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Essex Region Conservation
Authority
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Master Plan Report (Volume 2)

**Upper Little River Watershed
Drainage and Stormwater
Management Master Plan, Class
Environmental Assessment,
Windsor and Tecumseh, Ontario**

January 2023

**Master Plan Report
Upper Little River Watershed Drainage and Stormwater Management Master Plan,
Class Environmental Assessment, Windsor and Tecumseh, Ontario**

January 2023

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Volume 2:

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Appendix J: Fluvial Geomorphology
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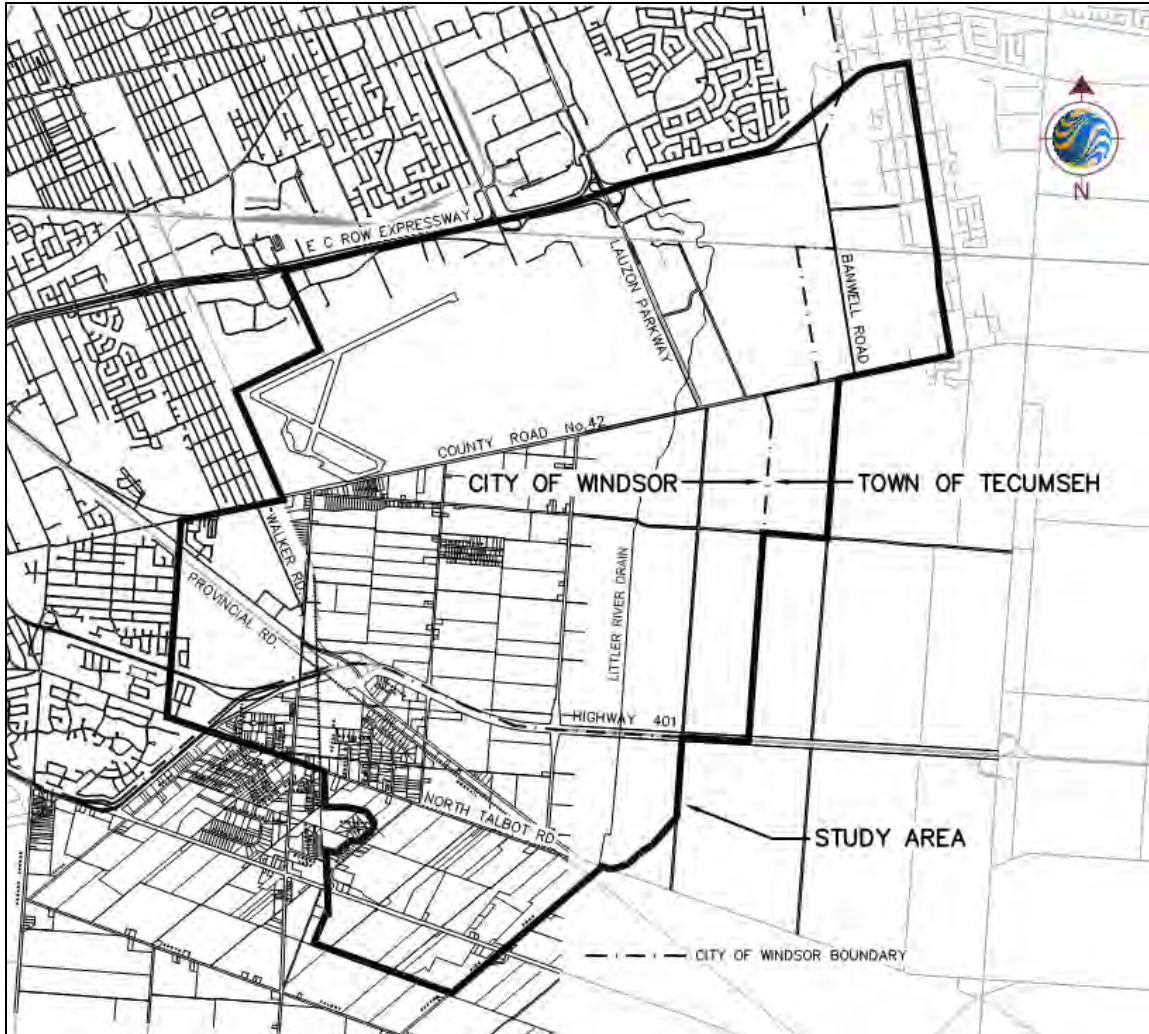


APPENDIX B
Public Notice Intent

**ESSEX REGION CONSERVATION AUTHORITY
NOTICE OF STUDY COMMENCEMENT**

**UPPER LITTLE RIVER WATERSHED MASTER DRAINAGE PLAN &
STORMWATER MANAGEMENT PLAN**

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has initiated a Master Plan Study in accordance with Phases 1 & 2 of the Municipal Class Environmental Assessment (EA) process. This Study will determine the stormwater management infrastructure requirements for the Upper Little River Watershed area to service existing and future development.



If you have any questions or wish to be added to the study mailing list, please contact:

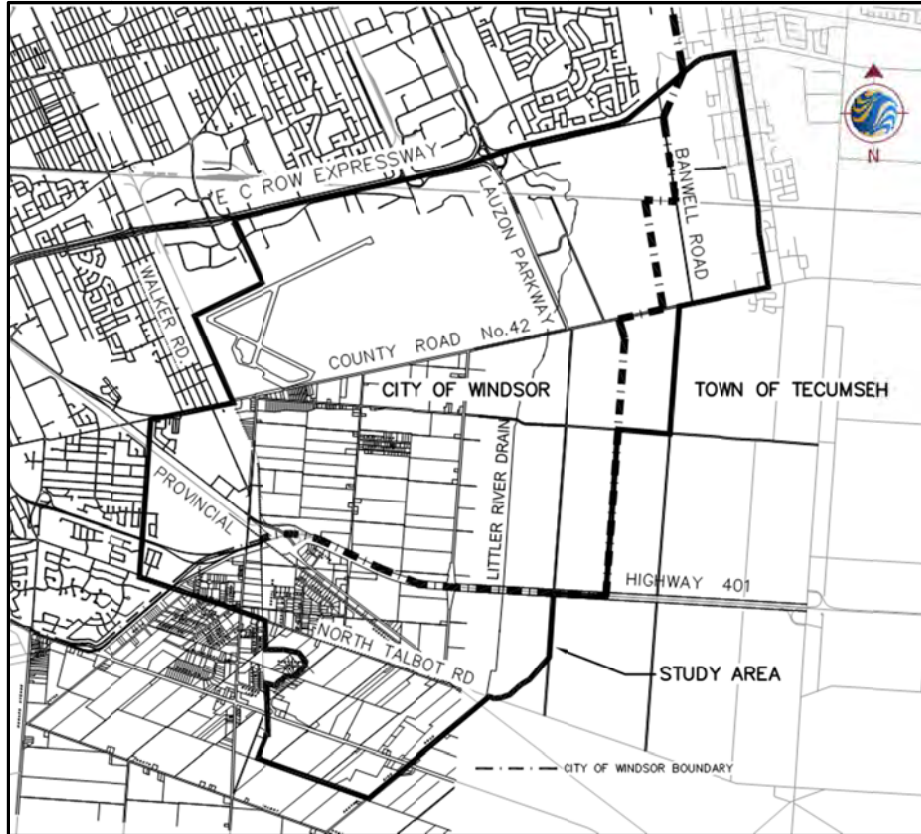
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360 Fairview Avenue West
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jayson.innes@stantec.com

**ESSEX REGION CONSERVATION AUTHORITY
NOTICE OF PUBLIC INFORMATION CENTRE No. 1**

**UPPER LITTLE RIVER WATERSHED MASTER DRAINAGE PLAN & STORMWATER
MANAGEMENT PLAN**

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has initiated a Master Plan Study in accordance with Phases 1 & 2 of the Municipal Class Environmental Assessment (EA) process. This Study will determine the storm water management infrastructure requirements for the Upper Little River Watershed area to service existing and future development.



A Public Information Centre (P.I.C.) will take place to provide further information to the public regarding the project and to receive input and comments. Displays of study information will be available for review introducing the project and outlining the Environmental Assessment requirements. Representatives from the Essex Region Conservation Authority, the City of Windsor, the Town of Tecumseh, and Stantec Consulting will be present to discuss issues and concerns.

The Public Information Centre (P.I.C.) No.1 is scheduled for Tuesday, May 29, 2012 at the Forest Glade Community Centre – 3215 Forest Glade Drive from 3:00p.m. – 5:00p.m. & 6:00p.m. – 8:00p.m.

If you have any questions or wish to be added to the study mailing list, please contact:

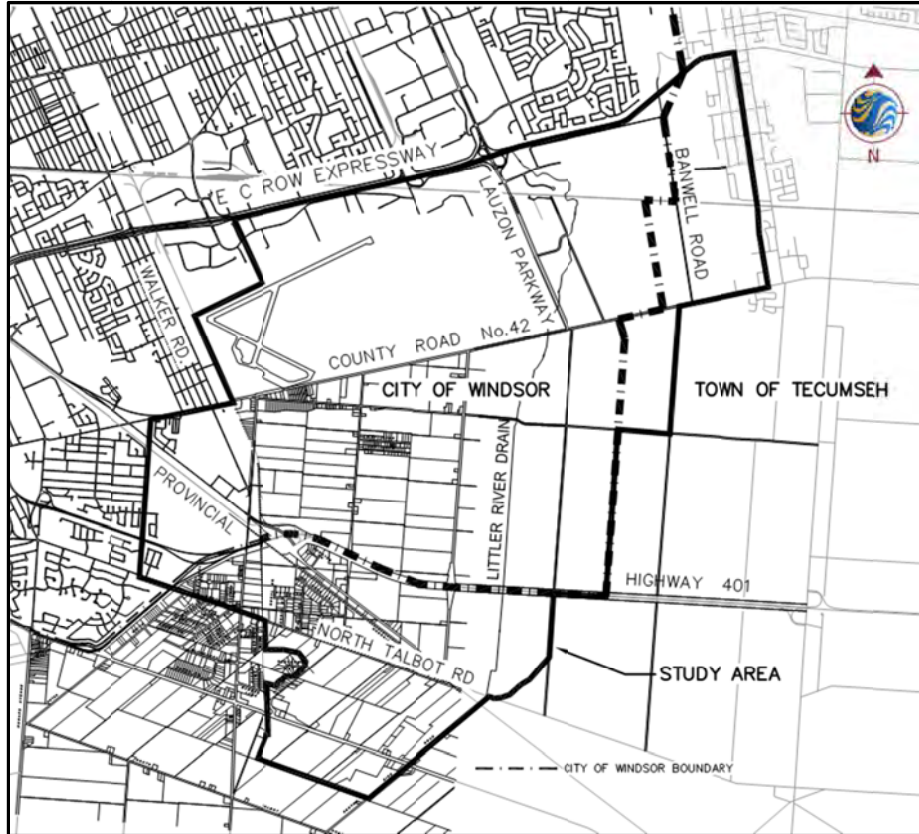
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**ESSEX REGION CONSERVATION AUTHORITY
NOTICE OF PUBLIC INFORMATION CENTRE No. 2**

**UPPER LITTLE RIVER WATERSHED MASTER DRAINAGE PLAN & STORMWATER
MANAGEMENT PLAN**

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has initiated a Master Plan Study in accordance with Phases 1 & 2 of the Municipal Class Environmental Assessment (EA) process. This Study will determine the stormwater management infrastructure requirements for the Upper Little River Watershed area to service existing and future development.



One Public Information Centre (PIC) (May 29, 2012) has already been held to introduce the project and outline the alternatives and the evaluation criteria. Input received during this PIC was considered in the evaluation of the preferred alternative. The purpose of the second PIC will be to review the preliminary preferred alternative for stormwater management controls and to discuss the rehabilitation opportunities. Representatives from the Essex Region Conservation Authority, the City of Windsor, the Town of Tecumseh, and Stantec Consulting will be present to discuss issues and concerns.

The Public Information Centre (P.I.C.) No.2 is scheduled for Monday, October 22, 2012 at the Windsor Christian Fellowship – 4490 7th Concession Road from 3:00p.m. – 5:00p.m. & 6:00p.m. – 8:00p.m.

If you have any questions or wish to be added to the study mailing list, please contact:

| | |
|--|--|
| Jeremy Wychreschuk, M.A.Sc., P. Eng. Director of Watershed Engineering Essex Region Conservation Authority 360 Fairview Avenue West Essex, Ontario, N8M 1Y8 Tel: (519) 776-5209 Fax: (519) 776-8688 jwychreschuk@erca.org | Jayson Innes, M.A.Sc., P. Eng. Project Manager Stantec Consulting Ltd. 49 Frederick Street Kitchener, Ontario, N2H 6M7 Tel: (519) 585-7282 Fax: (519) 579-8664 jayson.innes@stantec.com |
|--|--|

Welcome to the Upper Little River Stormwater Master Plan Class Environmental Assessment

Public Information Centre

May 29, 2012

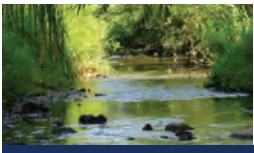


Please sign in

Take an information sheet to record your thoughts
as you review the display material

City and Town staff and the study team are available
to discuss your questions and concerns

Public input will influence this study;
please take time to fill out a comment sheet



Study Purpose

Problem Statement

Future development is expected within the Upper Little River Watershed in the near future. Stormwater management infrastructure will be required to control runoff from this future development such that there are no adverse impacts to downstream areas due to flooding, erosion, or water quality. A Master Drainage and Stormwater Management Plan is proposed including both City of Windsor and Town of Tecumseh lands to coordinate and guide future development in this area. The preferred alternative will provide a balance of relevant natural, social, technical and economic criteria to establish appropriate drainage and stormwater management requirements at a watershed level that meets the needs of area stakeholders.



Project Objectives

The purpose of this Class EA process is to evaluate options and determine a preferred alternative for the provision of stormwater management controls for the developing lands within the Upper Little River Watershed while allowing for future enhancement of the watercourse and stream corridor. The objectives of this project are:

- To determine a preferred option for stormwater management infrastructure within the Upper Little River Watershed, while taking into account; flood control, water quality, erosion control, aquatic habitat, aesthetics, safety, and recreational uses
- To carry out a Class Environmental Assessment
- To complete a preliminary design for the preferred option

Key Issues and Challenges

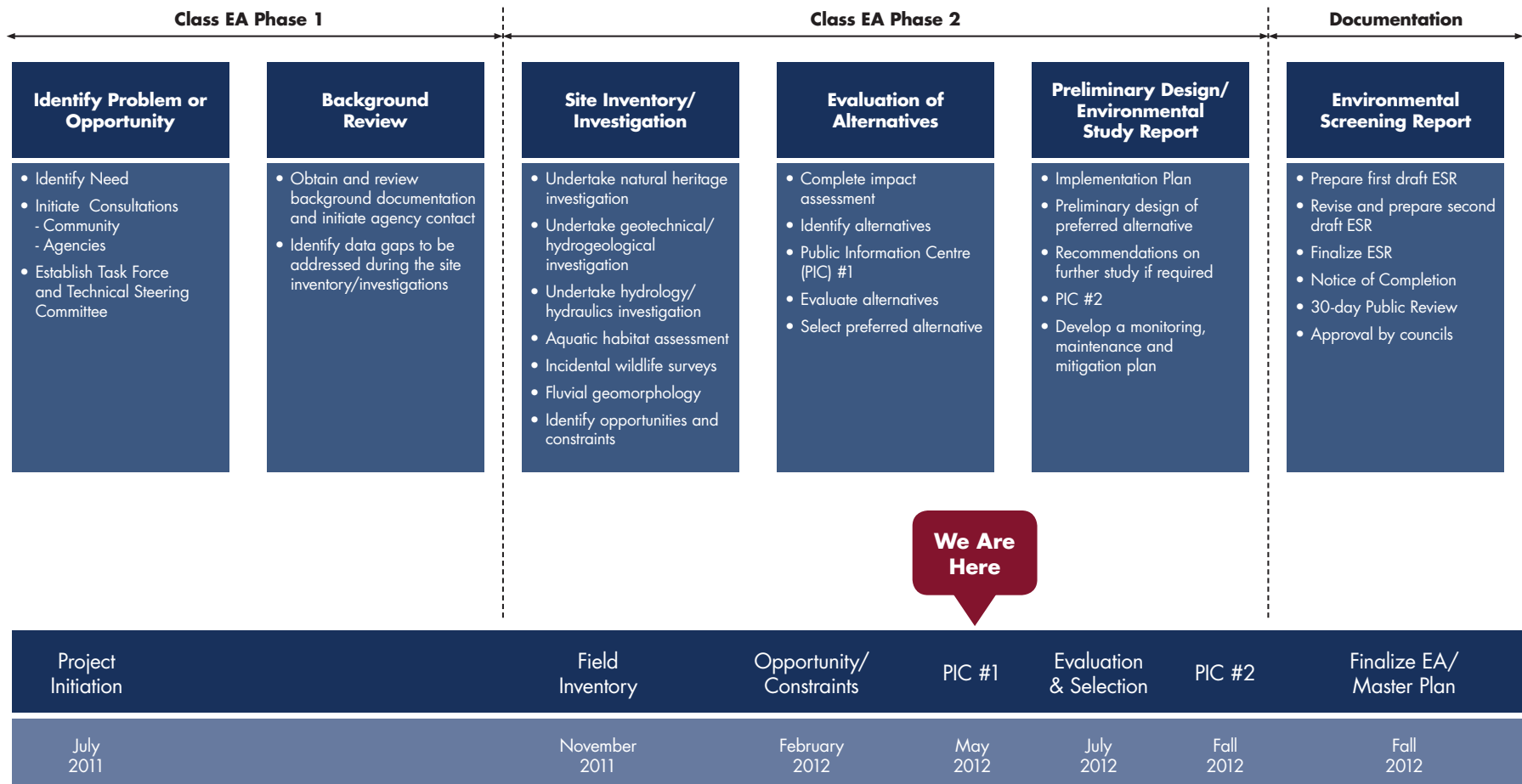
The current state of the watershed presents several key challenges and opportunities:

- The watershed suffers from recurring flooding and sediment build-up issues
- Waterfowl are attracted to typical stormwater management facilities, increasing the probability of bird strikes at the Windsor Airport
- Municipal Drains may be removed or modified in order to accommodate the proposed development plan, impacting fish habitat
- Develop corridors and linkages to minimize fragmentation of the natural habitat and recreational areas



Upper Little River Stormwater Master Plan Class Environmental Assessment

Class Environmental Assessment (EA) Process









Upper Little River Stormwater Master Plan Class Environmental Assessment

Study Area



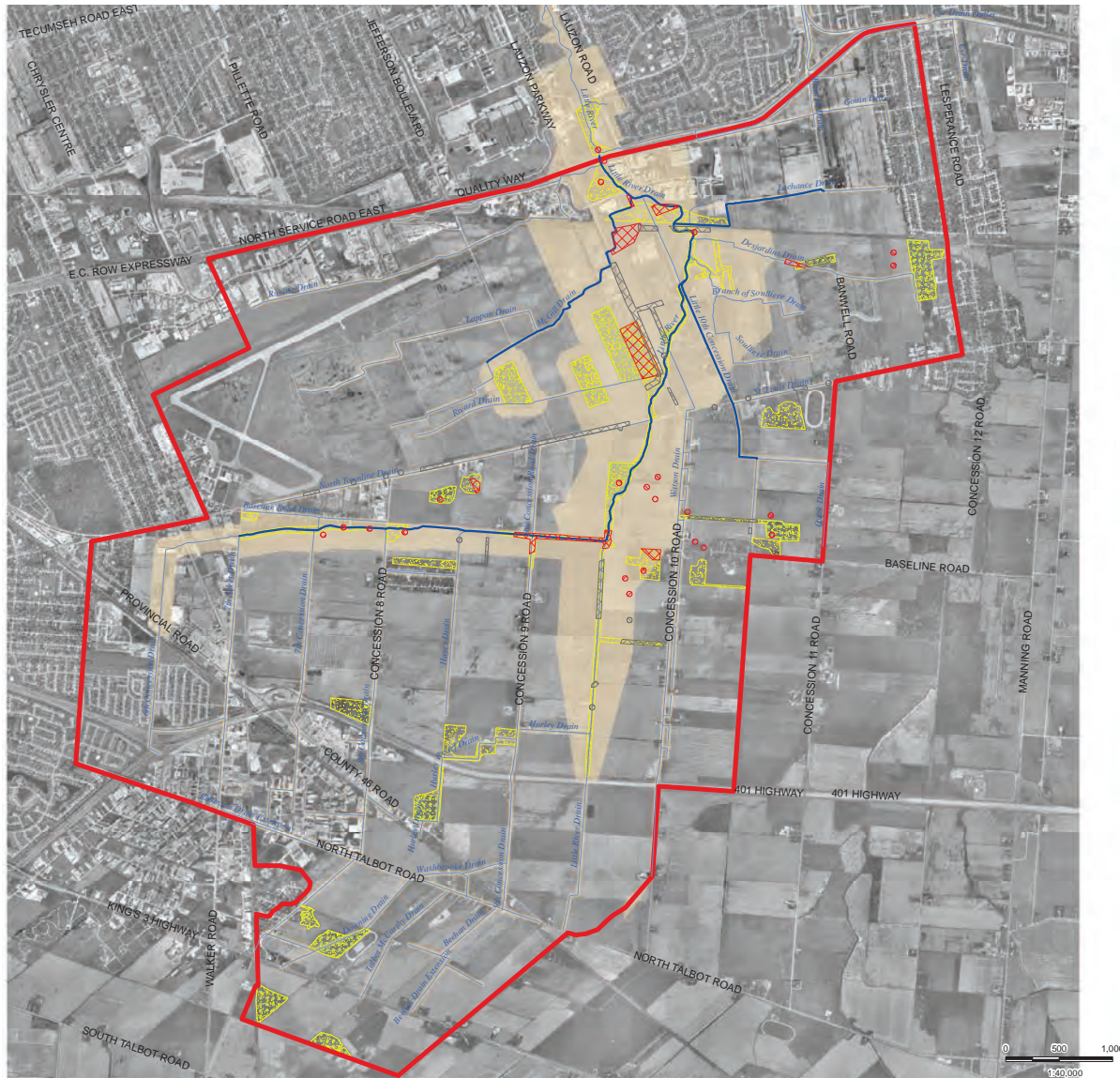
Legend

-  STUDY AREA
-  EXISTING WATERCOURSE
-  OVERLAND FLOW / TILE DRAIN
-  CITY OF WINDSOR / TOWN OF TECUMSEH BOUNDARY





Significant Natural Areas



Legend

- Watercourse
- Study Area
- Fish Habitat Reach
- Significant Plant Species Observed
- Significant Wildlife Species Observed
- Habitat Areas
- Woodland
- Limit of Regulated Area



Upper Little River Stormwater Master Plan Class Environmental Assessment

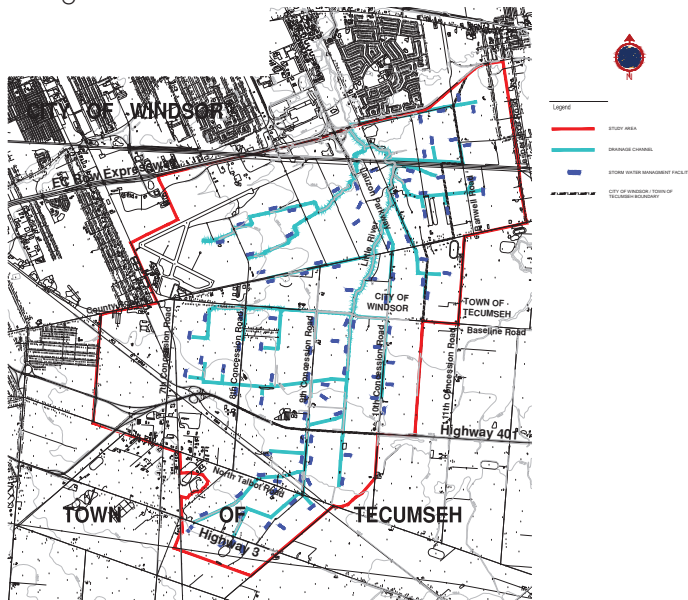
Description of Alternatives

Alternative #1 The "Do-Nothing" Approach

The "Do-Nothing" alternative includes no stormwater management controls for the developing areas in the Upper Little River.

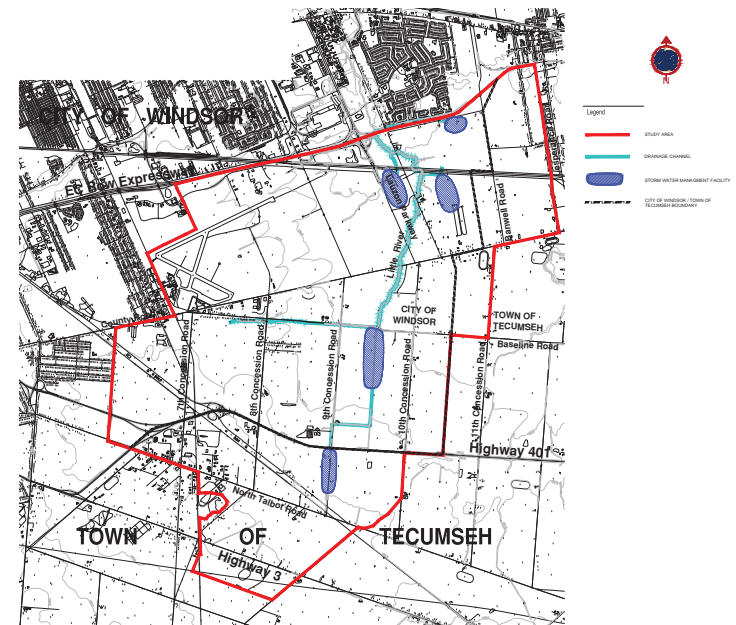
Alternative #2 Water Quality and Erosion Control Only, no Flood Control

For this alternative, the proposed development will have only water quality treatment and erosion control, with no flood control. Many small water quality facilities would be scattered throughout the watershed.



Alternative #3 Communal On-line SWM Facilities

This alternative analyzes the potential to minimize the number of stormwater management facilities required to serve the study area by consolidating all water quality, erosion and flood controls at a few locations throughout the watershed.



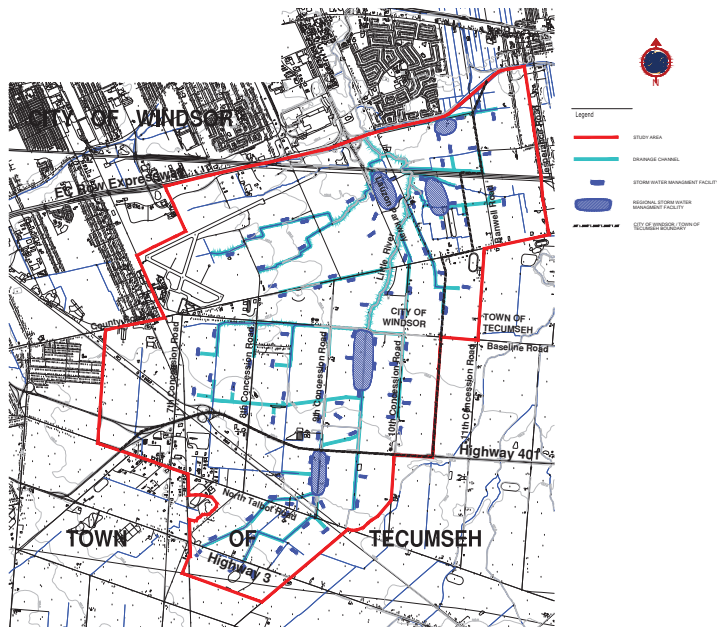


Upper Little River Stormwater Master Plan Class Environmental Assessment

Description of Alternatives

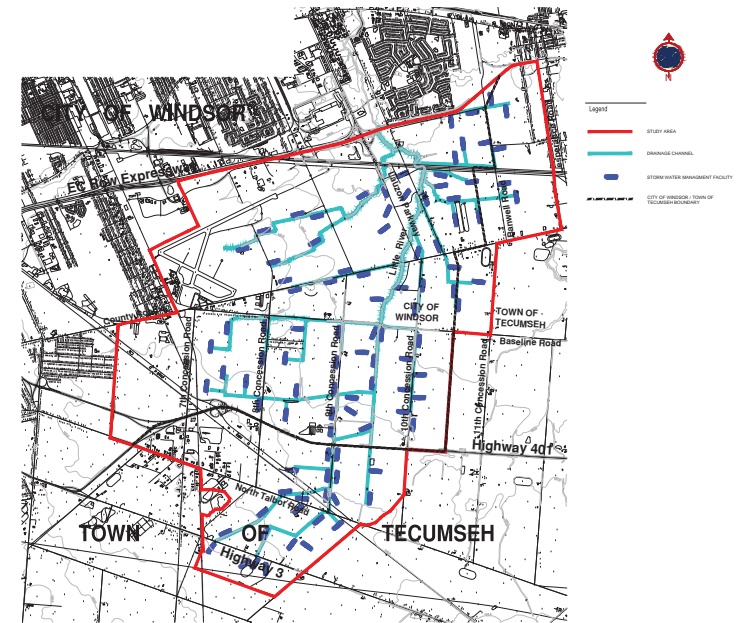
Alternative #4 Communal Flood Control and Distributed Water Quality and Erosion Control

This alternative analyzes the scenario where a few large flood control facilities are located within the study area (similar locations to Alternative #3), but many small water quality and erosion controls are distributed throughout the area (similar locations to Alternative #2).



Alternative #5 Distributed Stormwater Management Controls

This alternative considers the potential for stormwater management controls to be distributed throughout the study area, and each facility would be required to provide water quality, erosion and flood controls.



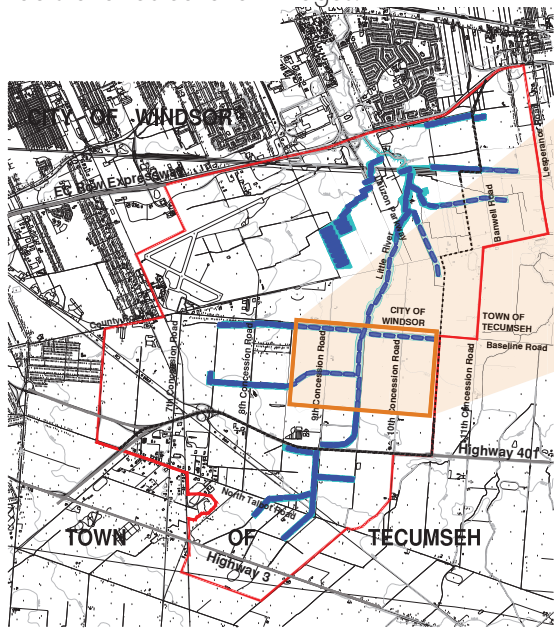


Upper Little River Stormwater Master Plan Class Environmental Assessment

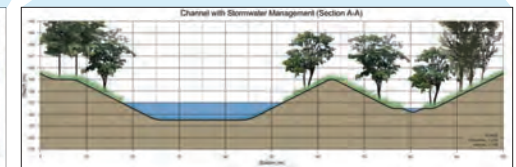
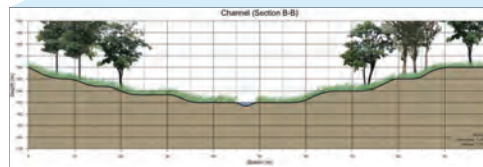
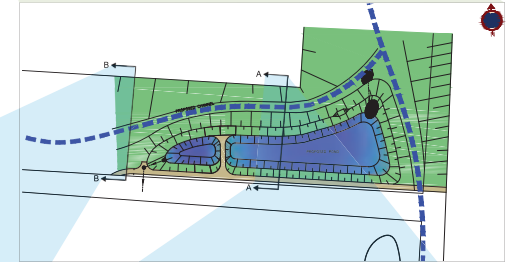
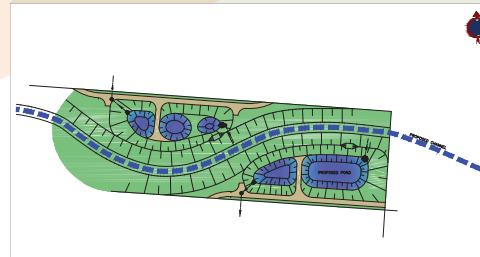
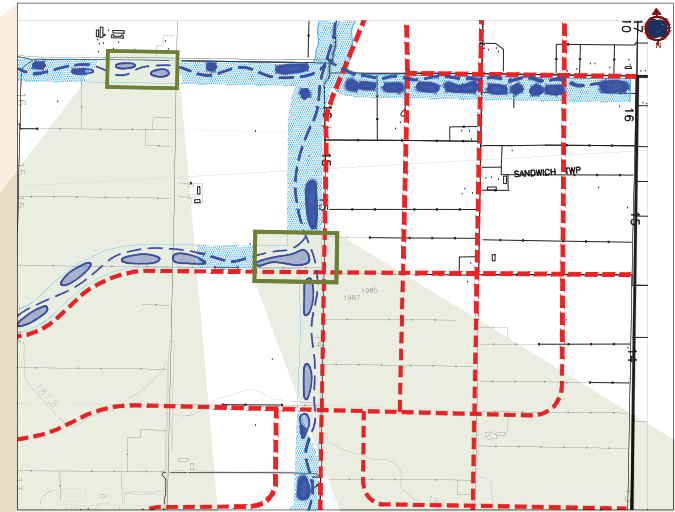
Description of Alternatives

Alternative #6 Grouped Stormwater Management Controls

This alternative considers the potential for stormwater management controls to be grouped into stormwater management corridors. Each facility would be required to provide water quality, erosion and flood controls. The facilities are aligned to promote natural corridors and recreational linkages.



- Legend
- STUDY AREA
 - STORM WATER MANAGEMENT CORRIDOR
 - STORM WATER MANAGEMENT FACILITY
 - CITY OF WINDSOR, TOWN OF TECUMSEH





Evaluation Criteria

Evaluation Methodology

For each alternative the project team will:

- Apply the evaluation criteria using the measures outlined above
- The measures will be converted to an assigned score based on the rank of relative preferences of the alternatives
- The scores will then be totaled and normalized by category (so that each category is weighted equally) to provide an overall score for each alternative
- Alternatives with higher scores are considered more preferred or feasible than those with lower scores
- The initial evaluation will be based on an equal weighting of criteria categories
- A sensitivity analysis will be conducted to determine if the overall scoring of alternatives changes if criteria categories are assigned a different weighting scheme

Upper Little River Watershed Master Drainage Plan EA

| EVALUATION CRITERIA | | |
|--|---|---|
| Criteria | Description | Measure |
| Natural Environment | | |
| Terrestrial Resources, Vegetation, and Wildlife Implications | The nature and extent of disturbance to terrestrial habitat, vegetation communities, and wildlife resulting from the construction/operation of the alternative. Alternatives that maintain biodiversity and minimize disturbance to native species, regionally significant species and species with specific habitat requirements are preferred | <ul style="list-style-type: none"> • Nature of disturbance (direct vs. indirect) • Area (ha) of habitat affected • Nature, significance, and sensitivity of affected area or species |
| Fisheries Resources and Aquatic Habitat Implications | Implications of disturbance to fish habitat and/or features that sustain habitat conditions resulting from the construction/operation of the alternative. Alternatives that sustain a fishery are preferred | <ul style="list-style-type: none"> • Nature and extent of disturbance to fish habitat, including opportunities for movement and potential spawning areas • Nature, significance and sensitivity of fish habitat affected • Nature and extent of any disturbance to features that sustain fish habitat conditions, including flow regime, groundwater seeps and riparian vegetation |
| Groundwater and Base Flow Implications | Impact of the alternative on groundwater levels and base flows in the Upper Little River Watershed. Alternatives that maintain or enhance groundwater and base flow are preferred. | <ul style="list-style-type: none"> • Nature and significance of changes to base flow • Nature and extent of impact to groundwater levels and well use |
| Surface Water Quality | Impact of the alternative on in-stream water quality | <ul style="list-style-type: none"> • Number of proposed stormwater management control measures and their location within the study area • Nature and significance of changes to the overall water quality system |
| Economic Environment | | |
| Total Capital Cost | Relative overall capital costs, including restoration/enhancement costs for the alternative. Lower cost alternatives are preferred | • Capital costs of alternative relative to other alternatives |
| Total Maintenance Cost | Relative annual costs for operation & maintenance activities for the alternative. Lower cost alternatives are preferred | • Operation & maintenance costs of the alternative relative to other alternatives |
| Technical Environment | | |
| Ability to Provide Required Flood Protection | The ability of the alternative to maintain/enhance the existing level of flood protection. Alternative must satisfy flood protection requirements | • Flood protection to required levels provided |
| Ease of Construction/ Implementation | The ability of the alternative to be easily implemented on a technical, regulatory, and practical basis. Alternatives that are easier to construct/implement are preferred | <ul style="list-style-type: none"> • Type of structure/construction required • Permitting/approval requirements • Difficulty of construction/implementation (access, site-specific conditions, coordination between facilities) |
| Ability to Meet Agency Requirements | The ability of the alternative to meet MOE, Municipalities, Essex Region Conservation Authority, Windsor Airport requirements | <ul style="list-style-type: none"> • Nature and location of controls • Nature and location of water bodies in relation to the Windsor Airport |
| Social/Cultural Environment | | |
| Aesthetics | The ability of the alternative to maintain or enhance the appearance of the existing and newly created local natural areas and stormwater management control measures. Alternatives that maintain or improve existing aesthetic values are preferred | <ul style="list-style-type: none"> • Nature and location of encroachment within existing natural areas • Nature and location of stormwater management control measures |
| Health and Safety | The potential risk or liability to community and operations staff health and safety resulting from: <ul style="list-style-type: none"> • Flood events • Recreational use • Operation and maintenance Alternatives that maintain or improve safety are preferred | <ul style="list-style-type: none"> • Nature and location of risk • Public accessibility to risk areas • Flood control operational requirements |
| Recreational Opportunities | The ability of the alternative to maintain, enhance, and manage recreational opportunities within the study area. Alternatives that maintain or enhance opportunities are preferred | • Nature and location of stormwater management control measures relative to recreational areas including trails, sports fields, and other recreational infrastructure |
| Cultural Heritage/Archaeology | The ability of the alternative to protect potential archaeological resources within the study area. Alternatives that avoid or protect potential locations are preferred. | <ul style="list-style-type: none"> • Proximity of stormwater management areas to existing archaeological finds • Nature of potential disturbance |



The Next Steps

Comments from today's Public Information Centre
will be received until
June 15, 2012

The alternatives will be evaluated and a
preliminary solution will be recommended
June 2012 to September 2012

Comments from reviewing agencies will be incorporated
into the decision making process

PUBLIC INFORMATION CENTRE #2
Fall 2012

Thank You for Attending

*If you have any questions about this study
feel free to ask any member of the Study Team.*



Upper Little River Stormwater Master Plan Class Environmental Assessment

INTRODUCTION

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has initiated a Master Plan Study in accordance with Phases 1 & 2 of the Municipal Class Environmental Assessment (EA) process. This Study will determine the stormwater management infrastructure requirements for the Upper Little River Watershed area to service existing and future development. This information brief provides an overview of the study, key activities and schedule.

PROBLEM STATEMENT

Future development is expected within the Upper Little River Watershed in the near future. Stormwater management infrastructure will be required to control runoff from this future development such that there are no adverse impacts to downstream areas due to flooding, erosion, or water quality. A Master Drainage and Stormwater Management Plan is proposed including both City of Windsor and Town of Tecumseh lands to coordinate and guide future development in this area. The preferred alternative will provide a balance of relevant natural, social, technical and economic criteria to establish appropriate drainage and stormwater management requirements at a watershed level that meets the needs of area stakeholders.

DECISION-MAKING PROCESS

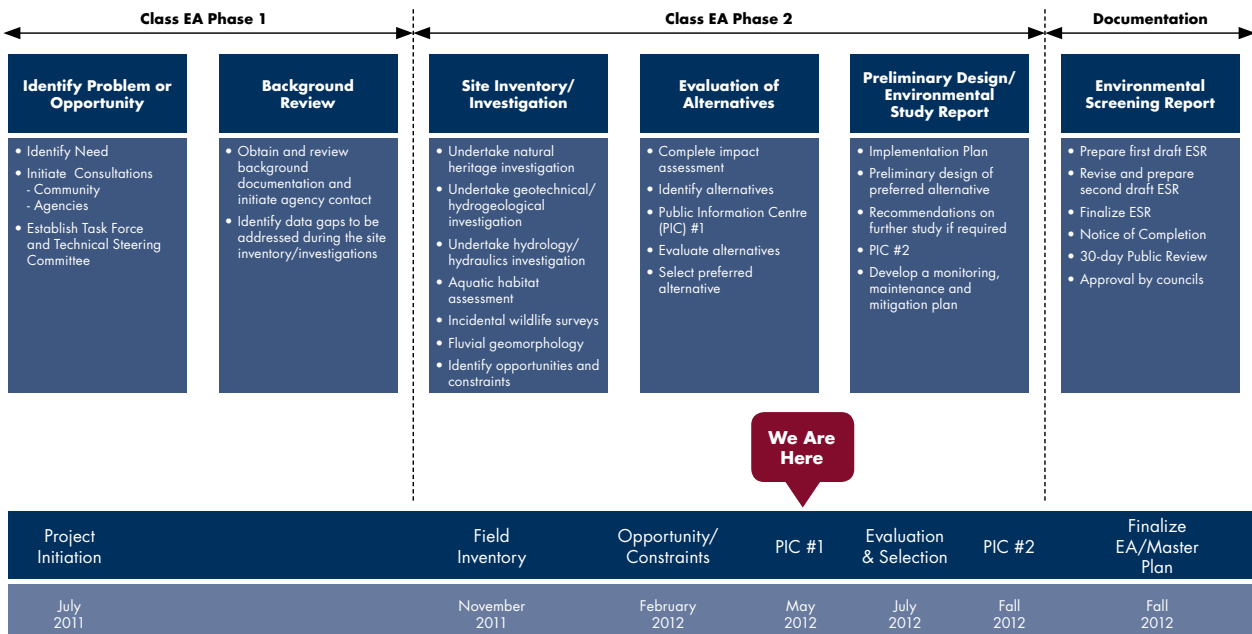
The study will be in accordance with the Municipal Engineers' Association document entitled "Municipal Class Environmental Assessment" October 2000, as amended in 2007.

The Class EA process includes public and review agency consultation, an evaluation of alternatives, an assessment of the impacts of the proposed alternatives, and identification of a preferred solution.

PROJECT OBJECTIVES

The purpose of this Class EA process is to evaluate options and determine a preferred alternative for the provision of stormwater management controls for the developing lands within the Upper Little River Watershed while allowing for future enhancement of the watercourse and stream corridor. The objectives of this project are:

- To determine a preferred option for stormwater management infrastructure within the Upper Little River Watershed, while taking into account; flood control, water quality, erosion control, aquatic habitat, aesthetics, safety, and recreational uses
- To carry out a Class Environmental Assessment
- To complete a preliminary design for the preferred option





Upper Little River Stormwater Master Plan Class Environmental Assessment

THE STUDY AREA

The Upper Little River Stormwater Master Plan will focus the portion of Little River located upstream of the E.C. Row Expressway, including the Windsor Airport.

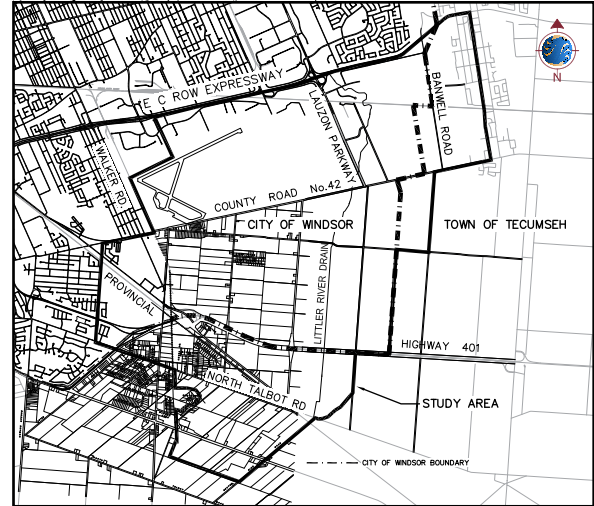
PROJECT ACTIVITIES

A review of background information and field reconnaissance has been completed. Some of the key issues and challenges include:

- The watershed suffers from recurring flooding and sediment build-up
- Waterfowl are attracted to typical stormwater management facilities, increasing the probability of bird strikes at the Windsor Airport
- Municipal drains may be removed or modified in order to accommodate the proposed development plan, impacting fish habitat
- Develop corridors and linkages to minimize fragmentation of the natural habitat and recreational area

A comprehensive list of stormwater management alternatives has been generated and includes various locations and levels of treatment. Enhancement opportunities have also been identified and include improvements to the watercourse, water quality, and trail systems.

Evaluation criteria have been developed to measure the relative benefit of each of the alternatives/opportunities within the Study Area



NEXT STEPS

- Comments from today's PIC will be received until June 15, 2012
- Comments received from review agencies and the public will be incorporated into the decision-making process
- Alternative solutions will be evaluated
- A preliminary preferred solution will be recommended
- PIC #2 will be held to present preferred alternative
- Finalize EA Report

For additional information, please contact:

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Essex Region Conservation Authority
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Upper Little River Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

Please take a few minutes to complete this brief comment sheet. Your contribution will assist the study team with the collection of background information and in ensuring that all appropriate alternatives and opportunities are considered and that the criteria to be used for the evaluation is appropriate. Completed comment sheets will be carefully considered during the next stage of the study.

1. Are there other stormwater management alternatives that should be considered through this process?

YES NO Please comment: _____

2. Are there other enhancement opportunities that should be considered through this process?

YES NO Please comment: _____

3. The proposed evaluation criteria include technical, natural, social/cultural and economic considerations within the study area. Pleaser provide your comments, questions or concerns with the proposed evaluation criteria.

Please comment: _____

4. It is proposed that the evaluation criteria categories (technical, natural, social/cultural and economic) will be given equal weighting in the evaluation exercise. Please indicate your preference for an equal weighting of evaluation criteria categories and/or provide another weighting scheme (check all that apply).

- I support the proposed equal weighting
- I offer an alternative weighting for consideration by the project team

| Evaluation Criteria Category | Proposed Equal Weighting | Please Consider This Alternative |
|------------------------------|--------------------------|----------------------------------|
| Technical Environment | 25% | |
| Natural Environment | 25% | |
| Social/Cultural Environment | 25% | |
| Economic Environment | 25% | |



Upper Little River Stormwater Master Plan Class Environmental Assessment

5. The Upper Little River Stormwater Master Plan is following the process outlined for Master Plan Class Environmental Assessment studies. Do you have any questions, comments or concerns about the decision-making process that is to be followed?

YES NO Please comment: _____

6. How would you describe the nature of your interest in the study?

Member of the general public

Resident/landowner within the Study Area

Member of an Interest Group (please specify) _____

Agency representative (please specify) _____

7. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: _____

8. Please provide your name and contact information (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

Please withhold my name and contact information from publication in the Class EA report.

You may leave this completed Comment Sheet in the box provided at the registration table for this Information Centre or you may send it by June 15, 2012 to:

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Director of Watershed Engineering
Essex Region Conservation Authority
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Ontario, N8M 1Y8
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Thank you for your participation in this study.





Upper Little River

Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

Please take a few minutes to complete this brief comment sheet. Your contribution will assist the study team with the collection of background information and in ensuring that all appropriate alternatives and opportunities are considered and that the criteria to be used for the evaluation is appropriate. Completed comment sheets will be carefully considered during the next stage of the study.

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YES NO Please comment: _____

2. Are there other enhancement opportunities that should be considered through this process?

YES NO Please comment: _____

3. The proposed evaluation criteria include technical, natural, social/cultural and economic considerations within the study area. Please provide your comments, questions or concerns with the proposed evaluation criteria.

Please comment: *I think the weighting can only be evaluated if the details of each alternative is made known.*

4. It is proposed that the evaluation criteria categories (technical, natural, social/cultural and economic) will be given equal weighting in the evaluation exercise. Please indicate your preference for an equal weighting of evaluation criteria categories and/or provide another weighting scheme (check all that apply).

- I support the proposed equal weighting
- I offer an alternative weighting for consideration by the project team

| Evaluation Criteria Category | Proposed Equal Weighting | Please Consider This Alternative |
|------------------------------|--------------------------|----------------------------------|
| Technical Environment | 25% | |
| Natural Environment | 25% | |
| Social/Cultural Environment | 25% | |
| Economic Environment | 25% | |



Upper Little River Stormwater Master Plan Class Environmental Assessment

5. The Upper Little River Stormwater Master Plan is following the process outlined for Master Plan Class Environmental Assessment studies. Do you have any questions, comments or concerns about the decision-making process that is to be followed?

YES NO Please comment: _____

6. How would you describe the nature of your interest in the study?

Member of the general public
 Resident/landowner within the Study Area
 Member of an Interest Group (please specify) _____
 Agency representative (please specify) _____

7. Do you have any additional comments or information that you feel would be helpful to the project team?

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Thank you for your participation in this study.





Upper Little River

Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

Please take a few minutes to complete this brief comment sheet. Your contribution will assist the study team with the collection of background information and in ensuring that all appropriate alternatives and opportunities are considered and that the criteria to be used for the evaluation is appropriate. Completed comment sheets will be carefully considered during the next stage of the study.

1. Are there other stormwater management alternatives that should be considered through this process?

YES NO Please comment: Alternative #6 should be implemented with some mi changes listed under section 2.

2. Are there other enhancement opportunities that should be considered through this process?

YES NO Please comment: # Straight lines for drains if possible. Minimal number of 90° turns. Join the central & eastern airport woodlot.

3. The proposed evaluation criteria include technical, natural, social/cultural and economic considerations within the study area. Please provide your comments, questions or concerns with the proposed evaluation criteria.

Please comment: _____

4. It is proposed that the evaluation criteria categories (technical, natural, social/cultural and economic) will be given equal weighting in the evaluation exercise. Please indicate your preference for an equal weighting of evaluation criteria categories and/or provide another weighting scheme (check all that apply).

- I support the proposed equal weighting
 I offer an alternative weighting for consideration by the project team

| Evaluation Criteria Category | Proposed Equal Weighting | Please Consider This Alternative |
|------------------------------|--------------------------|----------------------------------|
| Technical Environment | 25% | |
| Natural Environment | 25% | |
| Social/Cultural Environment | 25% | |
| Economic Environment | 25% | |



Upper Little River Stormwater Master Plan Class Environmental Assessment

5. The Upper Little River Stormwater Master Plan is following the process outlined for Master Plan Class Environmental Assessment studies. Do you have any questions, comments or concerns about the decision-making process that is to be followed?

YES NO Please comment: _____

6. How would you describe the nature of your interest in the study?

- Member of the general public
 Resident/landowner within the Study Area
 Member of an Interest Group (please specify) _____
 Agency representative (please specify) _____

7. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: *Good presentation. Lay persons should be able to grasp the different concepts.*

8. Please provide any additional comments (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

not sure, so please put my name on list.

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

Please withhold my name and contact information from publication in the Class EA report.

You may leave this completed Comment Sheet in the box provided at the registration table for this Information Centre or you may send it by June 15, 2012 to:

Jeremy Wychreschuk, M.A.Sc., P. Eng.
 Director of Watershed Engineering
 Essex Region Conservation Authority
 360 Fairview Avenue West, Essex
 Ontario, N8M 1Y8
 Tel: (519) 776-5209
 Fax: (519) 776-8688
 jwychreschuk@erca.org

Jayson Innes, M.A.Sc., P. Eng.
 Project Manager
 Stantec Consulting Ltd.
 49 Frederick Street
 Kitchener, Ontario, N2H 6M7
 Tel: (519) 585-7282
 Fax: (519) 579-8664
 jayson.innes@stantec.com

Thank you for your participation in this study.





Upper Little River

Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

Please take a few minutes to complete this brief comment sheet. Your contribution will assist the study team with the collection of background information and in ensuring that all appropriate alternatives and opportunities are considered and that the criteria to be used for the evaluation is appropriate. Completed comment sheets will be carefully considered during the next stage of the study.

1. Are there other stormwater management alternatives that should be considered through this process?

YES NO Please comment: large regional wetland(s) with sufficient vegetation to deter water fowl should be seriously considered - would be a tremendous regional asset(s)

2. Are there other enhancement opportunities that should be considered through this process?

YES NO Please comment: ↑ this alternative would have many enhancement benefits/opportunities of low flow augmentation, water quality, habitat + recreation

3. The proposed evaluation criteria include technical, natural, social/cultural and economic considerations within the study area. Please provide your comments, questions or concerns with the proposed evaluation criteria.

Please comment: _____

4. It is proposed that the evaluation criteria categories (technical, natural, social/cultural and economic) will be given equal weighting in the evaluation exercise. Please indicate your preference for an equal weighting of evaluation criteria categories and/or provide another weighting scheme (check all that apply).

- I support the proposed equal weighting
- I offer an alternative weighting for consideration by the project team

| Evaluation Criteria Category | Proposed Equal Weighting | Please Consider This Alternative |
|------------------------------|--------------------------|----------------------------------|
| Technical Environment | 25% | |
| Natural Environment | 25% | |
| Social/Cultural Environment | 25% | |
| Economic Environment | 25% | |



Upper Little River Stormwater Master Plan Class Environmental Assessment

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YES NO Please comment: _____

6. How would you describe the nature of your interest in the study?

Member of the general public
 Resident/landowner within the Study Area
 Member of an Interest Group (please specify) _____
 Agency representative (please specify) _____

7. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: _____

8. Please provide your name and contact information (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

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Upper Little River

Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

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1. Are there other stormwater management alternatives that should be considered through this process?

YES NO Please comment: SERPENTINE WETLAND DESIGN BETWEEN
THE AIRPORT WOODLANDS (PROV. SIGNIFICANT WETLANDS)
PSWs AT AIRPORT SHOULD BE CONNECTED.

2. Are there other enhancement opportunities that should be considered through this process?

YES NO Please comment: MEANDERING STREAM COURSE INSTEAD
OF 90° L'S AND STRAIGHT DRAINS.

3. The proposed evaluation criteria include technical, natural, social/cultural and economic considerations within the study area. Please provide your comments, questions or concerns with the proposed evaluation criteria.

Please comment: _____

4. It is proposed that the evaluation criteria categories (technical, natural, social/cultural and economic) will be given equal weighting in the evaluation exercise. Please indicate your preference for an equal weighting of evaluation criteria categories and/or provide another weighting scheme (check all that apply).

- I support the proposed equal weighting
 I offer an alternative weighting for consideration by the project team

| Evaluation Criteria Category | Proposed Equal Weighting | Please Consider This Alternative |
|------------------------------|--------------------------|----------------------------------|
| Technical Environment | 25% | |
| Natural Environment | 25% | |
| Social/Cultural Environment | 25% | |
| Economic Environment | 25% | |



Upper Little River Stormwater Master Plan Class Environmental Assessment

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YES NO Please comment: _____

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Member of the general public
 Resident/landowner within the Study Area
 Member of an Interest Group (please specify) _____
 Agency representative (please specify) _____

7. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: I WILL EMAIL COMMENTS TO JEREMY + JAYSON BELOW.

8. Please provide your name and contact information (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

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Upper Little River

Stormwater Master Plan Class Environmental Assessment

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1. Are there other stormwater management alternatives that should be considered through this process?

YES NO Please comment: _____

2. Are there other enhancement opportunities that should be considered through this process?

YES NO Please comment: PLEASE KEEP THE WOODLOTS
JOIN THE AIRPORT WOODLOTS

3. The proposed evaluation criteria include technical, natural, social/cultural and economic considerations within the study area. Please provide your comments, questions or concerns with the proposed evaluation criteria.

Please comment: _____

4. It is proposed that the evaluation criteria categories (technical, natural, social/cultural and economic) will be given equal weighting in the evaluation exercise. Please indicate your preference for an equal weighting of evaluation criteria categories and/or provide another weighting scheme (check all that apply).

- I support the proposed equal weighting
- I offer an alternative weighting for consideration by the project team

| Evaluation Criteria Category | Proposed Equal Weighting | Please Consider This Alternative |
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| Natural Environment | 25% | |
| Social/Cultural Environment | 25% | |
| Economic Environment | 25% | |



Upper Little River Stormwater Master Plan Class Environmental Assessment

5. The Upper Little River Stormwater Master Plan is following the process outlined for Master Plan Class Environmental Assessment studies. Do you have any questions, comments or concerns about the decision-making process that is to be followed?

YES NO Please comment: _____

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Member of the general public
 Resident/landowner within the Study Area
 Member of an Interest Group (please specify) _____
 Agency representative (please specify) _____

7. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: _____

8. Please provide your name and contact information (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

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Thank you for your participation in this study.



Welcome to the Upper Little River Stormwater Master Plan Class Environmental Assessment

Public Information Centre #2

October 22, 2012



Please sign in

Take an information sheet to record your thoughts
as you review the display material

City and Town staff and the study team are available
to discuss your questions and concerns

Public input will influence this study;
please take time to fill out a comment sheet



Study Purpose

Problem Statement

Future development is expected within the Upper Little River Watershed in the near future. Stormwater management infrastructure will be required to control runoff from this future development such that there are no adverse impacts to downstream areas due to flooding, erosion, or water quality. A Master Drainage and Stormwater Management Plan is proposed including both City of Windsor and Town of Tecumseh lands to coordinate and guide future development in this area. The preferred alternative will provide a balance of relevant natural, social, technical and economic criteria to establish appropriate drainage and stormwater management requirements at a watershed level that meets the needs of area stakeholders.



Project Objectives

The purpose of this Class Environmental Assessment (EA) process is to evaluate options and determine a preferred alternative for the provision of stormwater management controls for the developing lands within the Upper Little River Watershed while allowing for future enhancement of the watercourse and stream corridor. The objectives of this project are:

- To determine a preferred option for stormwater management infrastructure within the Upper Little River Watershed, while taking into account; flood control, water quality, erosion control, aquatic habitat, aesthetics, safety, and recreational uses
- To carry out a Class Environmental Assessment
- To complete a preliminary design for the preferred option

Key Issues and Challenges

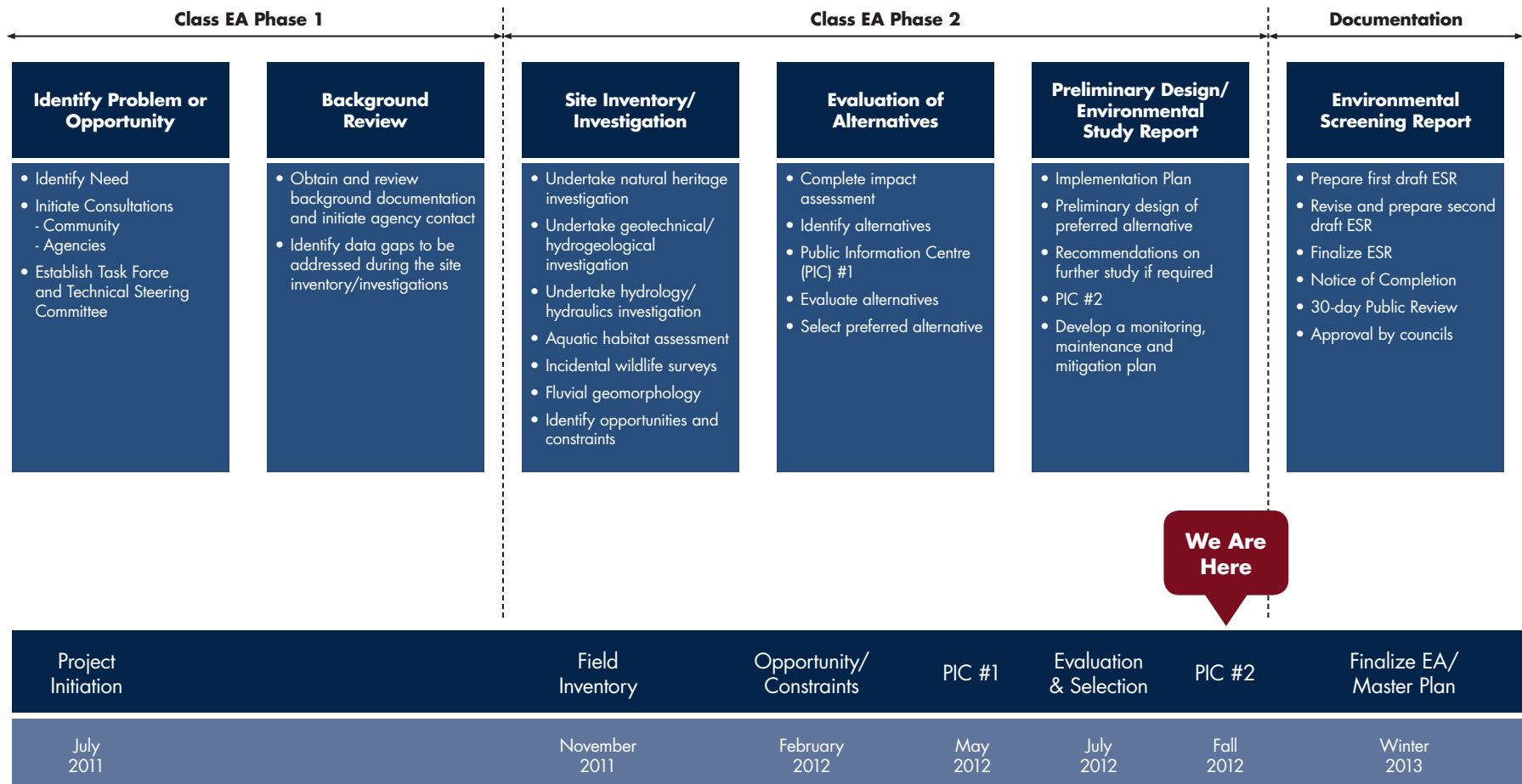
The current state of the watershed presents several key challenges and opportunities:

- The watershed suffers from recurring flooding and sediment build-up issues
- Waterfowl are attracted to typical stormwater management facilities, increasing the probability of bird strikes at the Windsor Airport
- Municipal Drains may be removed or modified in order to accommodate the proposed development plan, impacting fish habitat
- Develop corridors and linkages to minimize fragmentation of the natural habitat and recreational areas
- Future development will require stormwater management controls and infrastructure



Upper Little River Stormwater Master Plan Class Environmental Assessment

Class Environmental Assessment (EA) Process









Upper Little River

Stormwater Master Plan Class Environmental Assessment

Study Area



Legend

-  STUDY AREA
-  EXISTING WATERCOURSE
-  OVERLAND FLOW / TILE DRAIN
-  CITY OF WINDSOR / TOWN OF TECUMSEH BOUNDARY



Significant Natural Areas



Legend

- Watercourse
- Study Area
- Fish Habitat Reach
- Significant Plant Species Observed
- Significant Wildlife Species Observed
- Habitat Areas
- Woodland
- Limit of Regulated Area



Description of Alternatives

Alternative #1

The “Do-Nothing” Approach

The “Do-Nothing” alternative includes no stormwater management (SWM) controls for the developing areas in the Upper Little River.

Alternative #2

Water Quality and Erosion Control Only, no Flood Control

For this alternative, the proposed development will have only water quality treatment and erosion control, with no flood control. Many small water quality facilities would be scattered throughout the watershed.

Alternative #3

Communal On-line SWM Facilities

This alternative analyzes the potential to minimize the number of stormwater management facilities required to serve the study area by consolidating all water quality, erosion and flood controls at a few locations throughout the watershed.

Alternative #4

Communal Flood Control and Distributed Water Quality and Erosion Control

This alternative analyzes the scenario where a few large flood control facilities are located within the study area (similar locations to Alternative #3), but many small water quality and erosion controls are distributed throughout the area (similar locations to Alternative #2).

Alternative #5

Distributed Stormwater Management Controls

This alternative considers the potential for stormwater management controls to be distributed throughout the study area, and each facility would be required to provide water quality, erosion and flood controls.

Alternative #6

Grouped Stormwater Management Controls

This alternative considers the potential for stormwater management controls to be grouped into stormwater management corridors. Each facility would be required to provide water quality, erosion and flood controls. The facilities are aligned to promote natural corridors and recreational linkages.





Evaluation Criteria

Evaluation Methodology

For each alternative the project team will:

- Apply the evaluation criteria using the measures outlined above
- The measures will be converted to an assigned score based on the rank of relative preferences of the alternatives
- The scores will then be totaled and normalized by category (so that each category is weighted equally) to provide an overall score for each alternative
- Alternatives with higher scores are considered more preferred or feasible than those with lower scores
- The initial evaluation will be based on an equal weighting of criteria categories
- A sensitivity analysis will be conducted to determine if the overall scoring of alternatives changes if criteria categories are assigned a different weighting scheme

Upper Little River Watershed Master Drainage Plan EA

| EVALUATION CRITERIA | | |
|--|--|---|
| Criteria | Description | Measure |
| Natural Environment | | |
| Terrestrial Resources, Vegetation, and Wildlife Implications | The nature and extent of disturbance to terrestrial habitat, vegetation communities, and wildlife resulting from the construction/operation of the alternative. Alternatives that maintain biodiversity and minimize disturbance to native species, regionally significant species and species with specific habitat requirements are preferred. | <ul style="list-style-type: none"> • Nature of disturbance (direct vs. indirect) • Area (ha) of habitat affected • Nature, significance, and sensitivity of affected area or species |
| Fisheries Resources and Aquatic Habitat Implications | Implications of disturbance to fish habitat and/or features that sustain habitat conditions resulting from the construction/operation of the alternative. Alternatives that sustain a fishery are preferred. | <ul style="list-style-type: none"> • Nature and extent of disturbance to fish habitat, including opportunities for movement and potential spawning areas • Nature, significance and sensitivity of fish habitat affected • Nature and extent of any disturbance to features that sustain fish habitat conditions, including flow regime, groundwater seeps and riparian vegetation |
| Groundwater and Base Flow Implications | Impact of the alternative on groundwater levels and base flows in the Upper Little River Watershed. Alternatives that maintain or enhance groundwater and base flow are preferred. | <ul style="list-style-type: none"> • Nature and significance of changes to base flow • Nature and extent of impact to groundwater levels and well use |
| Surface Water Quality | Impact of the alternative on in-stream water quality. | <ul style="list-style-type: none"> • Number of proposed stormwater management control measures and their location within the study area • Nature and significance of changes to the overall water quality system |
| Economic Environment | | |
| Total Capital Cost | Relative overall capital costs, including restoration/enhancement costs for the alternative. Lower cost alternatives are preferred. | <ul style="list-style-type: none"> • Capital costs of alternative relative to other alternatives |
| Total Maintenance Cost | Relative annual costs for operation & maintenance activities for the alternative. Lower cost alternatives are preferred. | <ul style="list-style-type: none"> • Operation & maintenance costs of the alternative relative to other alternatives |
| Technical Environment | | |
| Ability to Provide Required Flood Protection | The ability of the alternative to maintain/enhance the existing level of flood protection. Alternative must satisfy flood protection requirements. | <ul style="list-style-type: none"> • Flood protection to required levels provided |
| Ease of Construction/ Implementation | The ability of the alternative to be easily implemented on a technical, regulatory, and practical basis. Alternatives that are easier to construct/implement are preferred. | <ul style="list-style-type: none"> • Type of structure/construction required • Permitting/approval requirements • Difficulty of construction/implementation (access, site-specific conditions, coordination between facilities) |
| Ability to Meet Agency Requirements | The ability of the alternative to meet MOE, Municipalities, Essex Region Conservation Authority, Windsor Airport requirements. | <ul style="list-style-type: none"> • Nature and location of controls • Nature and location of water bodies in relation to the Windsor Airport |
| Social/Cultural Environment | | |
| Aesthetics | The ability of the alternative to maintain or enhance the appearance of the existing and newly created local natural areas and stormwater management control measures. Alternatives that maintain or improve existing aesthetic values are preferred. | <ul style="list-style-type: none"> • Nature and location of encroachment within existing natural areas • Nature and location of stormwater management control measures |
| Health and Safety | The potential risk or liability to community and operations staff health and safety resulting from: <ul style="list-style-type: none"> • Flood events • Recreational use • Operation and maintenance Alternatives that maintain or improve safety are preferred. | <ul style="list-style-type: none"> • Nature and location of risk • Public accessibility to risk areas • Flood control operational requirements |
| Recreational Opportunities | The ability of the alternative to maintain, enhance, and manage recreational opportunities within the study area. Alternatives that maintain or enhance opportunities are preferred. | <ul style="list-style-type: none"> • Nature and location of stormwater management control measures relative to recreational areas including trails, sports fields, and other recreational infrastructure |
| Cultural Heritage/Archaeology | The ability of the alternative to protect potential archaeological resources within the study area. Alternatives that avoid or protect potential locations are preferred. | <ul style="list-style-type: none"> • Proximity of stormwater management areas to existing archaeological finds • Nature of potential disturbance |

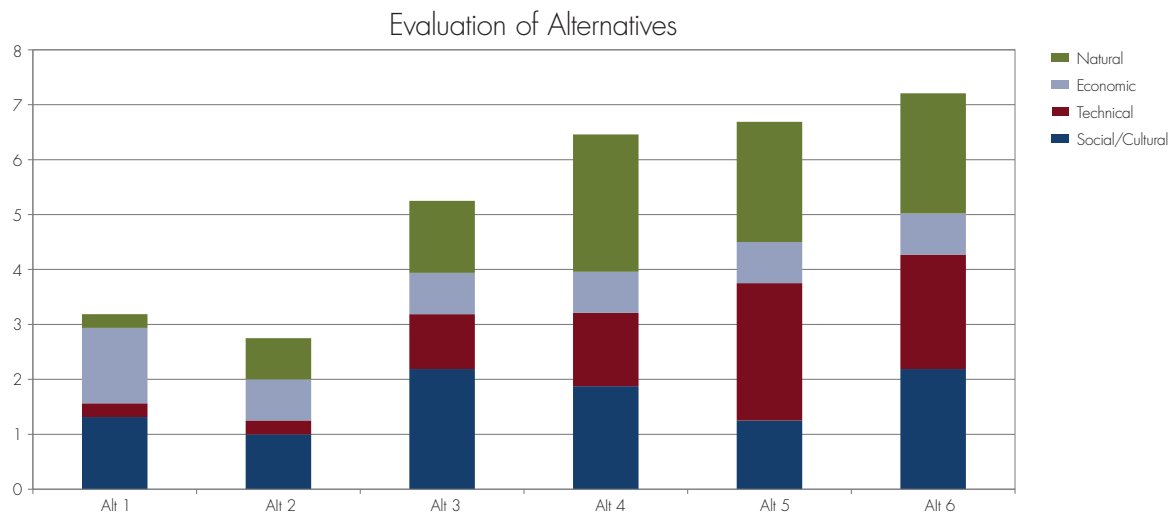


Summary of Evaluation

Six alternatives were evaluated for the stormwater management opportunities using the evaluation criteria presented at Public Information Centre #1 and:

Alternative 6 with grouped stormwater management controls located along major transportation and environmental corridors is the preferred solution.

This alternative has the highest combined score as shown in the chart. It ranked highest by providing all of the technical requirements for stormwater management and by providing a central core for amenities and trails.



Sensitivity Analysis

The analysis shown above was based on an equal weighting of the four categories of criteria as required for Class Environmental Assessment Studies:

- Natural Environment 25%
- Economic Environment 25%
- Technical Environment 25%
- Social/Cultural Environment 25%

To determine whether the preferred solution changed if the categories were weighted differently, four sensitivity analyses were completed as follows:

1. Natural Environment as more important
Natural – 40%, Economic – 20%, Technical – 20%, and Social/Cultural – 20%
2. Economic Environment as more important
Natural – 20%, Economic – 40%, Technical – 20%, and Social/Cultural – 20%
3. Technical Environment as more important
Natural – 20%, Economic – 20%, Technical – 40%, and Social/Cultural – 20%
4. Social/Cultural Environment as more important
Natural – 20%, Economic – 20%, Technical – 20%, and Social/Cultural – 40%

In all cases, Alternative 6 was the preferred alternative.

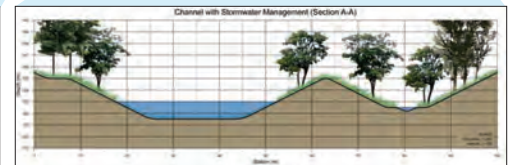
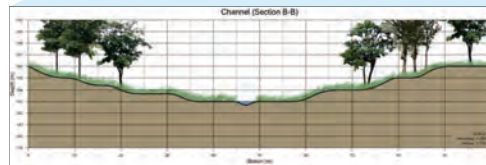
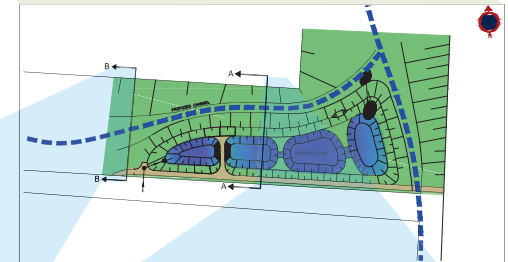
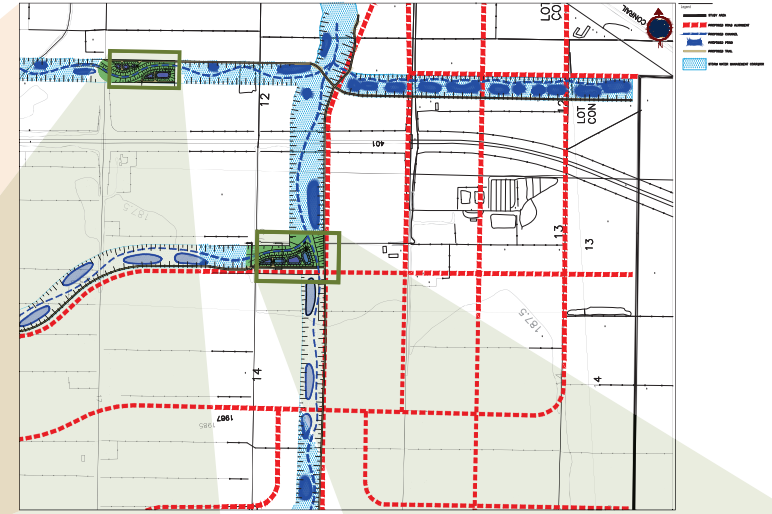
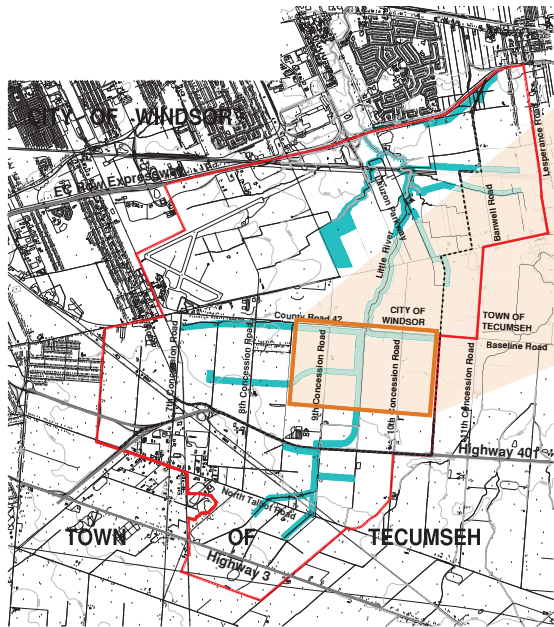


Upper Little River Stormwater Master Plan Class Environmental Assessment

Preliminary Preferred Alternative

Alternative #6 Grouped Stormwater Management Controls

This alternative considers the potential for stormwater management controls to be grouped into stormwater management corridors. Each facility would be required to provide water quality, erosion and flood controls. The facilities are aligned to promote natural corridors and recreational linkages.





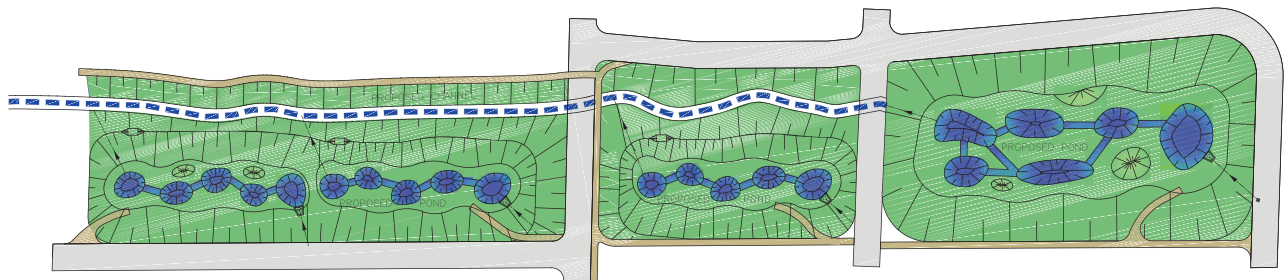
Design Elements

Several key elements included in the proposed design are:

- Create continuity between existing/future woodlots, parks, and stormwater management ponds to allow for the movement of animals and people. These areas will be located near each other to create a continuous area linked by an integrated trail network
- Modification of the existing drainage network. Some drains will be enhanced, while others will be abandoned in favour of storm sewers. Flow will be concentrated in wider riparian channels with enhanced fish habitat
- Due to flat topography across the site, approximately half of the stormwater management ponds will likely require pumping to drain to Little River
- Due to the proximity of the site to the Windsor International Airport, stormwater management ponds will include design features to discourage use by waterfowl including abundant shrubs and trees
- Increased base flow in Upper Little River to enhance fish habitat
- Reduced flood elevations created by wider conveyance channels and storage



- Legend
- TRAIL / ACCESS ROAD
 - ROAD
 - CHANNEL
 - PERMANENT POND
 - MOUND





The Next Steps

Comments from today's Public Information Centre
will be received until
November 5, 2012

Comments from reviewing agencies will be incorporated
into the decision making process

Finalize Environmental Study Report and
File Class Environmental Assessment
Winter 2013

Thank You for Attending

*If you have any questions about this study
feel free to ask any member of the Study Team.*



Upper Little River Stormwater Master Plan Class Environmental Assessment

INTRODUCTION

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has initiated a Master Plan Study in accordance with Phases 1 & 2 of the Municipal Class Environmental Assessment (EA) process. This Study will determine the stormwater management infrastructure requirements for the Upper Little River Watershed area to service existing and future development. This information brief provides an overview of the study, key activities and schedule.

PROBLEM STATEMENT

Future development is expected within the Upper Little River Watershed in the near future. Stormwater management infrastructure will be required to control runoff from this future development such that there are no adverse impacts to downstream areas due to flooding, erosion, or water quality. A Master Drainage and Stormwater Management Plan is proposed including both City of Windsor and Town of Tecumseh lands to coordinate and guide future development in this area. The preferred alternative will provide a balance of relevant natural, social, technical and economic criteria to establish appropriate drainage and stormwater management requirements at a watershed level that meets the needs of area stakeholders.

DECISION-MAKING PROCESS

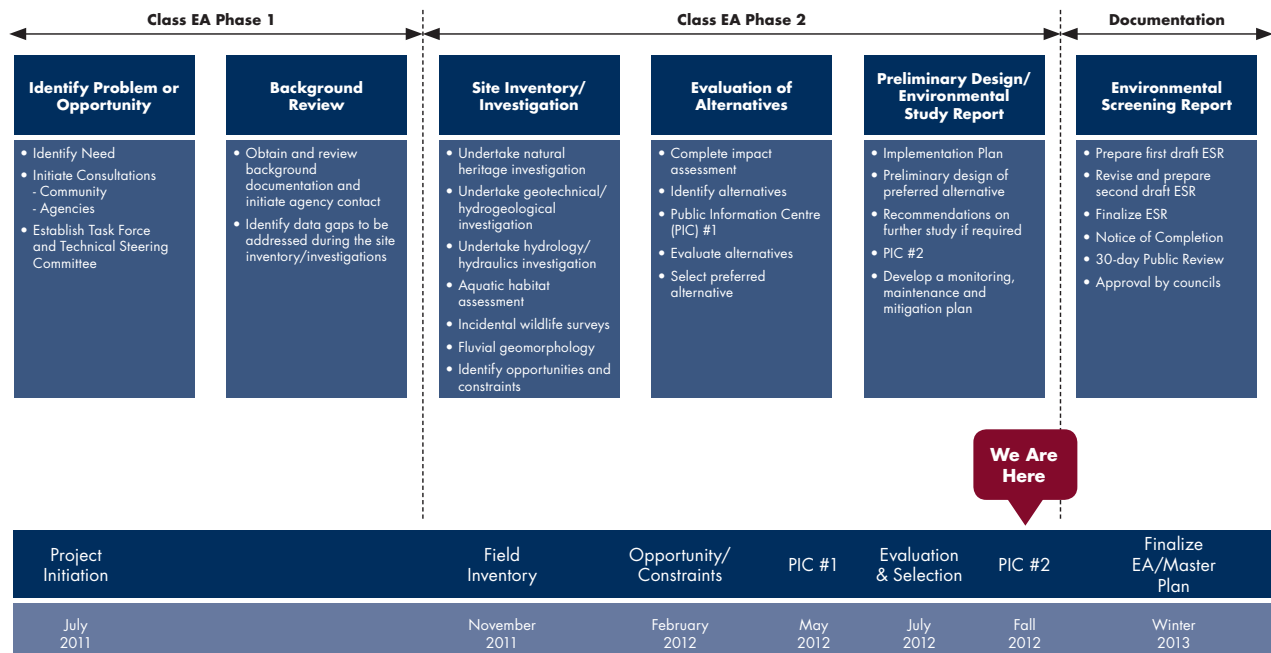
The study will be in accordance with the Municipal Engineers' Association document entitled "Municipal Class Environmental Assessment" October 2000, as amended in 2007.

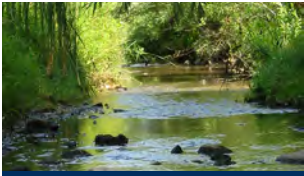
The Class EA process includes public and review agency consultation, an evaluation of alternatives, an assessment of the impacts of the proposed alternatives, and identification of a preferred solution.

PROJECT OBJECTIVES

The purpose of this Class EA process is to evaluate options and determine a preferred alternative for the provision of stormwater management controls for the developing lands within the Upper Little River Watershed while allowing for future enhancement of the watercourse and stream corridor. The objectives of this project are:

- To determine a preferred option for stormwater management infrastructure within the Upper Little River Watershed, while taking into account; flood control, water quality, erosion control, aquatic habitat, aesthetics, safety, and recreational uses
- To carry out a Class Environmental Assessment
- To complete a preliminary design for the preferred option





Upper Little River Stormwater Master Plan Class Environmental Assessment

THE STUDY AREA

The Upper Little River Stormwater Master Plan will focus on the portion of Little River located upstream of the E.C. Row Expressway, including the Windsor Airport.

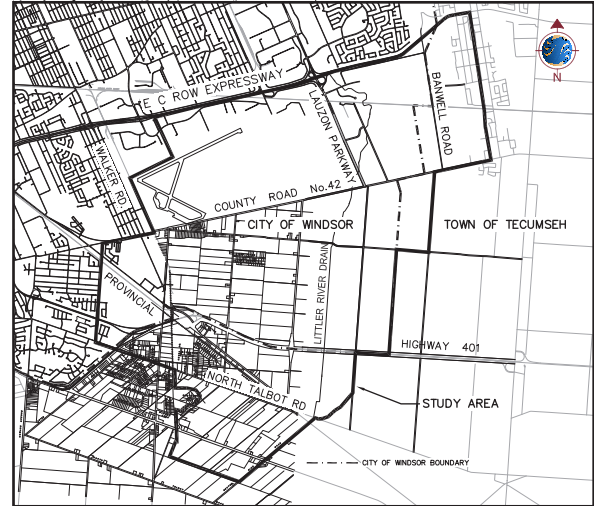
PROJECT ACTIVITIES

A review of background information and field reconnaissance has been completed and the results are documented. Some of the key findings include:

- Proximity of the site to the Windsor International Airport and bird management concerns influenced the preferred stormwater management solution
- Trails are well used and highly valued by the community
- No endangered species were identified
- Some of the existing municipal drains will be abandoned while others will be enhanced following urban planning strategies

The list of alternatives identified previously has been evaluated and a preliminary solution is proposed:

- Construct stormwater management facilities off-line of Upper Little River to provide mitigation for future development
- Group the facilities into corridors to promote natural corridors and recreational linkages
- Identify trail links to external areas
- Improve water quality and flood impacts along Upper Little River



NEXT STEPS

- Comments from today's PIC will be received until November 5, 2012
- Comments received from review agencies and the public will be incorporated into the decision-making process
- Finalize Environmental Study Report and File Class Environmental Assessment

For additional information, please contact:

Stan Taylor, P. Eng.
Director of Source Water Protection
Essex Region Conservation Authority
360 Fairview Avenue West
Essex, Ontario, N8M 1Y8
Tel: (519) 776-5209
Fax: (519) 776-4319
staylor@erca.org

Jayson Innes, M.A.Sc., P. Eng.
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Kitchener, Ontario, N2H 6M7
Tel: (519) 585-7282
Fax: (519) 579-8664
jayson.innes@stantec.com



Upper Little River Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

1. The preliminary preferred solution is to construct stormwater corridors along major transportation and environmental corridors off-line of Upper Little River. Please provide your comments, questions or concerns below.

2. How would you describe the nature of your interest in the study?

- Member of the general public
- Resident/landowner within the Study Area
- Member of an Interest Group (please specify) _____
- Agency representative (please specify) _____

3. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: _____

4. Please provide your name and contact information (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

Please withhold my name and contact information from publication in the Class EA report.

You may leave this completed Comment Sheet in the box provided at the registration table for this Information Centre or you may send it by November 5, 2012 to:

Stan Taylor, P. Eng.
Director of Source Water Protection
Essex Region Conservation Authority
360 Fairview Avenue West
Essex, Ontario, N8M 1Y8
Tel: (519) 776-5209
Fax: (519) 776-4319
staylor@erca.org

Jayson Innes, M.A.Sc., P. Eng.
Project Manager
Stantec Consulting Ltd.
49 Frederick Street
Kitchener, Ontario, N2H 6M7
Tel: (519) 585-7282
Fax: (519) 579-8664
jayson.innes@stantec.com

Thank you for your participation in this study.





Upper Little River

Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

1. The preliminary preferred solution is to construct (stormwater corridors) along (major transportation) and (environmental corridors off-line) of Upper Little River. Please provide your comments, questions or concerns below.

THE SOURCE(S) / HEADWATERS OF WATERSHED SHOULD BE LABELLED ON THE BASE MAP OF SIGNIFICANT NATURAL AREAS.

2. How would you describe the nature of your interest in the study?

- Member of the general public
- Resident/landowner within the Study Area
- Member of an Interest Group (please specify)
- Agency representative (please specify) _____

3. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: ALTERNATIVE #6 IS PREFERRED.
AIRPORT WOODLANDS NEED TO BE DESIGNATED P.S.W. ON THE SIGNIFICANT NATURAL AREAS MAP.

4. Please provide your name and contact information (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

Please withhold my name and contact information from publication in the Class EA report.

You may leave this completed Comment Sheet in the box provided at the registration table for this Information Centre or you may send it by November 5, 2012 to:

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Director of Source Water Protection
Essex Region Conservation Authority
360 Fairview Avenue West
Essex, Ontario, N8M 1Y8
Tel: (519) 776-5209
Fax: (519) 776-4319
staylor@erca.org

Jayson Innes, M.A.Sc., P. Eng.
Project Manager
Stantec Consulting Ltd.
49 Frederick Street
Kitchener, Ontario, N2H 6M7
Tel: (519) 585-7282
Fax: (519) 579-8664
jayson.innes@stantec.com

Thank you for your participation in this study.





Upper Little River Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

1. The preliminary preferred solution is to construct stormwater corridors along major transportation and environmental corridors off-line of Upper Little River. Please provide your comments, questions or concerns below.

Support options 5 & 6 to facilitate stormwater
& flooding management.

2. How would you describe the nature of your interest in the study?

- Member of the general public
 Resident/landowner within the Study Area
 Member of an Interest Group (please specify)
 Agency representative (please specify)

3. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: Good presentation, maps & diagrams.

4. Please provide your name and contact information (optional)

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

Please withhold my name and contact information from publication in the Class EA report.

You may leave this completed Comment Sheet in the box provided at the registration table for this Information Centre or you may send it by November 5, 2012 to:

Stan Taylor, P. Eng.
 Director of Source Water Protection
 Essex Region Conservation Authority
 360 Fairview Avenue West
 Essex, Ontario, N8M 1Y8
 Tel: (519) 776-5209
 Fax: (519) 776-4319
 staylor@erca.org

Jayson Innes, M.A.Sc., P. Eng.
 Project Manager
 Stantec Consulting Ltd.
 49 Frederick Street
 Kitchener, Ontario, N2H 6M7
 Tel: (519) 585-7282
 Fax: (519) 579-8664
 jayson.innes@stantec.com

Thank you for your participation in this study.





Upper Little River Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

1. The preliminary preferred solution is to construct stormwater corridors along major transportation and environmental corridors off-line of Upper Little River. Please provide your comments, questions or concerns below.

*Looking for Morphological Diversity (Wetland Pockets, Riparian Pools & Riffles)
Riparian Cover & Meandering Stream to increase Habitat Area.*

2. How would you describe the nature of your interest in the study?

- Member of the general public
 Resident/landowner within the Study Area
 Member of an Interest Group (please specify) _____
 Agency representative (please specify) _____

3. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: _____

4. Please provide your name and contact information (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

Please withhold my name and contact information from publication in the Class EA report.

You may leave this completed Comment Sheet in the box provided at the registration table for this Information Centre or you may send it by November 5, 2012 to:

Stan Taylor, P. Eng.
 Director of Source Water Protection
 Essex Region Conservation Authority
 360 Fairview Avenue West
 Essex, Ontario, N8M 1Y8
 Tel: (519) 776-5209
 Fax: (519) 776-4319
 staylor@erca.org

Jayson Innes, M.A.Sc., P. Eng.
 Project Manager
 Stantec Consulting Ltd.
 49 Frederick Street
 Kitchener, Ontario, N2H 6M7
 Tel: (519) 585-7282
 Fax: (519) 579-8664
 jayson.innes@stantec.com

Thank you for your participation in this study.





Upper Little River Stormwater Master Plan Class Environmental Assessment

COMMENT SHEET

1. The preliminary preferred solution is to construct stormwater corridors along major transportation and environmental corridors off-line of Upper Little River. Please provide your comments, questions or concerns below.

WE LIVE AT THE CORNER OF THE 8TH CONC & BASELINE ROAD. WE WISH TO BE KEPT INFORMED OF ANY DEVELOPMENTS AFFECTING OUR LOCATION

2. How would you describe the nature of your interest in the study?

- Member of the general public
 Resident/landowner within the Study Area
 Member of an Interest Group (please specify) _____
 Agency representative (please specify) _____

3. Do you have any additional comments or information that you feel would be helpful to the project team?

Please comment: STORM DRAIN PLANS ARE OF INTEREST AS WELL AS WIDENING OF BASELINE RD EAST OF CONCESSION 8

4. Please provide your name and contact information (optional).

Are you on the project mailing list? YES NO, please add my name and contact information to the mailing list

Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously.

- Please withhold my name and contact information from publication in the Class EA report.

You may leave this completed Comment Sheet in the box provided at the registration table for this Information Centre or you may send it by November 5, 2012 to:

Stan Taylor, P. Eng.
 Director of Source Water Protection
 Essex Region Conservation Authority
 360 Fairview Avenue West
 Essex, Ontario, N8M 1Y8
 Tel: (519) 776-5209
 Fax: (519) 776-4319
 staylor@erca.org

Jayson Innes, M.A.Sc., P. Eng.
 Project Manager
 Stantec Consulting Ltd.
 49 Frederick Street
 Kitchener, Ontario, N2H 6M7
 Tel: (519) 585-7282
 Fax: (519) 579-8664
 jayson.innes@stantec.com

Thank you for your participation in this study.



**ESSEX REGION CONSERVATION AUTHORITY
NOTICE OF STUDY COMPLETION**

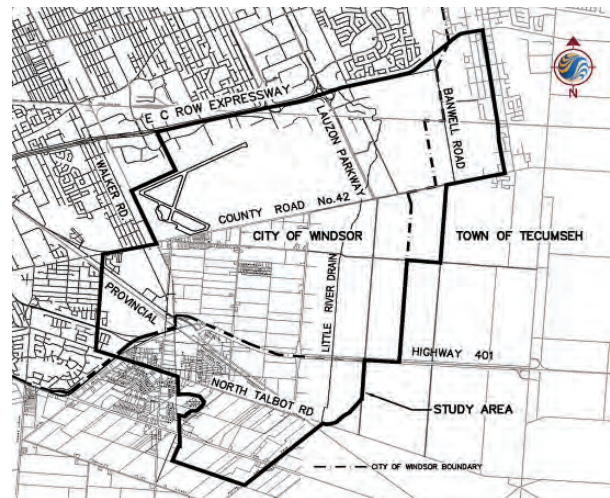
**UPPER LITTLE RIVER WATERSHED MASTER DRAINAGE PLAN AND
STORMWATER MANAGEMENT PLAN**

The Study

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has completed a Master Plan Study in accordance with Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process. The preferred alternative includes stormwater management facilities that provide controls for more than one property and are located near other facilities along corridors.

Public Consultation

This study was completed in accordance with the planning and design process of the *Municipal Class Environmental Assessment* (June 2000, as amended in 2007, 2011, and 2015) under the *Ontario Environmental Assessment Act*. The Class EA process includes public and review agency consultation, an evaluation of alternatives, an assessment of the impacts of the proposed alternative, and identification of a preferred solution. Based on input received from the public as well as from technical agencies and other stakeholders, the Project Team has prepared the Environmental Study Report (ESR) for this study. The ESR is being placed on the public record for a 30-day review period at www.citywindsor.ca, www.tecumseh.ca, or by visiting the following locations during normal business hours.



| | |
|---|--|
| City of Windsor Office of the City Clerk 350 City Hall Square West, Suite 203 Windsor, ON, N9A 6S1 | Town of Tecumseh Clerk's Office 917 Lesperance Road Tecumseh, ON, N8N 1W9 |
|---|--|

Interested persons should provide written comments related to this proposed undertaking by **October 30, 2017** (Note: The 30-day review period has been extended from the original end date of **October 24, 2017** to the new end date of **October 30, 2017**). Comments should be directed to the following individuals.

John Henderson, P. Eng.
 Water Resources Engineer
 Essex Region Conservation Authority
 360 Fairview Avenue West – Suite 311
 Essex, Ontario, N8M 1Y6
 Tel: (519) 776-5209
 Fax: (519) 776-8688
jhenderson@erca.org

Jayson Innes, M.A.Sc., P. Eng.
 Project Manager
 Stantec Consulting Ltd.
 100-300 Hagey Boulevard
 Waterloo, Ontario, N2L 0A4
 Tel: (519) 585-7282
 Fax: (519) 579-6733
jayson.innes@stantec.com

If concerns regarding this project cannot be resolved, a person or party may request that the Ministry of the Environment and Climate Change make an order for the project to comply with Part II of the Environmental Assessment Act which address individual environmental assessments. Requests for a Part II Order must be received by the Minister of the Ministry of the Environment and Climate Change at 77 Wellesley Street West, 11th Floor, Ferguson Block, Toronto, Ontario, M7A 2T5 no later than **October 30, 2017**, including a copy submitted to the project team members listed above. If no request is received, the Design Study will become the guiding document for stormwater management controls on Upper Little River.

**Essex Region Conservation Authority
Notice of Study Update
Upper Little River Watershed Master Drainage and
Stormwater Management Plan**

Master Plan

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh is completing a Master Drainage and Stormwater Management Plan for the Upper Little River Watershed (Master Plan). The intent of the Master Plan is to determine general stormwater management infrastructure requirements within the Upper Little River Watershed area to service existing and future development.

Master Plan Process and Approach

As described in the Municipal Class Environmental Assessment (Class EA) document (Municipal Engineers Association, 2000, as amended), there are four approaches that may be followed to complete a Master Plan process. The Master Plan was originally undertaken following Approach #2 with a Notice of Study Completion filed in October 2017. However, due to the overall duration of the project and changes to the Class EA requirements over that time, the Master Plan was not finalized after the 30-day public review period. The Master Plan will now be completed following Approach #1, which is a broader level of assessment. This change in approach results in the requirement for additional detailed investigations at the project-specific level in order to fulfill Class EA requirements for specific Schedule B and Schedule C projects, which will be listed within this Master Plan. No changes have been made to alternatives considered or general Master Plan recommendations.

Next Steps

The project team is currently completing revisions to the Master Plan to address the change in approach and will be issuing a revised Notice of Completion in the fall of 2019. The notice will provide details regarding the timing of the minimum 30-day public review period for the revised Master Plan and the opportunity for bringing project concerns to the project team members below.

Please note that the revised Master Plan Approach #1 will not be subject to Part II Order (PIIO) requests to the Minister of the Environment, Conservation and Parks. Future individual Schedule B and Schedule C projects identified within the Master Plan will be subject to further review and Class EA requirements, including PIIO requests.

For more information, please contact a member of the project team below.

James Bryant, P. Eng.
Water Resources Engineer
Essex Region Conservation Authority
360 Fairview Avenue West
Essex, Ontario, N8M 1Y8
Tel: (519) 776-5209 ext. 246
Fax: (519) 776-8688
jbryant@erca.org

Jayson Innes, M.A.Sc., P. Eng.
Project Manager
Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo, Ontario, N2L 0A4
Tel: (519) 585-7282
Fax: (519) 579-6733
jayson.innes@stantec.com



Upper Little River Watershed Master Drainage and Stormwater Management Plan
Indigenous Communities Consultation TRACER

| Contact Information | Date/Method of Communication | Comment/Concern | Response/Commitment to Carry Forward |
|---|---|---|--|
| Aamjiwnaang First Nation Chief Joanna Rogers 978 Tashmo Avenue, Sarnia, ON N7T 7H5 519-336-8410 cplain@aamjiwnaang.ca | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | | |
| | Notice of PIC#2 via Canada Post – October 17, 2012 Letter Discussing the results from PIC #2 including display boards sent via Canada Post - December 18, 2012 | Letter response dated April 15, 2013 noted that the information package would be forwarded to their Chief and Council for review and upon further direction from their council, we will be contacted to inform us of the next step. | No additional information was received |
| | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call October 26, 2017 Follow up Phone Call December 8, 2017 | | Follow up phone call – left message with Sharilyn Johnston to confirm receipt of project information and identify any concerns. |
| Caldwell First Nation Chief Louise Hillier P.O.Box 388 Leamington, ON N8H 3W3 cfnchief@live.com | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | | |
| | Notice of PIC#2 via Canada Post – October 17, 2012 Letter Discussing the results from PIC #2 including display boards sent via Canada Post - December 18, 2012 | Letter Response dated November 27, 2012 requesting further consultation | A meeting was held with Caldwell First Nations on January 7, 2013 to discuss the project. During the meeting the project overview and history was presented. Outcomes of the meeting included a request for black willow and milkweed plantings within the study area and access to the black willow branches for harvesting. Caldwell First Nations also requested a copy of the Final Report for review. |
| | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call December 8, 2017 | | Follow up phone call – spoke with Mr. Deleary. Mr. Deleary indicated that they received the information and are dealing with political and organization issues with band council at the moment. Would review files and respond back shortly if there are any concerns. |
| Chippewas of Kettle and Stony Point First Nation Chief Tom Bressette 6247 Indian Lane Forest ON N0N 1J0 Thomas.bressette@kettlepoint.org | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call November 22, 2017 Follow up Phone Call December 8, 2017 | | Not noted in November 23, 2011 letter from Ministry of Aboriginal Affairs Notice of Completion sent along with a USB stick containing the full ESR. Follow-up phone call message left with Valerie George to confirm receipt of the project information and inquire if Chippewas of Kettle and Stony Point First Nation had any concerns. Follow-up phone call message left with Valerie George to confirm receipt of the project information and inquire if Chippewas of Kettle and Stony Point First Nation had any concerns. |
| | | | |
| Chippewa of the Thames First Nation Fallon Burch Consultation Coordinator Kelly Riley, Lands and Environment Rochelle Smith, (acting) Consultation Coordinator | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call November 22, 2017. Follow up Phone Call December 8, 2017. | | Not noted in November 23, 2011 letter from Ministry of Aboriginal Affairs. Notice of Completion sent along with a USB stick containing the full ESR. |

Upper Little River Watershed Master Drainage and Stormwater Management Plan
Indigenous Communities Consultation TRACER

| Contact Information | Date/Method of Communication | Comment/Concern | Response/Commitment to Carry Forward |
|--|---|--|---|
| | | | Follow up phone calls: Attempted to leave message with Kelly Riley (voicemail was full). Follow up phone call: left message with Richelle Smith – made reference to notice of completion and USB stick dated October 16, following up to discuss project and ensure COTTFN didn't have any concerns with the project. |
| Delaware Nation (Moravian of the Thames) Chief Greg Peters Justin Logan 14760 School House Line RR3 Thamesville ON N0P 2K0 gpeters@mnsi.net loganju@xplomet.ca | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | Letter Response dated June 13, 2012 stating that the project was evaluated and it was recognized that this project will not require further consultation | |
| Munsee-Delaware Nation Chief Roger Thomas, Glen Forrest 279 Jubilee Road Muncey ON N0L 1Y0 Chief.thomas@munsee-delaware.org | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call Dec 8, 2017 | | Not noted in November 23, 2011 letter from Ministry of Aboriginal Affairs Follow up phone call – spoke with executive assistant Carol Antone. Noted that the Chief has a long list of projects to review, and requested that the letter be emailed. Emailed the letter on Dec. 8, 2017. carol@munsee.ca . |
| Oneida of the Thames First Nation Chief Randall Philips Holly Elijah 2212 Elm Ave Southwold, ON N0L 2G0 sheri.doxator@oneida.on.ca | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | | |
| | Notice of PIC#2 via Canada Post – October 17, 2012 Letter Discussing the results from PIC #2 including display boards sent via Canada Post - December 18, 2012 | | |
| | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call October 26, 2107 Follow up Phone Call November 23, 2017 Follow up Phone Call December 8, 2017 | | Follow up phone call – left message with Public Works assistant. Follow up phone call – was referred to Janelle in the Political Office. Left voicemail message with Janelle to confirm receipt of project information and to identify any concerns with the project. |
| Bkejwanong Territory (Walpole Island) Chief Dan Miskokomon Jared Macbeth Dr. Dean Jacobs Janet.macbeth@wifn.org Wallaceburg, ON N8A 4K9 | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | | |
| | Notice of PIC#2 via Canada Post – October 17, 2012 Letter Discussing the results from PIC #2 including display boards sent via Canada Post - December 18, 2012 | | |
| | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call November 23, 2017 Follow-up Phone Call December 8, 2017 | | Follow up phone call – left message with Janet Macbeth. Follow up phone call – left message with Janet Macbeth to confirm receipt of project information and to identify any concerns with the project. |

APPENDIX C

General, Public, and Agency Correspondence

Ministry of the Environment

733 Exeter Road
London ON N6E 1L3
Tel.: 519 873-5000
Fax: 519 873-5020

Ministère de l'Environnement

733, rue Exeter
London ON N6E 1L3
Tél.: 519 873-5000
Télec.: 519 873-5020



October 19th, 2011

Stantec Consulting Ltd.
140 Quellerie Place
Suite 100
Windsor, Ontario
N8X 1L9

Attention: Mr. Phil Bartnik, Project Engineer, P. Eng.

Re: ERCA Upper Little River Watershed Master Drainage Plan & SWM Plan

Phil:

I am writing you today to acknowledge this ministry's receipt of the Notice of Commencement for the above noted project.

The preparation of Master Plans are an approach to planning that this ministry supports and is willing to provide assistance to. In that regard, in addition to keeping this office abreast of future notices and information regarding this study, if at all possible, this ministry office would appreciate being afforded an opportunity to review and comment on a Draft Watershed Master Drainage Plan & SWM Report, prior to and addition to circulation and commenting on the Final Report.

Yours truly,

A handwritten signature in black ink, appearing to read "Craig Newton".

Craig Newton
Regional Environmental Planner / EA
Ministry of the Environment
Southwestern Region
(519) 873-5014

Cc – Mr. D. McDougall, Supervisor, MOE Windsor Area Office
- Mr. S. Abernethy, Surface Water Group Leader, Water Resources, MOE SWR

Ministry of Aboriginal Affairs

160 Bloor St. East, 9th Floor
Toronto, ON M7A 2E6
Tel: (416) 326-4740
Fax: (416) 325-1066
www.aboriginalaffairs.gov.on.ca

Ministère des Affaires Autochtones

160, rue Bloor Est, 9^e étage
Toronto ON M7A 2E6
Tél. : (416) 326-4740
Télééc. : (416) 325-1066
www.aboriginalaffairs.gov.on.ca



RECEIVED

NOV 23 2011

Reference: 526

DEC 05 2011

Phil Bartnik, P. Eng
Project Engineer
Stantec Consulting Ltd.
140 Ouellette Place Suite 100
Windsor, ON N8X 1L9

STANTEC CONSULTING LTD.
Consulting Engineers

Re: Essex Region Conservation Authority Upper Little River Watershed Master Drainage Plan & Stormwater Management Plan

Dear Mr. Bartnik:

Thank you for your inquiry dated October 12, 2011 regarding the above-noted project.

As a member of the government review team, the Ministry of Aboriginal Affairs (MAA) identifies First Nation and Métis communities who may have the following interests in the area of your project:

- reserves;
- land claims or claims in litigation against Ontario;
- existing or asserted Aboriginal or treaty rights, such as harvesting rights; or
- an interest in your project's potential environmental impacts.

MAA is not the approval or regulatory authority for your project, and receives very limited information about projects in the early stages of their development. In circumstances where a Crown-approved project may negatively impact a claimed Aboriginal or treaty right, the Crown may have a duty to consult the Aboriginal community advancing the claim. The Crown often delegates procedural aspects of its duty to consult to proponents. Please note that the information in this letter should not be relied on as advice about whether the Crown owes a duty to consult in respect of your project, or what consultation may be appropriate. Should you have any questions about your consultation obligations, please contact the appropriate ministry.

You should be aware that many First Nations and/or Métis communities either have or assert rights to hunt and fish in their traditional territories. For First Nations, these territories typically include lands and waters outside of their reserves.

In some instances, project work may impact aboriginal archaeological resources. If any Aboriginal archaeological resources could be impacted by your project, you should contact your regulating or approving Ministry to inquire about whether any additional Aboriginal communities should be contacted. Aboriginal communities with an interest in archaeological resources may include communities who are not presently located in the vicinity of the proposed project.

With respect to your project, and based on the brief materials you have provided, we can advise that the project appears to be located in an area where First Nations may have existing or asserted rights or claims in MAA's land claims process or litigation, that could be impacted by your project. Contact information is below:

| | |
|---|--|
| <p>Bkejwanong Territory (Walpole Island) 117 Tahgahoning Road, R.R. #3 WALLACEBURG, Ontario N8A 4K9</p> | <p>Chief Joseph Gilbert (519) 627-1481 (Fax) 627-0440 Joseph.gilbert@wifn.org Nanette.keywayosh@wifn.org</p> |
| <p>Oneida Nation of the Thames 2212 Elm Avenue SOUTHWOLD, Ontario NOL 2G0</p> | <p>Chief Joel Abram (519) 652-3244 (Fax) 652-2930 Joel.abram@oneida.on.ca Laura.phillips@oneida.on.ca Holly.elijah@oneida.on.ca</p> |

For your information, MAA notes that the following Métis community may be interested in your project given the proximity of their community to the area of the proposed project or because of your project's potential environmental impacts:

| | |
|--|---|
| <p>Windsor-Essex Métis Council 4745 Huron Church Line Windsor, ON, N9H 1H5</p> | <p>Robert Leboeuf, President (519) 972-1063 TOLL FREE 1-888-243-5148 (Fax) 519-974-3739</p> |
|--|---|

Please copy any correspondence to Windsor-Essex Métis Council to the Métis Nation of Ontario. Contact information is below:

| | |
|--|--|
| <p>Métis Nation of Ontario Head Office 500 Old St. Patrick Street, Unit D Ottawa, Ontario, K1N 9G4</p> | <p>Métis Consultation Unit Fax: (613) 725-4225</p> |
|--|--|

The Government of Canada sometimes receives claims that Ontario does not receive, or with which Ontario does not become involved. For information about possible claims in the area, MAA recommends you contact the following federal contacts:

| | |
|---|--|
| <p>Ms. Janet Townson Claims Analyst, Ontario Team Specific Claims Branch Indian and Northern Affairs Canada 1310-10 Wellington St. Gatineau, QC K1A 0H4 Tel: (819) 953-4667 Fax: (819) 997-9873</p> | <p>Mr. Sean Darcy Manager Assessment and Historical Research Indian and Northern Affairs Canada 10 Wellington St. Gatineau, QC K1A 0H4 Tel: (819) 997-8155 Fax: (819) 997-1366</p> |
|---|--|

For federal information on litigation contact:

Mr. Marc-André Millaire
Litigation Team Leader for Ontario
Litigation Management and Resolutions Branch
Indian and Northern Affairs Canada
10 Wellington St.
Gatineau, QC K1A 0H4
Tel: (819) 994-1947
Fax: (819) 953-1139

Additional details about your project or changes to it that suggest impacts beyond what you have provided to date may necessitate further consideration of which Aboriginal communities may be affected by or interested in your undertaking. If you think that further consideration may be required, please bring your inquiry to whatever government body oversees the regulatory process for your project.

The information upon which the above comments are based is subject to change. First Nation or Métis communities can make claims at any time, and other developments can occur that could result in additional communities being affected by or interested in your undertaking.

Yours truly,

A handwritten signature in dark ink, appearing to read "Heather Levecque". The signature is written in a cursive style with a large initial 'H' and a long, sweeping underline.

Heather Levecque
Manager, Consultation Unit
Aboriginal Relations and Ministry Partnerships Division



Delaware Nation Housing and Lands Department
Wiikhutiin waak Ahkiing

*Moravian of the Thames
Delaware Nation Council*

14760 School House Line, Thamesville, ON N0P 2K0
***Office located at 14979 School House Line, Moraviantown*

Tel: (519) 692-4290
Fax: (519) 692-3453

Wednesday, June 13, 2012

Phil Bartnik, P.Eng.
Project Engineer
Stantec Consulting Ltd.
140 Ouellette Place Suite 100
Windsor, ON
N8X 1L9

RECEIVED

JUN 19 2012

STANTEC CONSULTING LTD.
Consulting Engineers

Dear Mr. Bartnik,

I have reviewed the documentation received May 23, 2012 to the best of my ability and find the **Essex Region Conservation Authority Upper Little River Watershed Master Drainage Plan & Stormwater Management Plan** does not require any further consultation.

The information sent regarding the above mentioned project was evaluated and it was recognized that this project will not require any further discussion with the Delaware Nation, Moravian of the Thames First Nation.

Thanks for your time and consideration in this matter.

Sincerely,

Tina Jacobs
Lands and Resource Consultation Manager
Delaware Nation

Cc: Mr. Rick Peters - Director Operations, Chief Greg Peters



**Regional Engineering
Engineering Services**

Canadian National Railway
4 Welding Way
P.O. Box 1000
Concord, Ontario L4K 1B9
Tel.: 905-669-3184
Fax: 905-760-3406

4th, September, 2012

Phil.bartnik@stantec.com

Stantec Consulting Ltd.
140 Ouellette Place Suite 100
Windsor, ON
Canada N8X 1L9

Dear Sir or Madam:

**Re: Essex Region Conservation Authority Upper Little River Watershed
Master Drainage Plan & Stormwater Management Plan**

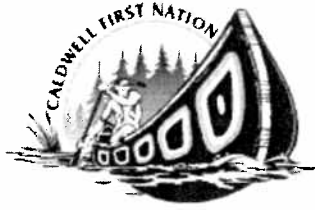
Thank you for the letter, informing us of the above noted project. There appears to be CN property within the said boundaries and therefore CN Rail has concerns and comments regarding this project. Please keep CN on the project mailing list.

