with Public Works staff, as well as Hamilton Conservation Authority staff, in the preparation of this report. Both the City and the HCA staff have reviewed all of the technical studies completed as a part of the EA process and have drawn similar conclusions. HCA staff advised that the ORC studies, to date, have not shown conclusively that the Feeder Area would be protected if development is permitted. They identified concerns with the studies related to methodology, assumption, and lack of baseline data, and identified the need for additional monitoring and studies. The HCA staff maintains that these studies must be reviewed before it can be determined whether development is appropriate.

While no public consultation was initiated by the City in the preparation of this report, it is noted that the Community Advisory Committee (CAC), established in early 2007, does not support the urban development of the karst feeder areas.

On March 1, 2010, City and HCA staff met to discuss the ESR, associated studies, and reports and agreed that both the HCA Board and City Council should receive staff recommendations that Part II Orders should be submitted on this matter.

**ANALYSIS / RATIONALE FOR RECOMMENDATION**

(include Performance Measurement/Benchmarking Data, if applicable)

The question of whether or not the Trinity East lands can be developed without negatively impacting the core karst features has been an issue for quite some time. While the 2003 ANSI report identified the limits of the karst core and buffer areas, as well as the feeder creek area, there has not been agreement on the principle of developing the remainder of the ANSI north of Rymal Road and west of Second Road West. The new Urban Official Plan designates much of the Trinity East lands as forming part of the Natural Heritage System’s Core Area, and also articulates the limits of the ANSI, which includes the majority of the Trinity East lands.

In 2007, the ORC undertook an extensive Environmental Assessment process including a broad range of technical studies to address the unique environmental feature of the site and determine, once and for all, whether these Trinity East lands can and should be
developed. Both the City and the Hamilton Conservation Authority have been invited to participate in the EA process and have reviewed the completed studies.

On June 9, 2009, the HCA issued correspondence indicating their concerns with the studies completed (refer to Appendix “B”) and recommended the need for baseline data and additional monitoring work for a period of one to two years. In response to the HCA’s concerns, the ORC’s technical consultants agreed to undertake the majority of the additional monitoring, studies, and assessment. However, in January 2010, in the absence of the requested baseline data and monitoring information, the ORC released its ESR and recommended the disposition of the Trinity East lands for development purposes.

Both the HCA and City staff have reviewed the technical documents that accompanied the ESR, and note that they were not significantly different from previous versions of the documents which were the subject of the HCA’s June 9, 2009, correspondence. In response to the ESR, the Hamilton Conservation Authority Board (at their March 3, 2010 meeting), approved the following staff recommendation (refer to Appendix “C”):

“THAT the Hamilton Conservation Authority Board of Directors request that the Minister of the Environment make an order for the Ontario Realty Corporation to comply with Part II of the Environmental Assessment Act, which addresses individual environmental assessment for the ORC Lands adjacent to the Eramosa Karst.”

Accordingly, the principle of development of the Trinity East lands still has not been established, to the satisfaction of City staff or the Hamilton Conservation Authority. There is insufficient information to determine that the Eramosa Karst ANSI will not be detrimentally affected by the development of the Trinity East lands. It is, therefore, premature, in staff’s opinion, for the ORC to formally submit their final ESR for the possible disposition of the Trinity East lands for development purposes. In order to ensure that the lands are not sold for development purposes, City staff and HCA staff recommend that a formal request to the Ministry of Environment be made ordering the ORC to comply with Part II of the Environmental Assessment Act.

