NIAGARA PENINSULA CONSERVATION AUTHORITY

NIAGARA PENINSULA CONSERVATION AUTHORITY
FULL AUTHORITY

WELLAND **AGENDA** **JUNE 20, 2012 – 7:00 P.M.**

ROLL CALL

DECLARATION OF CONFLICT OF INTEREST

BUSINESS:

(1) MINUTES FULL AUTHORITY MEETING – MAY 16, 2012

Attached are the Minutes of the Full Authority Meeting held May 16, 2012.

DRAFT MINUTES NIAGARA REGION TREE AND FOREST CONSERVATUION BY-LAW

Attached are the Minutes of the Niagara Region Tree and Forest Conservation By-Law Advisory Committee held April 19, 2012.

(2) BUSINESS ARISING FROM MINUTES

(3) CORRESPONDENCE

Newspaper Article – Welland River Floodplain

(4) CHAIRMAN'S REMARKS

(5) CAO'S REMARKS

(6) PEER REVIEW - CENTRAL WELLAND RIVER FLOODPLAIN MAPPING STUDY REPORT NO. 31-12

Attached is Report No. 31-12 regarding this matter.

(7) WOODEND LIVING CAMPUS – REPORT NO. 32-12

Attached is Report No. 32-12, along with the Environmental Impact Study.

(8) BINBROOK RESERVOIR PFOS UPDATE – REPORT NO. 33-12

Attached is Report No. 33-12 regarding this matter.

(9) NPCA AUDIT SERVICES – REPORT NO. 34-12

Attached is Report No. 34-12 regarding selection of auditors.

(10) 2013 BUDGET SCHEDULE – REPORT NO. 35-12

Attached is Report No. 35-12 Budget Schedule and Review Committee.

(11) PROJECT STATUS REPORT – REPORT NO. 36-12

Attached is Report No. 36-12 regarding the Project Status Report.

(12) OTHER BUSINESS

(13) IN-CAMERA

(a) Tree By-law
(b) Violation Status
(c) Audit Services Proposals – Firm Names

SPA MEETING

(1) Minutes of the Source Protection Authority Meeting May 16, 2012
(2) Source Protection Plan and Explanatory Document – Report No. SPA 02-12

ADJOURNMENT

Floodplain changes limit residents

TIM HUDAK, MPP
Niagara West-Glanbrook

Sometimes you've got to make a lot of noise to be heard. Especially when it appears people aren't listening. This is often true with some government agencies.

A case in point is the issue of the floodplain of the Central Welland River. If you don't live in the floodplain you may not know much about this. But if you do, you know a lot – and you won't be happy. And if the Niagara Peninsula Conservation Authority (NPCA) has its way, you'll be joined by a lot more area residents.

As a home owner myself whose property was affected by the proposed expanded floodplain, let me share with you what this is all about: A floodplain is flat land beside a river, which can experience flooding during heavy rains, for example.

In 2009, the NPCA contracted a company to re-map the floodplain around the Central Welland River. The result was a plan to expand its size significantly, meaning more area residents would be subject to the restrictions forced on people when they live inside a floodplain.

For starters, you would need a permit from the NPCA– in addition to a municipal building permit– to construct a new building or change or replace an existing one. Or install a swimming pool, or a dock, or even a retaining wall or pond. There would be new rules for placing, removing or grading fill of any kind, from any source, including the disposal of unwanted material.

Being an environmental organization, the NPCA could demand anything from soil testing to hydrology graphs, and so on, before granting that permit.

I've received many emails, phone calls and other correspondence objecting to this stripping away of property rights with no notice.

Many of my constituents rightly feel that the NPCA "blindsided" them with the initial decision on this matter, and are angry that there was no consultation and that the NPCA failed to look at other alternatives. There is also concern that the NPCA has not properly demonstrated the need for the revised floodplain maps.

So recently, I met with Gerry Prentice, the chair of the Welland River Floodplain Association, a non-profit organization formed to raise awareness about the potential changes to floodplain maps along the Welland River. I congratulated Gerry and his team for their hard work.

I then wrote directly to the chair of the NPCA. A member of my constituency office staff was also dispatched to a community meeting in Wellandport attended by over 200 concerned residents.

Following a widespread public outcry to this decision, the board of the NPCA did agree to temporarily suspend the implementation of the new flood plain lines. Despite that, many people remain worried. And I understand why. That is why I wrote to the chair of the NPCA.

I believe that these types of decisions need to be made on the principles of good science, transparency and public input and notice. I also strongly believe that the NPCA must demonstrate a need for the changes they are proposing and show respect for the property rights of these owners.

The NPCA has announced plans to hold public meetings in June to discuss the expanded boundaries. I would encourage you to attend to learn more. You can also express your support for Gerry and his colleagues at the Association at wellandriverfloodplain@gmail.com.

Meanwhile, I know many of you agree with me that there is a role for environmental protection and conservation. But I've heard from my constituents that some people have got to get past the attitude that our communities are theme parks where no one lives– or needs to earn a living– and that they work for us, not the other way around.

HAVE YOUR SAY

The GLANBROOK GAZETTE welcome letters to the editor. Letters must contain the writer's full name, signature, address and telephone number. Addresses and telephone numbers will be used for verification purposes only and will not be published. Names will not be withheld. This newspaper reserves the right to edit, condense or reject any contribution for brevity or legal purposes. Copyright in letters and other materials submitted to the Publisher and accepted for publication remains with the author, but the Publisher and its licensees may freely reproduce them in print, electronic or other forms. Letters may be delivered to our office at 3 Sutherland St. W. Caledonia, Ontario, N3W 1C1; emailed to news@sachem.ca; or faxed to 905-765-3651.

NIAGARA PENINSULA CONSERVATION AUTHORITY

250 Thorold Road West, 3rd Floor, Welland, Ontario L3C 3W2
Telephone 905.788.3135 | Facsimile 905.788.1121 | www.npca.ca

TO: **The Chairman and Members of the Authority**

DATE: **June 20, 2012**

SUBJECT: **Peer Review – Central Welland River Floodplain Mapping Study – Report No. 31-12**

The purpose of this report is to request Board approval for funding to commission a Peer Review of the Central Welland River Floodplain Mapping Study as requested by the Welland River Flood Plain Review and Implementation Committee.

Board members will recall that updated flood levels for the Central Welland River where initially brought into effect in April of 2011. After working with a number of proponents in the affected area, in November of 2011, staff prepared Report No 61-11 which recommended adoption of an interim policy for those lands impacted by the updated flood lines. The interim policy was crafted in an effort to balance the needs of watershed residents with projects underway or near commencement, with the Authorities mandated responsibilities for prevention of property damage and public safety. A recommendation was also made to hold a number of open houses upon completion of the mapping for the balance of the Welland River. At that time, staff was directed to finalize the proposed draft policies. Subsequently at the January 2012 Board meeting, staff prepared Report No. 05-12 which, in response to public concerns, recommended conducting some additional analysis on the Central Welland River before moving forward with finalizing the modeling/mapping for the balance of the river system. The draft policy first presented in November of 2011 was also refined and provided for the Boards information. Staff also recommended that the status of the new flood lines in the Central Welland River be revised to that of “advisory” pending some additional analysis. The Board endorsed these recommendations and in addition, passed a related resolution from the floor to establish the Welland River Flood Plain Review and Implementation Committee.

Since that time, the Consultant has completed additional/confirmatory analysis requested and in April of 2012, a presentation of the results was made by the Consultant to the sub-Committee. Outstanding and minor revisions to the mapping will be finalized shortly.

To date, the Committee has met twice. The most recent meeting was held on May 23rd, 2012. At that meeting a number of matters where discussed and the minutes have been circulated under separate cover for the Boards information. One of the more significant matters discussed was the desire of the Committee to retain a firm to undertake a suitably qualified Consultant to undertake a peer review of the finalized Central Welland River Study. In this regard, staff drafted a Terms of Reference for this task which will be presented to the Committee for their review at their next meeting. In the interest of time, staff have also made some preliminary enquiries and believe that this exercise will cost approximately $ 25,000, which was not budgeted for 2012.

RECOMMENDATION:

That Report No. 31-12 regarding the Central Welland River Floodplain Mapping Study be received for information,

That an upset budget amount of $25,000 be approved to complete a peer review of the Central Welland River Floodplain Mapping Study, and,

That the budget for the peer review be funded from the Flood Protection Services reserve.

Prepared by: John Kukalis; Director, Water Management

Respectfully Submitted By: _____

Tony D'Amario, P. Eng.
Chief Administrative Officer/Secretary-Treasurer

NIAGARA PENINSULA CONSERVATION AUTHORITY

TO: **The Chairman and Members of the Authority**

DATE: **June 12, 2012**

SUBJECT: **Woodend Living Campus Project – Report No. 32-12**

Background:

The Conservation Authority Board provided conditional approval for the design and location of the Woodend Living Campus Project, subject to the completion of an Environmental Impact Study (EIS). The Board requested that the study be brought back for final approval.

Environmental Impact Statement

The District School Board of Niagara (DSBN) hired Genivar Inc. to prepare the EIS for The Living Campus Project. Conservation Authority staff worked with the DSBN and their consultants to developed a scoped terms of reference for the report. Since the site was already occupied by development, and existing NPCA resource inventories did not flag significant species, the EIS was scoped down to a tree preservation plan.
A tree preservation plan provides details on measures to protect trees around the construction site. Measures can include limit of work fencing, hoarding, pruning and other measures that prevent accidental damage to trees from the construction process. The Genivar report was circulated to the NPCA in mid-May, a copy of which is attached for information purposes.

Role of the NPCA and Peer Review

Under the Memorandum of Understanding with the Region, the NPCA reviews development applications and provides comments on the Region of Niagara's Environmental Policy. In this particular case, the Niagara Escarpment Commission will circulate the Development Permit Application to the NPCA for review and comment.
As a landowner, the NPCA would be in conflict if we provided comments about a project on NPCA property. The Region of Niagara Planning was consulted on the matter and agreed that a peer review of the Genivar Report would address the Regional Environmental Policy and provide the basis for a response to the NEC Permit Application.
The NPCA hired Colville Consulting Inc. to review the EIS. Their review is attached to this report.

Conclusion:

The peer review supports the findings and recommendations in the Genivar EIS Report. Both documents support the proposed design and location of the Living Campus development. The Colville review recommends additional measures in the tree preservation plan for three trees located outside the building footprint. Root pruning is a method of protecting trees whose root

zone may be impacted by construction activity. Colville Consulting recommends that the trees be pruned and monitored in an attempt to protect them.
Authority staff wish to discuss the proposed root pruning with both consultants in more detail. The success rate of root pruning in shallow soils is questionable, especially when construction activities will place further stress on the root zone. Should the trees in question need to be removed, Authority staff believe that the location would be ideal for the relocation of existing memorial trees on this site.

RECOMMENDATION:

That Report No. 32-12 regarding the Woodend Living Campus be received; and,
That the Conservation Authority Board approve the proposed building design and location.

Prepared by: Darcy B. Baker, Director-Land Management

Respectfully Submitted by: _____
Tony D'Amario, P. Eng., CAO/Secretary-Treasurer

Woodend Conservation Area
District School Board of Niagara
Niagara-on-the-Lake, Ontario

Environmental Impact Study

May 2012

Prepared for:
Doug Durant
District School Board of Niagara
191 Carlton Street
St. Catharines, Ontario
L2R 7P4

Prepared by:
GENIVAR Inc.
1091 Gorham Street, Suite 301
Newmarket, Ontario
L3Y 8X7

Project No. 121-13259-00

Distribution:
3 c Client
1 c File
1 c Electronic

GENIVAR

Project No. 121-13259-00

May 15, 2012

Doug Durant
District School Board of Niagara
191 Carlton Street
St. Catharines, Ontario
L2R 7P4

Re: Environmental Impact Study
Woodend Conservation Area - Outdoor Living Campus
District School Board of Niagara, Regional Municipality of Niagara, Ontario

Dear Mr. Durant:

An Environmental Impact Study (EIS) has been prepared for the proposed re-development of the Outdoor Living Campus at the Woodend Conservation Area, Regional Municipality of Niagara, Ontario. As requested, the study is comprised of a Species of Concern Inventory and a Tree Saving Plan. Please find the document attached for your review.

Based on the findings of this report we anticipate that if the proposed mitigative measures are implemented, the proposed development should have no negative impacts on the form or function of the identified natural heritage features located on the site.

Thank you for the opportunity to complete this assessment. Please contact the undersigned if you have any questions.

Yours truly,
GENIVAR Inc.

Dan Reeves, M.Sc.
Project Biologist

EAC:nah

1091 Gorham Street, Suite 301, Newmarket, Ontario L3Y 8X7
Telephone: 905-853-3303 · Fax: 905-853-1759 · www.genivar.com

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1. Introduction

GENIVAR Inc. (GENIVAR) was retained by the District School Board of Niagara to conduct an Environmental Impact Study for the re-development of the Outdoor Living Campus at the Woodend Conservation Area (WCA). The study area can be described as Part of Lot 1, Concession 10, Township of Grantham and Part of Lots 183 and 184, Township of Niagara, Regional Municipality of Niagara, Ontario. The WCA is a 40 hectare (98 acre) property that straddles the face of the escarpment and exists within a designated Escarpment Natural Area of the Niagara Escarpment Planning Area. Much of the WCA also lies within the Homer Escarpment, a regionally significant Life Science Area of Natural and Scientific Interest (ANSI-LS).

The District School Board of Niagara, in partnership with the Niagara Peninsula Conservation Authority (NPCA) who owns the property, is proposing to reconstruct two of the buildings which make up the Outdoor Living Campus at the WCA. The area of the proposed development exists in the northeast portion of the WCA and is herein referred to as "the Site". Refer to Figures 1 and 2 for site location details.

As indicated within the Request for Quotation document, a partial EIS composed of a Species of Concern Survey and Tree Saving Plan are required for the proposed development. As with any EIS, the purpose of this study is to identify the potential for long term significant negative impacts to natural heritage features or their ecological function. Mitigative measures to eliminate or reduce these impacts will also be provided.

2. Study Purpose and Environmental Context

2.1 The Greenbelt Plan

The Greenbelt Plan (Ontario, 2005) was developed to provide protection for designated agricultural lands and associated ecological features and functions. The Greenbelt Plan also identifies areas where development may not occur. The Woodend Conservation Area exists within the Niagara Escarpment Plan Area of the Greenbelt Plan Area.

2.2 Niagara Escarpment Plan

The Niagara Escarpment Plan (NEP) was established under the Niagara Escarpment Planning and Development Act by the Ontario Government in 2005 to provide direction for land use and resource management to ensure that development on the Niagara Escarpment and adjacent lands is compatible with the natural environment. The Plan recognizes seven land use designations on the Escarpment, including Escarpment Natural Area, Escarpment Protection Area, Escarpment Rural Area, Minor Urban Centre, Urban Area, Escarpment Recreation Area and Mineral Resource Extraction Area. These seven areas are subject to different land uses as outlined in Part 1 of the NEP and are subject to different provisions within the Plan.

The subject property exists entirely within the Niagara Escarpment Planning Area and is designated within the NEP as an Escarpment Natural Area, as well as a part of the Niagara Escarpment Public Open Space System (NEPOSS) (Niagara Escarpment Commission, 2012).

2.3 Official Plan Documents

The Regional Municipality of Niagara Planning Policy (2010) document is a set of policies used to help guide economic, environmental and community-building decisions affecting the use of land within the Region. Section 7 of the Regional Planning Policy specifies policies as they relate to natural resources and environmental areas. A review of the Core Natural Heritage Map indicates that the Site is located within a designated Environmental Conservation Area, which forms part of the Core Natural Heritage System, and is also located within a Potential Natural Heritage Corridor. As outlined within Section 7.B.1.11 of the Planning Policy document applications for development and/or site alteration within Environmental Conservation Areas require the completion of an Environmental Impact Study (EIS) to ensure that there will be no significant negative impacts to the Core Natural Heritage System components over the long-term. For the purpose of this study, the EIS must meet the requirements outlined within Section 7.B.2 and must be completed to the satisfaction of the Region, in consultation with the Town of Niagara-on-the-Lake and the NPCA.

The policies outlined within the Town of Niagara-on-the-Lake Official Plan (2004) provide specific direction for development within the unique agricultural and urban areas within the Town. The subject site falls completely within the bounds of the Niagara Escarpment Plan Area and as such, development is governed by the policies outlined within the NEP.