CN tracks, Chatham Subdivisions, are operating through the study area. It will require having involvement from CN, please feeling free to contact the undersigned.

Sincerely,

A handwritten signature in black ink that reads "Derek Basso".

Derek Basso
Utilities Coordinator
905-669-3184
Derek.Basso@cn.ca



Caldwell First Nation

Head Office: 22361 Austin Line, Bothwell, ON N0P 1C0
Branch Office: P.O. Box 388, Leamington, ON, N8H 3W3
Chief Louise Hillier: Box 388, Leamington, ON N8H 3W3
Phone: 519-322-1766 * Fax: 519-322-1533

RECEIVED

November 27, 2012

Phil Bartnik, P.Eng.
Project Engineer

DEC 17 2012

STANTEC CONSULTING LTD.
Consulting Engineers

**Re: Project – Essex Region Conservation Authority
Upper Little River Watershed Master Drainage Plan &
Stormwater Management Plan**

SUBJECT: CONSULTATION WITH FIRST NATION

This correspondence is to inform you that you have not complied with government protocol in regards to “consultation with First Nations”.

Consultation is not sending your correspondence that may or may not include your project plans or progress or reports.

Consultation is meaningful dialogue between two parties. This has not taken place at any point with Caldwell First Nation.

Caldwell First Nation’s traditional land extends from the Detroit River to Long Point. If your project falls within this geographical area, you are required to engage in “consultation” with the Caldwell First Nation.

We do not support or encourage your project and you should cease any further development until “consultation” with Caldwell First Nation has taken place.

Copies of this correspondence will be forwarded to the appropriate government offices.

Meegwetch


Chief Louise Hillier
Caldwell First Nation

January 7, 2013

Ministry of Transportation
Windsor Border Initiatives Implementation Group
659 Exeter Road
London, Ontario
N6E 1L3

Attention: Mr. Rakesh Shreewastav

RE: Upper Little River Watershed Master Drainage Plan & Stormwater Management
Plan Study

Dear Sir:

On October 22, 2012 we attended the Public Information Centre #2 held by McCormick Rankin on behalf of the Ontario Ministry of Transportation, the City of Windsor and the County of Essex. A further meeting was held on November 27, 2012 attended by representatives from The Ministry of Transportation, The City of Windsor, McCormick, Rankin Corporation and

owns a fifty six (56) acre parcel of land on the south side of County Road #42, west of Lauzon Parkway, with a frontage of approximately 644' on County Road #42.

We strenuously object to several issues that are being proposed by the preferred plan as it would sterilize the use of our lands, based on the following:

- (a) The preferred option depicts that Lauzon Parkway (a proposed Four (4) Lane Highway) would run directly through our property, bisecting the land. Since this road is shown as being a major thoroughfare, we assume the minimum width of 120' would be required for the road portion on County Road #42.

- (b) The preferred plan shows the Little River Drain (which forms the western boundary of our property) will be expanded to a width of approximately 100m to the top of drain. This would necessitate utilizing a further portion of our frontage on County Road #42, leaving our company with a sliver of land fronting County Road #42.
- (c) As well, there is consideration being given to the Lauzon Parkway Road to be relocated further west to abut the expanded Little River Drain. As the majority of the frontage would be used for the Lauzon Parkway Extension and the expanded Little River Drain, this does little to mitigate the damages to our company.

purchased this property for its strategic location across from the Windsor Airport. However, the preferred road and drainage locations presented at Public Information Centre #2 hinders our ability to develop the property and will greatly impact the utilization of our lands as it takes the majority of the frontage on County Road #42.

The City of Windsor supported a concept of mixed use commercial development in the 2006 report prepared by Stantec Consulting Ltd. However, we were advised by the City of Windsor to wait until the sewers became available before proceeding with any form of development. Sewers were recently installed along Lauzon Parkway and we are now in a position to consider development of our lands. Due to the proposed road location/green space requirements proposed at the Public Information Centre #2, the City of Windsor has now advised us that they will not consider any zoning changes to allow commercial development as originally intended. It is obvious that our property is now sterilized since no zoning can occur.

At the November 27, 2012 meeting, it was apparent to us that the Ministry of Transportation, and the City of Windsor intend on continuing with the preferred option that was depicted at the Planning Information Centre#2 on October 22, 2012. In fact, representatives from the Ministry of Transportation acknowledged the negative impact the proposed road location would have on our property.

We hereby ask that the location of the road be reconsidered. It is our recommendation to extend Lauzon Parkway further south from its existing location where it currently intersects with County Road #42 – through the Kennette Contracting property, which is east of our lands. Lauzon Parkway could then swing further west as it moves southerly. This scenario would still enable us to utilize some frontage along County Road #42.

In the alternative, the Government of Ontario/City of Windsor should proceed to negotiating for the purchase of the property immediately – not at some undetermined future date which would add to our carrying costs for the property. On November 27, 2012, it was stated by a Ministry of Transportation representative that there is no

committed program to the next phase of this project after the current Environmental Assessment stage. It is completely ludicrous and unfair that the Government of Ontario or the City of Windsor would expect us to wait an undetermined amount of time before funding is made available for the construction of the Lauzon Parkway extension. This is “expropriation without compensation”.

We await your immediate response.

c.c. Mr. Bob Felker, MTO Windsor BIIG
Mr. David Reis, MTO Windsor BIIG
Ms. Josette Eugeni, City of Windsor
Mr. Michael Cooke, City of Windsor
Ms. Anna Godo, City of Windsor
Ms. Jennifer Leitzinger, City of Windsor
Mr. Frank Scarfone, City of Windsor
Ms. Simona Simion, City of Windsor
Mr. Michael Chiu, McCormick, Rankin Corporation
Mr. Stan Taylor, Director of Source Water Protection, ERCA
Mr. Jayson Innes, Project Manager, Stantec Consulting Ltd.

January 30, 2013

Council Services
City of Windsor
350 City Hall Square West
Room #203
Windsor, Ontario
N9A 6S1

Re: City of Windsor Official Plan Amendment #91 (File Number OPA/3586)

Please be advised that I am unable to attend the Public Meeting for the City of Windsor Official Plan Amendment #91 scheduled for Monday, February 11, 2013 at 4:30 p.m. as I will be out of the country.

Our subject lands are municipally known as

At the time of this written correspondence, a copy of the Proposed Official Plan Amendment and the planning report were not available for our review. I submit our concerns/ objections regarding the Proposed Official Plan Amendment #91 as follows:

- Inclusion of the tree line (see attached map) which is depicted as "Natural Heritage System" on Schedule D Land Use for the City of Windsor Sandwich South Secondary Plan. This tree line was planted by our family to act as a wind barrier between the farm parcels. None of these trees are indigenous to the area and it should not be included within the "Natural Heritage System" designation;
- The "Upper Little River – Stormwater Master Plan Class EA" also depicts wide (approximately 30 metre) areas designated "Natural Heritage System" along the north and west border of our property to accommodate their alternatives to stormwater management. A much wider "Natural Heritage System" designation for an "open" municipal drain with linear ponds will further impact future development potential for our lands. Setback requirements for residential uses will be greatly impacted on our property due to the "open" municipal drain and its' relocation as part of the "Upper Little River – Stormwater Master Plan Class EA" study.

-
- The proposed designation of "Neighbourhood – Low Density" for our lands is not appropriate due to future development constraints (of an environmental and drainage nature). Give the constraints, future land assembly in this area seems likely. As such, given the adjacent properties designated "medium density" it seems appropriate that our property should be designated "Neighbourhood – Medium Density" to facilitate future land assembly and maintain future marketability for our lands by future developers.
 - Finally, it appears that the natural drainage of the lands runs south to north, and as such, lands will have to be assembled for development to accommodate drainage as well as other development constraints. We are requesting that "land use" policies be included within the "City of Windsor – Sandwich South Secondary Plan" that encourages land assembly for our lands and the adjacent "medium density" area.

Further, please accept this letter as our written request to be notified of any adoption of the proposed official plan amendment #91 or of the refusal of a request to amend the official plan, so that we may be entitled to be added as a party to the hearing of an appeal of the Official Plan Amendment #91 before the Ontario Municipal Board.









Yours truly,

Atch: Map Schedule Depicting Land
Notice of Public Meeting – File# OPA/3586

CITY OF WINDSOR
Sandwich South
Secondary Plan
SCHEDULE D
Land Use

Legend

-  Employment
-  Prestige Employment
-  Community Care
-  Neighbourhood - Low Density
-  Neighbourhood - Medium Density
-  Recreation & Open Space
-  Natural Heritage System

-  Railway
-  Interchange
-  Airport Runway
-  Airport Lands
-  Noise Exposure Forecast
-  Secondary Plan Boundary
-  City of Windsor Boundary
-  Proposed Roadway



CITY OF WINDSOR
NOTICE OF COMPLETE APPLICATION
NOTICE OF PUBLIC MEETING TO CONSIDER AN AMENDMENT
TO THE CITY OF WINDSOR OFFICIAL PLAN

FILE NUMBER OPA/3586

TAKE NOTICE that a complete application for an amendment to the City of Windsor Official Plan has been received and that a public meeting will be held to consider the proposed amendment:

PLANNING & ECONOMIC DEVELOPMENT STANDING COMMITTEE

Monday, February 11, 2013 at 4:30 pm

Council Chambers, Third Floor, City Hall, 350 City Hall Square West, Windsor, Ontario

This is the statutory public meeting required by the Planning Act. The purpose of this meeting is to give the public an opportunity to comment, and for the PLANNING & ECONOMIC DEVELOPMENT STANDING COMMITTEE to make recommendation to Council, on the proposed amendment.

The meeting is open to any person. You will have an opportunity to speak on the proposed amendment. Written comments are also acceptable. Any personal information may become part of the public record.

Schedule A attached provides an explanation of the purpose and effect of the proposed official plan amendment and a description of the subject land, a key map showing the subject land, or an explanation why no description or key map is provided.

To receive a copy of the Planning Report or the recommendation of the PLANNING & ECONOMIC DEVELOPMENT STANDING COMMITTEE or to view additional information or material contact
Simona Simion at 519-255-6548 x6397 or ssimion@city.windsor.on.ca.

To confirm the date, time and location of this meeting, to speak on this matter and be listed as a delegation, or to receive a copy of the Council decision or the amending by-law call Council Services at 519-255-6432.

If a person or public body does not make oral submissions at a public meeting or make written submissions to the City of Windsor before the proposed official plan is adopted, the person or public body is not entitled to appeal the decision of the City of Windsor to the Ontario Municipal Board.

If a person or public body does not make oral submissions at a public meeting or make written submissions to the City of Windsor before the proposed official plan amendment is adopted, the person or public body may not be added as a party to the hearing of an appeal before the Ontario Municipal Board unless, in the opinion of the Board, there are reasonable grounds to do so.

If you wish to be notified of the adoption of the proposed official plan amendment, or of the refusal of a request to amend the official plan, you must make a written request to:

Council Services
City of Windsor
350 City Hall Square West, Room 203
Windsor, ON N9A 6S1

This application will be considered by City Council at a future date. All persons interested in attending the Council meeting should check the Civic Corner in the Windsor Star, the City of Windsor website at <http://www.cityofwindsor.ca/000060.asp> or call 311 for details about the Council Meeting date.

DATED at the City of Windsor January 18, 2013.


Valerie Critchley, City Clerk
Windsor, Ontario

SCHEDULE 'A'

PART 1- An explanation of the proposed Official Plan Amendment change

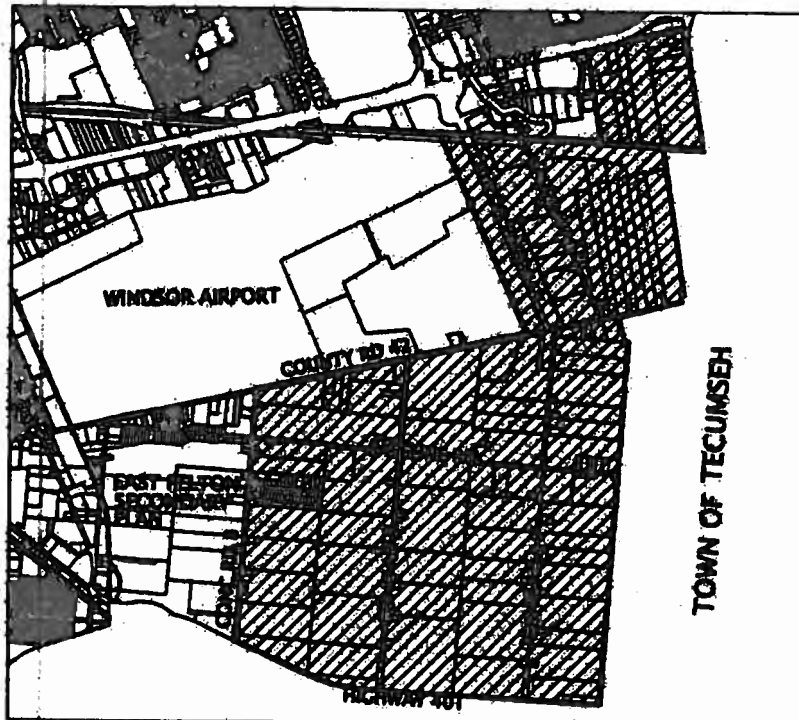
The purpose of this amendment is to:

- Amend Volume II: Secondary Plans and Special Policy Areas of the City of Windsor Official Plan by adding a new section to incorporate the goals, objectives, policies, development plan, implementation measures and associated schedules as the Sandwich South Secondary Plan
- Amend Schedule A: Planning Districts and Policy Areas, in the City of Windsor Official Plan Volume I to identify Sandwich South Secondary Plan Area
- Amend Schedule D: Land Use, in the City of Windsor Official Plan Volume I to re-designate lands from 'Future Urban Area' and 'Future Employment Area' as identified on Schedule D of this amendment

The Sandwich South Secondary Plan Study Area consists of a portion of the Transferred Lands that were added to the City of Windsor, which were formerly in the Town of Tecumseh, generally south and east of the Windsor International Airport. The Secondary Plan project has been undertaken in a parallel process with an Environmental Assessment (EA) Study of the Lauzon Parkway which commenced in 2011.

NOTE: If any additional information is required regarding this matter, please contact Michael Cooke, Manager of Planning Policy at 519-255-6543, ext. 6102 or Simona Simion, Research and Policy Support Planner at 519-255-6543, ext. 6397 or ssimion@city.windsor.on.ca.

PART 2- A key map showing the location of the lands affected by the Official Plan Amendment change



SCHEDULE 'A'

APPLICANT: CITY OF WINDSOR



CITY OF WINDSOR



DATE: JANUARY, 2013
DPA # 01
FILE NO: OPA 2008



**AAMJIWNAANG FIRST NATION
CHIPPEWAS OF SARNIA
Band Council**

978 TASHMOO AVENUE
SARNIA, ONTARIO
N7T 7H5
Phone: (519) 336-8410
Fax: (519) 336-0382

April 15, 2013

File # 2013-0018

Stantec Consulting Ltd.
140 Ouelette Place
Suite 100
Windsor, Ontario
N8X 1L9

Attention: Phil Bartnik


**Re: Upper Little River Watershed Master Drainage Plan &
Stormwater Management Plan
Essex Region Conservation Authority**

Dear Mr. Bartnik:

Thank you for the letter and information package regarding this project dated December 18, 2012. Our staff has recorded this information in our log. Over the next few weeks it will be forwarded to our Chief and Council for their review. Upon further direction from our council, we will contact you to inform you of the next step.

Aamjiwnaang First Nation continues to assert and exercise our Aboriginal Rights and Title to all parts of our Reserve and Traditional Territory in regards to lands and resource issues.

Sincerely,

for / 

Sharilyn Johnston
Environmental Coordinator
Aamjiwnaang First Nation

RECEIVED

APR 18 2013

STANTEC CONSULTING LTD.
Consulting Engineers

"Saving our Home and Native Land"

29 October 2013

Jayson Innes
Project Manager
Stantec Consulting Ltd.
49 Frederick Street
Kitchener, Ontario
N2H 6M7

Dear Mr. Innes:

Re: Upper Little River Stormwater Master Plan Environmental Assessment – City of Windsor

We act for _____ owners of an 11.4 ha agricultural parcel in the City of Windsor bounded on the north by County Road No. 42, on the east by Little River, on the south by a wooded parcel and on the west by agricultural lands (refer attached).

_____ has been following the Sandwich South Secondary Plan process which you may be aware has currently been put on hold by the City and, we are advised, unlikely to be resumed until completion of the Lauzon Parkway EA. As the Upper Little River Stormwater Master Plan EA may affect the development possibilities and potential of the subject lands arising out of the Sandwich South Secondary Plan, please consider this our request on behalf of our client to be added to your communications list for any and all upcoming public notices or public meetings with respect to the EA. At this point, we would appreciate your confirmation of what stage of the process you are in with respect to the EA as well as when approximately any future public meetings are anticipated and the expected completion date of the exercise.

Yours very truly,

c.c.

attachment





CHIPPEWAS OF THE THAMES FIRST NATION

September 11, 2019

VIA EMAIL

James Bryant
Water Resources Engineer
Essex Region Conservation Authority
360 Fairview Avenue West
Essex, ON N8M 1Y8

**RE: Upper Little River Watershed Master Drainage and Stormwater Management Plan
Essex Region Conservation Authority**

Dear Mr. Bryant,

We have received notification concerning the above-mentioned project, issued August 31, 2019. The proposed project is located within the Mckee Treaty Area (1790) to which Chippewas of the Thames First Nation (COTTFN) is a signatory. It is also located within Big Bear Creek Additions to Reserve (ATR) land selection area, as well as COTTFN's Traditional Territory.

We presently do not have enough information to determine the impacts associated with your project. Please provide updates and studies as they become available to consultation@cottfn.com. As well, if there is an Archaeology Assessment conducted, we require notification and the opportunity to actively participate by sending First Nation field liaisons on behalf of this First Nation.

We look forward to continuing this open line of communication. To implement meaningful consultation, COTTFN has developed its own protocol — a document and a process that will guide positive working relationships. We would be happy to review COTTFN's Consultation Protocol with you. The protocol is available at www.cottfn.com/consultation.



CHIPPEWAS OF THE THAMES FIRST NATION

Please do not hesitate to contact me if you need further clarification of this letter.

Sincerely,

Fallon Burch
Consultation Coordinator
Chippewas of the Thames First Nation
(519) 289-5555 Ext. 251
consultation@cottfn.com

Encl. INV-9-003-19

c: Jayson Innes, Project Manager, Stantec Consulting Ltd.

Chippewas of the Thames First Nation

Treaties, Lands & Environment Department

320 Chippewa Rd.
Muncey, Ontario N0L 1Y0

P: 519-289-5555
F: 519-289-2230

Consultation@cottfn.com
www.cottfn.com/consultation

Bill To: Essex Region Conservation Authority
Address: 360 Fairview Avenue West
Essex , ON N8M 1Y8

Phone: (519) 776-5209 Ext. 246
Fax: (519) 776-8688
Email: jbryant@erca.org

Invoice #: 9-003-19
Invoice Date: 09-12-2019

Invoice For: Upper Little River Watershed Master Drainage and Stormwater Management Plan

| Item # | Description | Qty | Unit Price | Discount | Price |
|--------------------|------------------------------|-----|------------|----------|------------------|
| 1 | Filing Fee | 1 | \$ 125.00 | \$ - | \$ 125.00 |
| 2 | 1 - Consultation Coordinator | 1 | \$ 85.00 | - | 42.50 |
| Invoice Subtotal | | | | | \$ 167.50 |
| Administration Fee | | | | | 15.00% |
| Other | | | | | |
| Deposit Received | | | | | |
| TOTAL | | | | | \$ 192.63 |

Make all checks payable to:
Chippewas of the Thames First Nation
320 Chippewa Rd. Muncey, ON N0L 1Y0
Attn: Wiindmaagewin

** Charges comply with the *Consultation Service Fees Schedule, Appendix D of the Wiindmaagewin*

| Comment # | Date | From | | Comment | Response |
|---|------------|---------|---------------------|--|---|
| 1 | 2015-01-13 | Windsor | AG | 1. Under Section 8.1 (Next Steps), should the next step be to develop a functional design for the Upper Little River system prior to undertaking final design for specific development blocks? Do we have enough information to include parameters for the functional design in this report? | Text updated to refer to functional design. Additional information has been included in text including storage volumes and peak flow rates to facilitate functional design. |
| 2 | 2015-01-13 | Windsor | AG | 2. Under the Lauzon Parkway Class EA, the consultant was having trouble figuring out how to drain the E-W Arterial Road east of Lauzon Parkway. One suggestion is to extend the E-W Arterial SWM facility. Can we include this in our report? | Yes. The corridor is proposed to extended east of the Lauzon Parkway along the E-W arterial. |
| 3 | 2015-01-13 | Windsor | AG | 3. Should add some text similar to this excerpt from Chapter 7, East Pelton Planning Area, from the Windsor of Windsor Official Plan, Volume II. Stormwater Management, 7.6.26 To provide for a stormwater management system which minimizes the impact of urban development on the natural environment, is integrated as an amenity within the existing drain system and the open space system. It is capable of meeting applicable water quality and quantity requirements while minimizing any potential impacts on the Windsor International Airport related to waterfowl. | additional text has been added to section 2.0 |
| 4 | 2015-01-13 | Windsor | AG | Don't the remaining phases of the EA process need to be completed prior to implementation? | text updated. The next steps assume the EA has been approved |
| 5 | 2015-03-20 | Windsor | AG | Archaeology Report - Pages 1.1 & 1.3, last sentence of 1st paragraph. prior to the expansion of water services within the study area It would be more correct to say that it was "prior to the expansion of storm sewer services within the study area", or municipal stormwater management system, but not related to water. | Text to be updated to "prior to the construction of the stormwater management system" |
| 6 | 2015-03-20 | Windsor | AG | Archaeology Report Page 3.15, I do not understand the following sentence from the last paragraph: The Little River springs from within the northern portion of the study area. | Text to be updated to "The Little River originates in the southern portion of the study area" |
| Executive Summary | | | | | |
| 7 | 2015-01-13 | Windsor | various departments | Do not refer to Little River as a Creek. | All references to Little River as a creek have been removed |
| 8 | 2015-01-13 | Windsor | various departments | Delete 3 duplicate paragraphs on page ii. The following was repeated 2x in the exec summary p ii and iii (see email) | Duplicate text has been deleted |
| 9 | 2015-01-13 | Windsor | various departments | Should add to the Executive Summary under the main objectives paragraph, something to the effect that – the study anticipated development of the lands by multiple land owners and addresses/supports the ability of individual land owners to proceed. | Text updated |
| 10 | 2015-05-27 | ERCA | JH | ii - The highlighted section is a duplication of information in the previous paragraphs. | Refer to comment 8 |
| 11 | 2015-05-27 | ERCA | JH | v - A dry pond alone will not provide "normal" quality protection ("combined with a treatment train approach" inserted) | Text updated |
| 12 | 2015-05-27 | ERCA | JH | vii - form changed to from | Text updated |
| 13 | 2015-05-27 | ERCA | JH | vii - "area" or "number" | Text changed to "number" |
| 1.0 Introduction and project Justification | | | | | |
| 14 | 2015-05-27 | ERCA | JH | page 1.1, Creek deleted | Text updated |
| 3.0 Project Approach | | | | | |
| 15 | 2015-05-27 | ERCA | JH | Page 3.1, mitigative changed to mitigation | Text updated |
| 3.2 Issues and Constraints | | | | | |
| 16 | 2015-05-27 | ERCA | JH | Page 3.2, Should protection of fish/habitat be included in this list? | protection of fish and fish habitat were added to the list |
| 3.3 Public Involvement | | | | | |
| 17 | 2015-01-13 | Windsor | various departments | Page 3.5, note that PIC#2 was held in conjunction with Lauzon Parkway Environmental Assessment and SS Secondary Plan PIC's, i.e. In addition, PIC #2 for the Lauzon Parkway Environmental Assessment and the third workshop for the Sandwich South Secondary Plan were held concurrently at the same location. | Text updated |
| 18 | 2015-01-13 | Windsor | various departments | Page 3.11, 2nd bullet point. Is text referring to Baseline Road in Windsor? If so, it is not Little Baseline Rd. | Text updated to refer to Baseline Road |
| 19 | 2015-01-13 | Windsor | various departments | Page 3.12. Clarify which study recommended the limits of proposed E-W Arterial Road. Confirm that the East Pelton Secondary Plan identified a corridor from Walker Road to 8th Concession Road. | Text updated to refer to the Windsor Annex Area Master Plan Study (2006) and East Pelton Secondary Plan (2009) for the extents of the east-west arterial |
| 20 | 2015-05-27 | ERCA | JH | Page 3.4, "that was" inserted in last paragraph | Text updated |
| 21 | 2015-05-27 | ERCA | JH | Page 3.5, "that" inserted in 4th paragraph from bottom | Text updated |
| 3.4.1 Provincial Policy Statement | | | | | |
| 22 | 2015-05-27 | ERCA | JH | page 3.6, The 2014 PPS (Section 3.1.3) also includes consideration for climate change that may increase the risk associated with natural hazards. Climate change is also noted in other section of the 2014 PPS. Similar to other items, climate change should be identified/considered in this document. | additional text has been added to section 3.4.1, and 7.7 regarding climate change. |
| 3.4.5 Summary of Policy Implications | | | | | |
| 23 | 2015-05-27 | ERCA | JH | page 3.9, "Master Plan Environmental Assessment Environmental Study Report" inserted and "Stormwater and Master Drainage Plan" deleted | Text updated |
| 3.5.2 Turkey Creek and Little River Subwatershed Study | | | | | |
| 24 | 2015-05-27 | ERCA | JH | page 3.10, "r" deleted from Little in heading | Text updated |
| 25 | 2015-05-27 | ERCA | JH | Page 3.11, Provincial changed to Provincial | Text updated |
| 4.1 Ecology | | | | | |
| 26 | 2015-05-27 | ERCA | JH | Page 4.1, General Comment: Appendices are referenced in this section but have not yet been provided. Do the Appendices contain additional plans/maps that identify where the identified flora, fauna, etc. were observed or have the potential to be within the study area. This is important information for the next component of the planning process (functional design) for the Upper Little River Study Area. Including plans/maps in the main body of the report would be helpful. | All of the plans were included in the main body of the report. The appendix information generally consists of tables (included in Appendix D). |
| 27 | 2015-05-27 | ERCA | JH | Page 4.1, from second paragraph (highway 3 to the south): The western boundary of the study area is not defined. | The description of the site has been removed from Section 4.1. It is discussed in Section 1 |
| 4.1.3 Ecological field Studies and Investigations | | | | | |
| 28 | 2015-05-27 | ERCA | JH | Page 4.2, "the" deleted from 2nd paragraph from the bottom | Text updated |

| Comment # | Date | From | Comment | Response | |
|--|------------|---------|---------------------|---|---|
| 4.1.4.1 Aquatic Habitat Assessment | | | | | |
| 29 | 2015-05-27 | ERCA | JH | Page 4.6, "HADD" deleted and replaced with "impacts to fish and fish habitat": HADD is now old terminology from the previous version of the Fisheries Act. Update throughout the report as required. | Text updated |
| 30 | 2015-05-27 | ERCA | JH | Page 4.7, from first paragraph: Where are the proposed stream crossings and how were they selected? | The Waldron report dealt with a new sanitary sewer. Every drain the sewer crossed was studied. Specific details are in the Waldron report |
| 4.1.5.1 Designated Environmental Features | | | | | |
| 31 | 2015-05-27 | ERCA | JH | Page 4.7, 3rd paragraph from the bottom "and" inserted between "Parkway" and "north" | Text updated |
| 32 | 2015-05-27 | ERCA | DL | page 4.7, final paragraph: The study should utilize the most recent natural heritage information available through ERCA. The study area does contain Provincially Significant Wetlands within the Airport Woods, which is not recognized within this study. In addition, priority restoration opportunities as defined through the Essex Region Natural Heritage System Strategy (ERNHSS) should also be considered as informing an overall natural heritage system for the watershed. The natural heritage system should not contain infrastructure associated with stormwater management due to incompatibilities associated with contaminants within SWM facilities. | Text updated |
| 33 | 2015-05-27 | ERCA | JH | page 4.8, "one" replaced with "two" before "zone floodplain policy" | Text updated |
| 4.1.5.6.2 Vegetation Communities | | | | | |
| 34 | 2015-05-27 | ERCA | DL | page 4.9, with regards to the ELC system: The study has characterized the vegetation communities in accordance with the ELC First Approximation evaluation system, which was published in 1998. In 2008, the ELC evaluation system was revised and reorganized to yield a more accurate and extensive characterization of vegetation community types. This 2008 version of the ELC has been well promoted and extensively applied by those professionals who are certified as ELC evaluators within southern Ontario. This version of the ELC is the currently accepted standard that is to be utilized for vegetation community characterization until further revisions to the ELC are published. Any ecological evaluation which applies the ELC system is required to apply the 2008 version of the ELC system in order to be considered valid. One of the significant changes made within the 2008 ELC system was the reorganization of many of the vegetation types that, within the First Approximation, were listed under the "Cultural" ELC Community Class. This was done specifically to address the issue of private consultants misinterpreting or intentionally misapplying the "cultural" descriptor as meaning that a particular vegetation community was not considered significant or of value ecologically due to some anthropogenic origins and influences. Although this connotation was not the intent of the First Approximation publication, in order to eliminate any misinterpretation or misapplication of the ELC in this regard, the ELC system was subsequently reorganized eliminating the use of the moniker "cultural". Any references to ELC vegetation types containing the word "cultural" are therefore not in accordance with currently accepted ELC standards. | Text updated |
| 4.1.5.6.4 Wildlife and Wildlife Habitat | | | | | |
| 35 | 2015-05-27 | ERCA | JH | Page 4.15, 2nd paragraph from the bottom: Fix paragraph indent. | Text updated |
| 4.1.5.7 Aquatic Resources | | | | | |
| 36 | 2015-01-13 | Windsor | various departments | Page 4.20, Table 4. Is 7th Concession Drain classified, or is this considered the 7th Street Drain Diversion? | 7th Concession Drain is shown as a Class F drain |
| 37 | 2015-01-13 | Windsor | various departments | Check how Figure 5 is referenced. Page 4.23, 2nd last paragraph – should it reference Figure 4? | This reference was removed |
| 38 | 2015-01-13 | Windsor | various departments | Where is Figure 5 referenced in the report? | reference was added in section 4.1.5.6.2 |
| 39 | 2015-05-27 | ERCA | JH | page 4.19, Figure 4 only shows the drains that were surveyed and numbered sites with different symbols. The symbols and numbering are not defined. Additional information should be included in the Figure 4 legend. | drain descriptions are provided in Table 3 |
| 40 | 2015-05-27 | ERCA | JH | Table 4 (Page 4.20), General Comment: Review DFO drain classification mapping. | Table 4 has been updated |
| 41 | 2015-05-27 | ERCA | JH | Table 4: The 6th Concession Drain is generally considered a Type E drain from the CN Railway property to the Little River. | agreed |
| 42 | 2015-05-27 | ERCA | JH | Table 4: Should this be Little River at Rivard Drain? | Text updated |
| 43 | 2015-05-27 | ERCA | JH | Table 4: Gouin Drain is typically wet. | DFO drain classification lists Gouin Drain as Type F |
| 44 | 2015-05-27 | ERCA | JH | Table 4: Little River is Type E to 6th Concession Drain. | Little River to 6th Concession has been changed to Type E |
| 45 | 2015-05-27 | ERCA | JH | Table 4: Could not find the location of Reach 14 on Figure 4. | Reach 14 which overlapped with reach 1 was removed from the table. |
| 46 | 2015-05-27 | ERCA | JH | Table 4: Reach 17 is the 7th Concession Drain not the 7th Street Drain. Does the 7th Street Drain Diversion cause the lower reach of the 7th Concession Drain to have permanent flow? | Reach 17 has been renamed. The Drain classifications are based on the DFO Drain Classification List |
| 47 | 2015-05-27 | ERCA | JH | Table 4: The 10th Concession Drain is upstream (south) of Baseline Road and flows easterly along Baseline Road to the Sullivan Creek Drain | Reach 21 was renamed to Little 10th Concession Drain |
| 48 | 2015-05-27 | ERCA | JH | Table 4: Little 10th Concession Drain is from Baseline Road to Little River. | Figure updated to stop at Baseline Road |
| 49 | 2015-05-27 | ERCA | JH | page 4.22, 2nd last paragraph: The drains where aquatic surveys were undertaken are shown with blue lines on Figure 3. It would be helpful to have the actual sampling locations included on this Figure. | Figure reference changed to 4. |
| 50 | 2015-05-27 | ERCA | JH | page 4.23, first paragraph: The Puce River and Pike Creek are not within the study area. | Text updated |
| 51 | 2015-05-27 | ERCA | JH | page 4.23 figure reference: Should this be figure 6? | This reference was removed |
| 4.1.5.7.3 Water Quality | | | | | |
| 52 | 2015-05-27 | ERCA | JH | page 4.24; indicative changed to indicating in first paragraph | Text updated |
| 4.1.6 Ecology Summary | | | | | |
| 53 | 2015-05-27 | ERCA | JH | page 4.27, This does not appear to include all drains with fish habitat (i.e., 9th Concession Drain, 7th Concession Drain, etc. | Text updated |
| 54 | 2015-05-27 | ERCA | JH | page 4.27, The airport woodlots are PSW's | Airport woodlots to be included as PSWs |

| Comment # | Date | From | | Comment | Response |
|---|------------|---------|---------------------|--|---|
| 55 | 2015-05-27 | ERCA | JH | page 4.27, The regional storm in the Essex Region is Hurricane Hazel. The statement is correct, however, ERCA only regulates to the 1:100 year storm event. It would be more representative to state during the regulatory 1:100 year storm event. | Text updated |
| 56 | 2015-05-27 | ERCA | DL | page 4.27, Provincially rare (S1 to S3) species and species of Special Concern may indicate Significant Wildlife Habitat. | Text updated |
| 4.1.6.1 Summary of Environmental Constraints | | | | | |
| 57 | 2015-05-27 | ERCA | JH | Should base flow be included in this list? | Base flow has been added to the list |
| 4.2.8 Little River Flow | | | | | |
| 58 | 2015-05-27 | ERCA | JH | page 4.33, 3rd paragraph from the bottom: The identifier (i.e. SW4) for each monitoring site should be shown on Figure 12. | figure updated |
| 4.2.9 Potential Mitigation Measures | | | | | |
| 59 | 2015-01-13 | Windsor | various departments | Page 4.34, the group should review/comment on the recommended mitigation measures o Perforated storm laterals. DISADVANTAGES o Perforated Pond Outlets. DISADVANTAGES o Soak away Pits / Infiltration Trench. DISADVANTAGES o Longer Drawdown Times for SWM Facilities. | agreed. Additional review/comment from the group could be beneficial |
| 60 | 2015-01-13 | Windsor | various departments | Page 4.36. Check wording of "Base flow temperatures are higher the groundwater flows." | see comment 62 |
| 61 | 2015-05-27 | ERCA | JH | page 4.36, Is this a concern for the airport? (referencing draw down times from SWM facilities) | Longer draw down times do not significantly modify the attractiveness of wet ponds to fowl when there is already a permanent water body |
| 62 | 2015-05-27 | ERCA | JH | page 4.36, "the" changed to "than" under disadvantages (first bullet) | Text updated |
| 4.3.1 Introduction (Hydrology) | | | | | |
| 63 | 2015-05-27 | ERCA | JH | page 4.38, How much field verification/survey work was undertaken to update the model? | Updates to the HEC-2 model are discussed in section 4.4 |
| 4.3.4 Existing Drainage | | | | | |
| 64 | 2015-05-27 | ERCA | JH | page 4.40, text added to end of first paragraph: up to the Via Rail Canada Inc. property which is located approximately 350 metres north of Tecumseh Road East. From the Via Rail Canada Inc. property to Riverside Drive East, the Little River has been channelized with flood protection dykes on each side of the waterway that were designed to contain the 1:100 year flows. | Text updated |
| 65 | 2015-01-13 | Windsor | various departments | In the 1st paragraph of this section on Page 4.40, what does "Downstream of the study area (north of E.C. Row Expressway) Little River remains in a natural state." I believe that this is inaccurate. | This section has been reworded to "Downstream of the study area (north of the E.C. Row Expressway) Little River has been channelized with flood protection dykes on each side of the waterway." |
| 66 | 2015-05-27 | ERCA | JH | page 4.41, A plan should be included showing the major flow restrictions that have been considered in the analysis. Corresponding flows and water surface elevations would also be helpful. | Water levels shown in text (Tables 13 and 19) and on figure 14 |
| 67 | 2015-01-13 | Windsor | various departments | Page 4.42. In Table 8, it references "North Townline Rd. (County Road 42)". If referring to the road, it should be called County Road 42; if referring to the drain, it should be called North Townline Rd. Drain. | Text updated |
| 68 | 2015-05-27 | ERCA | JH | page 4.43, Other Drains north of highway 401 include the Washbrooke Drain and Wellwood Drain. Please review the municipal drain mapping to ensure the accuracy of the text. | text updated |
| 69 | 2015-05-27 | ERCA | JH | page 4.43, Is the North Townline Road County Road 42? Please adjust throughout the report as required. | all references to North Townline Road have been changed to County Road 42 |
| 70 | 2015-05-27 | ERCA | JH | page 4.43, 7th Concession Road is not Walker Road. | text updated |
| 71 | 2015-05-27 | ERCA | JH | page 4.43, Was this confirmed? (referring to final bullet) | Based on informal correspondence with the City of Windsor. To be confirmed |
| 72 | 2015-01-13 | Windsor | various departments | Page 4.43. If referring to the road, it should be called County Road 42; if referring to the drain, it should be called North Townline Rd. Drain. | text updated |
| 73 | 2015-01-13 | Windsor | various departments | Page 4.43. In last bullet, 7th Concession Road is not Walker Road (no 's') north of Legacy Park Drive. South of Legacy Park Drive, although Walker Road is technically also the 7th Concession, no one refers to it that way. Delete "Road" when referring to the 6th Concession Drain. | text updated |
| 74 | 2015-05-27 | ERCA | JH | page 4.44, It is my understanding that improvements were made to the Little River channel and floodplain (between EC Row and the Canadian Pacific Railway) to allow for a specified post development runoff from the Twin Oaks Subdivision without adversely impacting the Little River. Post development flows were to be controlled to a specified flow rate but not to pre-development flow rates before discharging to the Little River. | text updated to reference SWM controls within the Upper Little River Corridor |
| 75 | 2015-05-27 | ERCA | JH | page 4.44, Is this flow split referring to the 9th Concession Road Drain which is located between County Road 42 and Baseline Road? Under normal rain events, the 9th Concession Drain (from the south) outlets into the 6th Concession Drain which then flows to Little River. The 9th Concession Road Drain may drain to the 6th Concession Drain or to the North Townline Drain or to both. The municipal drain report profiles should be reviewed. | text updated to provide more information on the flow spit |
| 76 | 2015-05-27 | ERCA | JH | page 4.44, Hec-2 model? | Text updated to refer to HEC-2 |
| 77 | 2015-05-27 | ERCA | JH | page 4.44, Were the model cross-sections updated to account for the channel improvements that were undertaken as part of the Twin Oaks development between EC Row and the Canadian Pacific Railway property in the early 1990's? In Section 4.4.3 it appears that the original model was updated to include this information. | Text updated to reference the Twin Oaks floodplain work |
| 78 | 2015-01-13 | Windsor | various departments | Page 4.44. Where is the junction of the 6th and 9th Conc Drains with a flow split? | The existing model was updated to include the extension of the 9th Concession Road drain to North Townline Drain |
| 79 | 2015-01-13 | Windsor | various departments | Page 4.45. Table 9 Where is the confluence of Little River and 9th Conc Drain? Refer to the road as County Road 42 (not North Townline Road). | text updated |
| 4.3.6 Hydrologic Model Results | | | | | |
| 80 | 2015-05-27 | ERCA | JH | page 4.45, The 9th Concession Drain outlets into the 6th Concession Drain and the 6th Concession Drain outlets into Little River. | text updated |

| Comment # | Date | From | | Comment | Response |
|---|------------|---------|---------------------|---|--|
| 81 | 2015-05-27 | ERCA | JH | page 4.45, I think this should be County Road 42. Please confirm and revise as required throughout the report. | text updated |
| 4.3.7 Alternative Flow Estimates | | | | | |
| 82 | 2015-05-27 | ERCA | JH | page 4.45, ? (referring to Highway 9 in final paragraph) | Text updated to refer to the E.C. Row Expressway |
| 83 | 2015-05-27 | ERCA | JH | page 4.47, Is a plan showing the Key Point locations included in the Appendices? It would be helpful to include a plan in this section. | Key points have been removed from the text and referred to by road crossing |
| 4.3.8 Hydrology Summary | | | | | |
| 84 | 2015-05-27 | ERCA | JH | page 4.48, 6 hour Chicago? (first bullet) | text updated to refer to the 6-hour Chicago storm |
| 4.4.1 Hydraulics Introduction | | | | | |
| 85 | 2015-01-13 | Windsor | various departments | Refer to it as 7th Street Drain Diversion, not "drainage" | Text updated |
| 86 | 2015-05-27 | ERCA | JH | page 4.49, Lachanve Drain, not Lechance | Text updated |
| 87 | 2015-05-27 | ERCA | JH | page 4.49, 7th street Drain diversion, not drainage | Text updated |
| 4.4.2 Methodology | | | | | |
| 88 | 2015-01-13 | Windsor | various departments | Page 4.50, "entrance" should be singular for culvert entrances in last bullet of first group | Text updated |
| 89 | 2015-05-27 | ERCA | JH | page 4.50, This section requires additional clarification/discussion. (hydraulic model paragraph) | Text reworded |
| 90 | 2015-01-13 | Windsor | various departments | Page 4.51, Table 12. Road name is "Forest Glade", not Glen. | Text updated |
| 4.4.3 Hydraulic Model Results | | | | | |
| 91 | 2015-05-27 | ERCA | JH | page 4.50, add "for Existing Conditions" to the heading | Text updated |
| 92 | 2015-05-27 | ERCA | JH | page 4.50, HEC-2 not HEC-RAS | Text updated |
| 93 | 2015-05-27 | ERCA | JH | page 4.51, These numbers do not seem to correspond to the hard copies of the 1985 flood line maps or Hec-2 printouts. Are these suppose to be the actual 1985 elevations or are they your baseline PC-SWMM model results with the 1985 inputs? The added highlighted elevations are from the hard copies of the 1985 flood line maps and Hec-2 printouts. Please clarify. | The flood elevations have been updated. The numbers were based on a HEC-RAS model obtained from MRC that was based on the HEC-2 Model |
| 4.5.2 Background Review | | | | | |
| 94 | 2015-05-27 | ERCA | JH | page 4.53, In the Legend – "Little Creek Watershed Boundary" should be "Little River Watershed Boundary" | figure updated |
| 95 | 2015-05-27 | ERCA | JH | page 4.53, The Baseline Road Drain is noted from the 9th Concession Drain to the Little River Drain. It has been our understanding that this is the 6th Concession Drain. Please verify with the municipal drainage reports. | figure updated |
| 4.5.3 Erosion Setbacks | | | | | |
| 96 | 2015-05-27 | ERCA | JH | page 4.60, A plan showing the erosion setbacks for the watercourses should be included in this section. | A figure shows setbacks was added to the main body as Figure 14 |
| 4.5.7 Restoration/Remediation Opportunities | | | | | |
| 97 | 2015-01-13 | Windsor | various departments | Page 4.61. refer to Sandwich South Employment Lands, not Windsor Annex Lands. | Text updated |
| 5.3.3 Summary of Assessment | | | | | |
| 98 | 2015-05-27 | ERCA | JH | page 5.10, second bullet, DFO not ERCA | Text updated |
| 99 | 2015-05-27 | ERCA | JH | page 5.10, Where is construction within a wetland proposed? This is typically something that would be difficult to obtain approvals for. (last bullet) | Text updated to remove the reference to construction in a wetland |
| 6.1 Recommended Stormwater Management Solution | | | | | |
| 100 | 2015-01-13 | Windsor | various departments | Check page numbering for Chapter 6. It starts on 6.12 | page numbers updated |
| 101 | 2015-05-27 | ERCA | DL | page 6.12, ERCA does not support the concept of SWM facilities being promoted as 'natural' or providing habitat for wildlife. SWM facilities are infrastructure which treats potentially contaminated stormwater runoff. They are not simply aquatic systems, that if you plant trees and shrubs you end up with healthy functional habitat. In addition, there is a section of the SWM corridor proposed to be located between the forested areas on the Airport lands. These forested areas are also identified as Provincially Significant Wetlands. The proponent should demonstrate how the proposed SWM facilities will not have any negative impact to the hydrology which maintains the PSWs. Again, reiterating the above comment, SWM facilities are designed to control/manage stormwater from both a quantity and quality perspective – essentially treating contaminated water. This is not a feature which should be placed in close proximity or interact with | Text updated to not refer to SWM areas as natural habitat. The area on the airport lands has been made more general and moved away from the provincially significant woodlots. |
| 102 | 2015-05-27 | ERCA | DL | page 6.12, It does not appear that the proposed land use plan for the area proposes to place any of the significant natural heritage features, including CNHSS, into a natural heritage protection designation. It appears some blocks have been identified as 'open space', but this land use designation does not provide for adequate protection of significant natural heritage. | This study did not change land use information from other parties (perhaps input should be made to other planning studies like the South Sandwich Land use Planning Study) |
| 103 | 2015-05-27 | ERCA | JH | page 6.12, second bullet: area or number? | Text changed to "number" |
| 6.1.1 Design Criteria | | | | | |
| 104 | 2015-05-27 | ERCA | JH | page 6.13, Consideration of Low Impact Development should also be included/noted for development within the Upper Little River Area. This may be more related to the future functional design studies for each pond area, but it should at least be noted in this document. | Additional text has been added on low impact development measures in Section 6.1.1 and 7.7 |
| 105 | 2015-05-27 | ERCA | JH | page 6.13, Please confirm the recommended 48 hour extended detention time. MOECC Table 3.2 is based on a 24 hour drawdown time. Is this related to drain base flow considerations? Does a longer detention time increase the potential for airport concerns? | The conceptual SWM ponds in the model use a simplified method to determine sizing. Orifices were assumed at the permanent pool and 0.3 m above the permanent pool. Drawdown times of 36 hours and 12 hours were assumed for the low and high orifice weir respectively to meet peak flow targets. The 36 (previously 28) hour time is not necessarily the extended detention time and this reference in the text has been removed. |
| 106 | 2015-01-13 | Windsor | various departments | for water quantity, what happens if IDF curves are updates? | if IDF curves are updated to account for climate change it is expected that storage requirements would increase, assuming the target flow in Upper Little River remains constant. |

| Comment # | Date | From | | Comment | Response |
|--|------------|---------|---------------------|---|---|
| 107 | 2015-01-13 | Windsor | various departments | pedestrian paths - primary paths should be above 100 year water level and paved (i.e. asphalt). Elsewhere in the document, it recommends gravel pathways. Suggest that this is o.k. for secondary paths. | text updated |
| 108 | 2015-01-13 | Windsor | various departments | p6.13 "construct ponds and establish vegetation prior to pond being brought on-line" Document should add text for option to construct temporary SWM facilities until such time that vegetation is established and permanent SWM is brought on-line. | Text updated |
| 6.1.2 Recommended Strategy | | | | | |
| 109 | 2015-01-13 | Windsor | various departments | After Figure 14-16, it refers to corridors of 120 to 200m. This should be shown on a drawing. Figures 16 should be revised to conform with this. | Corridor widths are shown on Drawing 3 |
| 110 | 2015-05-27 | ERCA | JH | page 6.14, This section should also include a high level discussion about major and minor event routing from the individual development areas to the SWM facilities. | text updated |
| 111 | 2015-05-27 | ERCA | JH | page 6.14, Drawing 3 shows the proposed individual catchment areas. The overall drainage area for each proposed SWM corridor should be delineated on a plan. | the SWM corridor has been modified so that there is sufficient corridor within each catchment area. The figure was also updated to assign catchment numbers to portions of the SWM corridor. |
| 112 | 2015-05-27 | ERCA | JH | page 6.14, Conceptual SWM ponds are not shown on Drawing 3. A plan showing your conceptual locations of individual ponds and the related drainage areas should be included. This would assist with the future functional design stage of this project. | figures 17 to 19 to be updated |
| 113 | 2015-05-27 | ERCA | JH | page 6.14, Corridor dimensions should be shown on the plans. | corridor width has been shown on Drawing 3 |
| 114 | 2015-05-27 | ERCA | JH | page 6.14, Can an estimate be included of the fish habitat that will be lost? How will the offsetting of fish habitat be distributed to the remaining drains that are proposed to be enhanced? | Approximately 1/3 of the existing municipal drains within the study area proposed to be abandoned, 1/3 are proposed to be left as is, and 1/3 are proposed to be enhanced/widened. Additional channel length is proposed along the proposed east-west arterial road but it is relatively minor compared to the length proposed to be abandoned. The distribution of the enhanced fish habitat to offset the loss of fish habitat has not been determined at this time and will be dependent on a detailed habitat assessment. |
| 115 | 2015-05-27 | ERCA | JH | page 6.14, Check for consistency throughout the document. (referring to offset vs compensate) | Text updated |
| 116 | 2015-01-13 | Windsor | various departments | p6.14 "The SWM corridor is approximately 200m wide for Upper Little River and 120m wide for all other tributaries" Text should be added that these corridors are reserved until such time that detailed design and report confirm size of facility; surplus lands will be released. | Text updated |
| 117 | 2015-01-13 | Windsor | various departments | p6.15 "...all other development (including trails) must be located outside of this boundary to prevent flood damage." Delete "including trails" – secondary trails are permitted within the 100year flood elevation. | Text updated |
| 118 | 2015-05-27 | ERCA | JH | page 6.15, The improvements that have been considered in the modeling need to be detailed in the report (i.e. plans showing actual locations, cross-sections, etc.). These improvements plus the pond release rates are needed to ensure no adverse impacts to the Little River flow regime. Timing of the Little River modifications/improvements should be discussed. It is anticipated that these improvements may need to be completed before development proceeds in the study area. | Extensive channel improvements are no longer proposed. The existing channel is only proposed to be widened to create a riparian and flood plain area. Release rates have been added to the main body of the report. |
| 119 | 2015-05-27 | ERCA | JH | page 6.15, Based on MNRF guidelines, stormwater facilities should be located outside of floodplains. Technically, the proposed SWM ponds are being located off-line of the improved channels. The improved channels should contain the 1:100 year flows. The ponds are proposed within the proposed drainage corridor, however, is it correct to consider them in the floodplain? | Text updated |
| 120 | 2015-01-13 | Windsor | various departments | Table 17. North Townline Road should read as County Road 42. Second paragraph below refers to CN Rail Line. Are we recommending channel lowering outside of the study area (CN Rail - Via Tracks), or upstream of CPR? | The report no longer recommends channel lowering. |
| 121 | 2015-05-27 | ERCA | JH | page 6.16, The 1985 McLaren 1:100 year water level should also be include in this table. (table 18) | Text updated |
| 122 | 2015-01-13 | Windsor | various departments | Table 18 and paragraph below it. Road should read, Forest Glade. | Text updated |
| 123 | 2015-05-27 | ERCA | JH | page 6.16, A plan showing the flood prone areas under the proposed conditions should be included. | The reduced flows required to meet the existing municipal drain capacity have lowered the flows such that the 100-year flow is contained and there is no flooding outside the channel |
| 124 | 2015-05-27 | ERCA | JH | page 6.16, As per earlier comments, plans showing this area and the recommended improvements should be included. | The reduced flows required to meet the existing municipal drain capacity have lowered the flows such that the 100-year flow is contained and there is no flooding outside the channel. The Little River Channel Invert is proposed to remain unchanged from existing |
| 125 | 2015-01-13 | Windsor | various departments | Need Planning Level Cost Estimate in Chapter 6. | What sort of planning Level Cost Estimate are you looking for? Should this be part of functional design? |
| 6.1.2.1 Post Development Groundwater Recharge | | | | | |
| 126 | 2015-05-27 | ERCA | JH | page 6.17, The impervious % will be low, however, trails are proposed and infrastructure such as pump stations and related access laneways will be required. (referring to open space/natural heritage percentage) | The imperviousness of Open Space and Natural Heritage Features has been increased to 5% |
| 127 | 2015-05-27 | ERCA | JH | page 6.17, Does this create concerns for the Airport? (last paragraph of section) | The Airport generally expressed concern over areas of ponded water and wasn't as concerned with open channels as they do not represent good breeding habitat due to constant flows and short fetch lengths. |
| 6.2.1.1 Wetlands | | | | | |
| 128 | 2015-01-13 | Windsor | various departments | It is noted that "no provincially significant wetlands have been identified within the study area". What about the wetlands at Windsor Airport? | Text and figures updated to reflect to refer to the PSW on the Windsor Airport Lands |

| Comment # | Date | From | Comment | Response | |
|--|------------|---------|---------------------|--|---|
| 129 | 2015-05-27 | ERCA | DL | page 6.18, This needs to be corrected as PSW does exist on the Airport lands. The study will need to demonstrate that the proposal will not have any negative impact to the hydrological functioning of the existing wetland, or to the hydrologic regime that maintains the wetland. | Text updated to refer to refer to the PSW on the Windsor Airport Lands. Current information shows the airport lands developing as a solar farm with minimal SWM controls and this area is no longer shown as a SWM area |
| 130 | 2015-01-13 | Windsor | various departments | Page 7.1, Section 7.0 1st paragraph. Should read "incidents", not indecent. | Text updated |
| 6.2.1.3 Wildlife Habitat | | | | | |
| 131 | 2015-05-27 | ERCA | DL | page 6.19, Pursuant to the findings, the consultants will need to seek MNRF input into the extent of regulated habitat under the ESA and any permitting requirements. | agreed. Text updated in section 6.2.1.3 and 8.1.2 |
| 132 | 2015-05-27 | ERCA | DL | page 6.19, How has the study determined no negative impact? What is the mitigation? Vegetated SWM facilities are not habitat acceptable as mitigation/compensation for the loss of existing significant natural heritage features. | Potential impacts have been identified and mitigation measures have been outlined in Table 21 and Section 6.2.1 |
| 6.2.1.4 Fish Habitat | | | | | |
| 133 | 2015-05-27 | ERCA | JH | page 6.19, DFO added | Text updated |
| 134 | 2015-05-27 | ERCA | JH | page 6.20, DFO should be asked to provide input into offsetting options, approval requirements, etc.? (compensation changed to offsetting) | Text updated |
| 6.2.1.6 Human Impacts | | | | | |
| 135 | 2015-05-27 | ERCA | DL | page 6.20, Are we only concerned with 'minimizing' negative impacts or are we required to have 'no negative impact'. There is a difference. Increasing public access to significant natural heritage features is a negative impact. Well defined trails with signage does not go far enough to mitigate this negative impact, but may lower the impact somewhat. | text now refers to mitigating impacts instead of minimizing |
| 136 | 2015-05-27 | ERCA | DL | page 6.20, Based on what? Experience has demonstrated otherwise. Conclusion not supported. | text has been updated to remove conclusion |
| 6.2.2 Mitigation of the Preferred Alternative | | | | | |
| 137 | 2015-05-27 | ERCA | JH | page 6.23, ERCA approvals are identified in the next paragraph. Based on the findings of the study, approvals will also be required from MNRF, DFO, MOECC, etc. Other applicable legislation should be identified similar to the ERCA paragraph. | Additional permit requirements are outlined in section 8.1.2 |
| 138 | 2015-05-27 | ERCA | DL | page 6.23, The concept of the preferred alternative introduces potentially contaminated SWM facilities in contact with significant natural heritage features. These SWM facilities are proposed to be vegetated with native plants, and are being marketed as habitat within an overall greenway system. This concept itself is not fully supported. | appropriate buffers will be required between the natural heritage features and SWM facilities. The text has been revised to not refer to the SWM facilities as habitat. |
| 6.2.3 Recommendations | | | | | |
| 139 | 2015-05-27 | ERCA | JH | page 6.24, ERCA removed and MNR updated to MNRF in 3rd last bullet. Update MNR to MNRF throughout the report. | Text updated |
| 140 | 2015-05-27 | ERCA | JH | page 6.24, DFO added to second last bullet | Text updated |
| 7.2 Forested Wetlands | | | | | |
| 141 | 2015-05-27 | ERCA | JH | page 7.6, Future maintenance challenges with these types of facilities must be considered. | This section has been deleted |
| 142 | 2015-05-27 | ERCA | DL | page 7.6, Once again, the proposal is to create what resembles 'habitat' – i.e., a pit and mound swamp that is treed, and then have it function as a SWM facility. This is not supported. | This section has been deleted |
| 7.4 Stormwater Pumping | | | | | |
| 143 | 2015-01-13 | Windsor | various departments | In first paragraph, it states "Drawing 5 shows catchment areas where pumping is possible". I don't see how that is represented on the drawing. Drawing 5 only shows estimated depth of storm sewer below existing ground elevation | Drawing 5 has been removed and the text updated |
| 144 | 2015-05-27 | ERCA | JH | page 7.8, Drawing 5 shows potential storm sewer depths. It is unclear how pumping is shown on Drawing 5. | Drawing 5 has been removed and the text updated |
| 145 | 2015-05-27 | ERCA | JH | page 7.9, Backup power should be provided in addition to an emergency overflow. | Text updated |
| 7.6 Archaeology | | | | | |
| 146 | 2015-01-13 | Windsor | various departments | Archaeology is miss-spelled in the report. What was outcome of Stage 1 assessment? | Text updated and more details on the Stage 1 assessment were moved from the appendix to the main body |
| 147 | 2015-01-13 | Windsor | various departments | Portions of the study area exhibit a moderate to high potential for the identification and recovery of archaeological resources – where? It also states Stage 2 is required. Add text regarding the timing. Where is Stage 2 assessment recommended? There are no maps or areas referenced. | Additional text has been added to the report in Section 7.6. Figure 20 (was Arch 4) added to main report. |
| 148 | 2015-05-27 | ERCA | JH | page 7.10, Include additional documentations of the Stage 1 findings and a plan showing the study areas and areas requiring a Stage 2 assessment. | Additional text has been added to the report in Section 7.6. Figure 20 (was Arch 4) added to main report. |
| 8.1.1 Final Design | | | | | |
| 149 | 2015-01-13 | Windsor | various departments | Last paragraph states "The preferred alternative is intended to be constructed in stages as needed for development to progress as shown on Drawing 3." Drawing 3 shows the assumed future land uses; it does not address how development would progress. | Text updated to report in sections 6 and 8 |
| 150 | 2015-01-13 | Windsor | various departments | Should include description of minimum requirements for functional/detailed design for staged development. | Some additional text has been added. Perhaps more text is necessary. Discuss with ERCA/City/township. |
| 151 | 2015-05-27 | ERCA | JH | page 8.1, I think the next step would be a functional design study. (referring to the heading) | Text updated |
| 152 | 2015-05-27 | ERCA | JH | page 8.1, Under this scenario it is likely that interim SWM controls will be required since the ultimate facility will most likely be located at the downstream end of the development area. Information related to interim SWM facilities should be included. | additional text added on Interim SWM controls |
| 8.1.2 Permits and Approval Requirements | | | | | |
| 153 | 2015-01-13 | Windsor | various departments | Archaeological Resources – it doesn't specifically say to review the map & undertake a Stage 2. | Text updated |
| 154 | 2015-05-27 | ERCA | JH | page 8.2, "or will outlet into regulated areas within the Upper Little River study area" replaces from "the Regulatory..." to the end of the bullet. | Text updated |

| Comment # | Date | From | | Comment | Response |
|--|------------|---------------------|----|---|---|
| 155 | 2015-05-27 | ERCA | JH | page 8.2, edits (red is deleted, blue is added): The proponent ERCA staff will be required to have an provide an initial screening of the final design drawings undertaken to determine whether the proposed works will result in serious harm to fish (death of fish, permanent alteration or destruction of habitat) and if authorization from DFO is required under the Federal Fisheries Act. Depending on the proposed works, the proposed work mitigation, measures and the restoration enhancement opportunities or if applicable, offsetting compensation measures may be required. | Text updated |
| 156 | 2015-05-27 | ERCA | JH | page 8.2, MOE changed to MOECC | Text updated |
| 157 | 2015-05-27 | ERCA | JH | page 8.2, MNR changed to MNRF | Text updated |
| 158 | 2015-05-27 | ERCA | JH | page 8.2, Work located within watercourses or which occupy public land may require approval under the Lakes and Rivers Improvement Act (LRIA) and/or the Public Lands Act. Based on ERCA's agreements with MNRF, ERCA is responsible for review and approval for issues related to Section 14 of the Public Lands Act. Initial screening for a LRIA permit will be provided by ERCA as part of their Memorandum of Understanding with MNR. The requirement for a LRIA Public Lands Act permit will be identified in consultation with MNRF staff | Text updated |
| 159 | 2015-05-27 | ERCA | DL | page 8.2, What about Endangered Species Act permitting requirements? | MNRF Text updated |
| 160 | 2015-05-27 | ERCA | JH | page 8.3, This should relate to development within the entire study area and not just the SWM features. | The Study Area for the Archaeological Assessment included the possible locations of SWM features and not the entire catchment area |
| 161 | 2015-05-27 | ERCA | JH | page 8.3, In Section 7.6 it is noted that a Stage 2 assessment is required for some portions of the study area. Is some form of additional archaeological assessment required for the entire site? Please clarify. | Areas with a moderate to high archaeological potential (shown on new figure) are recommended for a Stage 2 assessment |
| 8.2.1 Project Implementation Schedule | | | | | |
| 162 | 2015-05-27 | ERCA | JH | page 8.3, Functional design? (referring to final design) | Text updated |
| 9.0 References | | | | | |
| 163 | 2015-05-27 | ERCA | JH | page 9.1, http://www.birdsontario.org/atlas/index.jsp added to first reference | Text updated |
| 164 | 2015-05-27 | ERCA | JH | page 9.2, http://www.lio.ontario.ca/imf-ows/imf.jsp?site=aia_en added to LIO reference | Text updated |
| 165 | 2015-05-27 | ERCA | JH | page 9.2, www.mnr.gov.on.ca/MNR/nhic/nhic.cfm added to NHIC reference | Text updated |
| 166 | 2015-05-27 | ERCA | JH | page 9.3, http://www added to first reference | Text updated |
| Other | | | | | |
| 167 | | ERCA | | Update drawings to show which areas are draining to which ponds. Not clear as presented | Refer to comment 111 |
| 168 | | ERCA | | Include table of SWM parameters in report text | SWM parameter tables have been included in main report. |
| 169 | | ERCA | | provide more figure/maps/plans in main body | additional figures/maps/tables from the archeological/fluvial/hydraulic/etc. sections have been added to report |
| 170 | | ERCA | | discuss SWM controls for infill development | text added to 6.1.1 |
| 171 | 2015-10-07 | Dillon | | The Town's requirement would be that the permanent pool elevations of the stormwater management facilities be established no higher than the invert elevation of the proposed storm sewer outlets to these facilities (we have attached a figure from previous communications with Stantec in 2012 that reconfirm these proposed storm sewer outlet sizes/flows/elevations for your reference). As discussed, this is required to avoid having the storm sewers surcharged between rainfall events. The Town appreciates that this will result in the need for pump stations to discharge the allowable flows from these stormwater management facilities to the downstream receiving watercourses, and would like to have these allowable discharge rates confirmed for each location. | Pumping rates and volumes have been reviewed and updated based on comments received and are now included in the main report. The design now accommodates permanent pool elevations below grade. |
| 172 | 2015-10-08 | Dillon | | The Town would like ensure that the active storage requirements for these stormwater facilities be re-evaluated to confirm that there would be no negative impacts to the existing and proposed developments in the respective subdrainage areas. This includes an evaluation of whether there could be risks of surface flooding from hydraulic grade line impacts for frequent storm events (1:5 year level of service) and for the 1:100 year major storm event. Active storage water levels for varying storm events should be confirmed and evaluated to ensure that they provide acceptable outlet conditions for the storm drainage systems | Pumping rates and volumes have been reviewed and updated based on comments received and are now included in the main report. The design now accommodates permanent pool elevations below grade. |
| 173 | 2015-10-09 | Dillon | | The Town requests that the physical dimensions (plan and profile) of these stormwater management facilities be reconfirmed to a more functional level of detail (and in light of the above criteria). As you may be aware, the Town of Tecumseh has been developing a Secondary Plan for the Tecumseh Hamlet area, which is now beyond the 90 percent stage of completion. It is critical that any adjustments that may be required to the land areas required to accommodate these facilities be more firmly/conservatively established so as not to compromise the Secondary Plan process and its implementation in the future | Pumping rates and volumes have been reviewed and updated based on comments received and are now included in the main report. The design now accommodates permanent pool elevations below grade. |
| 174 | 2105-06-18 | ERCA | JH | Portions of the report refer to the entire study area while other portions that should relate to the entire area only seem to reference the SWM corridor. Please review | Text updated |
| 175 | 2105-06-18 | ERCA | JH | The context of regional storm vs. regulatory storm vs. 1:100 year storm is not clear in some sections of the report. We should have a discussion on this matter to ensure that the content of the final report is accurate. | Similar to Comment 55. Text updated |
| 176 | 2105-06-18 | ERCA | JH | It appears that a substantial amount of additional information will be available in the Appendices. When will the Appendices be available for review? In many locations where Appendices are referenced in the report, it would be helpful to have related figures included in the body of the report. | Appendix information has been provided. Additional figures and tables have been added to the main report. Please advise if more information is required. |
| 177 | 2105-06-18 | ERCA | JH | Have the MNR Technical Guides been considered in the modelling analysis | Yes. Additional references have been made in the text |
| 178 | 2015-10-07 | Dillon/ Tecumseh | FF | Permanent pool elevation of the stormwater management facilities could be lower than the surrounding ground elevations to accommodate an unsurcharged storm sewer outlet. This would require more grading and a larger pond footprint. | Pond blocks were increased in size to accommodate permanent pool elevations 6 m below the surrounding ground elevations. |

| Comment # | Date | From | | Comment | Response |
|-----------|------------|---------|----|---|---|
| 1 | 2017-02-16 | Windsor | AG | The document should have a cost estimate. As previously noted, we would be satisfied with an estimate indicating an order of magnitude for the recommended type of system versus a conventional wet pond. Is it 50% more than a wet pond? Or a high-level estimate at planning-level precision for the overall work, to the nearest \$1M or \$5M or \$10M, depending upon how large the number is. Put whatever caveats are required to note what is excluded. It could be included in Section 6 or 8. | agreed. Additional information has been added to section 6.3 |
| 2 | 2016-11-23 | Windsor | AG | Section 4.2.9 Potential Mitigation Measures. We disagree with listed advantage, "limited maintenance of pipes required" for Perforated Storm Laterals and Perforated Pond Outlets. Due to the nature of the pipe (perforated), it tends to get clogged with roots from trees and phrag fairly quickly. For solid-wall PVC pipe, root-cutters can be used to remove any root-mass. | text updated |
| 3 | 2016-11-23 | Windsor | AG | Section 6.1.2 Recommended Stormwater Management Strategy. Under bullet points on page 6.4, where "Windsor South Sandwich Secondary Plan" is listed, add "(draft)", as this study was never finalized. | text updated |
| 4 | 2016-11-23 | Windsor | AG | Section 7.3 Stormwater Pumping. Revise word in the last paragraph and complete the thought in the last sentence. To determine the suitable suitability of the catchment areas for pumped or gravity outlets a conceptual storm sewer was developed. A sewer was assumed from a SWM facility location to the furthest upstream portion of its catchment area with a slope of 0.35%. Most of the catchments do not have sufficient cover based on these assumptions. The final grading on an individual property will determine the pumping requirements, but is it expected that the majority of the site will require pumping. Detailed calculations re regarding this are included in Appendix F. | text updated |
| 5 | 2016-11-23 | Windsor | AG | Section 8.2.1 Project Implementation Schedule. Correct the word in first sentence, Following completion of the remaining remaining phases of the EA | text updated |
| 6 | 2016-11-23 | Windsor | AG | Figure 3 – Legend shows City/Town Boundary – but it does not appear on the plan. There is a gray line which appears to follow in part the former municipal boundary before the land transfer (see Banwell Road near the EC Row Expressway) | The municipal boundary line was removed from Drawing 3. The line was difficult to see with the catchment boundary and study area limits |
| 7 | 2016-11-23 | Windsor | AG | Figures 17 to 19 – are still missing | figures now included |
| 8 | 2016-11-23 | Windsor | AG | Appendix A - I am conferring with the City's Manager of Records/Elections & Freedom of Information. There is personal contact information from sign-in sheets and comment sheets for PIC #1 and PIC#2. We may have to redact the personal information from the appendix. | Further feedback received from City. Personal information to be redacted |
| 9 | 2016-11-23 | Windsor | AG | From Comment response sheet dated 2016-10-11 - #5, 6 – text was not revised in the copy that we downloaded | Archaeology Report now updated. Note that this report differs from the version with the Ministry of Tourism, Culture, and Sport |
| 10 | 2016-11-23 | Windsor | AG | #59 – under Section 4.2.9, disagree with listed advantage, "limited maintenance of pipes required" for Perforated Storm Laterals and Perforated Pond Outlets. Due to the nature of the pipe (perforated), it tends to get clogged with roots from trees and phrag fairly quickly. For solid-wall PVC pipe, root-cutters can be used to remove any root-mass. | text updated |
| 11 | 2016-11-23 | Windsor | AG | #64 – text was not revised | text updated |
| 12 | 2016-11-23 | Windsor | AG | #125 - Still need planning level cost estimate. | agreed. Additional information has been added to section 6.3 |
| 13 | 2016-11-23 | ERCA | MN | Consultation with First Nations will be a comment that can be anticipated by the MOECC. The ESR should detail how representative First Nations were provided the opportunity to consult and provide input towards this MCEA. | An additional section (3.4.2) was added to the report to cover first nations consultation. |
| 14 | 2016-11-23 | ERCA | MN | Pages 3.8, 3.4.2 City of Windsor Official Plan - The City has circulated draft OPA 86 and 87 which constitute the last two chapters of the Official Plan update. This section of the report should be updated to reflect this as the direction outlined in the text may not be the same as the general direction that is found in the most recent OPA updates (i.e., use of the policy language for Environmental Policy Areas (EPA) for example). The sentence that states "The City of Windsor and the ERCA undertook a Candidate Natural Heritage Site Biological Inventory to assess the most environmentally significant areas in the city" should be amended as the study (Update to the CNHS Inventory, December 2007 "...was not intended to be a complete biological inventory of all natural heritage features within the City limits." (page 5 of the City of Windsor Update to the CNHS Inventory, December 2007)). This section may benefit from a final statement that indicates that the City of Windsor (and Town of Tecumseh) are in the process of updating their Official Plans to be consistent with the 2014 PPS and (in the case of Tecumseh the 2014 adopted County of Essex Official Plan). | Section 3.5.2 updated (City of Windsor Official Plan). |
| 15 | 2016-11-23 | ERCA | MN | Pages 3.9, Section 3.4.5. It would be beneficial to speak in these sections about whether the outputs/outcomes of the Class EA are intended to be considered 'integrated' with approvals of the Planning Act . How is the City and Town considering the integration of the outcomes of the Class EA with the updates to the Official Plan? Will the MCEA process be used as in Approach 4 of the MCEA process to lead towards integrated OPAs for these areas in a Secondary Plan? | Additional text has been added to Section 3.5.5 and 8 |
| 16 | 2016-11-23 | ERCA | MN | Pages 3.12, 3.5.4 - The proposed mega-hospital location may be worthwhile to mention here as section 3.5.5. A secondary plan process has been recommended by the City to address some of the surrounding land use changes that will be resulting from the location of the proposed hospital. City staff should be consulted on whether to include reference to this development in this section. | agreed. A new section (3.6.5) has been added to the report to discuss the hospital |

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|----|------------|------|----|---|--|
| 17 | 2016-11-23 | ERCA | MN | <p>Pages 4.1, 4.1.2 - The City of Windsor 1992 Candidate Natural Heritage Study should also have been consulted for this study.</p> <p>The Land Information Mapping should detail the specific mapping layers that were downloaded as part of the study and the date stamp for each data set. For example, the extent of the Airport Woodlands PSW has changed since it originally was first uploaded.</p> | The City of Windsor Candidate Natural Heritage Site Biological Inventory Update (2008) and the Town of Tecumseh Natural Heritage Inventory (2011) were consulted and referenced in this report. References to these reports have been added to Section 4.1.2. Dates have been added to Existing Environmental Features layers on Figure 2. |
| 18 | 2016-11-23 | ERCA | MN | <p>Pages - 4.2, 4.1.3 - 1st paragraph, last sentence: it is good to hear that the data was shared amongst partners involved in this project.</p> <p>I recommend that any natural heritage data that has been collected as part of this process be circulated in digital format to the Natural Heritage Information Centre and the Ministry of Natural Resources and Forestry Aylmer District office for incorporation into provincial databases. This recommendation is in keeping with other comments on other Class EA instruments (e.g., CO Class EA guidelines) and provincial Renewable Energy Approvals process guidelines changes. The intent of this recommendation is to recognize that any provincially significant natural heritage feature that have been confirmed in a provincially approved process is also considered to be a provincially significant natural feature in another provincially mandated process. For example, Environmental Assessments, Renewable Energy Approvals and the Planning Act all make reference to the same natural heritage significance metrics and approvals processes.</p> <p>Of particular importance would be point records of any tracked species and/or vegetation communities as determined by the NHIC/MNRF Aylmer Offices.</p> | agreed |
| 19 | 2016-11-23 | ERCA | MN | <p>Pages - 4.7, 4.1.5.1 Designated Environmental Features - 2nd paragraph: It should be clearly outlined here that the only wetland that has been confirmed to meet the criteria for a Provincially Significant Wetland in the study area is the Airport Swamps PSW. Other natural features may meet the criteria if they were to be evaluated by the OWES manual.</p> <p>For reference, the MNRF provides a technical memo that outlines the ELC vegetation types that would require further assessment to confirm whether the natural feature would require further assessment using the OWES manual to determine whether it is a PSW. The technical memo is available here: \\pdcerca\company\watershed management\Studies\EIAs\2013-02-14 Identifying wetlands and potential wetlands from ELC.docx and an update to this memo can be obtained by contacting MNRF Aylmer District staff directly.</p> <p>3rd paragraph, the reference to the ERNHSS should be 2013 vs. 2008. Confirm whether the final GIS product was used to assist in determining designated environmental features in this section of the report.</p> | text updated. |
| 20 | 2016-11-23 | ERCA | MN | <p>Pages 4.8, 4.1.5.1. 1st paragraph: the last sentence should elaborate on what the planning policy approach would be for the Candidate Natural Heritage Sites.</p> <p>2nd paragraph: the second sentence is incomplete: "A large woodlot"</p> <p>3rd paragraph: it may be more appropriate to locate the discussion around priority restoration areas in a different section as the restoration areas have no designations associated with them or planning policy recommendations that require designation in either the City or Town of Tecumseh. Consider shifting this to another section.</p> <p>4th paragraph: the floodplain control development control area is not technically a "Designated Environmental Feature" and it may not be most appropriate to locate this discussion of the natural hazards portion of the study area associated with designated environmental features.</p> | Candidate Natural Heritage Sites has been added to section 4.1.5.1. The woodlot section has been updated in the second paragraph. Priority restoration areas and floodplain areas have been relocated to section 4.1.5.2 - Other Environmental Considerations. |
| 21 | 2016-11-23 | ERCA | MN | <p>Pages 4.11, 4.1.5.6.3 - This section should provide a list of the species that were found, their Latin name, their provincial rarity ranking, and the provincial species at risk status (if applicable). A table should also include the species that were identified as element occurrences and that might be found in the study area should appropriate habitat be found to indicate how many species were not found (either due to sampling technique, timing, etc.) or by the fact that the habitat for these species is not present in any of the evaluations completed to date.</p> <p>The vascular plant species section should also report on the cumulative list of species that were identified in the 1992, 2008 and 2011 CNHS reports for both Windsor and Tecumseh. This should be the baseline.</p> | Rare plant species data from the City of Windsor Candidate Natural Heritage Site Biological Inventory Update (2008) and the Town of Tecumseh Natural Heritage Inventory (2011) are now included in Section 4.1.5.7.2. All of the rare vascular plant species and species at risk plant species from these studies, background review (NHIC and wildlife atlases) and field investigations have been included in Appendix D. A habitat checklist is included in Appendix D. |
| 22 | 2016-11-23 | ERCA | MN | <p>Pages 4.12, 4.1.5.6.4 - SWH</p> <p>If any rare species or rare vegetation communities were inventoried as part of the study these features should be considered as Significant Wildlife Habitat as per PPS policy 2.1.5 (d). In addition, the habitat of species confirmed as S1, S2, and S3 or SC would also require assessment for consideration as SWH.</p> <p>Direction on this process is available from the Significant Wildlife Habitat Technical Guide and associated Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (available here) \\pdcerca\company\watershed management\REFERENCES\LEGISLATION\PLANNING ACT\Natural Heritage\SWH\schedule-7e-jan-2015-access-vers-final-s.pdf</p> | The Study Area has now been assessed in Section 4.1.5.7.4 and Appendix E for potential Candidate Significant Wildlife Habitat according to the SWH Criteria Schedules for Ecoregion 7E. |
| 23 | 2016-11-23 | ERCA | MN | <p>Pages 4.19, 4.16 - I will defer specific inventory comments to Dan Lebedyk but the highlighted text should be elaborated on. Does this mean that 22 plant species that are classified as rare were confirmed in the study area?</p> | Appendix D provides a list of 42 provincially rare plant species identified during the background review and field investigations as potentially occurring in the study area. 22 of these species were confirmed in the Study Area during field investigations and Windsor (2008) and Tecumseh (2011) Biological Inventories. |

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| 24 | 2016-11-23 | ERCA | MN | Pages 4.27, Section 4.2.8 - Little River Flow The methodology for appropriately determining the relative contributions of flows from a variety of catchment areas (including GW contributions, contributions from tile drains, etc.) should be detailed. P 4.29 and 4.32 - If the results of the assessment to determine the results of the baseflow assessments cannot be used to confirm the relative existing conditions for GW recharge – what is the alternative? Should there be additional studies completed to more completely and accurately determine this for the entire study area? Perhaps this is something that can be flagged for better delineation at a subsequent stage of the development process? Such as during a Functional Servicing Study? | flows in the channel between rainfall events was assumed to represent baseflow. The 2004 and 2005 baseflow monitoring events experienced precipitation relatively close to the measurement data so some of the flows could have been attributed to surface or tile flows. the 2011 event was likely more representative of typical summer baseflows. Additional measurements could help to identify baseflow in the creek. |
| 25 | 2016-11-23 | ERCA | MN | Pages 5.2 - The use of the 'Upper Little River stormwater and master drainage plan' has not been used to this point in the document. Suggest using a consistent name of the product to ensure that there is clarity for the reader about what this document is intended to be. | 'Upper Little River stormwater and master drainage plan' replaced with 'Upper Little River Master Plan Environmental Assessment Environmental Study Report' |
| 26 | 2016-11-23 | ERCA | MN | Page 5.5 - Total maintenance cost Open question: given the recent webinar on municipal SWM user fees and the associated discussion surrounding how to pay for ongoing maintenance and monitoring of SWM facilities it might be worthwhile confirming if the evaluation metrics included the maintenance costs and monitoring costs in this context. | The maintenance costs used in the evaluation matrix were based on relative annual costs for operation & maintenance activities for the alternative. |
| 27 | 2016-11-23 | ERCA | MN | Page 6.1.1 - 5th bullet: I am not aware if the Town has 'Design Guidelines'. This should be confirmed. Is this appropriate to include reference to the draft SWM guidelines document at least in an anticipatory manner? | The reference to Town of Tecumseh guidelines has been removed |
| 28 | 2016-11-23 | ERCA | MN | Page 6.4, 6.1.2 - Page 6.4: 3rd paragraph. The report states that the proposed conditions model was based on land use planning completed as part of the following studies – it would be appropriate to include date stamps as it is possible that all of the studies land use planning schedules have changed significantly since the condition model was established. This could have implications on the conditions model. | agreed |
| 29 | 2016-11-23 | ERCA | MN | general - What are the linkages between the outcomes of this Master Plan and the resultant Official Plan amendments that will be required to facilitate its implementation? | Additional text has been added to Section 8 |
| 30 | 2016-11-23 | ERCA | DL | Page 24, See comment below on compliance with 2014 PPS. | See response below. |
| 31 | 2016-11-23 | ERCA | DL | Page 24, New 2014 PPS has similar policy now for Endangered and Threatened species. Change the above reference to endangered and threatened species to a similar statement as this, so as to be consistent with the 2014 PPS. | PPS has been revised in section 3.5.1 to include the following statement "Development and site alteration is not permitted in significant portions of the habitat of endangered or threatened species or fish habitat, except in accordance with provincial and federal requirements." |
| 32 | 2016-11-23 | ERCA | DL | Page 36, Essex Region Natural Heritage System Strategy (ERNHSS) (2013). Was the 2013 ERNHSS used? Replace all occurrences of misnomer | The 2013 ERNHSS was referenced in this report. It has been listed in Section 4.1.2 in the list of background data collection sources. |
| 33 | 2016-11-23 | ERCA | DL | Section 4.1.5.6.3 pdf Page 40, Duplicate sentence to the one above. Delete. | duplicate text deleted |
| 34 | 2016-11-23 | ERCA | DL | Page 48, Rare | text updated |
| 35 | 2016-11-23 | ERCA | DL | Section 6.2 Page 110 of the PDF, The Proposed Land Use Plan is indicated as Drawing 4 and is dated 12.02.02. The plan does not clearly indicate the existing natural features underneath the proposed land use designations. Any designations which permit future development in or within 120 m of an existing natural feature will require the completion of an Environmental Impact Assessment (EIA) demonstrating no negative impact. | Agreed. The proposed land use plan was based on available planning information (refer to appendix F) and was not altered for Drawing 4. Additional text was added to Section 6. |
| 36 | 2016-11-23 | ERCA | DL | Page 111, How does this EA process inform the Planning Act approval process? This process should ensure that no negative impact is achieved consistent with the PPS, rather than "avoiding significant impacts" or "minimizing adverse impacts". There will be a requirement to demonstrate no negative impact for all land use changes proposed. | text updated to say "shows no negative impacts" and removes reference to avoiding/minimizing impacts |
| 37 | 2016-11-23 | ERCA | DL | Page 111, An ESA Permit from the MNR may be required any where vegetation removal is proposed. | agreed. EAS added to section 8.1.2 |
| 38 | 2016-11-23 | ERCA | DL | Section 6.2.1.3., Page 112, Permitting requirements may require that lands be restored to natural habitat in order to achieve overall benefit. This consideration is not appropriate at the functional design stage, but at the overall land use designation stage as the restoration lands will be required to be designated for protection and not be kept in residential, commercial or other permissive land use designations. | agreed. Additional text added to Section 6.2.1.3. |
| 39 | 2016-11-23 | ERCA | DL | Section 6.2.1.3, Page 112, This requires further quantification. | text updated in Section 6.2.1.3 |
| 40 | 2016-11-23 | ERCA | DL | Section 6.2.1.3, Page 112, loss of diversity is a negative impact. There is a requirement to demonstrate no negative impact in order to realize land use designation approvals under the Planning Act. | additional text added to section 8 |
| 41 | 2016-11-23 | ERCA | DL | Section 6.2.1.5., Page 113, These, as well as portions of natural habitat to be removed, have not been adequately quantified or depicted. | To be included in Natural Heritage System offset plan. Text added to section 8 |
| 42 | 2016-11-23 | ERCA | DL | Page 113, What about the negative impacts expected from the introduction of human activity (residential, recreational, etc.) to this area which currently does not experience these types of anthropogenic disturbances? Education of trail users is only one aspect associated with increased human-wildlife interactions. Residential intensification as a negative impact on wildlife populations needs to be addressed. | text added to section 6.2.1.6 |
| 43 | 2016-11-23 | ERCA | DL | Page 115, where are these proposed to occur? How much is proposed to 'compensate' for the loss of existing habitat? Further details should be provided in order to determine the appropriate land use designation configuration | To be included in Natural Heritage System offset plan. Text added to section 8 |
| 44 | 2016-11-23 | ERCA | DL | Section 7.1, Page 119, Sumac? Sumac is an obligate upland species and does not tolerate flooding. I would recommend Black Willow, or Peach leaved willow here instead. | text updated |
| 45 | 2016-11-23 | ERCA | DL | Section 7.1, pdf Page 119, You don't want short grass either along wetland edges as this attracts geese. | text updated |

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| 46 | 2016-11-23 | ERCA | DL | Page 120, Shrub? Scrub vegetation is what? | scrub vegetation is a plant community dominated by shrubs and including grasses. The text has been modified to refer to shrubs to avoid confusion. |
| 47 | 2016-11-23 | ERCA | DL | Section 7.2, Page 122, West Nile Virus is carried by Culex sp. of mosquitos which is a container breeder and not an open water breeder. SWM facilities and natural ponds and wetlands are not areas which would harbour WNV, with the exception of storm sewer pipes. This is further explained later in this section. | Text revised. Section 7.2 now refers to mosquitos in general and the sentence saying mosquitos around ponds could have west nile virus has been removed. |
| 48 | 2016-11-23 | ERCA | DL | Section 7.2 Page 123, Only IF necessary, which it should not be for a SWM facility. | Text revised. Introduction now reads "General guidelines to discourage mosquitoes include:" and the reference to larvacide was removed |
| 49 | 2016-11-23 | ERCA | DL | Page 135, Where is the complete Environmental Impact Assessment (EIA) demonstrating no negative impact, in accordance with PPS requirements for Planning Act approvals? (i.e., land use designations). EA to functional design to permitting to construction is not the complete process. An EIA is required for all Planning Act approvals (land use changes). This report is not a complete EIA. | This report is not a complete EIA. text added to section 8 |
| 50 | 2016-11-23 | ERCA | JH | Page ii, This still needs to be completed? | agreed. this still needs to be completed. The report has been written as the final report, although some steps still need to be undertaken. |
| 51 | 2016-11-23 | ERCA | JH | page vii, Should this be with one pump for multiple "properties" or is it proposed to connect separate ponds and use one pump? | text updated to change "pump" to "properties" |
| 52 | 2016-11-23 | ERCA | JH | Page 1.2, See comment on Page ii? | see response to comment 50 |
| 53 | 2016-11-23 | ERCA | JH | Page 3.4, Moved to Town of Tecumseh during project. | text updated |
| 54 | 2016-11-23 | ERCA | JH | Page 3.12, Should this be "provision"? | text updated to change "protection" to "provision" |
| 55 | 2016-11-23 | ERCA | JH | Page 4.1, I cannot find figure 1 in the previous or recent submissions. | Figure 1 was located on page 1.1 of the report. Moved to a separate page in the back pocket to be consistent with other figures. |
| 56 | 2016-11-23 | ERCA | JH | Page 4.2, Figure 4 – What is the difference between numbers in circles and numbers in diamonds? This should be included in the legend. | Diamonds indicate the fish survey locations conducted by Waldron in 2009. Circles identify the reaches surveyed by Waldron, Ecoplans, ERCA and Stantec, and do not identify specific survey locations along the reaches. This has been updated on Figure 3. |
| 57 | 2016-11-23 | ERCA | JH | Page 4.6, I cannot find records for ERCA sampling 35 drains in this area. What I did find was 7 sampling locations with approximately 35 records. | Text has been updated in section 4.1.4.1 to correspond to ERCA sampling records. |
| 58 | 2016-11-23 | ERCA | JH | Page 4.6, Sites are not identified on Figure 3. | reference to figure 3 was removed |
| 59 | 2016-11-23 | ERCA | JH | Page 4.6, The Waldron Report is referenced and should be included in the Appendix. | The Waldron Report was added to the references and not the appendix |
| 60 | 2016-11-23 | ERCA | JH | Page 4.6, This section talks about the airport lands and then the trunk sanitary sewer. I do not think the 10 potential crossings were on the airport lands. I think 2 separate surveys are being referenced. Please clarify. | Section 4.1.4.1 has been updated to accurately reflect the text in the 2009 Gerry Waldron report. |
| 61 | 2016-11-23 | ERCA | JH | Page 4.7, Is all of this information to be included in an Appendix? I could not find it in the information provided. | No aquatics information was included in the Appendix, however the Waldron Report has been referenced. The Gerry Waldron report and Stantec field notes can be added into the appendix if requested. |
| 62 | 2016-11-23 | ERCA | JH | Page 4.7, See comment on next page. | duplicate text (see next comment) was deleted |
| 63 | 2016-11-23 | ERCA | JH | Page 4.8, The first sentence is the same as the highlighted section on page 4.7. The second sentence is incomplete. | text deleted |
| 64 | 2016-11-23 | ERCA | JH | Page 4.8, This requires additional clarification. Based on the text, it could be misunderstood to be natural from EC Row to Lake St. Clair (which is not correct). | Last sentence now reads. "Naturalized reaches of Little River exist downstream of Baseline Road" |
| 65 | 2016-11-23 | ERCA | JH | Page 4.13, New DFO Classification maps are available and should be reviewed. Information related to the new maps is attached for your review. If the new maps are similar, the report should be updated. If significant changes have occurred, the report must clearly reference that the work was completed prior to the release of the new classifications. | The maps were similar and the report has been updated |
| 66 | 2016-11-23 | ERCA | JH | Page 4.14, Review new drain classification maps. | drain classification updated |
| 67 | 2016-11-23 | ERCA | JH | Page 4.14, Identification number 28 is not shown on Figure 4. | Ray Road drain is located between the 8th concession drain and Hayes Drain |
| 68 | 2016-11-23 | ERCA | JH | Page 4.15, Update to current DFO mapping. | 2015 DFO mapping has not changed since 2011. References to 2015 DFO mapping have been updated in Section 4.1.5.8.2. |
| 69 | 2016-11-23 | ERCA | JH | Page 4.16, Update DFO mapping. | 2015 DFO mapping has not changed since 2011. References to 2015 DFO mapping have been updated in Section 4.1.5.8.2. |
| 70 | 2016-11-23 | ERCA | JH | Page 4.16, It appears that reach locations are shown on Figure 4. Are the reach location numbers and fish sampling locations the same? Please clarify in the legend. | Sampling locations and reach locations have now been defined on Figure 4. |
| 71 | 2016-11-23 | ERCA | JH | Page 4.18, What does this mean? Why was information not requested? | This text was removed since it was removed since it did not add value to the assessment. |
| 72 | 2016-11-23 | ERCA | JH | Page 4.18, The watershed report card was updated in 2012. A copy of the 2012 report card is included with these comments. The data presented in this section should be updated. | text updated |
| 73 | 2016-11-23 | ERCA | JH | Page 4.21, Base flow should be added to this list. | Base low is mentioned in the previous bullet. It could be moved to a separate bullet |
| 74 | 2016-11-23 | ERCA | JH | Page 4.24, Where did this information come from? Much of the Essex Region is serviced by treated municipal water. Please refer to the e-mail (Groundwater) from the ERCA Source Water Department included with our comments that were uploaded to your ftp site. | text updated |
| 75 | 2016-11-23 | ERCA | JH | Page 4.32, Check this %. 352 is 1.94 times larger than 181? Is this % for a portion of the study area vs. the entire area. Please clarify. | text updated |
| 76 | 2016-11-23 | ERCA | JH | Page 4.30, Must also ensure that houses are disconnected so water is not re-circulated back to the house foundation drains. | text updated |
| 77 | 2016-11-23 | ERCA | JH | Page 4.34, A large portion of this study area is Brookston Clay which is normally taken as a being in hydrologic soil group D. Please provide clarification on the use of hydrologic soil group C. | The hydrologic soil group was based on Design Chart 1.08 from the MTO Drainage Manual (1997). |
| 78 | 2016-11-23 | ERCA | JH | Page 4.35, Little River is channelized with flood protection dykes north of the VIA Rail Canada Inc. railway property that is located approximately 350 m north of Tecumseh Road East. Not north of EC Row. | text updated |
| 79 | 2016-11-23 | ERCA | JH | Page 4.35, Figure 14 should include a note that the floodplain elevations are provided at existing flow restrictions or structures. | figure updated |

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| 80 | 2016-11-23 | ERCA | JH | Page 4.39, Has this been confirmed? | Confirmed with City |
| 81 | 2016-11-23 | ERCA | JH | Page 4.58, LR-2 is not located within the Sandwich South Employments Lands. | text updated |
| 82 | 2016-11-23 | ERCA | JH | Page 5.10, It is anticipated that functional design studies will be undertaken for each subcatchment delineated by this study. The fisheries assessment/offsetting plan, however, will likely need to be undertaken for the entire study area since offsetting opportunities may not always be available in the same subcatchment. | text on fisheries offsetting has been added to Section 8 |
| 83 | 2016-11-23 | ERCA | JH | Page 5.11, High level costs need to be included in the report. | agreed. Additional information has been added to section 6.3 |
| 84 | 2016-11-23 | ERCA | JH | Page 6.2, Should "ponds" be "properties"? | text updated to change "pump" to "properties" |
| 85 | 2016-11-23 | ERCA | JH | Page 6.3, Figures 17 to 19 have not been provided in the current draft submission. | The figures have been included with this submission |
| 86 | 2016-11-23 | ERCA | JH | Page 6.3, On Drawing 3, can the varying corridor widths be differentiated with different blue shading so they stand out better. | figures updated |
| 87 | 2016-11-23 | ERCA | JH | Page 6.4, As previously noted, a fisheries assessment/offsetting plan will be required for the entire area since offsetting will not always be possible within the same subcatchment area. This will not be able to be addressed in the subcatchment functional design studies. | text on fisheries offsetting has been added to Section 8 |
| 88 | 2016-11-23 | ERCA | JH | Page 6.4, Map is not in Appendix F. Drawing 4 shows the proposed land uses. | text updated. Proposed land use plans are now included in Appendix F. |
| 89 | 2016-11-23 | ERCA | JH | Page 6.5, See comments above regarding fisheries assessment/offsetting plan. | text on fisheries offsetting has been added to Section 8 |
| 90 | 2016-11-23 | ERCA | JH | Page 6.5, Where is the information related to the proposed channel (i.e.. location, grades, cross-sections, etc.) | The proposed conceptual cross section is fairly uniform and is shown in Appendix F. |
| 91 | 2016-11-23 | ERCA | JH | Page 6.5, It appears that the proposed water levels are based on an improved Little River channel configuration. Accordingly, Little River channel improvement need to be undertaken first before development proceeds. This sequencing must be clearly documented in this report. Can any development proceed before the channel improvements are undertaken? | Water levels are based on an improved channel, but since flows from the SWM facilities are reduced from existing levels (to the 2-yr event) water levels will be less than existing in the existing channel. The improved channel will lower flood levels to within the channel banks |
| 92 | 2016-11-23 | ERCA | JH | Page 6.6, The radius circles are difficult to see on Drawing 3. | drawing updated |
| 93 | 2016-11-23 | ERCA | JH | Page 6.7, As previously noted in the report, facilities within the 2 km radius circle of the airport are to be dry facilities with a treatment train approach. Is a larger corridor width required for facilities within the 2 km radius circle? | Dry facilities are not expected to require a larger footprint. The footprint is largely based on quantity controls which are unchanged. |
| 94 | 2016-11-23 | ERCA | JH | Page 6.9, Many of the pond outflows appear to exceed the drain capacity during the post 1:100 year event. | The average proposed flow is less than existing. The conceptual SWM controls are approximate and it is expected that the pond design will be refined to more closely match the drain capacity as the design progresses. |
| 95 | 2016-11-23 | ERCA | JH | Page 7.8, Is this in Appendix F? | This information is included in the "Model Parameters" table - page 3 of the appendix (not including the title page). |
| 96 | 2016-11-23 | ERCA | JH | Page 7.12, I think this may have recently changed. | text changed to "generally not covered". Taken from the insurance bureau of Canada |
| 97 | 2016-11-23 | ERCA | JH | Page 7.13, An IDF update study was completed for the Essex Region. The results showed significant variability between different updating methods. Variation is so significant that it is not possible to select one updated curve with a reasonable level of confidence. The information, however, did generally show a projected increase. A copy of the report is attached. It should be referenced in this document. | text updated to reflect the "Comparison of Future IDF Curves for Southern Ontario" and an MTO memorandum on the Implementation of Climate Change for Highway Drainage. |
| 98 | 2016-11-23 | ERCA | JH | Page 7.15, Reference should be made to the upcoming MOECC guideline for LID's. MOECC bulletin attached. | text updated |
| 99 | 2016-11-23 | ERCA | JH | Appendix B – Correspondence includes letters received through project consultation. Some of these letters, such as correspondence from the Caldwell First Nation, were not in support of the study. How were these letters/concerns dealt with through the study process. | Generally the respondents were kept informed of the study progress. A meeting was held with the Caldwell First Nation as documented in Section 3.4.2. |
| 100 | 2016-11-23 | ERCA | JH | On page 1 of Appendix G, the Current PC-SWMM Model Proposed water elevations and flows in the first table do not match the Current PC-SWMM Model proposed water elevations and flows in the Proposed table at the bottom of the page. Please clarify. | The 2nd table was based on outdated information and has been updated. |
| 101 | 2016-11-23 | ERCA | JH | Drawing 4 is titled Proposed Land Use Plan. This could be taken to infer that the EA process will somehow result in changes to the land use designations in the study area. The EA process is not the Planning Act process. Changes in land use designations require approval under the Planning Act and any such approvals are required to be consistent with the 2014 PPS. The information contained within the EA report is deficient in several aspects in that it is not considered a complete EIA which has demonstrated no negative impact. At what part of the process will the EIA be completed for this area, in accordance with PPS policies? This will require additional biological work as most of the data being used in this report is many years old. Perhaps Drawing 4 should be renamed Potential Future Land Use Plan (or similar) with a qualifier that it is subject to additional studies under the Planning Act process. This next Planning Act process step must be clearly identified in Section 8 of the report. | Drawing 4 title updated to "Proposed Development Plan". Additional text added to Section 8 |
| 102 | 2016-11-23 | ERCA | JH | It is anticipated that functional design studies may be undertaken for individual subcatchments within the overall study area vs. one functional design for the entire study area. It is noted in the report that fisheries offsetting may be required for the proposed loss of some open drains. It is further noted that fisheries offsetting may be required in some subcatchments for loss of habitat in other subcatchments. This needs to be known during the subcatchment functional design. It appears that the future drain assessment/DFO review should likely be completed for the entire area as a next step before functional designs proceed. If this is correct, this should be clearly identified in Section 8 of the report | text on fisheries offsetting has been added to Section 8 |
| 103 | 2016-12-13 | Tecumseh | FF | A factor of 4X has been applied to the required area at the level/elevation of the permanent pool surface. We understand that this is intended to allow for 3/4 of the permanent pool surface area to be 'dry' (i.e.. island areas that may be planted surfaces at/above the permanent pool elevation), thereby serving to create discontinuous/isolated permanent pool wet surface areas that would allow for circulation of flows. | agreed |

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| 104 | 2016-12-13 | Tecumseh | FF | We understand that this was the criteria previously used in re-sizing the ponds in the Tecumseh Hamlet, resulting in an increase from 120m to 150m in the SWM corridor widths (see attached prior emails and sketches). Is this still the case, and if so, is this reflected in the Master Plan document to capture this change? | agreed, this criteria was used to resize the Tecumseh SWM corridor. This is documented in the Environmental Study Report |
| 105 | 2016-12-13 | Tecumseh | FF | The area at the level/elevation of the permanent pool surface can have a significant influence on the footprint of the pond at the ground surface. Has there been any functional designs completed to confirm that this factor of 4X is sufficient to achieve the required permanent pool depths/volumes for quality treatment, to support/sustain habitat, and discourage waterfowl? | No functional designs have been completed. The permanent pool storage volume for water quality control is significantly less than the active storage volume for water quantity control, so the MOECC design criteria can be met with portions of the pond being dry |
| 106 | 2016-12-13 | Tecumseh | FF | We understand that the permanent pool depth is proposed to be 1.5m. Is this sufficient, as we understand that depths of up to 4m may be preferred for sustainability of habitat. | 1.5 m is an average depth. Variation in depth would create a variety of aquatic habitat |
| 107 | 2016-12-13 | Tecumseh | FF | Also arising from our earlier comments, Stantec provided the SWM Pond design parameter tables via email dated March 4, 2016 (attached), which identified permanent pool elevations in that table that are 1.5 m to 2.1 m lower than the values that have now been included in the October 2016 Draft Master Plan (Appendix F). | agreed |
| 108 | 2016-12-13 | Tecumseh | FF | As previously agreed, the SWM solution for the Tecumseh Hamlet area will require that the permanent pool elevation (normal water level) be at/below the storm sewer inverts discharging to these ponds. Please reconfirm and update the Master Plan with the required normal water level elevations based on the proposed storm sewer outlet elevations identified for the Tecumseh Hamlet storm sewer system. | The water levels used in the model are based on gravity outlets for ease of modelling. The corridor has been made wide enough to accommodate lower permanent pools and pumping |
| 109 | 2016-12-13 | Tecumseh | FF | Active Storage Volumes and Pump Station Outlet Capacities. Each pond will require a pump station outlet to discharge to the existing downstream watercourse based on existing available drain capacity. The tables in the Master Plan appear to reference orifices/weirs and do not appear to account for pump stations as outlets from these facilities. Please confirm. | The corridors were made wide enough to accommodate a lower permanent pool and pumping in required. For ease of modelling and consistency all outlets were assumed to drain by gravity using weirs and orifices in the hydrologic model. |
| 110 | 2016-12-13 | Tecumseh | FF | Please confirm that the existing outlet drain capacities that have been outlined in the Master Plan and on which the allowable pump station outlet rates have been based, are acceptable to the City and ERCA and that no further studies would be required that might further reduce these pumping rates and further affect the required active storage volumes in these pond facilities. | The outlet drain capacities in the study are approximate and the final flows will be based on the downstream drain capacity. |
| 111 | 2016-12-13 | Tecumseh | FF | Is the increased 150m SWM corridor width sufficient to accommodate the required active storage volumes based on these allowable discharge rates. | yes |
| 112 | 2016-12-13 | Tecumseh | FF | Have climate change considerations been factored into the required active storage volumes and the resulting hydraulic grade line conditions in these facilities according to the Provincial Policy Statement and current understanding. | The report discusses climate change (Section 7.6) but all of the flows were based on existing precipitation data |
| 113 | 2016-12-13 | Tecumseh | FF | We also wish to point out that the "Ground Elevation of the Upstream Storm Sewer" provided in the Master Plan tables are more than 2.0 m higher than what our records indicate as the existing grades of the Tecumseh Hamlet lands (see attached comparison tables), which may affect the assumptions/results in the Master Plan. | The ground elevations were based on Ontario Base Mapping and the furthest upstream point of each catchment. Detailed survey information was not available for the entire study area. The corridor width was based on locations where survey was available |
| 114 | 2016-12-13 | Tecumseh | FF | We have confirmed that the land use % breakdown has now been updated to reflect the Tecumseh Hamlet Secondary Plan information, as outlined in our previous comments. | agreed |
| 115 | 2016-12-21 | Meeting | all | There is a need to have a better understanding of the fisheries offsetting that may be required as this area develops. Based on the conceptual land use plans, open waterways will be removed in certain subcatchment areas and potential habitat offsetting will be required in open waterways that are to remain in other subcatchment areas. Accordingly, offsetting will not always be available within the same subcatchment area. It should be identified that a next step following the completion of this report should be the development of a fisheries offsetting plan for the entire study area. The current study, however, should provide estimates of the habitat that will be lost (i.e. length of open drain, square footage of direct and indirect habitat, etc.), a list of the open drains proposed to be removed, a list of open drains to remain and the potential location of fisheries offsetting opportunities | A list of drains to be removed and retained has been added to Appendix F. Additional text on fisheries offsetting has been added to Section 8 |
| 116 | 2016-12-21 | Meeting | all | Plans are included that identify proposed land uses within the study area. Completion of this EA study does not result in changes in land uses. Other <i>Planning Act</i> processes must be followed to change land use designations. The following items were discussed: • The report must clearly identify and qualify the information that was used in reference to proposed land uses. | The proposed land use plan was based on available planning information (refer to appendix F) and was not altered for the study |
| 117 | 2016-12-21 | Meeting | all | • The report must clearly identify that future <i>Planning Act</i> processes are required to change current land uses. | additional text on next steps has been added to Section 8 |
| 118 | 2016-12-21 | Meeting | all | • The title of Drawing 4 should be modified so as to not imply that the proposed land uses are approved. | Drawing 4 title updated to "Proposed Development Plan". |
| 119 | 2016-12-21 | Meeting | all | • Based on the typical scope of an EA study, the current environmental investigations are not sufficient to support land use changes under a <i>Planning Act</i> process. It was recommended that 120 m offsets be shown around all natural features to indicate that additional environmental studies will be required within these areas to support future <i>Planning Act</i> approvals/processes. | Additional text on a 120 m offset was added to section 8. The environmental features are shown on a figure and the 120 m was not visible due to the scale of the drawing. |
| 120 | 2016-12-21 | Meeting | all | • This EA covers a very large area. The report should identify that future EA Addendums may be required to address the ultimate land uses that may be proposed in this area. | additional text added to section 8 |
| 121 | 2016-12-21 | Meeting | all | Review of submitted City comments: • The City raised a question about the municipal boundary between the City of Windsor and the Town of Tecumseh shown on Figure 3. The City will provide Stantec with a plan showing the legal boundary. | additional information received to clarify. Drawing 3 has been updated. |
| 122 | 2016-12-21 | Meeting | all | • Order of magnitude costs for the different options that have been considered are to be included in the final report. | additional information on costs has been added to section 6.3 |

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| 123 | 2016-12-21 | Meeting | all | <p>Review of submitted Tecumseh comments:</p> <ul style="list-style-type: none"> The Town raised a question regarding the proposed 1.5 m depth of the permanent pools and noted that pools up to 4 m may be preferred for habitat. The proposed stormwater ponds are sewage treatment facilities. Typically, it is not recommended to encourage wildlife to use these facilities even though it is inevitable. It was agreed that the ponds should follow the design guidelines found in the MOECC Stormwater Management Planning and Design Manual (March 2003). | agreed |
| 124 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> Stantec advised that the conceptual ponds have sufficient room to have a varying depth. This will be identified in the report. | additional text added to report in Section 6.1.2 on water level depth in the SWM ponds |
| 125 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The Town noted a difference between the proposed pond normal water levels in the current report and in the previous report. This further raised the question about the size of the proposed SWM corridors. Stantec advised that all ponds have been sized based on gravity outlets and that MOECC recommends a maximum depth for active storage. Stantec further advised that the same storage volume will be required for pumped ponds, however, the active storage will be at a lower elevation resulting in a larger top of the pond area. Stantec advised that this was considered when the SWM corridors were sized | agreed |
| 126 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> Stantec is to include a cross-section that shows the worst case scenario pond configuration that resulted in the proposed 150 m SWM corridor width. This cross-section should also show how the gravity versus the pump option was considered in the pond/corridor sizing. | Cross sections are included in Appendix G for the pumped and gravity outlet configurations. |
| 127 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The report should include a discussion on how the pond sizes and SWM corridors were developed for this project. | Additional text added to Section 6.1.2 |
| 128 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The Town recommended that all comments received and the related responses should be included in the report Appendices. All were in agreement. | Comments and responses have been added to Appendix B |
| 129 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The Town asked if any further studies would be required to confirm the available capacity in the downstream drains and the related pond outlet release rates that have been considered in this report. Stantec confirmed that the downstream drain capacities have been based on information provided by the municipalities and standard Drainage Act procedures. This is considered a table top exercise since undertaking surveys of all drains to calculate actual drain capacities is beyond the scope of this EA. The assessment produced small allowable release rates for the proposed ponds. Modification to these release rates are not expected to have a significant impact on the storage volumes required. Finalization of the ultimate drain capacities and related pond release rates is required in future functional design studies. | agreed |
| 130 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The Town asked how, or if, climate change has been considered and if increased intensity storms have been modelled. Increased intensity storm have not been modelled. | The precipitation events were based on current IDF parameters |
| 131 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The report should include a discussion on the need to consider climate change in the future functional design studies. | additional text on climate change added to section 8 |
| 132 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The report should identify how the current conceptual pond designs have the ability to be modified within the recommended SWM corridors to provide for additional storage that may be required under future climate change scenarios. | additional text added to section 6.1.2 |
| 133 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The report should identify that, in addition to traditional stormwater ponds, future functional designs studies may need to consider LID alternatives. A list of potential LID alternatives should be included and it should be noted that all LID's may not be suitable for the existing physical constraints within the Essex Region. | agreed. Section 7.7 discusses LID in general and specific recommendations have been added to Section 8 |
| 134 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The Town requested that the final report be as detailed/specific as possible with regard to infrastructure needs and criteria. Based on existing functional design studies that have been completed by the Town, all of the Town ponds will be required to be pumped. This criteria is to be included in the final report. | additional text added to Section 6.1.1. Functional studies were for areas west of Banwell. Not clear if criteria apply to pond south of Hwy 401? |
| 135 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The City does not have functional design studies for their portion of the study area, however, they have advised that all sewers are to be dry between storm events. The City also advised that they want pond normal water elevations to be at or below the sewer inverts versus sewer dewatering pumps. Accordingly, if functional design results in sewers that are lower than the inverts of the outlet drains, pumping will be required. The report should include this criteria. | additional text added to Section 6.1.1. Reference to a using a flap gate to keep the pipe dry was removed |
| 136 | 2016-12-21 | Meeting | all | <p>Review of Submitted ERCA comments:</p> <ul style="list-style-type: none"> ERCA raised a question about when the proposed improvements to the Upper Little River are required to be completed. Stantec advised that the improvements are required to improve existing flood elevations in the Little River. With the proposed pond restrictions, development should not worsen the existing conditions if the improvements are not completed immediately. These channel improvements are also planned to address some of the anticipated fisheries offsetting needs. Accordingly, the need to undertake the improvements may be driven by when certain sections of the area are developed. The schedule for undertaking the improvements to the Upper Little River channel requires further discussion with the City. | agreed |
| 137 | 2016-12-21 | Meeting | all | <ul style="list-style-type: none"> The cross-sections of the proposed channel improvements for the Upper Little River, the 6th Concession Drain, etc. that were used in the hydraulic model should be included in the final report. This will provide the minimum channel dimensions required for flow conveyance and storage. All fisheries offsetting requirements would be an expansion of the minimum hydraulic channel dimensions. | The cross section assumed for the hydraulic modelling is included in appendix G |
| 138 | 2016-12-21 | Meeting | all | <p>Stantec requested a copy of the 1992 City of Windsor Candidate Natural Heritage Site Biological Inventory Report. A copy of this report is attached to this e-mail.</p> | A copy of the 1992 study has been received and incorporated into the report |

| Comment # | Date | From | | Nov 2016 Comment # | Comment | Response |
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| 1 | 2017-02-16 | ERCA | JH | 1 | Section 6.3 does not provide cost estimates for all of the alternative development solutions that were considered. It appears that the provided comparison relates to ponds with pre 1:100 year release rates vs. release rates based on available drain capacity. Order of magnitude costs (or something similar) should be provided for all of the alternatives that were considered (i.e. do-nothing, water quality and erosion control only, communal stormwater facilities, on-line quantity control with local quality and erosion control, etc.). | Section 6.3 has been updated to include a preliminary opinion of probable cost for all alternatives |
| 2 | 2017-02-16 | ERCA | JH | 8 | All personal information has not been removed from Appendix C. | Appendix C has been updated to remove personal information |
| 3 | 2017-02-16 | ERCA | JH | 61 | If it is allowed by the original authors, we would suggest that all Stantec, Waldron and EcoPlan field investigations/reports should be included in an Appendix. | The Stantec and Waldron field investigation information has been included in Appendix E. The EcoPlans Report could not be located. |
| 4 | 2017-02-16 | ERCA | JH | 90 & 137 | A very basic cross-section is provided in Appendix H. It is our understanding that this is the minimum channel improvement that is required to produce the proposed future high water elevations and that any required fish habitat offsetting would be an expansion to this cross-section. While dimensions could be approximately scaled from the provided cross-section, a more detailed cross-section with channel dimensions should be included. A plan should also be included showing where this cross-section has been used in the modelling | More detailed figures have been added to the main body show cross sections and cross section locations. |
| 5 | 2017-02-16 | ERCA | JH | N/A | On Figure 6 there is only one site on the 'Gouin Drain identified as being an isolated "Fish Habitat Location". This seems unusual. Other reaches are identified as "Fish Habitat Reaches". Is the Gouin Drain downstream of this location a "Fish Habitat Reach"? | Gouin Drain updated to "Fish Habitat Reach" on Figure 6 |
| 6 | 2017-02-16 | ERCA | JH | N/A | On Figure 13 a large pond is shown near Hennin Street. This pond has been completely filled in. | figure updated |
| 7 | 2017-02-16 | ERCA | JH | N/A | Figure 14 provides existing and proposed floodplain elevations. Are the proposed elevations based on development with existing channel conditions or proposed channel improvements? | the proposed elevations assume proposed development and proposed channel improvements |
| 8 | 2017-02-16 | ERCA | JH | N/A | On Figure 17, numerous sub-catchment ponds appear to be shown within catchment boundaries. Catchments 2060 and 2095 appear to conceptually have 8 ponds. If this is correct, these catchment areas are not that large and 8 ponds seems unreasonable for a conceptual depiction. Please provide some clarification for this Figure. | The drawing was conceptual in nature and has been updated to more closely match the descriptions. The number of ponds shown is approximately half of that shown on the previous figure |
| 9 | 2017-02-16 | ERCA | JH | N/A | On Figure 18 there are 3 red lines in the bottom left corner of the sketch. It appears that these lines are likely from the original plan where this detail was taken from. If so, the 3 red lines should be removed | Figure 18 has been updated |
| 10 | 2017-02-16 | ERCA | JH | N/A | All personal information has not been removed from Appendix C. Please review Appendix G and make sure all personal information is removed. | Appendix C has been updated to remove personal information |
| 11 | 2017-02-16 | ERCA | JH | | Section 3.3 - Add Mr. Phil Bartnik, Manager Engineering Services to the Tecumseh list. | Phil Bartnik has been added to the Tecumseh staff list |
| 12 | 2017-02-16 | ERCA | JH | | Section 4.1.4.1 - All environmental field data should be included in an Appendix. | The Stantec and Waldron field investigation information has been included in Appendix E. The EcoPlans Report could not be located. |
| 13 | 2017-02-16 | ERCA | JH | | Section 6.1.2. Refer to Appendix H | reference added for Appendix H |
| 14 | 2017-02-16 | ERCA | JH | | Section 6.3 Order of Magnitude costs should be provided. | Section 6.3 has been updated to include a preliminary opinion of probable cost for all alternatives |
| 15 | 2017-02-16 | ERCA | JH | | Section 7.6 - a comparison of Future IDF Curves for Southern Ontario. This Section should come before the previous NVCA Section. It should also identify that this study was commissioned by ERCA and TRCA. | Section 7.6 (climate Change) has been updated |
| 16 | 2017-02-16 | ERCA | DL | | I have reviewed the revised document and find that the previous comments provided have been satisfactorily addressed. | agreed |
| 17 | 2017-02-16 | ERCA | DL | | Of specific note is the recognition within the document that an Environmental Impact Assessment (EIA) will need to be completed – Development within 120 m of an existing natural feature will require an EIA demonstrating no negative impacts in support of future Planning Act approvals and process. | agreed |
| 18 | 2017-02-16 | ERCA | DL | | Under section 6.2.1.6 Human Impacts, the revised report states the following: "The proposed development, through the implementation of additional trails and new development, has the potential to increase impacts to natural features from the introduction of human activity to an area that currently doesn't experience these anthropogenic disturbances. Potential mitigation measures include well-marked walking trails to discourage creation of informal trails, signage to educate trail users about the sensitivity of the natural features in the area, and trash receptacles placed at intervals along the trails to discourage littering. Other mitigation measures may be required to show no negative impacts from residential intensification on wildlife populations." The above potential impact due to human population intensification of the area is not specifically addressed anywhere else in the report. This issue will need to be adequately addressed within any future EIAs for any land use designation changes in/around any existing natural features. | agreed |