It is worth noting that the City’s Public Works Department is preparing to undertake an Upper Davis Creek, Class EA Study to update the background material contained within the Davis Creek Subwatershed Study. The study will follow the Municipal Engineers Association (MEA), Class Environmental Assessment (EA) 2000 (updated in 2007) procedures, and will involve stakeholders for the Master Plan Class Environmental Assessment process to fulfil all outstanding EA requirements for projects categorized as Schedule “B”, and any identified Schedule “C” projects. This study will complete any outstanding information and flows upstream and downstream, including the Trinity East lands.
In addition, there are a number of transportation issues which have yet to be resolved. There is the need for additional roadway capacity and network connectivity in the north-south direction through the Trinity East area. An internal collector road was proposed for this purpose. However, there are concerns that this proposed collector roadway may have impacts on the Karst with regard to stormwater run-off, the depth of cuts during the construction of road and utility services, and operation of the road itself. Therefore, further studies will be required to consider these potential impacts, in detail, and present solutions so that there is no short or long term impact to the karst. There are greater system-wide transportation/traffic concerns also to be addressed if this road is not provided in the short term due to the growing traffic problems on Second Road West, Upper Mount Albion, and other roads related to development in “Summit Park” and vicinity.

**ALTERNATIVES FOR CONSIDERATION:**
(include Financial, Staffing, Legal and Policy Implications and pros and cons for each alternative)

The ORC has completed its EA process pursuant to the Environmental Assessment Act. If a Part II Order is not requested by March 29, 2010, the City will, in essence, be accepting the recommendations and findings of the ORC’s studies completed to date. The ESR states that the lands east of the Eramosa Karst Conservation Area are developable, and that while future monitoring work is appropriate, that these studies can be completed as conditions of development. By not requesting a Part II Order, the City would be accepting the principle of development of the Trinity East lands.

This would allow the continuation of the Trinity East Secondary Planning process, as well as the ultimate construction of a new collector road through the Trinity East lands connecting Rymal Road to Highland Road. This alternative is not recommended because it has not been established that the development of these lands would not negatively impact the Karst.

**CORPORATE STRATEGIC PLAN** (Linkage to Desired End Results)


**Financial Sustainability**
* Effective and sustainable Growth Management.

**Intergovernmental Relationships**
* Influence federal and provincial policy development to benefit Hamilton.
Environmental Stewardship

- Natural resources are protected and enhanced.
- Reduced impact of City activities on the environment.
- Aspiring to the highest environmental standards.

Healthy Community

- Plan and manage the built environment.
- An engaged Citizenry.

APPENDICES / SCHEDULES

Appendix A: Eramosa Karst Core, Buffer and Feeder Areas Map
Appendix B: Hamilton Conservation Authority Correspondence Dated June 9, 2009.

:BK
Attachs. (3)
June 9, 2009

Our File No. GC-SC/2008

Ontario Realty Corporation
1 Dundas Street West, Suite 2000
Toronto, ON, M5G 2L5

Attention: John Mackenzie, Director, Real Estate Development

Dear Sir:

SUBJECT: Ontario Realty Corporation – Parcels E, F, G and H
Part of Lots 29, 30, 31 & 32, Concession 8
Former Township of Saltfleet, Former City of Stoney Creek
City of Hamilton

Hamilton Conservation Authority (HCA) staff and our consultant have completed our review of the technical documents submitted in support of a secondary plan and development of the above-noted lands. The reports which have been reviewed are:

B) “Karst & Hydrogeologic Assessment, Ontario Realty Corporation Parcels E, F, G & H, Hamilton (Stoney Creek), Ontario, Volumes 1 and 2, May 2008”, prepared by Terra-Dynamics Consulting Inc.
C) “Preliminary Stormwater Management Report, ORC Parcels E, F, G and H, City of Hamilton (Stoney Creek), May 2008”, prepared by AJ Clarke and Associates Ltd.

In addition to the above, we note that several meetings with the ORC and your consultants have occurred over the last year and we certainly appreciate the opportunity to discuss many of our preliminary concerns in order to thoroughly examine all resource management issues pertaining to this potential development. As you are aware, the lands form part of the Feeder Area of the Eramosa Karst Area of Natural and Scientific Interest (ANSI) – a significant Earth Science area. In addition, these lands are situated immediately adjacent to the Core Area of the Eramosa Karst ANSI and 70 hectares of HCA lands acquired from the ORC. HCA staff review of these reports is in relation to the preservation of the significant Core Area of the Karst ANSI to ensure its longevity and viability for future generations to appreciate.
We have engaged the services of Karst Solutions (Marcus Buck) to assist with the technical review of the hydrological and geomorphological aspects of the submitted reports due to the highly specialized nature of understanding the dynamics of karst features. His expertise is reflected in this response.