2.4 Information Resources

A list of information resources consulted over the course of this study and report preparation are provided below. References for publications used in this report are provided in the Literature Cited Section.

- Regional Municipality of Niagara Policy Plan and Maps (2010);
- Town of Niagara-on-the-Lake Official Plan and Schedules (2004);
- Regional Municipality of Niagara Tree and Forest Conservation By-Law (2008);
- Niagara Escarpment Plan (2005);
- Niagara Peninsula Conservation Authority;
- Niagara Peninsula Conservation Authority Land Use Policy Planning Document (2011);
- Natural Heritage Information Centre (NHIC) Mapping and Databases (OMNR, 2010a);
- Land Information Ontario (LIO) Mapping Resources (OMNR, 2010b);
- Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (OMNR, 2010c);
- Significant Wildlife Habitat Technical Guide (OMNR, 2000);
- Satellite Photographs;
- Species At Risk in Ontario (SARO) List;
- Species at Risk Public Registry, and
- Committee on the Status of Endangered Wildlife in Ontario (COSEWIC) Status Reports.

3. Site Description

The Woodend Conservation Area is located east of Taylor Road, north of Warner Road and southwest of the Queen Elizabeth Way (QEW) Highway in the Town of Niagara-on-the-Lake. Refer to Figure 1. This forested 40 hectare property straddles the face of the escarpment and is marked by a network of trails, some of which are part of the Bruce Trail system. The northeast end of the property, adjacent to the QEW, houses several buildings which serve as an outdoor environmental education centre for the District School Board of Niagara. A manicured lawn, meadow and parking lot exist approximately 50 m southwest of the education centre. Aside from these areas, the entire Conservation Area overlaps with the Homer Escarpment regionally significant Life Science ANSI. The Homer Escarpment is an escarpment promontory with slopes up to 45 m high dominated by mature Sugar Maple (*Acer saccharum*), Red Oak (*Quercus rubra*) and White Oak (*Quercus alba*) forests. Some trees are thought to be in excess of 100 years old (OMNR, 2010a).

Current development on the property consists of three buildings, a circular gravel driveway and manicured gardens and courtyards. These buildings are perched on the edge of the escarpment promontory and overlook the QEW to the northeast. Land on the top of the escarpment in the area of the proposed development is relatively flat. Refer to Figure 2 for additional site details.

4. Proposed Development

It is understood that approval is sought to reconstruct two buildings within the Woodend Conservation Area. The Thomson House, a former residence originally built in the early 1800's, will remain in its present condition while the existing office and garage/outdoor classroom will be torn down to permit reconstruction. The new buildings will consist of an outdoor classroom (106.2 m^2; 1,143 sq ft) and a school house (509.2 m^2; 5,481 sq ft). Due to the location and dimensions of the new building footprints, some trees may have to be removed to accommodate the new buildings. A driveway expansion and walkways to service the new buildings are also proposed.

5. Field Investigation

Prior to the site visit, satellite images of the property, land use and topographical maps were reviewed to identify the presence of natural heritage features, available habitat and the potential for species of conservation concern on the Site. The Natural Heritage Information Centre (NHIC) database (OMNR, 2010a) was searched for records of Species at Risk, Significant Plant Communities, Wildlife Concentration Areas and Areas of Natural and Scientific Interest (ANSI) on or near the Site. Refer to Appendix A for results.

Site visits were conducted on April 13 and April 29, 2012 to document the presence of dominant vascular plants, investigate the presence of rare or endangered species or their habitats and to complete an inventory of trees within the area of influence of the proposed development. Bird surveys were conducted before 10 o'clock in the morning on both days. A complete list of vegetation species and wildlife observed on the Site is provided in Appendix B.

6. Species of Conservation Concern

Species of Conservation Concern generally include the groups listed below:

- Species defined as vulnerable, threatened, endangered, extirpated or extinct in Ontario;
- Species that are listed as rare or historical in Ontario based on records kept by the NHIC;
- Species whose populations are known to be experiencing significant declines in Ontario; and
- Species that have a high percentage of their global population in Ontario and are rare or uncommon in the subject area.

An assessment of the presence of species of conservation concern with the potential to be in the vicinity of the Site is provided below.

6.1 Background Information

Endangered, rare, or threatened species are species that are provincially rare and are designated as S1 to S3 under ranking protocols used by the OMNR Natural Heritage Information Centre (NHIC). It also includes those groups identified as special concern, threatened or endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO), and the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

As part of a desktop review, a search of the NHIC database (2010c) was conducted to determine the existence and approximate location of recorded occurrences of species at risk in the study area. Four (4), one square kilometer quadrats (17PH47_98-99 and 17PH57_08-09) surrounding the Site were checked to ensure potential species at risk were accounted for during field surveys. Known element occurrences for thirty-three (33) species were recorded within the search area. Of these 33 species, eight (8) are listed by COSSARO and COSEWIC. Only two of the element occurrences represent records for species that have been verified as extant (E) within the area. The other 31 element occurrences have been assigned historical (H) or extirpated (X) element occurrence ranks suggesting the species has not been observed in the area in over 40 years. In the case of species with extirpated ranks, evidence suggests that the species is no longer in the area, or the species' habitat has been destroyed to the extent that it can no longer support the species.

The date of last recorded occurrence, element occurrence rank, global (GRank) and provincial (SRank) conservation ranks, and provincial (SARO) and national (COSEWIC) at-risk status are provided in Table 1 for species uncovered in the NHIC search. Refer to Appendix A for species details.

In addition to the species of conservation concern documented within the NHIC database, several species of concern were identified by the Niagara Peninsula Conservation Authority (NPCA) for their potential to exist on or within 30 m of the Site. A site visit was conducted by the NPCA on June 16, 2011 to assess the proposed building footprint with respect to the natural heritage features and flora and fauna on the Site. It was recommended that the following species and their habitats be included in the species of concern survey: Redbud (*Cercis canadensis*), Interior Sedge (*Carex interior*), Tufted Titmouse (*Baeolophus bicolor*), Eastern Mole (*Scalopus aquaticus*) and Yellow-breasted Chat. The Eastern Mole is listed as a species of Special Concern on the SARO and COSEWIC lists, whereas, Redbud and Interior Sedge are not considered at-risk species, though are considered rare within the Niagara Region. Yellow-breasted Chat have been recorded within the area; however, NHIC records suggest that the last recorded

Table 1 Endangered, Rare and Threatened Species Occurrences based on NHIC Results

Species Name	Scientific Name	Last recorded occurrence[1]	EO Rank	COSEWIC[1]	SARO[2]	GRank[3]	SRank[3]
Biennial Gaura	*Oenothera gaura*	2004	E	-	-	G5	S3
Big-rooted Morning Glory	*Ipomoea pandurata*	1902	H	-	-	G5	S1
Bird's-foot Violet	*Viola pedata*	1906	X	END	END	G5	S1
Cherry Birch	*Betula lenta*	1969	H	END	END	G5	S1
Common Five-lined Skink*	*Plestiodon fasciatus*	1938	X	END	END	G5T2	S2
Cucumber Tree	*Magnolia acuminata*	1952	X	END	END	G5	S2
Downy Yellow False Foxglove	*Aureolaria virginica*	1945	X	-	-	G5	S1
Dunbar's Hawthorn	*Crataegus beata*	n/a	E	-	-	G2G4Q	S1
Erect Knotweed	*Polygonum erectum*	1895	X	-	-	G5	SH
Fairywand	*Chamaelirium luteum*	1897	X	-	-	G5	SX
Hairy Small-leaved Tick-trefoil	*Desmodium ciliare*	1887	X	-	-	G5	SX
Northern Bobwhite	*Colinus virginianus*	1900	X	END	END	G5	S1
Northern Hawthorn	*Crataegus dissona*	1982	H	-	-	G4G5	S3
Panicled Hawkweed	*Hieracium paniculatum*	1897	H	-	-	G5	S2?
Pawpaw	*Asimina triloba*	1984	H	-	-	G5	S3
Perfoliate Bellwort	*Uvularia perfoliata*	1937	X	-	-	G5	S1
Prostrate Tick-trefoil	*Desmodium rotundifolium*	1906	H	-	-	G5	S2
Redside Dace	*Clinostomus elongatus*	1960	H	END	END	G3G4	S2
Round-leaved Yellow Violet	*Viola rotundifolia*	1892	X	-	-	G5	SH
Scarlet Beebalm	*Monarda didyma*	1904	H	-	-	G5	S3
Sharp-fruited Rush	*Juncus acuminatus*	1901	H	-	-	G5	S3
Shiny Wedge Grass	*Sphenopholis nitida*	1892	X	-	-	G5	S1
Slim-flowered Muhly	*Muhlenbergia tenuiflora*	1948	H	-	-	G5	S2
Smith's Bulrush	*Schoenoplectus smithii*	1896	X	-	-	G5?	S3
Southern Slender Ladies'-tresses	*Spiranthes lacera var. gracilis*	1896	X	-	-	G5T4T5	S1
Stiff Gentian	*Gentianella quinquefolia*	1984	X	-	-	G5	S2
Stiff Yellow Flax	*Linum medium* var. *medium*	1877	H	-	-	G5T3T4	S3?
Sundial Lupine	*Lupinus perennis*	1971	H	-	-	G5	S3
Timber Rattlesnake	*Crotalus horridus*	1941	X	EXP	EXP	G4	SX
Waxy-fruit Hawthorn	*Crataegus formosa*	1977	H	-	-	G2G3Q	S2
Woodland Flax	*Linum virginianum*	1897	H	-	-	G4G5	S2
Yellow False-indigo	*Baptisia tinctoria*	1891	H	-	-	G5	S2
Yellow-breasted Chat	*Icteria virens*	1962	H	SC	SC	G5	S2B

[1] Committee on the Status of Endangered Wildlife in Canada; [2] Species at Risk in Ontario Status; END – Endangered, THR – Threatened, SC – Special concern, '-' – Not Listed; [3] Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 – Secure, GNA – Not Applicable, Q – Taxonomic status is questionable, T – Subspecies rank and X – Extinct; and * Carolinian population (population 1).

occurrence was in 1962 (refer to Table 1 and Appendix A). The Tufted Titmouse is common within Ontario and relies on cavities in mature trees for nesting. The key findings of the NPCA assessment are summarized within a memorandum provided in Appendix C.

6.2 Biophysical Inventories/Observations

Surveys for both floral and faunal species of conservation concern were conducted on and adjacent to the Site as part of the site investigation. Refer to Figure 3 for detailed information regarding the area surveyed and the results of the field investigation. A record of species encountered on the Site is provided in Appendix B. Given the timing of the site investigation, late spring, summer and fall plant and wildlife species may have been missed. As such, the species lists provided may not be comprehensive for this Site.

6.2.1 Bird Populations

The Ontario Breeding Bird Atlas highest breeding evidence data was consulted to determine if there were any rare or endangered species recorded within the study area. The Atlas uses 100 km by 100 km blocks, then further to 10 km by 10 km squares to compartmentalize geographical areas. The proposed development site lies within the 10 km by 10 km squares identified as 17PH47 and 17PH57. There were ten (10) species known to exist within the 10 km by 10 km area that are identified as species at risk on the COSEWIC and SARO Lists. The species are provided in Table 2 below along with an assessment of their potential to be on the Site given their habitat preferences. These species were given special emphasis for their potential presence during the field visits.

Table 2 Bird Species at Risk Potential Habitat Assessment

Species	SARO	COSEWIC	Assessment	Habitat Potential	Field Observations
Acadian Flycatcher	END	END	The species is a habitat specialist and requires large tracts of forest interior in mature deciduous forests with an open understory. Territories are often close to streams, vernal pools or other water features.	Low on Site; moderate within WCA	Species not observed
Barn Swallow	THR	THR	The species originally nested in caves, holes, crevices and ledges on rocky cliff faces, but is now more commonly found nesting on artificial structures such as barns, buildings, bridges, etc. that are close to open habitats.	Low to moderate	Observed flying over the Site
Bobolink	THR	THR	The species build nests on the ground in dense grasses such as hayfields.	Low; limited potential in adjacent meadow	Species not observed
Chimney Swift	THR	THR	The species feeds in flocks around water bodies due to the large amount of insects present. Nesting occurs in large, hollow trees or in the chimneys of houses in urban and rural areas.	Moderate; chimneys on Thomson House	Species not observed
Common Nighthawk	SC	THR	The species nests in areas with little to no ground vegetation, such as logged or burned-over areas, forest clearing, rock barrens, etc.	Low	Species not observed

Species	SARO	COSEWIC	Assessment	Habitat Potential	Field Observations
Eastern Meadowlark	THR	THR	The species prefers native grasslands, pastures and savannahs though will use a variety of other grassland habitats such as hayfields, weedy meadows, etc.	Low on Site; limited potential in adjacent meadows	Species not observed
Hooded Warbler	SC	THR	The species prefers interiors of large upland tracts of mature deciduous and mixed forest with patches of dense understory shrubs.	Low on Site; moderate in adjacent woodland	Species not observed
Least Bittern	THR	THR	The species breeds in stable marshes with emergent vegetation, such as cattails, and areas with open water. They are typically found in large, quiet marshes.	Low	Species not observed
Peregrine Falcon	THR	SC	This species nests on tall, steep cliff ledges adjacent to large waterbodies, but has adapted to ledges of tall buildings in some urban areas.	Low potential on Site; limited potential on escarpment	Species not observed
Red-headed Woodpecker	SC	THR	The species lives in open woodlands and woodland edges, especially in oak savannah and riparian forest, where dead trees are used for nesting and perching.	Moderate	Species not observed

Observations of bird species present on the Site were recorded during each field visit and were based on call and visual identification. Thirty-five (35) bird species were observed on the Site. A single species at risk, Barn Swallow (*Hirundo rustica*), was observed flying over the Site. Surveys were conducted before all migratory species had returned to Southern Ontario, so it is not possible to confirm whether some species at risk, including the Yellow-breasted Chat and Chimney Swift, are using the Site. A complete list of bird species observed on the Site is provided in Appendix B.

6.2.2 Wildlife

Visual observations of incidental wildlife were recorded during each of the field visits. Wildlife observations were based on incidental contact, scat evidence, and tracks. There were no mammal or heprtile species at risk observed on the Site. Three snakes were observed northwest of the Site within the woodland; however, one snake could not be identified due to limited observation time. The other two snakes were identified as an Eastern Garter Snake (*Thamnophis sirtalis sirtalis*) and a DeKay's Brown Snake (*Storeria dekayii*). Refer to Figure 3 for location information and Appendix B for a list of all incidental wildlife observations on the Site.

6.2.3 Vegetation

A general survey of vegetation present on the site was conducted, with emphasis directed towards areas that may provide suitable habitat for the species of concern. In particular, efforts were made to locate a patch of Interior Sedge that is thought to exist within the woodland west and northwest of the development zone. The woodland surrounding the existing buildings was dominated by mature White Oak, Red Oak and Sugar Maple, with occasional Black Cherry (*Prunus serotina*), Ironwood (*Ostrya virginiana*), Basswood (*Tilia americana*) and White Ash (*Fraxinus americana*). At the time of the site visits, early spring herbaceous plants including Yellow Trout Lily (*Erythronium americanum*), Wild Leek (*Allium tricoccum*), Early Meadow-rue (*Thalictrum dioicum*) and Carolina Spring Beauty (*Claytonia caroliniana*)

were common ground plants within the woodland. Choke Cherry (*Prunus virginiana*), Wild Red Raspberry (*Rubus idaeus*), Rose (*Rosa* sp.), White Ash and Hawthorn (*Craetaegus* sp.) dominated the understory. Non-native species, including Common Buckthorn (*Rhamnus cathartica*), Garlic Mustard (*Alliaria petiolata*), Greater Celandine (*Chelidonium majus*) and Lesser Celandine (*Ranunculus ficaria*) were also common, particularly within the woodland fringe adjacent to the existing development. Additional plant species observed on the Site are provided in Appendix B.

Two sedge species were located within the woodland northwest of the development area; however, it was too early in the season to determine if either species is the Interior Sedge. Approximate locations of both sedges are depicted in Figure 3.

Occurrences of note include two Redbuds (regionally rare in Niagara Region) and one Tulip Tree (*Liriodendron tulipifera*). All three trees exist within the courtyards and gardens surrounding the existing buildings on the Site and are identified on Figure 3 and within the tree inventory. There were no other species of conservation concern observed during the vegetation survey.