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|----|------------|------|-----|----|--|--|
| 19 | 2017-02-16 | ERCA | DL | | Within section 4.1.2, the Essex Region Natural Heritage System Strategy (ERCA and County of Essex, 2013) is now referenced. Within the references section however, the citation is not included. This study should be properly included within the references section as follows: Essex Region Conservation Authority. 2013. Essex Region Natural Heritage System Strategy (An Update to the Essex Region Biodiversity Conservation Strategy). Essex, Ontario. 319 pages. | the reference has been added to Section 9.0 |
| 20 | 2017-02-16 | ERCA | MN | 15 | Section from section 3.5.5 is pretty limited but may reflect the direction from the City and Town – that is, future applications will be required to change the zoning and official plan designations separate from the outcomes of this study. Section 8.1.1 details appropriately that future land use changes must meet all requirements of the Planning Act prior to implementation. Regarding the changes to section 8.1.2 I am not totally supportive of all of the statements made, but the process to outline the required studies for other processes (i.e., Planning Act, other Class EA, DFO process, etc.) should be identified through appropriate consultation with those other processes. | The text at the start of Section 8.1.2 was updated slightly to provide more overview on the processes. Prior to constructing the stormwater management features as well as the enhancement opportunities, a number of permits and approvals will need to be obtained through other process such as the Planning Act, Fisheries Act, and other Class EAs. The process to outline the required studies should be identified through appropriate consultation with the following elements that may be part of the final implementation: |
| 21 | 2017-02-16 | ERCA | MN | 18 | comment addressed satisfactorily. I recommend that the data collected as part of this report be submitted to the NHIC as a condition of completion of the report. This would be in keeping with our contractual obligations between the ERCA and the NHIC (Dan Lebedyk is the signing authority). | Stantec did not observe any reportable species at risk or significant wildlife features during their investigations. |
| 22 | 2017-02-16 | ERCA | MN | 21 | ok. Per previous comment (18 – this data should be submitted to the NHIC to ensure the appropriate treatment at the Planning Act, other EA, and/or REA processes. | Stantec did not observe any reportable species at risk or significant wildlife features during their investigations. |
| 23 | 2017-02-16 | ERCA | MN | 23 | comment looks to be ok. Per previous comments regarding submission of 'raw' results to the NHIC as a condition of completion of the report – especially if SAR or SWH was documented. Fish records will typically have been submitted to the MNR as part of the License to Collect Fish for Scientific Purposes conditions. | Stantec did not observe any reportable species at risk or significant wildlife features during their investigations. |
| 24 | 2017-02-16 | ERCA | MN | 29 | text additions in section 8.1.1 is satisfactory. Page 4.13 – "Lake Sinclair" should be replaced with either Lake St. Clair or Lake Saint Clair. | text updated |
| 25 | 2017-02-16 | City | AG | | Section 6.1.2. page 6.4. Include figures illustrating the cross-sections. Would be good to add sewer and pump station too; or add this to a figure for Section 7.3. | Storm sewers and pumps added to cross section figures and added to main body |
| 26 | 2017-02-16 | City | AG | | Section 7.3. page 7.8. Include figure illustrating the cross-section with sewer and pump station | Storm sewers and pumps added to cross section figures and added to main body |
| 27 | 2017-02-16 | City | AG | | Section 8.1.1, page 8.1. Suggest that a Guideline for the Development of SWM Facilities be one of the next steps. There should be consistency in the expectations of what conditions the facilities are maintained and associated maintenance budgets. | added to section 8.1.2 |
| 28 | 2017-02-16 | City | AG | | Section 8.1.1, page 8.1. Add text regarding minimum catchment area to be undertaken with functional design. | text on minimum catchment areas (20 ha) has been added to section 6.1.1 Design Criteria |
| 29 | 2017-03-06 | Town | FRF | 15 | Section 3.5.5 seems to suggest that this Master Plan is limited to Approach #1 (i.e., not integrated). It indicates that further studies would be required to address Schedule B requirements for specific projects. Section 8 is also contradictory in this regard. It should be confirmed which Approach # this Master Plan satisfies? This Section also suggests that the Master Plan "should" consider various studies/objectives, but its not clear whether it has. The Town's Secondary Plan process for the Hamlet is relying on the Master Plan to satisfy the Class EA requirements for these SWM features, which isn't clear as being the case. | The Master Plan is Approach 2 including Phases 1 and 2 of the Municipal Class EA process with sufficient detail to satisfy a Schedule B Project. Additional studies are required, but they will not require an EA if they follow the Master Plan. Additional text added to Section 3.1 and 3.5.5. |
| 30 | 2017-03-06 | Town | FRF | 24 | The SWM facilities and their extended duration of releasing flows will change the flow characteristics throughout the drainage system. Was this assessed, particularly from a resiliency perspective (back-to-back storms). | The extended drawdown of flows from the pond will increase baseflows in Upper Little River. Back-to-back storms were not modelled. |
| 31 | 2017-03-06 | Town | FRF | 27 | Town does not have design guidelines, but there were design criteria agreed that should be identified, as these influenced the solutions (i.e., NWL at/below sewer inverts, pumped outlets, etc). | agreed. This information is included in Section 6.1.1 |
| 32 | 2017-03-06 | Town | FRF | 82 | Are the solutions not confirmed to be functional as part of this Master Plan process? Section 8 suggests that functional design is not possible, but this is what the Town's Hamlet Secondary Plan is relying on. Solutions in a Master Plan should be viewed as being functional. What is the extent/scope of these future studies that ERCA expects to be completed? | The EA satisfies the requirements of Master Plan Approach 2 (Schedule B). SWM alternatives were evaluated and a preferred solution selected. Sufficient design work was completed to select a preferred solution. |
| 33 | 2017-03-06 | Town | FRF | 82 | In Section 8, it is identified that fisheries compensation for the entire study area will be a future study. What is the expected timing for this? How does this affect Tecumseh's Hamlet area? | Specific timing information is unknown. This is considered future work. |
| 34 | 2017-03-06 | Town | FRF | 94 | Was this not corrected in the case of the Tecumseh Hamlet based on drainage reports, as confirmed below? Outlet drain capacities could be a significant constraint and should be identified to confirm that the solutions are functional. | All catchments were treated equally in the study and the target flow was calculated as the existing 2-year flow rate. |
| 35 | 2017-03-06 | Town | FRF | 97 | Was this factored into the modeling of the solutions, as further commented on below? | Climate Change was modelled assuming a 20% increase in flows as provided by the Town of Tecumseh |

| | | | | | | |
|----|------------|------|-----|-----|--|---|
| 36 | 2017-03-06 | Town | FRF | 102 | See my comments on Item No 82, above. This could have implications on the Tecumseh Hamlet. | Additional studies are needed to determine specific mitigation measures and how they are spread across the study area. |
| 37 | 2017-03-06 | Town | FRF | 104 | This documentation will facilitate future implementation/approvals requirements. Where is this documented? | Section 6.1.2 |
| 38 | 2017-03-06 | Town | FRF | 105 | MOECC would be a min. criteria considering Town's desire for SW ponds to serve as amenities, natural habitat features/wetlands, and waterfowl deterrence. This should be identified to give the Town flexibility to require this of developers. | The 1.5 m is an average depth. MOECC criteria recommend depths ranging from a mean depth of 1 to 2 m up to a maximum of 3 m. Additional text added to Section 6.1.2 describing MOECC criteria. |
| 39 | 2017-03-06 | Town | FRF | 109 | The ESR should identify that functionally, these facilities will require pumping to meet the Town's criteria, which should be confirmed. | The pumping bullet in Section 6.1.1 says "Based on existing functional design studies completed by The Town, all Town ponds require pumps" |
| 40 | 2017-03-06 | Town | FRF | 110 | Town provided drainage reports for these drains. Will ESR confirm how drain capacities were established so that this can be verified in the future? | Drain capacities in the study were based on the 2-year 24 hour rainfall event as documented in Section 4.3.8 and 6.1.2 |
| 41 | 2017-03-06 | Town | FRF | 112 | Climate change impacts should be assessed as part of this Master Plan since this may influence the solutions. This will be a design requirement, so it should be addressed at this time. | Climate Change was modelled assuming a 20% increase in flows as provided by the Town of Tecumseh and documented in Section 7.6 |
| 42 | 2017-03-06 | Town | FRF | 113 | We based the Town's required storm sewer inverts on verified ground elevations. We will need to confirm HGL impacts based on water elevations, which should be OK based on lower NWL's. | agreed |
| 43 | 2017-03-06 | Town | FRF | 115 | Section 8 simply indicates the need in the future for an area-wide study to confirm compensation requirements. As a result, it is unclear what the impacts of this may be. When is this area-wide study expected? In its absence, would individual developers be required to do this on a piecemeal approach? It may be worthwhile indicating what the expectations for developers would be until this area-wide assessment is done. | A watershed scale study is required to determine appropriate mitigation measures and locations. This work is considered to be outside of the current project. |
| 44 | 2017-03-06 | Town | FRF | 121 | Don't see municipal boundary on Drawing No. 3? | The municipal boundary was removed from Drawing 3 since it is coincident with the catchment boundaries and was difficult to see on the drawing |
| 45 | 2017-03-06 | Town | FRF | 123 | Generally described normal water levels at 6m depth with 5:1 slopes. Ponds still being referred to as conceptual, not functional? | correct |
| 46 | 2017-03-06 | Town | FRF | 126 | Cross sections for both scenarios show NWL at 6m depth, which doesn't make sense unless outlet channels are 6m deep. Are there any channels this deep? | The 6 m depth was estimated based on available topographic information as the maximum depth of the permanent pool below the ground surface and was used to determine the corridor width as a worst case scenario. There are no channels that deep and ponds 6 m deep would need to be pumped. |
| 47 | 2017-03-06 | Town | FRF | 127 | Text generally ok, but still references design as conceptual only. Last paragraph confusing... | The EA satisfies the requirements of Master Plan Approach 2 (Schedule B). SWM alternatives were evaluated and a preferred solution selected. Sufficient design work was completed to select a preferred solution. |
| 48 | 2017-03-06 | Town | FRF | 128 | There has been a lot of email correspondence and attachments back and forth dating back to 2012 or so. None of this has been captured in the Appendices, other than minutes of our last meeting of Dec 20, 2016. | Additional correspondence has been added to the appendix |
| 49 | 2017-03-06 | Town | FRF | 129 | Are the allowable release rates relative to the drainage area upstream of the ponds (i.e. the full capacity of the drains may not be what is allowed to be released from the ponds...) | Release rates are given on a total value for each catchment and a per hectare rate. The release rate from the ponds should be based on the pond drainage area. |
| 50 | 2017-03-06 | Town | FRF | 130 | Climate change impacts should be modeled, as this will be a requirement for design and should be assessed to confirm resiliency of solutions. | Climate Change was modelled assuming a 20% increase in flows as provided by the Town of Tecumseh and documented in Section 7.6 |
| 51 | 2017-03-06 | Town | FRF | 132 | Modifications include steeper side slopes, which isn't appropriate. What is the climate change impact? Was this modelled? | Steeper slopes have been removed from the list of possible modifications. Climate change increases the storage volumes by approximately 20 to 30% |
| 52 | 2017-03-06 | Town | FRF | 134 | Town's criteria for pumping of ponds has been included. Town's functional studies were for the Hamlet area east & west of Banwell. Not sure how the pond south of 401 relates to this? | No specific requirement for pumping will be made for areas south of Highway 401 |
| 53 | 2017-03-06 | Town | FRF | 136 | Town should have an understanding of the extent to which Hamlet development will rely on the Little River channel improvements. Can this be clarified? | The Hamlet can be developed without any downstream improvements |
| 54 | 2017-03-06 | Town | FRF | | Does this document satisfy Schedule B EA requirements? If not, what is needed? The Town needs assurances because they are planning to move forward with Secondary Plans. If Schedule B requirements are not satisfied, they will not be able to commence Secondary Plans. What Approach number is satisfied under the EA process. It appears to be Approach 1, but the Town believes this study should at least satisfy Approach 2. | The EA satisfies the requirements of Master Plan Approach 2 (Schedule B). SWM alternatives were evaluated and a preferred solution selected. Sufficient design work was completed to select a preferred solution. |

| | | | | | |
|----|------------|------|-----|--|--|
| 55 | 2017-03-06 | Town | FRF | Climate Change – Additional generic information has been added regarding climate change. Dillon and the Town are concerned that the document does not provide enough information/analysis to demonstrate an appropriate duty of care regarding this matter. The Town suggests that a climate change analysis should be completed on one of the proposed subcatchment areas to determine if the proposed corridor is sufficient to provide for a potentially larger pond due to climate change. Completion of this analysis could then be used to further support for the proposed SWM corridor widths. This analysis could also set out a framework for future climate change assessments during subcatchment functional and detailed design processes. The Town wants it clearly identified that climate change must be addressed in future subcatchment functional and detailed designs. | Climate Change was modelled assuming a 20% increase in flows as provided by the Town of Tecumseh and documented in Section 7.6 |
| 56 | 2017-03-06 | Town | FRF | Fisheries Habitat Offsetting – Appendix G contains a Table “Summary of Proposed Municipal Drain Modifications”. This is an important piece of information which should be included in the main body of the report. This table identifies where habitat will be lost and where there is potential for enhancement opportunities. At this time, it is unclear if Tecumseh can address their enhancement needs in waterways situated within the Town limits or if development in Tecumseh will also require enhancements in City waterways. While this may not be known until the recommended fisheries offsetting study is completed, the report should identify these types of issues. Could fisheries offsetting needs impact the functionality of the recommended alternative? It should be confirmed that sufficient investigations have been undertaken through this EA process to ensure that fisheries offsetting needs can be satisfied through functional/detailed design. The report should include some typical fisheries offsetting techniques that could be considered in the future fisheries offsetting study. It would also be helpful if the report recommended a scoping strategy for the future fisheries offsetting study. | Discussion on offsetting potential being required in other areas is discussed in Section 8.1.1. Based on discussions through the EA the existing open channel municipal drain network was not intended to be retained and all development options were assumed to remove the drain network. Typical fishery offsetting techniques are included in Table 21. The fisheries offsetting report is considered future work. |
| 57 | 2017-03-06 | Town | FRF | Conceptual vs. Functional – The recommended alternative should provide functional scenarios that will be further detailed in the next step subcatchment functional/detailed designs. The word conceptual could be taken to mean that the functionality of the scenario has not been confirmed. We believe that this is mainly an issue with terminology, however, it must be clear in the report that the solution is functional. The use of these words in the report must be reviewed and modified as required. | The ponds are conceptual in nature. It is expected that drainage areas, pond locations, elevations, and outlet structures will be modified as the design progresses. This study provides sufficient details to select a preferred solution including land requirements, allowable flows, and environmental impacts. |
| 58 | 2017-03-06 | Town | FRF | It is identified in the report that the ponds have been sized with a 1.5 m permanent pool and that the SWM corridors provide room for additional depth if required. This was added to address the Town's concern that they may want deeper ponds based on their desire to make these facilities amenities within their parkland features. The Town wants it stated in the report that they anticipate requiring deeper permanent pools for their ponds. | Additional text added to Section 6.1.2 indicating the Town's request. "The Town of Tecumseh anticipates that permanent pools deeper than 1.5 m will be required for their ponds." |
| 59 | 2017-03-06 | Town | FRF | The study area includes portions of Tecumseh on the south side of Highway 401. The report must clearly identify the criteria that is applicable to future development in this area. | Flow and storage volume requirements are provided in the report for the area south of Highway 401 that is developable in the Town of Tecumseh Official Plan. |
| 60 | 2017-03-06 | Town | FRF | It was previously identified that there appeared to be a datum issue between the storm sewer invert elevations provided by Tecumseh and the ground elevations that were used by Stantec for this study. Was this datum difference resolved and is there an impact on the anticipated HGL's in the upstream Tecumseh storm sewers? | The datum provided by Tecumseh were used to determine the 6 m elevation difference between the permanent pool and the top of pond. The HGL in the storm sewers is unchanged. |
| 61 | 2017-03-06 | City | | “Looking at the PIC material, it appears that we have published a variety of names for this study: 1. Notice of Study Commencement – Upper Little River Watershed Master Drainage Plan & Stormwater Management Plan 2. PIC #1 & 2 notices – Upper Little River Watershed Master Drainage Plan & Stormwater Management Plan 3. PIC #1 & 2 display boards – Upper Little River Stormwater Master Plan Class Environmental Assessment 4. Draft report cover pages in July 2014, Sept. 2016, & Jan 2017 – Draft Upper Little River Master Plan Environmental Assessment I think that the name of the study should match either the notices or the display boards. At least it should include a term such as watershed, drainage, or stormwater.” | agreed. The study will be referred to as the "Upper Little River Watershed Master Drainage and Stormwater Management Plan" |

| Comment # | Date | From | | June 2017 Comment # | Comment | Response |
|-----------|------------|------|----|---------------------|---|--|
| 1 | 2017-07-17 | City | AG | | I reviewed the document and my primary concern is that the SWM corridors be consistently shown in the document. Conceptual channel cross-section in Appendix H is not showing the recommended width. | Agreed. Cross sections have been moved to the main body of the Report and removed from the appendix |
| 2 | 2017-07-17 | City | AG | | I understand that Drawing #3 will be replaced. Corridor widths should be shown as recommended (200m and 325m wide ?). Please confirm. | Corridor widths are either 200 m or 325m |
| 3 | 2017-07-17 | City | AG | | I'm fine with new Drawing #4 provided there is sufficient information. It doesn't matter to me if it is on one drawing, or split up. | Agreed |
| 4 | 2017-07-17 | City | AG | | Appendix B – I was concerned about including personal information on the comment sheets, but we are o.k. based on review of my notes from corresponding with the City's Manager, Records and Elections, Freedom of Information Coordinator. He advised that: "It appears that you covered yourselves with the following statement: Your completed Comment Sheet will be included in the Class EA report, which will be made public at the completion of this study. Please check the box below if you wish to have your comments included anonymously. Please withhold my name and contact information from publication in the Class EA report. I would consider this implied consent to full disclosure because you gave them the opportunity to opt out of making their information public." | Agreed |
| 5 | 2017-07-18 | Town | FF | 35 | Please note that Dwg No. 3 still shows the corridor widths at 150m, whereas I understood we have agreed to the need for 200m corridor widths? | Drawing 3 has been updated |
| 6 | 2017-07-18 | Town | FF | 40 | This should be OK, as it would be less than the typical 38mm of runoff over 24 hrs that is applied in the Drainage Act. We should also have confirmation of the runoff coefficients used and the allowable runoff rates for each drain. | Proposed flows rates are limited to the municipal drain capacity during the 100-year rainfall event (50 mm of runoff over 24 hours or approximately the 2-year 24-hour rainfall event. Allowable flow rates have been calculated on a catchment basis and are included in Table 11 |
| 7 | 2017-07-18 | Town | FF | 45 | OK, but are we not revising to describe the solutions as "functional"? | Additional text has been added to the report describing the solution as functional |
| 8 | 2017-07-18 | Town | FF | 47 | This corresponds to "functional" design - ie. more than conceptual in nature. | Additional text has been added to the report describing the solution as functional |
| 9 | 2017-07-18 | Town | FF | 54 | It appears that Dwg No. 4 shows the pond corridor at the Desjardins Drain being centered on the existing drain, whereas the figures suggest the drain is off to one side. We should confirm the proper pond location, as this will affect the Secondary Plan and road layout. | The proposed channel alignment is not required to follow the existing municipal drain alignment |
| 10 | 2017-07-18 | Town | FF | 57 | I don't believe that complete flexibility in design drainage areas and pond location could/should be afforded to remain true to the Schedule B process, since these types of changes could be considered significant. It should be clarified that the pond solutions are "functional", with flexibility for only certain design details (refinement of pond elevations/shapes, outlet controls, etc). There should be limitations to changes in the fundamental aspects of the solutions to ensure compliance with the Schedule B EA approval inherent in this Master Plan. | Additional text has been added to the report describing the solution as functional. Significant changes would require a Schedule B EA. |
| 11 | 2017-08-25 | ERCA | JH | | For this high level modelling, the watershed of the 6 th Concession Drain should be modelled without the inclusion of stormwater management controls for existing development. | The modelling has been updated to remove all storage from the existing developed areas west of Concession Road 7 |
| 12 | 2017-08-25 | ERCA | JH | | You identified that the drain cross-sections used in the existing modeling scenarios relate to existing cross-sections and that future scenarios are modeled with improved cross-sections. You further identified that other than the Little River, the improved cross-sections are not required for development to occur on the tributary waterways from a capacity perspective. It was further discussed that some waterways will likely require improved cross-sections to address existing drain stability issues. In addition, some channel improvements may be required for fish offsetting. The modeled cross-section rationale must be clearly documented in the report. The requirements related to the Little River cross-section improvements for future flood elevations must also be documented. | an additional paragraph was added to section 6.1.2 to document the cross section rationale |
| 13 | 2017-08-25 | ERCA | JH | | In the next steps section of the report, the need for additional detailed floodplain analysis for the determination of flood proofing elevations must be included. | additional text added to section 8.1.2 |
| 14 | 2017-08-25 | ERCA | JH | | The parameters to be used for future stormwater pond designs must be clearly identified in the report (i.e. storm distribution and duration, time step, minimum c values and impervious levels for different land uses (c and % imp may be more depending on future proposals), etc.). | Precipitation is discussed in section 4.3.2.1, and included in the model input file, while impervious levels for different land uses are outlined in Appendix G |
| 15 | 2017-08-25 | ERCA | JH | | The corridor widths shown in the legend on Drawing 4 have not been updated (You indicated that you thought this had been corrected since the Drawings were distributed for review). | corridor widths have been updated |

From: Jeremy Wychreschuk <JWychreschuk@erca.org>
Sent: 2012-08-17 1:21 PM
To: Innes, Jayson
Cc: Brown, Steve; Godo, Anna; Winters, Patrick; bhillman@tecumseh.ca; Tim Byrne; John Henderson
Subject: RE: Upper Little River EA

Hi Jayson,

Thanks for sending us the information so far. I have reviewed the information, and further to Anna's comments below, have a number of additional comments (below). I have not received comments from others in my office (such as John Henderson and Tim Byrne), and I may receive additional comments (which I would forward when received). There really isn't very much information provided in the attached figures, and I expect that much of the information ERCA will be looking for will be in the report. When will this draft report be ready for our review?

- For the storm sewer figure with depth to invert categories, is it not more important to know the depth from the ground surface to the top of the pipe (to ensure no water freezes in the pipe)? How relevant is the depth to invert value? Also, for the <2 m, how much lower is it (just a bit, a lot lower, or does it vary greatly)? What size of storm sewer pipe will generally be required and will the size vary substantially?
- You mention that purple areas will require pumping and that green areas will not, but what about the in-between colours (yellow and orange)? Will these areas require any pumping at all?
- Your peak flows must meet pre-development flows, which I'm assuming is met with the values provided below. Is this correct?
- In addition to the water elevations at various design storms, what will be the affected areas (crude floodline mapping)? The most important design storm from the ERCA perspective is the 1:100 year design storm. Is the 100 year storm contained within the ROW?
- Arrows showing the primary direction of flow for each subcatchment would be helpful.
- I see no details for the airport SWM facilities. This will need to be provided, hopefully soon.
- I did not see any details about the inlet or outlet of the SWM ponds (provided in the report?). Cross sections and profiles are also required.
- No details about fish habitat changes/loss (and possible compensation areas if relevant) has been provided and are needed (discussed in the report?)
- I did not see any details about a trail or trails in the study area, though did see what appears to be a trail near the example pond. Can you confirm that a trail can be build along the entire SWM ROW?
- While I will reserve judgement about each individual pond once it has been designed, please keep in mind that we will need to have some kind of trail or access road to perform maintenance on the structure.

An important question that Anna asks below is what information are we expecting to present at the next PIC? In terms of timing with a Thursday, Sept. 27th PIC target, I assume you would need to finalize the poster boards by Friday, August 21st or earlier, which gives us about one month. When will we receive more information and the draft report?

Jeremy

From: Godo, Anna [<mailto:agodo@city.windsor.on.ca>]
Sent: August 14, 2012 6:12 PM
To: Innes, Jayson; Jeremy Wychreschuk; Winters, Patrick; bhillman@tecumseh.ca
Cc: Brown, Steve
Subject: RE: Upper Little River EA

Jayson:

My main questions are:

1. How do the proposed outlet channel inverts compare to the existing inverts?
2. What are the water surface elevations above the permanent pool elevation for various design storms?
3. What information will be presented at the PIC? When will we have draft boards?

FYI, I will be out of the office August 23rd-September 3rd and September 10th-14th.

Here are my comments.

Land use and road alignment assumptions are o.k.

Hydro parameters

- How do the (proposed) outlet channel inverts compare to the existing inverts? I assume that we are matching invert of Little River at the CPR. What about the rest of the system?
- Permanent pool elevation is generally 0.5m above outlet channel invert, except catchment areas 2090 (1.5m), 2100 (1.0m), 2110, 2115, 2125 & 2135 (1.5m), 2140 (1.0m), 2155 & 2185 (1.5m).
- Will 100 Year water surface elevation be included in the table?

Catchment Areas

For catchment areas 2025, 2027, 2040, 2072 – where do they drain to?

I assume that:

- Areas 2005, 2007, 2010 drain (primarily) to the enclosed 7th Street Drain (on Walker Rd).
- Areas 2000, 2002 drain via existing, primarily enclosed systems to the 6th Conc Drain (in area 2015)

Windsor Airport Lands – The drainage is split between the McGill and Rivard drains. How much work will have to be done to provide a sufficient outlet via the McGill? Is there any opportunity to outlet the stormwater management area via the Rivard to Little River?

What kind of alterations to the McGill drain proposed downstream of Lauzon Parkway, i.e. thru Hydro One lands and the developed Twin Oaks Industrial Subdivision? The municipal drain corridor currently owned by the City in Twin Oaks for the McGill drain is approx. 15m wide.

For catchment 2020, will the soccer field stormwater management facility remain as is?

Storm Sewer Depths

I have to think about whether 0.1% is a reasonable pipe slope assumption.

Airport Info

Will the report address the Windsor airport zones, i.e. 2km and 4km wildlife control zones? To what do the no tolerance and no confidence zones refer?

Pond Concept 3 – will need legend. Is that a trail or road next to the top of bank? It is hard to see the storm sewer pipe and outlet structure due to the colour used.

With regards,
Anna

From: Innes, Jayson [<mailto:jayson.innes@stantec.com>]
Sent: August 10, 2012 5:10 PM
To: Jeremy Wychreschuk; Godo, Anna; Winters, Patrick; bhillman@tecumseh.ca
Cc: Brown, Steve
Subject: Upper Little River EA

Attached is information pertaining to the SWM plan.

The primary goal of the project is to determine the preferred SWM plan for the Upper Little River Watershed. We have determined a preferred SWM alternative (Alternative 6 - SWM corridors) and the next step is to better define these facilities so that they can be constructed in a consistent manner that meets all of the governing criteria and planning vision for the area. As part of this work the channel corridor will be widened to create more riparian habitat.

The latest work involves establishing release rates, elevations, and storage volumes for the SWM facilities and providing sufficient information for the detailed design. The work so far is based on assumptions regarding land use and road alignments and will likely change as more information comes available. We have previously provided some general dimensions for the widened channel and SWM facilities (which I have not included with this email).

The following design criteria have been developed to meet the requirements for the site (peak flow control and erosion)
Level 2 Water Quality
48 hour drawdown of the Extended Detention Volume
2-year release rate – 5 L/s/ha
5-year release rate – 8 L/s/ha
100-year release rate – 16 L/s/ha
Permanent pool storage requirements – approximately 80 m³/ha (dependent on land use)
Active storage requirements – approximately 500 m³/ha (dependent on land use)

Tables include:

- SWM Characteristics - For each proposed catchment a required permanent pool and active storage volume has been calculated in order to provide the required SWM controls. These volumes have been used to size the SWM corridor/block areas and conceptual pond concept drawings. An estimated permanent pool elevation has also been calculated based on the channel and water elevations downstream of the SWM facilities.

Drawings include:

- An updated drawing showing the proposed catchment areas and SWM corridor locations (160311265_C-SD-prop. catchment areas.pdf)
- A drawing showing the estimated storm sewer depths (160311265_C-SD-storm sewer depths.pdf). Assuming a pipe slope of 0.1% from the estimated permanent pool elevation the storm sewer was extended to the catchment limits. This elevation was compared to the existing ground elevations. The catchments have been colour coded to show which catchments have plenty of cover (green) versus those that will likely require pumping (purple). There is some opportunity to alter these by lowering the existing downstream channel in some locations but this would require some coordination between areas and so far I have tried to isolate each area so it can develop on its own terms.
- A drawing showing the assigned SWM corridor locations for the proposed catchments as well as the location of the SWM corridors relative to the Airport (with reference to the Airport's Wildlife Control Areas). The west portion of Baseline Road is very close to the Airport and this area will have stricter SWM guidelines than other areas of the watershed.
- A conceptual pond drawing (160311265_C-POND-FIG 3.pdf) for catchment 2165 (the Tecumseh lands south of the rail line). I am still working on a few more examples of these.

I talked to MMM/MRC about the project about a month ago and they seemed to be ok with concentrating the flow south of Highway 401 into one culvert crossing at 9th Concession Road. I have also talked to Dillon several times over the last month and I am going to send them information on about the ponds (release rates, elevations, and modelling) next week.

I am currently working on the report and more example pond drawings to provide guidance/examples for future pond designs.

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From: Jeremy Wychreschuk <JWychreschuk@erca.org>
Sent: 2012-09-27 12:54 PM
To: Innes, Jayson
Cc: Godo, Anna; bhillman@tecumseh.ca
Subject: Upper Little River study - Additional comments

Hi Jayson,

I talked to Anna and Stan today, and have a few additional comments.

- For the trail system, instead of waiting for direction from the City on trail criteria, it is better for you to tell us what will work at certain areas. Perhaps a wider trail will be possible/required at certain areas, where other locations may have to be smaller or diverted to a sidewalk. Please note that it will be possible to align the trail into the nearby ROW if required.
- I've been informed that while the Little River floodline mapping shows a mostly contained 100 year flood contained within the channel, this was done when the channel was relatively clean and maintained. Now that it is less maintained, there are more frequent flooding problems, particularly just south of County Road 42 and our study boundary. Since I haven't seen your model parameters, I do not know how you are modeling this part of Little River. Are you assuming a clean channel? At minimum, we will have to state that we are assuming that the channel is clean and well maintained, and that it needs to remain that way. It would also be helpful to model the floodlines with high roughness values to see what the difference is with less maintenance. When you look our regulated lines in this area, it is far removed from the channel, and the reason for that is because significant flooding has been observed in this area in the past (regulated line is showing maximum observed). It would also be helpful to recommend some channel improvements along the main stem if required.

Jeremy

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Essex, ON N8M 1Y3
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Fax: 519-776-8688
Web: www.erca.org

From: Herlehy, Laura <lherlehy@dillon.ca>
Sent: 2012-10-26 10:47 AM
To: Innes, Jayson
Cc: Forest, Flavio; Chris Thibert; Michael Coombs; Roy Johnson; 126309
Subject: Re: FW: upper Little River
Attachments: Prop. Pond Outlets Notes.pdf

Good Morning Jayson,

We are in the process of finalizing the storm sewer design for the Tecumseh Hamlet and we have confirmed the cover issues that you have identified in your preliminary evaluation.

Attached is a figure that shows the the storm sewer outlets contributing to each SWM pond. The storm sewer outlet inverts have been set to maintain a minimum allowable cover at the upstream ends. These inverts are significantly lower then the permanent poll elevations provided. In your email below, you noted that their may be opportunity to lower the storm sewer inverts to be submerged at the outlets (approx. 1 m) and to use larger pipes to achieve flatter slopes. Implementing this solutions will not provide enough elevation to eliminate the cover issues.

For example, Pond 2215 (Gouin) has a permanent pool elevation of 180.50 and a pond outlet of 180.00. The storm sewer invert that would allow sufficient cover would be 178.00, 2.5 m below the pond outlet.

We are still looking at ways to optimize the storm sewer design to minimize cover impacts without using pump stations however due to the elevation differences it seems that the a pump station would be required at each pond outlet, so that the pond can be lowered. You mentioned that we need to ensure that the fish habitat is not impacted and that the 1:100 year event limits the opportunity to lower the elevation of the pond. We are also concerned the lowering the pond would require a larger pond footprint.

We would like to set up a call Tuesday morning to discuss the final approach we will take and get an understanding of the restrictions we may be faced with. We have several questions regarding the SWM pond and we may be able to optimize the system with further clarification.

I will sent a meeting notice shortly.

Thanks,
Laura

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On Tue, Oct 9, 2012 at 1:33 PM, Innes, Jayson <jayson.innes@stantec.com> wrote:

Previously the drawing was based on a storm sewer slope of 0.1%. The City of Windsor said that that was very shallow and they wanted to use a more conservative slope of 0.35% for the storm sewer (which the new drawing is based on).

The drawing is only a general guideline to show which areas have lots of fall and which ones don't. They were looking for a rough idea of what was possible across the watersheds for getting major and minor flows to the ponds. On a lot of the sites a pump could be avoided using very shallow pipe slopes with little cover, a storm sewer well below the permanent pool, and additional fill on a site, but this would result in increased capital costs for the storm sewer (due to large pipes) and maintenance costs. Ultimately the detail design will determine what slope/pipe size is appropriate for getting water to the pond.

As for the pumping. Any pumping would occur before outletting to the watercourse so that fish habitat is not impacted. There have been some examples where the permanent pool of the pond is lowered and the pond is pumped out following rainfall events. Sometimes the pump is located on the storm sewer inlet. Generally it is more economical if the pumps are located on the outlet rather than the inlet of a pond since the flow rates are less.

If you can get a storm sewer to drain out in the general neighbourhood of the permanent pool (they have talked of examples where the storm sewer invert is more than 1 m below the permanent pool) this would be the preferred scenario in my mind (to avoid ongoing pumping costs). If you can't make that work then a pump will be needed to provide positive drainage. The Tecumseh lands are at the upper end of the watershed, so it may be possible to lower the permanent pool by a bit and put in a small pump to draw down the extended detention volume between events. Some areas get backed up by Little River during the 100-year event so far that they can't be lowered. These areas would need a larger pump on the inlet to get the water up into the pond. There was one ambitious design on Howard avenue. They had two different levels in the pond. The storm sewer outletted to a lower area, which was pumped up to the permanent pool in a different part of the pond. The lower area provided some quantity control in addition to being the sump for the pump.

Hopefully this provides some ideas

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From: Herlehy, Laura [<mailto:lherlehy@dillon.ca>]
Sent: October-09-12 12:49 PM
To: Innes, Jayson
Cc: Forest, Flavio; Chris Thibert; Roy Johnson
Subject: Fwd: FW: upper Little River

Jayson,

Regarding this revised figure, can you let us know what changes have been made to the stormwater management ponds within the Tecumseh Hamlet area that resulted in the change in cover for the further storm sewers?

We were using the stormwater pond permanent pond levels included in the table that was provided previously (see attached). Have these values changed?

Also you mention that pumping is required to address these issues, can you describe how pumping or lift stations will be implemented in your plan? Will lift stations be required to discharge into the individual SWM ponds or will the lift stations be part of the proposed flow channels? Can you provide further clarification?

Thanks
Laura

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From: **Brian Hillman** <bhillman@tecumseh.ca>
Date: Tue, Oct 9, 2012 at 9:37 AM
Subject: FW: upper Little River
To: "Forest, Flavio" <FForest@dillon.ca>, "Herlehy, Laura (LHerlehy@dillon.ca)" <LHerlehy@dillon.ca>
Cc: Daniel Piescic <dpiescic@tecumseh.ca>

Flavio

I'm forwarding this to you in relation to the Tec Hamlet Servicing Work your team is undertaking.

Regards,

Brian.

From: Innes, Jayson [mailto:jayson.innes@stantec.com]
Sent: Friday, October 05, 2012 2:47 PM
To: Wychreschuk, Jeremy; Godo, Anna (agodo@city.windsor.on.ca); Brian Hillman
Subject: upper Little River

The PIC boards will be ready next week.

I updated the depth to storm sewer drawings based on the information from Anna (assuming a 0.35 % slope). As would be expected there are more areas that will need pumping (see attached PDF). About half of the areas are projected to have the storm sewer invert out of the ground at the upstream end of the site. The others have lower pipes and may be able to drain by gravity if the storm sewer is below the permanent pool elevation the storm sewer invert or other corner cutting. There are a few areas that look like they will be ok.

I talked to MRC about getting a digital copy of the new Lauzon Parkway alignment, and they said they were planning on moving it a bit again and they didn't want to send it to me right now. Based on his I am planning on using the old road/drain alignment from the previous PIC. So the road/SWM alignment may not match up completely between the two projects.

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From: Godo, Anna <agodo@city.windsor.on.ca>
Sent: 2013-01-22 1:39 PM
To: Innes, Jayson; Stan Taylor
Cc: Brian Hillman; Daniel Piescic
Subject: Upper Little River - ToFC, Ponds, 100yr WSEL

Gentlemen:

This email contains my tardy reply on a few of issues/questions related to Upper Little River storm study.

1. Draft Table of Contents

Suggest adding:

Executive Summary

List of Exhibits/Figures

Appendices – Correspondence, Public consultation, reports

Comments:

Chapter 7 Management Plan – where is staging/phasing to be addressed?

2. Windsor's general guidelines for ponds

Several departments (Pollution Control, Parks, Operations, Development) were requested to provide comment.

General guidelines:

- PDCs to be set above 1:5yr HGL
- Facilities with steeper side slopes will require fencing
- generally slopes of 7H:1V desired for normal to maximum water level, limited areas of steeper grading 3H:1V
- freeboard area above 1:100 year level is required and should be mow-able (i.e. 4H:1V slopes)
- minimize the number of pumping stations required. I expect an order of magnitude in the range of 10 pumping stations to service the City's portion of the study area.

Due to issues at current developments

- storm sewer to be pumped out if invert is below pond normal water levels
- require hydraulic separation, flap gates

- bentonite clay plug on trenches where sewers outlet to the pond

Other items of concern:

- visibility of the permanent pool from ROW, park area
- vandalism, i.e. rip-rap
- maintenance access

Pollution Control's comments

- Provide mechanism to control pond depth to lower levels below normal if needed; in anticipation of large storms or draining of ponds for maintenance
- Size sewer from pond to pump station to provide adequate flow to pump(s) to minimize on/off cycling
- Size wet well to maintain minimum pump cycles
- construct ponds and establish vegetation prior to development proceeding
- design to account for pond maintenance such as weed harvesting and dredging.
- Provide for easement (above top of bank) around entire pond to allow for maintenance
- Shoreline should be natural where possible, hard shorelines such as landscape blocks, rip-rap, beach stone etc., will require higher maintenance and future replacement costs to maintain appearance
- provide more aquatic vegetation ; to keep phragmites out
- Aquatic plants and surrounding landscape should be selected so as to discourage Canada Geese and other large waterfowl from taking up residence
- Prior to assuming a new Pond Town/City should be provided with a Manual providing detailed maintenance required for long term and short term (while pond eco-system is establishing)
- All electrical service cabinets for aeration systems, fountains, etc should be located beyond the 1:100 freeboard level

Parks Dept's comments

The most important aspect of the ponds will be to insure that they are designed and constructed with the appropriate plant material and that the plant material is established prior to the ponds being brought on line. The specifications and tender should be very clear on the contractor's responsibility to insure that the plant material is established and thriving.

From an operational point of view the ponds that are unfenced will require life ring boxes to be installed. The boxes will have to be inspected on a regular basis by Parks which will necessitate a service path for a pick-up truck.

3. Other design guideline answers to Jayson's questions

What I would like to know in order to better answer when we need to pump and the size of the SWM ponds are:

- what is the minimum elevation of an inlet pipe relative to the permanent pool elevation that you would be willing to accept
 - storm sewers may be submerged below the permanent pool elevation, but must be hydraulically separated (i.e. bentonite plug and flap gate) and be dewatered between storms
- what are the minimum acceptable slopes above the 100-yr water level in the pond (for use when the pond is set lower than the surrounding area)
 - freeboard areas above 100 year water level must be of mowable slope, i.e. no steeper than 4H:1V, and no flatter than 2% (although the area may be landscaped with vegetation that does not require mowing)

4. Question about HGL in vicinity of WCF SWM facility/7th Street Drain Diversion

From the 7th Street Drain Diversion design, the 100 Yr WSElev is 189.00 at the soccer field SWM facility. Do you anticipate any significant change to this?

With regards,

Anna

Anna M. Godo, P.Eng.

Engineer III / Drainage Superintendent | Office of the City Engineer | 350 City Hall Square, Rm 302 | (519)255-6100 ext 6508 office | (519)817-7119 cell | agodo@city.windsor.on.ca

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Thank you.

From: Daniel Piescic <dpiescic@tecumseh.ca>
Sent: 2013-04-04 10:19 AM
To: Innes, Jayson
Cc: Brian Hillman
Subject: FW: FW: Upper Little River - Comparison of Flood Elevations
Attachments: MTO Directive B-100.pdf

Jayson
Please see comments below from our engineers (Dillon) regarding Upper Little River - Comparison of Flood Elevations.
Please call me if you have any questions
Thank you
Dan

From: Forest, Flavio [mailto:fforest@dillon.ca]
Sent: March-26-13 2:20 PM
To: Daniel Piescic
Subject: Fwd: FW: Upper Little River - Comparison of Flood Elevations

Dan, the other day you asked for any comments on the Upper Little River study. The only thing that I questioned was the level of service to which they are basing the improvements on, and how realistic it might be to achieve the required depth/cross sections associated with containing a 1:100 year flow within the channel, including culvert/bridge crossings.
I passed the email along to our drainage folks and they provided the email below with their thoughts.
Please review and call me if you would like to discuss further.
I hope this gives you some ideas to consider.
Thanks

 **Flavio Forest**
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From: Oliver, Tim <toliver@dillon.ca>
Date: Tue, Mar 26, 2013 at 1:28 PM
Subject: Re: FW: Upper Little River - Comparison of Flood Elevations
To: "Forest, Flavio" <fforest@dillon.ca>
Cc: Tom Marentette <TMarentette@dillon.ca>

Flavio,

Tom and I discussed this issue briefly late yesterday. Not sure why or for whom the study is being done for?

From my experience, I'm aware of no municipal drains that would convey the 100 year storm within the channel, including the large drainage systems through rural parts of the county like Little River Drain, Pike Creek Drain, etc.. However, the exception seems to be with municipal drains through urban areas like City of Windsor . I believe the Grand Marais Drain was previously requested by ERCA to upgrade to the 100 year capacity.

I'm aware that ERCA has floodplain mapping based on regional storms although they elect to use the lesser damaging 100 year storm flows for some of the very large municipal drain watersheds that existed as a natural watercourse or creek prior to its conversion to a municipal drain, and for the remaining natural watercourses like Belle River, Ruscom River, Cedar Creek, Turkey Creek, Canard River etc. instead of using the greater regional storm event (i.e Hurricane Hazel) which is impractical or too costly to protect against.

I know Tom M. has experienced having to size new wind farm culverts in Lakeshore such that there is a negligible impact on the 100 year flood level and change in hydraulic grade line with attention paid to flood plain mapping and previous hydrology studies. A requirement imposed by ERCA that lead to putting in culverts that exceed the 5 year design flows.

As for private access bridges and culverts on municipal drains, I'm not aware of any that are designed to convey the 100 year design flows, they are mostly conveying the 5 year storm capacity at best with head water above the culvert, more of them are meeting the 2 year design storm only.

Designing to a higher design flow within the channel would require deepening the drain or raising the drain banks significantly, not practical especially in the rural areas. The 100 year storm flows through the drain channel would not be possible or practical for most of the upper portion of the Little River Drain. All roads and the bridges over the drain would need be raised significantly and improving the channel hydraulics I suspect would cause more harm than good to the lower reaches if less water is able to spill its banks and spread out at the upper reaches of the drain. Reviewing the modeling results of the 100 year flood levels provided by Stantec seems to indicate that it allows for this spreading of water since the levels are not much above the existing surrounding ground levels.

However, MTO's directive (B-100 attached) on design flood criteria for road bridges and culverts with greater than 6 m span width that cross a freeway/**urban** arterial type road does require a minimum 10 year storm peak flow confined to the channel (bank to bank) and 100 year peak storm flows through the bridge structure which Little River Drain likely fits this category where it passes through urban area. For rural areas, MTO 's directive indicates a lesser storm of 2-5 year frequency within channel (bank to Bank) and 25-50 year design storm flows through road bridge structures.

Typically private access culverts and bridges can only be designed to match capacity of the channel (2-5 year storm peak flows) as larger structures do not fit the drain without significant deepening of the drain channels which is impractical when drain slopes are so minimal within Essex County due to flat and low lying topography wide spread throughout the county.

Just my thoughts,

Tim

On Mon, Mar 25, 2013 at 1:58 PM, Forest, Flavio <fforest@dillon.ca> wrote:
Guys, we were asked to comment by Tecumseh on Stantec's Upper Little River Watershed modeling for the 1:100 year event.

Stantec is being told to design the Little River so that the 1:100 year event is contained within the channel cross section. Is it typical for this level of service to be required for a primary watercourse such as the Little River (including the culvert crossings)? I would suspect that there would be a floodplain adjacent to the channel that would accommodate overland flows for a major storm event rather than having the channel and culverts being required to convey 1:100 year flows.

What is your experience so that I can respond to Tecumseh?

Thanks

 **Flavio Forest**
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From: **Daniel Piescic** <dpiescic@tecumseh.ca>

Date: Mon, Mar 25, 2013 at 8:51 AM

Subject: FW: Upper Little River - Comparison of Flood Elevations

To: "Forest, Flavio (FForest@dillon.ca)" <FForest@dillon.ca>, Laura Moy <lmov@tecumseh.ca>

Flavio/Laura

Any comments on this?

Thanks

Dan

From: Brian Hillman
Sent: March-22-13 3:24 PM
To: Daniel Piescic
Cc: Robert Filipov; Rick Wellwood; Chad Jeffery
Subject: FW: Upper Little River - Comparison of Flood Elevations

Dan.

See info below and the attached for your review and comment as necessary. If you provide any comments to Jayson, please copy me so I can include them in the file.

Thanks,
Brian.

From: Innes, Jayson [<mailto:jayson.innes@stantec.com>]
Sent: Friday, March 15, 2013 10:38 AM
To: Godo, Anna (agodo@city.windsor.on.ca); Taylor, Stan
Cc: Brian Hillman
Subject: Upper Little River - Comparison of Flood Elevations

So here are some preliminary results from the flood plain modelling (see attached PDF). I have compared the ERCA floodplain mapping with the more recent modelling for the Twin Oaks business park and the current modelling. Generally they are within 0.5 m. The current PC-SWMM model assumed a Manning's n of 0.045 for the channel and 0.10 for the floodplain. The older HEC-RAS model assumed a Manning's n of 0.03 for the channel and 0.20 for the floodplain.

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Generally the current modelling has higher water levels in the upper reaches (due to higher flows) and lower levels in the lower reaches (due to the larger channel cross section through the twin oaks area) when compared to the ERCA flood plain mapping. There is a lot of head loss through the Country Road 42 and Baseline Road crossings, and increasing their dimensions would help to lower water levels.

I have also included results for the proposed conditions modelling. The proposed model shows lower water levels than existing at all locations due to the lower flows and wider channel.

Existing ground elevations at the crossings are included and most of the locations show flooding outside the banks during the 100-year storm under proposed conditions, although some of them are fairly minor (0.1 m). The areas at the downstream end (Forest Glen and the E.C. Row) look to be flooding park land (there is no development shown in the low areas in the air photos so these areas likely flood often and have not been developed). Upstream of the railway the highest flooding occurs at Lauzon Road and Country Road 42. The surrounding land is relatively low compared to the channel invert at these locations (2.2 and 2.4 m respectively where at most of the other crossings the channel is around 3 m below the surrounding land).

The general direction I've been given is to keep the 100-year flood line inside the channel. Possibly ways to make this happen are to:

- Lower the channel
- Fill in the floodplain
- Widen the proposed channel and road crossings
- Some combination of the above
- Other??

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Brian Hillman
Director, Planning and Building Services

 **Daniel Piescic**
Director, Public Works and Environmental Services
dpiescic@tecumseh.ca

4

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Daniel Piescic
Director, Public Works and Environmental Services
dpiescic@tecumseh.ca
Town of Tecumseh - - Tecumseh, ON. - N8N 1W9
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From: Daniel Piescic <dpiescic@tecumseh.ca>
Sent: 2013-07-30 3:22 PM
To: Brian Hillman; Godo, Anna; Innes, Jayson
Cc: TByrne@erca.org; Stan Taylor (STaylor@erca.org); Phil Bartnik
Subject: RE: Upper Little R. Report -2013-06-14-Sections_1_to_4.docx

Everyone:

Engineering Services has done a cursory review of the Draft Report for the Upper Little River Master Plan:
Comments are as follows:

Project Title

- Project title should be: "Upper Little River Stormwater Management Master Plan"??

Title Page / Table of Contents

- The date of the draft report should be identified on the title page for reference
- Pages ii, iii, iv – the header needs to be formatted as the rest of the report
- Section 3.3 Public Involvement – This section needs to be expanded and should include sub-sections for:
 - o Notices/Advertisements
 - o Public Information Centres
 - o Council Presentations
 - o Correspondence/meetings with First Nations, etc.
 - Section 4.0 Existing Conditions – need to include a sub-sections for:
 - o Archaeological Assessment (Stage 1 at a minimum should be completed)
 - o Social and Economic Environment
 - Additional Sections need to be added to the Report that discuss:
 - o Summary of Alternatives, including the factors of how each alternative was evaluated, and figures
 - o Preferred Alternative, including figures, preliminary cost estimate, property issues, issues with existing field tile drainage, site access for maintenance, environmental impact, mitigating measures, etc.

List of Tables / Figures

- The List of Figures does not match what is attached at the end of the report.
- The Figures should all be located at the end of the Report and include a title page for the section (including the list of the figures).
- Figures should have a standard "figure template".
- Figures that are included in the body of the Report should be re-labelled as "Plates" and a List of Plates is to be added to the table of contents.
- Need Figures depicting the various alternatives, and preferred solution
- Figure 14 – Legend to be revised to: "Little Creek River Watershed Boundary"
- May want to add a "Land Use Plan" Figure

List of Appendices

- This section needs to be completed, as the body of the Report makes reference to individual Appendices.

Body of Report

- Section 3.1
 - o 2nd paragraph to be revised to: "...by the Municipal Engineers Association (October 2000, as amended in 2007 & 2011)..."
 - Section 3.3
 - o Section to be expanded as discussed above
 - o 4th last paragraph on Page 3.5 to read: "...The Open House portion of the May October meeting consisted..."
 - All Tables, Appendices, and Plates when referred to in the text of the report (including the titles) are to be BOLD. This was not consistent throughout the report.

- Locations in the report where reference is made to “Attachments” and “Drawings”. This needs to be reviewed and revised.
- Locations in the report where the text makes reference to a Table, however the Table referred to is in a previous section and does not contain that specific information (eg. on Page 4.34 references Table 2 & Page 4.35 references Table 1). This needs to be reviewed and revised
- Section 4.1.5.6.3 (Page 4.13)
 - First and second bullet paragraphs have provincially rankings of S3? and S2?. The “?” needs to be removed from the context of the report.

Dan

From: Brian Hillman
Sent: July-25-13 2:45 PM
To: Daniel Piescic
Subject: FW: Upper Little R. Report -2013-06-14-Sections_1_to_4.docx

See below and ERCA's comments attached...

From: Stan Taylor [<mailto:STaylor@erca.org>]
Sent: Thursday, July 25, 2013 10:20 AM
To: Godo, Anna; Brian Hillman
Cc: Tim Byrne
Subject: FW: Upper Little R. Report -2013-06-14-Sections_1_to_4.docx


Anna, Brian

Further to my email below, Tim Byrne has asked that I send you copies of my comments (attached) .. I had a couple of very minor comments on the Figures also (file is too large to email)

As you likely know, Tim is the ERCA lead on this now (as of April – I am back into Source Water Protection with a full work program there again) .. he asked me to advise you to please send him any comments you may have on the partial draft Report ASAP (and copy me please)

Please note that Stantec’s posting of this material on their FTP site will apparently expire in the next couple of days ... [we recommend that you download the files from the FTP site ASAP](#) if you haven’t done so already (I will send you the coordinates for that via separate email)

Thanks
Stan

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From: Stan Taylor
Sent: July 24, 2013 3:50 PM
To: Tim Byrne
Cc: John Henderson
Subject: Upper Little R. Report -2013-06-14-Sections_1_to_4.docx

Tim

My comments are as shown on the attached ... a couple of them are questions for you, or things that I think may need your input ..

I assume you will pass them along to Jayson, with any clarifications you may need to make to my comments

I have comments on a couple of the maps too .. I will send those to you separately (large file)

Did anyone else have any comments (e.g. Windsor, Tecumseh, or yourself)? .. I haven’t seen any

I look forward to seeing the complete draft Report, with the recommendations etc.

Stan


Brian Hillman
 Director, Planning and Building Services



Daniel Piescic
Director, Public Works and Environmental Services
 dpiescic@tecumseh.ca
 Town of Tecumseh - - Tecumseh, ON. - N8N 1W9
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From: Godo, Anna <agodo@city.windsor.on.ca>
Sent: 2015-03-20 3:06 PM
To: Innes, Jayson; 'Tim Byrne'; Brian Hillman
Cc: Daniel Piescic
Subject: RE: Upper Little River SWM Study - Status

Jayson,

I have a few minor comments.

Pages 1.1 & 1.3, last sentence of 1st paragraph. prior to the expansion of water services within the study area it would be more correct to say that it was "prior to the expansion of storm sewer services within the study area", or municipal stormwater management system, but not related to water.

Page 3.15, I do not understand the following sentence from the last paragraph: The Little River springs from within the northern portion of the study area.

Anna

From: Innes, Jayson [mailto:jayson.innes@stantec.com]
Sent: Thursday, January 22, 2015 2:57 PM
To: Godo, Anna; 'Tim Byrne'; Brian Hillman
Cc: Daniel Piescic
Subject: RE: Upper Little River SWM Study - Status

Thank you for your comments. We will work on addressing them.

I have attached a copy of the Stage 1 Archaeological Assessment for this project. It was referenced in the Draft Environmental Study Report and it needs to be submitted to the Ministry of Tourism, Culture, and Sport as part of the archeology work. Please let me know if you have any comments before it is finalized and submitted.

Thanks

From: Godo, Anna [mailto:agodo@city.windsor.on.ca]
Sent: January-13-15 4:42 PM
To: 'Tim Byrne'; Brian Hillman; Innes, Jayson
Cc: Daniel Piescic
Subject: RE: Upper Little River SWM Study - Status

With respect to the draft report, I have 3 items which we have not previously discussed.

1. Under Section 8.1 (Next Steps), should the next step be to develop a functional design for the Upper Little River system prior to undertaking final design for specific development blocks? Do we have enough information to include parameters for the functional design in this report?
2. Under the Lauzon Parkway Class EA, the consultant was having trouble figuring out how to drain the E-W Arterial Road east of Lauzon Parkway. One suggestion is to extend the E-W Arterial SWM facility. Can we include this in our report?
3. Should add some text similar to this excerpt from Chapter 7, East Pelton Planning Area, from the City of Windsor Official Plan, Volume II.

Stormwater Management, 7.6.26 To provide for a stormwater management system which minimizes the impact of urban development on the natural environment, is integrated as an amenity within the existing drain system and the open space system. It is capable of meeting applicable water quality and quantity requirements while minimizing any potential impacts on the Windsor International Airport related to waterfowl.

Various departments from the City met to review the draft document. Particular attention was paid to Chapters 6, 7 & 8 (Description of Preferred Alternative, Design Considerations, Project Implementation).

Executive Summary

- Do not refer to Little River as a Creek.
 - Delete 3 duplicate paragraphs on page ii. The following was repeated 2x in the exec summary p ii and iii
- Stantec is the lead consultant (project management and water resources), in cooperation with Parrish Geomorphic Ltd (fluvial geomorphology), to complete a Class EA Study to determine a preferred approach to providing stormwater management control measures for the upper Little River watershed.

The Project Team, consisting of representatives from the City of Windsor, the Town of Tecumseh, the Essex Region Conservation Authority (ERCA), the Ministry of Natural Resources (MNR), and the Consultant Team, has examined a number of alternatives for stormwater management control based on a combination of previous documentation and current information. In addition, two Public Information Centres (PIC) (May 29, 2012 and October 22, 2012) have been held to receive input on the alternative options investigated and to present the preferred option.

A preferred option was developed as a result of an evaluation of alternatives and public/agency input, and is considered representative of the most appropriate option to achieve the required controls, while maximizing opportunities to conserve existing natural conditions. Details of the Study process, from conceptual development of alternatives through to selection and preliminary design of the preferred alternative, are summarized in the following ESR, which is to be considered for approval by the Municipalities.

Should add to the Executive Summary under the main objectives paragraph, something to the effect that – the study anticipated development of the lands by multiple land owners and addresses/supports the ability of individual land owners to proceed.

3.3 Public Involvement

- Page 3.5, note that PIC#2 was held in conjunction with Lauzon Parkway Environmental Assessment and SS Secondary Plan PIC's, i.e. In addition, PIC #2 for the Lauzon Parkway Environmental Assessment and the third workshop for the Sandwich South Secondary Plan were held concurrently at the same location.
- Page 3.11, 2nd bullet point. Is text referring to Baseline Road in Windsor? If so, it is not Little Baseline Rd.
- Page 3.12. Clarify which study recommended the limits of proposed E-W Arterial Road. Confirm that the East Pelton Secondary Plan identified a corridor from Walker Road to 8th Concession Road.

4.1.5.7 Aquatic Resources

- Page 4.20, Table 4. Is 7th Concession Drain classified, or is this considered the 7th Street Drain Diversion?
- Check how Figure 5 is referenced. Page 4.23, 2nd last paragraph – should it reference Figure 4?
- Where is Figure 5 referenced in the report?

4.2.9 Potential Mitigation Measures

- Page 4.34, the group should review/comment on the recommended mitigation measures
 - o Perforated storm laterals. DISADVANTAGES
 - o Perforated Pond Outlets. DISADVANTAGES
 - o Soakaway Pits / Infiltration Trench. DISADVANTAGES
 - o Longer Drawdown Times for SWM Facilities.
- Page 4.36. Check wording of “Baseflow temperatures are higher the groundwater flows.”

4.3.4 Existing Drainage

- In the 1st paragraph of this section on Page 4.40, what does “Downstream of the study area (north of E.C. Row Expressway) Little River remains in a natural state.” I believe that this is inaccurate.
- Page 4.42. In Table 8, it references “North Townline Rd. (County Road 42)”. If referring to the road, it should be called County Road 42; if referring to the drain, it should be called North Townline Rd. Drain.
- Page 4.43. If referring to the road, it should be called County Road 42; if referring to the drain, it should be called North Townline Rd. Drain.
- Page 4.43. In last bullet, 7th Concession Road is not Walker Road (no ‘s’) north of Legacy Park Drive. South of Legacy Park Drive, although Walker Road is technically also the 7th Concession, no one refers to it that way. Delete “Road” when referring to the 6th Concession Drain.
- Page 4.44. Where is the junction of the 6th and 9th Conc Drains with a flow split?
- Page 4.45. Table 9 Where is the confluence of Little River and 9th Conc Drains? Refer to the road as County Road 42 (not North Townline Road).

4.4.1 Hydraulics Introduction

- Refer to it as 7th Street Drain Diversion, not "drainage"

4.4.2 Methodology

- Page 4.50, "entrance" should be singular for culvert entrances in last bullet of first group.
- Page 4.51, Table 12. Road name is "Forest Glade", not Glen.
- Page 4.61. refer to Sandwich South Employment Lands, not Windsor Annex Lands.

Check page numbering for Chapter 6. It starts on 6.12

6.1.1 Design Criteria

- for water quantity, what happens if IDF curves are updates?
- pedestrian paths - primary paths should be above 100 year water level and paved (i.e. asphalt). Elsewhere in the document, it recommends gravel pathways. Suggest that this is o.k. for secondary paths.

p6.13 “construct ponds and establish vegetation prior to pond being brought on-line”

Document should add text for option to construct temporary SWM facilities until such time that vegetation is established and permanent SWM is brought on-line.

6.1.2 Recommended Strategy

After Figure 14-16, it refers to corridors of 120 to 200m. This should be shown on a drawing. Figures 16 should be revised to conform with this.

p6.14 “The SWM corridor is approximately 200m wide for Upper Little River and 120m wide for all other tributaries” Text should be added that these corridors are reserved until such time that detailed design and report confirm size of facility; surplus lands will be released.

p6.15 “...all other development (including trails) must be located outside of this boundary to prevent flood damage.” Delete “including trails” – secondary trails are permitted within the 100year flood elevation.

Table 17. North Townline Road should read as County Road 42.

Second paragraph below refers to CN Rail Line. Are we recommending channel lowering outside of the study area (CN Rail - Via Tracks), or upstream of CPR?

Table 18 and paragraph below it. Road should read, Forest Glade.

Need Planning Level Cost Estimate in Chapter 6.

6.2.1.1 Wetlands

It is noted that “no provincially significant wetlands have been identified within the study area”. What about the wetlands at Windsor Airport?

Page 7.1, **Section 7.0** 1st paragraph. Should read “incidents”, not indecent.

7.4 Stormwater Pumping

In first paragraph, it states “Drawing 5 shows catchment areas where pumping is possible”. I don’t see how that is represented on the drawing. Drawing 5 only shows estimated depth of storm sewer below existing ground elevation.

7.6 Archaeology

Archaeology is miss-spelled in the report. What was outcome of Stage 1 assessment? Portions of the study area exhibit a moderate to high potential for the identification and recovery of archaeological resources – where? It also states Stage 2 is required. Add text regarding the timing. Where is Stage 2 assessment recommended? There are no maps or areas referenced.

8.1.1 Final Design

Last paragraph states “The preferred alternative is intended to be constructed in stages as needed for development to progress as shown on Drawing 3.” Drawing 3 shows the assumed future land uses; it does not address how development would progress.

Should include description of minimum requirements for functional/detailed design for staged development.

8.1.2 Permits and Approval Requirements

Archaeological Resources – it doesn’t specifically say to review the map & undertake a Stage 2.

8.2.1 Project Implementation Schedule

Following Council endorsement of this ESR, the report will be available for a 30-day public review period. If there are no concerns raised during the 30-day review period the project will have environmental clearance for final design and construction subject to receipt of all approvals and exemptions.

Don’t the remaining phases of the EA process need to be completed prior to implementation?

Anna

From: Tim Byrne [<mailto:TByrne@erca.org>]
Sent: Wednesday, November 05, 2014 4:43 PM
To: Brian Hillman; jayson.innes@stantec.com
Cc: Godo, Anna; Daniel Piescic
Subject: RE: Upper Little River SWM Study - Status

Brian- We have been provided a draft document that we have begun to review. We need to speak to Dan on some of the issues and there are some clarifications with the City requiring attention. We will be completing a review and providing some comments within a week. Sorry for the lack of attention of late to this file, there have been other brush fires requiring extinguishing.

From: Brian Hillman [<mailto:bhillman@tecumseh.ca>]
Sent: Wednesday, November 5, 2014 2:27 PM
To: Innes, Jayson (jayson.innes@stantec.com)
Cc: Godo, Anna (agodo@city.windsor.on.ca); Tim Byrne; Daniel Piescic
Subject: Upper Little River SWM Study - Status

Jayson:

We have not seen any activity on this file in some time. Can you advise of its status and projected timelines/outstanding actions for completion?

Perhaps a conference call with all affected parties can be convened if deemed necessary.

Thanks,


Brian.



Brian Hillman
Director, Planning and Building Services
bhillman@tecumseh.ca
Town of Tecumseh - 917 Lesperance Rd. - Tecumseh, ON. - N8N 1W9
Phone: 519-735-2184 ,131 Fax: 519-735-6712 - www.tecumseh.ca

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From: John Henderson <JHenderson@erca.org>
Sent: 2015-06-18 12:39 PM
To: Innes, Jayson
Cc: Tim Byrne; Godo, Anna; Brian Hillman
Subject: Upper Little River Draft Report
Attachments: Draft Report 2014-07-22 - ERCA Comments .docx

Good afternoon Jayson,

We have reviewed the Draft report for the Upper Little River Study and comments have been provided in Track Changes mode within the attached document. In addition, the following general comments/questions are provided:

1. Portions of the report refer to the entire study area while other portions that should relate to the entire area only seem to reference the SWM corridor. Please review.
2. The context of regional storm vs. regulatory storm vs. 1:100 year storm is not clear in some sections of the report. We should have a discussion on this matter to ensure that the content of the final report is accurate.
3. It appears that a substantial amount of additional information will be available in the Appendices. When will the Appendices be available for review? In many locations where Appendices are referenced in the report, it would be helpful to have related figures included in the body of the report.
4. Have the MNR Technical Guides been considered in the modelling analysis.

We anticipate that a conference call will be beneficial to discuss finalizing the report once you have had a chance to review our comments. We will contact you next week to schedule a conference call.

Regards,



John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)
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519-776-5209 ext. 246
Fax: 519-776-8688



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From: Forest, Flavio <fforest@dillon.ca>
Sent: 2015-10-07 6:34 PM
To: John Henderson
Cc: Daniel Piescic; Brian Hillman; Phil Bartnik; Innes, Jayson; Paul Donahue
Subject: Re: Upper Little River Study
Attachments: Tecumseh Hamlet Storm Outlets.pdf

John, further to my meeting with the Town of Tecumseh this morning, I would like to confirm the following comments on the Town's behalf as it relates to this study:

- The Town's requirement would be that the permanent pool elevations of the stormwater management facilities be established no higher than the invert elevation of the proposed storm sewer outlets to these facilities (we have attached a figure from previous communications with Stantec in 2012 that reconfirm these proposed storm sewer outlet sizes/flows/elevations for your reference). As discussed, this is required to avoid having the storm sewers surcharged between rainfall events. The Town appreciates that this will result in the need for pump stations to discharge the allowable flows from these stormwater management facilities to the downstream receiving watercourses, and would like to have these allowable discharge rates confirmed for each location.
- The Town would like ensure that the active storage requirements for these stormwater facilities be re-evaluated to confirm that there would be no negative impacts to the existing and proposed developments in the respective subdrainage areas. This includes an evaluation of whether there could be risks of surface flooding from hydraulic gradeline impacts for frequent storm events (1:5 year level of service) and for the 1:100 year major storm event. Active storage water levels for varying storm events should be confirmed and evaluated to ensure that they provide acceptable outlet conditions for the storm drainage systems.
- The Town requests that the physical dimensions (plan and profile) of these stormwater management facilities be reconfirmed to a more functional level of detail (and in light of the above criteria). As you may be aware, the Town of Tecumseh has been developing a Secondary Plan for the Tecumseh Hamlet area, which is now beyond the 90 percent stage of completion. It is critical that any adjustments that may be required to the land areas required to accommodate these facilities be more firmly/conservatively established so as not to compromise the Secondary Plan process and its implementation in the future.

We would be pleased to meet with you to review these comments in further detail.
Regards,

 **Flavio R. Forest, P.Eng.,**
Partner
Dillon Consulting Limited
3200 Deziel Drive Suite 608
Windsor, Ontario, N8W 5K8
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M - 519.791.2166
FForest@dillon.ca
www.dillon.ca

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On Tue, Oct 6, 2015 at 5:21 PM, Innes, Jayson <jayson.innes@stantec.com> wrote:

The permanent pool (PP) or normal water elevations reported in the model/table were based on flows draining by gravity to Little River. The ponds were set slightly above elevations in the Little River or nearby municipal drains.

The city prefers to keep the inlet pipe above the PP elevation. If it is below the PP, then pipe needs to have a flap gate and be dewatered between events. A gravity overflow is required in case of pump failure.

Where the storm sewers are well below the gravity PP elevation the idea is that the PP elevation would be lowered to accommodate the sewer and the flows pumped to a gravity outlet. We had looked at lowering the outlets somewhat, but there is often significant backwater from Upper Little River. The exact PP elevation difference between a gravity drained pond and a pump drainage pond depends on the detailed grading design which is not known at most locations and varies depending on the site. To try and manage this the conceptual pond block sizes were increased to accommodate additional grading.

From: Forest, Flavio [<mailto:fforest@dillon.ca>]
Sent: October-05-15 9:50 AM
To: John Henderson
Cc: Daniel Piescic; Innes, Jayson; Brian Hillman
Subject: Re: Upper Little River Study

Good morning John, we have received information from Stantec and are in the process of summarizing our thoughts. We have a meeting scheduled with the Town on Wednesday morning, and hope to be in a position to provide you with our comments shortly afterwards.

In general, the questions we raised with Jayson Innes and the resulting discussions we held back in 2012/2013 continue to be of concern, and they relate primarily to the elevation of the Tecumseh Hamlet storm sewer outlets to the proposed pond facilities and how this affects the operation/maintenance of the Town's storm sewer systems. It appears that the storm sewer outlets would be well below the pond's proposed permanent pool elevations (normal water levels), resulting in continuously submerged storm sewer systems. Also, the storm sewer outlets would be lower than the proposed bottom of the ponds, which would either suggest the need to lower the ponds (resulting in an increased pond footprint), or the need for lift station to pump the storm sewer flows up into the proposed ponds.

We understood that Jayson Innes had requested direction from the City on typical design standards for ponds in our region, but it does not appear that the proposed pond solutions reflect any changes that would address these concerns.

Please contact me if you would like to discuss this in further detail.

Regards,

Flavio

 **Flavio R. Forest, P.Eng.,**
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FForest@dillon.ca
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On Fri, Oct 2, 2015 at 5:14 PM, John Henderson <JHenderson@erca.org> wrote:

Hi Dan,

I am following up on your review of the Upper Little River Study. A developer in Windsor is very anxious to start moving forward with functional design in a portion the study area. It has the potential to get political. Has Dillon completed their review and have comments been sent to Stantec?

Please let me know when you have a minute.

Thank you,



John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)
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From: Daniel Piescic [<mailto:dpiescic@tecumseh.ca>]
Sent: August-18-15 4:24 PM
To: John Henderson
Cc: Innes, Jayson; Forest, Flavio (FForest@dillon.ca); Brian Hillman
Subject: RE: Upper Little River Study

John

I have reviewed but have also forwarded the document to Dillon to ascertain whether it is consistent with the Towns proposed Functional Service Plan for the Tecumseh hamlet secondary Plan as it relates to Storm Water management.

As I understand it ...Stantac has to provide some information to Dillon in order to complete the review. I also understand that Jayson has been on vacation and Dillon must wait until Jayson is back in order for him to liaise with Dillon and provide the needed information so that Dillon can complete their review.

Thank you

Dan

From: John Henderson [<mailto:JHenderson@erca.org>]
Sent: August-18-15 12:47 PM
To: Daniel Piescic
Cc: Innes, Jayson
Subject: Upper Little River Study

Hi Dan,

Further to our conference call a few weeks ago, I am following up to see if you have had a chance to review the draft report and provide comments to Stantec.

Please let me know.

Thanks,



John Henderson, P. Eng.

Essex Region Conservation Authority (ERCA)

360 Fairview Avenue West, Suite 311

Essex, Ontario N8M 1Y6

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Daniel Piescic P.Eng.

Director, Public Works and Environmental Services

dpiescic@tecumseh.ca

Town of Tecumseh - - Tecumseh, ON. - N8N 1W9

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From: John Henderson <JHenderson@erca.org>
Sent: 2016-01-27 12:34 PM
To: Daniel Piescic; Phil Bartnik; Brian Hillman; Innes, Jayson; Tim Byrne; Forest, Flavio
Subject: Upper Little River Meeting Summary - January, 27 2015
Importance: High

Good afternoon Everyone.

Thank you for participating in the conference call this morning to discuss Tecumseh's comments/concerns regarding the draft Upper Little River Study information that Stantec has been provided for review. The following highlights the main topics that were discussed:

- Tecumseh previously provided storm sewer invert information for future sewers that will discharge into the proposed ponds.
- Tecumseh wants their storm sewers to be dry after rainfall events.
- Tecumseh wants confirmation that the proposed pond storage elevations will not adversely impact the hydraulics of the existing upstream storm sewers.
- Stantec advised that the proposed storm sewer inverts and the existing related invert elevations of Little River are approximately equal. The ponds will therefore have to be pumped.
- Tecumseh prefers to pump the ponds with smaller pump stations to draw the normal water level below the sewer inverts versus having substantially larger pump stations to pump the storm sewers into the ponds.
- Stantec's current assessment has assumed that 70% to 80% of the pre-development 1:100 year flows can be released from the ponds into the downstream municipal drains.
 - Most municipal drains are designed to a 1:2 or 1:5 year storm for pre-development conditions.
 - The currently assumed pond release rates may adversely impact downstream lands.
 - The proposed pond outlet rates must consider the existing available capacity in the downstream municipal drains in accordance with the existing drainage by-laws. This would avoid having to undertake drainage improvements in portions of the municipal drains that are located within the City of Windsor. If this is not possible, due to pond area requirements, airport issues, etc., downstream municipal drain improvements may need to be considered.
 - Stantec will review the drainage report information they have and advise if they have sufficient information to estimate the existing available downstream drain capacities.
 - Tecumseh will review their files to determine if they have any additional information that will assist in estimating downstream drain capacities and forward any available information to Stantec (with a copy to ERCA).
 - Once the available downstream drain capacities are determined, Stantec will re-run their pond modeling with the revised release rates and determine the pond storage requirements.

- With the revised pond storage requirements and the future Tecumseh storm sewer inverts, Stantec will develop preliminary pond sizing requirements to confirm the anticipated land area needed for each pond. Currently, a 120 metre wide corridor has been proposed for the stormwater facilities. If this proposed corridor width cannot accommodate the pond area requirements, the municipal drains and other proposed services, alternatives will have to be considered.
- Airport constraints must be considered in the proposed pond configurations.
- Stantec advised that, provided that they have sufficient information to estimate the capacities of the downstream drains, it will take approximately a week to re-run the modeling and disseminate the results for further review/discussion.
- Tecumseh requires that all proposed stormwater facilities are located completely within the limits of the Town of Tecumseh.
- It was discussed that the study appendices are required in order for all partners to complete their review of the draft information. Stantec advised that it will take approximately a week to complete the draft appendices for distribution.
- There is significant development pressure in portions of the Upper Little River Study area. It is desired by all partners that this process proceeds as quickly as possible to finalize this study.

We trust that this summary captures the main topics that were discussed. If you have any questions or would like to provide clarification on this information, please do so by January 29, 2016.

Best regards,



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From: John Henderson <JHenderson@erca.org>
Sent: 2016-02-03 4:19 PM
To: Godo, Anna; Innes, Jayson
Cc: Tim Byrne
Subject: Upper Little River Meeting Summary - February 3, 2016

Importance: High

Good afternoon Anna and Jayson,

Thank you for participating in the conference call today to discuss Windsor's comments/concerns regarding the draft Upper Little River Study information that Stantec has provided for review. The following highlights the main topics that were discussed:

- Stantec's current assessment has assumed that 70% to 80% of the pre-development 1:100 year flows can be released from the ponds into the existing municipal drains.
 - Most municipal drains are designed to a 1:2 or 1:5 year storm for pre-development conditions.
 - The currently assumed pond release rates may adversely impact downstream lands without improvements to the existing watercourses.
 - It is likely that development will proceed prior to potential improvements to the existing municipal drains. The proposed pond outlet rates must consider the existing available capacity in the downstream municipal drains in accordance with the existing drainage by-laws. If this is not possible due to pond area requirements, airport issues, etc., alternative may need to be considered.
 - Stantec will review the drainage report information they have and advise if they have sufficient information to estimate the existing available downstream drain capacities.
 - Once the available downstream drain capacities are determined, Stantec will re-run their pond modeling with the revised release rates and determine the pond storage requirements.
 - With the revised pond storage requirements, Stantec will develop preliminary pond sizing requirements to confirm the anticipated land area needed for each pond. Currently, a 120 metre wide corridor has been proposed for the stormwater facilities. If this proposed corridor width cannot accommodate the pond area requirements, the municipal drains and other proposed services, alternatives will have to be considered.
 - Airport constraints must be considered in the proposed pond configurations.
 - Pond sizing will also be estimated with the downstream channels being improved to convey 70 % to 80 % of the pre-development 1:100 year flows. Under this scenario, the design parameters for the improved channels are required. This approach gives the City the option of undertaking channel improvements in order to reduce pumping times and/or pond sizes as larger portions of the area become developed.
- It was discussed that the study appendices are required in order for all partners to complete their review of the draft information. Stantec advised that it will take approximately a week to complete the draft appendices for distribution.
- Stantec is going to review the proposed Airport Solar Farm layout/area and adjust the modelling accordingly.

- There is significant development pressure in portions of the Upper Little River Study area. It is desired by all partners that this process proceeds as quickly as possible to finalize this study.

We trust that this summary captures the main topics that were discussed. If you have any questions or would like to provide clarification on this information, please do so by February 5, 2016.

Best regards,



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From: John Henderson <JHenderson@erca.org>
Sent: 2016-08-16 9:37 AM
To: Innes, Jayson
Cc: Godo, Anna; Daniel Piescic; Phil Bartnik; Richard Wyma; Tim Byrne
Subject: Upper Little River Study - Future Drain Capacity

Importance: High

Good morning Jayson,

In response to your question, we have contacted both Town of Tecumseh and the City of Windsor. Both partners have advised that they do not plan on improving the capacity of the existing drains other than routine maintenance to restore the drains to their original capacity as per the current drainage engineer's reports.

The existing drain capacity estimates that you have used in your modeling must be clearly presented in the final report. Some drains, such as the 6th Concession Drain (Windsor), will ultimately be re-located and the relocation must be size appropriately. Also, it is proposed that a new drain will be constructed along the future east-west arterial road (Windsor) which has been identified as a stormwater management corridor. At this time, we do not know what capacity you have used for this future channel in the modelling. It is unlikely that this channel will be designed to convey the pre 1:100 year flows. The ultimate capacity of this channel will most likely depend on the existing capacity of the unimproved Little River Drain at their confluence. Please advise on how this future east-west drainage channel has been addressed.

In addition to the above, we would also like to see a schedule for the completion of this project. There continues to be significant development pressure in this area and completion of this study is required to allow functional design studies to begin within each of the proposed catchment areas.



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From: Daniel Piescic [mailto:dpiescic@tecumseh.ca]
Sent: Monday, August 15, 2016 1:33 PM
To: John Henderson; Godo, Anna; Phil Bartnik
Cc: Tim Byrne; Forest, Flavio (FForest@dillon.ca)
Subject: RE: Upper Little River Study - Status

Hi John

The Town will not be improving the downstream drains to allow for larger release rates than originally designed other than to carry out repairs or maintenance to the drains to restore the drain's flow capacity to its original capacity as per the drainage engineers report.

Thank you
Dan

From: John Henderson [mailto:JHenderson@erca.org]
Sent: August-15-16 8:27 AM
To: Godo, Anna; Phil Bartnik; Daniel Piescic
Cc: Tim Byrne
Subject: RE: Upper Little River Study - Status
Importance: High

Good morning Everyone,

To date we have not received a response to our August 5, 2016 e-mail. Please respond so we can provide the appropriate information to Stantec to allow them to finalize the Draft report.

If you have any questions, please do not hesitate to contact me.

Thank you,



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From: John Henderson
Sent: Friday, August 5, 2016 4:45 PM
To: Godo, Anna; 'Phil Bartnik'; 'Daniel Piescic'
Cc: Tim Byrne
Subject: FW: Upper Little River Study - Status

Good afternoon Everyone,

As you are aware, Stantec has revised the proposed pond release rates to consider the existing carrying capacity of the receiving drains. As a result, pond sizes have increased, and when the area is fully developed, the post development flow to the Little River during major events will be less than existing conditions (assuming water can overland route to the Little River now).

Stantec's is asking if this is the ultimate condition for this area or will the downstream drains eventually be improved to allow for larger release rates. It is my understanding that some drains may be improved in the future (i.e. 6th Concession Drain – Windsor) but that this is likely not the case for most drains. Increasing future drain capacities to increase pond release rates would lead to smaller storage requirements, however, it also raises the following items:

- Upgrades to the downstream watercourses to convey larger flows will likely be very costly.
- It is anticipated that the ponds will have pumped outlets. Future increases to the pond release rates may require pump upgrades. If this is the intended path forward, the ultimate pond release rates should be considered in the subsequent functional design for each proposed pump station in the individual catchment areas.
- With development planned in this area for many years, the ponds will be fully established when all downstream improvements are completed.
- Based on the local flat topography and related limitations on overland routing, the existing watercourses likely do not convey the 1:100 year flows now.
- etc.

Has increasing the capacity of the existing receiving watercourses been considered for this area as development proceeds?

My initial thoughts are that, other than for one or two of the major receiving watercourses, it is unlikely that the watercourses would be improved to convey significantly more flow than their current theoretical design capacity. In addition, the reduction in flow rates to the Little River may benefit the downstream floodprone lands that are protected by the Little River Flood Control dykes by reducing downstream high water elevations.

Please let me know what the municipal intentions are with regard to the ultimate carrying capacities of the existing open drains that will provide outlet for the proposed ponds.

Thank you,



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From: Innes, Jayson [<mailto:jayson.innes@stantec.com>]
Sent: Thursday, August 4, 2016 5:01 PM
To: John Henderson

Cc: Tim Byrne; Richard Wyma
Subject: RE: Upper Little River Study - Status

I was adding the work we did this spring for Tecumseh where we looked at lowering the outflows from the SWM ponds to the capacity of the existing municipal drains, which was generally below existing conditions, so that any area can develop independently. I am unsure whether this is an ultimate condition or whether the flows will be allowed to increase up to existing once there are downstream improvements. With the lower municipal drain flows the 100yr flow is about 1/2 of existing and water levels are always within the channel. I was sure how to word this in the report.

Thanks

From: John Henderson [<mailto:JHenderson@erca.org>]
Sent: 2016-07-12 11:04 AM
To: Innes, Jayson
Cc: Tim Byrne; Richard Wyma
Subject: Upper Little River Study - Status
Importance: High

Good morning Jayson,

I am following up with you to get a status report on this project. We are again getting pressure from local politicians and developers who are anxious to get developments moving within the study area. As per Dillon's June 3, 2016 e-mail, it appears that Tecumseh concerns have been addressed, however, with larger ponds they have re-raised the concern about waterfowl and the airport. This may be more of a detailed design issue, however, we need to be confident that it can be adequately address during detailed design. Have you considered the impact of larger ponds in relation to airport concerns?

In addition, we still have not received the draft appendices for review/comment. When will they be available?

I have reviewed our files and the most current version of the Draft report that we have was included in your attached November 23, 2015 e-mail. Is this still the current version of the Draft report? If not, please provide your most recent draft report that will correspond to the appendices.

At this point in time, we need to set a schedule for the completion of this project.

Please contact me if you have any questions regarding the above.

Best regards,



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 **Daniel Piescic P.Eng.**
Director Public Works & Environmental Services
dpiescic@tecumseh.ca
Town of Tecumseh - - Tecumseh, ON. - N8N 1W9
Phone: 519-735-2184 , 140 Fax: 519-735-6712 - www.tecumseh.ca

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From: John Henderson <JHenderson@erca.org>
Sent: 2016-11-23 4:26 PM
To: Innes, Jayson
Cc: Godo, Anna; Daniel Piescic; Phil Bartnik; Brian Hillman; Richard Wyma; Tim Byrne; Forest, Flavio
Subject: Upper Little River Study Draft Oct 2016 - Review Comments
Attachments: Capture.JPG
Importance: High

Hi Jayson,

As per our phone conversation this morning, the City and ERCA have reviewed your October 2016 Draft report and related information for the Upper Little River Study. Comments are expected soon from the Town of Tecumseh.

All City/ERCA comments and supporting information have been uploaded to your ftp site (See attached for list of 13 uploaded files).

In addition to ERCA's uploaded comments, we also provide the following:

1. Appendix B – Correspondence includes letters received through project consultation. Some of these letters, such as correspondence from the Caldwell First Nation, were not in support of the study. How were these letters/concerns dealt with through the study process.
2. On page 1 of Appendix G, the Current PC-SWMM Model Proposed water elevations and flows in the first table do not match the Current PC-SWMM Model proposed water elevations and flows in the Proposed table at the bottom of the page. Please clarify.
3. Drawing 4 is titled Proposed Land Use Plan. This could be taken to infer that the EA process will somehow result in changes to the land use designations in the study area. The EA process is not the Planning Act process. Changes in land use designations require approval under the Planning Act and any such approvals are required to be consistent with the 2014 PPS. The information contained within the EA report is deficient in several aspects in that it is not considered a complete EIA which has demonstrated no negative impact. At what part of the process will the EIA be completed for this area, in accordance with PPS policies? This will require additional biological work as most of the data being used in this report is many years old. Perhaps Drawing 4 should be renamed Potential Future Land Use Plan (or similar) with a qualifier that it is subject to additional studies under the Planning Act process. This next Planning Act process step must be clearly identified in Section 8 of the report.
4. It is anticipated that functional design studies may be undertaken for individual subcatchments within the overall study area vs. one functional design for the entire study area. It is noted in the report that fisheries offsetting may be required for the proposed loss of some open drains. It is further noted that fisheries offsetting may be required in some subcatchments for loss of habitat in other subcatchments. This needs to be known during the subcatchment functional design. It appears that the future drain assessment/DFO review should likely be completed for the entire area as a next step before functional designs proceed. If this is correct, this should be clearly identified in Section 8 of the report.

As discussed, the City is hoping to present the final report to their Standing Committee in mid December. This would require the final report to be available by December 1, 2016. You advised that this was very aggressive, however, you would review the submitted comments (once they are all received) and then provide a schedule for completion.

If you have any questions, please do not hesitate to contact our office.



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From: Forest, Flavio <fforest@dillon.ca>
Sent: 2016-12-13 6:33 PM
To: John Henderson
Cc: Daniel Piescic; Phil Bartnik; Brian Hillman; Winterton, Mark; Godo, Anna; Richard Wyma; Tim Byrne; Innes, Jayson; Laura Herlehy
Subject: Re: Upper Little River Study Draft Oct 2016 - Review Comments
Attachments: Dillon Consulting Limited Mail - Re_ Upper Little River Update June 2016.pdf; ULR-info-2016-03-03 (2).pdf; Stantec SWM Little River Draft ESR Background.pdf

Hello John, on the Town's behalf, we have completed a review of the draft Upper Little River SWM EA report and appendices, including in relation to the comments we provided previously. We have attached copies of our previous correspondence and responses, which we would expect to be reflected in the final EA report:

- Email communications from January 27, 2016 to June 3, 2016 between the Town, ERCA and Stantec
- Related attachments that showed updated catchment areas, pond cross sections, pond footprints and pond design parameters.
- Proposed storm sewer inverts provided to Stantec, by Dillon, on Oct. 26, 2012.
- Project correspondence from Stantec, dated March 4, 2016 including parameters for SWM pond design, and parameter tables.
- Hydrology parameter tables from Appendix F of the October 2016 Little River SWM ESR Draft Report.

Our comments are as follows:

1. A factor of 4X has been applied to the required area at the level/elevation of the permanent pool surface. We understand that this is intended to allow for 3/4 of the permanent pool surface area to be 'dry' (ie. island areas that may be planted surfaces at/above the permanent pool elevation), thereby serving to create discontinuous/isolated permanent pool wet surface areas that would allow for circulation of flows.
 - We understand that this was the criteria previously used in re-sizing the ponds in the Tecumseh Hamlet, resulting in an increase from 120m to 150m in the SWM corridor widths (see attached prior emails and sketches).
 - Is this still the case, and if so, is this reflected in the Master Plan document to capture this change?
 - The area at the level/elevation of the permanent pool surface can have a significant influence on the footprint of the pond at the ground surface.
 - Has there been any functional designs completed to confirm that this factor of 4X is sufficient to achieve the required permanent pool depths/volumes for quality treatment, to support/sustain habitat, and discourage waterfowl?
 - We understand that the permanent pool depth is proposed to be 1.5m.
 - Is this sufficient, as we understand that depths of up to 4m may be preferred for sustainability of habitat.
2. Also arising from our earlier comments, Stantec provided the SWM Pond design parameter tables via email dated *March 4, 2016 (attached)*, which identified permanent pool elevations in that table that are 1.5 m to 2.1 m lower than the values that have now been included in the October 2016 Draft Master Plan (Appendix F).
 - As previously agreed, the SWM solution for the Tecumseh Hamlet area will require that the permanent pool elevation (normal water level) be at/below the storm sewer inverts discharging to these ponds.
 - Please reconfirm and update the Master Plan with the required normal water level elevations based on the proposed storm sewer outlet elevations identified for the Tecumseh Hamlet storm sewer system.
3. Active Storage Volumes and Pump Station Outlet Capacities
 - Each pond will require a pump station outlet to discharge to the existing downstream watercourse based on existing available drain capacity.
 - The tables in the Master Plan appear to reference orifices/weirs and do not appear to account for pump stations as outlets from these facilities. Please confirm.

- o Please confirm that the existing outlet drain capacities that have been outlined in the Master Plan and on which the allowable pump station outlet rates have been based, are acceptable to the City and ERCA and that no further studies would be required that might further reduce these pumping rates and further affect the required active storage volumes in these pond facilities.
 - o Is the increased 150m SWM corridor width sufficient to accommodate the required active storage volumes based on these allowable discharge rates.
 - o Have climate change considerations been factored into the required active storage volumes and the resulting hydraulic gradeline conditions in these facilities according to the Provincial Policy Statement and current understanding.
 - o Have the hydraulic gradline conditions of these facilities been assessed in terms of their impact on the performance of the storm sewer systems related to surface flooding, etc.
4. We also wish to point out that the "Ground Elevation of the Upstream Storm Sewer" provided in the Master Plan tables are more than 2.0 m higher than what our records indicate as the existing grades of the Tecumseh Hamlet lands (see attached comparison tables), which may affect the assumptions/results in the Master Plan.
 5. We have confirmed that the land use % breakdown has now been updated to reflect the Tecumseh Hamlet Secondary Plan information, as outlined in our previous comments.

As we indicated previously, the work that the Town has been undertaking in advancing the Secondary Plan for the Tecumseh Hamlet lands have allowed for more detailed information on the storm drainage requirements, but at the same time also require greater clarity on the impact of the proposed SWM facilities on the developable lands and road network that are being established by the Town. Please review our comments and let us know if you would like to meet in order to discuss this in further detail. Regards,



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M - 519.791.2166
FForest@dillon.ca
www.dillon.ca

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On Mon, Dec 12, 2016 at 11:29 AM, John Henderson <JHenderson@erca.org> wrote:

Good morning Flavio,

I know you and the Town were in an OMB hearing for the past two weeks and you are likely coming back to a substantial workload. It would be greatly appreciated if your review of the draft October 2016 Upper Little River Study report could take top priority.

If you have any questions, please do not hesitate to contact me.



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From: John Henderson
Sent: Tuesday, December 6, 2016 9:28 AM
To: 'Forest, Flavio' <fforest@dillon.ca>
Cc: 'Daniel Piescic' <dpiescic@tecumseh.ca>; 'Phil Bartnik' <pbartnik@tecumseh.ca>; 'Brian Hillman' <bhillman@tecumseh.ca>; Winterton, Mark <mwinterton@citywindsor.ca>; 'Godo, Anna' <agodo@citywindsor.ca>; Richard Wyma <RWyma@ERCA.org>; Tim Byrne <TByrne@ERCA.org>; Innes, Jayson <jayson.innes@stantec.com>
Subject: RE: Upper Little River Study Draft Oct 2016 - Review Comments
Importance: High

Hi Flavio,

Just following up to see how your review of the updated draft information is progressing. The Town's comments are required to allow Stantec to finalize the study. I met with Mark Winterton last Friday regarding some other matters and he requested an update on the status of the study. As previously noted, the City is anxious to finalize this document so it can be presented to their Standing Committee for approval. There are currently developer within the Windsor portion of the study area that want to move into functional design as well as the mega hospital project.

If there is anything we can do to assist you with your review, please let us know.

Best regards,



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From: John Henderson
Sent: Wednesday, November 23, 2016 4:36 PM
To: 'Forest, Flavio' <fforest@dillon.ca>
Cc: Daniel Piescic <dpiescic@tecumseh.ca>; Phil Bartnik <pbartnik@tecumseh.ca>; Brian Hillman <bhillman@tecumseh.ca>
Subject: FW: Upper Little River Study Draft Oct 2016 - Review Comments
Importance: High

Hi Flavio,

As discussed, please provide an ftp site and I will provide the updated draft documents for your review.



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From: John Henderson
Sent: Wednesday, November 23, 2016 4:26 PM
To: Innes, Jayson <jayson.innes@stantec.com>
Cc: 'Godo, Anna' <agodo@citywindsor.ca>; Daniel Piescic <dpiescic@tecumseh.ca>; Phil Bartnik <pbartnik@tecumseh.ca>; Brian Hillman <bhillman@tecumseh.ca>; Richard Wyma <RWyma@ERCA.org>; Tim Byrne <TByrne@ERCA.org>; 'Forest, Flavio' <fforest@dillon.ca>
Subject: Upper Little River Study Draft Oct 2016 - Review Comments
Importance: High

Hi Jayson,

As per our phone conversation this morning, the City and ERCA have reviewed your October 2016 Draft report and related information for the Upper Little River Study. Comments are expected soon from the Town of Tecumseh.

All City/ERCA comments and supporting information have been uploaded to your ftp site (See attached for list of 13 uploaded files).

In addition to ERCA's uploaded comments, we also provide the following:

1. Appendix B – Correspondence includes letters received through project consultation. Some of these letters, such as correspondence from the Caldwell First Nation, were not in support of the study. How were these letters/concerns dealt with through the study process.

2. On page 1 of Appendix G, the Current PC-SWMM Model Proposed water elevations and flows in the first table do not match the Current PC-SWMM Model proposed water elevations and flows in the Proposed table at the bottom of the page. Please clarify.

3. Drawing 4 is titled Proposed Land Use Plan. This could be taken to infer that the EA process will somehow result in changes to the land use designations in the study area. The EA process is not the Planning Act process. Changes in land use designations require approval under the Planning Act and any such approvals are required to be consistent with the 2014 PPS. The information contained within the EA report is deficient in several aspects in that it is not considered a complete EIA which has demonstrated no negative impact. At what part of the process will the EIA be completed for this area, in accordance with PPS policies? This will require additional biological work as most of the data being used in this report is many years old. Perhaps Drawing 4 should be renamed Potential Future Land Use Plan (or similar) with a qualifier that it is subject to additional studies under the Planning Act process. This next Planning Act process step must be clearly identified in Section 8 of the report.

4. It is anticipated that functional design studies may be undertaken for individual subcatchments within the overall study area vs. one functional design for the entire study area. It is noted in the report that fisheries offsetting may be required for the proposed loss of some open drains. It is further noted that fisheries offsetting may be required in some subcatchments for loss of habitat in other subcatchments. This needs to be known during the subcatchment functional design. It appears that the future drain assessment/DFO review should likely be completed for the entire area as a next step before functional designs proceed. If this is correct, this should be clearly identified in Section 8 of the report.

As discussed, the City is hoping to present the final report to their Standing Committee in mid December. This would require the final report to be available by December 1, 2016. You advised that this was very aggressive, however, you would review the submitted comments (once they are all received) and then provide a schedule for completion.

If you have any questions, please do not hesitate to contact our office.



John Henderson, P. Eng.

Essex Region Conservation Authority (ERCA)

360 Fairview Avenue West, Suite 311

Essex, Ontario N8M 1Y6

[519-776-5209 ext. 246](tel:519-776-5209)

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From: John Henderson <JHenderson@erca.org>
Sent: 2016-12-21 9:23 AM
To: Brian Hillman; Hicks, Wes; Forest, Flavio; Innes, Jayson; Dan Lebedyk; Mike Nelson
Cc: Tim Byrne; Daniel Piescic; Phil Bartnik; Godo, Anna
Subject: Upper Little River Study Conference Call - December 20, 2016
Attachments: 1992 - CNHS Report_OptimizeScannedPDF.PDF

Good morning Everyone,

Thank you for participating on the conference call yesterday.

Attendees:

| | |
|-------------------------|---------------------------|
| Brian Hillman | - Town of Tecumseh |
| Wes Hicks, P. Eng. | - City of Windsor |
| Flavio Forest, P. Eng. | - Dillon Consulting Ltd. |
| Jayson Innes, P. Eng. | - Stantec Consulting Ltd. |
| Dan Lebedyk | - ERCA |
| Michael Nelson | - ERCA |
| John Henderson, P. Eng. | - ERCA |

The following is provided as a brief summary of the main items discussed:

1. There is a need to have a better understanding of the fisheries offsetting that may be required as this area develops. Based on the conceptual land use plans, open waterways will be removed in certain subcatchment areas and potential habitat offsetting will be required in open waterways that are to remain in other subcatchment areas. Accordingly, offsetting will not always be available within the same subcatchment area. It should be identified that a next step following the completion of this report should be the development of a fisheries offsetting plan for the entire study area. The current study, however, should provide estimates of the habitat that will be lost (i.e. length of open drain, square footage of direct and indirect habitat, etc.), a list of the open drains proposed to be removed, a list of open drains to remain and the potential location of fisheries offsetting opportunities.
2. Plans are included that identify proposed land uses within the study area. Completion of this EA study does not result in changes in land uses. Other *Planning Act* processes must be followed to change land use designations. The following items were discussed:
 - The report must clearly identify and qualify the information that was used in reference to proposed land uses.
 - The report must clearly identify that future *Planning Act* processes are required to change current land uses.
 - The title of Drawing 4 should be modified so as to not imply that the proposed land uses are approved.
 - Based on the typical scope of an EA study, the current environmental investigations are not sufficient to support land use changes under a *Planning Act* process. It was recommended that

- 120 m offsets be shown around all natural features to indicate that additional environmental studies will be required within these areas to support future *Planning Act* approvals/processes.
- This EA covers a very large area. The report should identify that future EA Addendums may be required to address the ultimate land uses that may be proposed in this area.

3. Review of submitted City comments:

- The City raised a question about the municipal boundary between the City of Windsor and the Town of Tecumseh shown on Figure 3. The City will provide Stantec with a plan showing the legal boundary.
- Order of magnitude costs for the different options that have been considered are to be included in the final report.

4. Review of submitted Tecumseh comments:

- The Town raised a question regarding the proposed 1.5 m depth of the permanent pools and noted that pools up to 4 m may be preferred for habitat.
 - The proposed stormwater ponds are sewage treatment facilities. Typically, it is not recommended to encourage wildlife to use these facilities even though it is inevitable. It was agreed that the ponds should follow the design guidelines found in the MOECC Stormwater Management Planning and Design Manual (March 2003).
 - Stantec advised that the conceptual ponds have sufficient room to have a varying depth. This will be identified in the report.
- The Town noted a difference between the proposed pond normal water levels in the current report and in the previous report. This further raised the question about the size of the proposed SWM corridors.
 - Stantec advised that all ponds have been sized based on gravity outlets and that MOECC recommends a maximum depth for active storage. Stantec further advised that the same storage volume will be required for pumped ponds, however, the active storage will be at a lower elevation resulting in a larger top of the pond area. Stantec advised that this was considered when the SWM corridors were sized.
 - Stantec is to include a cross-section that shows the worst case scenario pond configuration that resulted in the proposed 150 m SWM corridor width. This cross-section should also show how the gravity versus the pump option was considered in the pond/corridor sizing.
 - The report should include a discussion on how the pond sizes and SWM corridors were developed for this project.
- The Town recommended that all comments received and the related responses should be included in the report Appendices. All were in agreement.
- The Town asked if any further studies would be required to confirm the available capacity in the downstream drains and the related pond outlet release rates that have been considered in this report.
 - Stantec confirmed that the downstream drain capacities have been based on information provided by the municipalities and standard *Drainage Act* procedures. This is considered a table top exercise since undertaking surveys of all drains to calculate actual drain capacities is beyond the scope of this EA. The assessment produced small allowable release rates for the proposed ponds. Modification to these release rates are not expected to have a significant impact on the storage volumes required. Finalization of the ultimate drain capacities and related pond release rates is required in future functional design studies.

- The Town asked how, or if, climate change has been considered and if increased intensity storms have been modelled.
 - Increased intensity storm have not been modelled.
 - The report should include a discussion on the need to consider climate change in the future functional design studies.
 - The report should identify how the current conceptual pond designs have the ability to be modified within the recommended SWM corridors to provide for additional storage that may be required under future climate change scenarios.
 - The report should identify that, in addition to traditional stormwater ponds, future functional designs studies may need to consider LID alternatives. A list of potential LID alternatives should be included and it should be noted that all LID's may not be suitable for the existing physical constraints within the Essex Region.
- The Town requested that the final report be as detailed/specific as possible with regard to infrastructure needs and criteria.
 - Based on existing functional design studies that have been completed by the Town, all of the Town ponds will be required to be pumped. This criteria is to be included in the final report.
 - The City does not have functional design studies for their portion of the study area, however, they have advised that all sewers are to be dry between storm events. The City also advised that they want pond normal water elevations to be at or below the sewer inverts versus sewer dewatering pumps. Accordingly, if functional design results in sewers that are lower than the inverts of the outlet drains, pumping will be required. The report should include this criteria.

5. Review of Submitted ERCA comments:

- ERCA raised a question about when the proposed improvements to the Upper Little River are required to be completed.
 - Stantec advised that the improvements are required to improve existing flood elevations in the Little River. With the proposed pond restrictions, development should not worsen the existing conditions if the improvements are not completed immediately. These channel improvements are also planned to address some of the anticipated fisheries offsetting needs. Accordingly, the need to undertake the improvements may be driven by when certain sections of the area are developed. The schedule for undertaking the improvements to the Upper Little River channel requires further discussion with the City.
 - The cross-sections of the proposed channel improvements for the Upper Little River, the 6th Concession Drain, etc. that were used in the hydraulic model should be included in the final report. This will provide the minimum channel dimensions required for flow conveyance and storage. All fisheries offsetting requirements would be an expansion of the minimum hydraulic channel dimensions.
- Stantec requested a copy of the 1992 City of Windsor Candidate Natural Heritage Site Biological Inventory Report. A copy of this report is attached to this e-mail.

The above provides a summary of the comments that were discussed during the conference call. Other comments were submitted that were not discussed. It was agreed that, prior to preparing the final report, Stantec will prepare a table that includes all of the comments provided and their proposed responses/method of addressing the comments for all to review. Once all parties have agreed with Stantec's proposed responses/method of addressing the comments, Stantec will prepare the final report.

It is desired by all parties to have the final report completed by the end of January 2017.

Please advise me of any on omissions or clarifications immediately.

Thank you,



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From: Dan Lebedyk <DLebedyk@erca.org>
Sent: 2017-01-30 11:30 AM
To: John Henderson; Tim Byrne; Mike Nelson
Cc: Richard Wyma
Subject: RE: Upper Little River Study - REVIEW REQUESTED

1. I have reviewed the revised document and find that the previous comments provided have been satisfactorily addressed.
2. Of specific note is the recognition within the document that an Environmental Impact Assessment (EIA) will need to be completed – Development within 120 m of an existing natural feature will require an EIA demonstrating no negative impacts in support of future Planning Act approvals and process.
3. Under section 6.2.1.6 Human Impacts, the revised report states the following:

“The proposed development, through the implementation of additional trails and new development, has the potential to increase impacts to natural features from the introduction of human activity to an area that currently doesn't experience these anthropogenic disturbances. Potential mitigation measures include well-marked walking trails to discourage creation of informal trails, signage to educate trail users about the sensitivity of the natural features in the area, and trash receptacles placed at intervals along the trails to discourage littering. Other mitigation measures may be required to show no negative impacts from residential intensification on wildlife populations.”

The above potential impact due to human population intensification of the area is not specifically addressed anywhere else in the report. This issue will need to be adequately addressed within any future EIAs for any land use designation changes in/around any existing natural features.

4. Within section 4.1.2, the Essex Region Natural Heritage System Strategy (ERCA and County of Essex, 2013) is now referenced. Within the references section however, the citation is not included. This study should be properly included within the references section as follows:

Essex Region Conservation Authority. 2013. Essex Region Natural Heritage System Strategy - (An Update to the Essex Region Biodiversity Conservation Strategy). Essex, Ontario. 319 pages.

Please do not hesitate to contact me if you should have any questions or require any additional information.

Thank you.

Sincerely,



DAN LEBEDYK
Biologist/Ecologist
Essex Region Conservation Authority
360 Fairview Avenue West, Suite 311 • Essex, Ontario • N8M 1Y6
P. 519-776-5209 x 409 • F. 519-776-8688
dlebedyk@erca.org www.essexregionconservation.ca

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From: John Henderson
Sent: Friday, January 27, 2017 5:16 PM
To: Tim Byrne <TByrne@erca.org>; Dan Lebedyk <DLebedyk@erca.org>; Mike Nelson <MNelson@erca.org>
Cc: Richard Wyma <RWyma@erca.org>
Subject: Upper Little River Study - REVIEW REQUESTED
Importance: High

The updated report and related information can be found at the following location:

[\\pdcerca\company\watershed management\Studies\ENVIRONMENTAL ASSESSMENTS\PROVINCIAL\Class EA\Municipal Class EA \(MEA\)\Windsor\Upper Little River SWM Study\Draft Report January 27, 2017](\\pdcerca\company\watershed management\Studies\ENVIRONMENTAL ASSESSMENTS\PROVINCIAL\Class EA\Municipal Class EA (MEA)\Windsor\Upper Little River SWM Study\Draft Report January 27, 2017)

Please review in relation to your previously submitted comments ASAP. The City needs the final report completed early in the week of January 30, 2017 in order to get it on the agenda for the February Standing Committee Meeting.

Thank you,



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From: Innes, Jayson [<mailto:jayson.innes@stantec.com>]
Sent: Friday, January 27, 2017 4:42 PM
To: John Henderson <JHenderson@erca.org>
Cc: Tim Byrne <TByrne@erca.org>; Mike Nelson <MNelson@erca.org>; Richard Wyma <RWyma@erca.org>; Godo, Anna <agodo@citywindsor.ca>; Winterton, Mark <mwinterton@citywindsor.ca>; pbartnik@tecumseh.ca; billman@tecumseh.ca; dpiescic@tecumseh.ca
Subject: RE: Upper Little River Study - Status

I have put a copy of the revised report on the following FTP site. The list of recent comments is located in the comment directory and will explain the changes that have been made.

Please let me know if you have any additional comments.

Thanks

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Login name: s0210142755

Password: 7230313

Disk Quota: 2GB

Expiry Date: 2/10/2017

From: John Henderson [<mailto:JHenderson@erca.org>]

Sent: 2017-01-19 10:00 AM

To: Innes, Jayson <jayson.innes@stantec.com>

Cc: Tim Byrne <TByrne@erca.org>; Mike Nelson <MNelson@erca.org>; Richard Wyma <RWyma@erca.org>; Godo, Anna <agodo@citywindsor.ca>; Winterton, Mark <mwinterton@citywindsor.ca>

Subject: RE: Upper Little River Study - Status

Good morning Jayson,

Please push your environmental group. We need to get this completed ASAP.