The April 2003 Ministry of Natural Resources (MNR) report (Earth Science Inventory and Evaluation of the Eramosa Karst Areas of Natural and Scientific Interest) provides guidance to decision-makers on how best to manage the Eramosa Karst. It also recommends certain technical studies that are required as part of development within the karst and its three main subareas – Developed Area, Core Area, Feeder Area.

The MNR report recommends that several studies be undertaken in the Feeder Areas, in particular, should development proposals arise. These studies relate to ensuring that any new development does not adversely impact the ability of surface flows from the Feeder Area to continue to recharge the karst in the Core Area. The MNR report provides more detailed direction as follows,

“It is recommended that the Feeder Area be afforded a level of protection to ensure that:

1. the flows of the creeks into the Core Area are substantially maintained (i.e. stream discharge including low flow and high flow characteristics, and discharge response to runoff events),
2. water quality is improved (i.e. Primarily a reduction of sediment load, since the sediment load is currently quite high as a result of agriculture), and,
3. protective measures are employed to reduce the risk of contamination of surface streams by substances that would significantly impact the karst.”

To date, the HCA does not believe that the submitted reports have shown that the Feeder Area can be “afforded a level of protection” as stated in the MNR Report. It is with the goal to preserve the unique nature of this ANSI and to ensure that the Feeder Area and downstream Core Area are afforded the proper level of protection to meet the 3 development principles outlined above, that the following comments are offered for your consideration.

With respect to item A) on page 1 of this correspondence (the Environmental Impact Statement examining the aquatic and terrestrial features in the Feeder Area), we have no significant concerns with the study findings or interpretations. However, we request that a recently developed and newly implemented method of assessing headwater tributaries be undertaken to ensure significant aquatic systems in the Davis Creek are protected. This method is outlined in the “Evaluation, Classification & Management of Headwater Drainage Features: Interim Guidelines” and was developed by the Toronto and Region Conservation Authority. This document serves as the new standard promoted by the Province in assessing and managing headwater systems.

With respect to item B) on page 1 of this correspondence (Karst Hydrogeologic Assessment), the HCA has concerns with the lack of baseline data to properly assess the impact of development on the sensitive underground karst features in the Core Area of the ANSI. We also have concern with an overall assumption made that implies that the Eramosa Foundation beneath the Feeder Lands is not a karst aquifer. There is insufficient testing and well penetration to determine whether or not the bedrock beneath the lands is karstic. The hydraulic conductivity values calculated and used in the report are within the typical range exhibited by karstic aquifers. In addition, the water quality data from one
deeper well (MW-4) indicate good circulation as might be expected in a karstic aquifer. Should this assertion be maintained, the HCA would require further studies to substantiate this claim.

We have listed 8 matters that provide great concern to our agency regarding protection of the Core Area by ensuring an adequate level of protection to the Feeder Area. As well, we have identified the need for some additional studies.

1. **Streamflow Monitoring** - In order to better understand the impacts of changing flow regimes downstream in the Core Area of the Karst due to potential new development in the Feeder Area lands, it is necessary to conduct baseline stream flow monitoring for Nexus Creek and Stewart Creek in particular. This data has not been collected to date and the HCA requests that this be undertaken in order to ensure that principle 1 of development in the Feeder Lands as outlined in the MNR ANSI report be achieved (see page 2 of this correspondence).

As such, the following additional study is required:

- Streamflow monitoring at Nexus Creek and Stewart Creek for a minimum of one full year. The monitoring must capture at least one sizeable summer storm event and at least one spring runoff event with a return period of one year. Monitoring should be continuous with adequate flow measurements to calculate a rating curve for the entire range of flows observed.