6.3 Impact Assessment and Mitigation Measures

The survey for species of concern focused on both floral and faunal species identified as having the potential to exist on the Site. A single Barn Swallow was observed flying over the Site; however, there were no other species of conservation concern observed. The potential for impacts to wildlife and vegetation adjacent to the proposed development is expected to be greatest during the demolition and construction phases of the project. In order to ensure that impacts to wildlife and the ecological function of the surrounding natural area / ANSI are minimized the following mitigative measures are recommended.

- To reduce the potential for impacts to breeding birds in the area, removal of vegetation should occur outside of the nesting season between May 1 and July 15 in accordance with the Migratory Birds Convention Act (1994).

- Exclusion fencing should be installed around the construction area to prevent entry by small mammals, amphibians and reptiles thereby reducing the potential for negative impacts to wildlife in the area. This fencing will provide additional protection for the surrounding woodland and existing wildlife habitat by preventing direct physical damage.

- Soil removed during the demolition and construction phases should not be placed in the surrounding natural area, or should be sterilized prior to placement to prevent the spread of invasive species. All other materials should be stored in designated staging areas.

7. Tree Saving Plan

As part of the application process, the Regional Municipality of Niagara requires the completion of a Tree Saving Plan for development or site alteration within the Core Natural Heritage System. This Tree Saving Plan must be conducted in accordance with the Regional Forest Conservation By-law (2008) and the local tree conservation by-law, as appropriate. Policies related to the care and maintenance of trees on private property within the Town of Niagara-on-the-Lake fall under the Regional Tree By-Law.

7.1 Tree Inventory and Assessment

The tree inventory was completed by Erin Corstorphine, M.Sc., and James Dennis, M.Sc.F, ISA Certified Arborist, on April 13 and April 29, 2012. Due to the timing of the study, species identification was based primarily on bud and bark patterns. General tree condition was also assessed based on observations of accepted tree health conditions (live buds, dead tissues, structural defects, presence of disease, etc.). Trees greater than or equal to 10 cm in diameter at breast height (dbh) were tagged with numbered steel tags, photographed and assessed. Tree locations were obtained from the Site Plan prepared by MacDonald Zuberec Ensslen Architects Inc. based on a plan of survey conducted at the subject property on February 27, 2012 (MZE Architects Inc., 2012). Driplines for trees immediately adjacent to the development were also measured and are reflected on Figures 4 through 6.

A total of 129 trees were surveyed on the Site. Dominant species included Red Oak, White Oak and Sugar Maple, with occasional White Ash (*Fraxinus americana*), Ironwood (*Ostrya virginiana*) and Hickory (*Carya* spp.). Approximately 90% of the trees surveyed were in fair to good condition, with the majority of the trees (65%) in good condition with few dead branches, no evidence of disease or structural defects. There were no endangered or threatened tree species at risk identified on the Site. Figure 4 depicts the location of each tree with respect to the existing development. Species identification, condition and dbh for each tree surveyed are available in Appendix D.

Several small cavities were observed in trees on the Site; a small cavity exists in the branch of a Red Oak (Tag No. 605) and a small ground cavity exists at the base of a Sugar Maple (Tag No. 604). Another Red Oak (Tag No. 609) has a small cavity approximately 20 to 30 cm above the base of tree and may act as an escape cavity. All trees are in good condition and given the size of these cavities, habitat use would likely be restricted to song birds or small mammals. Given their location, these trees are not likely to be impacted by the development.

7.2 Recommendations

The recommendations provided within this report are based on general tree conditions and a review of the proposed site plan. It will be necessary to remove a total of six (6) mature trees (Tag nos. 651 to 657 and 660) to permit the construction of the proposed school house building. While relatively healthy, with conditions ranging from fair-poor to good, these trees are located within or immediately adjacent to the proposed development. Removal is recommended for four (4) trees that overlap directly with the proposed building footprint, and two (2) trees that are not likely to survive following the root loss and trauma associated with the development. Justifications for removal are summarized within Table 3 below. In addition, three saplings that overlap with the school house building footprint will be relocated elsewhere on the property. Refer to Figure 5 for location information regarding trees slated for removal and relocation.

It is also recommended that a dead tree (Tag No. 653) adjacent to the development be removed during site preparation. Given its location in the courtyard, it is unlikely to provide significant value as wildlife habitat and may become a hazard to people and property. The remaining trees are marked for preservation. Tree removal should take place outside of the migratory bird nesting season from May 1 to July 15 in order to satisfy the requirements of the Migratory Bird Convention Act (1994).

In compensation for the removal of the six (6) mature native trees to permit the proposed development, it is recommended that a minimum of 18 native trees or shrubs be planted on the property. Details of this planting plan are provided in Section 7.3.2 below.

Table 3 Assessment of Trees Marked for Removal

Tag No.	Species	dbh (cm)	Condition	Justification for Removal
651, 652	White Ash	24, 18 (split trunk)	Good	High root loss expected given proximity to development; Emerald Ash Borer affected trees on Site; low survivability expected
653	White Oak	57	Dead	Presents potential hazard in high traffic area
654	Sugar Maple	20	Good	Direct overlap with proposed building footprint
655	White Oak	77	Fair	Direct overlap with proposed building footprint
656	Sugar Maple	47	Fair-Poor	Direct overlap with proposed building footprint
657	White Oak	81	Fair-Good	Direct overlap with proposed building footprint
660	Red Oak	79	Fair	High root loss expected due to proximity to development; due to age and current condition low survivability expected

7.3 Tree Preservation and Protection Measures

7.3.1 Impact Mitigation and Protection Measures

The Regional Municipality of Niagara By-law No. 30-2008 promotes the use of good forestry practices for the preservation and improvement of woodlands in the Region. A tree saving plan prepared in accordance with the By-Law must be included in applications for development or site alteration within the Core Natural Heritage System. Tree preservation and protection measures outlined within this report incorporate best management practices.

In order to minimize negative impacts to the remaining trees during all stages of construction, the following general mitigative measures are proposed:

- Root pruning should be conducted for trees immediately adjacent to the development to reduce the potential for direct damage to active roots and to ensure the health, stability and longevity of the tree. By pruning the roots prior to construction the potential for infection is minimized and healthy re-growth of new roots is encouraged. It is recommended that root pruning be conducted during the fall when transpiration and the movement of fluids through the roots have slowed. Recommended distances for root pruning are based on individual tree driplines and are depicted on Figure 6.

- A tree protection zone around trees to be retained must be established. Within the tree protection zone(s), the following activities are prohibited: construction; altering of grade by adding or removing fill; storage of any material; disposal of any liquids; vehicular or pedestrian traffic; parking. Directional micro-tunneling will be permitted within the tree protection zone where identified.

- In order to protect the trees marked for retention, tree protection fencing (hoarding) should be installed following root pruning and before any construction on the site begins. Hoarding should

be removed after the threat of physical damage has ceased. All supports and bracing used to secure the barriers should be placed outside the tree protection zones and should be installed in a way that minimizes root damage.

- To reduce the potential for soil compaction around the trees, a 30 cm of coarse mulch should be laid down along the access route(s) to the construction site.

The tree protection zones (TPZs) will be identified on-site by tree protection fencing or hoarding. Hoarding should be placed between the development and trees immediately adjacent to the construction zone. It is recommended that hoarding consist of either plywood panels on scaffold poles, or orange plastic fencing framed with a solid top and bottom. These barriers will protect the trees from physical damage and will reduce the potential for soil compaction in the root zone by prohibiting the operation of heavy equipment adjacent to the trees. Suggested tree protection zones were determined using best management practices and are depicted in Figure 6.

7.3.2 Planting Plan

In compensation for the removal of six (6) mature native trees to permit the proposed development, it is recommended that a minimum of 18 native trees or shrubs be planted on the property. To ensure survivability of the newly planted plants, the following measures are proposed:

- Plantings should be done by hand to reduce mechanical compact of soils and damage to existing vegetation. Planting should be performed by a qualified and knowledgeable tree planter to ensure plantings are placed in suitable sun exposures and moisture regimes.

- Plantings should be completed in spring to ensure maximum survivability. The area should be monitored regularly to ensure the plantings are continuing to thrive. Dead plantings should be replaced with other appropriate, native species to ensure future forest sustainability.

Given the existing site conditions, composition of the surrounding natural area and good forestry practices trees and shrubs from appropriate, native species have been provided in Table 4 below. Planting of a minimum of 18 individual trees or shrubs from this list is recommended.

Table 4 Planting Plan Proposed Species

Common Name	Species	Preferred Moisture Regime	Growing Conditions
Sugar Maple	*Acer saccharum*	Grows best on deep, moist, well-drained soils	Full sun to shade; very shade tolerant
Red Oak	*Quercus rubra*	All regimes	Full sun; moderately shad tolerant when young
White Oak	*Quercus alba*	All regimes	Full sun to partial shade; moderately shade tolerant
Black Cherry	*Prunus serotina*	Grows well on a wide variety of soils	Full sun; shade intolerant
Ironwood	*Ostrya virginiana*	Grows well in well-drained soils	Partial sun to shade; very shade tolerant
Choke Cherry	*Prunus virginiana*	Grows well in rich, moist soils	Full sun to partial shade

8. Conclusions and Recommendations

The District School Board of Niagara in partnership with the Niagara Peninsula Conservation Authority is proposing to re-construct two buildings at the Woodend Conservation Area. These new buildings will be part of the proposed Walker Living Campus and will provide improved facilities for continued environmental education as a school house and outdoor classroom. These new buildings have a total development footprint of 615.4 m^2 (6,624.11 sq ft). The new development will also include alterations to the existing gravel driveway and walkways on the campus.

The following conclusions and recommendations are provided based on the study findings presented in this report:

- The Site is located within a designated Escarpment Natural Area of the Niagara Escarpment Planning Area. It is also located in the Woodend Conservation Area and the Homer Escarpment regionally significant Life Science ANSI. To reduce the potential for negative impacts to the ANSI /escarpment installation of work fencing between the development zone and this natural feature is recommended.

- A single Barn Swallow (Threatened on the SARO and COSEWIC lists) was observed flying over the Site. There were no other species of conservation concern observed on the Site during GENIVAR's site visits. General mitigation measures to protect wildlife and the ecological functions of the surrounding natural area are provided in Section 6.3. These mitigation measures should be reviewed and appropriately implemented.

- The proposed development requires the removal of six (6) live trees and one (1) dead tree (Tag nos. 651 to 657 and 660) within the currently developed area of the Site. To ensure conformity with the Regional Forest Conservation By-law (2008), and to demonstrate that there will be no negative impacts on the remaining trees, the mitigative measures identified within the Tree Saving Plan (Section 7.3) of this report should be reviewed and appropriately implemented. In addition, trees should not be removed during the bird nesting season between May 1 and July 15 in accordance with the Migratory Birds Convention Act (1994).

Based on the findings outlined within this report, GENIVAR anticipates that the proposed undertaking will not have a significant negative impact on wildlife or their habitat and the form and function of the surrounding woodland/ANSI, provided the recommended mitigative measures are appropriately implemented.

9. Closure

This report has been prepared by GENIVAR Inc. The assessment represents the conditions at the subject property only at the time of the assessment, and is based on the information referenced and contained in the report. The conclusions presented herein respecting current conditions represent the best judgment of the assessors based on current environmental standards. GENIVAR Inc. attests that to the best of our knowledge, the information presented in this report is accurate. The use of this report for other projects without written permission of District School Board of Niagara, Niagara Peninsula Conservation Authority and GENIVAR Inc. is solely at the user's own risk.

Thank you for the opportunity to complete this report. We trust that this information is satisfactory for your current requirements. Please contact us if we can be of further assistance.

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GENIVAR Inc.

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Biologist

Reviewed by:

Dan Reeves, M.Sc.
Project Biologist

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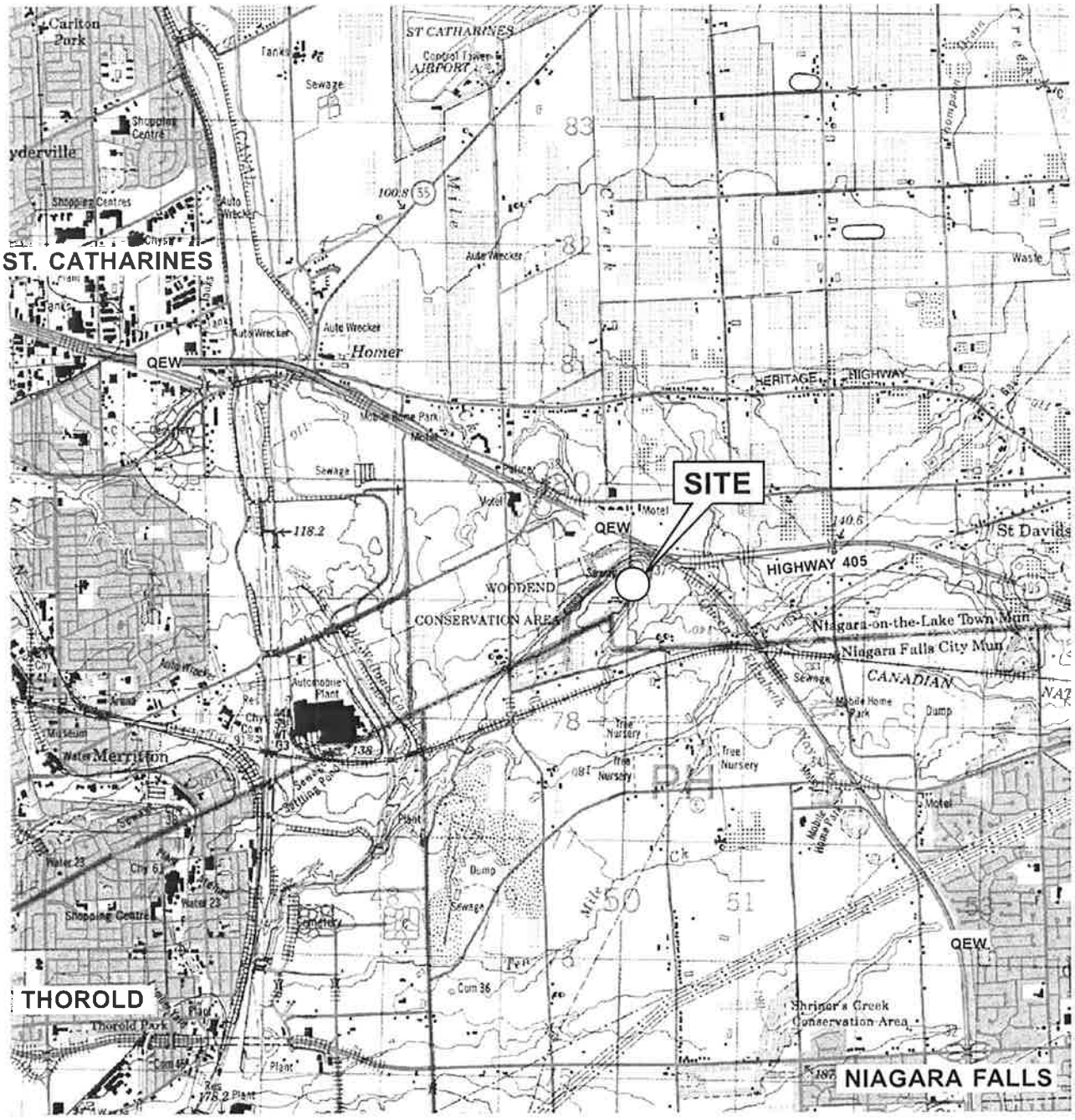
Figures



LEGEND

APPROXIMATE LOCATION OF STUDY AREA

MAP SOURCE:
NTS 1:50000 SHEET 30M/03, 06, NIAGARA.

N
W E
S

LOCATION MAP

ENVIRONMENTAL IMPACT STUDY
PROPOSED WALKER LIVING CAMPUS
Woodend Conservation Area
Niagara-On-The-Lake, Ontario
For District School Board of Niagara

DATE: MAY 2012	SCALE: 1:50000
PROJECT: 121-13259-00	REF. NO.: 121-13259-00-F1-LM

GENIVAR

FIGURE 1

LEGEND

- CONSERVATION AREA BOUNDARY
- SITE WITHIN CONSERVATION AREA
- WETLANDS
- WATERCOURSES AND WATER BODIES
- WOODLAND
- HOMER ESCARPMENT LIFE SCIENCE ANSI

100 0 200 m

MAP SOURCE:
OBM 1:10000 BASE MAPPING, NAD 83, ZONE 17 DATUM.