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From: John Henderson <JHenderson@erca.org>
Sent: 2017-02-16 4:05 PM
To: Innes, Jayson
Cc: Winterton, Mark; Godo, Anna; Daniel Piescic; Brian Hillman; Phil Bartnik; Richard Wyma; Tim Byrne; Dan Lebedyk; Mike Nelson
Subject: Upper Little River Study - Comments on January 27, 2017 Submission
Attachments: Draft Report 2017-01-27 J Henderson Comments.docx; RE: Upper Little River Study - REVIEW REQUESTED; RE: Upper Little River Study - REVIEW REQUESTED; Draft Report 2017-01-27 - AMG Comments.pdf

Importance: High

Good afternoon Jayson,

ERCA and the City have reviewed your January 27, 2017 Draft report and related information. The Town of Tecumseh anticipates having their review completed by mid next week. Attached are comments from ERCA and the City. The following are additional comments are from ERCA related to the response matrix, drawings, figures and appendices:

1. The following comments relate to your responses provided in the response matrix. The comment numbers relate to the original comment numbers.
 - Comment 1 – Section 6.3 does not provide cost estimates for all of the alternative development solutions that were considered. It appears that the provided comparison relates to ponds with pre 1:100 year release rates vs. release rates based on available drain capacity. Order of magnitude costs (or something similar) should be provided for all of the alternatives that were considered (i.e. do-nothing, water quality and erosion control only, communal stormwater facilities, on-line quantity control with local quality and erosion control, etc.).
 - Comment 8 – All personal information has not been removed from Appendix B.
 - Comment 61 – If it is allowed by the original authors, we would suggest that all Stantec, Waldron and Ecoplan field investigations/reports should be included in an Appendix.
 - Comments 90 and 137 – A very basic cross-section is provided in Appendix G. It is our understanding that this is the minimum channel improvement that is required to produce the proposed future high water elevations and that any required fish habitat offsetting would be an expansion to this cross-section. While dimensions could be approximately scaled from the provided cross-section, a more detailed cross-section with channel dimensions should be included. A plan should also be included showing where this cross-section has been used in the modelling.
2. On Figure 6 there is only one site on the `Gouin Drain identified as being an isolated “Fish Habitat Location”. This seems unusual. Other reaches are identified as “Fish Habitat Reaches”. Is the Gouin Drain downstream of this location a “Fish Habitat Reach”?
3. On Figure 13 a large pond is shown near Hennin Street. This pond has been completely filled in.
4. Figure 14 provides existing and proposed floodplain elevations. Are the proposed elevations based on development with existing channel conditions or proposed channel improvements?
5. On Figure 17, numerous sub-catchment ponds appear to be shown within catchment boundaries. Catchments 2060 and 2095 appear to conceptually have 8 ponds. If this is correct, these catchment areas are not that large and 8 ponds seems unreasonable for a conceptual depiction. Please provide some clarification for this Figure.

6. On Figure 18 there are 3 red lines in the bottom left corner of the sketch. It appears that these lines are likely from the original plan where this detail was taken from. If so, the 3 red lines should be removed.
7. All personal information has not been removed from Appendix B. Personal information exists for Ms. Sheila Roberts, letters from 882885 Ontario Limited contain signatures and the letter from Monteith Brown Planning Consultants contains personal information. Please review Appendix B and make sure all personal information is removed.

If you have any questions, please contact me.



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From: Mike Nelson <MNelson@erca.org>
Sent: 2017-02-16 3:13 PM
To: John Henderson
Subject: RE: Upper Little River Study - REVIEW REQUESTED

Hi John,

I have compared the updated report, appendices, drawings and figures to the comments I put forward and the associated responses in the 8002-2017 matrix and offer the following:

Comment #:

- 13 – comment addressed satisfactorily.
- 14 – comment addressed satisfactorily.
- 15 – Section from section 3.5.5 is pretty limited but may reflect the direction from the City and Town – that is, future applications will be required to change the zoning and official plan designations separate from the outcomes of this study. Section 8.1.1 details appropriately that future land use changes must meet all requirements of the Planning Act prior to implementation. Regarding the changes to section 8.1.2 I am not totally supportive of all of the statements made, but the process to outline the required studies for other processes (i.e., Planning Act, other Class EA, DFO process, etc.) should be identified through appropriate consultation with those other processes.
- 16 – comment addressed satisfactorily.
- 17 – comment addressed satisfactorily.
- 18 – comment addressed satisfactorily. I recommend that the data collected as part of this report be submitted to the NHIC as a condition of completion of the report. This would be in keeping with our contractual obligations between the ERCA and the NHIC (Dan Lebedyk is the signing authority).
- 19 – comment addressed satisfactorily.
- 20 – ok
- 21 – ok. Per previous comment (18 – this data should be submitted to the NHIC to ensure the appropriate treatment at the Planning Act, other EA, and/or REA processes.
- 22 – ok.
- 23 – comment looks to be ok. Per previous comments regarding submission of ‘raw’ results to the NHIC as a condition of completion of the report – especially if SAR or SWH was documented. Fish records will typically have been submitted to the MNR as part of the License to Collect Fish for Scientific Purposes conditions.
- 24 – ok.
- 25 – ok.
- 26 – ok.
- 27 – ok
- 28 – ok
- 29 – text additions in section 8.1.1 is satisfactory.

Page 4.13 –“Lake Sinclair” should be replaced with either Lake St. Clair or Lake Saint Clair.

- 115 – ok
- 116 – ok.
- 117 – ok

118 – ok
119 – ok
120 – ok
128 – ok.
136 – ok
137 – ok
138 – ok

Thanks,
Mike

From: John Henderson
Sent: Friday, January 27, 2017 5:16 PM
To: Tim Byrne <TByrne@erca.org>; Dan Lebedyk <DLebedyk@erca.org>; Mike Nelson <MNelson@erca.org>
Cc: Richard Wyma <RWyma@erca.org>
Subject: Upper Little River Study - REVIEW REQUESTED
Importance: High

The updated report and related information can be found at the following location:

[\\pdcerca\company\watershed management\Studies\ENVIRONMENTAL ASSESSMENTS\PROVINCIAL\Class FA\Municipal Class EA \(MEA\)\Windsor\Upper Little River SWM Study\Draft Report January 27, 2017](\\pdcerca\company\watershed management\Studies\ENVIRONMENTAL ASSESSMENTS\PROVINCIAL\Class FA\Municipal Class EA (MEA)\Windsor\Upper Little River SWM Study\Draft Report January 27, 2017)

Please review in relation to your previously submitted comments ASAP. The City needs the final report completed early in the week of January 30, 2017 in order to get it on the agenda for the February Standing Committee Meeting.

Thank you,



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Sent: Friday, January 27, 2017 4:42 PM
To: John Henderson <JHenderson@erca.org>
Cc: Tim Byrne <TByrne@erca.org>; Mike Nelson <MNelson@erca.org>; Richard Wyma <RWyma@erca.org>; Godo, Anna <agodo@citywindsor.ca>; Winterton, Mark <mwinterton@citywindsor.ca>; pbartnik@tecumseh.ca;
bhillman@tecumseh.ca; dpiescic@tecumseh.ca
Subject: RE: Upper Little River Study - Status

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Please let me know if you have any additional comments.

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Login name: s0210142755
Password: 7230313
Disk Quota: 2GB
Expiry Date: 2/10/2017

From: John Henderson [<mailto:JHenderson@erca.org>]
Sent: 2017-01-19 10:00 AM
To: Innes, Jayson <jayson.innes@stantec.com>
Cc: Tim Byrne <TByrne@erca.org>; Mike Nelson <MNelson@erca.org>; Richard Wyma <RWyma@erca.org>; Godo, Anna <agodo@citywindsor.ca>; Winterton, Mark <mwinterton@citywindsor.ca>
Subject: RE: Upper Little River Study - Status

Good morning Jayson,

Please push your environmental group. We need to get this completed ASAP.



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From: John Henderson <JHenderson@erca.org>
Sent: 2017-03-06 9:44 AM
To: Innes, Jayson
Cc: Daniel Piescic; Phil Bartnik; Brian Hillman; Winterton, Mark; Godo, Anna; Richard Wyma; Tim Byrne; Mike Nelson; Dan Lebedyk
Subject: Upper Little River Study - Comments
Attachments: 2017 Response Matrix Upper Little River MP Tecumseh Comments March 1 2017.pdf
Importance: High

Good morning Jayson,

Please find attached comments from the Town of Tecumseh. In addition, we have reviewed these comments with the Town and the following items are provided as additional clarification points to be read in conjunction with the Town comments.

1. Does this document satisfy Schedule B EA requirements? If not, what is needed? The Town needs assurances because they are planning to move forward with Secondary Plans. If Schedule B requirements are not satisfied, they will not be able to commence Secondary Plans. What Approach number is satisfied under the EA process. It appears to be Approach 1, but the Town believes this study should at least satisfy Approach 2.
2. Climate Change – Additional generic information has been added regarding climate change. Dillon and the Town are concerned that the document does not provide enough information/analysis to demonstrate an appropriate duty of care regarding this matter. The Town suggests that a climate change analysis should be completed on one of the proposed subcatchment areas to determine if the proposed corridor is sufficient to provide for a potentially larger pond due to climate change. Completion of this analysis could then be used to further support for the proposed SWM corridor widths. This analysis could also set out a framework for future climate change assessments during subcatchment functional and detailed design processes. The Town wants it clearly identified that climate change must be addressed in future subcatchment functional and detailed designs.
3. Fisheries Habitat Offsetting – Appendix F contains a Table “Summary of Proposed Municipal Drain Modifications”. This is an important piece of information which should be included in the main body of the report. This table identifies where habitat will be lost and where there is potential for enhancement opportunities. At this time, it is unclear if Tecumseh can address their enhancement needs in waterways situated within the Town limits or if development in Tecumseh will also require enhancements in City waterways. While this may not be known until the recommended fisheries offsetting study is completed, the report should identify these types of issues. Could fisheries offsetting needs impact the functionality of the recommended alternative? It should be confirmed that sufficient investigations have been undertaken through this EA process to ensure that fisheries offsetting needs can be satisfied through functional/detailed design. The report should include some typical fisheries offsetting techniques that could be considered in the future fisheries offsetting study. It would also be helpful if the report recommended a scoping strategy for the future fisheries offsetting study.
4. Conceptual vs. Functional – The recommended alternative should provide functional scenarios that will be further detailed in the next step subcatchment functional/detailed designs. The word conceptual could be taken to mean that the functionality of the scenario has not been confirmed. We believe that this is mainly an issue with terminology, however, it must be clear in the report that the solution is functional. The use of these words in the report must be reviewed and modified as required.
5. It is identified in the report that the ponds have been sized with a 1.5 m permanent pool and that the SWM corridors provide room for additional depth if required. This was added to address the Town’s concern that they may want deeper ponds based on their desire to make these facilities amenities within their parkland

features. The Town wants it stated in the report that they anticipate requiring deeper permanent pools for their ponds.

6. The study area includes portions of Tecumseh on the south side of Highway 401. The report must clearly identify the criteria that is applicable to future development in this area.
7. It was previously identified that there appeared to be a datum issue between the storm sewer invert elevations provided by Tecumseh and the ground elevations that were used by Stantec for this study. Was this datum difference resolved and is there an impact on the anticipated HGL’s in the upstream Tecumseh storm sewers?

We have also received the following additional comments from the City of Windsor:

“Looking at the PIC material, it appears that we have published a variety of names for this study:

1. *Notice of Study Commencement – Upper Little River Watershed Master Drainage Plan & Stormwater Management Plan*
2. *PIC #1 & 2 notices – Upper Little River Watershed Master Drainage Plan & Stormwater Management Plan*
3. *PIC #1 & 2 display boards – Upper Little River Stormwater Master Plan Class Environmental Assessment*
4. *Draft report cover pages in July 2014, Sept. 2016, & Jan 2017 – Draft Upper Little River Master Plan Environmental Assessment*

I think that the name of the study should match either the notices or the display boards. At least it should include a term such as watershed, drainage, or stormwater.”

Please ensure that all of these comments, in addition to the previously submitted comments, are addressed in the final report. Due to the substantial review that has already occurred, we do not believe that another round of review is required. If you have any questions regarding the comments, please contact us before finalizing the report to ensure that the revised final report satisfies the questions raised.

Thank you,



John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)
360 Fairview Avenue West, Suite 311
Essex, Ontario N8M 1Y6
519-776-5209 ext. 246
Fax: 519-776-8688



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From: Forest, Flavio [<mailto:fforest@dillon.ca>]
Sent: Thursday, March 2, 2017 1:13 PM
To: John Henderson <JHenderson@erca.org>; Tim Byrne <TByrne@erca.org>; Dan Lebedyk <DLebedyk@erca.org>; Mike Nelson <MNelson@erca.org>
Cc: Phil Bartnik <pbartnik@tecumseh.ca>; Daniel Piescic <dpiescic@tecumseh.ca>; Tecumseh, Town of <bhillman@tecumseh.ca>; Anna Godo <agodo@city.windsor.on.ca>
Subject: Re: FW: Upper Little River Study - Comment Table

Hi John, on behalf of the Town of Tecumseh, we are hereby attaching our comments on the summary table that was provided.

Please contact us should you have any questions or wish to review this in further detail.

Regards,

**Flavio Forest**
Partner
Dillon Consulting Limited
3200 Deziel Drive Suite 608
Windsor, Ontario, N8W 5K8
T - 519.948.4243 ext. 3233
F - 519.948.5054
M - 519.791.2166
FForest@dillon.ca
www.dillon.ca

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On Fri, Jan 27, 2017 at 1:56 PM, Phil Bartnik <pbartnik@tecumseh.ca> wrote:

Flavio,
Can you please review on behalf of the Town.
Thank you.

Phil Bartnik, P.Eng., PMP
Manager Engineering Services
The Corporation of the Town of Tecumseh

From: John Henderson [mailto:JHenderson@erca.org]
Sent: January-27-17 8:26 AM
To: 'Godo, Anna'; Daniel Piescic; Phil Bartnik; Brian Hillman; Tim Byrne; Dan Lebedyk; Mike Nelson
Cc: Winterton, Mark; Richard Wyma
Subject: Upper Little River Study - Comment Table
Importance: High

Good morning Everyone,

Please find attached Stantec's table showing the submitted comments and related responses.

Stantec has advised that a revised report will be provided today.

As per our last conference call, Windsor Administration is planning to get this report to their February Standing Committee meeting for approval which means they need to submit it next week to ensure it gets to the February meeting.

Please review the attached and forthcoming information ASAP.

If you have any questions, please do not hesitate to contact me.

[[cid:image002.jpg@01D27877.0D6F3940](#)]

John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)

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[logo]<<http://www.tecumseh.ca/files/exchange/logo.gif>> Phil Bartnik
Manager, Engineering Services
pbartnik@tecumseh.ca
Town of Tecumseh - 917 Lesperance Rd. - Tecumseh, ON. - N8N1W9
Phone: [519 735-2184](tel:519-735-2184) ,148 Fax: [519 735-6712](tel:519-735-6712) - www.tecumseh.ca

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From: John Henderson <JHenderson@erca.org>
Sent: 2017-04-28 10:37 AM
To: Innes, Jayson
Subject: RE: Upper Little River Cross sections
Attachments: 2017-04-28-ULR-wider cross sections.pdf
Importance: High

Hi Jayson,

The cross-sections look good for the ponds and channel, however, they do not show the full corridor. City and Town Administration are going to want to see the full corridor width and why it is needed.

I think we should be including at least 6 m for maintenance from the edge of the corridor to the start of the pond. For channel maintenance, we also will likely need more than 1 m between the pond and channel. Please refer to the attached mark-ups on Figures 13B and 14B. If we show 6 m on each side of the cross-section, and 6 m between the pond and channel, we will almost be at the 200 m width. The trail system could be located within the 6 m maintenance corridors.

We also need a cross-section of the 250 m wide SWM corridor that runs along Little River. The property owner that is raising a concern is along Little River.

Please let me know if it will be possible to get this today.

Thanks,



John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)
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From: Innes, Jayson [mailto:jayson.innes@stantec.com]
Sent: Friday, April 28, 2017 10:06 AM
To: John Henderson <JHenderson@erca.org>
Subject: Upper Little River Cross sections

Attached are the cross sections for the 24-hr events that the corridor width is based on. The ?A figures are for the 24 hour event and the ?B are for 120 % of the 24 hour event (accounting for climate change).

I think this is what you are looking for your meeting, but if I am missing something let me know.

Thanks

Jayson Innes, M.A.Sc., P.Eng.

Senior Water Resources Engineer
Stantec
100-300 Hagey Boulevard, Waterloo ON N2L 0A4
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jayson.innes@stantec.com



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From: Phil Bartnik <pbartnik@tecumseh.ca>
Sent: 2017-05-17 4:21 PM
To: John Henderson; Innes, Jayson
Cc: Godo, Anna; Daniel Piescic; Brian Hillman; Tim Byrne; Chad Jeffery
Subject: RE: Upper Little River Study
Attachments: dwg4-160311265_C-SD-land use.pdf

Importance: High

Jayson,
The Town also has some serious concerns with the land use designation of "Employment" lands within the Oldcastle Hamlet (and surrounding area) south of Highway 401. We understand that this was used primarily for the Stormwater Design and does not reflect the actual (or future) zoning. However based on our recent history with OMB Hearings, as well as a current OMB Hearing for land within this area, the Town would like to further discuss having the Figure, associated text within the report, and references to 'Employment Lands' within calculations and/or appendices revised to something more appropriate.

I would like to suggest we schedule a teleconference at your earliest convenience to discuss these final revisions prior to finalizing the ESR.

Regards,

Phil Bartnik, P.Eng., PMP
Manager Engineering Services
The Corporation of the Town of Tecumseh

From: John Henderson [mailto:JHenderson@erca.org]
Sent: May-17-17 12:22 PM
To: Innes, Jayson
Cc: Godo, Anna; Daniel Piescic; Phil Bartnik; Brian Hillman; Tim Byrne
Subject: Upper Little River Study
Importance: High

Hi Jayson,

As per our discussion last week, we were anticipating receiving the cost estimates for the alternatives and the typical pond plan views that were to accompany the cross-section that were provided last week. Please send this information as soon as possible.

In addition, there are a couple of minor comments on the attachments that need to be addressed.

FYI – I will be presenting the study to Tecumseh Council next Tuesday. It will be similar to the Windsor presentation.

If you have any questions, please contact me.



John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)
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Phil Bartnik
Manager, Engineering Services

pbartnik@tecumseh.ca
Town of Tecumseh - 917 Lesperance Rd. - Tecumseh, ON. - N8N1W9
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From: John Henderson <JHenderson@erca.org>
Sent: 2017-05-29 4:58 PM
To: Godo, Anna; Brian Hillman; Flavio Forest; Innes, Jayson
Cc: Dan Piescic (dpiescic@tecumseh.ca); Phil Bartnik; Tim Byrne
Subject: ULR Conference Call Summary - May 25, 2017
Attachments: Town Consolidated Map for Upper Little River EA, 2017 Model (1).pdf

Good afternoon Everyone,

The following is provided as a brief summary of the main items that were discussed during the conference call last Thursday:

- There was significant discussion on draft Drawing No. 4 – Proposed Development Plan
 - Windsor is in agreement with the land uses that were used for modelling purposes for the lands within the City limits.
 - Tecumseh is concerned with the land uses that were used for some of the areas within the Town limits.
 - Lands south of Hwy 401 were assumed as Employment lands for modeling purposes. The Town Official Plan does not show most of these lands as future Employment lands and the Town does not anticipate them being developed. The existing and future conditions for the majority of these existing agricultural lands should be agriculture as per the Town Official Plan. Some areas in the Oldcastle Hamlet are designated as residential in the Town Official Plan but on Drawing No. 4 they are shown as Employment lands. After substantial discussion, it was agreed that the Town would provide a map showing the Official Plan land uses (attached) and that Stantec would revise Drawing No. 4 and the modelling to correspond to the Official Plan land designations.
 - The above approach is also to be followed for sub-catchment 2145 which shows no proposed development on Drawing No. 4 but was assessed with future low density residential development in the modelling (refer to Appendix F). As per the attached Town map, future development is not planned for sub-catchment 2145.
 - The title of Drawing No. 4 should be changed to clearly identify that the assumed land uses were for modelling purposes. A qualifier may also be needed.
- An additional drawing should be developed showing the current existing land use designations for all lands within the study area.
- The Town is concerned that the level of detail provided with regard to the SWM corridors and related pond configurations may not satisfy the requirements of a Schedule 'B' Class EA. Drawing No. 3 shows the proposed SWM corridors with proposed widths, but the location and extent of these corridors is not clearly identified. It was discussed that, in addition to Drawing No. 3, Drawing No. 3 should be split into 3 or 4 sub drawings that include road names, existing drain names/locations, additional dimensions locating the SWM corridors from known features, etc. The purpose of the additional drawings is to clearly document where the SWM corridors are located. Stantec is also to confirm that this additional information, along with the pond cross-sections, pond plan views and the supporting information in the report/appendices, provides enough detail to satisfy the requirements of a Schedule 'B' Class EA.

- Draft pond/channel cross-sections were provided showing ponds with gravity outlets. Both the City and Town have advised that the storm sewers draining to the ponds are to be dry after storm events. Due to the flat topography in the study area, the ponds will need to be pumped. As a result, the pond/channel cross-sections showing gravity pond outlets should not be included in the final report.
- Stantec provided draft order of magnitude costs for the 6 alternatives. These numbers have not yet been reviewed by the partners, however, it was noted that 5 alternatives had the same cost. It is understood that these are high level cost estimates, however, the differences between the options should result in varying costs. Stantec advised that they would review the estimates and make them more alternative specific. The Town indicated that they would see if they have any recent cost estimates for similar undertakings that could be used for comparison purposes to ensure the numbers are consistent with local works.
- Stantec advised that they will provide a matrix of the last comments received and their proposed responses. The responses will also identify which sections of the report have been modified to address the comments.
- Stantec will provide one more draft report for review.

If you have any questions, or wish to add to or clarify the above summary points, please respond to me by the end of the day on June 1, 2017.

Best regards,



John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)
360 Fairview Avenue West, Suite 311
Essex, Ontario N8M 1Y6
519-776-5209 ext. 246
Fax: 519-776-8688



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From: Enrico De Cecco [mailto:edececco@tecumseh.ca]
Sent: Monday, May 29, 2017 10:46 AM
To: Innes, Jayson (jayson.innes@stantec.com) <jayson.innes@stantec.com>; John Henderson <JHenderson@erca.org>; FForest@dillon.ca; Phil Bartnik <pbartnik@tecumseh.ca>; Daniel Piescic <dpiescic@tecumseh.ca>
Cc: Brian Hillman <bhillman@tecumseh.ca>
Subject: Town Official Plan Map for the Upper Little River SWM Study

Hello to all,
Please refer to the attached PDF document.
Regards,
Enrico



Enrico De Cecco
Junior Planner, MCIP, RPP

edececco@tecumseh.ca
Town of Tecumseh - 917 Lesperance Rd. - Tecumseh, ON. - N8N 1W9
Phone: 519-735-2184 ,123 Fax: 519-735-6712 - www.tecumseh.ca

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APPENDIX D

Minutes of Meetings

Meeting Notes



Stantec

Start-up Meeting

Upper Little River Master Plan Environmental Assessment

Date: Thursday, July 14, 2011
Place/Time: 1:00 PM, Stantec Windsor Office
Next Meeting: To be scheduled
Attendees: Jayson Innes Stantec
Alain Michaud Stantec
Jeremy Wychreschuk ERCA
Janusz Czuj MRC
Anna Godo City of Windsor
Patrick Winters City of Windsor
Dustin Cierpisz City of Windsor
Chad Jeffery Town of Tecumseh
Rick Wellwood Town of Tecumseh
Daniel Piescic Town of Tecumseh

Distribution: All attendees plus distribution list

Item:

Action:

Introduction

1. All team members were introduced.

Purpose

2. Stantec described the purpose of the meeting. "To have a discussion with all of the stakeholders involved in order to determine their project preferences and any known project constraints".

Background

3. Stantec presented an overview of the project scope and a brief background of the project. In general terms, the assignment consists of the completion of an EA to determine the preferred Stormwater Management (SWM) Plan for the study area.
4. Stantec noted that the project start has been delayed. Stantec will attempt to maintain the original schedule. Stantec
5. MRC presented an overview of the Lauzon Parkway EA and Sandwich South Secondary Plan. Their preferred plan would be to have SWM controls for the road and surrounding development provided in a shared facility.

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Item:

Action:

Stormwater Management Alternatives

6. The 5 EA alternatives to be considered during the project were reviewed. They include:
 - Alternative 1 - Do Nothing – no development
 - Alternative 2 - Water Quality and Erosion Control - no water quantity control required
 - Alternative 3 - Communal Online Facilities – several large online SWM Facilities (SWMFs) where all SWM controls (water quality, water quantity, erosion control, etc) would be provided
 - Alternative 4 - Online Quantity and Offline Quality and Erosion Control - this alternative would have several online regional food control structures and numerous offline water quantity and erosion control facilities
 - Alternative 5 - Offline or Distributed SWM Controls – numerous offline SWMFs where water quantity, water quality, and erosion control were provided
7. Alternative 1 does not allow for the study area to be developed and the stakeholders agreed that this would not be the preferred solution given the purpose of the project.
8. For Alternative 2, ERCA stated that lands downstream of the study area are currently impacted by flood waters and any increase in flows would require channel improvements with significant costs.
9. The City stated that they would prefer fewer SWM facilities in order to reduce maintenance costs. The area will likely be developed over an approximately 25 year time period, so some flexibility in the construction/phasing of the SWMFs would be preferred in order to reduce up front construction costs and unused SWM infrastructure.
10. Alternative 3 will be difficult to construct given the limitations imposed by the Airport. To provide water quality control for large areas, typically a large permanent body of water is required, which would attract birds, which in turn will impact the Airport. It is difficult to provide water quality control for large areas without large bodies of water.

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11. For Alternative 4, separate water quality facilities would be designed for events up to the 5-year rainfall event in alignment with standard storm sewer design flows. Minor flows would drain to smaller facilities while major flows would be conveyed to online flood control facilities.

Stormwater Management Types

12. The Study Area is located adjacent to the Windsor International Airport. The Airport Authority prefers that permanent bodies of water be avoided around the airport because they attract birds. The exact airport requirements are unknown at this time but generally dry ponds are preferred. Several alternative designs were proposed in order to include SWMFs with permanent water within the study area including heavy vegetation, wetlands, and long narrow ponds. Stantec and the City to follow up with Phil Roberts (Windsor Airport) to confirm airport requirements. City/Stantec
13. City noted that there have been two expensive bird strikes at the Airport so far this year.
14. City noted that there are currently no traditional SWMFs with permanent bodies of water (wet ponds or constructed wetlands) near the airport. There are several dry ponds, a pond with underground storage, and a pond with a serpentine layout (to discourage bird landing).
15. Underground storage has been used around other airports, since they are unusable by birds, but they tend to be more costly than above ground storage.
16. The City has had success using Regional flood control facilities within the study area. One of these is currently used as a recreational sports field.
17. Stakeholders are to forward pond examples to Stantec for review. These would include successful ponds in the area or other pond examples they would like to see implemented in the area. City/Town
18. Little River requires a Normal level of water quality control as specified in the Ministry of the Environment's SWM Planning and Design Manual. Water quantity control is proposed such that post development flows are controlled to predevelopment levels for all storms up to and including the 100-year rainfall event in order to limit

Item:

Action:

flooding impacts downstream of the site.

19. The City expressed a preference to have most roads in the study area with urban cross sections ultimately.
20. Most municipal drains will likely be retained in some form of open channel (that is not enclosed) due to fishery concerns.
21. OGS could be combined with dry ponds to provide Normal water quality control.
22. MRC noted that MTO has a preference to avoid Oil and Grit Separator (OGS) units. The SWM controls for MTO roads (and all other roads) will ideally be located in SWMFs on adjacent lands. Separate facilities for the roads are not preferred. It is unknown if MTO would be OK draining to an OGS unit if they were not responsible for maintenance.
23. Low Impact Development/Green Infrastructure/Lot Level/Conveyance Control Options were discussed. These could be combined with a dry pond facility to meet the MOE Normal water quality control requirement. Infiltration based options are not feasible given the clay soils in the area and the costs involved with importing suitable soils. Possible options include green roofs, bioswales/vegetated channels, buffer strips, cisterns, and rain barrels. Enforcement of these options would be required to ensure they are constructed and operating as intended in order to maintain MOE water quality standards.
- 24.
25. In Essex Region industrial areas typically provide their own water quality controls onsite. Downstream infrastructure (storm sewer and SWMFs) is designed for a runoff coefficient of 0.6 and onsite water quantity control is required for a any development/imperviousness in excess of this.

Project Schedule

26. Stantec is to develop preliminary drawings and a description for Alternatives 3, 4, and 5 with a tentative completion data of early to mid August. This package will include preliminary sizing, locations, and form/function of the proposed SWMFs (i.e. dry ponds, OGS, LID, etc). The project team will then meet to discuss the alternatives.

Stantec

Item:

Action:

Other

27. The City stated that the 6th Concession Drain is currently too close to Baseline Road, creating maintenance concerns. Ultimately Baseline Road will be widened to an urban cross section and the City would like to see the 6th Concession Drain moved away from the road.

The meeting adjourned at 3:00 PM.

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING LTD.



Jayson Innes, M.A.Sc., P.Eng.
Project Manager, Water Resources
jayson.innes@stantec.com

Meeting Notes



Stantec

Progress Meeting 2

Upper Little River Master Plan Environmental Assessment

Date: Tuesday, August 16, 2011
Place/Time: 10:00 AM, Stantec Windsor Office
Next Meeting: To be scheduled
Attendees: Jayson Innes Stantec
Alain Michaud Stantec
Jeremy Wychreschuk ERCA
Stan Taylor ERCA
Phil Roberts Windsor Airport
Anna Godo City of Windsor
Patrick Winters City of Windsor
Tiffany Pocock City of Windsor
Brian Hillman Town of Tecumseh
Rick Wellwood Town of Tecumseh
Daniel Piescic Town of Tecumseh

Distribution: All attendees plus distribution list

Item:

Action:

Introduction

1. All team members were introduced.

Purpose

2. Stantec described the purpose of the meeting, which was to discuss the form, function, and location of the stormwater management (SWM) features within the Study Area.

Airport Discussion

3. Windsor Airport described SWM Facilities (SWMFs) around the Windsor Airport that are not desirable to birds. The Twin Oaks site and the modified Central Avenue Ponds were two of the better facilities. Generally heavy vegetation and less open water/fetches resulted in fewer birds. These features make the ponds less attractive to bird species as it makes entering and exiting the water and the identification of predators more difficult.
4. Windsor Airport generally preferred SWMFs that were undesirable to birds over exclusion methods (such as barriers, scaring, hazing, and lethal methods).

One Team. Infinite Solutions.

Item:

Action:

5. Dry ponds would provide the least attractive end-of-pipe SWMF but do not provide the required water quality controls. A dry pond would have to be combined with a pretreatment device (either an Oil/Girt separator or a grass swale) to provide the required level of water quality control. This may be possible in some of the Study Area but the City of Windsor was not willing to maintain these over their entire portion of the site (this may be possible in industrial areas). Therefore constructed wetlands or wet ponds will be required within the Study Area near the Airport.
6. Windsor Airport had no preference between constructed wetlands and wet ponds for the end-of-pipe SWMFs. Their primary concerns are that the pond be designed to be unattractive to bird species.

Stormwater Management Alternatives

7. Stantec presented an overview of the remaining alternatives under consideration which are:
 - Alternative 3 - Communal Online Facilities – several large online SWM Facilities (SWMFs) where all SWM controls (water quality, water quantity, erosion control, etc) would be provided
 - Alternative 4 - Online Quantity and Offline Quality and Erosion Control - this alternative would have several online regional food control structures and numerous offline water quantity and erosion control facilities
 - Alternative 5 - Offline or Distributed SWM Controls – numerous offline SWMFs where water quantity, water quality, and erosion control were provided
8. Most groups liked the appearance of Alternative 3. Difficulty in conveying flows to a central location from a water quantity (expanded channel sizes would be required to pass the higher developed flows) and a water quality (untreated runoff would be required to flow through water courses and would impact existing fish habitat) perspective were the greatest drawbacks.
9. Alternative 4 includes aspects of Alternative 3 and 5 with a centralized corridor for water quantity control and somewhat distributed water quality control.
10. A traditional SWM approach (included as a version of alternative 5), where each development would have its own SWMF, results in

Item:

Action:

approximately 100 facilities in the Study Area (assuming 1 facility for approximately 30 ha). Generally most stakeholders did not like the look and operation of this alternative.

11. A version of Alternative 5 was also shown which included 50 larger facilities (assuming 1 facility for approximately 60 ha). These facilities were also distributed across the site and received similar feedback to the 100 facility alternative.
12. Following the discussion the stakeholders preferred the more centralized design of alternatives 3 and 4.
13. A preliminary plan to reestablishing the Little River watercourse upstream of baseline road and adding in a new drain/watercourse along the new E-W Arterial (parallel to Highway 401 and Baseline Road) to funnel drainage to the Little River was discussed. The new east-west channel would funnel flow to the Little River and would remove flow from the 6th concession drain which currently experiences flooding.

Other Items

14. Development interest within the Study Area is generally occurring in approximately half of the Study Area including: The Banwell Road, 8th Concession Road, eastern portions of the airport, and areas south of Highway 401.
15. The McGill Drain on the Airport Lands currently experiences flooding during heavy rainfall events.
16. Stakeholders were generally in agreement with SWM strategy that utilized permanent water bodies in a water quality cell adjacent to a riparian corridor with additional water quantity control similar to the Twin Oaks site as the preferred method of SWM controls.
17. Further discussion is required to determine the location of the SWMFs and the layout of the conveyance channels. These discussions will include the planning groups in order to ensure that the SWM and planning strategies are compatible.

Project Schedule

18. The SWM strategy will be discussed with the planning groups the week of August 22, 2011. Stantec

The meeting adjourned at 12 noon.

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING LTD.



Jayson Innes, M.A.Sc., P.Eng.
Project Manager, Water Resources
jayson.innes@stantec.com

Meeting Notes



Stantec

Planning Meeting

Upper Little River Master Plan Environmental Assessment

Date: Monday, August 22, 2011
Place/Time: 2:30 PM, Stantec Windsor Office
Next Meeting: To be scheduled
Attendees: Jayson Innes Stantec
Alain Michaud Stantec
Phil Roberts Windsor Airport
Anna Godo City of Windsor
Patrick Winters City of Windsor
Tiffany Pocock City of Windsor
Dustin Cierpisz City of Windsor
Michael Cooke City of Windsor
Erica Ogden City of Windsor
Josette Eugeni City of Windsor
Brian Hillman Town of Tecumseh
Rick Wellwood Town of Tecumseh
Daniel Piescic Town of Tecumseh
Distribution: All attendees plus distribution list

Item:

Action:

Introduction

1. All team members were introduced.

Purpose

2. Stantec described the purpose of the meeting, which was to discuss the location of the stormwater management (SWM) features and to combine them with the planning vision for the Study Area.

Stormwater Management Plan

3. Stantec reviewed the preferred form and function of the SWM Facilities (SWMFs), which will consist of an off-line water quality control section with a permanent water surface and an on-line water quantity control portion. This will take the appearance of a wide watercourse channel with periodic ponds adjacent to the channel.
4. Heavy vegetation adjacent to all water bodies along with less open water/fetches are also important design features to make the ponds less attractive to bird species.
5. Stantec presented a preliminary drawing of the SWMF locations within the study area. This drawing combined aspects of the Draft Secondary Plan for Sandwich South prepared by Meridian Planning Consultants and the existing drain network.

Item:

Action:

6. The plan showed two major SWM trunk lines along the Upper Little River and the new East-West Arterial alignments, with other smaller branches scattered throughout the study area. It was suggested that the Upper Little River channel not cross Highway 401 at the proposed Lauzon Parkway interchange in order to avoid the interchange ramps at that location. The 9th Concession Road was mentioned as a possibility.

Planning Discussion

7. A Secondary Plan is currently under way for the Town of Tecumseh Lands. Some preliminary information is available now, with more detailed information available in a few months. A business park is planned for the area south of Highway 401. Additional development is also planned north of County Road 42 in the Town of Tecumseh lands.
8. The Secondary Plan for The City of Windsor is still in draft form and will be subject to change based on the other studies currently underway in the area. Further changes are also expected when plans of subdivision are submitted for individual developments.
9. The land uses shown on the City of Windsor Secondary Plan can be moved around the Study Area depending on the outcomes of the other studies, but the percentage land class allocation should remain approximately the same. Some modifications of the plan are possible to converge the Secondary Plan with the Lauzon Parkway EA and the Upper Little River EA.
10. A Secondary Plan for the East Pelton area (located west of the Sandwich South lands) has already been completed.
11. Most parties were in agreement that drains beside roads present safety and planning issues and should be avoided. The current plan calls for a channel beside the Lauzon Parkway Extension and the new East-West Arterial, but a buffer will be used to separate these features. Drains separate from the roads, currently in agricultural fields, will be maintained where possible.
12. Most of the drains in the Study Area will require some modification (enclose/decommission/realign/widen) under the proposed SWM plan. This will likely result in a Harmful Alteration Disruption or Destruction of Fish habitat which will require approvals from the Department of Fisheries. It is thought that some of these impacts can be mitigated by watercourse improvements in other areas. Drains could be moved or realigned away from the roadways depending on the findings of the ecology studies.

- | Item: | Action: |
|---|----------------|
| 13. The plan for the SWMFs is to construct them with a phased approach so that individual development will not be dependent on other areas. These SWMFs could be constructed by the municipalities or individual developers depending on the development process. | |
| 14. The riparian corridor would be a natural corridor linking the various features in the Study Area. The corridor would be wider than the current municipal drains and would include a low flow channel and floodplain areas. Trails and sports fields could also be incorporated. | |

Other Items

- | | |
|---|---------|
| 15. The Lauzon Parkway EA is currently has a scheduled Public Information Centre on November 17, 2011. Stantec is planning to conduct their PIC concurrently (on the same date at the same location). | Stantec |
| 16. Stantec is to produce a map of the study area showing SWMF locations and land use. | Stantec |

Project Schedule

- | | |
|--|---------|
| 17. The next meeting is tentatively scheduled for late September, 2011. The meeting adjourned at 4:30 PM. | Stantec |
|--|---------|

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING LTD.



Jayson Innes, M.A.Sc., P.Eng.
Project Manager, Water Resources
jayson.innes@stantec.com

Meeting Notes



Stantec

Progress Meeting No. 3

Upper Little River Master Plan Environmental Assessment

Date: Tuesday, November 1, 2011
Place/Time: 2:00 PM, Stantec Windsor Office
Next Meeting: To be scheduled
Attendees: Jayson Innes Stantec
Alain Michaud Stantec
Phil Roberts Windsor Airport
Anna Godo City of Windsor
Patrick Winters City of Windsor
Michael Cooke City of Windsor
Jeremy Wychreschuk ERCA
Brian Hillman Town of Tecumseh
Rick Wellwood Town of Tecumseh
Daniel Piescic Town of Tecumseh
Distribution: All attendees plus distribution list

Item:**Action:**

Introduction

1. All team members were introduced.

Purpose

2. Stantec described the purpose of the meeting, which was to discuss to progress of the study and to further discuss the location of the stormwater management (SWM) features and to combine them with the planning vision for the Study Area.

Stormwater Management Plan

3. Stantec reviewed the current plan for the study area. SWM Facilities (SWMFs) consist of water quality control section with an on-line water quantity control portion.
4. Heavy vegetation adjacent to all water bodies along with less open water/fetches are also important design features to make the ponds less attractive to bird species.
5. Modifications were made to the preliminary drawing based on comments received by the City, Town, Windsor Airport and ERCA. This drawing combined aspects of the Draft Secondary Plan for Sandwich South prepared by Meridian Planning Consultants and the existing drain network.

One Team. Infinite Solutions.

Item:

Action:

6. The plan showed two major SWM trunk lines along the Upper Little River and the new East-West Arterial alignments, with other smaller branches scattered throughout the study area.
7. It was proposed that the SWM corridor would be aligned away from the roads (in backyards) where frequent entrances to the road are required. When frequent access is not required (along Baseline Road and the E.W arterial), the SWM corridor would be aligned along the roadway.
8. Concerns with maintenance and accessibility of the SWMFs were expressed. Multi-use pathways were proposed to provide maintenance access as well as establishing recreational areas within the study area. Multi-use pathways would be required if the SWM corridor was not adjacent to a roadway.
9. The City requested that the Multi-use pathways are to be located outside the 100-year flooding elevation. Buffers from the SWM corridor to the existing/proposed road right-of-ways are also required. The buffer zone has not been established at this time.
10. Essex Region Conservation Authority (ERCA) requested that water levels for the 5-year and 100-year storms be indicated along the drainage corridors.
11. Ice jams were express as a concern by ERCA associated with road/hydraulic crossings. It was recommended to minimize the number of road/hydraulic crossings to reduce seasonal maintenance of the Drainage System.
12. ERCA suggested that the berms within the proposed SWMFs be raised to provide runoff control for the major storm events prior to discharging to the channel. Stantec to investigate
13. There is an opportunity to re-naturalize existing straightened channels in areas with sufficient space.
14. Lands south of Highway 401 are far enough away from the Windsor International Airport (>4 km) allowing more conventional SWMFs if desired. Two (2) options could be presented within the EA for these lands. Option 1 would entail SWM corridors similar to the proposed SWMFs nearer the Airport. Option 2 would entail more conventional SWM facilities, utilizing wetland/wet pond type facilities.
15. Based on studies completed by the USDA National Wildlife Research Centre (Bird Use of Stormwater Management Ponds: Decreasing Avian Attractants on Airports, 2008), to minimize avian use of airport stormwater-management ponds, it was suggested that access to openwater be reduced by frequent drawdown or use of a cover. As such, minimizing the overall footprint of the pond and/or

Item:

Action:

increased cover should be considered in the selection process for ponds.

16. The Town, City and ERCA requested to add a SWMF maintenance section to the EA report.

Airport Land SWM Discussion

17. SWM facilities in the Airport lands are proposed to have more vegetation, with smaller ponds/shallower pools/channels to discourage bird habitats. Possible designs include pit and mound layout or long, thin, sinuous channel.
18. Alternatives to the existing outlet locations were discussed. The majority of the existing the Airport lands outlet to the McGill Drain which is at capacity and experiences frequent flooding. Directing a portion of the stormwater to the Lappin Drain is a potential option. The diversion can occur within the Airport SWMF.

SWMF Design Discussion

19. The proposed SWMFs are to be designed assuming a runoff coefficient of $C = 0.60$ for all developed lands within the study area.
20. On-site stormwater management control will be required for developments that exceed the assumed runoff coefficient to control runoff prior to outletting to the proposed SWMFs. This would include water quality and water quantity controls.

Other Items

21. The Lauzon Parkway EA has rescheduled their Public Information Centre from November 17th, 2011 to early 2012. Stantec is planning to conduct their PIC concurrently (on the same date at the same location). Stantec

Project Schedule

22. The next meeting is to be determined at a later date. Stantec
23. Existing conditions modeling to be finished by the end of the year. Stantec
24. Stantec to develop proposed conditions modeling. Stantec

The meeting adjourned at 4:45 PM.

Stantec

November 1, 2011
Progress Meeting 3, Upper Little River EA
Page 4 of 4

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING LTD.

A handwritten signature in black ink that reads "Jayson Innes". The signature is written in a cursive, flowing style.

Jayson Innes, M.A.Sc., P.Eng.
Project Manager, Water Resources
jayson.innes@stantec.com

Meeting Notes



Stantec

Progress Meeting No. 4

Upper Little River Master Plan Environmental Assessment

Date: Tuesday, November 1, 2011

Place/Time: 9:30 PM, City of Windsor

Next Meeting: To be scheduled

Attendees:

| | |
|--------------------|------------------|
| Jayson Innes | Stantec |
| Alain Michaud | Stantec |
| Phil Roberts | Windsor Airport |
| Anna Godo | City of Windsor |
| Patrick Winters | City of Windsor |
| Mario Sonego | City of Windsor |
| Chris Manzon | City of Windsor |
| Simona Simion | City of Windsor |
| Wes Hicks | City of Windsor |
| Dustin Cierpisz | City of Windsor |
| Tiffany Pocock | City of Windsor |
| Mike Clement | City of Windsor |
| Tom Hunt | City of Windsor |
| Jeremy Wychreschuk | ERCA |
| John Henderson | ERCA |
| Brian Hillman | Town of Tecumseh |
| Rick Wellwood | Town of Tecumseh |
| Chad Jeffery | Town of Tecumseh |
| Daniel Piescic | Town of Tecumseh |

Distribution: All attendees plus distribution list

Item: **Action:**

| | |
|--|--|
| Introduction | |
| 1. All team members were introduced. | |
| Purpose | |
| 2. Stantec described the purpose of the meeting, which was to discuss to preferred plan with the larger group and work out further details related to implementation, construction, operation and maintenance. | |
| Overview | |
| 3. Stantec gave a brief summary of the preferred plan which includes: Normal (Level 2) water quality control Maintain existing flows and water levels in the downstream system Erosion control provided in the SWM Facilities SWM Facilities designed as linear facilities which will be incorporated into green spaces with heavy vegetation to discourage bird use | |
| 4. General Design information for SWM facilities | |

One Team. Infinite Solutions.

| Item: | Action: |
|---|----------------|
| 5:1 slopes in pond 3:1 to 5:1 slopes in drainage channels 1.5 m permanent pool depth 100-year active water level in ponds to be less than 2 m (from permanent pool) | |
| 5. Little River upstream of Baseline Road is proposed to be realigned along its historical alignment with a wider riparian corridor | |
| 6. The Windsor Airport is concerned with SWM Facilities acting as bird habitat/attractions. The Proposed design includes heavy vegetation growth and short fetches of open water. Permanent water is required in order to provide water quality control as per MOE guidelines | |
| 7. The preferred plan shows two major SWM corridors along the Upper Little River and the new East-West Arterial alignments, along with other smaller branches scattered throughout the study area | |
| 8. Planning preferences are to have facilities in backyard areas away from roadways where frequent entrances to the road are not required. When frequent access is not required (along Baseline Road, Lauzon Parkway, and the new East-West arterial), the SWM corridor could be aligned along the roadway if there is a sufficient buffer | |
| Discussion | |
| 9. Proposed subcatchments have been delineated based on proposed road alignments and land use. Each catchment has been assigned an area within the SWM corridor where facilities would be constructed. | |
| 10. Lands south of Highway 401 are far enough away from the Windsor International Airport (>4 km) to allow for more conventional SWMF design if desired. Two (2) options could be presented within the EA for these lands. Option 1 would entail SWM corridors similar to the proposed SWMFs nearer the Airport. Option 2 would entail more conventional SWM facilities, utilizing wetland/wet pond type facilities | |
| 11. The SWM concept in the Airport lands will also be different since they are adverse to any significant bodies of water. SWM will likely be composed of very small bodies of water or long thin channels amongst trees | |
| 12. General concerns are: maintenance, land requirements, vegetation growth | |

| Item: | Action: |
|--|----------------|
| 13. Concerns with maintenance and accessibility of the SWMFs were expressed. Multi-use pathways were proposed to provide maintenance access as well as establishing recreational areas within the study area. Multi-use pathways would be required if the SWM corridor was not adjacent to a roadway. | |
| 14. The City requested that the Multi-use pathways are to be located outside the 100-year flooding elevation. Buffers from the SWM corridor to the existing/proposed road right-of-ways are also required. The buffer zone has not been established at this time. | |
| 15. Standard City of Windsor trail corridors are 10 m in width, including a 3 m wide trail. | |
| 16. Maintenance of the SWM Facilities will ultimately be the responsibility of the municipalities | |
| 17. Unclear who would do the final design and construction of the SWMFs. If the municipalities are involved significant upfront land acquisition costs would be involved. Private developers may also be viable with the location of the SWMFs determined in through the current EA | |
| 18. Establishing full vegetation growth prior to use of SWMFs will reduce the establishment of phragmites, but could take 2 to 5 years. This time frame will be difficult given development pressures in the area | |
| 19. | |
| 20. Design should evaluate which areas can gravity drain to Little River and which areas will need pumping | |
| 21. Secondary plan blocks have been defined for the Sandwich South Secondary Plan. Ideally the secondary plan blocks and the proposed SWM subcatchments would be coincident. City of Windsor requested the proposed catchment areas. <i>This information was subsequently sent to the City.</i> | |
| 22. Removal/decommissioning of the existing Municipal Drains will constitute a HADD (Harmful Alteration, Disruption, or Destruction) of fish habitat and will require a permit from the DFO. It will also likely trigger the CEA (Canadian Environmental Assessment). | |
| 23. Both the City of Windsor and the Town of Tecumseh plan to implement Permanent Private Stormwater systems within the Study Area such that the runoff from commercial, industrial, institutional, medium and high density residential land uses is equivalent to that from an area with a runoff coefficient of 0.6. These systems would generally be relatively simple such as depressed storage in parking lots, green areas or roof top storage for quantity control and oil grit | |

Item:

Action:

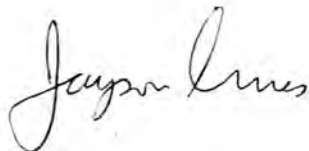
| | |
|--|---------|
| separators or like devices for quality control | |
| 24. Town of Tecumseh would like all SWM controls for Town lands to be provided on Town lands. | |
| 25. City of Windsor plans to tie natural heritage areas into the SWM features. | |
| 26. Some difficulties with staging are anticipated given the availability of storm and sanitary servicing to most of the study area. The sequence of land development is difficult to predict. Flexibility in SWM construction is required to accommodate several development options. | |
| Airport Land SWM Discussion | |
| 27. Airport drainage system is generally at capacity with regular flooding | |
| 28. No communal ponds are to be proposed for the Airport Lands | |
| 29. Due to bird attraction constraints, no large open bodies of water are permitted on the Airport Lands, as such the required area is larger | |
| 30. It is recommended that denser vegetation, bird attractiveness be incorporated progressively as the SWMFs get closer to the Airport | |
| 31. Concerns about how the vegetation will be established. At least 1 growing season is required to achieve some growth before full use. | |
| 32. | |
| 33. | |
| 34. | |
| 35. | |
| City Operations | |
| 36. Phramites growth is a concern. Maintenance consists of physical removal from ponds. It does not grow well in the shade. | |
| 37. Pumping is likely required at some locations due to flat topography. Will pumps be designed for dewatering of submerged storm sewers or with the capacity to handle peak flows? | Stantec |
| 38. Dense vegetation in channels may constrict conveyance and require more frequent maintenance. The channel sections are envisioned to look similar to the existing sections of Upper Little River with an open channel (no vegetation) with trees and shrubs on the banks. | |
| SWMF Design Discussion | |
| 39. The proposed SWMFs are to be designed assuming a runoff | |

| Item: | Action: |
|---|----------------|
| coefficient of C = 0.60 for all developed lands within the study area. | |
| 40. On-site stormwater management control will be required for developments that exceed the assumed runoff coefficient to control runoff prior to outletting to the proposed SWMFs. This would include water quality and water quantity controls. | |
| Other Items | |
| 41. The Lauzon Parkway EA has rescheduled their Public Information Centre to late 2012. The Upper Little River EA will plan to conduct their PIC concurrently (on the same date at the same location). | Stantec |
| 42. During the meeting the possibility of holding an introductory PIC to present the needs assessment, planning, and stormwater management alternatives. This PIC would introduce the project to the public and solicit initial public feedback on the alternatives being considered. This PIC has subsequently been agreed to and is scheduled for May 29, 2012. | |
| Project Schedule | |
| 43. The next meeting is to be determined at a later date. | Stantec |
| | |

The meeting adjourned at 4:00 PM.

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING LTD.



Jayson Innes, M.A.Sc., P.Eng.
Project Manager, Water Resources
jayson.innes@stantec.com

Upper Little River EA – Meeting – 2016-12-20

Attendees:

| | |
|-------------------------|---------------------------|
| Brian Hillman | - Town of Tecumseh |
| Phil Bartnik, P.Eng. | - Town of Tecumseh |
| Wes Hicks, P. Eng. | - City of Windsor |
| Flavio Forest, P. Eng. | - Dillon Consulting Ltd. |
| Jayson Innes, P. Eng. | - Stantec Consulting Ltd. |
| Dan Lebedyk | - ERCA |
| Michael Nelson | - ERCA |
| John Henderson, P. Eng. | - ERCA |

The following is provided as a brief summary of the main items discussed:

1. There is a need to have a better understanding of the fisheries offsetting that may be required as this area develops. Based on the conceptual land use plans, open waterways will be removed in certain subcatchment areas and potential habitat offsetting will be required in open waterways that are to remain in other subcatchment areas. Accordingly, offsetting will not always be available within the same subcatchment area. It should be identified that a next step following the completion of this report should be the development of a fisheries offsetting plan for the entire study area. The current study, however, should provide estimates of the habitat that will be lost (i.e. length of open drain, square footage of direct and indirect habitat, etc.), a list of the open drains proposed to be removed, a list of open drains to remain and the potential location of fisheries offsetting opportunities.
2. Plans are included that identify proposed land uses within the study area. Completion of this EA study does not result in changes in land uses. Other *Planning Act* processes must be followed to change land use designations. The following items were discussed:
 - The report must clearly identify and qualify the information that was used in reference to proposed land uses.
 - The report must clearly identify that future *Planning Act* processes are required to change current land uses.
 - The title of Drawing 4 should be modified so as to not imply that the proposed land uses are approved.
 - Based on the typical scope of an EA study, the current environmental investigations are not sufficient to support land use changes under a *Planning Act* process. It was recommended that 120 m offsets be shown around all natural features to indicate that additional environmental studies will be required within these areas to support future *Planning Act* approvals/processes.

- This EA covers a very large area. The report should identify that future EA Addendums may be required to address the ultimate land uses that may be proposed in this area.

3. Review of submitted City comments:

- The City raised a question about the municipal boundary between the City of Windsor and the Town of Tecumseh shown on Figure 3. The City will provide Stantec with a plan showing the legal boundary.
- Order of magnitude costs for the different options that have been considered are to be included in the final report.

4. Review of submitted Tecumseh comments:

- The Town raised a question regarding the proposed 1.5 m depth of the permanent pools and noted that pools up to 4 m may be preferred for habitat.
 - The proposed stormwater ponds are sewage treatment facilities. Typically, it is not recommended to encourage wildlife to use these facilities even though it is inevitable. It was agreed that the ponds should follow the design guidelines found in the MOECC Stormwater Management Planning and Design Manual (March 2003).
 - Stantec advised that the conceptual ponds have sufficient room to have a varying depth. This will be identified in the report.
- The Town noted a difference between the proposed pond normal water levels in the current report and in the previous report. This further raised the question about the size of the proposed SWM corridors.
 - Stantec advised that all ponds have been sized based on gravity outlets and that MOECC recommends a maximum depth for active storage. Stantec further advised that the same storage volume will be required for pumped ponds, however, the active storage will be at a lower elevation resulting in a larger top of the pond area. Stantec advised that this was considered when the SWM corridors were sized.
 - Stantec is to include a cross-section that shows the worst case scenario pond configuration that resulted in the proposed 150 m SWM corridor width. This cross-section should also show how the gravity versus the pump option was considered in the pond/corridor sizing.
 - The report should include a discussion on how the pond sizes and SWM corridors were developed for this project.
- The Town recommended that all comments received and the related responses should be included in the report Appendices. All were in agreement.
- The Town asked if any further studies would be required to confirm the available capacity in the downstream drains and the related pond outlet release rates that have been considered in this report.
 - Stantec confirmed that the downstream drain capacities have been based on information provided by the municipalities and standard *Drainage Act* procedures. This is considered a table top exercise since undertaking

surveys of all drains to calculate actual drain capacities is beyond the scope of this EA. The assessment produced small allowable release rates for the proposed ponds. Modification to these release rates are not expected to have a significant impact on the storage volumes required. Finalization of the ultimate drain capacities and related pond release rates is required in future functional design studies.

- The Town asked how, or if, climate change has been considered and if increased intensity storms have been modelled.
 - Increased intensity storm have not been modelled.
 - The report should include a discussion on the need to consider climate change in the future functional design studies.
 - The report should identify how the current conceptual pond designs have the ability to be modified within the recommended SWM corridors to provide for additional storage that may be required under future climate change scenarios.
 - The report should identify that, in addition to traditional stormwater ponds, future functional designs studies may need to consider LID alternatives. A list of potential LID alternatives should be included and it should be noted that all LID's may not be suitable for the existing physical constraints within the Essex Region.
- The Town requested that the final report be as detailed/specific as possible with regard to infrastructure needs and criteria.
 - Based on existing functional design studies that have been completed by the Town, all of the Town ponds will be required to be pumped. This criteria is to be included in the final report.
 - The City does not have functional design studies for their portion of the study area, however, they have advised that all sewers are to be dry between storm events. The City also advised that they want pond normal water elevations to be at or below the sewer inverts versus sewer dewatering pumps. Accordingly, if functional design results in sewers that are lower than the inverts of the outlet drains, pumping will be required. The report should include this criteria.

5. Review of Submitted ERCA comments:

- ERCA raised a question about when the proposed improvements to the Upper Little River are required to be completed.
 - Stantec advised that the improvements are required to improve existing flood elevations in the Little River. With the proposed pond restrictions, development should not worsen the existing conditions if the improvements are not completed immediately. These channel improvements are also planned to address some of the anticipated fisheries offsetting needs. Accordingly, the need to undertake the improvements may be driven by when certain sections of the area are developed. The schedule for

undertaking the improvements to the Upper Little River channel requires further discussion with the City.

- The cross-sections of the proposed channel improvements for the Upper Little River, the 6th Concession Drain, etc. that were used in the hydraulic model should be included in the final report. This will provide the minimum channel dimensions required for flow conveyance and storage. All fisheries offsetting requirements would be an expansion of the minimum hydraulic channel dimensions.
- Stantec requested a copy of the 1992 City of Windsor Candidate Natural Heritage Site Biological Inventory Report. A copy of this report is attached to this e-mail.

The above provides a summary of the comments that were discussed during the conference call. Other comments were submitted that were not discussed. It was agreed that, prior to preparing the final report, Stantec will prepare a table that includes all of the comments provided and their proposed responses/method of addressing the comments for all to review. Once all parties have agreed with Stantec's proposed responses/method of addressing the comments, Stantec will prepare the final report.

It is desired by all parties to have the final report completed by the end of January 2017.

APPENDIX E
Part II Order Request

OCT 27 2017

October 27, 2017

Minister
Ministry of the Environment and Climate Change
Floor 11
77 Wellesley St. W.
Toronto, Ontario
M7A 2T5

Director, Environmental Approvals Branch
Ministry of the Environment and Climate Change
135 St. Clair Ave West, 1st Floor
Toronto, Ontario
M4V 1P5

John Henderson, P.Eng.
Water Resources Engineer
Essex Region Conservation Authority
360 Fairview Avenue West, Suite 311
Essex, Ontario
N8M 1Y6

Jayson Innes, M.A.Sc., P. Eng.
Project Manager
Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo, Ontario
N2L 0A4

Dear Sirs:

**Re: Upper Little River Watershed Master Drainage Plan and
Stormwater Management Plan**

We are enclosing herewith our request for a Part 2 Order on the above mentioned proposal.

386823 Ontario Limited



William Balazs
Encl.

PART 11 ORDER SUBMISSION

Minister of the Environment and Climate Change

Ministry

Minister of the Environment and Climate Change

77 Wellesley West,

11th Floor, Ferguson Block,

Toronto, Ontario, M7A 2T5

Report Topic; Environment Assessment Environmental Study Report Windsor and Tecumseh Ontario
(here in after referred to as ULRSWM-EA-Report or ULSWM-)

Dated; Oct. 26, 2017

Submission By;

386823 Ontario Limited (William F. and Theresa Balazs)– who are the registered owners of the property legally know as Part Lot 18, Conc 9, City of Windsor –PIN 75236-006 (LT) at 6825 County Road 42, Windsor, Ontario.

Location:

These lands' are located on the south side of County Road 42 and west of Little River and consist 28.3 acres/ 11.42 hectares of vacant lands that are farmed. (herein after referred to as - the subject lands or said land) - see figure #1, #2 and 3 (in this section, these are only used to provide a visual for location)

CC – As Listed Below;

-John Henderson, P. Eng.
Water Resources Engineer
Essex Region Conservation Authority
360 Fairview Avenue West --- Suite 311
Essex, Ontario, N8M 1Y6

-Jayson Innes, M. A. Sc., P. Eng.
Project Manager

Stantec Consulting Ltd.

100-300 Hagey Boulevard
Waterloo, Ontario, N2L 0A4

- Director, Environment Approvals Branch
Ministry of The Environment and Climate Change
135 St Clair Ave West, 1st Floor
Toronto ON M4V 1P5

-Philip D. McCullough
Salem, McCullough & Gibson

2828 Howard Avenue

Windsor, Ontario N8X 3Y3

Date; October 26, 2017


UPPER LITTLE RIVER WATERSHED MASTER DRAINAGE PLAN AND STORMWATER MANAGEMENT PLAN

386823 Ontario Limited is the owner of certain lands in the City of Windsor, that are adjacent to the Little River and will be significantly impacted by the above Storm Water Plan, which will also impact a significant number of neighboring lands.

We are responding to the notice which was published in The Windsor Star, regarding this plan, and for reasons below as outlined as follows, we object to the proposed plan and are seeking a Part II Order under the Environmental Assessment Act because we feel this project requires the intervention of the Minister of Environment either by way of mediation or imposing conditions on this proposal.

We will now set the reasons for our objection as follow;

386823 Ontario Limited



William F. Balszs
President

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OBJECTIONS -----(COMMENTS AND CONCERNS:)

Before starting, it must be noted that this process as it relates to this specific EA is truly flawed, because this report consist of 625 pages to be reviewed and only allows a response time of 30 calendar days or approx. 19 working days to respond with comments.

In a nut shell, we had about 19 days to review the report, consult with legal counsel, sit down with any consultants, ask questions of the ministry of this process, ask questions/clarify with proponent and submit any comments or objection with in the outlined period.

It is also concerning that the Standing Committee for the city as well as the Mayor and City Council members have only now the first opportunity to view the report, that they had previously approved, without the knowledge of any further impact or lack of consideration to provide a process to compensate land owners inside the city or site location plan

The previous pages provide facts with illustrated views in support of our position.

We are very concerned that this Design Study will become the guiding document for stormwater management controls on the Upper little River, that will applied to upcoming project with respect to Lauzon Parkway and County Road 42 or current development (Hospital) and any future developments, as well as the statement in Code of Practice: Consultation/ section Glossary – commitment – once approved, the commitments within the document are often made legally binding as a condition of the approval

2.0 The Upper Little River EA Report outlines the OBJECTIVES as follows;

- The study area will be developed by multiple land owners and the preferred alternative should allow for individual land owners to proceed.

- 1) -to implement a cooperative and solution-direction approach to liaison with the property owners, general public and other representative leading to a consensus oriented design.
-further reference of other key points state "a thorough approach **was taken to general liaison over the course of the project. At all times, constructive dialogue, in a cooperative environment,** was promoted so that the preferred concept represented a **consensus oriented design"**

- 2) –To identify – "and address how the identified solution can be planned to **best service future development lands, conserve the natural ecosystem, and reflect a cost effective and technically sound approach."**

- 3) To summarize the above

3.2 Issues And Constraints;

- The only key point that has a significant issue is, attractiveness of SWM facilities near the Windsor International Airport to avian species.

* The 363.02 m of frontage of our land runs along County road 42, which is 40 m across the road from the Windsor International Airport and the fact they are just outside the 2 km radius from the airfield center (wild life control zone), this also covers a large section of airport lands.

3.4 Consultation Process

- A consultation plan was developed with the objective of targeting stakeholders potentially affected by the EA, while providing them with an opportunity to comment on the proposed improvements.

Meetings # 1 held on May 29, 2012 and the 2nd on Oct. 22, 2012, which also a PIC #2 for the Lauzon Parkway EA and the 3rd workshop for the Sandwich South Secondary Plan were held concurrently at the same location.

*- note a summary letter of the meeting that was held on November 28, 2012 with individual "Stakeholders" is not reference as per letter (Figure – 4) on Balazs's property

The content in the letter as it relates to SWM and its direct impact on development plans as it relate to the report/EA study have not been followed;

- The PIC details related information on the SWM EA were last presented in Oct. 22, 2012 with the next time any follow up or review was on September 22, 2017, that released the final completed report.
- *1-{that is almost 5 year since any up dated information}
- The Reserved Corridor Size was no not stated until the meeting held on Nov. 28th 2012 as less than 100 m to 125 m or 150 m and could be reduced subject to review of requirements and design, with the size to be split 50/50.
- Then on September 22, 2017 the new confirmed size was to be 325 m size corridor and 200 m on the tributaries. Note, - we were told at our meeting on Oct, 10th, 2017 it would not be a 50/50 m split and it would be more like 225 m on said land and 100 m on east side of Little River.
*2-{ the dramatic size change should have been communicated to or at a stakeholders meeting for land owners impacted by corridor size change before the report was released to allow for comments and address any issues}
*3 as a result of the meeting they did agree to mark some of the lands as future employment, but continue to state the need to reserve the balance as Open Space> The change resulted from the fact that they had not justification to designate these lands as open space

The point *1 and * 2 do not support the (objective) evidence that land owner were involved in developing the study area, general liaison over the course of the project or any constructive dialogue in a cooperative environment or a consensus oriented design by impacted land owners from the period after Nov. 28th 2012 to Sept. 2, 2017.

The point *3 does show how a targeted stakeholder, with discussion can change by constructive discussion a concern with respect to land use. (this process shows and meets the objective of involvement with stakeholders)

- It is further evidence with respect to intent of (Objective 2) that they did not address and identify a solution "that can be planned to -best service- future development lands and another one that reflect a cost effective and sound approach."
- As for (Objective 3) –Project Study does not contain any of the above objectives truly in summary, but rather presents or give perception of evidence that they have followed and included the requirements of the Code of Practice.

The study does not reference the impact of corridor size to land owners and restrict available lands for future development as well as the amount that will be placed in a hold pattern or frozen in time until development size and needs have been designed.

The study did not release any cost till now and it does not include any property cost or compensation values or process. *3 {again, no land owner involvement over the course of the study project, or being informed at all times with constructive dialogue, in cooperative environment, was promised so that the preferred concept represented a consensus design} **(no involvement or being informed at all time)**

The consultation plan (3.4 Consultation Process) lacks the evidence that it was developed with the objective of targeting/involving stakeholders potentially affect by the EA, while providing them with an opportunity to comment on the proposed study. Again, no involvement over the course of the study project being informed at all times with constructive dialogue in a cooperative environment.

It also needs to be stated that in Appendix C – page 297- email correspondence sent by John Henderson, dated 2016-12-21 outlining a brief summary of the main items discussed at a Project Team meeting. Review- Item #2 –“ Plans are included that identify proposed land uses within the study area. Completion of this EA study does not result in changes in land uses.” The report does reference a plan (Windsor South Sandwich Draft Secondary Plan) that shows proposed lands use (page 466 in App. G.)

The point I wish to make is that the EA Study can impact the land owner with respect to the corridor size, as well as it gives a perception that since lands are shown open space and will be referenced by the Project Team that they do not risked or cause an impact to a land owner assuming someone can in fact state that there is a major impact.

Further more- the section states, "this EA study covers a very large area. The report should identify, that EA Addendums may be required to address ultimate lands uses that may be proposed."

The study report not does reference any of the above, as well as a study for the Hospital Lands under County Road 42 Secondary Plan, which is underway and the reserve corridor size clearly does impact said lands and does restrict my land use available for development and does place a large portion of our lands in limbo as seen on (Figure - 14).

Note, as per (Figure -3) said land frontage is 363.02 m and the rear is 247.94 m and as per are understanding the impact of our share of 325 m corridor that will be 225 m, therefore the corridor will result in balance of about 138.02 frontage and the rear will be 22.94. It will clearly impact the potential for any land development into the future. Said lands will be frozen for development until the corridor size has been confirmed.

*{ We could miss out on being included " in the planned to best service future development lands". Per item 2 under objectives}

The Code of Practice also states in the Glossary that defines - " impact management measures" as follows, Measures which can lessen potential negative environmental effect(this is corridor size and land use) or enhance positive environment effect (this is corridor size and land use). These measure could include mitigation, compensation, or community enhancement."

One of the key point is compensation that has not been covered for a specific reason that we have not been informed or been involved in any discussion

-With respect to compensation the study does not reference or contain in any sections

- PIC 1 and PIC 2 in 2012 and the meeting of Nov. 28, 2012, were the only times any two-way exchange of communication process that occurred that involves affected and interested persons in the planning, implementation and monitory of the undertaking and further lacking a key objective, "over the course of the project" and again further evidence that over the period of almost 5 years (2017) since we have been allowed to provide or submit comments or permitted a two-way communication by interested persons and the public.

As well through this period (2012 to 2017) many email and correspondence letters were sent to members' of the Project Team, with specific reference to Anna Godo and Michael Cooke and none were found in App. C or our comment sheet submitted at PIC-2 in App. in 2012. (Times and Dates as outlined in package)

-Failure to provide all communications as they relate to the study and only a few were included to show evidence, that they followed the requirement as outline in Code of Practice.

7.0 Design Consideration

7.6 Climate Change

Under Consultation Requirement Based on Complexity and Environmental Sensitivity (the Project Study contains a section, Climate Change) therefore, one would assume that the reserved corridor size, that was only presented as a illustrate views with no real size in 2012, other than at Stakeholders meeting on November 28, 2012 of less than 100 m to 125 m or 150 m. and then the new sizes of 325 m on the river and 200 m on tributaries was released in this EA Study Report.

The fact that we are dealing with a dramatic increase in reserved corridor size, that will impact land owners directly and the fact that dealing with an increasing Environmental Sensitivity and Complexity with respect to Climate Change.

It must warrant a position of a upper level of Medium, if not High level as -Figure 1- in Code of Practice, that require affected land owners a greater consultation and a requirement of at least meeting to discuss the report before it was released for approval, to allow for comments and to address any proposed guide lines or process as it relates to compensation to be covered in the report. Please review figure -3 and figure 14 for possible impact to a said land owner.

As well this section states that it will continue to have a greater impact with an increase in frequency that it was a major factor in the SWM changes and they also stated at our meeting of Oct. 10, 2017, that they included a margin of safety to the increased corridor size to address Climate Change.

Clearly again no evidence and as per stated commitment to inform impacted parties throughout or on an ongoing notification process per objectives.

7.1 Windsor Airport- Avian Management

The section makes reference various radius (2 km and 4 km), that describe points of Zone of No Tolerance, Zone of No Confidence, and the preference of Dry Pond. They state that Wetland or wet ponds are accepted provided they meet certain conditions that **vary depending on the distance from the airport**. On airport property, permanent water is **not general permitted** and make reference to water treatment and must have features that minimize attraction of birds with specific reference to geese and gulls.

Note per report (CR191/2012) adoption by Windsor City Council on August 27,2012, make reference is currently working on completing Upper Little Storm Watershed and further state the potential to be used for storm water management facility for the overall development of the airport employment lands.

This study states the airport could utilize open space lands for a natural storm water treatment and possible detention. Swamp wetlands, due to high vegetation are not habitat species which rank high for risk and further state that stormwater feature could be designed and constructed between existing woodlots and provide for necessary parklands and more,(such as needed or outlined in the study that address the points used to grade the alternative and final present the prefer Alternative #6.

Note- the Airport Development Lands state they have 113.2 hectares of Total Open Space and that is located in the south east corner as well as vast amount **Developable Lands-354.0 Hectares**, with a significate amount along the north side of County Road 42.

This results in a combined total of **467.3 hectares** that can be used to support Upper little River SWM Master Drainage Plan.

We have throughout this process, at meetings and ask questions as to why they have not considered the airport lands be allowed to provide or supply/ utilized a greater portion for the for the SWM plan. We did again ask at our meeting on Oct. 10th 2017 why the airport lands help with SWM, especially with the massive increase in corridor size resulting a greater impact on neighboring lands/ direct impacted land owners then presented in 2012.

We have been told by everyone from the City and ECRA that the airport lands cannot be used for any additional requirement because of the birds, no water contained ponds, cannot build new channels, or provide water treatment and will be required to control and maintain their outflow rates, as their facilities will not be required to help other neighboring lands or contribute to any cost sharing process to the system.

It must be noted that said lands of 11.42 hectares are 40 m directly south across from the airport property and our frontage of 363.02 runs along County Road 42 that divides us. They can clearly do everything on our lands as outlined in the study and that totally impacts our land use, as well a significant number of neighbouring lands.

This clearly presents and shows no consideration or intent to involve, give any input, to be transparent and act with a fair and in a just approach, that was present or outlined in the begin of this process, but rather the intent to isolate the airport lands from the plan for another purpose, or intent that will result in the development of these lands that will benefit the City of Windsor, while others will not be able to share or they will be delayed in possibly any development of their lands and if any remaining lands can be considered for a meaningful development.

We have been involved in many conversations/correspondences, meetings as of recently this past July 26, 2017 and after the report was released on Oct. 10th, 2017.

We feel or have an impression, that they did not have an answer or were not direct in response, as well as a sense of going in circles, or providing an explanation or discussing points, but not really providing an answer or resolve (ex, they have been in discussions since June 14, 2017 to provide for a process that will be fair and just in their approach, provide guidance, with required conditions, will account for time delays that may impact any benefit , a formula used for calculation and address any related items.)

They also at times were not straight forward or upfront, because they did not know what was going or, if they did know what was going on, they didn't want to share any of that information.

Summary:

CONFUSION -It must be noted- We were some what confused and miss directed as well required to review a lot of information at three meetings with a lot of cross referenced material, since on the day of October 22, 2012 the following PIC meeting were held at the same times and the same place: 1) Upper Little River Stormwater Master Plan EA Pic #2, Lauzon Parkway EA and the Sandwich South Secondary Plan EA . Submission were to be submitted by Nov. 5, 2012 for UPLRS MS PLAN EA and Stake- holders meeting was to held on Nov. 28, 2012.

The above has outlined the failure or the lack of involvement with the intent at all times for constructive dialogue, in a cooperation environment especially with myself or other land owners directly impact by the Stormwater Corridor.

This process did not allow for any further comments or criss-cross related correspondence to a Project Team member to be included, as well as any matters that are not outlined or part of the EA consultation process that they have outlined.

Clearly, we have been restricted in not being able to take part in the beginning as well throughout the process/plan over time.

At various times they have made statements, but now they have changed or now they are claiming, we were informed about a matter, but to the best of our knowledge they were never revealed.

They provided a reply on some question, but really did not answer the question, but go on to quoted an intent of the process, that no one else to date has provided a written reply or forwarded to another team member to confirm the correct reply.

On occasion they have answered a question, but it has confused us further.

They missed answering the question completely or confirming our understanding that we have been previously, but it seems to them they have answered with a full reply.

The Code of Practice, "The Environmental Assess Act defines environment to mean: per item, (c) The, social, **economic** and culture conditions that influence the life of humans or a community." The important word **economic (of the reserved corridor size) will influence the life of humans (will impact the life of lands owner) has not been addressed in this process, communicated or allow for input, as per their objective, "at all times throughout this process"**.

They have not mentioned, or full addressed or included a section, that covers the requirement as stated above.

The other point is that we all have been under a crunched time line to address any issues, since we have not been allowed to sit down and review the document prior to Sept. 22 2017.

Conclusion:

- Must require a meeting with impacted land owner/stakeholder with respect to SWM and corridor size, that we allow them to point out issues and address the lack of information to be included in the process. (and fully transparent)
- Possibly consider ways to reduce the impact and look at transference to another landowner like the airport property
- The report states that any group or block of land owners may be able to work together to reduce facilities, as well as an individual must be required to have their facility to support other in the system.
- To make sure the land owner that will gain benefit will be required to follow a process that make those that cannot participate because of the impact, as a result of those land owners being required to support the SWM reserved corridors.
- A guidance that will provide assure that a fair and just compensation is outlined and includes all the land within the study

Note - there may be more to be included once the stakeholders meeting is held and a clearer understand of the study report may require additional requirements.

*Note-1) it is assumed if the any responses are submitted from directed individuals Mr. John Henderson or Jayson Innes, they will be forward to us.

Responses to be forwarded to the following senders;

Philip D. McCullough
Salem, McCullough &Gibson
2828 Howard Avenue
Windsor, Ontario N8X 3Y3
Email: salmmcc@netscape.net

Telephone; 519 966 3633

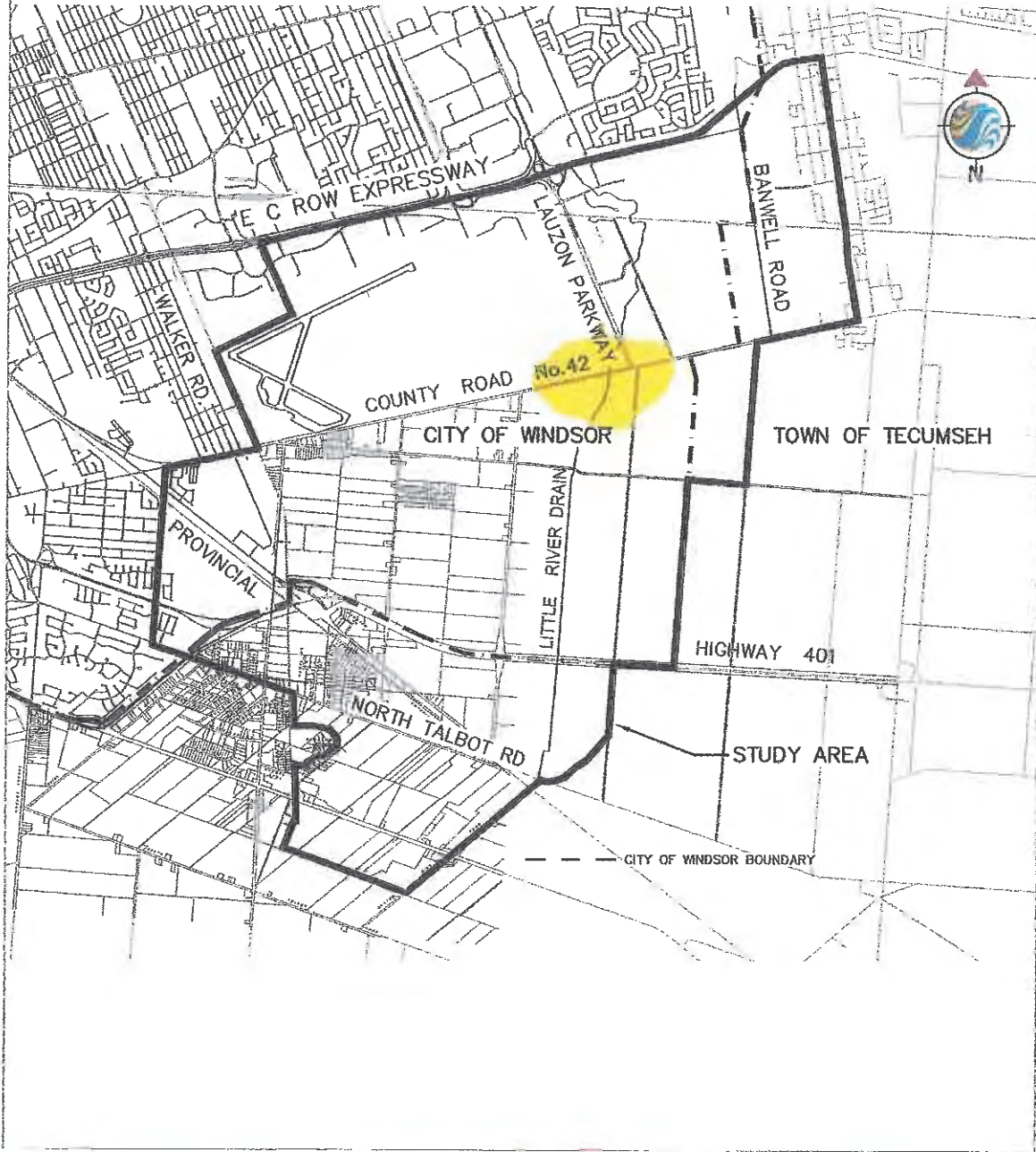
William F. Balazs
386823 Ontario Limited
3850 Dougal Ave.
P.O. Box 31025
Windsor ON N9G 2Y2

Cell : 519 999 9698

Email; bbalazs452@ Hotmail.com

Note; Once- a File Number or Case Number has been assigned, please forward by email or by mail, thereby allowing us to have a reference # that can be labeled on the additional material to be forwarded.

V:\01603\active\160311265\design\drawing\civil\sheet_files\160311265_C-1-OC.dwg
2017/01/25 1:46 PM By: Brook, Randy



ORIGINAL SHEET - ANSI A

September 2016
160311265

Client/Project

ESSEX REGION CONSERVATION AUTHORITY

Figure No.

1

Title

SITE LOCATION PLAN



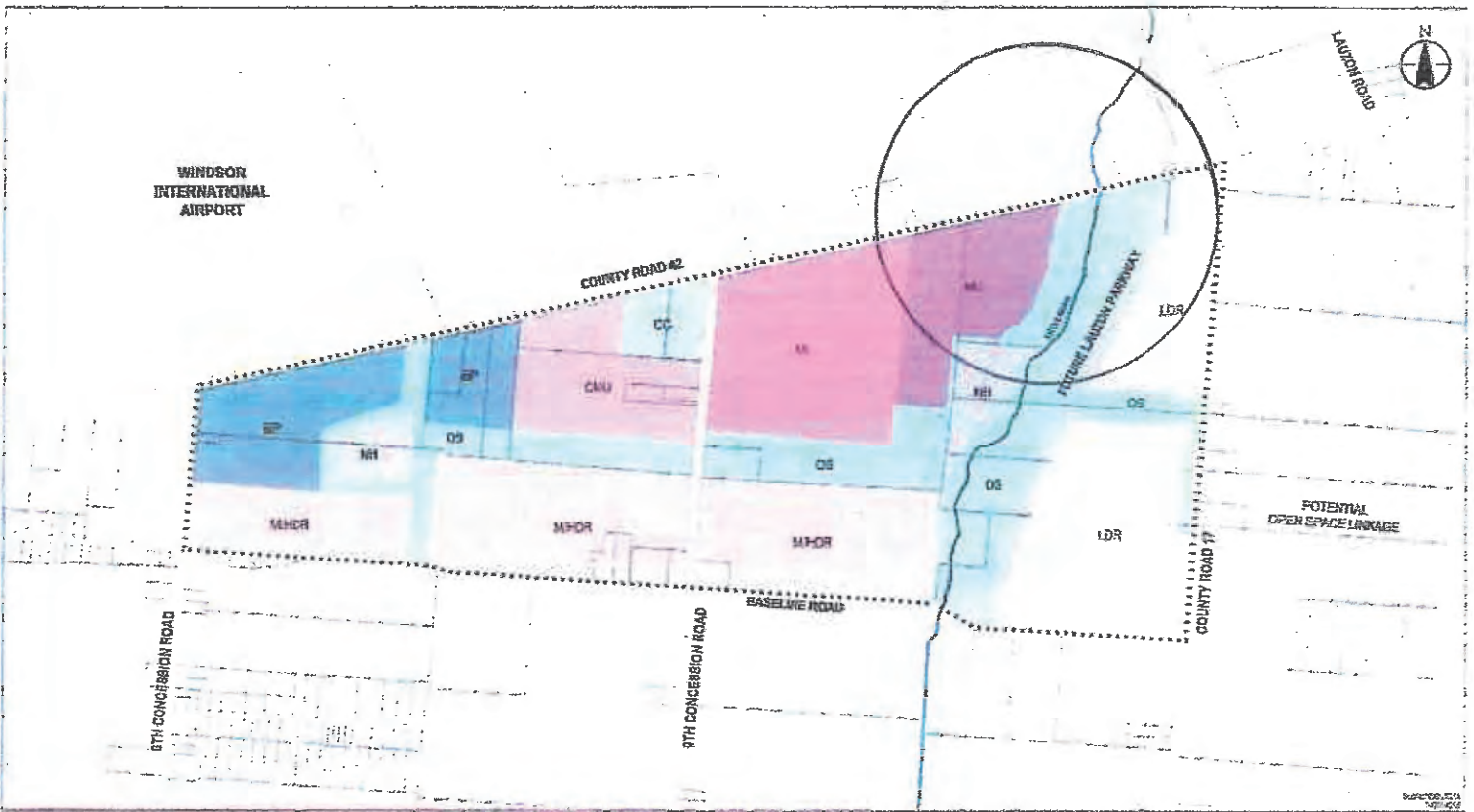
300 Hagey Blvd. Suite 100
Waterloo, ON, N2L 0A4
Tel. 519.579.4410
www.stanfec.com

FIGURE-1

SITE PLAN LOCATION

YELLOW AREA CLOSER VIEW ON (FIG.-2)

W:\Projects\2015\15-001\GIS\Map_Series\Map_Series_01.aprx
 2015/05/27 10:00 AM
 10/10/2015 10:00 AM




 490-171 Queen Avenue
 London ON N6A 5J2
 Tel: 519-645-2629
 www.stantec.com

| | | | |
|---------------------------------|-------------------|------------------------------|--|
| Legend | | | |
| Low Density Residential | Commercial Centre | Secondary Firm Boundary | |
| Medium/High Density Residential | Business Park | Proposed Roads | |
| Core Mixed Use | Park/Open Space | Potential Open Space Linkage | |
| Mixed Use | Natural Heritage | Major Institution | |

City of Windsor
 WINDSOR REGIONAL HOSPITAL
 HOPELIFE
 WINDSOR CARE
 File No: 1.0
SCHEDULE A - LAND USE SCHEDULE
DRAFT

FIGURE -2
 A ZOOMED VIEW OF SITE
 BLACK CIRCLE BORDER ON (FIG-3)

TECHNICALLY PREFERRED PLAN

KER ROAD TO CITY / COUNTY BOUNDARY



FIGURE -3
 BLACK BORDED AREA YELLOW SHADE
 6825 COUNTY ROAD 42
 SUBJECT LAND

ULTIMATE
 COUNTY ROAD 42 PROJECT
 1) INTERIM EA - INTERSECTION
 2) ALTERNATE EA - CORRIDOR
 3) LONG-TERM PLAN
 SANDWICH SOUTH DECISION TO BE CLOSED AND HOW TO LAUZON ROAD



McCORMICK RANKIN
A member of **MMM GROUP**

2655 North Sheridan Way, #300
Mississauga, Ontario, L5K 2P8
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Fax: (905) 823-8503
E-mail: mrc@mrc.ca
Website: www.mrc.ca

STAKEHOLDER MEETING MINUTES OF MEETING

PROJECT: Lauzon Parkway Project
STAKEHOLDER: Bill Balazs
FILE NO.: 3211012
DATE: November 28, 2012 **TIME:** 9:15 a.m. – 10:15 a.m.
PLACE: City of Windsor Office - 1266 McDougall Street
 Bill Balazs 386823 Ontario Limited
 Theresa Balazs 386823 Ontario Limited
 Rakesh Shreewastav MTO Windsor BIIG
 Bob Felker MTO Windsor BIIG
 Amber Turvey MTO Windsor BIIG
 Josette Eugeni City of Windsor
 Michael Cooke City of Windsor
 Anna Godo City of Windsor
 Michael Chiu MRC

PURPOSE: To discuss the impacts of the proposed land use designation and the proposed Little River Corridor on Balazs's property.

MEETING MINUTES:

1. R. Shreewastav provided a brief background of the study and noted that Mr. Balazs' concerns are mostly related to the Sandwich South Secondary Plan and the Stormwater Management Study.
2. B. Balazs advised that his property, which is located on the south side of CR 42 immediately to the west of Little River, was designated Open Space in the City's Official Plan in 2006. He has the following concerns/questions:
 - Concerns about the Open Space designation on his property
 - Would like to know more about the proposed Little River Stormwater Management Corridor
 - Have some questions about the widening of CR 42
3. Land Use Designation
M. Cooke explained that the boundary of land use zoning typically uses property line as the demarcation line. Balazs's property is located next to Little River and the woodlot to the

south, this has resulted in the Open Space designation. However, M. Cooke noted that the City is open to extending the Employment Land designation on the property immediately to the west into part of Balazs's property. The limit of the employment land designation will depend on identifying any negative impacts of proposed development on Little River and the woodlot. For the purpose of the Secondary Plan, the extension of the employment lands on to the Balazs property can be generally shown. The actual limit would be determined based on the findings of environmental studies that would be required as part of any future development proposal.

B. Balazs asked how much buffer would be needed for the river and the woodlot. M. Cooke advised that the property owner will need to submit at a future date, a development plan and demonstrate how the proposed development would not impact the natural features. He added that it is too early at this stage to define a "line" now without details on the nature of the development and servicing study.

In summary, M. Cooke suggested that:

- The City will extend the employment land designation to include a portion of the Balazs' property
- This would confirm a development opportunity at the property subject to environmental study
- The City will prepare a draft of the change for review/consultation in the next 2 to 3 weeks
- The City will provide the draft for Balazs' review
- The exact limit of lands that can be developed for employment uses and those that must remain as open space will need to be determined in the future subject to additional development details and environmental studies

Bill Balazs' agreed but requested that the draft be provided to him and his counsel for review preferably before January 10 (prior to his vacation).

4. Little River Stormwater Management Corridor

A. Godo explained that there are constraints to the stormwater measures that can be used in the area due to the need to decrease the attractiveness of wildlife and waterfowl in the vicinity of Windsor Airport. As a result, a wide Little River Corridor with a width between 100 m to 150 m is needed, i.e. approx. 50 m to 75 m each side from the centerline of the river.

She noted that there is a possibility that the corridor width could be reduced subject to a review of further details based on future land development. The exact corridor width will be finalized on a case-by-case basis.

She added that seven stormwater management alternatives were considered in selecting the preferred plan of Little River Corridor.

5. CR 42

M. Chiu noted that the widening will occur on the north side only.

A. Godo advised that the future widened CR 42 would have an urban cross section with curb

and gutter. This means that the existing ditch on the south side would be removed.

She noted that there would be full municipal services on CR 42 including separate sanitary main and storm sewer. However, the timing of the widening and the associated municipal services are based on development in the area and therefore are not known at this time.

6. M. Chiu provided B. Balazs with hard copies of 5 exhibits (PIC displays) as previously requested by B. Balazs.
7. Replying to B. Balazs' question about the phasing of the Secondary Plan as shown on Schedule H, M. Cooke explained that the purpose of the phasing is to allow orderly development of the area to avoid clustering of developments. He noted that this applies mostly to residential areas and not to employment lands. He also noted that Balazs' property is abutting CR 42 and phasing does not apply to this property as much as to other residential areas. A. Godo reminded that the block/neighbourhood plans would still be required and at that time, servicing plans would be required for sanitary and storm systems.
8. M. Chiu advised that there would be no more Public Info Centre planned for the Lauzon Parkway EA Study. However, the Secondary Plan will be presented to the Planning and Economic Development Standing Committee, which is a public meeting, early in the new year.
9. R. Shreewastav noted that the Lauzon Parkway EA Study will be completed in Spring next year. An Environmental Study Report will be filed with the Ministry of Environment for a 30-day period public review. The public can If any party or individual feels there are significant outstanding issues that have not been adequately addressed, they could ask for a higher level of assessment so the issues could be addressed through a more detailed study. This is known as a Part II Order. R. Shreewastav also advised that there is no program committed for future phases of this project beyond the current EA Phase.

The foregoing represents the writer's understanding of the major items of discussion and the decisions reached and/or future actions required. If the above does not accurately represent the understanding of all parties attending, please notify the undersigned within 48 hours of receiving these minutes at 905-823-8500.

Minutes prepared by:
Michael Chiu, P.Eng.
MRC, A member of MMM Group

cc: Attendees

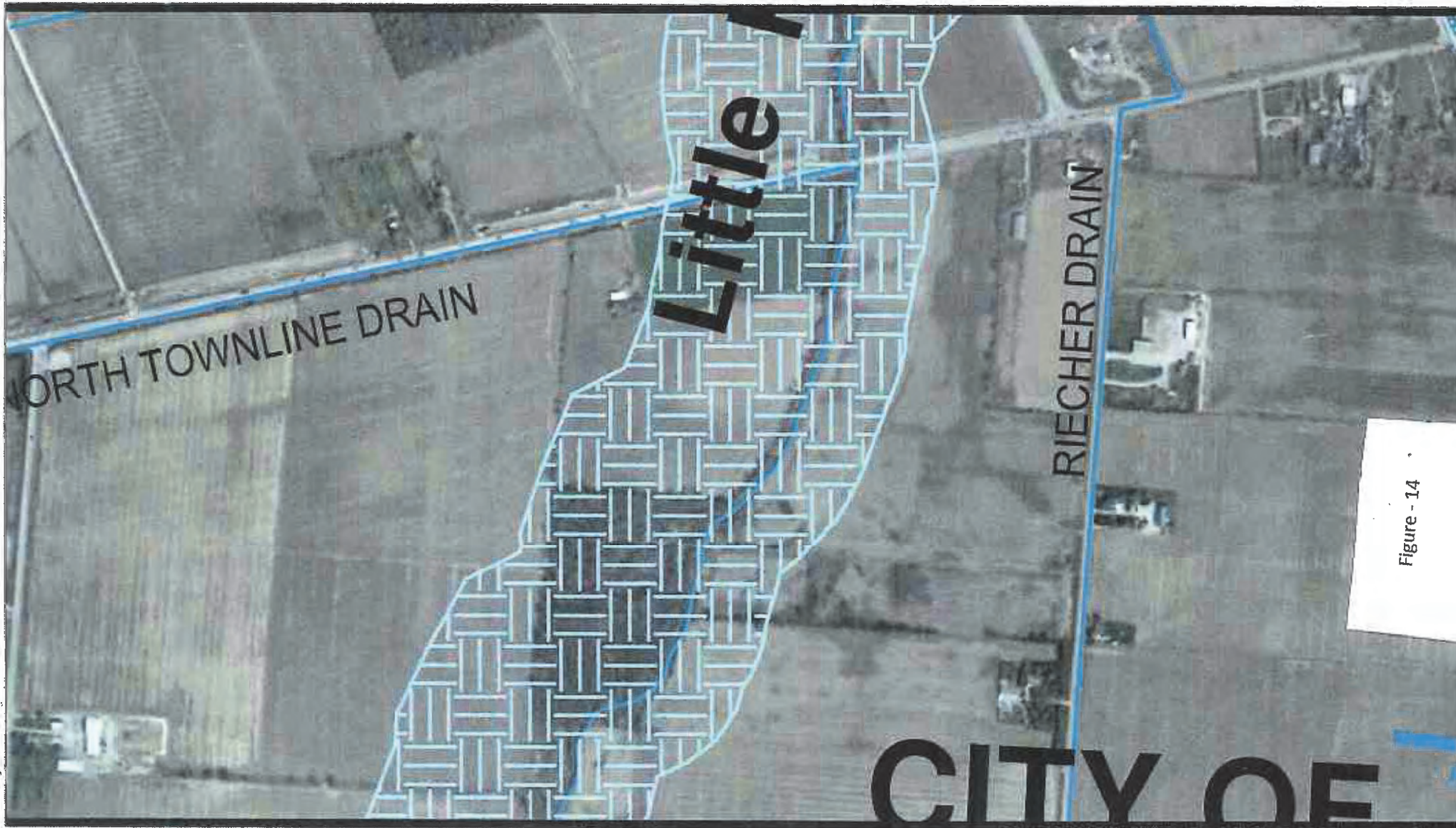


Figure - 14

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Re: Planning Comment on EA Report

Ted Halwa <thalwa@bell.net>

Tue 2017-10-31 9:41 PM

To: Bill Balazs <bbalazs452@hotmail.com>;

While I would agree with the statement "completion of the EA does not result in changes of land uses" and the statement which follows "Other Planning Act processes must be followed....." it is important to recognize that the EA will provide the basis for any future land uses designations (i.e. Changes in land uses) in the EA study area. In fact, it should be anticipated that the City will, in short order, initiate changes to existing land use designations in the study area to ensure they are consistent with the completed EA. The basis for the changes will be the EA itself. If landowners are skeptical or have objections as to how the completed EA treats their holdings, they would be well advised to intervene at the EA stage before it is finalized and not wait until related amendments are brought forward to the Official Plan intended to ensure consistency with the EA. While it would be possible to wait and challenge the EA at the time amendments to the Official Plan are being considered to implement its preferred alternative, by that time the EA would have acquired status as an 'approved' document and challenges may effectively be found 'too little too late'

There is little question that in the case of the lands under the ownership of 386823 Ontario Limited (i.e. owned by you and your spouse), the preferred alternative recommend by the EA greatly impacts its future development potential to the extent that the limited amount of lands remaining and its configuration may adversely affect its viability to be developed.

Ted Halwa, MCIP, RPP
242 Edward Street,
Port Stanley, N5L 1A4
Cell 519-671-3083
E-mail thalwa@bell.net

From: Bill Balazs <bbalazs452@hotmail.com>
Date: Tuesday, October 24, 2017 at 2:02 PM
To: Ted Halwa <thalwa@bell.net>
Cc: "salmcc@netscape.net" <salmcc@netscape.net>
Subject: Comment on EA Rpoert

Good Day Ted;

Please provide your comment (per attach. email from study) as well as (scan 20171024) the full view of SWM Corridor and (scan 20171024 (2), which is a zoomed view, which specifically highlights our property around the word Little and shows our building.

Please note the impact of the corridor size and the balance of lands available for development.

Then review the brief summary email dated 2016-12-21, that was sent by John Henderson (from ECRA) with specific note of key individuals included and cc .(Anna Godo /City of Windsor Drainage Superintendent, and Jayson Innes/ from Stantec /responsible for preparing the Report/ Consulting Firm)

The section for your review and specific comment is item (2) " Plans are included that identify proposed land uses within the study area. Completion of this EA study does not result in changes in land uses." They do not comment on any impact to future land use, but do state further, " This EA covers a very large area. The report

Figure 21 (2 pages)

November 6th, 2017

Re: Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan

Submission By: 386823 Ontario Limited/ William F. Balazs

We are enclosing additional support information with Figures that relate to our submitted Part II Order of October 27, 2017 and email of October 30, 2017.

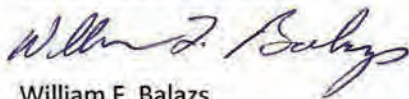
Minister
Ministry of the Environment and Climate Change
Floor 11
77 Wellesley St W.
Toronto, Ontario M7A 2T5

Dorothy Moszynski
Project Evaluator
Environmental Approvals Branch
Ministry of the Environment and Climate Change
135 St Clair Avenue
7th Floor
Toronto ON M4V 1P5

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Summary: (Up Dated – Nov. 3rd, 2017)

CONFUSION -It must be noted- We were some what confused and miss directed as well required to review a lot of information at three meetings with a lot of cross referenced material, since on the day of October 22, 2012 the following PIC meeting were held at the same times and the same place: 1) Upper Little River Stormwater Master Plan EA Pic #2, Lauzon Parkway EA and the Sandwich South Secondary Plan EA . Submission were to be submitted by Nov. 5, 2012 for UPLRS MS PLAN EA and Stake- holders meeting was to held on Nov. 28, 2012.

The above has outlined the failure or the lack of involvement with the intent at all times for constructive dialogue, in a cooperation environment especially with myself or other land owners directly impact by the Stormwater Corridor.

This process did not allow for any further comments or criss-cross related correspondence to a Project Team member to be included, as well as any matters that are not outlined or part of the EA consultation process that they have outlined.

Clearly, we have been restricted in not being able to take part in the beginning as well throughout the process/plan over time.

At various times they have made statements, but now they have changed or now they are claiming, we were informed about a matter, but to the best of our knowledge they were never revealed.

They provided a reply on some question, but really did not answer the question, but go on to quoted an intent of the process, that no one else to date has provided a written reply or forwarded to another team member to confirm the correct reply.

On occasion they have answered a question, but it has confused us further.

They missed answering the question completely or confirming our understanding that we have been previously, but it seems to them they have answered with a full reply.

The Code of Practice, "The Environmental Assess Act defines environment to mean: per item, (c) The, social, **economic** and culture conditions that influence the life of humans or a community." The important word **economic (of the reserved corridor size) will influence the life of humans (will impact the life of lands owner) has not been addressed in this process, communicated or allow for input, as per their objective, "at all times throughout this process"**.

They have not mentioned, or fully addressed or included a section, that covers the requirement as stated above, with reference to economics that will influence the life of humans (will impact the life of lands owners)

They, themselves have stated that the study purpose is to recommend (outline a process) as it relates too the strategy (provide guidance) under SWM to allow for development, with the input from the public.

The study has failed to include the above and have further stated the City Administration is reviewing the funding strategy, but it would clearly be understood that the study must have an outlined process or

provide guidance/controls to follow or address the intent of covering impact individual stakeholders or those land owners, that can be restricted and delayed from development, that must address a fair and just strategy to compensate lands owners. Therefore, the study must include recommendations that will provide City Administration a process for addressing any future funding strategy with respect to infrastructure and development

This study has stated that the City of Windsor and the Town of Tecumseh area down stream from the study area is at capacity and it would be too costly to address any additional flows.

They have carefully protected the airport employments lands and have excluded them as an option to support SWM, because they have plans to benefit from future development as seen by the County Road 42 Road construction, with a round-about at Conc. 9 and Cty. Rd. 42 leading into airport lands.

It would seem that individual stakeholders across the street (40 m) will not be able to benefit from any development, but will be able to meet all of the requirement to support a SWM System not permitted on airport lands.

We have been always concerned with the key point (by Ted Halwa) from a completed EA having an acquired status as an approved document, that will negate any challenges, since they may well effectively be found to "too little and too late".

As further noted by Ted Halwa; **"that in the case of the lands under the ownership of 386823 Limited; the preferred alternative recommend by the EA impacts its future development potential to the extent that the limited amount of lands remaining and its configuration adversely affects its viability to be developed."** (It clearly makes reference to today and into the future development, which is the key point as outlined in the study.)

The area along Little River, South of County Road 42 to Baseline Road will be an import holding area to support SWM as seen by the size of the reserved corridor and meander belt, that will be needed to provide support to the system to the south beyond of Baseline, east and west along Baseline, east and west of County road 42, and north and south along Lauzon Parkway. Please reference study Figure # 16 page # 174 as illustrates Final Meander Belt Width and said lands under LRD-4.

The other point is that we all have been under a crunched time line to address any issues, since we have not been allowed to sit down and review the document prior to Sept. 22 2017. (almost 5 years, with major changes)

Please refer to Figure 12, 13, 15, 16 and the final impact on development of said lands as per completed study of Sept. 22,2017 with Figure 14 and the final conclusion that has not been addressed or avoided in the study and not answered in meetings or final group of questions.

Conclusion:

- Must require a meeting with impacted land owner/stakeholder with respect to SWM and corridor size, that we allow them to point out issues and address the lack of information to be included in the process. (and fully transparent)
- Possibly consider ways to reduce the impact and look at transference to another landowner like the airport property (City Of Windsor)
- The report states that any group or block of land owners may be able to work together to reduce facilities, as well as an individual must be required to have their facility to support other in the system.
- To make sure the land owner that will gain benefit will be required to follow a process that make sure those that cannot participate because of the impact, as a result of those land owners being required to support the SWM reserved corridors will also share and receive the same benefits.
- A guidance that will provide assure that a fair and just compensation as it relates to a delayed timeline or lost development is outlined as it relates to the SWM corridor/system.
- Must address key points as outlined in the Summary and be monitored or viewed by the Ministry for full compliance.

Note - there may be more to be included once the stakeholders meeting is held and a clearer understand of the study report may require additional requirements.

*Note-1) it is assumed if the any responses are submitted from directed individuals Mr. John Henderson or Jayson Innes, they will be forward to us.

BACKGROUND:

Subject lands' have been owned by the family since 1965

Even though these lands are immediately adjacent to the Little River there has never been a flooding issue of any kind and the land has been actively farmed for all of these years and continue, without any difficulty. The owners do not have any development plans underway but, do not want to have anything done to their lands that would significantly restrict their development potential.

Said land owner has been actively involved since 2007 on land use (Open Space and Little River Stormwater Corridor –SWM Corridor-) and with respect to this matter at PIC#1 and PIC#2 and the PIC meeting of Lauzon Parkway Improvement Class EA Study and included members from the Project Team for ULRSWM-EA (Michael Cooke and Anna Godo), which was held on Nov. 28th 2012.

Note-with reference to all or partial land designated as Open Space- subject lands do not have any supporting finds, justification or facts (such as a large flood plain) to be marked as Open Space with respect to Land Use. These lands do not have any natural features in supporting or justifying the amount of land potentially required to support the corridor size or open space. (Figure – 17 / Greenway System)

The only points with respect to said land that impact or influence the land use is the size of the Little River, which is about 20 m/65 ft. wide, as well the SWM corridor that addresses a possible flood plain size of 30 m / 98 ft.

Said land owner has attend meetings or reviewed matters reporting on the Extension of Lauzon Parkway, Reconstruction of County Road 42, Airport Property as it relates to (Land Use on the North Side of CTY Road 42, as it relates ideal condition available to support SWM and future employment, additional amendments to expand zoning, Solar Farm and purchase additional lands not owned on the airport site) , the discussions of the Sandwich South Secondary Plan on Land Use and the current discussion with respect to County Road 42 Secondary Plan on Lands Use as it relates to the hospital site.

Important Notation; As per the Stakeholders Meeting Minutes of November 28, 2012 prepared by, Michael Chiu, P. Eng./ MRC, A member Of MMM Group. (Figure- 4) and (Figure- 16)

Place; City of Windsor

Purpose; to discuss the influence/impact of the Little River SWM corridor of the development or proposed land use designation and proposed Little River Corridor on Balazs's property/ 386823 Ontario as well as guidance to the Lauzon Parkway Improvement ES Study

-Summary Points, that at that time did provided information about the SWM plan and the corridor size, which would outline and influence/impact land use to said land owner and concerns with respect to Lauzon Road Improvement.

-Little River Stormwater Management Corridor-

By Anna Godo/ City of Windsor; explained that there are constraints to the stormwater measures that can be used in the area due to the need to decrease the attraction of the wildlife and water fowl in the vicinity of the Windsor Airport. As a result, a wide Little River Corridor with a width between 100 m to 150 m is needed, ie. Approx. 50 m to 75 m each side from the centerline of the river.

She noted that there is a possibility that the corridor width could be reduced subject to a review of further details based on the future land development. The exact corridor width will be finalized on a case-by-case.

She added that seven stormwater management alternatives were considered in selecting the preferred plan of Little River.

-Land Use Designation-

Michael Cooke/ City of Windsor, did after discussion of our position with respect to SWM corridor and open space responded with a portion of said lands to include future employment, thereby reducing the amount of open space. He further stated that, " The exact limit of lands that can be developed for employment uses and those that remain as open space will need to be determined in the future subject to additional development details and environmental studies." We later concluded that both Anna Godo and Michael Cooke responses would be influenced/ impacted by SWM Study.

Response to minutes and additional points were sent to M. Chiu, M. Cooke, Anna Godo and cc attendees as follows;

Key Points-

A discussion of the extension of Lauzon parkway, with reference to road way location and little river will result in a portion remaining open/ or gap that permits the corridor to shifted east and therefore reducing the amount of corridor width on said lands. (figure 3).

It was also stated at the meeting that going forward and allowing the remaining portion to be marked Open Space and may be required by SWM, therefore will result in and impose restrictions or conditions, unfair limitations and be perceived as lands available for other uses such as the SWM Corridor and not for prime and premium valued lands for development and related compensation.

Again the clear conclusion is the fact that SWM Plan will set out guidance, requirements to be included, governing conditions, process to be followed and to be used in any future surelated EA Studies.

This is further supported by section B.5.6.1 Lauzon Parkway EA Study -Consultation with Individual Stakeholders (figure 18)- " to discuss their concerns regarding the land-use designation of their property in the Lauzon Parkway Study as well as the Sandwich South Secondary Plan and the Upper Little River Stormwater management Study.

The Lauzon Parkway EA does not designate land-use: therefore further correspondence with this owner was arranged through the Sandwich South Secondary Plan and Upper Little River Stormwater Management Study. “

Additional support was referenced in the Lauzon Parkway EA study and governing of ULTRSWM Study
By Jay Goldberg MMM Group (figure 5)

In regards to the comments about the Little River crossing of County road 42 (culvert DC1) and the proposed stormwater management ponds located northwest of the future County Road 42 & Lauzon Parkway intersection, DC1 is the existing culvert that conveys the existing crossing the Little River under County Road 42 and will be maintained in the future. Also, the exiting alignment of the Little River is being maintained from north of County Road 42 to south of Baseline Road. Roadway runoff from the improved County Road 42 will be accommodated via new storm sewers to be constructed under County Road 42 and by the proposed Upper Little River Class EA stormwater management plan. The County Road 42 storm sewers will outlet to the Little River and the ponds proposed on the north side of county Road 42 are required to provide water quality treatment. (letter shared with Anna Godo, P.Eng., City of Windsor contact for the Upper Little River Stormwater Master Plan study and CC to Michael Cooke from the City of Windsor).

Further involvement includes having our solicitor attend and speak at Standing Committee and solicitor and owner attending and spoke at City Council meeting that were requesting Direction for the Notice of Study Completion for the Upper little River Master Plan Environmental Assessment Planning Process to commence the 30 day review period. (none of these were reference in the Study or further follow-up correspondence from ULTRSWM Study and SSSP.)

Note: As per (Figure 6) the SSSP has been deferred, but as highlighted from Thom Hunt, City of Windsor City Planner “ Together, all three studies (ULTRSWM Study EA, Lauzon Parkway EA, and SSSP **have worked together to comprehensively evaluate the future requirements of land use, transportation and stormwater management within the City of Windsor and beyond.**) As well as **the purpose to examine future requirements and environmental assessments.** (Note; Michael Cooke has also signed the letter/ Manager of Planning Policy for The City of Windsor/ and he is also a member of the Project Team for ULTRSWM Study)

*Further support to our conclusion that the ULTRSWM study/Corridor is the governing factor for land use that will influence said land owner.

Throughout this period many emails from said land owner have been sent to many individuals at City Hall, consulting firms performing the studies or attendees and correspondences from retained solicitor and planning consultant for the said land owner. (No reference in the report)

Note- Key Project Team Members or Attendees for the ULRMSWM EA Report for the City Of Windsor and ERCA.

Michael Cooke - City of Windsor - Project Team Member/ Manager of Planning Policy/ Project Team Member for ULTRSWM EA Study

Thom Hunt - City of Windsor - City Planner

Anna Godo - City of Windsor - Drainage Superintendent/ Project Team Member for ULTRSWM EA Study/ and City of Windsor contact for the ULTRSWM Plan Study

Mark Winterton - City of Windsor - City Engineer

Don Wilson - City of Windsor - Manager of Development Applications

John Henderson - ERCA – Essex Region Conservation Authority

Jayson Innes - Stantec Project Manager for ULTRSWM EA

Representatives for (Balazs Land);

Philip McCullough ---- Solicitor

Ted Halwa ---- Planning Consultant

Other Key Contact;

Hilary Payne ---- City of Windsor, Councillor - Ward - 9

TIME LINE DATES AND INFORMATION:

- October 17, 2007** -Meeting and correspondence from solicitor (Philip D. McCullough, Salem, McCullough and Gibson) **with** Jim Abbs and Thom Hunt from the City of Windsor Planning Department
- 2010** Airport Master Plan Land presented Land Use.
- Oct. of 2011** adopted the Windsor International Airport- Master Plan of 2010 with further discussion of Provincially Designated Wetlands and related woodlots.
- May 29, 2010** PIC #1 for the Upper Little River Stormwater Master Plan Assessment
- October 22, 2012** PIC #2 for the Upper Little River Stormwater Master Plan Assessment as well the Lauzon Parkway EA, at the same location. (note- ULRSWMP to " have Finalized Environmental and File Class EA by the Winter of 2013 and the Lauzon EA is scheduled to end in 2013)
- **November 28, 2012 Stakeholder Meeting,** (-these were individual meetings) as per Figure -4 and the list of attendees, with specific reference to Michael Cooke and Anna Godo from the City of Windsor
- **January 2013** Hospital announcement and the final approval of SSSP placed on hold, with a key statement made by the City Planner of Windsor, Thom Hunt and confirmed by the Manager of Planning Policy for the City of Windsor, Michael Cooke.
- **Jan. 30,2013-** SSSP letter -"While not formally part of the SSSP/ Lauzon EA processes, the Upper Little River Stormwater Master Plan Class EA (Little River EA) is also being conducted at the same time under the leadership of the Essex Region Conservation Authority and their consultant Stantec Engineering. **Together, all three studies have worked together to comprehensively evaluate the future requirements of land use, transportation and stormwater management within the City of Windsor and beyond.** (Figure – 6)
- July 17,2013** a letter was sent to Michael Cooke Manager of Planning Policy for the City of Windsor from said land owner planning consultant (Ted L. Halwa, associate Planner with Monteith Brown Planning Consultants to assist them in dealing with issues potentially affecting their holdings. The letter references the fact that the SSSP process has been put "on hold" and that the ULRSM Plan EA has slowed, which further states it **may potentially have a direct impact on the subject said lands.**
- 2013&2014** Throughout the calendar year, the said land owner sent emails to main contact for the City of Windsor with respect to the ULRM plan study, requesting release time lines that forecasted upcoming dates' that would pass without any update till another request for status was requested.
- **Jan. 20th, 2014** the Lauzon Parkway Improvement Class EA Study and Report was released along with reconstruction of County Road 42 and included the Final Drainage and Stormwater Management Report per the Lauzon Parkway Class EA Study. (reference to follow up response in Fig 5)
- **May and June of 2014** provide PIC of proposed Renewable Energy Project/ Windsor Solar Farm with Windsor International Airport property and Samsung
- 2014 – year end Lauzon has received approval and no discussions of SSSP.