2. **Spring Discharge Monitoring** – In order to ensure that development of the Feeder Lands does not have an adverse impact on the natural duration of discharge of the Olmsted, Nexus and Pottruff springs, it is necessary to determine the extent of the loss of infiltration from the Feeder Lands. As such, discharge monitoring of these springs is necessary to obtain baseline data from which to assess any impacts.

This requirement also relates to principle 1 of development in the Feeder Lands as outlined in the MNR ANSI report (see page 2 of this correspondence).

As such, the following additional study is required:

- Discharge monitoring at Olmsted, Nexus and Pottruff springs during the summer and fall for at least two seasons to determine whether or not these springs normally dry up for part of the year and, if so, for how long.

3. **Precipitation Monitoring** – Due to the unique nature of the Eramosa Karst ANSI, precipitation monitoring is necessary either on-site or very near to the ANSI. The nearest permanent weather station is located at Hamilton Airport, a distance of 10 kilometres away to the west-south-west. The data collected at the Airport is not close enough to the Karst to adequately reflect the local events that are significant to the current features of the Karst and cannot be used to reliably measure rainfall during summer storm events for the purpose of calibrating the hydrologic model for this unique area.

This requirement also relates to principle 1 of development in the Feeder Lands as outlined in the MNR ANSI report (see page 2 of this correspondence).
As such, the following additional study is required:

- Precipitation monitoring should be conducted either on-site or very near to the ANSI for a summer period in order to collect appropriate baseline data for use in the required hydrologic modelling.

4. **Surface Water Quality Monitoring** - The existing surface water quality data used in the report are for the period from February to early April 2008. Potential contaminants are most diluted by high snowmelt and runoff during the late winter and early spring. The report recommends additional water quality monitoring at the sinking streams, springs and groundwater wells. We concur. There should be sufficient seasonal sampling to ensure understanding of seasonal and short-term trends. This will enable a better assessment of contaminant levels throughout the year especially during drier weather when potential contaminants are least diluted by runoff. The parameters measured should include dissolved oxygen, nutrients, organic matter (DOC, particulate), bacteria (i.e., contaminants typical of urban runoff), and metals (i.e, contaminants typical of road runoff).

This requirement also relates to principle 2 of development in the Feeder Lands as outlined in the MNR ANSI report (see page 2 of this correspondence).

As such, the following additional study is required:

- Additional water quality data should be collected during in the late spring or early summer (during low flows), and again during late summer or early fall (very low flows) although sampling may be limited to Phoenix Creek, Pottruff Spring and Olmsted Spring since the other sites will likely be dry).

5. **Groundwater Quality** - The existing groundwater quality data from the dolostone bedrock are particularly limited. Three of the four wells only extend 1.5 m into the dolostone bedrock and well MW-4 only extends 4.6 m into the dolostone. Given the limited number and depth of the wells, the statistical probability of intersecting solutionally widened channels is low so the data may reflect matrix and fracture components of groundwater flow with little influence of channelized flow. Furthermore, there is no analysis of temporal or spatial variability within the wells with regards to water quality. In karstic bedrock (i.e, with continuous networks of solutionally enlarged channels), there can be significant variations in water chemistry with depth in a well, as well as seasonal fluctuations or even short-term variations induced by rainfall or snowmelt events. Groundwater quality cannot be adequately characterized from the available data.

Three of the four wells are probably too shallow to provide adequate data for the aquifer. However, specific conductance profiling in MW-4 conducted seasonally would permit an initial assessment of spatial and temporal variability. Based on those measurements, additional groundwater quality sampling should be planned to reflect any spatial or temporal variability in
that well. Continuous water level monitoring in MW-4 would also provide insight into groundwater fluxes in the aquifer.

This requirement also relates to principle 2 of development in the Feeder Lands as outlined in the MNR ANSI report (see page 2 of this correspondence).