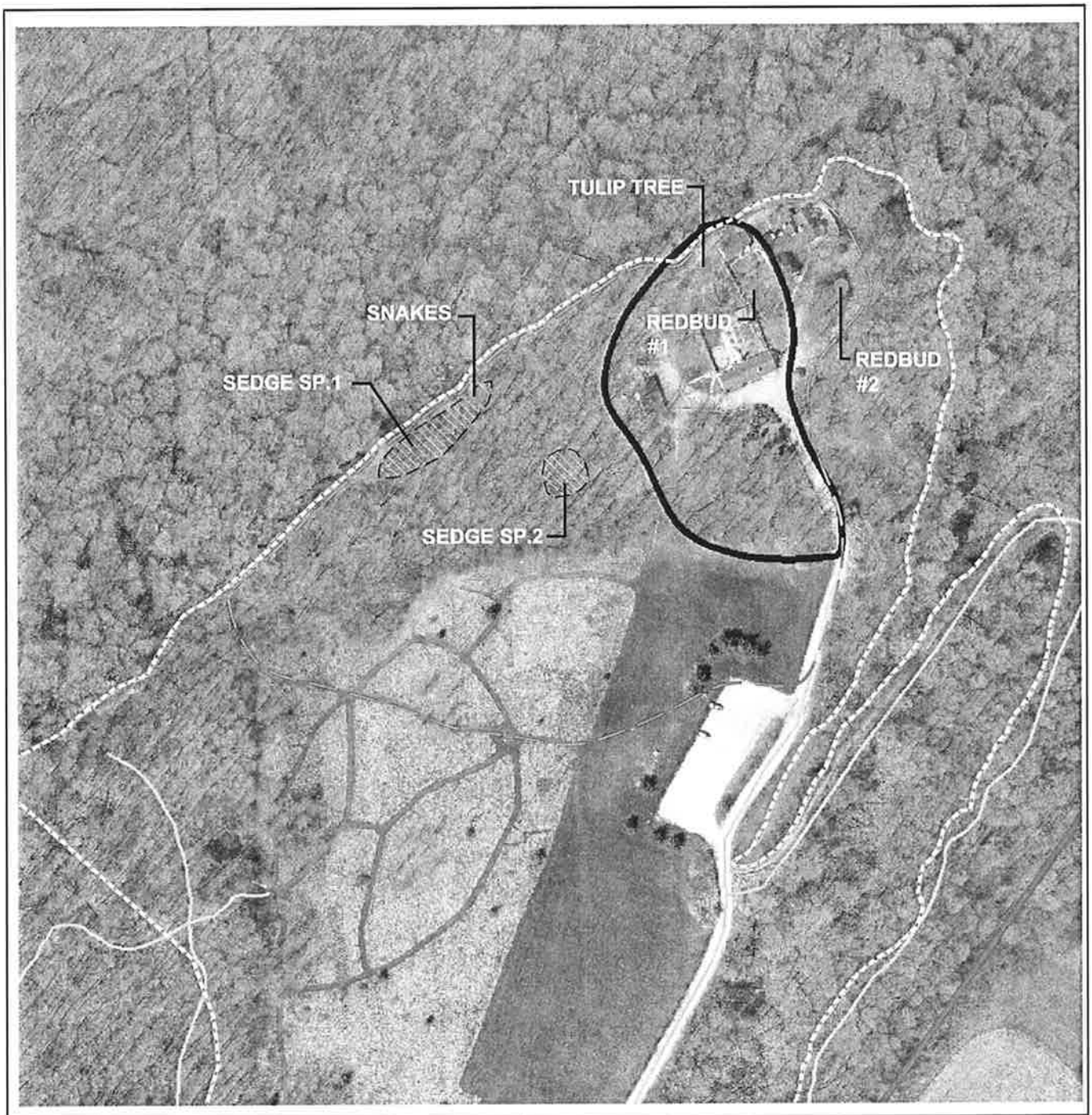
SITE PLAN

ENVIRONMENTAL IMPACT STUDY
PROPOSED WALKER LIVING CAMPUS
Woodend Conservation Area
Niagara-On-The-Lake, Ontario
For District School Board of Niagara

DATE: MAY 2012	SCALE: 1:10000
PROJECT: 121-13259-00	REF. NO.: 121-13259-00-F2-SP

GENIVAR

FIGURE 2



LEGEND

- CONSERVATION AREA BOUNDARY
- TREE INVENTORY AREA
- BRUCE TRAIL
- WCA TRAIL
- BIRD SURVEY AREA
- SEDGE POPULATION

200 0 400 m

MAP SOURCE:
NIAGARA PENINSULA CONSERVATION AUTHORITY.

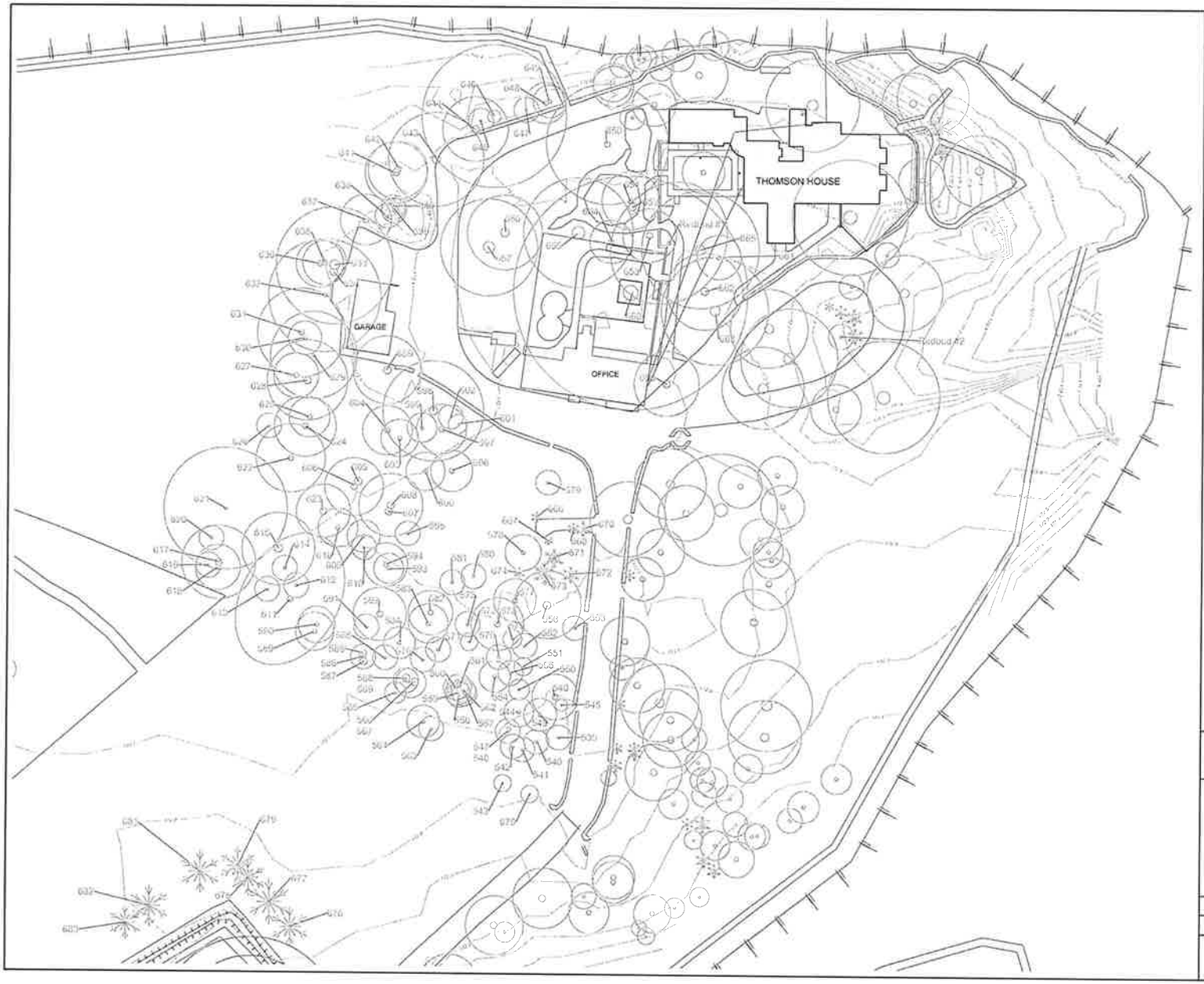
SPECIES OF CONCERN SURVEY

ENVIRONMENTAL IMPACT STUDY
PROPOSED WALKER LIVING CAMPUS
Woodend Conservation Area
Niagara-On-The-Lake, Ontario
For District School Board of Niagara

DATE: MAY 2012	SCALE: 1:20000
PROJECT: 121-13259-00	REF. NO.: 121-13259-00-F3-SP

GENIVAR

FIGURE 3



LEGEND

DECIDUOUS LOCATION WITH TREE TAG NUMBER

CONIFEROUS LOCATION WITH TREE TAG NUMBER

EXISTING DEVELOPMENT FOOTPRINT

5.0 0 10.0 m

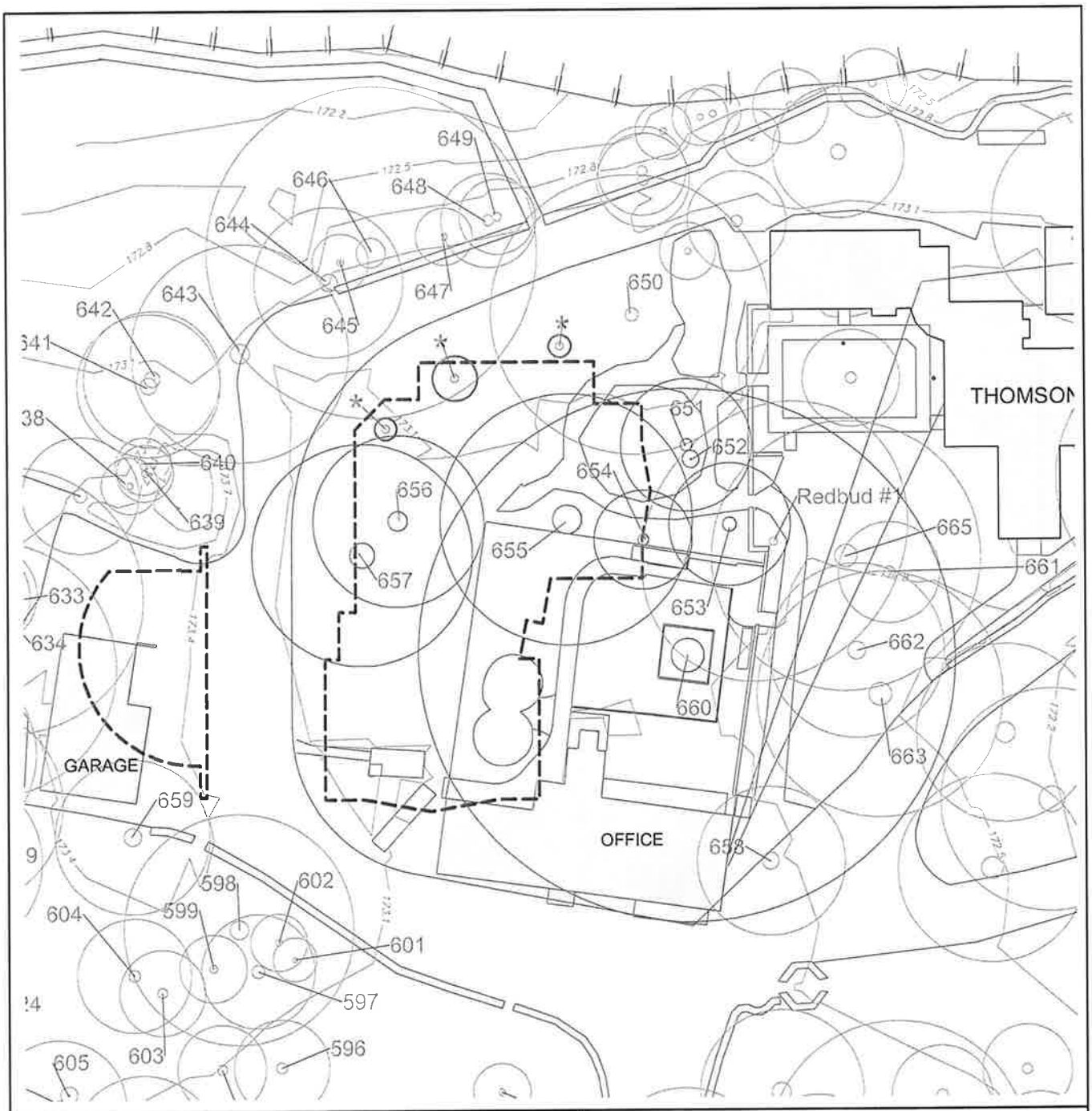
TREE INVENTORY

ENVIRONMENTAL IMPACT STUDY
PROPOSED WALKER LIVING CAMPUS
Woodend Conservation Area
Niagara-On-The-lake, Ontario
For District School Board of Niagara

DATE: MAY 2012	SCALE: 1:600
PROJECT: 121-13259-00	FILE NO.: 121-13259-00-F4-SP

GENIVAR

FIGURE 4



LEGEND

SAPLINGS TO E RELOCATED

TREE TO BE REMOVED

579 TREE TO BE RETAINED

PROPOSED BUILDING FOOTPRINT

5.0 0 10.0 m

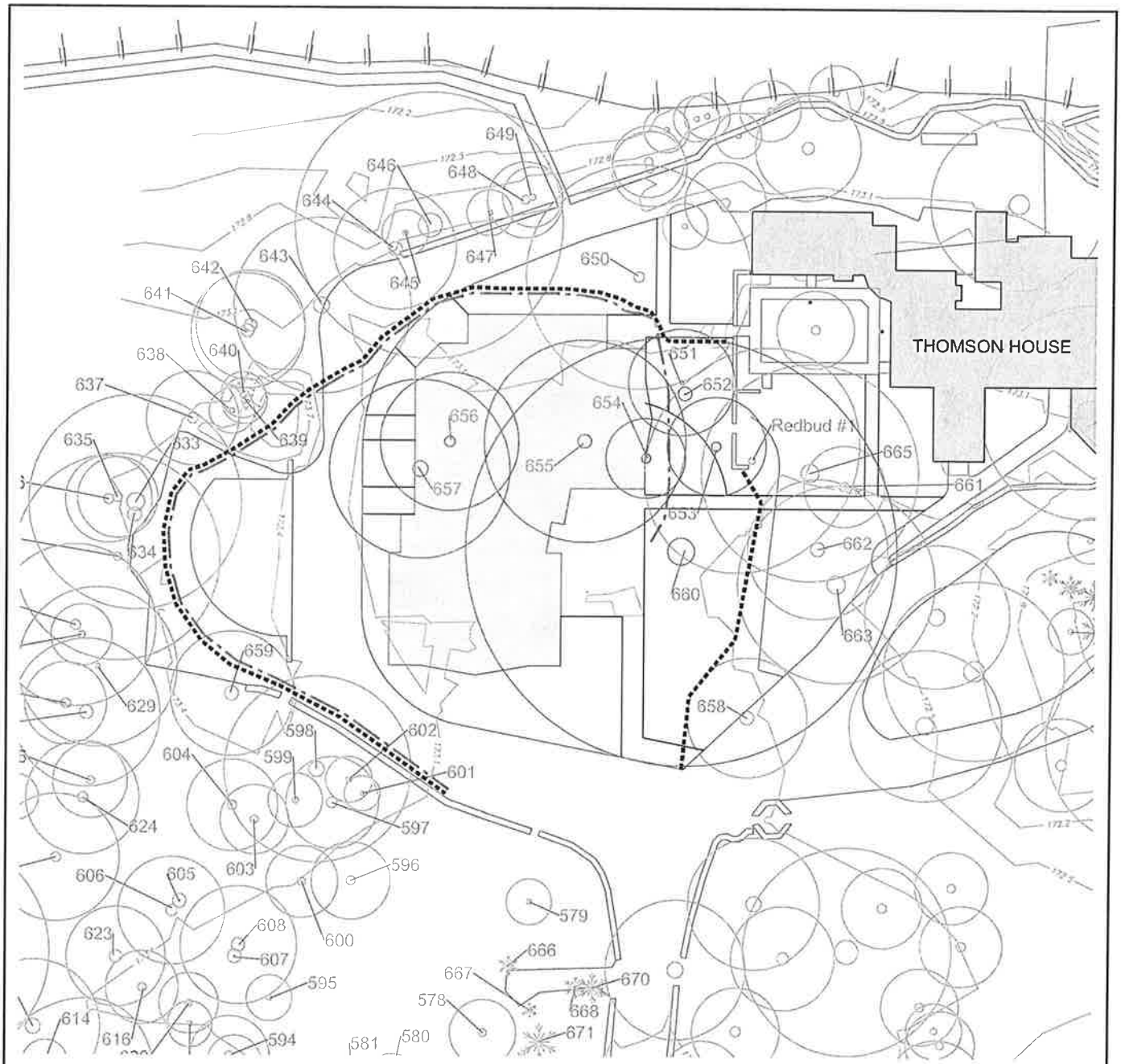
TREE REMOVAL

ENVIRONMENTAL IMPACT STUDY
PROPOSED WALKER LIVING CAMPUS
Woodend Conservation Area
Niagara-On-The-lake, Ontario
For District School Board of Niagara

DATE: MAY 2012	SCALE: 1:500
PROJECT: 121-13259-00	FILE NO.: 121-13259-00-F4-SP

GENIVAR

FIGURE 5



LEGEND

579 DECIDUOUS LOCATION WITH TREE TAG NUMBER

656 TREES TO BE REMOVED

665 CONIFEROUS LOCATION WITH TREE TAG NUMBER

PROPOSED OUTDOOR CLASSROOM FOOTPRINT

PROPOSED SCHOOL HOUSE BUILDING

ROOT PRUNING

TREE PROTECTION FENCE / HOARDING

NOTE:
MINIMUM SETBACKS FROM TREE PROTECTION FENCING AND/OR ROOT PRUNNING AND THE PROPOSED DEVELOPMENT ARE WITHIN THEN 1.2 - 2.3 m RANGE.