--**June 1st of 2015** changing or amending Future Employment Areas to expand and clarify designation, as it relates to Airport Lands in the City of Windsor, on the north side of County Road 42 between Concessions 8 and 9. It was stated in the report the stormwater management plan was also recently completed for the airport area. As well as a reference to the Economic Revitalization Community Improvement Plan with specific reference to employment land- particularly within the Sandwich South Planning Area and the Community Strategic Plan. This requested amendment was concurred by Thom Hunt/ City Planner for the City of Windsor and Don Wilson/ Manager of Development Applications.

--**July of 2015** the City of Windsor posted a notice of application for approval to Expropriated Land, these two separate lots' of land are located on the north side of County Road 42 on Airport Property, as well as just east of Conc. 9, across from the proposed hospital site on the south side of County Road 42.

-- **2015** Hospital Selection Committee releases selected site to be located on County Road 42 and ninth Concession, which is 154.7 m / 508 ft. west of subject lands'.

--**Throughout 2015**, various email were sent out for update on ULRSWM plan. The key point asked and replied, was the public review would be in the Spring of 2016 and the hope to have the final report by February 1st 2016 and to go before Standing Committee at the Feb.17,2016 meeting and then at the first available City Council meeting.

We asked, does the final report not require a public review before going to Standing Committee and City Council? The **required public information sessions on May 29, 2012 and Oct. 22, 2012** with the preferred alternative being presented at PIC#2 as **required** by the EA Process . We did asked to be notified when report will be released to allow for a review with a **reasonable** amount of time to provide comment and submissions, any changes to the corridor size as presented at Stakeholders meeting in the later part of 2012. As well, no response for having additional meetings. (only during 30 day review)

--**August of 2015**, Subject land owner receives and signs an - Agreement of Purchase and Sale- from a major developer, with various conditions and specific reference to -Zoning in Final form- means the fulfillment of the following conditions :-

"the by-law or by-laws which permit on the Property such use(s) which are satisfactory to the Buyer (the Rezoning By-law) have come into full force and effect and without limiting the generality of this requirement, with specific impact issues to official plan amendments necessary to ensure the conformity of the Rezoning By-law to the Official Plan and that no zoning or service impediment prevents the issuance pf the building permit."

Buyer and Seller (said land owner) attended an informal meeting with members from the City of Windsor Planning Department covering possible development of --said land-. The main point that would have an impact on any development was the finalization of the ULRSWM study, that may impact the Official Plan and zoning, corridor size and timing. The Buy after further review of development and potential conditions of SWM corridor, buyer forwarded a termination of this Purchase Agreement.

– **Sept 7th, 2016** the 1st Draft of County Road 42 Corridor Secondary Plan was held with members of the Stantec Team and the City of Windsor. Recall seeing Don Wilson from the City of Windsor Planning Department and spoke with Nancy Reid, contact representative for said Project for Stantec.

An, important statement was contented in the notice- **The new Windsor Regional Hospital will serve not only the citizens of Windsor, but also residents of the broader Essex County and beyond.**

We spoke in length about land use and development, and corridor size as well as display board that illustrated the 100 year Flood Plain per ECRA, which clearly showed the flood plain would not exceed 40 m for 100 years and how it relates larger amount Open Space/ Park space or corridor size. (Figure-2) and the 100 Year Flood Plain (Figure -19) The display board showing the 100 Year Flood Plan was not included in the released summary.

As well, further discussion the influence of Park/Space Lands or SWM corridor lands and the possible consideration of lands being purchased and the compensation value must consider values for lost development and include a time line.(It would be a given, that some points would have been forwarded or discussed with Jayson Innes/ Stantec/ Project Manager ULRSWM EA Study

Nancy did receive email from Ted Halwa planning consultant with providing comments to lands use.

Fall of 2016 did ask Nancy Reid for update, the reply was that they are no longer involved and all information has been forwarded to the City of Windsor.

--**Balance of 2016 and early 2017** - many email exchanges were sent to Valerie Critchley/ City Clerk for the City of Windsor, Councillor, Hilary Payne/ City of Windsor, Mark Winterton, City Engineer/ City of Windsor as it relates to the matter of release of the ULRSWM study.

--**March 14, 2017** final a confirmed date was posted as public notice for the Standing Committee to have their meeting on March 22, 2017 at 4:30 at City Hall to hear the ULRSWM report.

The report contained about 19 pages, with same information outlining the preferred alternative and the other 5, and some additional section providing information

Key points covered- as per Recommended Alternative;

*The SWM facilities can provide controls for more than one property and will be located adjacent to a water course.

*Heavy vegetation adjacent to all water bodies and minimal open water will be implemented in order to make water features less attractive to bird species, a specific **request from the Windsor Airport.**

Risk Analysis;

* However, since the permanent stormwater management facility construction is not imminent/ this is confusing, since the city is looking at the upcoming new hospital, Lauzon Parkway/ County Road 42 reconstruction and other developments at this time.

Key points not included;

*Landed needed to be purchased, impact on land owner, compensation and no dollar values outlined in summary report.

* Did not contain any major changes like corridor size or changes to airport lands from original presentation.

The solicitor for said lands, attended meeting and asked for and adjournment, since said land owner was out of the country till March 30th 2017. (Figure- 7)

The committee stated that they cannot provide an adjournment and with some minimal discussion, if owner would be back for City Council meeting (that was confirmed by legal council) and a statement from councillor, Hilary Payne that the EA has been long in waiting and must go forward, then to pass to go City Council.

It would have been important for the committee to know that at the Stakeholders meeting of Nov.28,2012, that the SWM corridor was to be a width of 100 m to 150 m and could be further reduced subject to review of additional details based on future land development. ((fig. -4)

-Mar. 11 2017, email correspondence from Anna Godo, owner asked for the size of the corridor- and the new size as of 2017, - **almost 5 years later the corridor size along Little River from the north of the future East-West Arterial Road to CP Railway increased to 250 m, and 150 m wide along other tributaries.**

Further more, a statement that says, "these corridors are reserved until functional and detailed designs have confirmed the required corridor width, following which surplus lands will be released. (this creates delay to land owner, by being placed in limbo or frozen in time), (figure- 8)

Please note, that councillor- Hilary Payne and other Project Team Members(Joh Henderson) was included in the email from Anna Godo. (Not covered in Appendix C)

--**April 24, 2017**-- Notice of Upper Little River Master Plan Environment Assessment- Filing the Notice of Study Completion (Ward 9)

Legal Council, for said land owner submitted letter as (per Figure-9) requesting the opportunity to address Council regarding this matter and Mr. William Balazs and the undersigned will be in attendance as a delegate at the Council meeting on Monday, April 24, 2017.

The above (Figure -9 A, B, C) was provided to Mayor, all Council Members and administrative members in attendance. As well the brief contains of Decision Number: CR247/2017 was also provided to Mayor and City Council and similar summary report to the Standing Committee.

The first to speak was Anna Godo, City of Windsor (Engineer III for SWM) and John Henderson from ERCA. They presented some factual information as it relates to the report.

Then the owner made a presentation with the following key points;

- Establishing in 2007- planned land use as Open Space/ per Official Plan clearly presents or resulting in a perception/ or misleading that the land use notation of Open Space and resulting in less compensation, that these lands can be available for the SWM corridor or reserved for a corridor . As well as troubling that we would be allowed to farm the lands until they are needed for the corridor.
- In Nov. 28 2012 at Stakeholders Meeting per (Figure-4), we were informed the corridor range may be less then 100 m to 150 m and a possibility that the corridor may be shifted or the width could be reduced subject to review and needs.

- But rather, as of March 14, 2017 we have been informed the corridor size has been increased to 250 m on the river and 150 m on tributaries , these lands will be reserved until designs have been confirmed and any surplus lands will be released, resulting in a period the will create and impact on land development being frozen in time. (Not contained in summary)

- no alternatives provides any projected cost values or amount of required lands to be purchased, addressing impact to land owner as it relates to compensation, or why airport lands cannot be used to support SWM. Especially with the large increase in corridor size.

-this process disallows any further discussion with the city or from the Mayor and City Council, but only by submitting objection by the Part II Order process.

- We requested the report must be sent back to administration, the support summary is missing some vital information as to the true size, cost impact, compensation and outline a process of addressing corridor lands being reserved by an unfair width or location resulting in placing land owners along Little River and tributaries to bear the full burden of lost opportunities and value, while other benefit.
- Did not cover any process or guidance that address any required controls, that would provide a fair and just compensation to potential impacted land owner, that would not be able to develop.
- The report must be changed to a Draft Report and presented to impacted land owners (stakeholders) along the corridor, that would allow everyone a chance to review and provide feed-back before the release of the report as a Part II Order.

Some councillors asked further question as to the dramatic size change and if anyone else has knowledge of the facts and with a request to have report released today, but the report is not complete and would be ready in about 6 weeks. (released, 5 months later)

But council was asked to approve the process and allow the report to be completed since it would be ready shortly for public review and in the meantime directing administration to have a meeting with Mr. William Balazs to discuss his concerns.

Council approved step 1 and 2 as requested per Decision Number CR-247/2017 **Be Directed to finalize and issue Notice of Study Completion.** (it would be interesting to know how council would have reacted with the new size of 325 m on the river and 200m for the tributaries.

We had a follow up meeting outside chambers with Mark Winterton , Anna Godo and John Henderson about setting up a meeting time to discuss concerns and the attendance from the planning department be included and concluded that they would provide possible dates and times.

--**May 09, 2017**, said land owner felt it to be import to sit with the planning department and refresh past discussions and discuss some current matters

-- **May 31st, 2017** - The following were in attendance, Thom Hunt Executive Director/ City Planner, responded with a date of May 31st 2017 consisting of owner, owner's solicitor, Philip McCullough, Thom Hunt/ City of Windsor, Michael Cooke/ City of Windsor and member of Project Team for ULRSWM Plan, Donald Wilson/City of Windsor and Justina Nwaesei/ City of Windsor.

Discussion started per meeting of 2007 involving Thom, Jim Phil and owner;

- designation of said lands marked as Open Space/ SWM Corridor for Planning and not future employment.

-the fact that we have followed the SSSP (that is still on hold), Extension of Lauzon Parkway, Reconstruction of County, Airport Property, land use as presented at Draft County Road 42 Corridor Secondary Plan (held on Sept. 7th, 2016 by Stantec), New Hospital Site and the Upper Little River SWM Master plan and corridor size, which will impact land use, lost development and compensation, since all plans are directly connected.

The meeting was in general with no real direction or specific response and presenting an impression of not being fully informed in all of above items or were not prepared to discuss. They did inform us that a County Road 42 Secondary Plan for review was occurring in June, 2017, with MHBC Planning Urban Design and Landscape Architecture. We spoke of the dramatic change in corridor size, but they presented an atmosphere of not sure of the impact and more or less said that it is their project and did not offer any possible influence that it may impact development. We also informed them we were awaiting for a scheduled meeting with team members relating to SWM and have requested their involvement.

--**June 14, 2017**- a Stakeholders Workshop for the County Road 42 Secondary Plan took place, with key points discussed as followed;

* review -of Open House held on September 7th, 2106 –location of hospital climate change (which has been a factor for more then, 10 years), revised word of Park/Open Space to be corrected to SWM System, reflecting larger corridor size to increase corridor size 250 m of river from County Road 42 to Baseline and tributary size of 150 m as represented by site plan for said Secondary Plan. (reference Figure- 2 and Option 1 Figure- 10)

* as well, we were informed that they will be looking at simulation of 300m along the river and 200m on tributaries

* why, is the airport property on part of this Secondary Plan, since it is located across the street of this corridor plan and what is their impact or required support for the SWN system.

* discussion of Land Use Options 1 and 2, with clear agreement to Option# 2 and some requested changes to be included and must provide a descriptive chart of permitted Uses by designation and a site map showing property lines

* a great amount of time by MHBC was spent on cost sharing and compensation and the fact that lands needed to support SWM system should and will be just, fair, and account for lost benefit of developing as it pertains to value.

* attendees were still confused by the understanding of landowners shall enter into a private cost sharing agreement or agreements amongst themselves for the distribution of cost/ compensation in an appropriate and orderly development of plan are equal distrusted among all landowners, which then bring timing into the discussion and result in frozen in time. (where does the hospital and airport come into this process)

*then finally – individual developments in Secondary Plan Area **shall generally not be approved until the subject landowner has become a party to the landowners' cost sharing agreement.** (the words "shall generally" can provide a back door for selective development to proceed without the required cost sharing agreement)

Further to the point MHBC stated, that they are awaiting direction and guidance from the City on this matter as to how they will approach the above matter. (Still, in review, since it is the City of Windsor's call)

Key attendees from the City, were Anna Godo/contact for ULTRSWM Plan for the City of Windsor and Justina Nwaesei/ Planning Department City of Windsor.

--July 5, 2017- Public Consultation Session County Road 42- Secondary Plan that did include some requested changes or additions(Figure- 11) property lines and SWM system) and some changes in Preferred Development Plan (as seen on Figure -12).

Subject lands' have been changed to Medium Density Residential, Ted Halwa our consulting planning and Mr. Balazs spoke with Carol Wiebe from MHBC and clearly stated we did not request any change from Option 1 per meeting of June 14, 2017. Carol stated that please submit corrected position.

Spoke of new corridor size and reports of June 14th and July 5th and did contain the same Preferred Alternative for UPLR Master Plan as per 2012, which may have been over looked as to impact by viewers

Again, the public did ask about airport property and what will be their requirements for the SWM System and their planned land use, why the change in size of the corridor that could be 300 m on river and 200m tributaries and how will the Land Acquisition Options work and be applied, as well as timing.

Again, MHBC have requested direction and guidance from the city on the process of Land Acquisition, but informed attendees at the meeting that the city is still in discussions.

In attendance from the City of Windsor was Anna Godo and Justina Nwaesei .

-- **July 17, 2017**-A request to Carol Wiebe was sent to set up a meeting in London to discuss key points as per PIC meeting held on July 5th, 2017. A response was received to confirm a date of July 27, 2017.

As well as a question was sent to Anna about the corridor going to 300 m and if it would be 150 m on each side of the corridor as per past practice?

Anna, responded with some dates for a meeting as instructed by Council on April 24, 2017, with us confirming that we will be there on July 26, 2017. Anna also stated that the draft report is illustrating a couple of scenarios for SWM facilities on each side of the corridor of 325 m and one SWM facility on the 200m corridor.

--- **July 26th, 2017**meeting at City Hall with owner Mr. William Balazs, solicitor/Phil McCullough, and the following from the City of Windsor, Mark Winterton, Don Wilson and Anna Godo, as well as John Henderson from ERCA.

The following outlines points of discussion;

*the topic of the Airport Property SWM report being completed – was stated by Anna that she didn't believe that report, but they will be responsible for all their own stormwater and contain their own lands

- note, statements have made reference to stormwater plan/ report having been completed as per Report No. 304 (M197-2015), which was adopted by Council on June 1st 2015 for amending Zoning By-law as it relates to Airport Lands' on the North Side of County 42; as well as reference to SWM/ drainage matters for the Samsung Solar Farm project on Airport Property, which reference Stormwater Management Report as per Draft Windsor Solar Report of November 2014..

*with respect to the 325 m corridor width, we asked about 50/50 split and impact to the Balazs lands; with a response - that it may not be 50/50 and may require a larger set- back on one side of the corridor and did not provide an further plans

* clarified the information per Anna on statement of 325 m per scenarios having facility on each side of corridor and one for 200 m section/tributaries. As well as address Climate Change.

*we asked about employment lands on airport property on the north side of County 42, but really didn't get any response.

* Anna and John did provide explanation why airport lands cannot be used to support the ULRSWM plan, with reference to restriction hazardous species (gulls and geese), wetland and open water facilities;

-- per CR 191/2012 that reference Airport Development Lands;

| | |
|--|--------------|
| Provincially Designated Wetlands | 30.4 Hectare |
| 120 m adjacent land/buffer | 42.5 " " |
| Additional Open Space (linkage & storm water facility) | 40.3 " " |
| Total open Space | 113.2 " " |
| Total Developable Lands | 354.0 " " |

The above states Airport Lands have the potential to be used for a storm water management facility for the overall development of the airport employment lands. It also that will require limiting the attraction of wildlife (birds) to storm water retention features and stormwater retention to be considered for both the airport property **and within the vicinity of the airport.** (said lands along County Road 42 are 40 m across the from the airport lands and the fact the airport lands have 354 hec. Employment Lands)

It also states that the airport lands can be utilized these open space lands for a natural storm water treatment and possible detention. Swamp wetlands, due to high vegetation are not a habitat for gulls and geese, species which rank highest for risk to damage aircraft.

Clearly this provides for an ideal expansion of SWM lands with reference to above hectares available for employment lands

*With reference to Land Acquisitions/ Compensation as presented at MHBC:

-- that they recognize the philosophy of land owners compensated for taken lands, but we were reminded that per the Drainage Act , part of needed lands are now automatically encumbered and that the city never guaranteed any payment or cost sharing, as well as any requirement by the hospital or airport lands. We stated that per meetings held by MHBC these fact were presented and that they were awaiting direction from the city, as well as no reference to the Drainage Act and the fact that needed lands are now automatically encumbered for SWM management. (the Drainage Act does state that compensation for lands needed must be outlined)

-- we did ask if they have provided their direction for cost sharing and Land Acquisitions to MHBC,- they stated that the City are still have decisions on this matter.

* do to timing and commitments by attendees we could not get to the point of lands to be reserved until the full determination on amount lands needed, and any surplus lands would be returned and the intent of owners signing agreement of cost sharing and may allow for SWM plan to have facilities cover other properties to support the system.

*we did not get to ask about SWM impact on land use and their statement that SWM management plan will develop as developments occurs and how will it impact lands placed in reserve and in limbo or frozen in time.

* it must be noted that we felt they were a little evasive on some of their response, as well as avoided specifics and not wanting to fully share information.

--**July 27th 2017** Meeting with MHBC- Carol Wiebe/ MHBC, Eric Miles/MHBC, William Balazs/ Said Owner, Phil McCullough/Owner Solicitor, and Ted Halwa/ Planning Consultant.

* we discussed many points as it related lands use and description, change in our preferred designation from 1st meeting of option #1 shown as Business Type 2 and then why it was changed to Medium Density Residential, but it is reviewed by the city for input and direction as to their preference. We did further our request that why covered in our submission to her office on land use.

*We had quite a discussion about the SWM plan and the size of the corridor and fact that as of yesterday they are looking at 325 m along the main part of Little River from CP track to new road and that the tributaries were to 200 m as it relates to their current Secondary Plan along County Road 42. – stated that she had not heard of this change and are having difficulty in getting information out of the City of Windsor on the width of the stormwater corridor.

She also stated that the illustrations does not reflect the proposed size of 300 m corridor, but does show 250 m, with a larger position of the corridor on our lands and the fact that it is not 50/50.

* It was clearly understood that the SWM plan will impact the work on a Secondary Plan as it relates to Land Use and the amount land available and that it will impose time delays for development to land owners. (specially our lands)

*We spoke about the hospital lands and their plan for SWM and she did state that the hospital will contain and control SWM on their property for an interim period, but will connect into the system at a later date

* with reference on how to address land acquisitions/options with a process, Carol did say they are still waiting for guidance from the City of Windsor, but they have replied that they are still in discussions.

---**Aug. 17, 2017** An email was sent to Anna Godo, requesting for a follow up meeting to cover missed questions, as well as additional questions that resulted in our meeting with MHBC/ Carol Wiebe, but an out of office alert stating return September 1st 2017 was forwarded by Anna.

--- **Sept. 20th, 2017** received an email informing us the ULRSWM Plan EA will be advertised to start the 30-day review period on Thursday Sept. 21, 2017 and reminded us as per our last meeting, we agreed to meet with you by day 20 of review period and a further update was sent out extending the 30 day review was changed to October 30, 2017 and as the same date for any comments or objection to be sent to the Ministry of Environment and Climate Change.

--- **Oct 10th, 2017** -at 3:30 pm was the agreed date for the next meeting, with the following in attendance at the meeting; William Balazs/ Owner of Said Land, Phil McCullough/ legal council for owner, and from the City of Windsor was Thom Hunt, Michael Cooke, Mark Winterton, Anna Godo, Don Wilson, Wira Vendrasco as well as John Henderson from ERCA.

*We spoke about how the corridor size being less then 100 m to a range of 125 m or 150 m in Nov. 2012 at the Stakeholders meeting and now the fact that we are looking at 325 m on the river and 200 m on the tributaries per released report as of Sept. 22, 2017. (WE ARE TALKING ABOUT A SPREAD OF ALMOST 5 YEARS) At no time during PIC # 1 and #2 information package reference these corridor sizes.

Further more, most members of the Standing Committee did not know of these measurements from 2012 or the new size of 250 m, since their summary package did not reference any sizes, as well the presentation to the Mayor and City Council did not contain the new sizes of 250 m until our submitted letter by solicitor to city to be placed as a speaker at the Council Meeting of April 24th, 2017. The councillors were concerned that they went from 125 m to 250 and nobody knew about this major change, but through this process everyone is expected to make an informed decision

* another important fact that no one was told about any projected costs or included compensation values or process throughout this period until the report was release on Sept. 22, 2017. The report did cover Preliminary Opinion of Probable Costs 6.3 (page 6.20) as well as Appendix K. which have an addition line stating costs do not include property or pumping stations, that was not shown in section 6.3. We asked if these cost values presented account for the new sizes of 325 m river and tributaries, which was confirmed by John.

* We asked if the public, Standing Committee, Mayor and Council were provided with enough information and facts in order to make a fair decision. (with no real defined response)

* Mr. Balazs showed them an aerial type picture (Figure- 13(-zoom view of Figure 2)and Figure-3) per larger map, part of Lauzon Parkway) from the discussions of 2012 and the **impact of 325 m** corridor and the 225 portion over his lands and the other side would be 100 m (Figure -14 a zoomed view of page 187 report)

In general they did not have any response to the points and especially the aerial view, or providing any direction or answer for the remaining or portion of lands that are now; in a holding pattern till the process provides for surplus lands being returned, thereby, not be able to attract any development, but in the meantime we will not be allowed to develop, resulting in missed opportunities and value.

*John from ERCA, attempted to go through an explanation of various issues and identified the fact they need the 325 m width with no real backup information as to where the 325 came from, but stated they chose this number to be on the safe side. (Greatly impacting land owners, since they have a new allocation for the stormwater corridor consisting of 560 hectares.)

* John and Anna kept trying to justify the dramatically increased corridor size would be needed to support Climate Change. Note- Climate Change is not something that has only been around for 2 or 3 years.

*John provided some vague explanation as to why they cannot bring the water directly over to the airport and the fact the stormwater needed to be treated and it would be too difficult to use airport lands. We did state that we will not be able to have wet ponds/water retaining ponds, but rather dry or green ponds would be needed, since we are just outside the 2km wildlife control zone, which John stated that water retaining pond can go on our lands. (-it is interesting that they cannot bring water to airport lands, it must be treated and it would be too difficult on the airport lands, but 40 m across the street on our lands everything is possible, note (they do have the Rivard Drain on the airport lands or employment lands just north of County Road 42 to support all the requirements for SWM.)

Further to the point, they continue to ignore the fact that the Airport Lands would more than satisfy a large part of their drainage issues especially with the new corridor sizes.

*We did discuss that they will need a lot of land in order to complete their drainage for SWM, yet they failed to set forth in the released report any criteria, process and compensation. As well, they stated the City of Windsor will not take part in any construction or cover any cost or compensation, but the surrounding developers will be responsible for all to construct for (ponds, meander belt, flood plain, new channel, park lands and trials), construction costs, compensation costs and will be required to make a deal with Mr. Balazs to drain their lands through his property as it abuts Little River or required to support the SWM system. (Interesting the airport property is part of the supporting SWM System).

* We stated that Carol Wiebe from MHBC still needs the information to cover direction and guidance for land acquisition and compensation as per their presentation at both meetings. (They again stated they are still in discussion)

*Mark did provide a value or formula to acquire Mr. Balazs's lands as committed at last meeting. He asked what the current lands are zoned. Mr. Balazs stated agriculture, which Mark replied, what is the going rate for agriculture land, and that would be the value.

*John did confirm that no reported evidence of noted erosion, but it did have slight aggradation, with reference LRD-4 and Meander Belt width in that area would be 86 m.

** Note- this has always been our concern, since we will not be able to develop our lands and receive a fair and true value for these lands, but will be penalized, while others will benefit. What is the current value of stormwater management lands/park lands or opens space?

*At the end, Anna and John said they would address the issue of land acquisition/ compensation and outline the process, provide guide lines and requirements. As well, they talked of how to cover/include this issue in the report at this time.

Again, we got the impression that they were evasive, not forth coming, because they did not know or not sure how to reply, but if they did know, they did not want to share the information.

--**Oct. 16, 2017**, additional questions to Anna Godo, John Henderson and Jayson Innes with reference to meeting of Oct. 10, 2017.

-- **Oct. 24, 2017**, reply, some questions were answered, but others were missed and did not really answer the question or made a statement not previously covered in any meetings. It was further stated that EA study did not have to report this matter.

-- **Oct. 25, 2017**, follow up with additional questions and requesting answer to previous questions not answered;

--**Oct. 26, 2017** reply, some questions were answered, but others were stated that they are outside of the EA process or best speak to Planning Department.(Figure 20)

***** They state the Study purpose is to recommend a stormwater strategy (or guidance) to allow development – A preferred option was developed as a result of an evaluation of alternatives and public/agency input, and is considered representative of the most financially and physically appropriate option to achieve the required controls ----- in the context of urban development.**

***** They further state “– their understanding is that costs, timing and funding will be dealt with outside of the EA process, and advises that City Administration is meeting to review funding strategy with respect to infrastructure.” (We want to know the process or guide lines they will be required to follow as part of the strategy as stated as a requirement.)**

-- Oct. 31 2017 , the following comments were provided by Ted Halwa (said land owner planning consultant; “ it is important to recognize that the EA will provide the basis for any future lands uses (i.e. Changes in land uses) designation in the EA study area.” - any challenge – by that time the EA would have acquired status as an ‘approved’ document and challenges may effectively be found ‘too little too late’ “ (Figure 21)

[Print](#)[Close](#)

RE: Lauzon Parkway Improvements Class Environment Assessment

From: **Jay Goldberg** (GoldbergJ@mmm.ca)
Sent: April-10-14 2:22:30 PM
To: Bill Balazs (bbalazs452@hotmail.com)
Cc: rakesh.sheewastav@ontario.ca (rakesh.sheewastav@ontario.ca); Felker, Bob (Bob.Felker@ontario.ca) (Bob.Felker@ontario.ca); jeugeni@city.windsor.on.ca (jeugeni@city.windsor.on.ca); jmustac@countyofessex.on.ca (jmustac@countyofessex.on.ca); Michael Chiu (ChiuM@mmm.ca); Heather Templeton (TempletonH@mmm.ca); mcooke@city.windsor.on.ca (mcooke@city.windsor.on.ca); hpayne@city.windsor.on.ca (hpayne@city.windsor.on.ca); thalwa@mbpc.ca (thalwa@mbpc.ca); salmcc@netscape.net (salmcc@netscape.net); Simona Simion (ssimion@city.windsor.on.ca) (ssimion@city.windsor.on.ca); 'Godo, Anna' (agodo@city.windsor.on.ca) >

Dear Mr. Balazs,

On behalf of the Ministry of Transportation (MTO), City of Windsor and County of Essex, thank you for submitting comments on the Environmental Study Report (ESR) for the Lauzon Parkway Improvements Class Environmental Assessment (EA) Study.

As you have indicated, the land use designations applying to your parcel is a matter to be addressed in the Sandwich South Secondary Plan, and not this EA. At this time the proposed Sandwich South Secondary Plan, which was carried out in parallel to the Lauzon Parkway EA Study, is deferred until after the Lauzon Parkway Environmental Assessment is completed and approved. For further information regarding the draft Sandwich South Secondary Plan, please contact Michael Cooke, MCIP, RPP - Manager of Policy Planning at (519) 255-6543 x 6102 or Simona Simion - Planner II at (519) 255-6543 x 6397.

In regards to the comments about the Little River crossing of County Road 42 (culvert DC1) and the proposed stormwater management ponds located northwest of the future County Road 42 & Lauzon Parkway intersection, DC1 is the existing culvert that conveys the existing crossing of the Little River under County Road 42 and will be maintained in the future. Also, the existing alignment of the Little River is being maintained from north of County Road 42 to south of Baseline Road. Roadway runoff from the improved County Road 42 will be accommodated via new storm sewers to be constructed under County Road 42 and by the proposed Upper Little River (ULR) Class EA stormwater management plan. The County Road 42 storm sewers will outlet to the Little River and the ponds proposed on the north side of County Road 42 are required to provide water quality treatment.

FIGURE -5 (2 pages)

LETTER – EMAIL RE: LAUZON PARKWAY

IMPROVEMENT (REPLY)

With respect to timing of design and construction of the proposed improvements, at this time there is no commitment to move forward with the subsequent design or any other phases of this project.

By copy of this letter, we are sharing your comments with Anna Godo, P.Eng., City of Windsor contact for the Upper Little River Stormwater Master Plan study.

Thank you for your continued interest in this study.

Regards,

Jay Goldberg,

On behalf of the Lauzon Parkway Improvements Project Team

Jay Goldberg

Planner

Transportation – Planning

MMM Group Limited

2655 North Sheridan Way, Suite 300

Mississauga, ON Canada L5K 2P8

t: 905.823.8500 x1284 | f: 905.823.8503

GoldbergJ@mmm.ca | www.mmm.ca



THE CORPORATION OF THE CITY OF WINDSOR

Memo

To: Planning and Economic Development Standing Committee (P&EDSC)
From: Thom Hunt, City Planner, MCIP, RPP
Date: January 30, 2013
Subject: Deferral Request - Draft Sandwich South Secondary Plan (OPA No. 91 – OPA/3586) LL# 16333

In April 2011, work began on the preparation of a secondary plan for lands identified as the Sandwich South Secondary Plan (see Figure 1). The Sandwich South Secondary Plan (SSSP) represents a land area of approximately 1345 ha which is predominantly used for agricultural purposes. In addition to the current mix of residential properties, the study area also includes a number of natural heritage features including woodlots and the Little River watershed. The purpose of the draft SSSP is to establish detailed land use policies and land use designations to allow for the future urban development of the area.

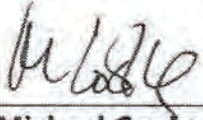
As a result of discussions held between the City Planner and City Engineer in 2010, the SSSP and the Lauzon Parkway Class Environmental Assessment (Lauzon EA) together became part of an integrated process being overseen by the Ministry of Transportation. In this regard, the SSSP and the Lauzon EA have been conducted in a parallel process. Partners to the process have included provincial ministries, County of Essex, Town of Tecumseh, Town of Lakeshore and the City of Windsor. Consultants are Meridian/MHBC Planning (SSSP) under the direction of Jim Dymont and McCormick Rankin (Lauzon EA) under the direction of Michael Chiu.

(The purpose of the Lauzon EA is to examine the future requirements and environmental assessment for the following: Lauzon Parkway (extension south to Highway 3); County Road 42 (improvements between Walker Road and Essex County Road 25); and a proposed east-west arterial road (between Walker Road and County Road 17). The public review period for Lauzon Parkway EA is scheduled to end in 2013.)

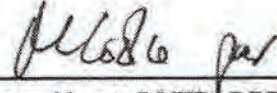
While not formally part of the SSSP/Lauzon EA processes, the Upper Little River Stormwater Master Plan Class Environmental Assessment (Little River EA) is also being conducted at the same time under the leadership of the Essex Region Conservation Authority and their consultant Stantec Engineering. Together, all three studies have worked together to comprehensively evaluate the future requirements of land use, transportation and stormwater management within the City of Windsor and beyond.)

Based on discussions recently held between the City Planner, City Solicitor and City Engineer, it is being recommended that the formal review of the draft SSSP by the Planning and Economic

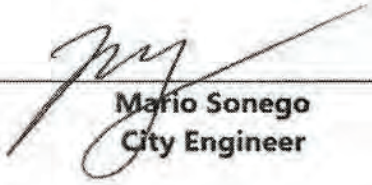
Development Standing Committee be deferred until the completion and final approval of the Lauzon EA expected mid-2013.



Michael Cooke, MCIP, RPP
Manager of Planning Policy



Thom Hunt, MCIP, RPP
City Planner



Mario Sonego
City Engineer






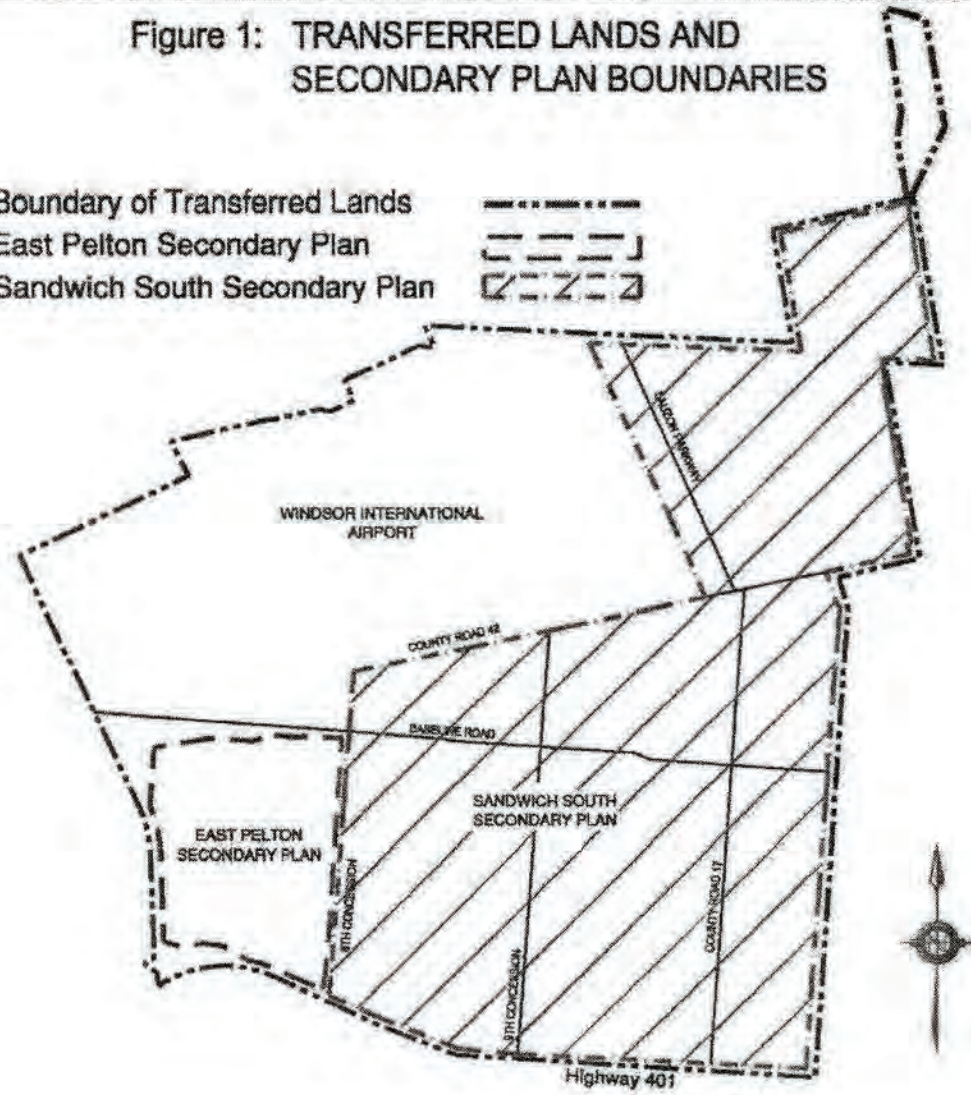
GW



HR

Figure 1: TRANSFERRED LANDS AND
SECONDARY PLAN BOUNDARIES

- Legend: Boundary of Transferred Lands 
East Pelton Secondary Plan 
Sandwich South Secondary Plan 



RE: March 22, 2017 ETPS Standing Committee meeting

Godo, Anna <agodo@citywindsor.ca>

Tue 2017-03-14 2:52 PM

Inbox

To: 'Bill Balazs' <bbalazs452@hotmail.com>; Toldo, Beth <toldob@citywindsor.ca>; 'jhenderson@erca.org' <jhenderson@erca.org>; 'bhillman@tecumseh.ca' <bhillman@tecumseh.ca>; 'pmccullough@smglawyers.com' <pmccullough@smglawyers.com>;

Cc: Ted Halwa <thalwa@mbpc.ca>; Payne, Hilary <hpayne@citywindsor.ca>;

250m = 820 FT
175m = 410 FT

Bill,

The stormwater management corridors are 250m wide along Little River from north of the future East-West Arterial Road to CP Railway, and 150m wide along other tributaries.

These corridors are reserved until functional and detailed designs have confirmed the required corridor width, following which surplus lands will be released.

With regards,

Anna

From: Bill Balazs [mailto:bbalazs452@hotmail.com]

Sent: Saturday, March 11, 2017 9:06 AM

To: Godo, Anna; Toldo, Beth; 'jhenderson@erca.org'; 'bhillman@tecumseh.ca'; 'pmccullough@smglawyers.com'

Cc: Ted Halwa; Payne, Hilary

Subject: Re: March 22, 2017 ETPS Standing Committee meeting

Thank you for providing a location for a better resolution from PIC#2 as well as PIC#1

Please provide the proposed size of the Storm Water Management Corridor

Regards

William F. Balazs

From: Godo, Anna <agodo@citywindsor.ca>

Sent: March 10, 2017 4:20 PM

To: 'Bill Balazs'; Toldo, Beth; 'jhenderson@erca.org'; 'bhillman@tecumseh.ca'; 'pmccullough@smglawyers.com'

Cc: Ted Halwa

Subject: RE: March 22, 2017 ETPS Standing Committee meeting

Bill:

The display boards for PIC #2 are available at a better resolution at

<<http://www.citywindsor.ca/residents/Construction/Environmental-Assessments-Master-Plans/Pages/Upper-Little-River-EA.aspx>> This includes the preferred solution sheet.

SALEM, McCULLOUGH & GIBSON
PROFESSIONAL CORPORATION
Barristers and Solicitors

William A. Salem, B.A., LL.B. (*Retired*)
Philip D. McCullough, B.A., LL.B.
Deborah-Lynn Gibson, LL.B.

2828 Howard Avenue
Windsor, Ontario N8X 3Y3
Telephone (519) 966-3633
Fax (519) 972-7788
Email: salmcc@netscape.net

14 March 2017

Sent by Email: toldob@citywindsor.ca

Attention: Beth Toldo, Council Agenda Coordinator
Council Services Department, Office of the City Clerk
Corporation of the City of Windsor
350 City Hall Square West, Rm 203
Windsor, ON N9A 6S1

Dear Madam:

RE: Upper Little River Master Plan Environmental Assessment – Filing the Notice of Study Completion (Ward 9)
Our Client: 386823 Ontario Limited
Property: Part Lot 18, Conc. 9 – Vacant land on Cty Rd 42

We are solicitors for 386823 Ontario Limited who are the registered owners of the property legally known as Part Lot 18, Conc 9, City of Windsor – PIN 75236-0066 (LT). These lands front onto County Rd 42 and are immediately adjacent on the eastern side of my client's lands with the Little River.

A shareholder of 386823 Ontario Limited, William Balazs has been communicating with various municipal officers over the last several years in relation to this property. He is currently out of the country on vacation and will not be returning until March 30th, 2017.

The major concern over the years has been the possible negative impact on these lands as to how any proposed development will be impacted by the Little River drainage issues.

As I indicated above this problem has continued for several years and my client feels it quite important to deal with this matter personally. On that basis, we will be seeking a deferral of the meeting scheduled for Wednesday, March 22nd, 2017. I would like to be listed as a delegate on the communication only for the purposes of seeking an adjournment.

Yours truly,
SALEM, McCULLOUGH & GIBSON

Philip D. McCullough

PDM:at

Cc: 386823 Ontario Limited – Attention: William Balazs
Hilary Payne
Ted Halwa

SALEM, McCULLOUGH & GIBSON

PROFESSIONAL CORPORATION

Barristers and Solicitors

William A. Salem, B.A., LL.B. (*Retired*)
Philip D. McCullough, B.A., LL.B.
Deborah-Lynn Gibson, LL.B.

2828 Howard Avenue
Windsor, Ontario N8X 3Y3
Telephone (519) 966-3633
Fax (519) 972-7788
Email: salmcc@netscape.net

21 April 2017

Sent by Email: kstuart@citywindsor.ca
And sent by Fax: 519-255-6868

Attention: Kelly Stuart

Council Services Department, Office of the City Clerk
Corporation of the City of Windsor
350 City Hall Square West, Rm 203
Windsor, ON N9A 6S1

Dear Madam:

RE: Upper Little River Master Plan Environmental Assessment – Filing the Notice of Study Completion (Ward 9)
Our Client: 386823 Ontario Limited
Property: Part Lot 18, Conc. 9 – Vacant land on Cty Rd 42

We are solicitors for 386823 Ontario Limited who are the registered owners of the property legally known as Part Lot 18, Conc 9, City of Windsor – PIN 75236-0066 (LT). These lands front onto County Rd 42 and are immediately adjacent on the eastern side of my client's lands with the Little River as shown on the attached map.

Our client's family have owned this property since 1965.

Even though their lands are immediately adjacent to the Little River there has never been a flooding issue of any kind and the land has been actively farmed for all of those years without any difficulty. My clients do not have any development plans underway but, do not, want to have anything done to their lands that would significantly restrict their development potential.

Mr. William Balazs, the president of the corporation, has been actively involved since 2007 on land use (Open Space) and with respect to this matter at PIC#1 and PIC#2 and the Stake Holders Meeting since approximately 2012. He has attempted to attend all of the meetings and listened to administration's proposal and presented our position and objections.

As well, he has attended meetings or reviewed matters reporting on the Extension of Lauzon Parkway, Reconstruction of County Road 42, Airport Property as it relates to (Land Use on the North Side of CTY 42, Solar Farm, additional land purchased on north of County 42) and the discussions of the Sandwich South Secondary Plan on Land Use.

The most disturbing thing that has come out from these discussions is the proposal to have a designated "Open Space" storm water management corridors that would be 250 meters wide along Little River. This 250 meter corridor would extend the entire depth of our client's lands. We have 28.3 acres and we have done a quick math, which means we will loss 13.6 acres of land to corridor. This corridor of 250m wide along Little River runs from the north of the future East-West Arterial Road to CP Railway.

Additionally, the proposal as we understand it, is that any tributaries of the Little River would have a storm water management corridor of 150 meters wide along any tributaries of the Little River. Finally it's has been stated the corridors' are (Reserved) until functional and detailed designs have confirmed the required width, following which surplus lands will be (Released).

We have some other questions with some items requiring explanation. We also want to check if our positions presented at these meetings have been addressed or what has been said is reflected in the final report. At the Stake Holders Meeting held in 2012 we were told the corridor could be less then 100m or 150m and they wish to use the Land Use description of Open Space to cover the possible requirements of the Little River Corridor, therefore providing reason to only give us a portion of said land changed to Future Employment and a large balance to remain Open Space. These are strong words -Open Space- to only reserve lands.

We understand that there is a full report forthcoming on the Upper Little River Master Pan Environmental Assessment-Filing the Notice of Study Completion, Ward 9. We have not yet received that Report nor has Council seen that Report.

As we understand this process, once the council gives direction to the Administration of the report it must go to 30-days Public Review with the above mentioned final report being available only at that time. We understand Council will only see the full report during the 30 day period. Members will also have the report available.

The public only have one way to have their objections heard through the Part II Order, which requires them to file any objection to the Minster of the Environment. The Minister will undertake a review and render a decision. We will have no further follow-up with the City or parties involved.

The effect of the storm water corridor that would be 250 meters wide will have a devastating effect on our client's use of their lands and would have a crippling effect on the value of their property. Further, we will be held in limbo until things are confirmed and miss any potential development. The key question, who is paying for the corridor lands/Open Space that will require the creation of low lands and rolling landscape with facilities, since we have no natural environment on existing lands.

It is our view that City Council should conclude the report is not complete or final and send it back to administration and insists that administration provides some credible evidence to support their demand for such an unfairly wide storm water management corridor, as well a clear break down of capital cost and who will pay for the corridor lands/Open Space. We would also request a change of the final report to a Draft, thereby allowing a public review of the report with feedback for all parties, since the last review was 2012.

We do not want council giving direction to this process based on a seven page summary with a 10 page attached appendix. In the past the City has clearly stated they are transparent, fair and will not be placed in a position that might later give rise to a private property owner claiming the city was unfairly restricting development rights or compensation.

We would like the opportunity to address Council regarding this matter and Mr. William Balazs and the undersigned will be in attendance as a delegate at the Council meeting on Monday, April 24th, 2017.

Yours truly,
SALEM, McCULLOUGH & GIBSON



Philip D. McCullough

PDM:at

Cc: 386823 Ontario Limited – Attention: William Balazs
Hilary Payne
Ted Halwa

TECHNICALLY PREFERRED PLAN

LAKER ROAD TO CITY / COUNTY BOUNDARY

Windsor



Ontario

CITY OF WINDSOR

LAUZON PARKWAY

COUNTY ROAD 4

386823 Ontario Limited
(Owner)

R-600m

COUNTY ROAD 4
10TH CONCESSION ROAD

ULTIMATE
COUNTY ROAD 42 PRD

- 1) INTERIM EA - #1610011
- 2) ULTIMATE EA - COMMIT
- 3) LONG-TERM PLAN - SANDWICH SOUTH SEC TO BE CLOSED ANALYSED IN LAUZON ROAD

CITY OF WINDSOR LAND USE PLAN

CONCEPT OPTION 1



Sources For HERE
Delorme, TomTom, Intermap
swisstopo, P. Corp., GEBCO,
USGS, FAO, NPS, NRCAN,
GeoBase, IGN, Kadaster NL



LEGEND

- Study Area
- Business Park Type 1- 31.7 ha
- Business Park Type 2- 37.8 ha
- Major Institutional- 26.0 ha
- Open Space- 5.3 ha
- Natural Heritage- 11.2 ha
- SWM System- 85.5 ha

TOTAL: 316.2 ha

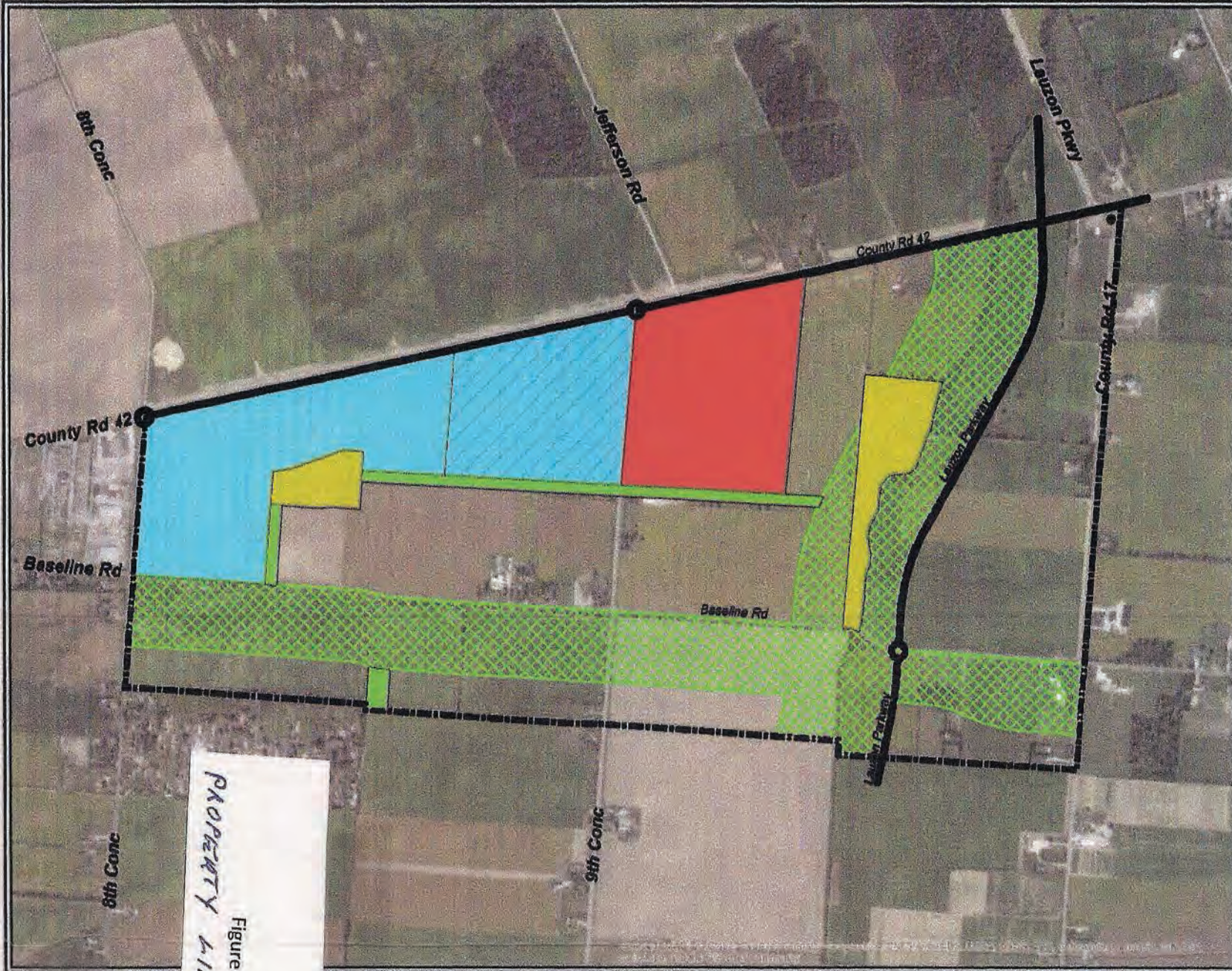
NOTES

All land use areas are approximate for conceptual purposes

Date: June 1, 2017 File: 183104

Copyright Map to Windsor/Maple Area/Maple Area
10/10/2017/10/10/2017/10/10/2017

Scale: 1:10,000
0 100 200 400 Meters



PROPERTY LINES
Figure - 11

pg 12

Preferred Development Plan

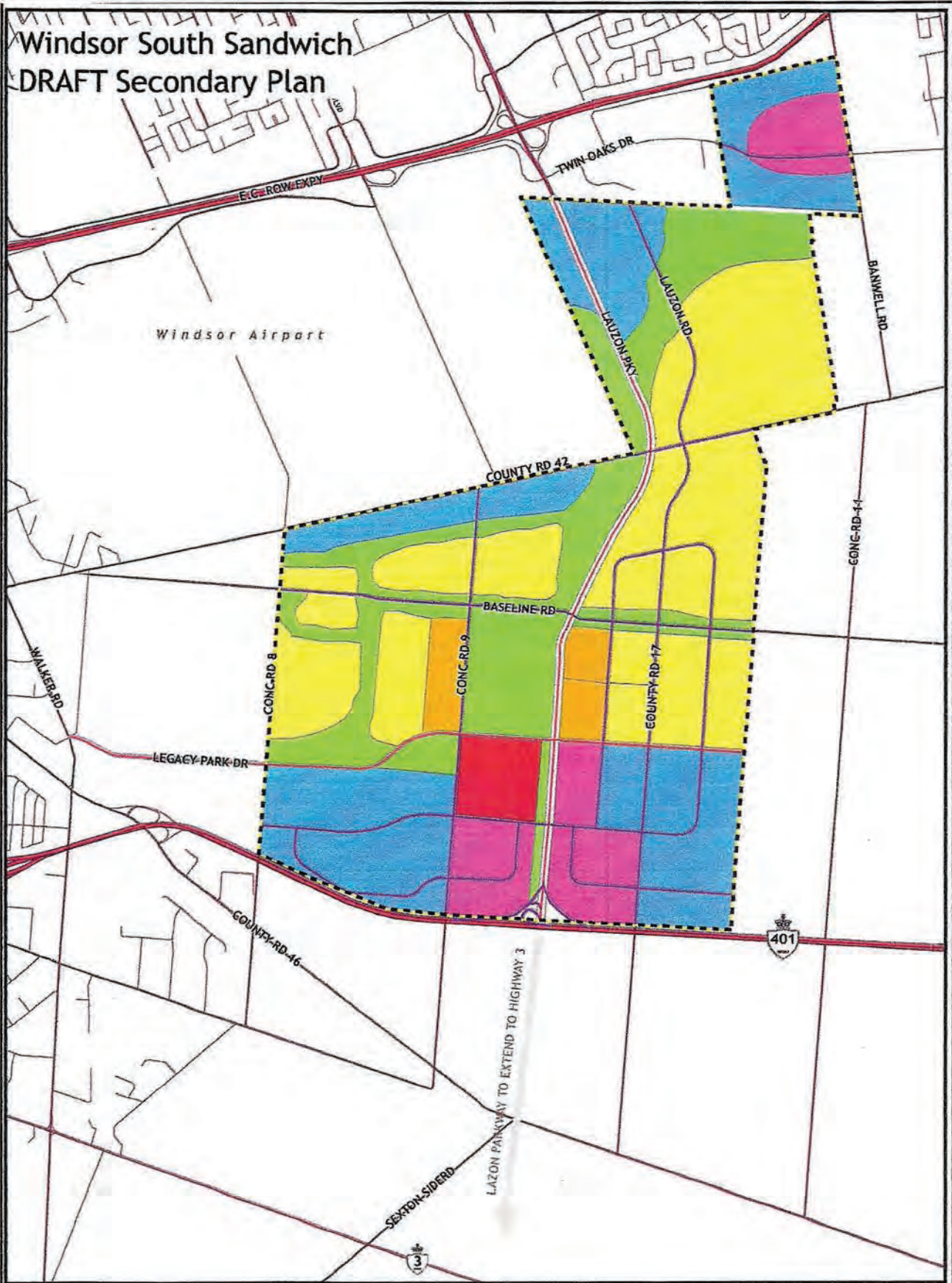


Figure - 12

Figure - 13



Windsor South Sandwich DRAFT Secondary Plan



Legend

- Study Area
- Proposed Collector Road
- Proposed Arterial Road
- Business Park
- Community Core
- Employment
- Low Density Residential
- Medium/High Density Residential
- Open Space / Natural Heritage; EP



Figure 15



Handwritten notes:
PAC - G
466

AD 42 - TECHNICALLY PREFERRED PLAN

(AD) - WALKER ROAD TO CITY / COUNTY BOUNDARY

WIN

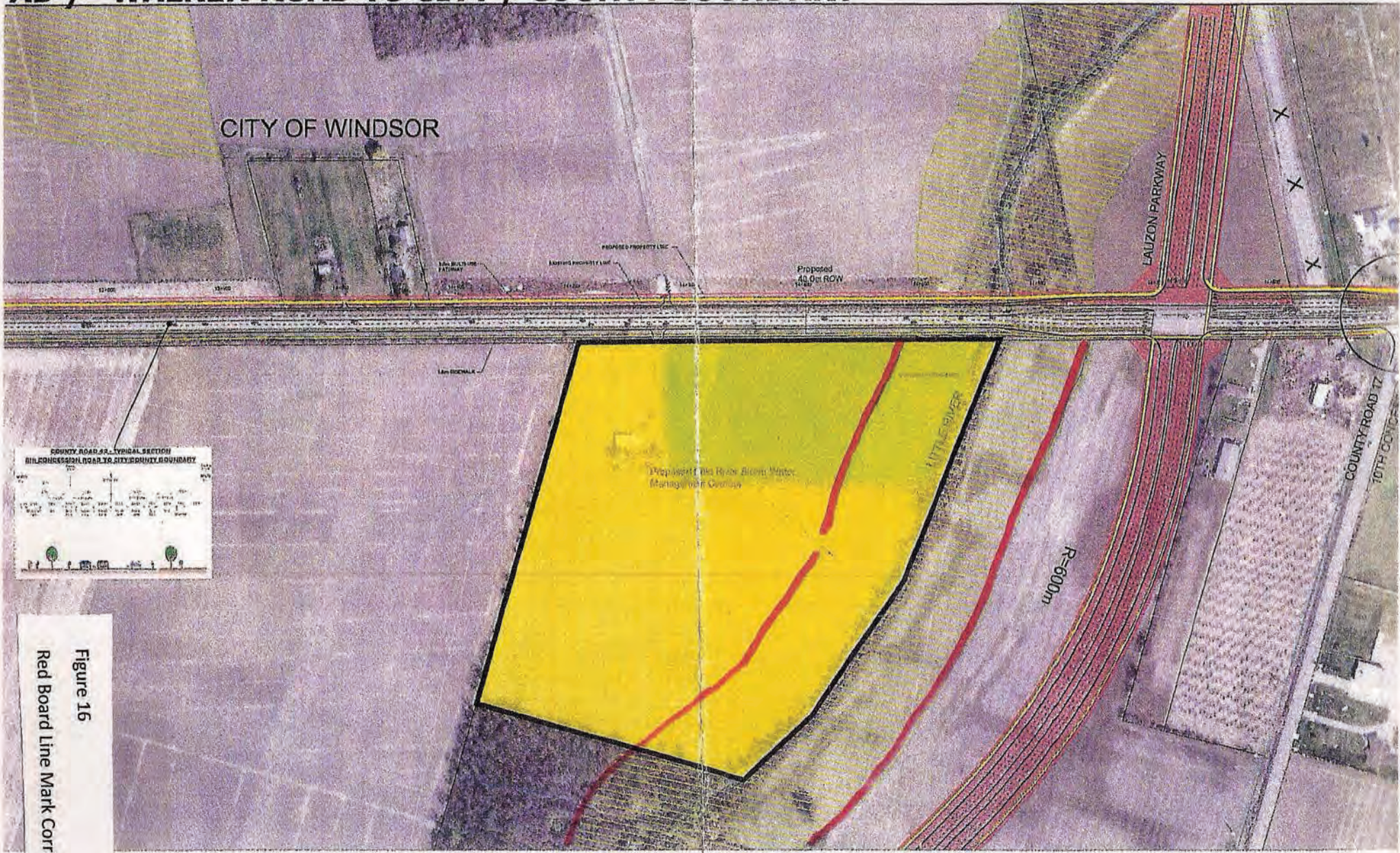


Figure 16

Red Board Line Mark Corridor (2012)

CITY OF WINDSOR

Sandwich South

Secondary Plan

SCHEDULE B

Greenway System








Legend

Greenway System

-  Link
-  Bicycle Use Master Plan Proposed Trails
-  Neighbourhood Park
-  Recreation & Open Space
-  Community Regional Park
-  SWM
-  Provincially Significant Wetlands

Natural Heritage System

-  Core Natural Heritage Features
-  Supporting Natural Heritage Features
-  Ecological Restoration Area
-  Ecological Linkages

-  Railway
-  Permanent Streams
-  Permanent Water Bodies
-  Interchange
-  Secondary Plan Boundary
-  City of Windsor Boundary
-  Proposed Roadway

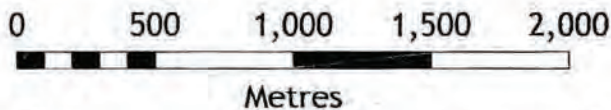
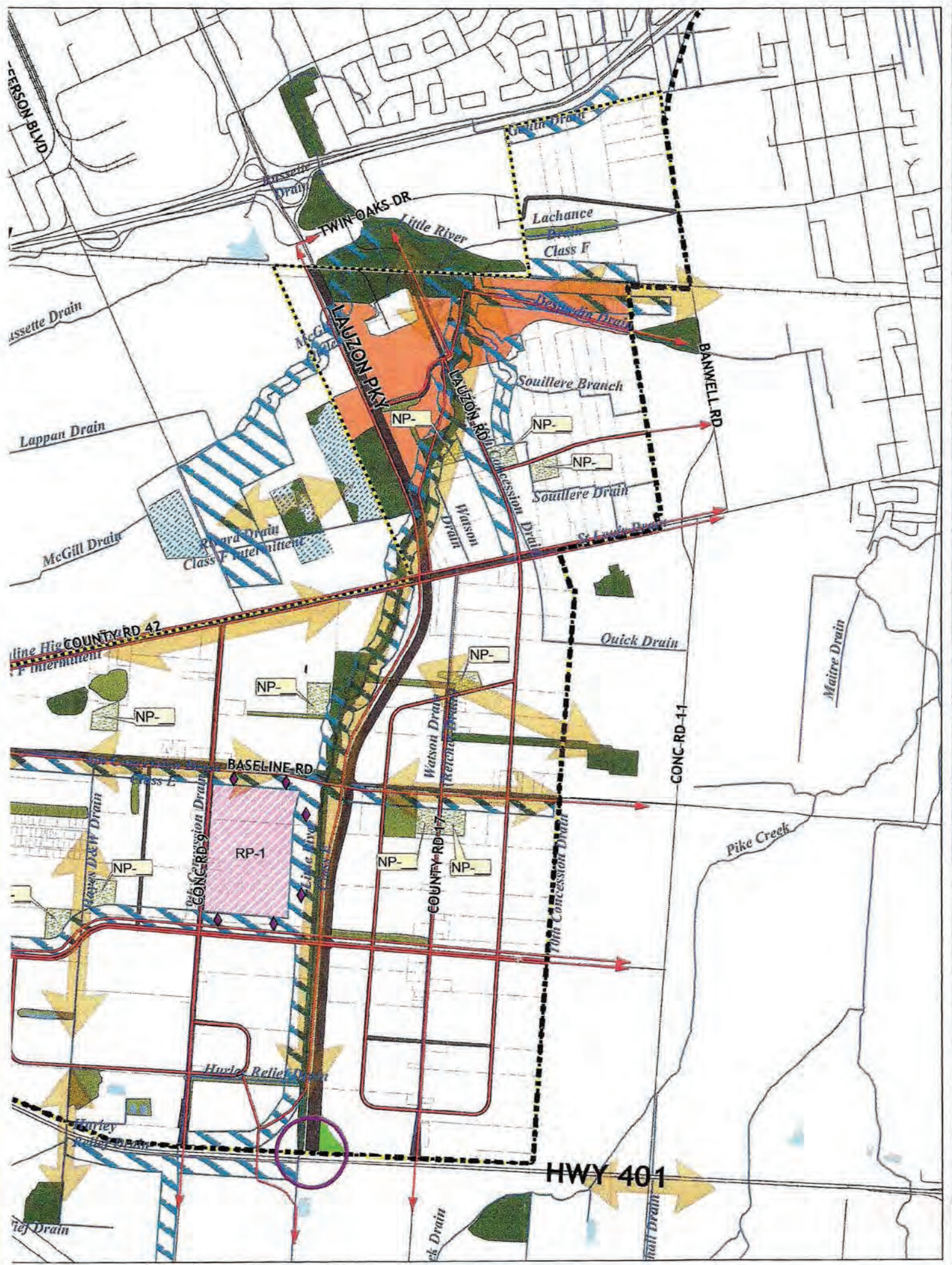


Figure 17 (2 pages)

Oct 15, 2012





B.5.6.1 Consultation with Individual Stakeholders

Further consultation with individual stakeholders was conducted as required, or requested. The following is a list of the key stakeholders for which additional consultation was held.

- 882885 Ontario Limited (Lauzon Parkway, Section A.5.8.1)
- 386823 Ontario Limited (County Road 42, Section B.5.6.1)
- Tecumseh Town Council (County Road 42, Section B.5.6.1)
- Windsor International Airport (County Road 42, Section B.5.2.1)
- The Windsor Christian Fellowship & Rosati Group (E-W Arterial, Section C.5.7.1)

Given that each stakeholders' concerns are related to specific elements of the Study (i.e., Lauzon Parkway, County Road 42, or E-W Arterial), details regarding the specific concerns and responses are provided in the appropriate sections of this report (Part A: Lauzon Parkway, Part B: County Road 42, or Part C: E-W Arterial).

386823 ONTARIO LIMITED

386823 Ontario Limited owns the property located immediately southwest of County Road 42 and the Little River. The property, currently used for agricultural purposes, is illustrated in Exhibit A.5-22.

EXHIBIT B.5-14: PROPERTY OF 386823 ONTARIO LTD. (0 COUNTY ROAD 42, ROLL NO. 9003001500)

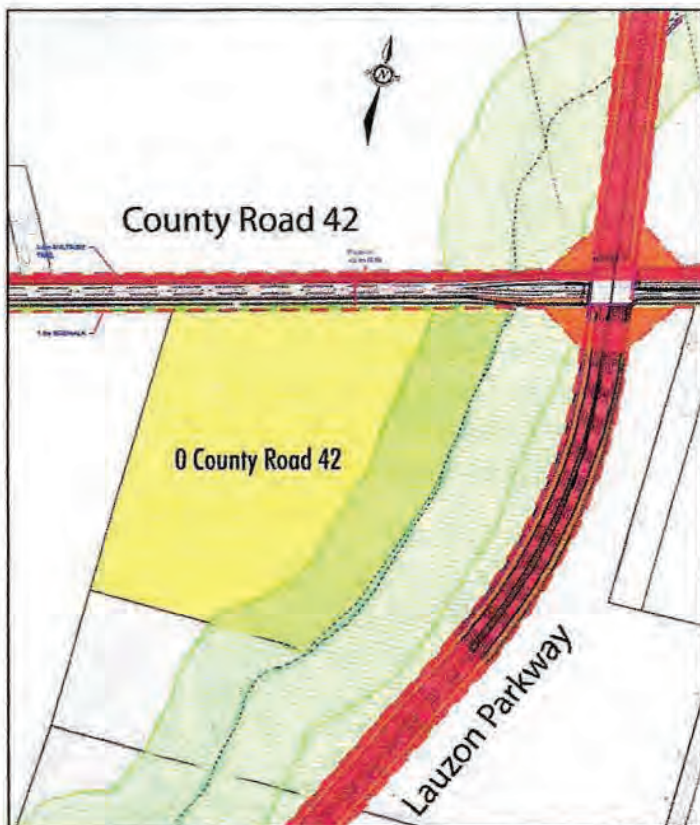


Figure 18 (2 Pages)

A meeting was held with 386823 Ontario Limited on November 28, 2012 to discuss their concerns regarding the land-use designation of their property in the Lauzon Parkway EA Study as well as the Sandwich South Secondary Plan and the Upper Little River Stormwater Management Study. The Lauzon Parkway EA does not designate land-use; therefore further correspondence with this owner was arranged through the Sandwich South Secondary Plan and Upper Little River Stormwater Management Study.

An illustration of the County Road 42 plan at these properties is in Plate 7 of Section B.6.9. >

TOWN OF TECUMSEH COUNCIL RESOLUTION

The Tecumseh Town Council commented on the Lauzon Parkway Class EA Study through Resolution 18.14 which requested that the County of Essex amend the speed limit on County Road 42 from 60 km/h to 50 km/h, from County Road 19 (Manning Road) west to the City/County Boundary. The Resolution also proposed that the County consider narrower lane widths for County Road 42, and an enhanced context sensitive design taking into account the urbanized nature and multiple users of this segment of road.

The County of Essex a staff report to County council on May 8, 2013 in response to the Tecumseh Council. The report noted that the current proposed cross-section includes an undivided urban section with bike lanes and sidewalks in both directions. The right-of-way will also accommodate numerous "Urban Design Features" such as illumination, utilities, and landscaping. The standard lane width of 3.75 m has been reduced for this segment of road to 3.65 m.

The County of Essex also completed a speed study to determine an appropriate posted and design speed of the roadway. The speed study determined that the mean speed (85th percentile) of the motorists was approximately 78 km/h. The results from the speed study would suggest that the posted speed of 60 km/h is too low and should more appropriately be 70 km/h. However, the County recommended a posted speed of 60 km/h to achieve a balance between the need to facilitate inter-regional traffic, and provide for local traffic access and other road users.

Upon consideration of the staff report, the County Council approved a speed limit reduction to 50 km/h from 60 km/h, on County Road 42 from County Road 19 (Manning Road) west to the City/County Boundary. It is recommended, however, that when County Road 42 is widened to 4 lanes, the posted speed should be re-assessed at that time.

B.5.6.2 Considerations to Amend Supportive Policies

The preferred plan for County Road 42 in the Town of Tecumseh identifies a context sensitive design with an urban cross-section in a rural setting that connects the City of Windsor and the Town of Lakeshore. The benefits of the context sensitive design are mainly localized between County Road 43 (Banwell Road) and County Road 19 (Manning Road). The recommended enhancements are supportive of a County Connecting Link classification and should be considered between the County of Essex and the Town of Tecumseh. This development lends itself to a higher activity of uses and further growth at a local municipal level.



Figure 19

RE: Oct 10/2017 Meeting Upper Little River Master Drainage and Storm Water Management

Innes, Jayson <jayson.innes@stantec.com>

Thu 2017-10-26 3:01 PM

To: Bill Balazs <bbalazs452@hotmail.com>; Godo, Anna <agodo@citywindsor.ca>; jhenderson@erca.org' <jhenderson@erca.org>; salmcc@netscape.net <salmcc@netscape.net>; ted halwa <thalwa@bell.net>;

Cc: Winterton, Mark <mwinterton@citywindsor.ca>; Hunt, Thom <thunt@citywindsor.ca>; Wilson, Donald <dwilson@citywindsor.ca>;

Attached are responses your additional questions and comments:

11) Drawings 3 and 4 were most recently updated on 2017-09-06 (Drawing 3) and 2017-08-03 (Drawing 4).

12) The SWM corridor is reserved until functional design has confirmed the required corridor width, which may be a reduced corridor width.

13) The letter from Monteith Brown Planning is included in Appendix C with all personal information removed. All written comments received at the PICs were included in Appendix B. Correspondence sent to City Council or the Standing Committee does not form part of the EA public consultation process.

14) The study purpose is to recommend a stormwater management strategy to allow development while protecting existing resources. A preferred option was developed as a result of an evaluation of alternatives and public/agency input, and is considered representative of the most financially and physically appropriate option to achieve the required controls, while conserving existing natural conditions in the context of urban development. Anna advises that prior to development of any lands, secondary plans, rezoning, and functional design for infrastructure will be require and that it would be best to speak to the City's Planning Department about those requirements.

15) My understanding is that costs, timing, and funding will be dealt with outside of the EA process. Anna advises that City Administration is meeting to review funding strategy with respect to infrastructure in the South Sandwich lands.

1) I agree that the proposed 325 m SWM corridor is split at County Road 42 with 225 m west of the existing Little River and 100 m east of the existing little river. The proposed SWM corridor is aligned with the proposed Lauzon Parkway.

5) The process also applies to the airport lands.

7) The costs were covered in the Preliminary Opinion of Probable Costs. The total land costs of Alternative 5 and 6 are similar and it is only the location of the SWM facilities and how they are acquired that are significantly different.

10) My understanding is that costs, timing, and funding will be dealt with outside of the EA process. Anna advises that City Administration is meeting to review funding strategy with respect to infrastructure in the South Sandwich lands.

Figure 20 (7 Pages)

Please let me know if you have any additional questions or comments.

From: Bill Balazs [<mailto:bbalazs452@hotmail.com>]

Sent: 2017-10-25 8:26 AM

To: Innes, Jayson <jayson.innes@stantec.com>; Godo, Anna <agodo@citywindsor.ca>; 'jhenderson@erca.org' <jhenderson@erca.org>; salmcc@netscape.net; ted halwa <thalwa@bell.net>

Cc: Winterton, Mark <mwinterton@citywindsor.ca>; Hunt, Thom <thunt@citywindsor.ca>; Wilson, Donald <dwilson@citywindsor.ca>

Subject: Re: Oct 10/2017 Meeting Upper Little River Master Drainage and Storm Water Management

Good Morning Jayson John and Anna:

Additional question and Comments-

11) The drawings #3 and #4 under Revision Date reference a date of 12/02/02 with specific corridor size illustrating the area that is designated as 325 m and another section that is 200 m.

What is the actual revision date?

12) Please confirm that the area designated as the SWM corridor are actual - (RESERVED CORRIDOR LANDS FOR THE SWM Study)

13) Your email section of internal correspondence make reference to a letter from Monteith Brown Planning Consultants, dated 2017-02-16 per item #7 . Please confirm the section it is located

Please explain why we don't see any correspondences included in Section C, between Project Team members and 386823 Ontario Limited/ William F. Balazs or representatives, or letters from legal counsel referencing the intent to speak at the Standing Committee or to appear before City Council? As well as missed comments at PIC #2 for Upper Little SWM.

14) We need a comment on the following matter; with reference to a zoomed view as per above attachment (Figure 14 /(scan 20171024(2)), from Drawing #4 -SWM Corridor Location and Sizes, that show a clear impact when compared to your map reference of the Windsor South Secondary Draft Secondary Plan of Aug. 2011 (App. G , page 466), that show a portion of our lands marked employment and open space Further comparison can be viewed when referencing Figure -2 (Dated Sept. 2016) and(Figure -3 from 2012)

In Fig. 3 you can see a section that references the Proposed Little River SWM corridor with borders and cross lines.

The question that is being asked does this clearly illustrate a major impact on said land owner, that can restrict or delay any possible considered development going forward, since this Design Study will become the guiding document for SWM controls on the Upper Little River?

15) Anna and John, at the end of the meeting , you stated that you would look at providing a section that would address a guidance to how cost/ compensation would be addressed in the report.

With reference to responses below:

1) you did not reply or confirm that the proposed reserved corridor size split of 325 m will result in 225 m corridor on said lands west of Little River and 100 m on the east side of Little River. (also when looking at (Figure 14 take note) of the 40 m gap which is County Road 42 between Airport Lands and Said Lands)

5) - you did miss reference to the airport lands, are they not a development block that is included in full Upper Little River SWM Master plan as shown in (E1: Site Location Plan) on page (# i)?

7) With reference to the scores/ for Alt. 6 and Alt. 5, a lower number was scored under Technical Environment for Ease of Construction, Implementation, with main difference of (Construction can be phased with development with some kind of acquisitions and some up front to be borne by the municipality.

Were these costs covered in the Preliminary Opinion of Probable Costs?

10) Your reply does not address any comment for (10 -a) and (10-b)

Regards;
386823 Ontario Limited
William F. Balazs

Cell Phone -- 519 999 9698

From: Innes, Jayson <jayson.innes@stantec.com>

Sent: October 24, 2017 3:35 PM

To: Bill Balazs; Godo, Anna; 'jhenderson@erca.org'; salmcc@netscape.net; ted halwa

Cc: Winterton, Mark; Hunt, Thom; Wilson, Donald

Subject: RE: Oct 10/2017 Meeting Upper Little River Master Drainage and Storm Water Management

Attached are responses your comments.

1. Agreed. The size of lands proposed for allocation for all of the SWM corridor plan is approximately 560 ha
2. ETPS is the City's Environmental, Transportation and Public Safety Standing Committee. The ETPS is a City Committee that is separate from the Upper Little River Study Team. Reports from Administration are considered by the ERPS standing Committee before those reports go to City Council for Consideration.
3. The SWM facility lengths are approximated in Appendix G in the model parameter table under the "Active Storage Length" column and in some areas the entire available corridor length is not required. Trails have been accommodated in the cross sections and raised areas may be possible for sports fields similar to the Windsor Cristian Fellowship SWM Facility. Any lands which are exclusively parkland are considered separately from the SWM corridor.
4. The current SWM corridor is a conservative estimate of the required lands and not all of the land will be required for the SWM facilities. The exact timing of the final SWM requirements will vary across the study area and is unknown at this time as it depends somewhat on the development of upstream areas.
5. Agreed. This process applies to the Hospital lands and reconstruction of Country Road 42 and extension of Lauzon Parkway.
6. It was discussed at the Oct 10 meeting that SWM controls will be required for County Road 42 and Lauzon Parkway. It is intended that these facilities would be constructed in the SWM corridors that are proposed in the Upper Little River study. It is our understanding that the ponds shown on Exhibit 17 that was referenced by Mr. Balazs were conceptual in nature and were shown for demonstration purpose only. Functional servicing studies have not yet been undertaken.
7. The evaluation summary scores were based on a relative comparison between the various alternatives as described in Tables 15 and 16 of the Environmental Study Report to select a preferred alternative.

8. The southeast corner of the airport lands is currently shown as open space / natural heritage on the Windsor Airport Master Plan (included in Appendix G). While dry ponds are preferred by the airport they are unable to provide the required levels of water quality control on their own. It is expected that one facility would be required in that section of the airport lands to provide SWM controls for lands west of Upper Little River.
9. Meander belts were calculated using either air photo analysis of existing meander patterns (planform method) or empirical analysis using channel parameters (field method) as discussed in section 4.5.5.2 and Appendix I of the Environmental Study Report. The "field method" compares a channel to other similar channels in southern Ontario when there has been modifications made to the channel planform. Looking at the channel alignment and Figure 16, LRD-3 (located between County Road 42 and Lauzon Parkway) has few meanders compared to sections of Upper Little River upstream and downstream of LRD-3, suggesting that it had been straightened at some time.
10. The study identifies a problem, evaluates alternative solutions, and establishes a preferred solution. Sufficient detail is required to select a preferred solution and determine environmental impacts. Most of the alternatives have similar land requirements and including specific land costs would not change their relative ranking.

Please let me know if you have any additional questions or comments.

Jayson Innes, M.A.Sc., P.Eng.

Senior Water Resources Engineer

Stantec

100-300 Hagey Boulevard, Waterloo ON N2L 0A4

Phone: (519) 585-7282

Cell: (519) 569-0518

jayson.innes@stantec.com

From: Bill Balazs [<mailto:bbalazs452@hotmail.com>]

Sent: 2017-10-16 5:46 PM

To: Godo, Anna <agodo@citywindsor.ca>; 'jhenderson@erca.org' <jhenderson@erca.org>; Innes, Jayson <jayson.innes@stantec.com>; salmcc@netscape.net; ted halwa <thalwa@bell.net>

Cc: Winterton, Mark <mwinterton@citywindsor.ca>; Hunt, Thom <thunt@citywindsor.ca>; Wilson, Donald <dwilson@citywindsor.ca>

Subject: Re: Oct 10/2017 Meeting Upper Little River Master Drainage and Storm Water Management

Good Day Anna, John and Jayson;

RE- subject said lands, consisting of 28.3 acres on the south side of County Road 42- abutting the west side of Little River- 386823 Ontario Limited (William F. Balazs)

Note; Said Lands **do not** have any supporting evidence or justification to have a planned designation of Open Space for all or a major portion on these land's, as well it does not clearly justify why they cannot be designated as future employment similar to lands abutting the west side of said lands. Furthermore the city has

previously committed to reduce a portion of these lands to future employment with further discussions on the amount of land that can be marked future employment.

These said lands are located in close proximity to the proposed site of the Windsor Regional Hospital (lying east, virtually 'next door'), as well the proposed expansion and reconstruction of County Road 42 from Walker Road to County Road 25 and extension of Lauzon Parkway to Highway #3 (lying west, virtually 'next door').

Clearly, said land provides a great advantage of exposure and accessibility offered by what will be an increasingly high volume arterial road that will service the entire boundaries of the City Of Windsor and the entire region of Essex County.

The following is a follow up to the meeting held on Oct. 10,2017 , since the report consists of 625 pages, we still have some additional questions as well as making sure we correctly have noted your response. Therefore the following points need to be confirmed or answered in timely period that will still allow us a review before we decide to submit any response to the ministry.

1) a) As it relates to our lands,

-confirmed the reserved corridor size width break down of 325 m

- west of Little River 225 m, our lands

-east of of Little River 100 m

b) the size of lands proposed for allocation for all of the SWM corridor per plan (550 hectares)

2) You stated the meaning of ETSP Standing Committee, is this the correct name of your Project Team that were involved in the report?

3)We did a review of the cross section of the facilities, but did not note if any possible length of the facilities were related to the typical cross sections referenced in the report?

-As well do said lands consist of any park lands, trails or sport field?

4) We started to talk about question #4 , that these **reserved corridor lands** are held until functional design has confirmed the required corridor width, following which lands not used for SWM will be released or will be returned to land owner with land use to be similar to adjacent or abutting lands. (Is this the correct understanding or intent as outlined)?

Does this process have a time line for required corridor width, since timing to settle any compensation matters as it relates to lands needed to support the SWM Plan, as well it will cause a delay in planning of said land that allow the owner to maximize their opportunity to be able to develop or sell said lands?

#5 We were not able to talk about this point, -that each development block or a single development piece would be required to provide and follow requirements for facilities, water quality, erosion, compensation and that facilities are intended to provide controls for more than one property. It is further understood that these costs related to the development must also be absorbed by the developer or developing block.

-does this process apply to the hospital and current block of lands covered in County Road 42 Secondary Plan, airport lands, reconstruction of County Road 42 and extension of Lauzon Parkway?

#6 What is the proposed SWM Plan for the County Road 42 and Lauzon Parkway or do they just empty directly on the north side of County Road 42 into Little River since the two ponds have been removed as shown per Exhibit 17 contained in the Lauzon Parkway Class EA Study - Drainage and Storm Water Management Final Report, January 2014?

#7 Please provide the actual score numbers or values as it relates to the evaluation summary chart as per Pic #1, Pic#2, Standing Committee and City Council meeting held on April 24th 2017 with specific reference to Economics Environment for Capital Cost and Total Maintenance Costs of actual dollars used in 2012.

Note- **No actual \$ values** were presented at the Public Meetings that allowed for comment, or review by the Standing Committee. or Mayor and City Council that each gave their approval for the completed process in accordance with the Master Plan Environmental Assessment -"Approach 2".
One would assume that **Probable \$ values** would be a given requirement?

#8 We did have some discussions as to why airport lands cannot be used to supply a greater amount of land needed to support SWM for the area/ region in the study site plan, but we have seen the increase in the corridor size from less than 125 m (fall of 2012) to the newly released current size of 325 m (fall of 2017) impacting lands outside the airport lands

What is proposed for the section of the airport lands located in the south east corner that is marked as a section for 325 m corridor, which is 40 m from said lands on the south side of County Road 42

It was stated, the facilities on said land will have water retained ponds, even though we stated that said lands are just **outside the 2 km from airfield centre (wild life control zone)**. **It was stated by us that we would need dry or green ponds , but the reply was that these lands can have water remaining ponds on said lands.**

Therefore, on that section of airport lands, how many facilities and type are planned to support the airport lands and system?

Note - this section of land west of Little River and along County Road 42 will be 225 m wide, which is the same stated size for our lands.

#9 Why is the section of land along Little River between County Road 42 and Baseline Road state Preliminary and Final Meander Belt Widths of 86 m as "method planform" at LRD -4 and then LRD -3 state only 60.m width as a "method Field"?

What is the difference Planform and Field?

#10 Additional discussions covered the topic of lands needed for SWM Plan and how they would establish or outline a compensation process for impacted said land owners. The topic of lands purchased or compensation has not been addressed in this plan.

Further more, it was asked why a Preliminary Opinion of Probable Costs as presented in Appendix K did not include any cost for property, maintenance, and compensation to support the proposed 550 hectares for entire SWM planned corridor.

Its was stated that it would be too difficult to establish a value.

It would seem that a proposed value can be calculated and be contained in the current Upper Little River Master Plan by using the current City of Windsor Official Plan Land Use with specific reference as per site plan per SWM report and use current values for lands purchased in the study area. We know the city is currently in the process of expropriating lands down the road, which may be completed or will be completed shortly with respect to lands on the north side of County Road 42. These lands are the remaining 2 parcel of lands not owned that are located within the airport property.

One would assume that including all major potential costs would result in providing a clear and transparent understanding of the Preliminary Opinion of Probable Cost as provided in Appendix K to all parties?

It must be noted that this plan will have a direct impact on subject land as it relates to usage and value, therefore requiring the following to be addressed;

a) Must cover or provide a process and followup that addresses' any Secondary Plans as it relates to land use amendments, reconstruction or new road ways and services/infrastructure

(like stormwater sewer system) that does not result in land owners' forfeiting their right to develop said lands that result in forgoing the receipt of the true value of the lands', while others will benefit.

It was stated that this point is currently in discussion and currently impacting the discussions and completion of the current developing plan for County Road 42 Secondary Plan. (Hospital Lands)

b) Again the timing factor is also important and must be addressed, since the report states that the lands needed for the corridor will be reserved until functional designs have confirmed the required corridor width, following which lands will be released or the portion not used will be returned to the land owner with land use to be similar to abutting lands.

The elimination of placing said land owner in limbo or frozen in time should be addressed with respect to their lands being developed and should be covered in the report.

c) It must also give consideration to any cost related to the transfer of lands, ex.(legal, severance and survey)

We await your reply for the above.

Regards

386823 Ontario Limited

William F. Balazs

President

Re: Planning Comment on EA Report

Ted Halwa <thalwa@bell.net>

Tue 2017-10-31 9:41 PM

To: Bill Balazs <bbalazs452@hotmail.com>;

While I would agree with the statement "completion of the EA does not result in changes of land uses" and the statement which follows "Other Planning Act processes must be followed....." it is important to recognize that the EA will provide the basis for any future land uses designations (i.e. Changes in land uses) in the EA study area. In fact, it should be anticipated that the City will, in short order, initiate changes to existing land use designations in the study area to ensure they are consistent with the completed EA. The basis for the changes will be the EA itself. If landowners are skeptical or have objections as to how the completed EA treats their holdings, they would be well advised to intervene at the EA stage before it is finalized and not wait until related amendments are brought forward to the Official Plan intended to ensure consistency with the EA. While it would be possible to wait and challenge the EA at the time amendments to the Official Plan are being considered to implement its preferred alternative, by that time the EA would have acquired status as an 'approved' document and challenges may effectively be found 'too little too late'

There is little question that in the case of the lands under the ownership of 386823 Ontario Limited (i.e. owned by you and your spouse), the preferred alternative recommend by the EA greatly impacts its future development potential to the extent that the limited amount of lands remaining and its configuration may adversely affect its viability to be developed.

Ted Halwa, MCIP, RPP
242 Edward Street,
Port Stanley, N5L 1A4
Cell 519-671-3083
E-mail thalwa@bell.net

From: Bill Balazs <bbalazs452@hotmail.com>
Date: Tuesday, October 24, 2017 at 2:02 PM
To: Ted Halwa <thalwa@bell.net>
Cc: "salmcc@netscape.net" <salmcc@netscape.net>
Subject: Comment on EA Rpoert

Good Day Ted;

Please provide your comment (per attach. email from study) as well as (scan 20171024) the full view of SWM Corridor and (scan 20171024 (2), which is a zoomed view, which specifically highlights our property around the word Little and shows our building.

Please note the impact of the corridor size and the balance of lands available for development.

Then review the brief summary email dated 2016-12-21, that was sent by John Henderson (from ECRA) with specific note of key individuals included and cc .(Anna Godo /City of Windsor Drainage Superintendent, and Jayson Innes/ from Stantec /responsible for preparing the Report/ Consulting Firm)

The section for your review and specific comment is item (2) " Plans are included that identify proposed land uses within the study area. Completion of this EA study does not result in changes in land uses." They do not comment on any impact to future land use, but do state further, " This EA covers a very large area. The report

should identify that future EA Addendums may be required to address the ultimate land uses that may be proposed in this area."

Please confirm, that the corridor size does greatly impact our future land use (on County 42 owned by 386823 Ontario Limited (William F. and Theresa Balazs) and further to the point as it relates to the current study for County Road 42 Secondary Plan, as per our discussions to land use and will be further impact the amount land available as a result of going to 325 m corridor size. We have been informed that our share will be 225 m on our land and is reflected in the above attached views.

We do know that based on our current meetings on land use as per Secondary Plan, -no proposed EA Addendums have been presented that may change or reduce the impact of the corridor size on said lands.

Regards
William F. Balazs



Stantec Consulting Ltd.
100-300 Hagey Boulevard, Waterloo ON N2L 0A4

February 2, 2018
File: 160311265

Environmental Assessment Services Section
Environmental Approvals & Permissions Branch
Ministry of the Environment and Climate Change
135 St. Clair Avenue West, 1st Floor
Toronto ON M4V 1P5

Attention: Mr. Stephen Deneault, Project Evaluator

Dear Mr. Deneault,

Reference: Part II Order Request – Upper Little River Watershed Master Drainage and Stormwater Management Plan Environmental Assessment (ENV1283MC-2017-3020)

Please find attached completed Tables A and B in response to the Part II Order Request that the Ministry of the Environment and Climate Change (MOECC) received during the public review period for the Upper Little River Watershed Master Drainage and Stormwater Management Plan Environmental Assessment Environmental Study Report (ESR). These Tables were prepared by Stantec Consulting Ltd. with input from the Study Team.

Following receipt of the MOECC's November 7, 2017 letter to the Proponent advising that a Part II Order Request had been received, the Requester was asked to enter into further discussions in an attempt to resolve his concerns. Accordingly, a meeting was held with the Requester and staff from the City of Windsor, the Town of Tecumseh, Stantec Consulting Ltd., the MOECC (teleconference) and the Essex Region Conservation Authority on December 5, 2017. (For your reference, a copy of the December 5, 2017 meeting summary notes is included with this response.) In addition, there were a number of e-mail exchanges with the Requester following the December 5, 2017 meeting.

After putting forth significant effort to resolve the Requester's concerns, the Study Team concluded that further discussion would not result in a resolution. Accordingly, on January 23, 2018, all parties were advised that the discussions were deemed complete and that the Proponent would be providing the MOECC with a formal response to the Part II Order Request in accordance with the MOECC's November 7, 2017 letter.

During the December 5, 2017 meeting, the Requester raised some additional questions/concerns. These questions, and our responses, have been added to the end of Table A. In addition, during the 30-day review period the Ministry of Tourism, Culture and Sport (MTCS) requested additional work to address concerns for Built Heritage Resources and Cultural Heritage Landscapes including completion of the MTCS screening checklist "Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes" and/or a Cultural Heritage Assessment Report. This work is currently underway and is expected to be completed soon. Once complete, the ESR will be updated to include a Cultural Heritage Resources Section.



February 2, 2018

Mr. Stephen Deneault, Project Evaluator

Page 2 of 2

Reference: Part II Order Request – Upper Little River Watershed Master Drainage and Stormwater Management Plan Environmental Assessment (ENV1283MC-2017-3020)

We trust that the above and attached information clearly support our position that the works undertaken to complete the Upper Little River Watershed Master Drainage and Stormwater Management Plan Environmental Assessment Environmental Study Report satisfy the requirements of a Master Plan Environmental Assessment – Approach 2.

If you have any questions, or if you require any additional information, please do not hesitate to contact the undersigned.

Regards,

STANTEC CONSULTING LTD.

A handwritten signature in black ink that reads "Jayson Innes".

Jayson Innes, M.A.Sc., P.Eng.

Water Resources Engineer

Tel: (519) 585-7282

Fax: (519) 579-6733

jayson.innes@stantec.com

Attachment: December 5, 2017 Meeting Summary Notes
Table A – Proponent Response to Part II Order Request
Table B – Proponent Information Requirement

cc. Anna Godo, P.Eng., City of Windsor
Phil Bartnik, P.Eng., Town of Tecumseh
John Henderson, P.Eng. ERCA

Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan
 Meeting to Discuss Part II Order Request
 400 City Hall Square – Meeting Room 406
 Date: December 5, 2017
 Time: 1:30 pm to 4:00 pm

Attendees:

| | |
|---|--|
| William F. Balazs - Requester | Anna Godo – City of Windsor |
| Theresa Balazs | Don Wilson – City of Windsor |
| Phil McCullough – Salem, McCullough & Gibson | Phil Bartnik – Town of Tecumseh |
| Ted Halwa – Planning Consultant for Requester | Jayson Innes – Stantec Consulting Ltd. |
| Wira Vendrasco – City of Windsor | Dorothy Moszynski – MOECC (Teleconference) |
| Mark Winterton – City of Windsor | Jennifer Fliesser – MOECC (Teleconference) |
| Wes Hicks – City of Windsor | John Henderson - ERCA |

The following summarizes the main items that were discussed during the meeting:

| Discussion Items |
|---|
| <ol style="list-style-type: none"> 1. Stantec provided MOECC Table A with draft response information for discussion purposes. The Requester advised that he had not seen Table A and time was provided to review same. MOECC confirmed that the Requester was only provided a copy of the November 7, 2017 letter that was sent to ERCA. MOECC does not provide the Requester with the attachments that accompany the Part II Order Request notification letter that is sent to the Proponent. 2. The length of the time provided for review of the final report was discussed. MOECC confirmed that the minimum required review period is 30 days after publication of the Notice of Project Completion. 3. The Requester advised that the PIC’s for the Upper Little River Master Plan Study were combined with PIC’s for other studies that were being undertaken in the same area. He noted this was confusing and suggested that comments provided at the multiple PIC meeting should have been included in the summary notes for all PIC’s that occurred at the same meeting. Stantec advised that it is not unusual for PIC’s to be combined when numerous studies are being undertaken in an area. This approach can help to introduce the public to other studies that are taking place in the area and can increase meeting turnout. 4. The Requester expressed his concern that stormwater management (SWM) facilities are no longer shown on the airport lands. He indicated that a proposal to construct a SWM facility between the airport woodlots was previously approved by ERCA. ERCA indicated |

that this item had been discussed at previous meetings and reiterated that an approval had not been issued for a SWM facility between the airport woodlots. This was a preliminary concept that was considered years ago, however, due to numerous concerns (i.e. issues related to potential impacts to the adjacent provincially significant wetlands, future maintenance concerns, issues that could result from a fuel spill within the airport lands, etc.) it was not pursued as a SWM option.

5. The Requester asked why the previous 2012 information for this study and other studies in the area previously showed SWM corridors on the airport lands. These corridors have been removed from the airport lands and he is concerned that his land will be used for storage to allow for development on the airport lands. The Requester believes that the City wants to maximize the potential employment land opportunities on the airport lands at the expense of private landowners. The City and ERCA responded that all future development on the airport lands will be held to the same stormwater controls as the rest of the Upper Little River Master Plan Study Area. One of the previous corridors was removed because it was no longer needed due to the development of a solar farm on the airport lands. It was confirmed that a SWM corridor is still shown at the southeast corner of the airport lands across the road from the Requester's property. The airport is one large property that is under the control of the City. As a result, the exact location of the future SWM corridor/facility on the airport lands is not critical.
6. The Requester provided a number of conceptual plans from various previous meetings for this and other studies in the area which showed a progressively increasing width of the SWM corridor on his land and noted that size of the corridor was not provided at the PICs. The Requester advised that the increased corridor width had resulted in a dramatic impact to his lands with only a small portion remaining outside of the corridor. The Requester further indicated that the corridor width had increased since the last 2012 PIC and he felt that another PIC should have been held before the Notice of Project Completion was advertised. The Requester was advised that the final size of the corridor on his lands had nothing to do with the airport lands. The size increase was a result of pond modification to address the limited capacities of existing receiving watercourses, climate change considerations, etc. It was acknowledged that the corridor width changed, however, the alternative 6 concept of SWM corridors on private lands remained the same as presented at the 2012 PIC's. Accordingly, an additional PIC was not added to the project in 2017.
7. The Requester asked how his lands will be acquired, when his lands will be acquired and how much he will be paid for his lands? The Requester also advised that the Municipal Class EA Guidelines say that an EA document can include a section on the anticipated process for next steps regarding land acquisition. The Requester was advised that property acquisition and the related costs are not part of the EA process. The City advised that City Administration will be presenting a report to City Council requesting budget approval for the City to undertake a Growth Management Strategy Plan for the Lands transferred from the Town of Tecumseh (aka Sandwich South Employment Lands)

which includes the portion within the City of Windsor for the Upper Little River Master Plan Study Area. The purpose of this study will be to look at options for funding the infrastructure (including land) in the entire transferred lands. Approval to move forward with this study will be determined through the upcoming 2018 City budget deliberations.

8. The Requestor made reference to the EA Code of Practice and noted that "compensation" is mentioned within the Code. The Requester asked if a section could be included in the EA report that identified the anticipated process for land acquisition and compensation. The Requester also asked if the Ministry could advise if other EA's have included a section on compensation and if so, could references be provided.
9. The Planning Consultant for the Requester advised that the EA will be used to inform future land uses through Secondary Plans limiting the Requester's future options for his lands. The City confirmed that the findings of the EA do put constraints on the Requester's land. The ultimate constraint will not be known until functional design is complete. The Planning Consultant for the Requester ask if the corridor could be reduced through functional design. Stantec advised that this will ultimately depend on the future land uses within the related subcatchment. The City further advised that there is another subcatchment within the Upper Little River Master Plan Study Area (East Pelton) where the owners are just starting into the next steps of functional design to determine the actual size of the required SWM corridor.
10. The Requester advised that he had a recent inquiry to purchase his property but he advised the inquirer that he could not consider selling at this time because of the constraints created by the SWM corridor. The Requester expressed his concern that the proposed SWM corridor could put a hold on his lands for years. He then asked why the EA document cannot include language that says landowners will be appropriately compensated for their lands if their lands cannot be developed because of a SWM corridor that will be used to control stormwater from other properties. In response, the City advised that there are other processes that are used to acquire property such as the *Expropriation Act* if a mutually agreeable property value cannot be reached. To date, the City has never addressed property acquisition values in any of the many EA's they have completed. It is the City's intention that all property owners will be treated fairly and it is premature to determine how much or when property owners will be compensated.
11. The Requester asked why the airport lands where not being used for regional storage to reduce the storage requirements on privately owned lands. The City should give up their employment lands to allow privately owned lands to be developed as employment lands. Stantec advised that the use of large regional facilities was one of the alternatives considered in this EA. Based on the evaluation criteria, large regional facilities were not determined to be the preferred alternative. Some of the issues with large regional facilities on the airport lands include concerns with waterfowl and airport operations,

overland routing limitation for major storm event flows from distant sub-catchments, required depths of ponds to provide outlet for minor system storm sewers that would be required to travel significant distances to the pond, etc.

12. The Requester asked if the *Drainage Act* would be used for the proposed SWM corridors. The City advised that there are many municipal drains in the study area. Alteration to these drains, such as the creation of east/west cutoff drains required for development to proceed in some areas, will require *Drainage Act* processes to be implemented. It is not, however, the intention of the City to use the *Drainage Act* to create the SWM corridors.
13. The Requester advised he is concerned that the recommendations of the EA will not be followed and individual sites will be allowed to develop with their own on-site storage facilities and the SWM corridor on his lands will not be developed. If this occurs, his land will be constrained and deemed undevelopable while others have the ability to capitalize on development opportunities. He will miss his chance at development opportunities. The City advised that they are bound to follow the recommendations of the final approved EA. Proposed changes to the approved EA would require an EA amendment that involves another public process with opportunities for public comment/input. The City does not want to have numerous individual development SWM facilities in the study area.
14. The Requester provided meeting minutes from a 2012 Lauzon Parkway Project meeting where it was noted that the City is open to extending the employment land designation onto a portion of his land. He is concerned that this is now not the City's intention based on the proposed SWM corridor which eliminates the development opportunity for his land. The City advised they would look into this matter.
15. The Requester advised he is concerned he will not be appropriately compensated for his land if the process for future land acquisition is not included in the final approved EA. He understands that it may not be possible to provide the actual value of his land at this time but wants the process included. The City advised that no one can take his land without compensation. There are current laws which deal with land acquisition that must be followed. The City advised they would review his concern/request.
16. The Requester concluded the meeting by reiterating his following three main concerns:
 - i. The Requester was previously advised that the City was open to extending the employment land designation onto a portion of his land. He still wants this to happen and wants the City to provide clarification on this matter.
 - ii. The Requester wants the final EA report to include a section that identifies the process for future land acquisition.
 - iii. The Requester thinks the airport lands should be used to construct a regional SWM facility to control stormwater runoff from adjacent privately owned lands. He believes this would reduce the size of the proposed SWM corridors and

minimize impacts to privately owned lands.

This meeting summary has been prepared by John Henderson.

TABLE A – PROPONENT RESPONSE TO PART II ORDER REQUESTS

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| PROPONENT: | The City of Windsor, the Town of Tecumseh, and the Essex Region Conservation Authority |
| PROJECT TITLE: | Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan |
| PROJECT LOCATION: | City of Windsor and Town of Tecumseth |
| PREPARED BY: | Jayson Innes |
| DATE SUBMITTED TO MOECC | 2018-02-02 |
| PHONE # and E-MAIL: | 519-585-7282 jayson.innes@stantec.com |

| Issues and Concerns | Proponent Response | Status |
|---------------------|--|---|
| | <p align="center">* specify response- either from EA report, separate consultation material, etc.</p> <p>Be clear about which sections of the EA address the concerns raised, or provide indication of work that will be done (e.g., commitments) to address the concerns. Along with the EA documentation section reference, provide a summary of the section to clearly indicate that the response/section addresses the concern. Ensure that any relevant information is included in the response.</p> <p>Please ensure only factual information is included in the response. Avoid statements with no supporting information.</p> <p>Where appropriate, outline consultations with other government agencies relevant to addressing the concern. Please provide records of this consultation as per the Table B.</p> | <p align="center">* present status (ongoing meetings with requesters, etc.—DATES important)</p> |

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| <p>Environmental Assessment Process</p> | | |
| <p>Inadequate time for review of the Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan (Plan). This Plan consists of 625 pages to be reviewed, and only allows a response time of 30 calendar days or approximately 19 working days to respond with comments.</p> <p>Confusing consultation process as PIC meetings on this Plan, the Lauzon Parkway Class EA and the Sandwich South Secondary Plan were all held at the same date (October 22 2012) and place. Insufficient time to submit comments after this meeting.</p> | <p>The Environmental Study Report must be placed on the public record for a period of at least 30 days. Normally 30 days will be adequate but the proponent may choose to set a longer period under special circumstances (A.3.4.1 from Municipal Engineers Class Environmental Assessment Process (2000, as amended in 2007, 2011 & 2015). The EA process requirements have been met. Additional mediation occurred with the Part II Order requester following the mandatory 30 day period, during which time the requester had additional time to review the ESR and submit comments.</p> <p>PICs for Environmental Assessments with similar study areas are often held at the same time to increase turnout. Usually similar people attend PICs in a geographic area and having multiple PICs at the same time can also introduce the public to new studies. After each PIC a two week comment period was provided which is a typical response time. While most comments were received during the PICs or within the two week period immediately following the PICs, all comment received during the EA process were considered.</p> | |
| <p>Stakeholder Consultation</p> | | |
| <p>Details related to the study were last presented on October 22, 2012 with the next update released on September 22, 2017 (the final Plan). That is 5 years since any updated information was released. Through 2012 to 2017, the requester sent emails and correspondence letters to members of the Project team, but none were found in Appendix C of the Plan, nor the comment sheet that was submitted at the second public information centre in 2012.</p> | <p>While some design assumptions and the width of the required stormwater management (SWM) corridor were modified following PIC #2, the preferred alternative has not changed. The ESR 30 day review period following the publication of the Notice of Completion is intended to address any outstanding concerns.</p> <p>A letter received from Monteith Brown Planning Consultants on behalf of 386823 Ontario Limited (Bill and Theresa Balazs) dated 2013-10-29 is included in Appendix C of the ESR with personal information removed. All comments received at the PICs are included in Appendix B. The letter received from Salem, McCullough & Gibson on behalf of 386823 Ontario Limited (Balazs) dated 2017-04-21 (attached) will be added to the updated ESR”</p> <p>Correspondence submitted as part of the Lauzon Parkway EA, Sandwich South Secondary Plan, and other studies was not considered part of the Upper Little River EA.</p> | |

The reserved corridor size was not stated until the meeting held on November 28, 2012. At this time the reserved corridor size was described as less than 100-150 metres, and it was stated that this could be reduced subject to review of requirements and design with the size split to be 50/50.

On September 22, 2017, the new confirmed size was to be 325 metres for the corridor and 200 metres at the tributaries. It was later stated in an October 10, 2017 meeting that it would not be a 50/50 metre split; it would be more like 225 metres on the requester's land and 100 metres on east side of Little River.

The dramatic size change should have been communicated to or at a stakeholders meeting for land owners impacted by corridor size change before the final Plan was released to allow for comments and to address any issues.

As a result of this meeting, the proponents did agree to designate some of the lands as future employment, but continue to reserve the space as a balance for open space. This change resulted from the fact that the proponents had no justification to designate these lands as open space.

As noted, the size of the corridor has increased since PIC #2. Assumptions for the allowable release rates, design storm duration, climate change, and external grading from the pond elevation to the surrounding ground have been modified, resulting in larger SWM facilities as described in Sections 4.3.6, 4.3.8 and 6.1 of the ESR. These changes were made based on comments received during the EA study and policy changes. The size of the corridor does not change the preferred alternative as any alternative providing flood control (Alternatives 3 to 6) will have similar land requirements. The ESR 30 day review period following the publication of the Notice of Completion is intended to address any outstanding concerns.

The corridor is generally centered on the existing channel as shown in Drawing 3, but in some locations has been modified to accommodate external constraints such as roadways, railways, and municipal boundaries.

Based on the City of Windsor Official Plan – Schedule D (Land Use) the subject lands are currently designated as open space. The lands were designated open space in the City's Official Plan by OPA 60. The lands are zoned agriculture in Tecumseh Zoning By-law 85-18.

The reference to the potential to re-zone some of the lands from open space to employment lands relates to meeting minutes from the November 28, 2012 Stakeholder meeting for the Lauzon Parkway Project and the draft Sandwich South Secondary Plan. The Lauzon Parkway EA is now in effect, however, the Sandwich South Secondary Plan was discontinued.

The lands are now part of the County Road 42 Secondary Plan process, which the Requester has participated in. The County Road 42 Secondary Plan process is ongoing and any comments about land use in that secondary plan should be provided as part of that process. Land designation and zoning are part of the County Road 42 Secondary Plan and not part of the Upper Little River Master Plan Study.

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| <p>The study does not reference the impact of the corridor size to land owners and the restriction of available lands for future development, as well as the amount that will be placed in a hold pattern, frozen in time until development size and needs have been designed.</p> <p>The Plan did not release any costs until recently and it did not include any property costs, compensation values or process considerations. Economic conditions that will affect land owners have not been addressed in this process, communicated clearly or allowed for input.</p> | <p>The total size of SWM facilities in the study area is similar between Alternatives 3 to 6. Alternative 6 recommends grouped SWM controls to minimize the total number of facilities. In some locations, this results in drainage from one property being stored on another property. The SWM corridors identified in the EA are required to provide stormwater management controls for development properties and are restricted until development size, type and needs are determined through next step processes such as Secondary Plans, Functional Servicing Studies, etc.</p> <p>An opinion of probable cost was included in the ESR (Section 6.3 and Appendix K) and includes an estimate of the relative cost between the alternatives which was one of the evaluation criteria used to select the preferred alternative. Property costs were not included as they were similar between alternatives and vary with location. Ultimate land use designations within the study area are not finalized during the EA process. The ESR 30 day review period following the publication of the Notice of Completion is intended to address any outstanding concerns.</p> <p>The City of Windsor will be undertaking a Growth Management Study to explore infrastructure implementation and financing tools for development of the Sandwich South Lands in the Upper Little River watershed. Budget for said study was approved by City Council on January 16, 2018.</p> | |
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The public suggested including airport lands in the study area as there is a lot of potential in this area, approximately 467 hectares of available space, but this was dismissed by the project team.

This has come across to the public that the proponents show no consideration or intent to involve the public, consider any input, to be transparent and act with a fair and just approach that was outlined in the environmental assessment process. Rather, it seems it is the proponents' intent to isolate the airport lands from the plan for another purpose.

This will result in the development of these lands that will benefit the City of Windsor, while others will not be able to share in the benefits, or they will be delayed in development of their lands and unsure if any remaining lands will be considered for meaningful development.

The airport lands are included in the study area and any future airport development will have the same SWM requirements as the remainder of the study area as documented in Section 6.1 of the ESR. In the ESR the airport lands were assumed to provide SWM controls for the airport property.

The preferred Alternative 6 (as discussed in Section 5.2.6 of the ESR) groups geographic areas together and identifies SWM facility locations allowing for phased development. Alternatives 3 and 4 (described in Sections 5.2.3 and 5.2.4 of the ESR) evaluated large communal SWM facilities but were not selected as the preferred alternative due to several factors as described in Table 15 including higher upfront capital costs, fish habitat losses, and increased attractiveness to birds (i.e. hazard to aviation).

Most of the airport property is located at higher elevations with a portion of available low lying land located adjacent to Upper Little River (approximately 400 m of channel as shown on Drawing 3 from the ESR). Other low lying portions of the airport lands are occupied by a large solar farm project and woodlots that are designated as provincially significant wetlands (PSWs).

The airport lands generally slope from west to east with approximate elevations of 190 metres near the western boundary, 182 metres near the southeast corner, and 181 metres near the northeast corner of the property. Significant parts of the low lying portions of the airport lands are encumbered by the solar farm in the northeast portion of the property and the PSW (woodlots) in the southeast portion of the property. These existing encumbrances limit the area available for a large facility in the low lying portions of the airport lands (as shown in Appendix G). The lower southeastern corner of the airport lands along Upper Little River is identified as a SWM corridor in the ESR, but this corridor must accommodate runoff from potential development areas along County Road 42 and setbacks from the PSWs.