As such, the following additional study is required:

- A comprehensive groundwater quality program is required with additional wells drilled throughout the thickness of the Eramosa Formation

6. **Risk of Contamination by Surface Streams** - An increase in nutrient loading within Nexus Creek as a result of urbanization of Parcel H has the potential to deplete O₂ and enrich CO₂ in the cave atmosphere at the downstream end of Nexus Cave (i.e., downstream from the Window Entrance), possibly creating a hazardous condition for cave visitors. The O₂ and CO₂ levels should be measured in the cave atmosphere in a series of measurements progressing downstream from the Window Entrance to the final sump. This will require specialized techniques to avoid measuring respiratory CO₂ from the people taking the measurements. Continuous data logging will not be possible because the downstream passage in the cave floods after heavy rainfall. weather or if the data suggest wide variations in CO₂ and/or O₂ concentrations. A

This requirement also relates to principle 3 of development in the Feeder Lands as outlined in the MNR ANSI report (see page 2 of this correspondence).

As such, the following additional study is required:

- To acquire sufficient baseline data to capture the most elevated CO₂ levels, at least 3 nutrient level measurements should be taken each year for at least 2 years. Within each year, the first set of measurements should follow a spring flood event when the cave atmosphere is displaced by flood waters. Subsequent measurements should be after extended dry weather to provide sufficient time for bacterial decay of organic matter within the cave. Monitoring for additional dry seasons may be necessary if there is unusually wet weather without extended periods of dry weather or if the data suggest wide variations in CO₂ and/or O₂ concentrations.

7. **Downstream Flooding** – As an agency with a mandate to protect both life and property from the adverse effects of flooding and erosion, there is concern that urbanization of the ORC lands may aggravate potential karst hazards above Nexus Cave in the Developed Area of the Eramosa Karst ANSI (e.g., at the Treetops townhouse complex).

As such, the following additional study is required:
The water level should be monitored at the downstream sump in Nexus Cave concurrently with the streamflow monitoring noted in Concern 1. on page 2 and 3 of this correspondence. The elevation of the Nexus Spring and the Window Entrance of Nexus Cave should also be accurately surveyed to permit accurate assessment of the water level data from the cave. If excessive flooding occurs in Nexus Cave, then the cause of the flooding should be investigated. Given the size of the cave, calculations indicate that flooding (i.e., a rise in head of more than 1 or 2 metres inside the cave) is most likely a result of the cave being blocked at the outlet. The current outlet is most likely only part of the original spring outlet for the cave. This suggests that the main portion of the natural outlet has been blocked, very likely as a result of the development of the site.

8. **Channel Erosion** - As an agency with a mandate to protect both life and property from the adverse effects of flooding and erosion, we note that observations from 2000 to 2003 indicate that there has been significant erosion of the channel beds along Phoenix Creek and Stewart Creek circa 2001, resulting in rapid downcutting and removal of the soil down to the bedrock surface. Furthermore, the occurrence of tree roots suspended above other reaches of these channels indicates accelerated rates of erosion over the past 20 to 40 years. These impacts occurred while the property was managed by the ORC.

As such, the following additional study is required:

- A fluvial geomorphology study should be conducted to document these recent impacts and why they may have occurred, and also to provide input into the design of SWM facilities to avoid further impacts. Consideration should also be given to restoration of the channels within the former agricultural lands using natural channel design principles (within the Eramosa Karst Conservation Area).

Please note that Karst Solutions has identified several other concerns that should also be considered. The HCA will forward Karst Solutions final report to the ORC when available. However, it is our belief that the aforementioned matters are the most significant and require additional studies. It is noted that the aforementioned assessments need to be undertaken over a longer period of time (one or two years depending on the study) or at specific seasonal times. Please be advised that even if these studies are undertaken, the HCA has serious concerns about whether or not development of these lands can be justified. The studies are required to satisfy some fundamental concerns with development of these lands to ensure that the Core Area features and functions can be preserved.