TREE PRESERVATION PLAN

ENVIRONMENTAL IMPACT STUDY
PROPOSED WALKER LIVING CAMPUS
Woodend Conservation Area
Niagara-On-The-lake, Ontario
For District School Board of Niagara

DATE: MAY 2012	SCALE: 1:500
PROJECT: 121-13259-00	FILE NO.: 121-13259-00-F6-SP

GENIVAR

FIGURE 6

Appendices

Appendix A

NHIC Search Results

Appendix A: NHIC Search Results for Woodend Conservation Area

Results based on a search of the following 1 km^2 squares: 17PH47-98, 99 and 17PH57-08 and 09.

Element Occurrences:

Species Element Occurrence Report help

Scientific name:	Colinus virginianus		
Common name:	Northern Bobwhite		
Family:	Odontophoridae		
Global (G-rank):	G5	**Committee on the Status of Endangered Wildlife in Canada (COSEWIC)**:	END
Ontario (S-rank):	S1	**Species At Risk in Ontario (SARO)**:	END
Canada General Status:	At risk	**Ontario General Status**:	At Risk

1 Element Occurrence Retrieved

EO ID	UTM Zone	Easting(nearest km)	Northing(nearest km)	EO Rank	Last Observed Date
21085	17	*650000*	4770000	X	1900

Species Element Occurrence Report help

Scientific name:	Icteria virens		
Common name:	Yellow-breasted Chat		
Family:	Parulidae		
Global (G-rank):	G5	**Committee on the Status of Endangered Wildlife in Canada (COSEWIC)**:	SC
Ontario (S-rank):	S2B	**Species At Risk in Ontario (SARO)**:	SC
Canada General Status:	Secure	**Ontario General Status**:	May be at risk

1 Element Occurrence Retrieved

EO ID	UTM Zone	Easting(nearest km)	Northing(nearest km)	EO Rank	Last Observed Date
13356	17	*642000*	4779000	H	1962-06-09

Appendix B

Species Lists

Appendix B: Species Lists

Table 1 Bird Species

Scientific Name	Common Name	Global Rank[1]	Subreg Rank[1]	COSEWIC[2]	SARO[3]
Agelaius phoeniceus	Red-winged Blackbird	G5	S5	-	-
Buteo sp.	Unidentified Raptor	-	-	-	-
Cardinalis cardinalis	Northern Cardinal	G5	S5	-	-
Carduelis tristis	American Goldfinch	G5	S5B	-	-
Cathartes aura	Turkey Vulture	G5	S5B	-	-
Colaptes auratus	Northern Flicker	G5	S4B	-	-
Cyanocitta cristata	Blue Jay	G5	S5	-	-
Dendroica coronata	Yellow-rumped Warbler	G5	S5B	-	-
Dendroica virens	Black-throated Green Warbler	G5	S5B	-	-
Hirundo rustica	Barn Swallow	G5	S4B	THR	THR
Junco hyemalis	Dark-eyed Junco	G5	S5B	-	-
Larus argentatus	Herring Gull	G5	S5B,S4N	-	-
Melanerpes carolinus	Red-bellied Woodpecker	G5	S4	-	-
Melospiza melodia	Song Sparrow	G5	S5B	-	-
Mniotilta varia	Black-and-white Warbler	G5	S5B	-	-
Molothrus ater	Brown-headed Cowbird	G5	S4B	-	-
Passer domesticus	House Sparrow	G5	SNA	-	-
Phalacrocorax auritus	Double-crested Cormorant	G5	S5B	-	-
Picoides pubescens	Downy Woodpecker	G5	S5	-	-
Picoides villosus	Hairy Woodpecker	G5	S5	-	-
Pipilo erythrophthalmus	Eastern Towhee	G5	S4B	-	-
Poecile atricapillus	Black-capped Chickadee	G5	S5	-	-
Quiscalus quiscula	Common Grackle	G5	S5B	-	-
Sialia sialis	Eastern Bluebird*	G5	S5B	NAR	-
Sitta carolinensis	White-breasted Nuthatch	G5	S5	-	-
Sphyrapicus varius	Yellow-bellied Sapsucker	G5	S5B	-	-
Spizella passerina	Chipping Sparrow	G5	S5B	-	-
Spizella pusilla	Field Sparrow	G5	S4B	-	-
Tachycineta bicolor	Tree Swallow	G5	S4B	-	-
Troglodytes aedon	House Wren	G5	S5B	-	-
Turdus migratorius	American Robin	G5	S5B	-	-
Vermivora ruficapilla	Nashville Warbler	G5	S5B	-	-
Vireo solitarius	Blue-headed Vireo	G5	S5B	-	-
Zenaida macroura	Mourning Dove	G5	S5	-	-
Zonotrichia albicollis	White-throated Sparrow	G5	S5B	-	-

[1] Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), B - Breeding, N – Non-breeding, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure.

Protection status: [2]COSEWIC - Committee on the Status of Endangered Wildlife in Canada; [3]SARO - Species at Risk in Ontario; END – Endangered, THR – Threatened, SC – Special concern, "-" – Not listed.

Table 2 Incidental Wildlife Observations

Scientific Name	Common Name	GRank[1]	SRank[1]	COSEWIC[2]	SARO[3]
Storeria dekayii	Dekay's Brown Snake	G5	S5	NAR	-
Thamnophis sirtalis sirtalis	Eastern Garter Snake	G5T5	S5	-	-
Sciurus carolinensis	Eastern Grey Squirrel	G5	S5	-	-

[1] Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), B - Breeding, N – Non-breeding, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure.

Protection status: [2]COSEWIC - Committee on the Status of Endangered Wildlife in Canada; [3]SARO - Species at Risk in Ontario; END – Endangered, THR – Threatened, SC – Special concern, "-" – Not listed.

Table 3 Vegetation Species

Family	Scientific Name	Common Name	CC[1]	CW[2]	GRank[3]	SRank[3]
-	Moss sp	Moss Species	-	-	-	-
Aceraceae	*Acer saccharum*	Sugar Maple	4	3	G5	S5
Anacardiaceae	*Rhus typhina*	Staghorn Sumac	1	5	G5	S5
Apocynaceae	*Vinca minor*	Periwinkle	0	5	G?	SE5
Araceae	*Arisaema triphyllum*	Jack-in-the-Pulpit	5	-2	G5	S5
Asclepiadaceae	*Asclepias syriaca*	Common Milkweed	0	5	G5	S5
Asteraceae	*Arctium minus*	Common Burdock	0	5	G?	SE5
Asteraceae	*Taraxacum officinale*	Common Dandelion	0	3	G5	SE5
Berberidaceae	*Podophyllum peltatum*	Mayapple	5	3	G5	S5
Betulaceae	*Ostrya virginiana*	Ironwood	4	4	G5	S5
Boraginaceae	*Myosotis scorpiodes*	Common Forget-me-not	0	-5	G5	SE5
Brassicaceae	*Alliaria petiolata*	Garlic Mustard	0	0	G?	SE5
Brassicaceae	*Cardamine concatenata*	Cut-leaved Toothwort	6	3	G5	S5
Caprifoliaceae	*Sambucus racemosa*	Red-berried Elderberry	5	2	G5	S5
Cupressaceae	*Thuja occidentalis*	Eastern White Cedar	4	-3	G5	S5
Cyperaceae	*Carex* spp.	Sedge Species	-	-	-	-
Dipsacaceae	*Dipsacus fullonum*	Common Teasel	0	5	G?	SE5
Fabaceae	*Cercis canadensis*	Eastern Redbud	8	3	G5	SX
Fagaceae	*Quercus alba*	White Oak	6	3	G5	S5
Fagaceae	*Quercus rubra*	Red Oak	6	3	G5	S5
Fumariaceae	*Dicentra cucullaria*	Dutchman's Breeches	6	5	G5	S5
Geraniaceae	*Geranium maculatum*	Spotted Crane's-bill	6	3	G5	S5
Grossulariaceae	*Ribes cynobati*	Prickly Gooseberry	4	5	G5	S5
Grossulariaceae	*Ribes glandulosum*	Skunk Currant	6	-3	G5	S5
Juglandaceae	*Carya cordiformis*	Bitternut Hickory	6	0	G5	S5
Juglandaceae	*Carya ovata*	Shagbark Hickory	6	3	G5	S5
Juglandaceae	*Juglans nigra*	Black Walnut	5	3	G5	S4
Liliaceae	*Allium tricoccum*	Wild Leek	7	2	G5	S5
Liliaceae	*Convallaria majalis*	Lily-of-the-Valley	0	5	G5	SE5
Liliaceae	*Erythronium americanum*	Yellow Trout Lily	5	5	G5	S5
Liliaceae	*Polygonatum* sp.	Soloman's Seal species	-	-	-	-
Liliaceae	*Trillium grandiflorum*	White Trillium	5	5	G5	S5
Magnoliaceae	*Liriodendron tulipifera*	Tulip Tree	8	2	G5	S4
Oleaceae	*Forsythia* sp.	Forsythia	-	-	-	-
Oleaceae	*Fraxinus americana*	White Ash	4	3	G5	S5
Oleaceae	*Fraxinus pennsylvanica*	Green Ash	3	-3	G5	S5
Oleaceae	*Syringa vulgaris*	Common Lilac	0	5	G?	SE5
Papaveraceae	*Chelidonium majus*	Greater Celandine	0	5	G?	SE5
Pinaceae	*Picea glauca*	White Spruce	6	3	G5	S5
Pinaceae	*Pinus strobus*	Eastern White Pine	4	3	G5	S5
Portulacaceae	*Claytonia caroliniana*	Carolina Spring Beauty	7	3	G5	S5
Ranunculaceae	*Anemone quinquefolia*	Wood Anemone	7	0	G5	S5
Ranunculaceae	*Ranunculus ficaria*	Lesser Celandine	0	-2	G?	SE1
Ranunculaceae	*Thalictrum dioicum*	Early Meadow-rue	5	2	G5	S5
Rhamnaceae	*Rhamnus cathartica*	Common Buckthorn	0	3	G?	SE5
Rosaceae	*Crataegus* sp.	Hawthorn Species	-	-	-	-
Rosaceae	*Prunus serotina*	Black Cherry	3	3	G5	S5
Rosaceae	*Prunus virginiana*	Choke Cherry	2	1	G5	S5
Rosaceae	*Rosa* sp.	Rose species	-	-	-	-
Rosaceae	*Rubus idaeus*	Wild Red Raspberry	0	-2	G5	S5
Rosaceae	*Sorbus decora*	Showy Mountain-ash	8	3	G4G5	S5
Rubiaceae	*Galium aparine*	Cleavers	4	3	G5	S5
Taxaceae	*Taxus baccata*	English Yew	-	-	-	-
Tiliaceae	*Tilia americana*	Basswood	4	3	G5	S5
Violaceae	*Viola sororia*	Common Blue Violet	4	1	G5	S5

[1] CC - Coefficient of Conservatism: From 0 – 10, "10" being most conservative, or only found only in relatively undisturbed habitats.
[2] CW - Coefficient of Wetness: From -5 – 5, "-5" being obligate wetland species, "5" being obligate upland species.
[3] Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), E – Exotic, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure.

Appendix C

Niagara Peninsula Conservation Authority Memorandum

NIAGARA PENINSULA CONSERVATION AUTHORITY
250 Thorold Road West, 3rd Floor, Welland, Ontario L3C 3W2
Telephone 905.788.3135 | Facsimile 905.788.1121 | www.npca.ca

Memorandum

Date: June 17, 2011

File No.: FOCP 1.33.2.7.1

To: Darcy Baker, Director Land Management

From: Kim Frohlich, Ecologist

Subject: **Woodend Cons. Area – proposed building footprint assessment**

The noted building footprint area for the proposed District School Board building was assessed by myself, on June16, 2011 afternoon, as requested.

During the assessment the circle area from the main house to the garage and 30 metres beyond, from the escarpment to south of the circle to the mown area was assessed as requested.

Based on the bias of **a one day assessment**, early spring, summer, fall plants and animal species may have been missed which inhabit this study area, such as Species at Risk or unique / rare features.

1) **Study area overall features findings include:**

- a highly vulnerable acquifer area with groundwater recharge areas in a portion of and surrounding the study site
- in an Escarpment Natural Area Escarpment Plan area, and Greenbelt Area
- within and adjacent to the provincially significant Homer Escarpment Area Life Science Area of Natural and Scientific Interest (houses and round about outside of the ANSI)
- limited diversity. Mown grass and herbaceous gardens is predominant, and trees primarily deciduous with coniferous Eastern White Cedar near south of roundabout.
- many invasives in the study area gardens (i.e. celeandine, buckthorn
- 'treed' area' between roundabout and south mown area consists mostly of Oak and some hickory trees

Additional species and features noted in this one day snapshot assessment **include** :

- Red Bud (*Cercis Canadensis)* – regionally rare for niagara [1] (10 or fewer) does occur southwest of the courtyard;
- Interior Sedge (*Carex interior)*– regionally uncommon to Niagara [1] (11-20) northwest corner adjacent to the roundabout
- tufted titmouse (*Baeolophus bicolour)* bird.

1. NPCA. 2010. Natural Areas Inventory 2006-2009. Volume 2

- Cavity snags to be protected, important for the cavity nesters (such as the tufted titmouse),
- Ground cavities of mole or snake holes may be species at risk.(ie. Eastern Mole- *Scalopus aquaticus* – special concern)
- Also potential due to Species at Risk in surrounding area- yellow breasted chat-special concern, requiring shrubs and dense secondary growth

2) Notes of Consideration for this Area:

While a disturbed impacted area with many horticultural species, this study area has unique escarpment features and groundwater susceptibility and presence of some regionally rare species . Impacts to surrounding ANSI, provincial species and environmental effects need to be addressed. Some measures required are:

- Environmental Assessment of site in all seasons to ensure all species obtained
- Protection of snags, red bud, shrubby area;
- Protection of all nut trees due to less common trees and food source importance
- Impervious tarmac materials and other appropriate stormwater management features to ensure groundwater contributions
- Appropriate measures for any septic or oil/ pesticide servicing on site due to groundwater susceptibility
- Development July 16- May 1 to avoid bird nesting season
- Limit of work fence at round about edge to prevent equipment and other potential impact in ANSI/escarpment
- Development NEC Permits required ; passive recreation and educational uses permitted
- Any removed soil should not be placed in surrounding natural area and or sterilized to prevent seeding of invasives

Kim Frohlich

Appendix D

Tree Inventory

Appendix D: Trees Inventory Results for Woodend Conservation Area

* Entries with more than one tag number represent trees with multiple trunks each having a dbh greater than or equal to 10 cm. Dbh and conditions are provided for each trunk.