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| | <p>Lands north of County Road 42 currently zoned as industrial and employment lands are geographically separated from Upper Little River and the other SWM corridors by PSWs and open space.</p> <p>Several existing SWM facilities located near the airport with large bodies of open water and extended green spaces are attracting avian species and can create the potential for increased collision hazards with aircraft (Section 7.1 of the ESR). Increasing SWM pond size has a strong correlation with attractiveness to avian use and the preferred alternative minimizes open water surfaces and fetch length. Diverting additional runoff to the airport lands will increase the potential hazards. It has been the City's experience that these hazards require extraordinary measures to overcome, and therefore this (along with the other noted reasons) is not considered a viable alternative.</p> <p>Treating stormwater runoff from external areas on the airport lands is not the preferred alternative base on the evaluation matrix shown in Table 16 of the ESR.</p> | |
| <p>Full Scope of Study Area</p> | | |
| <p>The study report does not reference a study for the Hospital Lands under County Road 42 Secondary Plan, which is underway and the reserve corridor size clearly does impact said lands, restricts the amount of land available for development and places the status of a large amount of land in limbo.</p> | <p>The hospital lands are referenced in Section 3.6.5. and are expected to utilize the corridor for SWM controls as described in Section 6. The SWM corridor identified in the EA is required to provide stormwater management controls for development properties.</p> | |

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| <p>The requester is concerned that this Plan will become the guiding document for stormwater management controls on the Upper Little River that will be applied to upcoming projects and any future developments (including Lauzon Parkway, County Road 42 and current hospital development).</p> | <p>The intent of the EA is to provide a guiding SWM strategy for the study area to reduce downstream flooding and minimize the number of SWM facilities as discussed in Section 2 of the ESR. A comprehensive study was undertaken to determine the preferred SWM strategy and flow requirements. The preferred alternative will provide a balanced and relevant natural, social, technical, and economical criteria to establish appropriate drainage and stormwater management requirements at a watershed level that meets the needs of the area stakeholders.</p> | |
| <p>The Codes of Practice define impact management measures as “measures which can lessen potential negative environmental effect or enhance positive environmental effect.” These measures could include “mitigation, compensation, or community enhancement.” Compensation has not been discussed in the Plan. The requester has not been informed nor been involved in any discussion on compensation. The EAA also defines environment to include the economic environment. This has not been discussed in the Plan.</p> | <p>The Code of Practice refers to compensation as a method to lessen potential negative environmental effects or enhance positive effects and includes any effect on the environment including air, land, water, plant and animal life, social, economic, culture, buildings, etc. The Code of Practice gives priority to the avoidance of impacts at source, followed by minimizing or mitigating impacts, and finally providing compensation for any negative environmental effects.</p> <p>With regard to economic impacts, the economic environment was incorporated in the evaluation of alternatives as shown in Table 15 and 16. The relative capital and maintenance costs were evaluated to determine the preferred alternative. The economic environment was evaluated based on the overall economic benefit to the study area as well the economic impact to individual properties.</p> <p>The infrastructure for the SWM corridor will be owned by the municipality and the required property will be acquired in accordance with the laws of the Province of Ontario. It is not a requirement of this EA process to repeat the long and well established processes of the Province.</p> <p>The City of Windsor will be undertaking a Growth Management Study to explore infrastructure implementation and financing tools for development of the Sandwich South Lands in the Upper Little River watershed.</p> | |

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| <p>Environmental Concerns</p> | | |
| <p>The Plan will impact the owner's lands and a significant number of neighbouring lands.</p> | <p>The preferred alternative is designed to minimize the number of stormwater management facilities, as well as associated operating and maintenance costs as discussed in Section 5 and 6 of the ESR. In some locations this results in drainage from one property being stored on another property with associated impacts. Based on the evaluation of alternatives in Tables 15 and 16 of the ESR, Alternative 6 is the preferred alternative for providing stormwater management controls for the study area. It provides the required stormwater management controls, minimizes the total number of facilities, provides staging flexibility, reduces the attractiveness of the facilities to avian species, and does not create any additional barriers to fish movement.</p> <p>Lands impacted by the SWM corridor will ultimately be owned by the Municipality. The Municipality will acquire the required property in accordance with the laws of the Province of Ontario.</p> | |

The avian management: report (CR191-2012) adopted by Windsor City Council on Aug 27, 2012 makes reference to the Upper Little River watershed. It states that the airport could utilize open space lands for a natural stormwater treatment and possible detention. The requester asked why the airport is now not being considered to help with stormwater management and was told this is because of avian management. Our lands are 40 metres directly south of the airport- so why do these avian management laws not apply on the requester's lands?

Avian management applies to all lands within the study area and will impact the proposed design of the SWM facilities as discussed in Section 7.1 of the ESR.

The area around the provincially significant wetlands (PSW) and the McGill Drain were considered for stormwater management (SWM) early in the EA process (refer to PIC 1 boards in Appendix B). Concerns were raised with the approvability of SWM facilities near the PSW and maintenance of the PSW SWM facilities that were originally proposed (a non-standard forested wetland type facility). A large solar project on the airport lands has also removed the need for much of the SWM controls on the airport lands, as they generally maintain existing conditions. SWM control for the remaining developable parcels is proposed to occur along Upper Little River (refer to Section 6.1 and Drawing 3).

The airport lands generally slope from west to east with an approximate elevation of 190 metres near the western boundary, 182 metres near the southeast corner, and 181 metres near the northeast corner of the property. Significant parts of the low lying portions of the airport lands are encumbered by the solar farm in the northeast portion of the property and the PSW (woodlots) in the southeast portion of the property. These existing encumbrances limit the area available for a large facility in the low lying portions of the airport lands (as shown in Appendix G). The lower southeastern corner of the airport lands along Upper Little River is identified as SWM corridor in the ESR, but this corridor must accommodate runoff from potential development areas along County Road 42 and setbacks from the PSWs.

Several existing SWM facilities located near the airport with large bodies of open water and extended green spaces are attracting avian species and can create the potential for increased collision hazards with aircraft (Section 7.1 of the ESR). Increasing SWM pond size has a strong correlation with attractiveness to avian use and the preferred alternative minimizes open water surfaces and fetch length. Diverting additional runoff to the airport lands will increase the potential hazards.

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| <p>Climate change: proponents stated that climate change would continue to have a greater impact with an increase in storm frequency, and that this was a major factor in the Stormwater management facility size change. They also stated that they included a margin of safety to the increased corridor size to address climate change. Impacted parties were not informed of this beforehand.</p> | <p>Climate change was addressed in Section 7.6 of the ESR as required by the 2014 Provincial Policy Statement. Current local municipal standards do not include the impacts of climate change. The proposed SWM controls were evaluated by performing a sensitivity analysis on the system and applying a 20% increase to the 100-year, 24-hour Chicago design storm event, which is consistent with other studies in the area. When the design storm was increase by 20%, runoff volumes increased by approximately 20 to 30%, requiring larger stormwater management facilities, increasing the facility widths by 15 m. These changes did not modify the preferred alternative. The ESR 30 day review period following the publication of the Notice of Completion is intended to address any outstanding concerns.</p> | |
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| <p>From December 5, 2017 meeting</p> | | |
| <p>The Balazs property is currently zoned open space in the Official Plan and earlier documentation was presented suggesting that the City of Windsor was considering changing the zoning to Employment Lands. Mr. Balazs still wants this to happen and wants the City to provide clarification on this matter.</p> | <p>The lands were designated Open Space in the City's Official Plan by OPA 60. Lands are zoned Agriculture in Tecumseh Zoning By-law 85-18, which remains the current zoning by-law for the previously annexed area.</p> <p>The reference to the earlier documentation means the stakeholder November 28, 2012 meeting minutes for the Lauzon Parkway Project and the draft Sandwich South Secondary Plan. The Lauzon Parkway EA is now in effect, however, the Sandwich South Secondary Plan was discontinued.</p> <p>The lands are now part of the County Road 42 Secondary Plan process, which Mr. Balazs has participated in. That process is ongoing and any comments about land use in that secondary plan should be provided as part of that process. Land designation and zoning are part of the County Road 42 Secondary Plan and not part of the Upper Little River Master Plan Study.</p> | |
| <p>Additional documentation was requested in Section 8 of the ESR concerning property acquisition and compensation</p> | <p>The infrastructure for the SWM corridor will be owned by the municipality and the required property will be acquired in accordance with the laws of the Province of Ontario. As previously discussed, it is not a requirement of this EA process to determine acquisition and compensation processes.</p> <p>The City of Windsor will be undertaking a Growth Management Study to explore infrastructure implementation and financing tools for development of the Sandwich South Lands in the Upper Little River watershed. Budget for said study was approved by City Council on January 16, 2018.</p> | |

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| <p>The Airport Lands were suggested as a potential location for stormwater management facilities for external areas thereby removing the SWM corridor from private property</p> | <p>The airport lands are included in the study area and any future airport development will have the same SWM requirements as the remainder of the study area as documented in Section 6.1 of the ESR. In the ESR the airport lands were assumed to provide SWM controls for the airport property.</p> <p>The preferred alternative 6 (as discussed in Section 5.2.6 of the ESR) groups geographic areas together and identifies SWM facility locations allowing for phased development. Alternatives 3 and 4 (described in Sections 5.2.3 and 5.2.4 of the ESR) evaluated large communal SWM facilities but were not selected as the preferred alternative due to several factors as described in Table 15 including higher upfront capital costs, fish habitat losses, and increased attractiveness to birds (i.e. hazard to aviation).</p> <p>Most of the airport property is located at higher elevations with a portion of available low lying land located adjacent to Upper Little River (approximately 400 m of channel as shown on Drawing 3 from the ESR). Other low lying portions of the airport lands are occupied by a large solar farm project and woodlots that are designated as provincially significant wetlands (PSWs).</p> <p>The airport lands generally slope from west to east with approximate elevations of 190 metres near the western boundary, 182 metres near the southeast corner, and 181 metres near the northeast corner of the property. Significant parts of the low lying portions of the airport lands are encumbered by the solar farm in the northeast portion of the property and the PSW (woodlots) in the southeast portion of the property. These existing encumbrances limit the area available for a large facility in the low lying portions of the airport lands (as shown in Appendix G). The lower southeastern corner of the airport lands along Upper Little River is identified as a SWM corridor in the ESR, but this corridor must accommodate runoff from potential development areas along County Road 42 and setbacks from the PSWs.</p> | |
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| | <p>Lands north of County Road 42 currently zoned as industrial and employment lands are geographically separated from Upper Little River and the other SWM corridors by PSWs and open space.</p> <p>Several existing SWM facilities located near the airport with large bodies of open water and extended green spaces are attracting avian species and can create the potential for increased collision hazards with aircraft (Section 7.1 of the ESR). Increasing SWM pond size has a strong correlation with attractiveness to avian use and the preferred alternative minimizes open water surfaces and fetch length. Diverting additional runoff to the airport lands will increase the potential hazards. It has been the City's experience that these hazards require extraordinary measures to overcome, and therefore this (along with the other noted reasons) is not considered a viable alternative.</p> <p>Treating stormwater runoff from external areas on the airport lands is not the preferred alternative base on the evaluation matrix shown in Table 16 of the ESR.</p> | |
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SALEM, McCULLOUGH & GIBSON

PROFESSIONAL CORPORATION

Barristers and Solicitors

William A. Salem, B.A., LL.B. (*Retired*)
Philip D. McCullough, B.A., LL.B.
Deborah-Lynn Gibson, LL.B.

2828 Howard Avenue
Windsor, Ontario N8X 3Y3
Telephone (519) 966-3633
Fax (519) 972-7788
Email: salmcc@netscape.net

21 April 2017

Sent by Email: kstuart@citywindsor.ca
And sent by Fax: 519-255-6868

Attention: Kelly Stuart
Council Services Department, Office of the City Clerk
Corporation of the City of Windsor
350 City Hall Square West, Rm 203
Windsor, ON N9A 6S1

Dear Madam:

RE: Upper Little River Master Plan Environmental Assessment – Filing the Notice of Study Completion (Ward 9)
Our Client: 386823 Ontario Limited
Property: Part Lot 18, Conc. 9 – Vacant land on Cty Rd 42

We are solicitors for 386823 Ontario Limited who are the registered owners of the property legally known as Part Lot 18, Conc 9, City of Windsor – PIN 75236-0066 (LT). These lands front onto County Rd 42 and are immediately adjacent on the eastern side of my client's lands with the Little River as shown on the attached map.

Our client's family have owned this property since 1965.

Even though their lands are immediately adjacent to the Little River there has never been a flooding issue of any kind and the land has been actively farmed for all of those years without any difficulty. My clients do not have any development plans underway but, do not, want to have anything done to their lands that would significantly restrict their development potential.

Mr. William Balazs, the president of the corporation, has been actively involved since 2007 on land use (Open Space) and with respect to this matter at PIC#1 and PIC#2 and the Stake Holders Meeting since approximately 2012. He has attempted to attend all of the meetings and listened to administration's proposal and presented our position and objections.

As well, he has attended meetings or reviewed matters reporting on the Extension of Lauzon Parkway, Reconstruction of County Road 42, Airport Property as it relates to (Land Use on the North Side of CTY 42, Solar Farm, additional land purchased on north of County 42) and the discussions of the Sandwich South Secondary Plan on Land Use.

The most disturbing thing that has come out from these discussions is the proposal to have a designated "Open Space" storm water management corridors that would be 250 meters wide along Little River. This 250 meter corridor would extend the entire depth of our client's lands. We have 28.3 acres and we have done a quick math, which means we will loss 13.6 acres of land to corridor. This corridor of 250m wide along Little River runs from the north of the future East-West Arterial Road to CP Railway.

Additionally, the proposal as we understand it, is that any tributaries of the Little River would have a storm water management corridor of 150 meters wide along any tributaries of the Little River. Finally it's has been stated the corridors' are (Reserved) until functional and detailed designs have confirmed the required width, following which surplus lands will be (Released).

We have some other questions with some items requiring explanation. We also want to check if our positions presented at these meetings have been addressed or what has been said is reflected in the final report. At the Stake Holders Meeting held in 2012 we were told the corridor could be less then 100m or 150m and they wish to use the Land Use description of Open Space to cover the possible requirements of the Little River Corridor, therefore providing reason to only give us a portion of said land changed to Future Employment and a large balance to remain Open Space. These are strong words –Open Space- to only reserve lands.

We understand that there is a full report forthcoming on the Upper Little River Master Plan Environmental Assessment-Filing the Notice of Study Completion, Ward 9. We have not yet received that Report nor has Council seen that Report.

As we understand this process, once the council gives direction to the Administration of the report it must go to 30-days Public Review with the above mentioned final report being available only at that time. We understand Council will only see the full report during the 30 day period. Members will also have the report available.

The public only have one way to have their objections heard through the Part II Order, which requires them to file any objection to the Minister of the Environment. The Minister will undertake a review and render a decision. We will have no further follow-up with the City or parties involved.

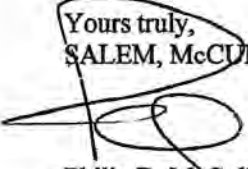
The effect of the storm water corridor that would be 250 meters wide will have a devastating effect on our client's use of their lands and would have a crippling effect on the value of their property. Further, we will be held in limbo until things are confirmed and miss any potential development. The key question, who is paying for the corridor lands/Open Space that will require the creation of low lands and rolling landscape with facilities, since we have no natural environment on existing lands.

It is our view that City Council should conclude the report is not complete or final and send it back to administration and insists that administration provides some credible evidence to support their demand for such an unfairly wide storm water management corridor, as well a clear break down of capital cost and who will pay for the corridor lands/Open Space. We would also request a change of the final report to a Draft, thereby allowing a public review of the report with feedback for all parties, since the last review was 2012.

We do not want council giving direction to this process based on a seven page summary with a 10 page attached appendix. In the past the City has clearly stated they are transparent, fair and will not be placed in a position that might later give rise to a private property owner claiming the city was unfairly restricting development rights or compensation.

We would like the opportunity to address Council regarding this matter and Mr. William Balazs and the undersigned will be in attendance as a delegate at the Council meeting on Monday, April 24th, 2017.

Yours truly,
SALEM, McCULLOUGH & GIBSON



Philip D. McCullough

PDM:at

Cc: 386823 Ontario Limited – Attention: William Balazs
Hilary Payne
Ted Halwa

TECHNICALLY PREFERRED PLAN

LAZON ROAD TO CITY / COUNTY BOUNDARY



CITY OF WINDSOR

LAZON PARKWAY

COUNTY ROAD 4

386823 Ontario Limited
(Owner)

R-600m

COUNTY ROAD 4
10TH CONGRESSIONAL ROAD

ULTIMATE
COUNTY ROAD 4 ZONING

- 1) INTERIM EA - WINDSOR
- 2) ULTIMATE EA - COUNTY
- 3) LONG-TERM PLAN - SANDWICH SOUTH SID TO BE CLOSED AND FARM USE LAZON ROAD

Table B- Proponent Information Requirements

| | |
|--------------------------|---|
| PROPONENT: | The City of Windsor, the Town of Tecumseh, and the Essex Region Conservation Authority |
| PROJECT TITLE: | Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan |
| PROJECT LOCATION: | City of Windsor and Town of Tecumseh |

| Required Information | Response or Attachments |
|---|--|
| <p><u>Consultation Record</u> Please provide a brief summary of each type of consultation (e.g. PIC, stakeholder meetings, and notices) and the date it occurred for the following groups.</p> <ul style="list-style-type: none"> • Public; • Agency; and • Indigenous community (Please indicate what communities were contacted and how you identified who to contact). <p>If provided in the EA documentation, summarize here and provide exact reference location in the EA documentation.</p> | <p>PICs were held on May 29, 2012 and October 22, 2012 (Section 3.4.1 of the ESR)</p> <p>Project updates were presented at the open Environment, Transportation and Public Safety Standing Committee in the City of Windsor (March 22, 2017), and at open Council meetings in the City of Windsor (April 24, 2017) and the Town of Tecumseh (May 23, 2017).</p> <p>The Notice of Commencement was published in October 2011 (Appendix B) and the Notice of Completion was published in September 2017 (attached).</p> <p>Meetings with the City of Windsor and Town of Tecumseh were held throughout the study (Appendix D). An initial project overview meeting was held with the MOECC in 2011 and notices were sent to relevant agencies at study commencement and study completion including the Ministry of Environment and Climate Change, Ministry of Natural Resources and Forestry, Ministry of Transportation, Ministry of Agriculture, Food and Rural Affairs, Ministry of Aboriginal Affairs, Ministry of Municipal Affairs and Housing, Ministry of Tourism, Culture and Sport, Department of Fisheries and Oceans, City of Windsor, Town of Tecumseh, County of Essex, and the Essex Region Conservation Authority.</p> <p>Indigenous communities were contacted during study commencement, study completion and following the PICs as documented Section 3.4.2 of the ESR and in the attached Consultation Log.</p> |

| Required Information | Response or Attachments |
|---|---|
| <p><u>Source Protection</u> Information to support how proponent has considered source water protection including:</p> <ul style="list-style-type: none"> • Source Protection Area; • Potential drinking water threats, • If the project(s) are located in an Intake Protection Zone (IPZs) or Well Head Protection Areas (WHPA); • Comments from the conservation authority (Please attach a copy of these comments or provide the exact location reference within the EA documentation) and; | <p>Portions of the study area are located in source water protection vulnerable areas for both surface water and groundwater. The Essex Region Source Protection Area – Approved Source Protection Plan (SPP) (2015) and the Essex Region Source Protection Area – Updated Assessment Report (AR) (2015) identify most of the municipal drains and Upper Little River within the study area as Intake Protection Zone (IPZ)-3. Figures showing vulnerable areas are attached for reference. The ESR will be updated to include a Source Water Protection Section.</p> <p>The EA proposes stormwater management facilities which will provide water quality and water quantity control for residential, commercial, and industrial lands. The SWM facilities are all located in IPZ-3, outside of the more vulnerable IPZ-1 and IPZ-2. SWM facilities can be managed through Environmental Compliance Approvals (previously Certificate of Approval) which generally address criteria for operation and performance of the stormwater management facility, requirements for monitoring and recording of specific indicators of the environmental impact of the works (water quality, not quantity), reporting on incidents, and provision of contingencies to prevent and deal with accidental spills.</p> <p>Significant groundwater recharge areas are located along the western study limits in an already developed area and have a low vulnerability. No municipal drinking water systems are supplied by groundwater although groundwater is used occasionally for domestic consumption, mainly in rural areas.</p> <p>Discussions with the Project Manager for Drinking Water Source Protection for Essex Region (Katie Stammler) identified policies and vulnerable areas within the study limits (refer to attached emails). While the project does not involve installing or altering a municipal drinking water intake, modifications to the drainage network are proposed. This will require an update to the IPZ-3 and Event Based Area. Some portions of these vulnerable areas may be removed through a s.51 amendment to the SPP and AR if drains are removed. If new drains are installed or are relocated, the vulnerable areas will need to be extended, which will require either a s.34 amendment to the SPP and AR or would be included in the Essex Region SPA s.36 work plan. A map showing final changes to</p> |

| Required Information | Response or Attachments |
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| | <p>the drainage network was requested by the Project Manager for Drinking Water Source Protection for Essex Region so that updates to vulnerable areas can be made.</p> <p>Event based area policies that apply to the study area include Policies 31 and 32 from the Source Protection Plan. These apply to the existing and future threat of above grade handling and storage of liquid fuels, in quantities where modelling reported in the Assessment Report has demonstrated that this activity is a significant threat. Any existing storage of fuel above the threshold limit (15,000 L) should have a Risk Management Plan and inform ERCA of the installation of any future fuel storage that exceeds these limits. There are no event based area policies for groundwater.</p> <p>Through the events based approach, an activity is a significant drinking water threat in an IPZ-1, IPZ-2, or IPZ-3 if modeling demonstrates that a release of a contaminant from the activity would result in a deterioration of the source of drinking water quality. The Essex Region Source Protection Committee has accepted the Ontario drinking water quality standard (ODWQS) as the benchmark to indicate the deterioration of raw water quality at the intake. Modelling of hypothetical spills of large volumes of liquid fuel at various locations demonstrated exceedances of the ODWQS for benzene, at one or more of the intakes in Lake St. Clair, the Detroit River and Lake Erie. These results were used to identify existing significant threats and establish potential significant threats criteria for the handling and storage of liquid fuel.</p> <p>The Ontario Ministry of Environment and Climate Change (MOECC) shall review Municipal Drinking Water Licenses and Permits issued under the Safe Drinking Water Act, in the vulnerable areas where there is an existing or future significant drinking water threat of handling and storage of liquid fuels. The MOECC shall ensure that the permits refer to the requirements of the Technical Standards and Safety Act (TSSA), liquid fuel handling code. This may include, but is not limited to, details concerning installation, operation and regular inspection of fuel storage tanks, how fuel is contained, the location of fuel, and how fuel is stored.</p> <p>The Ministry of Natural Resources and Forestry (MNRF) shall review</p> |

| Required Information | Response or Attachments |
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| | <p>instruments under the Aggregate Resources Act (including Aggregate Licenses, Wayside Permits, and Aggregate Permits and Site Plans) with respect to the handling and storage of liquid fuel at aggregate operation sites. The MNRF shall ensure that the permits refer to the requirements of the Technical Standards and Safety Act (TSSA), liquid fuel handling code. This may include, but is not limited to, details concerning installation and operation of fuel storage tanks, how fuel is contained, the location of fuel, and how fuel is stored.</p> <p>The Source Protection Plan only includes policies for municipal intakes and does not include private sources of drinking water in the area. There are no highly vulnerable aquifers within the study limits but there are significant groundwater recharge areas along the currently developed western study limits. No municipal drinking water systems are supplied by groundwater although groundwater is used occasionally for domestic consumption, mainly in rural areas.</p> |
| <p><u>Climate Change</u> Information summarizing how mitigation or resiliency measures for the effects of climate change (example: frequent or severe weather events (e.g., IDF curves), greenhouse gases (modeling for greenhouse gases), air quality components) on or from the projects/plan were considered. If assessed in the EA documentation, summarize here and provide exact location reference in the EA documentation.</p> | <p>Climate change was addressed in Section 7.6 of the ESR. Current municipal standards do not include the impacts of climate change.</p> <p>The Essex Region Conservation Authority and the Toronto and Region Conservation Authority completed a study related to updating IDF curves in 2016 titled “A Comparison of Future IDF Curves for Southern Ontario”. The aim of the study was to understand the limitations and applicability of different techniques for updating IDF statistics in light of climate change for the Windsor-Essex Region and the Greater Toronto area. The results of this study showed significant variability and uncertainty between the different updating methods analysed. Based on the permutations analyses, no single method best approach for developing future IDF curves was determined for the study areas.</p> <p>In the absence of a reliable updated IDF curve, climate change was assessed for the proposed SWM controls by performing a sensitivity analysis on the system and applying a 20% increase to the 100-year, 24-hour Chicago design storm event, which is consistent with other studies in the area. When the design storm was increased by 20%, runoff volumes increased by approximately 20 to 30%, requiring larger stormwater</p> |

| Required Information | Response or Attachments |
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| | <p>management facilities and increasing the facility widths by 15 m (refer to Figures 21 to 24 from the ESR). The SWM Facilities in the ESR can accommodate a 20% increase in precipitation volumes.</p> |
| <p><u>Species at Risk</u> Species in a project area subject to <i>Endangered Species Act</i>, O. Reg. 242/08 and any applicable permits required. Any proposed mitigation measures or compensation should be described along with consultation (if any) with the Ministry of Natural Resources and Forestry.</p> <ul style="list-style-type: none"> • Please provide all relevant correspondence between MNRF (If this is found within the EA documentation please specify the reference location). | <p>There is potential habitat for several endangered species in the Study Area. Consultation with the various agencies will be required to confirm the presence of provincially rare species and significant natural heritage features as part of the development design. Species at Risk were addressed in Section 4 and Appendix E of the ESR. Mitigation measures are discussed in Section 6.2. Applicable Permits are discussed in Section 8.1. Appendix E contains a Table of Potential Species at Risk and Potential Rare Species in the Study Area based on the Natural Heritage Information Centre database, site visits, and previous work completed by Ecoplans Ltd. and Gerry Waldron Consulting Ecologists.</p> |
| <p><u>Cumulative Effects</u> Information summarizing how the project considered cumulative effects. Description of how current and future policy/planning/environmental assessment works in the area were considered by the proponent as part of the assessment of the proposed plan/projects. If assessed in the EA documentation, summarize here and provide exact location in the EA documentation.</p> | <p>Current and future policy/planning/environment assessment works in the area were consulted to determine land use and future infrastructure locations. Significant policy/planning/environment assessment are documented in Sections 3.5 and 3.6 of the ESR</p> <p>Cumulative environmental effects of the proposed stormwater management facilities on Upper Little River were considered by evaluating flows and water levels along the channel. The historic Little River 1:100 year mapped flood elevations, that are used for regulatory flood elevations, were used as the maximum allowable flood elevations for the Upper Little River channel for the future post development condition. Flows from individual facilities are over controlled to compensate for the additive effects or superpositioning of hydrographs from multiple sources to maintain target flow rates and water elevations downstream of the study area. This approach is documented in Section 6.1.</p> <p>In addition, the study impacts were considered across the entire watershed area and evaluated with consideration of other than just local direct effects. The cumulative effects of distributed versus more</p> |

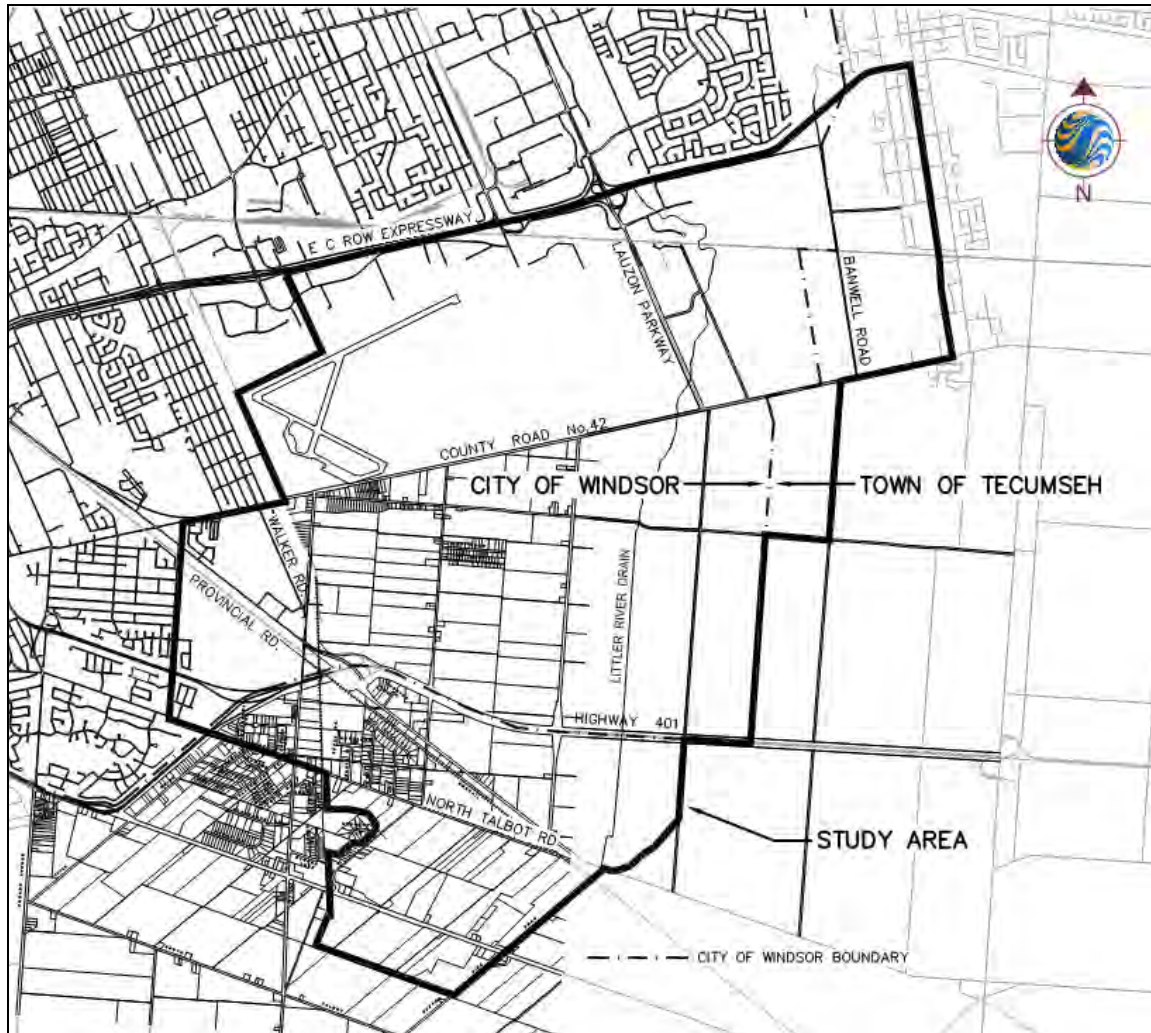
| Required Information | Response or Attachments |
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| | <p>centralized or grouped SWM Facilities on the attractiveness of ponds to bird species and their impacts on airport operation was considered in the selection of the preferred alternative as discussed in Table 15 and Section 7.1. Erosion analysis along Upper Little River consider the cumulative flows from the upstream drainage area as discussed in Sections 4.5.6 and 6.1.</p> |
| <p><u>Archaeological Assessment</u> Archaeological Assessment work is required to demonstrate no impacts on archaeological resources and/or cultural heritage resources, built heritage resources and other related issues that may be identified in the requests. Please outline whether a stage 1 and/or stage 2 Archaeological Assessment was conducted as part of the plan, whether anything was found, and whether it was submitted and accepted by Ministry of Tourism, Culture and Sport</p> <ul style="list-style-type: none"> • Were the Ministry of Tourism, Culture and Sport consulted as part of the Plan? • Please provide any relevant correspondence. | <p>A Stage 1 Archaeological Assessment was conducted as part of the plan (Section 7.5 of the ESR). The Stage 1 Archaeological Assessment can be found in Appendix J of the ESR. An examination of the Ontario Archaeological Sites Database showed that there are three archaeological sites registered within a one-kilometer radius of the study area. The majority of the study area (80%) consists of active and inactive agricultural land accessible for ploughing. The Stage 1 archaeological assessment resulted in the determination that portions of the study area exhibit a moderate to high potential for the identification and recovery of archaeological refocuses and a Stage 2 Archaeological assessment is required for most of the study area.</p> <p>The Ministry of Tourism, Culture and Sport (MTCS) were consulted as part of the Plan and provided comments regarding the draft ESR (attached for reference). Additional work is required to address concerns for Built Heritage Resources and Cultural Heritage Landscapes including the MTCS screening checklist “Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes” and/or a Cultural Heritage Assessment Report. This work is currently underway. The ESR will be updated to include a Cultural Heritage Resources Section.</p> |
| <p><u>Class EA Process</u> Please provide the following information:</p> <ul style="list-style-type: none"> • Was the MOECC regional office contacted? • What points/stages during the Class EA process were they contacted (please provide dates)? • Please provide any correspondence or comments received. | <p>The MOECC Regional Office was contacted during the study commencement (October 2011), PIC’s (May 2012 and October 2012) and study completion (September 2017) portions of the EA.</p> <p>A project description was sent to the MOECC in 2011 and a teleconference was held to update the MOECC on the current status of the project and to give an overview of the project and where it is headed.</p> |

| Required Information | Response or Attachments |
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| | <p>A notice of receipt during the study commencement, the project description sent to the MOECC in 2011, and comments on the draft ESR are attached for reference.</p> |
| <p><u>Timing Considerations</u> Please provide the following information:</p> <ul style="list-style-type: none"> • The total cost of the proposed Plan/projects? • Budget allocation? • Construction timing window? • Will construction be a phased approach? • When is construction anticipated to be completed? • External funding? Any deadlines that need to be met for this funding? | <p>An opinion of Probably Costs is provided in Section 6.3 of the ESR with a value of \$72,500,00 for the preferred alternative.</p> <p>The City of Windsor will be undertaking a Growth Management Study to explore infrastructure implementation and financing tools for development of the Sandwich South Lands in the Upper Little River Watershed. Budget for said study was approved by City Council on January 16, 2018. Funding for the implementation of the EA recommendations will be the subject of said study. Lands impacted by the SWM corridor will ultimately be owned by the Municipality. The Municipality will acquire the required property in accordance with the laws of the Province of Ontario.</p> <p>Construction timing is dependant on the timing of future development works as the stormwater management facilities are required for development to proceed and will be constructed as needed. Current development timelines within the study limits vary from immediate to several decades. In-water work is only permitted during applicable fisheries timing windows.</p> <p>Construction of the individual stormwater management facilities will be phased to meet the demands of future development. The preferred alternatives allow for an area to develop independent of other areas.</p> |

**ESSEX REGION CONSERVATION AUTHORITY
NOTICE OF STUDY COMMENCEMENT**

**UPPER LITTLE RIVER WATERSHED MASTER DRAINAGE PLAN &
STORMWATER MANAGEMENT PLAN**

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has initiated a Master Plan Study in accordance with Phases 1 & 2 of the Municipal Class Environmental Assessment (EA) process. This Study will determine the stormwater management infrastructure requirements for the Upper Little River Watershed area to service existing and future development.



If you have any questions or wish to be added to the study mailing list, please contact:

Jeremy Wychreschuk, M.A.Sc., P. Eng.
Director of Watershed Engineering
Essex Region Conservation Authority
360 Fairview Avenue West
Essex, Ontario, N8M 1Y8
Tel: (519) 776-5209
Fax: (519) 776-8688
jwychreschuk@erca.org

Jayson Innes, M.A.Sc., P. Eng.
Project Manager
Stantec Consulting Ltd.
49 Frederick Street
Kitchener, Ontario, N2H 6M7
Tel: (519) 585-7282
Fax: (519) 579-8664
jayson.innes@stantec.com

**ESSEX REGION CONSERVATION AUTHORITY
NOTICE OF STUDY COMPLETION**

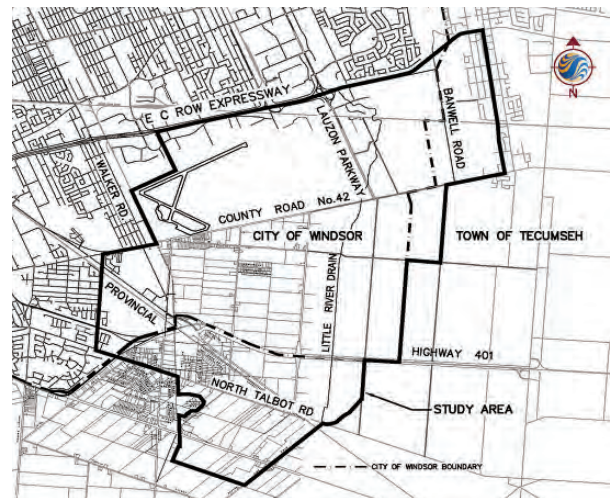
**UPPER LITTLE RIVER WATERSHED MASTER DRAINAGE PLAN AND
STORMWATER MANAGEMENT PLAN**

The Study

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has completed a Master Plan Study in accordance with Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process. The preferred alternative includes stormwater management facilities that provide controls for more than one property and are located near other facilities along corridors.

Public Consultation

This study was completed in accordance with the planning and design process of the *Municipal Class Environmental Assessment* (June 2000, as amended in 2007, 2011, and 2015) under the *Ontario Environmental Assessment Act*. The Class EA process includes public and review agency consultation, an evaluation of alternatives, an assessment of the impacts of the proposed alternative, and identification of a preferred solution. Based on input received from the public as well as from technical agencies and other stakeholders, the Project Team has prepared the Environmental Study Report (ESR) for this study. The ESR is being placed on the public record for a 30-day review period at www.citywindsor.ca, www.tecumseh.ca, or by visiting the following locations during normal business hours.



| | |
|---|--|
| <p>City of Windsor Office of the City Clerk 350 City Hall Square West, Suite 203 Windsor, ON, N9A 6S1</p> | <p>Town of Tecumseh Clerk's Office 917 Lesperance Road Tecumseh, ON, N8N 1W9</p> |
|---|--|

Interested persons should provide written comments related to this proposed undertaking by **October 30, 2017** (Note: The 30-day review period has been extended from the original end date of **October 24, 2017 to the new end date of October 30, 2017**). Comments should be directed to the following individuals.

John Henderson, P. Eng.
Water Resources Engineer
Essex Region Conservation Authority
360 Fairview Avenue West – Suite 311
Essex, Ontario, N8M 1Y6
Tel: (519) 776-5209
Fax: (519) 776-8688
jhenderson@erca.org

Jayson Innes, M.A.Sc., P. Eng.
Project Manager
Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo, Ontario, N2L 0A4
Tel: (519) 585-7282
Fax: (519) 579-6733
jayson.innes@stantec.com

If concerns regarding this project cannot be resolved, a person or party may request that the Ministry of the Environment and Climate Change make an order for the project to comply with Part II of the Environmental Assessment Act which address individual environmental assessments. Requests for a Part II Order must be received by the Minister of the Ministry of the Environment and Climate Change at 77 Wellesley Street West, 11th Floor, Ferguson Block, Toronto, Ontario, M7A 2T5 no later than **October 30, 2017**, including a copy submitted to the project team members listed above. If no request is received, the Design Study will become the guiding document for stormwater management controls on Upper Little River.

Upper Little River Watershed Master Drainage and Stormwater Management Plan
Indigenous Communities Consultation TRACER

| Contact Information | Date/Method of Communication | Comment/Concern | Response/Commitment to Carry Forward |
|---|---|---|--|
| Aamjiwnaang First Nation Chief Joanna Rogers 978 Tashmo Avenue, Sarnia, ON N7T 7H5 519-336-8410 cplain@aamjiwnaang.ca | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | | |
| | Notice of PIC#2 via Canada Post – October 17, 2012 Letter Discussing the results from PIC #2 including display boards sent via Canada Post - December 18, 2012 | Letter response dated April 15, 2013 noted that the information package would be forwarded to their Chief and Council for review and upon further direction from their council, we will be contacted to inform us of the next step. | No additional information was received |
| | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call October 26, 2017 Follow up Phone Call December 8, 2017 | | Follow up phone call – left message with Sharilyn Johnston to confirm receipt of project information and identify any concerns. |
| Caldwell First Nation Chief Louise Hillier P.O.Box 388 Leamington, ON N8H 3W3 cfnchief@live.com | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | | |
| | Notice of PIC#2 via Canada Post – October 17, 2012 Letter Discussing the results from PIC #2 including display boards sent via Canada Post - December 18, 2012 | Letter Response dated November 27, 2012 requesting further consultation | A meeting was held with Caldwell First Nations on January 7, 2013 to discuss the project. During the meeting the project overview and history was presented. Outcomes of the meeting included a request for black willow and milkweed plantings within the study area and access to the black willow branches for harvesting. Caldwell First Nations also requested a copy of the Final Report for review. |
| | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call December 8, 2017 | | Follow up phone call – spoke with Mr. Deleary. Mr. Deleary indicated that they received the information and are dealing with political and organization issues with band council at the moment. Would review files and respond back shortly if there are any concerns. |
| Chippewas of Kettle and Stony Point First Nation Chief Tom Bressette 6247 Indian Lane Forest ON N0N 1J0 Thomas.bressette@kettlepoint.org | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call November 22, 2017 Follow up Phone Call December 8, 2017 | | Not noted in November 23, 2011 letter from Ministry of Aboriginal Affairs Notice of Completion sent along with a USB stick containing the full ESR. Follow-up phone call message left with Valerie George to confirm receipt of the project information and inquire if Chippewas of Kettle and Stony Point First Nation had any concerns. Follow-up phone call message left with Valerie George to confirm receipt of the project information and inquire if Chippewas of Kettle and Stony Point First Nation had any concerns. |
| | | | |
| Chippewa of the Thames First Nation Fallon Burch Consultation Coordinator Kelly Riley, Lands and Environment Rochelle Smith, (acting) Consultation Coordinator | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call November 22, 2017. Follow up Phone Call December 8, 2017. | | Not noted in November 23, 2011 letter from Ministry of Aboriginal Affairs. Notice of Completion sent along with a USB stick containing the full ESR. |

Upper Little River Watershed Master Drainage and Stormwater Management Plan
Indigenous Communities Consultation TRACER

| Contact Information | Date/Method of Communication | Comment/Concern | Response/Commitment to Carry Forward |
|--|---|--|---|
| | | | Follow up phone calls: Attempted to leave message with Kelly Riley (voicemail was full). Follow up phone call: left message with Richelle Smith – made reference to notice of completion and USB stick dated October 16, following up to discuss project and ensure COTTFN didn't have any concerns with the project. |
| Delaware Nation (Moravian of the Thames) Chief Greg Peters Justin Logan 14760 School House Line RR3 Thamesville ON N0P 2K0 gpeters@mnsi.net loganju@xplomet.ca | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | Letter Response dated June 13, 2012 stating that the project was evaluated and it was recognized that this project will not require further consultation | |
| Munsee-Delaware Nation Chief Roger Thomas, Glen Forrest 279 Jubilee Road Muncey ON N0L 1Y0 Chief.thomas@munsee-delaware.org | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call Dec 8, 2017 | | Not noted in November 23, 2011 letter from Ministry of Aboriginal Affairs Follow up phone call – spoke with executive assistant Carol Antone. Noted that the Chief has a long list of projects to review, and requested that the letter be emailed. Emailed the letter on Dec. 8, 2017. carol@munsee.ca . |
| Oneida of the Thames First Nation Chief Randall Philips Holly Elijah 2212 Elm Ave Southwold, ON N0L 2G0 sheri.doxtator@oneida.on.ca | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | | |
| | Notice of PIC#2 via Canada Post – October 17, 2012 Letter Discussing the results from PIC #2 including display boards sent via Canada Post - December 18, 2012 | | |
| | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call October 26, 2107 Follow up Phone Call November 23, 2017 Follow up Phone Call December 8, 2017 | | Follow up phone call – left message with Public Works assistant. Follow up phone call – was referred to Janelle in the Political Office. Left voicemail message with Janelle to confirm receipt of project information and to identify any concerns with the project. |
| Bkejwanong Territory (Walpole Island) Chief Dan Miskokomon Jared Macbeth Dr. Dean Jacobs Janet.macbeth@wifn.org Wallaceburg, ON N8A 4K9 | Notice of Commencement via Canada Post - October 12, 2011 | | |
| | Notice of PIC#1 via Canada Post – May 22, 2012 Letter Discussing the results from PIC #1 including display boards via Canada Post - June 1, 2012 | | |
| | Notice of PIC#2 via Canada Post – October 17, 2012 Letter Discussing the results from PIC #2 including display boards sent via Canada Post - December 18, 2012 | | |
| | Notice of Completion via Canada Post - October 16, 2017 Follow up Phone Call November 23, 2017 Follow-up Phone Call December 8, 2017 | | Follow up phone call – left message with Janet Macbeth. Follow up phone call – left message with Janet Macbeth to confirm receipt of project information and to identify any concerns with the project. |

ERCA Vulnerable Areas



Legend

- Surface Water Intake Protection Zone
- 1
 - 2
 - 3
- Significant Groundwater Recharge Ar
- 2
 - 4
 - 6

Location



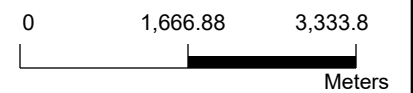
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Notes



1: 75,000



12/11/2017


ERCA Event Based Areas



Essex Region
Conservation
Authority

Public Interactive Mapping

Legend

 Event Based Area (EBA)



Location



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Notes



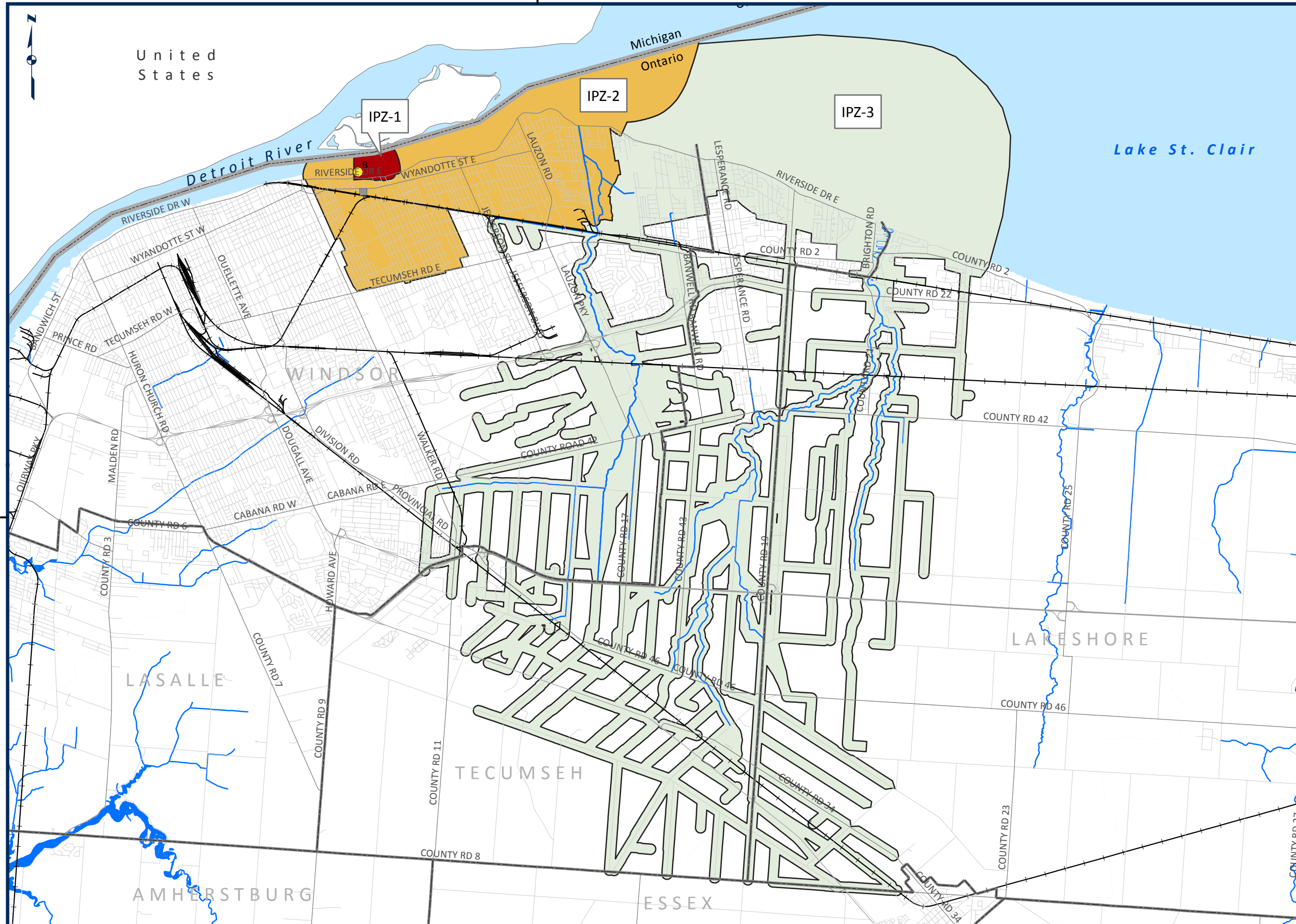
1: 75,000



12/11/2017



Essex Region Source Protection Area Assessment Report Map 4.24b



Legend

- Intake - Type B
- Drinking Water System
- Municipal, Lower Tier
- International Boundary
- Road
- Railway
- ~ Water and Drainage
- ~ Water Body

Intake Protection Zones

- IPZ-1
- IPZ-2
- IPZ-3

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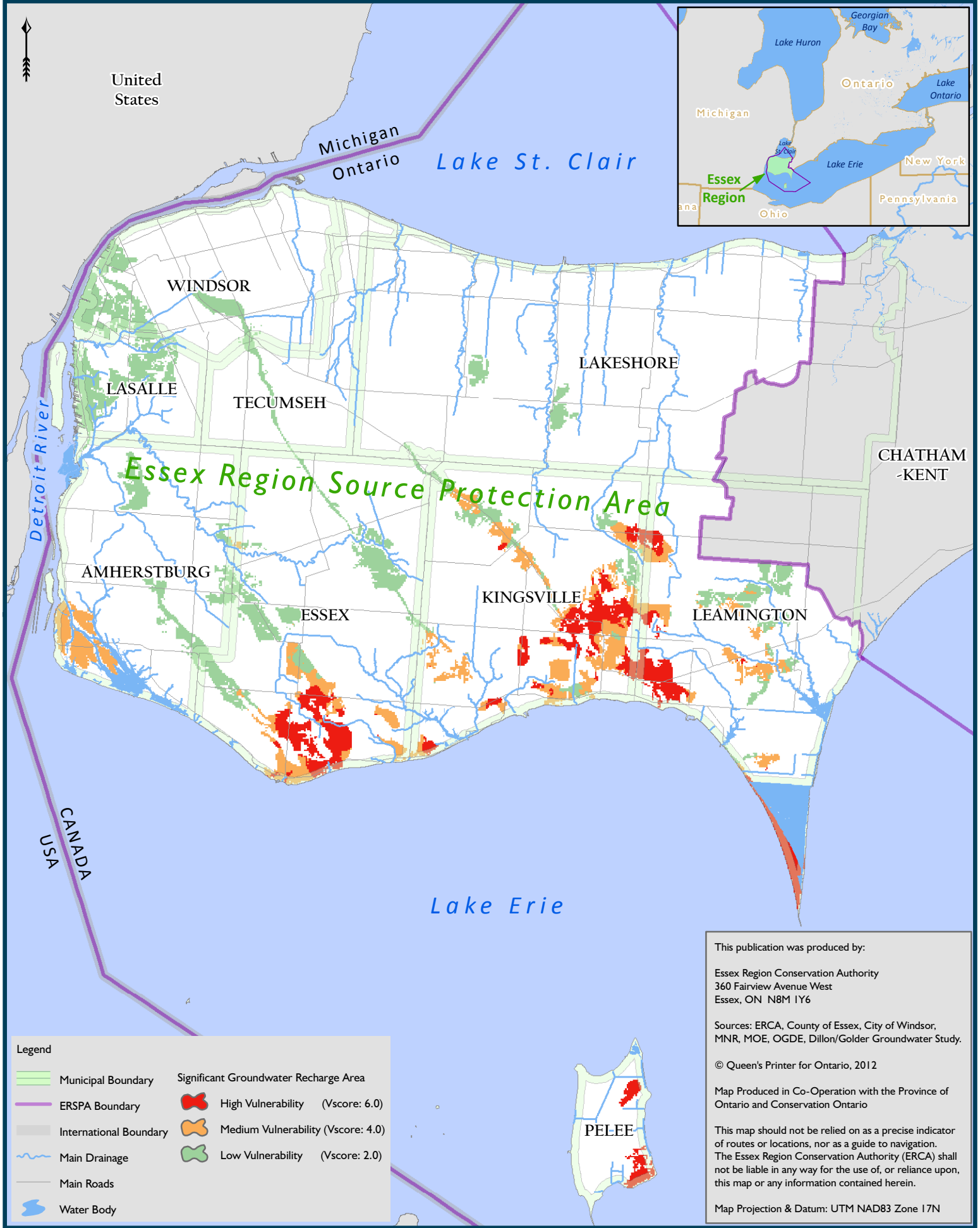
Sources: ERCA, County of Essex, City of Windsor, MNR, MOE, Stantec Consultants, StatsCanada

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Map Projection & Datum: UTM NAD83 Zone 17N



Legend

| | | | |
|--|------------------------|--|---------------------------------------|
| | Municipal Boundary | | Significant Groundwater Recharge Area |
| | ERSPA Boundary | | High Vulnerability (Vscore: 6.0) |
| | International Boundary | | Medium Vulnerability (Vscore: 4.0) |
| | Main Drainage | | Low Vulnerability (Vscore: 2.0) |
| | Main Roads | | |
| | Water Body | | |

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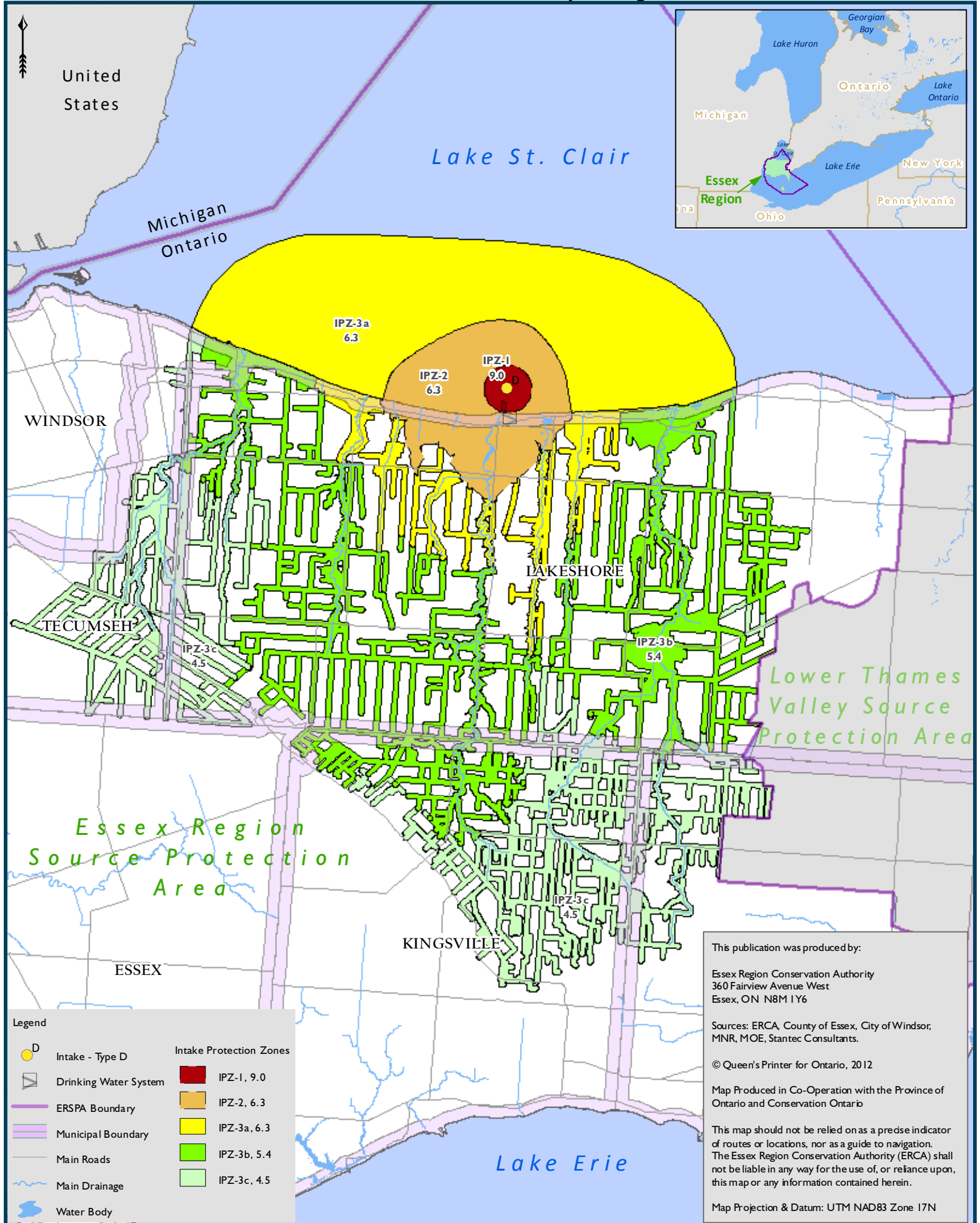
Sources: ERCA, County of Essex, City of Windsor, MNR, MOE, OGDE, Dillon/Golder Groundwater Study.

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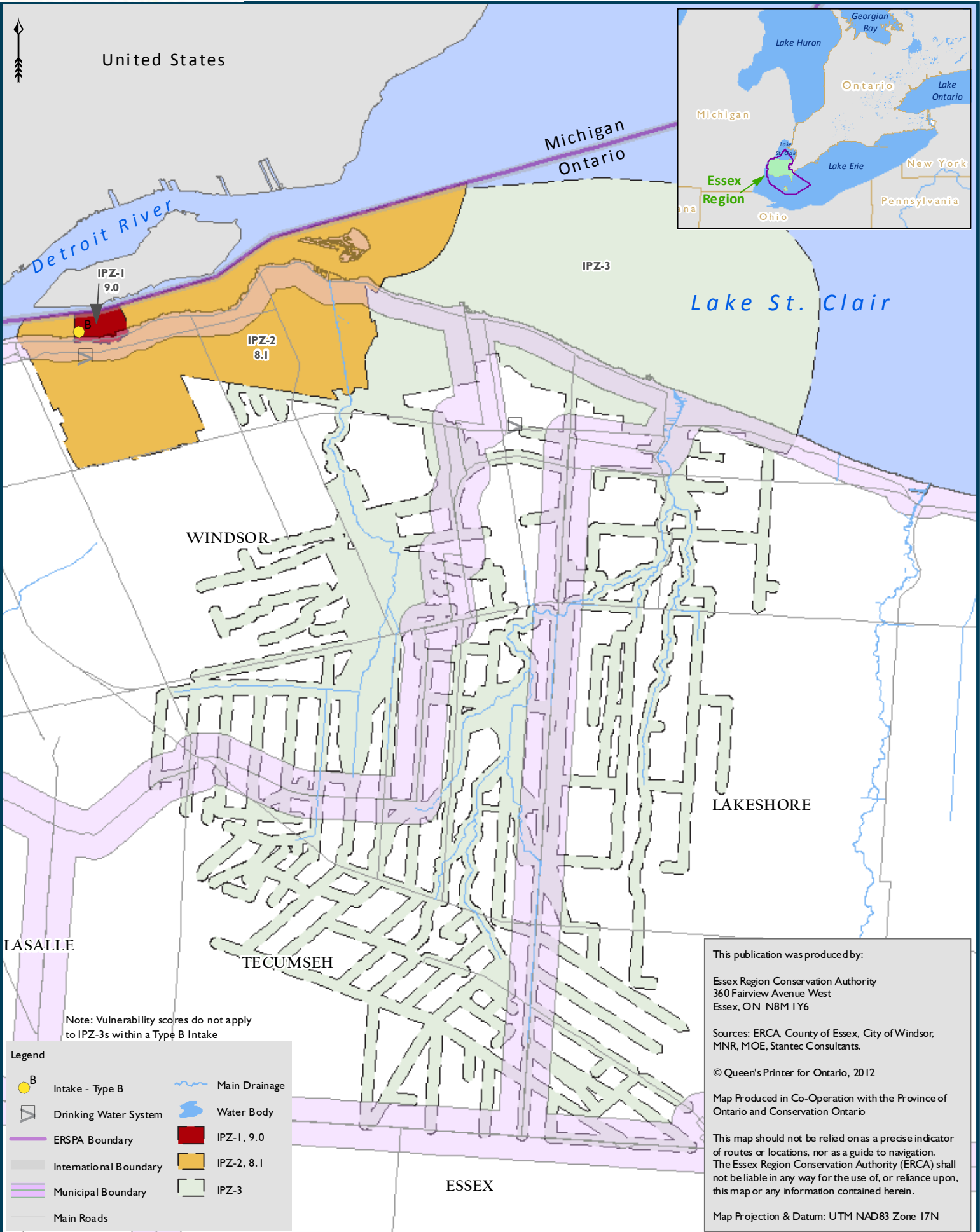
Sources: ERCA, County of Essex, City of Windsor, MNR, MOE, Stantec Consultants.

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Map Projection & Datum: UTM NAD83 Zone 17N



United States

Michigan
Ontario



Lake St. Clair

WINDSOR

LAKESHORE

LASALLE

TECUMSEH

ESSEX

Note: Vulnerability scores do not apply to IPZ-3s within a Type B Intake

- Legend**
- Intake - Type B
 - Drinking Water System
 - ERSPA Boundary
 - International Boundary
 - Municipal Boundary
 - Main Roads
 - Main Drainage
 - Water Body
 - IPZ-1, 9.0
 - IPZ-2, 8.1
 - IPZ-3

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Sources: ERCA, County of Essex, City of Windsor, MNR, MOE, Stantec Consultants.

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Essex Region Source Protection Area Assessment Report Map 4.18b

Legend

- Intake - Type D
- Drinking Water System
- Source Protection Area Boundary
- Municipal, Lower Tier
- International Boundary
- Road
- Railway
- Water and Drainage
- Water Body
- Intake Protection Zones**
- IPZ-1
- IPZ-2
- IPZ-3

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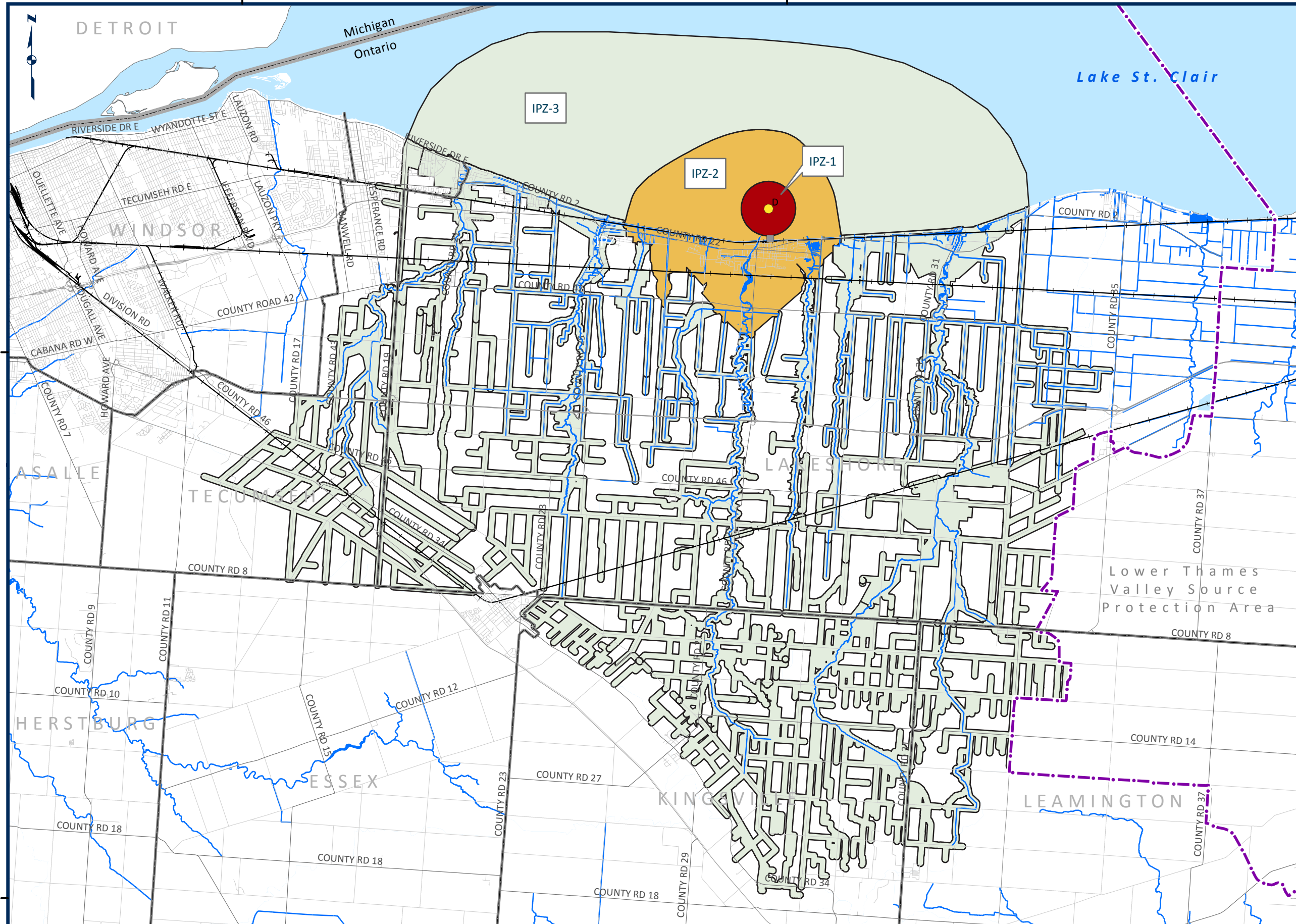
Sources: ERCA, County of Essex, City of Windsor, MNR, MOE, Stantec Consultants, StatsCanada

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Map Projection & Datum: UTM NAD83 Zone 17N



From: Katie Stammler <KStammler@erca.org>
Sent: 2017-12-07 5:06 PM
To: Innes, Jayson
Cc: John Henderson
Subject: RE: Source water protection in Essex Region
Attachments: A Guide to Using the ERCA Online Interactive Mapping Tool.pdf

Hi Jason,

Thanks for your call. I've attached a document that our Risk Management Official prepared to help with the use of our online mapping tool. Please feel free to share it with your colleagues. Our Source Water Protection Plan can be accessed here: http://essexregionsourcewater.org/resources/source_water_protection.cfm and the two policies that apply to the area in question are policy 31 and 32 – these are the policies that apply to the Event Based Area that the MOECC specifically asked about. You would address these policies by ensuring that any existing storage of fuel above the threshold limit (15,000L) has a Risk Management Plan and that ERCA is informed of the installation of any future fuel storage that exceeds these limits.

I noticed that their letter also asks that your EA consider other sources of drinking water that aren't covered by the Source Protection Plan. Our SPP only includes policies for municipal intakes, so this would be referring to any private source of drinking water in the area, which would be well water. I believe this could be addressed with the mapping of the Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas that I showed you. While we have no policies that apply to these areas, you may need to show that you are at least aware of whether your study area is within these boundaries.

Provided that your project does not include installing or altering a municipal drinking water intake, no new technical work nor amendments to the SPP will be required.

Katie



KATIE STAMMLER, PHD
Water Quality Scientist/Source Water Protection Project Manager
Essex Region Conservation Authority
360 Fairview Avenue West, Suite 311 • Essex, Ontario • N8M 1Y6
P. 519-776-5209 x 342 • F. 519-776-8688
kstammler@erca.org www.essexregionconservation.ca

Follow us on Twitter: [@essexregionca](https://twitter.com/essexregionca)

From: Innes, Jayson [mailto:jayson.innes@stantec.com]
Sent: Thursday, December 7, 2017 4:42 PM
To: Katie Stammler <KStammler@erca.org>
Cc: John Henderson <JHenderson@erca.org>
Subject: Source water protection in Essex Region

As a follow up to our phone call I have included a map of the study area and the letter from the MOECC discussing source water protection.

I will use the web sites you directed me to show that the site is in IPZ-3

The 3rd paragraph on page 3 of the MOECC letter says
For assistance in determining whether the proposed project will require new technical work and potentially require amendments to the source protection plan for this area please contact the Project Manager for Drinking Water Source

Protection at the local source protection authority which coincidentally in this case, is the Essex Region Conservation Authority itself.

Can you please confirm that no new technical work or potential amendments to the source water protection plan are required from this study. I can provide additional project details if required.

Thanks

Jayson Innes, M.A.Sc., P.Eng.
Senior Water Resources Engineer
Direct: (519) 585-7282
Mobile: (519) 569-0518

Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo ON N2L 0A4 CA



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From: John Henderson <JHenderson@erca.org>
Sent: 2017-12-19 4:09 PM
To: Katie Stammler; Innes, Jayson
Subject: ULR - Source Protection

Thanks Katie.

Jayson – Please include the additional information included in Katie’s e-mail below regarding the need to update the IPZ-3 and Event Based Area when drains are altered in the future. If you have any questions, please provide them directly to Katie with a copy to me.

Thank you,



John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)
360 Fairview Avenue West, Suite 311
Essex, Ontario N8M 1Y6
519-776-5209 ext. 246
Fax: 519-776-8688



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From: Katie Stammler
Sent: Tuesday, December 19, 2017 4:03 PM
To: John Henderson <JHenderson@erca.org>
Subject: RE: ULR - Next Steps

Hi John,
Just got a chance to read this over. Given the statement below, I would like to add some additional information via email for their records. Sorry for the jargon, but the references should make sense to any ministry reviewer focussed on Source Water. Please let me know if you require anything further.

“Discussions with the Project Manager for Drinking Water Source Protection for Essex Region identified policies and vulnerable areas within the study limits (refer to attached email from Katie Stammler). Since the project does not include installing or altering a municipal drinking water intake no new technical work nor amendments to the source protection plan are required.”

Upon further discussion with John Henderson, it has come to my attention that the proposal includes changes to the drainage network. This will eventually lead to the need for an update to the IPZ-3 and Event Based Area. Some portions of these vulnerable areas may be removed through a s.51 amendment to the SPP and AR if drains are removed. If new drains are installed or are relocated, the vulnerable areas will need to be extended, which will require either a s.34 amendment to the SPP and AR or would be included in the Essex Region SPA s.36 work plan. We would ask that the proponent provide mapping of the final changes to the drainage network to ERCA so that the changes to vulnerable areas can be made appropriately.



KATIE STAMMLER, PHD
Water Quality Scientist/Source Water Protection Project Manager
Essex Region Conservation Authority
360 Fairview Avenue West, Suite 311 • Essex, Ontario • N8M 1Y6
P. 519-776-5209 x 342 • F. 519-776-8688
kstammler@erca.org www.essexregionconservation.ca

Follow us on Twitter: @essexregionca

From: John Henderson
Sent: Friday, December 15, 2017 11:28 AM
To: Katie Stammler <KStammler@erca.org>
Subject: FW: ULR - Next Steps

Hi Katie,

Please look at Jayson response to the Source Protection section in attached Table B and provide your comments.

Thank you,



John Henderson, P. Eng.
Essex Region Conservation Authority (ERCA)
360 Fairview Avenue West, Suite 311
Essex, Ontario N8M 1Y6
519-776-5209 ext. 246
Fax: 519-776-8688



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From: Innes, Jayson [<mailto:jayson.innes@stantec.com>]
Sent: Thursday, December 14, 2017 9:32 AM
To: John Henderson <JHenderson@erca.org>
Cc: Godo, Anna <agodo@citywindsor.ca>; Phil Bartnik <pbartnik@tecumseh.ca>; Vendrasco, Wira H.D. <wvendrasco@citywindsor.ca>; Winterton, Mark <mwinterton@citywindsor.ca>; Richard Wyma <RWyma@erca.org>; Tim Byrne <TByrne@erca.org>
Subject: RE: ULR - Next Steps

Attached is a draft version of MOECC Table B for internal review.

**Ministry of Tourism,
Culture and Sport**

Heritage Program Unit
Programs and Services Branch
401 Bay Street, Suite 1700
Toronto ON M7A 0A7
Tel: 416 314 5424
Fax: 416 212 1802

**Ministère du Tourisme,
de la Culture et du Sport**

Unité des programmes patrimoine
Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto ON M7A 0A7
Tél: 416 314 5424
Télééc: 416 212 1802



October 30, 2017 (EMAIL ONLY)

John Henderson, P. Eng.
Essex Region Conservation Authority
360 Fairview Avenue West – Suite 311
Essex, ON N8M 1Y6
jehnderson@erca.org

RE: MTCS file #: 37EA036
Proponent: Essex Region Conservation Authority
Subject: Notice of Completion
Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan
Location: City of Windsor/Town of Tecumseh, Ontario

Dear John Henderson,

Thank you for providing the Ministry of Tourism, Culture and Sport (MTCS) with the Notice of Completion for the above project. Please note that MTCS Culture Division was not circulated on the previous notices. MTCS's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- Archaeological resources, including land-based and marine;
- Built heritage resources, including bridges and monuments; and,
- Cultural heritage landscapes.

Proposal

The Essex Region Conservation Authority, in conjunction with the City of Windsor and the Town of Tecumseh, has completed a Master Plan Study in accordance with Phases 1 and 2 of the Municipal Class Environmental Assessment (EA) process. The preferred alternative includes stormwater management facilities that provide controls for more than one property and are located near other facilities along corridors.

Comments

Under the Municipal Class Environmental Assessment (EA) process, the proponent is required to determine a project's potential impact on cultural heritage resources. Developing and reviewing inventories of known and potential cultural heritage resources within the study area can identify specific resources that may play a significant role in guiding the evaluation of alternatives for subsequent project-driven EAs. While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.

MTCS has reviewed the ESR report and has concerns that the proposed project does not adequately address the cultural environment – with respect to identification, evaluation, as well as impact assessment/proposed mitigation - and have the following observations and recommendations to help support your project under the Municipal Class EA process:

- Under the EAA and Municipal Class EA, the proponent is required to describe all components of the environment (natural, social, economic, cultural, built) that may be affected or reasonably expected to be affected, directly or indirectly, by the alternatives and the undertaking. Cultural heritage resources are important components of the environment and the way to describe them is through technical cultural heritage studies

(i.e. archaeological assessment and cultural heritage evaluation reports).

- **Section 4 – Existing Conditions**
MTCS notes that a Stage 1 archaeological assessment (PIF #: P389-0040-2014) has been undertaken but it is not described under Existing Conditions (Section 4.0). Further, it is unclear whether there are known or potential cultural heritage resources within the study area i.e. cultural heritage landscapes and/or built heritage resources. The MTCS [Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes](#) should be completed to help determine whether your Master Plan project may impact (known or potential) built heritage resources and cultural heritage landscapes and the findings be incorporated in the EA document, as appropriate.
- **Section 5 – Alternatives and Evaluation**
MTCS notes that all of the alternatives evaluated in Table 16 have received the same scoring for cultural heritage/archaeology. It is not clear how cultural heritage resources have factored into the decision criteria or have influenced the selection of the preferred alternative. Without understanding whether or not there are cultural heritage resources present, it is not possible to assess impacts to cultural heritage resources as a result of the proposed undertaking.

It would be helpful to further clarify whether the stage 1 AA was restricted to the Alternative 6 area as opposed to the area of the entire study. The initial Stage 1 archaeological assessment (AA) has identified areas of high archaeological potential requiring that a Stage 2 AA be undertaken. The ESR must include clear and detailed commitments articulating when the Stage 2 AA will take place. All archaeological assessments should be completed and reports submitted MTCS for review prior to the completion of detailed design and well in advance of any ground disturbing activities.

All technical heritage studies and their recommendations are to be addressed and incorporated into EA projects. If your screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please provide rationale/methodology and include the completed checklists and supporting documentation in the ESR report or file.

MTCS has included detailed comments on the ESR below to assist in addressing the cultural environment component.

Thank you for consulting MTCS on this project. If you have any questions about MTCS comments, please do not hesitate to contact me or Karla Barboza at karla.barboza@ontario.ca

Sincerely,

Daniel de Moissac
Heritage Planner (Acting)
daniel.demoissac@ontario.ca

Copied to: Jayson Innex, Stantec
Karla Barboza, MTCS

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MTCS makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MTCS be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MTCS if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the Ontario Heritage Act and the Standards and Guidelines for Consultant Archaeologists.

If human remains are encountered, all activities must cease immediately and the local police as well as the Cemeteries Regulation Unit of the Ministry of Government and Consumer Services must be contacted. In situations where human remains are associated with archaeological resources, MTCS should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the Ontario Heritage Act.

MTCS Comments on the Environmental Study Report dated September 2017

| | REFERENCE | TEXT IN THE ESR | MTCS COMMENTS/RECOMMENDATIONS ON DRAFT |
|----|---|---|--|
| 1. | 3.5.1 Provincial Policy Statement Pages 3.8-3.9 | <p>The wise use and management of the natural environment is recognized as a crucial component of ensuring Ontario's long-term prosperity, environmental health and social wellbeing. Accordingly, the Provincial Policy Statement (PPS) provides direction for the long-term protection, restoration and improvement of the diversity and connectivity of natural features, the ecological function and biodiversity of natural systems, and the quality and quantity of water at a watershed scale.</p> | <p>Although the ESR acknowledges that the selection and implementation of the preferred alternative should consider the direction provided by the policies in the PPS, the report solely focuses the natural heritage policies. Section 2.0 of the PPS, Wise Use and Management of Resources, includes both Natural Heritage (Section 2.1) and Cultural Heritage and Archaeology (Section 2.6).</p> <p>The ESR should state that the PPS provides policy direction on matters of provincial interest (including cultural heritage) to land use planning and development.</p> |
| 2. | 4.0 Existing Conditions Pages 4.1-4.62 | | <p>MTCS recommends that a section be included to discuss the Existing Conditions related to Cultural Heritage. There should be 2 sub-sections:</p> <ul style="list-style-type: none"> • Built Heritage Resources and Cultural Heritage Landscapes (BHR/CHL), and • Archaeology <p>The above is consistent with the Municipal Class EA guide section C.3.1 Description of the Environment.</p> <p>Under the BHR/CHL, the report should summarize whether there are any known and/or potential resources based on the MTCS screening checklist Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes and/or a Cultural Heritage Assessment Report. The ESR should also include a statement describing the report(s) undertaken/completed and reference to appended documents/reports.</p> <p>Under the Archaeology sub-section, it should include specific information based on the findings in the archaeological assessment (AA) report(s). The Executive Summary of each AA report provides a brief summary of the work completed and recommendations for next steps, whether for further archaeological assessment, in which case the report will include a map that identifies those areas, or for no further assessment.</p> <p>Example – information to be included on the ESR: “A Stage 1 AA (PIF #: P389-0040-2014) was undertaken on April 8, 2015 by Stantec Consulting for the Upper Little River Watershed Master Plan and Stormwater Management Plan for the [insert study area].</p> <p>A Stage 1 AA consists of a review of geographic land use and historical information for the property and the relevant surrounding area, a property visit to inspect its current condition, and contacting MTCS to find out whether or not there are any known archaeological sites on or near the property. Its purpose is to identify areas of archaeological potential and further archaeological</p> |

| | REFERENCE | TEXT IN THE ESR | MTCS COMMENTS/RECOMMENDATIONS ON DRAFT assessment (e.g. Stage 2-4) as necessary. |
|--|-----------|-----------------|--|
| | | | <p>MTCS has reviewed the report and is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 Standards and Guidelines for Consultant Archaeologists and the terms and conditions for archaeological licences. The report has been entered into the Ontario Public Register of Archaeological Reports. The Stage 1 AA is included in Appendix J."</p> <p>MTCS recommends including the outcomes and recommendations of the report, as in Executive Summary. For example:</p> <p>"Stantec was retained by the City of Windsor to complete a Stage 1 archaeological assessment for a study area, measuring approximately 225 hectares in size, located on various Lots and Concessions, Townships of Sandwich East and South, now City of Windsor and Town of Tecumseh, Essex County, Ontario (Figure 1).</p> <p>The Stage 1 archaeological assessment, involving background research and a property inspection, resulted in the determination that portions of the study area exhibit a moderate to high potential for the identification and recovery of archaeological resources. As such, a Stage 2 archaeological assessment will be required for portions of the study area (Figure 4).</p> <p>The Stage 2 archaeological assessment will include the systematic walking of open ploughed fields at five metre intervals as outlined in Section 2.1.1 of the MTCS; 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011). The MTCS standards further require that all agricultural land, both active and inactive, be recently ploughed and sufficiently weathered to improve the visibility of archaeological resources. Ploughing must be deep enough to provide total topsoil exposure, but not deeper than previous ploughing, and must be able to ensure at least 80% ground surface visibility.</p> <p>Moreover, the Stage 2 archaeological assessment will include a test pit survey at five metre intervals in areas inaccessible for ploughing as outlined in Section 2.1.2 of the MTCS; 2011 Standards and Guidelines for Consultant Archaeologists (Government of Ontario 2011). The MTCS standards require that each test pit be approximately 30 centimetres in diameter, excavated to at least five centimetres in to subsoil, and have all soil screened through six millimetre hardware cloth to facilitate the recovery of any cultural material that may be present. Prior to backfilling, each test pit will be examined for stratigraphy, cultural features, or evidence of fill.</p> <p>Should any areas of disturbance or features indicating that archaeological potential have been removed, including permanently wet areas, not previously identified during the Stage 1 property inspection be encountered during the Stage 2 archaeological assessment, they will be documented as outlined in Section 2.1.8 of the MTCS; 2011 Standards and Guidelines for Consultant Archaeologists (Government</p> |

| | REFERENCE | TEXT IN THE ESR | MTCS COMMENTS/RECOMMENDATIONS ON DRAFT of Ontario 2011). |
|----|--|--|--|
| | | | <p>Additional archaeological assessment is required; hence the study area remains subject to Section 48(1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.”</p> |
| 3. | 5.3.1 General (Evaluation of Alternatives) Pages 5.4-5.5 | <p>The evaluation criteria used to assess the various alternatives were grouped into four major categories as outlined below: (...)</p> <ul style="list-style-type: none"> • Social/Cultural Environment <ul style="list-style-type: none"> o Aesthetics o Health and Safety o Recreational Opportunities o Cultural Heritage/Archaeology | <p>MTCS is pleased that Cultural Heritage/Archaeology is identified as part of the evaluation criteria to assess the various alternatives.</p> <p>However, it is not clear what the specific existing conditions are and how it has influenced the evaluation of alternatives.</p> |
| 4. | Table 15: Evaluation Criteria Pages 5.6-5.9 | <p>Evaluation Criteria: Cultural Heritage/ Archaeology</p> <p>Description: The ability of the alternative to protect potential archaeological resources within the study area. Alternatives that avoid or protect potential locations are preferred.</p> <p>Measure:</p> <ul style="list-style-type: none"> • Proximity of stormwater management areas to existing archaeological finds • Nature of potential disturbance <p>Design Alternatives: Alternative 1: No stormwater construction is proposed. Impacts to potential archaeological resources are expected to be minimal. Alternatives 2, 5 and 6: Some stormwater construction is proposed. Impacts to potential archaeological resources are possible. Alternative 4: Stormwater construction is concentrated in several locations. Impacts to potential archaeological resources are possible.</p> | <p>MTCS recommends that the existing text be replaced with the following:</p> <p>Evaluation Criteria: Cultural Heritage Resources</p> <p>Description: The ability of the alternative to <u>conserve (known and potential) cultural heritage resources</u> within the study area. Alternatives that avoid or <u>preserve cultural heritage resources <i>in-situ</i></u> are preferred.</p> <p>Measure:</p> <ul style="list-style-type: none"> • Proximity of stormwater management areas to <u>archaeological resources, areas of archaeological potential, built heritage resources and cultural heritage landscapes</u> • Nature of potential disturbance. <u>Example of effect:</u> <ul style="list-style-type: none"> o <u>Disturbance or destruction of archaeological resources</u> o <u>Displacement of built heritage resources and/or cultural heritage landscape by removal and/or demolition and/or disruption by isolation</u> o <u>Impacts to registered and unregistered cemeteries which have been identified and documented</u> o <u>Disruption of resources by the introduction of physical, visual, audible or atmospheric elements that are not in keeping with the character and setting of the cultural heritage resources</u> <p>Design Alternatives Alternative 1: No stormwater construction is proposed. Impacts to potential archaeological <u>cultural heritage</u> resources are expected to be minimal. Alternatives 2, 5 and 6: Some stormwater construction is proposed. Impacts to potential archaeological <u>cultural heritage</u> resources are possible. <i>See areas of archaeological potential identified in the AA.</i> Alternative 4:</p> |

| | REFERENCE | TEXT IN THE ESR | MTCS COMMENTS/RECOMMENDATIONS ON DRAFT |
|----|---|---|---|
| | | | Stormwater construction is concentrated in several locations. Impacts to potential archaeological <u>cultural heritage</u> resources are possible. <u>See areas of archaeological potential identified in the Figure 4.</u> |
| 5. | 5.3.3 Summary of Assessment page 5.10 | | The Report should include a bullet summarizing the potential impacts on the cultural heritage component (BH/CHL and Archaeology). |
| 6. | Table 16: Evaluation Summary Page 5.11 | Cultural Heritage/Archaeology | <p>MTCS recommends that the field 'Cultural Heritage/Archaeology' be replaced with 'Cultural Heritage Resources.'</p> <p>It is not clear how cultural heritage resources have factored into the decision criteria or have influenced the selection of the preferred alternative</p> <p>Any project that may affect a built heritage resource, cultural heritage landscape, an archaeological site, or an area of archaeological potential may require further technical heritage studies by qualified persons and/or consultation with interested persons.</p> |
| 7. | 6.2 Impact Assessment and Mitigation for the Preferred Alternative pages | Based on the assessment of the natural, social and economic impacts of the various alternatives, Alternative 6 was selected as the preferred alternative. The proposed development plan is presented in Drawing 3. The proposed development plan includes stormwater management, open space, residential, commercial, industrial land uses. | <p>Although the evaluation criteria used to assess the various alternatives were grouped into four major categories (see page 5.4 and 5.5) this impact assessment section didn't include the social/cultural environment.</p> <p>Therefore, MTCS recommends that the text be revised to be consistent with section 5.3.1, as such:</p> <p>Natural Environment</p> <ul style="list-style-type: none"> o Terrestrial Resources, Vegetation, and Wildlife Implications o Fisheries Resources and Aquatic Habitat Implications o Groundwater and Baseflow Implication o Surface Water Quality <p>Economic Environment</p> <ul style="list-style-type: none"> o Total Capital Cost o Total Maintenance Cost <p>Technical Environment</p> <ul style="list-style-type: none"> o Ability to Provide Required Flood Protection o Ease of Construction/ Implementation o Ability to Meet Agency Requirements <p>Social/Cultural Environment</p> <ul style="list-style-type: none"> o Aesthetics o Health and Safety o Recreational Opportunities o Cultural Heritage/Archaeology |
| 8. | 6.2.1 Review of Potential Impacts Pages 6.12-6.14 | | <p>A section on Cultural Heritage should be included to articulate the potential impacts to cultural heritage (archaeological resources, built heritage and cultural heritage landscapes).</p> <p>Construction impacts have the potential to negatively affect cultural heritage resources, including vibration. Use comments above to address potential impacts (effects) on cultural heritage resources</p> |
| 9. | 6.2.2 Mitigation for the Preferred Alternative | | MTCS recommends that the table be expanded to discuss and address the potential impact and recommended mitigation measures to cultural heritage |

| | REFERENCE | TEXT IN THE ESR | MTCS COMMENTS/RECOMMENDATIONS ON DRAFT |
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| | <p>And Table 22: Potential Impact and Mitigation Measures</p> | | <p>resources. The suggested language below would need to be coordinated with the findings/recommendations of the AA and any other heritage studies. As mentioned previously, it is not clear whether there are any known (or potential) BH/CHL in the area and whether or not they could be impacted</p> <p>Cultural Heritage Resources</p> <p>Potential Impact: Disturbance or destruction of archaeological resources</p> <p>Recommended Mitigation and Enhancement Measures: (Planning stage)</p> <ul style="list-style-type: none"> • Undertake archaeological assessment to determine presence of cultural heritage resources • Avoidance, through alternative selection (Preliminary Design and Detail Design Stage) • Completion of archaeological assessment where it was not undertaken in the Planning stage. At a minimum, a Stage 2, and if recommended a Stage 3, should be undertaken for the areas of archaeological potential identified in the Stage 1 AA (Figure 4). • “Avoidance and protection” should be the preferred alternative. If the preferred alternative is not possible, a consultant archaeologist licensed under the Ontario Heritage Act should undertake archaeological excavation. <p>Potential Impact: Displacement of built heritage resources and/or cultural heritage landscape by removal and/or demolition and/or disruption by isolation.</p> <p>Recommended Mitigation and Enhancement Measures:</p> <ul style="list-style-type: none"> • Best efforts shall be applied to conserve significant cultural heritage resources found in real property • Communities, groups and individuals with associations to a significant cultural heritage resource that may be affected shall be provided with opportunities to participate in understanding and articulating the property’s cultural heritage value and in making decisions about its future • All other alternatives having been considered, removal or demolition of a significant cultural heritage resource shall be considered as a last resort, subject to heritage impact assessment and public engagement. Best efforts shall be applied to mitigate loss of cultural heritage value. <p>Potential Impact: Disruption of cultural heritage resources by the introduction of physical, visual, audible or atmospheric elements that are not in keeping with the character and setting of those resources</p> <p>Recommended Mitigation and Enhancement Measures:</p> <ul style="list-style-type: none"> • Minimize impact through horizontal/vertical alignments, and grading design to permit maximum retention of existing features • Utilize landscape planting plan to provide mitigation, screening and enhancement • Retain and maintain the visual settings and other physical relationships that contribute to culture |

| | REFERENCE | TEXT IN THE ESR | MTCS COMMENTS/RECOMMENDATIONS ON DRAFT |
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| | | | <p>heritage value.</p> <ul style="list-style-type: none"> • Ensure that new physical, visual, audible or atmospheric elements do not adversely affect heritage attributes of the cultural heritage landscape or visual setting • Explore alternative alignments that retain and maintain the visual settings and physical relationships • Every effort should be made to retain a landscape's key characteristics <p>Potential Impact: (Construction Stage) Disturbance, destruction or other effects on cultural heritage resources (cultural heritage landscapes, built heritage and/or archaeological resources)</p> <p>Recommended Mitigation and Enhancement Measures:</p> <ul style="list-style-type: none"> • Include provisions in contract to stop construction in areas where archaeological resources are discovered during construction • Protect sites by restricting access, reducing noise/vibration and controlling dust. • Mitigation options can range from preservation/retention in-situ to relocation and adaptive re-use to demolition with documentation and salvage • All other alternatives having been considered, removal or demolition of a significant cultural heritage resource shall be considered as a last resort, subject to heritage impact assessment and public engagement. Best efforts shall be applied to mitigate loss of cultural heritage value. • Mitigate effects through enforcement of retention / protection measures, exercise careful work habits, and implementation of landscape plan • Retain and maintain the visual settings and other physical relationships that contribute to cultural heritage value. Ensure that new construction, visual intrusions, or other interventions do not adversely affect the heritage attributes of the property. |
| 10 | 7.5 Archaeology (Design Considerations) Pages 7.8-7.10 | | <p>Most of the information in this section appears better suited for the Existing Conditions section of the ESR. See also comments above – row 2 (regarding Section 4 of the report).</p> <p>It is not clear if this section on design considerations is to discuss further about potential impact and recommended mitigation measures. The comments in the above row 2 may be of assistance.</p> <p>The ESR shall include clear commitments and a timeline for undertaking and completing the recommended AA. As further AA is required for this project, MTCS recommends that further AA be completed as early as possible in the planning/design phase.</p> <p>MTCS also recommends that the title section be replaced with “Cultural Heritage Resources” in order to include all types of Cultural Heritage Resources.</p> |
| 11 | 8.1.1 Additional Studies | Development led projects (typically related to the construction of new residential, commercial, or industrial lands) will | <p>Include AA and potential Heritage Impact Assessment, dependent on AA findings.</p> <p>The ESR shall include clear commitments and a timeline for undertaking and completing the recommended AA.</p> |

| | REFERENCE | TEXT IN THE ESR | MTCS COMMENTS/RECOMMENDATIONS ON DRAFT |
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| | | <p>continue to be required to follow the current municipal stormwater guidelines, criteria, and watershed recommendations as required.</p> <p>This report is not sufficient to support land use changes under a Planning Act process and additional environmental studies will be required to support future Planning Act approvals/processes.</p> | <p>As further AA is required for this project, MTCS recommends that further AA be completed as early as possible in the planning/design phase.</p> <p>All archaeological assessments should be completed and reports submitted MTCS for review prior to the completion of detailed design and well in advance of any ground disturbing activities.</p> <p>As it is not clear whether there are any BH/CHLs in the study area, this section may need to articulate further whether any other technical cultural heritage studies will be undertaken.</p> |
| 12 | 8.1.2 Permits and Approval Requirements Pages 8.2-8.3 | <p>Archaeological Resources – Prior to the construction of the stormwater management features, a qualified archaeological resource specialist should prepare an archaeological assessment of the existing construction sites to determine if archaeological resources are present and if mitigation measures are required. Areas with moderate to high archaeological potential (as shown on Figure 25) require a Stage 2 assessment</p> | <p>Please note that MTCS is not an approval authority in this process. Many approval authorities rely on our review of archaeological assessment reports when deciding whether or not concerns for archaeological sites have been addressed by a development proponent.</p> <p>As mentioned before, the ESR must include clear commitments and a timeline for further assessments. MTCS recommends the text be revised as follows:</p> <p>A Stage 2 archaeological assessment will be required for portions of the study area (Figure 25 of ESR). A stage 2 AA, and if recommended further stages, will be undertaken by a licensed archaeologist prior to the completion of detail design phase and well in advance of any ground disturbance activities - as per the recommendations in the Stage 1 AA [include when this AA will take place].</p> |
| 13 | 8.2.2 Design Considerations Page 8.4 | <p>It is recommended that the following design considerations be included in the functional design:</p> <ul style="list-style-type: none"> • Geotechnical assessment and recommendations • Landscaping plans • (...) • Water management plan during construction of in-stream works, dewatering, etc. • Archaeological investigation | <p>The ESR shall include clear commitments and a timeline for undertaking and completing the recommended AA. As further AA is required for this project, MTCS recommends that further AA be completed as early as possible in the planning/design phase on the preferred alternative and prior to the completion of detail design. All archaeological assessments should be completed and reports submitted to MTCS for review prior to the completion of detailed design and well in advance of any ground disturbing activities.</p> <p>The 'Archaeological Investigation' bullet should be revised to 'Archaeological Assessment'.</p> |
| 14 | Figure No. 2 Existing Environmental Features | | <p>This Figure should also depict the areas of archaeological potential identified in the Stage 1 AA/Figure 4, as well as any potential or known BH/CHL (as per MTCS screening checklist and/or CHAR). See Figure 25</p> |

Ministry of the Environment

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Ministère de l'Environnement

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October 19th, 2011

Stantec Consulting Ltd.
140 Quellerie Place
Suite 100
Windsor, Ontario
N8X 1L9

Attention: Mr. Phil Bartnik, Project Engineer, P. Eng.

Re: ERCA Upper Little River Watershed Master Drainage Plan & SWM Plan

Phil:

I am writing you today to acknowledge this ministry's receipt of the Notice of Commencement for the above noted project.

The preparation of Master Plans are an approach to planning that this ministry supports and is willing to provide assistance to. In that regard, in addition to keeping this office abreast of future notices and information regarding this study, if at all possible, this ministry office would appreciate being afforded an opportunity to review and comment on a Draft Watershed Master Drainage Plan & SWM Report, prior to and addition to circulation and commenting on the Final Report.

Yours truly,

A handwritten signature in black ink, appearing to read "Craig Newton".

Craig Newton
Regional Environmental Planner / EA
Ministry of the Environment
Southwestern Region
(519) 873-5014

Cc – Mr. D. McDougall, Supervisor, MOE Windsor Area Office
- Mr. S. Abernethy, Surface Water Group Leader, Water Resources, MOE SWR

Project Description sent to MOECC (2011)

UPPER LITTLE RIVER WATERSHED MASTER DRAINAGE PLAN & STORMWATER MANAGEMENT PLAN

The Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh has initiated a Master Plan Study in accordance with Phases 1 & 2 of the Municipal Class Environmental Assessment (EA) process. This Study will determine the stormwater management infrastructure requirements for the Upper Little River Watershed area to service existing and future development as shown in Figure 1.

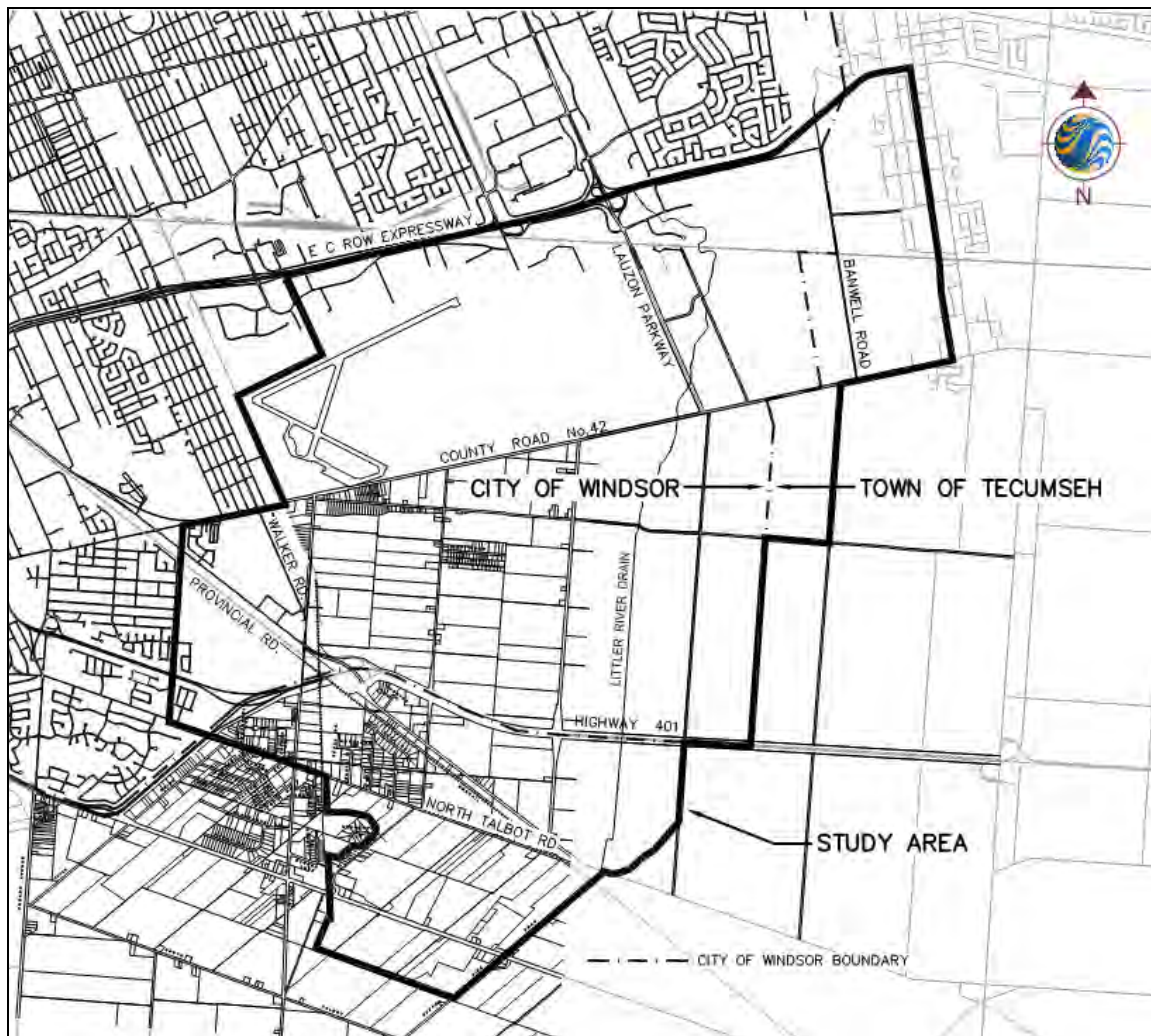


Figure 1 – Site Location

A Master Drainage and Stormwater Management Plan is required for the Upper Little River Watershed including both the City of Windsor Sandwich South Employment Lands and additional Town of Tecumseh lands to coordinate and guide future development in this area. The preferred alternative will provide a balance of relevant natural, social, technical and economic criteria to establish appropriate drainage and stormwater management requirements at a watershed level that meets the needs of area stakeholders

The objective of the study is to ensure that urbanization of the watershed can occur in a fashion that would not lead to negative impacts on the receiving systems including increased flood risk, the impairment of natural watercourse features, and would allow for future enhancement of the watercourse, stream margins and wetlands.

The following five alternatives have been generated for evaluation within the EA process, as outlined subsequently:

1. The Do-Nothing Alternative - In this alternative, the Little River subwatershed area remains under existing land use conditions, with no new development. The evaluation of this alternative is required by the EA process; however, it does not meet the approved Land Use Plan and will not be considered in detail through the study
2. Water Quality and Erosion Control Only - In this alternative, the approved land use changes will have only water quality treatment and erosion control, no water quantity or flooding controls. The impacts on flows will be evaluated qualitatively to determine the likelihood of downstream flooding and other concerns. Floodplain mapping available from the Essex Region Conservation Authority will be used to determine if flow increases are possible
3. Communal Online Stormwater Facilities - This alternative analyzes the potential to minimize the number of SWM Facilities required to serve the study area by consolidating all water quality, erosion and water quantity controls at a few locations throughout the watershed
4. Online Quantity Control with Local Quality and Erosion Controls - This alternative analyzes the scenario where a few online water quantity or flood control facilities are located throughout the study area (similar locations to Alternative #3), but water quality and erosion controls are distributed throughout the area
5. Offline or Distributed SWM Controls - This alternative considers the potential for stormwater management controls to be distributed throughout the study area, and each facility would be required to provide water quality, erosion and water quantity controls

Following evaluation of the five alternatives and discussions with the City of Windsor, the Town of Tecumseh, the Essex Region Conservation Authority, and the Windsor International Airport Alternative 4 was selected as the initial preferred alternative, which would consist of an off-line water quality control portion with a permanent water surface and an on-line water quantity control portion.

Alternative 4 includes end-of-pipe stormwater management facilities which are designed to provide water quality, water quantity, and erosion controls for all events up to the 5-year rainfall event. The outflow from these facilities drains into a channel system which ultimately drains to Upper Little River. During larger rainfall events the water will overflow the end of pipe facilities into the channel system where water quantity controls would be provided at several on-line flow control locations, most of which will be coincident with road crossings. This method is similar to that utilized for the Twin Oaks Business Park located near the Little River and the E.C. Row Expressway and constructed approximately 10 years ago.

The stormwater areas are proposed to be congregated into stormwater management corridors which can be combined with trail systems and used as amenity areas for the surrounding developments. The stormwater management corridor will take the appearance of a wide watercourse channel with periodic ponds adjacent to the channel. Heavy vegetation adjacent to all water bodies along with less open water and fetches will also be implemented in order to make water features less attractive to bird species, a specific request from the Windsor Airport. As part of this work, several of the existing municipal drains are proposed to be abandoned and several new channels will be created that align with the proposed land use plan for the area.

Ministry of the Environment
and Climate Change

Ministère de l'Environnement
et de l'Action en matière de
changement climatique



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October 24th, 2017

Essex Region Conservation Authority
360 Fairview Avenue West
Suite 311
Essex, Ontario
N8M 1Y6

Attention: Mr. John Henderson, P. Eng.
Water Resource Engineer

Re: Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan, Dated September 2017

Dear Mr. Henderson:

This letter acknowledges this ministry's receipt, with thanks, of the Notice of Completion for the Upper Little River Watershed Master Drainage and Stormwater Management Plan.

As you know, the Essex Region Conservation Authority in conjunction with the City of Windsor and the Town of Tecumseh completed the above noted Master Plan in accordance with Phases 1 and 2 of the Municipal Class EA process. The preferred alternative includes stormwater management facilities that provide controls for more than one property and are located near other facilities along corridors.

This ministry has completed its review of the above noted Master Drainage Plan and Stormwater Management Plan, and offers the following comments for due consideration and response by the Essex Region Conservation Authority and/or its consultant, Stantec Consulting Engineers Ltd.:

Surface Water:

From a surface water perspective, generally speaking the above noted September 2017 report is satisfactory to this ministry, except for two specific points that follow below.

A "normal" level of water quality protection would be provided by off-line multi-function storm water control facilities congregated into SWM corridors. The report focuses on the restoration and enhancement of the physical conditions along watercourses and their riparian areas. This is a logical approach since water quality protection cannot be achieved until physical conditions are improved in and around the channelized, artificial watercourses that predominate in the study area.

This ministry's two specific points are as follows:

1. The report notes that since development will likely proceed on a landowner-by-landowner basis it is expected that the coordinated storm water strategy proposed in the master plan may change. Page 6.2 of the report recommends a minimum drainage area of 20 hectares as a design criterion for a Storm Water Management Facility. If this recommendation is maintained as a requirement then this would alleviate this ministry's concern about potential significant deviations from the master plan due to piecemeal land development. Please respond.
2. Page 8.4 of the report recommends a monitoring program including environmental indicators and watershed targets before, during and after construction. This is a mandatory requirement of the Class Environmental Assessment process so it is more than a recommendation. The report notes that details of the monitoring program would be confirmed with ERCA and the municipality. MOECC's regional office should also be involved in reviewing the proposed monitoring program for those aspects that relate to this ministry's statutory authority, i.e. stream water quality and aquatic ecosystem health. Please respond.

Source Protection:

Per the recent amendments to the Municipal Engineers Association (MEA) Class EA parent document approved October 2015, proponents undertaking a Municipal Class EA project must identify early in the process whether a project is occurring within a source water protection vulnerable area. This must be clearly documented in a project file report or environmental study report.

The one reference to Source Protection that MOECC located in the above noted report was found in "Section 4.1.2 Methodology for Data Collection and Analysis", on page 4.1, wherein it is noted that the Essex Region Source Protection Area: Watershed Characterization (ERCA, 2011) was consulted during the preparation of the report. What the actual outcome of consulting that report was, does not appear to be presented in the report.

Given the above noted MEA Class EA requirement, the proponent should include a section in the project file or environmental study report on source water protection. Specifically, it should discuss whether or not the project is located in any vulnerable area or has the potential to change or creates new vulnerable areas, and provide applicable details about the area.

MEA Class EA projects may also include activities that, if located in a vulnerable area, may be considered a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and could be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Municipal Class EA projects (where a project includes a drinking water risk) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

In addition to ensuring that EA projects do not impact sources of municipal drinking water addressed in the source protection plans, EAs should also consider and mitigate potential impacts to other sources of drinking water not explicitly addressed in source protection plans, such as private systems – individual or clusters, and designated facilities within the meaning of O. Reg. 170/03 under the Safe Drinking Water Act – i.e., camps, schools, health care facilities, seasonal users, etc. HVAs are sensitive hydrologic features that, when protected, can also protect other users who draw water from HVAs.

Are there any Event Based Area Policies applicable to the subject property? If so, how will they be addressed?

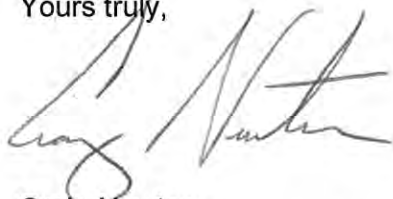
For assistance in determining whether the proposed project will require new technical work and potentially require amendments to the source protection plan for this area please contact the Project Manager for Drinking Water Source Protection at the local source protection authority which coincidentally in this case, is the Essex Region Conservation Authority itself.

Indigenous Consultation:

In an e-mail dated October 2nd, 2017, the MOECC provided Stantec with a list of Indigenous Communities that need to be consulted with respect to this Class EA. On October 5th, 2017, Stantec advised MOECC by e-mail of the additional Indigenous Communities they were consulting with as a consequence of MOECC's aforementioned e-mail.

Please advise this ministry of any concerns / issues raised by any of the Indigenous communities consulted, and how those issues / concerns have or will be addressed.

Yours truly,



Craig Newton
Regional Environmental Planner / EA Coordinator
Ministry of the Environment & Climate Change
Southwestern Region
(519) 873-5014

Cc – Mr. Scott Abernethy, Group Leader – Surface Water, MOECC SWR
Ms. Cara Salustro, Drinking Water Inspector, Safe Drinking Water, MOECC Windsor
Mr. Jayson Innes, P. Eng., Project Manager, Stantec Consulting Ltd., Waterloo

Ministry of the Environment,
Conservation and Parks

Ministère de l'Environnement, de
la Protection de la nature et des
Parcs



Environmental Assessment and
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July 9, 2018

Mr. William Balazs
President
386823 Ontario Limited
By email

Dear Mr. Balazs:

Thank you for your interest in the Upper Little River Master Drainage Plan and Stormwater Management Plan (Master Plan) as proposed by the City of Windsor, Town of Tecumseth and Essex Region Conservation Authority (Proponents).

On October 27, 2017, you requested that the Proponents be required to prepare an individual environmental assessment (EA) for the Master Plan. On December 5, 2017, you met with the Proponents to discuss your concerns, and on February 2, 2018, these discussions were deemed complete and the Ministry of the Environment, Conservation and Parks (ministry) was in receipt of the Master Plan documentation for review.

The Proponents issued the Notice of Completion for the Master Plan for a 30-day public review period ending on October 30, 2017. Upon review, the ministry has determined that the Proponents have not met the requirements of the class EA. The Proponent's Notice of Completion and Master Plan documentation did not include sufficient detail, or a list describing the specific Schedule B projects.

As such, your request for Part II Order will not be considered at this time.

The ministry asked the Proponents to issue a new Notice of Completion once the deficiencies are addressed, and the Master Plan and the projects within it will be subject to another 30-day public review period. When the new Notice of Completion is issued, you may request a Part II Order on specific projects if you continue to have unresolved concerns. Your Part II Order must be in the context of these specific projects, and not for the Master Plan in general.

It is the ministry's expectation that once the revised documentation is complete and the Notice of Completion is reissued, you will be notified directly by the Proponent.

Thank you for taking the time to share your concerns with this Master Plan.

If you have additional questions regarding the Part II Order process, please contact Mr. Stephen Deneault, Project Evaluator at 416-212-3693 or at Stephen.Deneault@ontario.ca.

Sincerely,

A handwritten signature in cursive script that reads "Kristina Rudzki".

Kristina Rudzki
Supervisor, Project Review Unit
Environmental Assessment and Permissions Branch

Attachment

- c: Craig Newton, EA Coordinator, Ministry of the Environment, Conservation and Parks
- Anneleis Eckert, EA Coordinator, Ministry of the Environment, Conservation and Parks
- Karla Barboza, Team Lead (A), Ministry of Tourism, Culture and Sport

EA File No. 17088
Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan

Ministry of the Environment,
Conservation and Parks

Ministère de l'Environnement, de
la Protection de la nature et des
Parcs



Environmental Assessment and
Permissions Branch

Direction des évaluations et des
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July 9, 2018

John Henderson, P. Eng.
Water Resources Engineer
Essex Region Conservation Authority
360 Fairview Avenue West – Suite 311
Essex, ON N8M 1Y6

Jayson Innes, M.A.Sc., P. Eng.
Project Manager
Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo, ON N2L 0A4

Dear Mr. Henderson and Mr. Innes:

On October 27, 2017, the Minister of the Environment, Conservation and Parks (Minister) received one Part II Order request asking that the City of Windsor, Town of Tecumseth and Essex Region Conservation Authority (Proponents) be required to prepare an individual environmental assessment for the proposed Upper Little River Master Drainage Plan and Stormwater Management Plan (Master Plan).

The Notice of Completion for this Master Plan was issued in September 2017. Staff at the Ministry of the Environment, Conservation and Parks (ministry) reviewed the Master Plan Environmental Study Report (Report) and determined that the Master Plan was not planned in accordance with the requirements of the class environmental assessment (class EA). Please see attached October 24, 2017 letter outlining the ministry's concerns.

Under Section 13 of the Environmental Assessment Act (act), a proponent of an undertaking subject to a class EA shall not proceed with the undertaking unless the proponent does so in accordance with the class EA.

Ministry staff determined that the requirements of the class EA have not been fulfilled for the Master Plan for the reasons identified below:

Approach #2 – Master Plan Requirements

You indicated that Approach #2 of the Municipal Engineers Association's Municipal Class EA was followed, but as discussed at our meeting of July 6, 2018, you failed to meet the requirements under the class EA for Approach #2.

All master plans, at a minimum, must address at least the first two phases of the class EA process (identifying a problem or opportunity and identifying alternative solutions to address the problem or opportunity). The master planning process under Approach #1 is completed at a broad level of assessment, requiring more detailed investigations at the project-specific level in order to fulfill class EA requirements. The master plan in Approach #1 becomes the basis for specific Schedule B and C projects that are required to undergo a class EA in future.

Like Approach #1, Approach #2 must also satisfy Phases 1 and 2 of the class EA. However, this approach involves a level of investigation, consultation and documentation sufficient to fulfill the requirements for Schedule B projects. The Notice of Completion for this approach should identify/list specific Schedule B projects.