With respect to item C) on page 1 of this correspondence (Stormwater Management Report), we note that HCA staff provided preliminary comments on September 24, 2008 in order that some rudimentary concerns with the report could be considered prior to our karst specialist reviewing that report in detail. One major concern of the HCA and our consultant was that post-development flows would be substantially higher than pre-development flows according to the preliminary Stormwater Management Report. This is a highly unusual proposal and it is not in keeping with current Provincial Policy or Guidelines or with the development principles provided in the 2003 MNR ANSI Report (see page 2 of
this correspondence). We have discussed this matter and others in meetings with the ORC and your consultants and you have indicated that your storm water management consultant will be submitting a revised report in the near future to address several identified issues.

In light of the above storm water concerns, and the need for additional studies, the HCA will not be providing further comments on the preliminary storm water management report. We also believe that it is premature to provide comments on your upcoming storm water management submission as the other concerns and studies identified in this correspondence need to be addressed. To provide further comments on storm water management in the Feeder Lands at this time would indicate a presupposition that the results of the studies support development on-site.

We note that the City of Hamilton is updating its new Urban Official Plan and will be including the Eramosa Karst Core and Feeder Areas as part of its Natural Heritage System for the long term protection of the ANSI. The Mayor of the City of Hamilton, the Honorable Fred Eisenberger, has advised your office of this situation in his April 15, 2009 correspondence to the Minister of Energy and Infrastructure. The Mayor’s correspondence goes further to respectfully request that serious consideration be given to ensuring the preservation of the Feeder Lands through their incorporation into the Eramosa Karst Conservation Area.

In addition to the above, the HCA Board of Directors passed the following resolution on October 2nd, 2008:

BD 12, 1074 THAT the Hamilton Conservation Authority formally indicates to the Province of Ontario that the Eramosa Karst feeder lands are an important feature of the Eramosa Karst Conservation Area, and

THAT the Hamilton Conservation Authority formally supports the preservation of the remaining 80 acres of land from future development, and

FURTHER THAT the Hamilton Conservation Authority formally indicates to the Province of Ontario its willingness to assume ownership of the remaining 80 acres.

The Hamilton Conservation Authority formally advised the ORC of this resolution in our correspondence dated October 8, 2008 to your President and Chief Executive Officer. Please note that these resolutions and comments pertain to the preservation of the largest of the ORC parcels in the Feeder Area – Parcel H., although development concerns with some of the remaining parcels are still relevant.

You had enquired in our meeting of April 28th, 2009 if the HCA was interested in Parcel G. Please be advised that it is contiguous with the Eramosa Karst Conservation Area and the Conservation Authority would certainly be interested in accepting a donation of Parcel G to our agency.

As you know, Karst features are very sensitive to changes to groundwater and surface water flows amongst many other considerations. Therefore, HCA staff have very serious concerns over development of the Feeder Area with associated potential impacts on the Core Area. In light of the above and the outstanding technical concerns with potential development in the Feeder Lands of the Eramosa Karst ANSI, the Hamilton Conservation Authority respectfully requests the reconsideration of the ORC development plans in this area by preserving the Feeder lands in their natural state to ensure that there are no negative impacts on the Core Area.
Should you have any questions regarding the above, please feel free to contact me at extension 110 or Kathy Menyes, HCA Director of Watershed Planning & Engineering at extension 130.

Yours sincerely,

Steve Miazga
Chief Administrative Officer
Hamilton Conservation Authority

KJM/

Cc –
- City of Hamilton, Mayor’s Office
- City of Hamilton, Vanessa Grupe
- GSP Group, Eric Saulesleja
- AJ Clarke and Associates Ltd., Adi Irani
- Terra-Dynamics Consulting Inc., David Slaine
- Ecoplans Limited
- Karst Solutions, Marcus Buck
Report

TO: Hamilton Conservation Authority Board of Directors
FROM: Kathy Menyes, Director Watershed Planning & Engineering
DATE: March 3, 2010
RE: Ontario Realty Corporation – Class EA for Lands Adjacent to the Eramosa Karst – Environmental Study Report

STAFF RECOMMENDATION

THAT the Hamilton Conservation Authority Board of Directors request that the Minister of the Environment make an order for the Ontario Realty Corporation to comply with Part II of the Environmental Assessment Act which addresses individual environmental assessments for the ORC Lands Adjacent to the Eramosa Karst.