Tag Number	Common Name	Scientific Name	dbh (cm)	Condition
539	White Oak	*Quercus alba*	62	Fair
540	Sugar Maple	*Acer saccharum*	22	Good
541	White Oak	*Quercus alba*	23	Good
542	White Oak	*Quercus alba*	26	Fair
547, 548	Red Oak	*Quercus rubra*	19, 22	Good, Good
549	White Oak	*Quercus alba*	38	Fair
543	White Ash	*Fraxinus americana*	31	Good
544	Red Oak	*Quercus rubra*	20	Good
545	Basswood	*Tilia americana*	20	Fair
546	Red Oak	*Quercus rubra*	52	Good
550	Sugar Maple	*Acer saccharum*	15	Good
551	Red Oak	*Quercus rubra*	21	Good
552	Red Oak	*Quercus rubra*	34	Good
553	Black Cherry	*Prunus serotina*	27	Fair
556	White Oak	*Quercus alba*	56	Good
554	White Oak	*Quercus alba*	48	Fair
555	Red Oak	*Quercus rubra*	13	Good
557, 558, 559, 560, 561 and 562	Red Oak	*Quercus rubra*	31, 33, 24, 31, 31 and 29	Good, Fair, Fair, Fair, Fair and Fair
563	White Ash	*Fraxinus americana*	13	Poor
564	Red Oak	*Quercus rubra*	22	Good
565	Red Oak	*Quercus rubra*	33	Fair
566, 567	White Oak	*Quercus alba*	16, 17	Fair, Fair
567	White Oak	*Quercus alba*	17	Fair
568, 569	White Oak	*Quercus alba*	17, 14	Fair, Poor
570	Red Oak	*Quercus rubra*	21	Good
571	Red Oak	*Quercus rubra*	22	Good
572	Red Oak	*Quercus rubra*	21	Good
573	White Oak	*Quercus alba*	31	Good
574	Red Oak	*Quercus rubra*	17	Poor
575	Ironwood	*Ostrya virginiana*	12	Good
576	Black Walnut	*Juglans nigra*	45	Good
577	Sugar Maple	*Acer saccharum*	29	Fair-Poor
578	Red Oak	*Quercus rubra*	28	Good
579	Black Walnut	*Juglans nigra*	15	Good
580	Black Cherry	*Prunus serotina*	17	Good
581	Red Oak	*Quercus rubra*	60	Fair-Good
582	Sugar Maple	*Acer saccharum*	40	Good
583	Red Oak	*Quercus rubra*	33	Good
584	Shagbark Hickory	*Carya ovate*	26	Good
585	Sugar Maple	*Acer saccharum*	15	Fair-Poor
586, 587, 588	Red Oak	*Quercus rubra*	38, 48, 38	Good, Good, Fair
589, 590	Red Oak	*Quercus rubra*	42, 29	Good, Good
591	Ironwood	*Ostrya virginiana*	12	Good
592	White Oak	*Quercus alba*	50	Fair
593	Shagbark Hickory	*Carya ovate*	24	Good
594	Shagbark Hickory	*Carya ovate*	30	Good
595	Shagbark Hickory	*Carya ovate*	10	Good
596	White Oak	*Quercus alba*	38	Good
597	Red Oak	*Quercus rubra*	47	Good
598	Red Oak	*Quercus rubra*	38	Good
599	Bitternut Hickory	*Carya cordiformis*	15	Good
600	White Oak	*Quercus alba*	70	Good
601	Showy Mountain Ash	*Sorbus decora*	9	Good
602	DEAD	n/a	8	Dead
603	White Oak	*Quercus alba*	34	Good

Tag Number	Common Name	Scientific Name	DBH (cm)	Condition
604	Sugar Maple	*Acer saccharum*	34	Good
605, 606	Red Oak	*Quercus rubra*	36, 38	Good, Fair-Poor
607, 608	White Oak	*Quercus alba*	44, 34	Good, Fair
609	Red Oak	*Quercus rubra*	26	Fair
610	Ironwood	*Ostrya virginiana*	9	Fair
611	Red Oak	*Quercus rubra*	84	Fair
612	Ironwood	*Ostrya virginiana*	12	Fair
613	Ironwood	*Ostrya virginiana*	13	Good
614	Ironwood	*Ostrya virginiana*	9	Fair
615	Red Oak	*Quercus rubra*	45	Fair
616	Red Oak	*Quercus rubra*	27	Good
617	Red Oak	*Quercus rubra*	43	Good
618	Red Oak	*Quercus rubra*	38	Fair
619	Red Oak	*Quercus rubra*	10	Good
620	White Oak	*Quercus alba*	40	Poor
621	White Oak	*Quercus alba*	64	Fair
622	White Oak	*Quercus alba*	49	Fair
623	White Oak	*Quercus alba*	46	Good
624	White Oak	*Quercus alba*	27	Good
625	Black Walnut	*Juglans nigra*	13	Good
626	Red Oak	*Quercus rubra*	45	Fair-Poor
627	Red Oak	*Quercus rubra*	30	Good
628	White Ash	*Fraxinus americana*	34	Good
629	Red Oak	*Quercus rubra*	29	Good
630	Red Oak	*Quercus rubra*	16	Fair-Poor
631	Red Oak	*Quercus rubra*	63	Fair
632	Red Oak	*Quercus rubra*	34	Good
633, 634	Sugar Maple	*Acer saccharum*	43, 23	Good, Good
635, 636	Red Oak	*Quercus rubra*	40, 40	Fair-Poor, Fair
637	Green Ash	*Fraxinus pennsylvanica*	13	Good
638	Red Oak	*Quercus rubra*	36	Good
639	Red Oak	*Quercus rubra*	13	Good
640	Red Oak	*Quercus rubra*	27	Fair
641	Sugar Maple	*Acer saccharum*	13	Good
642	Sugar Maple	*Acer saccharum*	34	Fair
643	Basswood	*Tilia americana*	45	Good
644	White Ash	*Fraxinus americana*	30	Good
645	Sugar Maple	*Acer saccharum*	19	Good
646	White Oak	*Quercus alba*	71	Good
647	White Ash	*Fraxinus americana*	10	Good
648	White Ash	*Fraxinus americana*	15	Good
649	White Ash	*Fraxinus americana*	12	Good
650	Tulip Tree	*Liriodendron tulipifera*	28	Good
651, 652	White Ash	*Fraxinus americana*	24, 18	Good, Good
653	White Oak	*Quercus alba*	57	Poor
654	Sugar Maple	*Acer saccharum*	20	Good
655	White Oak	*Quercus alba*	77	Fair
656	Sugar Maple	*Acer saccharum*	47	Fair-Poor
657	White Oak	*Quercus alba*	81	Fair-Good
658	Red Oak	*Quercus rubra*	78	Poor
659	Red Oak	*Quercus rubra*	58	Good
660	Red Oak	*Quercus rubra*	79	Fair
661	Sugar Maple	*Acer saccharum*	70	Good
662	White Oak	*Quercus alba*	51	Good
663	Sugar Maple	*Acer saccharum*	63	Good
665	White Oak	*Quercus alba*	51	Good
666	Eastern White Cedar	*Thuja occidentalis*	15	Good
667	Eastern White Cedar	*Thuja occidentalis*	13	Good
668	Eastern White Cedar	*Thuja occidentalis*	19	Good
670	Eastern White Cedar	*Thuja occidentalis*	19	Good
671	Eastern White Cedar	*Thuja occidentalis*	13	Good

Tag Number	Common Name	Scientific Name	DBH (cm)	Condition
672	Eastern White Cedar	*Thuja occidentalis*	18	Good
673	Eastern White Cedar	*Thuja occidentalis*	14	Good
674	Eastern White Cedar	*Thuja occidentalis*	14	Good
675	Red Oak	*Quercus rubra*	30	Good
676	White Pine	*Pinus strobus*	26	Good
677	White Pine	*Pinus strobus*	33	Good
678	White Pine	*Pinus strobus*	26	Good
679	White Pine	*Pinus strobus*	34	Good
681	White Pine	*Pinus strobus*	33	Good
682	White Pine	*Pinus strobus*	31	Good
683	White Pine	*Pinus strobus*	25	Good
	Redbud #1	*Cercis canadensis*	26	Fair
	Redbud #2	*Cercis canadensis*	25	Poor

COLVILLE CONSULTING INC.

June 11, 2012

Mr. Darcy Baker
Director, Land Management
Niagara Peninsula Conservation Authority
250 Thorold Road West, 3rd Floor
Welland, ON,
L3C 3W2

Dear Mr. Baker,

RE: Peer Review of Environmental Impact Study for Outdoor Living Campus - Woodend Conservation Area

Thank you for retaining Colville Consulting Inc. to complete a Peer Review of the Environmental Impact Study (EIS) prepared by GENIVAR Inc. (May 15, 2012), in support of the proposed Outdoor Living Campus at the Woodend Conservation Area. In order to prepare this Peer Review, Colville Consulting has conducted a detailed review of the GENIVAR Inc. EIS, in conjunction with the Design Brief, site plan, and proposed design drawings (all prepared by MacDonald Zuberec Ensslen Architects Inc., May 2012).

It is the intent of this Peer Review to confirm that the EIS is complete and to ensure that the mitigation measures recommended in the report are sufficient and appropriate to facilitate the project, while minimizing impacts to natural heritage features on the property. This peer review is not intended to include a secondary botanical inventory or introduce any recommendations for redesigning or relocating the proposed structures. A detailed critical review of the GENIVAR Inc. EIS and additional mitigative recommendations are provided below for your consideration.

BACKGROUND

Based on our review of the EIS and background material, it is understood that the proposed project involves the demolition of the existing office and garage/outdoor classroom area, which are to be replaced by a new outdoor classroom and a school house. It is understood that the Thomson House is to remain in its existing location and condition.

In order to address potential impacts associated with the proposed development, GENIVAR Inc. was retained to complete an EIS for the works. The EIS consisted of two parts, the first being a detailed review and assessment of species occurrences in the area and the second being a Tree Savings Plan. It is the intent of the EIS to mitigate impacts of the proposed project on the natural heritage features in the area.

REVIEW OF SITE INVENTORIES AND ASSESSMENTS

Colville Consulting conducted a detailed review of the inventories and assessments conducted as part of the GENIVAR EIS. Based on our review of the EIS, it is understood that site visits were conducted on April 13 and April 29, 2012, with the intent of completing a botanical and wildlife inventory of the property. In advance on these site visits, it is apparent that an extensive review of background material was conducted, including the review of any readily available rare species data.

Wildlife

The results of the inventories conducted on April 13 and 29 2012, indicate that a total of 38 wildlife species (35 bird, 2 reptile and 1 mammal) were observed using the property. Of these species, the Barn Swallow is the only species designated as a Species of Conservation Concern (Threatened provincially and nationally). The EIS concluded that this species was only observed during feeding and no nesting habitat is available in close proximity to the work area.

During our review of the EIS, it was acknowledged in the EIS that the inventories were conducted early in the season, prior to the arrival of many migrating bird species. The timing of field inventories for breeding birds is a criticism of the EIS. Based on data presented as part of the background review, it is reported that several bird Species of Conservation Concern have been documented in the vicinity of the work area. From our review of the species and habitat data presented in the EIS and our knowledge of species occurrences in the area, there is the potential for Chimney Swift (Threatened provincially and nationally) and Red-headed Woodpecker (Special Concern provincially and Threatened nationally) to utilize habitats in the vicinity of the study area.

Although the occurrence of Chimney Swift and Red-headed Woodpecker in the work area is possible, it is unlikely that the proposed works will have a significant impact on habitat used by these species. In order to ensure that works do not impact any bird species using the work area, Colville Consulting supports the recommendation in the EIS of avoiding vegetation removal between May 1 to July 15.

Further to this mitigation measure, and the other measures provided in the EIS, it is the opinion of Colville Consulting that climatic conditions this spring may allow some migratory bird species to have a second clutch of offspring this summer. For this reason, it is possible that the breeding bird season could extend past the July 15 window provided in the EIS. In order to fully mitigate any impacts to breeding birds in the area, it is recommended that a breeding bird assessment be conducted prior to any tree removal or site alteration.

Vegetation

The botanical inventory information presented in the EIS indicates that 55 plant species were documented during the field inventories conducted on April 13 and April 29, 2012. A list of plant species was provided as an appendix with the EIS. Based on this list, Eastern Redbud is the only Species of Conservation Concern identified in close proximity to the work area.

Similar to the concern regarding the bird inventory of the site, it is the opinion of Colville Consulting that the inventories conducted in April are not sufficient to fully assess botanical conditions in the study area. To conduct a complete botanical inventory for an EIS, a 3-season survey of vegetative conditions is typically required. This method accommodates seasonal variations in the species composition, which is lacking in a single season inventory. Despite this

criticism, the botanical inventory conducted by NPCA staff on June 16, 2011 should provide adequate supplemental information to assess the botanical community composition during the late spring or early summer season. Based on the results of the inventory conducted as part of the EIS, as well as supplemental information available from the NPCA, it is the opinion of Colville Consulting that sufficient vegetative community information is available to assess potential impacts of the proposed project.

As mentioned above, Eastern Redbud was the only Species of Conservation Concern identified during field inventories. Although not explicitly stated in relation to the Eastern Redbud, the EIS recommends that a tree protection zone be established around any trees to be retained. It is the opinion of Colville Consulting that establishing a protection zone around Redbud #1 will provide sufficient mitigation to ensure survivability of this individual. Eastern Redbud #2 is located at a sufficient distance from the work area that mitigation measures are not likely necessary.

REVIEW OF TREE SAVINGS PLAN

The EIS indicates that the tree inventory and survey was conducted on April 13 and April 29, 2012, in conjunction with the site assessment and inventories. The Tree Savings Plan was prepared to be consistent with the requirements listed in the Regional Tree and Forest Conservation By-law (By-Law No. 30-2008). Based on the results of the tree inventory for the area, a total of 129 trees were surveyed on site. It is reported that the dominant tree species are Red Oak, White Oak and Sugar Maple, with occasional White Ash and Ironwood.

In order to facilitate the proposed development it is understood that seven live mature trees (two of which are White Ash that originate from a single base) are proposed to be removed prior to construction. In addition to the seven live trees, one dead white oak is proposed to be removed to address safety concerns and 3 saplings are proposed to be relocated to an area outside of the work area. A summary of the trees proposed to be removed is presented in Table 1.

Table 1. Assessment of Trees Marked for Removal.

Tag No.	Species	Dbh (cm)	Condition	Justification for Removal
651, 652	White Ash	24, 18 (split trunk)	Good	High root loss expected given proximity to development; Emerald Ash Borer affected trees on Site; low survivability expected
653	White Oak	57	Dead	Presents potential hazard in high traffic area
654	Sugar Maple	20	Good	Direct overlap with proposed building footprint
655	White Oak	77	Fair	Direct overlap with proposed building footprint
656	Sugar Maple	47	Fair-Poor	Direct overlap with proposed building footprint
657	White Oak	81	Fair-Good	Direct overlap with proposed building footprint
660	Red Oak	79	Fair	High root loss expected due to proximity to development; due to age and current condition low survivability expected

Dbh – Diameter at breast height.

Based on our review of the site plan, Colville Consulting supports the recommendation to relocate the 3 saplings to a suitable area outside the work area. Colville Consulting also supports the recommendation to remove tree 653 to minimize any potential safety hazard this tree may present. Based on primary observation of the tree, there is no evidence to indicate this tree has been used by Red-headed Woodpecker or provides any significant contribution to wildlife habitat in the area.

From our review of the site plan, it is evident that trees 654, 655, 656 and 657 are required to be removed due to the direct overlap with location of the proposed structure. As noted above, an assessment of structural relocation or redesign options is beyond the scope of this Peer Review. Despite this project scope, Colville Consulting supports the conclusion in the EIS which indicates the removal of these trees will not significantly impact the form or function of wildlife habitat in the area.