Your project documentation does not include a list describing the specific Schedule B projects that have completed the class EA process. In addition, without identifying the specific projects, the ministry cannot determine whether the appropriate level of detail has been applied.

A Part II Order request must be made on a specific project within the Master Plan.

Surface Water

On October 24, 2017, the ministry requested the Proponents respond to surface water comments (attached). Ministry staff requested that the Proponents consider drainage area design for stormwater management facilities and the requirement to implement a monitoring program, including environmental indicators and watershed targets before, during and after construction.

Source Protection

On October 24, 2017, the ministry requested that the Proponents respond to source protection comments (attached).

The ministry supports the completion of a Source Water Protection section to incorporate its findings into decision-making and reporting metrics. To date, the ministry has not received an update on the ministry's recommendation to include this section in the Master Plan Report; including potential impacts to vulnerable areas and any Event Based Area policies that would be applicable.

Indigenous Consultation

On October 24, 2017, the ministry requested an update on the additional consultation efforts that were undertaken by the Proponents, including any issues/concerns identified by any of the Indigenous communities and how they will be addressed.

Cultural Heritage Assessment

The Ministry of Tourism, Culture and Sport (MTCS) advised that there are outstanding concerns with the evaluation of potential and/or known impacts on cultural heritage resources within the study area (attached).

MTCS indicated that a Cultural Heritage Assessment should be completed by qualified person(s) as part of the class EA. The ministry supports the completion of a Cultural Heritage Assessment to incorporate its findings into decision-making and reporting metrics.

In summary, given that the requirements of the class EA have not been met for the reasons listed above, the ministry requests that the Proponents re-issue the Notice of Completion once these deficiencies are addressed, and place the Master Plan under public review for another 30 days.

As the class EA is not complete, the ministry is unable to consider the Part II Order request at this time. The Part II Order requester will be notified in writing that their request will not be considered, and that the Proponents will be undertaking additional work at the request of the ministry.

It is the ministry's expectation that once the revised documentation is complete and the Notice of Completion is reissued, the requester will be notified directly by the Proponents.

If you have additional questions regarding the Part II Order process, please contact Mr. Stephen Deneault, Project Evaluator at 416-212-3693 or at Stephen.Deneault@ontario.ca.

For questions about the class EA requirements, please contact Ms. Anneleis Eckert, EA Coordinator at 519-873-5115 or at Anneleis.Eckert@ontario.ca.

Sincerely,



Annamaria Cross
Environmental Assessment and Permissions Branch

Attachments

- c: Craig Newton, EA Coordinator, Ministry of the Environment, Conservation and Parks
- Anneleis Eckert, EA Coordinator, Ministry of the Environment, Conservation and Parks
- Karla Barboza, Team Lead (A), Ministry of Tourism, Culture and Sport

EA File No. 17088

Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan

January 23, 2019

Stephen Deneault
Project Evaluator, Environmental Assessment Services
Environmental Assessment and Permissions Branch
Ministry of the Environment, Conservation and Parks
135 St. Clair Avenue West, 1st Floor
Toronto, ON M4V 1P5
Stephen.Deneault@ontario.ca

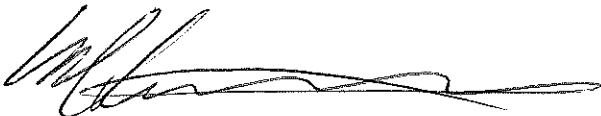
Dear Mr. Deneault:

**Re: EA File No. 17088
Upper Little River Watershed Master Drainage Plan and Stormwater Management Plan**

Thank you for your prompt response confirming that the project has not been withdrawn.

The City of Windsor is working diligently with its partners, Essex Region Conservation Authority and the Town of Tecumseh, and our consultant, Stantec Consulting Ltd., to complete additional work requested to address concerns raised and update the Upper Little River Watershed Master Drainage and Stormwater Management Plan Environmental Assessment Environmental Study Report.

With regards,



Mark Winterton
City Engineer

AMG/mb

cc: Eckert, Anneleis (MECP) Anneleis.Eckert@ontario.ca
Lafrance, Crystal (MECP) Crystal.Lafrance@ontario.ca
Rudzki, Kristina (MECP) Kristina.Rudzki@ontario.ca
James Bryant (ERCA) JBryant@erca.org
Jayson Innes (Stantec) jayson.innes@stantec.com

APPENDIX F

Ecology

Appendix D.1: 163302160 Potential Species at Risk and Provincially Rare Species in the Study Area

| Common Name | Scientific Name | S-Rank | COSSARO | COSEWIC | Source | Species confirmed in the Study Area? | Suitable habitat present in the Study Area? |
|-----------------------|-----------------------------------|----------|---------|---------|----------------------------------|--------------------------------------|---|
| Birds | | | | | | | |
| Acadian Flycatcher | <i>Empidonax virescens</i> | S2S3B | END | END | Cadman et al, 2007 | No | No |
| Bald Eagle | <i>Haliaeetus leucocephalus</i> | S4B | SC | NAR | Cadman et al, 2007 | No | No |
| Bank Swallow | <i>Riparia riparia</i> | S4B | THR | THR-NS | Cadman et al, 2007 | No | No |
| Barn Swallow | <i>Hirundo rustica</i> | S4B | THR | THR-NS | Cadman et al, 2007 | No | Yes |
| Bobolink | <i>Dolichonyx oryzivorus</i> | S4B | THR | THR-NS | Cadman et al, 2007 | Yes | Yes |
| Chimney Swift | <i>Chaetura pelagica</i> | S4B, S4N | THR | THR | Cadman et al, 2007 | Yes | Yes |
| Common Nighthawk | <i>Chordeiles minor</i> | S4B | SC | SC | Cadman et al, 2007 | Yes | Yes |
| Eastern Meadowlark | <i>Sturnella magna</i> | S4B | THR | THR-NS | Cadman et al, 2007 | Yes | Yes |
| Eastern Wood-Pewee | <i>Contopus virens</i> | S5B | SC | SC-NS | Cadman et al, 2007 TNHI, 2011 | No | Yes |
| Least Bittern | <i>Ixobrychus exilis</i> | S4B | THR | THR | Cadman et al, 2007 | No | No |
| Peregrine Falcon | <i>Falco peregrinus</i> | S3B | SC | SC | Cadman et al, 2007 | No | No |
| Red-Headed Woodpecker | <i>Melanerpes erythrocephalus</i> | S4B | SC | THR | Cadman et al, 2007 | No | Yes |
| Short-eared Owl | <i>Asio flammeus</i> | S2N, S4B | SC | SC | Cadman et al, 2007 | No | Yes |
| Wood Thrush | <i>Hylocichla</i> | S4B | SC | THR-NS | Cadman et al, 2007 | Yes | Yes |

Appendix D.1: 163302160 Potential Species at Risk and Provincially Rare Species in the Study Area

| Common Name | Scientific Name | S-Rank | COSSARO | COSEWIC | Source | Species confirmed in the Study Area? | Suitable habitat present in the Study Area? |
|--------------------------------------|--------------------------------|--------|---------|----------|---------------------------------------|--------------------------------------|---|
| | <i>mustelina</i> | | | | TNHI, 2011 | | |
| Yellow-breasted Chat | <i>Icteria virens</i> | S2B | END | SC (END) | Cadman et al, 2007 | No | No |
| Reptiles | | | | | | | |
| Blanding's Turtle | <i>Emydoidea blandingi</i> | S3 | THR | THR | Ontario Nature, 2016 | No | Yes |
| Butler's Gartersnake | <i>Thamnophis butleri</i> | S2 | END | THR | Ontario Nature, 2016 Waldron, 2009 | Yes | Yes |
| Common Five-lined Skink (Carolinian) | <i>Eumeces fasciatus</i> | S2 | END | END | Ontario Nature, 2016 | No | No |
| Common Snapping turtle | <i>Chelydra serpentina</i> | S3 | SC | SC | Ontario Nature, 2016 Waldron, 2009 | Yes | Yes |
| Eastern Foxsnake (Carolinian) | <i>Pantherophis gloydi</i> | S3 | END | END | Ontario Nature, 2016 | Yes | Yes |
| Eastern Milksnake | <i>Lampropeltis triangulum</i> | S3 | NAR | SC | Ontario Nature, 2016 | No | Yes |
| Massasauga | <i>Sistrurus catenatus</i> | S3 | THR | END | Ontario Nature, 2016 | No | No |
| Northern Map Turtle | <i>Graptemys geographica</i> | S3 | SC | SC | Ontario Nature, 2016 | Yes | Yes |
| Queensnake | <i>Regina septemvittata</i> | S2 | END | END | Ontario Nature, 2016 | No | Yes |

Appendix D.1: 163302160 Potential Species at Risk and Provincially Rare Species in the Study Area

| Common Name | Scientific Name | S-Rank | COSSARO | COSEWIC | Source | Species confirmed in the Study Area? | Suitable habitat present in the Study Area? |
|----------------------|------------------------------------|--------|---------|---------|---------------------------------|--------------------------------------|---|
| Spiny Soft-shell | <i>Apalone spinifera spinifera</i> | S3 | THR | THR | Ontario Nature, 2016 | No | Yes - limited |
| Mammals | | | | | | | |
| Little Brown Myotis | <i>Myotis lucifuga</i> | S4 | END | END | Dobbyn, 1994 | No | Yes |
| Eastern Mole | <i>Scalopus aquaticus</i> | S2 | SC | SC | Dobbyn, 1994 | No | Yes |
| Odonata | | | | | | | |
| Double-striped Bluet | <i>Enallagma basidens</i> | S3 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Unicorn Clubtail | <i>Arigomphus villosipes</i> | S2-S3 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Blue-tipped Dancer | <i>Argia tibialis</i> | S3 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Mottled Darner | <i>Aeshna clepsydra</i> | S3 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| River Bluet | <i>Enallagma anna</i> | S2 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Butterflies | | | | | | | |

| Appendix D.1: 163302160 Potential Species at Risk and Provincially Rare Species in the Study Area | | | | | | | |
|--|------------------------------|---------------|----------------|----------------|---|---|--|
| Common Name | Scientific Name | S-Rank | COSSARO | COSEWIC | Source | Species confirmed in the Study Area? | Suitable habitat present in the Study Area? |
| Common Sooty Wing | <i>Pholisora catullus</i> | S3 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Giant Swallowtail | <i>Papilio cresphontes</i> | S3 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Monarch | <i>Danaus plexippus</i> | S4B-S2N | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Hickory Hairstreak | <i>Satyrium caryaevorum</i> | S3 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Duke's Skipper | <i>Euphyes dukesi</i> | S2 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Dion Skipper | <i>Euphyes dion</i> | S3 | | | Ecoplans Field Observation 2011 | Yes | Yes |
| Monarch | <i>Danaus plexippus</i> | S4B | SC | SC | Ontario Butterfly Atlas, 2016 | No | Yes |
| Vascular Plants | | | | | | | |
| American Chestnut | <i>Castanea dentata</i> | S2 | END | END | SARO Website | No | Yes |
| Biennial Gaura | <i>Oenothera gaura</i> | S3 | | | NHIC, 2015 | No | Yes |
| Burning Bush | <i>Euonymus atropurpurea</i> | S3 | | | TNHI, 2011 | Yes | Yes |
| Butternut | <i>Juglans cinerea</i> | S3 | END | END | SARO Website | No | Yes |
| Climbing Prairie Rose | <i>Rosa setigera</i> | S3 | SC | SC | NHIC, 2015 Waldron, 2009 CNHS, 2008 | Yes | Yes |

Appendix D.1: 163302160 Potential Species at Risk and Provincially Rare Species in the Study Area

| Common Name | Scientific Name | S-Rank | COSSARO | COSEWIC | Source | Species confirmed in the Study Area? | Suitable habitat present in the Study Area? |
|--------------------------------|---|--------|---------|---------|---|--------------------------------------|---|
| | | | | | TNHI, 2011 | | |
| Culver's Root | <i>Veronicastrum virginicum</i> | S2 | | | NHIC, 2015 | No | Yes |
| Cup Plant | <i>Silphium perfoliatum</i> var. <i>perfoliatum</i> | S2 | | | NHIC, 2015 | No | Yes |
| Dense Blazing Star | <i>Liatris spicata</i> | S2 | THR | THR | SARO Website | No | Yes |
| Eastern Flowering Dogwood | <i>Cornus florida</i> | S2? | END | END | SARO Website | No | Yes |
| Eastern Prairie Fringed-orchid | <i>Platanthera leucophaea</i> | S2 | END | END | SARO Website | No | Potential |
| Eastern Stiff-leaved Goldenrod | <i>Solidago rigida</i> | S3 | | | NHIC, 2015 Waldron, 2009 | Yes | Yes |
| Giant Ironweed | <i>Vernonia gigantea</i> | S1? | | | NHIC, 2015 Waldron, 2009 CNHS, 2008 | Yes | Yes |
| Gray-headed Prairie Coneflower | <i>Ratibida pinnata</i> | S3 | | | NHIC, 2015 | No | Yes |
| Great Plains Ladies'-tresses | <i>Spiranthes magnicamporum</i> | S3? | | | NHIC, 2015 | No | Yes |
| Hazel Dodder | <i>Cuscuta coryli</i> | SH | | | NHIC, 2015 | No | Yes |
| Hoary Tick-trefoil | <i>Desmodium canescens</i> | S2 | | | NHIC, 2015 | No | Yes |
| Honey Locust | <i>Gleditsia triacanthos</i> | S2 | | | Waldron, 2009 TNHI, 2011 | Yes | Yes |
| Illinois Greenbriar | <i>Smilax illinoensis</i> | S2? | | | TNHI, 2011 | Yes | Yes |
| Kentucky Coffee-tree | <i>Gymnocladus dioicus</i> | S2 | THR | THR | NHIC, 2015 Waldron, 2009 | Yes | Yes |

Appendix D.1: 163302160 Potential Species at Risk and Provincially Rare Species in the Study Area

| Common Name | Scientific Name | S-Rank | COSSARO | COSEWIC | Source | Species confirmed in the Study Area? | Suitable habitat present in the Study Area? |
|------------------------|----------------------------------|--------|---------|---------|---|--------------------------------------|---|
| Large Yellow Pond-lily | <i>Nuphar advena</i> | S3 | | | NHIC, 2015 | No | Yes |
| Lowland Brittle Fern | <i>Cystopteris protrusa</i> | S2 | | | NHIC, 2015 | No | Yes |
| Many-fruited Seedbox | <i>Ludwigia polycarpa</i> | S2S3 | | | NHIC, 2015 TNHI, 2011 | Yes | Yes |
| Missouri Ironweed | <i>Vernonia missurica</i> | S3? | | | Waldron, 2009 TNHI, 2011 | Yes | Yes |
| Muskingum Sedge | <i>Carex muskingumensis</i> | S3 | | | NHIC, 2015 TNHI, 2011 | Yes | Yes |
| Narrowleaf Sedge | <i>Carex amphibola</i> | S2 | | | TNHI, 2011 | Yes | Yes |
| Pin Oak | <i>Quercus palustris</i> | S3 | | | Waldron, 2009 CNHS, 2008 | Yes | Yes |
| Plum-leaved Hawthorn | <i>Crataegus persimilis</i> | S1 | | | NHIC, 2015 CNHS, 2008 TNHI, 2011 | Yes | Yes |
| Prairie Milkweed | <i>Asclepias sullivantii</i> | S3 | | | NHIC, 2015 TNHI, 2011 | Yes | Yes |
| Prairie Rosinweed | <i>Silphium terebinthinaceum</i> | S1 | | | NHIC, 2015 | No | Yes |
| Prairie Straw Sedge | <i>Carex suberecta</i> | S2 | | | NHIC, 2015 | No | Yes |
| Pumpkin Ash | <i>Fraxinus profunda</i> | S2 | | | CNHS, 2008 TNHI, 2011 | Yes | Yes |
| Purple Twayblade | <i>Liparis liliifolia</i> | S2 | THR | THR | SARO Website | No | Yes |
| Rough Dropseed | <i>Sporobolus asper</i> | S3 | | | Waldron, 2009 | Yes | Yes |
| Shellbark Hickory | <i>Carya laciniosa</i> | S3 | | | NHIC, 2015 Waldron, 2009 CNHS, 2008 | Yes | Yes |

Appendix D.1: 163302160 Potential Species at Risk and Provincially Rare Species in the Study Area

| Common Name | Scientific Name | S-Rank | COSSARO | COSEWIC | Source | Species confirmed in the Study Area? | Suitable habitat present in the Study Area? |
|--------------------|--------------------------------|--------|---------|---------|---|--------------------------------------|---|
| | | | | | TNHI, 2011 | | |
| Shumard Oak | <i>Quercus shumardii</i> | S3 | SC | SC | NHIC, 2015 Waldron, 2009 CNHS, 2008 TNHI, 2011 | Yes | Yes |
| Stiff Cowbane | <i>Oxypolis rigidior</i> | S2 | | | NHIC, 2015 | No | Yes |
| Swamp Agrimony | <i>Agrimonia aprviflora</i> | S3, S4 | | | Waldron, 2009 CNHS, 2008 | Yes | Yes |
| Tall Boneset | <i>Eupatorium altissimum</i> | S1 | | | CNHS, 2008 TNHI, 2011 | Yes, although likely planted | Yes |
| Tall Tickseed | <i>Coreopsis tripteris</i> | S2 | | | NHIC, 2015 | No | Yes |
| Upright Greenbriar | <i>Smilax ecirrhata</i> | S3? | | | TNHI, 2011 | Yes | Yes |
| Willowleaf Aster | <i>Symphotrichum praealtum</i> | S2 | THR | THR | NHIC, 2015 | No | Yes |
| Winged Loosestrife | <i>Lythrum alatum</i> | S3 | | | NHIC, 2015 TNHI, 2011 | Yes | Yes |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|---|--|
| Seasonal Concentration Areas | | | |
| Waterfowl Stopover and Staging Area (Terrestrial) | Fields with sheet water or utilized by tundra swans during spring (mid-March to May), or annual spring melt water flooding found in any of the following Community Types: Meadow (CUM1), Thicket (CUT1). Agricultural fields with waste grains are commonly used by waterfowl, and these are not considered SWH unless used by Tundra swans in the Long Point, Rondeau, Lake St. Clair, Grand Bend and Point Pelee Areas. | ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (terrestrial). | Large expanses of agricultural communities were identified within the Study Area which is in close proximity to Lake St. Clair. Candidate habitat for waterfowl stopover and staging areas (Terrestrial) may occur in the Study Area. |
| Waterfowl Stopover and Staging Area (Aquatic) | The following Community Types: Meadow Marsh (MAM), Shallow Marsh (MAS), Shallow Aquatic (SA), Deciduous Swamp (SWD). Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. The combined area of the ELC ecosites and a 100 m radius area is the SWH. Sewage treatment ponds and storm water ponds do not qualify as a SWH; however, a reservoir managed as a large wetland or pond/lake does qualify. | ELC surveys were used to assess features within the Study Area that may support waterfowl stopover and staging areas (aquatic). | No large open aquatic features were present within the Study Area, to accommodate large aggregations of waterfowl. No candidate habitat for waterfowl stopover and staging (aquatic) occurs in the Study Area. |
| Shorebird Migratory Stopover Area | Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a significant wildlife habitat. The following community types: Meadow Marsh (MAM), Beach/Bar (BB), or Sand Dune (SD) | ELC surveys were used to assess features within the Study Area that may support migratory shorebirds. | No meadow marshes, beach/bars or sand dunes were identified within the Study Area. No candidate habitat for shorebird stopover areas occurs in the Study Area. |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|----------------------------|---|--|---|
| Raptor Wintering Area | <p>At least one of the following Forest Community Types: Deciduous Forest (FOD), Mixed Forest (FOM) or Coniferous Forest (FOC), in combination with one of the following Upland Community Types: Meadow (CUM), Thicket (CUT), Savannah (CUS), Woodland (CUW) (<60% cover)</p> <p>Combined area must be >20 ha and provides roosting, foraging and resting habitats for wintering raptors.</p> <p>Upland habitat (CUM, CUT, CUS, CUW), must represent at least 15 ha of the 20 ha minimum size with limited snow accumulation, and limited disturbance.</p> | <p>ELC surveys were used to assess features within the Study Area that may support wintering raptors.</p> | <p>All upland areas adjacent to woodlands in the Study Area are comprised of large expanses of agricultural lands.</p> <p>No candidate habitat for raptor wintering areas occurred in the Study Area.</p> |
| Bat Hibernacula | <p>Hibernacula may be found in caves, mine shafts, underground foundations and karsts.</p> <p>May be found in these Community Types: Crevice (CCR), Cave (CCA).</p> | <p>ELC surveys were used to assess features within the Study Area that may support bat hibernacula.</p> | <p>No crevices, caves or abandoned mines are located in the Study Area.</p> <p>No candidate habitat for bat hibernacula occurred in the Study Area.</p> |
| Bat Maternity Colonies | <p>Maternity colonies considered significant wildlife habitat are found in forested ecosites.</p> <p>Either of the following Community Types: Deciduous Forest (FOD), Mixed Forest (FOM), Deciduous Swamp (SWD) and Mixed Swamp (SWM) that have >10/ha wildlife trees >25cm diameter at breast height (dbh).</p> <p>Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).</p> <p>Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2.</p> <p>Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred.</p> | <p>ELC surveys were used to assess features within the Study Area that may support bat maternity colonies.</p> | <p>Candidate habitat for bat maternity colonies may be present in each of the woodland communities.</p> |
| Turtle Wintering Areas | <p>Snapping and Midland Painted turtles utilize ELC community classes: Swamp (SW), Marsh (MA) and Open Water (OA). Shallow water (SA), Open Fen (FEO) and Open Bog (BOO).</p> | <p>ELC surveys were used to assess features within the Study Area that may support areas of permanent standing water but not deep enough</p> | <p>Any open aquatic areas that are deep enough not to freeze over the winter may provide potential candidate turtle overwintering habitat.</p> |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|--|--|--|
| | <p>Water has to be deep enough not to freeze and have soft mud substrate.</p> <p>Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate dissolved oxygen.</p> <p>Man-made ponds such as sewage lagoons or stormwater management ponds should not be considered significant.</p> | to freeze. | |
| Snake Hibernacula | <p>Hibernation occurs in sites located below frost lines in burrows, rock crevices, broken and fissured rock and other natural features. Human-made constructed rock piles, old stone fences and crumbling foundations qualify as candidate SWH.</p> <p>Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.</p> <p>Any ecosite in southern Ontario other than very wet ones may provide habitat. The following Community Types may be directly related to snake hibernacula: Talus (TA), Rock Barren (RB), Crevice (CCR), Cave (CCA), and Alvar (RBOA1, RBSA1, RBTA1).</p> | ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support snake hibernacula. | Old foundations may provide candidate habitat for snake hibernacula in the Study Area. |
| Colonial-Nesting Bird Breeding Habitat (Bank and Cliff) | <p>Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, or barns found in any of the following Community Types: Meadow (CUM), Thicket (CUT), Bluff (BL), Cliff (CL).</p> <p>Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.</p> <p>Does not include a licensed/permitted Mineral Aggregate Operation.</p> | ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support colonial bird breeding habitat. | <p>Due to the flat topography typical of the Windsor area, natural eroding banks, sandy hills, borrow pits, steep slopes and sand piles are not likely to be present within the Study Area.</p> <p>No candidate habitat for bank or cliff colonial nesting birds occurs within the Study Area.</p> |
| Colonial-Nesting Bird Breeding Habitat | Identification of stick nests in any of the following Community Types: Mixed Swamp (SWM), | ELC surveys and wildlife habitat assessments were used to assess | No colonial nesting birds were identified during field investigations, or during the background |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|---|--|---|
| (Tree/Shrubs) | Deciduous Swamp (SWD), Treed Fen (FET). The edge of the colony and a minimum 300 m area of habitat or extent of the Forest Ecosite containing the colony or any island <15 ha with a colony is the SWH. Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. | features within the Study Area that may support colonial bird breeding habitat (Trees/Shrubs). | review. No candidate habitat for tree/shrub colonial nesting birds occurs in the Study Area. |
| Colonial-Nesting Bird Breeding Habitat (Ground) | Any rocky island or peninsula within a lake or large river. For Brewer's Blackbird close proximity to watercourses in open fields or pastures with scattered trees or shrubs found in any of the following Community Types: Meadow Marsh (MAM1-6), Shallow Marsh (MAS1-3), Meadow (CUM), Thicket (CUT), Savannah (CUS). | ELC surveys were used to assess features within the Study Area that may support colonial bird breeding habitat (Ground). | No rocky islands or peninsulas are present within the Study Area. In southern Ontario, Brewer's Blackbird known occurrences are primarily restricted to the Bruce Peninsula; none are known to occur in the Study Area region and it is considered a "very rare irregular spring and autumn transient" (Cadman et al., 2007; Weir, 2008) No candidate habitat for ground colonial nesting birds occurred within the Study Area. |
| Migratory Butterfly Stopover Areas | Located within 5 km of Lake Ontario A combination of ELC communities, one from each land class is required: Field (CUM, CUT, CUS) and Forest (FOC, FOM, FOD, CUP) Minimum of 10 ha in size with a combination of field and forest habitat present | ELC surveys and GIS analysis were used to assess features within the Study Area that may support migratory butterfly stopover areas. | The Study Area is not within 5 km of Lake Ontario. No Candidate Significant Wildlife Habitat for migratory butterfly stopover areas occurs within the Study Area. |
| Landbird Migratory Stopover Areas | The following community types: Forest (FOD, FOM, FOC) or Swamp (SWC, SWM, SWD) Woodlots must be >5 ha in size and within 5 km of Lake Ontario; 2-5ha can be considered if rare in an area of shoreline; woodlands within 2 km of Lake Ontario are more significant; largest sites are more significant. | ELC surveys and GIS analysis were used to assess features within the Study Area that may support landbird migratory stopover areas. | The Study Area is not within 5 km of Lake Ontario. No candidate habitat for migratory landbird stopover areas occurs within the Study Area. |
| Deer Winter Congregation Areas | Woodlots typically > 100 ha in size unless determined by the MNR as significant. (If large woodlots are rare in a planning area >50ha) | ELC surveys were used to assess features within the Study Area that would qualify as deer congregation | No woodlands >100 ha in size occurred in the Study Area. No candidate habitat for deer winter |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|------------------------------------|--|--|--|
| | All forested ecosites within Community Series: FOC, FOM, FOD, SWC, SWM, SWD Conifer plantations much smaller than 50 ha may also be used | areas. | congregation areas occurs within the Study Area. |
| Rare Vegetation Communities | | | |
| Cliffs and Talus Slopes | A Cliff is vertical to near vertical bedrock >3 m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris Any ELC Ecosite within Community Series: TAO, TAS, TAT, CLO, CLS, CLT Most cliff and talus slopes occur along the Niagara Escarpment | ELC surveys were used to assess features within the Study Area that would be considered cliffs or talus slopes. | No cliffs or talus slopes were identified within the Study Area. No candidate wildlife habitat for cliffs or talus slopes occurs within the Study Area. |
| Sand Barrens | Sand barrens typically are exposed sand, generally sparsely vegetated and cause by lack of moisture, periodic fires and erosion. Vegetation can vary from patchy and barren to tree covered but less than 60%. Any of the following Community Types: SBO1 (Open Sand Barren Ecosite), SBS1 (Shrub Sand Barren Ecosite), SBT1 (Treed Sand Barren Ecosite). | ELC surveys were used to assess features within the Study Area that would be considered to be sand barrens. | No sand barrens were identified within the Study Area. No candidate wildlife habitat for sand barrens occurs within the Study Area. |
| Alvars | An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. Any of the following Community Types: ALO1 (Open Alvar Rock Barren Ecosite), ALS1 (Alvar Shrub Rock Barren Ecosite), ALT1 (Treed Alvar Rock Barren Ecosite), FOC1 (Dry-Fresh Pine Coniferous Forest), FOC2 (Dry-Fresh Cedar Coniferous Forest), CUM2 (Bedrock Cultural Meadow), CUS2 (Bedrock Cultural Savannah), CUT2-1 (Common Juniper Cultural Alvar Thicket), or CUW2 (Bedrock Cultural Woodland) An Alvar site > 0.5 ha in size | ELC surveys were used to assess features within the Study Area that would be considered to be alvar communities. | No alvars were identified within the Study Area. No candidate wildlife habitat for alvars occurs within the Study Area. |
| Old-growth Forest | Old-growth forests tend to be relatively | ELC surveys were used to assess | No old growth forests were identified within the |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|-----------------------------------|--|--|---|
| | <p>undisturbed, structurally complex, and contain a wide variety of trees and shrubs in various age classes. These habitats usually support a high diversity of wildlife species.</p> <p>No minimum size criteria † in any of the following Community Types: FOD (Deciduous Forest), FOM (Mixed Forest), FOC (Coniferous Forest)</p> <p>Forests greater than 120 years old and with no historical forestry management was the main criteria when surveying for old-growth forests.</p> | <p>features within the Study Area that would be considered to be old-growth forest communities.</p> | <p>Study Area.</p> <p>No candidate wildlife habitat for old growth forests occurs within the Study Area.</p> |
| Savannahs | <p>A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.</p> <p>In Ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).</p> <p>Any of the following Community Types: TPS1 (Dry-Fresh Tallgrass Mixed Savannah Ecosite), TPS2 (Fresh-Moist Tallgrass Deciduous Savannah Ecosite), TPW1 (Dry-Fresh Black Oak Tallgrass Deciduous Woodland Ecosite), TPW2 (Fresh-Moist Tallgrass Deciduous Woodland Ecosite), CUS2 (Bedrock Cultural Savannah Ecosite).</p> | <p>ELC surveys were used to assess features within the Study Area that would be considered to be savannah communities.</p> | <p>No savannahs were identified within the Study Area.</p> <p>No candidate wildlife habitat for savannahs occurs within the Study Area.</p> |
| Tall-grass Prairies | <p>A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.</p> <p>In Ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario).</p> <p>Any of the following Community Types: TPO1 (Dry Tallgrass Prairie Ecosite), TPO2 (Fresh-Moist Tallgrass Prairie Ecosite).</p> | <p>ELC surveys were used to assess features within the Study Area that would be considered to be tall-grass communities.</p> | <p>No tall grass prairies were identified within the Study Area.</p> <p>No candidate wildlife habitat for tall grass prairies occurs within the Study Area.</p> |
| Other Rare Vegetation Communities | <p>Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the</p> | <p>ELC surveys were used to assess features within the Study Area that would be considered to be other rare</p> | <p>No rare vegetation communities were identified within the Study Area.</p> |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|--|--|--|
| | SWHTG | vegetation communities. | No candidate wildlife habitat for rare vegetation communities occurs within the Study Area. |
| Specialized Habitat for Wildlife | | | |
| Waterfowl Nesting Area | All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, SWT1, SWT2, SWD1, SWD2, SWD3, SWD4 Note: includes adjacency to Provincially Significant Wetlands | ELC surveys were used to assess features within the Study Area that may support nesting waterfowl. | No marsh or swamp ELC ecosites were identified within the Study Area. No candidate wildlife habitat for waterfowl nesting areas occurs in the Study Area. |
| Bald Eagle and Osprey nesting, Foraging, and Perching Habitat | Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands | ELC surveys and wildlife habitat assessments were used to assess features within the Study Area that may support nesting, foraging and perching habitat for large raptors. | No large stick nests were identified within the Study Area. No candidate wildlife habitat for Osprey or Bald Eagle habitat occurs in the Study Area. |
| Woodland Raptor Nesting Habitat | All natural or conifer plantation woodland/forest stands combined >30 ha and with >4 ha of interior habitat. Interior habitat determined with a 200 m buffer. Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3 | ELC surveys, wildlife habitat assessments and GIS analysis were used to assess features within the Study Area that may support nesting habitat for woodland raptors. | There is no interior habitat within the Study Area. No candidate wildlife habitat for woodland raptor nesting occurs within the Study Area. |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---------------------------------------|---|---|--|
| Turtle Nesting Areas | <p>Exposed mineral soil (sand or gravel) areas adjacent (<100 m) or within the following ELC Ecosites: MAS1, MAS2, MAS3, SAS1, SAM1, SAF1, BOO1, FEO1</p> <p>Best nesting habitat for turtles is close to water, away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.</p> <p>For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.</p> <p>Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used.</p> | <p>ELC surveys were used to assess features within the Study Area that may support turtle nesting areas.</p> | <p>Candidate wildlife habitat for turtle nesting areas may occur adjacent to turtle wintering areas in the Study Area.</p> |
| Seeps and Springs | <p>Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.</p> <p>Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system</p> | <p>ELC surveys were used to assess features within the Study Area that may support seeps and springs.</p> | <p>Roadside surveys did not allow for the assessment of seeps/springs within forested habitats.</p> <p>Candidate habitat for seeps and springs may occur in the Study Area within forested habitats.</p> |
| Amphibian Breeding Habitat (Woodland) | <p>All Ecosites associated with these ELC Community Series; FOC, FOM, FOD, SWC, SWM, SWD</p> <p>Presence of a wetland, lake, or pond within or adjacent (within 120 m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians.</p> <p>Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat</p> | <p>ELC surveys and GIS analysis were used to assess features within the Study Area that may support woodland breeding amphibians.</p> | <p>Candidate amphibian breeding habitat (woodland) may occur in the Study Area in or within 120m from forested habitats.</p> |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|---|--|--|--|
| Amphibian Breeding Habitat (Wetland) | <p>ELC Community Classes SW, MA, FE, BO, OA and SA.</p> <p>Wetland areas >120 m from woodland habitats.</p> <p>Wetlands and pools (including vernal pools) >500 m² (about 25 m diameter) supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats.</p> <p>Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.</p> <p>Bullfrogs require permanent water bodies with abundant emergent vegetation.</p> | <p>ELC surveys and GIS analysis were used to assess features within the Study Area that may support wetland breeding amphibians.</p> | <p>Open aquatic ponds >120m from woodland habitats occur within the Study Area.</p> <p>Candidate habitat for wetland amphibian breeding may occur in open aquatic ponds or shallow marshes >120m from forested habitats in the Study Area.</p> |
| Species of Conservation Concern | | | |
| Marsh Bird Breeding Habitat | <p>All wetland habitats with shallow water and emergent aquatic vegetation.</p> <p>May include any of the following Community Types: Meadow Marsh (MAM), Shallow Aquatic (SA), Open Bog (BOO), Open Fen (FEO), or for Green Heron: Swamp (SW), Marsh (MA) and Meadow (CUM1) Community Types.</p> | <p>ELC surveys were used to identify marshes with shallow water and emergent vegetation that may support marsh breeding birds.</p> | <p>No large marshes or aquatic habitats with shallow water and emergent aquatic vegetation were observed within the Study Area.</p> <p>No candidate habitat for marsh breeding birds therefore occurs in the Study Area.</p> |
| Woodland Area-sensitive Bird Breeding Habitat | <p>Habitats >30ha where interior forest is present (at least 200 m from the forest edge); typically >60 years old.</p> <p>These include any of the following Community Types: Forest (FO), Treed Swamp (SW)</p> | <p>ELC surveys and GIS analysis were used to determine whether woodlots that occurred within the Study Area that were >30 ha with interior habitat present (>200 m from edge).</p> | <p>No woodlots exceeded 30 ha in size with interior forest habitat within the Study Area.</p> <p>No candidate wildlife habitat for woodland area-sensitive breeding bird habitat occurs in the Study Area.</p> |
| Open Country Bird Breeding Habitat | <p>Grassland areas > 30 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or hay or livestock pasturing in the last 5 years, in the following Community Type: Meadow (CUM).</p> | <p>ELC surveys and GIS analysis were used to identify grassland communities within the Study Area that may support area-sensitive breeding birds.</p> | <p>No non-agricultural grassland communities >30 ha were identified in the Study Area.</p> <p>No candidate wildlife habitat for open country breeding bird habitat occurs in the Study Area.</p> |

Appendix D.2: 160311265 Significant Wildlife Habitat Assessment

| Candidate Wildlife Habitat | Criteria | Methods | Habitat Assessment of Features Found Within the Study Area |
|--|---|--|--|
| Shrub/Early Successional Bird Breeding Habitat | Oldfield areas succeeding to shrub and thicket habitats >10 ha, not Class 1 or Class 2 agricultural lands, with no row-cropping or intensive hay or livestock pasturing in the last 5 years, in the following Community Types: Thickets (CUT), Savannahs (CUS), or Woodlands (CUW). | ELC surveys and GIS analysis were used to identify large CUT, CUS or CUW communities that may support shrub/early successional breeding birds. | No large successional communities were identified in the Study Area. No candidate wildlife habitat for shrub/early successional breeding bird habitat occurs in the Study Area. |
| Terrestrial Crayfish | Meadow marshes and edges of shallow marshes (no minimum size). Vegetation communities include MAM1, MAM2, MAM3, MAM4, MAM5, MAM6, MAS1, MAS2, MAS3. Construct burrows in marshes, mudflats, meadows Can be found far from water | ELC surveys were used to identify shallow marsh and meadow marsh communities that occurred within the Study Area. | Candidate significant wildlife habitat for Terrestrial Crayfish may occur in the Study Area associated with the drains and watercourses. |
| Amphibian Movement Corridor | | | |
| Amphibian Movement Corridor | Corridors may be found in all ecosites associated with water. Determined based on identifying significant amphibian breeding habitat (wetland). | Identified after Amphibian Breeding Habitat - Wetland is confirmed. | Candidate habitat for amphibian movement corridors may occur in the Study Area only if candidate amphibian breeding habitat (wetland) is identified in the Study Area. |

Memo



Stantec

| | | | |
|-------|--------------|-------|------------------|
| To: | Shari Muscat | From: | Natalie Leava |
| | Guelph | | Guelph |
| File: | 160311265 | Date: | November 7, 2011 |

**Reference: Roadside ELC & Fall Botanical Inventory
Windsor Annexed Lands**

This memo has been prepared to provide a summary of the field investigations conducted on September 28 and 29, 2011 on the Windsor Annexed Lands, Caledon, Ontario. These investigations were undertaken by N. Leava and M. Oxlade.

Field investigations for this project were conducted to confirm and assess the character of existing conditions. The work included roadside Ecological Land Classification (ELC) of vegetation communities and a floristic inventory of the subject lands and immediate vicinity. Drainage ditches along all roadsides in the Study Area were also surveyed for depth and width, as well as vegetative species composition. Vegetation communities were delineated on aerial photographs and checked in the field; community characterizations were then based on the ELC system (Lee et al., 1998). English colloquial names and scientific binomials of plant species generally follow Newmaster et al. (1998).

Natural heritage information collected from the subject lands was evaluated to confirm potential significance. Provincial significance of vegetation communities was based on the draft rankings assigned by the Natural Heritage Information Centre (Bakowsky, 1996). The provincial status of all plant species is based on Newmaster et. al (1998), with updates from the database of the Natural Heritage Information Centre (NHIC, 2001). Identification of potentially sensitive plant species is based on assignment of a coefficient of conservatism value (CC) to each native species in southern Ontario (Oldham et al., 1995). The value of CC, ranging from 0 (low) to 10 (high), is based on a species' tolerance of disturbance and fidelity to a specific natural habitat. Species with a CC value of 9 or 10 generally exhibit a high degree of fidelity to a narrow range of habitat parameters.

Vegetation Communities

The vegetation communities, based on the ELC system for Southern Ontario, are shown on Figure 1 of the EA Report.

The majority of the study lands are under agricultural cultivation, with small wetland features associated with site drainage.

**Reference: Roadside ELC and Fall Botanical Inventory
Windsor Annexed Lands**

The vegetation community types are succinctly described in **Table 1** below.

| Table 1 Ecological Land Classification (ELC) Vegetation Types | |
|---|--|
| ELC TYPE | Community Description |
| Forest (FO) | |
| Deciduous Forest (FOD) | |
| FODa Deciduous Forest | Due to limited accessibility, this FOD community was observed approximately 250 metres from the roadside. Although this forest was within the Study Area, it could not be classified any further due to unknown species composition. |
| FODb Deciduous Forest | Due to limited accessibility, this FOD community was observed approximately 400 metres from the roadside. Although this forest was within the Study Area, it could not be classified any further due to unknown species composition. |
| FODc Deciduous Forest | Due to limited accessibility, this FOD community was observed approximately 100 metres from the roadside. Although this forest was within the Study Area, it could not be classified any further due to unknown species composition. |
| FODd Deciduous Forest | Due to limited accessibility, this FOD community was observed approximately 150 metres from the roadside. Although this forest was within the Study Area, it could not be classified any further due to unknown species composition. |
| FODE Deciduous Forest | Due to limited accessibility, this FOD community was observed approximately 200 metres from the roadside. Although this forest was within the Study Area, it could not be classified any further due to unknown species composition. |
| FOD2-4 Dry-Fresh Oak – Hardwood Deciduous Forest Type | This community had an abundance of bur oak, with sugar maple, American elm, and cottonwood associates within the canopy cover. The subcanopy consisted of equal presence of sugar maple, cottonwood and bur oak. The understory had an abundance of sugar maple and white ash. The ground layer was difficult to observe due to only roadside access. |
| FOD7-1a Fresh-Moist White Elm Lowland Deciduous Forest Type | This community was assessed from a pathway due to limited property access. Canopy cover consisted of American elm and sugar maple, with sugar maple and American basswood associates. Similar species composition was observed within the sub canopy, along with bur oak. Understory and ground layer species composition was not observed due to limited visibility along pathway. A small stream was found running along the side and throughout the forest. |
| FOD7-1b Fresh-Moist White Elm Lowland Deciduous Forest Type | This community was located along a residential property. A small stream ran through the community. Due to limited property access, the full extent of this community's area coverage was difficult to delineate. American elm was dominant throughout this community, with bur oak and cottonwood associates. Riverbank grape was frequently observed within this community as well. |
| Cultural (CU) | |
| Cultural Meadow (CUM) | |
| CUM1a Mineral Cultural Meadow Ecosite | Dominated by barnyard grass, this community also contained foxtail, various aster species, wild carrot and goldenrods. This cultural meadow covered a small area, and was located between two residential properties, as well as adjacent to the rail tracks bordered by a hedgerow. |
| CUM1b Mineral Cultural Meadow Ecosite | This community is highly disturbed, with large areas of open bare ground and gravel scattered throughout. A high dirt mound located at the north east section of this community is dominated by thistles. Other species found throughout this community include grasses, common ragweed, garlic mustard, teasel and |

**Reference: Roadside ELC and Fall Botanical Inventory
Windsor Annexed Lands**

| ELC TYPE | Community Description |
|---|--|
| | riverbank grape. |
| CUM1c Mineral Cultural Meadow Ecosite | This community is located adjacent to agricultural fields and industrial properties. It was disturbed, dominated by goldenrods and occasionally aster species. <i>Phragmites</i> , bird's-foot-trefoil, grasses and milkweed were observed throughout. A small area of tree cover along the south portion of this community occurred, consisting of cottonwood, trembling aspen, willow species and sumac. |
| CUM1-1a Dry-Moist Old Field Meadow Type | This community is bordered by <i>Phragmites</i> , and was adjacent to commercial and residential properties. Wild carrot, tall white aster, new England aster, and goldenrods were found throughout this community. |
| CUM1-1b Dry-Moist Old Field Meadow Type | This community was dominated by green amaranth. Other species such as Canada thistle, foxtail, dock and asters were found throughout. A small section just north of the residential area was absent of amaranth, and was dominated by goldenrods and aster species. |

*ELC code not included in the First Approximation of ELC for Southern Ontario

None of the vegetation communities listed above are considered rare in the province.

Drainage Ditch Composition

Drainage areas surveyed along with the roadside ELC survey were recorded and photographed. Characteristics such as width, water depth, vegetation composition and cover were noted. These characteristics are described in **Table 2** below. Each surveyed area was numbered, and can be found in the attached field notes.

| Drainage Ditch # | Tile Number | Characteristics of Feature | Photo Number |
|-------------------------|--------------------|---|---------------------|
| 1 | 4 | - <i>Phragmites</i> dominant along drainage ditch | 965-966 |
| | | - Culvert running in and under road - Willow shrubs, silver maple, Freeman's maple, sugar maple and riverbank grape throughout | 967-968 |
| 2 | 4 | - Small creek/stream with 60% tree cover and 90% forb cover - 0.5-1 metre deep, standing and slow moving water - Culvert running through under road | 979-982 |
| | | East - Standing water in drainage ditch West - Dug out ditch - 50-60% vegetation cover; horsetail, hawkweed and foxtail | |
| 3 | 5 | East - Tree and shrub cover approximately 70% - Goldenrods, asters and grasses | 988 |
| | | West - 90% narrow-leaved cattail cover - Standing water approximately 0.3 metres deep - Goldenrods, asters and foxtails bordering the roadside | 986-987 |
| 4 | 5 | - Rocky drainage ditch with approximately 5-10% forb cover of goldenrods and asters | 989-991 |

**Reference: Roadside ELC and Fall Botanical Inventory
Windsor Annexed Lands**

| Table 2 Drainage Ditch Characteristics | | | |
|---|---|--|-----------------------------|
| | | - Small rocks, 3 culverts, standing water of 0.2 – 0.4 m deep (storm water drain) | |
| 5 | 5 | <p>East</p> <ul style="list-style-type: none"> - Standing water approximately 0.2 metres deep - Small rocks around culvert - South side of ditch (photos 995-6) - North side of ditch (photo 994) borders cornfield along Shields Avenue with a CUM1 habitat approximately 20 metres into cornfield; asters, wild carrot, teasel, foxtail, prickly lettuce, <i>Phragmites</i>, white aster and calico aster <p>West</p> <ul style="list-style-type: none"> - 90% <i>Phragmites</i> cover - Standing water approximately 0.1 metres deep - Old barn along soy field* | 994-996 992-993, 997 |
| 6 | 5 | <ul style="list-style-type: none"> - <i>Phragmites</i> dominant - No standing or pooling water - Culverts open, little standing water around culvert openings | 1007-1010 |
| 8 | 5 | <ul style="list-style-type: none"> - Shallow, algae growth on standing water - Small culverts feeding into drainage ditch - Little vegetation cover, approximately 20% grass composition | 1016-1017 |
| 9 | 5 | <ul style="list-style-type: none"> - Dry, with small areas of pooling water - Awenless brome dominant | 1018 |
| 10 | 5 | <p>East</p> <ul style="list-style-type: none"> - <i>Phragmites</i> dominant of approximately 80% cover - Standing water of 0.2 metres <p>West</p> <ul style="list-style-type: none"> - <i>Phragmites</i> and cattails present - Standing water, approximately 0.3 metres deep - Vegetation cover 80% | 1019-1020 |
| 11 | 5 | <ul style="list-style-type: none"> - 100% vegetation cover, dominated by <i>Phragmites</i> - Appears dry (too thick to see into ditch) - Cedars bordering soy field and drainage ditch, with occasional Freeman's Maple | |
| 12 | 1 | <ul style="list-style-type: none"> - Riparian cover over drainage ditch; white cedar, silver maple, <i>Phragmites</i>, riverbank grape, Canada goldenrod, reed canary grass and asters seen throughout - Approximately 70% vegetation cover, standing water present - Culverts present | 1023-1024 |
| 13 | 1 | <ul style="list-style-type: none"> - Open ditch, approximately 2 metres wide, 0.7 metres deep with 60% vegetation cover along sides, predominantly <i>Phragmites</i> - Chimney swift observed (approximately 10 birds) | 1026-1028 |
| 14 | 1 | <ul style="list-style-type: none"> - Ditch running along railway tracks - 100% <i>Phragmites</i> cover; too dense to observe dimensions or standing water present | 1029-1030 |
| 15 | 1 | <ul style="list-style-type: none"> - Approximately 40% forb cover; New England aster, tall white aster, foxtail, riverbank grape - Water 0.3 metres deep, slow moving, large culverts | 1037-1038 |
| 16 | 1 | <ul style="list-style-type: none"> - Follows along concession 8 - 100% <i>Phragmites</i> cover; too dense to observe dimensions or standing water present | |
| 17 | 2 | <ul style="list-style-type: none"> - No visible standing water - Shoulder gravel moving in towards ditch - Willows and <i>Phragmites</i> dominant along edges | 1039-1040 |

**Reference: Roadside ELC and Fall Botanical Inventory
Windsor Annexed Lands**

| ID | Count | Description | Code |
|-----|-------|--|----------------------------|
| 18 | 2 | - Flowing water, approximately 0.5 metres deep - Hedgerow bordering stream/ ditch; small stones along edge | 1043-1044 |
| 19A | 2 | - Water crossing: goes through soy crop, connected to stream 18 | 1045-1047 |
| 19B | 2 | - Flowing water course - 80% vegetation cover, with sugar maple, goldenrods, <i>Phragmites</i> , asters and grasses | 1060-1062 |
| 19C | 2 | - Flowing water course - Shrubby cover, dominated by dogwood, goldenrods and <i>Phragmites</i> - 50% vegetation cover - 90% vegetation cover along stream/ditch banks | 1063-1064 |
| 20 | 2 | - Scrubby, with high amounts of <i>Phragmites</i> - Filled in with no open culverts - Recently scooped out | |
| 21 | 2 | - Open stream with a hedgerow bordering along train tracks - Recently cut, with little vegetation cover remaining; <i>Phragmites</i> , goldenrods and asters | 1048-1051 |
| 22 | 2 | - Water course/ditch recently cut - <i>Phragmites</i> dominant, with 65% vegetation cover - Adjacent to Green Amaranth dominated mineral cultural meadow (CUM1-1) | 1052-1053 1054-1055 |
| 23 | 3 | East - Adjacent to corn field - Standing water present, with 80% vegetation cover West - Dominated by <i>Phragmites</i> with some cattails present - Adjacent to CUT/CUM habitat in residential area - Standing water with 70-90% vegetation cover | 1069-1070 1067-1068 |
| 24 | 3 | - Drainage ditch all foxtail with some reed canary present - No water present, some small sections of pooling - Approximately 1 metre wide Note: wood piles located on other side of road (not in study area) | 1071 1072 |

Vascular Plant Species

Fifty-three species of vascular plants were recorded from the subject lands during the inventories. Of that number, 31 species or 58% were native, and 22 species or 42% were exotic; 97% of the native species observed are ranked S5 (Secure in Ontario), while the remainder are ranked S4 (Apparently secure).

None of the species observed had a CC of 9 or 10.

No nationally or provincially rare, threatened or endangered species were found.

Incidental observations include monarch butterfly, mourning dove, blue jay, turkey vulture and chimney swift.

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November 7, 2011

160311265

Page 6 of 6

**Reference: Roadside ELC and Fall Botanical Inventory
Windsor Annexed Lands**

STANTEC CONSULTING LTD.

Natalie Leava, M.Sc.
Terrestrial Ecologist
natalie.leava@stantec.com

Attachments: Figure 1: Ecological Land Classification
Plant Species List
Field Notes

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- Oldham, M.J., W.D. Bakowsky and D.A. Sutherland. 1995. Floristic quality assessment for southern Ontario. OMNR, Natural Heritage Information Centre, Peterborough. 68 pp.



Legend

- Study Area
- Watercourse
- ELC Fieldwork Extent
- ELC Boundary
- Municipal Boundary

ELC Communities

Meadow

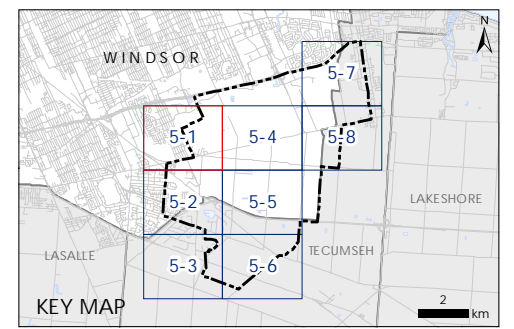
- ME Meadow
- MEF Forb Meadow
- MEFM1-1 Goldenrod Forb Meadow
- MEG Graminoid Meadow

Forest

- FOD Deciduous Forest
- FODM2-4 Dry-Fresh Oak Hardwood Deciduous Forest
- FODM7-1 Fresh-Moist White Elm Lowland Deciduous Forest

Other

- AG Agriculture
- BUS Business
- CEM Cemetary
- COM Commercial
- CON Construction
- IND Industrial
- INS Institutional
- OA Open Aquatic
- OS Open Soil
- PAS Pasture
- RES Residential



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Upper Little River Stormwater
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Figure No.

5-1

Title

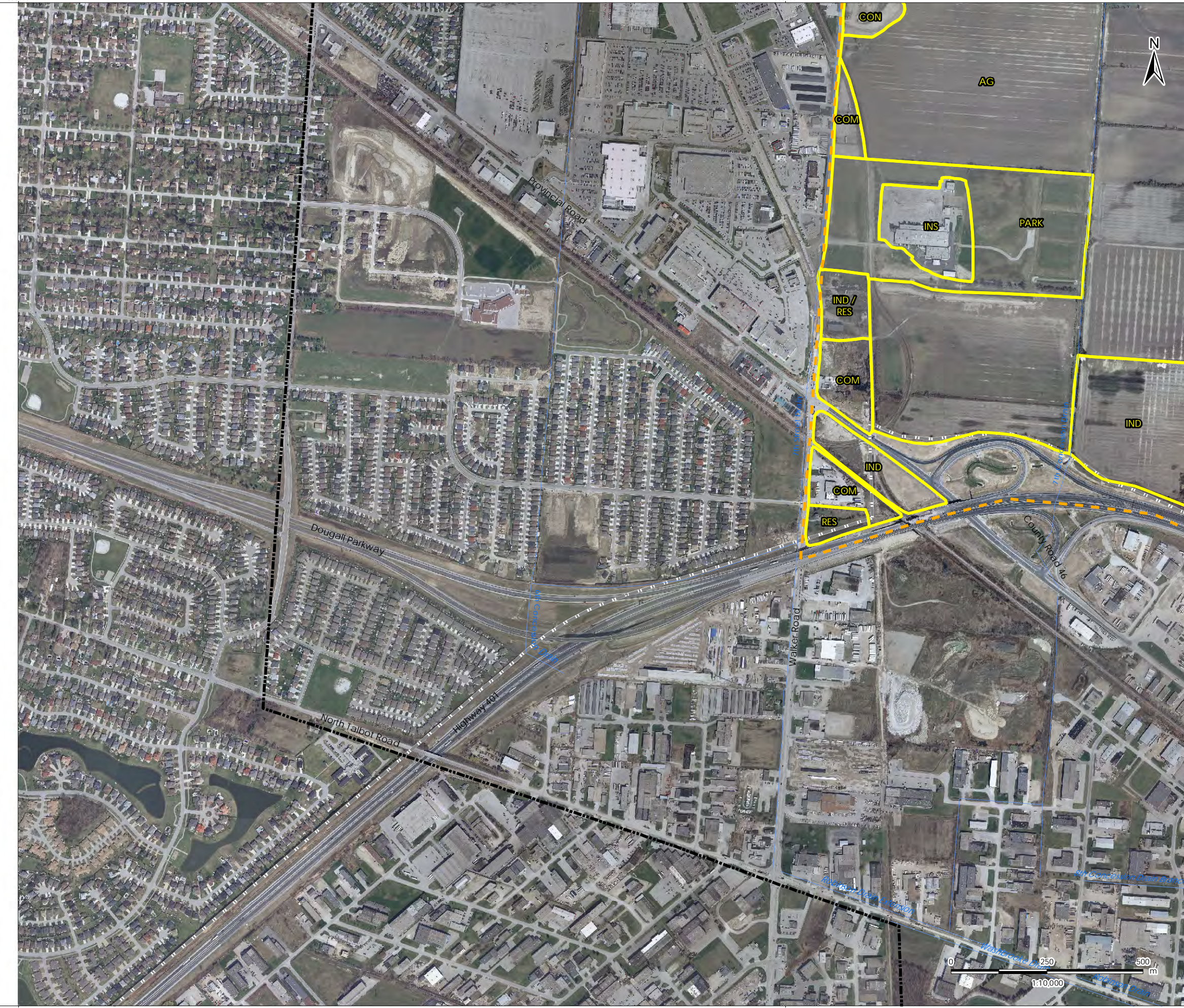
Roadside Ecological
Land Classification

4682000

4682000

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Legend

- Study Area
- Watercourse
- ELC Fieldwork Extent
- ELC Boundary
- Municipal Boundary

ELC Communities

Meadow

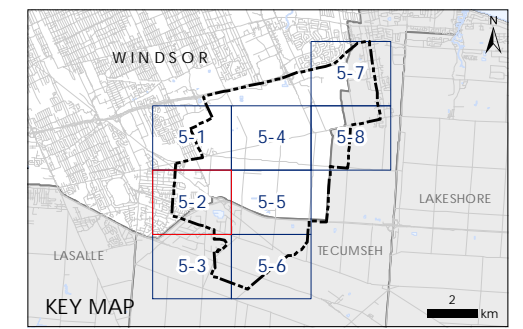
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and Drainage Master Plan

Figure No.

5-2

Title

Roadside Ecological
Land Classification

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Legend

- Study Area
- Watercourse
- ELC Fieldwork Extent
- ELC Boundary
- Municipal Boundary

ELC Communities

Meadow

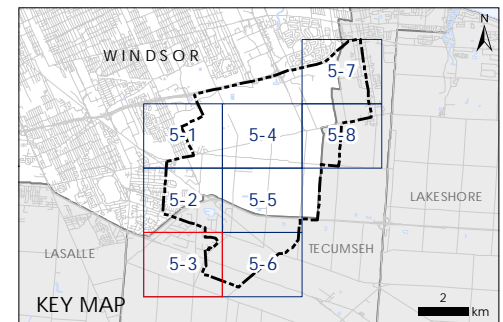
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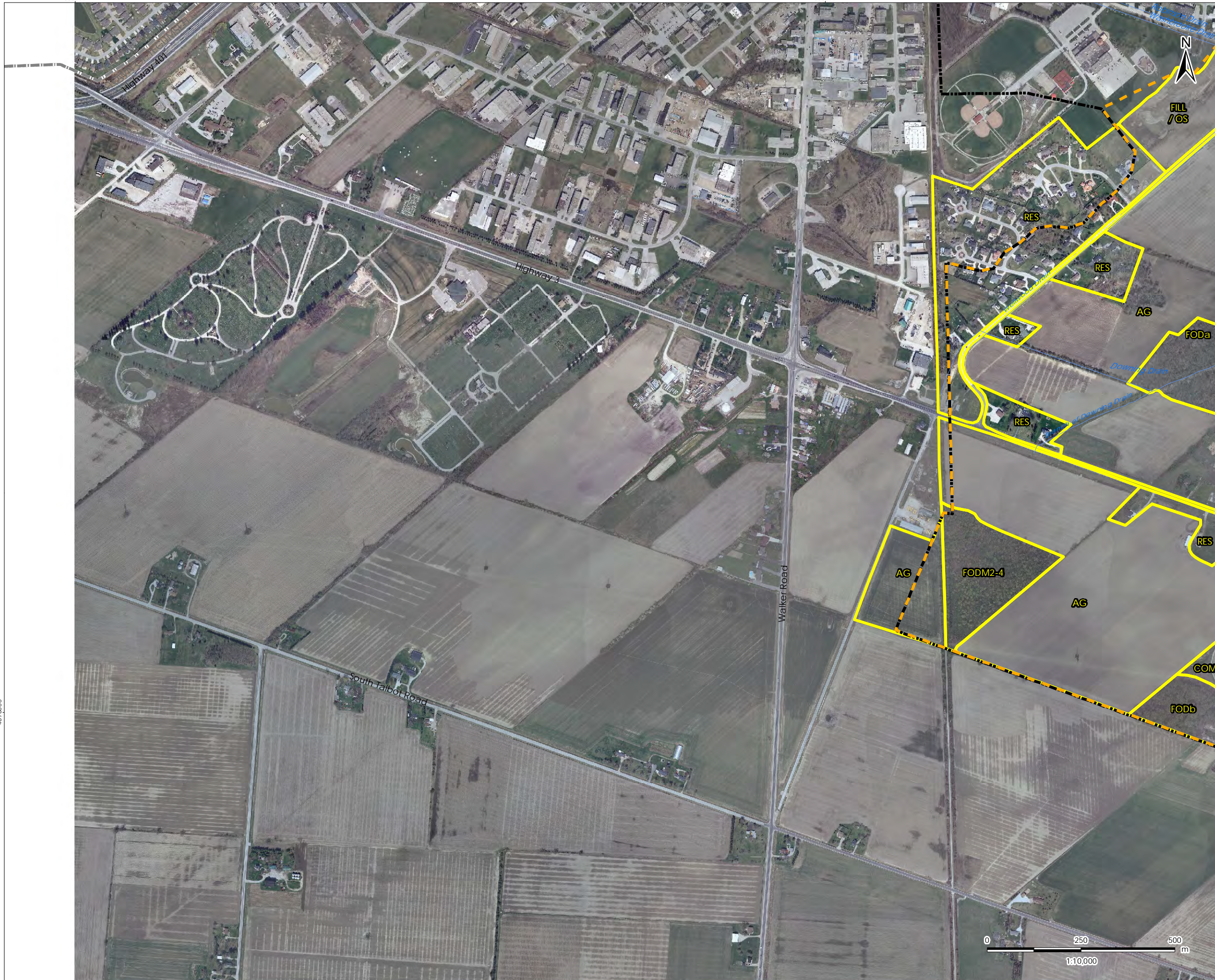
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Upper Little River Stormwater
and Drainage Master Plan

Figure No.

5-3

Title

Roadside Ecological
Land Classification





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Legend

- Study Area
- Watercourse
- ELC Fieldwork Extent
- ELC Boundary
- Municipal Boundary

ELC Communities

Meadow

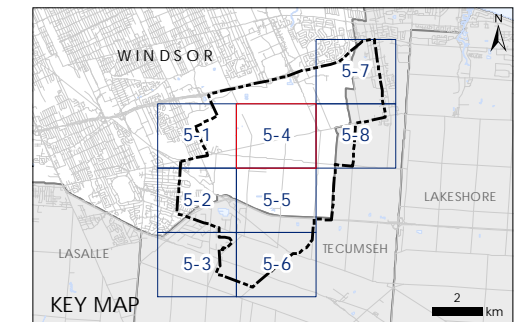
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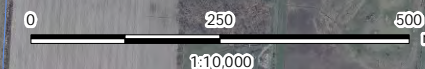
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Figure No.

5-4

Title

Roadside Ecological
Land Classification





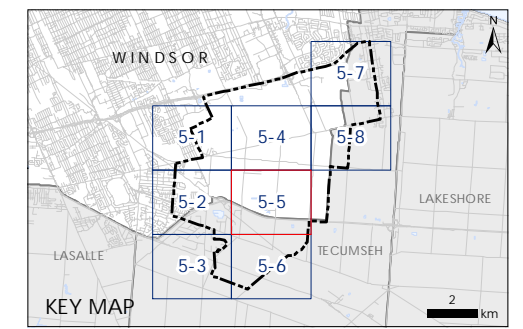
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- Study Area
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- ELC Fieldwork Extent
- ELC Boundary
- Municipal Boundary

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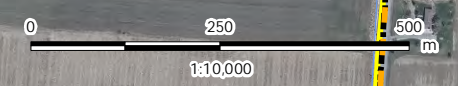
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Upper Little River Stormwater
and Drainage Master Plan

Figure No.

5-5

Title

Roadside Ecological
Land Classification



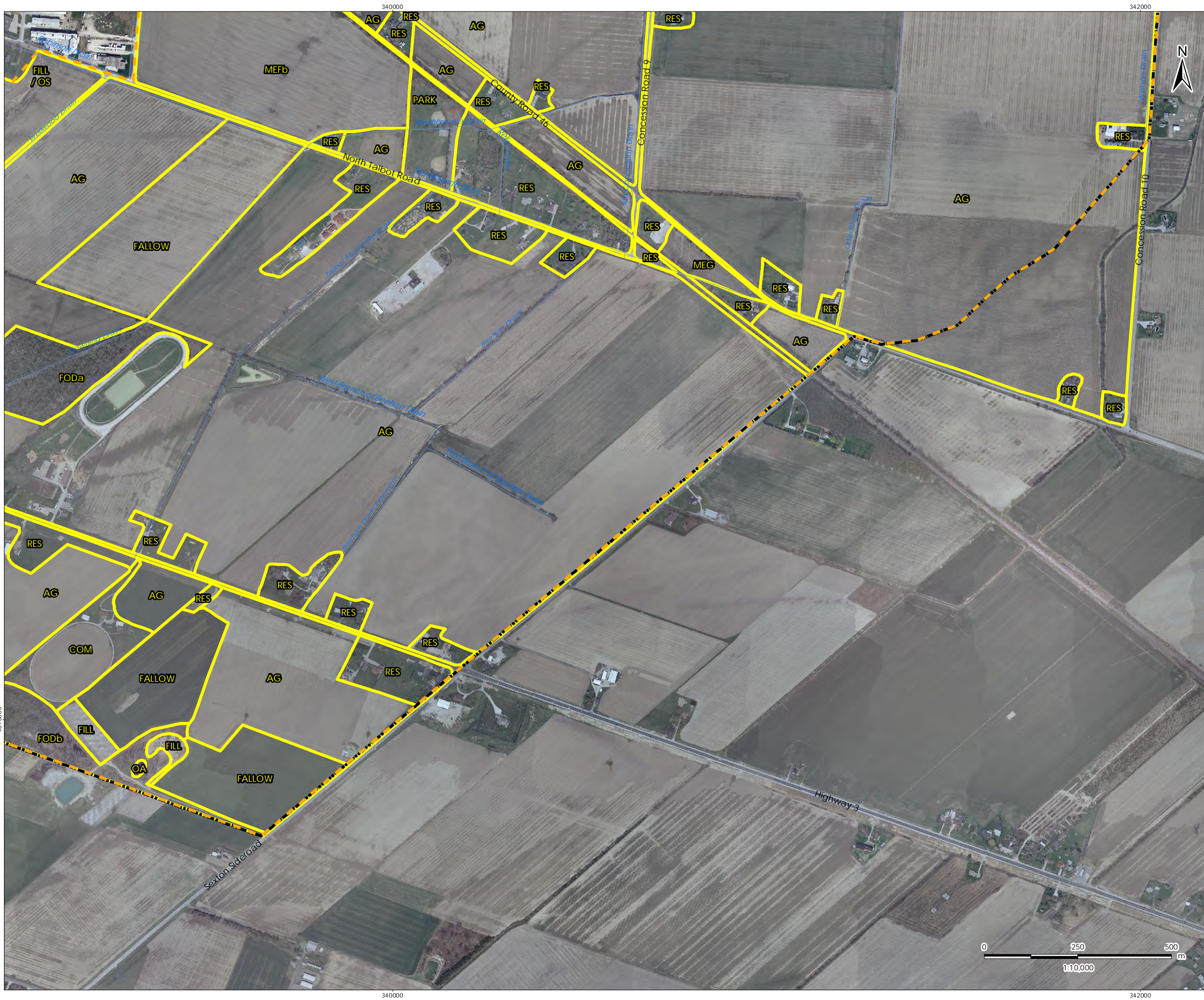
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Legend

- Study Area
- Watercourse
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- ELC Boundary
- Municipal Boundary

ELC Communities

Meadow

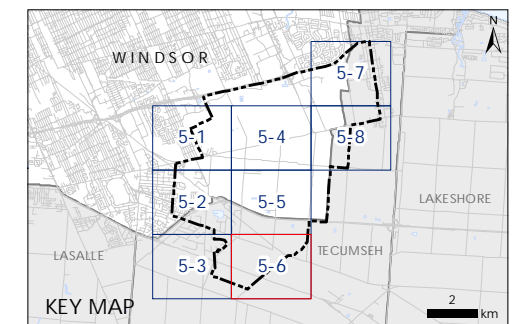
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Figure No.

5-6

Title

Roadside Ecological
 Land Classification



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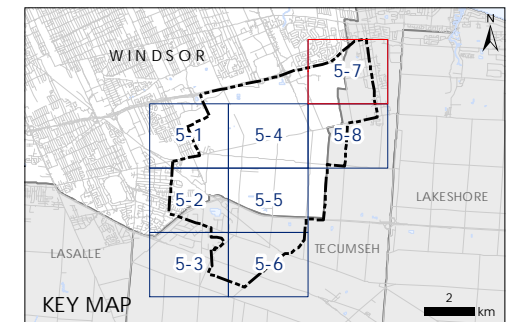


Legend

- Study Area
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ELC Communities

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5-7

Title

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Land Classification

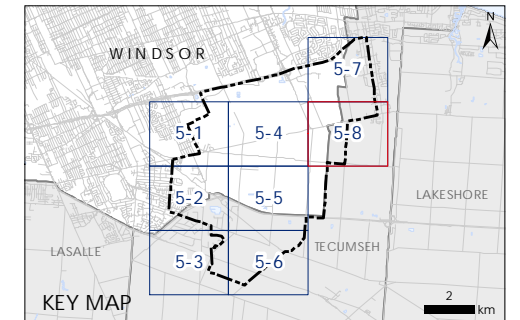
Legend

- Study Area
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- ELC Fieldwork Extent
- ELC Boundary
- Municipal Boundary

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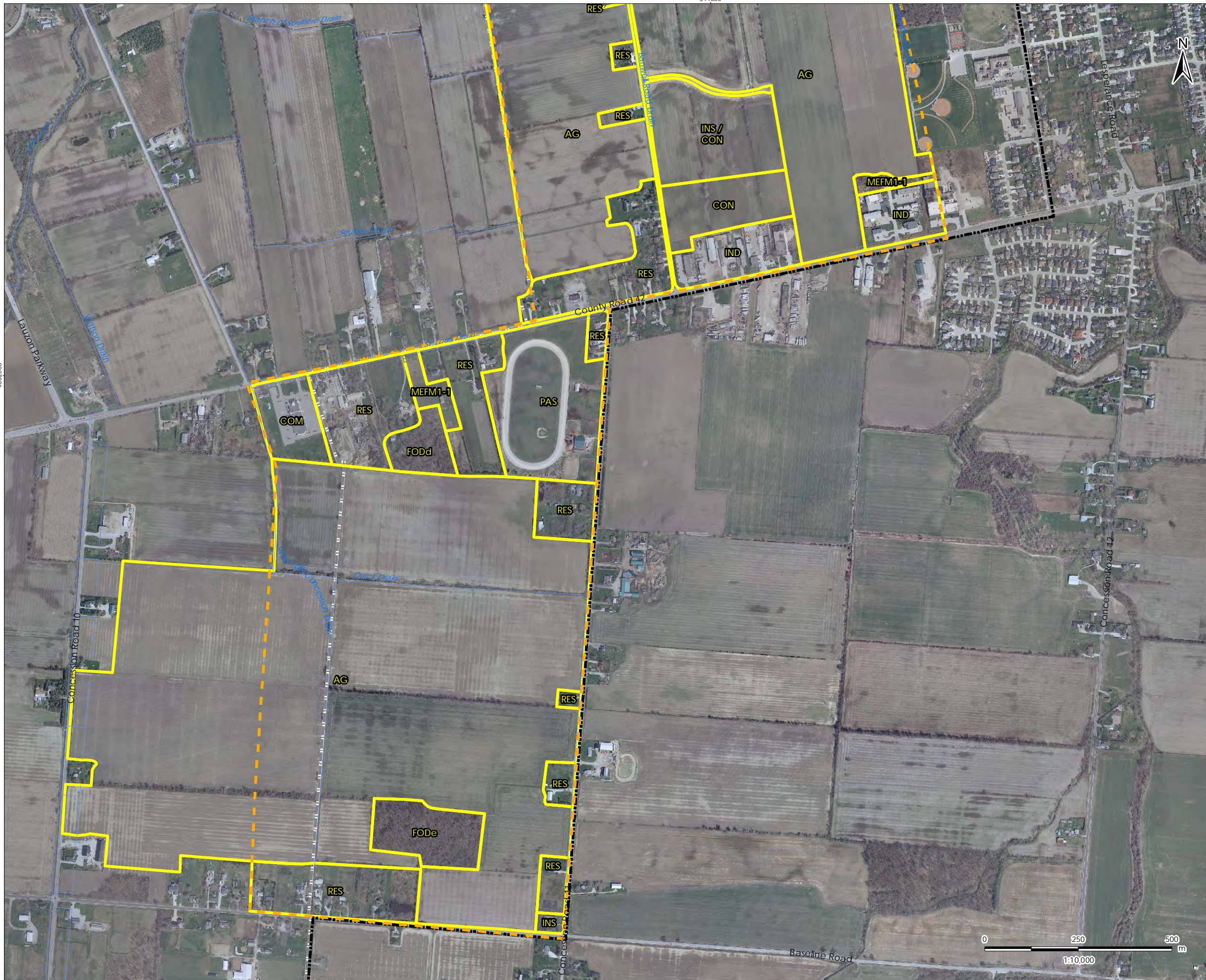
City of Windsor
Upper Little River Stormwater
and Drainage Master Plan

Figure No.

5-8

Title

Roadside Ecological
Land Classification



Appendix D.5: 160311265 Plant Species List (Stantec)

| LATIN NAME | | COMMON NAME | COEFFICIENT OF CONSERVATISM | WETNESS INDEX | WEEDINESS INDEX | PROVINCIAL STATUS | COSSARO STATUS | COSEWIC STATUS |
|----------------------------|--|----------------------------------|-----------------------------|---------------|-----------------|-------------------|----------------|----------------|
| <u>GYMNOSPERMS</u> | | <u>CONIFERS</u> | | | | | | |
| Cupressaceae | | Cedar Family | | | | | | |
| <i>Juniperus</i> | <i>virginiana</i> | Eastern Red Cedar | | | | S5 | | |
| <i>Thuja</i> | <i>occidentalis</i> | Eastern White Cedar | 4 | -3 | | S5 | | |
| <u>DICOTYLEDONS</u> | | <u>DICOTS</u> | | | | | | |
| Aceraceae | | Maple Family | | | | | | |
| <i>Acer</i> | <i>negundo</i> | Manitoba Maple | 0 | -2 | | S5 | | |
| <i>Acer</i> | <i>saccharinum</i> | Silver Maple | 5 | -3 | | S5 | | |
| <i>Acer</i> | <i>saccharum</i> ssp. <i>saccharum</i> | Sugar Maple | 4 | 3 | | S5 | | |
| <i>Acer</i> X | <i>freemanii</i> | Freeman's Maple | | | | | | |
| Amaranthaceae | | Amaranth Family | | | | | | |
| <i>Amaranthus</i> | <i>retroflexus</i> | Green Amaranth | | 2 | -1 | SE5 | | |
| Anacardiaceae | | Sumac or Cashew Family | | | | | | |
| <i>Rhus</i> | <i>typhina</i> | Staghorn Sumac | 1 | 5 | | S5 | | |
| Apiaceae | | Carrot or Parsley Family | | | | | | |
| <i>Daucus</i> | <i>carota</i> | Wild Carrot | | 5 | -2 | SE5 | | |
| Asclepiadaceae | | Milkweed Family | | | | | | |
| <i>Asclepias</i> | <i>syriaca</i> | Common Milkweed | 0 | 5 | | S5 | | |
| Asteraceae | | Composite or Aster Family | | | | | | |
| <i>Achillea</i> | <i>millefolium</i> ssp. <i>millefolium</i> | Common Yarrow | | 3 | -1 | SE? | | |
| <i>Ambrosia</i> | <i>artemisiifolia</i> | Common Ragweed | 0 | 3 | | S5 | | |
| <i>Ambrosia</i> | <i>trifida</i> | Giant Ragweed | 0 | -1 | | S5 | | |
| <i>Aster</i> | <i>species</i> | Aster species | | | | | | |
| <i>Aster</i> | <i>lanceolatus</i> ssp. <i>lanceolatus</i> | Tall White Aster | 3 | -3 | | S5 | | |
| <i>Aster</i> | <i>lateriflorus</i> var. <i>lateriflorus</i> | Calico Aster | 3 | -2 | | S5 | | |
| <i>Cirsium</i> | <i>arvense</i> | Canada Thistle | | 3 | -1 | SE5 | | |
| <i>Crepis</i> | <i>capillaris</i> | Smooth Hawk's Beard | | 5 | -1 | SE1 | | |
| <i>Hieracium</i> | <i>caespitosum</i> | Field Hawkweed | | 5 | -2 | SE5 | | |
| <i>Lactuca</i> | <i>serriola</i> | Prickly Lettuce | | 0 | -1 | SE5 | | |
| <i>Solidago</i> | <i>canadensis</i> | Canada Goldenrod | 1 | 3 | | S5 | | |
| <i>Sonchus</i> | <i>arvensis</i> ssp. <i>arvensis</i> | Field Sow-thistle | | | | SE5 | | |

Appendix D.5: 160311265 Plant Species List (Stantec)

| LATIN NAME | | COMMON NAME | COEFFICIENT OF CONSERVATISM | WETNESS INDEX | WEEDINESS INDEX | PROVINCIAL STATUS | COSSARO STATUS | COSEWIC STATUS |
|----------------------|--|--------------------------|-----------------------------|---------------|-----------------|-------------------|----------------|----------------|
| <i>Symphotrichum</i> | <i>novae-angliae</i> | New England Aster | 2 | -3 | | S5 | | |
| <i>Taraxacum</i> | <i>officinale</i> | Common Dandelion | | 3 | -2 | SE5 | | |
| Betulaceae | | Birch Family | | | | | | |
| <i>Ostrya</i> | <i>virginiana</i> | Hop Hornbeam | 4 | 4 | | S5 | | |
| Brassicaceae | | Mustard Family | | | | | | |
| <i>Alliaria</i> | <i>petiolata</i> | Garlic Mustard | | 0 | -3 | SE5 | | |
| Cornaceae | | Dogwood Family | | | | | | |
| <i>Cornus</i> | <i>alternifolia</i> | Alternate-leaved Dogwood | 6 | 5 | | S5 | | |
| Dipsacaceae | | Teasel Family | | | | | | |
| <i>Dipsacus</i> | <i>fullonum</i> ssp. <i>sylvestris</i> | Wild Teasel | | 5 | -1 | SE5 | | |
| Fabaceae | | Pea Family | | | | | | |
| <i>Lotus</i> | <i>corniculatus</i> | Bird's-foot Trefoil | | 1 | -2 | SE5 | | |
| <i>Trifolium</i> | <i>pratense</i> | Red Clover | | 2 | -2 | SE5 | | |
| Fagaceae | | Beech Family | | | | | | |
| <i>Fagus</i> | <i>grandifolia</i> | American Beech | 6 | 3 | | S5 | | |
| <i>Quercus</i> | <i>macrocarpa</i> | Bur Oak | 5 | 1 | | S5 | | |
| Juglandaceae | | Walnut Family | | | | | | |
| <i>Carya</i> | <i>ovata</i> var. <i>ovata</i> | Shagbark Hickory | 6 | 3 | | S5 | | |
| <i>Juglans</i> | <i>nigra</i> | Black Walnut | 5 | 3 | | S4 | | |
| Moraceae | | Mulberry Family | | | | | | |
| <i>Morus</i> | <i>alba</i> | White Mulberry | | 0 | -3 | SE5 | | |
| Oleaceae | | Olive Family | | | | | | |
| <i>Fraxinus</i> | <i>americana</i> | White Ash | 4 | 3 | | S5 | | |
| <i>Syringa</i> | <i>vulgaris</i> | Common Lilac | | 5 | -2 | SE5 | | |
| Polygonaceae | | Smartweed Family | | | | | | |
| <i>Rumex</i> | <i>pallidus</i> | White Dock | | | | SE1? | | |
| Rhamnaceae | | Buckthorn Family | | | | | | |
| <i>Rhamnus</i> | <i>cathartica</i> | Common Buckthorn | | 3 | -3 | SE5 | | |

Appendix D.5: 160311265 Plant Species List (Stantec)

| LATIN NAME | | COMMON NAME | COEFFICIENT OF CONSERVATISM | WETNESS INDEX | WEEDINESS INDEX | PROVINCIAL STATUS | COSSARO STATUS | COSEWIC STATUS |
|-----------------------|--|---------------------------|-----------------------------|---------------|-----------------|-------------------|----------------|----------------|
| Rosaceae | | Rose Family | | | | | | |
| <i>Amelanchier</i> | <i>laevis</i> | Smooth Juneberry | 5 | 5 | | S5 | | |
| <i>Prunus</i> | <i>pensylvanica</i> | Pin Cherry | 3 | 4 | | S5 | | |
| <i>Rubus</i> | <i>species</i> | | | | | | | |
| Salicaceae | | Willow Family | | | | | | |
| <i>Populus</i> | <i>deltoides</i> ssp. <i>deltoides</i> | Eastern Cottonwood | 4 | -1 | | SU | | |
| <i>Populus</i> | <i>tremuloides</i> | Trembling Aspen | | 0 | | S5 | | |
| <i>Salix</i> | <i>species</i> | Willow species | | | | | | |
| Tiliaceae | | Linden Family | | | | | | |
| <i>Tilia</i> | <i>americana</i> | American Basswood | 4 | 3 | | S5 | | |
| Ulmaceae | | Elm Family | | | | | | |
| <i>Ulmus</i> | <i>americana</i> | White Elm | 3 | -2 | | S5 | | |
| Vitaceae | | Grape Family | | | | | | |
| <i>Parthenocissus</i> | <i>inserta</i> | Inserted Virginia-creeper | 3 | 3 | | S5 | | |
| <i>Vitis</i> | <i>riparia</i> | Riverbank Grape | 0 | -2 | | S5 | | |
| MONOCOTYLEDONS | | MONOCOTS | | | | | | |
| Liliaceae | | Lily Family | | | | | | |
| <i>Asparagus</i> | <i>officinalis</i> | Garden Asparagus | | 3 | -1 | SE5 | | |
| Poaceae | | Grass Family | | | | | | |
| <i>Alopecurus</i> | <i>pratensis</i> | Meadow Foxtail | | -3 | -1 | SE5 | | |
| <i>Bromus</i> | <i>inermis</i> ssp. <i>inermis</i> | Awnless Brome | | 5 | -3 | SE5 | | |
| <i>Dactylis</i> | <i>glomerata</i> | Orchard Grass | | 3 | -1 | SE5 | | |
| <i>Echinochloa</i> | <i>crusgalli</i> | Common Barnyard Grass | | -3 | -1 | SE5 | | |
| <i>Phalaris</i> | <i>arundinacea</i> | Reed Canary Grass | 0 | -4 | | S5 | | |
| Typhaceae | | Cattail Family | | | | | | |
| <i>Typha</i> | <i>angustifolia</i> | Narrow-leaved Cattail | 3 | -5 | | S5 | | |
| <i>Typha</i> | <i>latifolia</i> | Broad-leaved Cattail | 3 | -5 | | S5 | | |

FLORISTIC SUMMARY & ASSESSMENT

Species Diversity

| | | |
|------------------------|-----------|-----|
| <i>Total Species:</i> | 53 | |
| <i>Native Species:</i> | 31 | 58% |
| <i>Exotic Species</i> | 22 | 42% |
| <i>S1-S3 Species</i> | 0 | 0% |
| <i>S4 Species</i> | 1 | 3% |
| <i>S5 Species</i> | 29 | 97% |

Co-efficient of Conservatism and Floristic Quality Index

| | | |
|--|------------|-----|
| <i>Co-efficient of Conservatism (CC) (average)</i> | 3.0 | |
| <i>CC 0 to 3 lowest sensitivity</i> | 16 | 55% |
| <i>CC 4 to 6 moderate sensitivity</i> | 13 | 45% |
| <i>CC 7 to 8 high sensitivity</i> | 0 | 0% |
| <i>CC 9 to 10 highest sensitivity</i> | 0 | 0% |
| Floristic Quality Index (FQI) | 16 | |

Presence of Weedy & Invasive Species

| | | |
|---|-------------|-----|
| <i>mean weediness</i> | -1.7 | |
| <i>weediness = -1 low potential invasiveness</i> | 10 | 50% |
| <i>weediness = -2 moderate potential invasiveness</i> | 6 | 30% |
| <i>weediness = -3 high potential invasiveness</i> | 4 | 20% |

Presence of Wetland Species

| | | |
|------------------------------|------------|-----|
| <i>average wetness value</i> | 1.3 | |
| <i>upland</i> | 10 | 20% |
| <i>facultative upland</i> | 19 | 38% |
| <i>facultative</i> | 8 | 16% |
| <i>facultative wetland</i> | 11 | 22% |
| <i>obligate wetland</i> | 2 | 4% |



Legend

-  Study Area
-  Field Work Extents

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
 3. Orthoimagery © Essex Region Conservation Authority.



September, 2011
160311265

Client/Project
Essex Region Conservation Authority
Upper Little River EA

Figure No.
1

Title
Site Plan 1



Stantec

(A) Commercial property in gravel ground, dominated by Phrag; open lawn (w/ Bludora). Tree cover throughout, including
 - ACESACC, elm, Cottonwood, DOPTREMI
 - VITRIPA PIC# 1031-1033

Tile #

(12) Riparian - drainage ditch;
 - white cedar, Silver maple ~ 70% cover, Standing
 - Phrag. - reed canary. - milkweed Water
 - VITRIPA - Calico aster - Culverts
 - SOLCANA - White aster Pictures # 1023-1025

(13) open ditch ~ 2m wide, ~ 0.7m deep, 60% veg cover along side
 Dominantly Phrag
 PICS # - 1026-1028

(*) CHIMNEY SWIFTS OBSERVED (*)
 ~ 10 birds.

(14) ditch along railroad tracks - 100% Phrag; so dense, cannot see anything
 PICS # - 1029-1030
 - TUUU.
 - Monarch

(15) ~ 40% Veg cover (Forb), new england & tall white aster, fox tail, VITRIPA
 water ~ 0.5m deep, slow moving, large culverts.
 PICS # 1037-1038

(16) Follows all along Con 8 - Heavy Phrag 100% cover -
 Cant see any standing or flowing water.

Designed by:

Checked by:



ELC SITE: *Windor* POLYGON: *1-1*
 SURVEYOR(S): *MCO & MAL* DATE: *Sept 28, 2011* UTME:
 START: *2:25* END: *2:30* UTMZ: UTMN:

POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|---|--|--|--|--|-------------------------------------|
| <input checked="" type="checkbox"/> TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE | <input type="checkbox"/> NATURAL | <input type="checkbox"/> PLANKTON | <input type="checkbox"/> LAKE |
| <input type="checkbox"/> WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> RIVERINE | <input checked="" type="checkbox"/> CULTURAL | <input type="checkbox"/> SUBMERGED | <input type="checkbox"/> POND |
| <input type="checkbox"/> AQUATIC | <input type="checkbox"/> PARENT MIN. | <input type="checkbox"/> BOTTOMLAND | | <input type="checkbox"/> FLOATING-LVD. | <input type="checkbox"/> RIVER |
| | <input type="checkbox"/> ACIDIC BEDRK. | <input type="checkbox"/> TERRACE | | <input type="checkbox"/> GRAMINOID | <input type="checkbox"/> STREAM |
| | <input type="checkbox"/> BASIC BEDRK. | <input checked="" type="checkbox"/> VALLEY SLOPE | | <input type="checkbox"/> FORB | <input type="checkbox"/> MARSH |
| | | <input type="checkbox"/> TABLELAND | | <input type="checkbox"/> LICHEN | <input type="checkbox"/> SWMAP |
| | | <input type="checkbox"/> ROLL. UPLAND | | <input type="checkbox"/> BRYOPHYTE | <input type="checkbox"/> FEN |
| | | <input type="checkbox"/> CLIFF | | <input type="checkbox"/> DECIDUOUS | <input type="checkbox"/> BOG |
| | | <input type="checkbox"/> TALUS | | <input type="checkbox"/> CONIFEROUS | <input type="checkbox"/> BARREN |
| | | <input type="checkbox"/> CREVICE / CAVE | | <input type="checkbox"/> MIXED | <input type="checkbox"/> MEADOW |
| | | <input type="checkbox"/> ALVAR | | | <input type="checkbox"/> PRAIRIE |
| | | <input type="checkbox"/> ROCKLAND | | | <input type="checkbox"/> THICKET |
| | | <input type="checkbox"/> BEACH / BAR | | | <input type="checkbox"/> SAVANNAH |
| | | <input type="checkbox"/> SAND DUNE | | | <input type="checkbox"/> WOODLAND |
| | | <input type="checkbox"/> BLUFF | | | <input type="checkbox"/> FOREST |
| | | | | | <input type="checkbox"/> PLANTATION |

TAND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|-------------|------------|----------|--|
| CANOPY | / | / | |
| SUB-CANOPY | / | / | |
| UNDERSTOREY | / | / | |
| GRD. LAYER | <i>5-7</i> | <i>4</i> | <i>Goldenrods, Asters,</i> |

TCODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
 VR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

TAND COMPOSITION: *NA* BA:

SIZE CLASS ANALYSIS:

| | <10 | 10 - 24 | 25 - 50 | >50 |
|----------------|-----|---------|---------|-----|
| TANDING SNAGS: | <10 | 10 - 24 | 25 - 50 | >50 |
| EADFALL/LOGS: | <10 | 10 - 24 | 25 - 50 | >50 |

UNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

OIL ANALYSIS:

EXTURE: *NA* DEPTH TO MOTTLES/GLEY g= G=
 OISTURE: DEPTH OF ORGANICS: (cm)
 OMOGENEOUS / VARIABLE DEPTH TO BEDROCK: (cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: *Cultural* CODE: *Cu*
 COMMUNITY SERIES: *Cultural Meadow* CODE: *CUM*
 OSITE: *Mineral Cultural Meadow* CODE: *CUM1*
 GETATION TYPE: *Old Field Meadow Type* CODE: *CUM1-1*

INCLUSION CODE:
 COMPLEX CODE:

idence of Disturbance / Notes:
- Bordered by Phrag. - 10m into habitat, larger CUM1-1 cover adjacent to ind./com. area. Pic # 1034-1036

ELC SITE: *CUM1-1a* POLYGON:
 SURVEYOR(S):
 COMMUNITY DESCRIPTION & CLASSIFICATION: DATE:

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. | |
|--------------------------|-------|---|---|---|-------|--------------|-------|---|---|---|-------|--|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | | |
| <i>White aster</i> | | | | | | | | | | | | |
| <i>New England Aster</i> | | | | | | | | | | | | |
| <i>Phrag</i> | | | | | | | | | | | | |
| <i>SOLICARIA</i> | | | | | | | | | | | | |
| <i>BARCARO</i> | | | | | | | | | | | | |

Page ___ of ___
 Signature: *Hatcheva* (Field Personnel)
 Quality Control: This form is complete & legible
 Signature: _____ (Project Manager)



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 1 – 70 Southgate Drive
 Guelph, ON
 Canada N1G 4P5
 Tel: (519) 836-6050
 Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|----------------------------|---------------------------|---------------------|----------------------|---------------------|--------------------------------------|
| Weather Conditions: | TEMP (°C): <i>17°C</i> | WIND: <i>2-3</i> | CLOUD: <i>90%</i> | PPT: <i>None</i> | PPT (in last 24 hrs): <i>Rain</i> |
|----------------------------|---------------------------|---------------------|----------------------|---------------------|--------------------------------------|

ELC Polygon: # *1-1* Visual Assessment: Roadside, no access

Physical Assessment: Walk through feature

Extent of Physical Investigation of Feature: Entire / Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

Y* / N / Unknown, no access (**if yes, describe in table below*)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
|-----|---------------------|-----------|-----------------------------|
| | | | |
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?

Y* / N / Unknown, no access (**if yes, describe in table below*)

[i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
|-----|---------|-----------|-----|-----------|-----------------------------|
| | | | | | |
| | | | | | |

Presence of Stick Nests: Contains large stick nests?

Y* / N / Unknown, no access (**if yes, describe in table below*)

STICK NEST(S) IDENTIFIED

| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
|-----|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| | | | | | | |
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

Y* / N / Unknown, no access (**if yes, describe in table below*)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
|-----|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| | | | | | | |
| | | | | | | |

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

| |
|--|
| |
| |
| |
| |

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/iden; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)



Train tracks in continuous treeline

Legend

-  Study Area
-  Field Work Extents

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
 3. Orthoimagery © Essex Region Conservation Authority.



September, 2011
160311265

Client/Project
Essex Region Conservation Authority
Upper Little River EA

Figure No.
2

Title
Site Plan 2

ELC SITE: Windsor POLYGON: 2-1
 SURVEYOR(S): MCO & NAL DATE: Sept 28, 2011
 START: 3:21 END: 3:33 UTMZ: UTMN:

POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|------------------------|--|--|---|--|---|
| TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE | <input checked="" type="checkbox"/> NATURAL | <input type="checkbox"/> PLANKTON | <input type="checkbox"/> LAKE |
| WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> BOTTOMLAND <input checked="" type="checkbox"/> TERRACE | <input type="checkbox"/> CULTURAL | <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. | <input type="checkbox"/> POND |
| AQUATIC | <input type="checkbox"/> PARENT MIN. | <input type="checkbox"/> VALLEY SLOPE <input type="checkbox"/> TABLELAND | | <input type="checkbox"/> GRAMINOID <input type="checkbox"/> FORB | <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM |
| | <input type="checkbox"/> ACIDIC BEDRK. | <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF | | <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE | <input type="checkbox"/> MARSH <input type="checkbox"/> SWMAP |
| | <input type="checkbox"/> BASIC BEDRK. | <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE | | <input checked="" type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS | <input type="checkbox"/> FEN <input type="checkbox"/> BOG |
| SITE | <input type="checkbox"/> CARB. BEDRK. | <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND | COVER | <input type="checkbox"/> MIXED | <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW |
| OPEN WATER | | <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE | <input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB | | <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET |
| SHALLOW WATER | | <input type="checkbox"/> BLUFF | <input checked="" type="checkbox"/> TREED | | <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND |
| SURFICIAL DEP. BEDROCK | | | | | <input checked="" type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION |

TAND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|-------------|----|-----|--|
| CANOPY | 1 | 4 | WILMAMER > ACESACC > ACESASA > TILAMER |
| SUB-CANOPY | 2 | 3 | |
| UNDERSTOREY | / | / | |
| GRD. LAYER | / | / | |

CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
VR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

TAND COMPOSITION:

| SIZE CLASS ANALYSIS: | <10 | 10-24 | 25-50 | >50 |
|----------------------|-----|-------|-------|-----|
| SNAGS: | 0 | 0 | N | N |
| FALL/LOGS: | N | N | N | N |

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT
COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

SOIL ANALYSIS:

| | | | |
|------------------------|-----------------------|----|------|
| TEXTURE: | DEPTH TO MOTTLES/GLEY | g= | G= |
| DISTURBANCE: | DEPTH OF ORGANICS: | | (cm) |
| HOMOGENEOUS / VARIABLE | DEPTH TO BEDROCK: | | (cm) |

COMMUNITY CLASSIFICATION:

| | |
|--|--------------|
| COMMUNITY CLASS: FOREST | CODE: FO |
| COMMUNITY SERIES: Deciduous forest | CODE: FOD |
| LOCATION: Fresh - Moist Lowland Dec. forest | CODE: FOD7 |
| VEGETATION TYPE: Moist white Elm lowland Dec. forest | CODE: FOD7-1 |

Inclusion: CODE:
Complex: CODE:
 Evidence of Disturbance / Notes:
 - cannot see subcanopy - Grd Layer species composition from Roadside
 - Stream running through forest Pic. # 1041-1042.

ELC SITE: FOD7-1a
 POLYGON: DATE: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. |
|--------------|-------|---|---|---|-------|--------------|-------|---|---|---|-------|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | |
| ACESASA | R | | | | | VITRIPS | | | | | R |
| ACESACC | O | | | | | | | | | | |
| WILMAMER | O | | | | | | | | | | |
| TILAMER | R | | | | | | | | | | |
| BURDACK | | R | R | | | | | | | | |

Page ___ of ___
 Signature: Natalie Lara
 (Field Personnel)

Quality Control: This form is complete & legible
 Signature: _____
 (Project Manager)



Stantec Consulting Ltd.
 1 – 70 Southgate Drive
 Guelph, ON
 Canada N1G 4P5
 Tel: (519) 836-6050
 Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|----------------------------|--------------------------|--------------------|-----------------------|---------------------|--------------------------------------|
| Weather Conditions: | TEMP (°C): <i>17'</i> | WIND: <i>23</i> | CLOUD: <i>100%</i> | PPT: <i>None</i> | PPT (in last 24 hrs): <i>Rain</i> |
|----------------------------|--------------------------|--------------------|-----------------------|---------------------|--------------------------------------|

ELC Polygon: # _____ Visual Assessment: Roadside, no access Physical Assessment: Walk through feature

Extent of Physical Investigation of Feature: Entire / Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?
 Y* / N / Unknown, no access (**if yes, describe in table below*)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

| POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED | | | |
|---|---------------------|-----------|-----------------------------|
| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
| | | | |
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?
 Y* / N / Unknown, no access (**if yes, describe in table below*)
 [i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

| POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED | | | | | |
|--|---------|-----------|-----|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
| | | | | | |
| | | | | | |

Presence of Stick Nests: Contains large stick nests?
 Y* / N / Unknown, no access (**if yes, describe in table below*)

| STICK NEST(S) IDENTIFIED | | | | | | |
|--------------------------|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
| | | | | | | |
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
 Y* / N / Unknown, no access (**if yes, describe in table below*)

| SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED | | | | | | |
|---|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
| | | | | | | |
| | | | | | | |

| SPECIES OBSERVATIONS (list species and type of observation & indicate on map) |
|---|
| |
| |
| |
| |

C=A=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)

ELC SITE: Windsor POLYGON: 2-2
 SURVEYOR(S): MCDONALD DATE: Sept 28, 2011 TIME:
 START: 4:20 END: 4:33 UTMZ: UTMN:

POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|---|--|---|--|---|--|
| <input checked="" type="checkbox"/> TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND | <input type="checkbox"/> NATURAL <input checked="" type="checkbox"/> CULTURAL | <input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input checked="" type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED | <input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input type="checkbox"/> SWMAP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input checked="" type="checkbox"/> MEADOW <input type="checkbox"/> ALVAR <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION |
| <input type="checkbox"/> WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL. UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF | <input type="checkbox"/> COVER <input checked="" type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input type="checkbox"/> TREED | | |
| <input type="checkbox"/> AQUATIC | <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK. | | | | |
| SITE | | | | | |
| <input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input checked="" type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> BEDROCK | | | | | |

TAND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|---------------|-----|-----|---|
| 1 CANOPY | / | / | |
| 2 SUB-CANOPY | / | / | |
| 3 UNDERSTOREY | / | / | |
| 4 GRD. LAYER | 5.7 | 4 | TALL WHITE ASTER >> SUNNY WILD CANOPY |

T CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
 VR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

TAND COMPOSITION: BA:

| SIZE CLASS ANALYSIS: | <10 | 10-24 | 25-50 | >50 |
|----------------------|-----|-------|-------|-----|
| TANDING SNAGS: | <10 | 10-24 | 25-50 | >50 |
| EADFALL/LOGS: | <10 | 10-24 | 25-50 | >50 |

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT
 COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

OIL ANALYSIS:

| | | | |
|------------------------|-----------------------|----|------|
| TEXTURE: | DEPTH TO MOTTLES/GLEY | g= | G= |
| MOISTURE: | DEPTH OF ORGANICS: | | (cm) |
| HOMOGENEOUS / VARIABLE | DEPTH TO BEDROCK: | | (cm) |

COMMUNITY CLASSIFICATION:

| | | | |
|-------------------|---------------------------------|-------|--------|
| COMMUNITY CLASS: | Cultural | CODE: | Cu |
| COMMUNITY SERIES: | Cultural meadow | CODE: | CUM |
| POSITE: | Mineral Cultural Meadow | CODE: | CUM1 |
| VEGETATION TYPE: | Dry-Moist Old field meadow type | CODE: | CUM1-1 |
| INCLUSION | | CODE: | |
| COMPLEX | | CODE: | |

Incidence of Disturbance / Notes:
 - abandoned field adjacent to Green Amaranth dominated field → overgrown; low species composition
 RC# 1051

ELC SITE: POLYGON: CUM1-1b
 SURVEYOR(S): DATE:

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. | | |
|------------------|-------|---|---|---|-------|--------------|-------|---|---|---|-------|--|--|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | | | |
| SOLCANA | | | | | | | | | | | | | |
| SOLIDAGOSP | | | | | | | | | | | | | |
| TALL WHITE ASTER | | | | | | | | | | | | | |
| N.E. ASTER | | | | | | | | | | | | | |
| Phrag | | | | | | | | | | | | | |
| Reed Panam | | | | | | | | | | | | | |
| Can. Thistle | | | | | | | | | | | | | |
| Mixed reed | | | | | | | | | | | | | |
| fox tail | | | | | | | | | | | | | |
| corn dandelion | | | | | | | | | | | | | |
| Hawkweed | | | | | | | | | | | | | |
| dock sp | | | | | | | | | | | | | |
| Yarrow | | | | | | | | | | | | | |
| Green Amaranth | | | | | | | | D | D | | | | |

Page ___ of ___ Signature: Natal Kearns (Field Personnel)
 Quality Control: This form is complete & legible Signature: (Project Manager)



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 Canada N1G 4P5
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 Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|---------------------|--------------------|------------|----------------|--------------|-------------------------------|
| Weather Conditions: | TEMP (°C): 17°C | WIND: 2 | CLOUD: 100% | PPT: Rain | PPT (in last 24 hrs): Rain |
|---------------------|--------------------|------------|----------------|--------------|-------------------------------|

ELC Polygon: # 2-2 Visual Assessment: -Roadside, no access

Physical Assessment: -Walk through feature

Extent of Physical Investigation of Feature: -Entire / -Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

-Y* / -N / -Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
|-----|---------------------|-----------|-----------------------------|
| | | | |
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?

-Y* / -N / -Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
|-----|---------|-----------|-----|-----------|-----------------------------|
| | | | | | |
| | | | | | |

Presence of Stick Nests: Contains large stick nests?

-Y* / -N / -Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
|-----|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| | | | | | | |
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

-Y* / -N / -Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
|-----|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| | | | | | | |
| | | | | | | |

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

| |
|--|
| |
| |
| |
| |
| |

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; Sf=other sign; TK=track; VO=vocalization

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)

ELC SITE: Windsor POLYGON: 2-3
 SURVEYOR(S): MCOFNAL DATE: Sept 29, 2011 UTME:
 START: 12:40 END: 1:00 UTMZ: UTMN:

POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|-------------|--|---|---|---|--|
| TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE | <input type="checkbox"/> NATURAL | <input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED | <input type="checkbox"/> LAKE <input type="checkbox"/> POND |
| WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE | <input checked="" type="checkbox"/> CULTURAL | <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID | <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM |
| AQUATIC | <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. | <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL. UPLAND | | <input checked="" type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE | <input type="checkbox"/> MARSH <input type="checkbox"/> SWMAP <input type="checkbox"/> FEN |
| SITE | <input type="checkbox"/> BASIC BEDRK. | <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE | COVER | <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR | <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input checked="" type="checkbox"/> MEADOW |
| OPEN WATER | <input type="checkbox"/> CARB. BEDRK. | <input type="checkbox"/> BLUFF | <input type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input type="checkbox"/> TREED | <input type="checkbox"/> MIXED | <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION |

TAND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|-------------|----|-----|--|
| CANOPY | | | |
| SUB-CANOPY | | | |
| UNDERSTOREY | | | |
| GRD. LAYER | | | |

T CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
VR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

TAND COMPOSITION:

| SIZE CLASS ANALYSIS: | <10 | 10 - 24 | 25 - 50 | >50 |
|----------------------|-----|---------|---------|-----|
| TANDING SNAGS: | <10 | 10 - 24 | 25 - 50 | >50 |
| EADFALL/LOGS: | <10 | 10 - 24 | 25 - 50 | >50 |

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

OIL ANALYSIS:

| | | | |
|-----------------------|-----------------------|----|------|
| EXTURE: | DEPTH TO MOTTLES/GLEY | g= | G= |
| OSTURE: | DEPTH OF ORGANICS: | | (cm) |
| OMOGENEOUS / VARIABLE | DEPTH TO BEDROCK: | | (cm) |

COMMUNITY CLASSIFICATION:

| | | | |
|-------------------|------------------|-------|-------|
| COMMUNITY CLASS: | Cultural | CODE: | Cu |
| COMMUNITY SERIES: | Cultural Meadow | CODE: | CUM |
| OSITE: | Mineral Cultural | CODE: | CUM1 |
| GETATION TYPE: | Meadow | CODE: | CUM1A |
| INCLUSION | | CODE: | |
| COMPLEX | | CODE: | |

idence of Disturbance / Notes:

Small field w predominantly Barnyard Grass

ELC SITE: CUM1A POLYGON: DATE: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. |
|----------------|-------|---|---|---|-------|--------------|-------|---|---|---|-------|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | |
| BARNYARD GRASS | | | | | D | | | | | | |
| Forstail | | | | | R | | | | | | |
| Asters | | | | | R | | | | | | |
| DACCA | | | | | R | | | | | | |
| Goldenrods | | | | | R | | | | | | |

Page ___ of ___

Signature:

Natalie Lee
(Field Personnel)

Quality Control: This form is complete & legible .

Signature:

(Project Manager)



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Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|----------------------------|------------|-------|--------|------|-----------------------|
| Weather Conditions: | TEMP (°C): | WIND: | CLOUD: | PPT: | PPT (in last 24 hrs): |
|----------------------------|------------|-------|--------|------|-----------------------|

ELC Polygon: # Visual Assessment: -Roadside, no access Physical Assessment: -Walk through feature

Extent of Physical Investigation of Feature: -Entire / -Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

| POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED | | | |
|---|---------------------|-----------|-----------------------------|
| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
| | | | |
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)
 [i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

| POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED | | | | | |
|--|---------|-----------|-----|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
| | | | | | |
| | | | | | |

Presence of Stick Nests: Contains large stick nests?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

| STICK NEST(S) IDENTIFIED | | | | | | |
|--------------------------|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
| | | | | | | |
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

| SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED | | | | | | |
|---|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
| | | | | | | |
| | | | | | | |

| SPECIES OBSERVATIONS (list species and type of observation & indicate on map) |
|---|
| |
| |
| |
| |

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)



Stantec

Title 2

- (17) Willows, Phrag dominant along edges, New England Aster, Goldenrods etc.
Red Cedar, VITRIPA. Photos: 1039, 1040

- no visible standing water → shoulder gravel moving in

- (18) ^{Pics*} 1043-1044 - Drainage ditch w white Elm, Pin cherry
Small stones along drainage edge, Bur oak

- (19) (A) Pics* 1045-1047
- water crossing goes through soy coop; flows w water from (18) → white Elm
(see other side)

- (20) Scrubby/Phrag dominated; filled in, no open culverts, scooped out

- (21) open stream, white elm, sugar maple, silver maple, vit Ripa
bordering along train tracks, following water/drainage
- recently cut → some phrag, goldenrods & asters.
photo: 1048-1051

Designed by:

Checked by:



22 pic 1052-1053

- water course / ditch recently cut; mostly Phrag, ~65% cover

→ AG (mystery plant, photos 1054-1055)

↓
pics 1056-1058
of plant

↓
of crop

19 B - flowing water course, pics 1060-1062

~80% veg cover; Sugar maple, dominated by golden rod,
Some PTHRAG, tall white aster, grasses.

- Primrose; small rocks along culvert

C Flowing water course pics 1063-1064

Shubby cover → dogwood, goldernod, phrag ~50% veg cover; along
(veg) banks = 90% veg

- small rocks along culvert.

Polygon 23; reed canopy? took sp



Legend

- Study Area
- Field Work Extents

*Follow dotted line
Stop where intersects w
yellow boundary*

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
 3. Orthoimagery © Essex Region Conservation Authority.



Stantec

September, 2011
160311265

Client/Project
Essex Region Conservation Authority
Upper Little River EA

Figure No.
3

Title
Site Plan 3

R1C 1073

ELC SITE: Windsor POLYGON: 3-1
 SURVEYOR(S): MCO & NAL DATE: Sept 29, 2011
 START: 10:30 END: 11:00
 UTME: UTMN:

POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|-------------|--|---|---|---|--|
| TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE | <input checked="" type="checkbox"/> NATURAL | <input type="checkbox"/> PLANKTON | <input type="checkbox"/> LAKE |
| WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> RIVERINE | <input type="checkbox"/> CULTURAL | <input type="checkbox"/> SUBMERGED | <input type="checkbox"/> POND |
| AQUATIC | <input type="checkbox"/> PARENT MIN. | <input type="checkbox"/> BOTTOMLAND | | <input type="checkbox"/> FLOATING-LVD. | <input type="checkbox"/> RIVER |
| | <input type="checkbox"/> ACIDIC BEDRK. | <input type="checkbox"/> TERRACE | | <input type="checkbox"/> GRAMINOID | <input type="checkbox"/> STREAM |
| | <input type="checkbox"/> BASIC BEDRK. | <input type="checkbox"/> VALLEY SLOPE | | <input type="checkbox"/> FORB | <input type="checkbox"/> MARSH |
| | <input type="checkbox"/> CARB. BEDRK. | <input checked="" type="checkbox"/> TABLELAND | | <input type="checkbox"/> LICHEN | <input type="checkbox"/> SWMAP |
| | | <input type="checkbox"/> ROLL UPLAND | | <input type="checkbox"/> BRYOPHYTE | <input type="checkbox"/> FEN |
| | | <input type="checkbox"/> CLIFF | | <input checked="" type="checkbox"/> DECIDUOUS | <input type="checkbox"/> BOG |
| | | <input type="checkbox"/> TALUS | | <input type="checkbox"/> CONIFEROUS | <input type="checkbox"/> BARREN |
| | | <input type="checkbox"/> CREVICE / CAVE | COVER | <input type="checkbox"/> MIXED | <input type="checkbox"/> MEADOW |
| | | <input type="checkbox"/> ALVAR | <input type="checkbox"/> OPEN | | <input type="checkbox"/> PRAIRIE |
| | | <input type="checkbox"/> ROCKLAND | <input type="checkbox"/> SHRUB | | <input type="checkbox"/> THICKET |
| | | <input type="checkbox"/> BEACH / BAR | <input checked="" type="checkbox"/> TREED | | <input type="checkbox"/> SAVANNAH |
| | | <input type="checkbox"/> SAND DUNE | | | <input type="checkbox"/> WOODLAND |
| | | <input type="checkbox"/> BLUFF | | | <input checked="" type="checkbox"/> FOREST |
| | | | | | <input type="checkbox"/> PLANTATION |

AND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE |
|-------------|-----|-----|--|
| CANOPY | 1 | 3 | OAK > ACESASA > Cottonwood > FRAMER |
| SUB-CANOPY | 2 | 4 | = ACESASA = COTTONWOOD = OAK |
| UNDERSTOREY | 3-4 | 2 | ACESASA = TILAMER > MULBERRY > SALIX SP. |
| GRD. LAYER | 5-7 | | only see edge species |

CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
 R CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

AND COMPOSITION:

| |
|---|
| BA: |
| E CLASS ANALYSIS: |
| ANDING SNAGS: |
| AD FALL/LOGS: |
| INDANCE CODES: |
| N=NONE R=RARE O=OCCASIONAL A=ABUNDANT |
| MM. AGE: |
| PIONEER YOUNG MID-AGE MATURE OLD GROWTH |

IL ANALYSIS:

| | | | |
|----------------------|-----------------------|----|------|
| ATURE: | DEPTH TO MOTTLES/GLEY | g= | G= |
| ISTURE: | DEPTH OF ORGANICS: | | (cm) |
| MOGENEOUS / VARIABLE | DEPTH TO BEDROCK: | | (cm) |

COMMUNITY CLASSIFICATION:

| | | | |
|-------------------|-------------------------------------|-------|--------|
| COMMUNITY CLASS: | Forest | CODE: | FD |
| COMMUNITY SERIES: | Deciduous Forest | CODE: | F0D |
| OSITE: | D-F - oak Maple Hickory dec. Forest | CODE: | F0D2 |
| ETATION TYPE: | D-F oak Hardwood Dec. Forest Type | CODE: | F0D2-4 |
| INCLUSION | | CODE: | |
| COMPLEX | | CODE: | |

ence of Disturbance / Notes:
 INC - BJA - This community bordered on west side has a steep drainage feature w high veg cover & standing water ~0.5m deep. Abundant dead wood on forest floor - could not see into forest for floristic

ELC SITE: POLYGON: DATE: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. |
|--------------|-------|---|---|---|-------|---------------|-------|---|---|---|-------|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | |
| TILAMER | | R | O | | | Rubus sp | | | | | |
| ACESASA | O | | O | | | Vine Creeper | | | | | |
| w. ELM | O | R | | | | VITRPA | | | | | |
| MULBEM | | | R | O | | Tall w. Aspen | | | | | |
| Cottonwood | O | O | | | | Locks foot | | | | | |
| POPREM | R | R | | | | SOLCANA | | | | | |
| FRAMER | R | O | O | | | | | | | | |
| Salix sp | R | R | | | | | | | | | |
| Bure oak | O | A | O | | | | | | | | |
| AM Beech | | | R | | | | | | | | |
| Bl. Walnut | R | R | O | | | | | | | | |
| Ironwood | | | R | R | | | | | | | |
| Hickory | | | R | O | | | | | | | |
| BUCKTHORN | | | R | R | | | | | | | |
| Salix sp | | | R | R | | | | | | | |
| SUM AC. | | | R | | | | | | | | |

Page ___ of ___ Signature: Malahara (Field Personnel)
 Quality Control: This form is complete & legible Signature: _____ (Project Manager)



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 1 - 70 Southgate Drive
 Guelph, ON
 Canada N1G 4P5
 Tel: (519) 836-6050
 Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|----------------------------|---------------------------|-------------------|----------------------|---------------------|--------------------------------------|
| Weather Conditions: | TEMP (°C): <i>17°C</i> | WIND: <i>2</i> | CLOUD: <i>80%</i> | PPT: <i>None</i> | PPT (in last 24 hrs): <i>Rain</i> |
|----------------------------|---------------------------|-------------------|----------------------|---------------------|--------------------------------------|

ELC Polygon: # *3* - (Visual Assessment: -Roadside, no access

Physical Assessment: -Walk through feature

Extent of Physical Investigation of Feature: -Entire / -Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

(i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows))

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
|-----|---------------------|-----------|-----------------------------|
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?