BACKGROUND

As the members are aware, the Ontario Realty Corporation (ORC) has been examining options to enhance the value of surplus provincial lands, located immediately adjacent to, and east of, the Eramosa Karst Conservation Area (EKCA), prior to disposition since 2007. The ORC has recently filed a “Planning Approvals and Environmental Assessment (EA) Study Notification of Completion of the Environmental Study Report (ESR) – Category C” on January 26th, 2010, with a public comment period until March 29, 2010.

The lands subject to this EA are known as parcels E, F, G and H and are illustrated on the attached map. A copy of the EKCA, highlighting Parcel H adjacent to it, is also attached as well as a map of the boundary of the Eramosa Karst Area of Natural and Scientific Interest (ANSI) taken from the Ministry of Natural Resources Eramosa Karst ANSI Report, dated, April 2003 for reference purposes.

Hamilton Conservation Authority staff, the City of Hamilton and other interested parties have been consulted with by the ORC over the possible development of this site since the ORC began this undertaking in 2007. HCA staff, and our hydrogeological consultant, has reviewed the supporting documents prepared by the consultants for the ORC as well, culminating in the attached formal correspondence to the ORC dated June 9, 2009. This
HCA correspondence outlines in detail serious concerns with the studies and assessments undertaken at that point in time. As well, the position of the HCA Board of Directors that the Eramosa Karst feeder lands be preserved in their current state and that the HCA is a willing recipient to assume ownership of these lands (being Parcel H on the attached map) is also conveyed through that correspondence. The HCA clearly indicated to the ORC in June of 2009 that development plans in this area should be reconsidered by the ORC to ensure that there would be no negative impacts to the Core Area of the Eramosa Karst ANSI, which is in the ownership of the HCA.

This report is respectfully submitted to the HCA Board of Directors at its request made at the Board meeting on February 4th, 2010, wherein HCA staff was asked to provide comments on the ORC’s Environmental Study Report for these lands as well as provide the results of consultation with City of Hamilton staff regarding this matter.

**STAFF COMMENT**

The attached June 2009 HCA correspondence details the need for additional studies to be undertaken in order to adequately assess whether or not development can be accommodated on Parcel H, in particular, without detrimentally impacting the Core Area of the Eramosa Karst ANSI – the Eramosa Karst Conservation Area. Those studies are listed as follows:

1. Stream Monitoring – for one full year
2. Spring Discharge Monitoring – for two years
3. Precipitation Monitoring – for one summer
4. Surface Water Quality Monitoring – for one year
5. Groundwater Quality Monitoring – ORC to develop a comprehensive groundwater quality monitoring program to satisfaction of HCA – period of time, unknown at this time
6. Monitoring of Contamination Risk by Surface Streams – for 2 years
7. Downstream Flooding Assessment – tied to Stream Monitoring in item 1., above – for one full year of monitoring and then assessment
8. Fluvial Geomorphology Study - period of time, unknown at this time

HCA staff also identified some significant concerns with the preliminary stormwater management assessment where our Karst specialist has clearly indicated that post-development flows should remain as they exist today in order to maintain the underground karst features as they are and to ensure proper flushing of the system. The preliminary stormwater management report undertaken for the ORC in 2008 recommended lower flows through the system. This matter has been the subject of much discussion between the ORC, their consultants, the City and the HCA for more than a year.

In response to the June 2009 HCA correspondence, the ORC through their consultant – Terra-Dynamics – responded to HCA concerns on September 3, 2009 and agreed to
undertake all of the additional monitoring, studies and assessments with the exception of
the comprehensive groundwater monitoring program and the fluvial geomorphology
study. The ORC has proposed another option for comprehensive groundwater
monitoring and believes that the fluvial geomorphology study can be undertaken at the
time of detailed stormwater management design.