As indicated in Table 1, trees 651, 652 and 660 are recommended for removal, due to their proximity to the proposed structure. The EIS speculates that root loss and damage associated with construction works will result in a low potential for survivability following the proposed works. Based on our review of the building footprint and tree locations presented in Figure 5 of the EIS, it is evident that direct impacts to the root systems of trees 651, 652 and 660 will occur, however it is the opinion of Colville Consulting that the impacts are likely to be minimal to moderate. Based on this anticipated root impact, it is recommended that trees 651, 652 and 660 be retained and mitigation measures be implemented during construction to minimize impacts to the root systems of these trees. These trees should only be removed at the recommendation of a post-construction tree health survey or should they be deemed to pose a safety hazard.

Based on our review of the site plan and proposed building elevations, it is anticipated that some lower limbs of tree 660, and potentially trees 651 and 652, may be required to be removed to facilitate construction works. It is anticipated that any required pruning works will not significantly impact tree health or compromise survivability.

In order to compensate for the removal of trees proposed to facilitate construction, the EIS recommends planting a minimum of 18 trees or shrubs on the property. Colville Consulting supports the implementation of compensatory plantings and supports the general recommendations provided in this section of the EIS. However, in addition to the recommendations of the EIS, Colville Consulting suggests that NPCA staff be engaged during the preparation of the planting plan to ensure the species and planting locations selected are consistent with management objectives for the Woodend Conservation Area.

RECOMMENDATIONS AND MITIGATION MEASURES

The EIS prepared by GENIVAR Inc. includes several recommendations and suggested mitigative measures to help minimize impacts of the proposed works. Colville Consulting generally supports the recommended mitigative measures, however based on our review of the proposed development and EIS, Colville Consulting provides additional recommendations and mitigative measures. The following mitigative measures are intended to be a comprehensive, incorporating recommendations from both the EIS and Colville Consulting.

Wildlife

In order to ensure the proposed works minimize impacts on wildlife species within and adjacent to the work area, the following mitigative measures are recommended:

1) Tree removal should take place outside of the migratory bird nesting season from May1 to July 15 in order to satisfy the requirements of the Migratory Bird Convention Act (1994).
2) Prior to any tree removal or site alteration, a survey of breeding birds should be conducted in the work area to ensure no bird species are utilizing areas likely to be impacted by the proposed works.
3) Exclusion fencing should be installed around the construction area to prevent entry by small mammals, amphibians and reptiles there by reducing the potential for negative impacts to wildlife in the area. This fencing will provide additional protection for the surrounding woodland and existing wildlife habitat by preventing direct physical damage.
4) Any small mammals, amphibians or reptiles observed within the work area following the erection of exclusion fencing should be relocated to a suitable habitat area adjacent to the work site.

Vegetation and Tree Savings Plan

In order to ensure the proposed works minimize impacts on vegetation and trees within and adjacent to the work area, the following mitigative measures are recommended:

1) Root pruning should be conducted for trees immediately adjacent to the development to reduce the potential for direct damage to active roots and to ensure the health, stability and longevity of the tree. By pruning the roots prior to construction the potential for infection is minimized and healthy re-growth of new roots is encouraged. It is recommended that root pruning be conducted during the fall when transpiration and the movement of fluids through the roots have slowed. Recommended distances for root pruning are based on individual tree driplines and are depicted on Figure 6 of the EIS.
2) In order to protect the trees marked for retention, tree protection fencing (hoarding) should be installed following root pruning and before any site alteration begins. Hoarding should be removed after the threat of physical damage has ceased. All supports and bracing used to secure the barriers should be placed outside the tree protection zones and should be installed in a way that minimizes root damage.
3) A tree protection zone around trees to be retained must be established. Within the tree protection zone(s), the following activities are prohibited: construction; altering of grade by adding or removing fill; storage of any material; disposal of any liquids; vehicular or pedestrian traffic; parking. Directional micro-tunneling will be permitted within the tree protection zone where identified.
4) It is recommended that appropriate measures be implemented to reduce the potential for soil compaction and minimize impacts to tree roots around trees to be retained. It is recommended that 30 cm of coarse mulch be laid down along the access route(s) to the construction site or construction mats or similar be used to distribute loads over the soil surface within the dripline of trees to be retained. Any mulch imported onto the

property should be free of invasive species and removed from the site following construction.

5) All tree relocation, pruning or removal should be conducted by a reputable arborist or forestry contractor to ensure trees to be retained are not impacted.
6) It is recommended that the health of trees 651, 652 and 660 be monitored annually to assess impacts of construction works. Tree removal should occur if any individual trees are determined to pose a safety hazard.
7) To reduce the potential for negative impacts to the ANSI/escarpment area, installation of limit of work fencing between the development zone and this natural feature is recommended.
8) Soil removed during the demolition and construction phases should not be placed in the surrounding natural area, or should be sterilized prior to placement to prevent the spread of invasive species. All other materials should be stored in designated staging areas.

CONCLUSIONS

Colville Consulting was retained by the NPCA to conduct a Peer Review of the EIS prepared in support of the Outdoor Living Campus. The intent of the Peer Review is to ensure the EIS is complete and to ensure that the mitigation measures recommended in the report are sufficient and appropriate. Based on our review of the EIS, we have concluded that the timing of primary field inventories was not sufficient to fully inventory bird utilization or botanical conditions in the study area. Despite this, it is our opinion that adequate background data is available to supplement the primary inventories, allowing an accurate assessment of potential impacts of the proposed project.

In regards to the Tree Savings Plan, it was recommended that 7 trees in and adjacent to the work area be removed to facilitate the construction. Based on our review of the site plan, we support the recommendation that the four trees within the footprint of the proposed structure be removed, however it is our recommendation that the 3 live trees adjacent to the structure remain in place.

Based on our review of the EIS, Colville Consulting has concluded that, provided appropriate mitigative measures are implemented during construction, the proposed works are not likely to have a significant impact on wildlife, wildlife habitat or the form and function of the woodland in the vicinity of the work area. This statement supports the conclusions derived by GENIVAR Inc.

Thank you for retaining Colville Consulting Inc. for this study. Please contact myself or Sean Colville (sean@colvilleconsultinginc.com) should you have any questions regarding this Peer Review. I can be reached at 905-935-2161 or by email at (ian@colvilleconsultinginc.com).

Sincerely yours,

Ian Barrett, M.Sc.
Colville Consulting Inc.

NIAGARA PENINSULA CONSERVATION AUTHORITY

TO: **The Chairman and Members of the Authority**

DATE: **June 13, 2012**

SUBJECT: **PFOS Compounds at the Binbrook Reservoir (update) – Report No. 33-12**

The Conservation Authority received a response letter from Jim Bradley, Minister of the Environment. The letter is attached to this report for information purposes.

Binbrook Conservation Area is in full operating season. Gate attendants were trained to answer public inquiries about PFOS and general water quality in the reservoir. The Conservation Area has been very busy throughout May, with many visitors fishing. Information about fish consumption guidelines is provided to visitors entering the park. Staff are not receiving many questions about the new guidelines or PFOS.

Conservation Authority staff have been working with the City of Hamilton to prepare for a public meeting on PFOS and the clean-up plans for the Hamilton International Airport. The City will be hosting a public forum on Wednesday, June 20th, at the Glanbrook Community Centre. The NPCA will be presenting information on the steps being taken to ensure public safety at the Binbrook Conservation Area.

Staff sampled water from the park supply well and the reservoir at the swimming beach. These samples were sent to a lab for analysis of PFOS compounds. The results of the sampling were not available at the time of this report.

RECOMMENDATION:

That Report No. 33-12 regarding PFOS Compounds at the Binbrook Reservoir be received.

Prepared by: Darcy B. Baker, Director-Land Management

Respectfully Submitted by: _____

Tony D'Amario, CAO/Secretary-Treasurer

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Ontario

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PD 12/06/04

☐ GM ☐ Water Mgmt.
☐ Communications ☐ Land Mgmt.
☐ Foundation ☐ _____

Mr. Tony D'Amario, P.Eng.
CAO/Secretary-Treasurer
Niagara Peninsula Conservation Authority
250 Thorold Road West, 3rd Floor
Welland ON L3C 3W2

Dear Mr. D'Amario:

Thank you for your letter of November 8, 2011 outlining your Board of Directors' concerns about perfluorooctane sulfonic acid contamination in the area surrounding the Hamilton International Airport. I apologize for the delay in my response.

I want to assure you that the ministry shares the Board's concerns. Ministry staff continue to meet regularly with the City of Hamilton and the Hamilton Airport Authority to ensure a proper assessment and characterization of contamination both on and off property.

The parties have initiated an assessment to ensure that the on-site containment efforts taken to date have resulted in containment of all possible sources. This stage of the assessment will take approximately nine months to complete. The ministry has worked very closely with the airport to ensure that the methodology used will provide an accurate picture of the extent of the contamination.

Once the on-site assessment is complete, the next phase of the project will be to fully assess the extent of all off-site contaminants and determine the necessary remedial actions to protect the environment. Ministry staff have advised the city and airport that consultation with all property owners on the extent of contamination and remedial options will be critical in establishing and implementing a successful plan.

I have asked Mr. Bill Bardswick, the Director of the ministry's West Central Region, to contact you to provide an update about this matter, and to assist in addressing any concerns related to the public use of Conservation Authority lands during the assessment and clean-up. For your information, Mr. Bardswick can be reached at 905-521-7652.

Again, thank you for bringing the Board's concerns to my attention, and please accept my best wishes.

Yours sincerely,

Jim Bradley
Minister

NIAGARA PENINSULA CONSERVATION AUTHORITY

TO: **The Chairman and Members of the Authority**

DATE: **June 13, 2012**

SUBJECT: **NPCA Audit Services - Report No. 34 -12**

The NPCA and the NPCF (Foundation) has utilized the services of MacGillivray Chartered Accountants and Business Advisors for the past 22 years to undertake a yearly audit of NPCA/NPCF operations as well as prepare annual financial statements. Occasionally during that time, the NPCA has requested quotes from other firms with the result that MacGillivray was successful in continuing with the audit services.

The Authority has been very satisfied with the level of service and value added assistance that staff at MacGillivray has provided over the many years. Although the cost for their service is below the current NPCA policy threshold amount for sole sourcing (Consultant Selection Policy), it is appropriate to undertake a periodic request for proposals for the service to ensure the NPCA continues to receive value for the costs incurred.

Accordingly, a Request for Proposals to undertake External Audit Services for the NPCA and NPCF (separate costs for each) over a 5 year period were forwarded to 5 additional local accounting firms. All firms have a proven track record of providing high quality audit services to their clients and although there would be a significant learning curve for those not familiar with NPCA operations, each of the firms would likely have the ability to provide satisfactory services for the NPCA. In all cases the firms indicated their learning costs would not be the responsibility of the Authority. The exception was one firm that was late with their proposal and did not provide adequate details for a full review.

Attached is a spreadsheet that compares the proposals based on audit hours by staff and the relative cost over the requested 5 year period. Although Firm 2 quoted the lowest average cost per year, it was based on significantly less time allocation (160 hours) than the next lowest cost proposal, being MacGillivray (200 hours). In discussion with NPCA accounting staff, I believe that 160 hours of audit time is insufficient for a full and complete audit given the complexities and number of transactions/capital assets of the Authority.

I am therefore recommending the NPCA continue with utilizing MacGillivray Chartered Accountants for audit services over the next 5 year period commencing with fiscal 2012, for the following reasons.

- Familiarity with NPCA process and historical issues/concerns that need to be reviewed on a continuing Basis.
- Lowest average hourly cost for services ($85 /hr. vs. $100 /hr.).
- Historical significant value added services at no additional costs.
- Flexibility in making changes to suit changing needs.
- Also provided lowest cost for services for the Niagara Peninsula Conservation Foundation.

A similar report will be presented to the Niagara Peninsula Conservation Foundation for their endorsement.

The yearly costs for the services are outlined in the recommendation:

RECOMMENDATION:

That the Report No. 34 -12 be received and that MacGillivray Chartered Accountants and Business Advisors be retained to undertake audit services for the NPCA over the 5 year period commencing in 2012 for the costs of:

$16,500 for fiscal year 2012
$16,800 for fiscal year 2013
$17,000 for fiscal year 2014
$17,350 for fiscal year 2015
$17,750 for fiscal year 2016

Respectfully Submitted By: _____

Tony D'Amario, P. Eng. CAO/ Secretary-Treasurer

NPCA Audit Proposal Comparison Chart - Costs and Proposed Audit Hours						
	Firm 1	**Firm 2**	**Firm 3**	**Firm 4**	**Firm 5**	**Firm 6**
			(MacGillivray)			(late receipt)
			recommended			
NPCA Audit Fees						
Hours - Senior Principals	12	25	17	25	29	not provided
Hours - Senior/Intermediate	27	90	103	105	67	not provided
Hours -Junior	120	45	80	85	42	not provided
Total Hours per year	159	160	200	215	138	not provided
Cost for 5 Year Period	$124,800	$80,000	$85,400	$155,000	$89,325	not provided
Average cost per year	$24,960	$16,000	$17,080	$31,000	$17,865	$20,000
Average cost per hour	$157	$100	$85	$144	$129	n/a
FOUNDATION Audit Fees						
Hours - Senior Principals	2	10	3	6	11	not provided
Hours - Senior/Intermediate	6	20	11	37	18	not provided
Hours -Junior	23	0	36	20	12	not provided
Total Hours per year	31	30	50	63	41	not provided
Cost for 5 Year Period	$21,230	$15,000	$14,600	$26,400	$26,250	not provided
Average cost per year	$4,246	$3,000	$2,920	$5,280	$5,250	unclear
Average cost per hour	$137	$100	$58	$84	$128	
TOTAL COST (NPCA & FOUNDATION)	$146,030	$95,000	$100,000	$181,400	$115,575	$100,000
(5 YEAR CONTRACT)						

NIAGARA PENINSULA CONSERVATION AUTHORITY

TO: **The Chairman and Members of the Authority**

DATE: **June 13, 2012**

SUBJECT: **2013 Budget Schedule - Report No. 35-12**

The preliminary 2013 budget schedule as proposed by the Niagara Region will necessitate the NPCA adopting its preliminary budget at the September 19th Board meeting. Traditionally, the Conservation Authority has formed a Budget Review Committee consisting of the Chairman, Vice-Chairman and a minimum of 3 additional Board members to consider a preliminary budget for the concurrence of the Full Board. The following schedule is proposed to meet the above deadline.

June 20th Board Meeting:	Establish Ad Hoc Budget Review Committee.
July:	Preliminary meeting with Ad Hoc Budget Review Committee to discuss guidance, challenges and direction.
Early August :	Staff to Prepare Preliminary Budget based on preliminary meeting and Submit to BRC
Last week of August:	Budget Review Committee to meet and review the preliminary budget and develop a recommendation for the Board's consideration.
September 19, 2012:	Full Board to consider and approve the 2013 Preliminary Budget for formal submission to the member municipalities.

GUIDANCE

At the time of preparing this report, the Niagara Region Budget Review Committee of the whole adopted a resolution requesting a tax freeze and limit increases to assessment growth (estimated at 0.8%), with departments to provide information on required cuts to achieve this. Full Council will be considering this matter at their June 14th meeting. NPCA staff will provide additional information to the Board on the final outcome at the June 20th Board meeting. There has been no indication of budget direction or guidance from the Haldimand County or the City of Hamilton at this time.

RECOMMENDATION:

That the Report No. 35-12 regarding the 2013 Budget Schedule and Guidance be received, and;

That the Ad Hoc Budget Review Committee be comprised of the Chairman, Vice-Chairman

_____, _____ **and** _____

Respectfully Submitted By: _____

Tony D'Amario, P. Eng. CAO/ Secretary-Treasurer

TO: **Chairman and Members of the Authority**

DATE: **June 2012**

RE: **PROJECT / PROGRAM STATUS REPORT – Report No. 36-12**

WATER MANAGEMENT

I. Watershed Development Services Division

1) Municipal and Development Plan Input and Review

i) To the end of May, staff have reviewed and processed 81 planning applications (of various types/complexity) and 125 building permits. In addition staff responds to many general enquires both from local municipalities and the public. Inquiries from landowners, real estate agents, etc. regarding floodplain mapping for the Welland River in Wainfleet, West Lincoln, Pelham and Welland appears to have peaked, although interest still remains high relative to other systems..

ii) Staff are directly involved in a number of initiatives (both external and internal) intended to improve Regional, local and NPCA planning processes and procedures including:

-ongoing involvement in a Regional Environmental Impact Study (EIS) Guideline review committee involving Regional, Municipal and NPCA staff.