-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

(i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree))

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
|-----|---------|-----------|-----|-----------|-----------------------------|
| | | | | | |

Presence of Stick Nests: Contains large stick nests?

-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

STICK NEST(S) IDENTIFIED

| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
|-----|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
|-----|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| | | | | | | |

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

| |
|--|
| |
| |
| |
| |

C=A-scarers; DP=distinctive parts; FE=feeding evidence; FV=egg/vest; H=hibernacula; O=observed; SC=scat; S=seen; T=track; V=Vocalization

-walked along edge from old rail trail - indicated on map.

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)

ELC SITE: Windsor POLYGON: 3-2
 SURVEYOR(S): MCOENAL DATE: Sep 29, 2011 UTME:
 START: 11:00 END: 11:20 UTMZ: UTMN:

POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|--|--|---|--|---|---|
| <input checked="" type="checkbox"/> TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE | <input type="checkbox"/> NATURAL | <input type="checkbox"/> PLANKTON | <input type="checkbox"/> LAKE |
| <input type="checkbox"/> WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> RIVERINE | <input checked="" type="checkbox"/> CULTURAL | <input type="checkbox"/> SUBMERGED | <input type="checkbox"/> POND |
| <input type="checkbox"/> AQUATIC | <input type="checkbox"/> PARENT MIN. | <input type="checkbox"/> BOTTOMLAND | | <input type="checkbox"/> FLOATING-LVD. | <input type="checkbox"/> RIVER |
| | <input type="checkbox"/> ACIDIC BEDRK. | <input type="checkbox"/> TERRACE | | <input type="checkbox"/> GRAMINOID | <input type="checkbox"/> STREAM |
| | <input type="checkbox"/> BASIC BEDRK. | <input type="checkbox"/> VALLEY SLOPE | | <input type="checkbox"/> FORB | <input type="checkbox"/> MARSH |
| <input type="checkbox"/> OPEN WATER | <input type="checkbox"/> CARB. BEDRK. | <input type="checkbox"/> TABLELAND | | <input type="checkbox"/> LICHEN | <input type="checkbox"/> SWMAP |
| <input type="checkbox"/> SHALLOW WATER | | <input type="checkbox"/> ROLL. UPLAND | | <input type="checkbox"/> BRYOPHYTE | <input type="checkbox"/> FEN |
| <input checked="" type="checkbox"/> SURFICIAL DEP. | | <input type="checkbox"/> CLIFF | | <input checked="" type="checkbox"/> DECIDUOUS | <input type="checkbox"/> BOG |
| <input type="checkbox"/> BEDROCK | | <input type="checkbox"/> TALUS | | <input type="checkbox"/> CONIFEROUS | <input type="checkbox"/> BARREN |
| | | <input type="checkbox"/> CREVICE / CAVE | | <input type="checkbox"/> MIXED | <input type="checkbox"/> MEADOW |
| | | <input type="checkbox"/> ALVAR | COVER | | <input type="checkbox"/> PRAIRIE |
| | | <input type="checkbox"/> ROCKLAND | <input type="checkbox"/> OPEN | | <input checked="" type="checkbox"/> THICKET |
| | | <input type="checkbox"/> BEACH / BAR | <input checked="" type="checkbox"/> SHRUB | | <input type="checkbox"/> SAVANNAH |
| | | <input type="checkbox"/> SAND DUNE | <input type="checkbox"/> TREED | | <input type="checkbox"/> WOODLAND |
| | | <input type="checkbox"/> BLUFF | | | <input type="checkbox"/> FOREST |
| | | | | | <input type="checkbox"/> PLANTATION |

TAND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|---------------|-----|-----|---|
| 1 CANOPY | 2 | 1 | Cottonwood |
| 2 SUB-CANOPY | 3 | 3 | Service Berry > Man Maple > Lilac > Mulberry |
| 3 UNDERSTOREY | 4 | 3 | Service Berry > Man Maple > mac |
| 4 GRD. LAYER | 5-7 | 4 | SOLCANNA T.W. Aster > Ragweed |

T CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
VR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

TAND COMPOSITION:

| SIZE CLASS ANALYSIS: | A | <10 | R | 10-24 | N | 25-50 | N | >50 |
|----------------------|---|-----|---|-------|---|-------|---|-----|
| TANDING SNAGS: | N | <10 | N | 10-24 | N | 25-50 | N | >50 |
| EADFALL/LOGS: | N | <10 | N | 10-24 | N | 25-50 | N | >50 |

UNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT
MM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

OIL ANALYSIS:

| | | | |
|--------------------------|-----------------------|----|------|
| EXTURE: | DEPTH TO MOTTLES/GLEY | g= | G= |
| MOISTURE: | DEPTH OF ORGANICS: | | (cm) |
| MOHOMOGENEOUS / VARIABLE | DEPTH TO BEDROCK: | | (cm) |

COMMUNITY CLASSIFICATION:

| | | | |
|-------------------|--------------------------------|-------|--------|
| COMMUNITY CLASS: | Cultural | CODE: | CU |
| COMMUNITY SERIES: | Cultural Thicket | CODE: | CUT |
| OSITE: | Mineral Cultural Thicket | CODE: | CUT1 |
| EGETATION TYPE: | Service Berry Cultural Thicket | CODE: | CUT1-2 |
| INCLUSION | | CODE: | |
| COMPLEX | | CODE: | |

idence of Disturbance / Notes:
 along old rail trail - has a drainage ditch bordering east side of community - dry, disturbed & high gravel amounts on ground cover on west side.

ELC SITE: NOT IN STUDY AREA
 POLYGON: NOT IN STUDY AREA
 DATE: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. |
|---------------|-------|---|---|---|-------|--------------|-------|---|---|---|-------|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | |
| MAN MAPLE | | O | O | | | Red clover | | | | | O |
| SUMAC | | R | R | | | SOLCANNA | | | | | A |
| W. Cedar | | O | R | | | Mulberry | | | | | O |
| LILAC | | O | | | | DAC CLOVER | | | | | R |
| Mulberry | | O | | | | YARROW | | | | | R |
| Cotton | R | R | | | | BROINER | | | | | R |
| Service Berry | | O | O | | | T.W. Aster | | | | | A-O |
| | | | | | | Ragweed | | | | | A-O |
| | | | | | | cocksfoot | | | | | O |
| | | | | | | VITRIPA | | | | | R |
| | | | | | | VIRG GROPALY | | | | | R |
| | | | | | | Dock sp | | | | | R |
| | | | | | | N E Aster | | | | | R |

NOT IN S.A.

Page ___ of ___ Quality Control: This form is complete & legible
 Signature: _____ Signature: _____
 (Field Personnel) (Project Manager)



Stanter Consulting Ltd.
 1 – 70 Southgate Drive
 Guelph, ON
 Canada N1G 4P5
 Tel: (519) 836-6050
 Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stanter

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|----------------------------|--------------------------|-------------------|----------------------|---------------------|--------------------------------------|
| Weather Conditions: | TEMP (°C): <i>17°</i> | WIND: <i>2</i> | CLOUD: <i>80%</i> | PPT: <i>None</i> | PPT (in last 24 hrs): <i>Rain</i> |
|----------------------------|--------------------------|-------------------|----------------------|---------------------|--------------------------------------|

ELC Polygon: # *3-2* Visual Assessment: -Roadside, no access

Physical Assessment: -Walk through feature

Extent of Physical Investigation of Feature: -Entire / -Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

| POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED | | | |
|---|---------------------|-----------|-----------------------------|
| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
| | | | |
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)
 [i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

| POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED | | | | | |
|--|---------|-----------|-----|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
| | | | | | |
| | | | | | |

Presence of Stick Nests: Contains large stick nests?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

| STICK NEST(S) IDENTIFIED | | | | | | |
|--------------------------|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
| | | | | | | |
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

| SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED | | | | | | |
|---|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
| | | | | | | |
| | | | | | | |

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

- BLJA
- Monarch Butterfly

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SF=other sign; TK=track; VO=vocalization

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)



Stantec

TILE 3

(23)

West

East

Pic 1069 - 1070



Pic 1067 - 1068

- Dominated by Phrag along ditch, w narrow leaved Cattails
- adjacent to CUT / CUM habitat in Res area
- Standing water w 70-90% veg cover

- adjacent to Corn field
- standing water w 80% veg cover.

(24)

Drainage ditch all foxtail, some reed canopy
 - ~~open~~ no water, some small sections of pooling w Inwido.
 pic 1071

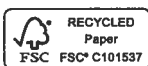
note

Pic 1071

wood piles → not in study area



Designed by:

Checked by:





Legend

-  Study Area
-  Field Work Extents
- Douglas
- E.C. Roy Expressway (east)
- Exit Banwell Road

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
3. Orthoimagery © Essex Region Conservation Authority.



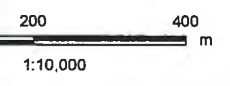
Stantec

September, 2011
160311265

Client/Project
Essex Region Conservation Authority
Upper Little River EA

Figure No.
4

Title
Site Plan 4



ELC SITE: *Windsor* POLYGON: *4-1*
 COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): *MCO ENAL* DATE: *Sept 28, 2011* UTME:
 START: *8:35* END: *8:50* UTMZ: UTMN:

OLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|------------------------|--|--|--|---|--|
| TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND | <input type="checkbox"/> NATURAL <input checked="" type="checkbox"/> CULTURAL | <input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input checked="" type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED | <input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input type="checkbox"/> SWMAP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input checked="" type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION |
| WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND <input type="checkbox"/> ROLL. UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE | | | |
| AQUATIC | <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK. | <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF | | | |
| SITE | | | COVER | | |
| OPEN WATER | | | <input checked="" type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input type="checkbox"/> TREED | | |
| SHALLOW WATER | | | | | |
| SURFICIAL DEP. BEDROCK | | | | | |

TAND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|-------------|-----------|----------|--|
| CANOPY | / | / | |
| SUB-CANOPY | / | / | |
| UNDERSTOREY | / | / | |
| GRD. LAYER | <i>47</i> | <i>3</i> | <i>GRASSES >> RAGWEED > THISTLE</i> |

F CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
 R CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

TAND COMPOSITION:

| BA: |
|--------------------|
| ZE CLASS ANALYSIS: |
| FANDING SNAGS: |
| ADFALL/LOGS: |
| UNDANCE CODES: |
| MM. AGE: |

SOIL ANALYSIS:

XTURE: *NA* DEPTH TO MOTTLES/GLEY g= G=
 DISTURE: DEPTH OF ORGANICS: (cm)
 MOGENEOUS / VARIABLE DEPTH TO BEDROCK: (cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: *Cultural* CODE: *CU*
 COMMUNITY SERIES: *Cultural Meadow* CODE: *CUM*
 OSITE: *Min. Cultural Meadow* CODE: *CUM1*
 GETATION TYPE: *ecosite* CODE: *CUM1*

INCLUSION CODE:
 COMPLEX CODE:

idence of Disturbance / Notes:
 - Highly disturbed, open bare ground throughout
 - High dirt mound w thistles dominant
 - tree line boundaries east side of field

ELC SITE: POLYGON: *CUM1b*
 COMMUNITY DESCRIPTION & CLASSIFICATION DATE: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. | |
|-----------------------|-------|---|---|---|-------|--------------|-------|---|---|---|-------|--|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | | |
| <i>Crepis Capill</i> | | | | | | | | | | | | |
| <i>LACTUCA SCAR</i> | | | | | | | | | | | | |
| <i>Field Saw This</i> | | | | | | | | | | | | |
| <i>reed can.</i> | | | | | | | | | | | | |
| <i>Phrag</i> | | | | | | | | | | | | |
| <i>Agrostis sp.</i> | | | | | | | | | | | | |
| <i>Corn. Rained</i> | | | | | | | | | | | | |
| <i>Canola</i> | | | | | | | | | | | | |
| <i>Garlic must.</i> | | | | | | | | | | | | |
| <i>Teasle</i> | | | | | | | | | | | | |
| <i>VITRIPS</i> | | | | | | | | | | | | |

Page ___ of ___ Signature: *Natahara* (Field Personnel)
 Quality Control: This form is complete & legible Signature: (Project Manager)



Stantec Consulting Ltd.
 1 – 70 Southgate Drive
 Guelph, ON
 Canada N1G 4P5
 Tel: (519) 836-6050
 Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|----------------------------|---------------------------|-------------------|-------------------------|---------------------|--------------------------------------|
| Weather Conditions: | TEMP (°C): <i>18°C</i> | WIND: <i>1</i> | CLOUD: <i>50-70%</i> | PPT: <i>None</i> | PPT (in last 24 hrs): <i>Rain</i> |
|----------------------------|---------------------------|-------------------|-------------------------|---------------------|--------------------------------------|

ELC Polygon: # *41* Visual Assessment: Roadside, no access Physical Assessment: Walk through feature

Extent of Physical Investigation of Feature: Entire / Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?
 Y* / N / Unknown, no access (**if yes, describe in table below*)
[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

| POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED | | | |
|---|---------------------|-----------|-----------------------------|
| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
| | | | |
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?
 Y* / N / Unknown, no access (**if yes, describe in table below*)
[i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

| POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED | | | | | |
|--|---------|-----------|-----|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
| | | | | | |
| | | | | | |

Presence of Stick Nests: Contains large stick nests?
 Y* / N / Unknown, no access (**if yes, describe in table below*)

| STICK NEST(S) IDENTIFIED | | | | | | |
|--------------------------|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
| | | | | | | |
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
 Y* / N / Unknown, no access (**if yes, describe in table below*)

| SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED | | | | | | |
|---|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
| | | | | | | |
| | | | | | | |

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

| |
|--|
| |
| |
| |
| |

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____
 (Field Personnel)

Signature: _____
 (Project Manager)

ELC SITE: Windsor
 COMMUNITY DESCRIPTION & CLASSIFICATION: MCO & NAL SURVEYOR(S): DATE: Sept 28, 2011
 START: 9:39 END: 9:48 UTMZ: UTMN:

POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|---|--|---|---|---|--|
| <input checked="" type="checkbox"/> TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE | <input checked="" type="checkbox"/> NATURAL | <input type="checkbox"/> PLANKTON | <input type="checkbox"/> LAKE |
| <input type="checkbox"/> WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> RIVERINE | <input type="checkbox"/> CULTURAL | <input type="checkbox"/> SUBMERGED | <input type="checkbox"/> POND |
| <input type="checkbox"/> AQUATIC | <input type="checkbox"/> PARENT MIN. | <input type="checkbox"/> BOTTOMLAND | | <input type="checkbox"/> FLOATING-LVD. | <input type="checkbox"/> RIVER |
| | <input type="checkbox"/> ACIDIC BEDRK. | <input type="checkbox"/> TERRACE | | <input type="checkbox"/> GRAMINOID | <input type="checkbox"/> STREAM |
| | <input type="checkbox"/> BASIC BEDRK. | <input type="checkbox"/> VALLEY SLOPE | | <input type="checkbox"/> FORB | <input type="checkbox"/> MARSH |
| | | <input checked="" type="checkbox"/> TABLELAND | | <input type="checkbox"/> LICHEN | <input type="checkbox"/> SWMAP |
| | | <input type="checkbox"/> ROLL. UPLAND | | <input type="checkbox"/> BRYOPHYTE | <input type="checkbox"/> FEN |
| | | <input type="checkbox"/> CLIFF | | <input checked="" type="checkbox"/> DECIDUOUS | <input type="checkbox"/> BOG |
| | | <input type="checkbox"/> TALUS | | <input type="checkbox"/> CONIFEROUS | <input type="checkbox"/> BARREN |
| | | <input type="checkbox"/> CREVICE / CAVE | | <input type="checkbox"/> MIXED | <input type="checkbox"/> MEADOW |
| | | <input type="checkbox"/> ALVAR | | | <input type="checkbox"/> PRAIRIE |
| | | <input type="checkbox"/> ROCKLAND | | | <input type="checkbox"/> THICKET |
| | | <input type="checkbox"/> BEACH / BAR | | | <input type="checkbox"/> SAVANNAH |
| | | <input type="checkbox"/> SAND DUNE | | | <input type="checkbox"/> WOODLAND |
| | | <input type="checkbox"/> BLUFF | | | <input checked="" type="checkbox"/> FOREST |
| | | | | | <input type="checkbox"/> PLANTATION |

TAND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|-------------|----|-----|---|
| CANOPY | 1 | 4 | W.ELM > Cottonwood > Buroak > POPULUS ELM |
| SUB-CANOPY | 2 | 3 | W.ELM > Buroak |
| UNDERSTOREY | 3 | 2 | VITRIPA |
| GRD. LAYER | | | |

T CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
 VR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

TAND COMPOSITION:

BA:

| | | | | | | | | |
|----------------------|---|-----|---|-------|---|-------|---|-----|
| SIZE CLASS ANALYSIS: | 0 | <10 | A | 10-24 | R | 25-50 | N | >50 |
| TANDING SNAGS: | N | <10 | N | 10-24 | N | 25-50 | N | >50 |
| FALL/LOGS: | N | <10 | N | 10-24 | N | 25-50 | N | >50 |

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

OIL ANALYSIS:

TEXTURE: NA DEPTH TO MOTTLES/GLEY g= G=
 MOISTURE: NA DEPTH OF ORGANICS: (cm)
 HOMOGENEOUS / VARIABLE DEPTH TO BEDROCK: (cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: Forest CODE: FO
 COMMUNITY SERIES: Deciduous Forest CODE: FOD
 POSITE: F-M Lowland Dec. Forest CODE: FOD7
 VEGETATION TYPE: F-M White Elm Lowland Dec. Forest Type CODE: FOD7-1

INCLUSION CODE:
 COMPLEX CODE:

Evidence of Disturbance / Notes:
 - on air photo, FOD no longer exists beside house - Maintained lawn & cemetery - riparian cover between dg field & cemetery, stretching into behind house. (PIC 976978)

ELC SITE: FOD7-1b
 COMMUNITY DESCRIPTION & CLASSIFICATION: SURVEYOR(S):

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. | |
|--------------|-------|---|---|---|-------|--------------|-------|---|---|---|-------|--|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | | |
| W.ELM | A | O | | | | | | | | | | |
| BUROAK | O | R | | | | | | | | | | |
| COTTONWOOD | O | | | | | | | | | | | |
| POPTREH | R | | | | | | | | | | | |
| VITRIPA | | | | A | | | | | | | | |

Page ___ of ___ Signature: Matahoara (Field Personnel)
 Quality Control: This form is complete & legible Signature: _____ (Project Manager)



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 1 – 70 Southgate Drive
 Guelph, ON
 Canada N1G 4P5
 Tel: (519) 836-6050
 Fax: (519) 836-2493

Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|---------------------|--------------------|--------------|-------------------|--------------|-------------------------------|
| Weather Conditions: | TEMP (°C): 17°C | WIND: 1-2 | CLOUD: 50-100% | PPT: None | PPT (in last 24 hrs): RAIN |
|---------------------|--------------------|--------------|-------------------|--------------|-------------------------------|

ELC Polygon: #42. Visual Assessment: Roadside, no access

Physical Assessment: Walk through feature

Extent of Physical Investigation of Feature: Entire / Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?

Y* / N / Unknown, no access (*if yes, describe in table below)

[i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED

| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
|-----|---------------------|-----------|-----------------------------|
| | | | |
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?

Y* / N / Unknown, no access (*if yes, describe in table below)

[i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED

| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
|-----|---------|-----------|-----|-----------|-----------------------------|
| | | | | | |
| | | | | | |

Presence of Stick Nests: Contains large stick nests?

Y* / N / Unknown, no access (*if yes, describe in table below)

STICK NEST(S) IDENTIFIED

| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
|-----|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| | | | | | | |
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?

Y* / N / Unknown, no access (*if yes, describe in table below)

SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED

| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
|-----|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| | | | | | | |
| | | | | | | |

SPECIES OBSERVATIONS (list species and type of observation & indicate on map)

| |
|--|
| |
| |
| |
| |

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scar; SF=other sign; TK=track; VO=vocalization

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)



Stantec

Kent
Buchanan

TILE 4

① Phragm dominant along drainage ditch

- VITRIPA
- ACESASA
- Culvert draining in & under Rd.
- Pic 965-966.
- SALIX shrubs Pic 967, 968
- ACESACC
- ACEFREE

② Culvert

- TYPHANGU
- WHITE ELM
- VITRIPA
- DOGWOOD (GRAY?)
- SOLCANA
- WHITE HEATH ASTER
- PHRAG
- WILD ASPAR

* Small creek/stream, with
60% Tree & shrub cover
90% Forb cover

→ ~ 0.5-1 m deep, standing &
slow moving water in stream
→ standing water in drainage
ditch (Phrag & TYPHANGU)

EAST

WEST

Pic# 979-982

983-985

- Dug out drainage ditch; Cover 50-60%.
- horsetail, hawks^{weed}beard, Foxtail.

Designed by:

Checked by:



ELC SITE: Windsor POLYGON: 5-1
 COMMUNITY DESCRIPTION & CLASSIFICATION SURVEYOR(S): MCOENAL DATE: Sept 28, 2011 UTM:
 START: 10:52 END: 11:08 UTMZ: UTMN:

POLYGON DESCRIPTION

| SYSTEM | SUBSTRATE | TOPOGRAPHIC FEATURE | HISTORY | PLANT FORM | COMMUNITY |
|---|--|--|---|---|---|
| <input checked="" type="checkbox"/> TERRESTRIAL | <input type="checkbox"/> ORGANIC | <input type="checkbox"/> LACUSTRINE <input type="checkbox"/> RIVERINE <input type="checkbox"/> BOTTOMLAND <input type="checkbox"/> TERRACE <input type="checkbox"/> VALLEY SLOPE <input checked="" type="checkbox"/> TABLELAND | <input type="checkbox"/> NATURAL <input checked="" type="checkbox"/> CULTURAL | <input type="checkbox"/> PLANKTON <input type="checkbox"/> SUBMERGED <input type="checkbox"/> FLOATING-LVD. <input type="checkbox"/> GRAMINOID <input checked="" type="checkbox"/> FORB <input type="checkbox"/> LICHEN <input type="checkbox"/> BRYOPHYTE <input type="checkbox"/> DECIDUOUS <input type="checkbox"/> CONIFEROUS <input type="checkbox"/> MIXED | <input type="checkbox"/> LAKE <input type="checkbox"/> POND <input type="checkbox"/> RIVER <input type="checkbox"/> STREAM <input type="checkbox"/> MARSH <input type="checkbox"/> SWAMP <input type="checkbox"/> FEN <input type="checkbox"/> BOG <input type="checkbox"/> BARREN <input type="checkbox"/> MEADOW <input type="checkbox"/> PRAIRIE <input type="checkbox"/> THICKET <input type="checkbox"/> SAVANNAH <input type="checkbox"/> WOODLAND <input type="checkbox"/> FOREST <input type="checkbox"/> PLANTATION |
| <input type="checkbox"/> WETLAND | <input checked="" type="checkbox"/> MINERAL SOIL | <input type="checkbox"/> ROLL UPLAND <input type="checkbox"/> CLIFF <input type="checkbox"/> TALUS <input type="checkbox"/> CREVICE / CAVE <input type="checkbox"/> ALVAR <input type="checkbox"/> ROCKLAND <input type="checkbox"/> BEACH / BAR <input type="checkbox"/> SAND DUNE <input type="checkbox"/> BLUFF | <input checked="" type="checkbox"/> OPEN <input type="checkbox"/> SHRUB <input type="checkbox"/> TREE | | |
| <input type="checkbox"/> AQUATIC | <input type="checkbox"/> PARENT MIN. <input type="checkbox"/> ACIDIC BEDRK. <input type="checkbox"/> BASIC BEDRK. <input type="checkbox"/> CARB. BEDRK. | | | | |
| SITE | | | | | |
| <input type="checkbox"/> OPEN WATER <input type="checkbox"/> SHALLOW WATER <input checked="" type="checkbox"/> SURFICIAL DEP. <input type="checkbox"/> BEDROCK | | | | | |

TAND DESCRIPTION:

| LAYER | HT | CVR | SPECIES IN ORDER OF DECREASING DOMINANCE (>>MUCH GREATER THAN; >GREATER THAN; = ABOUT EQUAL TO) |
|---------------|-----|-----|--|
| 1 CANOPY | 2 | 2 | Cottonwood > POPTREM > SALIX = ACEFREE |
| 2 SUB-CANOPY | 3 | 2 | Cottonwood > POPTREM = RED CEDAR |
| 3 UNDERSTOREY | 4 | 1 | COTTONWOOD |
| 4 GRD. LAYER | 5-7 | 4 | SOLCANA >> ASTER SP > VITRIPA > GRASSES |

T CODES: 1=>25m 2=10<HT<25m 3=2<HT<10m 4=1<HT<2m 5=0.5<HT<1m 6=0.2<HT<0.5m 7=HT<0.2m
 VR CODES: 0=NONE 1=0%<CVR<10% 2=10<CVR<25% 3=25<CVR<60% 4=CVR>60%

TAND COMPOSITION: BA: _____

SIZE CLASS ANALYSIS:

| | | | | | | | |
|---|-----|---|-------|---|-------|---|-----|
| 0 | <10 | 0 | 10-24 | N | 25-50 | N | >50 |
|---|-----|---|-------|---|-------|---|-----|

TANDING SNAGS:

| | | | | | | | |
|---|-----|---|-------|---|-------|---|-----|
| N | <10 | N | 10-24 | N | 25-50 | N | >50 |
|---|-----|---|-------|---|-------|---|-----|

HEADFALL/LOGS:

| | | | | | | | |
|---|-----|---|-------|---|-------|---|-----|
| N | <10 | N | 10-24 | N | 25-50 | N | >50 |
|---|-----|---|-------|---|-------|---|-----|

ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT

COMM. AGE: PIONEER YOUNG MID-AGE MATURE OLD GROWTH

OIL ANALYSIS:

TEXTURE: NA DEPTH TO MOTTLES/GLEY: g= G=

MOISTURE: DEPTH OF ORGANICS: (cm)

HOMOGENEOUS / VARIABLE DEPTH TO BEDROCK: (cm)

COMMUNITY CLASSIFICATION:

COMMUNITY CLASS: CULTURAL CODE: Cu

COMMUNITY SERIES: CULTURAL MEADOW CODE: Cum

POSITE: MINERAL CULTURAL MEADOW CODE: Cum1

VEGETATION TYPE: CODE: Cum1

INCLUSION CODE: _____

COMPLEX CODE: _____

Evidence of Disturbance / Notes:
 - Boarders a tilled field - Field has drainage ditch w/ standing water (AC998)
 - pic #999-101 on dirt mound

ELC SITE: _____ POLYGON: CUM1C
 COMMUNITY DESCRIPTION & CLASSIFICATION DATE: _____ SURVEYOR(S): _____

LAYERS: 1=CANOPY>10m 2=SUB-CANOPY 3=UNDERSTOREY 4=GROUND (GRD.) LAYER
 ABUNDANCE CODES: N=NONE R=RARE O=OCCASIONAL A=ABUNDANT D=DOMINANT

| SPECIES CODE | LAYER | | | | COLL. | SPECIES CODE | LAYER | | | | COLL. |
|--------------|-------|---|---|---|-------|--------------|-------|---|---|---|-------|
| | 1 | 2 | 3 | 4 | | | 1 | 2 | 3 | 4 | |
| Cottonwood | 0 | 0 | R | | | milkweed | | | | | |
| SALIX SP. | R | | | | | white aster | | | | | A |
| POPTREM | 0 | R | | | | Palico aster | | | | | A |
| ACEFREE | R | | | | | SOLCANA | | | | | D |
| RED CEDAR | | R | | | | VITRIPA | | | | | O |
| | | | | | | PHRAB | | | | | |
| | | | | | | FOXTAIL | | | | | |
| | | | | | | BFT. | | | | | |
| | | | | | | GRASSES | | | | | |
| SUMAC | | R | | | | | | | | | |

Page ____ of ____
 Signature: Malahara
 (Field Personnel)

Quality Control: This form is complete & legible .
 Signature: _____
 (Project Manager)



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Windfarm Wildlife Habitat Assessment Form

Stantec

Project Number: _____

Project Name: _____

Date: _____

Field Personnel: _____

| | | | | | |
|----------------------------|-------------------------|-------------------|--------------------------|---------------------|--------------------------------------|
| Weather Conditions: | TEMP (°C): <i>18</i> | WIND: <i>2</i> | CLOUD: <i>90-100%</i> | PPT: <i>NONE</i> | PPT (in last 24 hrs): <i>RAIN</i> |
|----------------------------|-------------------------|-------------------|--------------------------|---------------------|--------------------------------------|

ELC Polygon: # *5-1* Visual Assessment: -Roadside, no access Physical Assessment: -Walk through feature

Extent of Physical Investigation of Feature: -Entire / -Partial, walk through polygon (indicate on map)

Reptile Hibernacula Features: Contains potential reptile hibernacula features?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)
 [i.e. features that would provide a route underground, including buried concrete or rock (e.g. foundations, bridge abutments or culverts with cracks/entry points, exposed rock crevices or inactive animal burrows)]

| POTENTIAL HIBERNACULA FEATURE(S) IDENTIFIED | | | |
|---|---------------------|-----------|-----------------------------|
| UTM | Feature Description | Photo No. | Spp. Observed Using Feature |
| | | | |
| | | | |

Bat Hibernacula Features: Contains potential bat hibernacula features?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)
 [i.e. tall trees with open surrounding canopy (DBH >25cm, side-facing cavities ~10m high in tree)]

| POTENTIAL BAT HIBERNACULA / ROOSTING FEATURE(S) IDENTIFIED | | | | | |
|--|---------|-----------|-----|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | DBH | Photo No. | Spp. Observed Using Feature |
| | | | | | |
| | | | | | |

Presence of Stick Nests: Contains large stick nests?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

| STICK NEST(S) IDENTIFIED | | | | | | |
|--------------------------|---------|-----------|-----------|----------------------|-----------|-----------------------------|
| UTM | Tree ID | Tree Spp. | Photo No. | Height/ Placement | Nest Size | Spp. Observed Using Feature |
| | | | | | | |
| | | | | | | |

Presence of Seeps/Springs/Vernal Pools: Contains seeps/springs/vernal pools?
-Y* / -N / -Unknown, no access (**if yes, describe in table below*)

| SEEP / SPRING / VERNAL POOL FEATURE(S) IDENTIFIED | | | | | | |
|---|--------------------|----------------------------|-------------|-----------|------------------------------------|----------------------------------|
| UTM | Feature No. & Type | Feature Size (Diameter) | Water Depth | Photo No. | Sub/Emergent Veg. Spp. Present? | Shrubs/ Logs at Edge Present? |
| | | | | | | |
| | | | | | | |

| SPECIES OBSERVATIONS (list species and type of observation & indicate on map) |
|---|
| |
| |
| |
| |

CA=carcass; DP=distinctive parts; FE=feeding evidence; FY=eggs/nest; HO=house/den; OB=observed; SC=scat; SI=other sign; TK=track; VO=vocalization

Pg. ___ of ___

Quality Control: This form is complete & legible .

Signature: _____

Signature: _____

(Field Personnel)

(Project Manager)



Stantec

Giant Burdock

- Rubarb lookalike

③

East

PIC# 988

- move tree & shrub cover of 70%
- SOLIDAGO, ASTER, GRASSES

West

PIC# 986-987

- ↓ drainage ditch high TYRANGU COVER 90%
- Standing water ~ 0.3m deep.
- high SOLCANA & ASTER cover bordering ditch
- High foxtail cover between ditch & Soy field.

④

Rocky Drainage ditch to ~ 5-10% Forb cover of ASTER & GOLDEAROD.
PIC# 989-991

- Small rocks, 3 culverts, standing water ~ 0.2-0.4m deep. (Storm water drain)

⑤

East

- Standing water ~ 0.2m
- Small rocks around culvert

SOUTH SIDE
PIC# 995-996

NORTH SIDE
PIC# 994

West

- high frag → ~ 0.1m deep, standing 90% cover

PIC# 992-993
997.

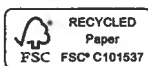
- NOTE: OLD BARN (*)

↓
Boardering cornfield along Shields Ave
(north side) CUMI habitat
~20m in to cornfield

→ astars, wild carrot, task, foxtail, hand board, Prickly Lettuce, Phrag, white aster, calico aster.

Designed by:

Checked by:



⑥ Phrag dominant - no standing / pooling water.
culverts open - little standing water around culvert openings.

Pic # 1007-1010.

⑦ Pic 1013-1015 (not in SA)

Large open drainage ditch, flowing water ~ 1 m deep
- no veg cover - soft muddy bottom, some gravel
- no stone piles - steep stream banks

⑧ Shallow; no veg cover, standing water, algae growth, small culverts
Drainage Ditch Pic # 1016-1017
(~ 20% Grass)

⑨ dry - small pools of water; BROILER dominant
Pic # 1018

⑩ East

- Phrag dominated
- ~ 80% cover
- Standing water of ~ 0.2 m

West

- TYPHANGU & Phrag
- Standing water in drainage ditch ~ 0.3 m
- 80% veg cover
- Pic # 1019, 1020.

⑪ 100% cover of Phrag, in some small pockets of TYPHANGU.

- Too thick to see in ditch; appears dry. → Some Cedars bordering Soy field & drainage ditch in occasional ACE FREE.



Sandwich South Employment Lands Trunk Sanitary Sewer Habitat Evaluation and Species at Risk Survey

Date: December 23, 2009

Study Personnel:

Project Manager/Ecologist: *G. Waldron, B.Sc., M.Sc.*

Aquatic Biologist: *T. Leadley, B.Sc., M.Sc.*

Herpetile Biologists: *T. Preney, J. Choquette, B.Sc. & D. Noble, B.Sc.*

Aquatic Field Assistant: *M. Cook, B.Sc.*

Terrestrial Field Assistant: *P. Hurst, H.B.Sc.*

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Summary

The Sandwich South Employment Lands (SSEL) within the City of Windsor require sanitary sewer service. The City of Windsor has recently proceeded with the design of the sanitary sewer installation for the SSEL. The proposed alignment of the trunk sanitary sewer through the SSEL will result in the disruption of a number of municipal/agricultural drains. As a result, an ecological impact study has been commissioned by Stantec Consulting Limited to survey and assess the potential impacts to terrestrial natural heritage elements, fish and fish habitat and to provide mitigation and compensation recommendations in accordance with the Endangered Species Act, Provincial Policy Statement and No Net Loss Policy for the Management of Fish Habitat (Department of Fisheries and Oceans 1986).

Under the current design a total of 10 municipal/agricultural drains were identified in the proposal that will be directly and/or indirectly be affected by the installation of the sanitary sewer lines across these channels. Proposed channel crossing procedures include open cut techniques and jack and bore tunnelling methods. Both these practices and the associated construction activities will affect aquatic resources to varying degrees at each of the identified crossings.

The Sandwich South Employment Lands fall within the Little River watershed, a small catchment area with the majority of its associated municipal/agricultural drains designated as Fish Habitat. Survey results identified regional fish communities in eight of the ten affected reaches, with most of the reaches containing sensitive fish habitat that will require project mitigation and habitat compensation. No Endangered species, Threatened species or species of Special Concern were identified in the municipal drains surveyed.

The following report provides channel habitat descriptions, fish survey results and mitigation/compensation recommendations for the municipal drain crossings that are at risk of harmful alteration, disruption or destruction (HADD) of fish habitat.

For the terrestrial study, the proposed route for the sanitary sewer was divided into eight sections. Each section was examined for Species at Risk and other significant natural heritage features. Ten Species at Risk were documented including two Threatened Species, Kentucky Coffeetree and Butler's Garter Snake, both listed under the Endangered Species Act. Under the provisions of the Act, individuals of these species and their habitat cannot be destroyed. Additionally a significant wetland was documented adjacent to the proposed route. Recommendations have been developed to mitigate the potential for harmful effects to the significant natural heritage found in six of the eight study sections.

1.0 Aquatic Study

1.1 Introduction

The Sandwich South Employment Lands (SSEL) comprises approximately 2,600 hectares of land within the City of Windsor. The property is primarily rural agricultural land, with small pockets of residential and industrial land use. In order to proceed with property development within the SSEL, the installation of sanitary sewer services are required.

Stantec Consulting Ltd. authored an Environmental Study Report (ESR) in 2005 that described a multi-phase plan to provide sanitary service for the SSEL. Portions of the work outlined within the ESR were completed in 2007 and the City of Windsor has now proceeded with the design and construction of the remaining phases of the sanitary sewer design and installation. The proposed alignment of the trunk sanitary sewer generally runs in a south-westerly direction parallel to Banwell Road, CP Rail, Lauzon Road, Lauzon Parkway, County Road #42 and ultimately terminating along the 8th Concession, north of Highway 401. The total project length is approximately 10,500 metres.

The proposed alignment of the trunk sewer installation crosses a number of municipal drains including the main channel of Little River. The Little River is a small tributary of the Detroit River with a watershed that drains approximately 5,750 ha of agricultural, municipal and industrial land (UGLCCS 1988). The Little River and most of its associated drains are designated as Fish Habitat and map overlays of current Department of Fisheries and Oceans (DFO) mapping for Species at Risk (SAR) (ERCA DFO map 2008) suggest the potential for fish SAR to occur in the area of the proposed works.

The Federal Fisheries Act, Subsection 35(1) is a general prohibition of harmful alteration, disruption or destruction (HADD) of fish habitat. Any activity that results in HADD is a contravention of Subsection 35(1) (Minister of Justice, Fisheries Act 2009). The Act defines fish habitat as "spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly to carry out their life processes." The habitat protection provisions of the Act outline powers and authorities to protect the unobstructed passage of fish, provide sufficient flow for fish, prevent fish mortality and prohibit the harmful alteration, disruption or destruction of fish habitat without an authorization from Fisheries and Oceans Canada (Minister of Justice, Fisheries Act 2009).

As a result, an ecological impact study has been commissioned by Stantec Ltd. to survey and assess the potential impacts to fish habitat resulting from the proposed sanitary sewer installation works and to provide mitigation and compensation recommendations in accordance with the No Net Loss Policy for the Management of Fish Habitat (Department of fisheries and Oceans 1986).

Project Description

A preliminary site field survey of the current proposed alignment indicated ten potential stream crossings where a HADD may occur. The following report presents general stream site descriptions, aquatic survey results and mitigation/ compensation recommendations for each potential crossing identified in the current proposed alignment. The primary focus of the sampling program was to identify the fish assemblage and assess the fish habitat within the areas of the proposed stream crossings.

Methods

The preliminary site survey determined that in-stream structural habitat and cover in the upper reaches of Little River and the connecting channels (municipal drains) prohibit the effective use of seine netting as a method to accurately assess the fish community. As a result, all crossings and reaches were sampled for fish using Smith-Root LR-24 Back Pack Electro-fishing units, a more effective gear type for sampling fish and fish species at risk (Poos *et al.* 2007).

Electroshocking was conducted in a sweep pattern (systematic side to side pattern), a common method used in shallow wadeable streams with narrow channel widths (Watershed Science Centre 2006).

Electroshocking amperage was maintained between 3.5 - 5 amps with a voltage of 130 - 150V. Periodic voltage output adjustments were made as needed due to varying stream conductivities. In order to determine at least 95% of species composition, stream reaches were sampled at a recommended minimal distance of at least 50 stream widths on either side of the proposed stream crossing (Portt *et al.* 2008). Longer reaches parallel to the proposed project area were also sampled where fish habitat was suspected to occur (e.g. Little River Drain).

Results of the preliminary site survey conducted in August determined the existence of flowing water in all reaches of the study area except in the upper reaches of the 8th Concession Drain and Little 10th Concession Drain. A subsequent site survey in October and sampling in November revealed minimal water flow at the 8th Concession following recent precipitation.

Consideration of seasonal climatic (environmental) conditions and species that may be sensitive to such fluctuating flow conditions (e.g. various cyprinid species exhibiting temporal and spatial variations in response to flow and turbidity) was taken into account during the sampling program (i.e. sampling at various times and in various flow conditions). The majority of the connecting drainage channels afford some in-stream protection from excessive flow conditions (significant runoff events) and the sampling program timeline reflected these potential fish community changes in response to such variable environmental conditions (e.g. high turbidity conditions during runoff events).

All fish collected were immediately removed and placed in live well containers for identification and enumeration in the field. All fish collected were rapidly enumerated and released back to the respective watercourse after species confirmation. For species requiring further taxonomic confirmation (e.g. suckers and various cyprinids) sample specimens were transported back to the lab in aerated live wells where they were sedated with MS 222 according to the standards of the Canadian Council on Animal Care (CCAC) guidelines (CCAC

guidelines 2005). Species identifications were then confirmed through measured anatomical parameters using microscopy. These collected fish were also released back to their respective water courses following a short duration in captivity (less than 24hrs). Tank hauling temperatures were maintained at ambient conditions and losses were minimal.

In order to assess general water quality conditions at each sampling location a number of basic water quality parameters were measured during the preliminary field survey. Temperature (°C), pH, conductivity (µS/cm), oxidation-reduction potential (mvolts), and dissolved oxygen (mg/L) were measured in situ using a Hydrolab Surveyor 3/ Reporter Multiprobe Multiparameter Water Quality Logging System.

1.2 Site Descriptions and Assessment Results

1.2.1 Banwell Road Trunk Sanitary Sewer (SSEL Phase 4A)

Proposed Alignment

The proposed sanitary trunk sewer alignment is to be located on the east side of Banwell Road (south of the E.C. Row Expressway) south to E.C. Row Avenue where it then crosses Banwell Road to a permanent easement along the west side of Banwell Road. This proposed alignment will result in the crossing of two municipal drains, the Gouin Drain at E.C. Row Avenue and the LaChance Drain at Intersection Road. Both drains are storm water drains for the Town of Tecumseh with final discharge into Little River near Lauzon Road.

The Banwell Road sewer alignment will be open cut installation at both drain crossings with upstream water flow blocked during construction and downstream levels will be maintained through portable pumps.

Both the Gouin and LaChance drains display heavy flow during heavy significant precipitation events, otherwise flow reduces to marginal during dry periods.

(i) Gouin Drain Crossing

Habitat Description

The Gouin Drain crossing is located at the intersection E.C Row Avenue and Banwell Road (N 42°17.913, W 082° 53.928). The Gouin Drain is a relatively small municipal stormwater drain (Municipal Drain Class Authorization F: intermittent) with an average bankfull width of 6.7 m and an average low flow wetted channel width of 220 cm.

Basic water quality measurements were collected on October 18, 2009. Water flow was marginal with an average depth of 10 cm. Basic water quality measurements indicate satisfactory conditions for the parameters measured.

Table 1: General water quality summary for the Gouin Drain (October 18 2009).

| WATER QUALITY PARAMETER | Gouin Drain |
|-------------------------|-------------|
| Temperature (°C) | 5.59 |
| Dissolve Oxygen (mg/L) | 9.22 |
| Conductivity (mS/cm) | 1.168 |
| pH | 7.9 |
| Redox (µmhos) | 218 |
| Turbidity (NTU) | 40.4 |

Sediment structure in the drain was categorized as soft sediments comprised of silt, mud (<2mm) and organic material. No other stream structure such as cobble or woody material was evident.

In stream cover is defined as any structure in the wetted channel or within 1 m above the water's surface that provides refuge, resting or foraging habitat for fish (B.C. Fisheries Information Branch 2001). In-stream cover on the west side of Banwell Road was categorized as moderate (5-20%) and comprised primarily of emergent macrophytes (i.e. in-stream vegetation) and riparian grasses. Abundant cover (>20%) on east side of Banwell Road was provided by in-stream vegetation in the form of robust stands of Cattails (*Typha*). The drain traverses Banwell Road through a small steel culvert.

Stream canopy cover is defined as canopy closure provided by stream side riparian vegetation that projects over the stream and is higher than 1 m above the water surface (BC Fisheries Information Branch 2001). Visual estimates characterize this parameter as low (approximately 5% or less) near the crossing (**Plate 1**).

The Gouin Drain was surveyed for fish on November 21, 2009 (*see fish survey methods*). A total of two fish were collected throughout the sampling reach. A single Pumpkinseed Sunfish (*Lepomis gibbosus*) and a single Mudminnow (*Umbra lumi*) were both collected near the culvert that crosses Banwell Road. It is expected that more fish currently occupy the drain and seek cover provided by the closed culvert, which has a small diameter preventing sampling inside.

Although the survey results revealed minimal species diversity and abundance, the creek is classified as fish habitat. Despite the survey results, the drain is a connecting channel to downstream areas of more sensitive aquatic habitat and prior to any construction activities mitigation plans should in place to prevent a HADD. It is also expected that all damage to creek beds, banks and associated fish habitat will be fully compensated for with appropriate local sites measures as direct by the project biologists and approved by the Essex Region Conservation Authority.

Plate 1: Gouin Drain culvert west side view of the intersection of Banwell Road and E.C Row Avenue.



Detailed mitigation and compensation recommendations for SSEL water crossings are provided on page 26 of this report.

Specific mitigation recommendations for Gouin Drain crossing include:

- Confine construction activity to low flow conditions.
- Maintain water levels downstream of the crossing.
- Install downstream silt screen to prevent the pumping of excessive suspended solids.

(ii) *LaChance Drain Crossing*

Habitat Description

The LaChance Drain crossing is located at the intersection of Banwell Road and Intersection Road (N 42°17.533, W 082° 53.794). The LaChance Drain is agricultural/municipal stormwater drain (Municipal Drain Class Authorization F: intermittent) with an average bankfull width of 8.4 m and an average low flow wetted channel width of 180 cm.

Basic water quality measurements were collected on October 18, 2009. No water flow was evident during the water quality survey or during the fish survey in November. Standing water was present under the concrete bridge and in downstream pools with an average water depth

of 2-5 cm. **Table 2:** General water quality summary for the LaChance Drain (October 18 2009).

| WATER QUALITY PARAMETER | LaChance Drain |
|-------------------------|----------------|
| Temperature (°C) | 5.57 |
| Dissolve Oxygen (mg/L) | 4.69 |
| Conductivity (mS/cm) | 3.00 |
| pH | 7.0 |
| Redox (µmhos) | 214 |
| Turbidity (NTU) | 9.79 |

The basic water quality measurements (e.g. low dissolved oxygen, high conductivity) are indicative of low flow conditions, rural runoff and abundant organic material. The drain is categorized as intermittent and as such regularly dries out. Low oxygen conditions are presumed to be a common condition in this drain during low flow periods.

Streambed substrate in the LaChance Drain channel was comprised primarily of thick muck/silt sediment with some sand (<2mm). The deep soft sediments suggest significant soil laden runoff from the adjacent agricultural fields losing to the drain. Abundant vegetation and excessive filamentous algae (*Cladophora*) in the channel pools was also observed suggesting the drain receives excessive nutrients (e.g. phosphorus) and limited flushing due to periodic flow.

In-stream cover on the west side of Banwell Road was categorized as abundant (>20%) and comprised primarily of emergent grasses (i.e. in-stream vegetation) and riparian (bank) vegetation. Abundant cover (>20%) on east side of Banwell Road was provided by in-stream vegetation in the form of robust stands of Cattails (*Typha*), Reed grass (*Phragmites*) and Water Plantain (*Alisma*).

Stream canopy cover is defined as canopy closure provided by stream side riparian vegetation that projects over the stream and is higher than 1 m above the water surface (BC Fisheries Information Branch 2001). Visual estimates characterize this parameter at trace levels (5%) near the crossing (**Plate 2**).

Plate 2: The LaChance Drain, west side of the intersection of Banwell Road and E.C Row Avenue.



The LaChance Drain was surveyed for fish on November 21, 2009 (*see fish survey methods*). A total of two species and nine fish were collected throughout the sampling reach. Four Pumpkinseed Sunfish (*Lepomis gibbosus*) and five Mudminnows (*Umbra lumi*) were collected in the remaining water near the culvert that crosses Banwell Road. Similar to the Gouin Drain crossing it is expected that more fish currently occupy the drain and seek refuge and cover provided by the bridge. Very thick sediments and narrow opening under the bridge prevented thorough sampling.

Although the survey results revealed minimal species diversity and sparse abundance, the LaChance Drain is classified as fish habitat. Despite the survey results, the drain is a connecting channel to downstream areas of more diverse and sensitive aquatic habitat (e.g. Little River). Prior to any construction activities, mitigation plans should in place to prevent downstream disruption and compensate for channel disruption. It is also expected that all damage to creek beds, banks and associated fish habitat will be fully compensated for with appropriate local sites measures as direct by the project biologists and approved by the Essex Region Conservation Authority. The intermittent flow in this drain provides the opportunity for construction activities to occur during periods of low flow thus reducing instream disruption and downstream effects. Although compensation opportunity exists for the construction of deeper pools that may improve fish survival during low flow periods, it is suspected that the thick soft sediments that exist at this site reflect the excessive sediment loads in this drain during wet events. All created pools would likely be filled in and covered after a short period.

1.2.2 Canadian Pacific Rail (CPR) Little River Bridge Crossing (SSEL Phase 4D)

Proposed Alignment

The proposed CPR sanitary trunk sewer alignment is to be located on the north side of the CPR Line and align west to Lauzon Road from Banwell Road. The sewer line crosses the CPR Line to a permanent easement along the west side of Lauzon Road. This proposed alignment will result in the crossing of the Little River Drain, near the confluence of the LaChance Drain north of the CPR Line Bridge.

The proposed method for sewer installation of this section of the sanitary trunk is through open cut measures along the CPR Line and across the Little River Drain. Water course diversion methods are proposed for the Little River Drain during construction and installation activities. This downstream section of Little River Drain is a large channelized municipal drain located 180 m east of the Lauzon Road (N 42°17' 20.42", W 082° 54' 49.83"). The drain is a Municipal Class E drain defined as a permanent warm water drain with top predators (e.g. bass). Authorized Class (E) Drains contain fish and fish habitat that are sensitive to maintenance and construction activities and as such require Department of fisheries and Oceans approval prior to maintenance or work resulting in a HADD.

General Habitat Description

Channel substrate at the Little River Drain CPR crossing was classified as a hard bottom basin consisting primarily of sand, gravel and abundant cobble. Small pockets of accumulated soft sediments (silt) were also evident. Abundant leaf and woody debris were scattered throughout the channel. Water depths at the time of sampling averaged 30-40 cm with scattered deeper pockets of 50-60 cm. Bankfull widths on the north side (approximately 20 m from the CPR Bridge) averaged 20 m and channel widths ranged from 300 to 400 cm.

Significant water flow was evident at the time of sampling and basic water quality results indicate satisfactory values for the parameters measured (Table 3). Elevated turbidity concentrations were noted during the preliminary survey in October, and although water clarity had slightly improved during the November fish survey the drain is negatively impacted by upstream sources of suspended sediments.

In stream cover was categorized as moderate (5-20%) provided through abundant cobble, riparian shrubs and grasses primarily on the east bank. In stream cover south of the CPR Bridge (upstream) was noted to be similar. Overhead canopy cover at the crossing location was limited and visually estimated to be 10-20% (**Plate 3**).

Table 3: General water quality summary for the Little River Drain at Canadian Pacific Rail Bridge

(October 18 2009).

| WATER QUALITY PARAMETER | LaChance Drain |
|-------------------------|----------------|
| Temperature (°C) | 4.68 |
| Dissolve Oxygen (mg/L) | 10.2 |
| Conductivity (mS/cm) | 1.3 |
| pH | 7.35 |
| Redox (µmhos) | 218 |
| Turbidity (NTU) | 40.7 |

Plate 3: The Little River Drain north of the CPR Line Bridge (October 18 2009).



Significant channel attributes at the Little River Drain crossing (CPR site) include numerous gravel riffle-pool sequences, foreshore areas downstream of the bridge and elevated island bars. Although intermittent, an additional off channel habitat (LaChance Drain) exists ~20 meters downstream of the bridge crossing.

The site was surveyed for fish on November 23 2009 (*see fish survey methods*). The electrofishing survey was conducted approximately 50 m upstream and downstream of the CPR Line Bridge. A total of 14 species of fish were collected throughout the sampling reach.

Table 4: Fish Species collected in the Little River Drain north of the CPR Bridge (November 23, 2009).

Bluntnose Minnow (*Pimephales notatus*) (N=36)
Common Shiner (*Luxilus cornutus*) (N > 50)
Creek Chub (*Semotilus atromaculatus*) (N>50)
Fathead Minnow (*Pimephales promelas*) (N=30)
Largemouth Bass (*Micropterus salmoides*) (N=1)
Pumpkinseed (*Lepomis gibbosus*) (N=5)
Quillback (*Caproides cyprinus*) (N=23)
Spotfin Shiner (*Cyprinella spiloptera*) (N=15)
White Sucker (*Catostomus commersoni*) (N=10)
Rock Bass (*Ambloplites rupestris*) (N=3)

The results of the fish survey revealed a relatively abundant and diverse fish assemblage, with large numbers of Creek Chub and Shiners. Many of the species present (e.g. Creek Chub) suggest that this reach of the Little River Drain possesses good fish habitat and good water quality. Previous survey records collected downstream of this location fish indicate similar species, with the addition of Common Carp, Green Sunfish and Round Goby (Essex Region Conservation Authority Fish Survey Records (ERCA 2001). No Species at Risk were collected during the sampling survey.

As a result of the proposed open cut installation, this project will result in a HADD. Water diversion methods during construction activities must include silt barriers and procedures for closing and opening new diversion channels (outline in Mitigation and Recommendations Section). It is expected that all damage to creek beds, banks and associated fish habitat will be fully compensated by appropriate local site measures as direct by the project biologists and approved by the Essex Region Conservation Authority. Compensation measures should include the addition of riffle-pool sequences, creation of foreshore areas and rock clusters to improve fish habitat.

1.2.3 Little River Drain (Lauzon Road) (SSEL Phase 4D) Proposed Alignment

The proposed alignment of the Lauzon Road trunk sanitary sewer is to align in the middle of the southbound lane of Lauzon Road, from the CP Rail Line located to the north. The sewer line approaches the Little River Drain at the Service Road B Intersection with Lauzon Road. The current alignment proposal will not result in a crossing of this section of the Little River Drain, but turns west and runs parallel to Service Road B 80 meters north of the Little River Drain. The alignment will cross Little 10th Concession Drain near the CP Rail (Municipal Class Authorization F). This small intermittent drain contains no fish species and was dry during the preliminary and fish sampling surveys. However, during precipitation events the drain directly flows into the Little River Drain to the south and as result construction activity may negatively impact

downstream fish habitat and must have stream protection measures (mitigation) in place (i.e. silt barriers).

General Habitat Description

The Little River Drain is a channelized municipal drain located 50 m south of the Service Road B intersection with Lauzon Road (N 42°17' 02.08", W 082° 54' 46.54"). This drain is a Municipal Class E drain defined as a permanent warm water drain with top predators (e.g. bass).

Authorized Class (E) Drains contain fish and habitat that is sensitive to maintenance and construction activities.

The Little River Drain channel substrate within 10m west of the Little River Drain crossing was classified as a hard bottom substrate consisting primarily of sand, gravel (2-64 mm) and cobble (64-256 mm) with some silt accumulation. Channel substrate adjacent to the bridge was also hard bottom gravels and armour stone, installed as bank protection during bridge construction. Upstream bed substrates were primarily hard clay with a mixture of cobble, gravel and areas of sand/silt accumulations.

Armour stone (in-stream) was abundant near the bridge on both the east and west sides. Water depth at the time of sampling averaged 30 cm with scattered deep pockets of 50-60 cm. Riffle-pool sequences were observed under and adjacent to the bridge. The channel bankfull width west of the bridge (~25 m upstream from the bridge) were approximately 14 m and wetted channel widths ranged from 450-500 cm.

Water flow at the time of sampling was above base flow and basic water quality results indicate satisfactory values for the parameters measured (Table 5). Elevated turbidity concentrations were noted during the preliminary survey in October and although water clarity had slightly improved during the November fish survey, it is apparent that the river is negatively impacted from upstream sources of suspended solids.

Table 5: General water quality summary for Little River Drain at Lauzon Road (October 18, 2009).

| WATER QUALITY PARAMETER | LaChance Drain |
|-------------------------|----------------|
| Temperature (°C) | 4.66 |
| Dissolve Oxygen (mg/L) | 10.18 |
| Conductivity (mS/cm) | 1.330 |
| pH | 7.34 |
| Redox (µmhos) | 217 |
| Turbidity (NTU) | 40.3 |

Plate 4: Little River Drain west of Lauzon Road (October 18, 2009).



In-stream cover on the west side of Lauzon Road (within approximately 25 m of the bridge) was categorized as limited (5%) and provided primarily through armour stone and limited cover from riparian grasses and shrubs. Similar conditions were noted downstream of the bridge (eastside of Lauzon Road), although the abundance of riparian grasses and shrubs was significantly higher further downstream (~25 m) away from the bridge crossing and also included some woody debris (moderate to abundant).

Visual estimates of the drain canopy cover was considered sparse (<20%) immediately west of the Lauzon Road Bridge. Cover was provided through scattered shrubs and deciduous trees on the south bank. Further upstream overhead canopy was significantly more abundant estimated to be at (80-100%) seasonal cover.

Significant channel attributes at the Little River Drain crossing at Lauzon Road include numerous gravel riffle-pool sequences and foreshore areas downstream of the bridge. Additional off channel habitat (side channel) exists 30 meters downstream of the bridge crossing as well.

The site was surveyed for fish on November 22, 2009 (*see fish survey methods*). The electrofishing survey was conducted approximately 50 m upstream and downstream of the Lauzon Road Bridge. A total of 14 species of fish were collected throughout the sampling reach.

Table 6: Fish Species collected in Little River at Lauzon Road (November 22 2009)

Banded Killifish (*Fundulus diaphanous*) (N=6)
Bluntnose Minnow (*Pimephales notatus*) (N=12)
Brown Bullhead (*Amerius nebulosus*) (N=1)
Common Shiner (*Luxilus cornutus*) (N > 50)
Creek Chub (*Semotilus atromaculatus*) (N>50)
Fathead Minnow (*Pimephales promelas*) (N=14)
Gizzard Shad (*Dorosoma cepedianum*) (N=2)
Largemouth Bass (*Micropterus salmoides*) (N=2)
Mudminnow (*Umbra limi*) (N=2)
Spottail Shiner (*Notropis hudsonius*) (N=6)
Pumpkinseed (*Lepomis gibbosus*) (N=2)
Quillback (*Caproides cyprinus*) (N=43)
Spotfin Shiner (*Cyprinella spiloptera*) (N=12)
White Sucker (*Catostomus commersoni*) (N=36)

The results of the fish survey revealed an abundant and diverse fish assemblage, with large numbers of Creek Chub and other cyprinids (e.g. Shiners). Many of the species present are normally found in streams with good water quality and fish habitat. Previous survey records fish indicate similar species collections in 2000 (Essex Region Conservation Authority (ERCA 2000). No Species at Risk were collected during the sampling survey.

Sewer installation along Service Road B is approximately 50 m north of the Little River Drain and will unlikely result in a HADD to downstream aquatic resources. The addition of silt barrier fence adjacent to the construction activities along Service Road B and silt barriers in Little 10th Concession Drain to prevent excessive runoff of silt and un-stabilized soils to downstream drains is recommended. Additional protection measures and good practice guidelines are provided in the Mitigation and Compensation Recommendation section.

1.2.4 Rivard Drain and Little River Drain Crossing (Lauzon Parkway) (SSEL Phase 4D)

Proposed Alignment

The Rivard Drain is a small, channelized, primarily agricultural drain where the majority of the reach is located on the west side of Lauzon Parkway (north of County Road 42). The Rivard Drain has a Municipal Drain Class Authorization of F (intermittent). The drain flows west to east where it crosses Lauzon Parkway and joins Little River (N 42°16' 35.22", W 082° 54' 53.61").

The sanitary sewer proposed alignment will cross the Rivard Drain on the west side of Lauzon Parkway by open cut method. Dewatering will occur through portable pumps if necessary. The Rivard Drain is an intermittent drain and no water flow or standing water was observed during both the preliminary survey in October or during the sampling in November.

As result of no flow or standing water conditions no fish species were observed in this drain. Municipal Class F drains are designated intermittent systems and therefore a harmful alteration, disruption or destruction of fish habitat will not occur provided the work is completed during dry conditions and disturbed soils are stabilized following construction activity (DFO Fact sheet 1999).

In order to prevent the migration of silt downstream silt barriers (straw bales) will be secured in the channel. During periods of heavy or persistent precipitation, construction activities should be suspended if they could result in excessive sediment delivery to the drain that would adversely affect aquatic resources downstream.

1.2.5 Little River Crossing at Lauzon Parkway

Proposed Alignment

The sanitary trunk sewer proposed alignment will cross the main channel of Little River on the west side of Lauzon Parkway by tunnelling under the channel of the river. The proposed crossing area is located west of Lauzon Parkway and north of County Road 42 (N 42°16' 33.27", W 082° 54' 52.18") (**Plate 5**). This length of sewer pipe will be terminated to the south of County Road 42 and will be used for the future servicing of lands to the south. This upstream reach of the Little River Drain represents an area of sensitive fish habitat with quality stream attributes, unique conditions that are uncommon among the municipal drains particularly downstream conditions in the main channel of Little River.

Plate 5: Little River Drain west of Lauzon Parkway approximately 350 m north of County Road 42 (October 18 2009).



General Habitat Description

Channel substrate at the Little River crossing was classified as a hard bottom basin consisting primarily of sand, gravel and rocks with some silt accumulation. Abundant leaf and woody debris were scattered throughout the channel. Armour stone (in-stream) was abundant near the bridge on both the east and west side. Water depth at the time of sampling averaged 40 cm with scattered deeper pockets of 50-60 cm. The bankfull width on the proposed west crossing alignment was approximately 15 m and channel widths ranged 300 to 400 cm.

There was significant water flow at the time of sampling and basic water quality parameter results indicate satisfactory values for the parameters measured (Table 7). Elevated turbidity concentrations were noted during the preliminary survey in October, and although water clarity had slightly improved during the November fish survey, it is apparent that the Little River Drain negatively is impacted from upstream sources of excessive suspended solids, presumed to be agricultural runoff.

Table 7: General water quality summary for Little River at Lauzon Parkway approximately 330 m north of County Road 42 (October 18 2009).

| WATER QUALITY PARAMETER | LaChance Drain |
|-------------------------|----------------|
| Temperature (°C) | 5.52 |
| Dissolve Oxygen (mg/L) | 10.93 |
| Conductivity (mS/cm) | 1.172 |
| pH | 7.48 |
| Redox (µmhos) | 218 |
| Turbidity (NTU) | 50.3 |

In-stream cover on the west side of Lauzon Parkway (within approximately 25 m of the bridge) was categorized as moderate (5-20%) and comprised primarily of riparian grasses and woody debris. Similar conditions were also observed downstream, east of Lauzon Parkway. Limited canopy cover adjacent to the Lauzon Parkway Bridge allows sunlight penetration promoting the growth of riparian grasses and shrubs which in turn provide more near bank instream cover than observed upstream.

In-stream cover upstream of the crossing is limited to undercut banks, shrubs, woody debris and rocks. Visual estimates of 100% canopy cover was observed upstream of the crossing (100% cover).

Channel attributes at the crossing location included a number of island (sediment) bars, numerous gravel riffle-pool sequences and foreshore areas on the south bank.

The site was surveyed for fish on November 22 2009 (*see fish survey methods*). The electrofishing survey was approximately 50 m downstream of the Lauzon Parkway Bridge. Sampling was conducted 350 m upstream of the bridge. A total of nine species of fish were collected throughout the sampling reach.

Table 8: Fish Species collected in Little River at Lauzon Parkway south to County Road 42:

- Spotfin Shiner (*Cyprinella spiloptera*)
- Fathead Minnow (*Pimephales promelas*)
- Common Shiner (*Luxilus cornutus*)
- Striped Shiner (*Luxilus chrysocephalus*)
- Creek Chub (*Semotilus atromaculatus*)
- Quillback (*Caproides cyprinus*)
- Banded Killifish (*Fundulus diaphanous*)
- White Sucker (*Catostomus commersoni*)
- Pumpkinseed (*Lepomis gibbosus*)
- Mudminnow (*Umbra limi*)
- Bluntnose Minnow (*Pimephales notatus*)
- Spottail Shiner (*Notropis hudsonius*)

The results of the fish survey revealed a relatively abundant and diverse fish assemblage, predominantly represented by cyprinid species (e.g. Shiners) similar to downstream locations. Previous fish collection records indicated similar species in the survey area with the exception of the occurrence of Rockbass (*Ambloplites rupestris*) (Essex Region Conservation Authority 1984 and 2000). No large predator species were observed. No Species at Risk were collected during the sampling survey.

The proposed tunnelling installation of the sanitary trunk sewer across this section of Little River will avoid disruption to the channel and the existing fish habitat. A 26 m buffer will be maintained from the top of each bank and a fabric silt barrier fence will be installed to prevent excessive runoff of un-stabilized soils to the drain. The addition of straw bales to roadside swales will also help prevent silt runoff during the open cut installation of the sewer south to County Road 42. Additional protection measures and good practice guidelines are provided in the Mitigation and Compensation Recommendation section on page 26.

1.2.6 County Road 42 West of Lauzon Parkway (SSEL Phase 5A and 5B)

Proposed Alignment

The sanitary sewer alignment of the SSEL Phase 5 commences at the 8th Concession Road six metres inside the Windsor International Airport property and proceeds easterly to the termination point, west of the Little River Drain, inside the Windsor International Airport property.

The alignment of the sewer will run parallel with the north side of County Road 42 and lay six metres north of said limit within the Windsor International Airport lands.

The full extent of the work is proposed to be performed using an open cut method and no channel crossings or water diversions are proposed, however temporary culverts and filling of the roadside swale may be necessary to complete the work within the two private home properties.

This proposed alignment does not directly affect local fish habitat. Construction activities should apply protection measures (e.g. silt barriers) for runoff during unforeseen prolonged precipitation events that may affect downstream aquatic habitats. The placement of straw bales within the roadside swale downstream of the temporary culvert is recommended.

1.2.7 8th Concession Drain Alignment and the North Townline Drain and 6th Concession Drain Crossing (SSEL Phase 6).

Proposed Alignment

The proposed alignment of the 8th Concession sanitary trunk sewer line is to cross County Road 42 and North Townline Drain at the 8th Concession Road, run parallel to the east side of the 8th Concession Road crossing the 6th concession Drain and continuing south. Prior to terminating near highway 401, the sanitary trunk sewer then aligns west, crosses the 8th Concession Road

and the 8th Concession Drain and terminates at an installed sanitary manhole 200 m north of Highway 401.

The proposed sewer trunk alignment across County Road 42 and the North Townline Drain is through open cut methods. Sewer line Installation along the 8th Concession Road is to be open cut with jack and bore installation (tunnelling) method across the 6th Concession Drain.

General Habitat Description

The North Townline Road is a channelized Municipal Class F Drain (intermittent) that has recently undergone maintenance activities (**Plate 6**). Although water was present in the drain during the preliminary survey and fish sampling survey (approximately 2-3 cm deep, undetectable flow) no fish species were observed. The North Townline Drain at the 8th Concession intersection does not represent significant fish habitat. Although, the drain does likely serve as fish passage during high flow events for upstream and downstream passage to and from more permanent connected water courses such as the Little River Drain.

Municipal Class F drains are designated intermittent systems and therefore a harmful alteration, disruption or destruction of fish habitat will not occur provided the work is completed during dry conditions and disturbed soils are stabilized following construction activity (DFO Fact sheet 1999).

During periods of heavy or persistent precipitation, construction activities should be suspended if they could result in excessive sediment delivery to the drain that would adversely affect aquatic resources downstream. The use of silt screens or other suitable silt barriers to prevent unstable soils washing out during construction activities in and around the North Townline Drain (e.g. culvert replacement) is highly recommended to prevent negative impacts to sensitive downstream fish habitat.

Plate 6: North Townline Drain south of adjacent County Road 42 (October 18 2009).



The 6th Concession Drain crossing is located south of the intersection of Baseline Road and the 8th Concession Road (N42°14.779 W082°56.736). The 6th Concession Drain has a Municipal Class Authorization E (permanent warm water drain with top predators). This drain is a channelized agricultural/municipal stormwater drain with an average bankfull width of 6.4 m and an average low flow wetted channel width of 2.5 m.

Table 9. The 6th Concession basic water quality measurements (October 18, 2009).

| WATER QUALITY PARAMETER | 6 th Concession Drain |
|-------------------------|----------------------------------|
| Temperature (°C) | 7.25 |
| Dissolve Oxygen (mg/L) | 9.48 |
| Conductivity (mS/cm) | 1.01 |
| pH | 7.6 |
| Redox (µmhos) | 216 |
| Turbidity (NTU) | NA |

The 8th concession drain is a shallow intermittent reach bordered by agricultural lands and residential lawns. The drain near the project terminus (Highway 401) is characterized by thick emergent vegetation with steep banks and absence of any buffer riparian zone (recently mowed banks, lack of tree and shrub cover) (**Plate 7**). During rainfall events the drain flows in a northerly direction and subsequently empties into the 6th Concession Drain, a larger permanent watercourse. Average bankfull widths at the southern reach of the 8th Concession is approximately 5.5 meters with mean wetted channel width of 2.9 meters. Channel substrate is characterized as soft mud with abundant organic material (plant material). Channel canopy cover in this area of the drain was assessed as 100% open. In-stream cover was abundant provided through robust stands of Cattails and Reed Grass (emergent macrophytes).

Plate 7. The 8th Concession Road Drain (Location N42°15.308 W082°56.756).



The 8th Concession Drain in proximity to the confluence with the 6th Concession Drain possesses trace amounts of channel canopy cover (primarily through shrubs and a few trees), but remains largely disturbed habitat (mowed banks) with a minimal riparian buffer (**Plate 8**).

Plate 8. The 8th Concession Drain (Location N42°14.949 W082°56.783).



The 8th Concession Drain at the confluence with the 6th Concession Drain (**Plate 9**) has added tree cover and with cover in the form of driveway bridges and culverts. Bankfull widths averaged 6.4 meters with wetted channel widths averaging 2.5 meters. Stream substrates remain relatively homogenous throughout the 8th Concession drain (thick soft sediments with abundant plant material). Substrate conditions in drain reflect inputs from adjacent agricultural land where the absence of a buffer chokes the drain bottom with soft sediments and promotes growth of undesirable vegetation such as Reed Grass (*Phragmites*).

Plate 9. The 8th Concession Drain (upper left drain) at the confluence with 6th Concession Drain (Location N42°14.779 W082°56.736).



The 6th concession Drain at the 8th Concession confluence is a permanent drain containing significant fish habitat occurring both east and west of the concession crossing. Stream canopy cover west of the crossing was assessed as approximately 80% provided by a very narrow riparian buffer of trees and shrubs. Bankfull width was measured at 7.7 metres and the base flow wetted channel width was measured at 220 cm. Gabion stone lines the north bank west of the bridge, followed by residential lawn with a few scattered trees (10-20 metres upstream). The drain substrate west of the bridge crossing was primarily hard bottom with a substrate composition of sand, gravel and silt. Cobble stones were scattered through the site.

Drain substrates east of the crossing were also characterized as hard bottom with a composition of gravel, cobble, sand and silt. Stream cover was assessed at nearly 100% (trees and shrubs) with a narrow riparian buffer zone. The southern bank is bordered by a small naturalized area with trees and grasses (**Plate 10**). The northern bank is adjacent to agricultural lands. Bankfull widths east of the bridge approximated 10.5 metres, with wetted channel widths averaging 285 cm.

Water depths in 6th Concession Drain at the time of sampling average 10-25 cm with significant flow. Water clarity at the time of sampling was characterized as turbid (33.4 NTU). No in-stream vegetation (aquatic macrophyte) was observed. Riffle-pool sequences were evident on both sides of the crossing as well as under the concrete bridge.

Plate 10. 6th Concession Drain (east of the 8th Concession Bridge) (Location N42°14.774 W082°56.721).



The 8th Concession Drain was sampled for fish on October 12 and 18, 2009. Fish were only recovered from the drain near the confluence with 6th Concession Drain (nearby driveway bridges and culverts). No fish were observed or collected in the upstream reach of the drain (Highway 401). The drain exhibited moderate water flow at the time of sampling due to recent rainfall.

A total of 3 species were collected: *Luxilus sp.* (Striped Shiner), *Pimephales notatus* (Bluntnose Minnow), and *Catostomus commersonii* (YOY White Sucker).

The 6th Concession Drain at the 8th Concession Bridge was sampled for fish on east and west reaches including under the concrete bridge on October 12th and the 18th, 2009. A total of 10 species of fish were collected from an area of approximately 50 meters both east and west of the crossing:

Table 10. 6th Concession fish survey results (October 18, 2009) sampling survey.

Spotfin Shiner (*Cyprinella spilopterus*) (N=6)
Striped Shiner (*Luxilus chrysocephalus*) (N= 4)
Creek Chub (*Semotilus atromaculatus*) (N=12)
Fathead Minnow (*Pimephales promelas*) (N=4)

Bluntnose Minnow (*Pimephales notatus*) (N=13)
Quillback (*Caproides cyprinus*) (N=2)
Common Shiner (*Luxilus cornutus*) (N=3)
Banded Killifish (*Fundulus diaphanus*) (N=2)
Whiter Sucker (*Catostomus commersonii*) (N=6)
Central Mudminnow (*Umbra limi*) (N=7)

Although the species assemblage at this site was considered relatively diverse, the fish abundance was consider low and may be indicative of recent precipitation events (i.e. elevated water turbidity and current flow). Reference numbers from previous sampling events at this location were not available for comparison purposes.

Despite the low fish abundance observed, the 6th Concession Drain does represent significant fish habitat with quality stream attributes not commonly found in Essex County drainage, as evidenced by the moderate fish diversity that was observed. The drain represents a perennial stream with hard substrates that include gravel and cobble riffles, small pools and significant stream cover as well good water quality (at the time of sampling). No Species at Risk (SAR) in the 8th or 6th Concession Drains were recovered during the sampling program. It is important to point out that while the presence of a Species at Risk can be verified through sampling, the absence of such species with complete confidence cannot (Portt *et al.* 2008).

The proposed tunnelling method under the 6th Concession drain will avoid any disruption of the channel and fish habitat. Mitigation (i.e. silt barriers) to prevent roadside construction runoff into the drain is highly recommended. Additional protection measure and good practice guidelines are listed below.

1.3 Recommendations

1.3.1 In-stream Protection Measures

The following general stream protection measures are recommended:

- Complete the work during the appropriate instream work window. Minimize or avoid disturbing fish habitat above and below the area required for construction of the sewer installation.
- All works at the site where machinery, materials or silt laden runoff may impact the aquatic habitat downstream are to be scheduled for times outside the fish breeding period from March 15 to June 30. Works conducted within the breeding period will only be of a nature that does not alter or destroy aquatic habitat or organisms (e.g. young of the year).
- Maximum efforts should be made to reduce turbid runoff from entering the drain as a result of excavation and dredge materials should be contained until returned as backfill.

- A silt curtain should be erected around excavation sites to intercept the movement of unconsolidated soils into the drain. Eliminate or reduce sediment-related problems during installation through silt screens. Prevent deleterious substances from entering the drain (e.g. diesel fuel, oil and grease, waste construction materials etc.).
- Sediment delivered to stream channels can harm fish and fish habitat particularly during sensitive spawning periods. Most sedimentation occurs when soils are exposed, during and immediately following construction. The amount of sediment generated at a stream crossing is directly related to the sensitivity of the soil to erosion, the amount of area exposed to runoff or drain flow. Prevention of sedimentation by minimizing disturbance to stream banks and retaining riparian vegetation is essential. Planning construction activities during dry periods allows foregoing of special measures for erosion and sediment.
- During periods of heavy or persistent precipitation, construction activities should be suspended if they could result in excessive sediment delivery to the drain that would adversely affect aquatic resources.
- Replant and stabilize the work site to prevent post-construction erosion. Minimize clearing width at the crossing site and retain streamside vegetation within the stream crossing right-of-way wherever possible, recognizing operational requirements control. When water is present, most erosion and sediment problems can be avoided through the use of a variety of methods that control sediment at the source and prevent it from becoming entrained in the flowing water. The primary goal is to isolate the flowing water from the construction site.
- Where practical, water can be pumped across the work site and discharged into the stream channel below the construction site. This technique requires the stream to be dammed above the construction site. This eliminates the need for a diversion channel, and thus greatly reduces the problems of sediment production associated with digging and operating a newly created stream channel.
- Ensure that the design specifications for safe fish passage are achieved (i.e. drain diversion) or if pumping water, resident fish are temporarily and safely restricted from passage and protected from pumping. Pump intakes should be screened to prevent entrainment of juvenile fish. Backup pumps on site are highly recommended in all pumping situations.
- Temporary stream diversions should always be excavated in isolation from stream flow, starting from the bottom end of the diversion channel and working upstream to minimize sediment production. To prevent loss of sediment, the bottom end of the diversion channel should be left intact until the trench is almost complete and it should not be opened until all measures have been taken to reduce surface erosion resulting from the channel. After the stream crossing has been completed, the diversion should be closed from the upstream end first and, on completion, actions should be taken to re-establish the pre-diversion conditions and to stabilize and replant the site.

- If channel de-watering is conducted, fish should be salvaged from the dewatered area and returned to the stream. Personnel undertaking the fish salvage operation should obtain and hold all necessary permits required by fisheries agencies to collect and transport fish. Fish salvage is the relocation of live fish from a work site to a safe location above or below the site. Salvage operations require the isolation of the work site and the collection and removal of all fish from areas where fish may be entrapped or destroyed by construction activities. Fish can be collected through the use of electrofishing equipment and small nets.

1.3.2 In-stream Mitigation / Habitat Compensation Recommendations

- All large rocks, stumps, large logs or any woody material existing on the present banks and excavation zone should be retained and reinstalled if deemed beneficial fish habitat material.
- It is important that water depths within the stream channel be maintained at natural levels to accommodate fish passage of representative species for the waterways (during and after construction). Cobble and boulders should be properly embedded into the channel substrate to help retain natural stream sediment structure and flow velocities following backfill of the disturbed channel.
- Stream substrates at many of the sampling location are characterized as hard bottom and finished backfill should mimic the pre-existing channel. Gravel, cobble and some scattered boulders (>250mm) would enhance fish habitat.
- Bankfull widths should be maintained to avoid any channel restrictions that would result in areas of increased flow velocity.
- In stream cover should be replaced and enhanced in the construction area, usually in the form of woody debris or boulder clusters as suggested to provide habitat for invertebrates, predation refuge, and attachment sites for adhesive fish eggs. In-stream cover is an important component of most lotic habitats and generally the more in-stream cover the more species diversity.
- All riparian vegetation (cover) that is not within the active construction zone is to be left untouched. Access to the site by land should be limited to existing disturbed areas.
- Compensation directives should focus on enhancing the overall fish habitat with special emphasis on retaining a maximum portion of the existing fish habitat. The greatest threat is habitat degradation through increased erosion and excessive turbidity during construction activities. Therefore special care during project excavation should be given to reduce increased turbidity in the area through silt curtains as explained in the previous bullets.

2.0 Terrestrial Study

Fieldwork Dates: August 28-29, October 13-14, 2009. (for herpetile fieldwork dates see Appendices)

2.1 Introduction

To facilitate the terrestrial study, the route was divided into the following sections which are discussed below;

- i) Banwell Road (SSEL Phase 4A)
- ii) North Side of CPR Tracks to Little River (SSEL Phase 4B)
- iii) Little River Area (SSEL Phase 4C)
- iv) Lauzon Road & Service Road B (SSEL Phase 4D, part)
- v) Lauzon Parkway (SSEL Phase 4D, part)
- vi) North of Little River from Lauzon Parkway to Airport Lands (SSEL Phase 4D, part)
- vii) Airport Lands North of Co. Rd. 42 from Little River to Eighth Concession (SSEL Phase 5A and 5B)
- viii) Eighth Concession (SSEL Phase 6)

In this study, Species at Risk are defined as species with the following designations: S1, S2, S3, Endangered, Threatened or Special Concern.

Provincial rarity ranks (S-ranks) are assigned by the Ontario Natural Heritage Information Centre of MNR as follows:

- | | |
|-----------|---|
| S1 | Extremely rare in Ontario; usually 5 or fewer occurrences in the province or very few remaining individuals; often especially vulnerable to extirpation. |
| S2 | Very rare in Ontario; usually between 5 and 20 occurrences in the province or with many individuals in fewer occurrences; often susceptible to extirpation. |
| S3 | Rare to uncommon in Ontario; usually between 20 and 100 occurrences in the province; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances. |
| S4 | Common and apparently secure in Ontario; usually with more than 100 occurrences in the province. |

S5 **Very common** and demonstrably secure in Ontario.

The rank of **Special Concern (SC)** (formerly Vulnerable, VUL) is assigned by the Committee on the Status of Endangered Wildlife and Canada (COSEWIC) and the Committee on the Status of Species at Risk in Ontario (COSSARO) and is defined as **Any indigenous species that is particularly at risk because of low or declining numbers, occurrence at the fringe of its range or in restricted areas, or for some other reason but is not a threatened species.**

The rank of **Threatened (THR)** is assigned by COSEWIC to **Any indigenous species of fauna or flora that is likely to become endangered in Canada if the factors affecting its vulnerability do not become reversed.**

Endangered (END) Species are defined as **Any indigenous species of fauna or flora that, on the basis of the best available scientific evidence, is indicated to be threatened with immediate extinction throughout all or a significant portion of its Ontario range.**

Both Threatened and Endangered species are covered by the Endangered Species Act of Ontario, which prohibits destruction of the organism or its habitat.

2.2 Results and Recommendations

(i) Banwell Road (SSEL Phase 4A)

Natural heritage along Banwell Road is restricted to the narrow vegetated roadside verge and swale which lies between the gravel road shoulder and the adjacent agricultural fields. This vegetation experiences periodic mowing and herbicide application. The swale is subject to variable runoff flows from the road surface and no doubt receives pulses of de-icing salts during winter thaws. The vegetation is typical roadside vegetation dominated by disturbance-tolerant Eurasian grasses and weedy species.

There are two drain crossings in this section; the Gouin Drain at the corner of Banwell and E.C. Rowe Avenue and the LaChance Drain the junction of Banwell and Intersection Road. These drains exhibit terrestrial natural heritage features and functions of low value. Most of the vegetation consists of a mix of weedy herbaceous plant cover, groomed home landscape and a mix of native and exotic woody plants. Because of the disturbed nature of the drain vegetation, the resulting plant community is considered anthropogenic. It is not classified under the Ecological Land Classification system (Lee *et al.* 1998) and has not been assigned a natural heritage value.

No Species at Risk or other significant natural heritage were observed.

Recommendations

- None

ii) North Side of CPR Tracks to Little River (SSEL Phase 4B)

This section traverses agricultural lands from Banwell Road to Little River. Natural vegetation is restricted to the railway corridor. Near the tracks the vegetation is managed by mowing and herbicide application but is less disturbed adjacent to the agricultural fields. Here the vegetation consists of shrubs, vines and small trees both native and introduced. Dogwood-Prickly Ash thickets are the dominant vegetation. A shallow swale within the railway corridor parallels the tracks and supports wetland sedges, grasses and forbs. Water in this swale is ephemeral but may permit amphibian breeding in the deeper pooled areas. The vegetated habitat may support Butler's Garter Snake (Threatened)

The following Species at Risk were observed:

| Scientific Name | Common Name | SRANK | COSEWIC | COSSARO |
|----------------------------|-------------------|-------|---------|---------|
| <i>Carya laciniosa</i> | Shellbark Hickory | S3 | | |
| * <i>Quercus palustris</i> | Pin Oak | S4 | | |
| <i>Quercus shumardii</i> | Shumard Oak | S3 | SC | SC |
| <i>Rosa setigera</i> | Prairie Rose | S3 | SC | SC |
| <i>Sporobolus asper</i> | Rough Dropseed | S3 | | |
| <i>Vernonia missurica</i> | Missouri Ironweed | S3? | | |

All the above species occur on railroad property.

*Note that Pin Oak, which was formerly classified S3, has been reclassified as S4 and is no longer considered at risk.

Recommendations

- All construction activity should be confined to the agricultural lands.

iii) Little River Area (SSEL Phase 4C)

The sewer is projected to tunnel under the CPR tracks at the former Lauzon Road crossing and then turn 90° east and proceed under the Little River near the junction of Little River with the LaChance Drain. This area presently supports vegetation characterized by successional old fields and the riparian community along the Little River. The LaChance Drain also supports aquatic vegetation although it was recently reconstructed – this reconstruction included both significantly deepening and widening the drain.

The successional areas include a mix of meadow and shrub thicket communities. They do not appear to have been mowed recently.

The following floral Species at Risk were observed:

| Scientific Name | Common Name | SRANK | COSEWIC | COSSARO |
|--------------------------------|-------------------|-------|---------|---------|
| * <i>Eupatorium altissimum</i> | Tall Boneset | S1 | | |
| <i>Gleditsia triacanthos</i> | Honey Locust | S2 | | |
| <i>Rosa setigera</i> | Prairie Rose | S3 | SC | SC |
| <i>Vernonia missurica</i> | Missouri Ironweed | S3? | | |

* Note that only the Pelee Island population of this species is considered native, so these plants can be considered adventive most likely as railroad waifs. There are hundreds of Tall Boneset plants in this and adjoining areas.

The Honey Locust trees are found in the railroad fenceline east of Little River. These are possibly descended from native trees that grew along the river. Prairie Rose and Missouri Ironweed are widely scattered through the old fields.

In addition this is the only study site that had a documented SAR faunal species.

| Scientific Name | Common Name | SRANK | COSEWIC | COSSARO |
|---------------------------|----------------------|-------|------------|------------|
| <i>Thamnophis butleri</i> | Butler's Gartersnake | S2 | Threatened | Threatened |

Two Butler's Garter Snakes, *Thamnophis butleri*, were observed during the course of the faunal survey. This observation was made at the southeast corner of the cul-de-sac on Munich Court as illustrated in Figure 2 of Appendix 1. Butler's Gartersnake is listed as Threatened and subject to the Endangered Species Act. The two snakes were found together under household debris. During the winter months until early to mid-April these snakes will be hibernating in crayfish and small mammal burrows.

Recommendations

- Construction activities should be placed as far south from the Munich Court cul-de-sac area as possible.
- Construction should be confined to the narrowest corridor possible with temporary fencing.
- Access to the site should be via old Lauzon Road in the west and Oaks Drive in the east.
- Topsoil from the excavations should be stored separately from subsoil and replaced over the subsoil at the completion of backfilling. Seeding of the backfill is not recommended.
- Snake habitat can be enhanced through the construction of a hibernaculum at the discretion of the Essex Region Conservation Authority or Ministry of Natural Resources. Plans and assistance can be obtained through the Essex County Stewardship Network.
- If the LaChance Drain requires reconstruction, a broader bottom of at least two metres

width will enhance crayfish habitat and thus increase the habitat available to the Butler's Gartersnake.

If works are conducted after the termination of snake hibernation, the additional recommendations below should be followed.

- Snake barrier fencing (3' wide landscape fabric embedded 4" underground supported by wooden stakes) should be erected around the perimeter of the construction site. Prior to the commencement of each workweek the fence the fence will be inspected for any damage (e.g. tears in fabric, no longer embedded into the ground).
- An intensive snake monitoring survey will be conducted inside the snake barrier fencing. Qualified personnel will perform the survey and any snakes found will be relocated outside of the fenced area. Limit of work to be surveyed multiple times.

iv) Lauzon Road & Service Road B (SSEL Phase 4D, part)

South of the CPR tracks, Lauzon Road is bordered on the east by agricultural fields and on the west by a highly maintained landscape of lawn and specimen trees. There is a shallow swale and vegetated strip between the road and the agricultural fields. Service Road B runs east from Lauzon Parkway and then curves north to connect with Lauzon Road. Shallow agricultural drains are found along the roadside and the road bisects a fencerow with an associated surface drain. West of the fencerow agricultural fields lie adjacent to the road. East of the fencerow, the vegetation along the north side of Service Road B is mainly herbaceous and dominated by grasses with scattered individual and clumped shrubs. Along the south there is a mix of trees and shrubs.

The following Species at Risk were observed:

| Scientific Name | Common Name | SRANK | COSEWIC | COSSARO |
|-----------------------|-------------------|-------|---------|---------|
| Eupatorium altissimum | Tall Boneset | S1 | | |
| Quercus shumardii | Shumard Oak | S3 | SC | SC |
| Rosa setigera | Prairie Rose | S3 | SC | SC |
| Vernonia missurica | Missouri Ironweed | S3? | | |

Two plants of Tall Boneset were noted, one along the north side of Service Road B and the other at the north end of Lauzon Road near the railway. It should be noted that only the Pelee Island population of this species is considered native, so these plants can be considered adventive. There is one Shumard Oak growing along the south side of Service Road. Two Prairie Roses are found in this location as well. On the north side of Service Road B, one Prairie Rose and 16 flowering stems of Missouri Ironweed were noted. The status of Missouri Ironweed is uncertain. Both species are Common and widespread in Essex County.

Recommendations

- Construction along Lauzon Road can proceed with little or no risk of negative impacts to natural heritage.
- Construction along Service Road B should be restricted to the roadbed until west of the Shumard Oak root zone before entering the agricultural fields on the south side of the road. Both the Shumard Oak and a single plant of Prairie Rose are to be protected from construction activities with temporary fencing.

v) Lauzon Parkway (SSEL Phase 4D, part)

The proposed sanitary sewer route lies along the west side of Lauzon Parkway within the road allowance. This places it adjacent to a swamp wetland complex that has been determined to be Provincially Significant. Therefore Provincial Policy dictates that all development within the area defined as 'Adjacent Lands' i.e. those lands within 120 metres of the wetland boundary, should demonstrate no negative effects upon the features and functions exhibited by the wetland. There can be little doubt that the existing parkway has negative effects including pollution from noise, light and engine emissions. The swale along the parkway likely contributes to desiccation of the wetland by removing surface water.

The swamp forest is dominated by Shellbark Hickory and Silver Maple (formerly ash) and therefore is classified under the Ecological Land Classification system as a Silver Maple Mineral Deciduous Swamp Type, SWD3-2, (S5). This is merely the closest approximation and the S-rank would be much higher given that the S-rank of Shellbark Hickory alone is S3. Other common trees here are Shumard Oak, Swamp White Oak and Shagbark Hickory.

The following Species at Risk were observed:

| Scientific Name | Common Name | SRANK | COSEWIC | COSSARO |
|---------------------------|-------------------|-------|---------|---------|
| <i>Carya laciniosa</i> | Shellbark Hickory | S3 | | |
| <i>Quercus shumardii</i> | Shumard Oak | S3 | SC | SC |
| <i>Rosa setigera</i> | Prairie Rose | S3 | SC | SC |
| <i>Vernonia missurica</i> | Missouri Ironweed | S3? | | |

All of the above species are Common in Essex County

Recommendations

- To reduce root damage construction activities should occur as far east of the forest as possible.
- Construct a low earth berm (\approx 30 cm) along the forest edge to retain surface water.
- Place a chain link fence on the berm in advance of further construction activity.

vi) North of Little River from Lauzon Parkway to Airport Lands (SSEL Phase 4D, part)

This portion of the proposed sewer route runs in a northeast to southwest direction to the north of the Little River. The site was formerly farmland. The vegetation is early successional in nature with a mix of Cultural Dry - Moist Old Field Meadow (CUM1-1) and Mineral Cultural Thicket Ecosite including Grey Dogwood Cultural Thicket Type (CUT1-4) Cultural plant communities do not receive an S-rank. Much of the dogwood thicket is composed of Rough-leaved Dogwood (S4). Succession was, until recently, towards an ash dominated woodland but the ash trees have been destroyed by Emerald Ash Borer. The remaining trees are mainly elm.

The banks of the Little River support a more mature growth of woody plants which provide cover and other benefits to the stream water.

The following Species at Risk were observed:

| Scientific Name | Common Name | SRANK | COSEWIC | COSSARO |
|-----------------------|-----------------|-------|---------|---------|
| *Agrimonia parviflora | Swamp Agrimony | S3/S4 | | |
| Rosa setigera | Prairie Rose | S3 | SC | SC |
| Solidago rigida | Stiff Goldenrod | S3 | | |
| Vernonia gigantea | Tall Ironweed | S3? | | |

*Note that Swamp Agrimony which was formerly classified S3/S4 has been reclassified as S4 and is no longer considered at risk.

The other SAR species are widely distributed over former agricultural lands from the forest edge in the north to the banks of the Little River. With the exception of Stiff Goldenrod these species are Common in Essex County. Stiff Goldenrod is considered Uncommon.

Although the airport lands were formerly known to support a large population of Butler’s Garter Snake (Threatened), none were observed in this or recent studies (see Appendices 1 & 2)

Recommendations

- Construction activities should occur at a minimum of 20 m from the river bank.
- Construction activities should be confined to the narrowest corridor possible.
- Topsoil from the excavations should be kept separate from subsoil and replaced on completion of backfilling.
- Seeding the backfill is not recommended except where slopes are vulnerable to erosion.

vii) Airport Lands North of Co. Rd. 42 from Little River to Eighth Concession (SSEL Phase 5A and 5B)

Natural heritage along County Road 42 is restricted to the vegetated roadside verge and swale which lies between the gravel road shoulder and the airport agricultural fields. A chain link fence surrounds the airport lands. A mowed grass lane occupies the space between the perimeter fence and the agricultural lands. All of this vegetation experiences periodic mowing and herbicide application. The swale is subject to variable runoff flows from the road surface and receives pulses of de-icing salts during winter thaws. The vegetation is typical roadside vegetation dominated by disturbance-tolerant Eurasian grasses and weedy species.

There are two residential lots in this section; both lots have groomed residential landscapes. Because the vegetation is manipulated and disturbed by human activity, the resulting plant communities are considered anthropogenic. They are not classified under the Ecological Land Classification system (Lee *et al.* 1998) and have not been assigned a natural heritage value.

The frequent mowing of this portion removes most plant growth above a couple of centimeters except at the base of the fence. This makes plant identification challenging. But the following Species at Risk were observed.

| Scientific Name | Common Name | SRANK | COSEWIC | COSSARO |
|-------------------|---------------|-------|---------|---------|
| Rosa setigera | Prairie Rose | S3 | SC | SC |
| Vernonia gigantea | Tall Ironweed | S3? | | |

Both species are Common in Essex County.

Recommendations

- None

viii) Eighth Concession (SSEL Phase 6)

The 8th Concession Drain is a constructed watercourse that runs parallel, on the west side, to the 8th Concession Road of the former Township of Sandwich South. It functions as both a residential storm and an agricultural drain. This portion of the Drain receives water from a landscape of intensive agriculture and low density residential housing. In the reach examined, water enters the drain through overland flows, tile drains and stormwater outfalls. Sections of the drain are covered for road and lane crossings.

The drain is characterized by relatively steep slopes (approximately 1:1) and is buffered from adjacent land uses by a narrow vegetated strip. Vegetation (dominated by introduced and weedy species) is restricted to the rim, slopes and bottom of the drain. Additionally, the vegetation is mowed frequently enough to suppress the growth of woody plants. In this reach the drain receives no water from natural wetlands or woodlands. The bottom of the drain has been periodically dug and sidecast to remove sediments that restrict flow. The last episode of this maintenance is unknown.

The drain is subject to variable flows and is apparently ephemeral (anecdotal observations). Because it parallels a paved road and other hardened traffic surfaces, it likely receives pulses of de-icing salts during winter thaws.

The drainside vegetation is highly disturbed as is typical of agricultural drains in southwestern Ontario. It thus exhibits terrestrial natural heritage features and functions of low value. Most of drain study area consists of a mix of weedy herbaceous plant cover and mown woody plant cover or groomed home landscape.

Because of the disturbed nature of the drain vegetation, the resulting plant community is considered anthropogenic. It is not classified under the Ecological Land Classification system (Lee *et al.* 1998) and has not been assigned a natural heritage value.

One Species at Risk (SAR) was observed.

| Scientific Name | Common Name | SRANK | COSEWIC | COSSARO |
|---------------------------|---------------------|-------|------------|------------|
| <i>Gymnocladus dioica</i> | Kentucky Coffeetree | S2 | Threatened | Threatened |

Kentucky Coffeetree, *Gymnocladus dioica*, grows as a yard tree in a home landscape on the west side of the Eighth Concession about 1,250 m south of Baseline Rd. Several suckers of the older trees on this property grow along the west bank of the Drain. No other SAR as defined above was observed.

Recommendations

- Confining the proposed excavations to the roadbed of the Eighth Concession Road and the east bank of the Eighth Concession Drain should prevent damage to individuals of this Threatened Species and to the habitat (landscaped home grounds) that supports them.

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4.0 Appendices

Appendix 1: Herpetofaunal Survey (September-October, 2009)

T. Preney & R. Jones

A reptile and amphibian survey was performed during September and October 2009. All animals encountered were discovered while conducting random searches. The site was visited 14 times and a total of 33 party hours were spent searching in the study area (**Figure 1.**). The survey yielded one species of reptile and one species of amphibian = 2 Butler's Gartersnakes (*Thamnophis butleri*) and 2 Northern Leopard Frogs (*Rana pipiens*).

Random searches were performed throughout the study area (**Figure 1.**). The monitoring was completed in the early morning, late afternoon and early evening. Previous experience has shown that these are the optimal periods to find reptiles and amphibians during these months. The random searches focused predominately in open meadow habitat.

Butler's Gartersnakes are considered a threatened species in Canada, and are also threatened in Ontario. The following tables are species accounts from the 2009 snake survey at the Sandwich South Employment Lands.

| Significant Fauna | | | | | |
|--------------------------|----------------------|--------------|--------------|----------------|----------------|
| Scientific Name | Common Name | GRANK | SRANK | COSEWIC | COSSARO |
| Thamnophis butleri | Butler's Gartersnake | G4 | S2 | THR | THR |

Reptiles:

| Surveyor(s): Tom Preney, Russ Jones | | | | | |
|---|-------------------------------|--------------|--------------|----------------|----------------|
| Field Date(s) month/day/year: 09/08/2009, 09/09/2009, 09/10/2009, 09/13/2009, 09/14/2009, 09/15/2009, 09/16/2009, 09/21/2009, 09/23/2009, 09/24/2009, 09/26/2009, 09/27/2009, 10/01/2009, 10/02/2009 | | | | | |
| Common Name | Evidence/# Individuals | GRANK | SRANK | COSEWIC | COSSARO |
| Butler's Gartersnake | 2 individuals | G4 | S2 | THR | THR |

Amphibians:

| Surveyor(s): Tom Preney, Russ Jones | | | | | |
|--|-------------------------------|--------------|--------------|----------------|----------------|
| Field Date(s): 09/08/2009, 09/09/2009, 09/10/2009, 09/13/2009, 09/14/2009, 09/15/2009, 09/16/2009, 09/21/2009, 09/23/2009, 09/24/2009, 09/26/2009, 09/27/2009, 10/01/2009, 10/02/2009 | | | | | |
| Common Name | Evidence/# Individuals | GRANK | SRANK | COSEWIC | COSSARO |
| Northern Leopard Frog | 2 Individuals | G5 | S5 | NAR | NAR |

Figure 1. The sections outlined in red are the survey locations where random searches were conducted during September and October 2009.



Figure 2. BGS= Location of the two adult Butler’s Gartersnakes encountered during the survey.



Appendix 2: Surveys for Butler’s Gartersnake (*Thamnophis butleri*) at Windsor Airport

J. Choquette & D. Noble

The purpose of this survey was to confirm the presence of Butler’s Gartersnake (*Thamnophis butleri*), a Threatened species, and its habitat, and to obtain morphological and genetic data for the preparation of the COSEWIC Status Report update on this species.

No Butler’s Gartersnakes were found during the surveys however suitable habitat was identified. A list of survey dates and observations of other reptile and amphibian species are provided in this report. Total search effort spent in the area was 21.75 hours (Windsor Airport grounds =14.0; Adjacent lands= 7.75).

Results of 2009 Snake Surveys for Butler's Gartersnake (*Thamnophis butleri*)

Table 1- Survey details for Windsor Airport grounds, 2009.

| Survey Date | Location | Weather | Survey Time (hours) | Search Effort (hours) | Observations |
|---------------------|--|--------------------------------------|----------------------------|------------------------------|---|
| May 12, 2009, 11:00 | East end of grounds including the perimeter of Provincially Significant Wetlands | sunny, few clouds, light wind, 22C | 3.0 | 6.0 | <ul style="list-style-type: none"> • 1 snake seen but not identified in junk pile • 1 American Toad found at edge of farm field. • Cover objects were laid out (Shingles as well as existing wood and tin) |
| May 25, 2009, 11:00 | Survey of cover objects in east end of grounds (2.0h). Survey of infield adjacent runways (1.0h) | sunny, few clouds, light wind, 21.5C | 3.0 | 6.0 | <ul style="list-style-type: none"> • No snakes seen • 2 Snapping Turtles found in swale. (carapace lengths = 24.5 cm and 23.5 cm) |
| May 29, 2009, 20:30 | Survey of cover objects in east end of grounds | Clear, 19C | 1.0 | 2.0 | <ul style="list-style-type: none"> • No snakes seen • Cover objects removed from site (Shingles) • Cover objects left on site include: boards at junk pile and tins at shooting range. |

Figure 1- Survey locations for Windsor Airport and adjacent lands, 2009. SG = Survey area where shingle grids were laid, SA= Survey area where cover objects were not laid.

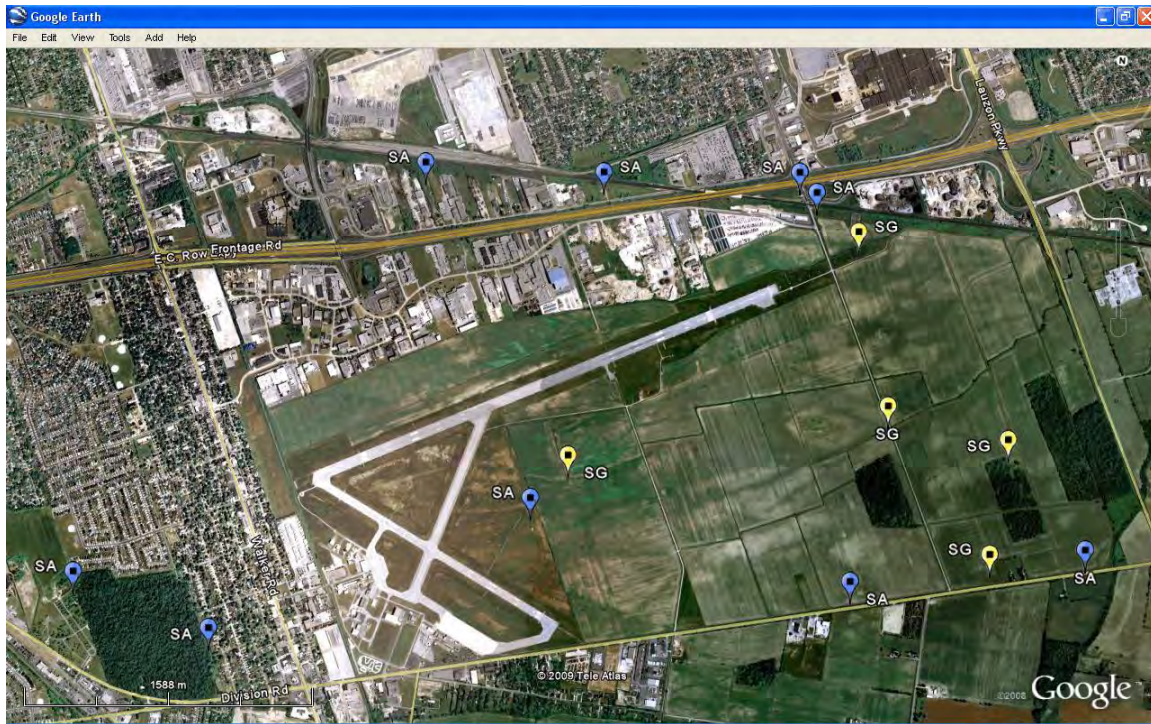


Table 2- Survey details for lands adjacent Windsor Airport, 2009.

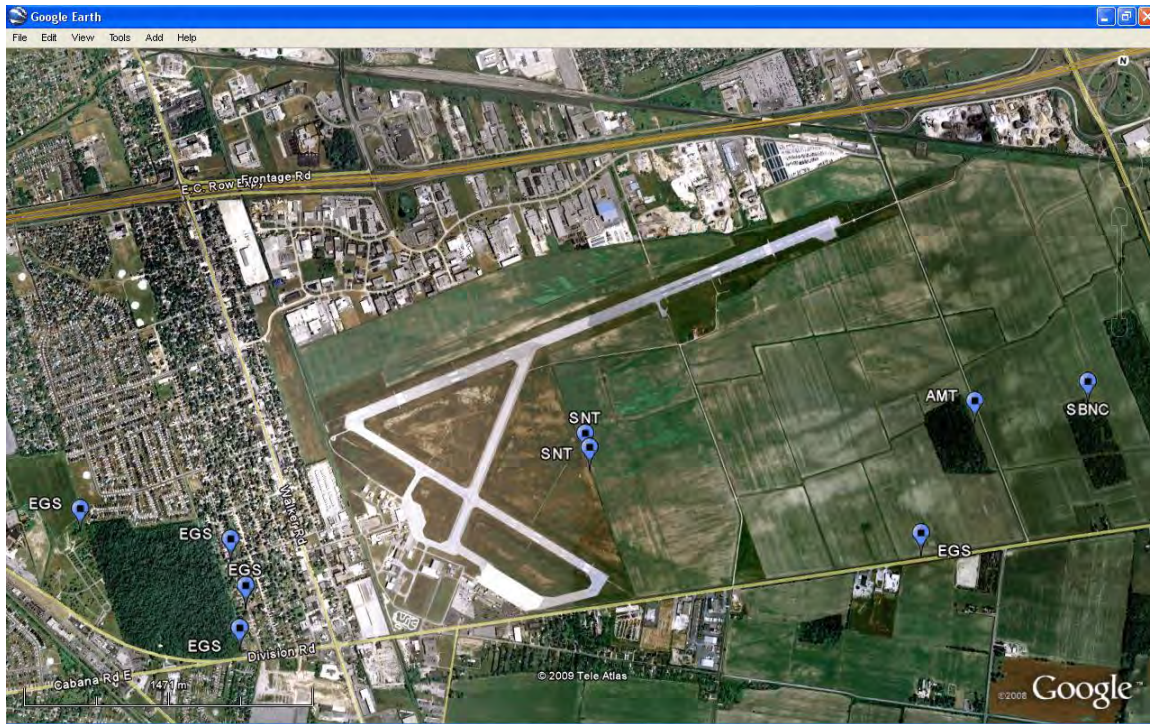
| Survey Date | Location | Weather | Survey Time (hours) | Search Effort (man-hours) | Observations |
|---------------------|--|--|---------------------|---------------------------|--|
| May 1, 2009, 17:30 | West perimeter of Devonwood Conservation Area. Windsor Memorial Cemetery property. | No data | 0.75 | 1.5 | <ul style="list-style-type: none"> 1 Eastern Gartersnake (EGS) found under concrete piece in area of cemetery expansion |
| May 5, 2009, 17:30 | East Perimeter of Devonwood Conservation Area | 20C | 1.0 | 2.0 | <ul style="list-style-type: none"> 7 EGS found. Many were found under rocks in the deep ditches of the subdivision adjacent Devonwood |
| May 12, 2009, 14:40 | Swale alongside Hwy 42 adjacent to the south boundary of Windsor Airport. | sunny, with clear skies and few clouds, cool breeze, | 1.0 | 2.0 | <ul style="list-style-type: none"> 1 EGS found under concrete at mouth of culvert |

| | | | | | |
|---------------------|--|--------------------------------------|------|------|--|
| May 25, 2009, 13:30 | North Service Rd, Hydro Corridor | sunny, few clouds, light wind, 21.5C | 0.25 | 0.5 | <ul style="list-style-type: none"> No snakes seen |
| May 25, 2009, 14:00 | Private Residence, 3936 North Service Rd. | sunny, few clouds, light wind, 21.5C | 0.5 | 1.5 | <ul style="list-style-type: none"> No snakes seen Checked the railway corridor also 3 observers present |
| May 29, 2009, 20:30 | Hydro corridor adjacent to the North boundary of the Airport | Clear, 19C | 0.25 | 0.25 | <ul style="list-style-type: none"> No snakes seen 1 observer present |

Table 3- Reptiles and Amphibians encountered at Windsor Airport and vicinity during surveys for Butler's Gartersnake, 2009.

| Species | Numbers Observed |
|---|------------------|
| Butler's Gartersnake (<i>Thamnophis butleri</i>) | 0 |
| Eastern Gartersnake (<i>Thamnophis sirtalis</i>) | 9 |
| Common Snapping Turtle (<i>Chelydra serpentina</i>) | 2 |
| American Toad (<i>Bufo americanus</i>) | 1 |

Figure 2- Reptile and Amphibian species encountered during surveys of Windsor Airport and vicinity, 2009. EGS = Eastern Gartersnake, SNT = Common Snapping Turtle, AMT = American Toad, SBNC = Snake seen but not caught.



Habitat Notes and Management Recommendations

Butler's Gartersnakes (BGS) inhabit seasonally mowed cultural meadows, tallgrass prairie, and vacant urban lands. They have also been observed by the authors in sandy, dune-like habitats and along rocky shorelines of large water bodies. They feed almost exclusively on earthworms and are speculated to use either crayfish burrows or ant mounds or both as hibernacula. Despite the persistence of a few grassy meadow habitats at the Windsor Airport and an abundance of meadow crayfish holes, the majority of the property is currently under intensive agriculture, which is likely hostile to Butler's Gartersnake. The large patch of Scrubland habitat which existed on the property during Dr. Planck's study in 1977 supported a population of approximately 300 BGS. This habitat was destroyed in the early 1980s and was slowly converted to agriculture. The authors were unable to find any BGS during their surveys at Windsor Airport and adjacent lands. If there in fact are no more BGS at the Windsor Airport, we speculate the latter was the major cause of extirpation. Due to the continued presence of seasonally mowed cultural meadows and what appears to be a healthy meadow crayfish population BGS may still persist at the Windsor Airport, although at much lower concentrations than in 1977.