HCA staff was pleased with the fact that the ORC had agreed to undertake additional
monitoring. But, HCA staff was also discouraged by the fact that some important
assessments were dismissed by the ORC and their consultants.

In addition, four (4) months after agreeing to undertake the above-noted multi-year
studies and monitoring programs, the ORC filed their formal Environmental Assessment
Study to support the disposition of the property for development purposes, with the
Ministry of the Environment.

The ORC’s EA is accompanied by a technical appendix report, which contains among
other things, the Environmental Impact Statement, by Ecoplans Limited, dated December
2009, the Stormwater Management Assessment Report, by A.J. Clarke and Associates
Ltd., dated December 2009 and the Karst & Hydrogeological Assessment, prepared by
Terra-Dynamics Consulting Inc. dated December 2009.

Preliminary review of the EA and accompanying technical documents does not indicate
any significant changes to the previous versions of these documents, which were the
subject of the HCA’s June 9, 2009 correspondence. As such, the principle of
development, on the lands east of the Eramosa Karst Conservation Area, has not been
established. The Environmentally Study Report is not complete as the additional
monitoring and studies that ORC is undertaking are not yet complete. The results of the
additional studies and monitoring must be assessed and considered by the ORC and their
consultants to determine that the core of the Eramosa Karst ANSI will not be
detrimentally affected by any development on the noted lands. As such, HCA staff
believes that it was premature for the ORC to formally submit a final Class
Environmental Assessment Study for the possible disposition of lands to the Ministry of
the Environment.

In light of the above, the only option available to the HCA at this time to prevent the sale
of the lands for development purposes is to formally request the Ministry of the
Environment to make an order for the Ontario Realty Corporation to comply with Part II
of the Environmental Assessment Act, which addresses individual environmental
assessments for the ORC Lands Adjacent to the Eramosa Karst. This is what is often
termed as a “Bump Up” request.
AGENCY COMMENTS

HCA staff met with City of Hamilton staff on March 1, 2010 to discuss preliminary comments and reviews of the subject Environmental Study Report, and accompanying technical reports, by our respective agencies.

City staff has similar concerns to the HCA and are in agreement with HCA staff that this submission by ORC is premature, as nothing has been presented to indicate that the Core of the Karst ANSI will not be adversely affected by development on the lands east of the EKCA. The City of Hamilton is also preparing to undertake a detailed Upper Davis Creek Subwatershed Study, which will examine, among other things, the flow of existing and projected stormwater through the upper Davis Creek system. The EKCA and the lands subject to the ORC’s EA are located within the Davis Creek subwatershed. The results of the subwatershed study will provide direction for the management of stormwater through the Karst ANSI lands with the goal to ensure that the Karst is not adversely affected by any upstream development. This study will address the stormwater flow concerns outlined earlier in this report. HCA staff concur that the results of this comprehensive, subwatershed and stormwater management study is vital to ensuring the long term protection of the Eramosa Karst ANSI.

We also note that the City of Hamilton has included the Eramosa Karst Core and Feeder Areas as part of its Natural Heritage System in the new Urban Official Plan to ensure the long term protection of the ANSI.

City of Hamilton Planning Staff indicated that they will be speaking to this EA at their upcoming Planning & Economic Development Meeting on March 23rd, 2010 and that the City staff recommendation will be to request a Part II Order of the Minister of the Environment on this Class EA.

LEGAL/FINANCIAL IMPLICATIONS

Not applicable.

CONCLUSIONS

HCA staff will be working in the coming weeks to prepare formal correspondence specifically outlining our concerns with the EA and its supporting documentation in order to properly support a request for a Part II Order of the Minister of the Environment. The HCA must submit that formal request by March 29th, 2010.

Our request for a Part II Order will benefit from the Board’s endorsement of this request. As such, HCA staff request that the Board endorse the resolution which accompanies this report.