-ongoing involvement in an "MOU" "Process Review Committee" again involving Regional, Municipal and NPCA staff. That Committee is already implementing process improvements to planning functions covered by the "MOU".

-ongoing involvement in a Regional Planning "Customer Service Needs Review" also involving Regional, Municipal and Authority staff.

-ongoing internal review of NPCA planning processes and procedures involving all Development Services staff.

2) NPCA 'Regulation of Development, Interference with Wetlands, and Alteration to Shorelines and Watercourses'

i) Permits
To date, 47 permits have been issued.

ii) Violations
A separate Confidential Violation Status Report has been prepared for June.

iii) NPCA-DFO Partnership Agreement
As part of the NPCA-DFO Partnership Agreement, NPCA staff work as a liaison between DFO Assessors and proponents to recommend appropriate fish habitat compensation projects. To date, NPCA's Biologist has been consulted on approximately 35 matters.

II. Watershed Technical Services Division

1) Source Water Protection Plan

- The proposed Source Protection Plan (SPP) was approved by the Source Protection Committee (SPC) and the Source Protection Authority (SPA) in May and has been posted on the internet for the second public consultation period. Comments that are received during this second consultation period will be presented to the SPA at the July 18, 2012 board meeting.

- Other activities include uploading data onto the provincial source protection database.

2) Water Quality Monitoring Program

- Water quality staff completed the 2011 Annual Water Quality Report. This report provides a summary of both surface water and groundwater quality data for the NPCA watershed.

- Surface water quality monitoring continues at 72 stations in the NPCA watershed. Water samples are collected monthly from April to October. These samples are analysed for bacteria, metals, nutrients and general chemistry.

- Staff is continuing to monitor water levels at all Provincial Groundwater Monitoring Network wells. As part of the regular maintenance of this data, a water level correction review will be implemented in the coming months by the NPCA hydrogeologist.

- Biological monitoring for Hamilton Airport stations and the Glanbrook Landfill have been completed.

- Two water well decommissioning projects that were approved in April have been completed. To-date 5 water well decommissioning projects have been approved and completed for 2012.

3) Geographic Information Systems

a) Source Water Protection Support Activities
- Archiving of project workspaces and organization of valuable data elements not captured in the MOE prescribed information deliverables is currently underway.

b) Watershed Development Services Support Activities
- Staff continues with tasks for implementing the Property Info application.

- Staff continue running the Toe of Slope and other the Riverine Shoreline and Erosion Hazard and Valleyland polygon mapping delivered by the consultant through a QA/QC process while integrating it into hazards data model.

c) Corporate GIS and Information Management Support Activities

- The RFP created for supply of an update to the Niagara Watershed's topographic base (1 meter contour supporting Digital Terrain Model) via funding from the Niagara Water Strategy has largely been finalized and will be released for tender soon. This is a critical information asset that addresses many Authority and municipal business needs and will specifically enable the continued compilation and maintenance of the NPCA's large scale hydrology base data.
- The new Niagara Navigator (public web mapping tool) application for the NPCA has been conceptualized and finalized for the required migration to the new technology the Region is implementing. Regional GIS staffs are now busy programming the back end of the application to address the NPCA's custom business content.
- The Large Scale Integrated Hydrology Data Update Pilot Project is now complete with the final report published and submitted to the Water Resources Information Program at MNR.

4) Flood Control

a) Monitoring & Major Maintenance

i) Staff continues to monitor the water levels at the Binbrook reservoir on a regular basis. The facility is fully operational and water level in the reservoir is being maintained at holding level.

ii) Staff continue to routinely monitor the water levels at our 14 stream gauge stations, climatic data at our 15 climate stations, and undertake routine maintenance, calibration, and inspections at all 25 installations, as part of the NPCA's routine flood forecasting and warning duties. The public may access this real-time water level and rainfall information through the NPCA's website.

b) Floodplain Mapping

Work to finalize the Lower and Upper Welland River remapping projects is on hold pending completion of the Central Welland River Peer Review work which is subject of a separate report.

5) Special Projects

a) Staff assisted in the Ministry of Natural Resources Groundwater Indicator Program for the Low Water Response Program and Provincial Groundwater Monitoring Network;

b) Staff assisted MOE in the Groundwater level analysis for the Balls Falls Climate Station.

c). Technical Services staff continues to provide on-going technical engineering support to the Development Services, Restoration, and Lands Divisions as requested.

III. Watershed Stewardship Division

1) Project Implementation – Watershed Plans

- In total 25 woodland restoration / riparian projects will be implemented across the watershed this year. Projects are in the planning phase.

- Over 25 construction projects such as wetland restoration, aquatic in-stream works, erosion and bank stabilization projects are currently being planned.

- Over 20 Best Management Practice (BMP) projects such as nutrient management projects, livestock fencing, cover crops and erosion control projects (rock chutes and check point dams) are currently being planned.

2) Outreach & Education

Canopies for Kids

The following 10 schools were selected by the review committee to participate in the program:

Fort Erie:	St. Joseph – Catholic Crystal Beach - Public		St. Catharines:	Apple Wood – Public Burleigh Hill – Public St. Anthony – Catholic
Grimsby:	Lakeview – Public			
Niagara Falls:	Cardinal Newman – Catholic		Wainfleet:	St. Elizabeth – Catholic
Port Colborne:	St. John Bosco - Catholic		Welland:	St. Mary – Catholic

The Implementation phase of the program has been completed. Each school received their ten large tress and 15 smaller trees for the class planting. The schools will water and care for the trees until the end of June. NPCA will have the trees watered as needed (weather dependant) over the summer.

Feedback from participating schools has been positive.

Landowner Stewardship Guide

- Building on the success of the One Mile Creek Landowner Stewardship Guide, staff are working to modify this guide to a watershed wide “How to” guide for landowners. Main topic sections will focus on improving water quality and biodiversity. The guide is currently undergoing final edits. The St. Catharine’s Green Committee is interested in funding a portion of the printing costs; negotiations are underway, with the ultimate goal of launching the document in the Walkers Creek Watershed in partnership with the Committee and the Walkers Creek Residents Association. The Guide will be completed in July 2012.

Yellow Fish Road Program

- This year will be the 12th year that the NPCA has been coordinating the Yellow Fish Road (YFR) program locally on behalf of Trout Unlimited. Trout Unlimited is had their annual Yellow Fish Road Day on Friday June 8th.

Community Fisheries Involvement Programs

- The Niagara Peninsula Conservation Authority (NPCA) has been collecting fisheries data in the Welland River Watershed for almost a decade. There are two active programs that allow the NPCA to collect this information, the Angler Catch & Release Program, and the Angler Diary Program. Both programs rely on local anglers to support the data collection. The results of this program was presented to the Port Colborne and District Conservation Club in May.

3) Niagara River Remedial Action Plan (RAP)

a) Lyons Creek East – Contaminated Sediment

- The Administrative Controls Protocol for Monitored Natural Recovery of contaminated sediment in Lyons Creek East is in place, and the NPCA is the lead coordinating agency. The local community has been advised through distribution of an update newsletter.

- Details and reports are available at: *www.npca.ca/planning-permits/lyons-creek-east/*

b) Monitoring & Assessment

- The Welland River Eutrophication Study is complete. Next steps will involve developing a strategy with partners to address the problems and identify remaining RAP actions.
- An interim assessment of fish & wildlife habitat has been completed.
- An assessment of fish & wildlife populations is underway.

c) Great Lakes Water Quality Agreement.

- The Governments of Canada and the United States (the Parties) are nearing the end of negotiations regarding the new Great Lakes Water Quality Agreement (GLWQA).

d) Canada-Ontario Agreement Respecting the Great Lakes Ecosystem (COA).

- The current Canada-Ontario Agreement Respecting the Great Lakes Basin Ecosystem (COA) expires on June 24, 2012.

LAND MANAGEMENT DEPARTMENT

Ball's Falls Conservation Area

Thanksgiving festival juried selection is complete and vendors are placed. Staff will be working over the next few months to fill entertainment, food vendors and displays. This year the layout will be modified to encourage more visitors to the Centre for Conservation. Changes include relocation of the entertainment stage to the west side of the creek.

April and May Video Newsletters have been posted on YouTube. These updates are receiving very positive feedback from visitors.

TD Friends of the Environment is funding a Bee observation box to be installed outside the Centre for Conservation. The artist responsible for the box is making a donation as well. Plans are being made to produce a bee wall habitat from quarried stone in the arboretum. All of these elements will be combined to support an upcoming exhibit in the Centre Gallery.

From Crystals to Gems exhibit opened May 5th. Opening day included participation with Niagara Peninsula Geological Society. Bob O'Donnel made a presentation on Fossils. Staff are preparing for the next exhibit, Iroquois Beadwork, a travelling exhibit from the ROM.

Gift Shop upgrades are nearly complete. Staff are targeting July 1st for full implementation. The new gift shop will offer local products, convenience items, souvenirs and snacks.

All historical buildings are now open for tours.

Staff attended several outreach events including Heartland Forest Frog Fest

Spring Awakening, Your World Rocks, From Crystals to Gems school programme, Stray Squirrel programmes were launched. A new garden has been added to the historical portion of the park to allow a more authentic plowing experience.

Gardening and Blacksmith workshops continue to be popular. Weddings continue. Bookings for school programmes and weddings are coming in regularly.

Grist Mill siding virtually complete on west side. Staff will begin working to fix drainage issues around the foundation.

The May 21st Queen's Jubilee Event went well. 400 - 600 visitors were present and new organizations were attracted to the site as partners, i.e. United Empire Loyalists, Monarchy League, MG Car Club, Butler's Rangers, Legion, and Citizenship and Immigration. New Canadians were officially sworn in at the Centre for Conservation. This event was a free admissions day used to launch the season and provide a goodwill gesture to locals.

Two volunteers received the Provincial volunteer service award, Scott Foster and Nancy Kane. Efforts to build the volunteer base at Ball's Falls continue. Spinners and Weavers are doing demonstrations on the first Sunday of every month near the log cabin. Blacksmiths will also do regular demonstrations on Sundays.

Binbrook Conservation Area

More than 200 local scouts camped at Binbrook the last weekend in May. The site is becoming popular with youth organizations looking for a group camping experience.

The splashpad upgrades were completed before the May long weekend. The pad is up and running. Our system is now completely compliant with new guidelines for pools and recreational water facilities. Water samples were taken from the supply well and at the swimming beach. These samples were sent away for analysis and PFOS testing.

All summer staff are now hired. This allows operation of our store and boat rental facilities in addition to regular park maintenance.

Weekend attendance doing very well with the hot weather, May Long weekend was very successful.

Staff are working with the Glanbrook Home Support Programme and the Hamilton International Airport to run a Community Movie Night. The event will be sponsored by local community and offered free to the public. Donations will be requested to benefit the Glanbrook Home Support Programme.

On Saturday, June 9th Binbrook played host to a Triathlon. The event was part of the Multisport Canada series. The triathlon brings hundreds of participants and spectators to the site.

Popularity of the beach area has increased and on weekends the beach area is usually overflowing. Staff are currently investigating the shoreline conditions and work that will be required to expand the beach. The additional beach area would be added east of the existing beach to the edge of the mown grass area in the park

Conservation Area staff are working to improve relationships with the local community. A presentation was given to Golden Horseshoe Outdoorsman Club about the NPCA and Binbrook C.A.

Staff will be attending the June 20th Community meeting to discuss PFOS and the MOE studies.

Chippawa Creek Conservation Area

Staff are preparing for the 25th Annual Bass Derby. The derby will be on July 7th from 7 a.m. to 2p.m. with prizes for the largest bass fish by weight in adult and children categories. Staff will be installing new rental docks in time for the event. The new docks will make it much easier for visitors to use the rental watercraft.

The aquatic weeds in Dils Lake are growing at a very rapid pace. Staff are planning to use the weed harvesting boat over the next two weeks to reduce the vegetation and improve the aesthetics of the lake.

The roof on the comfort station was replaced. All work was completed with internal staff to reduce the cost. The new steel roof will provide many more years of service.

Long Beach Conservation Area

Necessary maintenance activities are underway at the Long Beach water plant. Pressure switches and meters are being serviced to ensure they will be functioning properly over the summer.

Staff are busy with picnic table repairs and construction. These new tables are well received by our campers at both parks.

Algae on the beach is very heavy this year. Sometimes storms bring it in; other times storms wash it out. Unfortunately we are getting large dumps of algae with each storm. Staff are quick to clean it up, however the timing is restricted by our MNR beach cleaning permit.

Entrance improvements should be completed in early July. Works will include new signs, lighting and drainage works.

Two Mile Creek
Construction of the new asphalt walking trail through two mile creek conservation area is now completed and the site restored from construction activities.

Staff have consulted with the municipality and Parks Canada to make them aware of this work, and also to point out repairs of the roadway and drainage culverts that will need to occur to maintain this road access to the trail and the parks Canada heritage site.

Staff are working with neighbouring landowners and the Region of Niagara Public Works to resolve drainage issues impacting trees in the valley system.

Jordan Harbour
Staff are working with the contractor for the new open air pavilion to obtain permits for installation in a new proposed location north of the existing boat ramp. The installation of the new pavilion is slated for completion this summer along with additional floating docks at the boat ramp to support the increased use of the site by paddlers.

20 Valley - Jordan Stairs
The tender package for this project is being issued to bidders with prices to come in for review at the July board meeting. Staff are in consultation with the Town of Lincoln, the Museum, The Niagara Escarpment Commission and community members to review this project and the potential disruption when the stair is closed for construction. The current wood staircase is being monitored weekly for safety, once a contractor has been retained for the new stair construction our staff will proceed to close off the site and demolish the existing staircase.

Stevensville Conservation Area
Staff are working with the Fort Erie Conservation Club to establish a prairie at the Stevensville Conservation Area. Monies were generously provided from 'Pheasants Forever, Southern Ontario Chapter' to fund the entire project. The project will focus on habitat forage and nesting for wild turkey, with benefits to the Clubs pheasant focus as well. Staff are assisting with site preparation, plant species including native prairie plant species and funding.

Lake Erie Access Beach
Staff are consulting with the Region and the MNR on some remedial site works needed for the main trail access over the dune to the beach. Wind scouring and foot traffic is eroding the trail, a change to the trail alignment across the slope to reduce the grade, trail shoring with landscape stone, and beach grass planting are being proposed to improve beach access. MNR staff are commenting on the proposed work with respect to the fowlers toad habitat, and will be working alongside staff during the remediation work.

Wainfleet Bog Conservation Area
New interpretive signs are in final production for installation in late June. Signs will include a welcome, with information on the site's history, significant features, as well as, the donors for site acquisition.

Partnerships
Staff assisted the Niagara Restoration Council with seeding of its 25 acre project at Short Hills Provincial Park. This project included restoring a farm field to a forest of trees and wild grasses and flowers.
Binbrook

COMMUNITY RELATIONS

Niagara Children's Water Festival

To date 124 classes comprising 2,711 students are registered for the 2012 school program. The public day is scheduled for Sunday, September 16 from 12:00 to 4:00. This is always a popular event and provides an opportunity for families to come out to learn about our water resources.

Community Outreach

Staff continues to participate in a number of community partnership initiatives to promote the work of the Conservation Authority. Promotional initiatives are focused to the revenue producing areas in an effort to increase visitation and encourage the purchase of Membership Passes. Staff attended a tree planting initiative at A.N. Meyer Secondary School. It was great to see an impressive number of staff and student out for the event.
Staff was in attendance at the Citizenship Ceremony at Ball's Falls on Victoria Day, May 21st. Following the event, a barbecue and other activities were held in the conservation area.

Source Water Protection

The committee met to finalize the Draft Proposed Source Protection Plan. The plan is now in its second phase of public comments. The plan will be presented to the NPCA Board for approval and the forwarded on to the Minister of Environment.

Welland River Floodplain Review and Implementation Committee

Advertisements were placed in various publications to recruit members from the public to sit on the committee. Submissions from interested individuals will be received until June 15th.

Bob Welch Memorial Golf Tournament

A total of 72 Golfers attended the event this year. As well we had 19 hole sponsors and 2 corporate sponsors. It is anticipated that the revenue from the event will be approximately $14,000. Proceeds will be directed to the Jordan Harbour Conservation Area capital redevelopment.

Recommendation:

Report No. 36-12 outlining the status of Authority projects/programs be received for information.

Respectfully Submitted by:_____

Tony D'Amario, P.Eng.
Chief Administrative Officer/Secretary-Treasurer